



Journal Title: Telecommunication Journal

Journal Issue: vol. 30 (no. 12), 1963

Article Title: Radio Conference on Space Communications: Rewarding Results

Page number(s): pp. 366-368

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 نقلاً.

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.

headquarters

RADIO CONFERENCE ON SPACE COMMUNICATIONS REWARDING RESULTS

With the signing of the Final Acts on Friday, 8 November, at midnight Geneva time, the Space Radiocommunication Conference, convened by the International Telecommunication Union (ITU), which had been meeting in Geneva's Bâtiment Electoral for five weeks, completed its work.

The main task of the Conference, which was attended by more than four hundred delegates from seventy ITU Member countries, has been the allocation of radio frequencies for outer space activities and the consequent revision of the Table of Frequency Allocations. Since the Geneva Radio Conference of 1959, the allocation of an adequate number of frequencies for outer space had

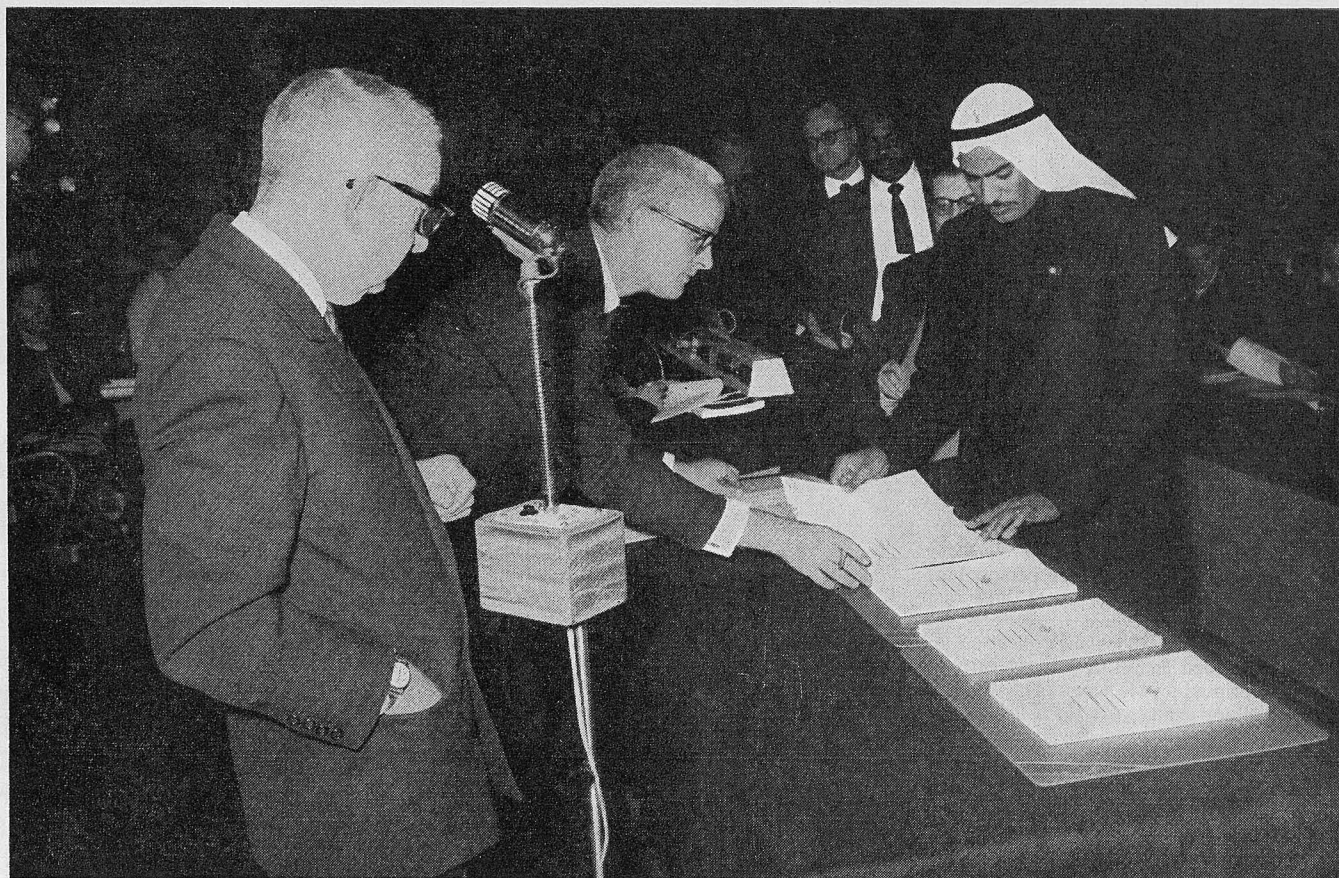
become an urgent task, due to the rapid growth of activity in space.

