



This electronic version (PDF) was scanned by the International Telecommunication Union (ITU) Library & Archives Service from an original paper document in the ITU Library & Archives collections.

La présente version électronique (PDF) a été numérisée par le Service de la bibliothèque et des archives de l'Union internationale des télécommunications (UIT) à partir d'un document papier original des collections de ce service.

Esta versión electrónica (PDF) ha sido escaneada por el Servicio de Biblioteca y Archivos de la Unión Internacional de Telecomunicaciones (UIT) a partir de un documento impreso original de las colecciones del Servicio de Biblioteca y Archivos de la UIT.

(ITU) للاتصالات الدولي الاتحاد في والمحفوظات المكتبة قسم أجراه الضوئي بالمسح تصوير نتاج (PDF) الإلكترونية النسخة هذه والمحفوظات المكتبة قسم في المتوفرة الوثائق ضمن أصلية ورقية وثيقة من نقلًا.

此电子版（PDF版本）由国际电信联盟（ITU）图书馆和档案室利用存于该处的纸质文件扫描提供。

Настоящий электронный вариант (PDF) был подготовлен в библиотечно-архивной службе Международного союза электросвязи путем сканирования исходного документа в бумажной форме из библиотечно-архивной службы МСЭ.

**THE INTERNATIONAL TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE
(C.C.I.T.T.)**

RED BOOK

VOLUME II

SPECIAL ASSEMBLY

GENEVA, 22-27 SEPTEMBER 1958, 24 NOVEMBER 1958

List of Participants

Minutes of the Meetings of the Special Assembly

Resolutions, Opinions and Reports

TELEPHONE OPERATION AND TARIFFS

TELEGRAPH OPERATION AND TARIFFS

COSTING STUDIES

**Published by the
INTERNATIONAL TELECOMMUNICATION UNION
MAY 1959**

**THE INTERNATIONAL TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE
(C.C.I.T.T.)**

RED BOOK

VOLUME II

SPECIAL ASSEMBLY

GENEVA, 22-27 SEPTEMBER 1958, 24 NOVEMBER 1958

List of Participants

Minutes of the Meetings of the Special Assembly

Resolutions, Opinions and Reports

TELEPHONE OPERATION AND TARIFFS

TELEGRAPH OPERATION AND TARIFFS

COSTING STUDIES



Published by the
INTERNATIONAL TELECOMMUNICATION UNION
MAY 1959

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

CONTENTS

PART I

SPECIAL ASSEMBLY

	Page
Organization of the Special Assembly	7
List of Participants	9
List of Documents of the Special Assembly	13
Minutes of the Plenary Meetings :	
1st Plenary Meeting	15
2nd Plenary Meeting	21
3rd Plenary Meeting	22
4th Plenary Meeting	23
5th Plenary Meeting	26
6th Plenary Meeting	29
7th Plenary Meeting	31
8th Plenary Meeting	35
Resolutions adopted and Opinions expressed by the Special Assembly	41
Report relating to the development of national and international networks and to Technical Assistance	53

PART II

TELEPHONE OPERATION AND TARIFFS

Recommendations relating to Telephone Operation and Tariffs (Recommendations Series E)	57
New Questions	199

PART III

TELEGRAPH OPERATION AND TARIFFS

Recommendations relating to Telegraph Operation and Tariffs (Recommendations Series F)	203
New Questions	353
Contributions considered worth publishing	361

PART IV

COSTING STUDIES

New Questions	365
Contributions considered worth publishing	369

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

PART I

SPECIAL ASSEMBLY

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

ORGANIZATION
OF THE SPECIAL ASSEMBLY
OF THE INTERNATIONAL TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

GENEVA, 22-27 SEPTEMBER 1958, 24 NOVEMBER 1958

The Special Assembly met under the chairmanship of Mr. F. NICOTERA, Head of the Italian Delegation, assisted by Messrs. W. E. CONNELLY, Head of the Canadian Delegation and R. C. VAISH, Head of the Indian Delegation.

The meetings took place in Geneva, at the Bâtiment Electoral.

On the 27 September, it was decided not to close the session and to hold a meeting at the end of the Administrative Conference, to consider the consequences of the decisions taken therein. This meeting took place on 24 November, 1958.

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

LIST OF PARTICIPANTS
TO THE
MEETING OF THE C.C.I.T.T. SPECIAL ASSEMBLY

AUSTRALIA

Fincher, L.A.
Coleman, L.A.
Richardson, D.J.
Shepherd, A.E.
Smith, A.M.

AUSTRIA

Weninger, N.
Krasser, M.

Radio Austria :

Wenzel, Dr.
Neumer, F.
Aslan, M.

BIELORUSSIA

Afanassiev, P.
Lichai, K.

BELGIUM

Vandenhove, R.
Lambiotte, M.
Sovet, F.
Vanwynsberghe, R.

CANADA

Connelly, W.E.
Keating, W.C.
Lamb, J. R.
Robertson, D.S.

Telephone Association of Canada :
Caldwell, G.A.

CEYLON

Anketell, C.A.R.
Goonesequera, W.S.A.

CHILE

Chile Telephone Co. :
Wright, E.P.C.

CHINA

Wang, R.H.
Bang, Yo-Ye
Chang, Yeu-Teh
Fei, Lih-Chuan
Lee, N.

CUBA

Cuban Telephone Co. :
Kruithof, Dr. J.
van Hasselt, M.

DENMARK

Eriksen, P.F.
Nielsen, C.B.

Great Northern Telegraph Co :
Mortensen, A.W.
Simonsen, K.W.

SPAIN

Garrido, J.
Compania Telefonica de España :
Del Riego, E.
Rebollo, M.C.

UNITED STATES OF AMERICA

Woodward, M.

American Cable & Radio Corp. :

*Hennings, A.**Greenish T.*

American Telephone & Telegraph Co. :

*Dowling, A.**Mapes, C.H.*

R.C.A. Communications Inc. :

Meola, T.D.

Western Union Telegraph Co. :

Egan, R.G.

FRANCE

*Drevet, A.**Terras, G.**Vargues, R.*C^{ie} française de câbles sous-marins :*Vergriete, G.*C^{ie} générale de TSF :*Berceau, M.**Roper, A.*

HUNGARY

*Benko, Dr.**Enekes, L.*

INDIA

*Vaish, R.C.**Gadadhar, N.V.**Kalra, S.N.*

INDONESIA

*Soeria Negara, R.M.A.**Mangoendiprodjo, M.K.M.**Samhudi, A.*

IRAN

Samiy, M.

IRELAND

*Scannell, J.A.**Warren, P.A.*

ITALY

*Nicotera, F.**Bartolucci, G.**Cantoni, G.**Caruso, A.**Fariello, M.**Fei, L.*

Italcable :

Spasiano, A.

JAPAN

*Matsuda, H.**Abe, A.**Kosima, M.**Saito, M.**Sato, M.**Tamura, K.*

JORDAN

Mortada, A. M.

LIBYA

Musaid, A.H.

LUXEMBOURG

*Raus, E.**van den Bulcke, R.*

NORWAY

*Larsen, L.**Strand, L. A.*

NETHERLANDS

*Bast, Prof.**van Dijk, R.P.**Dullemond, J.**Kolijn, J.J.**Perry, T.*

POLAND

*Baczko, H.**Nalberczynski, I.**Zdziech, H.*

PORTUGAL

*da Cruz Filipe, J.D.**Rodrigues, R.*

Companhia Portuguesa Radio Marconi :

Mendes Barbosa, E.

FEDERAL GERMAN REPUBLIC

*Kirchner, O.**Bornemann, H.**Fernau, R.**Huber, O.**Schaaf, W.**Venhaus, H.*FEDERAL PEOPLE'S REPUBLIC
OF YUGOSLAVIA*Lukic, B.**Svetel, I.*

UKRAINIAN S.S.R.

Sintchenko, G.

ROUMANIAN PEOPLE'S REPUBLIC

*Grigore, M.**Postelnicu, P.*UNITED KINGDOM OF GREAT BRITAIN AND
NORTHERN IRELAND*Barron, D.A.**Andrew, L.T.**Jolley, E.H.**Lawrence, D.G.C.**Lillicrap, H.G.**Murray, R.**Perry, E.R.H.**Ripley, A.I.L.**Russell, E.S.*

Cable & Wireless :

*Hudgell, C.F.**Wilkins, L.*

SWEDEN

*Sterky, H.K.A.**Heimbürger, H.**Svedhem, G.*

SWITZERLAND

*Wettstein, G.A.**Baggenstos, G.**Farine, P.**Frey, J.**Hofer, O.**Jost, W.**Langenberger, A.**Locher, M.**Munz, W.**Schenk, M.**Wyss, H.*

CZECHOSLOVAKIA

Bohac, K.

UNION OF SOUTH AFRICA

*Ullyett, R.C.**Tredrea, W.H.**de Vries, J.L.*

U.S.S.R.

*Klokov, I.**Ouspensky, G.**Peregoudov, A.**Zarine, S.**Gorchkova, Mme**Levtchenko, Mme*

INTERNATIONAL ORGANIZATIONS

I.A.T.A.

*Dalton, D.A.W.**Gratz, R.A.**Monriot, C.A.**Perkes, W.A.*

W.M.O.

Leclercq

INTERNATIONAL TELECOMMUNICATION UNION

GENERAL SECRETARIAT

*Gross, G.**Lewis, L.**Meyer, V.*

I.F.R.B.

*Gayer, M.**Sundaram, M.*

C.C.I.R.

Hayes, L.

C.C.I.T.T.

*Rouvière, J.**Besseyre, J.**Lalou, J.**Chapuis, R.**Dormer, J.*

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

LIST OF DOCUMENTS

OF THE SPECIAL ASSEMBLY OF THE C.C.I.T.T.

- AS/1 Report by the Director of the C.C.I.T.T. on C.C.I.T.T. Publications.
- AS/2 Report by the Director of the C.C.I.T.T. on the numbering of C.C.I.T.T. Recommendations.
- AS/3 Report by the Director of the C.C.I.T.T. on the possible easing of the work of Study Groups due to an improvement of their methods of work.
- AS/4 Preliminary Report by the Director of the C.C.I.T.T. on the work of Sub-Group 2/1 (Telegraph Operation and Tariffs).
- AS/5 Preliminary Report by the Director of the C.C.I.T.T. on the work of Sub-Group 2/2 (Telephone Operation and Tariffs).
- AS/6 Comments received (up to 1 September 1958) on the proposals contained in Documents: AS/1 — C.C.I.T.T. Publications, AS/2 — Numbering of C.C.I.T.T. Recommendations, AS/3 — Easing of the work of Study Groups (replies to Circular No. 52).
- AS/7 Development of national and international networks.
- AS/8 Comments received (up to 10 September 1958) on the proposals contained in Documents: AS/1 — C.C.I.T.T. Publications, AS/2 — Numbering of C.C.I.T.T. Recommendations, AS/3 — Easing of work of Study Groups (replies to Circular No. 52) (Document AS/6 continued).
- AS/9 Activities of Study Groups, Sub-Groups and Working Parties of the C.C.I.T.T. since 1 January 1957.
- AS/10 Draft Programme of work for the C.C.I.T.T. Special Assembly (submitted to the examination of the Meeting of Heads of Delegations).
- AS/11 Final Report of Sub-Group 2/1 (Telegraph Operation and Tariffs).
- AS/12 Report by Sub-Group 2/2 to the C.C.I.T.T. Special Assembly (Geneva, September 1958).
- AS/13 First Meeting of the Special Assembly.
- AS/14 Second Meeting of the Special Assembly.
- AS/15 Report by Study Group 2 (Coordination of Operation and Tariffs).
- AS/16 Third Meeting of the Special Assembly.
- AS/17 Report by M. Matsuda's Working Party.
- AS/18 Fourth Meeting of the Special Assembly.
- AS/19 Fifth Meeting of the Special Assembly.
- AS/20 Sixth Meeting of the Special Assembly.
- AS/21 Seventh Meeting of the Special Assembly.
- AS/22 Eighth Meeting of the Special Assembly.

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

MINUTES OF THE MEETINGS OF THE SPECIAL ASSEMBLY

FIRST MEETING

Monday, 22 September 1958, at 4 p.m.

Chairman: Mr. Federico NICOTERA (Italy)

Mr. ROUVIÈRE, Director of the C.C.I.T.T., declared the session of the C.C.I.T.T. Special Assembly open and immediately proceeded to give the floor to Mr. Gross, Acting Secretary-General of the International Telecommunication Union.

Mr. GROSS, Acting Secretary-General, addressed the following words to the Assembly :

Due to circumstances quite unforeseen and over which none of us had any control, it falls upon me to address a word of greeting at the opening of your Special Plenary Assembly.

The sudden and very tragic death on June 18 of our late Secretary-General, Dr. Marco Aurelio Andrada, under circumstances with which you are all familiar from the various official communications sent to all Members of the Union, has left a gap in the high command of our Union which it will be extremely difficult to fill.

The July issue of our official publication the *Telecommunication Journal* devoted a special section to a biographic note concerning Dr. Andrada, and it would be quite unnecessary and pointless for me to attempt to review his brilliant career in the Telecommunication world.

Not only was Dr. Andrada a truly dedicated leader in his chosen profession, but he combined these qualities of integrity and devotion to duty and personal charm which made him a close friend to many of us here today. I therefore consider appropriate that we start our proceedings with a minute of silence in tribute to the memory of Dr. Marco Aurelio Andrada, and I would ask you to rise and join me in that tribute.

The Assembly rose and stood for a minute of silence.

After having thanked the Assembly, Mr. GROSS addressed a very warm welcome to Delegates and wished them full success in their work. He congratulated them on having Mr. Jean Rouvière as the worthy successor to Mr. Georges Valensi and to Mr. Hugh Townshend. Mr. Rouvière was a distinguished Engineer of the "Ecole Polytechnique de Paris", former Director-General of Telecommunications in the French Ministry of P.T.T. Gifted with a creative mind and animated by very modern conceptions, Mr. Rouvière would know how to lead the C.C.I.T.T. to these improvements necessitated by technical progress and to the success which the studies and work of the C.C.I.T.T. can well hope for.

Mr. ROUVIÈRE thanked Mr. Gross for his kind wishes on behalf of the Assembly as well as on his own behalf. He took the opportunity of congratulating Mr. Gross for the courage he had shown in the heavy task that he has had to shoulder since the demise of the Secretary-General, Dr. Andrada, and the retirement of the Assistant Secretary-General, Mr. Townshend. He assured him of his most friendly and devoted assistance.

Mr. Rouvière then extended to Delegates a warm welcome to Geneva. He regretted that a restricted budget did not permit the organization of receptions which, besides being a welcome relaxation, gave rise to useful contacts. The Special Assembly would devote all care to its objective which was the success of its work.

While closely associating himself with the words of Mr. Gross to the memory of Dr. Andrada, Mr. Rouvière informed the Assembly that two other distinguished members of our Union, closely linked to our Consultative Committee, had died since the last Plenary Assembly.

Firstly, Professor Vittorio Gori, Director of the "Istituto Superiore delle Poste e delle Telecomunicazioni" in Rome, who died in Rome on 31st August 1957 at the age of 61. As a member of the 1st and 2nd C.C.I.F. Study Groups, as Vice-Chairman of Study Group 5, as Head of the Italian Delegation to the First C.C.I.T.T. Plenary Assembly, and as Chairman of Study Group 3 of the C.C.I.T.T., Professor Gori fully deserved our gratitude.

The second demise which has deeply struck us was that of Grand Officer Giuseppe Gnome who died in Rome on 17 April 1958 at the age of 86. For a long time he was Dean of the I.T.U. to which he had devoted his life. From 1926 onwards he was the particularly able Chairman of the C.C.I.T. Study Group 10.

At the request of Mr. Rouvière the Assembly stood for a minute of silence to the memory of these two great servants of the Union.

Mr. Rouvière, on behalf of the Assembly, then addressed his wishes for a long and happy retirement

to Mr. Hugh Townshend, former Assistant Secretary-General of the Union and Acting Director of the C.C.I.T.,

and to Mr. Georges Valensi, former Director of the C.C.I.F., of which the C.C.I.T.T. is a partial extension. The history of the C.C.I.F. is that of the activities of Mr. Valensi who, shortly before the meeting, came to welcome his numerous friends.

Further wishes were addressed

to Mr. A. Marcusson, Assistant Director of Danish Telecommunications who took part in the Plenary Assembly at Arnhem in 1953. Mr. Marcusson retired in 1957;

to Mr. Calvanese, Engineer, Director Azienda di Stato per i Servizi Telefonici, in Rome, who participated in C.C.I.F. work;

to Mr. Joaquim Rodriguez Gonçalves, Head of the Telephone Operation Division of the Telegraph and Telephone Administration of Portugal, who retired on 16th November 1957;

to Mr. T.R. Gubbins, Engineer of the Cuban Telephone Company;

to several Delegates from India : Mr. B.R. Batra, Chief Engineer, Posts and Telegraphs; Mr. H.R. Thadani, Chief Engineer Planning, Posts and Telegraphs; Mr. H.N. Srivastava Deputy Chief Engineer, Posts and Telegraphs; Mr. S.S. Moorthy Rao, Deputy Director General, Posts and Telegraphs; Mr. M. Rajagopal, Deputy Director General, Overseas Communications;

and to Mr. A. Onnermark, Director of Department at the Royal Board of Swedish Telecommunications, who took part in the work of the C.C.I.T. and the C.C.I.T.T. Mr. Onnermark retired in 1958.

Election of the Chairman and the Vice-Chairmen of the Special Assembly

Mr. ROUVIÈRE informed the Assembly that the Heads of Delegations who had just held a meeting, had unanimously decided to propose the election of Mr. Federico Nicotera, Head of the Italian Delegation, as Chairman of the Special Assembly. Mr. Nicotera was willing to accept this nomination.

The Assembly unanimously elected Mr. Nicotera to be Chairman.

Mr. ROUVIÈRE communicated the proposal of the Heads of Delegations to elect as Vice-Chairmen, on the one hand Mr. Shri R.C. Vaish, Head of the Delegation of the Republic of India, and on the other hand Mr. W.E. Connelly, Head of the Canadian Delegation.

The Assembly unanimously adopted this proposal.

The Chairman's address.

Mr. NICOTERA, on taking the Chair, addressed the following words to the Assembly :

Gentlemen,

You have been kind enough to honour me as well as my country in electing me as Chairman of this Special Assembly of the C.C.I.T.T. In thanking you very warmly, I wish to assure you that I shall do everything in my power to be worthy of your confidence. I am certain that I shall be assisted in this high office by your full cooperation as well as by the help and experience of the Director of the C.C.I.T.T. and his collaborators, thanks to whom our assemblies have always been held in an atmosphere of success and perfect harmony. I note with pleasure the participation at this meeting of numerous countries some of which are overseas. This means that after the merging of the C.C.I.T. and the C.C.I.F., pleasantly known as a "marriage", the new Committee has no less importance or lustre than its two predecessors. This is further confirmed by the way C.C.I.T.T. activities continue to extend both technically and geographically.

We are present today at the first Special Assembly of the new Committee which as you know came into existence a little more than a year ago. We have seen with pleasure how in so short a time, considerable work has already been achieved. It is for the purpose of approving this work that we have met here together. Our work will be limited to questions of operation and tariffs and to the very important problems of organization raised by the Director of the C.C.I.T.T. himself. I am sure that you have all studied the questions on the agenda and for this reason, I feel that our work will bear fruitful results for the improvement of telecommunication services and the good of the whole community.

Once again allow me to thank you for the confidence you have placed in me and for the assistance which I am sure I shall find in my task. — (*Loud applause.*)

Statement of the Director of the C.C.I.T.T.

Mr. ROUVIÈRE, Director of the C.C.I.T.T., on behalf of the Assembly and in his own name, expressed his thanks to Mr. Nicotera for having been willing to take the Chair and assured him of the full confidence of the Assembly and of himself. With the authority of the Chairman, Mr. Rouvière thought it would be helpful to give certain details of the work about to start.

This Assembly, termed a "Special" Assembly, was in fact a Plenary Assembly with a limited mandate, that is to say enjoying all the prerogatives of a Plenary Assembly for questions placed on its agenda, but not the qualifications for budget and organization problems which were usually within the terms of reference of Plenary Assemblies.

The convening of this meeting was approved by the First C.C.I.T.T. Plenary Assembly which met in this same Bâtiment Electoral in December 1956. The Administrative Council of the Union, at its meeting in 1957, confirmed the decision of our Plenary Assembly and, according to my proposal and after consulting Members of the Union, completed the terms of reference of the Special Assembly.

At first these terms of reference were limited to the field of telegraph and telephone operation and tariffs. Similarly to the procedure adopted in 1949, the Special Assembly adopted recommendations in this field that could be of use to the Administrative Telegraph and Telephone Conference which will meet immediately after the closure of our session.

The C.C.I.T.T., by its steady and exhaustive study of operation and tariff problems, can indeed play an important role in the preparation of Telegraph and Telephone Conferences, the duration of which it can appreciably reduce thanks to its preparatory work in particular. You are all convinced, Gentlemen, as I am, that whether it be the Telegraph and Telephone Conference or to an even greater extent the Radio Conference, their excessive length is an evil which afflicts our Union. This situation leads to a rarer convening of conferences, out of keeping with the rapid progress of technique; it prevents Administrations from being represented at the most efficient level for the whole duration of our conferences. This would dangerously compromise the future of the International Telecommunication Union if we did not find a prompt solution.

Fortunately the concrete proposals made by our Study Groups, should they be adopted by the Special Assembly, would, it seems to me, simplify the work of the Telegraph and Telephone Conference. They could even lead to a substantial lightening of the Telegraph and Telephone Regulations which in my own opinion should only retain the essential regulations, that is to say, those which do not need a constant bringing up to date and those which can be universally applied. The others should be the subject of recommendations which, in spite of their optional character, experience has shown, are applied at least as well, if not better than the Regulations. If such results were to be achieved, we could conclude that the C.C.I.T.T. has already this year made a truly valid contribution to the Administrative Conference.

Perhaps still better results could be obtained in future if at Secretariat level, both the consultative and the statutory aspects of operation problems, while keeping their individuality, were studied with a more completely unified view; if, in other words, the same people organized the telegraph and telephone conferences and the C.C.I.T.T. Plenary Assemblies, using the same working methods. This would result in a merger of the Telegraph and Telephone Division of the General Secretariat and of the C.C.I.T.T. Secretariat. This is a purely personal idea which I submit to you; I shall also submit it to the interim Secretary-General with an excuse for encroaching somewhat on his prerogative.

You will be able to think about this, Gentlemen, at the same time as you give your attention to the discussions in our Special Assembly and then in the Administrative Conference. The results of your considerations can be put to profit as necessary during the next Plenipotentiary Conference.

But, besides these important problems of operation and tariffs, I considered that there was another reason, no less important, for calling the Special Assembly. The C.C.I.T.T. is a very young

child who is just learning to walk; its Director, who himself, alas, is no longer young, is a complete newcomer to the delicate tasks which you have been good enough to give him to do. I have hence found it necessary, without waiting for our Second Plenary Assembly, which is not due until the end of 1960, to make contact with you, to ask you to pronounce on my past activities, and to ask you for your advice about my future ones. You will have noticed that I am expressing myself perfectly frankly; I hope that you will do the same with me and your constructive criticisms will be welcomed and will immediately be turned to account.

As you know, Gentlemen, it was at the beginning of 1957 that the new Study Groups and Sub-Groups of the C.C.I.T.T. were set up and began their work in accordance with the programme drawn up by our First Plenary Assembly. An overall view of their activities for 1957 and the first half of 1958 is given in Document AS/9, which has been distributed to you.

During this first phase of our work, which for me has been mostly a period of getting into the way of things, I have tried, so far as has been possible in view of a very full programme—too full, there is no doubt—to take part personally in the majority of the meetings, and I have followed the discussions with great interest and attention. Truth to tell, I have been very careful about intervening in these discussions—too careful, some of you may have thought, especially if compared with the ways customary to my predecessor in the C.C.I.F. However, this attitude was natural on the part of the beginner whose first duty was to make himself familiar with the work of our Study Groups by listening to the eminent specialists participating in them.

Of course, in some discussion or other with which I was familiar I could have tried to impose my own ideas. But I think the real part of a C.C.I. Director lies in putting aside his personal ideas so as to personify the views of the Chairmen, and that is a very delicate and very important function. When we come to the study of the working methods of the C.C.I.T.T., you will tell me what you think of the scope of the tasks of the Director of this Organization, and especially whether in conducting our work I ought to brandish the bludgeon to which M. Valensi sometimes jokingly referred. Those among you who are well acquainted with me know that I gladly assume responsibilities. I am quite prepared to take on any one that you choose to entrust me with.

However, even if I have only rarely intervened, I have not missed an opportunity to listen and to observe, and today I should like to tell you the result of my observations. I have first of all been greatly impressed by both the elegance and the efficiency of our discussions. I take the liberty of emphasizing this since I myself have played only a very modest part. It results, above all, from the competence and cooperative outlook of the Chairmen. It is also due to those who laid the foundations and whose example I am trying to follow. I refer to my predecessors in the C.C.I.F. and the C.C.I.T., Mr. Valensi and Mr. Townshend, and I am glad to be able to make this acknowledgement which they so well deserve.

I then tried in the light of experience to form an objective opinion on the results of the merger of telegraphy and telephony, the results—to quote the term used by our Chairman—of this marriage, which, as some of you thought, at least until recently, was a loveless match. Of course, all the factors required have not yet been gathered, for certain joint Study Groups composed of experts in both telegraphy and telephony, have not yet met. But it already seems that the unified control has borne fruit and that, thanks to it, it has in all cases been possible to keep the best of the working methods, sometimes those associated with telegraphy, sometimes those of telephony. Everything leads me to think that the representatives of these two branches of technics, far from having a family feud, as could have been apprehended, have joined hands in a common task and that good results are to be expected from their close cooperation.

Finally, I have been struck by the extent of the tasks devolving upon Study Groups, by the duration and frequency of their meetings. I wondered whether such a heavy burden could be borne indefinitely by Administrations and private Agencies who have to dispense with the services of their best experts during the overlong periods they devote to the work of the Study Groups. It seems to me that this burden could be reduced while maintaining and even increasing the efficiency of our work by introducing reforms into our organization and our methods.

Indeed, I hesitated for a long time before making any proposals about this, because I did not want to give you the impression that after having been in the C.C.I.T.T. for only

18 months, I had the presumption lightly to condemn methods proven by 30 years experience. On the one hand, some of you gave me great encouragement in this direction when I asked your advice. And, on the other hand, I feel that the time has now come to boldly guide the International Telecommunications Union along the road of reforms.

The fact is that our institution has a structure which use has shown to be fairly unwieldy and expensive. If I may permit myself to make a rather irreverent comparison, the I.T.U. is a very old lady, for we shall soon be celebrating her 100th birthday. With age, the charms of this very old lady have somewhat faded, but she continues nevertheless to be more and more thriftless. It is high time that a family council—I mean of course the Plenipotentiary Conference—made her undergo a strict treatment for rejuvenation and at the same time made her restrict her way of life.

It therefore seemed to me that the C.C.I.T.T., which is always abreast of progress, should wait no longer, and while keeping within the limits of its authority, should make a first step towards reconstruction in the hope that this example would soon be followed by the whole I.T.U. For these reasons, I thought myself able to go ahead and I must say that I have been greatly comforted by the welcome which you have been good enough to give to my proposals.

For the moment, I am only suggesting slight modifications of our working methods and in the layout of our documents. It seemed to me that a more radical reorganization ought to be postponed until the second Plenary Assembly, by which time we shall have a fuller experience of the working of the present Study Groups and shall possibly know what changes in structure have been drawn up by the Plenipotentiary Conference.

My proposals of course have no other aim than to give the impulse to an ample discussion during which your knowledge and experience will possibly produce even better solutions. These proposals naturally are only of value so far as everyone of us will be ready to willingly conform to the extra effort which they will require, whether on the part of the Chairmen themselves or on the part of the C.C.I.T.T. Secretariat, whose task, as a result, will be considerably increased, without there being any hope of reinforcements, at least for the present.

Unassuming as they are, the suggested solutions, if adopted in one form or another, ought to prove productive. Not only would they make easier the participation in our meetings of those countries which already follow them unceasingly, but also they ought to prompt new countries to attend our meetings and this is the result to which I attach the greatest importance.

In fact, it is no secret that some countries, and not the smaller ones either, sometimes skip our meetings because they feel that their representatives would be wasting their time. Other countries of lesser means shrink from the burden which they would have to bear if they participated in too numerous and too long meetings. They also feel that their Delegates might be taking part in discussions that were too scientific and that they would get documents drafted in a too elaborate way.

It seems to me that the proposed changes will begin to satisfy both of these groups. If they prove effective, and if they are consequently extended, they will open a way for the C.C.I.T.T. to become really universal whether in the field of concordance of international telecommunications or in that of technical assistance, to which I know, you rightly attach a special importance and which you would perhaps consider once more later on during this Special Assembly. You will agree with me, Gentlemen, that these designs, which are of course ambitious, though not unreasonable, are worth being undertaken straight away, so that they can be achieved in the near future.

I have always thought that there should be a reasonable decentralization of our meetings and with a view to the universal character of the C.C.I.T.T., they should to my mind extend to all parts of the world. I well realize being in contradiction with the principles of economy whose importance I have already mentioned. But don't you think that personal contacts made in the countries which are visited give invaluable advantages from both the technical and the personal point of view. In this connection I should like to point out, incidentally, that no invitation has been received for the Second C.C.I.T.T. Plenary Assembly. I know what a heavy burden such an invitation will be for the host country and for the whole Union, but the burden might be lightened if the duration of the next Plenary Assembly were shortened, as I hope it will be, by the diligent preparatory work of our Study Groups. There are among you perhaps some people who share my feelings and who will excuse my rather unguarded request in view of the worthy motives behind it. They would

perhaps like to know that there is still time for an invitation and that it could be made at the end of our Special Assembly.

Gentlemen, I feel that I have taken up too much of your time. I should very much like you to remember from this long speech of mine only my devotedness for the C.C.I.T.T. and my desire, with your help, to let it have a brilliant and fruitful career. We live in a thrilling time in which the extraordinary progress of our beloved art opens wide perspectives for the future upon our planet, and even beyond. May we know how to take advantage of it so as to provide solid and lasting foundations for the building of a telecommunications network to provide links between men of good will. It is with this heartfelt wish in this particularly difficult period in the history of the world that I now end my speech. — (*Hearty applause.*)

Mr. NICOTERA thanked M. Rouvière for his very interesting speech.

M. ROUVIÈRE gave a commentary on Document AS/10 covering the draft working programme for the Special Assembly.

The Assembly approved the working programme given in Document AS/10. It decided to set up a Working Party to examine the Report by the C.C.I.T.T. Director on the development of national and international networks (Document AS/7). This Working Party will include representatives of all Delegations who are interested.

Mr. MATSUDA, Head of the Japanese Delegation, was asked to be Chairman, and accepted, thanking the Assembly for this expression of their confidence.

SECOND MEETING

Tuesday 23 September 1958, at 3 p.m.

Chairman: Mr. Federico NICOTERA (Italy)

Subjects discussed:

1. Terms of reference and composition of the Working Party responsible for examining the report by the Director of the C.C.I.T.T. on the development of national and international networks (Document AS/7).
2. Publication of C.C.I.T.T. Books (Documents AS/1, AS/6 and AS/8).
3. Numbering of C.C.I.T.T. Recommendations (Documents AS/2, AS/6 and AS/8).

1. Terms of reference of the Working Party (Document AS/7).

The Delegate of the UNITED KINGDOM requested that the terms of reference of the Working Party chaired by Mr. Matsuda should be clearly defined and a brief discussion on this subject followed.

The Assembly *decided* that those terms of reference should be as follows :

“The Working Party shall examine Administrative Council Resolutions 382, 383 and 384, and propose the necessary measures to implement them.”

The following countries announced that they intended to take part in the work of the Working Party : Australia, Canada, Ceylon, China, Cuba, United States, India, Indonesia, Italy, Japan, United Kingdom, Switzerland and U.S.S.R.

2. Publication of C.C.I.T.T. Books (Documents AS/1, AS/6 and AS/8).

The Assembly examined the Report by the Director concerning the publication of the C.C.I.T.T. Books (Document AS/1), and the comments on this Report by various Administrations (Documents AS/6 and AS/8).

In general the Assembly agreed with the Director's proposals and after some discussion it adopted that draft with the following modifications :

- Protection would be included in Volume III (Transmission), but would also be published as a separate document, mainly for the use of persons outside the C.C.I.T.T. who were interested in questions of Protection.
- The questions would be included in the Books, but would also be published as separate pamphlets for each Study Group and issued as soon as possible after a Plenary Assembly.

The Director would study the possibility of using loose-leaf folders for the C.C.I.T.T. Books.

A draft resolution (Resolution 4) would be submitted for approval by the Special Assembly.

3. Numbering and layout of Recommendations (AS/2, AS/6 and AS/8).

The Assembly *approved* the draft submitted by the Director of the C.C.I.T.T. (Document AS/2), subject to the reclassification of Recommendations on Protection owing to their introduction into Volume III.

The Assembly *approved* the proposal by the Director to abandon the use of "Consideranda" in the drafting of Recommendations and to give the reasons which led to the recommendation in a more practical and didactic form.

A draft Resolution (Resolution 5) would be submitted to that end for approval by the Special Assembly.

THIRD MEETING

Wednesday, 24th September 1958, at 3 p.m.

Chairman: Mr. Federico NICOTERA (Italy)

Subject discussed:

Easing the burden on Study Groups (Documents AS/3, AS/6 and AS/8).

A general discussion opened on the Report by the Director containing proposals to ease the burden on Study Groups (Document AS/3), and on the comments by various Administrations (Documents AS/6 and 8).

The Assembly on the whole was in agreement with the proposals put forward by the Director. Where circumstances demand, the Director of the C.C.I.T.T. would be authorized to take exceptional measures to maintain the efficiency of the work of the C.C.I.T.T.

Reduction of the number of questions studied.

The Assembly decided that a Committee, known as the "Organization Committee" should be set up during Plenary Assemblies to examine the lists of questions, to assess their usefulness, to revise them where necessary and to submit proposals in this respect to the Plenary Assembly.

It was *decided* that the Director of the C.C.I.T.T. should be Chairman of the Committee, which would be made up of the Chairmen of the Study Groups set up by the Plenary Assembly and of Delegates wishing to take part (not more than one Delegate from each Delegation).

Frequency of Study Group meetings.

There was a general desire to reduce the number of Study Group meetings (to one meeting between two successive Plenary Assemblies), it being understood that exceptions to this rule could be made when necessary.

The Organization Committee would submit a draft programme of Study Group meetings to the Plenary Assembly.

Preparation of documents for Study Group meetings.

It was *decided* that contributions should be sent to the C.C.I.T.T. Secretariat four months before the start of a Study Group meeting; the Secretariat would assemble these contributions under the various questions and send them to the members of Study Groups and Sub-Groups, if possible two months before the start of the meeting.

A discussion followed on whether to ignore documents received by the C.C.I.T.T. after the above mentioned time limit; the replies received less than four months before the meeting of a Study Group could not be published by the C.C.I.T.T., as a general rule, in time for the meeting.

There was a suggestion from the Delegate of the FEDERAL GERMAN REPUBLIC to republish the list of addresses and telephone numbers of members of Study Groups (as the C.C.I.F. had done) to facilitate the exchange of information.

The DIRECTOR OF THE C.C.I.T.T. assured him that it was his intention to bring out such a list in 1959, in which he wanted to include an outline of the organizational structure of any Administrations which would be so good as to send him the necessary information.

FOURTH MEETING

Thursday 25 September 1958, at 3 p.m.

Chairman: Mr. Federico NICOTERA (Italy)

Subjects discussed:

1. Use of Limited Working Parties (Documents AS/3, AS/6, AS/8).
2. Coordination of the work of the various Study Groups (Documents AS/3, AS/6, AS/8).
3. Use of simultaneous interpretation for Study Group meetings (Documents AS/3, AS/6, AS/8).

4. Location of meetings (Documents AS/3, AS/6, AS/8).
5. Holding of discussions on new techniques during Study Group meetings (Documents AS/3, AS/6, AS/8).
6. End of Report by the Director of the C.C.I.T.T. (Document AS/3).
7. Preliminary Report by the Director of the C.C.I.T.T. on the work of Sub-Group 2/2 (Document AS/5).
8. Report of Sub-Group 2/2 to the Special Assembly (Document AS/12).

1. Use of Limited Working Parties.

After a short discussion the Assembly *approved* the proposal of the Director of the C.C.I.T.T.

2. Coordination of the work of the various Study Groups.

There was a fairly long discussion on this subject which showed a general desire for improvement in the coordination of the work.

The CHAIRMAN drew up the following directives:

1. Study Groups will meet in a given place and during the same period when they have questions of common interest to discuss.
2. When there is a question of interest to several Study Groups or Sub-Study Groups, one Study Group shall be known as the Chief Study Group responsible for the study of that particular question.
3. In some cases, joint Working Parties could be set up to study questions of common interest. Each Joint Working Party would be covered by a single Chief Study Group in charge of that particular question.
4. When there are questions of common interest, the participation of Members of various Study Groups is desirable.
5. The Director of the C.C.I.T.T. will select the best method according to circumstances and in agreement with the Chairmen concerned.

* * *

The whole of the above-mentioned decisions of the Special Assembly will be the subject of a modification to Resolution No. 1, "Additional Rules of Procedure of the C.C.I.T.T."

3. Use of simultaneous interpretation for Study Group meetings.

After a short discussion, the Special Assembly decided that it would approve a Resolution (Resolution No. 6) to be submitted to it, proposing that the Director of the C.C.I.T.T. would himself decide, in each case, and in the light of his experience, whether there should be simultaneous interpretation.

4. Location of meetings.

In the form of an opinion (Opinion No. 1) the Assembly *approved* Mr. Rouvière's proposal that meetings need not always be held in Geneva.

5. Holding of discussions on new techniques during Study Group meetings.

The Assembly *approved* the Director's proposal, which will be the subject of Opinion No. 2.

6. End of Report by the Director of the C.C.I.T.T.

Mr. ROUVIÈRE suggested that a meeting of the Study Groups Chairmen should study how the Directives issued should be applied and the *Assembly*, on the proposal of the United Kingdom Delegate, seconded by the Delegates of the Federal German Republic and of the Netherlands, *decided* not to call such a meeting and to rely on the Director in collaboration with Study Group Chairmen.

Mr. ROUVIÈRE thanked the Assembly for the confidence and goodwill which they had just shown him, and which he found to be a valuable encouragement.

* * *

WORK OF SUB-GROUP 2/2

7. Preliminary Report by the Director of the C.C.I.T.T. on the work of Sub-Group 2/2 (Doc. AS/5).

This Report being known to all Delegates, Mr. ROUVIÈRE did not think it necessary to revert to it.

The Assembly was in agreement.

8. Report of Sub-Group 2/2 to the Special Assembly (Doc. AS/12).

The Assembly examined Document AS/12.

PART 1 : *Position as regards the study of Questions.*

Pages 2 to 4. — Questions 5, 7, 19, 24, 26 and 27 having given rise to negative replies, it was *decided* by the Assembly, on the proposal of the Delegate of Belgium, seconded by the Delegate of Switzerland, to include the Questions with negative replies in the C.C.I.T.T. books, so as to keep a record.

PART 2 : *Modifications to be made in the Booklet of Series E Recommendations.*

Page 5. — The Delegate of Bielorussia insisted on the term "Administration" being retained. This will be discussed again when the report of Study Group 2 is studied.

Some drafting amendments to be introduced to Recommendations, Series E.

PART 3 : *Modifications to the " Instructions for Operators "*.

Some drafting amendments to be introduced in this text.

PART 4 : *New Questions.*

Supplementary Questions A, B, and C.

The Assembly agreed to set these Questions for study.

Supplementary Question D. After a short discussion the Assembly *decided* not to proceed with the study of this Question which was of only documentary interest. The Delegate of the United States would collect appropriate documentation relating to this Question and would send it to the C.C.I.T.T.

FIFTH MEETING

Friday, 26 September 1958, at 9.30 a.m.

Chairman: Mr. W.E. CONNELLY (Canada)

Subjects discussed:

1. Work of Sub-Group 2/3 (Document S-COM 2/3 - No. 5).
2. Final Report by Sub-Group 2/1 (Document AS/11).

1. Work of Sub-Group 2/3 (Document S-Com 2/3 - No. 5).

Mr. BORNEMANN (Federal German Republic), Chairman of Sub-Group 2/3, introduced the document.

The Assembly *approved* the document as a whole.

2. Final Report by Sub-Group 2/1 (Document AS/11).

Mr. PERRY (Netherlands), Chairman of Sub-Group 2/1, introduced the document.

The Assembly examined the document question by question.

Questions 9/21, 13/21 and 10/21. No comment.

Question 11/21. Under this question, the Sub-Group proposed to modify the text of Recommendation F.90 of the printed booklet annexed to Document AS/4 (former C.C.I.T. Recommendation F.1).

The Assembly *decided* to add the following sub-paragraph (g) under point 6 of the draft new Recommendation F.90 :

"Telegrams received through the Gentex network shall be grouped in returns A and B according to the country of origin (one line per country) " (Page 5 of Document AS/11).

Questions 12/21 and 13/21. No comment.

Question 14/21. Recommendation F.22, with the proposed amendments contained in Document AS/11, was *approved*, with a drafting amendment to the English text. The expression "fair copy" should be replaced by "ampliation".

The proposed deletions or modifications of Recommendations and of the Opinion appearing on page 11 of Document AS/11 were *approved*.

Question 15/21. Draft Recommendation F.21 was *adopted*.

Question 16/21. No comment.

Questions 17/21 and 18/21. No comment. Study Group 8 would become responsible for the study of these questions.

Questions 19/21, 20/21 and 21/21. No comment.

Question 22/21. Temporary Recommendation I was *adopted*.

Question 23/21. (Study of possible revision of the Telegraph Regulations.)

Mr. NICOTERA (Italy) said that he objected to the adoption of this Recommendation because the disadvantages and dangers therein outweighed its advantages. Moreover, while appreciating its praiseworthy purpose which was to help the T.T. Conference, it should be remembered that it was not the task of the C.C.I.T.T. to revise the Telegraph Regulations. That was apparent from the note at the foot of page 19, document AS/11; which mentioned that the C.C.I.T.T. Recommendation in question would be revised by the T.T. Conference. That was unacceptable because the Recommendation was obviously contrary to the provisions of the Convention relative to the tasks of T.T. Conferences and of the Consultative Committees.

In addition, Mr. Nicotera drew the attention of the Assembly to Chapter 18 of the General Regulations which dealt with the question of the proposed inclusion of C.C.I. Recommendations in the Regulations. Should this Chapter be taken as a basis, no further proposal by the C.C.I.T.T. to the T.T. Conference would be possible any more. Mr. Nicotera suggested a practical solution which would be that the T.T. Conference make use of the work of the C.C.I.T.T. at the proposal of any Delegation.

Mr. LILICRAP (United Kingdom) also objected to the submission of Recommendations of the type proposed by Sub-Group 2/1 to the T.T. Conference. At all events, when the Special Assembly would submit its report to the T.T. Conference, it should point out that adoption of this Recommendation by some Administrations did not mean that those Administrations were in agreement with the principle of transferring certain provisions of the Telegraph Regulations to C.C.I.T.T. Recommendations.

Mr. PERRY (Netherlands), Chairman of Sub-Group 2/1, pointed out that the proposed modifications had already been taken up by the Administrations and sent as proposals to the T.T. Conference.

The DIRECTOR of the C.C.I.T.T. explained that there was no proposal to the T.T. Conference to withdraw from the Telegraph Regulations the provisions dealt with by these Recommendations. These Recommendations had been prepared *on the assumption* that the T.T. Conference would decide to unburden the Telegraph Regulations.

Mr. BESSEYRE added that Vol. II of the *Red Book* would not be published before the decision of the Conference. Recommendations F.1 and F.80 would not be published if the Conference did not decide to unburden the Telegraph Regulations.

M. DREVET (France) was of the opinion that an exceptional situation required exceptional measures. It would be regrettable if the whole of the work of Sub-Group 2/1 should be questioned.

Mr. LEWIS, General Secretariat, pointed out that under Chapter 3 of the General Regulations, only Members and Associate Members could submit proposals. This rule had been duly observed. In December 1957, Sub-Group 2/1 of the C.C.I.T.T. had made suggestions which subsequently had been adopted by certain Administrations as their own proposals for the Conference. These proposals had been published as such and the provisions of the Convention and the Regulations had thus been duly respected.

As regards Chapter 18 of the General Regulations, Mr. Lewis remarked that hitherto it had been the practice for the Telegraph Regulations to be amplified at conferences to take account of certain tariff and operation recommendations of the C.C.I.T.T. which had proved their value in practice. It was in this way, for example, that the Recommendation on phototelegraph services adopted by the C.C.I.T.T. at Warsaw in 1936 had been embodied in the Cairo Telegraph Regulations in 1938.

The 1st Plenary Assembly of the C.C.I.T.T. had, through its proper constitutional procedure, accepted the study of a question designed to lighten the Telegraph Regulations. Chapter 18 had not, however, been overlooked, but Group Chairmen had expressed the opinion that the proposals for modification of the Telegraph Regulations which could be extracted from existing C.C.I.T.T. Recommendations concerning operation and tariffs would probably be of very limited interest. The situation had been explained to Members and Associate Members of the Union in a letter signed jointly by the late Secretary-General and the Director of the C.C.I.T.T. on 5 November 1957.

The forthcoming Conference would have full power to accept or reject the present proposals for lightening the Telegraph Regulations. The Conference might be interested to know the nature of the Recommendations which were envisaged to replace any parts of the Telegraph Regulations which the Conference might decide to withdraw.

Subsequent to a debate in which the Delegates of the Netherlands, India, the United Kingdom, Italy, Poland, Belgium and the United States took part, it was decided :

1. That the texts under F.1. and F.80 should remain Draft Recommendations;
2. That the Special Assembly should not be closed on Saturday 27 September but that an additional meeting should be held, at an appropriate time, during the T.T. Conference. It should place on its agenda the examination of possible amendments to Draft Recommendations F.1 and F.80, taking into account the decisions of the T.T. Conference;
3. That the texts of Draft Recommendations F.1 and F.80, corrected as suggested in Document AS/11, should be published in the booklet of Recommendations of the Special Assembly; and that the consideranda of these two Draft Recommendations F.1 and F.80 should be waived for the time being;

4. That documents containing C.C.I.T.T. Recommendations relating to Telegraph Operation and Tariffs, as well as the texts of Draft Recommendations F.1 and F.80 should be placed at the disposal of the T.T. Conference, for information;
5. That any Administration was, of course, free to make use of the Draft Recommendations contained in these documents for submission as proposals to the T.T. Conference.

SIXTH MEETING

Friday, 2 September 1958, at 3 p.m.

Chairman: Mr. R.C. VAISH (India)

Subjects discussed:

1. Conclusion of the examination of Recommendations and Questions relative to Telegraph Operation and Tariffs (Documents AS/4, AS/11, AS/15).
2. Modifications to Recommendation E.23 and to Article 35 of the Instructions for Operators.
3. Report by Study Group 2.
4. Approval of the Minutes of the 1st, 2nd and 3rd Plenary Meetings (Documents AS/13, AS/14, AS/16).

1. Conclusion of the examination of Recommendations and Questions relative to Telegraph Operation and Tariffs (Documents AS/4, AS/11, AS/15).

Question 23/21. — C.C.I.T. Recommendations F.4, G.1, G.4, G.5, G.6, G.7, G.9, G.10, G.16 and Opinion G.1 of the C.C.I.T. would be *deleted* from Volume II of the *Red Book*.

Question 24/21. — The amended text of Recommendation F.60 was *adopted*.

Question 25/21. — Temporary Recommendation III was *adopted*.

Question 26/21. — Recommendation F.45 was *adopted*, but only as a draft Recommendation, with the following note :

The Administration of the USSR stated that its terminal rate would be 32 gold centimes per word and its transit rate 24 gold centimes per word.

With regard to this Recommendation, the Special Assembly specified, at the request of the Director of the C.C.I.T.T., that it did not intend to submit suggestions or proposals to the Telegraph and Telephone Conference, but that the documents of the Special Assembly (Recommendations and draft Recommendations F.1, F.45 and F.80) would be sent to the Secretary-General with the request that he should forward them to the Telegraph and Telephone Conference for its information.

Question 27/21. — Temporary Recommendation II was *adopted*.

Question 28/21. — The question would be passed on to Sub-Group 2/2.

Question 30/21. — The modification of Recommendation F.2. was *adopted*.

Question 32/21. — The proposal by Sub-Group 2/1 was *accepted*.

Questions 33/21, 34/21. — No comment.

Question 35/21. — The Study Programme, as amended by Document AS/15, was *adopted*.

New Questions. — The new Questions were *adopted*; Questions 21/I and 21/II would be submitted to Sub-Group 2/I and Question 21/III would be allocated to Sub-Group 2/3.

2. Modification of Recommendation E.23 and of Article 35 of the Instructions for Operators.

The modification of Recommendation E.23, requested by a previous meeting of the Special Assembly, and the modification of Article 35 of the Instructions for Operators were *approved*.

3. Report by Study Group 2 (Document AS/15).

Mr. LANGENBERGER, Chairman of Study Group 2, introduced the report of that Study Group (Document AS/15).

The Special Assembly, with the exception of Italy, *adopted* the Opinion expressed by Study Group 2 on the question of easing the Telephone Regulations (point 1 of Document AS/15), and decided to forward it to the Telegraph and Telephone Conference, for its information, in accordance with the procedure already approved for Draft Recommendations F.1, F.45 and F.80.

The Assembly took note of the Report of Study Group 2 on the terms of reference of that Study Group (point 2 of Document AS/15).

Recommendations F.83 (reply to Question 8) and F.82 (reply to Question 29) were *adopted*; the modifications to the Study Programme for Question 35/21 had already been *adopted* (point 3 of Document AS/15).

The Special Assembly decided not to examine, during the present session, the question of an abridged term to replace "Administration and Recognized Private Operating Agency"; this question would be raised at the Telegraph and Telephone Conference (point 4a of Document AS/15).

The question of translation into several languages of the terms defined in the Recommendations would be examined after it was known what was the decision of the Telegraph and Telephone Conference on the similar problem which it would be facing (point 4b of Document AS/15).

The modification of Recommendation F.60 was *approved* (point 4c of Document AS/15).

4. Approval of Minutes.

Minutes of the First Meeting (Document AS/13). — With some minor modifications, the Minutes were *approved*.

Minutes of the Second Meeting (Document AS/14). — With some minor modifications, the Minutes were *approved*.

The text of Resolutions 4 and 5 were *approved*.

Minutes of the Third meeting (Document AS/16).

With some minor modifications, the Minutes were *approved*.

SEVENTH MEETING

Saturday 27 September 1958, at 9.30 a.m.

Chairman: Mr. Federico NICOTERA (Italy)

Subjects discussed:

1. Report by Mr. Matsuda's Working Party (Doc. AS/17).
2. Minutes of the Fourth Meeting (Doc. AS/18).
3. Minutes of the Fifth Meeting (Doc. AS/19).
4. Minutes of the Sixth Meeting (Doc. AS/20).
5. Draft revision of Resolution No. 1 — Additional Rules of Procedure of the C.C.I.T.T. (Temporary Document No. 2).
6. Draft Resolution No. 6 — Use of the simultaneous interpretation (Temporary Document No. 3).
7. Draft Opinions Nos. 1 and 2 (Temporary Document No. 4).

1. Report by Mr. Matsuda's Working Party (Document No. AS/17). *

Mr. MATSUDA (Japan) introduced his Working Party's Report.

Paragraph (a). Administrative Council Resolution 382.

The Delegate of SWEDEN thought that, for the bibliographical service, an approach could be made to scientific or industrial organizations dealing with such matters. All countries would be interested in summaries of the more pertinent publications.

The Delegate of the UNITED KINGDOM thought that, in considering the best means of implementing such a service, the Director of the C.C.I.T.T. should pay great attention to the financial effects. Great caution was required in matters of documentation which might require considerable work on account of the selection to be made.

The CHAIRMAN recalled that the Administrative Council had decided the expenses of the bibliographical service would not come under the budget of the Union and that Technical Assistance would pay the salaries of the two engineers. Should that solution prove impracticable, the service would have to be discarded.

* The text of the Report is given on page 53 hereafter.

§ (c). *Administrative Council Resolution 384.*

The Delegate of INDIA proposed that the following sentence should be added to § (c) : This meeting will examine the report submitted by the two technical assistance experts at present on mission in Bangkok for the preliminary study of measures to be recommended for the development of telecommunications in the countries of that region.

Agreed.

§ (d). *Participation in the work of the C.C.I.T.s.*

The Delegate of ROUMANIA pointed out that this point was related to point 9 of the Report by the Director of the C.C.I.T.T. (Document AS/3) which dealt with the question of the discussion of new techniques on the occasion of Study Group meetings. He recalled that the C.C.I.T.T. had already published some very useful information for Administrations.

The DIRECTOR of the C.C.I.T.T. explained that he did not have technical assistance in mind when he worded § 9 of his Report. He had referred to new techniques which were not likely to be immediately applied, but which it was useful to know for the future. § (d) of Document AS/17 referred to participation in C.C.I.T.T. work with a view to the application of new techniques. With regard to the second point raised by the speaker, Mr. Rouvière pointed out that the C.C.I.T.T. had in fact published a pamphlet on the different methods of impregnating wooden poles. He agreed to publish more brochures of this type.

§ (e). *Recourse to existing programmes of technical assistance.*

The Delegate of INDIA proposed that the text of this paragraph should be replaced by the following :

f) *Recourse to existing programmes of technical assistance.* — The Working Party wishes to draw the attention of the countries concerned to the facilities offered for technical training within the framework of various existing training programmes of technical assistance. Under this method, engineers and other technical personnel, having the necessary basic qualifications, are able to receive training in the telecommunication organizations of certain Administrations and Private Operating Agencies. This training will be of considerable benefit to Administrations which do not possess an adequate number of fully trained staff.

Document AS/17 thus amended was *approved* by the Assembly, with some minor drafting modifications.

2. Minutes of the Fourth meeting (Document No. AS/18).

Coordination of the work of the various Study Groups.

The following new text was *approved* by the Assembly :

1. Study Groups will meet in a given place and during the same period when they have questions of common interest to discuss.
2. When there is a question of interest to several Study Groups or Sub-Study Groups, one Study Group shall be known as the Chief Study Group responsible for the study of that particular question.

2bis. In some cases, Joint Working Parties could be set up to study questions of common interest. Each Joint Working Party would be covered by a single Chief Study Group in charge of that particular question; sub-paras. 3 and 4 remain unchanged.

Document AS/18, thus amended, was *approved*, with same minor drafting modifications.

3. Minutes of the Fifth meeting (Document AS/19).

Page 2.

Mr. NICOTERA (Italy) wanted a more faithful reproduction of his intervention, which he handed in to the Secretariat and which can be summarized as follows :

Mr. NICOTERA said that he objected to the adoption of this recommendation because the disadvantages and dangers therein outweighed its advantages. Moreover, while appreciating its praiseworthy purpose which was to help the T.T. Conference, it should be remembered that it was not the task of the C.C.I.T.T. to revise the Telegraph Regulations. That was apparent from the note at the foot of page 19, document AS/11, which mentioned that the C.C.I.T.T. Recommendation in question would be revised by the T.T. Conference. That was unacceptable because the Recommendation was obviously contrary to the provisions of the Convention relative to the tasks of T.T. Conferences and of the Consultative Committees.

In addition, Mr. Nicotera drew the attention of the Assembly to Chapter 18 of the General Regulations which dealt with the question of the proposed inclusion of C.C.I. Recommendations in the Regulations. Should this Chapter be taken as a basis, no further proposal by the C.C.I.T.T. to the T.T. Conference would be possible any more. Mr. Nicotera suggested a practical solution which would be that the T.T. Conference make use of the work of the C.C.I.T.T. at the proposal of any Delegation.

Page 4.

Mr. Nicotera stated that, as delegate of Italy, he could not accept the wording on page 4, § 4, of document AS/19 (Minutes of the Fifth Meeting) for it did not correspond to the conclusions reached by the Assembly on the morning of 26 September.

He stated that the Assembly had decided that the documentation referred to in point 4 would be made available to the Delegates of the T.T. Conference rather than sent to the Conference itself, since the provisions in Chapter 18 of the General Regulations precluded the latter course.

He requested that his statement be recorded in the Minutes.

The DIRECTOR of the C.C.I.T.T. explained that following that morning's meeting, there has been some doubt as to what the decision had been; however, after consultation with various participants in the meeting in question, he had come to the conclusion that point 4, as drafted, corresponded to the decision taken by the majority. That had been confirmed by the discussion which had taken place at the meeting held in the afternoon.

The Delegate of SWITZERLAND thought it illogical that an organ of the Union should not be entitled to submit proposals to the T.T. Conference.

In the course of further discussion, the *DELEGATE of France* supported by the Delegate of the USSR stated that the matter should be regarded as settled. It was not a question of a proposal or of a suggestion but of documentation, which would be placed at the disposal of the T.T. Conference for information.

The Assembly *decided* not to amend point 4.

Document No. AS/19 was *adopted* with the amendments decided on.

4. Minutes of the sixth meeting (Document No. AS/20).

With some minor amendments, the minutes were *approved*.

5. Draft revision of Resolution No. 1 — Additional Rules of Procedure of the C.C.I.T.T. (Temporary Document No. 2).

The document as a whole was *adopted* with the following amendments :

The words “three months” to be replaced by “four months” throughout the document.

Page 3, Section II, add the following § 6bis :

§ 6bis. When circumstances demand, the Director of the C.C.I.T.T. is authorized to take exceptional measures to improve the efficiency of the work of the C.C.I.T.T.

The *DIRECTOR* of the C.C.I.T.T. stated that the Additional Rules of Procedure, as revised, would be published in their entirety in Volume II of the *Red Book*.

6. Draft Resolution No. 6 — Use of Simultaneous Interpretation (Temporary Document No. 3).

Temporary Document No. 3 was *adopted*.

7. Draft Opinions Nos. 1 and 2 (Temporary Document No. 4).

No. 1.

After a short discussion, the Assembly *decided* to delete the Consideranda and to reword Opinion 1 as follows :

The Special Assembly of the C.C.I.T.T. (Geneva, 1958)

EXPRESSES THE OPINION

that insofar as is compatible with C.C.I.T.T. budgetary considerations, it may be desirable in certain cases to hold meetings of C.C.I.T.T. Study Groups, Sub-Study Groups and Working Parties elsewhere than in Geneva.

No. 2.

The Assembly *approved* the draft of Opinion No. 2, the Consideranda being deleted.

EIGHTH MEETING (FINAL MEETING)

Monday, 24 November, 1958, at 3 p.m.

Chairman: Mr. Federico NICOTERA (Italy)

Subjects discussed:

1. Minutes of the seventh meeting (Document No. AS/21).
2. Draft Recommendations left in abeyance pending decisions to be taken by the Administrative Telegraph and Telephone Conference.
3. Sundry.
 - A. Temporary Recommendations I, II and III.
 - B. Share to be taken by the International Telegraph and Telephone Consultative Committee in preparing for Telegraph and Telephone Conferences.
4. Invitations to the next Plenary Assembly of the Committee (1960).
5. End of the Special Assembly.

1. Minutes of the 7th meeting (Document No. AS/21).

Subject to wording amendments, Document No. AS/21 was *adopted*.

2. Draft Recommendations left in abeyance pending decisions to be taken by the Administrative Telegraph and Telephone Conference.

The DIRECTOR, International Telegraph and Telephone Consultative Committee :

“ For nearly two months now, you have been immersed in exceedingly important discussions from which a new charter for international telecommunication is destined to emerge. As a little interlude, I have today invited you to a meeting of far less solemn a character (I could almost call it a family meeting), designed exclusively to give some practical advice, outside the regulations, to those of you who might feel inclined to follow them. In this relaxed atmosphere, I should like, if I may, to have a little chat with you about certain problems of concern to our Committee. Rest assured that my attachment to our Committee will not entail any disrespect for the Convention and the Regulations.

“ The Telegraph and Telephone Conference is drawing to its close, and our Special Assembly is meeting one last time to see what lessons the work of the Conference has for it. We shall, in particular, have to consider afresh certain Recommendations left in abeyance at our September meetings pending the decisions to be taken by this Conference. It would be well, too, if we were to use the experience recently acquired to ask ourselves the following question, which, while it does not appear on our agenda, is nevertheless important. How in future could our Committee best assist the Telegraph and Telephone Conferences ?

“ This is the question I should like, if I may, cursorily examine. The Committee, in accordance with the instructions laid down at its First Plenary Assembly, felt it was doing well in suggesting that the Telegraph and Telephone Regulations should be pruned. Those Regulations, it felt, were essentially designed for senior officials in Administrations and Recognized Private Operating Agencies, and should not take the form of detailed instructions for operating staff. Accordingly, it decided that the regulations would gain both in force and in flexibility if they were limited to the basic principles. Matters of detail, and questions subject to frequent revision might usefully, it considered, be dealt with in Recommendations of an optional nature.

"The Conference has been good enough to pay tribute to what our Committee has done in this direction, and for this we are duly grateful. But while it adopted our suggestions as far as the Telephone Regulations are concerned, it declined to do so in connection with the Telegraph Regulations. Now I shall not deny that superficially, at least, these two decisions seemed contradictory to me. But I realize that I am ill-qualified to judge, since professional bias leads me to apply, come what may, the principles which have led to amalgamation of the International Telegraph and the International Telephone Consultative Committees. Be that, however, as it may, I shall not expatiate on this point. All I can say is that, since I could not be present in two places at once, I attended, for preference, those meetings of the Conference devoted to revision of the Telephone Regulations, where I felt I would be of most use, since these Regulations contain abundant references to the Recommendations of our Committee.

"Be that as it may, our attempts to assist the Conference should, I feel, be continued—perhaps in a somewhat different direction, even though, as far as this particular Conference is concerned, they have only in part been crowned with success. Of course, the aims pursued by the Conference are not at all the same as our own, nor do I think they should be. But experience over these last few weeks has shown an intimate connection between the two spheres of activity. This, of course, is normal, since both of them are activities pursued by the International Telecommunication Union, and the same countries, even the same delegates, take part therein.

"This, then, being so, our Committee should, I feel, be officially entitled to submit proposals to the Conference, and even to do the groundwork for the Conference. As to this latter point, I should be happy to hear your suggestions. This would in no way prejudice the unfettered liberty of the Conference to decide as it pleases. But it could limit its efforts to major policy decisions. This would mean that its meetings would be substantially shorter, a point which, I am sure, would appeal to all Administrations, if not to the delegates and I.T.U. officials, who are doubtless full of enthusiasm for so long a conference in Geneva! I felt it might be well, Gentlemen, to draw your attention anew to this important problem, on which I touched at our first plenary meeting. You may, if you so wish, ponder it at leisure, unless of course you would care to discuss it here just now.

"I now come to the basic aim of this our final meeting, namely, the amendments, if any, to be made in those of our Recommendations which concern telegraph and telephone operating problems.

"First of all, it is clear that Temporary Recommendations I, II and III, appearing at the end of the volume of telegraph Recommendations, are now pointless, designed as they were merely to contribute to the work of the Conference.

"Furthermore, the Recommendations already approved at our September meetings, be they connected with telegraphy or telephony, seem to me to require minor amendment only, or just drafting modifications, as a result of the decisions taken by the Conference. You may perhaps be willing to put your trust in the Secretariat for such work, although any information about it which you may require will of course be readily supplied.

"Solely the instructions relative to international telephony, annexed to Recommendation E2, need to be brought thoroughly up-to-date. But this is a long-term job which at this brief meeting we cannot possibly tackle. Should the Special Assembly share my views on this point, then such work could well be entrusted to Sub-Group 2/2, or to a Working Party thereof, which would have to get down to work with all possible speed and endeavour to give these instructions a world-wide scope.

"There remain Draft Recommendations F1, F45 and F80, which were originally intended to replace certain articles in the Telegraph Regulations. You agreed that, should the Conference decide otherwise, these draft Recommendations should be cancelled. Our suggestions have, in fact, been declined. But, personally, I feel that it would be exceedingly regrettable if the fruits of long and patient efforts were to be thus brought to nothing. The work done is interesting and important, and is worth preserving no matter what happens. Certainly, if you decided to keep these Recommendations, they would overlap with some articles of the Telegraph Regulations. But the same applies, and has long applied, to the Telephone Regulations, and this has greatly facilitated the task of the Conference in revising these Regulations and giving them world-wide scope. This is an exceedingly important result, and our Committee may well take pride in its modest contribution thereto.

"To revert, if I may, to the draft Telegraph Recommendations, the Conference, through the relevant Working Party, implicitly recommended that Recommendation F80, dealing with pho-

totelegraphy, should be kept, and in the new Regulations the Conference has referred to Recommendation F45, on terminal charges. Recommendation F1, on rules for transmission, should, in my opinion, be kept too, subject to some slight changes, for, like the instructions for international telephony, it would constitute a valuable handbook for telegraph operators.

"Hence, I suggest that you approve these three draft Recommendations and authorize the appropriate Study Group to keep them scrupulously up-to-date and abreast of the progress made in telegraph engineering, which—let me say so here—is advancing as fast as telephony.

"The next Administrative Conference may conceivably be happy to quote these Recommendations, and either to include them in some new set of Telegraph Regulations or even—who knows?—to transfer part of such Regulations to them. In this particular connection, the work done at this Conference will, I feel, set a train of ideas in motion. I crave your indulgence for my impenitent optimism. Call it obstinacy if you like. Consider it merely as a proof of my complete confidence in the future of the Committee."

Nobody asked for the Chair, so the *Chairman* assumed that the Assembly agreed to Mr. Rouvière's proposals.

The Assembly *approved* the following three proposals :

1. Authority should be given to the C.C.I.T.T. Secretariat to bring Series E Recommendations into line with the new Telephone Regulations.
2. Authority should be given to Sub-Group 2/2 to revise the Instructions for Operators.
3. The three draft Recommendations F.1, F.45 and F.80 should be kept.

The Delegations of AUSTRIA, BELGIUM, FRANCE, THE FEDERAL GERMAN REPUBLIC and SWITZERLAND had submitted a proposal which is attached hereinafter. The Assembly *approved* it, having first of all agreed that common Recommendations of Series E and F should be twice printed, that is to say, in Series E and Series F of the *Red Book*, so that the special editions of Series E and F which Administrations might wish to give their staffs should each be complete.

3. Sundry

A. *Temporary Recommendations I, II and III:*

Mr. PERRY (Chairman, Sub-Group 2/1) considered that Temporary Recommendations I and II might well disappear. Temporary Recommendation III should remain for further study.

The Delegate of the UNITED STATES had no objection to leaving things as they were as far as Temporary Recommendation III was concerned.

Mr. BESSEYRE (Senior Counsellor) was of the opinion that Temporary Recommendation III responded to Question 25/21. The study of that Question was terminated, but the Plenary Assembly might well decide that a new question should be set for study.

The Delegate of ITALY said that his Delegation had submitted a proposal about word-counting to the Plenary Assembly.

The Delegate of the NETHERLANDS proposed a new wording for the Question, with an eye to devising some method other than the counting of words "pure and simple" in charging for telegrams. He would suggest that the Question run as follows: "Consideration of the principles on which a new telegram charging system, not making use of word-count only, could be based."

This proposal, supported by the SWISS and SPANISH Delegates, was *adopted*.

B. — *Share to be taken by the C.C.I.T.T. in preparing for Telegraph and Telephone Conferences:*

The Delegate of LEBANON read the following declaration:

"Early on in his speech, the distinguished Director of our Committee suggested that the Committee should be empowered to submit definite proposals to the Conference. With this suggestion, we are heartily in agreement. Because of the very nature of the work it does, our Committee is in an excellent position to know exactly what changes should be made in the Regulations, especially in certain purely technical spheres. Its assistance would be exceedingly valuable both for Administrations and for Recognized Private Operating Agencies, whose tasks would be singularly facilitated. If this Assembly is competent so to do, I propose that such a decision should be taken. Otherwise, we could express an opinion for action by the Plenipotentiary Conference. I leave it to the Assembly to decide what action could appropriately be taken."

The CHAIRMAN thought that the Assembly could express an opinion but not take a decision.

The Delegate of the UNITED STATES, backed by the Delegate of the UNITED KINGDOM OF GREAT BRITAIN and NORTHERN IRELAND, agreed that the Committee should be empowered to submit proposals to the Telegraph and Telephone Conference. The scope of the Committee's activities was however so important that all aspects of the problem could not be discussed in a few minutes. The matter should be pondered, with a view to seeing what the Committee could do to facilitate and speed up the work of the Conference.

The DIRECTOR of the C.C.I.T.T. considered the time was not yet ripe to decide about the opinion proposed by the Delegate of Lebanon. Several speakers showed how interested they were in the problem and advocated considering it over thoroughly.

The DIRECTOR of the C.C.I.T.T. said once more that he had merely wished to draw the attention of Administrations to the benefits which would surely ensue from adequate preparation of the ground to be covered by the Telegraph and Telephone Conference. Administrations might perhaps reflect thereon with an eye to the submission of suitable proposals to the forthcoming Plenipotentiary Conference.

The proposal made by the Delegate of Lebanon having been seconded, the CHAIRMAN asked whether an opinion should be expressed, drawing the attention of the Plenipotentiary Conference to the benefits the Telegraph and Telephone Conference would derive if the ground to be covered were first gone over by the International Telegraph and Telephone Consultative Committee, thus shortening the duration of the Conference itself.

The proposal was *rejected* by eighteen votes to fifteen, with five abstentions.

4. Invitations to the next Plenary Assembly of the Committee (1960).

The CHAIRMAN announced that the Indian Administration had invited the Committee to hold its next Plenary Assembly in New Delhi, in October-November, 1960.

This proposal, unanimously accepted, was greeted with a round of applause.

The CHAIRMAN, observing this enthusiasm, thanked Mr. Vaish, Delegate of India and Vice-Chairman of the Special Assembly, for his invitation, and asked him to tell his Administration how very grateful the Committee was. The Plenary Assembly in New Delhi would certainly be a memorable one in the history of the Committee and would be in the general interests of the Union.

The Delegate of INDIA thanked the Assembly for accepting the proposal with such alacrity. Delegates could be sure of a hearty welcome. In November and December the climate in New Delhi was very good indeed, and so it was in January, should the Committee decide to postpone its Assembly until then. On 6 January there would be celebrations in India to mark the anniversary of Indian independence.

The CHAIRMAN said that the Administrative Council and Administrations would decide on the exact date for the Assembly.

The ASSEMBLY approved a proposal by the Chairman to send a telegram to the Indian Administration thanking it for its invitation and accepting it.

The DIRECTOR of the C.C.I.T.T. personally expressed his gratitude to the Delegate of India. The invitation, accepted amid scenes of such enthusiasm, showed how universal the Committee was. The Plenary Assembly in New Delhi, and the Study Group meetings in connection therewith, should not last more than three weeks.

5. Final Meeting of the Special Assembly.

The work of the Special Assembly being about to end, the CHAIRMAN addressed his thanks to all those who had helped him in his task with their welcome and efficient collaboration. He particularly wished to thank Mr. Rouvière, Director of the C.C.I.T.T., for the invaluable help afforded by Document No. 3, as well as for his suggestions concerning the reorganization of the work of the Study Groups. (*Loud applause.*)

The Delegate of SWITZERLAND, on behalf of all the Delegates warmly thanked M^r. Nicotera, Chairman of the Special Assembly, for having directed the discussions in such a way as to lead them to a rapid and happy conclusion. He also wished to pay tribute to the Director of the C.C.I.T.T. for his invaluable assistance during the whole of the Special Assembly. (*Loud applause.*)

The Delegate of the UNITED STATES OF AMERICA wished to associate himself personally with the statement made by the Delegate of Switzerland. He thanked the Chairman for the exact and efficient way in which he led the discussions of the Assembly. (*Loud applause.*)

The DIRECTOR expressed his gratitude for the show of confidence and friendship addressed to him, which was not only of great comfort, but also an encouragement to lead the International Telegraph and Telephone Consultative Committee to a brilliant future. (*Loud applause.*)

The Final Meeting of the Special Assembly came to an end at 6 p.m.

ANNEX

PROPOSAL

AUSTRIA, BELGIUM, FRANCE, FEDERAL GERMAN REPUBLIC, SWITZERLAND

In the case of adoption by the present Special Plenary Assembly of Recommendations Nos. 80 to 83 concerning operation of the facsimile service and of phototelegraphy in general, the above-mentioned countries.

TAKING AS A BASIS

the recommendation of Committee 3 of the Administrative Telegraph and Telephone Conference

CONSIDERING

that "the rules for phototelegraph calls established over circuits normally used for telephone traffic" (Recommendation F82) and "the rules for rates for private phototelegraph calls" (Recommendation F83) should be placed at the disposal of the various services and of the telephone operating staff, in a rational manner,

WERE OF THE OPINION

that these two Recommendations should also be published by the C.C.I.T.T. in Series E of the Recommendations.

Recommendation F82 should be inserted in the 2nd Section : "Telephone Operation" as No. E32 and Recommendation F83 should be inserted in the 3rd Section : "Tariffs and Charges" as No. E59, instead of the existing item.

This proposal was *adopted* at the Final Meeting of the special Assembly.

**RESOLUTIONS ADOPTED
AND OPINIONS EXPRESSED
BY THE SPECIAL ASSEMBLY**

RESOLUTIONS

RESOLUTION No. 1

Additional Rules of Procedure of the C.C.I.T.T.

(Geneva, 1956, amended, Geneva, 1958)

The International Telegraph and Telephone Consultative Committee,
In view of Article 7, paragraph 6 (2) of the International Telecommunication
Convention, Buenos Aires, 1952.

RESOLVES

That the General Regulations annexed to the Buenos Aires Convention (1952) shall
be amplified as follows regarding the organization of the C.C.I.T.T.

I. Plenary Assembly (P.A.)

1. (a) If the P.A. meets at the seat of the Union, the precise date of its meeting
shall be decided by the Director of the Committee in agreement with the Secretary-
General of the Union. If the P.A. does not meet at the seat of the Union, the exact date
of the meeting shall be decided by the inviting Government in agreement with the Director
of the Committee.

(b) The Director of the Committee shall send an invitation to participate in
the meeting of the P.A. to all Members and Associate Members of the Union. If a country
which is a Member or Associate Member has already officially notified that a Recognized
Private Operating Agency of its country will participate in the work of the C.C.I.T.T.,
the invitation will also be addressed to this Recognized Private Operating Agency.
Otherwise it shall rest with the Member or Associate Member to communicate this
to the Recognized Private Operating Agencies of its country. If the P.A. does not meet
at the seat of the Union, the Director shall send the above mentioned invitation in the
name of the inviting Government. The invitation shall indicate that participation in
the P.A. involves participation in the extraordinary expenses of the C.C.I.T.T.

(c) Members or Associate Members of the Union which wish to participate in the meeting are required to advise the Director of the Committee, by letter or telegram, at least a month before the meeting, of the names of the Delegates of Administrations and Representatives of Recognized Private Operating Agencies who will attend meetings of the preparatory Study Groups and meetings of the P.A. (and especially, of the names of the Heads of their Delegations) as well as the names of experts of the scientific and industrial Organizations who will attend meetings of the preparatory Study Groups only. The Director of the C.C.I.T.T. shall forward this information to the Administration of the inviting government, if any.

(d) The Director of the C.C.I.T.T. shall invite the Director and Vice-Director of the C.C.I.R., the United Nations, the Specialized Agencies of the United Nations which reciprocally allow representatives of the Union to attend their conferences, and the other International Organizations whose work the Administrative Council considers should be coordinated with the work of the Union and whose activities are similar, to attend the P.A. in an advisory capacity. The United Nations, the Specialized Agencies and other International Organizations are required to notify the names of their Observers in the same way as specified in paragraph (c) for Members of the Union.

2. (a) Before the opening meeting of the P.A., the Heads of Delegations shall meet :

- (i) to prepare the programme of work for the P.A., on a proposal by the Director of the C.C.I.T.T. This shall be submitted to the P.A. at its first meeting. (This programme may contain proposals for the setting-up of committees for the duration of the P.A.);
- (ii) to designate the persons who will be proposed as Vice-Chairmen and if necessary (meeting of the P.A. at the seat of the Union) as Chairman of the meeting of the P.A. (Chapter 13, Article 4 of the General Regulations annexed to the Buenos Aires Convention, 1952);
- (iii) to make proposals to the P.A. for the constitution of the " Budget Committee " called upon to examine the " Report on the financial needs of the Committee until the next P.A." and the expenses incurred by the current P.A.

(b) Before the closing meeting of the P.A., the Heads of Delegations shall meet to prepare proposals for the P.A. concerning :

- (i) the constitution of Study Groups;
- (ii) the designation of Study Group Chairmen and Vice-Chairmen and Sub-Study Group Chairmen and Vice-Chairmen;

3. (a) Recommendations submitted to a vote in the course of a P.A. shall be considered as adopted if they obtain a majority of votes; the minutes of the P.A. shall indicate the results of the vote without mentioning the Delegations which voted for or against, unless a Delegation expressly asks that its vote should be mentioned;

(b) The corresponding Recommendations shall also mention these results, in the form :

" The C.C.I.T.T. unanimously issues the Recommendation..." or " The C.C.I.T.T. issues, by a majority (... votes to..., with... abstentions), the Recommendation..."

(c) It is not admissible for a Delegation to vote on behalf of an Administration which has not sent a Delegation to the P.A.; however, when a country is not represented by an Administration, the representatives of the Recognized Private Operating Agencies of that country shall, as a whole, regardless of their number, be entitled to a single vote.

4. The Plenary Assembly, on the proposal of Heads of Delegations, shall set up Study Groups and Sub-Groups. It shall designate Study Group Chairmen and Vice-Chairmen and Sub-Group Chairmen and Vice-Chairmen.

5. The Plenary Assembly shall set up an Organization Committee under the Chairmanship of the Director of the C.C.I.T.T., composed of :

- the Chairmen of Study Groups and the Chairmen of Sub-Groups designated by the Plenary Assembly;
- the representatives of Delegations wishing to participate in this Committee, in the proportion of one Delegate for each Delegation.

This Organization Committee shall examine the questions which the Study Groups propose for study or further study, shall assess their usefulness and urgency, shall verify that texts of questions are clearly worded and that there is no duplication of questions between Study Groups, shall group together related questions and submit to the Plenary Assembly a report containing the texts of questions it proposes for study and, for distribution among Study Groups and Sub-Groups.

The Organization Committee shall submit for approval by the Plenary Assembly a draft programme of Study Group and Sub-Group meetings for the period up to the following Plenary Assembly.

6. At the proposal of the Organization Committee, the Plenary Assembly shall :

- prepare the list and text of questions requiring study or further study up to the following Plenary Assembly;
- allocate these questions to Study Groups and Sub-Groups;
- decide, when a question concerns several Study Groups or Sub-Groups, which Study Group or Sub-Group shall be in charge of the study; it shall also decide whether it is necessary to set up a *Joint Working Party*, composed of the rapporteurs of several Study Groups or Sub-Groups to study such a question, or whether the question will be examined by a single Study Group or Sub-Group with the cooperation of members from other Study Groups or Sub-Groups;
- prepare the draft programme of Study Group and Sub-Group meetings up to the following Plenary Assembly.

The Plenary Assembly shall then draw up an initial list of the Administrations and Recognized Private Operating Agencies which participate in the work of the various Study Groups and Sub-Groups.

II. *The Director*

1. The Director of the C.C.I.T.T. is empowered to enter into direct contact with the Chairmen and Rapporteurs of the Study Groups and Sub-Study Groups.

2. In order that the Director and his assistants may keep up to date on technical progress, Administrations and Private Operating Agencies (as far as circumstances permit) may authorize him to visit their installations and to obtain all necessary information; the expenses incurred in this connection are chargeable to the C.C.I.T.T.

3. The Director shall take all the necessary preparatory measures for meetings of the P.A., Study Groups and Sub-Study Groups, the work of which he should coordinate in such a way that the meetings will produce the best results in the shortest possible time. To this end, he may decide, with the agreement of the Chairmen of Study Groups or Sub-Groups, in the same way as the Plenary Assembly, to set up Working Parties attached to one Study Group or Sub-Group or Joint Working Parties concerning several Study Groups or Sub-Groups for the purpose of studying a question or group of questions. He shall fix, by agreement with the Chairmen, the dates and programmes of Study Group, Sub-Group and Working Party meetings; he shall arrange the calendar for these meetings according to the nature of the work and the availability of the C.C.I.T.T. Secretariat. The Director shall try to keep the Working Parties as small as possible.

4. (a) In his "Report on the Financial Needs of the Committee until the next P.A.", the Director shall communicate to the P.A. (for information) a summary of the accounts for the years which have elapsed since the preceding P.A. and the "Estimated Ordinary Expenses of the C.C.I.T.T." to cover the financial requirements of the Committee until the next P.A.

(b) These "Estimated Ordinary Expenses of the C.C.I.T.T." shall first be submitted to a preliminary examination by the "Budget Committee"; the Chairman of this Committee shall prepare a report on this subject for the P.A. After approval, these "Estimated Ordinary Expenses of the C.C.I.T.T." shall be sent by the Director of the C.C.I.T.T. to the Secretary-General of the Union, for the information of the Administrative Council.

(c) After the meeting of the P.A., the Director shall supply the Secretary-General of the Union (for the information of the I.T.U. Administrative Council) with a list of Study Group meetings scheduled up to the time of the next Plenary Assembly, with an estimate of the probable costs of those Study Group meetings.

(d) The Director of the C.C.I.T.T. shall submit, for a preliminary examination by the "Budget Committee" and thereafter for approval by the P.A., the account for extraordinary expenditure incurred for the current P.A.

5. Within the limitations of the Regulations of the Union, the Director may submit to the P.A. any report or proposal which he considers would help to improve the work of the C.C.I.T.T., so that the P.A. may decide what action to take.

6. (a) After the closure of a meeting of the P.A., the Director shall send to all Administrations and Recognized Private Operating Agencies which have expressed a desire to take part in C.C.I.T.T. activities, and to International Organizations which will cooperate therein, lists of Questions the study of which should be undertaken or continued by each Study Group and Sub-Study Group.

(b) He shall mention that they may forward any comments they may have to offer, including the particulars of their experiments and the drafts of any replies they intend to make to the questions.

7. Where circumstances demand, the Director of the C.C.I.T.T. would be authorized to take exceptional measures to maintain the efficiency of the work of the C.C.I.T.T.