The Conference finally allocated, on a shared or exclusive basis, frequencies totalling 6076.462 Mc/s for the various kinds of space services and for radio astronomy, 2800 Mc/s of which are for communication satellites on a shared basis with other services. Thus, while at the 1959 Conference only about 1 per

cent of the Table of Frequency Allocations was made available for outer space, about 15 per cent has now been made available. (*See table on the right*)

The Conference also adopted a number of revisions and additions to other parts of the Radio Regulations, mainly concerned with general rules for the assignment and use of frequencies; notification and recording of frequencies in the Master International Frequency Register which is maintained by the International Frequency Registration Board (IFRB); the identification of stations; service documents; terms and definitions; and special rules relating to particular services. These revisions and additions were necessitated to make provision for the space services.

In addition, the Conference adopted a number of important Resolutions and Recommendations. One of these deals with the future action to be taken by the ITU in the light of future developments in space radiocommunications. It recommends that Members and Associate Members of the Union make data available to the appropriate permanent organs of the ITU; that the Administrative Council should annually review the



The delegates deposit their signed copies of the Final Acts before Mr. Gerald C. Gross, Secretary-general, at the left

(Photo: ITU)

progress of Administrations in space radiocommunications and should, in the light of this review, recommend the convening of an Extraordinary Administrative Conference at a future date to work out further agreements for the international regulation of the use of the frequency bands allocated by the present

Conference; and that notification and registration of frequency assignments to space services shall, until revised by a future Conference, be effected in accordance with the procedures adopted by the present Conference.

One of the most important Resolutions deals with space vehicles in distress

or emergency, noting that the frequency of 20 007 kc/s had been set aside by the Conference for this purpose and resolving that for the time being the distress signal used by ships or aircraft (SOS in radio telegraphy and MAYDAY in radio telephony) should also be used by spacecraft.

Frequency Bands	Service	Frequency Bands	Service
15 762-15 768 kc/s	Space Research (shared)	4400-4700 Mc/s	Communication-Satellites (Satellite-to-earth) (shared)
18 030-18 036 kc/s	Space Research (shared)	4990-5000 Mc/s	Radio Astronomy (shared in Regions 1 and 3, exclusive in Region 2)
30.005-30.010 Mc/s	Space Research and Space (Satellite identification) (shared)	5250-5255 Mc/s	Space Research (shared)
37.75-38.25 Mc/s	Radio Astronomy (shared)	5670-5725 Mc/s	Space Research (Deep Space) (shared)
73-74.6 Mc/s	Radio Astronomy (exclusive)	5725-5850 Mc/s	Communication-Satellites (Earth-to-satellite) (only in Region 1 and shared)
136-137 Mc/s	Space Research (Telemetry and tracking) (shared in Regions 1 and 3, exclusive in Region 2)	5850-5925 Mc/s	Communication-Satellites (Earth-to-satellite) (only in Regions 1 and 3 and shared)
137-138 Mc/s	Meteorological-Satellite, Space Research (Telemetry and tracking), Space (Telemetry and tracking) (shared)	5925-6425 Mc/s	Communication-Satellites (Earth-to-satellite) (shared in all Regions)
143.6-143.65 Mc/s	Space Research (Telemetry and tracking) (shared)	7250-7300 Mc/s	Communication-Satellites (Satellite-to-earth) (exclusive)
149.9-150.05 Mc/s	Radionavigation-Satellites (exclusive)	7300-7750 Mc/s	Communication-Satellites (shared)
267-273 Mc/s	Space (Telemetry) (shared)	7900-7975 Mc/s	Communication-Satellites (Earth-to-satellite) (shared)
399.9-400.05 Mc/s	Radionavigation-Satellites (exclusive)	7975-8025 Mc/s	Communication-Satellites (Earth-to-satellite) (exclusive)
400.05-401 Mc/s	Meteorological-Satellites (Maintenance telemetry), Space Research (Telemetry and tracking) (shared)	8025-8400 Mc/s	Communication-Satellites (Earth-to-satellite) (shared)
401-402 Mc/s	Space (Telemetry) (shared)	8400-8500 Mc/s	Space Research (shared in Regions 1 and 3, exclusive in Region 2)
460-470 Mc/s	Meteorological-Satellites (shared)	10.68-10.7 Gc/s	Radio Astronomy (exclusive)
1400-1427 Mc/s	Radio Astronomy (exclusive)	14.3-14.4 Gc/s	Radionavigation-Satellites (exclusive)
1427-1429 Mc/s	Space (Telecommand) (shared)	15.25-15.35 Gc/s	Space Research (exclusive)
1525-1535 Mc/s	Space (Telemetry) (shared)	15.35-15.4 Gc/s	Radio Astronomy (exclusive)
1535-1540 Mc/s	Space (Telemetry) (exclusive)	19.3-19.4 Gc/s	Radio Astronomy (exclusive)
1660-1670 Mc/s	Meteorological-Satellites (shared)	31-31.3 Gc/s	Space Research (shared)
1664.4-1668.4 Mc/s	Radio Astronomy (shared)	31.3-31.5 Gc/s	Radio Astronomy (exclusive)
1690-1700 Mc/s	Meteorological-Satellites (shared)	31.5-31.8 Gc/s	Space Research (shared in Regions 1 and 3, exclusive in Region 2)
1700-1710 Mc/s	Space Research (Telemetry and tracking) (shared)	31.8-32.3 Gc/s	Space Research (shared)
1770-1790 Mc/s	Meteorological-Satellites (shared)	33-33.4 Gc/s	Radio Astronomy (only in Region 1 and shared)
2290-2300 Mc/s	Space Research (Telemetry and tracking in deep space) (shared)	34.2-35.2 Gc/s	Space Research (shared)
2690-2700 Mc/s	Radio Astronomy (exclusive)		
3400-4200 Mc/s	Communication-Satellites (Satellite-to-earth) (shared)		