III. *Study Groups and Sub-Study Groups*

1. (a) The Administrations and Private Operating Agencies shall be represented by rapporteurs, appointed by name and chosen by them as experts qualified to collaborate in the search for technically and economically satisfactory solutions to the questions under study.

(b) To study questions of common interest to the C.C.I.T. and the C.C.I.R., Administrations and Private Operating Agencies may also appoint rapporteurs from the C.C.I.R. to a Study Group of the C.C.I.T.T.; such an appointment does not carry with it the obligation to participate in the extraordinary expenses of the C.C.I.T.T.

(c) To facilitate their work, the Administrations and Recognized Private Operating Agencies, members of any Study Groups, shall be kept as few as possible.

2. (a) The Administrations and Private Operating Agencies, members of a Study Group, Chairmen and Rapporteurs, shall send their contributions, comments, results of experiments and proposals relating to the studies being made, to the Director of the C.C.I.T.T.

(b) This documentation shall be sent to the Director of the C.C.I.T.T. in three copies, in one of the working languages of the C.C.I.T.T. (English, French, or Spanish). It would be of great assistance to the C.C.I.T.T. Secretariat if these contributions, comments, particulars of experiments, and proposals could be sent in at least two of the C.C.I.T.T. working languages.

(c) Documents which are to be studied by a Study-Group or a Sub-Group meeting should reach the Director at least four months before the date fixed for the opening of the meeting concerned.

3. (a) The Director shall group the documents received question by question, shall have the necessary translations made and shall send them to the members of Study Groups or Sub-Groups concerned, in the working language they desire, as far as possible two months before the date laid down for the opening of the Study-Group or Sub-Group meeting having the question concerned on its agenda.

(b) Contributions received by the Director less than four months before the date fixed for the meeting of a Study Group could not be published by the Director of the C.C.I.T.T., as a general rule, in time for the meeting.

(c) On the basis of the contributions received in the conditions specified in § 2 above, the Director shall prepare an analytical summary of the stage reached in the study of each question. This analytical summary shall be sent as far as possible to the members of groups concerned before the meeting of the Study Group or Sub-Group.

(d) If a Chairman, in agreement with the Rapporteurs of his Study Group, states that his Study Group (or Sub-Study Group) is willing to use documents in the original working language, the Director shall send on the documents regrouped as specified in § 3 (a) above, without having them translated. This procedure cannot be changed during the period between two Plenary Assemblies.

4. Study Groups and Sub-Groups shall meet in principle once in the period of time between the end of a Plenary Assembly and the meetings mentioned in § 10 (a) below. Exceptionally, extra meetings may be held, with the approval of the Director and the agreement of a majority of the Administrations represented on the Study Group or Sub-Group concerned.

5. (a) The Chairman shall direct the debates during the meeting, with the assistance of the Secretariat.

(b) Study Groups and Sub-Groups may set up *Working Teams* (which should be as small as possible) during their meetings, to study questions allocated to those particular Groups and Sub-Groups.

(c) The drafts of Recommendations and Resolutions shall be prepared by the Chairman, whenever possible with the assistance of the specialized Secretariat or temporary Working Teams. These texts must be approved in their final form before the meeting disbands.

6. (a) A report on the work done during a meeting shall be prepared by the Secretariat.

(b) This report shall be submitted to the Study Groups and Sub-Study Groups for approval before the end of the meeting.

7. Administrations and Private Operating Agencies are authorized to communicate Study Group reports and documents to any experts they consider it expedient to consult, except where the Study Group concerned has specifically decided that its report, or document, is to be treated as confidential.

8. A Study Group may pass on to its Sub-Study Group any question assigned to it by the P.A., and may entrust that Sub-Study Group with any question which has to be studied in order that the work of the Study Group may continue.

9. (a) The Director of the C.C.I.T.T. shall send a report on the work of each Study Group, as a preliminary report to the P.A., to all Administrations and Recognized Private Operating Agencies which have participated or expressed a desire to participate in C.C.I.T.T. activities.

(b) The report shall be submitted as soon as possible, and in the working languages used by the P.A.

10. (a) All Study Groups shall meet simultaneously at the meeting place of the Plenary Assembly, before its opening meeting, in order to prepare final versions of the draft Recommendations to be submitted to the Plenary Assembly for approval.

(b) The programme for the whole of the Study Group meetings (during the days preceding the Plenary Assembly) shall be sent in good time to the Administrations and to Recognized Private Operating Agencies of countries which are Members or Associate Members of the Union and which participate or have expressed a desire to participate in the work of the C.C.I.T.T., in order to enable them to attend these meetings. The programme shall also be sent to the scientific and industrial Organizations authorized to attend the meetings of Study Groups and Sub-Study Groups.

(c) The final report by each Study Group, prepared in accordance with § 6 and 9 (b) above, shall be forwarded to the P.A.

11. While the P.A. is in session, Study Group Chairmen shall hold themselves at the disposal of the P.A., to supply information on matters which concern their Study Groups.

RESOLUTION No. 2

Abbreviation to Designate the International Telegraph and Telephone Consultative Committee

(This Resolution is published on page 87 of Vol. I of the *Red Book*)

RESOLUTION No. 3

Technical Assistance

(This Resolution is published on pages 87-90 of Vol. I of the *Red Book*)

RESOLUTION No. 4

Publication of C.C.I.T.T. Books

The Special Assembly of the International Telegraph and Telephone Consultative Committee (Geneva, 1958)

DECIDES

1. The C.C.I.T.T. Books will be published in separate volumes according to the following plan :

- Volume I : Minutes and reports of the Plenary Assembly
- Opinions and Resolutions
- Recommendations and Questions on :
 - the Organization and Working Procedures of the C.C.I.T.T.
 - means of expression
- Membership of Study Groups

Volume II : Telegraph and Telephone Operation and Tariffs

Volume III : Line Transmission — Protection.

Volume IV : Line Maintenance and Measurements.

Volume V : Telephone performance rating and telephone equipment.

Volume VI : Telephone Signalling and Switching.

Volume VII : Telegraph technique.

2. Each volume (except for Volume I) will contain, for the particular subject it covers :

- the Recommendations
- the Questions under study.
- the text of Contributions which the Study Groups, in agreement with the Director of the C.C.I.T.T., considered worth publishing owing to their interest.

3. After a Plenary Assembly following the publication of a Volume, a “ bis ” (or “ ter ”) Volume will be published for each original Volume of the Book. This “ bis ” (or “ ter ”) Volume will include :

- new Recommendations, and Recommendations modified in relation to those in the original Volume (and in the “ bis ” Volume, if necessary);
- new Questions and Questions modified in relation to the Questions in the original Volume (and in the “ bis ” Volume, if necessary).
- the text of new Contributions to be published in accordance with point 2.

4. When the text of any series of Volumes has been excessively modified by the supplementary “ bis ” or “ ter ” Volumes, the Book will be reissued and brought up to date.

Each Book is to be distinguished by its colour.

5. After each Plenary Assembly, the Director of the C.C.I.T.T. shall see to it that for each Study Group a booklet is published as quickly as possible, containing the text of Questions requiring study or further study by the Study Group concerned.

6. After publication of Volume III, an extract from this volume, relative to Protection, will be published separately.

7. Other publications not contained in the Books, such as :

- the General Switching Plan,
- the “ Directives ” for protection against the effects of power lines,
- Recommendations against corrosion,
- List of Definitions (Part I),
- Instructions for the International Telephone Service,
- and a variety of pamphlets, the publication of which is requested by a Plenary Assembly,

will be published and re-edited, when necessary, independently of the Volumes of the Book.

8. Provisionally,

- (a) Volume I of the *Red Book* series contains all the Questions set for study by the First Plenary Assembly of the C.C.I.T.T.
- (b) Volume II of the *Red Book*, to be published after the Special Assembly in September 1958, will contain the Recommendations on Telephone and Telegraph Operation and Tariffs, the new Questions relative thereto, and the Minutes and Reports of the Special Assembly.

The Special Assembly of the International Telegraph and Telephone Consultative Committee

REQUESTS

the Director of the C.C.I.T.T. to examine the possibility of using looses-leaf folders for the Volumes of the C.C.I.T.T. Books in future.

RESOLUTION No. 5**Numbering and Layout of C.C.I.T.T. Recommendations**

The Special Assembly of the International Telegraph and Telephone Consultative Committee (Geneva, 1958)

DECIDES

1. that all C.C.I.T.T. Recommendations shall be numbered; the number of each Recommendation shall have a letter prefix referring to the Series, as well as a reference number.

2. the Series of Recommendations shall be as follows :

Reference letter of the Series	Series heading	Volume where the Recommen- dation will be published
A	Organization of the work of the C.C.I.T.T.	I
B	Means of expression (Definitions, Vocabulary, Symbols, Classifi- cation)	I
E	Telephone Operation and Tariffs	II
F	Telegraph Operation and Tariffs	II
G	Transmission : Lines, Radio relay systems, Radiotelephone circuits	III
H	Utilization of Lines for Telegraphy and Phototelegraphy . . .	III
J	Transmissions for Radio and Television programmes	III
K	Protection against Interference	III
L	Protection against Corrosion	III
M	Maintenance of Telephone Circuits and Carrier Systems . . .	IV
N	Maintenance for Programme and Television transmissions . . .	IV

Reference letter of the Series	Series heading	Volume where the Recommendation will be published
P	Telephone transmission quality. Telephone installations and local line networks	V
Q	Telephone Switching and Signalling	VI
R	Telegraph Channels	VII
S	Alphabetic Telegraph apparatus	VII
T	Facsimile Telegraph apparatus	VII
U	Telegraph Switching	VII

3. Recommendations in one Series shall be classified in sections according to subject.

4. The operative part of a Recommendation shall be preceded by a statement of the reasons that have led to the issue of the Recommendation. This will be worded so far as possible, in an informatory way, omitting the formula "considering".

5. The new numbering shall be used in the issue of the new Volumes of the *Red Book*; the new layout of Recommendations shall be applied to new Recommendations.

RESOLUTION No. 6

Use of simultaneous interpretation

The Special Assembly of the International Telegraph and Telephone Consultative Committee (Geneva, 1958)

CONSIDERING

that simultaneous interpretation enables debates to be shortened,
that its use in Plenary Assemblies and meetings of Study Groups dealing with Operation has been very effective,

that its use is questionable for meetings of technical Study Groups, in which the translation has to be constantly watched by specialists in the problems under study,

that the expense involved in simultaneous interpretation is greater than that for consecutive interpretation,

DECIDES

- That simultaneous interpretation will be used for Plenary Assemblies.
- That simultaneous interpretation will be used, in principle, for Study Group or Sub-Group meetings which deal with operation and tariffs questions.
- That in other cases, the Director of the C.C.I.T.T. will decide what sort of interpretation will be used, taking into account the opinion of the Chairmen and the financial considerations proper to each meeting.

OPINIONS

OPINION No. 1

Place of Meetings of the C.C.I.T.T.

The Special Assembly of the C.C.I.T.T. (Geneva, 1958)

EXPRESSES THE OPINION

that the holding of meetings of the C.C.I.T.T. outside Geneva is desirable in certain circumstances, in so far as these meetings remain within the possibilities of the C.C.I.T.T. budget.

OPINION No. 2

Exchange of views on new techniques at C.C.I.T.T. Meetings

The Special Assembly of the C.C.I.T.T. (Geneva, 1958)

EXPRESSES THE OPINION

that the Director of the C.C.I.T.T., in agreement with the Chairman of the Study Group or Sub-Group concerned and with the consent of the inviting Administration, if there is one, should organize an exchange of views and opinions on new techniques in the Telegraph and Telephone field on the occasion of C.C.I.T.T. meetings;

that, in principle, the time spent on this exchange of views should not prolong the meeting by more than one day.

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

REPORT

RELATING TO THE DEVELOPMENT OF NATIONAL AND INTERNATIONAL NETWORKS AND TO TECHNICAL ASSISTANCE

The Special Assembly entrusted to a Working Party under the Chairmanship of Mr. Matsuda (Japan) the examination of Document AS/7, in which attention is drawn to Resolutions Nos. 382, 383 and 384 of the Administrative Council of the I.T.U., relating to the development of national and international networks and to problems of Technical Assistance.

The Working Party noted that the examination of Technical Assistance problems was not specifically placed on the agenda of the Special Assembly but that it might however be advisable to take advantage of the presence in Geneva of those representatives of I.T.U. Members who were particularly concerned with these questions, in order to draw their attention to the importance of the three resolutions stated above.

The Working Party noted that Document AS/7 was prompted by the care of securing a participation in the C.C.I.T.T. on a more world-wide scale and of inciting the Special Assembly to make an effort to increase the participation by adopting appropriate methods of work.

The Working Party considered that the adoption of such methods would in itself represent a very important step towards realizing the aims of Resolution No. 384. Furthermore, it urged the necessity of taking suitable steps to expedite the development of telecommunications in the Far East.

The Working Party has made a study of these three resolutions. Mr. G. Corbaz, of the Technical Assistance service of the I.T.U. Secretariat, gave the required explanations on the relationship between the I.T.U. and the United Nations Technical Assistance service. The I.T.U. did not have any particular fund for Technical Assistance and depended entirely for such funds on the United Nations Expanded Programme of Technical Assistance.

The question of an extension of the powers of the I.T.U. in the field of Technical Assistance (particularly as regards the financing of plans for the development of telecommunications) was not dealt with by the Working Party, since it was a matter which only the Plenipotentiary Conference could consider.

The Working Party referred on the other hand to the report of the Joint C.C.I.R./C.C.I.T.T. Study Group on Technical Assistance (T.A.S.G.), April 1957. Although the proposals contained in this document were not all adopted by the Administrative Council of the I.T.U., they could nevertheless be of use for I.T.U. action in the field of Technical Assistance in the future and should not be overlooked.

* * *

The Working Party wished to draw the attention of the Special Assembly particularly to the following points :

(a) *Resolution No. 382 of the Administrative Council.*

The Working Party examined very particularly this Resolution, as it gave effect to suggestions expressed by the Planning Committee at its meeting in Rome, April 1958. The Planning Committee adopted :

- a Recommendation for the setting up of a bibliographical service, in the C.C.I.s, for the use of Administrations;
- a Resolution for the drafting of a book entitled "Part Two of the Plan" (*Grey Book*) to contain the essential elements of C.C.I.R. and C.C.I.T.T. Recommendations.

The Working Party was confident that the Director of the C.C.I.T.T. would take the necessary steps :

- to inform the Acting Secretary-General of the I.T.U. of the provisions that would be necessary to give effect to the proposal of the Planning Committee for the establishment of a bibliographical service;
- to take care that the drafting of the *Grey Book* (Part Two of the Plan) is undertaken in accordance with the procedure provided for by the Planning Committee.

The Working Party noted that with regard to the bibliographical service, it was not merely a question of compiling documents and analysing articles and subsequently publishing by the C.C.I.s of lists of exhaustive bibliographies. The compiling of bibliographic analyses was an important task, made relatively easy by lists already published by certain telecommunication reviews. Such a compilation was obviously required in the first place by Resolution No. 382. To be of full value, however, a bibliographical service would require, within the C.C.I., the necessary staff for selecting documentation and for replying to requests for information. It will be noted that the work of this staff corresponded to the duties of the Technical Assistance engineer, mentioned in the T.A.S.G. report (see the description of his duties on page 13 of this report which is annexed to Document 1888/CA 12 of the Administrative Council).

These comments could be of assistance to the Director of the C.C.I.T.T. when he replies to the Acting Secretary-General of the I.T.U. on the means of implementing the documentation service.

The Working Party noted that as regards Administrations of countries who do not have at their disposal an adequate number of trained staff, bibliographies are at times

of less use than technical "digests" which are easy to read and which provide, on a given question accurate and complete information such as is necessary for the end in view. The Working Party accordingly recommended that such "digests" should be prepared and distributed.

The issue of the *Grey Book* (Part Two of the Plan) only covers part of these requirements. Here again, it may be useful to refer to the comments of the T.A.S.G. (page 9, under the title "C.C.I.s documentation").

In order to avoid difficulty in understanding C.C.I.T.T. Recommendations, the Working Party was of the opinion that the attention of the Special Assembly should be drawn to the necessity of drafting Recommendations in such a way as to be easily understood, thereby eliminating, as far as possible, the need to draw up "digests" of Recommendations.

Mr. Corbaz described the procedures to be followed for obtaining funds under the Expanded Technical Assistance Programme of the United Nations. Funds were on principle allocated to countries and their utilization for creating special services, within the framework of international organizations, was not generally allowed. However, regional projects have been approved by the Technical Assistance Board and Mr. Corbaz stressed, in particular, the importance of the project, at present in progress, for countries of the Far East and South East Asia.

(b) *Resolution No. 383 of the Administrative Council.*

The Working Party took note of Resolution No. 383 of the Administrative Council, which recommends the extension to the Far East of the General Development Plan for the International Telecommunication Network.

In this connection, the Working Party drew attention to the importance of the meeting which is to be held in Tokyo, May 1959, by a Planning Sub-Group under the auspices of the I.T.U. and in the course of which a preliminary draft will be prepared of the Plan for the development of the networks of the countries of the Far East and of other Asiatic countries. It is very desirable that the greatest possible number of countries in this region should take an active part in this meeting.

(c) *Resolution No. 384 of the Administrative Council.*

The Working Party wished to draw attention to the importance of the meeting to be held under the auspices of E.C.A.F.E. (Economic Commission for Asia and the Far East) by representatives of Governments of member countries of this Commission. This meeting will be held at Tokyo at the same time as the meeting mentioned in § (b) relating to Resolution No. 383 of the Administrative Council. This meeting will examine the report submitted by the two technical assistance experts at present on mission in Bangkok for the preliminary study of measures to be recommended for the development of telecommunications in the countries of that region.

(d) *Participation in the work of the C.C.I.s.*

The Working Party wished to draw the attention of Administrations desiring to benefit from Technical Assistance to the value of active participation in the work of the C.C.I. Study Groups, since in this way the participants would develop their knowledge

and skill in dealing with engineering and operating problems in the field of Telecommunications.

(e) *Recourse to existing programmes of technical assistance.*

The Working Party wished to draw the attention of the countries concerned to the facilities offered for technical training within the framework of various existing training programmes of technical assistance. Under this method, engineers and other technical personnel having the necessary basic qualifications being able to receive training in the telecommunication organizations of certain Administrations and Private Operating Agencies. This training will be of considerable benefit to Administrations which do not possess an adequate number of fully trained staff.

This report has been approved by the Special Assembly in its 27 September meeting.

PART II

**TELEPHONE OPERATION
AND TARIFFS**

SERIES E

RECOMMENDATIONS

RELATING TO INTERNATIONAL TELEPHONE

OPERATION AND TARIFFS

NOTE CONCERNING THE WORDING OF SERIES E RECOMMENDATIONS

At the time of the revision in 1958 of the Telephone Operation and Tariffs Recommendations, the following principles were adopted for the wording of these Recommendations :

(a) As a general rule Recommendations in Series E have a direct form and a continuous text. The former method of wording with " Considering ", " Unanimously recommends " and the use of subjunctive clauses has been abandoned. The new method of wording is being progressively introduced and there may therefore be in Series E some Recommendations which have the former arrangement and some with the new arrangement. This difference in the manner of presenting the Recommendations should not be considered to entail any difference in their effect or their authority.

(b) Recommendations in Series E which have the new wording are considered to be unanimous unless otherwise stated in the heading of the Recommendation.

(c) To simplify the wording in all the Recommendations in Series E, the term " Administration " has been adopted as a convention to indicate both a Government Administration and a Recognized Private Operating Agency, during the meetings of Sub-Committee 2/2.

The Special Assembly did, in fact, observe that the use of the expression " Administration or Recognized Private Operating Agency " made the text of Recommendations unnecessarily clumsy. It desired that there should be a succinct term applying both to an Administration and to a Recognized Private Operating Agency, and left the choice of this term to the Administrative Telegraph and Telephone Conference, which decided to keep to the use of the expression " Administration or Recognized Private Operating Agency " in the Telegraph and Telephone Regulations. So as not to disturb the text of those Recommendations which had been printed in advance of the Special Assembly, an asterisk referring to a footnote "*or Recognized Private Operating Agency*" indicates an addition to the term " Administration " throughout the booklet of Series E Recommendations.

(d) A Recommendation in Series E involving a negative decision will be given only once in C.C.I.T.T. publications so long as it affects only telecommunications services. A summary of the negative decisions taken up to 1958 and already included in C.C.I.F. publications is given at the end of Series E.

(e) Series E Recommendations having a negative nature and affecting users of telecommunications services will be retained in each edition of the Recommendations.

SUMMARY
of Series E Recommendations

Contents of Recommendations, Series E.

Table showing cross references between the old and new numbering of the Telephone Operation and Tariffs C.C.I.F. Recommendations.

- 1st SECTION : Telephone operation — General
(Recommendations Nos. E.1—E.20)
- 2nd SECTION : Telephone operation — Operational characteristics — Operating
methods (Recommendations Nos. E.21—E.50)
- 3rd SECTION : Tariffs and charges for the international telephone service
(Recommendations Nos. E.51—E.80)
- 4th SECTION : Statistics and publications for international telephony
(Recommendations Nos. E.81—E.90)
- 5th SECTION : Determination of the number of circuits to be provided
(Recommendations Nos. E.91—E.99)

Summary of negative decisions taken by the C.C.I.F.

CONTENTS OF SERIES E RECOMMENDATIONS

C.C.I.T.T. No.	Former C.C.I.F. No. (<i>Green Book</i> , Vol. VI)	Title	Page
1st SECTION			
Telephone operation — General			
E.1	1	Definition of terms used in international telephone operation	67
E.2	—	Instructions for operating the international telephone service	73
E.3	2	Organization of the international telephone network . .	73
E.4	4	Operation of the intercontinental telephone service . . .	74
E.5	6	Extension of international telephone services	82
E.6	7	Arrangements to be made for controlling the telephone services between two countries	83
E.7	12	Directories	84
2nd SECTION			
Telephone operation — Operational characteristics — Operating methods			
E.21	1 <i>Green Book</i> , Vol. V	Advantages of semi-automatic operation in the International Telephone Service	85
E.22	26	Demand working of international circuits	86
E.23	30	Division of circuits into outgoing and incoming circuits. .	86
E.24	39	Instruction of staff at international positions	87
E.25	40bis <i>Green Book</i> , Vol. Ibis	Time-to-answer of operators	87
E.26	55	Assessment of the beginning and end of calls	88
E.27	56	Indication of the chargeable duration of a call, given to the subscriber while the call is in progress	88

C.C.I.T.T. No.	Former C.C.I.F. No. (<i>Green Book</i> , Vol. VI)	Title	Page
E.28	38	Daily comparison of the number of minutes of call exchanged between international exchanges	87
E.29	26 <i>bis</i> and 26 <i>ter</i>	Directives for the numbering of subscribers' lines and routing calls in automatic and semi-automatic international working	90
E.30	34	Manually-operated international transit traffic	94
E.31	34 <i>bis</i> <i>Green Book</i> , Vol. I <i>bis</i>	Semi-automatic transit traffic	95
E.32	51	Rules for Phototelegraph communications established over circuits normally used for telephone traffic . . .	97
3rd SECTION			
Tariffs and charges for the international telephone service			
E.51	41 <i>Green Book</i> , Vol. I <i>bis</i>	International telephone charges (circuits of European continental type)	103
E.52	41 <i>bis</i> <i>Green Book</i> , Vol. I <i>bis</i>	Charging in a fully automatic international telephone service	109
E.53	37	Charging for calls to a subscriber's station temporarily connected to the "absent subscribers' service" . . .	112
E.54	12 <i>bis</i> , 12 <i>ter</i> and 37 <i>bis</i> <i>Green Book</i> , Vol. I <i>bis</i>	Charging for calls to a device substituting a subscriber in his absence	112
E.55	—	Charging in automatic service for calls terminating on special services for suspended, ceased or transferred subscribers	114
E.56	22 and 44	Multiple calls	114
E.57	49 <i>Green Book</i> , Vol. I <i>bis</i>	Programme transmissions	115
E.58	49 <i>bis</i> <i>Green Book</i> , Vol. I <i>bis</i>	International television transmission	131

C.C.I.T.T. No.	Former C.C.I.F. No. (<i>Green Book</i> , Vol. VI)	Title	Page
E.59	51	Private phototelegraph calls	145
E.60	21 <i>Green Book</i> , Vol. Ibis	Lease of international communication channels for private service	150
E.61	21bis	Simultaneous use of leased telephone circuits for telegraphy and telephony	152
E.62	23	Utilisation, by public services, of international telephone connections which are their property	153
E.63	42	Diminishing tariff	154
E.64	16	Deferred telephone calls	155
E.65	46	Charges for calls from or to a public call office	155
E.66	47	Charges for press calls	156
E.67	54	Standardization of the hours of light traffic for the purpose of application of charges	156
E.68	11	Charges for calls carried by emergency routes	157
E.69	48	Minimum remuneration for a transit country	158
E.70	59	Monthly telephone accounts	158
E.71	57	Defaulting subscribers	161
4th SECTION			
Statistics and publications for international telephony			
E.81	61	General Telephone Statistics (published by the General Secretariat of the Union)	163
E.82	60	European international telephone traffic statistics	165

C.C.I.T.T. No.	Former C.C.I.F. No. (<i>Green Book</i> , Vol. VI)	Title	Page
E.83	62	Checking the international telephone service (Statistics to be exchanged among Administrations or Recognized Private Operating Agencies)	167
E.84	11	Publication by the U.I.T. general Secretariat of the " List of international telephone routes "	171
5th SECTION			
Determination of the number of circuits to be provided			
E.91	63	Determination of the number of circuits necessary to carry a given amount of traffic in manual operation	173
E.92	63bis	Determination of the number of circuits necessary to carry a given amount of traffic in semi-automatic operation	175
E.93	63ter <i>Green Book</i> , Vol. Ibis	Calculation of the best arrangement for alternative routing	180

TABLE SHOWING CROSS REFERENCES

between

the old and new numbering of the Telephone Operation and Tariffs Recommendations
 ("Green Book", Vol. VI)

Former No. of C.C.I.F. Recommendation (<i>Green Book</i> , Vol. VI)	Decision taken by the Special Assembly	New No. of C.C.I.T.T. Recommendation	Page
1	Definitions revised. Recommendation amended	E.1	67
2	Completely recast	E.3	73
3	Deleted	—	—
4	Modified	E.4	74
5	Deleted	—	—
6	Amended	E.5	82
7	Amended	E.6	83
8	Deleted	—	—
9	Deleted	—	—
10	Deleted	—	—
11	Amended	E.68 and E.84	157 and 171
12	Amended	E.7	84
12 ^{bis}	New text adopted by the XVIIIth Plenary Assembly of the C.C.I.F.	E.54	112
12 ^{ter}	New text adopted by the XVIIIth Plenary Assembly of the C.C.I.F.		
12 ^{quater}	Deleted	—	—
13	Deleted	—	—
14	Deleted	—	—
15	Deleted	—	—
16	Unchanged	E.64	155

Former No. of C.C.I.F. Recommendation (<i>Green Book</i> , Vol. VI)	Decision taken by the Special Assembly	New No. of C.C.I.T.T. Recommendation	Page
17	Deleted	—	—
17bis	Deleted	—	—
18	Deleted	—	—
19	Deleted	—	—
20	Deleted	—	—
20bis	Deleted	—	—
21	Slight drafting amendement	E.60	150
21bis	Unchanged	E.61	152
22	Amended	E.56	114
23	Unchanged	E.62	153
24	Deleted	—	—
25	Deleted	—	—
26	Amended. Gives rise to 2 separate Recommendations: C.C.I.T.T. Recommendations Nos. E.3 and E.22	E.22	86
26bis	Amended	} E.29	90
26ter	Combined with Recommendation 26bis		
27	Deleted	—	—
28	Deleted	—	—
29	Deleted	—	—
30	Amended	E.23	86
31	Deleted	—	—
32	Deleted	—	—
33	Deleted	—	—
34	Amended	E.30	94
34bis	New text adopted by the XVIIIth Plenary Assembly of the C.C.I.F.	E.31	95

Former No. of C.C.I.F. Recommendation (<i>Green Book</i> , Vol. VI)	Decision taken by the Special Assembly	New No. of C.C.I.T.T. Recommendation	Page
35	Deleted	—	—
36	Deleted	—	—
37	Amended	E.53	112
37bis	New text adopted by the XVIIIth Plenary Assembly of the C.C.I.F.	E.54	112
38	Amended	E.28	89
39	Amended	E.24	87
40	Deleted	—	—
40bis	New text adopted by the XVIIIth Plenary Assembly of the C.C.I.F.	E.25	87
41	New text adopted by the XVIIIth Plenary Assembly of the C.C.I.F.	E.51	103
41bis	New text adopted by the XVIIIth Plenary Assembly of the C.C.I.F.	E.52	109
42	Slight drafting amendment	E.63	154
43	Deleted	—	—
44	See Recommendation 22	E.56	114
45	Deleted	—	—
46	Unchanged	E.65	155
47	Unchanged, except for a slight drafting amendment	E.66	156
48	Amended	E.69	158
49	New text adopted by the XVIIIth Plenary Assembly of the C.C.I.F.	E.57	115
49bis	New text adopted by the XVIIIth Plenary Assembly of the C.C.I.F.	E.58	131
50	Deleted	—	—

Former No. of C.C.I.F. Recommendation (<i>Green Book</i> , Vol. VI)	Decision taken by the Special Assembly	New No. of C.C.I.T.T. Recommendation	Page
51	Modified	E.32 and E.59	97 and 145
52	Deleted	—	—
53	—	—	—
54	Unchanged	E.67	156
55	Amended	E.26	88
56	Amended	E.27	88
57	Slight drafting amendment	E.71	161
58	Deleted	—	—
59	Modified	E.70	158
60	Amended	E.82	165
61	Modified	E.81	163
62	Amended	E.83	167
62bis	Deleted	—	—
63	Unchanged	E.91	173
63bis	Unchanged	E.92	175
63ter	New text adopted by the XVIIIth Plenary Assembly of the C.C.I.F.	E.93	180

FIRST SECTION

TELEPHONE OPERATION GENERAL

RECOMMENDATION E.1

DEFINITION OF TERMS USED IN INTERNATIONAL TELEPHONE OPERATION

*(Former Recommendation No. 1 of Volume VI of the C.C.I.F. Green Book, page 6.
Recommendation modified in 1958)*

1. Telephone connection.

The connection of two telephone stations.

2. Booking of a call.

In international manual or semi-automatic service, the booking of a call is the (first) request made by the caller for an international telephone call.

In automatic international service, the operation of the dial (or keyset) by the caller to obtain a call with his correspondent is comparable to the booking of a call.

3. Telephone call.

Effective use of the connection established between the calling and the called stations.

4. Telephone circuit.

All the means by which a direct connection between two exchanges is established (manual or automatic). Such a circuit is called an "international circuit" when it directly connects two exchanges in two different countries.

The term "trunk circuit" is reserved for the designation of purely national circuits.

N.B. — The above definitions relate solely to the use of the terms in operational procedures, no matter how the circuits are actually made up.

5. International exchange.

An exchange at the end of an international telephone circuit.

6. International transit exchange.

An international exchange which has been chosen to establish communications between two countries other than its own.

7. Direct connection.

In international telephony a direct connection is a connection established by means of a single international circuit.

N.B. — A direct connection can be established :

- (a) between two telephone stations connected to two international exchanges,
- (b) or between two telephone stations connected to exchanges other than international exchanges. This means the use of one or more trunk circuits connected to the international circuit.

8. Transit connection.

In the international service a transit connection is a telephone connection established by means of more than one international telephone circuit.

9. International advance-preparation service.

In this service, after recording of the booking by a first operator in the outgoing international exchange, another operator in this exchange sets up the call. This second operator sees to it that the calling and called stations are connected without loss of time on the international circuit or circuits.

10. International demand service.

In this service, after the call has been booked in the outgoing international exchange, an immediate attempt to set up the call is made by the operator at this exchange who records the booking.

A distinction is made between :

- A. the manual demand service,
- B. the semi-automatic demand service.

A. MANUAL DEMAND SERVICE

This service requires an operator at the incoming international exchange to establish the call with the operator of the outgoing international exchange.

There are two operating methods :

(a) **Indirect manual demand working.**

In this method of working the operator at the incoming international exchange always acts as an interpreter between the operator in the outgoing international exchange and the called subscriber.

(b) **Direct manual demand working.**

In this method of working the operator in the outgoing international exchange speaks with the called subscriber direct.

B. SEMI-AUTOMATIC DEMAND SERVICE

This, in general, involves automatic setting-up of the connection between the operator in the outgoing exchange and the called subscriber.

11. Automatic international service.

In this service the calling subscriber himself dials (or operates the keyset) to obtain the number necessary for direct connection with the called subscriber.

12. Routes.

The routes followed by international telephone traffic are defined by agreement between Administrations *. A distinction is made between :

- normal routes,
- overflow routes,
- emergency routes.

Normal route :

A normal route between two given international exchanges comprises all those circuits used without distinction as first choice circuits :

In the case of direct groups of circuits it consists of:

circuits established via one or several paths through the same or different countries.

When an international transit exchange is involved, it consists of:

the circuits fulfilling the above condition established between the international exchanges and the international transit exchange.

Overflow route **: :

An overflow route between two given international exchanges is the route used when the normal route is congested.

* or Recognized Private Operating Agencies.

** Formerly called "auxiliary route".

It uses :

- *when the normal route is direct :*
an international transit exchange;
- *when the normal route already passes through an international transit exchange :*
a different transit exchange.

The overflow routes may pass through the same countries as the normal route or through different countries.

Emergency route :

An emergency route between two given international exchanges is a route to be used in case of complete interruption or major breakdown of the normal *and* overflow routes. The path may be through any country.

13. Conversation time (Duration of a call).

The interval between the instant the call is actually established between the calling and the called stations and the instant the calling station gives the clearing signal (or the instant when, although the caller has not replaced his receiver, the call is :

- in manual service, officially cleared down by an operator,
- in fully automatic or semi-automatic service, cleared down after some slight delay by the action of the called subscriber's clear-back signal)

14. Chargeable duration of a call.

The interval to be taken into consideration in determining the charge for the call.

Note. — The chargeable duration can differ from the conversation time, since :

- (a) charging is by indivisible periods;
- (b) in manual or semi-automatic working, incidents or difficulties that may have occurred during the call can be taken into account in determining the chargeable duration.

15. Holding time of an international circuit.

The time interval during which the international circuit is used, including conversation and operating times, exchange of service information, etc.

Note. — The term "operating time" is meant to cover the time taken both by operators and switching equipment.

16. Answering time of operators (on an international circuit).

At the *outgoing* international exchange, this is the interval between sending the calling signal and answering by the operator at the distant international exchange.

At the *incoming* international exchange this is the interval between a calling signal appearing on a position or group of positions at that exchange and answering by an operator.

17. Delays : setting-up time of an international connection.

It is possible to distinguish the following characteristic instants "t" in the successive phases of the setting-up of an international telephone connection by manual or semi-automatic means :

- t_0 the caller has finished booking,
- t_1 the operator in the outgoing international exchange has received all the details of the booking,
- t_2 the operator in the outgoing international exchange makes a first attempt to set up the connection,
- t_3 the called subscriber has replied or the caller has been informed why the connection cannot be set-up.

The interval of time $t_1 - t_0$ is the transmission time of the booking on the national network where the booking is made.

In operation with advance preparation, the time interval $t_2 - t_1$ is the *delay* to which the call is subject at the outgoing international exchange. The caller is generally informed of this delay.

In demand service with manual or semi-automatic working, the time interval defined above is generally very small.

The time interval $t_3 - t_1$ is the *setting-up time* of an international connection. This setting-up time includes any delay at the outgoing international exchange.

The time interval $t_3 - t_0$ is the *total setting-up time* of an international connection. This total setting-up time includes any delay at the outgoing international exchange.

Note. — In fully automatic working it is in general difficult to define all the characteristic instants specified above, either because it is impossible to distinguish between them with accuracy or because of differences between the switching systems used. It is, however, possible to define the *total setting-up time*.

18. Average traffic density (of a group of circuits or a group of switches).

The average traffic density, during a period T , (on a group of circuits or group of switches) is the sum of the *holding times* divided by T , these holding times and the period T being, of course, expressed in the same units.

19. Erlang.

Name given to the unit of traffic density.

20. Busy hour of a group of circuits, a group of switches, or an exchange, etc.

The uninterrupted period of sixty minutes during which the average traffic density is at a maximum.

It is advisable to make use of the average value of traffic observed in the busy hours during a sufficient number of normal days. In manual working in conformity with Recommendation No. E.91, observations will be made during the busy traffic hours on a certain number of normal busy days in the year. Exceptionally busy days which may occur close to certain holidays, etc. will be eliminated from the returns. In principle, the returns will be made during the working days of two consecutive weeks, or during ten consecutive working days. The returns will be taken only twice a year if the monthly curve shows little variation. They will be taken three or four times a year if there are appreciable seasonal variations, in order that the average established may be in accordance with representative traffic levels.

When automatic traffic recorders are available, the above mentioned statistics may be repeated for a larger number of normal working days.

As it is desirable to have a uniform method of analysing the statistics thus obtained, the following method is recommended for adoption in the international service: the observations are made for quarter-hourly periods. The details obtained for the same day of observation are entered on the same horizontal line. The details for the same elementary quarter-hourly period on the different days are added together and the total thus obtained (A, B, C, D, etc.) is divided by the number p of days of observation. In this way there will be obtained the numbers:

$$a = \frac{A}{p}, \quad b = \frac{B}{p}, \quad c = \frac{C}{p}, \quad d = \frac{D}{p}, \quad \text{etc.}$$

These numbers are totalled in groups of four ($a+b+c+d$), etc., in order to ascertain the sum of the four consecutive numbers with the highest total. The period of sixty consecutive minutes which corresponds with this maximum sum is the "busy hour" for the group of circuits (or the group of switches) considered. The Administrations* concerned in any one route communicate to each other the average traffic densities expressed in erlangs for the busy hour.

21. Circuit usage for a group of international circuits (or an international circuit).

The percentage ratio between the sum of the holding times during a specified period equal to sixty consecutive minutes at least and the total length of that specified period.

In the case of a group of circuits, the circuit usage corresponds to the average traffic density *per circuit* during the specified period.

Note — Unless otherwise indicated, circuit usage is based on the busy hour.

* or Recognized Private Operating Agencies.

22. Percentage of bookings met.

The expression as a percentage of the ratio $\frac{n}{N}$, where

- N is the total number of bookings (see Definition 2) in a specified time;
- n is the total number of these bookings that are followed by calls (see Definition 3).

RECOMMENDATION E.2**INSTRUCTIONS FOR OPERATING
THE INTERNATIONAL TELEPHONE SERVICE**

(New Recommendation)

The C.C.I.T.T.,

CONSIDERING

that the rapid and reliable establishment of international telephone connections demands perfect coordination of the operations effected by the operators involved;

that it is consequently highly desirable to unify the rules for the utilisation of circuits;

that unity can be obtained only by respecting the same operating rules;

UNANIMOUSLY RECOMMENDS

that Administrations * agreeing to apply the provisions of the Telephone Regulations (Paris Revision, 1949) should respect the "Instructions for the International Telephone Service";

that these Instructions be regarded as an integral part of the present Recommendation, although they are also contained in a separate publication.

RECOMMENDATION E.3**ORGANIZATION OF THE INTERNATIONAL TELEPHONE NETWORK**

*(Former Recommendation No. 2 of Volume VI of the C.C.I.F. Green Book, page 18.
Recommendation modified in 1958)*

1. *When there is advance preparation*, international traffic should be decentralized whenever circumstances justify it, by the creation of international exchanges in adequate numbers in the centre of the areas to be covered by the service, to reduce waiting times and any lengthening of routes.

* or Recognized Private Operating Agencies.

2. *In the direct or indirect manual demand service*, it would be well to concentrate international traffic in a few international exchanges where major groups of international circuits end, so that international circuits may be more efficiently used, and in view, too, of the linguistic knowledge demanded of international operators.
3. *With semi-automatic working*, it would also be well to concentrate international traffic in a few international exchanges, because of
 - (i) the high cost of the technical equipment required in incoming and outgoing international exchanges for this method of working
 - (ii) the linguistic knowledge required of international operators, and
 - (iii) the need to provide automatic transit in certain exchanges (semi-automatic traffic routing plan).

RECOMMENDATION E.4

OPERATION OF INTERCONTINENTAL TELEPHONE SERVICES

*(Former Recommendation No. 4 of Volume VI of the C.C.I.F. Green Book, page 19.
Wording of Recommendation revised in 1958)*

The following directives should be followed, as far as possible, by the Administrations * in the operation of intercontinental services.

A. FACILITIES OFFERED TO THE USERS

1. Distress calls
Government calls
Service calls
Private calls
are accepted in the intercontinental telephone services.
2. Subscription calls
Conference calls
Transferred charge calls
are accepted in the intercontinental telephone services by agreement between the Administrations * concerned.
3. For each of these categories there are two different classes : station-to-station calls and person-to-person calls.

* or Recognized Private Operating Agencies.

4. "Station-to-station" calls are those booked to a specified subscriber's number.
5. (a) "Person-to-person" calls are those booked to be exchanged between one specified person and another specified person, the required person being adequately designated. In some cases the search for this person may necessitate the despatch of a messenger if it has not been possible to obtain the person at any telephone station. The caller can also specify a substitute if the called person is not available.
- (b) On all "person-to-person" calls, of whatever category, the name of the person booking the call is passed to the called person unless the caller has specified that he does not wish this to be done.

B. CALL BOOKING

1. In principle, all call bookings should remain valid so long as they have not been connected, refused by the called person or cancelled by the caller.
2. The person booking an intercontinental call should be allowed to specify the time at which the call is to be established, it being understood that the call will be set up as near to that time as traffic and other conditions permit.
3. The person booking an intercontinental call may modify the booking provided he has not been advised that the call is about to take place.

C. ESTABLISHMENT OF CALLS

1. In each intercontinental telephone service, the Administrations * concerned arrange by common agreement the "primary route" and, if possible, one or more "secondary routes", taking into account such factors as hours of service, charges, etc.
2. The "primary route", which may follow more than one itinerary; is that which should normally be used for the establishment of calls, except in the case of traffic congestion, or when transmission on this route is not of sufficiently good quality or when it is outside the normal hours of service on this route.
3. The "secondary routes" are used when the primary route cannot be used. They should be used in the order pre-arranged by the Administrations * concerned. If a call has been prepared over a secondary route because the primary route was not available, the call should be completed over the secondary route and not transferred to the primary route when it becomes available, unless there are compelling reasons to the contrary.
4. The charge in a given service is the same, whether the primary or a secondary route is concerned.

* or Recognized Private Operating Agencies.

D. CONTROLLING EXCHANGE

1. When a call uses several intercontinental circuits, the Administrations * concerned agree among themselves to designate the "controlling exchange" responsible for placing call bookings in the order in which they should be dealt with.

E. TIMING OF INTERCONTINENTAL CALLS

1. The exchange on the originating side of the first intercontinental circuit in the chain of connections should be responsible for fixing the chargeable duration of the call. However, transferred charge (collect) calls may be timed at the incoming end by agreement between Administrations * concerned.
2. On calls extended over European circuits, timing should normally be carried out by the exchange at the outgoing end of the intercontinental circuit.

F. CHARGING FOR INTERCONTINENTAL CALLS

1. *Calls over direct intercontinental circuits* (See Note 1).
 - (a) Charges for calls should be fixed by agreement between the Administrations * concerned.
 - (b) Charges for person-to-person and station-to-station calls should be the same.
 - (c) Reduced charges can be applied for subscription calls or for calls made during specified hours each day or on specified days each week, by agreement between the Administrations * concerned.
2. *Calls over a chain of intercontinental circuits* (See Note 2).

The charge for a call established over a chain of circuits should not exceed the sum of the charges for calls over each individual circuit. However the Administrations * concerned may agree to fix a total charge less than the sum of the charges.
3. *Calls extended over European landlines* (that is, using them as an intermediate section or as an extension of an intercontinental circuit).
 - (a) The principles for the determination of charges are the same as in 2, except that European countries operating a radio telephone circuit may agree to forgo any quota for the terminal section of their landline used to extend calls over intercontinental circuits.

Administrations * concerned in the provision of the landline section should not ask for higher payment than that applying in the case of a call obtained entirely by landline.
 - (b) Where the application of the above principles would result in different charges for calls over different routes in a given relation, the Administrations * concerned with the operation of the most expensive route (or routes) should agree how the

* or Recognized Private Operating Agencies.

rate should be scaled down to the lower figure. In principle, this should be done by a proportional reduction in the hypothetical quotas applicable to the most expensive route or routes.

4. *Charges for ineffective calls (Report Charges).*

- (a) The report charge, which is never collected in addition to the call charge in the intercontinental telephone services, is mainly used as a means of discouraging an intercontinental call booking from being made, for example, merely to find out the whereabouts of a particular person without any intention of exchanging conversation, or to obtain other information by using a code pre-arranged with this particular person.
- (b) No report charge is applicable to ineffective station-to-station calls.
- (c) A report charge is applicable to ineffective person-to-person calls if either the caller or the called person is responsible for the failure to establish the call, provided that the telephone service has been able to reach the called station. In principle, therefore, a report charge would be applicable in the following circumstances :
 - (i) If, after the called station has been reached, the call is ineffective because the called person refuses the call or cannot be obtained despite several attempts.
 - (ii) If, after the called person has been obtained, the call is ineffective because the caller refuses the call, or he cannot be obtained. The charge may also be applicable if no reply can be received from the calling station after several attempts, the called station having been already advised to expect the call.
 - (iii) If, in the case of a deferred call, either the caller or the called person does not reply at the agreed time.
 - (iv) If, in the case of a call for a person who is not a telephone subscriber, he does not present himself at the telephone, although arrangements have been made to advise him.
- (d) The amount of the report charge should be fixed by agreement between the Administrations * concerned. The amount should be uniform in any one service, whatever the route used. The report charge should constitute a fixed percentage, in principle 10% of the unit charge in the service considered.

5. *Reduced charges.*

- (a) Administrations * concerned may agree to apply reduced charges in respect of subscription calls, or in respect of calls made during mutually agreed periods.

* or Recognized Private Operating Agencies.

- (b) Where it is agreed that subscription calls can be accepted, the following principles might apply:
- (i) Service should be given by contract for a minimum period of one calendar month.
 - (ii) Calls should be contracted for daily or on six days per week, the same day each week being excluded.
 - (iii) Calls should be contracted for in indivisible periods of five minutes, subject to a minimum period of ten minutes.
 - (iv) The daily charge per call should be not less than two-thirds of the rate applied to ordinary calls in the charge period concerned; for a monthly contract, the monthly charge should be 30 times the daily rate if the calls are required on each day, or 26 times the daily rate if calls are required on six days a week.
 - (v) If traffic conditions permit, individual calls can be extended beyond the contract period at the rate applied to ordinary calls.
 - (vi) If a call is not established for service reasons within minutes of the required time, a rebate of charge will be given, or the caller will be allowed to make the call at some other time in the same charge period.
- (c) If it is agreed that reduced rates shall be applied during specified hours daily or on specified days each week, the reduction in charge should be of the order of 25%.

G. DIVISION OF CHARGES FOR INTERCONTINENTAL CALLS (See Note 3)

1. Charges for calls over direct circuits should in principle be divided equally between the terminal Administrations* unless other arrangements are agreed between them.
2. Charges for calls over a chain of intercontinental circuits should in principle be apportioned between the individual circuits in proportion to the charges for direct calls over each circuit. The amounts accruing to each circuit should then be divided equally between the terminal Administrations* unless other arrangements are agreed between them.
3. Charges for intercontinental calls extended over European landline circuits should in principle be divided as follows:
 - (a) the section of the charge accruing to the intercontinental circuit (or circuits) should be divided as indicated in 1 and 2 above;
 - (b) the section of the charge accruing to the European landline should be divided in proportion to the amounts required by each Administration* concerned in the provision of the landline.

* or Recognized Private Operating Agency(ies).

H. INTERCONTINENTAL PROGRAMME TRANSMISSIONS (See Note 4)

1. If, in the case of a programme transmission over an intercontinental telephone circuit (or chain of such circuits), the facilities provided are broadly the same as those provided in respect of telephone calls, then the charge for a programme transmission should be the same as for a telephone call of the same duration. However, in order to take account of the circuit preparation and exchanges of telegrams or service communications necessitated by such transmissions, the minimum chargeable duration of a programme transmission using one or more intercontinental circuits should be ten minutes.
2. If facilities different from those provided for the ordinary telephone service are required, the Administrations* concerned should agree between themselves the basis of charging.
3. If a programme transmission is provided by means of an intercontinental telephone circuit extended by means of European landlines (programme and telephone circuits) the charge should be assessed in principle as follows :
 - (a) Intercontinental circuit and European telephone circuit—at the same rates as for telephone service between the terminal countries concerned, subject to a minimum of ten minutes.
 - (b) Intercontinental circuit and European programme circuit :
 - (i) for the intercontinental circuit, at the same rate as for telephone service between the countries at the two ends of the intercontinental circuit, subject to a minimum of ten minutes ;
 - (ii) for the European programme circuit, at the rate applicable to a programme transmission between the terminal points of the programme circuits in accordance with Recommendation E.57.
4. If, in the case mentioned in 3, special intercontinental facilities are provided, the charge shall in principle consist of the charges for a programme transmission between the terminals of the European circuits, assessed in accordance with Recommendation No. 49, plus the charge for a programme transmission between the terminals of the intercontinental circuit, assessed as indicated in 2 above.
5. The chargeable period for an intercontinental programme transmission shall commence at the time when the circuit (or chain of circuits) is handed over to the broadcasting authority and shall cease when the circuit (or chain of circuits) is released by that authority. If, at the request of the broadcasting authority, any section of a chain of circuits is provided for use before and/or after the period of use of the whole circuit, the additional time thus made available should be charged for at the appropriate rates.

I. LEASING OF INTERCONTINENTAL CIRCUITS
FOR PRIVATE SERVICE

1. If such leases can be permitted without detriment to the ordinary public service, there is no objection in principle to the leasing of intercontinental circuits for private service.
2. Charges for the lease of such circuits should be agreed between the Administrations* concerned, the following considerations being borne in mind :

* or Recognized Private Operating Agencies.

- (a) In the European system the rental for leased international circuits for full-time private service corresponds to 6,000 minutes of ordinary conversation during the period of heavy traffic, in the service concerned, per month.
 - (b) On radiotelephone circuits, variations in radiopropagation conditions usually prevent the full-time use of such circuits.
3. The conditions of lease should be similar to those specified in Recommendation E.60 in regard to leased international circuits in the European system. However, charges and the basis of allowance for interruption should be a matter, in particular, for agreement between the Administrations * concerned.

J. LEASING OF TRANSMITTERS OR RECEIVERS

1. There are no objections in principle to the lease of transmitters or receivers to users interested only in sending or receiving spoken messages or pictures, provided of course that such arrangements are compatible with the responsibilities which Administrations * have accepted by their adherence to the International Telecommunication Convention and associated Regulations.
2. Charges for the lease of such equipment should be determined by the Administration * concerned and they would not appear in international accounts.
3. Conditions to be met by lessees of transmitters or receivers should in principle be as follows :
 - (a) The radiocommunications in question must not contain any advertisement or message of a private character.
 - (b) Names and addresses of senders and intended recipients must be made known to all Administrations *, each one of which shall decide, in respect of recipients in its own territory, whether or not to permit participation. Any alterations should also be notified promptly.
 - (c) The Administrations * concerned shall take all practicable steps to ensure that communications shall only be used by authorized recipients and that the provisions of Article 32 of the Convention as regards secrecy of telecommunications are observed.
 - (d) Transmissions shall be at fixed times and, in the case of spoken messages, in pre-arranged languages.
 - (e) Such other conditions as may be required by national law.
4. Where the lease of a transmitter in one country and a receiver in another country is required to provide a unidirectional circuit, or even where a multi-destination service is envisaged, Administrations * concerned, although retaining the right to determine the charges for equipment leased in their own country, may, nevertheless, if they think it desirable, consult with each other in order to ensure that overall charges do not prejudice public service tariff scales.

K. ACCOUNTING

1. In principle, accounts should be prepared by the Administration * at the originating end of the intercontinental circuit (or of the first circuit of a chain of such circuits). That Administration * should pass on to the next Administration * all credits due to

* or Recognized Private Operating Agency(ies).

the second and subsequent countries. The second Administration * should take the necessary measures to credit the other Administrations * concerned.

2. In respect of traffic extended over European landline circuits, the European terminal of the intercontinental circuit will distribute credits in respect of calls incoming to Europe. In respect of calls originating in Europe, unless there is special agreement between the Administrations * concerned, the Administration * of the European country of origin will distribute the credits due to the European transit countries, if any, and to the European terminal of the intercontinental link.
3. In principle, accounts should be prepared and distributed by the first Administration * in the accounting chain (see above), if possible, by the end of the first month and certainly not later than the end of the second month following that to which the account relates.

NOTES

Note 1 (cf. Section F.1).

Informatory note relating to the charges applied in the intercontinental telephone services by the American Telephone and Telegraph Company. — Standard of charges to be applied for terminal services when use is made of a single intercontinental telephone circuit.

The charge is based on the direct distance between the "charge zones" which are defined approximately; the charge is independent of the routing of the call.

The world is divided into "charge zones" determined by the intersection of the lines of latitude and longitude spaced at ten degrees.

In general each country, state, province (or similar political sub-division) is attached to a single charge zone. Of course the majority of countries do not lie entirely within the interior of a single charge zone and in such cases the charge zone chosen is generally that in which the greater part of the country lies, or the larger proportion of the population, or the part of the country where the telephone service is most developed.

By an accepted mathematical formula, great circle distances between the centres of the charge zones have been calculated and these distances are taken as the basis of charge.

Using :

- (1) the table below giving the basic tariffs, and
- (2) the distances (for charging) calculated according to the principle indicated above, the charges applicable between any two charge zones placed respectively at each extremity of the intercontinental telephone circuit concerned can easily be determined.

Distances in miles (1 mile = 1609 m)	Charge corresponding to the first three chargeable minutes (Unit of charge)	
	Weekdays (dollars)	Nights and Sundays (dollars)
0 to 500	4.50	3.75
501—1000	6.00	4.50
1001—2000	7.50	6.00
2001—3000	9.00	7.50
more than 3000	12.00	9.00

However, in some cases, the use of the table of charges above would have resulted in an increase over those previously applied. In such a case, this table is not applied rigorously and the present rates have been maintained in order to avoid such increases. In several other cases it may

* or Recognized Private Operating Agency(ies).

be desirable to employ a level of charges higher or lower than the nearest, in order to maintain the charges in agreement with those which are applied to neighbouring countries having a large community of interest.

Note 2 (cf. Section F.2).

Charges for calls rented over more than one intercontinental telephone circuit, applied by the American Telephone and Telegraph Company.

In the United States of America, it is usual practice to adopt a maximum charge of 15 dollars in these circumstances:

If, for example, it was a question of the interconnection of two circuits for which the charge (terminal service) would be 12 dollars for one and 9 dollars for the other, by simple addition, a total charge of $12+9 = 21$ dollars might be levied, but this charge would seem to be too high to attract users. A compromise has therefore been chosen of 15 dollars, it being understood that the 15 dollars should be divided at the pro-rata of the charges for terminal service, that is to say that the first circuit would receive $\frac{12}{21}$ and the second circuit $\frac{9}{21}$ of the 15 dollars.

Note 3 (cf. Section G.1).

Certain large countries claim token landline quotas in respect of calls extended to places more than about 500 miles from the intercontinental circuit terminal, before division of the balance of revenue on the lines indicated in 1 and 2.

Note 4 (cf. Section H.2).

In certain recently laid intercontinental submarine cables, programme circuits are provided having bandwidths equivalent to one or two telephone circuits and charges are respectively equal to or twice those applied to telephone calls in the full rate period. The provision of programme circuits having bandwidths equivalent to three telephone circuits, at charges three times those applied to telephone calls in the full rate period, is envisaged.

RECOMMENDATION E.5

EXTENSION OF INTERNATIONAL TELEPHONE SERVICES

*(Former Recommendation No. 6 of Volume VI of the C.C.I.F. Green Book, page 26.
Recommendation modified in 1958)*

Application of that provision of the Telephone Regulations (Geneva Revision, 1958) which enjoins Administrations * to extend international telephone services to the whole of their territories, might sometimes entail the establishment of calls leaving something to be desired from the point of view of transmission quality; it is therefore desirable:

1. to take no decision to create or extend a new relation unless such means are available as would provide satisfactory reception as regards volume and clarity;
2. to make the opening or extension of the relation dependent on the passing of satisfactory test calls.

* or Recognized Private Operating Agencies.

RECOMMENDATION E.6

ARRANGEMENTS TO BE MADE FOR CONTROLLING THE TELEPHONE SERVICES BETWEEN TWO COUNTRIES

(Former Recommendation No. 7 of Volume VI of the C.C.I.F. Green Book, page 27.
Recommendation modified in 1958)

In controlling the organization of the telephone service in a given relation, Administrations* should forgo the conclusion of formal agreements signed by the heads of Administrations* and reach agreement by correspondence on the following major points:

- *Date on which the relation is to be opened.*
- *Means used to provide the connection:*
 - Direct (transit) circuit
 - Passage through a transit exchange
 - Transit country or countries concerned.
- *Classes of call admitted* (List the classes of call and other media of communication, i.e., phototelegraph calls, programme transmissions and television transmissions).
- *Information:* Details of arrangements for exchanging lists of the main local networks with all information required for routing and charging calls.
- *Rates:*
 - Charging zones for calculation of terminal charges;
 - Unit quota for transit countries;
 - Total unit charges (might be indicated on the basis of the following table):

NAMES of COUNTRIES	First terminal country	Transit countries			Other terminal country		
		First transit country	Second transit country	<i>n</i> th transit country	1st zone	2nd zone	3rd zone
QUOTA gold francs	†						
TOTAL CHARGES gold francs	1st zone.. 2nd zone.. 3rd zone..	X					

† Distinguish, where appropriate, between charging zones.

* or Recognized Private Operating Agencies.

RECOMMENDATION E.7

DIRECTORIES

*(Former Recommendation No. 12 of Volume VI of the C.C.I.F. Green Book, page 35.
Recommendation modified in 1958)*

The lay-out of directories is governed by considerations which may vary from country to country; however, it is desirable that such lists of subscribers should be capable of ready consultation by the Administrations* of other countries. The following general arrangements for the preparation of directories should therefore be adopted :

- (a) subscribers and public stations should be classified in well-defined subdivisions (networks, administrative areas, geographical zones). Each volume of the lists of subscribers could usefully contain a recapitulatory list of the subdivisions mentioned in the volume, or an equivalent chart;
- (b) names of each district should always be in alphabetical order; when several subscribers have the same names, they should be classified by their first names, or by the initials thereof;
- (c) it would be desirable, from the point of view of the international telephone service, that directories (especially those supplied to other Administrations*) should be composed in Roman characters, particularly those relating to the names and addresses of subscribers;
- (d) the general information on the telephone service which is normally to be found at the beginning of the directories, should preferably include the following information :
 - (i) instructions for making an international telephone call;
 - (ii) a list of the (main) international telephone services open to the public;
 - (iii) the relevant charges.

* or Recognized Private Operating Agencies.

SECOND SECTION

TELEPHONE OPERATION OPERATIONAL CHARACTERISTICS OPERATING METHODS

RECOMMENDATION E.21

ADVANTAGES OF SEMI-AUTOMATIC OPERATION IN THE INTERNATIONAL TELEPHONE SERVICE

*(Former Recommendation No. 1 of Volume V of the C.C.I.F. Green Book, page 9.
Recommendation unchanged)*

The C.C.I.T.T.,

TAKING NOTE

of the essential conclusions drawn by the "Field Trial Committee for international telephone operation" (C.E.A.) in its final report, particularly :

- (a) the large economies in personnel which are secured by the introduction of semi-automatic operation not only at the incoming exchange but also at the outgoing exchange,
- (b) the very small number of faults due to the equipment used for the international semi-automatic service,
- (c) the improvement in the efficiency (ratio of chargeable time to total occupation time) of semi-automatic circuits compared to the efficiency of manual circuits operated on a demand basis,
- (d) the improvement in the quality of service afforded subscribers due to the reduction in the time of setting-up a call,
- (e) the fact that all types of calls can be set up without difficulty over semi-automatic circuits, viz :—
 - ordinary
 - preavis
 - requiring an incoming B operator or booking at incoming suspended-call positions,

and that it is, therefore, possible to use only semi-automatic circuits for international calls;

DRAWS THE ATTENTION OF ADMINISTRATIONS *

to the advantages which semi-automatic operation affords from the point of view of the economies and the quality of service given to subscribers.

RECOMMENDATION E.22

DEMAND WORKING OF INTERNATIONAL CIRCUITS

*(Former Recommendation No. 26 of Volume VI of the C.C.I.F. Green Book, page 68.
Recommendation modified)*

In general it is desirable to employ demand working whenever possible.

Administrations * concerned should make every effort (by ensuring that there are sufficient circuits, installations, personnel) to use demand working.

In relations permanently operated with advance preparation of calls, the Administrations * concerned should make every effort to reduce delay as much as possible.

RECOMMENDATION E.23

**DIVISION OF CIRCUITS INTO OUTGOING
AND INCOMING CIRCUITS**

*(Former Recommendation No. 30 of Volume VI of the C.C.I.F. Green Book, page 75.
Recommendation modified in 1958)*

From the operating point of view the assignment of the circuits of a relation into incoming and outgoing groups is such as to make operating easier.

* or Recognized Private Operating Agencies.

RECOMMENDATION E.24

INSTRUCTION

OF STAFF OPERATING INTERNATIONAL POSITIONS

(Former Recommendation No. 39 of Volume VI of the C.C.I.F. Green Book, page 86.

Wording of Recommendation revised in 1958)

The professional instruction of operating and supervising staff is of the greatest importance in ensuring the efficient use of circuits in the international telephone service; to this end, it is exceedingly desirable to improve supervisors' and operators' knowledge of the language of other countries and to enable them to become informed about the customs of the subscribers, the organization of the service and the manipulation of equipment at the other end of the circuit.

The C.C.I.T.T. accordingly RECOMMENDS

1. that, during the training of these operators, they should be provided with some information about methods and operating procedures used in the countries with which they might be connected ;
2. that there should be frequent exchanges of supervisors and operators between the telephone exchanges of different countries.

RECOMMENDATION E.25

TIME-TO-ANSWER OF OPERATORS

(Former Recommendation No. 40bis of Volume Ibis of the C.C.I.F. Green Book, page 108. Recommendation unchanged)

The C.C.I.T.T.,

CONSIDERING

that a rapid answer to signals by the operators at an incoming international terminal exchange is essential to ensure a rapid service, and is also very important from the point of view of the efficient use of costly international circuits,

UNANIMOUSLY RECOMMENDS

that every endeavour should be made to provide a sufficient number of operators, with team working between them, at the incoming positions in international terminal exchanges, so that the time-to-answer an incoming calling signal should not exceed 5 seconds for 80% of calls throughout the day.

Note

This Recommendation applies not only to the manual service but also to the semi-automatic service.

The time-to-answer of incoming operators in the semi-automatic service, that is :

- code 11 operators,
- code 12 operators (operators at the incoming exchange called by the outgoing exchange to record particulars of calls which have been found difficult to set up),

should, accordingly, be the time-to-answer shown in the Recommendation.

(E.25)

Regular code 12 operators at the outgoing exchange (regular operators recalled by the incoming exchange operators, when the latter have been successful in obtaining the called subscriber) cannot, of course, be obtained until they are free.

The times-to-answer, in semi-automatic service, of assistance operators should be less than those of other operators. *In the busy hours* 80% of the calls should be answered in a time of about 5 seconds. This might be arranged, for example, by instructing operators who have the dual role of assistance operators and transfer operators, to give priority to assistance calls.

RECOMMENDATION E.26

ASSESSMENT OF THE BEGINNING AND END OF CALLS

*(Former Recommendation No. 55 of Volume VI of the C.C.I.F. Green Book, page 116.
Recommendation modified in 1958)*

1. International operators should allow no tolerance in their assessment of the chargeable duration.
2. Mechanical metering devices controlled by operators should be rapid in action and have the utmost accuracy.
3. In fully automatic international operation, the chargeable duration should begin from the reception of the answer signal from the called station, since the existence of an unchargeable call period, however short, might lead to misuse of the service for the transmission of short messages without payment. The chargeable duration ends when the caller gives the clear forward signal *.

RECOMMENDATION E.27

INDICATION OF THE CHARGEABLE DURATION OF A CALL, GIVEN TO THE SUBSCRIBER WHILE THE CALL IS IN PROGRESS

*(Former Recommendation No. 56 of Volume VI of the C.C.I.F. Green Book, page 116.
Wording of Recommendation revised in 1958)*

1. It is unnecessary to inform the person making an international call of the exact moment at which the charge begins.
2. An Administration ** should not give its operators instructions to advise subscribers of successive charging periods unless a prior agreement to this effect has been reached with the other Administrations **.

* When an exchange clears the call, the chargeable duration ends after a delay period following the clear-back signal, the called subscriber, in this case, having cleared before the calling subscriber.

** or Recognized Private Operating Agency(ies).

3. Nevertheless, if some Administrations * consider it desirable to advise callers of the expiry of each charging period, an automatic device, or one controlled by the operator at the originating international exchange can be used for this purpose, on condition that this signal is regarded merely as an advice which is not binding on the Administration * as regards charging.
-

RECOMMENDATION E.28

DAILY COMPARISON OF THE NUMBER OF MINUTES OF CALL EXCHANGED BETWEEN INTERNATIONAL EXCHANGES

*(Former Recommendation No. 38 of Volume VI of the C.C.I.F. Green Book, page 85.
Recommendation unchanged)*

The C.C.I.T.T.,

CONSIDERING

that it is the operator responsible for charging in the international exchange who determines the chargeable duration of calls, after each call;

that in demand working there is no agreement on the chargeable duration of calls;

that in the advance preparation service, there is an understanding between the operators on the chargeable duration only as the result of a special agreement between the Administrations * concerned;

that even when there is an understanding between the operators, the operator responsible for charging has the final word;

CONSIDERING, FURTHER,

that the monthly accounts are established by the Administration * of the country of origin, in accordance with Article 40 of the Telephone Regulations (Geneva Revision, 1958);

CONSIDERING, FINALLY,

that a daily comparison of minutes of call exchanged burdens the service without any real profit;

UNANIMOUSLY RECOMMENDS

that it is desirable not to make a daily comparison of minutes of call exchanged between international exchanges unless this should prove essential in a particular relation.

* or Recognized Private Operating Agency(ies).

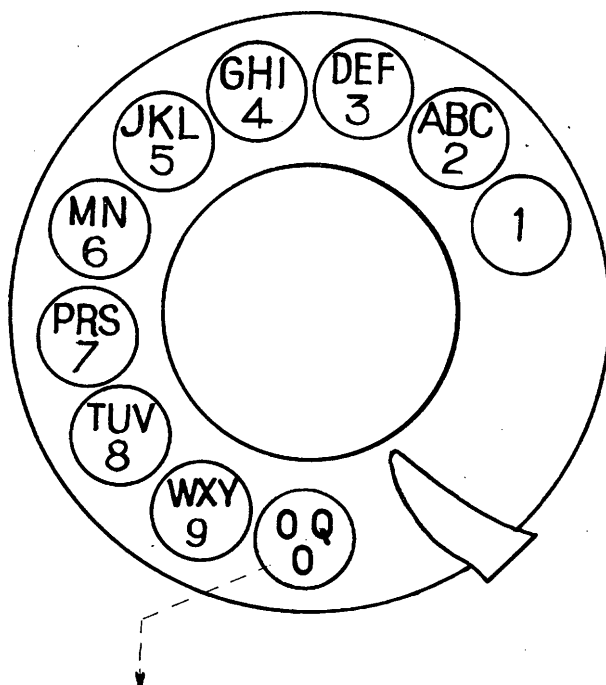
RECOMMENDATION E.29

**DIRECTIVES FOR THE NUMBERING OF SUBSCRIBERS' LINES
AND FOR THE ROUTING OF CALLS
IN AUTOMATIC AND SEMI-AUTOMATIC
INTERNATIONAL WORKING**

*(Former Recommendation No. 26bis and No. 26ter of Volume VI
of the C.C.I.F. Green Book, pages 69 and 73. Wording of Recommendation
revised in 1958)*

1. Each Administration * should give the most careful consideration to the preparation of a *national numbering scheme* for its own network. This scheme should be designed so that a subscriber is always called by the same number in the trunk service. It should be applicable without exception to all incoming international calls, but may be modified as required in the national service, for instance, for traffic between neighbouring towns or areas.
2. For fully automatic international service, it is preferable that the national numbering scheme should not involve the use of letters (associated with figures on dials), because in many countries dials do not bear letters.
3. For countries which have not yet adopted any specific type of dial, the figures on the dial should be arranged in the following order : 1, 2, 3 ... 0.
4. The dial shown on page 91 uses the arrangement of letters and figures employed by the French and United Kingdom Administrations (the latter, however, has only the letter O, associated with the figure 0). The dials or key-sets used by international operators for semi-automatic operation in Europe should have this arrangement of letters and figures.
5. For fully automatic international service to countries using dials with letters, it would be helpful, in a country where the dials have only figures :
 - (a) to include in the directory a table for converting into figures the letter codes of exchanges in countries with which a fully automatic service is available;
 - (b) at the time of opening this fully automatic service, to provide a booklet of instructions, containing the conversion table, for the main subscribers to the international service;
 - (c) if necessary and on request, to replace dials without letters by dials with letters.

* or Recognized Private Operating Agency(ies).



Remark. — On the subscribers' dials used by the British Administration, only the letter "O" is associated with the figure "0".

It would also be desirable, in countries with letter dials, that subscribers with considerable international traffic should be requested to show on their note-paper, below their usual telephone number, the number with the letters converted into figures (i.e. a number with figures only).

6. A list of numerical codes has been prepared for the various countries involved in an automatic international telephone operation. These *international codes* will be generally used in semi-automatic working when the operators have switch access to the international circuits; they will also be used in fully automatic working.
7. In principle, a single international code has been allotted to each country, but there are exceptions for countries with a very great area. The list of international codes is given below.
8. Twenty *special codes* have been reserved in this list. They will be used, particularly between adjacent countries, to enable traffic to be routed by the most economical route when operators have access to the international circuits by means of automatic equipment and when the country of destination has more than one international exchange. They will serve solely for routing traffic over *direct routes* between two countries and will be used by agreement between the countries concerned.

9. In future, some Administrations* may wish to use automatic equipment to avoid the necessity for operators to choose the route to be taken towards a given area in a given country. So that the automatic equipment will not be needlessly complicated, it is recommended that Administrations* should arrange their national numbering plans, whenever possible, in such a way that the most economical routing for traffic from other countries can be ascertained from the figures of their subscribers' national number immediately following the prefix for reaching the automatic trunk exchange. (This is 0 in a number of countries). In principle, the first of these figures or the first two if absolutely necessary, should be adequate to ascertain the routing.
10. International standardization of a code for access to the international network for fully automatic international operation has not been possible, since it came up against national numbering plans that were already in existence. Such a standardization code for access to the international automatic network, incidentally, would be of interest only to the few users who, during a journey to a foreign country, desire to dial an international number without the assistance or the explanations of a national of the foreign country.
11. In fully automatic international service, in the number to be dialled, the "regional code" for the numbering area to which the called subscriber belongs
 - will normally be preceded by the code for access to the automatic trunk network ("0" in most European countries);
 - will not be preceded by this access code when the called country uses a second dialling tone in its national service between the access code and the regional code**.

Administrations* should request subscribers who already have a full national number in the national numbering plan to indicate this number on their notepaper, with the figures in brackets which will have to be dialled to obtain the subscriber from a station not in the same regional numbering area.

Examples:

1. Switzerland : subscriber in Geneva (Swiss access code 0, Geneva regional code 22) :
(022) 25 36 49.
2. France : subscriber at Nice (Alpes-Maritimes) (French access code 16 not dialled, Nice regional code 92) :
(92) 25 36 49.

* or Recognized Private Operating Agencies.

** Case of France, where the code for access to the automatic trunk network is 16.

LIST OF INTERNATIONAL CODES AND SPECIAL CODES FOR THE ROUTING OF INTERNATIONAL TRAFFIC
IN SEMI-AUTOMATIC OPERATION IN EUROPE AND IN THE MEDITERRANEAN BASIN

1. — Numerical List.

A. *Special codes*

00 to 19

B. *International Codes*

20	Poland	47	Roumania
21	Algeria	48	Morocco
22	Belgium	49	Germany
23	Austria	50	Spain
24	—	51	—
25	Finland	52	Ireland
26	Arabia	53	—
27	Cyprus	54	Syria
28	Bulgaria	55	Netherlands
29	Gibraltar	56	—
30	Greece	57	Czechoslovakia
31	Egypt	58	—
32	—	59	Albania
33	France	60	Luxembourg
34	Israel	61	Denmark
35	Hungary	62	Tunisia
36	Turkey	63	Yugoslavia
37	Lebanon	64	Iceland
38	Norway	65	—
39	Italy	66	Switzerland
40	Libya	67	—
41	Jordan	68 to 79	{ U.S.S.R. (European Republics)
42	Portugal	80 to 89	{ Spare codes (in addition to the codes 24, 32, 45, 51, 53, 56, 58, 65, 67)
43	Malta	90 to 99	<i>Intercontinental traffic</i>
44	Great Britain		
45	—		
46	Sweden		

2. — Geographical List of International Codes.

I. — *Western Europe*

Belgium	22
Luxembourg	60
France	33
Great Britain	44
Ireland	52
Spain	50
Portugal	42
Gibraltar	29

II. — *Central Europe*

Austria	23
Hungary	35
Italy	39
Germany	49
Switzerland	66
Czechoslovakia	57
Poland	20

III. — Northern Europe		IV. — Balkans and Oriental Europe	
Denmark	61	Albania	59
Finland	25	Bulgaria	28
Norway	38	Greece	30
Netherlands	55	Roumania	47
Sweden	46	Yugoslavia	63
Iceland	64	Turkey	36
		U.S.S.R.	{ 68 and 69 70 to 79
		(European Republics)	
V. — Countries in the Mediterranean Basin			
Algeria	21	Lebanon	37
Arabia	26	Libya	40
Cyprus	27	Malta	43
Egypt	31	Morocco	48
Israel	34	Syria	54
Jordan	41	Tunisia	62
VI. — Spare Codes		VII. — Intercontinental traffic	
24, 32, 45, 51, 53, 56, 58, 65, 67 and 80 to 89.		Codes in the series 90 to 99.	

RECOMMENDATION E.30

MANUALLY-OPERATED INTERNATIONAL TRANSIT TRAFFIC

(Former Recommendation No. 34 of Volume VI of the C.C.I.F. Green Book, page 81.
Recommendation modified)

Because of the difficulties inherent in the use of an intermediate exchange for transit calls, with *manual operation*:

1. Direct circuits should be provided across transit countries whenever traffic justifies such a course.
2. In the absence of permanent direct routes, it is helpful to provide temporary direct circuits whenever a temporary traffic flow so justifies. As far as possible, such temporary direct circuits should not be set up via the operator's positions.
3. Whenever permanent or temporary direct circuits cannot be set up, the greatest possible degree of standardization in the operating methods used in transit exchanges is desirable.

The following instructions will then be applied:

- 3.1. If the two international circuits use manual demand working, all the international transit exchange has to do is to make arrangements to set up the transit calls, in accordance with the requests made by the outward international exchange, which means the controlling exchange.

- 3.2. When, on the other hand, advance preparation operation is in force on either of the two international circuits, the international transit exchange becomes the controlling exchange, and
 - 3.2.1. the controlling operator at the international transit exchange is the operator serving the most congested route. If there is no delay on the circuits to be interconnected, or if this delay is equal in both directions, the controlling operator shall be designated by the international transit exchange;
 - 3.2.2. the controlling operator shall determine the time when a transit call is set up according to its category and the time when the booking is received by the international transit exchange;
 - 3.2.3. the controlling operator shall warn her two counterparts in the international exchanges of the time when it is expected to set up the transit call or calls in question, so that the operators in these exchanges may prepare the requisite circuits.
- 3.3. In the exceptional case when the call requires more than two international circuits, the Administrations * concerned shall agree among themselves on the controlling exchange.
4. The transit operator should not have to deal with the determination of the chargeable duration of calls.
 - 4.1. In demand working the question does not arise, since there is no agreement on chargeable duration.
 - 4.2. With advance-preparation, the controlling operator in the international transit exchange should take no part in determining the chargeable duration of transit calls, even if the terminal countries have reached an agreement as to the chargeable duration of calls after each call.

RECOMMENDATION E.31

SEMI-AUTOMATIC TRANSIT TRAFFIC

*(Former Recommendation No. 34bis of Volume Ibis of the C.C.I.F. Green Book, page 106.
Recommendation unchanged)*

The C.C.I.T.T.,

CONSIDERING

Recommendation E.92, specifying the loss probabilities for calculating the number of circuits in semi-automatic or automatic operation (5% for terminal traffic and 3% for transit traffic),

* or Recognized Private Operating Agencies.

CONSIDERING

the net cost factors which have been determined for setting up a call by semi-automatic or automatic switching (net cost for an outgoing semi-automatic exchange, an incoming semi-automatic exchange and automatic transit centre), which are contained in Recommendation E.51

UNANIMOUSLY RECOMMENDS

that it is desirable to draw the attention of Administrations * to the advantage, from the general economic point of view, of the transit routing of traffic in the two following cases :—

Case 1.

Where there is a light traffic-load between two countries, it would appear to be advantageous, from a general economic point of view, to route this traffic through an automatic transit exchange, rather than to provide a small group of direct lines.

These considerations normally apply to the case where the introduction of semi-automatic operation is considered, but they should be equally valid for traffic which terminates on a manual international trunk exchange, reached throughout automatic transit exchange.

Note. — The purely economic point of view from which these conclusions are drawn excludes all other considerations, particularly the following :—

- (a) It is necessary that the transit exchanges through which it is desired to route the traffic should be prepared to accept the transit traffic which would be offered to them, and interested Administrations * must accept the fact that the group of circuits taken up for this purpose should be calculated with a loss probability corresponding to transit operation (i.e. 3%) and not the loss probability estimated for terminal traffic (5%).
- (b) The provision of direct circuits may be preferred to a routing entirely via a transit centre for other reasons, e.g. the provision of broadcast programme circuits, control circuits for these transmissions, voice-frequency telegraph circuits, etc...
- (c) The routing of traffic passing through two transit centres cannot be anticipated if reference is made to the rule given in Volume V of the *Green Book*, p. 55, second paragraph (revision of this rule is now under study).

Case 2.

In certain cases, particularly where the traffic between two countries is heavy, and when, for instance, it may lead to the postponement of installing a new carrier group (12 circuits, perhaps six in either direction), it may be advantageous to route a certain proportion of the additional traffic (peak traffic) by way of a transit centre (subject to special agreement between the Administrations * concerned for accounting purposes).

* or Recognized Private Operating Agencies.

RECOMMENDATION E.32

**RULES FOR PHOTOTELEGRAPH COMMUNICATIONS ESTABLISHED
OVER CIRCUITS NORMALLY USED FOR TELEPHONE TRAFFIC ****(Geneva, 1958)*

The C.C.I.T.T.,

CONSIDERING

- (a) that, in international phototelegraph communications, the time of occupation of international telephone circuits often greatly exceeds the duration of the actual phototelegraph call;
- (b) that this drawback results *in part* from the inadequacy of existing rules on the setting-up, supervising and clearing of phototelegraph calls over circuits normally used for telephone traffic, even if these circuits have been designated in advance as capable of carrying phototelegraph communications;
- (c) that phototelegraph communications between public stations on the one hand, and public and private stations on the other, require close collaboration between the telegraph and telephone services of the various Administrations **;
- (d) that, on the other hand, phototelegraph communications between private stations do not concern the telegraph services, although it is desirable for all phototelegraph communications between public stations, between public and private stations, and between private stations to be established in the same way;

UNANIMOUSLY DECLARES THE VIEW :

that the Annex below should be taken as a set of provisional rules for phototelegraph communications;

that further study should be devoted to conditions of acceptance, operational procedures and technical means likely to lead to the rapid and economic development of the phototelegraph service;

that such study should pay particular attention to the fact that phototelegraph traffic is nearly always concentrated in very short periods when special events take place ***, and that it is difficult to establish communication with phototelegraph stations, because the latter are often unable to accept the communication immediately.

* This text is published also as Recommendation No. 82 in series F (telegraph operation) of C.C.I.T.T. Recommendations.

** or Recognized Private Operating Agencies.

*** See Question 28 of Sub-Group 2/2 — "Speeding up the establishment of phototelegraph communications".

ANNEX

RULES FOR PHOTOTELEGRAPH COMMUNICATIONS

A. APPLICATION.

- § 1. The Rules below define the procedure to be followed for operating and charging in the international phototelegraph service of the European system.

(The Telegraph and Telephone Regulations shall apply to the phototelegraph service, subject to these Rules.)

- § 2. These Rules govern international phototelegraph communications :

- between public stations,
- between a public and a private station,
- between private stations.

(A phototelegraphy installation, operated by an Administration* shall be called a "public phototelegraph station". A phototelegraphy installation, operated by a private organization, shall be called a "private phototelegraph station".)

B. CONDITIONS OF ACCEPTANCE.

- § 3. Conditions of acceptance of phototelegrams :

- between public stations and
 - between a public station and a private station
- are defined in Chapter B of Recommendation F.80 on phototelegrams.

- § 4. Private phototelegraph stations may be authorized by Administrations* to exchange phototelegraph calls with other private phototelegraph stations.

Phototelegraph calls between private stations are admitted without any limit of duration. However, when telephone traffic is subjected to restrictions, the exchange of phototelegraph calls between private stations may be delayed or limited by agreement between the terminal centres concerned.

- § 5. If the telephone service is operated with advance preparation, bookings of phototelegraph calls rank in the order in which they are accepted among bookings of telephone calls of the same category.

C. GENERAL PROVISIONS.

- § 6. In relations where telephone circuits are used for both the phototelegraph service and the telephone service, the Administrations* concerned shall assign by mutual agreement a certain number of circuits for phototelegraph transmissions, taking into account the usual requirements of both phototelegraphy and the telephone service. These circuits shall be specially marked at terminal exchanges and repeater stations with a view to the protection of the phototelegraph transmissions.

- § 7. The telephone circuits used for international phototelegraph transmissions shall, as far as practicable, be 4-wire circuits (see C.C.I.T. Recommendation D.3).

For phototelegraph transmissions, they shall *normally* be disconnected from the switching equipment used for telephone calls.

* or Recognized Private Operating Agency(ies).

Interconnection of circuits for setting-up phototelegraph calls should be 4 wire—4 wire, as far as possible, both on the international and the national side.

- § 8. Administrations* shall designate in each "international phototelegraph terminal centre" an authority responsible for the international phototelegraph communications. This authority is in a position to carry out, or cause to be carried out, all the operations necessary for the establishment of international phototelegraph communications. This authority shall henceforth be called the "International Phototelegraph Position" (IPP).

Administrations* are recommended to centralize, as far as possible, in one place all the technical, operational and charging procedure necessary in an international centre when telephone circuits are used for phototelegraph communications.

- § 9. A booking for a phototelegraph call, emanating from a public or private phototelegraph station, is routed to (or arrives directly at) the IPP of the country of origin responsible for setting-up the international phototelegraph call which has been booked. This IPP then becomes the control IPP for establishing the call.

D. ESTABLISHMENT, SUPERVISION AND CLEARING OF INTERNATIONAL PHOTOTELEGRAPH COMMUNICATIONS.

- § 10. If the telephone service on the international circuits needed for a phototelegraph circuit is by advance preparation, the control IPP shall advise the telephone office responsible for these circuits that a phototelegraph transmission is to take place. The control IPP agrees with the telephone service on the probable time at which the phototelegraph transmission will be taking place.

The IPPs shall proceed as follows when establishing an international communication :

- (a) The control IPP transmits the following informations as quickly as possible to the IPP of destination :

- designation of the transmitting station,
- designation of the station of destination, and in addition :

(aa) for communications between public stations :

- category of phototelegram to be transmitted,
- date and time when the phototelegram is handed in,
- probable time at which the phototelegraph call will take place;

(ab) for communications between a public station and a private station :

- category of phototelegram to be transmitted, or
- category of call booked,
- date and time when the phototelegram is handed in (or date and time of the booking, if the call is booked from a private station),
- if necessary, indication of the subscriber responsible for the charges,
- probable time at which the phototelegraph call will take place;

* or Recognized Private Operating Agencies.

- (ac) for communications between private stations :
 - category of call booked,
 - date and time of booking,
 - if necessary, indication of the subscriber responsible for paying the charges,
 - probable time at which the phototelegraph call will take place.
 - (b) The IPP of destination shall take the necessary steps immediately to advise the phototelegraph station of destination by telephone that a phototelegraph transmission is about to take place.
 - (c) If the called phototelegraph station is in a position to receive the phototelegram call immediately, the IPP of destination informs the control IPP. The latter designates the circuit to be used for the proposed transmission and then the two IPPs take the necessary steps, in agreement with the telephone service, to establish the communication. Care must be taken to avoid interrupting telephone calls in progress.
 - (d) If the called phototelegraph station is not in a position to receive the call immediately, the IPP of destination fixes the time when the transmission is to take place, taking into account the information received from the receiving phototelegraph station. It then communicates the time fixed to the control IPP which informs the calling station.
 - (e) The control IPP then takes the necessary measures, in agreement with the telephone service, to establish the phototelegraph communication between the stations concerned at the agreed time.
- § 11. If the telephone service involved is demand service, the outgoing IPP shall take an available circuit for the phototelegraph call, after ensuring that telephone calls in progress are not interrupted; it shall use this circuit to call the incoming IPP.
- (a) To establish a phototelegraph call, it shall transmit the data mentioned under 10 a) above, to the incoming IPP, except for the probable time of the phototelegraph call.
 - (b) The incoming IPP shall take the necessary steps immediately to advise the called phototelegraph station by telephone that a phototelegraph transmission is about to take place.
 - (c) If the called phototelegraph station is in a position to receive the phototelegraph call immediately, the two IPPs shall immediately establish the necessary communication.
 - (d) If the called phototelegraph station is not in a position to receive the call immediately, the IPP of destination fixes the time when the transmission is to take place, taking into account the information received from the receiving phototelegraph station. It then communicates the time fixed to the control IPP which informs the calling station. The two IPPs immediately clear the international telephone circuit.
 - (e) At the time agreed upon, the outgoing IPP shall take the necessary steps to establish the phototelegraph communication.
- § 12. The control IPP shall note the time when the phototelegraph communication starts.
- § 13. The control IPP supervises the transmission in progress :
- (a) on the transmission (go) path by means of a device enabling it to check, without risk of interference, that transmission is taking place,
 - (b) on the return path by means of a device enabling it to listen to service conversation from the phototelegraph receiving station.

Intervention in the circuits should be avoided after communication has been established, unless such intervention has been requested by one of the IPPs or one of the phototelegraph stations connected.

- § 14. After consulting the receiving phototelegraph station, the calling phototelegraph station announces the end of the call either direct to its IPP, or, in the case of extension of an international circuit, to the national PP on which it depends.

The latter must inform its IPP as quickly as possible, giving the time at which it received notice of the end. The control IPP notes the end-of-transmission time and immediately communicates the notice announcing the end to the incoming IPP.

The two IPPs then take the necessary measures to restore the international circuit to the telephone service without delay.

It is recommended that the called station should likewise announce the end of communication so that the called station may be cleared more quickly.

- § 15. Unless the Administrations* concerned decide to the contrary, the terminal IPPs do not come to an agreement on the chargeable duration, since this is determined by the control IPP.

E. SPECIAL PROCEDURES FOR PHOTOTELEGRAPH STATIONS.

- § 16. For each phototelegram to be transmitted, the outgoing public station shall prepare a narrow tape comprising the preamble and address (and, if necessary, the signature and special service indications), unless these indications have been written on the phototelegram by the sender.

This tape is transmitted with the phototelegram.

- § 17. As soon as the communication is established, the interconnected phototelegraph stations proceed to adjust the apparatus and to transmit, in accordance with the instructions of the receiving station, adopting the following order of operations :

- (a) if necessary, agreement on the index of cooperation and speed of transmission, then synchronization adjustment by means of the synchronization frequency,
- (b) phasing of drums,
- (c) adjustment of the white level,
- (d) adjustment of the black level,
- (e) start,
- (f) transmission.

- § 18. If the phototelegram is being transmitted by a private station to a public station, the public station shall ask the private station, if necessary, for information regarding the establishment of the preamble and the conditions of delivery to the addressee.

F. FAULTY TRANSMISSIONS.

- § 19. In the case of faulty conditions, the IPP shall immediately make arrangements to clear the fault or make another circuit available.

- § 20. When, after completion of the call, it is seen that the transmission was faulty, the receiving phototelegraph station shall inform its IPP. If it so desired, the receiving phototelegraph station can make a new booking with its IPP for a phototelegraph call, in the manner

* or Recognized Private Operating Agencies.

defined in § 9, and its IPP then takes the necessary steps immediately to establish a new phototelegraph communication with the sending station.

If the phototelegraph station which receives the faulty picture and books a new call is a private station, its attention should be drawn to the fact that both calls will be chargeable if the faults in the picture are not due to the telephone or telegraph service.

G. CHARGING.

§ 21. Charges for phototelegrams and phototelegraph calls are governed by Recommendation F.83.

H. REBATES

§ 22. Rebates of charges for phototelegrams are governed by Recommendation F.80 (Section E).

§ 23. The provisions of the Telephone Regulations relative to withdrawal of a booking or refusal of telephone calls are applicable to phototelegraph calls between private stations.

§ 24. To obtain rebates when it is seen, after interruption of the call, that the transmission was faulty, the phototelegraph station having paid the charge for the queried call should apply to its Administration*, accompanying its request for a rebate with the original of the picture and the faulty proof received at the other end.

I. ACCOUNTING.

§ 25. The accounts of charges for phototelegraph calls between private stations are established in the same way as the accounts for telephone charges; they shall be shown in a special section of the telephone accounts.

§ 26. If the Administration* agrees to grant a rebate after a call has been cleared (see § 24) the charge for the phototelegraph call shall be refunded and the note "charge not collected owing to faulty transmission" entered in the international accounts established by this Administration*. This presupposes of course that the accounting services must be informed of the decision to grant the rebate, with all the necessary information to identify the call in question. In this way, each country concerned with the queried phototelegraph call defrays its share of the refund.

* or Recognized Private Operating Agency(ies).

THIRD SECTION

TARIFFS AND CHARGING

IN THE INTERNATIONAL TELEPHONE SERVICE

RECOMMENDATION E.51

INTERNATIONAL TELEPHONE CHARGES
(Circuits of European continental type)

*(Former Recommendation No. 41 of Volume Ibis of the C.C.I.F. Green Book, page 109.
Recommendation unchanged)*

The C.C.I.T.T.,

CONSIDERING

Article 27 (§ 1, 2 and 3) of the International Telephone Regulations which stipulates that the charges for international telephone calls are normally made up of terminal charges accruing to the Administrations* of origin and of destination (terminal Administrations*) and of transit charges accruing to intermediate Administrations* if any (transit Administrations*), the territory of the terminal Administrations* being divisible into zones for charging purposes, and a uniform charge being adopted for a given zone,

UNANIMOUSLY RECOMMENDS

that the Administrations* should take into account :

- the following directives (see Section I) for the determination of international telephone charges,
- the elements of net cost of calls (see Section II) set up on international circuits,

when, in their full sovereignty, they negotiate between themselves agreements as to the telephone charges to be applied in their services.

* or Recognized Private Operating Agencies.

SECTION I

Directives for the calculation of international telephone charges with circuits of the European continental type.

1. The charges for international telephone calls are calculated according to the crowflight distance, taking as a basis the net cost.

2. *Charging zones.* — For calculating terminal charges, each country may be divided into charging zones. If need be, different charging zones may be fixed in a given country for traffic exchanged with different countries.

It is desirable that the number of charging zones for international traffic, in any one country, should be reduced to a minimum. As a general rule, in services between non-adjacent countries, each country should constitute one single zone, provided no difficulties or anomalies in the establishment of tariffs would ensue.

In fact, a reduction in the number of charging zones, by simplifying tariffs, facilitates the calculation, by the operating services, of the charges applicable to the various types of calls and the settlement, by the accounting services, of international accounts. It is even more desirable that each country should constitute but one single charging zone when fully automatic international operation is in use and charges are recorded on the same devices as are used for national charges (including devices which may be installed in subscribers' premises to indicate charges).

All the international terminal exchanges should have detailed and up-to-date records showing, for the different countries with which telephone service is available, the charging zones to which the different localities, with which telephone service is open to the public, belong. With the aid of such records a large number of requests for information between operators, which occupy circuits unnecessarily, are avoided and the number of queries at the time of settlement of the international accounts is reduced.

3. *Terminal charge.* — The terminal charge for a charging zone in any country is calculated as a function of the distance between :

(a) a point chosen as the 'mean charging point of that zone'. This mean point is left to be fixed by each Administration* on its own evaluation. In doing so the Administration* may take into account :

- the distribution of traffic,
- the layout of its national network,
- the routing of the international circuits which serve the charging zone under consideration,

and

(b) the point where the international circuits cross the frontier of the country, or, in the case where several frontier crossing points exist, a mean point representative of the various crossing points.

(Where the frontier is crossed by micro-wave radio-relay link, in order to take account of the division of net costs, a point mid-way between the two radio-relay stations situated on either side of the frontier may be chosen instead of the exact point where the radio-relay system crosses the frontier.)

* or Recognized Private Operating Agency(ies).

4. The transit charges applied by the Administrations* of the intermediate countries through which the circuits pass, are calculated, for each transit country, according to the average crowflight distance between the points of entry and exit of the international circuits.

5. *Notes about terminal and transit charges.* — In the case of mountainous countries, or countries with a peculiar geographical configuration, in which the actual route followed by the circuits is inevitably very circuitous, the distance on which the terminal charge is calculated may be appreciably greater than the straight-line distance between the frontier and the point in the zone in question which is the most distant measured on a crowflight basis; in the same way, in a mountainous country or one having an exceptional configuration, the crowflight distance between the points of entry and exit on which the transit charge is based, may be increased.

If there is a submarine section, the quota relative to the section should be agreed between the Administrations* concerned, taking into account the annual charges (including interest, depreciation and maintenance).

SECTION II

Elements of net cost of calls set up on international circuits of the European continental type.

The C.C.I.F. ** has made various studies of the net costs of calls set up on international circuits :

- in 1935, study of the net cost of telephone calls established over the European circuits then used (symmetric pairs, coil-loaded pairs, pairs equipped with repeaters and pairs operated at voice frequencies only);
- in 1949, study of the net cost of telephone calls established over carrier current systems on symmetric pairs in cables or on bare wire overhead lines, giving at least twelve telephone circuits;
- in 1954, study of the net cost of telephone calls established over carrier current systems on coaxial pairs;
- in 1956, study of the net cost of telephone calls established by means of microwave radio-relay links and study of the net cost of calls with semi-automatic operation.

The bases of the various studies were as follows :

1935 Study (voice frequency circuits) :

- average traffic carried per circuit : 200 minutes at the full tariff per working day and 300 working days per year, i.e. 60000 chargeable minutes per year;
- proportion of reserve circuits in underground cables : an average of 40% (that is, 60 working circuits and 40 spare circuits for each 100 in all);
- interest on capital invested : 6%;
- average life of an underground cable : 35 years;
- average percentage difference between the actual length of international telephone circuits and the crowflight distance : 30%.

* or Recognized Private Operating Agencies.

** Succeeded by the C.C.I.T.T. in 1957.

1949 Study (carrier current systems on symmetric pairs or on bare wire overhead lines) :

- average traffic carried per circuit : 180 chargeable minutes at the full tariff per working day and 300 working days per year; i.e. 54000 chargeable minutes per year *;
- proportion of spare capacity :
 - an average of 40 % of the conductors in underground cables (that is, 60 working conductors and 40 spare conductors per 100 conductors);
 - an average of 20 % of terminal equipments (that is, 80 working equipments and 20 spare equipments per 100 equipments);
- interest on invested capital : 5 %;
- average life of an underground cable : 30 years;
- average life of terminal equipment : 15 years;
- percentage difference between the actual length of international telephone circuits and the crow-flight distance : 30 %;

1954-1956 Studies (carrier current systems on coaxial cable pairs or on micro-wave radio-relay links) :

(circuits operated on a semi-automatic basis) :

- average traffic per circuit : 135 chargeable minutes at the full tariff per working day and 300 working days per year, i.e. 40000 chargeable minutes per year;
- proportion of spare capacity :
 - an average of 20 % of terminal and automatic equipment (that is, 80 working equipments and 20 spare equipments per 100 equipments);
- interest on invested capital : 5 %;
- average life :
 - of a coaxial cable : 30 years;
 - of aerials and radio equipment : 10 years;
 - of a terminal equipment : 15 years;
 - of automatic equipment : 15 years;
- percentage difference between the actual length of international telephone lines and the crowflight distance : 30 %.

As a result of these several studies, the C.C.I.F. has fixed the following elements of cost price for the calculation of charges for calls set up on international telephone circuits. All values given in the following text are given again in a tabular summary at the bottom of page 108.

These elements of net cost take account of general overhead costs (accounting costs, administrative costs, research costs, etc.) but not of the extension of international calls on the national (local or trunk) network beyond the international exchange.

* At the time the 1955-1956 studies were made, the net costs for carrier current systems on symmetric pairs were re-calculated, taking into account the same use of circuits as for the other studies then made, i.e. 40000 chargeable minutes per year.

A. FRONTIER RELATIONS

Maximum frontier charge per 3-minute call:

0.60 gold franc for crow-flight distances less than 25 kilometers,

1 gold franc for crow-flight distances between 25 and 50 kilometers.

The distance is measured between exchanges covering a specified geographical area on each side of the frontier; these exchanges are defined by agreement between Administrations * in the light of the structure of their national networks.

Note. — If Administrations * have their own reasons for preferring either a single charging rate or more than 2 charging rates for frontier relations, it is for them to make special arrangements to this effect.

B. OTHER RELATIONS

The C.C.I.F. considers that a distinction should be made between three conditions in the development of existing communication channels :

(a) *Old conditions.* — In certain relations no carrier current telephone systems are in use : calls are still set up over old type circuits, coil-loaded or equipped with repeaters, or over bare wire overhead lines worked at voice frequencies. In these relations, the values determined in the 1935 study can still be applied.

Costs of depreciation, interest on capital involved and maintenance of the international circuit (excluding any inland trunk circuit required to connect the international terminal exchange with the trunk exchange serving the subscriber) :

0.60 gold francs per 3-minute call and per 100 kilometers of crowflight distance (each fraction less than 50 kilometers being rounded up to a maximum of 50 kilometers and each fraction between 50 and 100 kilometers being rounded to a maximum of 100 kilometers).

Note. — The studies carried out in 1935 had shown that in short distance services (up to about 300 kilometers) and in which traffic is routed over direct circuits, the portion of the net cost of the call proper to the international circuits is appreciably less than 0.60 gold francs per 100 kilometers.

Operating costs of an international terminal exchange: 0.60 gold franc per 3-minute call (whether for a terminal exchange or a transit exchange).

(b) *Modern conditions.* — On the other hand, in certain relations the high speed transmission lines envisaged in the General Interconnection Plan have already been constructed, to the extent that the great majority of calls are set up over modern type carrier current routes, metallic lines or micro-wave radio-relay links, for which the studies of the net cost carried out in 1949-1956 are valid.

As a result of these studies, the elements of net cost to be taken in account for the calculation of international telephone charges should be as follows :

Cost of depreciation, interest on capital involved, and maintenance of the international circuit (excluding any inland trunk circuit required for connecting the international terminal exchange with the trunk exchange serving the subscriber) :

0.25 gold franc per 3-minute call and 100 kilometers of crowflight distance (any fraction less than 50 kilometers to be rounded to a maximum of 50 kilometers and any fraction between 50 and 100 kilometers to be rounded to a maximum of 100 kilometers).

* or Recognized Private Operating Agencies.

Operating expenses of an international terminal exchange, including terminal equipments of the carrier current system: per 3-minute call:

— per international manual exchange	0.80 gold franc
— per outgoing international semi-automatic exchange	0.80 gold franc
— per incoming international automatic exchange	0.30 gold franc
— per transit international automatic exchange	0.45 gold franc

(c) *Transitional conditions.* — In certain international relations, a transition stage has been reached, in that the work of carrying out the General Interconnection Plan has begun, but has not been completed. In this case, taking account of the existence of both old and new type circuits in similar proportions, the amount of 0.25 gold franc per 3-minute call and per 100 kilometers of crowflight distance intended to cover costs of depreciation, interest on capital involved and maintenance of the circuit concerned, should provisionally be increased to 0.40 gold franc, until the relevant part of the General Interconnection Plan has been completed. The values, shown in (b) above, for the operating expenses of an international exchange are applicable in these transitional conditions.

TABULAR SUMMARY OF THE ELEMENTS OF COST PRICE TO BE TAKEN INTO ACCOUNT
IN THE CONDITIONS INDICATED

	Old conditions (case a)		Modern conditions (case b)		Transitional conditions (case c)	
— per 100 km of circuit	0.60		0.25		0.40	
— per international exchange *						
— manual	0.60		0.80		0.80	
— outgoing semi-automatic	—		0.80		0.80	
— incoming automatic	—		0.30		0.30	
— transit automatic.	—		0.45		0.45	
<i>Example:</i>						
Total charge						
(s.m. = manual service						
1/2 a = semi-automatic service)	s.m.	1/2 a	s.m.	1/2 a	s.m.	1/2 a
for relations in which the crow-flight distance is:						
less than 100 kilometers	1.80	—	1.85	1.35	2.00	1.50
less than 200 kilometers	2.40	—	2.10	1.60	2.40	1.90
less than 300 kilometers	3.00	—	2.35	1.85	2.80	2.30
less than 400 kilometers	3.60	—	2.60	2.10	3.20	2.70
less than 500 kilometers	4.20	—	2.85	2.35	3.60	3.10
less than 600 kilometers	4.80	—	3.10	2.60	4.00	3.50

* It is to be understood that the elements of calculation applying to manual, outgoing semi-automatic and incoming automatic international exchanges take no account of use which may be made of any national circuit or exchange to connect the international exchange concerned to the calling or called subscribers.

Note

When Administrations*, in their full sovereignty, negotiate between one another agreements with a view to reduction in the charges (in gold francs) in force, they should take into consideration the suggestions below :

1. When envisaging a reduction of the charge applied in a telephone service, it is necessary to make sure that a sufficient number of circuits will be available to deal with additional traffic which may result from this reduction in charge.

2. In order to change from the old conditions (case *a*) to the transitional conditions (case *c*), it is sufficient if, in the international service concerned (case of a service between adjacent countries, that is to say without transit), about 50% of the circuits are of the modern type.

If in the service concerned, one or several transit countries are involved, it will be desirable to initiate discussions with a view to reducing the charges when all the Administrations* concerned have put into service on this route about 50% of the modern type international circuits.

3. If it happens that, in the case of an international route to be set up between neighbouring countries, one of the countries has completed the section on its territory before the other country has done the same, the first country has the right to maintain its quota at the amount determined under the old conditions in the table until the second country has completed its part of the project. If, on the other hand, in order to increase traffic, the second country agrees to reduce its quota, a reduction in charges could be envisaged, because each country will have made its share of the sacrifice towards the reduction.

4. Until more precise recommendations can be made by the C.C.I.T.T. (as a result of studies currently being made) the Administrations* should agree between themselves as to the principles to be adopted when :

- a particular service is operated on a different basis (manual, semi-automatic or automatic) in one direction and in the other;
- in a particular service and in a given direction of operation, circuits operated manually, semi-automatically or automatically are used at the same time.

Note 1. — The Administrations* concerned should enter into direct correspondence with one another for the application of the above suggestions.

Note 2. — The standards in the table above do not apply to countries in which the telephone system is less highly developed.

RECOMMENDATION E.52

CHARGING IN A FULLY AUTOMATIC INTERNATIONAL TELEPHONE SERVICE

(Former Recommendation No. 41bis of Volume Ibis of the C.C.I.F. Green Book, page 115.
Recommendation unchanged)

The C.C.I.T.T.,

CONSIDERING

1. that, in accordance with the provisions of Article 31**, § 179 and 180 of the International Telephone Regulations, international calls should be charged for on the basis of a minimum indivisible period of 3 minutes, and then by whole minutes;

* or Recognized Private Operating Agencies

** Text modified by the Telegraph and Telephone Conference, Geneva, 1958 (see §§ 3 and 4 of Article 26 of the International Telephone Regulations, Geneva Revision, 1958).

2. that these provisions were made at a time when fully automatic international operation was not envisaged;
3. that many Administrations* have adopted methods of charging for use with their national fully automatic service, in which the charges are recorded on subscribers' meters, but based on two different principles :
 - (a) some countries have for many years used a system based on trains of meter-pulses issued at the start of each period of 3 minutes, the number of pulses in the train depending on distance;
 - (b) other countries use, or intend to use, a system based on single meter pulses issued at short intervals of time, the length of the interval depending on the distance;
4. that certain countries which have adopted the system of charging by periodic pulses in their national services have made it known that it will not be possible for them to use a different system of charging for fully automatic international calls;
5. that the use, on the same international relation :
 - (a) at one end, of a 3 minute+3 minute method of charging (national type) or of a 3 minute+1 minute method of charging (the type prescribed in the International Regulations);
 - (b) at the other end, of a periodic pulse method of charging (national type);
 would lead to a grave dissymmetry in the charges made to users in the two countries concerned;
6. that this serious dissymmetry would be likely to provoke adverse reactions from the subscribers of one country, who would be less favourably treated than their correspondents in the other country;
7. that this serious dissymmetry would be likely to create certain financial difficulties for one of the countries :
 - (a) as a result of changes which may possibly take place in the balance of traffic;
 - (b) as a result of the fact that the country which charged on the basis set out in 5(a) above would receive, in respect of the use of its system for "incoming" traffic, substantially less than it would collect from its own subscribers;

UNANIMOUSLY RECOMMENDS

that it is desirable, in order to avoid too great a dissymmetry in the charges collected, to recommend that either of the two following methods of charging may be used in the international fully automatic service :

- (a) charging minute by minute;
- (b) charging by periodic pulses, of the type used in the national automatic services.

* or Recognized Private Operating Agencies.

The C.C.I.T.T.,

CONSIDERING, ON THE OTHER HAND,

that the use of two methods (*a*) and (*b*) at opposite ends in any service, will still leave a dissymmetry in the charges made at the two ends, which will not be negligible;

that this dissymmetry cannot be corrected by the use of a fixed initial charge with periodic charging systems used for international charging, since it has been established that the use of a fixed charge would involve the Administrations* who charge by periodic pulses in considerable difficulties either for reasons arising from the technical arrangement of their systems, or for administrative reasons, or for both;

UNANIMOUSLY RECOMMENDS

that the remaining dissymmetry might be reduced by appropriate administrative measures to be agreed between the Administrations* concerned.

Note. — Until such time as the results of a study of this problem, now being undertaken by the C.C.I.T.T., are available, the Administrations* who wish to reduce the amount of dissymmetry referred to, might, if they found it necessary to reach agreement on the subject, be guided by the following considerations :

- (1) The net costs of operating should diminish noticeably in changing from manual or semi-automatic operation to fully automatic operation : it follows therefore that a reduction in charges ought logically to be expected at the time of introducing fully automatic operation.
- (2) The foreseen changes in charging methods, when this happens (charging minute by minute or by periodic pulsing, instead of charging 3 minutes + 1 minute), will lead to an appreciable reduction in receipts for a given traffic.
- (3) If for a given service the charge (or quota) is fixed, using the periodic pulse method at *T* (cost of a 3-minute call), the amount *T* should be reduced, when used with the minute by minute method, to take account of the difference in receipts from the two charging methods.
- (4) If for a given service the charge (or quota) is fixed, using the minute by minute method, at *T* (e.g. cost of a 3-minute call), the amount *T* should be increased when used with the periodic pulse method (for example by reducing the interval between two successive meter pulses) so as to take account of the difference in receipts from the two charging methods.

* or Recognized Private Operating Agencies.

RECOMMENDATION E.53

**CHARGING FOR CALLS TO A SUBSCRIBER'S STATION TEMPORARILY
CONNECTED TO THE ABSENT SUBSCRIBERS' SERVICE**

*(Former Recommendation No. 37 of Volume VI of the C.C.I.F. Green Book, page 84.
Recommendation modified)*

1. Manual and semi-automatic services.*(a) Calls without préavis:*

If the called subscriber's line has been temporarily connected to the absent subscribers' service, the caller should always be informed before the call is set up.

If the caller agrees to enter into communication with the absent subscribers' service, the call is set up and is charged in accordance with its class and duration.

If the caller declines the communication with the absent subscribers' service, the booking is cancelled and no charge is collected.

(b) Calls with préavis:

If the called subscriber's line has been temporarily connected to the absent subscribers' service, the caller must always be informed before the call is set up.

If the caller declines the communication, the préavis charge only is collected.

If the caller accepts the communication, the charge is collected for the duration of the call and the préavis surcharge is also collected.

2. Automatic service.

The reply by an operator of the absent subscribers' service to a call reaching a subscriber's line temporarily connected to the absent subscribers' service entails charging for the international call.

Note. — In the few countries which in 1957 had an absent subscribers' service for which no charge was collected from the caller, the reply by the operator of this service might exceptionally not entail charging for the calls.

RECOMMENDATION E.54

**CHARGING FOR CALLS TO A DEVICE SUBSTITUTING
A SUBSCRIBER IN HIS ABSENCE**

*(Former Recommendation No. 12bis, No. 12ter and No. 37bis of Volume Ibis
of the C.C.I.F. Green Book, pages 102, 103 and 107. Wording of Recommendation
revised in 1958)*

1. The connection to a subscriber's line of a device in substitution for the telephone instrument, for the purpose of answering on behalf of the subscriber in his absence and, possibly, of recording a message, is the equivalent of having a person to answer the telephone on the user's behalf and at his express request.

(E.54)

The C.C.I.T.T. therefore considers that all calls terminating on such a device should be subject to the charging rules applicable to calls which are answered in the normal way by a person.

2. All precautions will nevertheless have to be taken by the Administrations* to warn callers of the presence of the device on the called subscriber's line :
 - (a) devices of this type should be indicated in the telephone directories by means of a special sign \odot ;
 - (b) Administrations* should invite the owners or renters of such equipment to mention the fact on their letter-paper by means of a printed indication.
3. To facilitate the disposal of international traffic on a device of this type, the Administrations* should, when consenting to this equipment, insist that it complies with the essential conditions set out in the following Annex.

ANNEX

Basic specification clauses for a recording apparatus to substitute the called subscriber

A. OPERATING CONDITIONS

1. *Delay in answering.*

The ringing current from the telephone exchange should be permitted to operate the telephone bell for at least 3 seconds but for not more than 10 seconds before the call is answered by the apparatus. This will enable the call to be answered in the *normal way* in those countries which wish to provide for such a facility. The timing of this interval (3-10 seconds) should be independent of the periodicity or the duration of the ringing current.

2. *Normal conditions for metering and supervision.*

In answering a call the apparatus should loop the subscriber's line and should also give the normal conditions for control of metering and for supervision as with a normal subscriber's installation.

3. *Announcement of the presence of the apparatus.*

(a) The presence of the apparatus should be indicated to the calling subscriber by means of a verbal announcement, following, in principle, immediately on the closing of the loop on the subscriber's line.

(b) This verbal announcement should include, in particular, the following :

- first, whether the apparatus permits the recording of a message,
- the subscriber's name or business style,
- the subscriber's number and particulars of the locality (e.g., Geneva, St. Moritz, etc.),
- clear instructions as to the functioning of the apparatus (whether a message may be recorded, and if so, the moment when the message may be recorded and the maximum duration of a recording).

B. SIGNALLING CONDITIONS

1. *Avoidance of interference from signalling frequencies.*

The correct functioning of the apparatus should not depend upon (nor be affected to any extent by) the sending or receiving of signalling frequencies used in the telephone system or specially generated in the apparatus).

* or Recognized Private Operating Agencies.

2. *Avoidance of interference with national signalling systems by the tones transmitted by the apparatus.*

To avoid interference with the national signalling system of a country by the tones transmitted by the apparatus over the network of that country, it is recommended that, in the case of the transmission of tones by the equipment :

- the transmission of tones should be in short pulses and not a continuous transmission;
- the tones should not be composed of a single frequency, but should be a mixture of at least two frequencies, so that the guard circuit of the signal receiver of the corresponding country, where there would be a risk of interference, may operate (for this purpose, the choice of the following frequency-combinations should be avoided :

2040 and 2400 c/s	1200 and 1600 c/s	500 and 20 c/s
600 and 750 c/s		1000 and 20 c/s)

C. TRANSMISSION CONDITIONS

Any recording apparatus which takes the place of the called subscriber should give a level and quality of speech comparable with that given when the line is used by a person.

RECOMMENDATION E.55

CHARGING IN AUTOMATIC SERVICE FOR CALLS TERMINATING ON SPECIAL SERVICES FOR SUSPENDED, CEASED OR TRANSFERRED SUBSCRIBERS

(New Recommendation)

It is desirable for calls terminating on special services for suspended, ceased or transferred subscribers in the international automatic service to receive the same treatment in different countries.

The C.C.I.T.T. considers that no charge should be made for these calls and that no answer signal should normally be given when the interception operator of these services intervenes.

RECOMMENDATION E.56

MULTIPLE CALLS

(Former Recommendations No. 22 and No. 44 of Volume VI of the C.C.I.F. Green Book, pages 64 and 94. Wording of Recommendation revised in 1958)

Multiple calls should be accepted in the international service, by agreement between the Administrations* concerned, subject to the following conditions.

1. *Conditions for acceptance.*

In all cases the technical equipment should be such as to provide satisfactory transmission of multiple calls**.

* or Recognized Private Operating Agencies.

** In this connection, see the C.C.I.F. Recommendation entitled " Conditions governing the apparatus used for conference calls ", containing provisional instructions for the setting-up and supervision of conference calls (*Green Book*, 1954, Volume IV, Section 2.3.3).

2. *Charging.*

The charge for a multiple call should include the main charge and any subsidiary charges.

The main charge shall be calculated on the basis of the charge applicable to relations between the national exchange, chosen as controlling exchange for the call, and the various international exchanges intervening in the call, regardless of the number of correspondents.

The subsidiary charges shall be fixed by each country concerned, taking into account :

- (a) any internal circuits used beyond the international exchange;
- (b) equipment expenses in telephone exchanges for the setting-up of multiple calls.

The total charge for a multiple call, calculated by agreement between the countries concerned, shall be collected exclusively from the booker of the call.

The main charge shall be apportioned between the countries concerned in accordance with the rules applicable to ordinary calls. The subsidiary charges shall be attributed to each of the Administrations* concerned.

RECOMMENDATION E.57

PROGRAMME TRANSMISSIONS

*(Former Recommendation No. 49 of Volume Ibis of the C.C.I.F. Green Book, page 117.
Recommendation unchanged)*

SECTION I. — CONDITIONS OF ACCEPTANCE

The C.C.I.T.T.,

CONSIDERING

that requests for the use of circuits for programme transmissions should continue to necessitate the intervention of the central administrations or of the "controlling services" to whom the Administrations* have delegated their authority in this matter,

UNANIMOUSLY RECOMMENDS

that programme transmissions should be admitted under the following conditions :

- 1.1. Requests for the use of circuits for programme transmissions should be addressed by the Broadcasting Organization (or Organizations) which control the broadcast receiving station (or stations) to the "controlling service" of its country (or their countries).

The list of controlling services in the different countries to which the Broadcasting Organizations should apply to obtain circuits (a list containing the names, exact postal addresses, telegraphic addresses and also telephone numbers of these various services) has to be forwarded to the Administrations* belonging to the C.C.I.T.T. by the Secretariat of the C.C.I.T.T., these Administrations* undertaking to pass this list on to the Broadcasting Organizations of their respective countries.

Requests for the use of circuits for programme transmissions should always be made at the earliest possible moment and in any case with sufficient notice to allow

* or Recognized Private Operating Agencies.

the Telephone Administrations* to take the necessary measures to arrange the programme transmission in question. These requests should be complied with if no inconvenience to the general telephone service is likely to result and if technical considerations permit. If a request has not been made in sufficient time, the Broadcasting Organization may not request a reduction in charges for an interruption or any other incident arising on the broadcast transmission circuit during the preparatory period or during actual transmission when it has been impossible to adjust and test the circuit with the necessary care owing to insufficient time available.

- 1.2. For each international broadcast relay affecting only receiving radio stations situated in one country, the Broadcasting Organization which controls the receiving radio station or stations, after preliminary agreement with the Broadcasting Organization controlling the transmitting microphone, should make a request to the controlling service of its country for the use of the necessary circuits, accompanied by an undertaking to pay the whole charge in respect of the use of these circuits.
- 1.3. For each international broadcast relay affecting broadcast receiving stations situated in several countries, the procedure is as follows :

The list of broadcasting stations which are to receive the transmission (showing the telephone exchange to which the transmitting microphone is connected) is sent to each of the Broadcasting Organizations concerned, by the Broadcasting Organization controlling the transmitting microphone; each Broadcasting Organization should send this list to the controlling service of its own country, after having brought in the additions or modifications which it considers necessary. This list should include the designation of all control circuits required and, where necessary, of all the reserve circuits requested.

Unless otherwise agreed upon, the controlling service of the country in which the programme originates shall be taken as the overall controlling service for the transmission concerned.

The overall controlling service should inform each of the controlling services concerned at the earliest possible moment of the circuits to be used and the special repeater station or stations with which the Broadcasting Organizations may communicate if any unforeseen incident, which must be rectified urgently, arises in the course of the programme transmission.

As soon as it has received the necessary information concerning the circuits for the use of which it will have to pay, each Broadcasting Organization controlling one or more broadcast receiving stations should forward *without delay* to the controlling service of its country a request for the use of these circuits with an undertaking to pay the whole charge in respect of their use.

To facilitate this procedure it is desirable that the Broadcasting Organizations should study in advance the cases of multiple relays which are likely to occur frequently (see the following Annex).

SECTION II. — CONTROL CIRCUITS

The C.C.I.T.T.,

UNANIMOUSLY RECOMMENDS

that the following Directives should be observed for the constitution of control circuits in connection with the use of programme circuits :

* or Recognized Private Operating Agencies.

2.1. Definitions.

2.1.1. A *control circuit* (circuit de conversation) is a telephone circuit which provides a direct connection between the place where a transmitting microphone is installed and the point where the broadcast programme is used (recording apparatus or radio broadcasting station). This connection is used to supervise the transmission of the programme broadcast and it enables any necessary remedial measures to be taken quickly in case any difficulties or interruptions occur during the transmission; it also permits the programme transmission circuit to be released at the right moment and it provides, therefore, the appropriate means by which the chargeable duration of the programme transmission can be precisely determined.

2.1.2. For the setting-up of control circuits, the following distinctions should be drawn between "regular" and "occasional" programme transmissions.

(a) *Regular transmissions* are those which are ordered once for all because they take place at regular intervals, at the same times, over the same routes, always between the same points.

(b) *Occasional transmissions* are all transmissions which do not fall within the above definition.

2.2. Constitution of control circuits.

It is desirable to distinguish between the following cases :

- simple programme transmissions;
- multiple programme transmissions.

2.2.1. *Simple programme transmissions.* — In the case of regular transmissions, especially if the programme transmitted is of such a nature that the Broadcasting Organization is ready to tolerate any incident which might occur because of the absence of a control circuit during the transmission of the programme, the use of a control circuit should be obligatory only during the "preparatory period" *.

For certain regular transmissions effected over a long period, the use of a control circuit might even be dispensed with during the preparatory period if the Broadcasting Organizations so request.

In the case of an occasional transmission, the use of a control circuit should in principle be obligatory during the preparatory period and should be earnestly recommended throughout the programme transmission; indeed, the Broadcasting Organizations are interested in reducing as much as possible the duration of any incidents which occur during the transmission of the broadcast programme and, on their part, the Administrations** should watch that too great a power is not employed in the course of the transmission, such as to cause a risk of troubles on telephone circuits in the same route.

* The preparatory period is defined under 3.1.2.

** or Recognized Private Operating Agencies.

2.2.2. *Multiple programme transmissions (or multiple relays).*

2.2.2.1. Multiple programme transmissions in which the sound is picked up at one point only :

(a) If the first distribution point of the programme transmission circuits serves a broadcast transmitting station in the same town and participating in the multiple transmission, it is strongly recommended that control circuits should be envisaged, at least :

- between the studio where the transmitting microphone is installed and the distribution point of the programme transmission circuits;
- between the first distribution point and the various broadcast transmitting stations.

(b) When the above conditions do not apply, it is recommended that, as far as possible, control circuits should be envisaged between the studio where the microphone is installed, on the one hand, and the various broadcast transmitting stations on the other hand.

In the two cases indicated above, control circuits should always be provided during the preparatory period and their use should be recommended throughout the transmission of the programme.

2.2.2.2. Multiple programme transmission with several sound pick-up points.

A preliminary study should be carried out between the Broadcasting Organizations and the Administrations* concerned in order to determine what control circuits should be insisted upon during the preparatory period** and which control circuits should be recommended for use during the transmission of the programme.

Experience has shown that in the case of two-way multiple broadcast transmissions with several sound pick-up points, in order that the programme concerned should proceed satisfactorily, it is desirable to have control circuits between the studio directing the transmission and the various sound pick-up points.

2.2.3. *General remarks.* — The Broadcasting Organizations should be informed that when they decide to dispense with the use of a control circuit during the transmission of a broadcast programme, they are not entitled to claim a reduction of the charge on account of some incident occurring during the course of the transmission, even if the incident is due to a breakdown in the programme circuit which could not be remedied quickly because of the absence of a "control circuit".

* or Recognized Private Operating Agencies.

** The preparatory period is defined under 3.1.2.

SECTION III. — CHARGING

The C.C.I.T.T.,

CONSIDERING

that, although ordinary telephone circuits might be used, if need be, for programme transmissions, it is necessary, in order to be able to transmit music, and even speech, perfectly, to arrange for the use of circuits in which cross-talk is reduced to the lowest possible level and which effectively transmit a frequency bandwidth wider than with ordinary telephone circuits;

that the types of circuits can be distinguished as indicated in the following table :

Type of circuit	Audio frequency bandwidth effectively transmitted
Ordinary telephone circuit	300 to 3 400 c/s
Old type programme circuit	at least 50 to 6 400 c/s
Normal type programme circuits	at least 50 to 10 000 c/s

that the net costs of “ programme circuits ” are much higher than those for ordinary telephone circuits;

that the costs of supervision and maintenance of programme circuits are much higher than those of ordinary telephone circuits;

UNANIMOUSLY ISSUES THE RECOMMENDATION

that, when “ programme circuits ” are available, they should be used in all cases for programme transmissions instead of ordinary telephone circuits ;

that it is appropriate to make higher charges for the use of such circuits for programme transmissions than are made for the use of ordinary telephone circuits;

that telecommunication Administrations* should take the following directives as guidance when charging for programme transmissions.

3.1. *Preliminary.*

- 3.1.1. A programme circuit is a uni-directional transmission channel. If a programme transmission takes place simultaneously in both directions, thus requiring the use of two special circuits, it should count as two distinct programme transmissions.

* or Recognized Private Operating Agencies.

3.1.2. For each international programme transmission a distinction is made between :

- (a) the *line-up period*, in which the telecommunication Administrations* proceed to line up the international programme line before handing it over to the Broadcasting Organizations;
- (b) the *preparatory period*, in which these Broadcasting Organizations effect their own line-ups, tests and various manœuvres before carrying out the actual programme transmission;
- (c) the actual programme transmission.

The chargeable duration begins at the moment when the programme circuit transmission is handed over to the Broadcasting Organizations, i.e. at the start of the preparatory period.

3.1.3. For charging purposes, no distinction is made between periods of light and heavy traffic in the use of "programme circuits".

3.1.4. The use of "control circuits" in programme transmissions is liable to the same charge as an ordinary telephone circuit, i.e. there is no surcharge, and periods of light and heavy traffic may be taken into account**.

3.1.5. A *surcharge* is applied in respect of each programme transmission without regard to the type of circuit used, to cover the expenses incurred in :

- the technical preparation of international circuits by way of special equipment or lining-up,
- the exchange of telegraph and telephone messages for the preparation of a programme transmission,
- the setting up and testing of the chain of circuits to be used for the transmission.

This surcharge is shared between the Administrations* concerned on the same basis as the charge for the programme transmission itself. The surcharge is equal to the charge for *8 minutes of programme transmission* over the same circuit between the terminal points concerned. The surcharge is not payable if the programme transmission does not take place due to circumstances under the control of the telephone service.

* or Recognized Private Operating Agencies.

** In order to avoid variations in interpretation, which may have occurred in the past, the "tariff for ordinary telephone calls" should provisionally be understood to be as follows (pending further examination of the matter) :

(a) For the part of the programme transmission in the period of heavy traffic, the charge to be collected is that appropriate to ordinary calls during the period of heavy traffic;

(b) for the part of the programme transmission in the period of light traffic :

- one half (1/2) of the charge appropriate to ordinary calls during the period of heavy traffic, for a transmission the duration of which (during the period of light traffic) is at least one hour;
- three-fifths (3/5) of the charge appropriate to ordinary calls during the period of heavy traffic, in other cases.

Legal time in the country receiving the programme transmission will be used in order to determine the period of heavy traffic or the period of light traffic.

It is to be understood that the surcharge covers the charges which would otherwise be made for the telegrams and telephone calls exchanged in the preparation of the programme transmission. The surcharge does not apply to the so-called "control" circuits.

- 3.1.6. When the transmitting microphone is not connected directly to the network of programme circuits, and a special junction circuit has to be provided between the location of the transmitting microphone and the point of junction with the network of programme circuits, the Administration* responsible for the broadcast transmitting station should forward to the Administration* responsible for the Broadcast receiving station particulars of the special expenses incurred in the setting up, alignment and recovery at the end of the transmission of the junction circuit in question. These expenses are debited by the latter Administration* to the Broadcasting Organization controlling the Broadcast receiving station.

3.2. *Charges in the normal case (use of "international programme circuits").*

In fixing the following tariff of charges for international programme transmissions in the *normal case* in which programme transmissions are effected by means of "*programme circuits*", account has been taken of the elements of net cost established by the C.C.I.F., as the result of several studies, the last as recently as 1955. These elements of net cost are given in the following Table.

TABLE
BASES FOR THE CALCULATION OF CHARGES APPLICABLE TO PROGRAMME CIRCUITS

		Old type circuit (effective bandwidth transmitted : at least 50 to 6 400 c/s) (Note 1)	Normal type circuit (effective bandwidth transmitted at least 50 to 10 000 c/s)
Charges for 33 minutes of programme transmission	per 100 km (crow-flight) of circuit (Notes 2 and 3)	0.75 gold fr.	0.75 gold fr.
	for each international terminal exchange (at the extremities of the connection)	0.75 gold fr.	2.40 gold fr.
Fixed surcharge, independant of the duration of the programme transmission.		Equal to the charge for 8 minutes of <i>programme transmission</i> , in the relation in question and by the <i>circuit</i> in question.	
If, for their own purposes, Administrations* wish to apply tariffs lower than those based on the above standards, this may be done by special agreement.			

* or Recognized Private Operating Agency(ies).

Reserve circuits are not normally necessary, but if the Broadcasting Organizations deem it necessary to have at their disposal such circuits for a given international broadcast relay, they should be charged for at the same rates as would have been applied had they actually been used for the relay in question and for its full duration.

Note 1. — If a programme circuit includes even one section only of old-type circuit, the transmission in question is charged for at the tariff applicable to old-type circuits ; but it is recommended that an international connection for a programme transmission should not be set up with one single section of old-type circuit in an otherwise complete chain of normal type circuits, since the Administration* which furnishes the section of old-type circuit occasions a considerable loss to the other Administrations* participating in the international connection.

Note 2. — The part of the charge relating to the line is calculated, by each country taking part in the international programme transmission, on the basis of crow-flight distance :

- for the terminal countries, between the extremity of the circuit and the point of entry into (or exit from) national territory,
- for a transit country, between the points of entry into, and exit from, national territory.

Note 3. — In applying the above tariff, any residual distance of less than 50 km may be rounded up to a maximum of 50 km and any residual between 50 km and 100 km may be rounded up to a maximum of 100 km. Moreover, Administrations* should examine the possibility of having the smallest possible number of charging zones for each country, so as to obviate difficulties and anomalies in fixing charges applicable to international programme transmissions.

Note 4. — The part of the charge relating to the international exchange does not take into account any trunk circuits which may be provided between :

- the international exchange, on the one hand, and
- the transmitting microphone at the receiving Broadcasting station, on the other.

3.3. *Charge applicable when an ordinary international telephone circuit is used for a programme transmission.*

In the exceptional case in which a programme transmission takes place over *ordinary international telephone circuits*, the “rates for ordinary calls” will apply, together with a surcharge corresponding to 8 minutes of ordinary telephone conversation in the charging period (period of heavy or light traffic) in which the programme transmission begins**.

3.4. *Charge to be applied when the circuit for a programme transmission is of mixed setting-up.*

When a programme transmission takes place over a *circuit* made up partly of an “international circuit” and partly of an “ordinary international telephone circuit”, the whole circuit is charged for on the basis of the *tariff for ordinary telephone calls in the period of heavy traffic* and the surcharge is equal to the charge applicable to 8 minutes of ordinary conversation during the period of *heavy telephone traffic*.

* or Recognized Private Operating Agency(ies).

** See the note at the foot of page 120.

3.5. *Charge to be applied in the case of multiple broadcast transmissions.*

If the transmission is intercepted, at intermediate centres, by other broadcasting stations, the programme transmission is, from the point of view of the charge, considered as several distinct calls; the one between the origin and the first intermediate broadcasting station; the others between the consecutive broadcasting stations or between a distribution point and an intermediate broadcasting station, or between the last intermediate broadcasting station (or the last distribution point) and the terminal broadcasting station.

3.6. *Charges in the case of programme transmissions over circuits with special itineraries.*

- 3.6.1. In the case where a Broadcasting Organization considers the quality of transmission to be unsatisfactory on a direct programme circuit and requests the use of an indirect circuit made up of programme circuits passing through countries other than those through which the direct programme transmission circuit passes, the charge applicable is based on the sum of the programme transmission charges in respect of each of the circuits interconnected.
- 3.6.2. If two Broadcasting Organizations have not been able to modify their programme schedules by mutual agreement, and if both ask for the use of a direct programme circuit at the same time, the second Organization to make its application will use a specially composed indirect link formed by interconnection of programme circuits and will pay a charge based on the sum of the programme transmission charges payable for each of the interconnected circuits.
- 3.6.3. If a complete breakdown or a serious interruption occurs on a direct programme transmission circuit at the time arranged for the transmission, and if an indirect circuit passing through countries other than those through which the direct circuit passes has been set up for handling this transmission, the Broadcasting Organization shall nevertheless pay the same total charge as if the direct circuit had been used; this total charge is divided among all the countries traversed by the indirect circuit in the manner indicated in Recommendation E.68.

Note. — The list of normal and emergency routes to be used for programme transmissions, in international relations between European countries and African and Asiatic countries bordering on the Mediterranean Sea was specified by the " Study Group for the General Switching Plan in Europe and in the Mediterranean Basin " at its meeting in Florence, October 1951. When the list was prepared, the principle was adopted that normal and emergency routes for programme transmissions should follow the same routes as normal and emergency routes used for passing international telephone traffic in Europe and the Mediterranean Basin.

- 3.6.4. Where the Broadcasting Organizations request control circuits following the same route as the indirect programme transmission circuits mentioned

above, the charge applied for the use of these control circuits is calculated on the same basis as the charge for indirect programme transmission circuits.

3.7. *Determination of the chargeable duration: beginning and end of a transmission.*

3.7.1. Personnel responsible for the supervision of and charging for international programme transmission in the European system should act in accordance with the "Instructions for personnel responsible for the supervision of and charging for programme transmissions in the European system" published by the C.C.I.F.

3.7.2. The supervision of an international programme transmission is generally effected by the terminal repeater stations of the programme circuit concerned.

It is possible that the equipment at the international telephone centres will permit the operating personnel, already responsible for fixing the chargeable duration of ordinary telephone calls, to be entrusted with the task of determining the chargeable duration of a programme transmission and in that case this chargeable duration should be fixed with the same precision as for a telephone call.

In the case where the equipment of the telephone centres in question does not permit this procedure, the technical officers of the terminal repeater stations should come to an arrangement between themselves, for fixing accurately at the end of the programme transmission :

- (a) the time at which the circuit was placed at the disposal of the Broadcasting Organization (beginning of the chargeable duration);
- (b) the time at which the circuit was released by the Broadcasting Organization (end of chargeable duration);
- (c) when necessary, the time and duration of any interruption or incident which may have occurred (in order to determine the rebate).

3.7.3. The time at the beginning and end of the chargeable duration, as well as the time of occurrence and duration of any breakdowns which may occur, are entered on a daily report conforming to the specimen reproduced in the annex below. This daily report is sent on the same day to the office responsible for co-ordinating all the details necessary for the establishment of the international accounts. In addition, the details relative to interruptions are noted on the report sent periodically to the technical services concerned.

When the officials at the two terminals of a circuit have agreed on the chargeable duration of a programme transmission, the official situated nearest the Broadcasting Organization which has to pay for the use of the circuit concerned, should notify that Organization of the number of chargeable minutes.

3.8. *Rebates in the case of faulty transmissions.*

If during the course of a programme transmission a fault or interruption even of short duration occurs, it is necessary to consider whether this fault or interruption has, depending upon the nature of the programme relayed (play, talk, high-quality music, etc.), rendered the remainder of the broadcast difficult for the listeners to

understand or has reduced considerably the pleasure given to the people listening to high-quality music. It is necessary therefore to make a special examination each time in order to determine the corresponding rebate, which should take account of the trouble actually caused (by any incidents which may occur) to the Broadcasting Organization which receives the transmissions. It is for the Administration* of the country in which the controlling station is situated (this is generally the terminal station nearest the Broadcasting Organization which receives the transmission) to assess the reduction to be made, and the opinion of this Administration* should prevail over the opinion of the other Administrations* involved in the international programme transmission. It goes without saying that such a reduction should be applied only if the interruption or incident has been caused through service reasons or a case of force majeure (see, in particular, the remarks made above under 1.1 and 2.2.3).

3.9. *Levy of charges.*

The charges and surcharge for the use of a circuit are levied on the Broadcasting Organization (State or private) which undertook to pay for the use of the circuit in question; they are due for the full period during which the circuit has been put at the disposal of that Broadcasting Organization, before the transmission proper.

The charges and surcharge for the use of a circuit are always indivisible and should be paid in their entirety by one Broadcasting Organization.

3.10. *Sharing of the total charge between Administrations.**

3.10.1. When an international programme connection is constituted entirely of circuits of one type only (old type or normal type) the share due to each Administration* furnishing a circuit is equal to the charge fixed for the use of that circuit.

3.10.2. Provisionally, a section of "normal type circuit" incorporated in a chain of mixed circuits is treated as an "old type circuit". When such a mixed chain is used, the total charge is divided as though all the circuits in question were of old type.

3.10.3. When an international connection includes programme transmission circuits and ordinary telephone circuits, "hypothetical charges" are calculated on the following basis, to determine the sharing of the total charge for the programme transmission, failing agreement to the contrary between the Administrations* concerned :

- on the basis of the charge for ordinary calls (in the charging period in question) for the countries which provide a section including one, or more, ordinary telephone circuits;
- on the basis of the charge for programme circuits of old-type for the countries which provide programme circuits (of old type or normal type) throughout the entire section within their territories.

The total charge is divided in proportion to these hypothetical charges.

* or Recognized Private Operating Agency(ies).

SPECIMEN OF DAILY REPORT
International Programme Transmissions completed on

London Exchange

Subject of the programme transmission	Circuits or sections of circuits used for the transmission		Type of circuits used		Time at which circuit was		Duration not counted (faults, interrup- tions, etc.)	Number of		Unit charge	Amount of charge	Name of Broadcasting Organization which should pay the charge or the Adminis- tration *** which should collect it
	from	to **			put at disposal of Broadcasting Organization	released by Broadcasting Organization		chargeable minutes	chargeable units			
Concert from Lon- don broadcast by Bruxelles, Berlin, København (see following dia- gram) *	London	Bruxelles										
* In the case of a multiple relay using a number of circuits simultaneously, it would be advantageous to attach to the daily sheet a diagram of the multiple relay. ** The receiving broadcast stations are underlined. *** or Recognized Private Operating Agency.												

3.11. *Accounting.*

3.11.1. The office responsible for coordinating all the details necessary for accounting for international programme transmissions :

- (a) groups all information in respect of the international programme transmissions supplied either by the coordinating service of its own country, or by the repeater stations (daily reports) and it checks this information by comparing the various particulars;
- (b) undertakes the collection of the charge from the Broadcasting Organization of its own country;
- (c) enters the international programme transmission of the monthly statements which will permit the subsequent sharing of the charge;
- (d) sends these statements every month to the accounting service responsible for actually dividing the charge between the different countries concerned.

3.11.2. The monthly telephone accounts exchanged between the telecommunication Administrations* include a special column for international programme transmissions and in this special column distinction is made between programme transmissions :

- (a) over ordinary telephone circuits,
- (b) over programme circuits (old type),
- (c) over programme circuits (normal type).

The use of control circuits should also be indicated.

SECTION IV. — LEASE TO BROADCASTING ORGANIZATIONS OF INTERNATIONAL CIRCUITS FOR PROGRAMME TRANSMISSIONS

The C.C.I.T.T.,

CONSIDERING

that the conditions of lease of circuits for programme transmissions ought to be identical with those already fixed for the lease of ordinary telephone circuits, and that to do so will also avoid any difficulty when the lease of a programme circuit is accompanied by the lease of a corresponding control circuit;

UNANIMOUSLY RECOMMENDS

that Administrations* should be guided by the following principles when leasing international programme circuits.

* or Recognized Private Operating Agencies.

4.1. *Conditions of acceptance.*

- 4.1.1. An international programme circuit will be leased only if spare ones exist in the relation in question.
- 4.1.2. Under no circumstances may the circuit be made available to third parties.
- 4.1.3. In principle, a lease should be for an initial period of one month ; nevertheless, leases for periods shorter than one month may be arranged by agreement between the Administrations* concerned. Leases continue, after the initial period, month by month, until terminated by one party or the other by at least two weeks notice expiring at the end of a monthly period of lease.
- 4.1.4. Administrations* reserve in full the right to take back for their own use a leased international programme circuit, if the exigencies of the general service so demand.
- 4.1.5. Rental is payable monthly in advance.
- 4.1.6. If an interruption occurs for which the telephone service is responsible, the originating Administration* makes a rebate if requested to do so by the lessee. The rebate is determined on the basis indicated in Part 4.2 (Charging) below.

4.2. *Charging.*

- 4.2.1. The charge for the lease of an international programme circuit should correspond to that for 6000 minutes of use of the programme circuit in question per month.
- 4.2.2. The charge for leases for periods of 10 days or less should be that corresponding to 240 minutes use for each day of lease of the programme circuit in question, together with a surcharge corresponding to 30 minutes use of the programme circuit in question, no matter what the actual period of lease.
- 4.2.3. The charge for leases exceeding 10 days but not exceeding 25 days, should be that corresponding to 240 minutes of use of the programme circuit in question, per day of lease, without surcharge (thus for 11 days lease the charge is equal to that for $240 \times 11 = 2640$ minutes).
- 4.2.4. If a lease is extended beyond the 25th day so as to last one month, the charge should be that for 6000 minutes of use of the programme circuit in question.
- 4.2.5. If a lease is for a period exceeding one month, the charge for the first month should be that indicated above, and the charge for each additional day should be that corresponding to 200 minutes of use of the programme circuit in question.

* or Recognized Private Operating Agency(ies).

4.2.6. If an interruption occurs for which the telephone service is responsible, a rebate should be granted only if the international programme circuit has been completely interrupted for a continuous period of 3 hours or more. The maximum rebate allowable should not exceed one or other of the two following limits :

- 40 minutes use for each continuous period of interruption of 3 hours duration,
- 200 minutes use per day for a continuous interruption of 24 hours in the case of leases over 25 days (240 minutes use per day or per continuous 24-hour interruption in the case of leases of 25 days or less).

4.2.7. Several methods may be used in collecting and accounting for the total amounts due in respect of a lease. In particular one or other of the following two methods might be used :

(a) The Administration* of the country in which the ordering Broadcasting Organization is situated collects the full rental and makes the appropriate entries in the international accounts.

(b) The Administration* of one of the terminal countries collects from the Broadcasting Organization in its country, in national currency, the share of the rental for the circuit on its territory; the Administration* of the other country collects the balance of rental due and, when appropriate, makes any necessary payments to transit countries.

ANNEX

Example of a multiple relay of a programme transmission

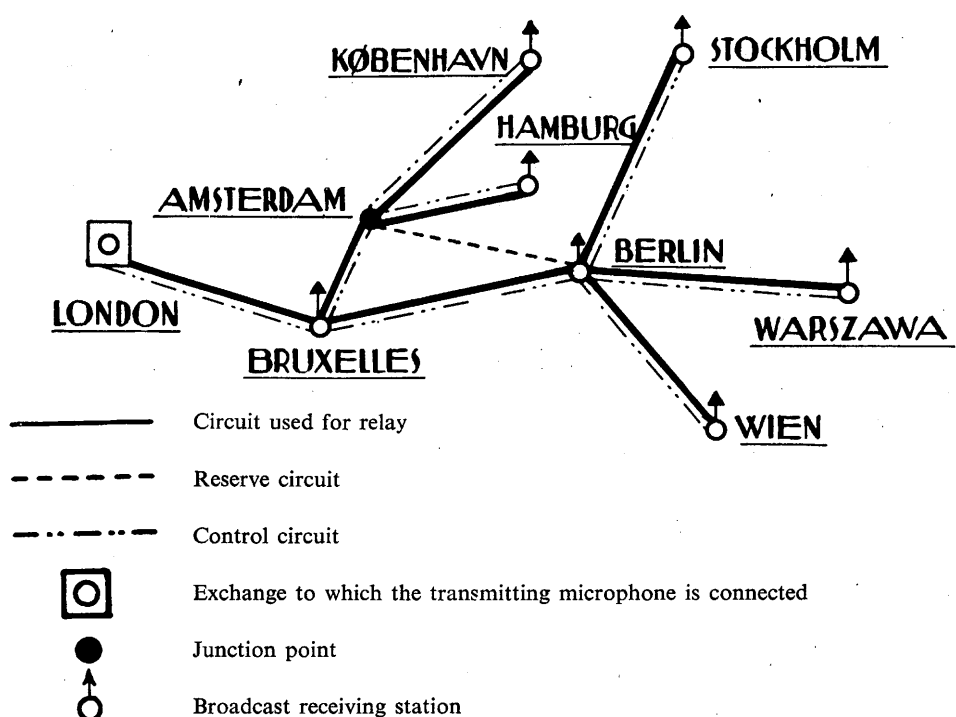
In the following diagram, it is assumed that the Broadcasting Organization in Brussels which broadcasts the transmission coming from London, pays the charge for the Brussels-London circuit; that the Broadcasting Organization in Berlin pays the charge for the Berlin-Brussels circuit, while the Broadcasting Organizations in Stockholm, Warsaw and Vienna pay for the Berlin-Stockholm, Berlin-Warsaw and Berlin-Vienna circuits respectively.

As Amsterdam is not broadcasting the transmission, the Broadcasting Organizations in Hamburg and Copenhagen should arrange in advance which Organization will pay the charge for the Brussels-Amsterdam circuit.

If, for example, the Broadcasting Organization in Hamburg agrees to pay the charge for the Brussels-Amsterdam section, because Amsterdam is not broadcasting the transmission, the charges to be collected in Hamburg and in Copenhagen respectively should be based on a transmission from Brussels to Hamburg and a separate transmission from Amsterdam to Copenhagen.

Similarly, prior agreement between the Broadcasting Organizations concerned is necessary as regards payment for the control circuits and, if necessary, for the reserve circuits.

* or Recognized Private Operating Agency.



Circuits	Circuit ordered by (i.e. Broadcasting Organization to pay for circuit used)	Special repeater station which should be notified if any fault occurs on the circuit
London-Brussels	Brussels	
Brussels-Amsterdam	The Broadcasting Organizations of Hamburg and Copenhagen should arrange beforehand which is to pay for the Brussels- Amsterdam circuit.	
Amsterdam-Copenhagen	Copenhagen	
Amsterdam-Hamburg	Hamburg	
Brussels-Berlin	Berlin	
Amsterdam-Berlin (reserve).	The Broadcasting Organizations concerned should decide which one of them will pay for the re- serve circuit Amsterdam-Berlin.	

Circuits	Circuit ordered by (i.e. Broadcasting Organization to pay for circuit used)	Special repeater station which should be notified if any fault occurs on the circuit
Berlin-Stockholm	Stockholm	
Berlin-Warsaw	Warsaw	
Berlin-Vienna	Vienna	
London-Berlin (control)	Berlin	

RECOMMENDATION E.58

INTERNATIONAL TELEVISION TRANSMISSIONS

*(Former Recommendation No. 49bis of Volume Ibis of the C.C.I.F. Green Book, page 132.
Recommendation unchanged)*

The C.C.I.T.T.,

CONSIDERING

that, in the present state of development of the television network in Europe, the national circuits which are used for the transmission of international television programmes are owned in most cases by the Administrations *, but in others by the national Television Organizations;

that the television circuits may also be used for both national and international transmissions;

that, on the contrary, the international programme circuits and telephone circuits associated with the television circuits, either for the transmission of the sound part of the programme or for control purposes, are owned by the Telecommunication Administrations * and are more liberally used than the vision circuits, and that the number of such circuits used in connection with a given television transmission may be substantial;

that, moreover, the extension of a sufficient number of such circuits to a point of origin of a transmission, remote from the international telephone terminal in the country of origin of the programme, may require special construction to be undertaken, particularly when there is also national television transmission of the event or a simultaneous national or international sound broadcast transmission of the event;

* or Recognized Private Operating Agencies.

that it is desirable in certain respects to distinguish between international television transmissions used by a single country only and those in which two or more countries participate;

that it is desirable to ensure that satisfactory arrangements are made for the preparation, setting-up, preliminary adjustment and operation of the complex network of television circuits, programme circuits and control circuits necessary for a given television transmission;

and hence that the closest co-operation is necessary between :

- the Television Organizations concerned in a television transmission, either as users or as owners of television links or both,
- and the Telecommunication Administration * concerned;

CONSIDERING, MOREOVER,

that the Television Organizations may agree to appoint a "Coordinating" Centre for a given international television transmission **,

UNANIMOUSLY RECOMMENDS

that the following conditions should be observed for international television transmissions :

SECTION I. — GENERAL AND DEFINITIONS

1.1. *Constitution of an international television link.*

1.1.1. In considering an international television transmission, it is necessary to distinguish between (see figure 1) :

- (a) the point to be regarded as that of the origin of the television transmission (Point A). This point is either the actual place of origin of the programme (a studio or an outside broadcast point) or a television modulation centre or the location of a standards converter;
- (b) the outgoing local end which connects point A to the first repeater station (Point B);
- (c) the *international* (long distance) *television line* (line BC) which, in principle, consists of a chain of national and international television transmission circuits, in which the national circuits are of the same quality as international circuits;

* or Recognized Private Operating Agency.

** The purpose of this centre is to :

- co-ordinate the requirements of the Television Organizations participating in the transmission in question,
- make all necessary enquiries as to the availability of television circuits,
- draw up the plan of the network of telephone circuits, programme circuits and television circuits, required for the transmission in question,
- ensure that the programme transmission proceeds normally once the television circuits are handed over to the Television Organization for the relay in question.

(d) the incoming local end which connects the last repeater station (Point C) to point D;

(e) point D, the point of destination of the television transmission. This point may be a television centre, a television transmitting station, a television modulation centre, or the location of a standards converter.

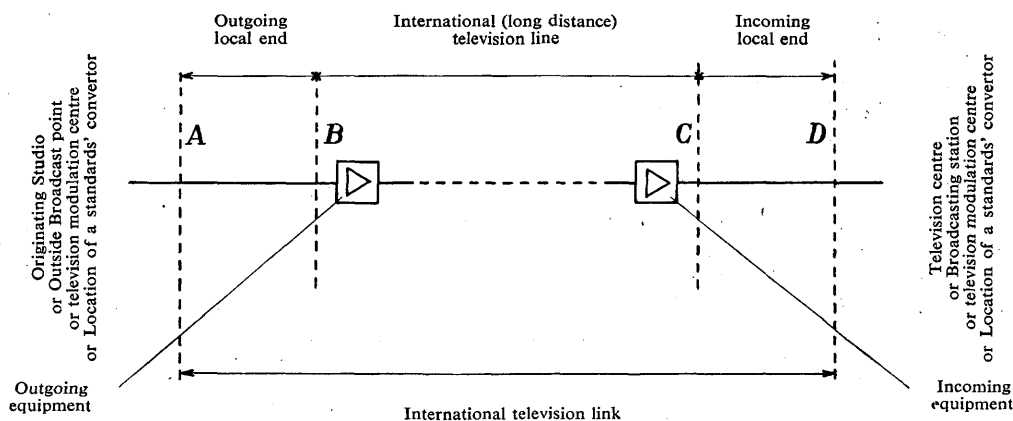


FIGURE 1. — *Diagram of an international television link*

1.1.2. The complete line between A and D, including the international (long distance) television line BC and the local ends (AB and CD) is the *international television link*.

1.1.3. Points A and D are, as a general rule, under the control of the originating and receiving television organizations*.

Points B and C are, in principle, under the control of the Telecommunication Administrations** of the corresponding countries.

In certain cases the exact location of point B and C may not be clearly evident. In such cases the point to be regarded as the end of the long distance line for a particular television transmission should be fixed by agreement between the Telecommunication Administrations** and the Broadcasting Organizations concerned.

The international (long distance) television line BC is, in practically every case, under the control of the Administrations,** but certain of its component parts (which may be national or international circuits) may be owned by Television Organizations.

The local ends may be under the control either of a Telecommunication Administration** or of a Television Organization, or of both jointly, according to the actual arrangements in the countries concerned.

* If a Telecommunication Administration takes responsibility for a standards converter, or for a television modulation centre or for a television broadcasting station, it is to be treated as a Television Organization for the purpose of this Recommendation.

** or Recognized Private Operating Agency(ies).

Note. — The term *long distance line* is used here in a very general sense, applying equally to metallic lines (in cables or wave guides) and to radio relay links.

1.2. *Categories into which television transmissions may fall.*

Distinction is made between the following categories of television transmissions :

- 1.2.1. Regular television transmissions, which are ordered once for all because they take place at regular intervals, at fixed times, over the same routes and between the same points.
- 1.2.2. Occasional television transmissions being all those which do not fall within the definition of regular transmissions.
- 1.2.3. Simple television transmissions which are transmissions between points in two different countries, the programme being originated in one country and broadcast either in the other only, or in both.
- 1.2.4. Duplex simple television transmissions, being transmissions between points in two different countries, the programme being originated at the same time in both countries and broadcast in both. So far as this Recommendation is concerned, these transmissions are treated as two separate simple television transmissions.
- 1.2.5. Multiple television transmissions, with one point of origin of programme only, being transmissions in which a programme originates in one country and is transmitted simultaneously to two or more other countries (in addition, as may be, to being broadcast in the country of origin).
- 1.2.6. Multiple television transmissions with several points of programme origination, in which the programme originates from different points either in one country or in different countries and is broadcast in two or more other countries (in addition, as may be, to being broadcast in the country of origin).

1.3. *Circuits used in a television transmission.*

The following different classes of circuit are used in each international television transmission :

- (a) *Television Circuit.* — A circuit, either in a cable or a radio relay link, which transmits the vision signal from one point to another.
- (b) *Programme Circuit.* — A special circuit for the transmission of the sound component of the television programme as dealt with in C.C.I.T.T. Recommendation E.57.
- (c) *Control Circuit.* — As defined in C.C.I.T.T. Recommendation E.57.

Note. — The Informatory Note at the end of this Recommendation indicates the different ways in which programme circuits and control circuits can be used by Television Organizations.

1.4. *Testing period and preparatory period.*

Distinction is made, for each international television transmission, between :

- (a) the *testing period* during which the Telecommunication Administrations* carry out the adjustment of the international television line before handing it over to the Television Organizations;
- (b) the *preparatory period* during which the Television Organizations carry out their own adjustments, tests and various operations before proceeding to the actual television transmission;
- (c) the *television transmission* itself.

SECTION II. — CONDITIONS OF ACCEPTANCE

- 2.1. Requests for the use of circuits for television transmissions must be addressed by the Television Organization or Organizations, to which the point or points for which the programme is destined belong (broadcasting station or studio of a Television Organization) to the "Controlling" Service of its (or their) country (or countries), this Controlling Service being the same as that designated for programme transmissions.

Requests for the use of circuits for television transmissions (television circuits, programme circuits and control circuits) must be made as soon as possible, and in any case at least four working days before the transmission, in order to allow the Telecommunication Administrations* concerned to take the necessary steps to organize the television transmission in question. Each request for circuits for a television transmission must be accompanied by an undertaking to pay the charges relating to the use of the circuits, as well as any special expenses which may be incurred. These requests will be met provided the general telephone service does not suffer and the prevailing conditions allow. If requests have not been made within the four working days mentioned, Television Organizations may not request a reduction in charges for an interruption or any other incident arising on the broadcast or television transmission circuit during the preparatory period or during actual transmission when it has not been possible to adjust and test the circuit with the necessary care, owing to insufficient time available.

2.2 *International transmissions with only one point of destination**.*

For each international television transmission *with only one point of destination* the responsible Organization should, after preliminary agreement with the Television Organization originating the programme, make a request to the Controlling Service of its country to place at its disposal the necessary :

* or Recognized Private Operating Agencies.

** This heading will be considered as covering the case in which there are several effective points of destination for the programme, all depending on the same television authority in a given country (several transmitting stations) fed from one or more junction points in this country. The point of destination of the programme will in this case be the first junction point encountered.

- television circuits,
- programme circuits,
- control circuits.

However, subject to agreement between the Telecommunication Administrations* concerned and to the receipt of a general notification to that effect by the Television Organizations concerned :

- in the case of a transmission between adjoining countries, each Television Organization may order the part of the television line in its own national territory from its own Administration*;
- in the case of a transmission with transit, the same procedure may be followed, but one or other of the Television Organizations (by prior agreement amongst themselves) should also order from the Controlling Service of its own Administration* the part of the television line in the transit country.

2.3. *Several points of destination of the programme.*

2.3.1. *General procedure.*

For international television transmissions serving programme destination points in several countries, the procedure is as follows :

The Television Organization which is to originate the programme sends to each of the Television Organizations concerned (participating organization), a list of the points of destination of the programme; each Television Organization forwards this list to the Controlling Service of its own country after having added to it any changes or additions it considers necessary. This list should include particulars of all the circuits required (television circuits, programme circuits and control circuits) and, as appropriate, of any reserve circuits which may be required.

Unless otherwise agreed upon, the Controlling Service of the country in which the programme originates is the overall Controlling Service for the transmission concerned.

This overall Controlling Service should inform each of the Controlling Services concerned, at the earliest possible moment, of the circuits to be used, together with particulars of the repeater stations (on cables or on radio relay links) with which the Television Organizations may communicate, if any unforeseen incident, which must be dealt with urgently, arises during transmission.

As soon as each Television Organization responsible for one or more points of destination of the programme receives the necessary information about the circuits for the use of which it will have to pay, it should send *without delay* to the Controlling Service of its own country a request for the use of these circuits.

To facilitate this procedure, it is desirable that the Television Organizations should study in advance the cases of multiple transmissions which are likely to occur frequently.

* or Recognized Private Operating Agency(ies).

2.3.2. *Procedure to be followed when there is a Coordinating Centre.*

When the Television Organizations agree to set up a Coordinating Centre for a given television transmission, the procedure should be as follows :

The Coordinating Centre, set up by the Television Organizations concerned, first finds out which Television Organizations intend to participate in the transmission. The Centre then finds out, by enquiry of the Telecommunication Administrations* and of the Television Organizations concerned whether the circuits required for the transmission are likely to be available on the date and at the time required. After having established all the details of the circuits to be ordered by each participating Organization, the Coordinating Centre publishes and distributes, as early as possible, and at least 14 days before the date of the transmission, to all the Television Organizations and Controlling Services concerned, a complete schedule of circuit requirements for the transmission.

During this phase of exchange of information, the Television Organizations are not placed under any obligation to pay for any expenses incurred, but the Telecommunication Administrations* are under no obligation to put in hand any of the special work which may be necessary when orders are received.

2.3.3. *Television circuits.*

At least 4 working days before the date of the transmission, each participating Television Organization should forward to the Controlling Service of its country a request for the use of the television circuits for which it will have to pay.

Any television transmission circuits required for use by one participating Television Organization only should be ordered by that Organization from its national Controlling Service.

Television transmission circuits which are required for the use of more than one participating Television Organization are ordered as follows :

Each of the Television Organizations concerned orders from its own Controlling Service the section of the international line(s) between :

- the point on the international (long distance) television line serving its participating broadcasting station which is furthest “downstream”, and
- the point “upstream” on the line serving the last participating station in the preceding participating country.

The participating country nearest to the country of origin orders the remaining section from the Controlling Service of the country of origin.

Where a bifurcation of the international television line occurs in a given transmission, the Television Organizations jointly served by the section of circuit prior to the point of bifurcation should agree amongst themselves which should order that section ; in such a case, therefore, one Television Organization should order the section between its participating station and

* or Recognized Private Operating Agencies.

the nearest participating station "upstream" in the preceding participating country, and each of the other Television Organizations should order the section between its participating station and the point of bifurcation.

When, by prior general notice to the Controlling Service of its country, a Television Organization which owns an international television circuit has announced its intention to charge for the use of the circuit for international transmissions, the Telecommunication Administration* receiving an order collects the appropriate charges and enters them in the international accounts. The creditor Administration* makes an appropriate settlement with the Television Organization which owns the circuit.

2.3.4. *Programme circuits.*

Requests for programme circuits should be made in accordance with procedure set out in C.C.I.T.T. Recommendation E.57.

2.3.5. *Control circuits.*

Control circuits should be ordered according to the same principles as for the television circuits and programme circuits with which they are associated.

As regards the number and setting up of the control circuits to be provided, the following directives should be observed :

2.3.5.1. *Control circuits associated with television circuits.*

2.3.5.1.1. *Simple television transmissions.* — At least one control circuit must be provided between points A and D of figure 1 for a simple television transmission, whether occasional or regular.

2.3.5.1.2. *Multiple television transmissions.* — (a) Multiple television transmissions in which there is only one point of origin : If the first point of bifurcation of the television circuits feeds a television transmitting station (or a switching centre or a telerecording centre) in the same town and participating in the multiple transmission, it is recommended that control circuits should be provided at least :

- between the point of origin of the pictures and the first point of bifurcation of the television transmission circuits,
- between this first point of bifurcation and the various television transmitting stations (or switching centres or telerecording centres).

Where this is not the case, it is recommended that control circuits should be provided, as far as possible, between the point of origin of the picture on the one

* or Recognized Private Operating Agency.

hand and the various television transmitting stations (or switching centres or telerecording centres) on the other.

In the two cases described above these control circuits should be prescribed not only during the preparatory period but also during the whole programme transmission.

(b) Multiple television transmissions with several points of origin : A preliminary study should be made between the Television Organizations and the Telecommunication Administrations* concerned in order to determine what control lines are necessary.

2.3.5.2. *Control circuits associated with programme circuits.*

The rules given in C.C.I.T.T. Recommendation E.57 are applicable.

2.3.5.3. *Note 1.* — In cases where a Coordinating Centre exists for the international exchange of television programmes, this Centre having been set up by agreement between the various Television Organizations concerned, the requirements for control circuits terminating at this Centre are determined by agreement between the Television Organizations and the Telecommunication Administrations.*

2.3.5.4. *Note 2.* — If the Television Organizations elect to dispense with :

- the control circuits, which normally must be associated with programme circuits,
- or with the control circuits which normally must be associated with television circuits,

these Organizations shall not be entitled to claim any reduction of charge on account of any fault or interruption occurring on the programme or television circuits either during the preparatory period or during the transmission of the programme proper, if such fault or interruption could not be quickly remedied because of the absence of the control circuits.

SECTION III. — CHARGING

3.1. The C.C.I.T.T.,

CONSIDERING

that the programme circuits and telephone circuits, used in connection with international transmissions of television programmes, are circuits which can also be used by users other than the Television Organizations;

* or Recognized Private Operating Agencies.

UNANIMOUSLY RECOMMENDS

that the use of such circuits in connection with the transmission of television programmes should be charged for as follows :

1. Programme circuits
 - in accordance with the rules set out in C.C.I.T.T. Recommendation E.57, subject to what follows herein as to rebates for faults and interruptions.
2. Control circuits
 - as for the use of ordinary telephone circuits, without surcharge.

* * *

3.2. The C.C.I.T.T.,

CONSIDERING

that the provision of television circuits for international television transmissions involves the Telecommunication Administrations * in the construction of special and costly plant set aside for the purpose;

that the studies of net costs of international television circuits carried out in 1955/1956, took into account the costs of lines and of terminal stations;

that the costs of television lines on radio-relay links and in coaxial cables are sufficiently close to enable one amount to be used for either type of circuit;

that the amounts of net cost resulting from the studies in 1955/1956 were based on the hypothesis of an average use of international television circuits corresponding to an exchange of programmes (in both directions of transmission) between the two centres served by a circuit, of 500 hours per annum;

that this hypothetical duration of use is very much greater than the use actually made of television circuits in 1956 (almost double);

that, nevertheless, it is desired to give the maximum encouragement to the development of international television exchanges by keeping the charges for them as low as possible;

UNANIMOUSLY RECOMMENDS

that the use of international television circuits should be subject to the charging rules which follow;

that the charge for 3 minutes use of an international television circuit, given below (being a charge somewhat less than the net cost on the basis of 500 hours use per annum), could be revised when the use of television circuits increases substantially above an average of 600 hours use per annum for programme exchanges in both directions of transmission between two centres.

* or Recognized Private Operating Agencies.

CHARGING RULES

The use of international television circuits is subject to a charge and a surcharge.

- 3.2.1. The charge for each three minutes of use of such a circuit is 20 gold francs per 100 km. of television line (crow-flight) *. For each minute, or fraction of a minute, after the first 3 minutes of use, the charge is one third of the above charge.

In determining the distances, the *international television circuit itself* only should be taken into account, any extension of the circuit which may be necessary in setting up an international television link being excluded. The distances should be taken as :

- in the case of the *terminal charge*, the crow-flight distance between the point of origin fixed for the circuit ** and the point where the circuit crosses the frontier. (In order to take better account of the cost actually incurred with a radio-relay link, the point *mid-way* between the two stations on either side of the frontier may be used, instead of the actual point of crossing of the section of the link straddling the frontier);
- in the case of the *transit charge*, the crow-flight distance between the points of crossing of the frontiers by the international circuit. (As in the case of the terminal charge, the point of crossing of the frontier by a radio-relay link can be taken as the mid-point between the two stations situated on either side of the frontier.)

Crow-flight distances should be rounded-up as follows :

- each fraction less than 50 km. is rounded-up to 50 km. maximum,
- each fraction between 50 and 100 km. is rounded-up to 100 km. maximum.

When the actual route of an international circuit is very much greater than the crow-flight distance as defined above, the country concerned may increase the charge (terminal or transit) which it makes, by an appropriate factor.

- 3.2.2. A *surcharge* is collected for each television transmission corresponding to 30 minutes use of each television circuit actually used in the transmission in question. The surcharge is made to take account of the costs incurred in setting up, testing and regulating the international television link, as well as of the supplementary expenses for personnel and material arising from the exchange of telegraph and telephone orders for the preparation, setting up and testing of the link. This surcharge is shared between the Telecom-

* This figure takes into account the costs relating to two terminal stations.

** The Administrations concerned should fix by mutual agreement the points at which each international television circuit begins and ends.

munication Administrations* concerned on the same basis as the charge for the television transmission itself.

The surcharge is due if, for reasons not within the responsibility of the Telecommunication Administrations*, the Television Organization which ordered the circuit requests the Controlling Service from which it ordered the circuit to cancel the television transmission in question at less than 12 hours notice before the transmission is due to start.

The surcharge is not payable if the television transmission does not take place for reasons within the control of the Telecommunication Administrations*.

- 3.2.3. In addition, any *special expenses* which may be incurred by a Telecommunication Administration* in extending international television circuits from the international terminal, are also payable.

3.3. *Calculation of charges.*

- 3.3.1. The charges (charge and surcharge) relative to the use of the television circuits in a transmission are debited to the Television Organizations according to their undertaking to pay for the circuits in question on ordering them. They are due for the whole period during which the international telephone line is placed at the disposal of the Television Organizations concerned; the period of preparation before the start of the transmission proper is included in the period.