Another Recommendation was addressed to the International Radio Consultative Committee (CCIR) pointing out that "the use of satellite transmissions for direct reception by the general public of sound and television broadcasts may be possible in the future" and urging the CCIR to expedite its studies on the technical feasibility of broadcasting from satellites. Thus, an important step has been taken towards the future possibility of the general public being able to receive radio and television programmes in their own homes direct from satellites.

A further Recommendation called on the forthcoming ITU Aeronautical Conference to provide high frequency channels (bands between 2850-22 000 kc/s) for communications for the routine flight of transport airspace vehicles flying between points of the earth surface both within and beyond the major part of the atmosphere.

Finally, a Recommendation was adopted recognizing "that all Members and Associate Members of the Union have an interest in and right to an equitable and rational use of frequency bands allocated for space communications" and recommending to all ITU Members and Associate Member States "that the utilization and exploitation of the frequency spectrum for space communication be subject to international agreements based on principles of justice and equity permitting the use and sharing of allocated frequency bands in the mutual interest of all nations."

The Conference which has worked throughout in a spirit of harmony and co-operation, can be said to have reached successful agreement on the highly difficult technical problems with which it was faced.

Radio Amateur Convention

During the weekend of 19-20 October, the International Amateur Radio Club (IARC) held a two-day Convention (Hamfest) at the ITU headquarters building. The Club includes among its members telecommunication experts from all parts of the world—many of whom were in Geneva for the Space Radiocommunication Conference—and also several ITU officials.

The Convention sessions were opened at 10.30 a.m. on Saturday by Mr. John H. Gayer, the Club President. The formal opening at 12.15 p.m. began with a recording of the message of U Thant sent via satellite to the Space Radiocommunication Conference which text was



The Chairman's table with, from left to right: Mr. Motin, Captain C.F. Booth, Messrs. Gerald C. Gross, Joseph H. McConnell, Gunnar Pedersen, John H. Gayer, N.D. Psurtsev, A. Badalov, T.A.M. Craven, and N.I. Krasnoselski (Photo: ITU)

reproduced in our November issue. Mr. Gerald C. Gross, Secretary-General of the ITU, responded. Certificates of honorary membership were awarded to Mr. Gunnar Pedersen, Chairman of the Space Radiocommunication Conference, Mr. N. D. Psurtsev, Minister of Communications of the USSR, Mr. Joseph H. McConnell and Mr. Ashot Badalov, the Vice-Chairmen of the Conference, Captain C. F. Booth, Head of the United Kingdom Delegation, and Mr. T. A. M. Craven, a former member of the Federal Communications Commission (FCC), who is on the United States Delegation. Each of these distinguished guests responded.

The day's programme consisted of technical lectures and culminated in a formal banquet at the *Palais des Nations* attended by 114 guests.

Sunday, 20 October, was also occupied by talks and demonstrations and films were shown in the afternoon.

Throughout the Hamfest the Club's station 4U1ITU was available to all guests holding a radio amateur licence. It operated almost continuously during the two days.

The occasion was marked by the first issue of the Club magazine "4U1ITU Calling," which was distributed free to all delegates to the Conference.

technical co-operation

Departure for Guinea

Mr. André Jeammet of France has been selected for the post of Line Communication expert in the Republic of Guinea and will shortly be leaving Paris to take up his post in Conakry where he is expected to arrive about 20 December.

Mr. Jeammet visited ITU headquarters on 5 and 6 November, 1963, to receive a telecommunications briefing on his mission and to discuss the administra-

tive details connected with his appointment. Mr. Jeammet will attend the Unesco Briefing Centre at the Château du Bois du Rocher, near Paris, before he leaves for Africa.

Visiting headquarters

Mr. Ernest H. Munns, Opex expert in Libya (Programme for the provision of operational, executive and administrative personnel), visited ITU head-