- 3.3.2. The supervision of an international television transmission is effected by a repeater station designated by the Telecommunication Administration*. When a television circuit is owned by a Television Organization, this station is designated by that Organization.

The technical officers of the designated repeater stations should come to an arrangement between themselves so as accurately to fix at the end of the television transmission :

- (a) the time of handing over the television line to the Television Organization (beginning of chargeable duration);
- (b) the time at which the television line is released by the Television Organization (end of chargeable duration);
- (c) where appropriate, the times and durations of every interruption or incident which may have occurred (in order to determine whether a rebate is due, and if so, its amount).

The times of the beginning and of the end of the chargeable duration, as well as the time of occurrence and duration of any breakdowns which may occur, are entered on a daily report.

This daily report is sent on the same day to the service responsible for coordinating all the details necessary for the establishment of the international accounts.

* or Recognized Private Operating Agency(ies).

3.3.3. The amount of any special expenses incurred by the Telecommunication Administration* in the country of origin of the programme should be notified by that Administration* by telegram to the Controlling Service of the participating Television Organization which has ordered the long-distance line or the local ends. The Controlling Service concerned should inform the Television Organization of its country of the amount of special expenses payable and should pass the appropriate credits to the Telecommunication Administration* of the country of origin of the programme through the international accounts.

3.3.4. *Interruptions. — Rebates.*

If during the course of an international television transmission a fault or interruption, even of short duration, occurs :

- whether on the television link as a whole,
- or in a section of that link,
- or on one or more of the programme circuits associated with the television transmission circuits,

it is necessary to consider to what extent the value of the relay has been reduced to the Television Organization or Organizations affected by the fault or interruption.

Telecommunication Administrations* should adopt, provisionally, the following principles in dealing with faults or interruptions.

In general, if a Television Organization continues to broadcast or to record the transmission received either over the television line or over a programme circuit, the charges in respect of all circuits of which it makes use remain payable in full. If, however, as a result of a fault or interruption on the television circuit, broadcast of the relay is necessarily discontinued by one or more participating Television Organizations, a rebate in respect of any sections of the television and programme circuits which served that Television Organization (or those Television Organizations) exclusively may be allowed on request from the Organization(s). Any sections of international television and programme lines used by any television station which continues to broadcast the received transmission remain payable in full. Similarly, if in such circumstances broadcasting of either the television or the sound programme (but not both) is necessarily discontinued by a participating Television Organization, a rebate in respect of the sections of either the international television lines, or of the programme circuits concerned (but not both) may be made on a request being received.

It will be for the Telecommunication Administration* of the country of the receiving Television Organization to assess the validity of any claim for rebate; and to assess the rebate to be made, where necessary, in consultation with the other Telecommunication Administrations* concerned. In the event of disagreement, the opinion of the former Administration* should prevail over that of the other Administrations* concerned. It goes without

* or Recognized Private Operating Agency(ies).

saying that such a reduction should be applied only if the interruption or incident has been caused through service reasons or a case of force majeure (see, in particular, the remarks under 2.1 and 2.3.5.4.).

ANNEX

INFORMATORY NOTE

Extract from the list of terms adopted by the European Broadcasting Union (E.B.U.) for international television transmissions

1. *Vision Circuit.*

A cable or radio link which carries the vision signal from one point to another.

2. *Sound circuit.*

A circuit, preferably of music quality, which carries the programme sound, or a component part of this, from one point to another.

Special cases of such circuits are :

2.1. *Effects circuit* — a circuit carrying exclusively the ambient sounds of a programme;

2.2. *Commentary circuit* — a circuit carrying a commentary (without ambient sounds);

2.3. *Complete programme circuit* — a circuit carrying mixed effects and commentary.

3. *Control circuit.*

A point-to-point speech circuit associated with a vision circuit or with a sound circuit.

Special cases of such circuits are :

3.1. *Vision Control Circuit,*

3.2. *Effects Control Circuit,*

3.3. *Commentary Control Circuit,*

3.4. *Complete Programme Control Circuit.*

4. *Guide Circuit.*

A speech circuit carrying information from the source of the programme for the benefit of commentators who cannot themselves be at the source.

10. *Types of programmes.*

10.1 *Unilateral Programme* — a programme, not broadcast in the country of origin, which is fed to one or more other countries, for broadcasting or recording.

10.2 *Bilateral Programme* — a programme, broadcast in the country of origin, which is at the same time fed to another country, for broadcasting or recording.

10.3 *Multilateral Programme* — a programme, broadcast in the country of origin, which is at the same time fed to two or more countries for broadcasting or recording.

Note. — Any programme may consist of contributions taken successively from a number of different countries.

RECOMMENDATION E.59

RATES FOR PHOTOTELEGRAMS AND PRIVATE PHOTOTELEGRAPH CALLS*

(Former Recommendation No. 51 in Vol. VI of C.C.I.F. Green Book, page 112,
modified in 1958)

1. A costing study of phototelegraph calls and phototelegram transmissions was carried out by the C.C.I.T.T. Sub-Group 2/3 in 1958. The results are published in Volume II of the *Red Book* on page 369.
2. These results have been taken as a basis for the establishment of rates close to the cost price, assuming that subsequent development of the phototelegraph service would result in better operational conditions and, hence, in reductions in the duration of occupation of telephone circuits.
3. As phototelegraph apparatus in service may have different cylinder diameters, the dimensions of the phototelegram received may not be the same as the original; they may be reduced or increased in the same ratio. The surface area of the original phototelegram can therefore no longer be taken as a basis for phototelegram charges. It is the duration of the phototelegram transmission which really matters for calculating the duration of occupation of phototelegraph apparatus. This duration depends simply on one of the dimensions, namely the one in the same sense as the axis of the cylinder (so long as the other dimension is not greater than the operational length of the circumference of the cylinder). It is this dimension along the axis of the cylinder which is the *chargeable length*; its influence on charging depends on its relation to the diameter of the cylinder of the outgoing apparatus.
4. By considering normal size to be a picture with a chargeable length twice the diameter of the transmitting drum and whose other dimension would correspond to the circumference of the drum under consideration (e.g. a picture of 13 cm \times 18 cm for a drum of $D = 66$ m/m), the variable part of the charge corresponding to the duration of the call (including preparation and handing back of the circuit to the telephone service) would be based on $5y$, y being the unit telephone call in the relation under consideration.

In the case of phototelegrams of a chargeable length less or more than twice the diameter D of the transmitting drum, the variable part of the charge would vary as follows :

for a chargeable length of	charge corresponding to
1.5 D	4 y
2.5 D	6 y
3 D	7 y

5. For the fixed part, 56 gold francs correspond to the cost price. This fixed share should be equally divided between the two terminal Administrations** in the case of an exchange of phototelegrams between public stations.

* This text is published also as Recommendation F.83 in the series F (telegraph operation) of C.C.I.T.T. Recommendations.

** or Recognized Private Operating Agencies.

6. For phototelegram transmission between a public station and a private station, one half of the fixed part would be collected by the public station as a surcharge for its intervention.
7. With regard to the service between private stations, a surcharge of 4 minutes for the preparation of the call and the handing back of the circuit to the telephone service is justified.
8. The same charging procedure would be applied to service between a private station and a public station; the fixed surcharge for the part played by the public station would be collected on behalf of the public station.
9. Summing up, the rates for phototelegrams and phototelegraph transmissions between private stations, *if to be based on mean costs*, could be established as follows :

I. *Phototelegrams exchanged between public stations*

Scale of rates	Chargeable length of phototelegram	Total charge (in gold francs)	
1st step	1.5 D or less	56+4y	<i>Note : increased by 1y per step for each extra ½ D</i>
2nd "	over 1.5 D up to 2 D	56+5y	
3rd "	over 2 D up to 2.5 D	56+6y	
4th "	over 2.5 D up to 3 D	56+7y	

II. *Phototelegrams transmitted from a public station to a private station*

Scale of rates	Chargeable length of phototelegram	Total charge (in gold francs)	
1st step	1.5 D or less	28+4y	(same remarks as in I above)
2nd "	over 1.5 D up to 2 D	28+5y	
3rd "	over 2 D up to 2.5 D	28+6y	
4th "	over 2.5 D up to 3 D	28+7y	

III. *Phototelegrams transmitted from private station to public station*

$$(C + 4) \frac{y}{3} + 28 \text{ gold francs per phototelegram,}$$

(C being the duration in minutes of a connection between the two stations).

IV. *Phototelegraphic transmission between private stations*

$$(C + 4) \frac{y}{3}$$

10. However, the C.C.I.T.T. observed that application of these rates would lead to higher charges than at present, such that there would be a sharp reduction in phototelegrams. It feels able to recommend only a reasonable increase.

In view of the foregoing, the C.C.I.T.T.

UNANIMOUSLY DECLARES THE VIEW :

- (a) that phototelegrams transmitted by a public station, either to another public station or to a private station, should be charged for according to the same principle, i.e. a fixed tariff, with various charging steps;
- (b) that phototelegrams transmitted by a private station to a public station should be charged for in the same way as phototelegraph calls between private stations, i.e. the charge varying according to the use of telephone circuits for phototelegraph transmissions, and to the charging period (period of heavy or light traffic).

However, in the service between public station and private station, the Administration* responsible for the public station receives a surcharge for intervention by the public station.

Phototelegraph calls booked by a public station

- (c) The rates for phototelegrams between public stations, with the exception of charges for special services and the shares of charges accruing to Administrations*, should be calculated in accordance with the following table :

Scale of rates	Dimensions of phototelegram				Total charge in gold francs (to be levied at outgoing end)	Share accruing to		
	1st side for the following drum diameters			2nd side (chargeable length)		outgoing Admn. *	transit Admn. *	incoming Admn. *
	66 mm	70 mm	88 mm					
1st step				1.5D or less	20+4y	10+4a	4b	10+4a
2nd step	≤ 18 cm	≤ 20 cm	≤ 24 cm	over 1.5D up to 2D	20+5y	10+5a	5b	10+5a
3rd step				over 2D up to 2.5D	20+6y	10+6a	6b	10+6a
increased by y per step for each extra 0.5D (D = diameter of the drum of the sending phototelegraph apparatus)								

* or Recognized Private Operating Agency(ies).

- (d) The rates for phototelegram transmitted by a public station to a private station, and the shares of charges accruing to Administrations * should be calculated in accordance with the following table :

Scale of rates	Dimensions of phototelegram				Total charge in gold francs (to be levied at outgoing end)	Share accruing to		
	1st side for the following drum diameters			2nd side (chargeable length)		outgoing Admn. *	transit Admn. *	incoming Admn. *
	66 mm	70 mm	88 mm					
1st step				1.5D or less	10+4y	10+4a	4b	4a
2nd step	≤ 18 cm	≤ 22 cm	≤ 24 cm	over 1.5D up to 2D	10+5y	10+5a	5b	5a
3rd step				over 2D up to 2.5D	10+6y	10+6a	6b	6a
increased by y per step for each extra 0.5 D (D = diameter of the drum of the sending phototelegraph apparatus)								

- (e) The lengths of phototelegrams are measured in centimetres, a fraction of a centimetre being reckoned as a full centimetre;
- (f) For divided phototelegrams, the charge is calculated separately for each part.
- (g) For an=Urgent=phototelegram, the charge shall be doubled.

Phototelegraph calls booked by a private station

- (h) The charge for a phototelegram transmitted by a private station to a public station, or vice versa at the request of the private station, and the shares accruing to Administrations * should be calculated as follows :

Charge	in gold francs	Share accruing to the		
		Admn. * of the country of the private station	transit Admn.*	Admn. * of the country of the public station
Total	$10+(C+4)\frac{y}{3}$			
to be collected on behalf of the private station	$(C+4)\frac{y}{3}$	$(C+4)\frac{a}{3}$	$(C+4)\frac{b}{3}$	$10+(C+4)\frac{a}{3}$
to be collected on behalf of the public station	10			

* or Recognized Private Operating Agencies.

- (i) Charges for phototelegraph calls between private stations, and the shares accruing to Administrations * are calculated in accordance with the following table :

Total charge (in gold francs) to be collected at the outgoing end	Share accruing to the		
	outgoing Admn. *	transit Admn. *	incoming Admn. *
$(C+4) \frac{y}{3}$	$(C+4) \frac{a}{3}$	$(C+4) \frac{b}{3}$	$(C+4) \frac{a}{3}$

- (j) If a private station books an =Urgent= or =Lightning= phototelegraph call, the rates for the corresponding unit telephone call should be applied.
- (k) In relations where reversed-charge phototelegraph calls are allowed, the rules governing such calls should be agreed upon by the Administrations * concerned.

Special services

- (l) The dimensions of phototelegrams for the special services allowed for phototelegrams exchanged between public stations and phototelegrams transmitted by private stations to public stations are governed by the provisions of Recommendation F.80.
- (m) For multiple phototelegrams transmitted by a private station to a public station, the surcharge for intervention by a public station (the table under section (h) above) should be divided equally between the addressees.

Note: In the tables shown above

y is the charge (in gold francs) for a unit telephone call for the circuit used for the phototelegraph transmission,

a and b are the shares of the charge y accruing to the terminal and transit Administrations *,

C is the duration (in minutes) counted from the moment the two stations are connected together until the moment the calling station announces the end of the call.

* or Recognized Private Operating Agencies.

RECOMMENDATION E.60

**LEASE OF INTERNATIONAL COMMUNICATION CHANNELS
FOR PRIVATE SERVICE**

*(Former Recommendation No. 21 of Volume Ibis of the C.C.I.F. Green Book, page 104.
Recommendation unchanged)*

I. — *Conditions of acceptance*

Administrations* who permit the full-time leasing of international telephone communication channels should be guided by the following principles:

1. An international telephone communication channel in a given service will be leased only if the number of circuits in the service makes this feasible.
2. The leasing of an international telephone communication channel having been agreed, the connection will be established once for all in such a way that the telephone exchanges no longer have to intervene, but the technical arrangements should be such that the operating personnel are able (by means of appropriate switching made at their request) to effect control of the calls exchanged over the leased circuit.

The stations connected in this way should in no circumstances be stations normally available to the public.

The calls exchanged must be concerned exclusively with the personal affairs of the subscribers or those of their firms. The line may in no way be made available to third parties.

It is desirable that the leased circuits should terminate at the subscribers' premises at installations which prevent these circuits being used under conditions other than those authorized.

3. In principle, the lease should be for a minimum of one month; however, by agreement between Administrations* concerned, the lease may be for a period of less than one month. The lease is renewable month by month by implication, the notice of cancellation on either side to be given two weeks before the end of the current period of lease.
4. Administrations* reserve the right to take back the leased communication channel if it is in the interests of the general service to do so, the appropriate notice being given as mentioned in § 3.
5. The rental is payable monthly in advance.
6. In the case of interruption due to a fault of the telephone service, the Administration* of origin grants a rebate at the request of the renter. The rebate is calculated in accordance with the provisions of Part II (Charging) below.

II. — *Charging*

Arrangements made for charging take into account that :

- (a) the leasing of an international telephone communication channel is a great advantage for the renters;

* or Recognized Private Operating Agency(ies).

- (b) the operating personnel of the Administrations * do not have to assist in the establishment of calls.

The arrangements are as follows :

1. The rental for an international telephone communication channel should correspond to 6,000 minutes of ordinary conversation, during the period of heavy traffic, on the service concerned, per month.
2. For the collection and settlement of the amounts due in respect of rentals for leased circuits, several methods may be adopted, and in particular one or other of the following two methods :
 - (a) The Administration * of the country of residence of the subscriber who ordered the leased circuit collects the rental due and enters the amount in the international accounts;
 - (b) the Administration * of one of the terminal countries collects from the subscriber in its country the rental due for the section of the leased circuit in its own territory ; the Administration * of the other terminal country collects the balance of the rental and remunerates, when appropriate, the transit countries.
3. In the case of a lease for a period of 10 days or less, the rental should be 80 units per day, or 240 ordinary call minutes in the service concerned in the period of heavy traffic, per day of lease, plus a surcharge corresponding to 10 units or 30 ordinary call minutes in the period of heavy traffic, irrespective of the duration of leasing (thus, the charge for 3 days would be for $3 \times 240 + 30 = 750$ minutes).
4. In the case of a lease for periods exceeding 10 days and up to 25 days, the charge should be 80 units per day, or 240 minutes of ordinary conversation in the service concerned in the period of heavy traffic, per day of lease, no surcharge being collected in this case (thus, for 11 days, the charge to be applied would be $11 \times 240 = 2640$ minutes).
5. In the case where the lease is extended beyond the 25th day up to the end of the month, the charges will be fixed uniformly at 2,000 units, or 6,000 ordinary conversation minutes in the service concerned in the period of heavy traffic.
6. In the case of lease for a period exceeding one month, the charge for the first month should be that indicated above and the charge for each additional day should be 200 ordinary conversation minutes in the service concerned in the period of heavy traffic.
7. If an interruption occurs for which the telephone service is responsible, a rebate should be granted only if the telephone service has been completely interrupted for a continuous period of 3 hours or more. The maximum rebate allowable should not exceed one or other of the two following limits :
 - 40 minutes of ordinary conversation for each continuous period of interruption of 3 hours duration,

* or Recognized Private Operating Agency(ies).

- 200 minutes of ordinary conversation per day for a continuous interruption of 24 hours in the case of leases over 25 days (240 minutes use per day in the case of leases of 25 days or less).
- 8. Requests for reimbursement of the charges for the use of public telecommunication services—telephone or telegraph—incurred during the period of interruption should not, in any circumstances, be met.

RECOMMENDATION E.61

SIMULTANEOUS USE OF LEASED TELEPHONE CIRCUITS FOR TELEGRAPHY AND TELEPHONY *

*(Former Recommendation No. 21bis of Volume VI of the C.C.I.F. Green Book, page 63.
Recommendation unchanged)*

The C.C.I.T.T.,

CONSIDERING

- (a) that Recommendation B.19 of the International Telegraph Consultative Committee refers only to the case where the leased telephone circuit is used for *alternate* telegraphy and telephony;
- (b) that the use of simultaneous telegraphy and telephony over a leased telephone circuit can give rise to significant disturbances if technical precautions, which are difficult to arrange, are not taken;
- (c) that the tariff for the lease of a telephone circuit used in this manner necessitates a more extensive study by the competent Study Groups of the C.C.I.T.T.,

UNANIMOUSLY RECOMMENDS

- 1. that it is not desirable in present circumstances to permit the use of leased telephone circuits for *simultaneous* telegraphy and telephony;
- 2. that it is not desirable to permit the user of a leased telephone circuit to employ this for the purpose of establishing several telegraph circuits for simultaneous use;
- 3. that if, exceptionally, authorization were given for the uses envisaged in §§ 1 and 2 above, the rental should not be lower than the sum of the rentals for the various channels of communication considered separately;
- 4. that for such exceptional use, the technical arrangements should ensure that no disturbance is caused to the telegraph and telephone services.

* This text is published also as Recommendation No. 74 in the series F (telegraph operation) of C.C.I.T.T. Recommendations.

RECOMMENDATION E.62
UTILISATION, BY PUBLIC SERVICES,
OF INTERNATIONAL TELEPHONE CONNECTIONS WHICH ARE
THEIR PROPERTY

*(Former Recommendation No. 23 of Volume VI of the C.C.I.F. Green Book, page 65.
Recommendation unchanged)*

(This Recommendation applies to international telephone connections set up by undertakings for the generation and distribution of electric power and to international telephone connections set up on railway property, provided that these telephone connections are constructed and operated by the public services concerned.)

The C.C.I.T.T.,

CONSIDERING

that private international telephone connections can be indispensable to certain public services (the term "public service" includes not only state services but also organizations providing services of general interest, such as those generating and distributing electric power, etc.);

that, nevertheless, these international telephone connections permit the exchange of conversations outside the general public telephone service, which constitutes a certain privilege;

that, in consequence, this justifies some control of the use made of these circuits and also requests for compensation,

UNANIMOUSLY RECOMMENDS

that Administrations* which authorize the establishment and use of private international telephone connections for a public service (connections set up and operated by the public service) should be guided by the following principles :

1. The use of private international telephone connections should be made the subject of an agreement between the proprietors of the different sections of the connections for the one part, and between the Administrations* of the countries over the territories of which the sections are constructed, for the other part.
2. The public services authorized to use these private international telephone connections should agree to exchange over them only messages relating exclusively to their business and never to permit them to be used by third parties.
3. Technical limitations (regulations relating to the installations, authorized types of apparatus) should be imposed in order to prevent such international telephone connections obtaining access (directly or indirectly) to the lines and circuits of the general telephone network.

* or Recognized Private Operating Agencies.

4. The Administrations* concerned reserve the right to exercise, by any suitable means, all technical or other controls which they consider to be useful.
5. The Administrations* concerned always reserve the right to withdraw the authority to use such connections if abuses occur or if a superior interest justifies it.
6. In order to compensate Administrations* to some extent for the loss of revenue resulting from the privilege granted to the users of such private international telephone connections, the Administrations* concerned will charge a minimum annuity of 12 gold francs per kilometer of circuit used on their own territory, the payment of this annuity falling upon the proprietors of the circuits used. Each Administration* will itself determine the length of the circuits to be taken into consideration, taking account of the point where the circuit crosses the frontier and the point or points from which the circuit(s) can be used.

Note. — In the event of a case occurring of a group of circuits constituting a veritable telephone network over an extensive territory, to meet the needs of a particular public service, it is desirable that this service should send to all the Administrations* concerned a plan of the network showing the various centres of activity of this public service and the telephone switching centres.

RECOMMENDATION E.63

DIMINISHING TARIFF

*(Former Recommendation No. 42 of Volume VI of the C.C.I.F. Green Book, page 93.
Recommendation unchanged)*

The C.C.I.T.T.,

CONSIDERING

that a diminishing tariff would complicate the calculation of international charges and the establishment of international accounts;

that it would entail technical complications in the case of an automatic trunk service;

that such a tariff would benefit only a minority of users;

that, for the user, the service rendered after the first minutes has the same value as that rendered during these first minutes;

that, according to the calculation of net costs, the reduction in charge which could be considered after the first minutes could not, in any case, be very large;

UNANIMOUSLY RECOMMENDS

that, in the international telephone service it is not desirable to apply a diminishing tariff based on the duration of the telephone call.

* or Recognized Private Operating Agency(ies).

RECOMMENDATION E.64

DEFERRED TELEPHONE CALLS

*(Former Recommendation No. 16 of Volume VI of the C.C.I.F. Green Book, page 48.
Recommendation unchanged)*

The C.C.I.T.T.,

CONSIDERING

that deferred calls would be prejudicial to the general evolution of the international telephone service in which the aim is constantly to reduce delays;

that deferred calls would be a source of disappointment to the subscriber due to the uncertainty of the time at which the call would be set up;

that these calls would be a source of difficulties for the operating services because of the increase in service conversations which would result therefrom;

that it is not desirable to create a new class of calls and complicate the calculation of charges and the preparation of accounts;

UNANIMOUSLY RECOMMENDS

that it is not desirable to introduce a new class of calls at a reduced rate, called "deferred calls", in the international telephone service.

RECOMMENDATION E.65

CHARGE FOR CALLS FROM OR TO A PUBLIC CALL OFFICE

*(Former Recommendation No. 46 of Volume VI of the C.C.I.F. Green Book, page 95.
Recommendation unchanged)*

The C.C.I.T.T.,

CONSIDERING

that the "amount of the unit charge shall be fixed on the basis of the gold franc by agreement between the Administrations * concerned" (RTf, Article 26, § 2);

that the establishment of an ordinary call from or to a public call office entails special expenses, but that these special expenses are negligible in comparison with the other costs involved in the establishment of an international call,

UNANIMOUSLY RECOMMENDS

that it is preferable not to collect a supplementary charge for the use of a public call office for an international call, but that, notwithstanding, the Administrations *

* or Recognized Private Operating Agencies.

which collect a supplementary charge in their internal services, may apply such a supplementary charge to international calls; it being understood that this supplementary charge is not included in the international accounts.

RECOMMENDATION E.66

CHARGES FOR PRESS CALLS

*(Former Recommendation No. 47 of Volume VI of the C.C.I.F. Green Book, page 96.
Recommendation unchanged)*

The C.C.I.T.T.,

CONSIDERING

on the one hand, that international telephone charges are at present fixed in very close relation to net costs and that any reduction in favour of certain classes of users would lead Administrations* to increase the general tariff;

on the other hand, that as telephonists are unable to follow the conversation exchanged by correspondents, Administrations* are not in a position to establish charges varying according to the subject of the conversation and that, as regards conversations between newspaper correspondents and their newspapers, it would not be possible to know whether copy intended for publication or conversation of a different nature was concerned,

UNANIMOUSLY RECOMMENDS

that there is no reason for granting a reduction in international telephone charges in favour of Press calls.

RECOMMENDATION E.67

STANDARDIZATION OF THE HOURS OF LIGHT TRAFFIC FOR THE PURPOSE OF APPLICATION OF CHARGES

*(Former Recommendation No. 54 of Volume VI of the C.C.I.F. Green Book, page 116.
Recommendation unchanged)*

The C.C.I.T.T.,

UNANIMOUSLY RECOMMENDS

1. that the hours adopted by all Administrations* as limits between periods of heavy traffic and periods of light traffic should be uniform;
2. that the times uniformly adopted for these limits should be 7 p.m. and 8 a.m. (legal time in the country of origin).

* or Recognized Private Operating Agencies.

RECOMMENDATION E.68

CHARGES FOR CALLS CARRIED BY EMERGENCY ROUTES

(Former Recommendation No. 11 of Volume VI of the C.C.I.F. Green Book, page 33.
Wording of Recommendation revised in 1958)

1. The call charges for conversations exchanged over emergency routes are the same as for use of the normal route.
2. Calls exchanged over emergency routes always enter into the international accounts for their full chargeable duration.
3. When an emergency route is used, the total charge for the normal route (between first charging zones of the terminal countries) is divided equally between the various Administrations* concerned in the emergency route under consideration; that is to say that all these Administrations* receive an equal part, whatever the nature or the length of the conductors used. (When the network of destination is beyond the first charging zone, the outgoing country should carry into the account for the incoming country a portion of the charge equal to the difference between that appropriate to the situation of the network of destination and the charge for the first zone). In order to permit the application of this procedure in the case of a call involving an international transit exchange, it is necessary for the operator at the transit exchange to indicate each time to the operator at the outgoing international exchange, the emergency route used.

Examples:

Service *Netherlands-France*. — Emergency route : Amsterdam-Zürich (passing through Belgium and France) and Zürich-Paris.

Total charge for the normal route (between first zones) : 2.60 gold francs.

Division when the emergency route is used : Netherlands, Belgium, Switzerland, France :

$$\text{each } \frac{2.60}{4} = 0.65 \text{ gold franc}$$

Service *Belgium - Great Britain*. — Emergency route : Brussels-Amsterdam-London.

Total charge for the normal route (between first zones) : 3.00 gold francs.

Division when the emergency route is used : Belgium, Netherlands, Great Britain :

$$\text{each } \frac{3.00}{3} = 1.00 \text{ gold franc}$$

4. When it is necessary to use a land emergency route, because of the interruption of the normal land (or submarine) route providing an extension of a radiotelephone service, the global charge relative to the land (or submarine) route between the radiotelephone station and the terminal exchange is divided in conformity with the rules outlined above in § 3.

* or Recognized Private Operating Agencies.

RECOMMENDATION E.69

MINIMUM REMUNERATION FOR A TRANSIT COUNTRY

*(Former Recommendation No. 48 of Volume VI of the C.C.I.F. Green Book, page 96.
Wording of Recommendation revised in 1958)*

Terminal Administrations* should have a considerable measure of freedom to ask transit Administrations* to put circuits at their disposal. The transit Administrations* should be able to satisfy demands for direct circuits without being deterred by the fear that the traffic passed over these circuits would not provide them with sufficient revenue to meet the costs of setting-up and maintaining the circuits accordingly :

1. It should be agreed that an Administration* which is asked to provide a circuit for transit traffic should have the right to ask in return for the guarantee of a minimum revenue.
2. This method should be used in preference to that of the guaranteed rental without, however, excluding it.
3. The Administrations* concerned should be left to fix this minimum by direct negotiations among themselves. A reduction should be made in the event of interruptions of the circuit in the transit country for any interruption lasting 24 consecutive hours.

The bases of calculation adopted in Recommendation E.51 for the establishment of costs for calls over carrier systems leave an adequate percentage reserve for telephone channels actually used.

There is thus no necessity for special remuneration of one or more transit countries when, during the period of progressive utilisation of the circuits of a direct 12-channel group, some of the 12 channels in the group are not yet being used.

RECOMMENDATION E.70

MONTHLY TELEPHONE ACCOUNTS

*(Former Recommendation No. 59 of Volume VI of the C.C.I.F. Green Book, page 118.
Recommendation modified)*

The C.C.I.T.T.

RECOMMENDS

the following arrangements for drawing-up, interchange and acceptance of monthly accounts between telephone Administrations* :

1. The monthly accounts are drawn-up in accordance with a form of the type shown on the next page.

This form is considered to be sufficiently detailed to allow the incoming country to make a comparison, if necessary, between its observations of incoming traffic,

* or Recognized Private Operating Agency(ies).

and data collected by the outgoing international exchange over a certain period. This form may be useful for drawing-up statistics relating to international telephone traffic, as well as for the accounting services.

SPECIMEN FORM FOR DRAWING-UP MONTHLY INTERNATIONAL ACCOUNTS

TELEPHONE ACCOUNT

Service

Month

Charge zones	Categories of calls	Number			Credits of Administration *		Credits of Administration *	
		of calls of each category	of minutes of chargeable conversation	of corresponding charge units	Quota	Total	Quota	Total

(See the Explanatory Notes relating to this form for drawing-up accounts on page 160.)

2. Monthly accounts relating to :
 - (a) telephone traffic proper
 - (b) programme, television and phototelegraphy transmissions
 are drawn up on separate forms, namely :
 - Form No. 1 for telephone traffic proper
 - Form No. 2 for programme, television and phototelegraphy transmissions.
3. Monthly accounts can be accepted by the Administrations* of the various countries concerned without formal notice of their acceptance being necessary. The Administrations* concerned obviously have the right to question an account, which should be done within two months from the date of receipt. Their observations in this connection should be sent to the Administration* which has sent the account, as soon as possible after receipt. Agreed adjustments are included in a subsequent monthly account.

Monthly accounts are sent by the Administration* responsible for their preparation direct to each of the other Administrations* concerned.
4. The limits given in No. 229 of the Telephone Regulations for discrepancies considered to be negligible in the adjustment of accounts will separately apply to accounts on Forms Nos. 1 and 2.
5. Data relating to Form No. 1 can be subjected to sampling checks if the incoming Administration* considers it desirable.

These traffic samples will be taken as follows :

On a given day, the incoming Administration* has observations made of a number of conversations chosen at random. For each of these is determined the

* or Recognized Private Operating Agency(ies).

route concerned, the time, the called subscriber's number, and on occasion the identity of the caller. (The first 3 factors can be obtained in semi-automatic service as well as in manual service). Before noon on the following day, the incoming Administration* then asks the outgoing Administration* to indicate the chargeable time shown on the call tickets for each of these conversations.

An accounting check may also be made. In particular cases, where justified by the volume of traffic and by special agreement between Administrations*, an official of the incoming country can visit another country to see how the accounts are drawn up and to verify that the details of these calculations are as accurate as possible.

Explanatory notes relating to the form for drawing-up accounts

1. Each form concerns one telephone route between a country of origin and a country of destination. The form is composed of the following columns :

1st column : charge zones of the country of destination;

2nd column : categories of calls.

2. In this 2nd column, there is need to enter in the following order : the traffic disposed of by normal, auxiliary and emergency routes.

Form. No. 1. — Telephone Traffic proper.

- ordinary calls (distress, Government and private);
- urgent calls (Government, private);
- " lightning " calls (Government, private);
- subscription calls;
- supplementary charges for *préavis*;
- supplementary charges for *avis d'appel*;
- supplementary charges for Occasional Fixed-Time calls;
- supplementary charges for Collect calls;
- other supplementary charges (including where necessary requests for information);
- express charges.

Form No. 2. — Programme, television and phototelegraphy transmissions.

- programme transmissions :
 - (a) on ordinary telephone circuit;
 - (b) on old type circuit;
 - (c) on normal type circuit;
 - (d) the use of a control circuit;
- television transmissions;
- phototelegraphy transmissions.

3. The figures to be included in the column " corresponding charge units " should, before being entered, be converted when necessary in ordinary charge units at the ordinary rate. They are then totalled for each charge zone, and it is the total which should be used for the completion (on the same line) of the columns relative to the " Credits of the various Administrations *".

It should be noted that for the calculation of the total surcharge applied to programme transmission circuits the fractions of minutes (or thirds of a " Unit ") are, when necessary, ignored.

* or Recognized Private Operating Agency(ies).

4. The form should have as many columns "Credit of Administration*" (quotas and total amounts) as there are countries concerned for traffic passed over normal, auxiliary and emergency routes.

5. No distinction has been made above between periods of heavy and light traffic, because there is at present, in Europe, no distinction between these two periods. If this distinction should be resumed, it would be expedient that the account should show the number of calls and chargeable minutes for each period of charge separately.

6. The form does not however include charges in respect of frontier services, as it is the present practice not to enter these calls in the international accounts.

RECOMMENDATION E.71

DEFAULTING SUBSCRIBERS

*(Former Recommendation No. 57 of Volume VI of the C.C.I.F. Green Book, page 117.
Recommendation unchanged)*

The C.C.I.T.T.,

CONSIDERING

that it is in the interest of Administrations* to know of telephone subscribers coming from a country where they have not settled their telephone accounts, and also to render each other assistance in the recovery of amounts due from such debtors,

CONSIDERING, ON THE OTHER HAND,

that, in view of the differences in the law in different countries, it would be very difficult to regulate this assistance,

UNANIMOUSLY RECOMMENDS

that when a telephone subscriber has left the country in which he was a subscriber without settling his telephone account, and has taken up residence in another country which is known, the Administration* of the country of origin should advise the Administration* in the other country and ask this latter, on a reciprocal basis, to take such steps or make such arrangements as it thinks fit to obtain payment of the accounts outstanding.

* or Recognized Private Operating Agency(ies).

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

FOURTH SECTION

STATISTICS AND PUBLICATIONS FOR INTERNATIONAL TELEPHONY

RECOMMENDATION E.81

GENERAL TELEPHONE STATISTICS

(published by I.T.U. General Secretariat)

*(Former Recommendation No. 61 of Volume VI of the C.C.I.F. Green Book, page 122.
Recommendation modified)*

The C.C.I.T.T.

RECOMMENDS

that the General Telephone Statistics should be published each year in the form indicated on page 164;

Administrations* should furnish the information as quickly as possible at the beginning of each year, in order that the statistics for a given year may be published at the latest during the summer of the following year.

* or Recognized Private Operating Agencies.

DATA REQUIRED

- I. Population of the country (Note 1)
- II. Number of main telephone stations (Note 2)
 - (a) manual (without dial)
 - (b) automatic (with dial or key set)
- III. Number of telephone stations of all kinds (main, extension, public, service, etc.) having access to the general telephone network
- IV. Telephone density : Number of stations of all kinds per 100 inhabitants
- V. Recorded or estimated outgoing telephone traffic (Note 3).
 - (a) Traffic recorded *on subscribers' meters*
 - Total number of pulses :
 - (i) national traffic
 - (ii) international traffic
 - (or)
 - Estimate of number of conversations :
 - (i) national traffic
 - (ii) international traffic
 - (b) Traffic recorded *automatically* on tickets, tapes, etc.
 - Total number of conversations :
 - (i) national traffic
 - (ii) international traffic
 - (c) Traffic recorded *manually* on tickets, cards, etc.
 - Total number of conversations :
 - (i) national traffic
 - (ii) international traffic
 - (d) Traffic covered by a *fixed-charge system* :
 - Total number of pulses
 - (or)
 - Estimate of number of conversations
 - (e) Total traffic :
 - Total number of conversations :
 - (i) national traffic
 - (ii) international traffic

EXPLANATORY NOTES**Note 1 (§ I).**

The figures appearing under this head will be taken from the United Nations Statistics. They will be sent each year to all countries along with the Telephone Statistics form.

Note 2 (§ II).

A main station is defined in No. 13.21 of the List of Definitions of Essential Telecommunication Terms, 1957 edition, as follows :

“ Main station : a subscriber's station which is used for originating calls and on which incoming calls from the exchange or from an extension station are answered ”,

the exchange line connecting the main station to the telephone exchange may of course be either an exclusive exchange line or a shared line.

Note 3 (§ V).

Under this heading, Administrations or Recognized Private Operating Agencies should supply any data they possess; it is for them to decide whether to fill sub-headings (a)-(e) in full or in part. If necessary, they can bracket together results coming under several headings.

RECOMMENDATION E.82

EUROPEAN INTERNATIONAL TELEPHONE TRAFFIC STATISTICS

(published by the C.C.I.T.T.)

(Former Recommendation No. 60 of Volume VI of the C.C.I.F., Green Book, page 121.
Recommendation modified)

Each year during December European Telephone Administrations* send the Secretariat of the C.C.I.T.T. the numerical information required for the "European International Telephone Traffic Statistics" in accordance with the table shown.

This table is completed as follows :

- (a) One line of the table is used for each distinct group of circuits in the relation concerned.
- (b) Information for columns 2 to 16 is collected during the month which is generally the busiest on the relation concerned.
- (c) Columns 6 and 7 will be filled in :
 - either by taking the average of traffic samples during the busy hour on four different working days, e.g. Tuesday of the first week, Wednesday of the second week, etc.;
 - or by using the traffic values (chargeable minutes and minutes of holding time) for the busiest month, referred to the busiest hour, taking account of the percentage concentration measured on the group.
- (d) The information in columns 10 to 16 will be obtained :
 - by analyzing the tickets for the above-mentioned busy hours;
 - by taking account of the distribution of the various categories of calls and the average of the waiting periods during the busiest month of the year.

(With automatic operation, it will not be possible to supply some of the data in columns 10 to 16).

- (e) The efficiency (column 9) should be the chargeable minutes (column 6) divided by minutes of holding time (column 7).
- (f) As a matter of convenience, the percentage concentration of traffic (the percentage of the traffic in the busy hour in relation to the traffic in the 24 hours (column 9) can be obtained by dividing the sum of the chargeable minutes in the four busy hours on the sampling days by the sum of the chargeable minutes during the 24 hours on the same days.

This factor can also be determined by means of a traffic recorder showing the actual holding time of the circuits.

Should it appear difficult, on a given relation, to distinguish between the traffic routed by the various groups of circuits, the percentage concentration can be indicated by a single figure for the whole of the relation.

- (g) Transferred charge calls (column 12) will be recorded only by the terminal exchange responsible for the accounts for these calls.

* or Recognized Private Operating Agencies.

International European telephone traffic statistics

[illegible]

RECOMMENDATION E.83

CHECKING THE INTERNATIONAL TELEPHONE SERVICE

(Statistics to be exchanged among Administrations*)

*(Former Recommendation No. 62 of Volume VI of the C.C.I.F. Green Book, page 127.
Recommendation modified)*

To provide an assessment of the correct operation of circuits and equipment, control of the work of the operators and an estimate of the efficiency and quality of the service offered to users, it is desirable that telephone Administrations* should forward to one another direct, and as soon as they are prepared, performance statistics prepared in accordance with Tables 1 and 2 below.

It is of particular importance in semi-automatic and automatic working to make checks of service quality, especially checks of the percentage of "attempts to set up calls which are not successful on account of faults", since this latter check is the only available means of assessing the technical quality of the service.

* or Recognized Private Operating Agencies.

TABLE I. — *Outgoing equipment check*

Correctly operated attempts	Directly dialled calls, semi-automatic or automatic		Calls to incoming operators (in semi-automatic Code 11 calls)		Calls to suspended call operators (in semi-automatic Code 12 calls)		Total (num- ber)	% of Grand total
	No.	%	No.	%	No.	%		
1	2	3	4	5	6	7	8	9
1. Effective								
2. Engaged								
3. Ringing tone, no reply								
4. Changed number; out of service; special international tone or talk- ing machine								
5. Total of items 2 to 4 above								
6. Special international tone or talk- ing machine received in error								
7. No tone, no reply								
8. Wrong number								
9. Other failures								
10. Total of items 6 to 9								
11. Total correctly operated attempts observed								
12. Percentage of attempts wrongly operated by operators or subscribers % 13. Average time to answer of incoming (code 11) operators seconds 14. Average time to answer of suspended call (code 12) operators seconds 15. Average time to answer of assistance operators seconds 16. Average operator engaged time per attempt i.e. time between circuit seized and conversation begun, or on ineffective attempts, time between circuit seized and released seconds 17. Percentage of préavis calls effective at first attempt (obtained from ticket analysis) % 18. In semi-automatic service, percentage of calls to assistance operators %								
<p style="text-align: center;"><i>Notes concerning Table I</i></p> <p>(a) This table summarizes the observations made on the outgoing equipment of circuits using : — normal demand working — semi-automatic working, or — automatic working</p> <p>(b) It is recommended that these observations be made during hours of heavy traffic or, if this is not possible, of average traffic.</p> <p>(c) It is necessary, from the statistical point of view, that a minimum of 200 calls should be observed when checking traffic in a given direction.</p> <p>(d) It is recommended that these statistics be exchanged among the Administrations or Recognized Private Operating Agencies concerned at least once a year.</p>								

TABLE II. — *Circuit check*

Outgoing international exchange :	Number of calls observed :	Remarks
1. Average chargeable duration 2. Average circuit holding time for ineffective calls (unsuccessful attempts) 3. Average overall duration of operations (from seizure of international circuit) 4. Average time to answer of the operators at the incoming international exchange or international transit exchange 5. Average time to answer of operators 6. % ineffective calls (unsuccessful attempts) 7. % interrupted calls 8. % unsatisfactory reception		
<p style="text-align: center;"><i>Notes concerning Table II</i></p> <p>(a) This table summarizes the observations made on circuits using — manual working (demand or advance preparation) — semi-automatic working — automatic working.</p> <p>(b) It is recommended that these observations be made during the hours of heavy traffic or, if this is not possible, of the average traffic during the busiest months of the year.</p> <p>(c) It is necessary, from the statistical point of view, that a minimum of 200 calls should be observed when checking traffic in a given direction.</p> <p>(d) It is recommended that these statistics be exchanged among the Administrations or Recognized Privileged Operating Agencies concerned at least once a year.</p> <p>(e) In the automatic service, some information will not be available.</p>		

(As a guide, Table II can be obtained from observations assembled on a form such as the following.)

Form showing observations on international telephone circuits

Name of outgoing international exchange			Designation of circuit		Number		and categories		Interval between end of preceding call or abandonment of an unsuccessful booking and :	
			Date and time of observations		of circuits in group					
Time of beginning of operations for setting up each call	Calling exchange	Exchange and number of called subscriber	Call to the incoming international exchange	Reply from the incoming or transit international exchange	End of service conversation with the operator at the outgoing international exchange	Time when outgoing international exchange is connected to subscriber		beginning	end	Final abandonment of unsuccessful bookings; no reply, engaged, wrong number, etc.
						of incoming country	of outgoing country	of call		
1	2	3	4	5	6	7	8	9	10	11

Notes :

(a) The table should not include data on calls already in progress at the beginning of the checking period; on the other hand, it should include full data concerning the last call begun before the end of the checking period.

(b) The " Remarks " column should include any irregularities observed, e.g., wrong number, unnecessary interruption, late interruption, wrong charge, unsatisfactory reception, use of service expressions not in the C.C.I.T.T. list.

(c) The tickets for calls established (or attempts) on the international circuit during monitoring should be assembled and compared with the information given by the check. This will enable the operators to be identified, particularly in manual demand or semi-automatic operation.

(d) For automatic service, some columns in this table will have to be left blank.

Remarks :

RECOMMENDATION E.84

**PUBLICATION BY THE I.T.U. GENERAL SECRETARIAT
OF THE « LIST OF INTERNATIONAL TELEPHONE ROUTES »**

*(Former Recommendation No. 11 of Volume VI of the C.C.I.F. Green Book, page 33.
Wording of Recommendation revised in 1958, after the Telegraph
and Telephone Conference)*

1. The General Secretariat of the I.T.U. establishes and keeps up to date the “ List of international telephone routes ” showing, for the various services :
 - the normal routes,
 - the overflow routes,
 - the emergency routes.
2. The emergency route or routes are determined by common agreement among the Administrations*.
3. By referring to the “ List of routes ”, the terminal country responsible for the presentation of the accounts can ascertain by what itinerary the call diverted to an emergency route has been established.

* or Recognized Private Operating Agencies.

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

FIFTH SECTION

DETERMINATION OF THE NUMBER OF CIRCUITS TO BE PROVIDED

RECOMMENDATION E.91

DETERMINATION OF THE NUMBER OF CIRCUITS NECESSARY TO CARRY A GIVEN AMOUNT OF TRAFFIC IN MANUAL OPERATION

*(Former Recommendation No. 63 of Volume VI of the C.C.I.F. Green Book, page 131.
Recommendation unchanged)*

1. The quality of an international manual demand service should be defined as the percentage of bookings which, during the average busy hour (as defined later under 3), cannot be satisfied immediately because no circuit is free in the relation considered.

By "bookings satisfied immediately" are meant those for which the call is established by the same operator who received the call, and within a period of two minutes from receipt of that call, whether the operator (when she does not immediately find a free circuit) continues observation of the group of circuits, or whether she makes several attempts in the course of this period.

Ultimately, it will be desirable to evolve a corresponding definition based on the "average speed" of establishing calls in the busy hour, that is to say the average time which elapses between the moment when the operator has completed the booking of the call and the moment when the called subscriber is on the line, or the caller receives the advice "subscriber engaged", "no reply", etc. But for the moment, in the absence of information about the operating time in the European international service, such a definition cannot be established.

2. The number of circuits it is necessary to allocate to an international relation, in order to obtain a given grade of service, should be determined as a function of the "total holding time" of the group in the busy hour.

The total holding time is the product of the number of calls in the busy hour and a factor which is the sum of the average call duration and the average operating time.

These durations will be obtained by means of a large number of observations made during the busy hours, by agreement between the Administrations* concerned. If necessary, the particulars entered on the tickets could also serve to determine the average duration of the calls.

The average call duration will be obtained by dividing the total number of minutes of conversation recorded by the recorded number of effective calls.

The average operating time will be obtained by dividing the total number of minutes given to operating (including ineffective calls) by the number of effective calls recorded.

3. The number of calls in the busy hour will be determined from the average of returns taken during the busy hours on a certain number of busy days in the year.

Exceptionally busy days, such as those which occur around certain holidays etc., will be eliminated from these returns. The Administrations* concerned should plan, whenever possible, to put additional circuits into service for these days.

In principle, these returns will be taken during the working days of two consecutive weeks, or during ten consecutive working days. If the monthly traffic curve shows only small variations, they will be repeated twice a year only. They will be taken three, or four times a year or more, if there are material seasonal variations, so that the average established is in accordance with all the characteristic periods of traffic intensity.

4. The total occupied time thus determined should be increased by a certain amount determined by agreement between the Administrations* concerned according to the statistics of traffic growth during earlier years, to take account of the probable growth in traffic and the fact that putting new circuits into service takes place some time after they are first found to be necessary.
5. The total holding time of the circuits thus obtained, in conjunction with a suitable table (see below), will enable the required number of circuits to be ascertained.
6. In the international telephone service, the following tables A and B should be used as a basis of minimum allocation :

Table A corresponds to about 30% of calls failing at the first attempt because of all circuits being engaged and to about 20% of the calls being deferred.

Table B, corresponding to about 7% of calls deferred, will be used whenever possible.

These tables do not take account of the fact that the possibility of using auxiliary routes permits, particularly for small groups, an increase in the permissible occupation time. In practice such routes are very rare in the international service.

* or Recognized Private Operating Agencies.

Circuit capacity tables

NUMBER of circuits	TABLE A		TABLE B	
	Percentage of circuit usage (C.C.I.F. definition, Recommendation No. 1, § 18)	Minutes of circuit usage possible in the busy hour	Percentage of circuit usage (C.C.I.F. definition, Recommendation No. 1, § 18)	Minutes of circuit usage possible in the busy hour
1	65.0	39	—	—
2	76.7	92	46.6	56
3	83.3	150	56.7	102
4	86.7	208	63.3	152
5	88.6	266	68.3	205
6	90.0	324	72.0	259
7	91.0	382	74.5	313
8	91.7	440	76.5	367
9	92.2	498	78.0	421
10	92.6	556	79.2	475
11	93.0	614	80.1	529
12	93.4	672	81.0	583
13	93.6	730	81.7	637
14	93.9	788	82.3	691
15	94.1	846	82.8	745
16	94.2	904	83.2	799
17	94.3	962	83.6	853
18	94.4	1 020	83.9	907
19	94.5	1 078	84.2	961
20	94.6	1 136	84.6	1 015

Note. — Tables A and B can be extended for groups comprising more than 20 circuits by using multiples of the values given for 20 circuits.

RECOMMENDATION E.92

DETERMINATION OF THE NUMBER OF CIRCUITS NECESSARY TO CARRY A GIVEN AMOUNT OF TRAFFIC IN SEMI-AUTOMATIC OPERATION

(Former Recommendation No. 63bis of Volume VI of the C.C.I.F. Green Book, page 133.
Wording of Recommendation revised in 1958).

Tables A and B mentioned in Recommendation No. 63 were established principally for the calculation of the number of manually operated circuits.

For reasons of uniformity and convenience, it is preferable, in order to determine the number of circuits required to carry a given traffic in semi-automatic operation, to refer to a formula which is widely used and for which there exist easily obtainable tables and curves.

(E.92)

In determining the number of circuits necessary in semi-automatic working, the C.C.I.T.T. therefore recommends that Administrations* :

1. use, as a basis of calculation, the classic formula of Erlang (see the following table and the two associated graphs giving, for the loss probabilities of 3 % and 5 %, the number of circuits corresponding to a given traffic);
2. adopt for each of the cases envisaged the loss probabilities defined below;
3. do not attach too rigorous a value, nevertheless, to these loss probabilities, because with semi-automatic operation, assisted by operators, who smooth the traffic to a certain extent, it is not possible to determine precisely (by a simple mathematical formula) the number of circuits as a function of a loss probability. Moreover, the conditions in which calls which fail (because of lack of circuits) are later completed, are more or less beyond the hypotheses upon which the Erlang formula is based. These values, recommended for adoption for the "loss probability", should rather be considered as serving to determine the value of the parameter p indicating the column of the numerical table or the curve it is desirable to use.

1st case. — Direct routes without the possibility of using secondary routes and used solely for terminal traffic.

The table or the graph corresponding to a value of the parameter p (loss probability) equal to 5 % will be used.

However, in the case where the operators have direct access to the international circuits, or access by means of automatic switches or by selectors which search continuously for a certain time, table B (Recommendation E.91) can provisionally continue to be accepted for use in determining the number of circuits necessary to carry a given traffic; the numbers in this table approximate sufficiently closely to a loss probability of 5 %.

2nd case. — Route on which it is necessary to pass through a transit exchange without the possibility of using secondary routes.

The table or the graph corresponding to a value of the parameter p (loss probability) equal to 3 % will be used for each of the groups of circuits constituting a link in the international route.

3rd case. — Direct routes (without the possibility of using secondary routes) for which there exist concurrently:

- a group of circuits used for terminal traffic, and
- a group of circuits used for transit traffic (with overflow from the first group to the second).

In this case it is not possible to define a perfect mathematical solution for calculating the number of circuits required. The problem can be considered as a special case of the one in Recommendation E.93. Methods can be used which give quick though not very accurate answers. Such a method is described on pages 135 and 136 of Volume VI of the C.C.I.F. *Green Book* (Geneva 1954).

* or Recognized Private Operating Agencies.

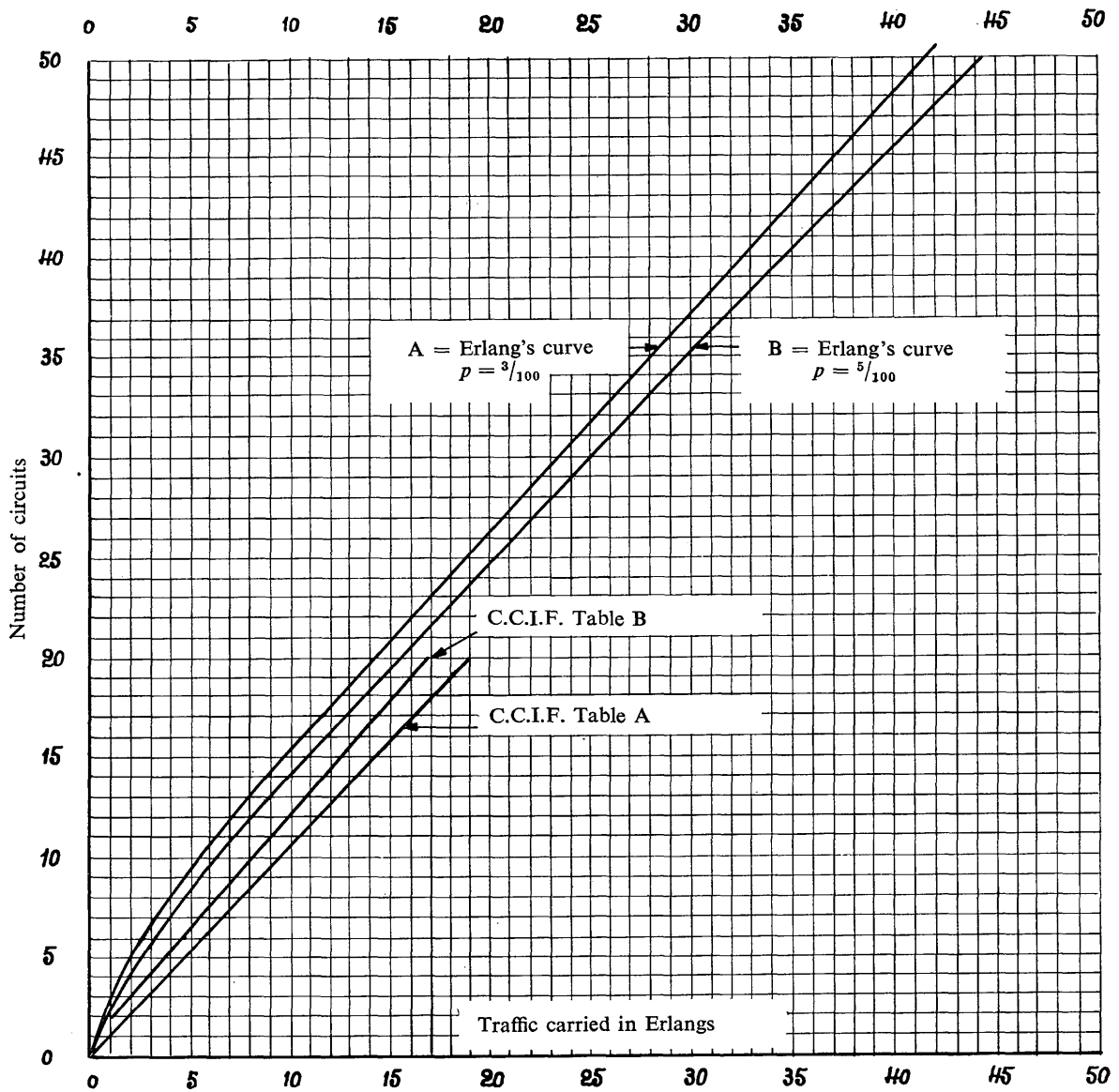
ANNEX 1

Table from the Erlang No. 1 formula for loss probabilities of 3% and 5%

Formula: let p = the loss probability
 y = the traffic to be carried (in erlangs) $E_{1, n}(y) = p = \frac{\frac{y^n}{n!}}{1 + \frac{y}{1} + \frac{y^2}{2!} + \dots + \frac{y^n}{n!}}$
 n = the number of circuits

n	$p = 3\%$	$p = 5\%$	n	$p = 3\%$	$p = 5\%$
1	0.031	0.05	51	42.89	45.52
2	0.282	0.38	52	43.84	46.52
3	0.715	0.90	53	44.80	47.53
4	1.259	1.51	54	45.77	48.53
5	1.875	2.22	55	46.73	49.53
6	2.543	2.96	56	47.69	50.52
7	3.250	3.74	57	48.66	51.52
8	3.987	4.54	58	49.62	52.50
9	4.748	5.37	59	50.6	53.5
10	5.529	6.22	60	51.5	54.5
11	6.328	7.08	61	52.5	55.5
12	7.141	7.95	62	53.4	56.5
13	7.967	8.83	63	54.4	57.5
14	8.803	9.73	64	55.4	58.5
15	9.650	10.63	65	56.3	59.5
16	10.505	11.54	66	57.3	60.5
17	11.368	12.46	67	58.3	61.5
18	12.238	13.38	68	59.2	62.5
19	13.115	14.31	69	60.2	63.6
20	13.997	15.25	70	61.2	64.6
21	14.885	16.19	71	62.1	65.6
22	15.778	17.13	72	63.1	66.6
23	16.675	18.08	73	64.1	67.6
24	17.577	19.03	74	65.1	68.6
25	18.483	19.99	75	66.0	69.6
26	19.392	20.94	76	67.0	70.7
27	20.305	21.90	77	68.0	71.7
28	21.221	22.87	78	69.0	72.7
29	22.140	23.83	79	70.0	73.7
30	23.062	24.80	80	70.9	74.7
31	23.99	25.77	81	71.9	75.8
32	24.91	26.75	82	72.9	76.8
33	25.84	27.72	83	73.9	77.8
34	26.78	28.70	84	74.9	78.8
35	27.71	29.68	85	75.9	79.9
36	28.65	30.66	86	76.9	80.9
37	29.59	31.64	87	77.8	81.9
38	30.53	32.63	88	78.8	82.9
39	31.47	33.61	89	79.8	84.0
40	32.41	34.60	90	80.8	85.0
41	33.36	35.59	91	81.8	86.0
42	34.30	36.58	92	82.8	87.0
43	35.25	37.57	93	83.8	88.1
44	36.20	38.56	94	84.8	89.1
45	37.15	39.55	95	85.7	90.1
46	38.11	40.54	96	86.7	91.1
47	39.06	41.54	97	87.7	92.2
48	40.02	42.54	98	88.7	93.2
49	40.97	43.54	99	89.7	94.2
50	41.93	44.53	100	90.7	95.2

ANNEX 2

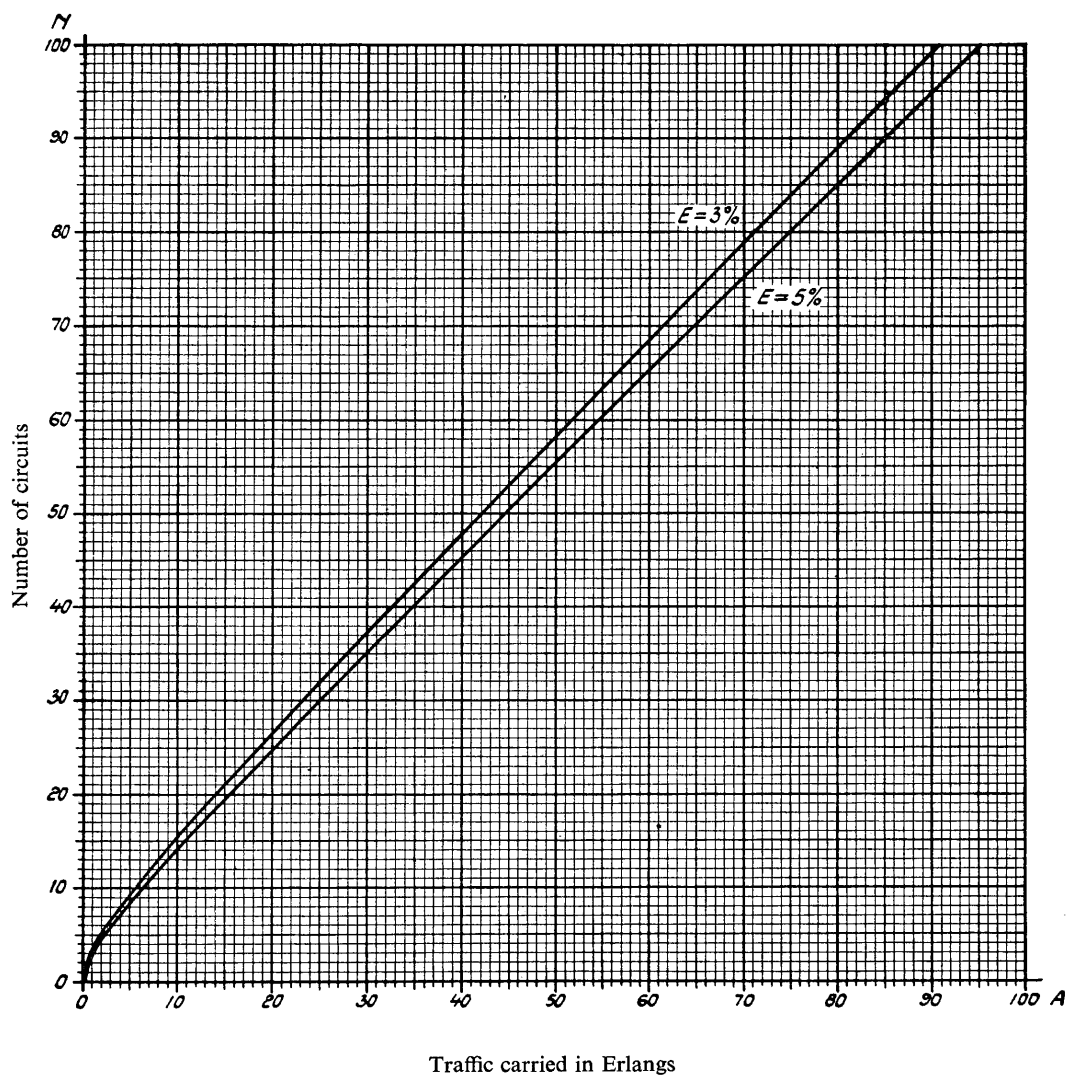


Relation between the number of circuits and the traffic in Erlangs which can be carried by these circuits, in the case :

- of the Erlang formula ($p = 3\%$ and 5%)
- the C.C.I.F. tables A and B

FIGURE 1. — Number of circuits between 1 and 50

ANNEX 2 (continued)



Relation between the number of circuits and the traffic in Erlangs which can be carried by these circuits, in the case of the Erlang formula ($p = 3\%$ and 5%).

FIGURE 2. — Number of circuits between 1 and 100

RECOMMENDATION E.93

CALCULATION OF THE BEST ARRANGEMENT FOR ALTERNATIVE ROUTING

(Former Recommendation No. 63ter of Volume Ibis of C.C.I.F. Green Book, page 145. Recommendation unchanged)

The C.C.I.T.T.,

CONSIDERING

- the advantages offered by the use of alternative routing for the handling of traffic;
- the difficulties experienced in calculating the number of circuits necessary in the case of alternative routing;

UNANIMOUSLY RECOMMENDS

that for calculating the number of circuits in the case of alternative routing, reference should be made to one or the other of the two following methods which were selected by the C.C.I.F. because of their ease of application and reasonable degree of accuracy obtained with the calculations.

The first of these methods is concerned with the equivalent pure chance traffic obtained by a weighted choice process. It enables the number of circuits on the alternative route to be calculated when the number of circuits on the direct route is fixed. To determine the most economical arrangement, it is necessary to calculate the annual charges of the whole of the network with the different arrangements. However, to reduce the number of tests, it is recommended in the first place, to proceed with an approximate determination of the most economic arrangement as is indicated in the example on page 189 hereafter. .

The second method will be designated under the name of "Swedish method". It comprises two parts :

1. determination of the number of direct circuits for the most economic arrangement;
2. calculation of the number of circuits on the overflow group.

* * *

The basis of these two methods is described in the following, together with an application of these two methods to a concrete case (routings between Stockholm, Copenhagen, Amsterdam and Paris); also given in the appendix are the detailed calculations for the two methods in this concrete case.

In these two methods it is assumed :—

- that full availability groups are concerned,
- that in the case where there is a possibility of alternate routing, the circuits of the direct route are always tested first.

The two methods recommended by the C.C.I.F. require only standard tables and curves derived from the Erlang formula.

(E.93)

The diagrams used with these two methods are those giving, as a function of the traffic offered :

- the traffic overflowing from a circuit of the n th choice, i.e. the traffic offered to a circuit of $(n+1)$ th choice,
- the traffic carried by a circuit of the n th choice.

These diagrams can be presented in different forms of which examples are given at the end of Volume *Ibis* of the C.C.I.F. *Green Book* for values of traffic reaching 40 erlangs and for up to 75 circuits. These diagrams can be used indiscriminately for either of the two methods described. The use of one or other of these types of diagrams depends on the practices generally followed in the countries concerned.

First method

Description of the method "equivalent pure chance traffic" obtained by a weighted choice process

It is accepted that overflow traffic cannot be considered as pure chance traffic (*traffic aléatoire*) and if a group of overflow traffic is combined with a group of pure chance traffic, there is some difficulty in determining the number of circuits to be provided to ensure that a specified loss percentage will not be exceeded. Among the methods which have been proposed for determining the number of circuits necessary in these conditions, certain methods seek to define the combined traffic in such a way that the volume of traffic carried by each of these circuits tested in a fixed sequence can be read directly from standard curves derived from the Erlang formula.

* * *

- (a) One method : "Equivalent Random (ER) theory" (in French "Théorie du trafic aléatoire équivalent") has been described in detail in the Bell System Technical Journal by R.I. WILKINSON (B.S.T.J. March 1956, page 421). In this method, for a combined overflow group each sub-group is assigned both "mean volume" and "variance" values. The values of these two parameters for the different constituent traffic elements can be added and, with the aid of *special* curves, which have been prepared for the purpose, it is possible to determine an equivalent value of pure chance traffic (Equivalent Random traffic) which is offered to a circuit of n th choice; this hypothetical choice being determined, in principle, to approximately 1 decimal place. From these standard curves giving the overflow traffic can be read the number of circuits necessary to fulfil a specified loss requirement and from this figure it is necessary to deduct the hypothetical choice number mentioned above.

* * *

- (b) An analogous process *, which is designated under the name of "weighted choice method" is simpler to calculate and avoids the use of the special diagrams mentioned

* See "Electrical Communication", article by E. P. G. WRIGHT, March 1947, page 42.

above and of delicate interpolations between two families of curves. A brief description of this method follows.

As in method (a), mentioned in the paragraph above, the traffic offered, resulting from the total sub-group overflow traffic, is defined as the overflow from a pure chance traffic offered to a circuit of the calculated hypothetical choice. These particulars, equivalent random traffic and hypothetical choice being obtained, the subsequent operations are then, for process (b), the same as in method (a) :

- read on the standard curves giving the overflow traffic, the number of circuits necessary for a specified loss probability,
- from the value found deduct the number corresponding to the hypothetical choice.

The difference between process (b) and method (a) rests in:

- the determination of the equivalent random traffic,
- the determination of the hypothetical choice value of the circuit (nth choice circuit) to which this traffic is offered.

The hypothetical choice value is obtained in process (b) by a simple weighting. This is effected :

- by calculating the sum of the products of the "traffic volume" and choice of each sub-group overflowing,
- then dividing this total by the sum of the sub-group traffic.

In process (b) the equivalent random traffic is derived directly from the *standard* curves giving the overflow traffic from a circuit of the nth choice (see for example diagram 1 at the end of these notes). The traffic to be considered as overflow traffic is the arithmetical sum of the sub-group traffic overflowing. From the curves on diagram 1 can be read, with respect to the specified hypothetical choice, the random traffic which gives rise to this value of overflow traffic.

Process (b) has an empirical basis and does not present the mathematical justifications of method (a). Nevertheless, it leads to sufficiently accurate results as is shown by the results of a series of tests carried out with artificial traffic and it enables a simplification of the calculations to be made.

The simplicity of the calculations is illustrated by the following example :

Example

It is required to find how many circuits are needed to ensure a loss not exceeding 5% for a composite group collecting the following amounts of sub-group traffic :

- 1.41 E offered to a circuit of the 4th choice (i.e. overflowing from 3 circuits),
- 1.39 E offered to a circuit of the 7th choice (i.e. overflowing from 6 circuits),
- 0.45 E offered to a circuit of the 10th choice (i.e. overflowing from 9 circuits).

The weighting is calculated as follows :

$$\begin{array}{rcl} 1.41 \text{ E} \times 4 & = & 5.64 \\ 1.39 \text{ E} \times 7 & = & 9.73 \\ 0.45 \text{ E} \times 10 & = & 4.5 \end{array}$$

$$\hline 3.25 \text{ E} \qquad 19.87 : 3.25 = 6.1 \text{ choice (i.e. traffic overflowing from 5.1 circuits).}$$

$$\text{Permitted loss } 3.25 \times \frac{5}{100} = 0.16 \text{ E.}$$

From the overflow curves (see following figure) it can be read that the random traffic corresponding to 3.25 E and to a choice of 6.1 is 7.5 erlangs. It follows that a traffic of 0.16 E will overflow to the 14th choice. In deducting from this value of 14 the hypothetical choice value 6.1 it will be seen that 7.9 circuits are required.

If, on the other hand, it is required to know what traffic will overflow, say 5 common circuits, it can be read from the curves that, with a total traffic of 7.5 erlangs, the overflow from 5.1 circuits (traffic flowing to the 6.1 choice) is 3.25 erlangs and that the overflow from 10.1 circuits (5.1 + 5), which is the traffic flowing to the 11.1 choice, is 0.72 erlangs.

The calculations for the first example can be written briefly as follows :

$$\begin{array}{rcl} 1.41 \times 4 & = & 5.64 \\ 1.39 \times 7 & = & 9.73 \\ 0.45 \times 10 & = & 4.5 \\ \hline 3.25 & & 19.87 : 3.25 = 6.1 \end{array}$$

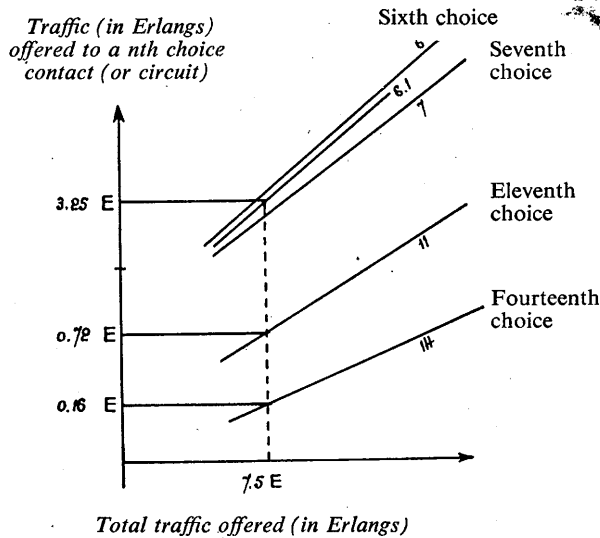
$$p = 3.25 \times \frac{5}{100} = 0.16$$

Number of circuits read: 14.0

Less: 6.1

Circuits needed: 7.9

The value 7.5 E does not need to be read and made to figure in the calculations as it is only necessary to determine on the diagrams the appropriate vertical line to find how many circuits are required for a specified loss.



2nd Method

Description of the Swedish method

In the Swedish method account is not taken of the particular statistical characteristics of overflow traffic, but is based on a method of reasoning and then on a hypothesis for the calculation, which provides the desired guarantee of security for the flow of traffic.

In the first place an explanation is given of the method of reasoning adopted with the Swedish method followed by an explanation of the hypothesis which gives the desired margin of security.

Method of reasoning.

To determine the number of circuits of the alternate route, two reasonings are possible :

Reasoning (a).

It is assumed that the alternate route is intended initially to carry only its own traffic and that the overflow traffic from the direct route is added to this traffic. It is then necessary to *add* a number of circuits to the alternate route, according to the amount of overflow traffic. This is the assumption generally made with the different methods of calculation for alternative routing.

If account is not taken of the particular statistical characteristics of overflow traffic, the calculations for the alternate route give a number of circuits which is, in every case, slightly less than is actually needed. On the other hand, the methods which take account of the particular statistical characteristics of overflow traffic enable the number of circuits to be determined with sufficient accuracy. This is the case with the two methods (a) and (b) which are described in the first part.

Reasoning (b).

It is assumed that the alternate route is initially intended to carry all the traffic and that the part of the traffic to be passed over the direct route is deducted from this traffic. Consequently, the number of circuits on the alternate route can be *reduced* to an amount corresponding to the traffic deducted. This reasoning is the basis of the Swedish method.

To determine the number of circuits that can be subtracted from the alternate route as a function of the traffic to be carried on the direct route, it is necessary to know the traffic carrying capacity of the circuits deducted from the alternate route, i.e. the rate of occupation of each of these circuits. This traffic carrying capacity depends on the position of the circuits deducted (supposing that the circuits are tested in a specified order, a convention accepted for calculations with the Swedish method).

Hypothesis giving the desired margin of security.

To effect this deduction, three hypotheses can be made that the circuits deducted are taken amongst those :

A : of the last position (choice),

B : of an intermediate position (choice),

C : of the first position (first choice circuits having the highest occupation).

Proceeding according to hypothesis A (which seems at first sight the most natural) it is certain that too many circuits will be deducted from the alternate route. Hypothesis B could permit the optimum number of circuits to be found. However, the number of choice possibilities is very great and the choice should be made in the absence of any procedure with a mathematical basis. With hypothesis C it is certain that the number of circuits deducted from the alternate route will be very small. This is the hypothesis which is adopted in the Swedish method and which constitutes the guarantee that the circuits remaining on the alternate route will, in all cases, be sufficient. In other

words, the reduction in the traffic carrying capacity of the circuits on the alternate route, when y circuits are deducted, will, by convention in the Swedish method, be equal to the traffic carried by the first y circuits of the group.

* * *

After these explanations, which are intended to describe the spirit of the Swedish method, a brief description is given of the different phases of the calculations involved with this method. A more detailed description of the basis of this method is given in pages 442 and 453 of Volume I of the *Green Book*.

The notation employed in the following and the numbering of the formulae will be the same as in the text of Volume I of the *Green Book* and are followed for the three centres P, C and Q; C being the transit centre (see figures 1, 2 and 3):

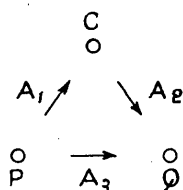


FIGURE 1. — Traffic offered

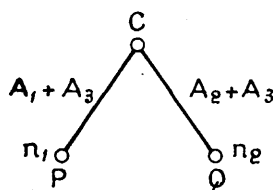


FIGURE 2. — All traffic passing in transit by the alternate route

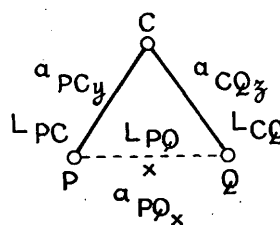


FIGURE 3. — Price of circuits and traffic handled on each route by a x th, y th, or z th circuit

- A_1 = Volume of traffic offered outgoing from P to C (in erlangs)
- A_2 = Volume of traffic offered outgoing from C to Q (in erlangs)
- A_3 = Volume of traffic offered outgoing from P to Q (in erlangs)
- L_{PC} = Annual charges of a circuit on the route PC
- L_{CQ} = Annual charges of a circuit on the route CQ
- L_{PQ} = Annual charges of a circuit on the route PQ
- n_1 = the number of circuits necessary to carry the traffic $A_1 + A_3$ outgoing from P (case where the direct route does not exist)
- n_2 = the number of circuits necessary to carry the traffic $A_2 + A_3$ outgoing from C (case where the direct route does not exist)
- x = the number of circuits on the direct route
- y = the number of circuits of the alternate route which can be deducted from group n_1 carrying $A_1 + A_3$ traffic to take account of the constitution of x circuits on the direct route
- z = the number of circuits of the alternate route which can be deducted from the group n_2 carrying $A_2 + A_3$ traffic to take account of the constitution of x circuits on the direct route.

* * *

With the hypothesis mentioned above that the y or z circuits deducted are the first circuits tested (circuits of which the occupation is very high) of group n_1 (Group PC) and n_2 (Group CQ) of the alternate route, y and z are determined, as a function of x , by the relation :

$$\left. \begin{array}{l} \text{Traffic carried by the } y(z) \text{ first circuits of group } n_1(n_2) \\ \text{to which is offered the traffic } A_1 + A_3(A_2 + A_3) \end{array} \right\} = \left\{ \begin{array}{l} \text{Traffic carried by the } x \text{ circuits} \\ \text{of the direct route to which is} \\ \text{offered the traffic } A_3 \end{array} \right.$$

(E.93)

that is to say by the two equations :

$$A_1 + A_3 - (A_1 + A_3) E_{1,y} (A_1 + A_3) = A_3 - A_3 E_{1,x} (A_3) \quad (4)$$

$$A_2 + A_3 - (A_2 + A_3) E_{1,z} (A_2 + A_3) = A_3 - A_3 E_{1,x} (A_3) \quad (5)$$

(See the note* on the bottom of this page.)

* * *

To determine the optimum economic arrangement, the annual charges per erlang are compared :

- on the one hand, on the circuit last tested of the direct route PQ (xth circuit) and,
- on the other hand, on the circuit last tested *among those which are deducted* from the alternate route, yth circuit on the group PC, zth circuit on the group CQ.

It is then a matter of comparing :

$$\frac{L_{PQ}}{a_{PQx}} \text{ with } \frac{L_{PC}}{a_{PCy}} + \frac{L_{CQ}}{a_{CQz}}$$

the designation being :

a_{PQx} = the traffic carried by the xth circuit of the group PQ

a_{PCy} = the traffic carried by the yth circuit of the group PC

a_{CQz} = the traffic carried by the zth circuit of the group CQ.

The optimum economic arrangement is :

$$\frac{L_{PQ}}{a_{PQx}} = \frac{L_{PC}}{a_{PCy}} + \frac{L_{CQ}}{a_{CQz}} \quad (2)$$

For a quick answer, an approximation is made and instead of considering in equation (2) the traffic carried by circuits of y outlets and z outlets, this traffic is replaced by the traffic carried by a circuit of the first choice, that is to say, a_{PCy} and a_{CQz} are replaced by values a little *greater* = a_{PC1} and a_{CQ1} . The direct route is then submitted to conditions a little more severe. There is also :

$$a_{PQx} = \frac{L_{PQ}}{\frac{L_{PC}}{a_{PC1}} + \frac{L_{CQ}}{a_{CQ1}}} \quad (2')$$

This enables the value of traffic a_{PQx} to be determined assuming L_{PQ} , L_{PC} and L_{CQ} is known. The value of x, number of circuits of the direct route, can be derived from a_{PQx} ; then from equations (4) and (5) [or from equations (4') and (5')], the values of y and z corresponding to the value of x thus found.

It is sufficient then to subtract from the number of circuits n_1 or n_2 (calculated for carrying $A_1 + A_2$ and $A_2 + A_3$) the numbers y and z to find the number of circuits of the groups PC and CQ.

Note. — If it is desired to have a greater accuracy in these calculations, it is possible to proceed by successive approximations, replacing y and z in equation (2) by the values obtained from x derived from (2). As a general rule this accuracy does not lead to any change in the number of circuits and therefore this correction is not normally made.

* Note :

Instead of considering the traffic carried, the overflow traffic which is the complement of this, can be considered resulting with equations (4') and (5'), which can be more practical to handle :

$$(A_1 + A_3) E_{1,y} (A_1 + A_3) = A_1 + A_3 E_{1,x} (A_3) \quad (4')$$

$$(A_2 + A_3) E_{1,z} (A_2 + A_3) = A_2 + A_3 E_{1,x} (A_3) \quad (5')$$

These equations (4') and (5') express, for example, in the case of group PC, that :

$$\left. \begin{array}{l} \text{traffic overflowing from the first y circuits} \\ \text{of PC when all the traffic } A_1 + A_3 \text{ passes} \\ \text{over the alternate route} \end{array} \right\} = \left\{ \begin{array}{l} \text{traffic proper to PC or } A_1 \\ \text{+} \\ \text{traffic overflowing from the direct route PQ.} \end{array} \right.$$

Application of the methods of calculation to a concrete case.

I. Particulars of the problem (see figure below).

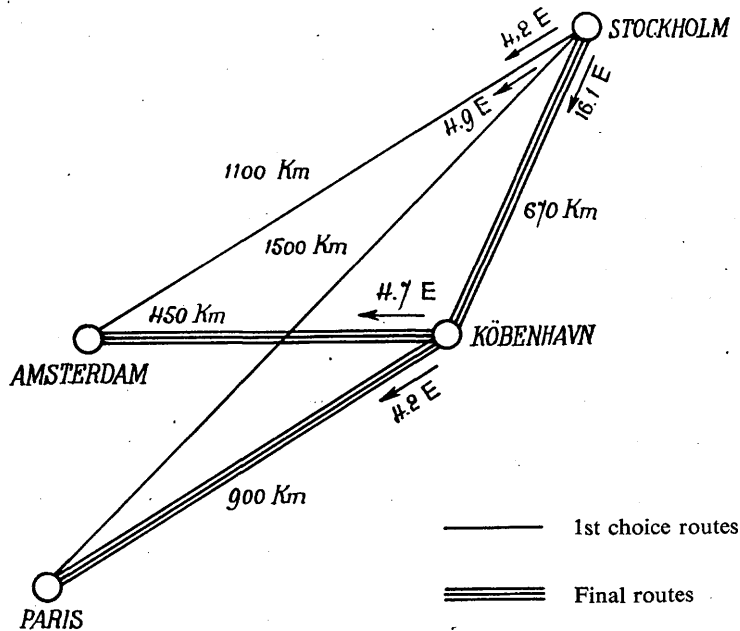
I.1. Centres : — Stockholm, København, Amsterdam and Paris.

I.2. Routes overflowing : — Stockholm to Amsterdam.
Stockholm to Paris.

I.3. Traffic : — S-A (Stockholm-Amsterdam) 4.2 E
S-P (Stockholm-Paris) 4.9 E
S-K (Stockholm-København) 16.1 E
K-A (København-Amsterdam) 4.7 E
K-P (København-Paris) 4.2 E

I.4. Grade of service : — Permitted loss on direct circuits 5%
Permitted loss on transit circuits 3%

I.5. Distances : — S-A 1100 km
S-P 1500 km
S-K 670 km
K-A 450 km
K-P 900 km



II. Elements derived from the information.

II.1. Total transit route traffic.

S-K (including S-A and S-P) 25.2 E
K-A (including S-A) 8.9 E
K-P (including S-P) 9.1 E

II.2. *Circuit annual charges.*

The following values are taken from the minutes of the Committee for the Revision of International Tariffs.

- Terminal carrier and switching equipment 0.22 gold franc per circuit, per 3 minutes of conversation.
- Circuit 0.25 gold franc per 100 km, per 3 minutes of conversation.
- 40 000 minutes of occupation per annum.

The following values are obtained :

$$L_{S-A} \text{ (direct)} = (2 \times 0.22 + 11 \times 0.25) \times \frac{40\,000}{3} = 3.19 \times \frac{40\,000}{3} = 42\,530 \text{ gold fr.}$$

$$L_{S-P} \text{ (direct)} = (2 \times 0.22 + 15 \times 0.25) \times \frac{40\,000}{3} = 4.19 \times \frac{40\,000}{3} = 55\,860 \quad "$$

$$L_{S-K} = (2 \times 0.22 + 6.7 \times 0.25) \times \frac{40\,000}{3} = 2.115 \times \frac{40\,000}{3} = 28\,200 \quad "$$

$$L_{K-A} = (2 \times 0.22 + 4.5 \times 0.25) \times \frac{40\,000}{3} = 1.565 \times \frac{40\,000}{3} = 20\,870 \quad "$$

$$L_{K-P} = (2 \times 0.22 + 9 \times 0.25) \times \frac{40\,000}{3} = 2.69 \times \frac{40\,000}{3} = 35\,860 \quad "$$

The prices have been rounded to about 10 gold francs.

Note. — For the calculation of the best arrangement with alternative routing, it is necessary to have an annual charge basis for international circuits and for their terminal carrier and switching equipment.

The basic values taken are those which are used to determine cost price elements for 3 minutes, telephone charges in C.C.I.F. Recommendation 41. The value for carrier and switching equipment (0.22 gold francs per 3 minutes) corresponds to the cost price elements for semi-automatic exchanges less operating expenses :

$$\begin{aligned} 0.22 &= 0.80 - 0.58 \text{ for an outgoing centre,} \\ &= 0.30 - 0.08 \text{ for an incoming centre.} \end{aligned}$$

The annual charge values per circuit are restored by multiplying the values indicated in Recommendation 41 by $\frac{40\,000}{3}$.

The actual number of minutes of conversation during the year will vary the cost per 3 minutes but not the annual charges.

III. *Results of the calculations.*

III.1. The calculations given in the following Appendix and carried out

- by the "weighted choice" method,
- by the Swedish method,

leading respectively to the following values of numbers of circuits representing the optimum economic arrangement.

Group	"Weighting of the choices"	Swedish method
S-A	1	1
S-P	1	1
S-K	30.6	30.6
K-A	13.1	13.2
K-P	13.5	13.6

It will be seen that there is a perfect convergence of results.

III.2. In the calculations made by the "weighted choice" method, different arrangements are calculated to find the economic optimum. It is interesting to compare the annual charges of these different arrangements which are :

Arrangement	S-A = 1 S-P = 1	S-A = 0 S-P = 0 (all passed in transit)	S-A = 0 S-P = 1
Cost	1 718 820	1 721 520	1 722 540

S-A = 1 S-P = 2	S-A = 3 S-P = 3	S-A = 5 S-P = 5	S-A = 7.6 S-P = 8.4 } all the traffic passed direct
1 723 432	1 738 970	1 777 720	1 909 590

APPENDIX 1

Calculations made by the "weighted choice" process

1. Approximate determination of the most economical arrangement.

1.1. Occupancies for first choice circuits on direct routes:

$$\text{S-A (direct)} \frac{4.2}{5.2} = 0.81 \text{ E}$$

$$\text{S-P (direct)} \frac{4.9}{5.9} = 0.83 \text{ E}$$

The corresponding occupancies for the second choice circuits are approximately 0.75 E and 0.78 E respectively.

1.2. Transit route traffic addition per circuit:

S-K + A + P at 3%	33 circuits carry	25.84 E
	32 circuits carry	24.91 E
	difference	0.93 E
K-A (incl. S-A) at 3%	14 circuits carry	8.8 E
	13 circuits carry	7.97 E
	difference	0.83 E
K-P (incl. S-P) at 3%	15 circuits carry	9.65 E
	14 circuits carry	8.8 E
	difference	0.85 E

1.3. *Economic comparison.*

1.3.1. A.C. by direct route for first circuit of group :

$$\text{A.C. per erlang S-A} = \frac{42,530}{0.81} = 52,510 \text{ gold francs}$$

$$\text{A.C. per erlang S-P} = \frac{55,860}{0.83} = 67,310 \text{ gold francs}$$

1.3.2. A.C. by overflow route for last circuit of group :

$$\text{A.C. per erlang S-K-A} = \frac{28,200}{0.93} + \frac{20,870}{0.83} = 55,470 \text{ gold francs}$$

$$\text{A.C. per erlang S-K-P} = \frac{28,200}{0.93} + \frac{35,860}{0.85} = 72,510 \text{ gold francs}$$

Note. — A comparison between sections 2.1 and 2.2 shows an apparent economic advantage with one direct circuit on each of the routes S-A and S-P. However, the additional traffic per circuit in paragraph 1.2 is for random traffic, whereas the traffic in paragraph 1.1 is selected calls which are better distributed than random traffic. On this account, the occupancies in paragraph 1.2 are relatively low and the charges in paragraph 1.3.2 are relatively high.

In particular, the figures in paragraph 1.2 are a little lower than those used for the economic calculation in the Swedish method where the traffic carried by the first circuit of the alternate route is taken into consideration where all the traffic is offered to it (this, however, is also an approximation).

1.3.3. The occupancy values for the second choice circuits on the direct route S-A and S-P are not sufficiently high to provide an annual charge figure which will compare favourably with the charges via transit given in paragraph 1.3.2. For the first choice circuits, it is easier to calculate the number of circuits required and to evaluate the annual charges than to attempt to reach an accurate estimate of the optimum arrangement by comparing the route charges.

1.3.4. Existing plant or operational conditions may make it advantageous to adopt an overflow arrangement which is not the best theoretical solution. For information purposes, therefore, several possible combinations are worked out in section 2.

2. *Computation of number of overflow circuits.*

2.1. Arrangements to be considered :

2.1.1. S-A 1 direct circuit

S-P 1 direct circuit

2.1.2. S-A 3 direct circuits

S-P 3 direct circuits

2.1.3. S-A 5 direct circuits

S-P 5 direct circuits

2.2. *Overflow traffic as read from curves.*

Arrangement considered :	1 + 1	3 + 3	5 + 5
S-A (4.2 E offered)	3.4 E	1.98 E	0.92 E
S-P (4.9 E offered)	4.07 E	2.55 E	1.36 E

2.3. Calculation of overflow circuits S-K.

Arrangement considered:

	1 + 1		3 + 3		5 + 5	
S-K	16.1	$\times 1 = 16.1$	16.1	$\times 1 = 16.1$	16.1	$\times 1 = 16.1$
S-A	3.4	$\times 2 = 6.8$	1.98	$\times 4 = 7.9$	0.92	$\times 6 = 5.5$
S-P	4.07	$\times 2 = 8.2$	2.55	$\times 4 = 10.2$	1.36	$\times 6 = 8.2$
	<u>23.57 E</u>	<u>31.1</u>	<u>20.63 E</u>	<u>34.2</u>	<u>18.38 E</u>	<u>29.8</u>
3% loss	0.71 E		0.62 E		0.55 E	
Weighted choice		1.3		1.6		1.6
Hypothetical choice read from curve to give stated loss	31.9		29.1		26.4	
less		1.3		1.6		1.6
Circuit quantity needed		<u>30.6</u>		<u>27.5</u>		<u>24.8</u>

2.4. Calculation of overflow circuits K-A.

Arrangement considered:

	1 + 1		3 + 3		5 + 5	
K-A	4.7	$\times 1 = 4.7$	4.7	$\times 1 = 4.7$	4.7	$\times 1 = 4.7$
S-K-A	3.4	$\times 2 = 6.8$	1.98	$\times 4 = 7.9$	0.92	$\times 6 = 5.5$
	<u>8.1 E</u>	<u>11.5</u>	<u>6.68 E</u>	<u>12.6</u>	<u>5.62 E</u>	<u>10.2</u>
3% loss	0.24 E		0.2 E		0.17 E	
Weighted choice		1.4		1.9		1.8
Hypothetical choice read from curve	14.5		13.5		12.2	
Circuit quantity needed		<u>13.1</u>		<u>11.6</u>		<u>10.4</u>

2.5. Calculation of overflow circuit K-P.

Arrangement considered:

	1 + 1		3 + 3		5 + 5	
K-P	4.2	$\times 1 = 4.2$	4.2	$\times 1 = 4.2$	4.2	$\times 1 = 4.2$
S-K-P	4.07	$\times 2 = 8.1$	2.55	$\times 4 = 10.2$	1.36	$\times 6 = 8.2$
	<u>8.27 E</u>	<u>12.3</u>	<u>6.75 E</u>	<u>14.4</u>	<u>5.56 E</u>	<u>12.4</u>
3% loss	0.25 E		0.2 E		0.17 E	
Weighted choice		1.5		2.1		2.2
Hypothetical choice read from curve	15.0		13.9		12.5	
Circuit quantity needed		<u>13.5</u>		<u>11.8</u>		<u>10.3</u>

3. *Results.*3.1. *Summary of A.C. of different arrangements with overflow as calculated by taking the product of annual charges and the quantities of circuits found.*

Arrangement considered :	1 + 1	3 + 3	5 + 5
A.C. of route S-A	42 530	127 590	212 650
A.C. of route S-P	55 860	167 580	279 300
A.C. of route S-K	862 920	775 550	699 360
A.C. of route K-A	273 400	245 100	217 050
A.C. of route K-P	484 110	423 150	369 360
Total	1 718 820	1 738 970	1 777 720

3.2. *All traffic via transit.*

S-K = 25.2 E needing 32.3 circuits	A.C. = 910 860
K-A = 8.9 E needing 14.1 circuits	A.C. = 294 270
K-P = 9.1 E needing 14.4 circuits	A.C. = 516 390
	1 721 520

3.3. *S-A and S-P traffic direct.*

S-A = 4.2 E needing 7.6 circuits (5% loss)	A.C. = 323 230
S-P = 4.9 E needing 8.4 circuits (5% loss)	A.C. = 469 220
S-K = 16.1 E needing 22.4 circuits	A.C. = 631 680
K-A = 4.7 E needing 9.0 circuits	A.C. = 187 830
K-P = 4.2 E needing 8.3 circuits	A.C. = 297 630
	1 909 590

From these results it is possible to determine that the annual charges for the traffic S-K, K-A and K-P, which is not subject to overflow, is 1 117 140 and the difference in charge between the first arrangement with alternative routing (1 718 820 — 1 117 140 = 601 680) and all traffic direct (1 909 590 — 1 117 140 = 792 450) represents approximately 24% on the traffic concerned (S-A, S-P). The difference between alternative routing and all traffic via transit is only 0.5%.

4. *Analysis of Results.*4.1. *Circuit occupancies.*

With S-A = 1 and S-P = 1, the traffic from S-K is 23.57 E requiring 30.6 circuits (see paragraph 2.3). When all traffic is via transit, the traffic from S-K is 25.2 E which needs 32.3 circuits. The difference 1.635 E needs only 1.7 circuits showing that the extra circuits are operating at a higher occupancy (0.96) than can be justified by the tables as mentioned in paragraph 1.2 above.

4.2. It is quite possible that a more economical arrangement might be produced with S-A = 0 and S-P = 1 or with S-A = 1 and S-P = 2. These possibilities can be quickly established by calculating the quantities.

* 1 117 140.

4.3. *Further Computation.*

Arrangement considered :	0 + 1	1 + 2
S-A (4.2 E offered)	4.2 E	3.4 E
S-P (4.9 E offered)	4.07 E	3.3 E
Computation for S-K		
S-K	$16.1 \times 1 = 16.1$	$16.1 \times 1 = 16.1$
S-A	$4.2 \times 1 = 4.2$	$3.4 \times 2 = 6.8$
S-P	$4.07 \times 2 = 8.2$	$3.3 \times 3 = 9.9$
	<u>24.37 E</u> 28.5	<u>22.8 E</u> 32.8
3% loss	0.73 E	0.68 E
Weighted choice	1.2	1.5
Hypothetical choice read from curve	32.7	31.3
Circuit quantity needed	31.5	29.8
Computation for K-A		
K-A	14.1 circuits as in	13.1 circuits as in
S-K-A	section 3.2	section 2.4
Computation for K-P		
K-P	13.5 circuits as in	$4.2 \times 1 = 4.2$
S-K-P	section 2.5	$3.3 \times 3 = 9.9$
		<u>7.5 E</u> 14.1
3% loss		0.23 E
Weighted choice		1.9
Hypothetical choice read from curve		14.6
Circuit quantity needed		12.7

4.4. *Further Summary.*

Arrangement considered :	0 + 1	1 + 2
A.C. of route S-A	—	42 530
A.C. of route S-P	55 860	111 720
A.C. of route S-K	888 300	840 360
A.C. of route K-A	294 270	273 400
A.C. of route K-P	484 110	455 422
	<u>1 722 540</u>	<u>1 723 432</u>

4.5. *General Comments.*

It should be observed that the effective grade of service is not similar in all examples taken. The 5 + 5 and 3 + 3 arrangements would be capable of taking a considerable overload with less serious upset than the other arrangements.

It has been assumed for this study that the loss on the transit routes should be not greater than 3% because certain other traffic from Stockholm uses København as a transit without overflow. As a general case, in which the only consideration is the loss on the routes S-A, S-P, S-K, K-A and K-P then the 3 + 3 and 5 + 5 arrangements have special merit because with circuits S-K at 5% loss there is a saving of 1.8 circuits and on the K-A and K-P routes there is also a saving of 1 circuit. The revised figures are then :

3 + 3	1 631 470
5 + 5	1 670 220

These totals are markedly less than the other combinations.

APPENDIX 2

*Calculations by the Swedish method*1. *All the traffic is passed over the alternative route (via K).*1.1. *Traffic offered.*

S-K (including S-A and S-P) : 25.2 E
 K-A (including S-A) : 8.9 E
 K-P (including S-P) : 9.1 E

1.2. *Number of circuits necessary.*
(loss probability $p = 3\%$)

$n_1 = 32.3$
 $n_2 = 14.1$
 $n_3 = 14.4$

1.3. *Occupation of the first circuit at each group.*

$a_{SK1} = 0.96 E$
 $a_{KA1} = 0.90 E$
 $a_{KP1} = 0.90 E$

2. *Most economic arrangement — Number of direct circuits.*

In the most economic arrangement, the occupation of the last circuit of the direct groups Stockholm-Amsterdam and Stockholm-Paris is

$$a_{SA} = \frac{L_{SA}}{\frac{L_{SK}}{a_{SK1}} + \frac{L_{KA}}{a_{KA1}}} = \frac{3.19}{\frac{2.115}{0.96} + \frac{1.565}{0.90}} = 0.82 E$$

and

$$a_{SP} = \frac{L_{SP}}{\frac{L_{SK}}{a_{SK1}} + \frac{L_{KP}}{a_{KP1}}} = \frac{4.19}{\frac{2.115}{0.96} + \frac{2.69}{0.90}} = 0.81 E$$

The last circuit of the direct group S-A should carry a minimum traffic of 0.82 E when the traffic offered to this group is 4.2 E.

One direct circuit is then required for the group S-A (occupation of the first circuit S-A for 4.2 E offered: 0.81 E, of the second circuit: 0.75 E).

The same for the group S-P :

— traffic offered : 4.9 E,

— minimum traffic carried by the last circuit : 0.81 E,

it must therefore have 1 direct circuit (occupation of the first circuit S-P for 4.9 E offered : 0.83 E, of the second circuit : 0.78 E).

3. *Number of circuits on the overflow groups.*3.1. *Group S-K.*

To carry the total traffic of 25.2 E, with a loss probability of 3% would require 32.3 circuits. This number of circuits should be reduced by the quantity r obtained from the relation :

$$25.2 E_{1,r} (25.2) = 25.2 - [4.9 - 4.9 E_{1,1} (4.9)] - [4.2 - 4.2 E_{1,1} (4.2)]$$

or;

$$25.2 E_{1,r} (25.2) = 25.2 - 0.9 - 0.8 = 23.5$$

where $r = 1.7$

resulting in : $32.3 - 1.7 = 30.6$ circuits.

3.2. *Group K-A.*

The total traffic 8.9 E would require 14.1 circuits.

This number of circuits should be reduced by a quantity r obtained from the relation :

$$8.9 \cdot E_{1,r} (8.9) = 8.9 - [4.2 - 4.2 \cdot E_{1,1} (4.2)] = 8.1$$

where $r = 0.9$

resulting in : $14.1 - 0.9 = 13.2$ circuits.

3.3. *Group K-P.*

The total traffic 9.1 E requires 14.4 circuits.

This number of circuits should be reduced by a quantity r obtained from the relation :

$$9.1 E_{1,r} (9.1) = 9.1 - [4.9 - 4.9 E_{1,1} (4.9)] = 8.2$$

where $r = 0.8$

resulting in : $14.4 - 0.8 = 13.6$ circuits.

4. *Conclusion.*

Finally the following arrangement is obtained :

Stockholm-Amsterdam	1 circuit
Stockholm-Paris	1 circuit
Stockholm-København	30.6 circuits
København-Amsterdam	13.2 circuits
København-Paris	13.6 circuits

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

LIST OF NEGATIVE DECISIONS TAKEN BY THE C.C.I.T.T. (BY THE C.C.I.F.)

Decisions

The publication of an "International List of telephone exchanges" by the I.T.U. General Secretariat can be dispensed with.

A code for access to the international automatic network should not be standardized (see also point 10 of Recommendation No. 26 bis).

There is no case for allowing a terminal Administration ** to receive a higher quota for outgoing calls than for incoming calls in order to take its publicity expenses (canvassing) into account.

There is no point in keeping statistics of circuit out-of-service times.

The principle of charging for ineffective international automatic calls should be rejected.

The queueing system in an international automatic transit exchange with seizing priority for automatic transit calls cannot be generally recommended.

There is no occasion to modify the arrangements in the Instructions for Operators so that in demand working, speedier treatment is given to ordinary calls with respect to other calls.

There is no occasion to modify the arrangements in the Instructions for Operators to make obligatory the insertion of the caller's name on the call ticket in the case of a *préavis* call.

Reference

Recommendation No. 12^{ter}, *Green Book* *, Vol. VI, p. 36.

Recommendation No. 26^{ter}, *Green Book*, Vol. VI, p. 73.

Recommendation No. 58, *Green Book*, Vol. VI, p. 118.

Recommendation No. 62^{bis}, *Green Book*, Vol. VI, p. 130.

Result of the study of Question 5 examined in 1956-1958.

Result of the study of Question 19 examined in 1956-1958.

Result of the study of Question 26 examined in 1956-1958.

Result of the study of Question 27 examined in 1956-1958.

* Volume VI of the *Green Book* is the outcome of the XVIIth Plenary Assembly of the C.C.I.F., Geneva, 1954.

** or Recognized Private Operating Agency(ies).

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

NEW QUESTIONS

TELEPHONE OPERATION AND TARIFF QUESTIONS ENTRUSTED TO SUB-STUDY GROUP 2/2 IN 1958-1960

1. Questions

entrusted by the C.C.I.T.T. 1st Plenary Assembly (Geneva, December 1956),
the study of which should be continued after the Special Assembly (Geneva, September 1958)

SUMMARY

No.	Brief description	Other Study Groups, Sub-Groups, or international organizations cooperating in the study	Comments :
1	Replacement of the present system of international accounts	S.G. 2 S.G. 11	Vol. I, p. 343
10	Assessment of quotas in the case of automatic transit	S.S.G. 2/4	Vol. I, p. 349
11	Elimination of charging dissymmetries in international automatic service		Vol. I, p. 349 Study by S.S.G. 2/4 exclusively
14	Standardization for " abnormal conditions " in international automatic service	S.G. 11 S.S.G. 2/4	Vol. I, p. 350 S.S.G. 2/4 responsible for study
17	Routes operated in transit, partly with automatic switching, partly with manual switching	S.G. 11 S.S.G. 2/4	Vol. I, p. 351 S.S.G. 2/4 responsible for study
18	Setting-up of circuits for special purposes in international automatic service	S.G. 11 S.S.G. 2/4	Vol. I, p. 351
28	Speeding up the putting through of photo-telegraph calls	S.S.G. 2/1	Vol. I, p. 357 S.S.G. 2/1 responsible for study
32	Accounting in case of re-routing of a circuit carrying voice-frequency telegraphy	S.G. 2 S.S.G. 2/1	Vol. I, p. 340

2. Questions set for study by the Special Assembly (September 1958)

Supplementary question A

(Study Group 4 and Sub-Group 2/2)

(New Question)

Should it be accepted that a speech circuit associated with a television transmission circuit may be used as an emergency circuit for sound programme transmissions?

ANNEX

(to Supplementary Question A of Sub-Study Group 2/2)

Extract from the reply made by Study Group 4 during its Munich meeting in November 1958

1. Study Group 4 made an examination from the technical point of view only of Supplementary Question A set by the Special Assembly.

It first took note that the request of the E.B.U. :

1. did not propose the use of a speech circuit other than in the case of failure of the programme circuit normally provided;
2. only concerned the use of a speech circuit for a spoken commentary.

Use of a speech circuit for the transmission of sound effects or music is not envisaged by the E.B.U.

2. Study Group 4 considers that there should be a recapitulation of the inconveniences which might result from the use of an ordinary telephone speech circuit to carry a programme transmission.

Inconvenience to the user :

- (a) Such a circuit would be two-directional and due to its terminating units, might involve echo phenomena which, while of no trouble in the case of telephone speech, might affect a programme transmission. The terminating units at the repeater station cannot be disconnected by the broadcast studio.
- (b) There is always a danger of signal receiver operation.
- (c) Officials in repeater stations may enter the circuit.
- (d) Lastly, the speech circuit obviously does not have the same quality as a programme circuit, e.g., in respect of frequency band, etc.

Inconveniences for other users :

- (a) Danger of cross-talk disturbing adjacent circuits especially if the levels resulting from the programme transmission are too high.
- (b) Danger of loss of secrecy of telephone conversations and of a private telephone conversation on a neighbouring circuit being broadcast by the broadcasting authority in the case of crosstalk in the opposite direction from (a).

3. It would therefore be preferable to set up reserve circuits in advance for programme transmissions, whenever there are programme circuits available. Study Group 4 considers that the decisions to be taken concerning the acceptance of the procedure envisaged by the E.B.U. are the concern of Sub-Group 2/2. It is thought, however, that the following conditions represent the minimum requirements before agreeing to the occasional use of speech circuits in the event of failure of a commentary circuit :

- (a) Such use should only occur in an emergency.
- (b) The broadcasting authority should accept a deterioration of the quality of the transmitted programme.
- (c) The transmitted levels should be the same as the level accepted for telephone transmission.
- (d) Switching of the speech circuit should be made at a point where there will be an automatic correction of the level.
- (e) Telephone Administrations should be immediately advised so that they can check that the transmitted levels keep within the limits laid down.

Supplementary question B

(in continuation and replacement of Question 25)

1. It has been agreed that, to facilitate semi-automatic operation, the principle of identification of the called subscriber by the calling subscriber himself should be agreed. Would it not be desirable to consider the chargeable duration as beginning at the moment when the called subscriber takes up the receiver, instead of at the moment when identification has been completed, in order :

- to reduce the work of the operators,
- to apply the charge, as in the semi-automatic service,

according to the exact duration of the connection between two correspondents?

Note : This question is of special interest when there is only one registration of the conversation time of automatic and semi-automatic calls in a given relation.

2. Can :

- the method of identification of the called subscriber by the calling subscriber, the principle of which has already been accepted for the semi-automatic service, and
- the charging method specified in Point 1 of the present question, be extended to the direct manual demand service ?

Supplementary question C

(New Question)

Should the lease of international television transmission circuits for a long period be allowed ?

If so, what rates and conditions (especially what minimum lease duration) should be laid down ?

3. Questions set for study as a result of decisions of the Telegraph and Telephone Administrative Conference (Geneva 1958)

Supplementary question D

(Question arising from Resolution 1 of the Administrative Conference)

Should the combination of several special facilities be allowed for a single call and, if so, what charging system should be applied.

ANNEX I

(to supplementary Question D)

Consideranda of Resolution 1 of the Administrative Conference

1. The Telephone Regulations make available to subscribers in the international telephone service, calls which can be made in three different ways (ordinary, urgent, lightning calls) and a certain number of special facilities (occasional fixed time calls, préavis, avis d'appel, collect calls, etc.).
2. The Administrations or Recognized Private Operating Agencies may be tempted, when no question of charging arises (maximum charge of one single surcharge) to combine among themselves all these possibilities in order to offer a maximum variety of services to users, which would result in undesirable burdening of operation.
3. In fact, few combinations appear to be of real interest to the public, but no study has been made of this subject.

Supplementary question E

(Question arising from Resolution 3 of the Administrative Conference)

Study of charging for telephone calls booked to or established with a wrong number; (§ 8 of Article 37 "Adjustment of charges and Reimbursements" of the Telephone Regulations, Geneva Revision, 1958 cannot be applied in all cases).

PART III

**TELEGRAPH OPERATION
AND TARIFFS**

SERIES F

RECOMMENDATIONS APPLYING TO TELEGRAPH OPERATION AND TARIFFS

SUMMARY

Index of Recommendations, Series F

Table showing correspondence with the numbers of C.C.I.T. Recommendations

1st SECTION : Operating methods for the international general telegraph service.
(Nos. F.1 to F.19)

2nd SECTION : Switching network for the general public service — Gentex network.
(Nos. F.20 to F.39)

3rd SECTION : Tariffs and accounting methods for the international general telegraph service.
(Nos. F.40 to F.59)

4th SECTION : Telex Service.
(Nos. F.60 to F.69)

5th SECTION : Lease of telegraph circuits.
(Nos. F.70 to F.79)

6th SECTION : Operating methods for facsimile and phototelegraphy service.
(Nos. F.80 to F.89)

7th SECTION : Statistics and Publications for international telegraphy.
(Nos. F.90 to F.99)

INDEX OF RECOMMENDATIONS, SERIES F

No. C.C.I.T.T.	Previous No. C.C.I.T.	Title	Page
1st SECTION			
Operating methods for the international general telegraph service			
F.1	New	Transmission of telegrams in the international service	211
F.2	(G.12)	Action to be taken in case of interruption of telegraph circuits. — Possible use of Telex circuits	234
F.10	(F.7)	Maximum tolerable error rate for land-line telegraph communications, operated with five-unit start-stop apparatus	235
F.11	(F.8)	Maximum tolerable error rate for radiotelegraph communications, using five-unit start-stop apparatus (including mixed communications, consisting of wire and radio circuits)	235
F.12	(F.9)	Receipt of telegrams in pages, in an agreed form and without errors	236
2nd SECTION			
Switching network for the general public service Gentex network			
F.20	(F.11)	Constitution of the European Switching Network for the general public telegraph service, using start-stop teleprinters	239
F.21	New	Composition of the answer-back code for the international Gentex service	241
F.22	New	Gentex Regulations	245
F.23	(F.18)	Grade of service for international trunk circuits used in the Gentex service	261
F.30	(F.10)	"Message separation" signal	261

No. C.C.I.T.T.	Previous No. C.C.I.T.	Title	Page
3rd SECTION			
Tariffs and accounting methods for the international general telegraph service			
F.40	(G.8)	Word-counting — Preparation of a vocabulary	263
F.45	New	Determination of terminal rates in the European system	264
F.50	(G.14)	Accounting in the public telegraph service	264
F.51	(G.13)	Accounting procedure to be applied in the case where a telephone circuit, used for V.F. telegraphy, is replaced by another, following a different route	265
4th SECTION			
Telex Service			
F.60	(H.1)	Draft Regulations for the Subscribers' Telegraph service by start-stop apparatus, in the European system . .	267
F.61	(H.2)	Use of tape-teleprinters in the Telex service	290
F.62	(H.3)	Duplex operation in the Telex service	291
F.63	(H.9)	Conference and broadcast calls in the international Telex service	292
F.64	(H.10)	Determination of the number of international Telex cir- cuits required to carry a given volume of traffic . . .	293
F.65	(H.11)	Time-to-answer by operators at international Telex posi- tions	295
F.66	(H.14)	Rates for Telex calls	296
5th SECTION			
Lease of telegraph circuits			
F.70	(H.5)	Leasing of telegraph circuits	299
F.71	(H.6)	Accounting of the rental for the lease of international telegraph circuits	302

No. C.C.I.T.T.	Previous No. C.C.I.T.	Title	Page
F.72	(H.7)	Tariffs applicable for the lease of circuits to meteorological services	302
F.73	(H.8)	Metering of traffic on leased telegraph circuits	303
F.74	(H.13)	Leased telephone circuits, used simultaneously for telegraphy and telephony	306
6th SECTION			
Operating methods for facsimile and phototelegraphy service			
F.80	New	Provisions about Phototelegrams	307
F.81	(G.11)	Phototelegrams	311
F.82	New	Rules for phototelegraph communications, established over circuits normally used for telephone traffic	311
F.83	New	Rates for phototelegrams and private phototelegraph calls	317
7th SECTION			
Statistics and publications on international telegraphy			
F.90	(F.1)	Speed of transmission of international telegrams	323
F.91	(F.5)	General telegraph statistics	326
F.92	(F.6)	Service Codes	335
F.93	(F.14) modified	Routing Table for offices taking part in the Gentex service	349
F.94	(H.4)	Tables of international Telex traffic	349
F.95	(H.12)	List of Telex circuits and routes	350

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

TABLE SHOWING CORRESPONDENCE

between

the numbers of C.C.I.T. Recommendations (Series F, G and H of the " Violet Book ")
and those of Recommendations Series F, in Vol. II of C.C.I.T.T.'s " Red Book "

Number of C.C.I.T. Recommendation (C.C.I.T. <i>Violet Book</i>)	Decision taken by the Special Assembly	Corresponding number of C.C.I.T.T. Recommendation (<i>Red Book</i> , Vol. II)
F.1	Maintained	F.90
F.3	Deleted	
F.4	Deleted, inserted in F.1	F.1, Art. A4, § 1 f
F.5	Maintained	F.91
F.6	Maintained	F.92
F.7	Maintained	F.10
F.8	Maintained	F.11
F.9	Maintained	F.12
F.10	Maintained	F.30
F.11	Maintained	F.20
F.12	Deleted, inserted in F.22	F.22, Art. 3, § 1
F.13	Deleted, inserted in F.22	F.22, Art. 2, § 1
F.14	Modified	F.93
F.15	Deleted, inserted in F.22	F.22, Arts. 22 and 23
F.16	Deleted, inserted in F.22	F.22, Art. 15
F.17	Deleted, inserted in F.22	F.22, Art. 16
F.18	Maintained	F.23
F.19	Deleted, inserted in F.22	F.22, Art. 16
F.20	Deleted, inserted in F.22	F.22, Art. 26
G.1	Deleted	
G.4	Deleted, inserted in F.80	F.80, Art. C
G.5	Deleted	
G.6	Deleted	
G.7	Deleted	

TABLE SHOWING CORRESPONDENCE

Number of C.C.I.T. Recommendation (C.C.I.T. <i>Violet Book</i>)	Decision taken by the Special Assembly	Corresponding number of C.C.I.T.T. Recommendation (<i>Red Book</i> , Vol. II)
G.8	Maintained	F.40
G.9	Deleted	
G.10	Deleted	
G.11	Maintained	F.81
G.12	Maintained	F.2
G.13	Maintained	F.51
G.14	Maintained	F.50
G.15	Deleted, inserted in F.22	F.22, Arts. 24 and 25
G.16	Deleted	
Resolution G.1	Deleted	
H.1	Slightly modified	F.60
H.2	Maintained	F.61
H.3	Maintained	F.62
H.4	Maintained	F.94
H.5	Maintained	F.70
H.6	Maintained	F.71
H.7	Maintained	F.72
H.8	Maintained	F.73
H.9	Maintained	F.63
H.10	Maintained	F.64
H.11	Maintained	F.65
H.12	Maintained	F.95
H.13	Maintained	F.74
H.14	Maintained	F.66

FIRST SECTION

OPERATING METHODS FOR INTERNATIONAL GENERAL TELEGRAPH SERVICE

RECOMMENDATION F.1

TRANSMISSION OF TELEGRAMS IN THE INTERNATIONAL SERVICE (Geneva, 1958)

THE C.C.I.T.T.,

HAVING REGARD

to Articles 4, 16, 21, 27, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45 and 46 of the Telegraph Regulations (Geneva Revision, 1958),

UNANIMOUSLY RECOMMENDS

that the following Rules serve as a guide for the staff in charge of the transmission of telegrams in the international service.

RULES FOR THE TRANSMISSION OF TELEGRAMS IN THE INTERNATIONAL SERVICE

INDEX

Section A. — General Rules.

- A1 Order of transmission of telegrams
- A2 Beginning of transmission
- A3 Order of transmission of the parts of a telegram
- A4 Transmission of the preamble
- A5 Transmission of the other parts of a telegram
- A6 Transmission of signs which may have no special corresponding signals in a telegraph alphabet
- A7 Transmission of groups of figures and letters or of ordinal numbers and fractions
- A8 Signs not transmitted
- A9 End indications
- A10 Transmission incidents
- A11 Receipt
- A12 Automatic repetition. — Collation
- A13 Acknowledgement of receipt
- A14 Altered telegrams and cases of interruption

Section B. — Special rules for communications not put through by switching.

- B1 Daily closing
- B2 Calling
- B3 Alternate transmission, by telegram
- B4 Alternate transmission, by series, and continuous transmission by series
- B5 Transmission with continuous numbering
- B6 Acknowledgment of receipt
- B7 Abbreviation of the name of the office of destination

Section C. — Special rules for switched communications (Gentex communications)

- C1 Routing
- C2 Answer-back signals
- C3 Setting up of calls
- C4 Transmission operations
- C5 Receiving operations
- C6 Acknowledgement of receipt
- C7 Incidents
- C8 Service notes and advices
- C9 Prohibitions

Annex: Service codes and abbreviations

Note

References to the Regulations, in brackets on the left-hand margin, referred to in the text of this Recommendation, are those of the Telegraph Regulations (Geneva Revision, 1958).

Section A. — General provisions**ARTICLE A1. *Order of transmission of telegrams.***

- § 1. The transmission of telegrams shall take place in the following order :
 - (a) SVH telegrams;
 - (b) Government telegrams Priorité Nations;
 - (c) Service advices relating to serious interruption of channels of telecommunication;
 - (d) Government telegrams for which the sender has requested priority of transmission;
 - (e) Meteorological telegrams;
 - (art. 36, § 1) (f) Urgent service telegrams, urgent service advices and paid service advices;
 - (g) Urgent private telegrams, urgent RCT telegrams and urgent press telegrams;
 - (h) Non-urgent service telegrams, non-urgent service advices and acknowledgment of receipt;
 - (i) Government telegrams other than those indicated in l'tt. (b) and (d), above; ordinary private telegrams, ordinary RCT telegrams and ordinary press telegrams;
 - (j) Letter telegrams (ELT, ELTF, LT and LTF).

(F.1)

(art. 36, § 2) §2. Every office which received, by an international communication channel, a telegram presented as a SVH telegram, as a Government telegram, as a service telegram, or as a meteorological telegram, shall reforward it as such.

(art. 36, § 3) §3. Except where technically impossible, telegrams of the same rank shall be transmitted by the sending office in the order of their time of handing-in, and by intermediate offices in the order of their time of receipt.

(art. 36, § 4) §4. At intermediate offices, originating telegrams and transit telegrams to be transmitted over the same routes shall, except where technically impossible, be placed together and transmitted according to the time of handing-in or receipt, subject to the order laid down in this Article.

ARTICLE A2. *Beginning of transmission.*

(art. 37, § 1) §1. All correspondence between two offices shall begin with the call signal.

(art. 37, § 2) §2. A transmission, once begun, may only be interrupted to give place to a communication of superior rank in case of absolute urgency.

(art. 37, § 3) §3. The office called must reply immediately.

ARTICLE A3. *Order of transmission of the parts of a telegram.*

(art. 42) §1. The various parts of a telegram shall be transmitted as follows : preamble, paid service indications, the address, the text, the signature, and, if appropriate the verification of the signature. Expressions charged for as one word and joined up by the counter officer shall be transmitted as one word.

(art. 37, § 3) §2. Except where transmission and reception, is between page printing * systems, the double hyphen (— · · · — on the Morse instrument and = on printing machines) shall be transmitted to separate the preamble from the paid service indications, the paid service indications from each other, the paid service indications from the address, the different addresses of a multiple telegram from each other, the address from the text, the text from the signature, the signature from, its verification, if included, and the pages of a telegram comprising more than 50 words.

ARTICLE A4. *Transmission of the preamble.*

§1. The service indications forming the preamble shall be transmitted as follows :

- (a) the letter B, but solely in the exchange of telegrams by Morse and sound-reading instruments, and then only when the sending office is working direct with the office of destination;
- (art. 41, § 1) (b) the letter X, in the cases mentioned in article B.5 § 4;
- (c) the serial number of the telegram (art. B5) or the reference number (art. C3, §1) if one of these numbers is to be transmitted;
- (d) the nature of the telegram, by means of the regulation abbreviations (Regulations, Article 41), if necessary;

* In case of reception on a page printing teleprinter, see Recommendation F.12.

- (e) the name of the office of destination, but only in an SVH telegram without address, a telegram "to follow" bearing several destinations (Regulations art. 56, § 5 (1)), a service advice, a paid service advice or an acknowledgment of receipt;
- (f) (1) the name of the office of origin followed, if necessary, by the additions intended to distinguish it from other offices in the same locality (*example*: Berlin-Charlottenburg). The name of the office must be transmitted as it appears in the first column of the International List of Telegraph Offices, and cannot be abbreviated, or combined into a single word. Examples: La Union and *not* Launion; S. Alban d'Ay and *not* Salbanday;
- (2) when the office of origin is indicated by a number, in addition to the name of the place (for example: Berlin 19), the name of the office shall be separated from the number by a fraction bar, in transmission (*example*: Berlin/19). On Morse and sound-reading instruments, this number shall be transmitted immediately after the name of the office, without being separated by a fraction bar or being abbreviated;
- (3) when the opening of the office of origin has not yet been notified by the General Secretariat, the name of the office, the territorial sub-division, and the country, have to be indicated;
- (4) when a telegram is telephoned to a telegraph office by a subscriber served by a telephone exchange of a locality other than that in which the telegraph office is situated, the indication of the place of origin may be transmitted in the following fashion: Exeter telephoned from Feniton (Exeter denotes the telegraph office to which the telegram has been telephoned and Feniton the place in which the subscriber's telephone exchange is situated). Should a telegram be handed in to a telegraph office (Stockholm, for example) by Telex, by a subscriber living somewhere else (Sundsvall, for example), the place of origin may be transmitted as follows: "Stockholm telexed from Sundsvall";
- (g) the office number of the telegram, when this number is transmitted (Regulations, Article 40, § 2);
- (h) the number of words (Regulations, Article 31), with the exception of service advices and acknowledgments of receipt;
- (i) (1) the date and time of depositing the telegram, by two groups of figures, the first indicating the day of the month, and the second, the hours and minutes, by means of a group of four figures (0001 to 2400);
- (2) in countries which do not use the 24 hour clock, the times may be transmitted by means of the figures 0001 to 1200, in which case, the letters m or a (morning), or s or p (afternoon) shall be added to the time of handing-in;
- (j) other service instructions. The route to be followed, if one is indicated, must always be shown at the end; it may be followed only by the indication "Dévié..." However, within the country of destination, retransmission of the route indication shall be optional.

ARTICLE A5. *Transmission of the other parts of a telegram.*

§1. Every telegram must be transmitted as received from the sender, subject to the exceptions mentioned in articles A6, A7 and A8.

(art. 37, § 6) §2. With the exception of paid service indications, which must always be transmitted in abbreviated form, and the cases subject to articles B7 and C8, it shall be forbidden to use any abbreviation whatsoever in the transmission of a telegram, or to alter the telegram in any way.

§3. When an office has to transmit to the same office, in correspondence, more than five telegrams having the same text and comprising more than thirty words, it may transmit the text once only. In that case, the text shall be transmitted in the first telegram only, and the texts of all the telegrams with the same text, which follow, shall be replaced by the words : text No. (number of first telegram). The same procedure may be adopted when the number of telegrams having the same text is five or less and the text runs to more than fifty words.

(art. 37, § 7) This method of procedure necessitates the transmission in succession of all telegrams with the same text.

The office in correspondence must be warned of the transmission of telegrams with the same text by an advice on the lines of the following example :

“ Note, here are five identical texts.”

§4. When reception by the receiving office is possible by means of perforated tape, the office should be warned beforehand of the transmission of telegrams with the same text in time to enable it to receive them by perforated tape.

§5. A telegram of more than fifty words shall be transmitted in pages of fifty words, in the following form :

(art. 37, § 8) 119 Amsterdam 128 16 1015 = page 1/50 = address, etc.
119 ... (name of addressee) page 2/50 =
119 ... (name of addressee) page 3/28 =

The double hyphen indicating the last word of each section of fifty words shall be transmitted after that word.

ARTICLE A6. *Transmission of signs which may have no special correspondence signals in a telegraph alphabet.*

§1. The signs allowable in the drafting of telegrams, which may have no special corresponding signals in a telegraph alphabet, shall be transmitted in the following fashion :

Accentuated é or è :

(art. 16, §§ 4 and 5) (a) In relations in which Alphabets 1 or 2 are used, the letter E shall be transmitted; when an accent on the E is essential to the meaning, the transmitting telegraphist shall repeat the word after the signature, putting the E accentuated between two spaces, to draw the attention of the receiving office. The receiving telegraphist then puts the accent in by hand.

(art. 16, § 6) (b) When the Morse Code is used, the accentuated signal E shall be transmitted.

Roman figures:

Roman figures shall be transmitted as Arabic figures.

- (art. 21, § 4) If the sender has written the French word "Romain", or a corresponding word in the language in which the telegram is drafted, in front of an Arabic figure or group of figures, this word shall be transmitted and the receiving official shall leave this word on the telegram to be delivered, followed by the Arabic figure or group of figures.

Addition sign (+): Transmit the cross sign (+).

Subtraction sign (—): Transmit the dash (—).

- (art. 21, § 5) *Multiplication sign (×):* Transmit the letter X.

Division sign (:): Transmit a colon (:).

Division sign (/): Transmit the fraction bar (/).

Percentage sign (%):

- (a) When Alphabet 1 is used, transmit the signal %.
- (art. 16, §§ 5 and 6) (b) In other relations, successively transmit the figure 0, the fraction bar and the figure 0. A whole number, a fractional number, or a fraction, followed by a % sign, shall be transmitted by joining up the whole number, the fractional number, or the fraction to the % sign by a dash.

Examples: for 2%, transmit 2—0/0 and not 20/0.

Per thousand sign (‰):

Successively transmit the figure 0, the fraction bar, the figure 0 and the figure 0.

- (art. 16, §§ 4, 5, 6) A whole number, a fractional number, or a fraction, followed by a ‰ sign, shall be transmitted by joining up the whole number, the fractional number, or the fraction to the ‰ sign by a dash.

Examples: for 2‰, transmit 2—0/00 and not 20/00
for 4½‰, transmit 4—½—0/00 and not 41/20/00.

Inverted commas (quotation mark):

- (art. 16, §§ 4 and 5) (a) When Alphabet 1 or 2 is used, transmit:
the apostrophe (') twice at the beginning and end of the text within the inverted commas (" ").
- (b) With the Morse Code, the special "inverted comma" signal before and after the words.

But Administrations and Recognized Private Operating Agencies using code converters may transmit inverted commas by twice repeating the apostrophe sign, before and after the words.

- (art. 16, § 6) *Accentuated letters ä or æ, á or â, ñ, ö or ø, ü* (In relations in which the use of these signs has been authorized by special agreement reached between Administrations and Recognized Private Operating Agencies).

- (art. 16, §§ 4 and 5) (a) When Alphabets 1 or 2 are used, transmit them in accordance with the agreement reached.
- (art. 16, § 6) (b) When Morse Code is used, use the signals corresponding to these characters.

ARTICLE A7. *Transmission of groups of digits and letters or of ordinal numbers and fractions.*

§1. Ordinal numbers composed of figures and letters : 30^{me}, 25th, etc. shall be transmitted in the form 30me, 25th, etc.

(art. 21, § 7)

§2. Letters or groups of letters followed by letters or figures placed above or below the line, shall be transmitted in the form substituted for them by the sender.

If, however, the expressions 30^a, 30^b, etc., 30^{bis}, 30^{ter}, etc., 30 I, 30 II, etc., 30¹, 30², etc., 30A, 30B, etc., indicating a house number, appear in the address of a telegram, the counter officer shall separate the number from the letters or figures accompanying it by a fraction bar. The expression in question shall consequently be transmitted in the following fashion in the address of a telegram : 30/a, 30/b, etc., 30/bis, 30/ter, etc., 30/1, 30/2, etc., 30/A, 30/B, etc.

(art. 21, § 7)

§3. Except as provided in § 2 above, groups consisting of figures and letters must be transmitted as set forth in the telegram.

(art. 16,

§§ 5 and 6)

Examples : 3B is transmitted as 3B

AG 25 is transmitted as AG 25.

But when Alphabet 1 is used, a group made up of figures and letters must be transmitted by linking figures and letters with a double hyphen.

(art. 16, § 4)

Examples : 3 = B, AG = 25

§4. A number which includes a fraction shall be transmitted with the fraction linked to the whole number by a single hyphen.

Examples : for 1 3/4, transmit 1-3/4, and not 13/4

for 3/4 8, transmit 3/4-8, and not 3/48

for 363 1/2 4 5642, transmit 363-1/2 4 5642, and not 3631/2 4 5642.

(art. 16,

§§ 4, 5 and 6)

§5. In case of routine repetition with the Morse Code, if there can be no misunderstanding in consequence of the presence together of figures and letters or groups of letters, figures may be rendered by means of the abbreviated signals.

(art. 16, § 6)

Unless otherwise requested by the receiving office, the sending office may also use these signals in the preamble of telegrams, except in respect of distinguishing numbers of the office of origin and in the texts of telegrams consisting solely of figures. In the latter case, the telegrams must bear the service instruction "in figures".

(art. 16, § 6)

ARTICLE A8. *Signs not transmitted.*

The following shall neither be charged for nor transmitted :

(art. 27, § 1) (a) dashes used only to separate the different words or groups on the sender's copy;

(b) isolated signs, unless the sender has specifically requested their transmission.

ARTICLE A9. *End indications.*

- (art. 16, §§ 4 and 5) § 1. Every telegram shall be ended by the cross signal preceded by a space.
- § 2. The end of transmission shall be indicated by the cross and question mark signals, preceded by a space.
- § 3. The end of work shall be shown by a double transmission of the plus (+) sign, if Alphabets 1 or 2 are used, or the "end of work" signal, in Morse Code.

ARTICLE A10. *Transmission incidents.*

- (art. 16, § 4) § 1. To indicate "wait", MOM shall be transmitted, if Alphabets 1 or 2 are used, or the "wait" signal in Morse Code.
- § 2. To show an error, the following shall be transmitted :
- (art. 16, § 4) With Alphabet 1, the "error" signal (X);
- (art. 16, § 5) With Alphabet 2, E space E space E space
- With Morse, the error signal - - - -
- The transmission shall then be resumed and shall begin with the last word correctly transmitted.
- (art. 16, § 5) § 3. If Alphabet 2 is used, together with perforated-tape transmission devices, enabling badly punched characters to be eliminated, the signals corresponding to these characters shall be erased by "letter signals".

ARTICLE A11. *Reception.*

- (art. 37, § 9) § 1. With the exception of mobile radio stations, no office may refuse to receive telegrams offered by a sending office, whatever their destination. In case, however, of an obvious mistake in routing or other manifest irregularity, the receiving telegraphist shall point it out to the sending office. If the latter takes no notice of the remark, a service advice shall be forwarded after the receipt of the telegram, and the sending office shall rectify, by service advice, the error made.
- (art. 37, § 10) § 2. A telegram must not be refused or detained because the service instructions, paid service indications, or certain parts of the address or text are not in order. The telegram must be accepted and then, if necessary, a service advice must be sent to the office of origin, requesting rectification in conformity with the provisions of Article 85 of the Regulations.
- (art. 37, § 5) § 3. When the receiving telegraphist finds reception unintelligible, he shall interrupt his correspondent, or cause him to be interrupted, and repeat or cause to be repeated the last word correctly received, followed by a question mark. The sending telegraphist shall then go back and continue the transmission from that word. If a repetition is asked for after a long interruption of correspondence, the telegram and part of the telegram in question must be exactly specified.
- (art. 37, §§ 5 and 12) § 4. If transmission by a correspondent has to be stopped, or, on multiplex instruments, the transmission on the corresponding sector, the procedure shall be as follows until stoppage is effected :
- (a) Morse simplex. Transmit a series of dots.
- (b) Morse duplex and Wheatstone duplex. Transmit the letters "BK".

(art. 37, §§ 5 and 12) (c) Multiplex, simplex, and duplex instruments. Transmit a succession of letters " P " or signs " % ".

(d) Start-stop instruments. Transmit a succession of letters " P " or figures " 0 ".

(art. 43, § 1) § 5. As soon as may possibly be after transmission, the receiving telegraphist shall compare, in each telegram, the number of words received with the number announced. When the number of words is given in the form of a fraction, this comparison, except in the case of an obvious error, shall refer only to the actual number of words or groups.

§ 6. If the telegraphist finds a difference between the number of words announced to him and the number received, he shall notify his correspondent by indicating the number of words received and repeat the first letter of each word, and the first figure of each number. (Example : 17 j c r b 2 d ... etc.). If the sending telegraphist has simply made an error in announcing the number of words, he shall reply " admitted ", and indicate the actual number of words (Example : 17 admitted); if not, he shall rectify the passage found to be incorrect according to the initials received. In both cases, he shall interrupt the transmission of the initials by his correspondent, as soon as he is able to rectify or confirm the number of words

(art. 43, § 2) In long telegrams, each page of which contains only fifty actual words, the receiving telegraphist shall only give the initials of the page containing the mistake.

When this difference does not arise from a mistake in transmission, the rectification in the number of words announced can only be made by agreement, reached, if necessary, by service advice, between the office of origin and the office in correspondence. Failing such agreement, the number of words announced by the office of origin shall be admitted, the telegram, meanwhile, being forwarded with the service indication " Correction to follow checked... words " transmitted in the abbreviated form " CTF... words ", the meaning of which shall be indicated by the office of destination on the copy delivered to the addressee. The correction shall be requested from the office of origin by the office which has inserted the indication " CTF ... words ".

(art. 43, § 3) Repetitions shall be requested and given briefly and clearly.

(art. 41, § 2) § 7. The information given in the preamble, which reaches the office of destination and, in any case, the name of the office of origin, the number of words, and the date and time of handing-in, shall appear on the copy delivered to the addressee.

§ 8. The receiving officer shall write the indication received in accordance with No. A5, § 5 (transmission of telegrams more than fifty words long) at the top of the page.

(art. 37, § 8) On Morse and sound-reading instruments, the receiving telegraphist shall reproduce the double hyphen, if the telegram is in transit; if the telegram is being received for delivery, he shall mark the fiftieth word of the section by a small tick.

On printing instruments, the receiving telegraphist at the transit office shall maintain the double hyphen. At the office of destination, it shall be deleted, and the fiftieth word of each section shall be marked by a small tick.

ARTICLE A12. *Routine repetition — Collation.*

(art. 44, §§ 2-5) § 1. When telegraphists are in doubt as to the accuracy of the transmission or reception, they shall give or demand the partial or complete repetition of telegrams which they have sent or received.

§ 2. For all classes of telegrams, routine repetition shall be obligatory for all figures or mixed groups of letters, figures or signs in the address, text or signature.

(art. 44, § 2-5) § 3. For Government telegrams in plain language and for service telegrams, partial repetition shall be obligatory not only for figures but also for proper names and any doubtful words.

§ 4. For money order and postal cheque telegrams, partial repetition shall be obligatory not only for figures, proper names and any doubtful words, but also for the names of the offices of origin and destination.

(art. 44, § 6) § 5. On Morse and sound-reading instruments, when traffic is exchanged alternately, telegram by telegram, the routine repetition as well as the collation, if any (Regulations, art. 54, § 1) shall be given by the receiving telegraphist. If the routine repetition or collation is corrected by the sending telegraphist, the words or figures corrected shall be repeated by the receiving telegraphist. If it is omitted, this second repetition shall be demanded by the sending telegraphist. On these instruments, when the exchange of traffic is made in series, and on high-speed instruments, the routine repetition or collation shall be given by the sending telegraphist immediately after the telegram. If the receiving telegraphist observes discrepancies between the transmission and the routine repetition or collation, he shall notify his correspondent, quoting the doubtful passages and adding a question mark after them. If necessary, too, he shall repeat the word preceding and the word following.

(art. 44, § 7) § 6. On communication worked in duplex or by means of apparatus permitting two-way traffic, the complete collation of telegrams containing more than 100 words shall be given by the receiving telegraphist. This rule shall not be compulsory in communications worked by the Wheatstone or by teleprinter instruments. On instruments which enable transmissions to be made by perforated tape, the collation must be effected by a second perforation, when the sending telegraphist gives it.

(art. 44, § 8) § 7. In telegrams more than 50 words long, routine repetition shall be given at the end of every page, or of every telegram.

(art. 44, § 11) § 8. Routine repetition may under no pretext be delayed or interrupted, except as specified in Regulations, art. 37, § 1.

(art. 44, § 1) § 9. Any routine repetition shall be preceded by the abbreviation COL.

ARTICLE A13. *Acknowledgement of receipt.*

The receiving office shall acknowledge receipt of any telegram or series of telegrams received by it. The form to be taken by this acknowledgement of receipt shall depend on how the particular communication is operated (see Articles B6 and C6).

ARTICLE A14. *Altered telegrams and interruptions.*

(art. 46, § 1) § 1. Corrections and requests for information relating to telegrams which the office in correspondence has already sent on shall be made by urgent service advice (A urgent).

(F.1)

(art. 46, § 2) § 2. Telegrams containing obvious alterations can be retained only in cases where the rectifications can be speedily made. They must be retransmitted without delay with the service instruction "CTF" at the end of the preamble; this instruction is supplemented by information about the nature of the rectification. For example "CTF 4th" meaning that the fourth word will be corrected. Immediately after the retransmission of the telegram, the rectification shall be requested by urgent service advice (A Urgent).

§ 3. Deferred rectifications must be explicitly designated as urgent services advices (A Urgent).

(art. 46, § 3) § 4. If, through interruption or any other cause, it is not practicable to give or receive the repetition or acknowledgement of receipt, this circumstance shall not prevent the office which has received the telegrams from sending them on, subject to any necessary rectification following later, the service instruction "CTF" being inserted at the end of the preamble.

(art. 46, § 4) In the case of interruption, the receiving office shall immediately give an acknowledgement of receipt, and, when necessary, shall request the completion of an unfinished telegram, either by another direct channel if there is one in service, or, if not, by an urgent service advice (A Urgent) forwarded by the means available.

(art. 46, § 5) § 5. The cancellation of a telegram of which transmission has begun must always be asked for or notified by urgent service advice (A Urgent).

(art. 46, § 6) § 6. When the transmission of a telegram has not been completed or the acknowledgment of receipt is not received within a reasonable time, the telegram shall be transmitted afresh with the service instruction "Ampliation", except in the case of a money-order telegram or a postal-cheque telegram (Regulations art. 47, § 3). The meaning of this service instruction "Ampliation" may be indicated on the addressee's copy by the office of destination.

(art. 37, § 11) § 7. In service correspondence relative to the working of communications, the code expressions in the "Codes and Abbreviations for the use of the International Telecommunications Services" should preferably be used.

Section B. — Special rules for communications not put through by switching

ARTICLE B1. *Daily closing.*

(art. 4, § 3) § 1. In communications permanently open, the closing of daily sessions shall take place at a time agreed upon between the offices in correspondence.

(art. 4, § 4) § 2. In relations between offices which are not permanently open, a terminal office may not close before having exchanged all outstanding international telegrams with an office which is open later and before having received confirmation that all these telegrams have been received.

(art. 4, § 5) § 3. Between two directly communicating offices in different countries, the close of work may take place only by agreement between these offices. If these offices have different hours of closing, the office that closes earlier shall request the close of work. If they have the same closing time, the close of work shall be requested by the office of the country, the capital of which has a longitude to the East of the other capital.

ARTICLE B2. *Calling.*

- (art. 37, § 2) § 1. For calling, the calling office shall thrice transmit the indicator of the office required and the word "de" followed by its own indicator, unless there are special rules peculiar to the type of apparatus used. Between fixed stations, the call shall be made at hand speed.
- (art. 16, § 4) § 2. However, when Alphabet 1 is used, the word "ohe" shall be transmitted to call the office, followed by the indicator of the office call, finishing with several inversions (alternative tapping of the keys for the signals "letter blank" and "figure blank").
- (art. 37, § 2) § 3. However, on circuits operated by start-stop instruments, connected in such a way that the transmitting office may effect the unlocking, the transmission of telegrams shall begin without special call or previous notice to the receiving office.
- (art. 37, § 2) § 4. If agreement has been reached between Administrations (or Recognized Private Operating Agencies) to use automatic answer-back devices, calling shall be effected by the despatch of the signals "figures-shift" and "D" (or "who are you?") The correct reception of the answer-back from the required office shall constitute a reply to the call. The transmission of certain classes of telegrams on the start-stop instrument may be announced by an audible or visible signal set off by transmission of the "figure" "J" signals.
- (art. 37, § 2) § 5. The office called must reply immediately, except in the case of start-stop correspondence, subject to Rule 300.
- In Morse working, the office called shall reply by transmitting its indicator followed by the signal — — —.
- (art. 37, § 2) § 6. If the office called is prevented from receiving, it shall give the "wait" signal. If it expects that the wait will exceed ten minutes, it shall give the reason and probable duration.
- (art. 37, § 2) § 7. When an office called does not reply, the call may be repeated at suitable intervals.
- § 8. When the office called does not reply to the repeated call, the condition of the channel must be examined.

ARTICLE B3. *Alternate transmission by telegram.*

- (art. 38, § 1) § 1. Two offices in direct communication by Morse or sound-reading instruments shall exchange telegrams in alternate order, telegram by telegram, having regard to Article 35.
- (art. 38, § 2) § 2. A telegram of superior rank in order of transmission shall not count in the alternate order.
- (art. 38, § 3) § 3. The office which has just finished a transmission shall have the right to continue when it has telegrams awaiting transmission or when telegrams reach it which are entitled to priority over those which the office in communication has to transmit, unless the latter has already begun its transmission.
- (art. 38, § 4) § 4. When an office has finished its transmission, the office which has just received shall transmit in its turn; if it has nothing to transmit, the other shall continue. If neither has anything to transmit, the offices shall give the signal for the end of work.
- (art. 38, § 5) § 5. The receiving office shall have the right to interrupt the transmission in the case specified in Regulations, art. 37, § 1.

ARTICLE B4. *Alternate transmission, by series, and continuous transmission, by series.*

(art. 39, § 1) § 1. On high-speed instruments, exchanges shall take place in series when the offices in communication have several telegrams to transmit. This rule shall be applicable to transmission by Morse and sound-reading instruments, when the traffic justifies it, and after an understanding between the offices in communication.

(art. 39, § 2) § 2. Telegrams of the same series shall be considered as forming a single transmission. Nevertheless, received telegrams shall not be retained at the instrument until the end of the series, but each telegram which is in order shall be put on its course as soon as the second telegram coming after it is begun, or after an interval equivalent to the time taken in transmitting a telegram of average length.

(art. 39, § 3) § 3. When two offices are connected by two-way communications, the one allocated to transmission and the other to reception, or where the offices work simultaneously, transmission shall be continuous, but the telegrams shall be grouped in series of 10, unless the offices concerned employ, in accordance with Chapter B, a special running series of numbers for the telegrams exchanged by each of them.

(art. 39, § 4) § 4. When the exchange of telegrams takes place alternately, each series shall comprise, at most, five telegrams if transmission is by Morse or sound-reading instruments, and, at most, ten telegrams if transmission is by high-speed instruments. Nevertheless, every telegram containing more than 100 words on the Morse instrument, more than 150 words on sound-reading instruments, or more than 200 words on high-speed instruments, shall count as a series or terminate a series already in course of transmission.

(art. 39, § 4) § 5. Similarly, in alternate transmission by series, the sending office shall end a series in course of transmission when it has only letter telegrams to send; it shall not resume transmission until the office in correspondence has no more telegrams of superior rank on hand.

(art. 37, § 12) § 6. Service communications and notes interposed between telegrams shall, in transmission by series, be separated from telegrams by one of the abbreviations RQ, BQ or XQ.

Example: ((RQ in 187 RPT...))

(art. 39, § 5) § 7. The receiving office shall have the right to interrupt a series in course of transmission in the case specified in Regulations, art. 37, § 1.

ARTICLE B5. *Transmission with continuous numbering.*

§ 1. Every Administration and Recognized Private Operating Agency shall have the right to number, in series, telegrams to be transmitted over international circuits. In each case, it shall acquaint the Administrations and Recognized Private Agencies concerned with its intentions.

(art. 40, § 1) The exercise of this right shall not, however, impose on the Administration or Recognized Private Operating Agency to which the receiving office is subject, the obligation to apply the special provisions laid down in article B6, § 4 to 7 for the exchange of acknowledgments of receipt. In such cases, the provisions of Article B6 § 1 to 3 shall remain in force if the Administration or Recognized Private Operating Agency concerned so asks.

(art. 40, § 2) § 2. The serial number shall be transmitted at the beginning of the preamble. Administrations and Recognized Private Operating Agencies shall decide, each as far as it is concerned, whether the office number shall be retained.

(art. 40, § 3) § 3. When serial numbers are used, all telegrams shall be numbered in unbroken series. On instruments using international alphabets 1 and 2, a special series shall be used for each sector or channel. This series shall differ from the series used for the other sectors or channels by distinguishing figures or letters. A special series may be assigned to each category of telegrams.

§ 4. Telegrams with priority over ordinary telegrams and which are not transmitted in numerical order of the series, shall be marked with the distinguishing letter " X ", placed before the serial number.

(art. 40, § 4) § 5. Offices in correspondence shall agree upon the start and finish of the series of numbers.

The offices in correspondence shall agree whether to start the new series of numbers each day with the numbers 1, 2001, etc. Each series shall be started by the same number or by another number which the receiving office shall communicate to the sending office every day before beginning the new series.

(art. 40, § 5) § 6. When telegrams have to be diverted and their serial numbers cannot be altered because they have already been perforated, the office which effects the diversion shall inform, by service message, the office to which the telegrams would otherwise have been transmitted and the office to which they are actually transmitted. The receiving office to which the telegrams should have been sent shall strike off its list the numbers of the telegrams which it is informed are being diverted.

In all other cases, telegrams which are to be diverted shall receive new serial numbers.

(art. 40, § 6) § 7. When the receiving office observes that a serial number is missing, it must forthwith inform the sending office, so that the necessary inquiries may be made.

(art. 40, § 7) § 8. When a serial number already used has to be struck out, the transmitting office shall inform the receiving office by service advice.

ARTICLE B6. *Acknowledgements of receipt.*

(art. 45, § 2) § 1. For a single telegram, acknowledgement shall be given by the letter R followed by the number of the telegram received, for example : " R 436 ".

§ 2. For a SVH telegram, a Government telegram with priority, a money-order or a postal-cheque telegram, acknowledgement of receipt shall be given in the form : " R 436 SVH " or " R 436 Etat ", or " R 436 mdt ", or " R 510 vir ".

§ 3. (1) For a series of telegrams, the letter R shall be given with the number of telegrams received, and also the first and last number of the series, for example, " R 6 157 980 ".

(art. 45, § 3) (2) If the series includes SVH telegrams, Government telegrams with priority, money-order telegrams or postal-cheque telegrams, the acknowledgment of receipt shall be supplemented by the number of these telegrams thus : " R 6 157 980 including 23 SVH, 13 Etat, 290 mdt ".

§ 4. (1) If transmission is with a running series of numbers, an acknowledgment of receipt (LR) shall, subject to the reservation in Article B5 § 1, only be given at the request of the sending telegraphist, if traffic is exchanged without interruption. When transmission is not continuous, the sending telegraphist must ask for an acknowledgement of receipt immediately after the end of work.

(art. 40, § 8) (2) In every case, the acknowledgement of receipt must be transmitted immediately in the following form :

“ LR 683 missing 680 retained 655 ”. (This acknowledgement of receipt contains the last number received (683), the number 680 missing and the number 655 retained) *.

(art. 40, § 9) (3) The sending telegraphist must request the acknowledgement of receipt immediately after the transmission of a SVH telegram, a Government telegram with priority, a money-order telegram or a postal-cheque telegram, or a series of money-order telegrams and/or postal-cheque telegrams.

In such cases, the acknowledgement of receipt shall be given in the following form : “ LR 683 mdts 681 682 Etat 683 ” *

(art. 40, § 10) (4) The acknowledgement of receipt mentioned in § 4 (1) is given on the daily closing of service. The transmitting telegraphist then adds the word “ closing ” * to his invitation “ LR ”.

ARTICLE B7. *Abbreviation of the name of the office of destination.*

In the transmission of telegrams between two countries connected by direct communication, the name of the office of destination may be abbreviated, by arrangement between the Administrations or Recognized Private Operating Agencies concerned, in the case of a generally known place in one of the countries concerned.

The abbreviations chosen must not be the same as the names of offices in the International List of Telegraph Offices. They cannot be used in the transmission of money-order or postal-cheque telegrams.

Section C. — Special rules for calls put through by switching (Gentex Calls)

ARTICLE C1. *Routing.*

§1. The Gentex network is made up of telegraph offices of European countries participating in the service (Gentex offices), of switching centres and of telegraph channels interconnecting the offices to switching centres and the switching centres to other switching centres.

§2. Instructions for the routing of telegrams appear in the routing lists available to operators.

§3. Telegrams to an office, which appears in the routing list, shall be routed to the Gentex office mentioned in the list as serving this office, account being taken of § 5 below, if appropriate.

* In the service between fixed stations, the following forms are currently used for acknowledgments of receipt :

(a) xq to Paris=180205 gmt LR 683 missing 680 RQ cfm=NY (355);

(b) xq to Paris=180415 gmt Etat 683 mdts 681 682 redok=NY (357);

(c) 15 to Paris from Moscow 28 0010=closing 27/5 IR 701 missing 689 LS 816 blank 782 TUHRU (358).

§ 4. Telegrams to an office which does not appear in the routing list shall be routed in accordance with the instructions given at the beginning of the routing list of the country in which the office is located.

§ 5. Telegrams to limited service Gentex offices shall be routed in accordance with the instructions appearing against offices in the routing lists.

ARTICLE C2. *Answer-back signals.*

§ 1. The answer-back signals of the equipment taking part in the Gentex service are made up of 20 signals.

§ 2. The series of answer-back signals is as follows :

- Carriage return
- Line feed
- Figure shift
- The figures representing the national call number
- Letter shift
- For large offices, when necessary, one or two letters identifying the position
- Space
- Name (in full or abbreviated) of the office
- Space
- 1 or 2 letters characterizing the name of the country (see § 5 below)
- Letter shift.

§ 3. The answer-back signal of special positions dealing with service notes and advices, when they exist, includes the group of letters INQ (*) after the name of the office.

§ 4. The answer-back signal of specialized incoming positions for overflow traffic includes the group of letters DEB * after the name of the office.

§ 5. The characteristic letters of the names of countries are as follows :

A	Austria	I	Italy
B	Belgium	L	Luxembourg
BG	Bulgaria	MC	Monaco
CH	Switzerland	N	Norway
CS	Czechoslovakia	NL	Netherlands
D	Germany	P	Portugal
DK	Denmark	PL	Poland
E	Spain	R	Roumania
EI	Ireland	S	Sweden
F	France	SF	Finland
GB	United Kingdom of Great Britain and Northern Ireland	SU	U.S.S.R.
		TR	Turkey
GR	Greece	YU	Federal People's Republic of Yugoslavia
H	Hungary		

ARTICLE C3. *Setting up of calls*

§ 1. At the calling position, the telegram may be provided with a reference number which will be transmitted at the beginning of the preamble and will serve as an additional means of identifying the telegram if one is required.

* INQ standing for "Inquiries".

DEB standing for "Débordement" (Overflow).

§ 2. To set up the call with the required office, the operator of the calling station proceeds to call.

The call number dialled by a Gentex office to call a Gentex office in another country is made up of :

- the prefix giving access to the called country from the calling station
- the national call number of the called office.

§ 3. After connection has been made, the operator at the calling station brings the answer-back device in the station obtained into operation, together with that of his own station, when these two operations are not done automatically by the equipment in the calling or called country. The operator at the calling station checks the answer-back of the called station he obtains to see that it is the same as that of the required office. If it is, he begins the actual transmission.

§ 4. If the communication has been put through to an overflow position, actual transmission can begin.

§ 5. If the answer-back received belongs to a position in an office which is not required to intervene, the operator sends the signals BK, gives the clearing signal, and tries once more to put the call through to the office desired.

Should this fresh attempt end by reception of the answer-back of a position which is not an overflow position and does not belong to the office required, the operator shall proceed in accordance with article C7, § 4.

§ 6. If the calling station receives the busy signal, the call shall be repeated after about two minutes. If the second call is unsuccessful, a third call shall be made after another two minutes or so. If the busy signal is again received, telegrams shall be deviated to the telegraph office in the same country as that of the required office and indicated in the routing list as competent in such cases.

§ 7. When a call is sent to a Gentex office in a country admitting deviation to an overflow position, connection with the required Gentex office or an overflow position may be effected after a period of up to one minute.

The operator of the calling station is informed thereof by reception of MOM. He will then await subsequent routing of his call.

ARTICLE C4. *Transmission operations.*

§ 1. The operator in the calling station is primarily responsible for the transmission of telegrams. If a telegram fails to arrive or if its text is mutilated, he will have to check that he has followed the regulations.

He can make this check by producing the original of the telegram and the control tape, if there is one, by examination of the called station answer-back signal, which must have been received without error, in order to be used as a simplified acknowledgement of receipt and by an examination of the acknowledgement of receipt when such an acknowledgement is demanded.

§ 2. When communication has been set up with the desired telegraph office, or with an overflow position, the telegram shall be transmitted in the manner described in the Telegraph Regulations and in Section A of these Rules. The prescribed routine repetition of different parts of the telegram or of the whole of it shall always be effected by the operator at the calling station.

§ 3. Before transmission of an SVH, S, F, MDT, VIR or urgent telegram, the operator shall transmit the audible signal thrice.

§ 4. When the operator has to transmit more than five telegrams with identical texts, he must announce this before transmission by transmitting the signals RPFR TM... (... : number of the telegrams) and by sending the audible signal. These telegrams shall be transmitted as soon as the operator at the called station has replied by the signal GA. If, after one minute, the GA signal has not been received, then the operator shall begin transmission afresh.

§ 5. After transmission of the telegram, the operator obtains the answer-back signal of the called station apparatus and then sends the answer back signal of his own apparatus.

§ 6. If, after the exchange of answer-back signals following the transmission of the telegram, the operator of the calling station notes transmission errors in the telegram, he shall operate the audible signal three times and transmit the expression RECT and the necessary corrections; then he shall again proceed to exchange answer-back signals as described under § 5.

§ 7. When transmission of a single telegram has been completely finished, the operator of the calling station should, before exchanging answer-back signals, transmit the time of end of the transmission in the form of 4 figures. The time is not transmitted by the operator if it is sent automatically.

§ 8. After the exchange of the answer-back signals, the operator of the calling station sends the clearing signal, unless the telegram transmitted is an SVH, S, F, MDT or VIR telegram (in which case he should act as prescribed in Article C5, § 2).

§ 9. When a calling station has several telegrams for the same office, they shall be transmitted one after the other, once the calling station has made contact with the office, observing the prescriptions laid down in § 2 to 5. In such cases, the operator at the calling station shall exchange answer-back signals after every telegram.

When the last telegram has been transmitted, the operator of the calling station shall transmit successively the abbreviated indication of the number of telegrams transmitted (for instance, "TG 3" for a series of three telegrams) and the end-of-transmission time if it has not been transmitted automatically; he then proceeds to the last exchange of answer-back signals before sending the clearing signal.

ARTICLE C5. *Receiving operations.*

§ 1. The called station checks the telegram or telegrams received in accordance with the provisions of the Telegraph Regulations and the rules of Section A of this Recommendation. If a correction is necessary, a request must be sent by RQ note to the transmitting office (see Article C8 below).

§ 2. When a telegram is announced by the audible signal, the called station receiving this signal shall be occupied by an operator with the utmost possible despatch.

- (a) If the receiving operator reads RPFR TM..., he shall put the perforating receiver into circuit, if such apparatus is available in the called office, and shall transmit GA. Should no perforating receiver be available, the receiving operator shall forthwith transmit GA.
- (b) Should the receiving operator read SVH, S, F, MDT, VIR he shall await the end of the transmission of the text and the terminal exchange of answer-back signals, he then transmits MOM, checks the text received, obtains the answer-back signal of the calling station, compares it with that received at the

beginning of the transmission, and gives the acknowledgement of receipt (see Article C6 below).

- (c) If the receiving operator reads URGENT, he shall await the end of the telegram transmitted on the receiving position and take appropriate action.
- (d) Should the receiving operator read RECT, he shall check the correction made and intervene only if necessary.

ARTICLE C6. *Acknowledgement of receipt.*

§1. A called station must give an acknowledgement of receipt to the calling station upon reception of SVH, S, F, ELTF, LTF, MDT, VIR telegrams.

§2. Such an acknowledgement of receipt shall be given in the following way :

R—handing-in number and reference number (if there is one)—specialization and identification letters of the calling station—type of telegram (SVH, S, F, ELTF, LTF, MDT or VIR).

§3. Telegrams requiring an acknowledgement of receipt shall be announced by three successive operations of the audible signal (see C4 - § 3 above). An operator at the called office shall occupy the position which has received such a signal as soon as possible (see Article C5 - § 2); he awaits the end of transmission of the telegram and the terminal exchange of answer-back signals, transmits MOM, checks the text received, obtains the answer-back signal of the calling station, compares it with that received at the beginning of the transmission and gives the acknowledgement of receipt in the form described in § 2 above.

The operator at the calling station gives the clearing signal.

§4. If the calling station has not received the MOM signal some 30 seconds after the end of transmission of the telegram, the operator shall give the clearing signal or begin to transmit other telegrams if there are others to transmit to the called office.

§5. If an office has been unable to give the acknowledgement of receipt before the communication is cleared, it shall send this receipt by service advice to the office which transmitted the telegram requiring the acknowledgement.

§6. If the office which has transmitted a telegram requiring an acknowledgement of receipt has not received acknowledgement about one hour after transmission, it shall send a service advice requesting such acknowledgement to the receiving office in the following form : SVP R—Handing-in number and reference number (if there is one)—specialization and identification letters of the position which has transmitted the telegram—type of telegram and address. An office receiving such a service advice reminder shall proceed forthwith to take the necessary action and shall give the acknowledgement of receipt by urgent service advice.

ARTICLE C7. *Incidents.*

§1. When, during the transmission of a telegram, the receiving operator notices that it has been misdirected :

- if the office of destination is located in the country of the office which received it by mistake, this office accepts the telegram and retransmits it to the office of destination;
- if the office of destination is not in the same country as that of the office receiving the telegram, the receiving operator shall interrupt the transmission and give notice of the routing mistake.

§2. If the fact that the telegram has been misdirected is noticed only after the communication has been cleared, the receiving office retransmits it without delay and with priority over other telegrams in the same category, to the office of destination, even when the latter is in another country.

§ 3. The operator manning a position is responsible for seeing that there is enough paper in the apparatus, that the inking system is fully serviceable, and that the apparatus is switched to "engaged" while the ribbon and paper are being replaced.

§ 4. Should the operator of a calling station notice, during the putting through of a call, anything which appears to him attributable to a fault in lines or equipment, he shall, if possible, transmit DER BK and give the clearing signal.

After two minutes or so, he shall try afresh to put the call through. If, again, there are incidents, he shall, if possible, transmit DER BK, give the clearing signal, make mention of the incident on the telegram or telegrams, and dispose of it, or them, by the alternative route indicated by the routing list. He shall then report the fault.

§ 5. Should a mutilated answer-back signal be received, or should there be no answer-back signal at all, the operator shall transmit DER BK, give the clearing signal, and proceed as in § 4 above.

§ 6. If the operator at the called station notes false letters or any incoherence in the text of a telegram which is being received, he shall send P or zero signals repeatedly until the transmission is stopped. At this moment, he shall send MUT, RPT, AA... (or possibly, the reference number (SRL NR) or handing-in number (TG NR) of the first mutilated telegram when a series of telegrams is being received) and the last correctly received word or group. The operator at the calling station shall recommence transmission at the indicated word or group.

§ 7. Should a receiving apparatus receive a completely mutilated text, including mutilation of the answer-back signal of the calling station, an operator noticing this before the call is broken off stops transmission and immediately reports the matter to the corresponding station by transmitting MUT RPT ALL.

§ 8. If the receiving operator cannot have a bad transmission stopped or if the text received when the transmission is resumed continues to be mutilated, the receiving agent sends DER BK and the clearing signal.

§ 9. (a) If the answer-back signal of the called station is not received or is badly received at the end of transmission of a telegram, the calling station sends DER BK and gives the clearing signal.

(b) It then proceeds once more to call the required Gentex office and resumes transmission, preceding it by the expression "fair copy" situated between two separation signals, except with MDT or VIR telegrams.

(c) The procedure described under sub-paragraph (b) above is also applied when the call is accidentally interrupted during transmission.

§ 10. If a call is accidentally interrupted during transmission, or if a call has been cleared after transmission of BK, the called office withholds the texts received until the calling office resumes transmission. If transmission is not resumed within 15 minutes, the called office sends a service note to the calling office, requesting any corrections or repetitions which may be necessary.

§ 11. When a receiving apparatus has received a completely mutilated text, and the answer-back signal of the calling station is mutilated too, the printed tape shall, if the call has already been broken off, be stuck on a telegram form. The name of the receiving station and the time of receipt shall be marked thereon. The telegram shall be kept for inquiry purposes.

ARTICLE C8. *Service notes and advices.*

§1. When receipt of a telegram is checked and mistakes are noted, a service note (RQ) shall be transmitted by means of a special call to the office which has transmitted the telegram. This latter office transmits the reply by a service note (BQ) as quickly as possible by a special call.

§2. Communications for services notes (RQ or BQ) shall be treated like communications for a telegram.

§3. A request (RQ or BQ) must contain the following indications :

- (a) code word (RQ or BQ);
- (b) office to which the RQ or BQ note is being sent;
- (c) designation of the telegram in question by the handing-in number (and, if necessary, the reference number) of the telegram followed by the operating position which has transmitted the telegram, separated by a fraction bar (e.g. 17/385/TC);
- (d) the request or reply.

Examples : —for RQ : LYON 17/385/TC 9W : CFLAM8ABH,
—for BQ : BQ AMSTERDAM 17/385/TC 9W OK

§4. If a reply to an (RQ) note has not been received after a maximum of 20 minutes, a second (RQ) note shall be transmitted, preceded by WEFXU, to the calling office. If no reply is received after a further 10 minutes, the telegram shall be sent on, marked CTF, together with the indication of the type of correction. The same applies when it is obvious from the outset that the clarification of an irregularity will take a fairly long time (for instance after the closing time of a telegraph office).

§5. When a telegram is sent on, marked CTF, due to a long-delayed reply (BQ) to a note (RQ), the office to which the RQ note has been sent shall be informed of the fact by a service advice (A).

§6. Requests which are transmitted one or more days after the telegram has been received shall be made by means of service advices (A).

§7. Service notes and advices shall make use of the codes listed in the annex to these Rules.

ARTICLE C9. *Prohibitions.*

§1. A Gentex office shall in no case call a Telex subscriber in a country other than that in which it is situated.

§2. When an office connected to the Gentex network receives a call from a Telex subscriber in another country,

- (a) if the operator in this office notices this before the call has been cleared, he shall immediately interrupt the transmission from the calling station and transmit NA BK and the clearing signal;
- (b) if this is noticed after the call from the Telex subscriber has been cleared, a service advice shall be sent to the Gentex office in the country of origin which seems most appropriate, informing it that the telegram has been improperly handed in and that the telegram thus received has been cancelled.

ANNEX TO SECTION C OF THE RULES FOR THE TRANSMISSION OF TELEGRAMS
IN THE INTERNATIONAL SERVICE

Proposal for service codes and abbreviations to be used in Gentex-operation

<i>Abbreviations</i>	<i>Meaning</i>
ABS	Telegraph office closed
ADRS	Address
ANH	Congestion
* ANUL	Delete
BK	I cut off
BQ	Reply to RQ
* CALL NR	National call number of a Gentex Office
CCT	Circuit
CFM	Please confirm / I confirm
CK	Please check number of words !
COL	Collation - Please give / I give routine repetition
CRV	How do you receive ?
CTF	Correction to follow
CTG	Category of telegram
DBL	Double word(s)
* DEB	Overflow position
DER	Out of order
DER BK	Out of order, I cut off
* DER MOM	Bad reception, do not cut off, we are testing the line
* DETR	I am re-routing to...
DETR SVP	Please re-route to... / Alternative route ?
* DIF	Different
DTE	Date of handing in
E E E	Signal of error
FIG	Figure(s)
GA	You may transmit
* IND	Answer-back signal
* INQ	Position specialized in the handling of service notes and advices
LTR	Letter(s)
MNS	Minutes
MOM	Please wait !
MOM PPR	Please wait ! I have paper trouble
* MUT	Mutilated
NA BK	Correspondence with this telegraph office is not admitted. I cut off.

* To be included in the decoding section of the proposed Code Book.

<i>Abbreviations</i>	<i>Meaning</i>
NC	No circuit
NOT R	Not received
NP	The called number is not / no longer in use
NR	Number
OCC	Busy
O/D	Telegraph office of destination
OK	Agreed
* OMTD	Omitted
O/O	Telegraph office of handing in
P (repeated)	Stop your transmission ! *
PBL	Preamble of telegram
PPR	Paper
QGA	May I transmit ?
QOK	Do you agree ?
R	Received
RAP	I will call you again
* RECT	Correct please / I am correcting / correction ?
RECT AA	Correct all after
AB	" all before
ALL	" the complete telegram
BN	" all between and
SRL NR	" reference number
TG NR	" telegram number
WA	" word(s) after
WB	" word(s) before
REF	With reference to
* ROUTE	Route to / I am routing for / Route ?
* RPFR	Please prepare your reperforator
TM	Prepare your reperforator because of telegram with multiple addresses
TXT	Prepare your reperforator because of long difficult text
RPT	Repeat please / I repeat
RPT AA	Repeat all after
AB	" all before
ALL	" the complete telegram
BN	" all between and
SRL NR ..	" reference number given by the transmitting office
TG NR ...	" telegram number
TXT	" text
WA	" word(s) after
WB	" word(s) before

* See reference at bottom page 232.

<i>Abbreviations</i>	<i>Meaning</i>
RQ	Designation of a request
SIG	Signature
* SRL NR	Reference number given by a Gentex transmitting office
SVIN	Service indication
SVP	Please
* TCHN	Technical service / I shall advise the technical service
TEST MSG	Please send a test message
* TG	Telegram
* TG NR	Telegram number given by the handing-in office
* TPLE	Triple word(s)
* TPR	Teleprinter
TXT	Text
W	Word(s)
WEFXU	Waiting reply to our service
WTG	We are waiting / I am waiting
+ ?	I have finished my transmission Do you wish to transmit ?
figure 0 (repeated)	Stop your transmission !

RECOMMENDATION F.2

ACTION TO BE TAKEN

IN CASE OF INTERRUPTION OF TELEGRAPH CIRCUITS POSSIBLE USE OF TELEX CIRCUITS

(formerly C.C.I.T. Recommendation G.12, Geneva, 1956)

The C.C.I.T.,

CONSIDERING

that such interruptions are individual cases which may arise in many different ways;

UNANIMOUSLY DECLARES THE VIEW

that for the time being, the procedure to be adopted should be settled by agreement between the Administrations and Recognized Private Operating Agencies concerned.

* See reference at bottom page 232.

RECOMMENDATION F.10

MAXIMUM TOLERABLE RATE OF ERROR FOR LAND-LINE TELEGRAPH COMMUNICATIONS OPERATED WITH FIVE-UNIT START-STOP APPARATUS*(formerly C.C.I.T. Recommendation F.7, Geneva, 1956)*

The C.C.I.T.,

CONSIDERING

- (a) that operations would be facilitated if a standard were defined such as would make it possible to assess the quality of telegraph communications;
- (b) that for this purpose, the rate of error for telegraph communications, as defined, would do (ratio between the number of alphabetic signals incorrectly translated to the number of such signals in the message, keying being correct);
- (c) that in defining this standard, thought should be given to the quality obtainable with present-day technique;
- (d) that to this end measurements have been made by certain Administrations;
- (e) that the standard should be reviewed and adapted to keep it in step with future technical progress;

UNANIMOUSLY DECLARES THE VIEW

1. that provisionally, for land-line telegraph communications, in the general service, for the subscribers' service and for the leased circuits service, operated with five-unit start-stop apparatus, the maximum tolerable rate of error to be recommended should be 3 in 100 000 alphabetic telegraph signals transmitted;
2. that Administrations and Recognized Private Operating Agencies should pursue the study of this question in order that the provisional standard may be modified to keep it abreast with the progress of telegraph technique.

RECOMMENDATION F.11

MAXIMUM TOLERABLE ERROR RATE FOR RADIOTELEGRAPH COMMUNICATIONS USING FIVE-UNIT START-STOP APPARATUS (INCLUDING MIXED COMMUNICATIONS CONSISTING OF WIRE AND RADIO CIRCUITS)*(formerly C.C.I.T. Recommendation F.8, Geneva, 1956)*

The C.C.I.T.,

CONSIDERING

- (a) that the propagation difficulties existing on certain radio circuits make unavoidable some errors in transmission;
- (b) that the type of transmission to be used on radio circuits may depend on the rate of errors which may be tolerated;

(F.11)

- (c) that therefore it should be useful to establish the maximum error rate;
- (d) that for this purpose the error rate as defined for telegraph communications should be used, i.e. the ratio of alphabetic telegraph signals incorrectly translated to the number of alphabetic telegraph signals of the message, assuming that the signalling be correct;
- (e) that for land-line communications a maximum tolerable error rate of 3 in 100 000 alphabetic telegraph signals has been provisionally accepted (Recommendation F.10);
- (f) that this error rate cannot be used as such for radiotelegraph communications on account of essentially variable conditions particular to this type of transmission;

UNANIMOUSLY DECLARES THE VIEW

1. that the quality of service must be the same for telegraph communication in the general service, for the subscribers' service, and the leased circuits service;
2. that in order to assure with present day technique a good quality of telegraph service, it is advisable to recommend provisionally, for the whole of a telegraph communication including a radio path, a maximum tolerable rate of error of 10 in 100 000 alphabetic telegraph signals transmitted.

However, depending on the communications concerned, this error rate cannot always be maintained during the entire period of the service. The Administrations and Recognized Private Operating Agencies concerned should come to an understanding between themselves during which percentage of time the maximum tolerable error rate must be respected;

3. that it devolves upon the C.C.I.R. to establish methods of measurement necessary for a practical control of the error rate on radiotelegraph communications;
4. that the Administrations and Recognized Private Operating Agencies continue the study of this question in order that the provisional standard may be modified to keep it abreast with the progress of radiotelegraph technique.

RECOMMENDATION F.12

**RECEIPT OF TELEGRAMS IN PAGES IN AN AGREED FORM
AND WITHOUT ERRORS**

(formerly C.C.I.T. Recommendation F.9, Geneva, 1956)

The C.C.I.T.,

CONSIDERING

that certain offices use page-printing teleprinters for reception, and hence want the corresponding offices to transmit their traffic in a predetermined form;

that the standards governing the lay-out of the various parts of a telegram often vary according to the receiving office;

(F.12)

that certain receiving offices use the sheet on which the telegram has been received for delivery to the addressee;

that, consequently, introduction of a standard lay-out for telegrams transmitted, when the corresponding receiving office is using a page-printing teleprinter, means that the transmitting office must transmit its traffic without errors;

UNANIMOUSLY DECLARES THE VIEW

1. that when page-printing teleprinters are used for reception, the corresponding office or offices should transmit traffic to that office without error, according to the following lay-out :

Line Spacing

```

2
1      sdz202 sz ur287 recb90 1
1      indiana harborind 29 2 1638 2
3
1      lt fs
1      miss.gisella cohen, grand hotel eden geneva
4
1      1000 francs cabled to Lucerne july 28 through swiss bank corporation stop
1      please cable if not received love
1      .....3 ..... daddy
2
1      coll lt fs 1000 28
10

```

(10 "letter-shift" signals)

2. and that the transmitting office should make provision to eliminate errors before transmission.

¹ Preamble, the parts referred to in numbers 361 and 362 of the Telegraph Regulations (Paris, 1949).

² Preamble, the parts referred to in numbers 363 to 374 of the Telegraph Regulations (Paris, 1949).

³ Minimum 5 blanks before signature.

Notes:

- (a) The Administrations and Recognized Private Operating Agencies which use window envelopes for delivery should ensure that such windows are long enough for the address to be put on one line of 69 signs, the height of the windows being left for the Administrations and Agencies concerned to determine.
- (b) Administrations and Recognized Private Operating Agencies may to some extent adapt the vertical line spacing of their teleprinters for the receipt of telegrams, to ensure a suitable lay-out.
- (c) It is considered that ten "letter-shift" signals can usefully be inserted after the ten spacings separating telegrams, to provide for cases in which the receiving office uses perforated-tape retransmission.

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

SECOND SECTION

SWITCHING NETWORK FOR THE GENERAL PUBLIC SERVICE GENTEX NETWORK

RECOMMENDATION F.20

CONSTITUTION OF THE EUROPEAN SWITCHING NETWORK FOR THE GENERAL PUBLIC TELEGRAPH SERVICE USING START-STOP TELEPRINTERS

(formerly C.C.I.T. Recommendation F.11, Geneva, 1956)

The C.C.I.T.,

CONSIDERING

that the European Start-Stop Teleprinter Network using switching to carry the international traffic of the general telegraph service in Europe can be organized according to different plans;

that one of these plans—Plan A—entails the creation of a European network completely separate from the national networks;

that, in Plan A, the telegraph stations, lines and switching equipments used for terminating international calls in the territory of countries which are parties to the European Switching Network are independent of the telegraph stations, lines, and switching equipments used in the inland services of these countries;

that such a plan would have the advantage of entailing the construction of a completely new network, which would benefit from the latest advances in switching technique, with a simple plan of numbering and of answer-back codes thoroughly adapted to this network;

that, on the other hand, separation, within a country, of systems of telegraph lines and operating stations into one group for the inland service and an independent group for the international service, would be costly;

that, for this reason, only the major telegraph offices of a country would be connected to the European Switching Network;

(F.20)

that, in addition, the creation of such a network (which, if full advantage is to be taken of the points in its favour, would have to be designed for a single signalling system and a single operating procedure) would require lengthy international studies and hence would take several years;

that, at the present time, several European countries are operating, or will shortly operate, national switching networks, and are ready to start a switching service from country to country;

that application of Plan A would require the unanimous agreement of the participants in the European Switching Network;

that, for the reasons explained above, such agreement cannot be obtained;

UNANIMOUSLY DECLARES THE VIEW

that, for the time being, the creation of a European network completely independent of national networks cannot be proposed for the European Switching general public Network;

CONSIDERING FURTHER

that another plan—Plan B—entails interconnection, by switching, of the national networks now being operated by switching (or which are to be so operated);

that this plan presents an advantage in that it could be implemented by bilateral agreement between Administrations, and in certain relations could be very speedily applied;

that it presents another advantage in that it does not restrict the further development of the network, since it does not limit the connection of the European Switching Network to a few major offices and hence would make it possible to do away with more retransmissions of telegrams;

that it is more economical than Plan A;

that the right of Administrations freely to choose which of their offices are to be connected to the European Switching Network cannot be challenged;

that some Administrations have decided to connect a fair number of their telegraph offices to the European Switching Network;

that, on the other hand, other Administrations have decided to separate the national and international networks in their territories;

that, for this reason, full application of Plan B is inconceivable, and that it would be well to recommend an intermediate solution combining Plans A and B;

UNANIMOUSLY DECLARES THE VIEW

that the European Switching general public service Network should be so constituted that some Administrations would be able to use their national networks to terminate international communications, while others would be able to use a specialized network for international traffic in their territories (Plan C);

that, as regards trunk circuits between the switching centres of different countries, the Administrations concerned should be free to choose between the use of international Telex trunk circuits and the constitution of trunk circuits reserved for general traffic;

that to offset the diversity of operating conditions and technical equipment which might result from application of Plan C, standardization of operating methods and signalling should be carried as far as the essential characteristics of the national networks permit;

that, in order to facilitate and expedite a thorough study of the possibility of Plan C being put into operation by all countries, it is desirable that countries having some experience of the technical, operational and charging problems of this Plan should communicate all possible information on the subject to the other Administrations interested, through the medium of the C.C.I.T.;

CONSIDERING FINALLY

that operation entirely by automatic switching is much less expensive than manual or semi-automatic operation;

that it would be desirable to adopt, at least on a provisional basis, an abbreviated name for such a network;

UNANIMOUSLY DECLARES THE VIEW

that those networks, the interconnection of which is envisaged, would have to be operated entirely by automatic switching;

that provisionally the word " GENTEX " would be used to designate the switching network for the general telegraph service.

RECOMMENDATION F.21

COMPOSITION OF THE ANSWER-BACK CODE FOR THE INTERNATIONAL GENTEX SERVICE

(Geneva, 1958)

The answer-back codes, emitted by teleprinter apparatus forming part of the Gentex service, should provide as much useful information as possible for the operational services.

The number of telegraph offices taking part in the international Gentex service seems to be growing considerably and it is therefore necessary for the name of an office obtained as the result of a call to be indicated very clearly to the operator at the calling station, who generally belongs to a country speaking a language other than that used in the obtained station.

It should be noted, moreover, that the average time taken to transmit the text of a telegram in the European system is about one minute and this means that roughly every minute three answer-back codes have to be checked by the operator (2 at the beginning of the telegram : the answer-back code of the obtained station and the answer-back code of the calling station and 1 at the end : the answer-back code of the obtained station). Procedure for checking answer-back codes should therefore be simple and speedy.

Hence the name of the office should appear in the answer-back as clearly and completely as possible.

(F.21)

Furthermore, inclusion of the call-numbers of the connected offices in the answer-back code has the advantage of immediately indicating to the receiving operator the call-number which he must select if he wishes to call back the calling office in order to discuss any dispute concerning the telegram received.

Hence, the answer-back code in the international Gentex service should include the name of the office, developed as much as possible, and the call-number of this office in its national network.

Inclusion in the answer-back code of the prefix to be dialled, for the purposes of routing a call towards the country concerned, is out of the question, as these prefixes vary according to the called or calling country.

But it is essential to show in the answer-back code one or two characteristic letters of the country in which the apparatus is situated, for the worst routing mistake is that of sending a call to the wrong country.

It is difficult to include all this information in an answer-back code of 20 signals, but extension of the number of signals in the answer-back code to more than 20 cannot be admitted, for it would entail the total reconstruction of thousands of teleprinters. Furthermore, the 60 signals (3×20) used for exchanging answer-back codes for a telegram, constitute a limit which cannot be exceeded in operation without throwing out of balance the ratio between the time used for transmitting the text of the telegram and the total time taken by a communication in the Gentex service.

Some Administrations wish to reserve the possibility of identifying in the answer-back code not only the office but also the nature of the position in the office (outgoing position, incoming position). Some of these Administrations even think it useful to include in the answer-back code the identity of the position amongst all similarly specialized positions, so as to facilitate the location of any faults in the apparatus or the tracing of any telegrams in dispute.

To avoid wastage of signals which would be entailed by case-shift signals, this wish can only be met by using letters, additional to the letters representing the name of the office, which would denote the specialization and identity of each position.

This would result in cutting down the number of letters available for the name in the answer-back code; however, as letters denoting specialization and identity are only useful in large and very large offices which are well-known internationally, the resulting abbreviation of the name of the office, which may ensue, could be admitted as long as such additional information did not take up more than two signals in the case of large offices (one space signal, one of the initial letters of the alphabet: A, B, C, etc., for identifying a specialized outgoing position or one of the final letters of the alphabet Z, Y, X, etc. for identifying a specialized incoming position). For very large offices, where groups of apparatus specialized both for outgoing and incoming traffic may comprise more than 12 apparatus, it would be necessary to sacrifice 3 signals (one space signal, one specialization letter and one identification letter). The letters of specialization chosen are :

T to indicate an outgoing specialized position,

R to indicate an incoming specialized position.

Should outgoing or incoming groups comprise more than 26 apparatus, the letters S and Q, denoting outgoing or incoming specialization respectively, may be used in conjunction with the letters T and R, thus increasing the possibility of identification, in a group of apparatus, to 52.

In the case of overflow positions, they must indicate very clearly the name of the obtained office, for this name belongs to an office other than the called office. For this purpose, the call-number of the overflow office will not appear in the answer-back code of such a position, so as to leave space for the full name of the office and the characteristic indication D E B which has been chosen to denote "overflow".

To remain within the limit of 20 signals and to cover the possibility that apparatus in the Gentex service may be related with page apparatus, thus obliging the "carriage-return" and "line-feed" signals to be placed at the beginning of the answer-back code, so as to enable 7 or 8 letters to be allotted for the name of the office, 2 or 1 letters for the name of the country, and the necessary case-shift signals to be inserted, only 5 signals are left for the call number of the national network and this is fortunately sufficient in most cases. Administrations wishing to take advantage of the possibility, offered by C.C.I.T. Recommendation F.13, of including up to 8 figures in the national call-number, will have to do their utmost to avoid reducing the number of letters used to denote the name of the office; such Administrations may then not be able to use letters showing the specialization and identity of position.

In view of the above,

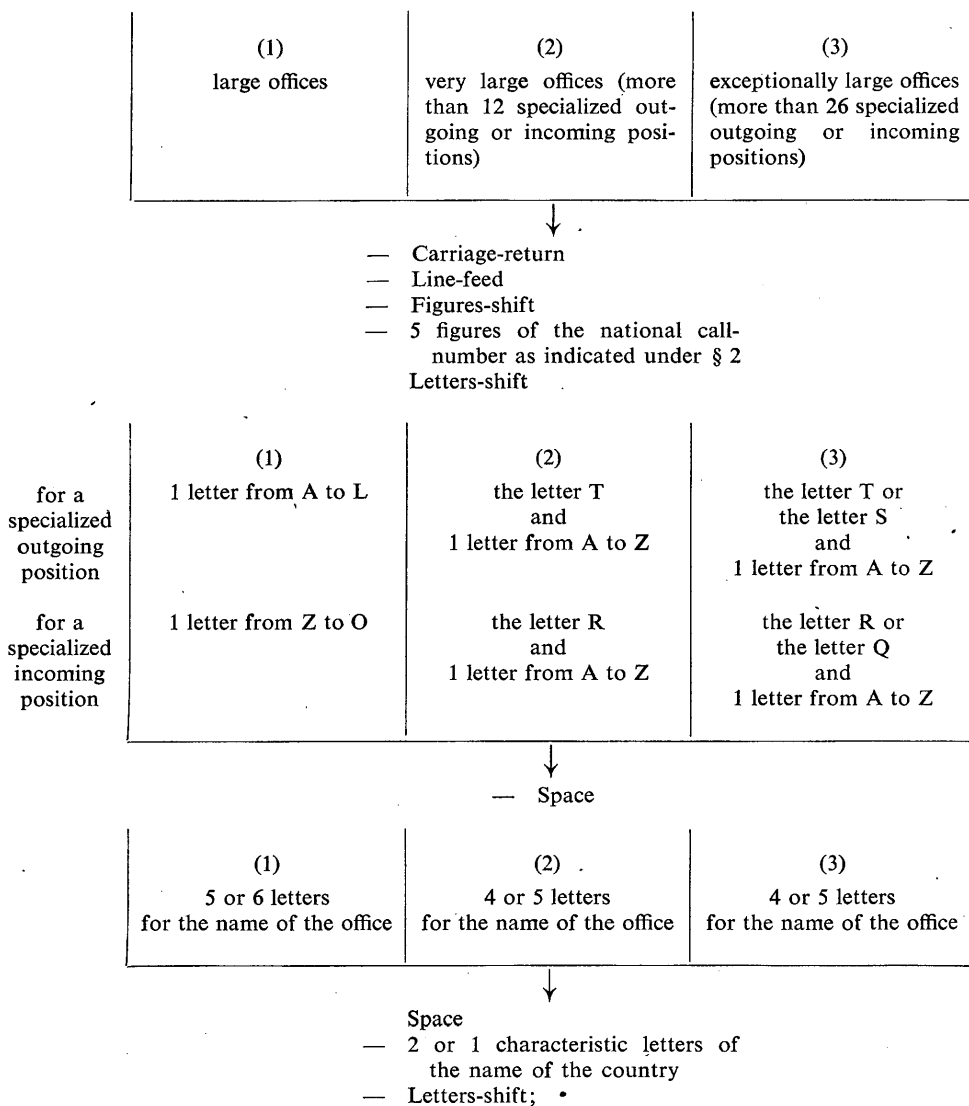
The C.C.I.T.T.

UNANIMOUSLY DECLARES THE VIEW

1. that answer-back codes of apparatus used in the international Gentex service should be made up of 20 signals;
2. that, for apparatus other than that used in specialized positions for receiving overflow traffic, the series of 20 signals in the answer-back code should, in principle, be as follows :
 - Carriage return
 - Line feed
 - Figures-shift
 - 5 figures of the national call-number by which the office is to be called when a telegram is sent to it

(In some large offices, a position or group of positions may be specialized for dealing with service advices concerning disputes, and in this case is provided with a special call number and answer-back code — See § 5 below.)
 - Letters-shift
 - 7 or 8 letters indicating as explicitly as possible the name of the office
 - Space
 - 2 or 1 characteristic letters of the name of the country, in accordance with the code listed under § 7
 - Letters-shift;
3. that, if the national call-number consists of more than 5 figures, the number of letters used to denote the name of the office should then be reduced, if necessary, but not to less than 5;

4. that for Administrations wishing to specify the specialization and identity of positions to which apparatus is related in large offices, the series of 20 signals in the answer-back code should be made up as follows, according to the size of such offices :



5. that for the positions specialized in dealing with service messages, the series of 20 signals of the answer-back should be as follows :

- Carriage return
- Line feed
- Figures-shift
- 5 figures of the call number of the specialized position or group of positions
- Letters-shift

- Space
 - Name office in letters
 - Space
 - Letters I N Q
 - Letters-shift
6. that, for positions specialized in the reception of overflow traffic, the series of 20 signals in the answer-back code should be as follows :
- Carriage return
 - Line-feed
 - Letters-shift
 - Letters of the full name of the office
 - Space
 - Letters D E B
 - Letters-shift
7. that, if an answer-back code does not make use of the 14 places that can be used for the call-number, for the name of the office and for the name of the country, the unused places should be filled in by "space" signals, the name of the office being first extended as far as possible.
8. That the characteristic letters of names of countries should be as follows :
- | | | | |
|----|--|----|---|
| A | Austria | I | Italy |
| B | Belgium | L | Luxembourg |
| BG | Bulgaria | MC | Monaco |
| CH | Switzerland | N | Norway |
| CS | Czechoslovakia | NL | Netherlands |
| D | Germany | P | Portugal |
| DK | Denmark | PL | Poland |
| E | Spain | R | Roumania |
| EI | Ireland | S | Sweden |
| F | France | SF | Finland |
| GB | United Kingdom of Great Britain and Northern Ireland | SU | U.S.S.R. |
| GR | Greece | TR | Turkey |
| H | Hungary | YU | Federal People's Republic of Yugoslavia |

RECOMMENDATION F.22

GENTEX REGULATIONS

(Geneva, 1958)

The C.C.I.T.T.,

CONSIDERING

Recommendations F.20 and F.21

UNANIMOUSLY DECLARES THE VIEW

1. that the following Regulations should be adopted for the Gentex service;
2. that Administrations should make arrangements for their offices to apply these Regulations.

(F.22)

Gentex Regulations

ARTICLE 1 *General.*

§1. The Gentex network is made up of telegraph offices of European countries, of switching centres and of telegraph channels, interconnecting the offices to switching centres, and the switching centres to each other.

§2. The Gentex network is operated by fully-automatic switching.

§3. Gentex signalling shall be in accordance with C.C.I.T. and C.C.I.T.T. recommendations relative to the technique of telegraph switching.

ARTICLE 2 *Call-numbers and answer-back signals.*

§1. Unless other arrangements are made, the call-number dialled by a Gentex office to call a Gentex office in another country is made up of :

- the prefix giving access to the called country from the calling country ;
- the national call-number of the called office, which must comprise figures only and up to a maximum of 8 figures.

§2.1. The answer-back signals of the equipment taking part in the Gentex service are made up of 20 signals.

§2.2. For apparatus other than that used for positions specializing in the reception of overflow traffic, the series of the 20 answer-back signals shall, in principle, be as follows :

- Carriage return
- Line feed
- Figures-shift
- 5 figures representing the national call-number by which the office must be called when a telegram is sent to it.

(In some larger offices, a position or group of positions may specialize in handling service notes and advices about complaints and be equipped with a special call-number and answer-back code—see § 3 below).

- Letters-shift
- 7 or 8 letters indicating the name of the office as explicitly as possible
- Space
- Two letters or one letter characterizing the name of the country, following code indicated in § 6
- Letters-shift

§2.3. If the national call-number has more than 5 figures, the number of letters used for the name of the office shall be reduced, if necessary, but may not be less than 5.

§2.4. For Administrations which announce the special purposes and identity of the positions to which the apparatus is assigned in the major offices, the series of the 20 signals in the answer-back code shall be made up as follows, in accordance with the importance of these offices :

(1) major offices	(2) very important offices (more than 12 specialized outgoing or incoming po- sitions)	(3) exceptionally important offices (more than 26 spe- cialized outgoing or in- coming positions)
----------------------	--	---

- ↓
- Carriage-return
 - Line-feed
 - Figures-shift
 - 5 figures of the national call-
number as indicated under § 2.2
 - Letters-shift

for a specialized outgoing position	(1) 1 letter from A to L	(2) the letter T and 1 letter from A to Z	(3) the letter T or the letter S and 1 letter from A to Z
for a specialized incoming position	1 letter from Z to O	the letter R and 1 letter from A to Z	the letter R or the letter Q and 1 letter from A to Z

↓

— Space

(1) 5 or 6 letters for the name of the office	(2) 4 or 5 letters for the name of the office	(3) 4 or 5 letters for the name of the office
---	---	---

- ↓
- Space
- 2 or 1 characteristic letters of
the name of the country :
 - Letters-shift;

§3. For the positions specializing in the handling of service notes and advices, the series of twenty answer-back signals shall be as follows :

- Carriage return
- Line-feed
- Figures-shift
- Five figures of the call-number peculiar to the special position or group of positions
- Letters-shift
- Space
- Letters of the name of the office
- Space
- Letters I N Q
- Letters-shift.

§ 4. For the positions specializing in the reception of overflow traffic, the series of 20 answer-back signals shall be as follows :

- Carriage return
- Line-feed
- Letters-shift
- Letters of the full name of the station
- Space
- Letters D E B
- Letters-shift.

§ 5. Should the answer-back signals not use up the fourteen places available for the national call-number, the full name of the office, and the indication of country, the available places will be filled with spacing signals.

§ 6. The following shall be the characteristic letters of the name of countries for the purpose of answer-back signals :

A	Austria	I	Italy
B	Belgium	L	Luxembourg
BG	Bulgaria	MC	Monaco
CH	Switzerland	N	Norway
CS	Czechoslovakia	NL	Netherlands
D	Germany	P	Portugal
DK	Denmark	PL	Poland
E	Spain	R	Roumania
EI	Ireland	S	Sweden
F	France	SF	Finland
GB	United Kingdom of Great Britain and Northern Ireland	SU	U.S.S.R.
		TR	Turkey
GR	Greece	YU	Federal People's Republic of Yugoslavia
H	Hungary		

ARTICLE 3 *Equipment of positions in telegraph offices.*

§ 1. The transmitting or receiving stations in the Gentex service shall be equipped with tape-printing teleprinters using International Alphabet No. 2, possessing an answer-back unit, and able to work in simplex, preferably with a control tape.

§ 2.1. Stations must be equipped in such a manner as to render the following operations possible :

- the putting through of calls
- the clearing of calls
- reception of the audible signal
- clearing if there is a paper shortage.

§ 2.2. They shall be equipped, too, as far as possible, in a manner such as to render it possible to signal the following :

- blocking of the apparatus
- breaking of the tape
- failure of the tape to move forward.

§ 3.1. In an office, the stations taking part in the Gentex service can be-grouped in posts specializing in outgoing operations and posts specializing in incoming operations. Administrations shall undertake this specialization in such a fashion that the quality of service of reception shall not be below the limits set forth by the C.C.I.T.T.

§ 3.2. The positions specializing in reception at an office and the both-way positions at that same office shall be grouped under a collective call-number. When one of these stations is faulty, a call arriving at that office shall be directed to a free station in the same group.

§ 3.3. When, in an office, positions specialize in incoming or outgoing operations, the special purpose of the positions and their identity, when included in the answer-back signals, shall be indicated in the following fashion :

- (a) offices where there are less than 12 stations (or at most 12 stations) assigned to the same group; the name of the office in the answer-back signal shall be preceded by one of the letters A to L for a specialized outgoing position, and by one of the letters Z to O for a specialized incoming position;
- (b) offices where there are more than 12 and less than 26 stations (or 26 at the outside) assigned to a single group : the name of the office in the answer-back signal shall be preceded by the letter T followed by one letter from A to Z for a specialized outgoing position ; by the letter R followed by a letter from A to Z for a specialized incoming position;
- (c) offices where there are more than 26 stations and less than 53, assigned to a single group : the name of the office in the answer-back signal shall be preceded by the letter T or by the letter S followed by a letter (from A to Z) for a specialized outgoing position; by the letter R or the letter Q followed by a letter (from A to Z) for a specialized incoming position.

ARTICLE 4. *Responsibility of transmitting or receiving stations.*

§ 1.1. The operator in the calling station is primarily responsible for the transmission of telegrams. If a telegram fails to arrive or if its text is mutilated, he will have to prove that he has followed the regulations.

§ 1.2 He can make this proof by producing the original of the telegram and the control tape, if there is one, by examination of the called station's answer-back signals, which must have been received without error in order to be used as a simplified acknowledgment of receipt, and by an examination of the acknowledgment of receipt when such acknowledgment is demanded.

§ 2. The operator manning a position is responsible for seeing that there is enough paper in the apparatus, that the inking system is fully serviceable, and that the apparatus is switched to "engaged" while the ribbon and paper are being replaced. In addition, he shall be responsible for correcting errors he may notice in the telegrams received.

ARTICLE 5. *Operations preceding transmission.*

§ 1. At the calling station, the telegram may be provided with a reference number which will be transmitted at the beginning of the preamble and will serve as an additional means of identifying the telegram if one is required.

§ 2. To set up the call with the office required, the operator of the calling station shall make the call in accordance with the rules in force for his network, and shall dial the call number in accordance with Article 2, § 1.

§ 3. After connection has been made, the operator at the calling station obtains the answer-back signal of the called station, followed by that of his own station, when these two operations are not done automatically by the equipment in the calling or called country. The operator at the calling station checks the answer-

back signal of the station obtained to see that it is the same as that of the required office. If it is, he begins the actual transmission.

§ 4. If the answer-back signal received is not that of the required office, one of the following two cases may have arisen :

- (1) the answer-back signal belongs to an overflow position. If so, the call has been put through to an overflow position which can receive the telegram(s); the actual transmission can begin;
- (2) the answer-back signal received belongs to a position in an office which is not required to intervene. The operator sends the signal BK, gives the clearing signal, and tries once more to put the call through to the office required.

Should this fresh attempt end by reception of the answer-back signal of a position which is not an overflow position and does not belong to the office required, the operator shall proceed in accordance with Article 10, § 1.

§ 5. If the calling station receives the busy signal, the call shall be repeated after about 2 minutes. If the second call is unsuccessful too, a third call shall be made after another 2 minutes or so. If the busy signal is again received, telegrams shall be deviated to a telegraph office in the same country as that of the required office and competent in such cases (see Article 14, § 2.5).

§ 6.1. Before transmission of an SVH, S, F, ELTF, LTF, MDT, VIR or Urgent telegram, the operator shall transmit the audible signal thrice.

§ 6.2. When the operator has to transmit more than 5 telegrams with identical texts, he must announce this before transmission by transmitting the signals RPFR TM... (... : number of the telegrams) and by sending the audible signal. These telegrams shall be transmitted as soon as the operator at the called station has replied by the signal GA. If, after one minute, the GA signal has not been received, then the operator shall begin transmission afresh.

N. B. — The operator in the receiving station thus has time to switch his apparatus to a reperforator, if he is equipped with such apparatus.

ARTICLE 6. *Actual transmission of a telegram.*

§ 1. When communication has been established with the desired telegraph office or with an overflow position, the telegram shall be transmitted in the manner described in the Telegraph Regulations. The prescribed routine repetition of different parts of the telegram or of the whole of it shall always be effected by the operator at the calling station.

§ 2. After transmission of the telegram, the operator obtains the answer-back signal of the called station and then transmits the answer-back signal of his own apparatus.

§ 3. If, after the exchange of answer-back signals following the transmission of the telegram, the operator at the calling station notes transmission errors in the telegram, he shall operate the audible signal three times, transmit the expression RECT and the necessary corrections; then he shall again proceed to exchange answer-back signals as described under § 2.

ARTICLE 7. *Operations following transmission of a telegram.*

§ 1. When transmission of a single telegram has been completely finished, the operator of the calling station should, before exchanging answer-back signals, transmit the time of end of the transmission in the form of 4 figures. The time is not transmitted by the operator if it is sent automatically.

§2. After the exchange of the answer-back signals, the operator of the calling station gives the clearing signal unless the telegram transmitted is an SVH, S, F, ELTF, LTF, MDT or VIR telegram (in which case he should act as prescribed in Article 23).

ARTICLE 8. *Series transmission.*

§1. When a calling station has several telegrams for the same office, they shall be transmitted one after the other once the calling station has made contact with the office, observing the prescriptions laid down in Articles 6 and 7. In such cases, the operator at the calling station shall exchange answer-back signals after every telegram.

§2. When the last telegram has been transmitted, the operator at the calling station transmits successively an abbreviated indication of the number of telegrams transmitted (for instance, "TG 3" for a series of 3 telegrams) and the end-of-transmission time if it has not been transmitted automatically; he then proceeds to the last exchange of answer-back signals before giving the clearing signal.

ARTICLE 9. *Receipt of telegrams.*

§1. The called station checks the telegram or telegrams received in accordance with the provisions of the Telegraph Regulations. If correction is necessary, a signal must be sent by RQ note to the transmitting office (see Article 19).

§2. When a telegram is announced by the audible signal, the called station receiving this signal shall be occupied by an operator with the utmost possible despatch.

- (a) If the receiving operator reads RPFR TM..., he shall put the perforating receiver into circuit, if such an apparatus is available in the called office, and shall transmit GA. Should no perforating receiver be available, the receiving operator shall forthwith transmit GA.
- (b) Should the receiving operator read SVH, S, F, ELTF, LTF, MDT, VIR, he shall await the end of the transmission of the text and the terminal exchange of answer-back signals, transmit MOM, check the text received, obtain the answer-back of the calling station, compare it with that received at the beginning of the transmission, and give the acknowledgement of receipt (see Articles 22 and 23).
- (c) If the receiving operator reads URGENT, he shall await the end of the telegram transmitted on the receiving position.
- (d) Should the receiving operator read RECT, he shall check the correction made and intervene only if necessary.

ARTICLE 10. *Incidents before transmission.*

§1. Should the operator of a calling station notice, during the putting through of a call, anything which appears to him attributable to a fault in lines or equipment, he shall, if possible, transmit DER BK and give the clearing signal.

After two minutes or so, he shall try afresh to put the call through. If, again, there are incidents, he shall, if possible, transmit DER BK, give the clearing signal, make mention of the incident on the telegram or telegrams and dispose of it, or them, by an alternative route (see Article 14, § 2). He shall then report the fault.

§2. Should a mutilated answer-back signal be received, or should there be no answer-back signal at all, the operator shall send DER BK, give the clearing signal, and proceed as in § 1 above.

ARTICLE 11. *Incidents during the call.*

§1. If the operator at the called station notes false letters or any incoherence in the text of a telegram which is being received, he shall send P or zero signals repeatedly until the transmission is stopped. At this moment, he shall send MUT RPT AA ... (or possibly, the reference number SRL NR or the handing-in number TG NR of the first mutilated telegram when a series of telegrams is being received) and the last correctly received word or group. The operator at the calling station shall recommence transmission at the indicated word or group.

§2. Should a receiving apparatus receive a completely mutilated text, including mutilation of the answer-back signal of the calling station, an operator noticing this before the call is broken off shall stop transmission and immediately report the matter to the corresponding station by transmitting MUT RPT ALL.

§3. If the receiving operator cannot have a bad transmission stopped or if the text received when the transmission is resumed continues to be mutilated, the receiving operator sends DER BK and gives the clearing signal.

§4.1. If the answer-back signal of the called station is not received or is badly received at the end of transmission of a telegram, the calling station sends DER BK and gives the clearing signal.

§4.2. It then proceeds once more to call the required exchange and resumes transmission, preceding it by the expression "ampliation" between two separation signals. However, in the case of a money-order telegram or a postal cheque telegram, sending the fair copy is done by a service advice announcing that this money-order (or postal cheque) telegram has already been sent once, and giving the routing of it.

§4.3. The procedure described under sub-paragraph 2 above is also applied when the call is accidentally interrupted during transmission.

§5. If a call is accidentally interrupted during transmission, or if a call has been cleared after transmission of BK, the called office withholds the texts received until the calling office resumes transmission. If transmission is not resumed within 15 minutes, the called office sends a service note to the calling office, requesting any corrections or repetitions which may be necessary.

§6. When a receiving apparatus has received a completely mutilated text, and the answer-back signal of the calling station is mutilated too, the printed tape shall, if the call has already been broken off, be stuck on a telegram form. The name of the receiving station and the time of receipt shall be marked thereon. The telegram shall be kept for inquiry purposes. Since the receiving station cannot, in such circumstances, transmit a request to the transmitting station, there is inevitably a loss of a telegram if the transmitting station has not noticed the incident.

§7. Shortage of paper in an apparatus means that the apparatus automatically transmits the clearing signal. A break in, or faulty progression of the tape, shall, where possible, give rise to a local signal, if the automatic clearing signal is not transmitted.

ARTICLE 12. *Other incidents.*

When an apparatus is running for a long time without there being any transmission or reception, its position should be marked occupied and notice should be given of the fault. The plugs connecting to the mains should be taken out if the fault continues.

ARTICLE 13. *General measures for the maintenance of good serviceability.*

§1.1. No telegram should be transmitted or received by apparatus or lines which are not fully serviceable.

§1.2. Faulty apparatus or lines should be withdrawn from service so that they may not be used for a communication. When the apparatus or line is withdrawn from service, it should be marked "occupied", so that a call arriving on such a line or apparatus would be re-routed on to another unoccupied apparatus or line belonging to the same group.

§2. Any position which is temporarily withdrawn from operation should be switched to engaged as indicated under 1.2.

§3. Each operator should know whom he must inform of faults, and how.

ARTICLE 14. *Routing lists.*

§1. All countries taking part in the Gentex service shall draw up a routing list containing information about the routing of traffic to telegraph offices connected to this service and to other offices which, while not connected, normally deal with a fair amount of international traffic, and send this list to other countries concerned.

§2. Routing lists should be of the A4 size (210×297 mm) and should contain the following information :

- (1) in the first column, the alphabetical list of the offices chosen in accordance with the preceding paragraph (names of telegraph offices connected to the Gentex network should be underlined);
- (2) in the second column, the national call number of the Gentex office which must normally be called to route traffic to the office shown in column 1 (a space will be left in this column for the prefix or prefixes necessary for access to the country under consideration);
- (3) in the third column, the answer-back signals of the offices connected to the Gentex network, or of the Gentex office serving an office which is not connected to this network (without the characteristic letter or letters of the specialized receiving positions);
- (4) in the fourth column, the service hours of offices connected to the Gentex service or of the Gentex office serving an unconnected office (see Article 15, § 2);
- (5) in the fifth column, the name of the office connected to the Gentex network which should be called for alternative routing when the office mentioned in the third column is shut, out of action or occupied.

§3. This list shall be preceded by a general note indicating the routing of telegrams to offices not mentioned on the list.

§4.1. When certain important Gentex offices possess specialized positions to deal with service notes and advices concerning disputes, or specialized positions for the reception of fault notices, the national call numbers and answer-back signals of such positions shall appear in an annex to the routing list.

§ 4.2. If a Gentex office be equipped with an automatic control text transmitter (with or without distortion) the national call number of such a transmitter shall be indicated in this annex too.

Annex. — Example : the first part of a routing list (Switzerland in this case), and the annex to this list.

GENTEX SERVICE WITH SWITZERLAND

Routing list

Telegrams to Swiss telegraph offices not included in this list should be routed through *Zurich* when such offices have *German* or *Italian* names, and through *Geneva* when they have *French* names.

Telegraph office	Prefix	National Call No.	Answer-back signal of the Gentex office serving the office	Service hours	Alternative routing when the Gentex office is closed, engaged or out of order
Aarau		5	5 Zuerich CH	N	
Adelboden		3	3 Bern CH		
Altdorf Uri		5	5 Zuerich CH		
Altstätten St. Gallen		5	5 Zuerich CH		
Arbon		5	5 Zuerich CH		
Arlesheim		6	6 Basel CH		
Arosa		5	5 Zuerich CH		
Ascona		5	5 Zuerich CH		
Bad Ragaz		5	5 Zuerich CH		
Baden		5	5 Zuerich CH		
Balsthal		5	5 Zuerich CH		
Basel		6	6 Basel CH		Zuerich
Bellinzona		5	5 Zuerich CH		
Bern		3	3 Bern CH		Zuerich

Annex

Call numbers of specialized positions in Switzerland

Service	Call Numbers	Text of answer-back signals
Zurich position dealing with service notes and advices	91	91 ZUERICH INQ
Zurich position for reception of faulty notices	94	94 ZUERICH TCHN
Central transmitter of text with distortion for the whole of Switzerland	96	no answer-back unit
Central transmitter of text without distortion for the whole of Switzerland	99	no answer-back unit

ARTICLE 15. *Telegrams to offices with restricted service.*

§1. Restricted-service Gentex offices should not be called when they are closed; traffic to such offices should be routed to the permanent-service offices mentioned in the fifth column of the routing list for receiving traffic intended for restricted service offices.

§2. The hours of service for Gentex traffic of restricted-service offices shall be the same for all offices under one Administration; this rule shall not be compulsory for the networks where there is automatic overflow to another office when an office is closed.

ARTICLE 16. *Overflow and waiting period.*

Administrations may make arrangements so that when all the receiving positions of a called office are busy, calls may be routed automatically to overflow positions. Such deviation of a call to an overflow position may be made after a period of up to one minute; when this occurs, the calling telegraph office should be immediately informed of the start of this period by the transmission of MOM. Later the call should be routed either by the reception of the answer-back signal of the required office or the answer-back signal of an overflow position.

ARTICLE 17. *Telegrams to offices not connected to the Gentex network.*

§1. Telegrams to an office which, while not connected to the Gentex network, appears in the routing list, shall be routed to the Gentex office mentioned in the list as serving this office, account being taken of Article 15, if appropriate.

§2. Telegrams to an office which does not appear on the routing list shall be routed in accordance with the instructions given at the beginning of the routing list of the country in which the office is located.

ARTICLE 18. *Misdirected telegrams.*

§1. When, during the transmission of a telegram, the receiving operator notices that it has been misdirected :

- a) if the office of destination is located in the country of the office which received it by mistake, this office must accept the telegram and retransmit it to the office of destination;
- b) if the office of destination is not in the same country as that of the office receiving the telegram, the receiving operator shall interrupt the transmission and give notice of the routing mistake.

§2. If the fact that the telegram has been misdirected is noticed only after the communication has been cleared, the receiving office shall retransmit it without delay and with priority over other telegrams in the same category, to the office of destination, even when the latter is in another country.

ARTICLE 19. *Service notes*

§1. When receipt of a telegram is checked and mistakes are noted, a service note (RQ) shall be transmitted by means of a special call to the office which has

transmitted the telegram. This office transmits the reply by a service note (BQ) as quickly as possible by a special call.

§ 2. Communications for service notes (RQ) or (BQ) shall be treated like communications for a telegram.

§ 3. A request or reply (RQ or BQ) must contain the following indications :

- (a) code word (RQ or BQ),
- (b) exchange to which the RQ or BQ note is being sent,
- (c) designation of the telegram in question by the handing-in number (and, if necessary, the reference number) of the telegram followed by the operator's position which has transmitted the telegram, separated by a fraction bar (e.g. 17/385/TC),
- (d) the request or reply.

Examples: for RQ : RQ LYON 17/385/TC 9W : CFLAM8ABH +
for BQ : BQ AMSTERDAM 17/385/TC 9W OK

§ 4. If a reply to an (RQ) note has not been received after a maximum of 20 minutes, a second (RQ) note shall be transmitted, preceded by WEFXU, to the calling telegraph office. If no reply is received after a further 10 minutes, the telegram shall be sent on, marked CTF, together with the indication of the type of correction. The same applies when it is obvious from the outset that the clarification of an irregularity will take a fairly long time (for instance after the closing time of a telegraph office).

ARTICLE 20. *Service advices (A).*

§ 1. When a telegram is sent on, marked CTF, due to a long-delayed reply (BQ) to a note (RQ), the exchange to which the RQ note has been sent shall be informed of the fact by a service advice (A).

§ 2. Requests which are transmitted one or more days after the telegram has been received shall be made by means of service advices (A).

ARTICLE 21. *Use of codes.*

Service notes and advices shall make use of the codes listed in the annex to these Regulations.

ARTICLE 22. *Telegrams with acknowledgement of receipt and form of such acknowledgements.*

§ 1. A called office must give an acknowledgement of receipt to the calling station upon reception of SVH, S, F, ELTF, LTF, MDT and VIR telegrams.

§ 2. Such an acknowledgement of receipt shall be given in the following way :

R — handing-in number (if there is one) and reference number — specialization and identification letters of the calling position in the calling office — type of telegram (SVH, S, F, ELTF, LTF, MDT or VIR).

ARTICLE 23. *Operational procedure for acknowledgement of receipt.*

§ 1. Telegrams requiring an acknowledgement of receipt shall be announced by three successive operations of the audible signal (Article 5, § 6.1). An operator at the called office shall occupy the position which has received such a signal as

soon as possible (Article 9, § 2); he awaits the end of transmission of the telegram and the terminal exchange of answer-back signals transmits MOM, checks the text received, obtains the answer-back signal of the calling station, compares it with that received at the beginning of the transmission and gives the acknowledgment of receipt in the form described in Article 22, § 2.

The operator at the calling station gives the clearing signal.

§ 2. If the calling station has not received the MOM signals some 30 seconds after the end of transmission of the telegram, it shall give the clearing signal or begin to transmit other telegrams if there are others to transmit to the office obtained.

§ 3. If an office has been unable to give the acknowledgement of receipt before the communication is cleared, it shall send this receipt by service advice to the office which transmitted the telegram requiring the acknowledgement.

§ 4. If the office which has transmitted a telegram requiring an acknowledgement of receipt has not received acknowledgement about an hour after transmission, it shall send a service advice requesting such acknowledgement to the receiving office in the following form : SVP R — handing-in number (if there is one) and reference number—specialization and identification letters of the position which has transmitted the telegram—type of telegram and address. An office receiving such a service advice reminder shall proceed forthwith to take the necessary action and shall give the acknowledgement of receipt by urgent service advice.

ARTICLE 24. *How accounts should be drawn up.*

Administrations and Recognized Private Operating Agencies taking part in the Gentex service shall prepare accounts for outgoing telegrams, whether transmitted by the Gentex network or not.

ARTICLE 25. *Establishment of accounts.*

§ 1. Accounts shall be established in accordance with Article 92 of the Telegraph Regulations (Paris, 1949).

§ 2. Administrations and Recognized Private Operating Agencies may also establish the accounts, by special arrangement, on the basis of statistics agreed upon by the other Administrations and Recognized Private Operating Agencies concerned.

MISCELLANEOUS

ARTICLE 26. *Prohibition of communications with Telex subscribers in other countries.*

§ 1. An office connected to the Gentex network shall in no case call a Telex subscriber in a country other than that in which it is situated.

§ 2. When an office connected to the Gentex network receives a call from a Telex subscriber in another country :

- (a) if the operator in this office notices this before the call has been cleared, he shall immediately interrupt the transmission from the calling station and transmit NA BK and the clearing signal;

- (b) if this is noticed after the call from the Telex subscriber has been cleared, a service advice shall be sent to the Gentex office in the country of origin which seems most appropriate, informing it that the telegram has been improperly handed in and that the telegram thus received has been cancelled. The Administration of the country of the Telex subscriber shall inform him of this.

ARTICLE 27. *Application of the Regulations.*

§1. The present Regulations apply to all transmission procedures used by the Gentex service whether by wire or radiotelegraph circuit.

§2. The Telegraph Regulations shall apply to any case which is not covered by the present Regulations.

ANNEX TO THE GENTEX REGULATIONS

Service codes and abbreviations to be used in Gentex operation

<i>Abbreviations</i>	<i>Meaning</i>
ABS	Telegraph office closed
ADRS	Address
ANH	Congestion
* ANUL	Delete
BK	I cut off
BQ	Reply to RQ
* CALL NR	National call number of a Gentex Office
CCT	Circuit
CFM	Please confirm / I confirm
CK	Please check number of words !
COL	Collation - Please give / I give routine repetition
CRV	How do you receive ?
CTF	Correction to follow
CTG	Category of telegram
DBL	Double word(s)
* DEB	Overflow position
DER	Out of order
DER BK	Out of order, I cut off
* DER MOM	Bad reception, do not cut off, we are testing the line

* To be included in the decoding section of the proposed Code Book.

<i>Abbreviations</i>	<i>Meaning</i>
* DETR	I am re-routing to
DETR SVP	Alternative route ? / Please re-route to
* DIF	Different
DTE	Date of handing in
E E E	Signal of error
FIG	Figure(s)
GA	You may transmit
* IND	Answer-back signal
* INQ	Position specialized in the handling of service notes and advices
LTR	Letter(s)
MNS	Minutes
MOM	Please wait !
MOM PPR	Please wait ! I have paper trouble
* MUT	Mutilated
NA BK	Correspondence with this telegraph office is not admitted. I cut off.
NC	No circuit
NOT R	Not received
NP	The called number is not / no longer in use
NR	Number
OCC	Busy
O/D	Telegraph office of destination
OK	Agreed
* OMTD	Omitted
O/O	Telegraph office of handing in
P (repeated)	Stop your transmission !
PBL	Preamble of telegram
PPR	Paper
QGA	May I transmit ?
QOK	Do you agree ?
R	Received
RAP	I will call you again
* RECT	Correct please / I am correcting / cor- rection ?
RECT AA	Correct all after
AB	" all before
ALL	" the complete telegram
BN	" all between and
SRL NR	" reference number
TG NR	" telegram number

* See reference at bottom page 258.

<i>Abbreviations</i>	<i>Meaning</i>
RECT TXT	" text
WA	" word(s) after
WB	" word(s) before
REF	With reference to
* ROUTE	Route to / I am routing for / Route ?
* RPFR	Please prepare your reperforator
TM	Prepare your reperforator because of telegram with multiple address
TXT	Prepare your reperforator because of long difficult text
RPT	Repeat please / I repeat
RPT AA	Repeat all after
AB	" all before
ALL	" the complete telegram
BN	" all between and
SRL NR	" reference number given by the transmitting office
TG NR	" telegram number
TXT	" text
WA	" word(s) after
WB	" word(s) before
RQ	Designation of a request
SIG	Signature
* SRL NR	Reference number given by a Gentex transmitting office
SVIN	Service indication
SVP	Please
* TCHN	Technical service / I shall advise the technical service
TEST MSG	Please send a test message
* TG	Telegram
* TG NR	Telegram number given by the handing- in office
* TPLe	Triple word(s)
* TPR	Teleprinter
TXT	Text
W	Word(s)
WEFXU	Waiting reply to our service
WTG	We are waiting / I am waiting
+ ?	I have finished my transmission Do you wish to transmit ?
Figure O (repeated)	Stop your transmission !

* See reference at bottom page 258.

RECOMMENDATION F.23

**GRADE OF SERVICE FOR INTERNATIONAL TRUNK CIRCUITS USED
IN THE "GENTEX" SERVICE***(formerly C.C.I.T. Recommendation F.18, Geneva, 1956)*

The C.C.I.T.,

CONSIDERING

that the main purpose of the "Gentex" service is to ensure that general service traffic shall be passed without delay, whilst also ensuring a sufficient use of groups of international circuits intended to carry the general service traffic,

UNANIMOUSLY DECLARES THE VIEW

that the grade of service corresponding to a probability of loss of 1 in 50 as set out in column 3 of Table B of Recommendation F.64 should be used for the groups of International Trunk Circuits used for the "Gentex" service.

RECOMMENDATION F.30

"MESSAGE SEPARATION" SIGNAL*(formerly C.C.I.T. Recommendation F.10, Geneva, 1956)*

The C.C.I.T.,

CONSIDERING

that as regards perforated-tape, semi-automatic and automatic retransmission, it would be useful to standardize a "message separation" signal for insertion immediately after the end of a telegram or at the end of a series of telegrams similarly routed;

UNANIMOUSLY DECLARES THE VIEW

that for perforated-tape, semi-automatic or automatic retransmission, a decision should be taken on a standardization "message separation" signal for insertion immediately after the end of a telegram or of a series of telegrams similarly routed.

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

THIRD SECTION

TARIFFS AND ACCOUNTING METHODS FOR INTERNATIONAL GENERAL TELEGRAPH SERVICE

RECOMMENDATION F.40

WORD-COUNTING

PREPARATION OF A VOCABULARY

(formerly C.C.I.T. Recommendation G.8, Geneva, 1956)

The C.C.I.T.,

CONSIDERING

1. the proposal to recommend to Members of the Union the setting up of committees comprised of representatives of Administrations, Recognized Private Operating Agencies and organizations representing the users of international telegraph services of all countries with a common language, with the purpose of drawing up vocabularies of commercial terms characteristic of the language or in current use in the country concerned, with an indication of the corresponding number of telegraph words;
2. that the difficulties of reckoning the charge for such terms should not be exaggerated, for they can be overcome by a liberal interpretation of the Telegraph Regulations and by making a study of some special cases relating to the counting of signals, expressions etc. appearing in the Regulations;
3. that the high cost of preparing, circulating and keeping up-to-date such vocabularies would be out of all proportion to their actual value;
4. that under § 149 of the Regulations (Paris Revision, 1949) appropriate measures can be taken to prevent any abuse in the use of the terms in question;
5. that lists of these terms, already published by some of the Administrations and Recognized Private Operating Agencies, are now used by many other Administrations and Recognized Private Operating Agencies;

UNANIMOUSLY DECLARES THE VIEW

- (a) that there is no call to recommend Members of the Union to set up committees to draw up vocabularies of characteristic commercial terms in the various languages, with an indication of the corresponding number of chargeable words;
- (b) that it is preferable to leave Administrations and Recognized Private Operating Agencies to reach such agreements, and take such action, as they may see fit in this field.

RECOMMENDATION F.45

DETERMINATION OF TERMINAL RATES IN THE EUROPEAN SYSTEM

(Geneva, 1958)

The C.C.I.T.T.,

Having examined the results of the study to determine the elements of the cost of routing telegrams in the European system (see *Violet Book* — Supplements — pages 330 to 335);

CONSIDERING

- that charging with a fixed amount per telegram and a variable transmission rate per word does not meet with adequate approval;
- that, under these conditions, charging for telegrams should be by the word, as at present;
- that, for a telegram of an average length of 15 words, the cost of handing in or delivery per word is between 6.6 and 10 gold centimes;
- that the real average load of a circuit should be assessed at 2500 words per day (instead of 5000 words, which practice has revealed to be too heavy a load);
- that, because of this fact, the average cost of transmitting an incoming or outgoing telegram is 5 gold centimes per word;

DECLARES THE VIEW

- that terminal rates for one country should be the same at both incoming and outgoing services;
- that these rates should be between 11.6 and 15 gold centimes per word.

Note : The Administration of the U.S.S.R. declares that its terminal rate will be 32 gold centimes per word and its transit rate 24 gold centimes per word.

RECOMMENDATION F.50

ACCOUNTING IN THE PUBLIC TELEGRAPH SERVICE*(formerly C.C.I.T. Recommendation G.14, Geneva, 1956)*

The C.C.I.T.,

CONSIDERING

1. that in general, and for the needs of the operation of the international switching system for the general telegraph service in particular, the accounting between Administrations and Recognized Private Operating Agencies should be prepared on the basis of the transmitted traffic;
2. that several Administrations and Recognized Private Operating Agencies, especially in the extra-European system, prefer that accounts should be prepared on the basis of the received traffic;

UNANIMOUSLY DECLARES THE VIEW

that, for the time being, there is no point in modifying the existing rules for the drawing up of accounts in the telegraph service, since the provisions of § 901 of the Telegraph Regulations (Paris Revision, 1949) permit Administrations and Recognized Private Operating Agencies to adopt such measures as they consider appropriate for drawing up accounts.

RECOMMENDATION F.51

**ACCOUNTING PROCEDURE TO BE APPLIED IN THE CASE WHERE
A TELEPHONE CIRCUIT USED FOR V.F. TELEGRAPHY IS REPLACED
BY ANOTHER, FOLLOWING A DIFFERENT ROUTE***(formerly C.C.I.T. Recommendation G.13, Geneva, 1956)*

The C.C.I.T.,

CONSIDERING

that such cases are fairly uncommon, but that it might be desirable to propose rules in the future, in the light of experience;

UNANIMOUSLY DECLARES THE VIEW

that, for the time being, no general procedure can be recommended to cover the above-mentioned case, and that it would be better to leave Administrations and Recognized Private Operating Agencies to enter into special arrangements when they consider it to be desirable, and that the question should be kept under study. (See Question 32/21 of Sub-Group 2/1.)

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

FOURTH SECTION

TELEX SERVICE

RECOMMENDATION F.60

DRAFT REGULATIONS FOR THE SUBSCRIBERS' TELEGRAPH SERVICE BY START-STOP APPARATUS IN THE EUROPEAN SYSTEM

(formerly C.C.I.T. Recommendation H.1, modified in Geneva, 1958)

The C.C.I.T.T.,

UNANIMOUSLY DECLARES THE VIEW

that the following Regulations should be adopted for the Subscribers' Telegraph Service in the European system :

REGULATIONS FOR THE SUBSCRIBERS' TELEGRAPH SERVICE BY START-STOP APPARATUS IN THE EUROPEAN SYSTEM

TABLE OF CONTENTS

CHAPTER I. — *Application of the Regulations — Definitions.*

Art. 1	General provision	269
Art. 2	Scope of the Regulations	269
Art. 3	Definitions	269

CHAPTER II. — *International Telex network — Nature and duration of the Telex service.*

Art. 4	Constitution of international Telex circuits	270
Art. 5	Rapid Telex service	271
Art. 6	Duration of service — Legal time	271

CHAPTER III. — *General provisions relating to Telex correspondence.*

Art. 7	Restriction on the use of a Telex station	272
--------	---	-----

CHAPTER IV. — *Directories.*

Art. 8	Compilation of directories	272
Art. 9	Supply of directories	273

CHAPTER V. — *Classes of Telex calls.*

Art. 10	Classes of Telex calls	273
Art. 10bis	Telex calls concerning the safety of life	274
Art. 11	Government Telex calls	274
Art. 12	Service Telex calls	274
Art. 13	Ordinary private Telex calls	275
Art. 14	Subscription Telex calls	275
Art. 15	Requests for information	276

CHAPTER VI. — *Booking of Telex calls.*

Art. 16	Form of booking of Telex calls	276
Art. 17	Validity of Telex bookings	276
Art. 18	Modification of Telex bookings	276

CHAPTER VII. — *Priority and operating procedure.*

Art. 19	Priority of Telex calls	277
Art. 20	Establishment and disconnection of Telex calls	277
Art. 21	Limitation of the duration of Telex calls	278
Art. 22	Organization of the rapid Telex service by telegraph circuits	278
Art. 23	Signalling in the service	279
Art. 24	Supplementary provisions for signalling	279
Art. 25	Operating procedure on international Telex positions	280
Art. 26	Code expressions used in the Telex service	281

CHAPTER VIII. — *Characteristics of the start-stop apparatus.*

Art. 27	Characteristics of the start-stop apparatus	282
---------	---	-----

CHAPTER IX. — *Tariffs and charging — Adjustment of charges and reimbursements.*

Art. 28	Telex rates	283
Art. 29	Chargeable duration of a Telex call	283
Art. 30	Composition of the tariff	284
Art. 31	Charging during periods of light traffic	284
Art. 32	Charges for government Telex calls	284
Art. 33	Charges of subscription Telex calls	285
Art. 34	Charges for requests for information	285
Art. 35	Right to round off charges	285
Art. 36	Fixing of monetary equivalents	286
Art. 37	Charges in particular cases — Adjustment of charges and reimbursements	286

CHAPTER X. — *Accounting.*

Art. 38	Accounting	287
---------	----------------------	-----

CHAPTER XI. — *Directives for subscribers.*

Art. 39	Operating procedure for Telex communication	287
---------	---	-----

ANNEX I.	Operating procedure for Telex communication	288
----------	---	-----

ANNEX II.	Use of emergency routes	289
-----------	-----------------------------------	-----

CHAPTER I

Application of the Regulations—Definitions

ARTICLE 1

General provision

These Regulations fix the rules to be followed for the subscribers' telegraph service, permitting the users to communicate directly and temporarily by means of start-stop apparatus. This service is called Telex service.

ARTICLE 2

Scope of the Regulations

1. The provisions of the present Regulations shall apply to the international Telex services of the European system as defined by the Telegraph Regulations.
2. Countries outside the European system may decide to apply the provisions of the present Regulations.

ARTICLE 3

Definitions *

1. *Booking of a Telex call* (17.22) :
The first request made by the caller for a Telex call.
2. *Telex call* (17.15) :
The setting up of a connection between two Telex stations.
3. *Government Telex call* :
See Article 11.
4. *Service Telex call* :
See Article 12.
5. *Ordinary private call* :
See Article 13.
6. *Subscription Telex call* (17.25) :
See Article 14.
7. *Direct Telex call* (37.21) :
Telex call established by means of a single international Telex circuit.
8. *Telex transit call* (17.17) :
Telex call established by means of more than one international Telex circuit.
9. *Telex exchange* (15.01) :
A switching centre for interconnecting the Telex lines which terminate therein.
10. *Telex circuit* (02.07) :
A permanent Telex connection between two Telex exchanges, without intermediate switching.

* The numbers following the titles of the Definitions are the reference numbers of the I.T.U. List of Definitions (Part I).

11. *International Telex circuit* (17.08) :
Telex circuit connecting two Telex exchanges in two different countries.
12. *Direct transit Telex circuit* (17.10) :
International Telex circuit passing through one or more transit countries but involving no intermediate Telex exchange.
13. *International Telex exchange* (17.12) :
A Telex exchange at the end of an international Telex circuit.
14. *Chargeable time of a Telex call* (17.38) :
The period of time to be considered for calculating the charge for this call.
15. *Unit charge (in a particular international Telex service)* (17.75) :
The charge proper to an ordinary Telex call of three minutes duration, exchanged during the period of heavy traffic.
16. *Normal Telex route* (17.67) :
The route which must be chosen as the first choice for Telex traffic in a given international relation.
17. *Auxiliary Telex route* (17.70) :
A route (other than the normal route) to be used whenever its use makes for greater speed of service. Unless there is agreement to the contrary between the countries concerned, the auxiliary Telex route shall pass through the same countries as the normal route.
18. *Emergency Telex route* (17.71) :
A route to be used in case of complete interruption or major breakdown of the normal and auxiliary routes. Its itinerary differs from that of the normal or auxiliary Telex routes, either because it does not pass through all the countries traversed by the normal or auxiliary routes, or because it traverses one or more countries through which the normal or auxiliary Telex routes do not pass.
19. *International Telex position* :
Manual position in an international Telex exchange, for establishing Telex calls between two countries.
20. *International Telex transit centre* (17.13) :
An international Telex exchange which has been chosen to establish Telex communications between two countries other than its own.

CHAPTER II

International Telex network — Nature and duration of the Telex service

ARTICLE 4

Constitution of international Telex circuits and routing

- § 1. International Telex circuits are made up by means of telegraph circuits.
- § 2. The networks of the countries operating the Telex service shall be connected, as far as possible, directly.
- § 3. In case of breakdown, any defective international circuit (or section of an international circuit) must be repaired with all requisite speed, and, pending repair, must be replaced so far as possible and with the minimum delay.

- § 4. Each intermediate Administration (or Recognized Private Operating Agency) shall provide the sections of international circuits passing through the territory which it serves.
- § 5. For each relation, the Administrations (or Recognized Private Operating Agencies) concerned shall, by mutual agreement, decide upon one or more normal Telex routes, and to the extent possible, upon auxiliary Telex routes and emergency Telex routes.
- § 6. In this respect, the Administrations (and/or Recognized Private Operating Agencies) shall conform, as far as possible, with the principles recommended by the C.C.I.T. as regards the constitution and maintenance of circuits and installations.
- § 7. If it should become necessary to use the auxiliary or emergency Telex routes, the countries concerned shall take urgent measures to make them available.
- § 8. The Administrations or Recognized Private Operating Agencies shall forward to the General Secretariat :
 - (a) a list of international Telex circuits in service at 31 December of each year, showing the constitution of these circuits and the location of the regenerative repeaters;
 - (b) a list of the international relations existing at the same date, with an indication of the available routes (normal, auxiliary and emergency).

The General Secretariat shall assemble this information in the form of a document published annually. Any amendments to this document shall be communicated by the Administrations (or Recognized Private Operating Agencies) concerned to the General Secretariat who will bring them to the knowledge of the other Administrations (and Recognized Private Operating Agencies) by means of the fortnightly Notification.

ARTICLE 5

Rapid Telex service

- § 1. As far as possible, the Telex service is effected as a demand service. Hence the number of circuits between two networks and the number of positions operated at the international Telex exchange shall be calculated as for such traffic.
- § 2. When the Telex service is effected normally as a demand service, no priority shall be given to certain classes of Telex calls.
- § 3. In cases of congestion or faults, and generally in cases when the Telex service, temporarily, is not effected as a demand service, the provisions of article 19, on priority of communications, shall be in force.

ARTICLE 6

Duration of service — Legal time

- § 1. Each Administration (or Recognized Private Operating Agency) shall fix the hours of working of its exchanges.
- § 2. The Administrations (and/or Recognized Private Operating Agencies) concerned shall arrange, so far as possible, to fix the same period of working at neighbouring frontier exchanges which have close relations with each other.
- § 3. International Telex exchanges must, so far as possible, afford continuous service.
- § 4. Exchanges which are not open continuously shall be bound to prolong the service 12 minutes beyond the normal closing hours in favour of Telex calls actually proceeding and those already prepared.
- § 5. Exchanges shall use the legal time of their country or of their zone. Each Administration (or Recognized Private Operating Agency) shall notify this time or times to the General Secretariat which will advise the other Administrations (and/or Recognized Private Operating Agencies).

CHAPTER III

General provisions relating to Telex correspondence

ARTICLE 7

Restriction on the use of a Telex station

- § 1. Administrations reserve the right to suspend the Telex service in the cases mentioned in Articles 29 and 30 of the Convention.
- § 2. Administrations (and Recognized Private Operating Agencies) must refuse to offer Telex service to a telegraphic reforwarding agency well known to be organized for the purpose of transmitting or receiving telegrams intended for telegraphic retransmission with the object of evading the full payment of the charge due for the whole distance.

CHAPTER IV

Directories

ARTICLE 8

Compilation of directories

- § 1. As far as possible each Administration (or Recognized Private Operating Agency) shall publish a directory of its subscribers at least once a year (for example, on 1st April).
- § 2. It is to be recommended that directories should have the uniform dimensions of 210×148 mm. (A.5).
- § 3. (1) The directory shall be composed of two separate lists, *a list of subscribers* and *a list of answer-back codes*.
- (2) The *list of subscribers* shall be drawn up :
- (a) in the alphabetical order of the towns where the stations are located;
- (b) within this first classification, in the alphabetical order of the subscribers' names.
- (3) It shall be arranged according to the following model :

Town	Subscriber's name and address	Subscriber's exchange	Call number	Answer-back code
------	-------------------------------	-----------------------	-------------	------------------

- (4) The *list of answer-back codes* shall be compiled in alphabetical order on the following model :

Answer-back code	Subscriber's name and address	Subscriber's exchange	Call number
------------------	-------------------------------	-----------------------	-------------

- § 4. (1) The directories sent to the Administrations (and/or Recognized Private Operating Agencies) of a country shall be set up in Roman script.
- (2) When they are written in a language other than the language used in that country, they shall be accompanied by an explanatory note to facilitate the use of such directories. This note shall be drawn up in whatever official language of the Union that has been agreed upon by the Administrations (and/or Recognized Private Operating Agencies) concerned.
- § 5. (1) Once a quarter (for instance, 1 July, 1 October, 1 January) each Administration (or Recognized Private Operating Agency) shall send to the other Administrations a supplement to its directory, containing all the changes that have occurred in the position of its network during the preceding quarter.
- (2) The arrangements and lay-out of the supplements must be exactly the same as those of the directories (see § 2 and § 3 above).

ARTICLE 9

Supply of directories

- § 1. Each Administration (or Recognized Private Operating Agency) shall supply free of charge to the Administrations (and/or Recognized Private Operating Agencies) of the countries with which Telex service is open, a sufficient number of copies of its subscribers' lists for the benefit of the performance of the service.
- § 2. (1) In order to be able to cope with the subscribers' demands, each Administration (or Recognized Private Operating Agency) must inform the other Administrations (and/or Recognized Private Operating Agencies), not later than 1 February, how many directories it will require.
- (2) Unless otherwise arranged, these directories shall also be supplied to the Administrations (and/or Recognized Private Operating Agencies) free of charge.
- (3) However, distribution of these directories to subscribers must be against payment of an amount in national currency not less than the sale price in the country of origin.
- § 3. (1) A subscriber wishing to obtain a copy of the Telex directory of another country must apply to his own Administration (or Recognized Private Operating Agency).
- (2) If an application for its directory is received direct by an Administration (or Recognized Private Operating Agency) from a subscriber in a foreign country, the request shall be forwarded by that Administration (or Recognized Private Operating Agency) to the Administration (or Recognized Private Operating Agency) of the subscriber's country.

CHAPTER V

Classes of Telex calls

ARTICLE 10

Classes of Telex calls

- § 1. The following classes of Telex calls shall be admitted :
- (a) Safety of Life Telex calls (SVH);
 - (b) Government Telex calls;
 - (c) Service Telex calls;
 - (d) Ordinary private Telex calls;
 - (e) Request for information.

- § 2. In addition *subscription* calls may be admitted by special agreement between Administrations (and/or Recognized Private Operating Agencies) concerned.

In such cases the provisions of Articles 14 and 33 apply.

- § 3. Administrations (and/or Recognized Private Operating Agencies) may decide by special agreement among themselves to admit classes of Telex calls other than those mentioned above.

ARTICLE 10 bis

Telex calls concerning the safety of life

Safety of life calls (SVH) are those requested in accordance with Article 36 of the International Telecommunication Convention, Buenos Aires, 1952.

ARTICLE 11

Government Telex calls

- § 1. By analogy with the definition given in Annex 3 to the Convention, *Government Telex calls* are those originating with one of the authorities specified below :
- (a) the Head of a State;
 - (b) the Head of a Government and members of a Government;
 - (c) the Head of a colony, protectorate, overseas territory or territory under suzerainty, authority, trusteeship or mandate of a Member or Associate Member of the United Nations;
 - (d) Commanders-in-Chief of military forces, land, sea, or air;
 - (e) diplomatic or consular agents;
 - (f) the Secretary-General of the United Nations, the Heads of principal organs and the Heads of subsidiary organs of the United Nations;
 - (g) the International Court of Justice at the Hague.
- § 2. The person booking a Government Telex call shall be required, if asked to do so, to state his name and rank.
- § 3. A Government Telex call shall have priority only if priority has been specifically requested by the calling subscriber.

ARTICLE 12

Service Telex calls

- § 1. (1) *Service Telex calls* are those which relate to the working of the international Telex or telegraph service; such calls may be exchanged free of charge between the Administrations (and/or Recognized Private Operating Agencies) concerned with the international Telex service.
- (2) However, in services between Administrations of the European system, the telephone service may use free of charge the Telex service conducted by Administrations of the European system for the exchange of Telex calls concerning the working of the international telephone service, which shall then be regarded as service Telex calls.
- § 2. Service Telex calls may be requested only by persons authorized to do so by their respective Administration (or Recognized Private Operating Agency).

- § 3. The Secretary-General of the Union and the Directors of the International Consultative Committees are authorized to request service Telex calls.
- § 4. Service Telex calls must be made, as far as possible, outside the busiest hours.

ARTICLE 13

Ordinary private Telex calls

Ordinary private Telex calls are Telex calls, other than service or Government calls, which do not receive any special treatment.

ARTICLE 14

Subscription Telex calls

- § 1. *Subscription Telex calls* are those which are arranged to take place daily, between the same stations, at the same time, agreed upon in advance, for the same duration, and which have been booked for an agreed period.
- § 2. Subscription Telex calls must relate exclusively to the personal affairs of the correspondents or those of their firms.
- § 3. (1) Subscription Telex calls shall be subject to the acceptance, by the person requiring them, of a subscription contract. The subscription contract may take effect from any date, but for those taken on a monthly basis the first day of the month shall be regarded as the commencing date. Any balance of payment due for service given prior to that date shall be added to the first monthly account.
- (2) The monthly subscription shall be extended from month to month unless it has been cancelled by either party at least eight days before the end of the current month. Nevertheless, by agreement between the Administrations (and/or Recognized Private Operating Agencies) concerned, earlier cancellation may be permitted, after the first month, subject to eight days notice being given in advance.
- (3) A subscription contract made for one or more indivisible periods of seven consecutive days shall not be renewable by tacit agreement.
- § 4. The time and duration of subscription Telex calls shall be fixed by the international Telex terminal exchanges concerned, with due regard to the subscriber's request and the commitments of the service.
- § 5. If, at the time specified in the subscription contract, there is, between the international Telex terminal exchanges concerned, a circuit on which no Telex call is in progress and on which there is no priority Government call on hand, the call shall be set up at the time fixed. Otherwise, it shall be set up as soon as possible on the first circuit fulfilling these conditions after the time fixed.
- § 6. A subscription Telex call shall be definitely disconnected when the caller gives the signal that the call is ended before the expiry of the duration specified for each subscription call. If, at the end of this duration, the caller has not already given the signal that the call is ended, the operator shall warn the caller and disconnect the call, unless the call can be continued without blocking other traffic.
- § 7. Subscribers shall arrange for their stations to be free at the time fixed for the call.

ARTICLE 15

Requests for information

A request for information is a request made by a person with the object of ascertaining :

- (a) whether a certain person, whose name is given, together with the additional details necessary for identification (for example, his complete address), is a Telex subscriber, and if so, what is his call number and answer-back code.
- (b) the name of the person to whom a given call number or answer-back code in a specified Telex system is allotted.

CHAPTER VI

Booking of Telex calls

ARTICLE 16

Form of booking of Telex calls

In the booking of a call, the Telex installation of the subscriber required must be designated by the name of the country, the subscriber's exchange and call number, as it appears in the official directory of the country concerned.

ARTICLE 17

Validity of Telex bookings

In case the Telex service is not effected on a demand basis, bookings of Telex calls not completed shall cease to be valid :

- (1) where all the exchanges concerned are open continuously :
 - (a) at midnight, if the Telex call has been booked before 10 p.m. on the same day;
 - (b) at 8 a.m. if the Telex call has been booked after 10 p.m. the previous evening.
- (2) Where all the exchanges concerned are not open continuously : at the time of closing of the Telex service at the end of the day.

ARTICLE 18

Modification of Telex bookings

- § 1. In the case of all bookings of Telex calls, and subject to the provisions of article 17, relative to the validity of bookings, the caller may, so long as the required subscriber has not been obtained :
- (a) cancel his booking;
 - (b) specify the time after which the booking should be cancelled;
 - (c) change the number of the station required within the territory of the country of destination.
- § 2. Modifications of bookings shall be permitted free of charge; the Administration (or Recognized Private Operating Agency) of origin may, however, make a special charge covering the additional work of recording. This charge shall not enter into the international accounts.

CHAPTER VII

Priority and operating procedure

ARTICLE 19

Priority of Telex calls

- § 1. In the circumstances envisaged in Article 5, § 3, international Telex calls shall be connected in the following order :
- (a) Telex calls concerning safety of life, which benefit by the provisions of Article 36 of the International Telecommunication Convention of Buenos Aires, 1952;
 - (b) Service calls concerning the re-establishment of international telecommunication links which have been totally interrupted;
 - (c) Government Telex calls for which priority has specifically been requested;
 - (d) Government Telex calls for which priority has not been requested, ordinary private Telex calls, service Telex calls other than those mentioned in (b).
- § 2. In the international Telex exchange, calls shall take rank according to their category and the time of their receipt at this exchange (see Article 20 § 6 (2)).

ARTICLE 20

Establishment and disconnection of Telex calls

- § 1. Administrations (and/or Recognized Private Operating Agencies) shall agree directly between themselves upon the most appropriate method of operation to be applied in the international relations that concern them, account being taken of the undermentioned provisions.
- § 2. In the manual service, all bookings, modification of bookings and advices of cancellation shall be transmitted as quickly as possible to the international Telex exchange charged with establishing the Telex calls booked.
- § 3. In the manual service calling signals on international circuit must be answered immediately. If, after a suitable period of calling the exchange called does not reply, it shall be asked by any appropriate means to resume the service on the international circuit in question; any international Telex exchange that is in a position to help in this matter must do so.
- § 4. For the operation of international Telex circuits, the French language shall be used between Administrations (and/or Recognized Private Operating Agencies) having different languages, in the absence of special agreements between them for the use of other languages.
- § 5. International Telex exchanges connected with each other by several international Telex circuits, may, by mutual agreement, allocate certain of these circuits specially for the establishment of Telex transit calls or for the passing of Telex traffic in one direction only.
- § 6. (1) In the case of manual switchboards in the country of origin and destination and when there is congestion on a particular international Telex route, recourse may be had to the advance preparation of calls. Preparation shall consist in completing all the operations necessary in order that the two stations (calling and called) may be connected together without any loss of time on the international circuit.
- (2) On circuits which have not been allocated for the passing of traffic in a single direction, Telex calls of the same category are, in principle, established in alternate order; the interna-

tional Telex exchanges concerned may, by mutual agreement, modify temporarily the conditions of alternation, if that would be advantageous from the point of view of the flow of traffic and maintenance of the chronological order, as laid down in Article 19, § 2.

(3) Telex calls already prepared must not be delayed for the benefit of calls of superior rank, with the exception of SVH calls.

§ 7. Without prejudice to the provisions of article 25, the operator directing the calls at the international Telex position shall verify that transmission between the correspondents is satisfactory; he shall note the time when the call is established as well as the time when the Telex call ends and/or its duration. He shall record service incidents and other items, necessary for the preparation of the international accounts.

§ 8. With the exception of the cases provided for in Article 14, § 6 and Article 21, § 3 operators are forbidden to cut off, or to break into, an established call which is proceeding normally.

ARTICLE 21

Limitation of the duration of Telex calls

§ 1. (1) In general, the duration of ordinary private Telex calls and service Telex calls shall not be limited.

(2) However, in case of congestion, the international Telex exchanges concerned may agree to limit the duration of calls to twelve or even to six minutes.

§ 2. (1) The duration of Government Telex calls shall not be limited.

(2) However, transit Administrations (and/or transit Recognized Private Operating Agencies) shall have the right, in the case of breakdown or congestion, to limit the duration of Government Telex calls to twelve minutes when these calls are established through the intermediary of one of their exchanges.

(3) The operator of the transit country in such a case shall advise the controlling operator that restrictions on duration are in force.

§ 3. If the duration of the call is limited, the caller shall be informed, when the call is about to be connected, that it will be cut off after the due time.

ARTICLE 22

Organization of the rapid Telex service by telegraph circuits

§ 1. It is strongly recommended that the Telex network of each country be on an automatic switching basis and that the operator of the originating international Telex position be able to select the called subscriber directly.

§ 2. Wherever the above conditions are realized, the operator of the originating international Telex position will receive the demand, establish and control the call. The equipment of the outgoing position must be adapted to that of the Telex networks of the country of destination.

§ 3. The operator of the originating international position must be acquainted with the necessary operating particulars of the networks of the country of destination. The Administration of arrival will give all the necessary technical information to the Administration of departure.

§ 4. Two Administrations may agree to introduce automatic switching by direct selection between the subscribers of their respective network without the assistance of an international Telex position.

- § 5. If the two networks employ manual switching, the conditions must be such as to permit, as far as possible, of demand service; the calls must be controlled by the operator of the originating country.
- § 6. (1) If one network employs manual switching and the other automatic switching, the originating international Telex position will control the call.
- (2) If, however, the country of destination has an automatic switching system, the Administrations interested may agree to allow the operator of the originating international Telex position to select directly the called subscriber where the conditions of § 2 and § 3 above are realized.
- (3) Inversely, if it is the originating country that has an automatic switching system, the Administrations concerned may agree to allow calls from the originating country to arrive automatically at the international Telex position in the country of destination, which will control these calls.

ARTICLE 23

Signalling in the service

(See C.C.I.T. Recommendation E.1, *Violet Book*)

ARTICLE 24

Supplementary provisions for signalling

- § 1. The international Telex position must be equipped in such a way as to receive the clearing signal from both sides.
- § 2. A signal to recall the operator of that position to an established connection is not foreseen.
- § 3. Precaution must be taken that in the event of the operator of the international Telex position delaying to remove the plug on reception of the clearing signals, a new call from a subscriber on one network shall not pass to the other network.
- § 4. When communication has been established, the answer-back signals of apparatus used at the intermediate Telex positions must not be sent to line, when figure-shift D is received.
- § 5. The international Telex position must be provided with equipment to determine the chargeable time of calls controlled by these positions, this timing equipment to be brought into operation in accordance with the provisions of article 25, but to be stopped on receipt of the first clearing signal.
- § 6. (1) The subscriber's equipment must be arranged in such a way that :
- (a) a call can be received, the answer-back taken, the message transmitted and the connection cleared without the intervention of the called subscriber;
- (b) the motor of the teleprinter will rotate continuously for the duration of an established Telex connection.
- (2) When a subscriber's equipment is connected with a line used by the telephone as well, the stipulations of this paragraph are not necessarily applicable.
- § 7. In exceptional cases, Administrations may grant to subscribers the facility to free themselves from the stipulations of Article 24, § 6, 1(a) for periods previously notified. In such cases means must be provided for the transmission of the code expressions ABS either automatically, or, in the case of manual exchanges, by the incoming switchboard operator.

- § 8. If a subscriber's apparatus is such that he can use his teleprinter outside communication periods in order to prepare perforated tapes, for local checking of those tapes, for staff training, etc., the possibility of taking the answer-back may be delayed for a period not exceeding 3 seconds after connection is established with the called subscriber.

ARTICLE 25

Operating procedure on international Telex positions

- § 1. (1) If the called subscriber can be obtained directly by the controlling international Telex operator (according to article 22), this operator :
- (a) holds the calling subscriber and selects a free circuit;
 - (b) selects the called subscriber;
 - (c) establishes communication with the called subscriber and obtains the answer-back of the called subscriber which must also be received by the calling subscriber;
 - (d) obtains the answer-back of the calling subscriber which must also be received by the called subscriber;
 - (e) operates the timing equipment;
 - (f) on reception of the clearing signal, clears down the connection.
- (2) If the called subscriber is engaged, the controlling international Telex operator signals OCC, followed by RAP in the case where the calling subscriber has to be re-called, and then cuts off the calling subscriber.
- § 2. (1) If the called subscriber is obtained by two international Telex positions :
- (a) the controlling international Telex operator holds the calling subscriber and selects a free circuit;
 - (b) the operator at the second international Telex position announces himself by the abbreviated name of his Telex exchange *;
 - (c) the controlling international Telex operator signals the particulars of the called subscriber;
 - (d) the operator of the second international Telex position :
 - 1. holds the circuit from the international Telex position at which the call is controlled,
 - 2. selects the called subscriber,
 - 3. signals the letters DF to the controlling international Telex position,
 - 4. establishes communication between it and the called subscriber;
 - (e) the controlling international Telex operator :
 - 1. establishes communication with the calling subscriber and obtains the answer-back of the called subscriber, which must be received at the same time by the calling subscriber,
 - 2. obtains the answer-back of the calling subscriber which must also be received by the called subscriber,
 - 3. operates the timing equipment,
 - 4. on receiving the clearing signal, clears down the connection.
- (2) If the called subscriber is engaged, the operator of the second international Telex position signals OCC and clears down the international circuit.

* It is recommended that, as far as possible, the abbreviated name of the Telex exchange shall be transmitted by means of the answer-back unit and shall be so constituted as to permit the identification of the operator's position concerned in the connection of an international call.

- § 3. (1) If the called subscriber is obtained by more than two international Telex positions :
- (a) the controlling international Telex operator holds the calling subscriber and selects a free circuit;
 - (b) the operator at the second Telex position announces himself by his abbreviated name (see § 2 (1(b)));
 - (c) the controlling international Telex operator signals the particulars of the called subscriber;
 - (d) the operator at the second international Telex position connects the third international Telex position and signals THRU to the calling international Telex position;
 - (e) the operator of the third international Telex position announces himself by his abbreviated name (see § 2 (1(b)));
 - (f) the controlling international Telex operator signals the particulars of the called subscriber;
 - (g) the operator of the third international Telex position :
 1. holds the circuit from the international Telex position at which the call is controlled,
 2. selects the required subscriber,
 3. signals the letters DF to the controlling international Telex position,
 4. establishes communication between it and the called subscriber;
 - (h) the controlling international Telex operator :
 1. establishes the communication with the calling subscriber,
 2. obtains the answer-back of the called subscriber, which must also be received by the calling subscriber,
 3. obtains the answer-back of the calling subscriber, which must also be received by the called subscriber,
 4. operates the timing equipment,
 5. on receiving the clearing signal, clears down the connection.
- (2) If the operator of the second international Telex position finds all the circuits to the third position engaged, he should signal NC and clear down the international circuit.
- (3) If the called subscriber is engaged, the international Telex operator of the exchange of arrival should follow the procedure indicated in § 2 (2).
- § 4. All instructions necessary for the efficient handling of a subscriber's international Telex traffic may only be given to that subscriber through the medium of the international terminal exchange to which he is connected.

ARTICLE 26

Code expressions used in the international Telex service

In service correspondence the following code expressions should be used :

ABS	absent subscriber, office closed
BK	I cut off
CFM	confirm
COL	collation
CRV	how do you receive ?
DER	out of order
DF	you are in communication with the called subscriber
EEE	error
GA	you may transmit
MNS	minutes
MOM	wait, waiting
NA	correspondence to this subscriber is not admitted

NC	no circuits
NP	the called party is not, or is no longer a subscriber
OCC	subscriber is engaged
OK	agreed
P (or figure 0) *	stop your transmission
QOK	do you agree ?
R	received
RAP	I will call you again
RPT	repeat
SVP	please
TAX	what is the charge ?
TEST MSG	please send a test message
THRU	you are in communication with a Telex position
TPR	teleprinter

* To be repeated until the transmission is brought to a stop.

CHAPTER VIII

Characteristics of the start-stop apparatus

ARTICLE 27

Characteristics of the start-stop apparatus

The start-stop apparatus used in the Telex service must have the following characteristics :

- (1) The transmission signals are those of the start-stop apparatus, based on the International Alphabet No. 2 as mentioned in the Telegraph Regulations.
- (2) The receivers shall be able to work with seven signals of equal duration.
- (3) The modulation rate is 50 bauds.
- (4) The number of characters that a line of the page-printing apparatus may contain is fixed at 69.
- (5) The subscriber's start-stop apparatus must be equipped with an answer-back device having the subscriber's code, which is released by the signal corresponding to the secondary of letter " D ".
- (6) The answer-back transmission comprises a series of 20 signals, as follows :
 - 1 signal " letters "
 - 1 carriage return
 - 1 line-feed
 - 1 signal " letters " or " figures " (as appropriate)
 - 15 signals, at the choice of each Administration, for the composition of the subscriber's code
 - 1 signal " letters ".
- (7) When a subscriber's code is composed of less than 15 characters, as many " letters " signals are interspersed as are necessary to make up the 15, this being done with a view to giving the calling subscriber the possibility of seeing clearly the end of the transmission of the called subscriber's code.
- (8) For the composition of the code, it is recommended that an abbreviated name designating the subscriber should be used, followed by the name of the locality where he resides; nevertheless, Administrations are at liberty to employ any other way of composing the answer-back code, in particular by using the subscriber's number.

(9) The nominal duration of the transmitting cycle should be at least 7.4 units (preferably 7.5), the stop element lasting for at least 1.4 units (preferably 1.5).

(10) The receiver must be able to translate correctly in service the signals coming from a transmitter with a nominal transmitting cycle of 7 units.

CHAPTER IX

Tariffs and charging — Adjustment of charges and reimbursements

ARTICLE 28

Telex rates

- § 1. The unit charge is the charge proper to an ordinary private Telex call of three minutes' duration, exchanged during the period of heavy traffic.
- § 2. The amount of the unit charge is fixed on the basis of the gold franc by agreement between the Administrations (and/or Recognized Private Operating Agencies) concerned.
- § 3. The unit charge expressed in gold francs shall always be the same in both directions in a given relation, regardless of the Telex route (normal, auxiliary, emergency) used for the establishment of a communication in this relation.
- § 4. Except where there are arrangements to the contrary between the Administrations (and/or Recognized Private Operating Agencies) concerned :
 - (1) Any Telex call of a duration of three minutes or less shall be charged as for three minutes.
 - (2) When the duration of a call exceeds three minutes, a charge per minute shall be made for the period in excess of the first three minutes. Any fraction of a minute shall be charged as for one minute. The charge per minute shall be one-third of the charge for three minutes.
- § 5. The provisions of this article shall not apply to services between frontier districts. The Administrations (and/or Recognized Private Operating Agencies) shall determine by agreement between themselves the rate to be applied according to the case.

ARTICLE 29

Chargeable duration of a Telex call

- § 1. The chargeable duration of a Telex call begins at the moment the connection is established between the calling and the called subscribers.
- § 2. It ends the moment when the calling or called subscriber gives the clearing signal.
- § 3. After each Telex call, the operator of the international Telex position at the caller's end shall determine the chargeable duration of the call, unless different arrangements have been made by agreement between the Administrations (and/or Recognized Private Operating Agencies) concerned, taking into account, where necessary, any difficulties of transmission or any incidents which he may observe. The operator may, if he considers it appropriate, agree on this subject with the international Telex position on the side of the called subscriber.

- § 4. If, after a call, a subscriber claims a reduction in charges as a result of difficulties or incidents during a call, he may be invited by his Administration to supply copies of the message in question as transmitted and received. If the faults are clearly attributable to either of the subscribers, no reduction in the charge shall be made.

ARTICLE 30

Composition of the tariff

- § 1. The rates for Telex calls referred to in Article 28 shall be made up of the terminal rates and any transit rate or rates.
- § 2. Each Administration (and/or Recognized Private Operating Agency) shall fix its terminal and transit rates.
- § 3. (1) For the fixing of terminal rates, the territory of the Administrations (and/or Recognized Private Operating Agencies) concerned may be divided into charge zones.
- (2) Where there is a division into charge zones, it is understood that, in a given international relation and over a given route, the terminal rate shall be uniform within each charge zone.
- (3) Each Administration (or Recognized Private Operating Agency) shall fix the number and extent of the charge zones for its services with each of the other Administrations (and/or Recognized Private Operating Agencies).
- (4) It is however desirable that the number of charge zones should be kept to a minimum.

ARTICLE 31

Charging during periods of light traffic

- § 1. (1) Administrations (and/or Recognized Private Operating Agencies) shall decide between themselves during what periods of light traffic a reduction in rates may be considered.
- (2) In relations for which such arrangements have been made, the charge applied for any Telex call during a period of light traffic shall be equal to three fifths (3/5) of the charge which would be applied to such a call during a period in which no reduction in charge is operative. This provision shall not, however, affect Article 28, § 5.
- § 2. Telex calls extending into both the period during which no reduction in charge is operative and the period of light traffic, shall be charged as follows :
- (a) for a Telex call not exceeding three minutes in duration : the tariff in force in the Administration (or Recognized Private Operating Agency) of origin at the moment when the call begins;
- (b) for a Telex call exceeding three minutes in duration : the first three minutes shall be charged in accordance with the tariff in force in the Administration (or Recognized Private Operating Agency) of origin at the moment when the call begins; the additional minutes shall be charged in accordance with the tariff in force in the system of that Administration (or Recognized Private Operating Agency) at the moment when each of these minutes begins.

ARTICLE 32

Charges for Government Telex calls

Government Telex calls shall be charged as ordinary private Telex calls.

ARTICLE 33

Charges for subscription Telex calls

- § 1. In general, subscription Telex calls are subject to the charge for ordinary private Telex calls of the same duration exchanged during the same period.
- § 2. However, if a demand service is impossible during certain periods of heavy traffic, as may be determined for each relation by the international Telex terminal exchanges concerned, then Administrations (and/or Recognized Private Operating Agencies) may agree between themselves to apply to subscription Telex calls a charge as a maximum equal to twice the charge for an ordinary private Telex call of the same duration, exchanged during a period in which no reduction for ordinary private Telex calls is operative.
- § 3. When a Telex demand service is in force in any particular relation, the Administration (and/or Recognized Private Operating Agency) concerned may agree to admit subscription Telex calls lasting longer than 60 minutes; these calls to be charged 75 % of the charge for the period in which the subscription call is in course.
- § 4. (1) The monthly subscription charge shall be reckoned on the basis of thirty days.
(2) The monthly subscription charge may, however, be reckoned on the basis of twenty-five days, if the subscriber waives the use of his subscription on any one day of the week, being the same one each week and being specified in advance in the agreement.
(3) The subscription charges for one or more periods of seven consecutive days shall be reckoned on the basis of seven days, but no reduction shall be admitted if the subscriber waives the use of one or more calls.

ARTICLE 34

Charges for requests for information

- § 1. A request for information is charged for in the international service only if it is not accompanied by the booking of a call and if also it involves the use of an international circuit.
- § 2. In such circumstances the charges made for the request for information shall be one third (1/3) of that pertaining to a three minute Telex call exchanged between the person requesting the information and the person about whom the information is requested, during the charging period in which the request for information is forwarded by the international exchange of origin.

ARTICLE 35

Right to round off charges

- § 1. The charges to be collected in accordance with agreements made between Administrations (and/or Recognized Private Operating Agencies) may be rounded up or down to meet the monetary or other convenience of the country of origin.
- § 2. Modifications adopted by virtue of the foregoing paragraph shall apply only to the charge collected in the country of origin and shall not involve any alteration in the share of the charges proper to the other Administrations (and/or Recognized Private Operating Agencies) concerned. The rates must be rounded up or down to the monetary unit or fraction of the monetary unit in use in the country concerned.

ARTICLE 36

Fixing of monetary equivalents *

- § 1. For the collection of charges from the public, each country should, in principle, apply to the rate expressed in gold francs an equivalent in its national currency approaching as nearly as possible to the value of the gold franc. However, when the equivalent is not applied or when the equivalent applied is less than the true equivalent, the accounts shall nevertheless be prepared in gold francs in conformity with Article 30.
- § 2. (1) Each country should, so far as practicable, notify to the General Secretariat the equivalent it has chosen, as well as the date from which it will collect charges according to such equivalent.
- (2) The General Secretariat shall draw up a table of the information it receives and forward it to all Members and Associate Members. It shall also inform them of the date on which new charges based on any new equivalent come into force, and shall bring any subsequent information to their notice.

ARTICLE 37

Charges in particular cases**Adjustment of charges and reimbursements**

- § 1. (1) When, through the action of the Telex service, correspondents experience difficulty in the course of a Telex call, the chargeable duration of the call shall be reduced to the total time during which Telex conditions have been satisfactory; the international Telex position of origin shall decide, by virtue of article 29 § 3, whether the charge for the minimum period of 3 minutes shall be paid.
- (2) Any complaint made after the completion of the call shall be investigated by the international exchange of origin. According to circumstances, the international exchange or exchanges concerned shall communicate direct to the international exchange of origin the information which may be necessary for the enquiry.
- § 2. (1) When, through the action of the correspondents, a subscription call has not taken place or has not lasted for the prescribed duration, no compensation shall be given and no reimbursement made.
- (2) When, through the action of the Telex service, it has not been possible for a subscription call to take place, or for it to last for the prescribed duration, such a call shall be replaced by a call of a duration equivalent to the time not used, to be exchanged as soon as practicable after the prescribed time, with priority over other calls of the same class. If the call cannot be replaced or made good in this manner, only the charge proper to the time used shall be included in the international accounts. In reckoning the charge for the time used, the charge relative to the whole time prescribed for a subscription call shall be taken as the basis, and this basic charge shall be equal to one twentyfifth (1/25) or one thirtieth (1/30) of the amount of the monthly subscription, irrespective of the month concerned. For a subscription call contract made for seven consecutive days, the basic charge shall be equal to one seventh (1/7) of the amount of the subscription.
- § 3. For any Telex call, other than a subscription Telex call, in the case of refusal by the calling station or in the absence of a reply from the latter when it is rung to take the call, the cost of one minute of ordinary private call exchanged between the two stations concerned during the charge period in which the refusal or the non-reply took place shall be payable.

* Common provisions of the Telegraph and Telephone Regulations.

- § 4. A call booked with an incorrect number and established with the station having that number shall be charged as for a duration of three minutes. If the incorrect booking is replaced immediately by another booking of a call to the same country, however, only the cost of one minute's Telex call exchanged during the charge period when the wrong number was requested shall be payable.

CHAPTER X

Accounting

ARTICLE 38

Accounting

- § 1. Unless otherwise arranged, the charges relating to the Telex service shall form the subject of separate monthly accounts to be drawn up by the Administration of the country of origin. These accounts shall be prepared so as to show for each chargeable period the number of calls and the number of minutes charged in each category grouped according to zones of destination. Furthermore, if the traffic has been transmitted by routes with differing itineraries, the traffic transmitted over each route shall be shown separately with an indication, if the case arises, whether it is an emergency route (see Annex 2).
- § 2. Monthly accounts can be accepted by the Administrations of the various countries concerned without formal notice of their acceptance being necessary. The Administrations concerned have the right to question an account, which should be done within two months from the date of receipt. Their observations in this connection should be sent to the Administration which has sent the account, as soon as possible after receipt. Agreed adjustments are included in a subsequent monthly account.

Monthly accounts are sent by the Administration responsible for their preparation direct to each of the other Administrations concerned.

- § 3. (1) The provisions of the Telephone Regulations dealing with exchange and acceptance of account as well as conservation of vouchers and payment of balances are applicable.
- (2) By agreement between the Administrations (and/or Recognized Private Operating Agencies) concerned the accepted monthly accounts shall be included separately in the quarterly telephone or telegraph accounts presented in accordance with telephone procedure by the creditor transit and terminal Administrations to the debtor terminal Administration. Alternatively separate quarterly accounts in respect of Telex traffic may be prepared. The settlement of the accounts can then be effected either with the Telephone or with the Telegraph Department of the creditor Administrations by arrangement.

CHAPTER XI

Directives for subscribers

ARTICLE 39

Operating procedure for Telex communication

For the transmission of a Telex communication, the subscriber must follow the directions given him in an instruction drawn up in accordance with the detailed directives contained in the Annex No. 1 to the Regulations.

The instructions to subscribers should also comprise information regarding the code expressions used in the international Telex service which are listed in Article 26 of the Regulations.

ANNEX No. 1

OPERATING PROCEDURE FOR TELEX COMMUNICATION

I. *Formation of the text*

- § 1. (1) The heterogeneous groups (composed of two or three sorts of characters: letters, figures, signs) are transmitted without spaces or interspacing signs, as well as the homogeneous groups (words, whole numbers...).
- (2) However, when a group, or part of a group, is composed of a whole number and an ordinary fraction, the fraction is separated from the number by means of a dash without space. Examples :
- for "one and three quarters" : 1—3/4
for "three quarters" followed by "eight" : 3/4—8.
- § 2. The inverted commas sign (quotation mark) (" ") shall be signalled by transmitting the apostrophe sign(') twice, at the beginning and the end of the text within the inverted commas (quotation marks) (" ").
- § 3. To indicate the sign % or ‰, the figure 0, the fraction bar, and the figures 0 or 00 shall be transmitted successively.
- § 4. When the accents on a letter are essential to the sense of the text, repeat at the end of the message the group containing such letter, placing this letter between two spaces. Examples :
ach e te for achète, achet e for acheté.
- § 5. Groups in which figures intervene (particularly numbers) to be repeated at the end of the message.
- § 6. To pass to the beginning of the next line, i.e. to start a new line, press first "carriage return", then "line feed", and again "carriage return".
- § 7. An error is corrected in the following manner :
- (a) in manual transmission, the signal "space" and the letter E are signalled alternately three times, restarting the transmission from the last group correctly sent;
- (b) in perforating, the wrong group and everything following it is "effaced" by depressing the "letter" key.
- § 8. A subscriber preparing a perforated tape for automatic transmission must take care :
- (a) that the signal "who are you" does not appear on the tape;
- (b) that in starting a new line, the provisions of § 6 are followed;
- (c) that the tapes are perforated to the end. He should accordingly finish perforated tapes with a series of "letters" perforations.
- § 9. Letters or signs coupled with the letters F, G, and H should not be used in international communications, except in the case of countries with which there are special arrangements. (Each country will inform its subscribers of the letters or signs used in the country as secondaries of letters F, G and H, will mark these distinctively on the keyboard, and will indicate the countries with which there are special arrangements.)

II. *Operating procedure*

- § 10. Since the establishment of a connection is always indicated by the transmission, through the intermediary of the international Telex position, of the answer-back of the called subscriber, followed by that of the calling subscriber, subscribers should not intervene before the transmission of these two codes is completed.

- § 11. (1) The caller checks whether the answer-back which he has received is in fact that of the called subscriber. (If it is not, he should interrupt the communication, and inform the international Telex position.)
- (2) The calling subscriber can, however, check whether the connection is satisfactory by obtaining the code of the called subscriber.
- § 12. If he considers it desirable, he operates the call bell and ends with the change of line followed by "letters".
- § 13. The calling subscriber should then proceed as follows :
- (a) he starts a new line (see § 6) and transmits the signal "letters";
 - (b) he transmits any particulars of the message such as "urgent", "acknowledge receipt", etc.;
 - (c) he starts a new line;
 - (d) he transmits his message, starting a new line as often as necessary;
 - (e) he starts a new line;
 - (f) he repeats the groups mentioned in § 4 and § 5;
 - (g) if he has several messages, he follows each message by the groups to be checked, by the sign + and by starting a new line;
 - (h) after the transmission of the message (or, as the case may be, of the last message), and/or of the groups to be checked, has been completed, he sends the signs + ?, followed by "letters", thus indicating to the correspondent that the latter can transmit in his turn. If he receives no reply, he obtains the answer-back signal — of his correspondent, checks its reception, and then signals its own code;
 - (i) he sends the sign + twice, then "letters";
 - (j) he gives the clearing signal.
- § 14. The called subscriber answers, if present, as soon as he receives notification of the end of the transmission (+ ?), in the following manner : he transmits the signal "R", followed by the number of messages received.
- § 15. During an exchange of messages, the following rules must be observed :
- (a) before each transmission, the signal "letters" must be sent;
 - (b) to interrupt the correspondent, transmit the letter P of the figure O until the correspondent stops sending;
 - (c) to invite the correspondent to transmit, signal + ?, followed by the signal "letters";
 - (d) to ask him to wait, transmit the combination : "MOM".
- § 16. If during a transmission there has been a pause of more than 30 seconds, transmission is resumed by the signal "letters" and then 2 seconds are allowed to elapse before continuing.
- § 17. If, for any reason, it is necessary to send a test message over an international circuit, one of the two following texts should be used :
- VOYEZ LE BRICK GÉANT QUE J'EXAMINE PRÈS DU WHARF.
THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG.

ANNEX No. 2

USE OF EMERGENCY ROUTES

When emergency Telex routes are used, the following provisions shall apply, except in the case of arrangements to the contrary among the Administrations (and/or Recognized Private Operating Agencies) concerned :

(1) Charges for Telex calls exchanged exceptionally over emergency routes shall be the same as when the normal route is used.

(2) All Telex calls exchanged over emergency routes shall be entered in the international accounts for the whole of their chargeable duration.

(3) When an emergency route is used, the total rate for the normal route (between the first charge zones of the terminal countries) shall be divided equally among the various Administrations concerned with the emergency route in question, whatever may be the nature and length of the circuits used. (When the exchange to which the subscriber is connected is beyond the first charge zone, the country of origin shall credit the account of the country of destination with an additional charge equal to the difference between the charge corresponding to the location of exchange to which the subscriber is connected and that appropriate to the first charge zone.) In order that this procedure may be applied in the case of a call involving an international transit exchange, the operator at the transit exchange must in all cases advise the operator at the international exchange in the country of origin of the emergency route used.

Examples: 1. *Switzerland-France.* Emergency route : Zürich-Frankfurt.

Total rate for the normal route (between first charge zones) : 1 gold franc. Apportionment if the emergency route is used : Switzerland-Germany-France : each receives $\frac{1.0}{3} = 0.333$ gold franc.

2. *Switzerland - Great Britain.* Emergency route : Zürich-Brussels.

Total rate for the normal route : 3.70 gold francs. Apportionment if the emergency route is used : Switzerland - France - Belgium - Great Britain : each receives $\frac{3.70}{4} = 0.925$ gold franc.

RECOMMENDATION F.61

USE OF TAPE-TELEPRINTERS IN THE TELEX SERVICE

(formerly C.C.I.T. Recommendation H.2, 1951)

The C.C.I.T.,

CONSIDERING

that the Administrations are not unanimously of the opinion that the use of page-printers in the Telex service should be made obligatory;

that in these circumstances it is necessary to define the characteristics of tape-printers used in the Telex service to permit their satisfactory interconnection with page-printing teleprinters;

that the existence of different operating procedures for page and tape-printers would be highly undesirable.

UNANIMOUSLY DECLARES THE VIEW

1. that Administrations deciding to authorize the use of tape-printers in the Telex service should make the necessary technical arrangements for their satisfactory interworking with page-printers;

(F.61)

2. that such Administrations should also issue special instructions to the users of tape-machines to insure absolute adherence to the page operating procedure;
 3. that tape-printers connected with the Telex service should therefore be provided with the following features :
 - (a) end of line indicator (character counter);
 - (b) keys permitting the transmission of "Carriage return" and "Line feed" signals;
 - (c) confirmation of the receipt of the "Carriage return" and "Line feed" signals by printing the symbols agreed in Recommendation C.10;
 4. that, as a result of the use of a uniform operating procedure throughout the Telex service, special directory markings to indicate users of tape-machines are unnecessary.
-

RECOMMENDATION F.62

DUPLEX OPERATION IN THE TELEX SERVICE

(formerly C.C.I.T. Recommendation H.3, Geneva, 1956)

The C.C.I.T.,

CONSIDERING

- (a) that the introduction of duplex operation in the international Telex service may be of interest;
- (b) that there is justification for prescribing certain technical directives to be observed by the Administrations that desire to carry out trials of duplex operation in the international Telex service;

UNANIMOUSLY DECLARES THE VIEW

1. that the Administrations which decide to authorize duplex operation in the international service should make the requisite technical arrangements to maintain the answer-back procedure recommended by the C.C.I.T. (cf. Recommendation F.60, Art. 24 and 25);
2. that the possibility of taking a local record should be maintained for Telex installations equipped for duplex operation and, in particular, that these installations should be equipped with two teleprinters when duplex working is not carried out systematically, making use of an automatic transmitter;
3. that, in the case where duplex international Telex communication would be permitted, the tariffs for the duplex communication would be on the same basis as the simplex communication;

4. that, however, Administrations may require from subscribers having the possibility of duplex connections a surcharge established either on the basis of a flat rate or on each call;
5. that the rapporteurs of the Administrations operating a duplex Telex service either internally or in the international system should advise the Telex study group of the technical arrangements and operating methods adopted.

RECOMMENDATION F.63

CONFERENCE AND BROADCAST CALLS IN THE INTERNATIONAL TELEX SERVICE

(formerly C.C.I.T. Recommendation H.9, 1954)

The C.C.I.T.,

CONSIDERING

- (a) that insufficient experience is yet available to permit the formulation of recommendations for the appropriate technical arrangements for the establishment of international conference or broadcast calls in the Telex network;
- (b) that Administrations and Recognized Private Operating Agencies should continue to give attention to the methods of operating to be used in the establishment of calls in these categories, by reason of the difficulties which are caused when the called subscribers are busy;

UNANIMOUSLY DECLARES THE VIEW

1. that the study of Questions 69 * and 70 * should be continued;
2. that the rapporteurs of the Administrations (and Recognized Private Operating Agencies), permitting the establishment of broadcast and conference calls in their internal Telex network, should advise the competent Study Group of the technical arrangements and operating methods employed.

RECOMMENDATION F.64

DETERMINATION OF THE NUMBER OF INTERNATIONAL TELEX CIRCUITS REQUIRED TO CARRY A GIVEN VOLUME OF TRAFFIC

(formerly C.C.I.T. Recommendation H.10, 1954)

The C.C.I.T.,

CONSIDERING

1. that it is essential to provide an adequate number of circuits between two Telex networks in order to provide the rapid service stipulated in Recommendation F.60;

* These questions will be amalgamated into question 20/31 of Sub Group 2/1.

2. that the use of tables for the determination of the number of circuits as a function of the traffic to be dealt with during the busy hour is an established practice in all Administrations, and is a convenient means of indicating a standard;
3. that international Telex circuits may be selected either at manual positions, or via automatic switching equipment, particularly where subscriber to subscriber dialling is employed between two networks;

UNANIMOUSLY DECLARES THE VIEW

that, provisionally, Administrations (and Recognized Private Operating Agencies) should use Table A or B below, according to the system of selection employed (i.e. manual selection or automatic selection) in the international service.

TABLE A

Traffic capacity table for Telex manually selected circuits (Note 1)

Number of circuits (a)	Average intensity for traffic carried in the busy hour, expressed in Erlangs, for a grade of service (probability of loss) of :		
	1 in 10 (b)	1 in 30 (c) (Note 3)	1 in 50 (d) (Note 3)
1	0.2	0.066	0.034
2	0.9	0.43	0.33
3	1.5	0.89	0.76
4	2.3	1.49	1.29
5	3.2	2.17	1.92
6	(Note 2)	2.92	2.67
7		3.77	3.44
8		4.66	4.25
9		5.56	5.09
10		6.47	5.93
11		7.39	6.79
12		8.31	7.67
13		9.24	8.57
14		10.2	9.48
15		11.1	10.4
16		12.1	11.3
17		13.0	12.3
18		13.9	13.2
19		14.9	14.1
20		15.9	15.0

Note 1. Table A makes allowance for the manual operator to continue the search for a free line over the group of circuits concerned for a period of 30 seconds if all are engaged, after which the search is abandoned and the call suspended.

Note 2. Column (b) of Table A will, in general, only be used in respect of small groups of circuits of considerable length, having due regard to the desire to provide a rapid service, as well as to economic considerations.

Note 3. In all other cases the figures of column (c) shall be used in preference to those of column (d).

Note 4. Table B is in accordance with the formula of Erlang, and therefore does not allow for a period of search (e.g. delayed hunting or continuous hunting). It is recommended to use for preference the figures corresponding to a probability of loss of 1 in 50.

General notes

Note 5. If, for the purpose of design (as distinct from the maintenance of a rapid service) it is desired to obtain values of "traffic offered" in Erlangs, these may be determined by adding to the figures of "traffic carried" in Tables A and B the respective values of "traffic lost" for the value concerned.

Note 6. Tables A and B are directly applicable only to full availability groups of circuits which are operated either wholly as both-way circuits, or wholly as unidirectional circuits.

Where groups of circuits are divided into both-way unidirectional components, the division and number of circuits in each component will be agreed between Administrations.

TABLE B

Traffic capacity table for automatically selected circuits (Note 4)

Number of circuits	Average intensity for traffic carried in the busy hour, expressed in Erlangs for a grade of service (probability of loss) of :	
	1/30	1/50
1	0.034	0.020
2	0.289	0.22
3	0.73	0.59
4	1.27	1.07
5	1.88	1.63
6	2.53	2.23
7	3.23	2.87
8	3.95	3.56
9	4.70	4.26
10	5.47	4.98
11	6.25	5.72
12	7.05	6.48
13	7.86	7.25
14	8.68	8.04
15	9.51	8.83
16	10.34	9.63
17	11.18	10.44
18	12.04	11.25
19	12.89	12.07
20	13.75	12.91

Number of circuits	Average intensity for traffic carried in the busy hour, expressed in Erlangs for a grade of service (probability of loss) of :	
	1/30	1/50
21	14.62	13.75
22	15.50	14.60
23	16.38	15.46
24	17.27	16.31
25	18.15	17.16
26	19.05	18.02
27	19.95	18.89
28	20.85	19.75
29	21.75	20.62
30	22.65	21.49
31	23.55	22.36
32	24.46	23.25
33	25.37	24.13
34	26.27	25.01
35	27.18	25.90
36	28.09	26.79
37	29.0	27.69
38	29.92	28.58
39	30.84	29.48
40	31.76	30.38

RECOMMENDATION F.65

TIME-TO-ANSWER BY OPERATORS AT INTERNATIONAL TELEX
POSITIONS*(formerly C.C.I.T. Recommendation H.11, 1954)*

The C.C.I.T.,

CONSIDERING

- (a) that a rapid answer to calling signals by the operators at incoming international Telex positions is essential to ensure a rapid Telex service (cf. Recommendation F.60, Article 5);
- (b) that a rapid answer is a very important factor in the efficient utilization of international Telex circuits;
- (c) that the time-to-answer has a direct effect on the costs of staffing and of switchboard provision,

(F.65)

UNANIMOUSLY DECLARES THE VIEW

that Administrations should endeavour to provide, at international Telex terminal exchanges, a sufficient number of incoming operating positions, and of operators, to ensure that the average time taken by operators to answer calling signals does not exceed 10 seconds; that 95% of calls are answered in 30 seconds or less.

RECOMMENDATION F.66

RATES FOR TELEX CALLS

(formerly C.C.I.T. Recommendation H.14, Geneva, 1956)

The C.C.I.T.,

Having examined the results of the study on the cost price of an international Telex call,

CONSIDERING

- (a) the development of automatic operation in the international Telex service of the European system;
- (b) the new methods of fixing rates arising from this automatic operation;
- (c) the difficulty of maintaining a close relationship between Telex and telephone rates;
- (d) the desirability of advising uniform bases for the determination, by the countries concerned, of the different elements entering in the composition of the Telex rates according to the switching system used;

UNANIMOUSLY DECLARES THE VIEW

that Administrations and Recognized Private Operating Agencies of the European system should fix their terminal and transit quotas independently of all relationship with the rates charged in the telephone service;

that, where this suggestion is adopted, Administrations and Recognized Private Operating Agencies should, in determining their quotas in the Telex service, as far as possible, take into consideration the Recommendation contained in the following table.

(F.66)

*Guidance on the establishment of rates for 3-minute Telex calls
in the European system*

Operational Method	Terminal traffic (part of international service)		Transit traffic ***		
	Fixed cost and switching cost for each international Telex centre	Circuit cost (for 100 km crowflight distance) *	Operational Method	Fixed cost	Cost for 100 km crowflight distance *
Manual service	Gold fr. 0.84	Gold fr. 0.09	<i>Direct transit</i>	Gold fr.	Gold fr.
Semi-automatic outgoing service	0.63	0.0675	(a) manual operation	—	0.09
Automatic or semi-automatic incoming service	0.1575	0.0675	(b) automatic or semi-automatic operation	—	0.0675
Outgoing fully automatic service	**	**	<i>Transit with interconnected VF telegraph circuits</i>		
			(a) manual operation	0.30	0.09
			(b) automatic or semi-automatic operation	0.225	0.0675
			<i>Transit switching</i>	To be determined according to switching costs, depending on the system used.	

* For the calculation of revenue based on the length of circuits, any fraction less than 50 km can be rounded up to a maximum of 50 km and any fraction between 50 and 100 km can be rounded up to 100 km.

** Study to be continued.

*** It is pointed out that in the study undertaken to determine the cost price, it has been suggested that a uniform average charge of 0.12 gold franc per 100 km crowflight could be accepted for unswitched transit traffic as a whole.

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

FIFTH SECTION

LEASE OF TELEGRAPH CIRCUITS

RECOMMENDATION F.70

LEASING OF TELEGRAPH CIRCUITS

(formerly C.C.I.T. Recommendation H. 5, Geneva, 1956)

The C.C.I.T.,

Having examined Resolution No. 9, annexed to the Telegraph Regulations, Paris 1949, and having noted the proposals submitted by Administrations to the VIIth Plenary Assembly;

CONSIDERING

that it is desirable to make regulations for lease of lines worked by start-stop apparatus, but that nevertheless Administrations have expressed divergent views in this regard;

UNANIMOUSLY DECLARES THE VIEW

that the subject should be further studied and that, pending the results of these studies, the stipulations of Recommendation No. 951 of Brussels and Resolution No. 9 should be replaced by the following text :

1. Lease of telegraph circuits

(European System)

- § 1. In relations of the European system where, after the requirements of the public telegraph service and of the Telex service have been satisfied, telegraph circuits are available, such circuits may be leased to one or more users on the following terms :
- § 2. (a) As a general rule, it shall be assumed that the circuit leased will be available throughout the 24 hours.
- (b) However, it shall be for Administrations or Recognized Private Operating Agencies to decide whether in certain cases a lease may be for a shorter period. The rental and conditions will then be fixed by agreement between the Administrations (and/or Recognized Private Operating Agencies) concerned.

- § 3. (1) A lease is considered as *single* when there is only one user at each end of the circuit. A lease is considered as *multiple* when there is more than one user at either or both ends of the circuit.
- (2) A circuit may be leased jointly by two or more users ("multiple") only when these users are *directly* engaged in the same type of undertaking.
- (3) The correspondence passed over leased circuits must concern only the undertaking or undertakings for which the circuit(s) has (have) been leased.
- § 4. (1) A user shall be considered as any undertaking that transmits and/or receives messages over a leased circuit.
- (2) If an undertaking has several operating stations connected to the same end of the circuit, this undertaking shall be considered as a single user only.
- § 5. If correspondence transmitted over a leased circuit is transferred to another circuit ("single" or "multiple") leased by one or more other users, whether by retransmission or by switching, the rental for both circuits shall be considered as "multiple".
- § 6. An international leased circuit crossing a transit country shall be charged for as one circuit if no intermediate station is installed in the transit country. If, however, a user is connected to the circuit in the transit country, the circuit shall be divided for charging purposes into two sections which shall be charged for independently.
- § 7. (1) As a general rule, the lease must be for at least one month, counting from the day on which the circuit is made available to the user.
- (2) The lease shall be renewable from month to month by tacit agreement. If either party intends to terminate the contract, a fortnight's notice shall be given before the end of the current lease period.
- (3) The lease shall be payable in advance.
- (4) One of the users taking part in the lease may be accepted by the Administrations or Recognized Private Operating Agencies as responsible for the fees due from all the users sharing in the lease of the circuit.
- § 8. By agreement between the Administrations (and/or Recognized Private Operating Agencies) concerned, a lease may be granted for a period of less than one month.
- § 9. (1) For a lease of one month or more, the fee shall be calculated as follows, U being the Telex unit charge * in the relation in question :
- (a) for a single lease, per a whole month :
2000 U (6000 minutes);
- (b) for a multiple lease, per a whole month :
2750 U (8250 minutes).

* Regulations for the subscribers' telegraph service by start-stop apparatus in the European system (Recommendation F.60. Article 3 - No. 15):

"15. Unit charge in a particular international Telex relation : Charge proper to an ordinary Telex call of three minutes duration exchanged during the period of heavy traffic."

In relations in which the Telex service has not yet been introduced, the Telex unit charge shall correspond to half the telephone unit charge.

(2) Any fee for fractions of a month shall be calculated according to the number of days concerned, as follows :

- (a) single lease : 200 minutes, per day,
- (b) multiple lease : 275 minutes, per day.

§ 10. For leases lasting less than one month, authorized in accordance with § 8 above, the fees shall be calculated as follows :

(a) lease for ten days or less :

the fee shall be $\left\{ \begin{array}{l} 80 \text{ U daily for single lease} \\ 110 \text{ U daily for multiple lease} \end{array} \right.$

plus a surcharge of 10 U no matter how long a period the lease is to run for.

(b) lease for from 11 to 25 days :

the fee shall be $\left\{ \begin{array}{l} 80 \text{ U daily for single lease,} \\ 110 \text{ U daily for multiple lease.} \end{array} \right.$

(c) lease prolonged beyond the 25th day, up to one month :

the fee shall be $\left\{ \begin{array}{l} 2000 \text{ U for single lease,} \\ 2750 \text{ U for multiple lease.} \end{array} \right.$

§ 11. The total receipts from the rental for a circuit shall normally be divided among the Administrations and Recognized Private Operating Agencies concerned in proportion to their share of the rates for the Telex service.

§ 12. (a) The rental conditions laid down above shall be applicable to circuits operated by start-stop apparatus fulfilling the provisions of the Telegraph Regulations and the Recommendations of the C.C.I.T.

(b) The lease of circuits worked by other apparatus or by start-stop apparatus not fulfilling the provisions under (a), shall be subject to special agreement between Administrations (and/or Recognized Private Operating Agencies).

§ 13. The Administrations or Recognized Private Operating Agencies reserve to themselves the undisputed right to resume possession of the leased circuit if required in the general interest.

§ 14. In case of interruption of the circuit and at the request of the parties concerned, the Administrations or Recognized Private Operating Agencies may make repayment.

No refund shall be made for an interruption lasting less than twenty-four hours, but the period between 9 a.m. and 3 p.m. may in this respect count as twenty-four hours.

For every day the interruption lasts, the amount to be refunded shall be equal to the charge for 200 minutes of Telex call (single lease) and 275 minutes of Telex call (multiple lease).

2. Lease of telegraph circuits

(extra-European system)

In the extra-European system, Administrations or Recognized Private Operating Agencies shall determine by special agreement the conditions under which circuits should be leased.

RECOMMENDATION F.71

**ACCOUNTING OF THE RENTAL FOR THE LEASE
OF INTERNATIONAL TELEGRAPH CIRCUITS***(formerly C.C.I.T. Recommendation H. 6, 1951)*

The C.C.I.T.,

Having examined § 14 of Resolution No. 9-II of the International Telegraph Conference, Paris, 1949, and

CONSIDERING

that it is desirable to adopt a uniform method of accounting for the rental for the lease of telegraph circuits in the European system;

UNANIMOUSLY DECLARES THE VIEW

that each terminal Administration should collect and retain its own share of rental for a circuit between adjacent countries;

that, when transit countries are involved, the terminal Administrations agree with the transit Administrations as to the method and amount of collection and accounting.

RECOMMENDATION F.72

**TARIFFS APPLICABLE TO LEASE OF CIRCUITS TO METEOROLOGICAL
SERVICES***(formerly C.C.I.T. Recommendation H. 7, Arnhem, 1953)*

The C.C.I.T.,

Having regard to Resolution No. 12 annexed to the Telegraph Regulations, Paris, 1949.

CONSIDERING

that no preferential reductions should be granted in the rental for leased telegraph circuits, whatever be the character of the organizations using them,

DECLARES THE VIEW BY 19 VOTES AGAINST 1

that therefore no preferential tariff should be granted for the leasing of circuits to the meteorological services,

AND REQUESTS

the Secretary-General of the Union to bring this matter to the notice of the Administrations (and/or Recognized Private Operating Agencies) and to ask them to envisage the application of this Recommendation as from 1 January 1954.

RECOMMENDATION F.73

METERING OF TRAFFIC ON LEASED TELEGRAPH CIRCUITS

(formerly C.C.I.T. Recommendation H. 8, 1951)

The C.C.I.T.,

CONSIDERING

1. that the required system of metering is based on transmission time, and that such metering shall be effected by recording the time of transmission in both directions on the circuit, in fractions of 10 seconds (or 6 seconds), whether transmission is by duplex or simplex;
2. that the technical design of a device for metering on the lines stated in 1. presents no difficulties;
3. that the standardization of the detail of such a device is unnecessary and may be, because of circuit detail variations in different countries, undesirable;
4. that it is, however, essential that the performance limits of such a device should be standardized;

UNANIMOUSLY DECLARES THE VIEW

that metering equipment, where used, shall conform to the following provisions :

1. that the metering device shall become operative as soon as transmission begins in either direction of the circuit;
2. that the meter shall register once per unit time period, during which signals have been transmitted;
3. that the unit time period shall be 10 (or 6) seconds;
4. that the device becomes inoperative at the end of the last unit scanning period in which a transmission signal was received;
5. that the device shall be inoperative during any prolonged interruption of the circuit.

ANNEX

By way of example, designs of metering equipment developed by the Netherlands and United Kingdom Administrations, are given below, together with brief circuit details :

Diagram of Netherlands Equipment — Fig. 1

Brief Circuit Operation :

By means of the polarized relays T1 and T2, it is possible to read on both transmission paths. If messages are transmitted on one transmission path or on both paths, the A relay is energized as soon as the impulse contact i is closed. The A relay remains energized via the a¹ contact until

(F.73)

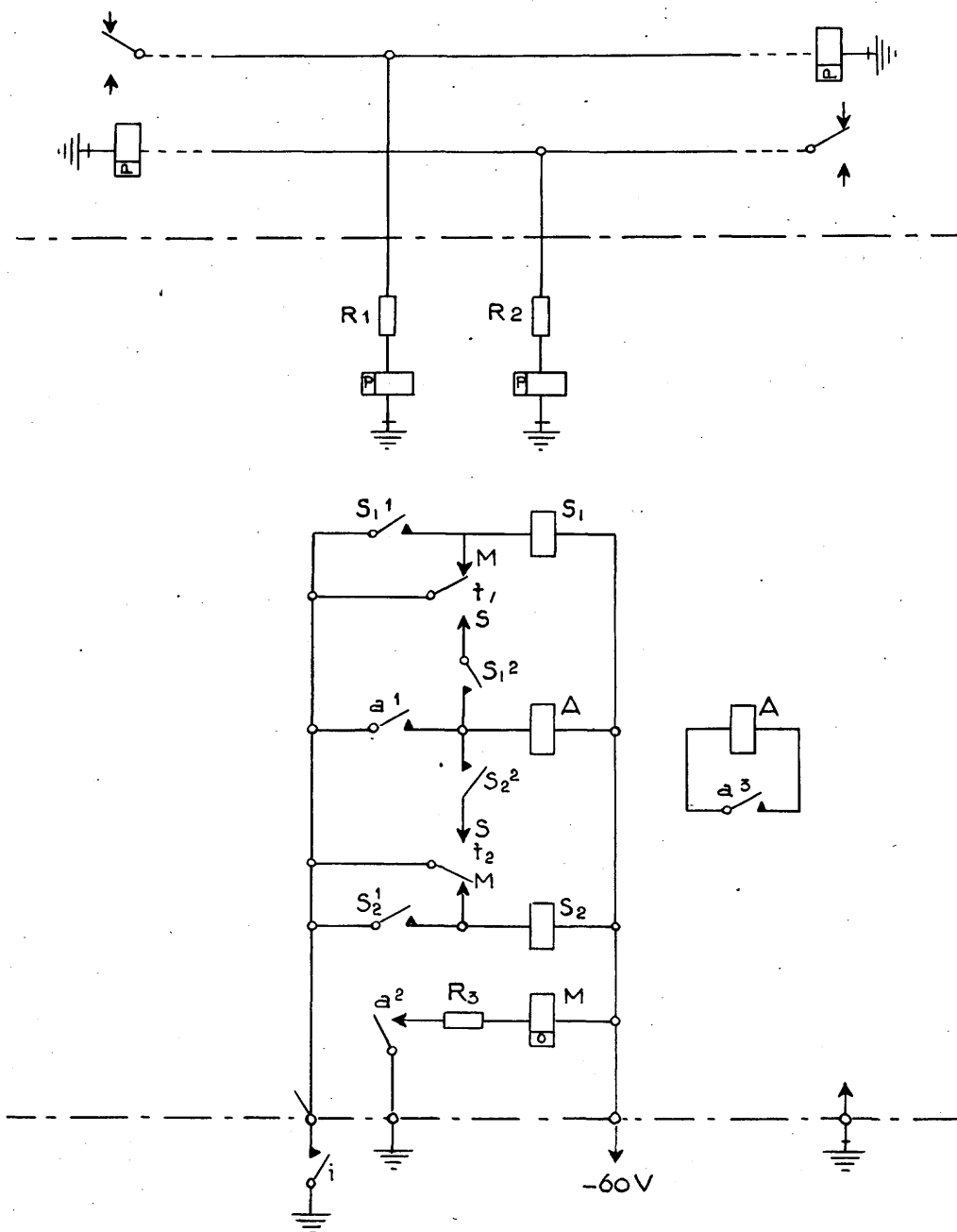


FIG. 1. — Traffic meter for rented telegraph circuits

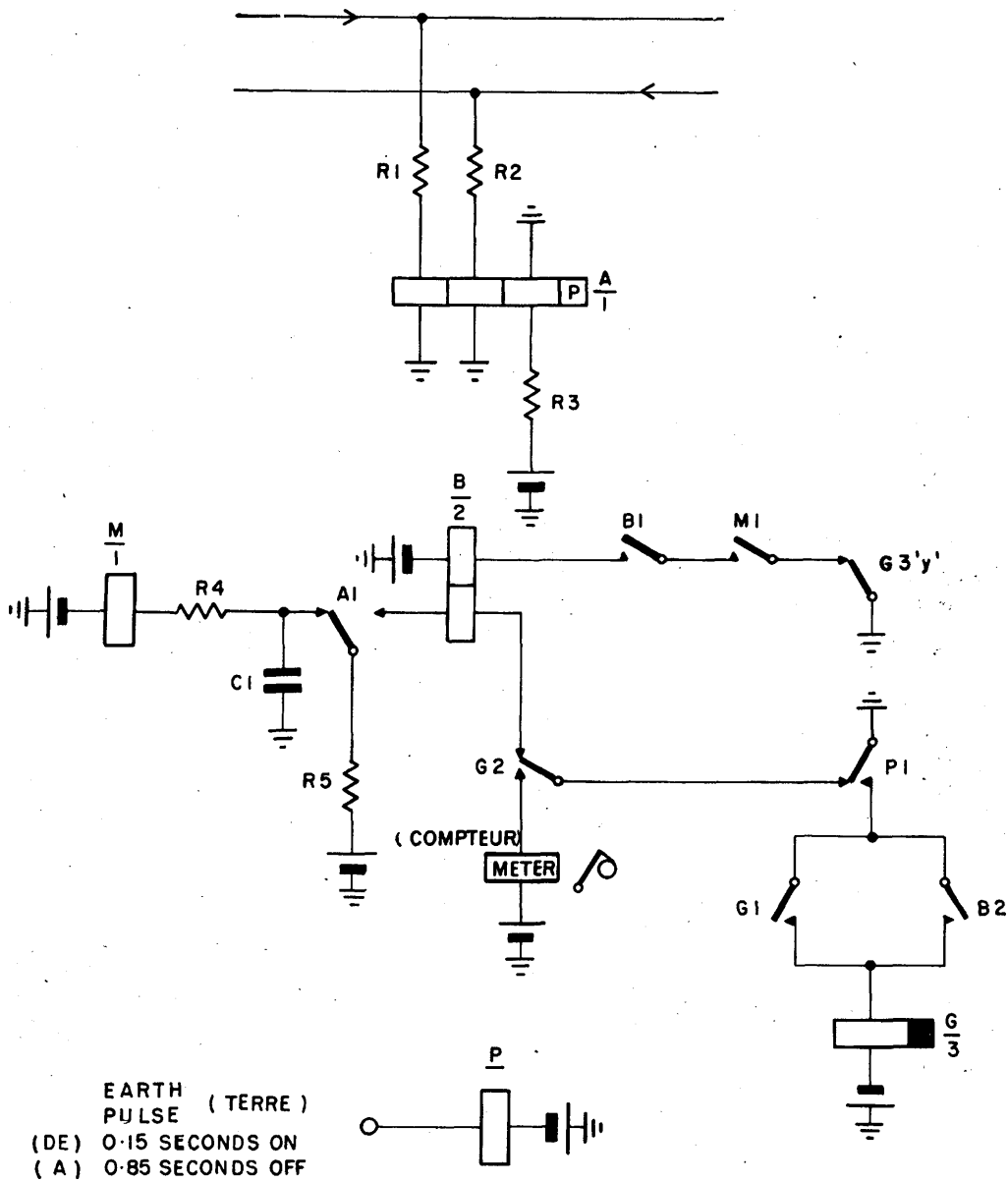


FIG. 2 .

METERING CIRCUIT FOR RECORDING THE TRANSMISSION TIME OF A RENTED TELEGRAPH CIRCUIT.

CIRCUIT DE COMPTAGE POUR L'ENREGISTREMENT DU TEMPS
DE TRANSMISSION SUR UN CIRCUIT TÉLÉGRAPHIQUE LOUÉ

the impulse of the central impulse device is finished. Via the a2 contact the meter M is energized. The a3 contact delays the release of the A relay in order to ensure that the meter M gets an impulse of sufficient length, if the A relay is energized just towards the finish of an impulse. The supervising relays S1 and S2 prevent metering if for some length of time 'start' polarity is on the line, which may be the case with breakdowns or clearing signal.

Diagram of UK equipment — Fig. 2

Brief Circuit Operation :

Relay M with its associated resistor and capacitor is designed to have a release lag of approximately 300 mS and to hold to telegraph signals. Also the release lag of relay B is required to be less than the operate lag of relay G.

Telegraph signals are detected on either or both lines by the polarized relay A. The contact A1 normally rests on the mark contact, so that relay M be normally operated. At the first change from mark to space, relay B operates via A1, G2 and P1 and holds over its second winding via B1, M1 and G3y. If, at any time, a long space signal releases relay M, the hold circuit for relay B is broken by M1.

When an earth pulse is received, relay P operates, and if relay B is held over its second winding, P1 operates relay G via B2. Relay G locks via G1, prepares for the meter operation at G2, and releases relay B at G3y.

At the end of the earth pulse, relay P releases and earth is applied to operate the meter via P1 and G2 for a period equal to the release lag of the relay G.

Relay G releasing, restores the circuit normal.

The Netherlands Administration has carried out tests to ascertain the probable error in the estimation of the transmission time, with the apparatus described above. It is clear that the timing pulses cannot, in general, be coincident with the commencement of traffic, or for that matter with the completion of traffic, and that there will be, because of this, some difference between the actual and measured times of traffic. It is to be expected that, with traffic of normal type, the difference would be small, since the chance of shortening is equal to that of lengthening. This has been confirmed by the tests carried out by the Netherlands Administration.

The United Kingdom Administration prefers, for practical reasons, to use a 6 second pulse rather than a 10 second pulse. This also has the advantage that meter registrations can be read directly in minutes.

RECOMMENDATION F.74

LEASED TELEPHONE CIRCUITS USED SIMULTANEOUSLY FOR TELEGRAPHY AND TELEPHONY (formerly C.C.I.T. Recommendation H.13, 1954)

The text of this Recommendation relating to both telegraph and telephone working appears in the first part of this volume under Recommendation E.61.

SIXTH SECTION

OPERATING METHODS FOR FACSIMILE AND PHOTOTELEGRAPHY SERVICE

RECOMMENDATION F.80

PROVISIONS ABOUT PHOTOTELEGRAMS

(Geneva, 1958)

THE C.C.I.T.T.,

HAVING REGARD

to Chapter XXV of the Telegraph Regulations (Geneva Revision, 1958),

UNANIMOUSLY RECOMMENDS

that the following Rules be adopted for the Phototelegraphy service in the European system :

RULES FOR PHOTOTELEGRAMS IN THE EUROPEAN SYSTEM

A. DEFINITION — FIELD OF APPLICATION.

1. A phototelegram is a facsimile telegram to be transmitted by phototelegraphy.
2. Those rules apply to phototelegrams exchanged either between public stations or between public and private stations.
3. The provisions embodied in the International Telegraph Regulations apply to phototelegrams, subject to the following rules.

B. CONDITIONS GOVERNING ACCEPTANCE AND DELIVERY.

1. Subject to the consent of the Administrations or Recognized Private Operating Agencies concerned, anything capable of phototelegraphic transmission in a satisfactory way, shall be accepted as a phototelegram.

2. Senders should be recommended to avoid the use of the colours blue, lilac, green or yellow, or gilt print or pictures, etc., on yellow, red or grey paper, which lack the qualities necessary for good transmission.
3. Phototelegrams must be rectangular in shape. Each Administration decides what is the maximum format capable of being transmitted at once by all the machines used by that Administration (eg 13×18 cm for machines having 66 mm diameter cylinders). However, in relations where apparatus is used permitting the transmission at one time of greater areas, Administrations may allow larger sizes.
4. Phototelegrams of larger dimensions than those admitted in the relation concerned must be divided into parts by the sender. The order of transmission of the parts must be indicated.
5. Every phototelegram must bear an address. Signature shall be optional. Both address and signature may be written on a telegram form in which case they shall be transmitted free of charge. If written on the phototelegram, they shall form part of the area of the phototelegram to be transmitted.
6. Every phototelegram shall include a preamble. The relevant instructions shall be the same as those for the preamble of a telegram. But the number of words shall be replaced by a statement of the charging step.
7. Phototelegrams to countries not connected to the phototelegraph system shall be admitted. The receiving phototelegraph station shall reforward such phototelegrams by prepaid letter direct to the addressee, by the fastest postal route.
8. Phototelegrams received by a public station shall be delivered by it, unless reforwarded to the addressee. If the addressee does not have his abode in the place of destination, the phototelegram shall be sent by post, in accordance with the instructions in the address.
9. A public station having phototelegrams for a private station on hand shall not act on a request for transmission made by the private station until it has satisfied itself of the identity of the latter.

C. CHARGING.

1. The rates for phototelegrams between public stations—with the exception of charges for special services—and the shares of charges accruing to Administrations, shall be governed by Recommendation F.83.

D. SPECIAL SERVICES.

1. The following special services shall be admitted for phototelegrams exchanged between public stations : urgent (=Urgent=), prepaid reply (=RPx=), despatch to the sender of a print from the film received (=KP=). However, special =Urgent= and =KP= services are optional.

The reply-paid voucher may be used either to send another phototelegram, or to send any other telegram.

2. The special "prepaid reply" service is not allowed if the destination is within a country which is not connected to the international phototelegraph network. (Case covered by Section B § 7.)

3. The following special services shall be admitted for phototelegrams exchanged between public stations and for phototelegrams transmitted by private stations to public stations :

Telegraphic notification of delivery	=PC=
Postal notification of delivery	=PCP=
x addresses	=TMx=

Communicate all addresses	=CTA=
Express paid	=XP=
Despatch to destination by express post	=Postxp=
Registered post	=PR=
Poste restante	=GP=
Poste restante registered	=GPR=
Telegraph restant	=TR=
Day delivery	=Jour=
Night delivery	=Nuit=
x copies in addition to the first to be delivered to the addressee . .	=Kx=
Delivery to the addressee of the negative film instead of the positive print	=Film=

4. The special services =TMx=, =CTA=, =XP=, =Kx=, =Film= shall, however, be optional.
5. The special urgent service (=Urgent=) shall be admitted for phototelegrams exchanged between private and public stations in relations in which this service exists for telephone traffic. Lightning call (=Lightning=) can be requested by a private station, for transmission to a public station, in relations on which this service is available for telephone traffic. In this case, the phototelegram is treated by the public station as an urgent phototelegram.
6. The indications of special service shall be transcribed in the abbreviated form shown in § 2 and § 3 above. In all cases they should be placed before the address.
7. The supplementary charge for the special service =Postxp= shall be two (2) gold francs; for the special service =PR= one (1) gold franc. When the sender asks to use both of these services, he shall pay both supplementary charges, that is, three (3) gold francs.
8. The supplementary charge for the special service =TMx= shall be three (3) gold francs for each copy after the first.
9. The supplementary charge for the special service =Kx= shall be two (2) gold francs for each copy after the first.
10. In the case of the special service =KP=, a supplementary charge of two (2) gold francs shall be payable for the copy, and an additional supplementary charge of eighty (80) gold centimes for the despatch of the copy by registered letter.
11. Surcharges for the special services =PC=, =PCP=, =XP=, are the same as for telegrams.
12. The other special services are free of surcharge.
13. The supplementary charges for special services requested for phototelegrams transmitted by a private station to a public station shall be collected from the addressee.

E. REFUNDS AND REBATES.

(a) *Between public stations:*

1. In case of cancellation of a phototelegram at the sender's request before transmission begins, the charge paid shall be refunded, but the Administration concerned may retain a cancellation fee from the amount already paid by the sender.
2. Should cancellation be requested after transmission has begun or has ended, but before the phototelegram has been delivered, there shall be no refund.

3. The charges collected shall be refunded to the sender whenever the phototelegram has not reached its destination, except when it has been sent by post.
4. When the addressee lives in the locality of the receiving station, the charges levied shall also be refunded if more than eight hours have elapsed between the time of handing in at the sending station and the time of delivery.
5. When the addressee does not live in the locality of the receiving station, the period of eight hours giving right to reimbursement shall be reckoned from the time of handing in at the sending station to the time of transfer to the postal service.

(b) From a public station to a private station:

6. Should a phototelegram be cancelled before transmission has begun, the Administration concerned may levy a cancellation fee.
7. Charges shall not, in general, be refunded or waived unless transmission has failed to take place or has been defective, owing to circuit interruption or to faults in the apparatus at the public station. Reimbursement of charges shall be left to the discretion of the Administration to which the public station belongs.

(c) From a private station to a public station:

8. The provisions of the Telephone Regulations for withdrawal of requests for telephone calls apply also to the case of withdrawal of phototelegraph calls.
9. § 3, 4, 5 and 7 above shall also apply to phototelegrams from a private station to a public station.

F. ACCOUNTS.

(a) Between public stations:

1. Accounting for charges levied for traffic between public stations shall be performed in the same way as for telegraph charges; it shall form the subject of a special section in the telegraph accounts.
2. The accessory charges for the special services indicated in Section D shall be excluded from the accounts, with the exception of those relating to prepaid reply (=RPx=), express paid (=XP=), despatch to destination by express post (=Postxp=), multiple phototelegrams (=TMx=), despatch to the sender of a print from the received film (=KP=) and to extra copies for delivery to the addressee (=Kx=).

(b) From a public station to a private station:

3. Accounting for charges levied for these phototelegrams is done in the same way as for telegraph charges. However, the fixed part of the charge is retained by the Administration governing the public station.

There is a special section dealing with such accounting, in the telegraph accounts.

(c) From a private station to a public station:

4. Accounting for charges in connection with the use of circuits shall be performed as for telephone charges, and shall form the subject of a special section in the telephone accounts.

The special surcharge applying to the use of a public station is retained by the Administration operating the public station.

5. The supplementary charges for special services are not included in the international accounts. They are retained by the Administration operating the public station.

RECOMMENDATION F.81

PHOTOTELEGRAMS

(formerly C.C.I.T. Recommendation G. 11, Geneva, 1956)

The C.C.I.T.,

CONSIDERING

- (a) that the Telegraph Regulations contain rules for the phototelegraph service, applicable only to the European system, while as regards the extra-European system, the Administrations and Recognized Private Operating Agencies concerned are left free to determine for themselves, by mutual agreement, the charges for phototelegrams and the rules that shall apply thereto;
- (b) that n° 596 of the Telegraph Regulations (Paris, 1949) lays down that anything capable of being transmitted as a phototelegram may be accepted for phototelegraphic transmission;

UNANIMOUSLY DECLARES THE VIEW

that Administrations and Recognized Private Operating Agencies have to abstain from applying to telegrams to be transmitted as phototelegrams restrictive provisions as regards the languages, characters or symbols used in drawing them up. While abiding by these provisions, Administrations and Recognized Private Operating Agencies can lay down supplementary rules for the presentation of telegrams to be transmitted as phototelegrams.

RECOMMENDATION F.82

RULES FOR PHOTOTELEGRAPH COMMUNICATIONS ESTABLISHED
OVER CIRCUITS NORMALLY USED FOR TELEPHONE TRAFFIC *

(Geneva, 1958)

The C.C.I.T.T.,

CONSIDERING

- (a) that, in international phototelegraph communications, the time of occupation of international telephone circuits often greatly exceeds the duration of the actual phototelegraph call;
- (b) that this drawback results *in part* from the inadequacy of existing rules on the setting-up, supervising and clearing of phototelegraph calls over circuits normally used for telephone traffic, even if these circuits have been designated in advance as capable of carrying phototelegraph communications;

* This text is published also as Recommendation n° 32 in the series E (telephone operation) of C.C.I.T.T. Recommendations.

- (c) that phototelegraph communications between public stations on the one hand, and public and private stations on the other, require close collaboration between the telegraph and telephone services of the various Administrations and Recognized Private Operating Agencies;
- (d) that, on the other hand, phototelegraph communications between private stations do not concern the telegraph services, although it is desirable for all phototelegraph communications between public stations, between public and private stations, and between private stations to be established in the same way;

UNANIMOUSLY DECLARES THE VIEW

that the Annex below should be taken as a set of provisional rules for phototelegraph communications;

that further study should be devoted to conditions of acceptance, operational procedures and technical means likely to lead to the rapid and economic development of the phototelegraph service;

that such study should pay particular attention to the fact that phototelegraph traffic is nearly always concentrated in very short periods when special events take place *, and that it is difficult to establish communication with phototelegraph stations, because the latter are often unable to accept the communication immediately.

ANNEX

RULES FOR PHOTOTELEGRAPH COMMUNICATIONS

A. APPLICATION.

§ 1. The Rules below define the procedure to be followed for operating and charging in the international phototelegraph service of the European system.

(The Telegraph and Telephone Regulations shall apply to the phototelegraph service, subject to these Rules.)

§ 2. These Rules govern international phototelegraph communications :

- between public stations,
- between a public and a private station,
- between private stations.

(A phototelegraph installation, operated by an Administration or by a Recognized Private Operating Agency, shall be called a "public phototelegraph station". A phototelegraph installation, operated by a private organization, shall be called a "private phototelegraph station".)

B. CONDITIONS OF ACCEPTANCE.

§ 3. Conditions of acceptance of phototelegrams :

- between public stations and
 - between a public station and a private station
- are defined in Chapter B of Recommendation F.80 on phototelegrams.

* See Question 28 of Sub-Group 2/2 — "Speeding up the establishment of phototelegraph communications".

- § 4. Private phototelegraph stations may be authorized by Administrations or Recognized Private Operating Agencies to exchange phototelegraph calls with other private phototelegraph stations.

Phototelegraph calls between private stations are admitted without any limit of duration. However, when telephone traffic is subjected to restrictions, the exchange of phototelegraph calls between private stations may be delayed or limited by agreement between the terminal centres concerned.

- § 5. If the telephone service is operated with advance preparation, bookings of phototelegraph calls rank in the order in which they are accepted among bookings of telephone calls of the same category.

C. GENERAL PROVISIONS.

- § 6. In relations where telephone circuits are used for both the phototelegraph service and the telephone service, the Administrations concerned shall assign by mutual agreement a certain number of circuits for phototelegraph transmissions, taking into account the usual requirements of both phototelegraphy and the telephone service. These circuits shall be specially marked at terminal exchanges and repeater stations with a view to the protection of the phototelegraph transmissions.

- § 7. The telephone circuits used for international phototelegraph transmissions shall, as far as practicable, be 4-wire circuits (see C.C.I.T. Recommendation D.3).

For phototelegraph transmission, they shall *normally* be disconnected from the switching equipment used for telephone calls.

Interconnection of circuits for setting-up phototelegraph calls should be 4 wire—4 wire, as far as possible, both on the international and the national side.

- § 8. Administrations shall designate in each "international phototelegraph terminal centre" an authority responsible for the international phototelegraph communications. This authority is in a position to carry out, or cause to be carried out, all the operation necessary for the establishment of international phototelegraph communications. This authority shall henceforth be called the "International Phototelegraph Position" (IPP).

Administrations are recommended to centralize, as far as possible, in one place all the technical, operational and charging procedure necessary in an international centre when telephone circuits are used for phototelegraph communications.

- § 9. A booking for a phototelegraph call, emanating from a public or private phototelegraph station is routed to (or arrives directly at) the IPP of the country of origin responsible for setting-up the international phototelegraph call which has been booked. This IPP then becomes the control IPP for establishing the call.

D. ESTABLISHMENT, SUPERVISION AND CLEARING OF INTERNATIONAL PHOTOTELEGRAPH COMMUNICATIONS.

- § 10. If the telephone service on the international circuits needed for a phototelegraph circuit is by advance preparation, the control IPP shall advise the telephone office responsible for these circuits that a phototelegraph transmission is to take place. The control IPP agrees with the telephone service on the probable time at which the phototelegraph transmission will be taking place.

The IPPs shall proceed as follows when establishing an international communication :

(a) The control IPP transmits the following informations as quickly as possible to the IPP of destination :

- designation of the transmitting station,
- designation of the station of destination, and in addition :

(aa) for communications between public stations :

- category of phototelegram to be transmitted,
- date and time when the phototelegram is handed in,
- probable time at which the phototelegraph call will take place;

(ab) for communication between a public station and a private station :

- category of phototelegram to be transmitted, or
- category of call booked,
- date and time when the phototelegram is handed in (or date and time of the booking, if the call is booked from a private station),
- if necessary, indication of the subscriber responsible for the charges,
- probable time at which the phototelegraph call will take place;

(ac) for communications between private stations :

- category of call booked,
- date and time of booking,
- if necessary, indication of the subscriber responsible for paying the charges,
- probable time at which the phototelegraph call will take place.

(b) The IPP of destination shall take the necessary steps immediately to advise the phototelegraph station of destination by telephone that a phototelegraph transmission is about to take place.

(c) If the called phototelegraph station is in a position to receive the phototelegram call immediately, the IPP of destination informs the control IPP. The latter designates the circuit to be used for the proposed transmission and then the two IPPs take the necessary steps, in agreement with the telephone service, to establish the communication. Care must be taken to avoid interrupting telephone calls in progress.

(d) If the called phototelegraph station is not in a position to receive the call immediately, the IPP of destination fixes the time when the transmission is to take place, taking into account the information received from the receiving phototelegraph station. It then communicates the time fixed to the control IPP which informs the calling station.

(e) The control IPP then takes the necessary measures, in agreement with the telephone service, to establish the phototelegraph communication between the stations concerned at the agreed time.

§ 11. If the telephone service involved is demand service, the outgoing IPP shall take an available circuit for the phototelegraph call, after ensuring that telephone calls in progress are not interrupted; it shall use this circuit to call the incoming IPP.

- (a) To establish a phototelegraph call, it shall transmit the data mentioned under 10 a) above, to the incoming IPP, except for the probable time of the phototelegraph call.
- (b) The incoming IPP shall take the necessary steps immediately to advise the called phototelegraph station by telephone that a phototelegraph transmission is about to take place.
- (c) If the called phototelegraph station is in a position to receive the phototelegraph call immediately, the two IPPs shall immediately establish the necessary communication.
- (d) If the called phototelegraph station is not in a position to receive the call immediately, the IPP of destination fixes the time when the transmission is to take place, taking into account the information received from the receiving phototelegraph station. It then communicates the time fixed to the control IPP which informs the calling station. The two immediately clear the international telephone circuit.
- (e) At the time agreed upon, the outgoing IPP shall take the necessary steps to establish the phototelegraph communication.

§ 12. The control IPP shall note the time when the phototelegraph communication starts.

§ 13. The control IPP supervises the transmission in progress :

- (a) on the transmission (go) path by means of a device enabling it to check, without risk of interference, that transmission is taking place,
- (b) on the return path by means of a device enabling it to listen to service conversation from the phototelegraph receiving station.

Intervention in the circuits should be avoided after communication has been established, unless such intervention has been requested by one of the IPPs or one of the phototelegraph stations connected.

§ 14. After consulting the receiving phototelegraph station, the calling phototelegraph station announces the end of the call either direct to its IPP, or, in the case of extension of an international circuit, to the national PP on which it depends.

The latter must inform its IPP as quickly as possible, giving the time at which it received notice of the end. The control IPP notes the end-of-transmission time and immediately communicates the notice announcing the end to the incoming IPP.

The two IPPs then take the necessary measures to restore the international circuit to the telephone service without delay.

It is recommended that the called station should likewise announce the end of communication so that the called station may be cleared more quickly.

§ 15. Unless the Administrations concerned decide to the contrary, the terminal IPPs do not come to an agreement on the chargeable duration, since this is determined by the control IPP.

E. SPECIAL PROCEDURES FOR PHOTOTELEGRAPH STATIONS.

§ 16. For each phototelegram to be transmitted, the outgoing public station shall prepare a narrow tape comprising the preamble and address (and, if necessary, the signature and special service indications), unless these indications have been written on the phototelegram by the sender.

This tape is transmitted with the phototelegram.

§ 17. As soon as the communication is established, the interconnected phototelegraph stations proceed to adjust the apparatus and to transmit, in accordance with the instructions of the receiving station, adopting the following order of operations :

- (a) if necessary, agreement on the index of cooperation and speed of transmission, then synchronization adjustment by means of the synchronization frequency,
- (b) phasing of drums,
- (c) adjustment of the white level,
- (d) adjustment of the black level,
- (e) start,
- (f) transmission.

§ 18. If the phototelegram is being transmitted by a private station to a public station, the public station shall ask the private station, if necessary, for information regarding establishment of the preamble and conditions of delivery to the addressee.

F. FAULTY TRANSMISSIONS.

§ 19. In the case of faulty conditions, the IPP shall immediately make arrangements to clear the fault or make another circuit available.

§ 20. When, after completion of the call, it is seen that the transmission was faulty, the receiving phototelegraph station shall inform its IPP. If it so desired, the receiving phototelegraph station can make a new booking with its IPP for a phototelegraph call, in the manner defined in § 9, and its IPP then takes the necessary steps immediately to establish a new phototelegraph communication with the sending station.

If the phototelegraph station which receives the faulty picture and books a new call is a private station, its attention should be drawn to the fact that both calls will be chargeable if the faults in the picture are not due to the telephone or telegraph services.

G. CHARGING.

§ 21. Charges for phototelegrams and phototelegraph calls are governed by Recommendation F.83.

H. REBATES.

§ 22. Rebates of charges for phototelegrams are governed by Recommendation F.80 (Section E).

§ 23. The provisions of the Telephone Regulations relative to withdrawal of a booking or refusal of telephone calls are applicable to phototelegraph calls between private stations.

§ 24. To obtain rebates when it is seen, after interruption of the call, that the transmission was faulty, the phototelegraph station having paid the charge for the queried call should apply to its Administration, accompanying its request for a rebate with the original of the picture and the faulty proof received at the other end.

I. ACCOUNTING.

§ 25. The accounts of charges for phototelegraph calls between private stations are established in the same way as the accounts for telephone charges; they shall be shown in a special section of the telephone accounts.

- § 26. If the Administration agrees to grant a rebate after a call has been cleared (see § 24) the charge for the phototelegraph call shall be refunded and the note "charge not collected owing to faulty transmission" entered in the international accounts established by this Administration. This presupposes of course that the accounting service must be informed of the decision to grant the rebate, with all the necessary information to identify the call in question. In this way, each country concerned with the queried phototelegraph call defrays its share of the refund.

RECOMMENDATION F.83

RATES FOR PHOTOTELEGRAMS AND PRIVATE PHOTOTELEGRAPH CALLS *

(Geneva, 1958)

1. A study of the costing of phototelegraph calls and phototelegram transmissions was carried out by the C.C.I.T.T. Sub-Group 2/3 in 1958. The results are published in Volume II of the *Red Book* on page 369.
2. These results have been taken as a basis for the establishment of rates close to the costing, assuming that subsequent development of the phototelegraph service would result in better operational conditions and, hence, in reduction in the duration of occupation of telephone circuits.
3. As phototelegraph apparatus in service may have different cylinder diameters, the dimensions of the phototelegram received may not be the same as the original; they may be reduced or increased in the same ratio. The surface area of the original phototelegram can therefore no longer be taken as a basis for phototelegram charges. It is the duration of the phototelegram transmission which really matters for calculating the duration of occupation of phototelegraph apparatus. This duration depends simply on one of the dimensions, namely the one in the same sense as the axis of the cylinder (so long as the other dimension is not greater than the operational length of the circumference of the cylinder). It is this dimension along the axis of the cylinder which is the *chargeable length*; its influence on charging depends on its relation to the diameter of the cylinder of the outgoing apparatus.
4. By considering normal size to be a picture with a chargeable length twice the diameter of the transmitting drum and whose other dimension would correspond to the circumference of the drum under consideration (e.g. a picture of 13 cm × 18 cm for a drum of $D=66$ m/m), the variable part of the charge corresponding to the duration of the call (including preparation and handing back of the circuit to the telephone service) would be based on $5y$, y being the unit telephone call in the relation under consideration.

* This text is published also as Recommendation n° 59 in the series E (telephone operation) of C.C.I.T.T. Recommendations.

In the case of phototelegrams of a chargeable length less or more than twice the diameter D of the transmitting drum, the variable part of the charge would vary as follows :

for a chargeable length of	charge corresponding to
1.5 D	4 y
2.5 D	6 y
3 D	7 y

5. For the fixed part, 56 gold francs corresponds to the cost price. This fixed share should be equally divided between the two terminal Administrations in the case of an exchange of phototelegrams between public stations.
6. For phototelegram transmission between a public station and a private station, one half of the fixed part would be collected by the public station as a surcharge for its intervention.
7. With regard to the service between private stations, a surcharge of 4 minutes for the preparation of the call and the handing back of the circuit to the telephone service is justified.
8. The same charging procedure would be applied to service between a private station and a public station; the fixed surcharge for the part played by the public station would be collected on behalf of the public station.
9. Summing up, the rates for phototelegrams and phototelegraph transmissions between private stations, *if to be based on mean costs*, could be established as follows :

I. Phototelegrams exchanged between public stations

Scale of rates	Chargeable length of phototelegram	Total charge (in gold francs)	
1st step	1.5. D or less	$56+4y$	<i>Note: increased by 1y per step for each extra $\frac{1}{2}D$</i>
2nd "	over 1.5 D up to 2 D	$56+5y$	
3rd "	over 2 D up to 2.5 D	$56+6y$	
4th "	over 2.5 D up to 3 D	$56+7y$	

II. Phototelegrams transmitted from a public station to a private station

Scale of rates	Chargeable length of phototelegram	Total charge (in gold francs)	
1st step	1.5 or less	$28+4y$	(same remarks as in I above)
2nd "	over 1.5 D up to 2 D	$28+5y$	
3rd "	over 2 D up to 2.5 D	$28+6y$	
4th "	over 2.5 D up to 3 D	$28+7y$	

III. Phototelegrams transmitted from private station to public station

$$(C + 4) \frac{y}{3} + 28 \text{ gold francs per phototelegram,}$$

(C being the duration in minutes of a connection between the two stations).

IV. Phototelegraphic transmission between private stations

$$(C + 4) \frac{y}{3}$$

10. However, the C.C.I.T.T. observed that application of these rates would lead to higher charges than at present, such that there would be a sharp reduction in phototelegrams. It feels able to recommend only a reasonable increase.

In view of the foregoing, the C.C.I.T.T.

UNANIMOUSLY DECLARES THE VIEW

- (a) that phototelegrams transmitted by a public station, either to another public station or to a private station, should be charged for according to the same principle, i.e. a fixed tariff, with various charging steps;
- (b) that phototelegrams transmitted by a private station to a public station should be charged for in the same way as phototelegraph calls between private stations, i.e. the charge varying according to the use of telephone circuits for phototelegraph transmissions, and to the charging period (period of heavy or light traffic).

However, in the service between public station and private station, the Administration responsible for the public station receives a surcharge for intervention by the public station.

Phototelegraph calls booked by a public station

- (c) The rates for phototelegrams between public stations, with the exception of charges for special services and the shares of charges accruing to Administrations, should be calculated in accordance with the following table :

Scale of rates	Dimensions of phototelegram				Total charge in gold francs (to be levied at outgoing end)	Share accruing to		
	1st side for the following drum diameters			2nd side (chargeable length)		outgoing Admn.	transit Admn.	incoming Admn.
	66 mm	70 mm	88 mm					
1st step				1.5D or less	20+4y	10+4a	4b	10+4a
2nd step	≤ 18 cm	≤ 20 cm	≤ 24 cm	over 1.5D up to 2D	20+5y	10+5a	5b	10+5a
3rd step				over 2D up to 2.5D	20+6y	10+6a	6b	10+6a
increased by y per step for each extra 0.5D (D = diameter of the drum of the sending phototelegraph apparatus)								

- (d) The rates for phototelegrams transmitted by a public station to a private station and the shares of charges accruing to Administrations should be calculated in accordance with the following table :

Scale of rates	Dimensions of phototelegram				Total charge in gold francs (to be levied at outgoing end)	Share accruing to		
	1st side for the following drum diameters			2nd side (chargeable length)		outgoing Admn.	transit Admn.	incoming Admn.
	66 mm	70 mm	88 mm					
1st step				1.5D or less	10+4y	10+4a	4b	4a
2nd step	≤ 18 cm	≤ 20 cm	≤ 24 cm	over 1.5D up to 2D	10+5y	10+5a	5b	5a
3rd step				over 2D up to 2.5D	10+6y	10+6a	6b	6a
increased by y per step for each extra 0.5D (D = diameter of the drum of the sending phototelegraph apparatus)								

- (e) The lengths of phototelegrams are measured in centimetres, a fraction of a centimetre being reckoned as a full centimetre;
- (f) For divided phototelegrams, the charge is calculated separately for each part.
- (g) For an = Urgent = phototelegram, the charge shall be doubled.

Phototelegraph calls booked by a private station

- (h) The charge for a phototelegram transmitted by a private station to a public station, or vice versa at the request of the private station, and the shares accruing to Administrations should be calculated as follows :

Charge	in gold francs	Share accruing to the		
		Admn. of the country of the private station	transit Admn.	Admn. of the country of the public station
Total	$10 + (C+4) \frac{y}{3}$			
to be collected on behalf of the private station	$(C+4) \frac{y}{3}$	$(C+4) \frac{a}{3}$	$(C+4) \frac{b}{3}$	$10 + (C+4) \frac{a}{3}$
to be collected on behalf of the public station	10			

- (i) Charges for phototelegraph calls between private stations, and the shares accruing to Administrations are calculated in accordance with the following table :

Total charge (in gold francs) to be collected at the outgoing end	Share accruing to the		
	outgoing Admn.	transit Admn.	incoming Admn.
$(C+4)\frac{y}{3}$	$(C+4)\frac{a}{3}$	$(C+4)\frac{b}{3}$	$(C+4)\frac{a}{3}$

- (j) If a private station books an =Urgent= or =Lightning= phototelegraph call, the rates for the corresponding unit telephone call should be applied.
- (k) In relations where reversed-charge phototelegraph calls are allowed, the rules governing such calls should be agreed upon by the Administrations concerned.

Special services

- (l) The dimensions of phototelegrams for the special services allowed for phototelegrams exchanged between public stations and phototelegrams transmitted by private stations to public stations are governed by the provisions of Recommendation F.80.
- (m) For multiple phototelegrams transmitted by a private station to a public station, the surcharge for intervention by a public station (the table under section (h) above) should be divided equally between the addressees.

Note: In the tables shown above

- y is the charge (in gold francs) for a unit telephone call for the circuit used for the phototelegraph transmission,
- a and b are the shares of the charge y accruing to the terminal and transit Administrations.
- C is the duration (in minutes) counted from the moment the two stations are connected together until the moment the calling station announces the end of the call.

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

SEVENTH SECTION

STATISTICS AND PUBLICATIONS FOR INTERNATIONAL TELEGRAPHY

RECOMMENDATION F.90

SPEED OF TRANSMISSION OF INTERNATIONAL TELEGRAMS

(formerly C.C.I.T. Recommendation F.1, Geneva, 1956)

(amended, Geneva, 1958)

The C.C.I.T.,

CONSIDERING

1. the present speed of communications by telephone and by airmail;
2. the need for Administrations and Private Operating Agencies to be acquainted with the times of transmission of telegrams :
 - (a) to enable them to seek means of improving such times of transmission;
 - (b) in order that they may possess factual data enabling them to judge to what extent the service is adequate;
3. that to meet the above needs it is necessary to be able to base comparisons on representative statistics relating to the largest possible number of important international circuits;

UNANIMOUSLY DECLARES THE VIEW

1. that all Administrations should cause statistics to be compiled each year of the transmission time of international telegrams, drawn up by the receiving office in two returns, by filling in forms A and B contained in the Annex to the present Recommendation;
2. that the Secretary-General should send copies of returns A and B established by receiving Administrations to each transmitting Administration concerned, as soon as possible, so that Administrations may be informed of the quality of their services;
3. that the Secretary-General should centralize the data and communicate the results, in suitable diagrammatic form, in the *Telecommunication Journal*;

4. that the Secretary-General should give Administrations an idea of the comprehensiveness of the statistics and acquaint them with any observations of Administrations and particularly with any observation of the Administration of origin regarding the particulars of their outward traffic furnished by receiving Administrations;
5. that, although it is not at present possible to fix a maximum time for the transmission of international telegrams, it is nevertheless desirable :
 - (a) that 75 % of the telegrams originating in the locality of the sending office should be transmitted to the receiving office within a period of 30 minutes;
 - (b) that 75 % of the other telegrams from the country of the sending office should be transmitted to the receiving office within a period of 45 minutes ;
6. that Administrations should apply the following procedure for the establishment of these statistics :
 - (a) the two terminal Administrations shall agree between themselves which relations are to be considered for the statistics;
 - (b) the statistics are to be established in the third week of October, on three days, excluding Saturdays, Sundays, Mondays, or public holidays;
 - (c) only telegrams received between 9 a.m. and 7 p.m. (local time) will be taken into consideration for the purposes of the statistics;
 - (d) receiving Administrations should take into account any differences in local time;
 - (e) in the case of extra-European circuits, on which traffic is heaviest outside these hours, the returns should be drawn up during the ten busiest consecutive hours for each day and each relation;
 - (f) to ensure that telegrams are properly sorted for allocation to forms A and B, the transmitting office shall mark each telegram handed in at the transmitting office itself with the letter A next to the name of the office of origin; this applies to the days on which the statistics are compiled ;
 - (g) telegrams received through the Gentex network shall be grouped in returns A and B according to the country of origin (one line per country).

ANNEX

FORMS TO BE COMPLETED BY RECEIVING OFFICES

RETURN A

Transmitting country :

Receiving country :

Return giving time of transmission of ordinary telegrams received between 9 a.m. and 7 p.m. and handed-in at the sending office.

Connection :		Method of operation		Number of telegrams received within a period of						Total of telegrams examined	Remarks *
Sending offices	Receiving offices	App.	Wire/ Wireless	15 min.	16-30 min.	31-45 min.	46-60 min.	61-120 min.	over 120 min.		
				between time of acceptance and time of receipt							
a) <i>Gentex</i> :											
b) <i>Station to station</i> :											
Totals											
Percentages											

RETURN B

Transmitting country :

Receiving country :

Return giving time of transmission of ordinary telegrams received between 9 a.m. and 7 p.m. and handed in at offices other than the transmitting office but belonging to the same country.

Connection :		Method of operation		Number of telegrams received within a period of						Total of telegrams examined	Remarks *
Transmitting offices	Receiving offices	App.	Wire/ Wireless	15 min.	16-30 min.	31-45 min.	46-60 min.	61-120 min.	over 120 min.		
				between time of acceptance and time of receipt							
a) <i>Gentex</i> :											
b) <i>Station to station</i> :											
Totals											
Percentages											

* If a sending office belongs to a Recognized Private Operating Agency, state the name of the Agency.

RECOMMENDATION F.91

GENERAL TELEGRAPH STATISTICS

(formerly C. C. I. T. Recommendation F.5, Geneva, 1956)

The C.C.I.T.,

CONSIDERING

- that the present form of the General Telegraph Statistics was decided by the International Telegraph Conference, Madrid, 1932;
- that since that time there have been important changes in the working of the international telegraph service, notably the introduction of new services (e.g. Telex service) and technical developments (e.g., automatic switching);
- that the General Telegraph Statistics should take account of these changes;

UNANIMOUSLY DECLARES THE VIEW

- that the General Secretariat of the Union should draw up the General Telegraph Statistics in accordance with the formula in the Annex.

Note 1: In the chapter "Definitions" the new statistics show under continents the same territories as those actually appearing in the General Telegraph Statistics prepared annually by the General Secretariat of I.T.U.

The C.C.I.T. is of opinion that this arrangement, which has been in use since 1932, is susceptible of revision but, as it has insufficient information, it was not possible to make any changes. Nevertheless, it agreed to complete the list of countries of Central and Eastern Asia shown under the paragraph "Asia", 2nd sub-paragraph, by the addition of *China*.

(The C.C.I.T. would draw the attention of the Telegraph Administrations concerned and of the next Telegraph and Telephone Conference to this point.)

ANNEX

GENERAL TELEGRAPH STATISTICS

compiled from official documents by the General Secretariat
of the International Telecommunication Union

General observations.

These statistics apply only to the public telegraph network.

The letter E in a column heading under the name of a country means : Government operation.

The letter P in a column heading under the name of a country means : operation by Recognized Operating Agencies.

A dash in one of the columns indicates that the information is not available, or that the service to which the heading refers does not exist or has been suspended.

The "explanatory notes" in the statistical table sent to Administrations for completion are given below. They show how certain headings are to be interpreted.

The definitions of the terms used in the statistical table are also given below in alphabetical order. Some of them are adapted to the special requirements of the table.

Explanatory notes.

1. Combined circuits made up of wire and radio sections are considered as fixed radio circuits (see Section IV).
2. Including speaker circuits, but excluding the circuits mentioned under E of Section III.
- 2bis. Including speaker circuits, but excluding the circuits mentioned under D of Section IV.
3. Circuits between countries of the extra-European system or between a country in the extra-European system and a country in the European system.
4. Put an X opposite the system if used, and an 0 if it is not used.
5. Indicate the number of equipments installed and available for operation, whether the apparatus be in use or not.
6. Count as a single unit the whole equipment (transmission and reception) for a telegraph transmission channel (i.e., for one direction of transmission).
Each country will count the equipment on its own territory as one half of a unit in the case of an international telegraph transmission channel.
(For example, a voice-frequency telegraph equipment rack operating 18 outgoing transmission channels and 18 incoming reception channels will count as 18 units; the equipment at the distant end will also count as 18 units, or, all in all 36 units for this particular 18-frequency two-way voice frequency system. This number will be reduced to 18 in the case of an international system.)
7. If telephone exchanges intervene in establishing communications, they are not counted under this heading.
8. Under this heading are to be included the Telex subscribers' stations (rented) and the telegraph stations (or offices) which have access, either directly or indirectly (for example, through a private switchboard), to the switching network.
9. For Administrations with exchange equipment enabling them to determine this figure.
10. Circuits operated in manual and/or semi-automatic service may be connected to a manual switchboard. A manual switchboard usually consists of several operator's positions.

Definitions

Continents: For statistical purposes, continents are delimited as follows (this delimitation, in accordance with the desire expressed by the Telegraph Regulations Committee at the Madrid Conference (1932) has been maintained by later conferences) :

Africa: North Africa (including the Azores, Madeira, the Canaries, Cape Verde Islands);
West Africa;
East Africa (including the Seychelles, Madagascar, Reunion, Mauritius);
South Africa.

<i>America :</i>	North America (including Greenland, Bermuda, and the Bahamas); Central America; West Indies; South America (including the Falklands and South Georgia).
<i>Asia :</i>	Includes Turkey in Asia, the Syrian Republic, Lebanon, Israel, Jordan, Arabia, etc. Central and Eastern Asia; the U.S.S.R. in Asia, Japan, India, Cambodia, Laos, Viet-Nam, Pakistan and China; Asiatic archipelago : Indonesia, Borneo, Republic of the Philippines.
<i>Europe :</i>	Northern Europe (including the Faroes and Iceland); Central Europe; Western Europe; Eastern Europe (including the U.S.S.R. in Europe and Turkey in Europe); Southern Europe (including Malta).
<i>Oceania :</i>	Australia; Dutch New Guinea and New Guinea (Territory of); New Zealand; Pacific archipelago (Melanesia, Polynesia, Micronesia).
<i>European system :</i>	Includes all the countries of Europe, with Algeria and those territories outside Europe which have been declared by the respective Administrations to belong to this system (No. 160 of the International Telegraph Regulations, Paris revision, 1949).
<i>Extra-European system :</i>	Comprises all countries other than those in the European system.
<i>Facsimile telegraphy :</i>	A system of telegraphy providing reproduction in the form of fixed images (photographic or otherwise) of the form, and possibly of the depth of tone and of the colours, of an original document, whether written, printed, or pictorial.
<i>Fixed service :</i>	A radio service between specified fixed points.
<i>General telegraph service :</i>	A telegram service for the use of the public, providing for the acceptance and delivery of telegrams.
<i>Phototelegraphy :</i>	A system of facsimile having special regard to tone reproduction, in which the reception involves photographic processes.
<i>Phototelegram :</i>	A facsimile telegram which must be transmitted by phototelegraphy.
<i>Point-to-Point (telegraph circuit) :</i>	A circuit permanently established between specific stations.
<i>Public phototelegraph station :</i>	A phototelegraph station set up in a telegraph centre, and used for the public phototelegraph service.
<i>Public telegraph network :</i>	A network set up to provide a telegraph service for the public and belonging to an Administration operating telecommunications (or Recognized Private Operating Agency). May be used for the general telegraph service, the Telex service or the leased circuit service.
<i>Public (telegraph) office :</i>	A telegraph office in direct contact with users for the handing-in or delivery of telegrams.

<i>Radio station :</i>	A combination of transmitters and receivers, including the accessory equipment required for carrying on a definite radiocommunication service.
<i>Service (telegraph) circuit :</i>	A special circuit used for communications in connection with the management of the telegraph service.
<i>Subscriber's line (or station line) :</i>	Permanent circuit between a subscriber's telegraph station or a telegraph post and the switching centre which serves it.
<i>Switching centre :</i>	A centre with equipment for switching.
<i>Switching centre (automatic)</i>	An installation in which the switching manoeuvres are carried out by electrically-controlled apparatus without the intervention of an operator.
<i>Switching centre (manual) :</i>	An installation in which the switching manoeuvres are carried out by an operator.
<i>Telegraph centre :</i>	A place in which the necessary resources in material and personnel are assembled to fulfil a specific function in operating a telegraph service.
<i>Telegraph circuit :</i>	A permanent connection between two instrument rooms or switching centres, without intermediate switching.
<i>(Telegraph) office :</i>	A centre equipped with telegraph apparatus for the transmission or reception of telegrams.
<i>(Telegraph) station :</i>	An installation operated by a telegraphist or a user, comprising a transmitting (or receiving) apparatus, and the necessary auxiliary equipment.
<i>Telegraph network :</i>	A group of stations, installations, centres and lines, coordinated for the purpose of providing a telegraph service.
<i>Telegraph service :</i>	Any service for the transmission of telegrams.
<i>Telex communication :</i>	The effect given to the booking of a Telex call when it has been established between the calling and the called stations.
<i>Telex service :</i>	A telegraph service enabling its subscribers to communicate directly and temporarily among themselves, by means of start-stop apparatus and of circuits of the public telegraph network.
<i>Transit telegram :</i>	A telegram routed across one or more transit countries.
<i>Trunk circuit :</i>	A permanent circuit between the switching equipment at two switching centres.

Telegraph statistics 19.....

I. <i>Population, according to the latest census</i>
II. <i>Area (in square kilometers)</i>
III. <i>Public telegraph network (wire) (1)</i>	
A. <i>Number of point-to-point telegraph circuits used in the general telegraph service (2)</i>	
(a) <i>internal</i>
(b) <i>international, between countries in the European system</i>
(c) <i>international, in the extra-European system (3)</i>

B. Numbers of trunk telegraph circuits

1. Circuits exclusively used by the general telegraph service (2)

- (a) internal
 (b) international, between countries in the European system
 (c) international, in the extra-European system (3)

2. Circuits exclusively used for the Telex service

- (a) internal
 (b) international, between countries in the European system
 (c) international, in the extra-European system (3)

3. Circuits jointly used by both the general telegraph service and the Telex service

- (a) internal
 (b) international, between countries in the European system
 (c) international, in the extra-European system (3)

C. Number of subscribers' (or stations) lines to switching centres

1. Telex subscribers' lines
 2. Lines from stations in telegraph centres and offices.

D. Number of telegraph circuits permanently leased to users

- (a) internal
 (b) international, between countries in the European system
 (c) international, in the extra-European system (3)

E. Number of circuits exclusively used for facsimile telegraphy (or phototelegraphy)

- (a) internal
 (b) international, between countries in the European system
 (c) international, in the extra-European system (3)

IV. Public telegraph network of the fixed radio service (1)**A. Number of point-to-point telegraph circuits used in the general telegraph service (2bis)**

- (a) internal
 (b) international, between countries in the European system
 (c) international, in the extra-European system (3)

B. Number of trunk telegraph circuits

1. Circuits used exclusively by the general telegraph service (2bis)

- (a) internal
 (b) international, between countries in the European system
 (c) international, in the extra-European system (3)

2. Circuits exclusively used for the Telex service
 - (a) internal
 - (b) international, between countries in the European system
 - (c) international, in the extra-European system (3)
3. Circuits jointly used by both the general telegraph and Telex services
 - (a) internal
 - (b) international, between countries in the European system
 - (c) international, in the extra-European system (3)
- C. *Number of telegraph circuits permanently leased to users*
 - (a) internal
 - (b) international, between countries in the European system
 - (c) international, in the extra-European system (3)
- D. *Number of circuits exclusively used for facsimile telegraphy (or phototelegraphy)*
 - (a) internal
 - (b) international, between countries in the European system
 - (c) international, in the extra-European system (3)
- V. *Equipments for the circuits and station lines mentioned in Sections III and IV*

Number of equipments (5) (6)

 - (a) for within-band telegraphy
 - (b) for sub-audio telegraphy
 - (c) for supra-audio telegraphy
 - (d) for telegraphy on phantom or super-phantom circuits
 - (e) for voice-frequency-division telegraphy
 - (f) for time-multiplex telegraphy
 - (g) for interband telegraphy
 - (h) for error detection (with or without automatic correction)
 - (i) number of radiotelegraph transmitters
 - (j) number of radiotelegraph receivers
- VI. *Offices, radio stations, switching centres, telegraph stations*
 - A. *Number of telegraph offices*
 1. belonging to the Telegraph Administration
 2. belonging to State railways or to railway companies
 3. belonging to Recognized Private Operating Agencies
 - B. *Number of radio stations in the fixed service (general telegraphy and/or Telex)*
 1. transmitting
 2. receiving
 - C. *Number of switching centres (7) (Switching centres under E excluded)*
 1. Switching centres used exclusively for the general telegraph service
 - (a) automatic switching centres
 - (b) manual switching centres (10)

2. Switching centres used exclusively for Telex service
 - (a) automatic switching centres
 - (b) manual switching centres (10)
3. Switching centres common to the general telegraph service and to the Telex service
 - (a) automatic switching centres
 - (b) manual switching centres (10)
- D. *Number of telegraph stations connected to switching centres (8)*
 1. Telex subscribers' stations
 - (a) connected to automatic switching centres
 - (b) connected to manual switching centres (10)
 2. stations in telegraph centres or offices
 - (a) connected to automatic switching centres
 - (b) connected to manual switching centres (10)
- E. *Number of switching centres serving exclusively the facsimile (or phototelegraphy) service*
- F. *Semaphore stations with a public telegraph service*
- VII. *Telegraph apparatus in telegraph centres (or offices) used in the general and Telex networks (including service apparatus)*
 1. Type of apparatus used (4)
 - (a) Morse (or sounder or buzzer)
 - (b) Wheatstone, Greed-Wheatstone
 - (c) Hughes
 - (d) Baudot.
 - (e) Siemens (rapid printers)
 - (f) Siemens-Hell
 - (g) Murray
 - (h) start-stop
 - (i) facsimile
 2. Number of start-stop apparatus in service
 - (a) standardized in accordance with C.C.I.T. Recommendations
 1. tape-printing
 2. page-printing
 - (b) not in accordance with C.C.I.T. Recommendations
 1. tape-printing
 2. page-printing
 3. Number of facsimile telegraph apparatus used by Administrations and Recognized Private Operating Agencies
 - (a) direct-recording facsimile apparatus
 - (b) phototelegraph apparatus.
- VIII. *Telegraph traffic*
 - A. *Traffic of the countries in the European system*
 1. Internal traffic of the country
 - (a) total number of outward telegrams
 - (b) number of outward phototelegrams

2. International traffic in the European system

- (a) number of full-rate and urgent telegrams, outward
- number of full-rate and urgent telegrams, inward
- (b) number of letter-telegrams, outward
- number of letter-telegrams, inward
- (c) number of press telegrams, outward
- number of press telegrams, inward
- (d) number of transit telegrams (each telegram counted once
only)
- (e) number of outward, inward and transit phototelegrams

3. International traffic in the extra-European system

- (a) number of full-rate and urgent telegrams, outward
- number of full-rate and urgent telegrams, inward
- (b) number of letter-telegrams, outward
- number of letter-telegrams, inward
- (c) number of press telegrams, outward
- number of press telegrams, inward
- (d) number of transit telegrams (each telegram counted once
only)
- (e) number of outward, inward and transit phototelegrams

B. *Traffic of countries in the extra-European system*

1. Internal traffic of the country

- (a) total number of outward telegrams
- (b) total number of outward phototelegrams

2. Traffic with countries in the same continent

- (a) number of full-rate and urgent telegrams, outward
- number of full-rate and urgent telegrams, inward
- (b) number of letter-telegrams, outward
- number of letter-telegrams, inward
- (c) number of press telegrams, outward
- number of press telegrams, inward
- (d) number of transit telegrams (each telegram counted once
only)
- (e) number of outward, inward and transit phototelegrams

3. Traffic with Europe

- (a) number of full-rate and urgent telegrams, outward
- number of full-rate and urgent telegrams, inward
- (b) number of letter-telegrams, outward
- number of letter-telegrams, inward

- (c) number of press telegrams, outward
- number of press telegrams, inward
- (d) number of transit telegrams (each telegram counted once only)
- (e) number of outward, inward and transit phototelegrams
- 4. Traffic with other continents
 - (a) number of full-rate and urgent telegrams, outward
 - number of full-rate and urgent telegrams, inward
 - (b) number of letter-telegrams, outward
 - number of letter-telegrams, inward
 - (c) number of press telegrams, outward
 - number of press telegrams, inward
 - (d) number of transit telegrams (each telegram counted once only)
 - (e) number of outward, inward, and transit phototelegrams

IX. Telex service traffic

A. Inland traffic of the country

- 1. Number of chargeable calls (irrespective of duration) exchanged between subscribers' posts (9)
- 2. Total number of chargeable minutes (9)
- 3. Total number of pulses in millions noted on the meters of subscribers' lines (9) (indicating the gold franc amount corresponding to one pulse)

B. International traffic with countries in the European system

- 1. Number of chargeable calls (irrespective of duration), outward, inward and transit (9)
- Total number of chargeable minutes (9)
 - (a) outward
 - (b) inward
 - (c) transit

C. International traffic with countries in the extra-European system

- 1. Number of chargeable calls (irrespective of duration) outward, inward, and transit (9)
- 2. Total number of chargeable minutes (9)
 - (a) outward
 - (b) inward
 - (c) transit

RECOMMENDATION F.92

SERVICE CODES

(formerly C.C.I.T. Recommendation F.6, Geneva, 1956)

The C.C.I.T.,

CONSIDERING

that it would be useful for the operating services of Administrations and Recognized Private Operating Agencies to have a collection of the various codes used in the international telegraph service;

that it would be desirable for such a collection to contain, besides the codes used in the international telegraph service, the codes and abbreviations commonly used in other telecommunication services;

that an assembly of the various codes now in use into a single volume might serve as a basis for a more unified system of service codes;

in view also of C.C.I.R. Resolution 18;

UNANIMOUSLY DECLARES THE VIEW

1. that the various codes and abbreviations commonly used in international telecommunication services should be assembled in one volume and published by the General Secretariat of the I.T.U.;
2. that this publication should be prepared in accordance with the directives annexed to the present Recommendation.

**Directives for the publication, in one separate volume,
of the various codes and abbreviations commonly used
in international telecommunication services**

1. C.C.I.T. Question 61 reads as follows :

Study, in collaboration with the C.C.I.R., of the possibility of collecting together in a separate volume, to be published by the General Secretariat of the Union, the various codes which are considered useful in the international telegraph services (line and radio), with a view to the universal use of this code book in the operation of these services.

2. C.C.I.R. Resolution 18 (London, 1953, as amended at Warsaw, 1956) is associated with this question :

C.C.I.R. Resolution no. 33

**PUBLICATION OF SERVICE CODES
IN USE IN THE INTERNATIONAL TELEGRAPH SERVICE
(Study Group XIII)**

(Warsaw, 1956)

The C.C.I.R.,

CONSIDERING

- (a) that the C.C.I.T., during its VIIth Plenary Assembly, adopted the following question :

“The study, in collaboration with the C.C.I.R., of the possibility of assembling in a separate volume, to be published by the General Secretariat of the Union, the various codes

(F.92)

regarded as useful in the International Telegraph Service (line and radio) for universal use by that service”;

- (b) that the C.C.I.T. has requested the C.C.I.R. to collaborate in the study of that question;
- (c) that it is of importance to assemble all service codes useful in the telegraph service (such as those contained in App. I to the International Telegraph Regulations, Q-code, etc.);

UNANIMOUSLY RESOLVES

1. that the C.C.I.R. should co-operate with the C.C.I.T. in assembling the volume mentioned under (a) above, on the understanding that the C.C.I.T. assume the supervision and responsibility for this work;
 2. that the assembling in one volume of the various codes at present in use will be a first step towards a more unified system of service codes;
 3. that the Administrations should examine the need for unifying the codes for operational requirements.
3. The code documents suggested by the various Administrations for inclusion (partly or wholly) in the proposed book are summarized, classified and numbered below, along with a reference to their origin where this is not apparent :

Code Documents already adopted internationally.

- I. Telegraph Regulations.
- II. Radio Regulations, Appendix 9, Section I — The “ Q ” code as a whole — see page 251 and seq.
- III. Radio Regulations, Appendix 9, Section II — Miscellaneous abbreviations and signals — see page 270 and seq.
- IV. Radio Regulations, Appendix 11, § 3.(1). Spelling analogy code — see page 275 and seq.

Code documents which are Recommendations adopted by Plenary Assemblies.

- V. C.C.I.R. VIIth Plenary Assembly, 1953. Recommendation 141 — SINPO Code. Tabulation and footnotes (a) to (d) — see pages 188 and 189.
- VI. C.C.I.R. VIIth Plenary Assembly 1953, Recommendation 141 — SINPFEMO Code. Tabulation and footnotes as in V.
- VII. C.C.I.T. VIIth Plenary Assembly, 1953. Recommendation H. 1, Article 26. Code expressions used in the international Telex service — see Arnhem Documents page 152.

Code documents of Recognized Private Operating Agencies.

- VIII. Cable and Wireless Limited Service Code.
- IX. The Cable and Wireless Limited “ Z ” Code.
- X. The Cable and Wireless Limited Facsimile Reporting Code.
- XI. Italcable “ Dizionario delle Abbreviazioni Telegrafiche ”.

4. The C.C.I.T. has the following task :

4.1. to recommend those documents numbered I-XI, the material of which it considered should be included, in part or in whole, in the code book, and to specify recommended material within these documents in detail. (Subsequently referred to as “ Selection of material ”);

4.2. to consider and comment upon the question of duplication between code letter groups. (Subsequently referred to under “ Duplication ”). (N.B. It did not deal with the question of different code letter groups with the same, or nearly the same meaning, as this comes under the heading of unification, which may be dealt with later);

4.3 to recommend how selected code material should be arranged within the code book. (Subsequently referred to as "Arrangement of Material");

4.4 to recommend a title for the book (subsequently referred to under "Title").

5. *Selection of material.*

From the code documents numbered I-XI, the following were selected for inclusion in the code book without alteration :

III. Radio Regulations. Miscellaneous abbreviations and signals, taking into account the amendments made by the VIIIth Plenary Assembly of the C.C.I.R.

IV. Radio Regulations. Spelling analogy code.

V. SINPO code, taking into account the amendments made by the VIIIth Plenary Assembly of the C.C.I.R.

VI. SINPFEMO code, taking into account the amendments made by the VIIIth Plenary Assembly of the C.C.I.R.

The following code was accepted with one additional item :

VII. Code expressions used in the international Telex service. The addition here is :

SVH Safety of life Telex calls (see C.C.I.T. Recommendation H.1, Article 10).

X. The Cable and Wireless Limited Facsimile Reporting Code. This is described in detail in Appendix 1 to this report.

The remaining code documents Nos. I, II, VIII, IX and XI were accepted in part only. The material selected for retention as it stands or with slight modifications is specified in Appendices 2, 3, 4, 5 and 6 respectively. These appendices also contain comments concerning the results of the selection and, in some cases, the future treatment of material.

6. *Arrangement of material.*

The C.C.I.T. considered that the material in the code book should be arranged in three main sections headed :

Decoding
Coding
Miscellaneous.

The suggested content of each chapter is detailed in Appendix 7.

7. *Title.*

The title for the code book suggested by the C.C.I.T. is :

CODES AND ABBREVIATIONS FOR THE USE OF THE INTERNATIONAL TELECOMMUNICATION SERVICES

Published by the International Telecommunication Union

8. *Duplication.*

The C.C.I.T. found that four different types of duplication existed, namely :

8.1 The same code letter group with the meaning worded in precisely the same terms in more than one of the basic code documents.

8.2 The same code letter group with more than one meaning.

8.3 Different code letter groups with exactly, or virtually, the same meaning.

8.4 Code letter groups in the selected material which are used for purposes, other than service code usage, elsewhere in the field of telecommunications.

Duplication of type 8.1 can be easily identified and removed as necessary during the compilation of the "Decoding" section of the book.

Duplication of type 8.2 will similarly be easily identifiable during the same process. Both entries will have to be retained, but they should be specially noted to indicate the different circumstances in which each is to be used.

Duplication of type 8.3 does not require to be dealt with here as it comes under the heading of "unification" as already indicated in § 4 of the report. Until "unification" takes place, both entries should appear in the code book in their appropriate places.

The only specific instance of duplication of type 8.4 which came under the notice of the C.C.I.T. was that which exists, at least in theory, between 3-letter code groups, used in the Cable and Wireless Limited "Z" code and the 3-letter call signs in the Z series, which are referred to in Radio Regulations, Chapter VII, Article 19 and seq. (see page 94). The Cable and Wireless Limited "Z" code is already widely used in the radio field and for this reason has very strong claims for inclusion in the code book. At the same time, the 3-letter call signs in the Z series, if not already in use, may be at any time. The C.C.I.T. had no evidence of trouble arising from this duplication. However, the C.C.I.R. reserved the right to reconsider this case if confusion should arise in the future with call signs in the "Z" series.

9. *Other items of interest.*

Information available within the C.C.I.T. indicated that, by accident rather than design, the code documents accepted for inclusion in the telegraph code book included all the codes used in the international telephone service, namely :

IV. The spelling analogy code — See Radio Regulations, Appendix 11 § 3 (1).

VI. SINPFEMO code.

APPENDIX 1.

CABLE AND WIRELESS LTD. FACSIMILE REPORTING CODE

This code is used to indicate :

(a) *Quality of a Picture to be transmitted.*

This is indicated by a 3-digit code group taken from the following tabulation. The code group is inserted after the destination in the address.

(F.92)

Code digit	Contrast (first digit)	Definition of focus (second digit)	General quality (third digit)
1	Very flat	Blurred all over	Poor
2	Flat	Main features blurred	Fair
3	Normal	Slightly blurred all over	Fairly good
4	Contrasted	Background blurred - main features clear	Good
5	Very contrasted	Sharp focus and definition throughout	Excellent

(b) *Quality of Picture received.*

This is indicated by a 5-digit code group taken from the following tabulation :

Code digit	Contrast (first digit)	Fading (second digit)	Stagger (third digit)	Spurious modulation (fourth digit)	General quality (fifth digit)
1	Very flat	Very frequent	Severe	Severe	Useless
2	Flat	Frequent	Pronounced	Pronounced	Poor
3	Normal	Moderate	Moderate	Moderate	Fair
4	Contrasted	Infrequent	Slight	Slight	Good
5	Very contrasted	Negligible	Negligible	Negligible	Excellent

APPENDIX 2

TELEGRAPH REGULATIONS

1. The C.C.I.T. agreed that all codes and abbreviations contained in Annex 1 should be retained as they stand (*N.B.* A number of these codes have been taken from the Cable and Wireless Ltd. Service Code, in which case they are identified by underlining).

2. All codes and abbreviations appearing in the text of the Regulations were extracted and examined to determine which were suitable in the light of modern practice for inclusion in the code book.

3. The selected material is recorded below by reference to the number of Telegraph Regulations under which it appears :

<i>Number of Telegraph Regulations</i>	<i>Paid Service Indications</i>	
68	=Priorité Nations=	Telegram from or to the United Nations
	=Urgent=	Urgent
	=RPx=	Reply paid x
	=TC=	Collation
	=PC=	Telegraphic notification of delivery (telegram with)
	=PCP=	Postal notification of delivery (telegram with)
	=FS=	To follow
	=FS de x=	To follow (from the place or places of reforwarding)
	=Réexpédié de x=	Telegram redirected to any other address
	=TMx=	x addresses
	=CTA=	Communicate all addresses
	=Express=	Express
	=XP=	Express paid
	=Poste=	Post
	=PR=	Registered post
	=GP=	Poste restante
	=GPR=	Poste restante registered
	=PAV=	Air-mail
	=TR=	Telegraph restant
	=LX=	Telegram to be delivered on a de luxe form on a happy occasion
	=LXDEUIL=	Telegram to be delivered on a de luxe form on an occasion of mourning
	=MP=	Personal delivery
	=Jour=	Day delivery
	=Nuit=	Night delivery
	=TFx=	Telegram for which delivery by telephone has been requested
	=TELEX x=	Telegram for which delivery by Telex has been requested
	=J x=	x days
	=Lettre=	ST to which the reply should be given by ordinary letter
	=Lettre RCM=	ST to which the reply should be given by registered letter
	=RM=	Retransmission of a radiotelegram by a ship or aircraft station
	=SEM=	Semaphore telegram
	=Presse=	Press telegram
	=OBS=	Meteorological telegram
	=ELT=	Letter telegram of the European system
	=ELTF=	
	=LT=	Letter telegram of the extra-European system
	=LTF=	
225 to 229 and 247		<i>Transmission indicators (Teleprinter)</i>
	MOM	Wait (alphabets Nos. 1 and 2)
	E E E	Error in transmission (alphabet No. 2)
259		<i>Transmission indicators (Morse)</i> (where original has equivalent letters)
	K	Invitation to transmit (e.g. see reg. 303)

<i>Number of Telegraph Regulations</i>	<i>Paid Service Indications</i>
322	<i>Use of codes</i> refers to codes in Appendix No. 1
323	<i>Service communications</i>
RQ	to precede the communication
324 to 331	<i>Stop transmission signals</i>
BK PP } OO }	(for Morse Duplex and Wheatstone Duplex) (repeated) (for start-stop instruments)
347	<i>Priority telegrams</i>
X	To precede the serial number
354	<i>Acknowledgement of receipt</i>
LR	at request of sending telegraphist
360 to 363	<i>Service instructions</i>
B	only in exchanges by means of Morse and aural receiving apparatus, and when the transmitting office corresponds direct with the office of destination.
X	as in 347
SVH	Safety of life at sea or in the air
S	Sender requests priority for Government telegram
F	Government telegram without priority request
A	Ordinary service telegram or advice
A Urgent	Urgent service telegram or advice
ADG	Service telegram or advice relating to interruption of communications
ST	Paid service advice
RST	Reply to paid service advice
MDT	Money order telegram or postal cheque telegram
OBS.	Meteorological telegram
Urgent	Urgent private telegram
CR	Notification of delivery (appears also in Telegraph Regulation No. 502).
382	<i>Correction of number of words</i>
=CTF words=	Used when there is a difference in the word counts
399	<i>Corrections</i>
CTF	At end of the preamble with nature of rectification (see also Telegraph Reg. No. 835)
626, 648 and 650	<i>Phototelegrams — special services</i>
=KP=	Dispatch to the sender of a print from the received film
=Kx=	Extra copies for delivery to the addressee

<i>Number of Telegraph Regulations</i>	<i>Paid Service Indications</i>
=PC=	As in Telegraph Regulation No. 68
=PCP=	
=TMx=	
=CTA=	
=XP=	
=Postxp=	Dispatch to destination by express post
=PR=	As in Telegraph Regulation No. 68
=GP=	
=GPR=	
=TR=	
=Jour=	
=Nuit=	Delivery to the addressee of the negative film instead of the positive print
=Film=	
=Urgent=	As in Regulation 68

835 and 837

Paid Service

CTFSN

Correction will follow if necessary

CTP

Retain charge paid

Appendix No. 1

Code expressions

BQ

Reply to RQ

DF

I am putting you through

Dx

Duplex

LR

Up to what point (word or telegram) have you received ?

We have received up to...

OK

We agree (or It is correct)

RQ

Designation of a request

SX

Simplex

ANH

Congestion

RPTAA

Repeat all after...

RPTAL

Repeat everything you have transmitted

RPTWA

Repeat word after...

and the following Cable and Wireless service code words :

ATHAS	MAHVU	PATOS	RAJEV	ROFJO
AZGUN	MANAG	PIPKU	RAJFU	RUCMU
AZJEW	MAWET	PITUG	RAJGO	RUCOS
AZKEG	MIDUN	POFIH	RAJIF	RUCXO
AZWET	NACBA	POHCO	REGAD	RUCYD
BABSO	NEDIB	POMDU	REJAB	RUCZA
BINZA	NEFAT	POSAG	REKEG	RUFAJ
CODUN	NEKLO	PUFOB	RESIN	RUFKU
DACYS	NEMYD	PYHOP	RICOD	RUFMO
DADRO	NIGYC	PYSAT	RIHUB	TIBOH
JAJAR	NOVEF	RACYB	RIJAG	WAPUC
JIFAG	OHBIN	RAFIS	RIKEN	WEFXU
JOKID	OPWIG	RAFUJ	RISOB	WEJOD
JUFAR	ORDAD	RAFYS	ROCOG	WEJYV
JYBAG	ORJOB	RAHOT	ROFAB	XESCU
JYDOT	PASCA	RAJAJ	ROFER	XESLA

APPENDIX 3

**Q CODE — SEE RADIO REGULATIONS, APPENDIX 9
PAGE 251 AND SEQ.**

1. The C.C.I.T. agreed that all Q codes in the general services section QRA - QUZ, as listed in Radio Regulations, including those few spare codes to which a meaning had not yet been allotted, should be retained as basic material for the code book. Additionally, new codes approved for use since the Radio Regulations were printed should also be included. These codes will be used subject to their approval by the next Radio Conference.

Code	Question	Answer
QSS	What frequency will you use ?	I will use the working frequency kc/s (normally the last three figures only of the frequency to be inserted).
QSE	Must I keep watch for you (or for) on kc/s (Mc/s) ?	Keep watch for me (or for) on kc/s (Mc/s)
QSH	—	I cannot hear you (or) on kc/s (Mc/s)
QSF	—	Start transmitting on kc/s (Mc/s) and, if communication is not established in 5 minutes, go back to the other frequency on which you have been transmitting.
QTM	What is your magnetic heading ?	My magnetic heading is degrees.

2. The aeronautical (QAA - QNZ) and maritime (QOA - QQZ) sections of the Q code were excluded on the grounds of their limited and specialized field of operation and the fact there was little or no support for their inclusion in the replies from Administrations to the original enquiry.

APPENDIX 4

CABLE AND WIRELESS LTD. "SERVICE CODE"

N.B. — The Study Group's findings have been framed so that they refer to the August, 1955 reprint of the Cable and Wireless Ltd. Service Code book, amended to cover subsequent alterations up to 1st June 1956 (English Edition). The French edition of the book is not always an exact equivalent of the English because the issue of reprints and amendments usually takes place at different times.

Service Code.

1. The codes accepted for inclusion in the I.T.U. handbook by the Study Group were as follows :

All allocated code letter groups in the number range 00 001-02 172 (end) except the following :

00046	01035	01575/01660	01931/52
00049	01045	01671/01739	01987/92
00068/69	01049	01744/01778	01997
00071	01054	01811	02001/15
00149/198	01062	01814	02017
00219	01065	01835	02025/27
00225	01102	01840/41	02085
00230/31	01111		02091/96
00351	01258	01862/64	02104
00555/00790	01265	01868	02117/24
00867/70	01278	01877/80	02133
00888	01326	01909	02139/54
00942	01337	01918/25	02156/58
00948	01375		02167
00953	01382/83		02222/71
00956/57	01385		02282/95
00977	01390		
00985	01392/96		
01020/21	01398		
	01475		

2. Of the expressions retained, the following should be amended as indicated below :

- 00048 Please service if in agreement our..... traffic statement for.....
- 00053 Please rush your estimated..... figures for.....
- 00067 Your..... statement for.....
- 00085 Destination correct, see " Official List of Telegraph Offices open for International Traffic ", page
- 00086 Destination not in the " Official List of Telegraph Offices open for International Traffic ". We forward to..... correct if necessary.
- 00313 Your..... contains word counting evasions, we check..... confirm.
- 00811 Connecting Administration/Company complains.
- 00842 Please explain delay to addressee/sender.
- 01055 Connecting Administration/Company's error.

- 01056 Connecting Administration/Company's tracing error.
- 01057 Connecting Administration/Company confirms following words correct.
- 01269 Connecting Administration/Company claims address not registered. The message is still undelivered.
- 01436 Connecting Administration/Company's correction.
- 01438 Connecting Administration/Company's repetition follows.
- 01514 Still waiting connecting Administration/Company's reply (repetition).
- 01802 When and to which Administration/Company transferred.
- 01845 If arranged inform.....
- 02099 Waiting reply from Connecting Administration/Company.
- 02114 Give RP in gold francs.

Heading of "Censorship" Section to "Restrictions (Censorship, etc.)".

3. As described in the foreword of the Cable and Wireless Ltd. book, this 5-letter service code has been designed to incorporate a measure of protection against mutilation. It is based on a checking procedure between "Paired" codes, each of which is an exact reversal of its partner. The C.C.I.T. considered that for the purposes of the I.T.U. code book, this feature could be disregarded without material disadvantage.

4. The detail of the foregoing paragraph has been discussed and agreed with Cable and Wireless Ltd. The alterations in § 2 will be incorporated in their code book by issue of amending instructions later. The Company was most cooperative and raised no objection to the inclusion in the I.T.U. code book of the material listed in this Appendix. They pointed out (*a*) that codes excluded under § 1 of this Appendix were in active use by them and (*b*) that in all the circumstances they would retain their own book which would continue to be amended from time to time to cater for addition of new codes and deletion of such codes as may fall out of use in the future. In this connection they make the following points :

- 4.1 They would prefer that codes in their book, at present unallocated, should remain the property of the Company. If, later, the I.T.U. wished to add codes and expressions to the I.T.U. code book, then the I.T.U. should designate its own 5-letter group codes. (*N.B.* — Codes excluded from the I.T.U. code book in accordance with § 1 of this Appendix should rank as unallocated codes and be treated in the same way.)

- 4.2 That to avoid confusion between the I.T.U. code book and the Cable and Wireless Limited code book there should be consultation between responsible bodies when codes and meanings common to both volumes are to be amended, or new ones added.
- 4.3 Pending the publication of the I.T.U. Handbook, Cable and Wireless Ltd. will advise of any changes to their code book which may affect the compilation of the I.T.U. code book.

APPENDIX 5

Z CODE

(as at 1st June 1956)

1. All "Z" codes were accepted by the Study Group for inclusion in the I.T.U. code book except the following :

ZFF

2. A few of the codes accepted required minor clarification as indicated below :

ZYC	Delete "ARQ" insert "Automatic error correction".
ZYR	Delete "MUX rev's" insert "Multiplex revolutions".
ZYX/X	
ZXC	Delete "PIX" insert "Pictures".
ZXP	

APPENDIX 6

ITALCABLE CODE

"DIZIONARIO DELLE ABBREVIAZIONI TELEGRAFICHE"

1. The whole of this document was examined item by item, but the initial selection produced only about 50 items. These items were, in the main, 5-letter group codes and there were a few 2 and 3-letter group abbreviations and codes. The latter group were later found to be duplicated in other code documents and it was the impression of the C.C.I.T. that the 5-letter group codes were broadly covered by equivalent expressions and 5-letter group codes contained in the Cable and Wireless Limited "Service Code".

2. The C.C.I.T. also noted that the greater majority of the few codes and abbreviations produced by their initial selection had, in fact, been taken from codes of American Cable Companies not included in the basic code documents listed for consideration.

3. From the information available to the C.C.I.T. it appeared that there was no great demand for inclusion in the code book of material in this particular document.

4. In all the circumstances, the C.C.I.T. were of the opinion that since the material which they had selected would in effect be carried forward into the code book from other sources, the Italcable Code could, for all practicable purposes, be regarded henceforth as excluded from the list of selected basic code documents.

APPENDIX 7

ARRANGEMENT OF MATERIAL WITHIN THE CODE BOOK

1. The examination by the C.C.I.T. showed that the accepted code documents were of two fundamentally different types, namely:

1.1 those containing a series of individual code and abbreviation items, each comprising a letter group with an assigned meaning. All accepted code documents except these mentioned in 1.2 fall in this category;

1.2 those of a different form namely:

SINPO

SINPFEMO

The spelling analogy code.

The Cable and Wireless Limited Facsimile Reporting Code.

2. As stated in § 6 of the report, it was considered that the code book should be divided into three main sections, namely

A coding section

A decoding section

A miscellaneous section.

Clearly the four items mentioned in 1.2 of this Appendix are proper to the "Miscellaneous Section" since no question of separate arrangement for coding and decoding arises as a practical issue.

3. The arrangement for the material referred to in § 1.1 of this Appendix should, it was considered, be made as follows:

Decoding Section.

In this section all code letter groups and abbreviations, irrespective of source, should be listed in alphabetical order down the left hand side of the page with their meaning to the right. The "Q" and "Z" codes should be excluded from this alphabetical sequence, although this sequence should carry at the appropriate position a cross reference showing where these two codes are to be found elsewhere in the book, namely in the "Miscellaneous Section".

Coding Section.

This section should comprise:

3.1 Those 5-letter group codes appearing in Telegraph Regulations (Appendix 1), plus those accepted from the Cable and Wireless "Service Code" (Document No. IX) but excluding duplication. This material should be classified according to the fields of operation in which the codes are used. The Cable and Wireless Limited "Service Code" provides the basic pattern of arrangement required and the few additional codes contained in Telegraph Regulations Appendix 1 should be merged into this arrangement.

3.2 The second portion of this section should consist of groups of codes headed according to their usage thus :

3.2.1. " Telex Codes "

3.2.2 " Miscellaneous Telegraph Codes " comprising :

Miscellaneous abbreviations and signals — Miscellaneous codes and abbreviations taken from the text of the International Telegraph Regulations.

The codes and abbreviations from the foregoing services should be arranged in alphabetical order.

4. *Miscellaneous Section.*

Part I.

As indicated in § 1.2 of this Appendix, the following should appear in the " Miscellaneous " Section, each separately and with its own heading :

Document No. V SINPO

Document No. VI SINPFEMO

Document No. IV Spelling Analogy Code

Document No. X Cable and Wireless Limited Facsimile Reporting Code

As indicated in § 3 of this Appendix (Decoding Section), the C.C.I.T. considered that the following should also appear in this section :

Document No. II " Q " Code (Series QRA-QUZ)

Document No. IX Cable and Wireless Limited Z Code (Subject to reservation).

5. It might be argued with some justification that both the " Q " code (alphabetical arrangement) and the Z code should appear in the " Decoding Section " and that the " Q " code (functional arrangement) should appear in the " Coding Section ".

Both codes, however, are subject to special qualifying instructions, e.g. some code letter groups can have numbers added to them, e.g. QRK/1-5 and ZSI/1-5. Moreover the Q code has a dual significance in that the letter code group can be used as either a question or an answer. Since the question of special instructions can more conveniently be covered when the " Q " and " Z " codes appear as separate entities, the C.C.I.T. considered it best to place them in the " Miscellaneous Section " where all material will be arranged on this form.

Part II.

(Codes of some importance, but which have not been included, as they lie outside the scope of the I.T.U.)

1. International code of Signals Vol. II.
2. Communication Codes and Abbreviations, published by I.C.A.O.

RECOMMENDATION F.93

**ROUTING TABLE FOR OFFICES TAKING PART
IN THE GENTEX SERVICE***(formerly C.C.I.T. Recommendation F.14 revised, Geneva, 1958)*

The C.C.I.T.T.,

IN VIEW OF

C.C.I.T.T. Recommendation F.22, Article 14,

CONSIDERING

that Gentex offices need information about the routing of traffic to the offices taking part in the Gentex service and the offices, which, while not being attached thereto, nevertheless normally have to deal with a good deal of international traffic;

that for the time being there is no call to include this information in the List of Telegraph Offices open for International Traffic;

UNANIMOUSLY DECLARES THE VIEW

that the ITU General Secretariat should issue a document containing the routing lists published by the countries taking part in the Gentex service, in accordance with Article 14 of Recommendation F.22 of the C.C.I.T.T., dealing with regulations for the Gentex service;

that changes in these lists, if notified after this document is published, should be communicated by means of General Secretariat Notifications.

RECOMMENDATION F.94

TABLES OF INTERNATIONAL TELEX TRAFFIC*(formerly C.C.I.T. Recommendation H.4, Geneva, 1956)*

The C.C.I.T.,

CONSIDERING

the interest to Administrations and Recognized Private Operating Agencies of knowing how the international Telex service is developing;

that with this in view the General Secretariat established annual statistics derived from information provided by Administrations and Recognized Private Operating Agencies;

that these statistics will henceforth be included in the General Telegraph Statistics;

CONSIDERING FURTHER

that comparative tables of traffic have been drawn up for several years at the instance of the Chairman of the competent Study Group of the C.C.I.T.;

(F.94)

that these tables are of great interest for following the development of the service;
that it is desirable to give them an official character by having them compiled by the General Secretariat;

UNANIMOUSLY DECLARES THE VIEW

that the General Secretariat should publish annually, by means of the *Telecommunication Journal*, the statistical data listed below :

1. a general table of international Telex traffic in January, expressed as the number of chargeable minutes in relation to the number of direct circuits in service;
2. a comparative table showing figures of international Telex traffic in January for different years;
3. a comparative table showing annual international Telex traffic for these same years.

RECOMMENDATION F.95

LIST OF TELEX CIRCUITS AND ROUTES

(formerly C.C.I.T. Recommendation H.12, 1954)

The C.C.I.T.,

CONSIDERING

- (a) the publication, envisaged in Article 4, § 8 of the international Telex Regulations (Recommendation F.60), of a list of Telex routes;
- (b) the value of regulating the use of different routes;
- (c) the preparation of a description of international Telex circuits which is in progress,

AND TAKING INTO ACCOUNT

that the information which it would be desirable to ask the General Secretariat to publish should include :

1. a list of international Telex circuits with a brief description of the routing and of the location of the regenerative repeaters;
2. a list of routes (normal, auxiliary and emergency) which may be used in international Telex relations;

UNANIMOUSLY DECLARES THE VIEW

that all Administrations and Recognized Private Operating Agencies participating in the international Telex service should forward annually to the General Secretariat :

- (a) a list, drawn up in accordance with the annexed table, showing the international Telex circuits in use at 31 December;
- (b) a list drawn up in the following form showing, for each relation, the various routes :

(F.95)

Relation	Routes			Remarks
	Normal *	Auxiliary	Emergency	

* Indicate the transit country if any.

Note: Publication of this information will be undertaken by the General Secretariat in the manner indicated in Article 4, § 8 of Recommendation F.60.

ANNEX

DESCRIPTION OF INTERNATIONAL TELEX CIRCUITS

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Ter- minal ex- change A (see (a))	Ter- minal ex- chan- ge B	Rout- ing (see (b))	No. of circuits (see (c))	No. of V.F. links per circuit (see (d))	Loca- tion of inter- mediate V.F. equip- ment, if any (see (d))	Location of regenerative repeaters, if any		No. of uni- direc- tional circuits for A-B traffic	No. of uni- direc- tional circuits for B-A traffic	No. of circuits for both- way traffic	Operat- ing method A to B (see (e))	Operat- ing method B to A (see (e))	Com- ments and any special features
						Trans- mission A-B	Trans- mission B-A						

Explanatory Notes:

- One line in the table should be used for a description of Telex circuits between A and B. However, if the circuits are divided into several groups according to the particular route, one line should be devoted to a description of the circuits in each of those groups.
- Briefly characterize the route followed by each group of circuits.
- Indicate the number of circuits described in the same line.
- V.F. — Voice frequency.
- Automatic* if the subscribers of a country can directly dial the subscribers in another; *semi-automatic* if action by a manual operator at A or B is required (then indicate at which office such action is taken); *manual* if action by manual operator is required at both A and B.

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

NEW QUESTIONS

QUESTIONS OF TELEGRAPH OPERATION AND TARIFFS, ENTRUSTED TO SUB-COMMITTEE 2/1 IN 1957-1960

1. Questions entrusted by the 1st Plenary Assembly of the C.C.I.T.T. (Geneva, December 1956)

SUMMARY

No.	Brief description	Other Study Groups, Sub-Groups, or international organizations cooperating in the study	Comments
8/21	Rates for phototelegrams.	S.S.G. 2/3 S.G. 8	Study concluded
9/21	Standardization of service texts in telegraph switching.	S.G. 10	Vol. I, p. 326
10/21	Unification of service codes.	C.C.I.R.	id.
11/21	Improvement of statistics of transmission speeds.		Study concluded
12/21	Reception on forms prepared in advance.		Vol. I, p. 326
13/21	Transit with reperforators.		id.
14/21	Operational regulations for the Gentex services.		Study concluded
15/21	Composition of answer-back signals in the Gentex service.		Study concluded
16/21	Grade of service in the Gentex service.		Vol. I, p. 327
17/21	Facsimile transmission of alphabetic telegrams.	S.G. 8	id.

No.	Brief description	Other Study Groups, Sub-Groups, or international organizations cooperating in the study	Comments
18/21	Facsimile service between subscribers.	S.G. 8	Vol. I, p. 328
19/21	Duplex operation in the Telex service		Vol. I, p. 329
20/21	Conference of broadcast Telex communications.		id.
21/21	Observations on the quality of traffic in the Telex service.	S.G. 8	id.
22/21	New telegraph alphabet.		id.
23/21	Possible revision of the Telegraph Regulations.		Study concluded
24/21	Amendments to the Telex Regulations.		Vol. I, p. 331
25/21	Composition of telegraph tariffs.		Study concluded
26/21	General study of tariffs in the European system.		Study concluded
27/21	Revision of rules for word counting.		Study concluded
28/21	Speeding-up the putting-through of phototelegraph communications.	S.S.G. 2/2	Vol. I, p. 333
29/21	Operational rules for phototelegraphy.	S.S.G. 2/2	Study concluded
30/21	Use of Telex service for general traffic.	S.S.G. 2/2	Study concluded
32/21	Accounting in the case of re-routing of a circuit carrying voice-frequency telegraphy	S.S.G. 2/2	Vol. I, p. 340
33/21	Establishment of accounts in the automatic Telex service.	S.G. 2	id.
34/21	Refunds in the Telex service.	S.G. 2	id.
35/21	Leased telegraph circuits.	S.G. 2	Text modified (see hereafter)

2. Questions entrusted by the 1st Plenary Assembly of the C.C.I.T.T. and modified by the Special Assembly (September 1958)

Question 35/21 (Question 35 of Study Group 2)

(Sub-Group 2/1 and Study Group 2; Proposals to be prepared in the first place by Sub-Group 2/1)

Leased telegraph circuits.

Study of possible amendments to Recommendation F.70 (former Recommendation H.5 of the C.C.I.T.T.) concerning:

- (a) conditions of use (single or multiple, duplex or simplex operation, simultaneous or successive telegraphy and telephony over leased telegraph circuits);

- (b) rates;
- (c) compensation when there is an interruption in the circuit;
- (d) conditions for the rental of leases for groups of circuits.

Study programme for Question 35/21

Administrations are requested to examine, in particular, the following questions :

1. Should the distinction between " single lease " and " multiple lease " be maintained ? Would it be preferable to have only one type of lease ? The text of the Recommendation would then specify that Administrations could reserve the right to refuse the request for a lease presented by a group of users when this group does not possess obvious common interests. If not, should the terms " single lease " and " multiple lease " be defined, and what definition would you propose ?
2. What tariff principles do you propose ? (fixed charge dependent on Telex charges, distance, traffic metering, etc., or a combination of these or any other proposals). These tariff principles should take into account the net cost, among other things.
3. Should a reduction of charges be provided for in the case of the lease of a group of circuits ?

Should the term " group of circuits " be defined ?

Should this possible reduction apply to circuits operated point to point or be reserved for circuits operated by switching ?

In this respect, should a distinction be made between switching without the use of an automatic retransmission device and switching with the use of automatic retransmission and storage (for example, tape relay) ?

In such cases, what reductions in tariffs would you suggest ?

4. What would be the conditions (technical and tariff conditions) for leased circuits using :
 - a modulation rate higher than the standard 50 bauds rate;
 - a different alphabet from the standard Alphabet No. 2.
5. Should special conditions be provided for the use of standard telegraph circuits for requirements similar to those of telegraphy such as data transmission, telemetering or remote control ? If so, what conditions do you suggest ?
6. What compensation is to be proposed in the case of faulty operation or interruption of circuits ?
7. Which modifications in drafting or layout do you propose in order to make the texts of Recommendations F.70 and E.60 as parallel as possible ?

Note. These questions apply to both European and extra-European systems.

3. New Questions entrusted by the Special Assembly (Geneva, September 1958)

(There is no Question 36/21).

37/21 *Revision of rules for Gentex service*

Modifications to be made to the text of Recommendations concerning the Gentex network so as to take account of the practical experience gained in operating this network and of the results of its development.

38/21 *Page reception of telegrams*

Study of amendments which may ultimately be made to Recommendation F.12 (former C.C.I.T. Recommendation F.9) : Receipt of Telegrams in pages in an agreed form and without errors.

Remarks

1. Several Administrations or Recognized Private Operating Agencies, who use page reception, have encountered difficulties in applying this Recommendation. For example, the use of window envelopes limits the length of the line for the address. This limit should be defined.
2. The meaning of the French word "interligne" (line spacing) caused some misunderstanding. To avoid this misunderstanding in future, it is stated that the "interligne" (line spacing) consists of one transmission of the "line feed" signal.

39/21 *New principles for Telegraph Tariffs.*

Study of principles which could serve for the setting up of a charging system for telegrams, not based on the term "pure and simple".

4. Studies entrusted to the C.C.I.T.T. by the Administrative Telegraph and Telephone Conference, Geneva, 1958

RESOLUTION NO. 3 OF THE T.T. CONFERENCE

40/21 *Study by the C.C.I.T.T. of the method of word-counting*

The Administrative Telegraph and Telephone Conference, Geneva, 1958,

CONSIDERING

that the regulations in Chapter IX of the Telegraph Regulations relating to the counting of words, although they have been carefully revised, still present certain difficulties both in operation and to users;

INSTRUCTS

the C.C.I.T.T. to pursue its study concerning the counting of words, taking account of the proposals submitted to the Telegraph and Telephone Conference, Geneva, 1958.

RESOLUTION NO. 2 OF THE T.T. CONFERENCE

41/21 *Study of the possible modification of the International Telegraph Alphabet No. 2*

The Administrative Telegraph and Telephone Conference, Geneva, 1958.

CONSIDERING

1. that the reservation of the "figures" position in combinations 6, 7 and 8 of the International Telegraph Alphabet No. 2 for internal service requirements does not satisfy the needs of Administrations using a national alphabet having a greater number of letters than that available in the existing Alphabet No. 2;
2. that to bring the methods of operation used in the internal service into line with those employed in the international service, at least two additional combinations must be allotted from the figure case in Alphabet No. 2 to internal service requirements;

INVITES THE C.C.I.T.T.:

1. to study the possibility of modifying the International Alphabet No. 2 in such a way as to make at least two additional signals from the figure case available to Administrations for their internal requirements;
2. to submit the results of such study to the next Administrative Telegraph and Telephone Conference.

Note of the C.C.I.T.T. Secretariat

The temporary Recommendation hereafter (valid until the end of the Telegraph and Telephone Conference of 1958) was made available to the Conference by the C.C.I.T.T. Special Assembly.

TEMPORARY RECOMMENDATION I

Modification of alphabet No. 2

Some Administrations find that operation is hampered by the fact that International Telegraph Alphabet No. 2 leaves only three combinations to each Administration for its internal service (combinations 6, 7 and 8 in the "figure" position). These Administrations would like to have two additional combinations at least for their national service and to do without the use of a third shift.

In order to satisfy these Administrations, the secondaries of combinations 11 and 12 [()] could be reserved for the use of national services; however, many countries have no additional requirements for their national services and they would not like to be deprived of the use of parentheses.

The C.C.I.T.T. therefore proposed that Alphabet No. 2 should be modified with respect to the use of combinations 11 and 12 in the figure case and that there should be a choice between two uses for these combinations, as follows :

		alternative <i>a</i>	alternative <i>b</i>
11	K	(1)
12	L)	1)

Note 1) on page 40 of the Regulations, Paris revision.

One (alternative *a*) provides for use with brackets,
the other (alternative *b*) provides for use in the national service, as indicated in the table above.

Administrations would announce their choice between those two uses, and each choice would be published in the Notifications issued by the I.T.U. General Secretariat.

For Administrations choosing use (*b*) (national service), the two half-brackets would be transmitted by the sign / (combination 24, figure case).

The Telegraph Regulations should make it clear that in correspondence between Administrations adopting use (*b*), or between one Administration adopting use (*b*) and another adopting use (*a*), the brackets are transmitted by the sign /.

In view of the foregoing, the C.C.I.T.T.

RECOMMENDS

- 1. that International Telegraph Alphabet No. 2 should be modified as follows (No. 236 of the Telegraph Regulations — Paris revision) :

Existing text

No. of signal	Letter case	Figure case
11	K	(
12	L)

Proposed text

No. of signal	Letter case	Figure case	
11	K	Use <i>a</i> (Use <i>b</i> 1)
12	L)	1)

2. that the text included in No. 236 of the Telegraph Regulations (Paris Revision) should be amplified as follows :

Administrations (and Recognized Private Operating Agencies) shall choose either use (a) or use (b) for signals 11 and 12 of Alphabet No. 2 in the figure case, for adoption in their service.

They shall notify this choice to the General Secretariat of the ITU which will publish it in the Notifications issued by the ITU General Secretariat.

3. that the following paragraph should be inserted in the Telegraph Regulations (Paris Revision), after No. 242 :

242 bis. The sign / (signal No. 24, figure case) shall be transmitted for the signs () between two countries which have chosen use (b) for signals Nos. 11 and 12 in the figures case, or between a country which had chosen use (a) for these signals and a country which has chosen use (b) (or vice versa).

RESOLUTION NO. 1 OF THE T.T. CONFERENCE

42/21 *Phototelegraphy*

The Administrative Telegraph and Telephone Conference, Geneva, 1958,

CONSIDERING

1. that the phototelegraph service in the extra-European system is steadily developing; and
2. that the existing provisions relative to the European service are not wholly adapted to the extra-European system;

RESOLVES

that the C.C.I.T.T. study this question, with a view to issuing a Recommendation on provisions which might be applied by all Members and Associate Members of the Union.

5. Study of cost price, entrusted to Sub-Committee 2/3

43/23 *Cost price of Telex calls*

Study of the cost price, at the outgoing end, of a Telex call set up by fully automatic switching, from subscriber to subscriber.

PAGE INTENTIONALLY LEFT BLANK

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

**CONTRIBUTIONS
CONSIDERED WORTH PUBLISHING
(Resolution No. 4, § 2)**

WORD-COUNT PROCEDURE IN TELEGRAMS

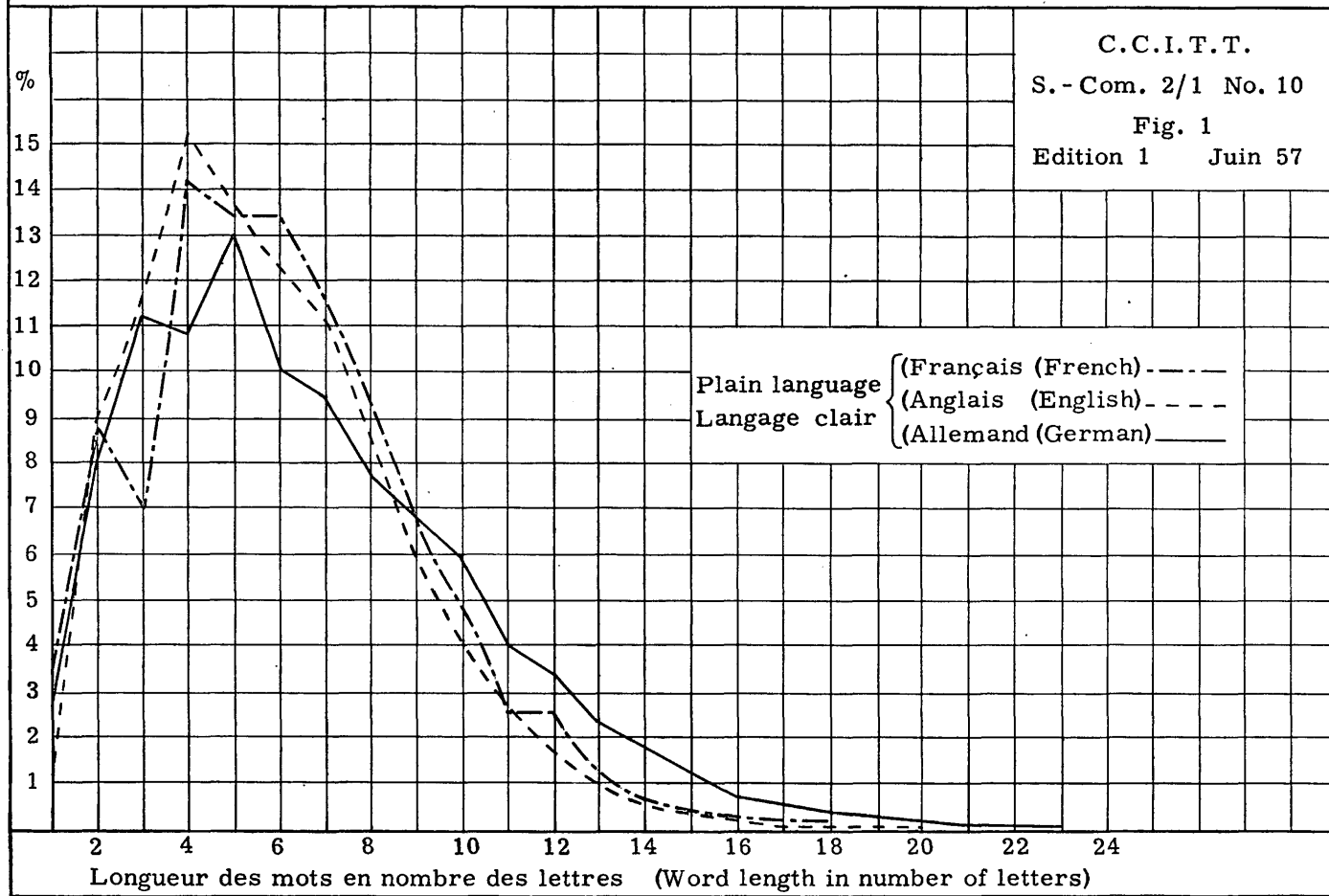
IN ENGLISH

IN FRENCH

IN GERMAN

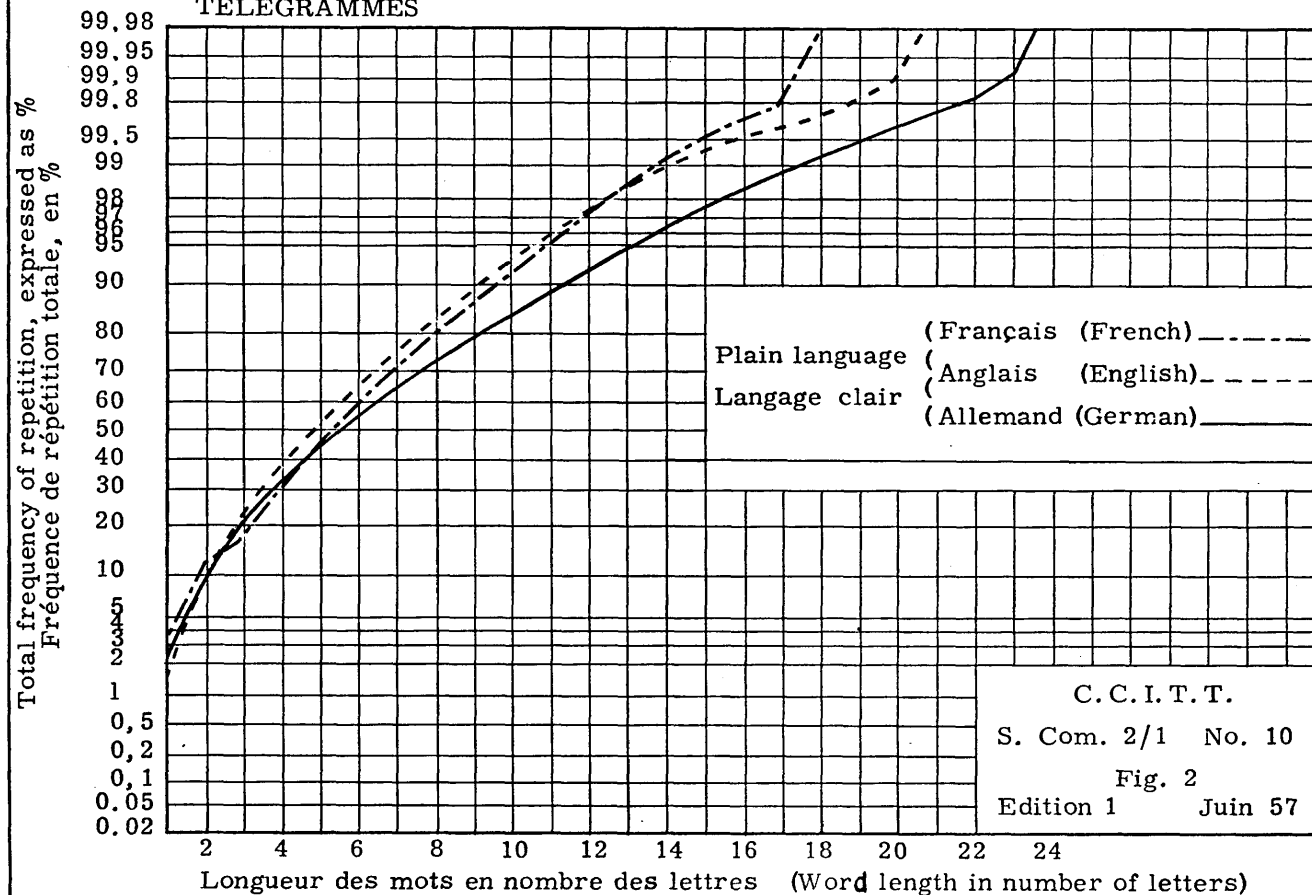
**(Extract from Contribution 10 of Sub-Study Group 2/1,
by the Federal German Republic)**

FREQUENCY OF REPETITION OF WORD LENGTHS IN TELEGRAMS
 FREQUENCE DE REPETITION DES LONGUEURS DES MOTS DES TELEGRAMMES.



TOTAL FREQUENCY OF REPETITION OF WORD LENGTHS IN TELEGRAMS

FREQUENCE DE REPETITION TOTALE DES LONGUEURS DES MOTS DES TELEGRAMMES



PART IV

COSTING STUDIES

NEW QUESTIONS

COSTING STUDIES ENTRUSTED TO SUB-GROUP 2/3 IN 1958-1960

New Questions the study of which was decided by the Special Assembly (September 1958)

Supplementary Question F.

(Sub-Group 2/3, then Sub-Group 2/2)

(New Question)

Costing studies of fully automatic calls.

ANNEX

(to Supplementary Question F)

Detailed Questionnaire

Preliminary note

(a) The present questionnaire concerns *international* fully automatic operation; all charges found to relate to the *national* service are excluded. It includes, on the contrary, the whole of the equipment used for international automatic circuits in any one country, especially charging equipment at the outgoing end (for charging of subscribers and establishment of international accounts).

(b) The questionnaire applies to standard signalling systems recommended by the C.C.I.T.T. The present study is not therefore concerned with the simplified signalling systems used as the result of bilateral agreements between Administrations.

(c) The numerical information relating to net costs of telephone charges, sent in response to this questionnaire, should be expressed both in national currency and in gold francs.

For determining the value in gold francs, account should be taken of the official rate of conversion in force at the date on which the expenses taken into consideration were incurred, unless the expenses have been revalued so as to make applicable the single rate of conversion in force on the date of that revaluation.

(d) In calculating staff costs, account will be taken not only of actual salaries, but also of the cost of any special privileges enjoyed by the staff (retirement pensions, holidays, sick absence, free medical treatment, recreational facilities, social insurance, family allowances, etc.)

A. INVESTMENT

Taking into account the actual or estimated expenditure by your Administration (including overheads), what is the mean cost of constructing and installing an equipped fully automatic circuit (service or stand-by circuit) :

- in an outgoing exchange, and
- in an incoming exchange ?

This expenditure should include the cost of signalling units and charging equipment.

Note. — Figure given in 1955 for an incoming circuit (incoming equipment) by the Administrations who participated in the study of the cost price of semi-automatic calls, can be used again by these same Administrations, if they think it helpful.

2. Taking account of the expenditure incurred or estimated by your Administration (including miscellaneous charges), what are the mean costs per equipped circuit of construction and fitting out of the buildings used for international fully automatic equipment ?

Note. — For information, when the net cost of semi-automatic calls was studied in 1955, the Study Group on the revision of the C.C.I.F. international tariffs considered that, in order to take into account construction and installation costs of buildings (including miscellaneous charges and site) an estimate of 10% of the overall capital invested in equipment in the buildings could be considered (automatic equipment of circuits and operator positions).

B. MAINTENANCE

1. What are your annual maintenance charges (including miscellaneous expenses) for each equipped circuit (whether in service or stand-by).

In determining maintenance charges account should be taken of labour costs, renewals of equipment and electric power costs.

2. What are the annual maintenance charges (including miscellaneous expenses) relating to buildings (labour, heating, lighting, etc.) used for international fully automatic equipment ?

Remarks on points B₁ and B₂

In 1955 the Study Group on Revision of C.C.I.F. International Tariffs had agreed upon :

- concerning point 1, a fixed charge of 5% of the capital invested in automatic equipment;
- concerning point 2, a fixed charge of 10% of the capital invested in buildings (which amounts to 1% of this capital, as the construction and fitting up of buildings was estimated at 10% of the total capital invested in equipment therein).

C. FINANCIAL FACTORS FOR CALCULATING A SINKING FUND

1. What is the rate of interest paid on the capital invested ?

2. In order to calculate a sinking fund, what length of life do you assume :

- (a) for international fully automatic equipment ?
- (b) for buildings ?

3. If you take account of a residual value in calculating repayment of capital, what is the ratio (as a percentage) between the residual value and the initial value for each of the two elements under consideration?

4. What proportion of reserve equipment do you propose?

Note. — In 1955, the Study Group on the revision of tariffs agreed on:

(a) a rate of 5% interest on capital invested;

(b) length of life and residual values, as follows:

	Length of life	Residual value
Automatic equipment and operator positions	15 years	nil
Buildings	60 years	nil

(c) a proportion of reserve equipment equal to an average of 20% of the total equipment in service (i.e. on 100 circuits on automatic equipment, 80 are in service and 20 in reserve).

D. STATISTICAL INFORMATION

(not used for the actual calculation of net costs)

- Number of circuits taken into consideration in the preceding para. A :
 - usable for outgoing traffic
 - usable for incoming traffic
- Mean conversation time of a fully automatic international call.

E. TRAFFIC

- What is the mean traffic effectively carried over a circuit :
 - outgoing?
 - incoming?

(This traffic will be expressed in *conversation minutes* for a period of one year.)
- What is the concentration coefficient (ratio of conversation time during the day to the conversation time in the busy hour)?
- Should a distinction be made between relations according to the number of circuits, or is it sufficient, for the calculation of costs, to take a mean figure for all the circuits terminating in an exchange? (In considering the number of circuits, it will be taken into account that the circuits are provided on the basis of a loss probability of 1%).

Note. — In 1955 the Study Group on the revision of C.C.I.F. international tariffs had based its calculations on:

- a *chargeable* time of 30 minutes in the busy hour;
- a concentration coefficient of 4.5 between traffic during the day and traffic during the busy hour;
- 300 working days per annum.

which gave as a result $30 \times 4.5 \times 300$, i.e. approximately 40,000 minutes of chargeable time per circuit and per annum.

F. CONCLUSIONS

What is the cost price, in gold francs, per minute of conversation in a fully automatic international call for—

- the outgoing exchange,
- the incoming exchange.

G. SPECIAL STUDY ON TRANSIT CALLS

What is the cost price, in gold francs, per minute of conversation for a fully automatic international transit call, and for its passage through the transit centre ?

This amount is to be deduced from the amount calculated for an incoming and for an outgoing exchange but deducting, if necessary, an allowance for such charging equipment as is used only for outgoing calls.

Question 43/23.

(Sub Group 2/3, then Sub Group 2/1)

(New Question)

Study of the cost price of a Telex call set up by fully automatic switching, from subscriber to subscriber.

CONTRIBUTIONS
CONSIDERED WORTH PUBLISHING
(Resolution No. 4, § 2)

Source:

SUB-GROUP 2/3

Title: **REPORT ON THE COST PRICE OF PHOTOTELEGRAPH CALLS
AND OF PHOTOTELEGRAM TRANSMISSION**

1. In Resolution No. 16, the Paris Telegraph and Telephone Conference requested the C.C.I.T. to study new standards on which a tariff structure for facsimile and phototelegram transmissions could be based.

Since non-phototelegraphic facsimile transmissions are not of common occurrence in the international system, the study was restricted to phototelegraphy and covered only relations in the European system, in accordance with the text of Question 8 submitted to Sub-Groups 2/1 and 2/3.

The text of Question 8 and of the Questionnaire annexed will be found on pages 360 to 369 of Volume I of the *Red Book*.

2. Sub-Group 2/3 met from 3 to 5 February 1958 at Belgrade to examine the replies to the Questionnaire and to deduce from them the average cost elements of a phototelegraph call in the European system and of the transmission and reception of a phototelegram.

3. As a basis for its calculations, the Sub-Group adopted the following hypothesis which corresponds to the statistics obtained from the replies to the Questionnaire :

- average number of phototelegrams transmitted during a phototelegraph call from a public station to a public station, from a public station to a private station and from a private station to a public station... 1.5.

As an average for the occupation of telephone circuits used in a phototelegraph call it took the durations shown in the table below. This table also shows the average percentage of additional transmissions (case of phototelegrams) or additional calls (case of calls from private station to private station) necessitated by tests between stations or free repetition in case of defective transmission.

It is essential to note that the indication P has been entered opposite (c) in columns 1, 2, and 3 of this table which corresponds to the duration of the actual transmission of the picture signal. P denotes the duration of transmission of an actual picture signal during the call, in minutes. The value of P depends on various factors, including the size of the pictures transmitted, and cannot therefore be given a mean value. We may indicate, by way of example, that P is equal to 12 minutes for the transmission of a phototelegram 13 cm × 18 cm on an apparatus 66 mm in diameter, with a speed of 1 rps and with an index of cooperation of 352 (the normal conditions mentioned in C.C.I.T. Recommendation D.1.).

In the calculation of the charge to be collected, the actual size of the picture transmitted and the characteristics of the machines used by the transmitting Administrations,

should be used to calculate the real value P of the duration of transmission of the picture signals.

In the same way, the indication C has been entered in column 4. C denotes the duration of the call once the stations have been connected, in minutes; it is this directly chargeable duration C of the phototelegraph call from private station to private station which will be used to establish the charge to be collected.

By way of information, it appears, from the replies to the questionnaire, that the mean value of C is 24 minutes.

The remaining elements of the table are, on the other hand, average elements which should occur in a fixed, constant fashion in the calculation of the cost of a phototelegraph call; they correspond to the preparation of the call and the handing back of the circuit to the telephone service.

AVERAGE DATA TAKEN AS A BASIS FOR STUDY

Average duration of the stages in an international phototelegraph call		Public station to public station Col. 1	Public station to private station Col. 2	Private station to public station Col. 3	Private station to private station Col. 4
(a) Average occupation, in minutes, of the international telephone circuit for the establishment of the phototelegraph call ¹ .		12	9	9	9
Average duration, in minutes, of the phototelegraph call in respect of :	(b) Adjustment period (between the time when the phototelegraph stations are connected and the start of the picture transmission).	3	3	3	C
	(c) Transmission of picture signals	P	P	P	
	(d) Supplementary period between the end of the picture transmission and the notice of termination given by the phototelegraph stations (e.g. for examination, if need be, of the picture received, but excluding the case of a repetition of transmission if the picture is defective).	4	4	4	
(e) Average occupation, in minutes, of the international circuit between the notice of termination and the time when the circuit is handed back to the telephone service ² .		6	6	6	6
(f) % of transmissions	not charged for because of defective picture transmission or tests.	20%	10%	10%	
(g) % of calls					5%

¹ Including average duration, in minutes, of a speaker circuit occupation and/or service calls for the exchange between the phototelegraph positions of preliminary information for the setting-up of the circuit.

² Including average duration, in minutes, of a speaker circuit occupation and/or service calls for the exchange between the phototelegraph positions of information for handing back the circuit to the telephone service.

4. It will be seen from this table that :

— the average duration of a *phototelegraph call* in minutes amounts to :

Column 1	Column 2	Column 3	Column 4
public station to public station	public station to private station	private station to public station	private station to private station
25 + P	22 + P	22 + P	15 + C

— the average duration to be taken into account for the transmission of a *phototelegram* ($\frac{1}{1.5}$ of the preceding duration as regards the time of preparation and handing back of circuits), in minutes, amounts to :

$$\frac{25}{1.5} + P_1 \quad \frac{22}{1.5} + P_1 \quad \frac{22}{1.5} + P_1 \quad \text{respectively}$$

P_1 being the duration of the transmission of the picture signal for the phototelegram under consideration.

Making allowance for the coefficient shown in f or g of the above table, the following average duration of a call per phototelegram is obtained

$$\frac{25}{1.5} \times 1.2 + 1.2 P_1 \quad \text{or} \quad \boxed{20' + 1.2 P_1} \quad \text{for column 1 (public station to public station)}$$

$$\frac{22}{1.5} \times 1.1 + 1.1 P_1 \quad \text{or} \quad \boxed{16' + 1.1 P_1} \quad \text{for columns 2 and 3 (public station to private station or private station to public station),}$$

and for the average duration of a phototelegraph call from private station to private station (column 4).

$$15 \times 1.05 + 1.05 C \quad \text{or} \quad \boxed{16' + 1.05 C}$$

5. *Element of cost price accruing to the telephone circuit.*

The above durations should be multiplied by a factor x corresponding to the price of 1 minute of holding time of the circuit in the relation under consideration.

If y be the charge in gold francs for the 3 minutes telephone call unit for the circuit used for the phototelegraph transmission, x should be regarded as equal to $\frac{y}{3}$ multiplied by a reduction factor to make allowance for the fact that, in the calculation of y , the time of preparation of the telephone call has been counted, whereas this time of preparation has been separately assessed for the phototelegraph calls.

This reduction factor has been assessed at 0.75.

The shares of costs for the circuit will therefore be :

$$\left[20 + 1.2 P_1 \right] \frac{0.75y}{3} \quad \text{for case 1}$$

$$\left[16 + 1.1 P_1 \right] \frac{0.75y}{3} \quad \text{for cases 2 and 3}$$

$$\left[16 + 1.05 C \right] \frac{0.75y}{3} \quad \text{for case 4}$$

6. Calculation of P_1 depends :

- on the dimensions of the phototelegram,
- on the drum diameter of the transmitter,
- on the speed of the phototelegraph machines used in the relation,
- on the index of cooperation of these machines.

Each Administration will have to draw up the scales giving P_1 in terms of these four elements.

As an example, Sub-Group 2/3 gives the following information :

<i>picture dimension</i>	<i>drum diameter</i>	<i>speed</i>	<i>index</i>	<i>P₁ corresponding</i>
13 cm × 18 cm	66 mm	60 r.p.m.	352	12 minutes
13 cm × 18 cm	66 mm	90 r.p.m.	352	8 minutes
17 cm. 33 × 24 cm	88 mm	60 r.p.m.	352	12 minutes

7. *Element of cost price accruing to the international phototelegraph position (IPP).*

The average additional cost resulting from an international position is 2.80 francs per phototelegraph call.

Since the average holding time of an IPP is around 42 minutes for a phototelegraph call, i.e. 14 times the duration of the telephone call unit, each IPP can be counted for $\frac{2.80}{14}$ or 0.20 gold franc per three minutes of holding the position and 0.40 for the 2 IPPs intervening in a call.

Whence the share in costs accruing to the IPP per phototelegram is :

$$0.40 \times \frac{20 + 1.2 P_1}{3} \text{ gold francs for case 1}$$

$$0.40 \times \frac{16 + 1.1 P_1}{3} \text{ gold francs for cases 2 and 3}$$

and per phototelegraph call from private station to private station (case 4) :

$$0.40 \times \frac{16 + 1.05 C}{3} \text{ gold francs}$$

8. *Cost of handing in and delivering phototelegrams.*

Average cost of handing in : 0.80 gold franc per phototelegram

Average cost of delivery : 1.00 gold franc per phototelegram

These figures include the cost of drawing up international accounts.

9. *Element of cost price per phototelegram accruing to phototelegraph apparatus and its operation.*

The cost of transmitting a phototelegram is 25 gold francs on the average.

The reception of a phototelegram, on the whole, costs 1.2 times more than its transmission. Thus, the cost of receiving a phototelegram is, on the average, 30 gold francs.

10. *Summary.*

Hence, the total cost in gold francs is established as follows :

for one phototelegram:

	Circuit cost	IPP additional cost	Hand- ing in	Deli- very	Trans- mis- sion	Re- ception
Case 1 (public station to public station)	$\left[20 + 1.2 P_1\right] \times \frac{0.75 y}{3} + 0.40 \times \frac{20 + 1.2 P_1}{3}$		0.80	1	25	30
Case 2 (public station to private station)	$\left[16 + 1.1 P_1\right] \times \frac{0.75 y}{3} + 0.40 \times \frac{16 + 1.1 P_1}{3}$		0.80	0	25	0
Case 3 (private station to public station)	$\left[16 + 1.1 P_1\right] \times \frac{0.75 y}{3} + 0.40 \times \frac{16 + 1.1 P_1}{3}$		0	1	0	30

for a call from private station to private station:

$$\text{Case 4} \quad \left[16 + 1.05 C\right] \times \frac{0.75 y}{3} + 0.40 \times \frac{16 + 1.05 C}{3}$$

11. *Important notes.*

(1) When a phototelegram has to be split because of its size, the charge to be collected should not be calculated separately for each part, as though each part were a separate phototelegram (Article 68 of the Telegraph Regulations, No. 620). The charge should be calculated for a single phototelegram in which the duration P_1 will be the sum of the respective durations p_1, p_2, p_3 , etc... corresponding to the transmissions of the picture signals of each of the parts of the split telegram.

(2) When the size of a phototelegram to be rolled up perpendicularly to the axis of the drum of the machine used in the relation concerned is less than the corresponding reference size (e.g. less than 18 cm with a drum 66 mm in diameter), this fact should, in principle, entail no reduction in the calculation of P_1 . If the dimension l to be placed parallel to the axis of the drum is not equal to the reference dimension L (e.g. 13 cm with a drum 66 mm in diameter), P_1 is calculated by multiplying the reference duration by $\frac{l}{L}$.

