



INTERNATIONAL ATOMIC ENERGY AGENCY
UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION



INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS
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16

SMR.379/30

COURSE ON BASIC TELECOMMUNICATIONS SCIENCE

9 January - 3 February 1989

CCIR Studies: Topics, Organization, Participation

R.G. STRUZAK

CCIR, Geneva, Switzerland

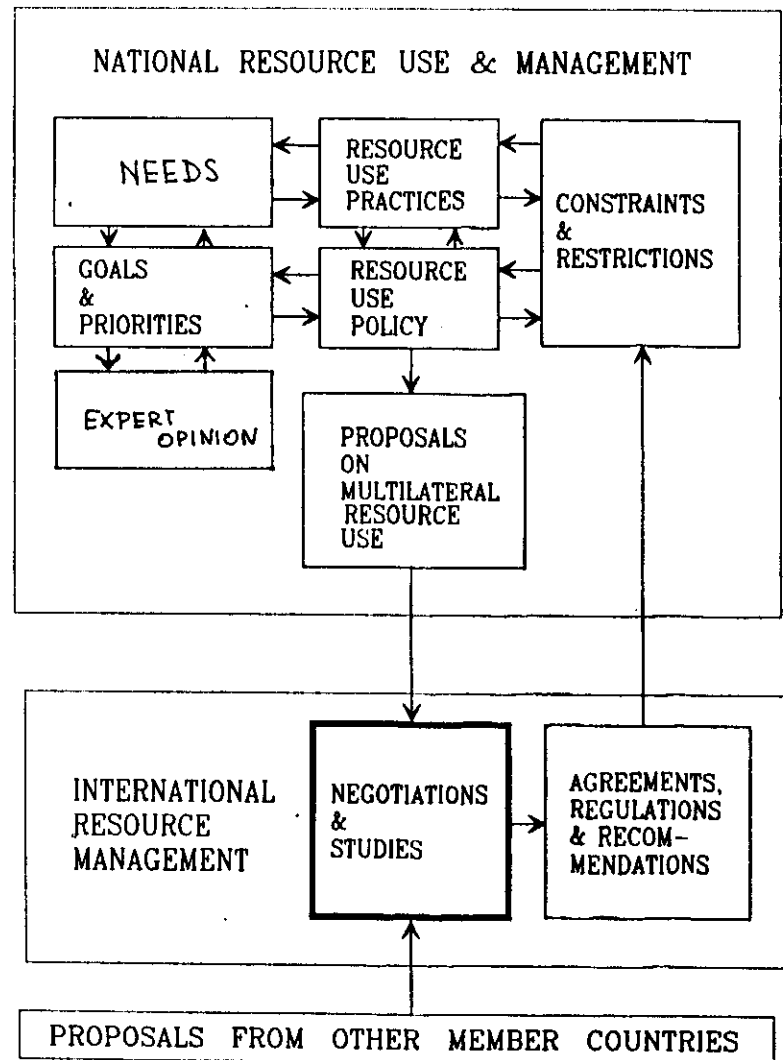
ARTICLE 11

International Consultative Committees

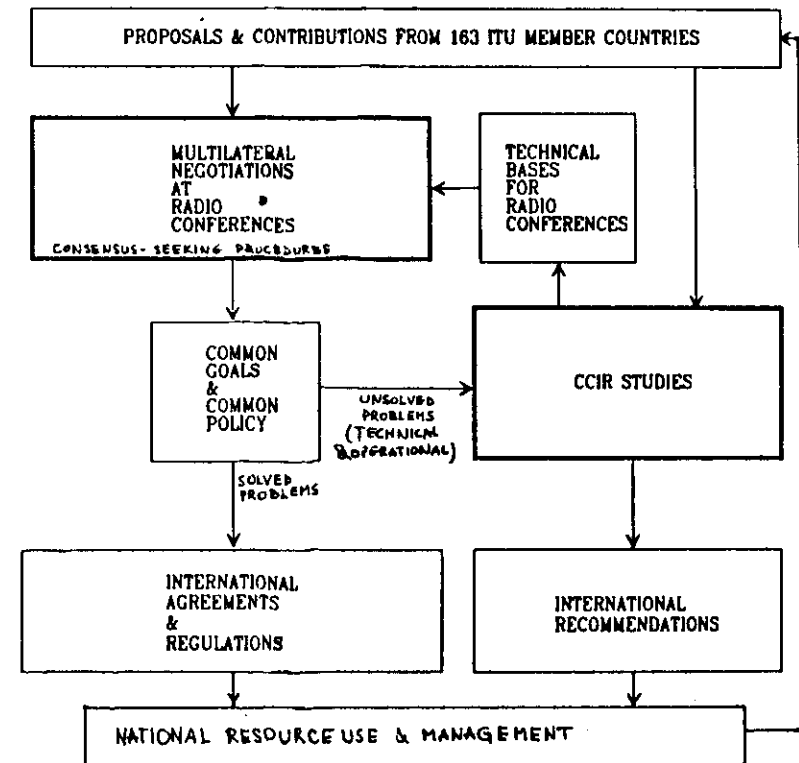
81 1. (1) The duties of the International Radio Consultative Committee (CCIR) shall be to study technical and operating questions relating specifically to radiocommunication without limit of frequency range, and to issue recommendations on them:

- 86 2. The International Consultative Committees shall have as members:
- 87 a) of right, the administrations of all Members of the Union;
- 88 b) any recognized private operating agency which, with the approval of the Member which has recognized it, expresses a desire to participate in the work of these Committees.

* SPECIFIC EMPHASIS ON QUESTIONS
OF INTEREST TO DEVELOPING COUNTRIES



NATIONAL & WORLD-WIDE SPECTRUM/ORBIT RESOURCE USE AND MANAGEMENT IN THE FRAMEWORK OF THE ITU (SIMPLIFIED DIAGRAM)



NEGOTIATIONS & STUDIES IN THE FRAMEWORK OF THE ITU (SIMPLIFIED DIAGRAM)

STUDY GROUP 1

(SPECTRUM UTILIZATION AND MONITORING)

Terms of reference:

1. To study principles and general applications relating to the efficient use of the radio frequency spectrum.
2. To study principles and to develop techniques for spectrum management, including electromagnetic compatibility (EMC) prediction models and computer aided techniques for frequency assignment, and to develop, in cooperation with the Study Groups concerned, general methods for solving sharing and interference problems.
3. To study principles for classifying emissions.
4. To develop means of specifying and measuring the characteristics of emissions and other forms of radiation including man-made radio noise from individual sources likely to give rise to harmful interference.
5. To study techniques for spectrum monitoring and for measuring at a distance the parameters of emissions and spectrum occupancy; to devise means for identifying emissions and for locating sources of harmful interference; and to improve, in collaboration with the IFRB, procedures for presenting the corresponding reports.

Chairman: M.J. HUNT (Canada)

Vice-Chairman: R.N. AGARWAL (India)
T. BØE (Norway)
R. MAYHER (USA)

STUDY GROUP 2

(SPACE RESEARCH AND RADIOASTRONOMY SERVICES)

Terms of reference:

To study questions relating to:

systems for space research service, the Earth exploration satellite service, including the meteorological satellite service and their associated technologies, as well as general principles of systems for the operation of spacecraft;

systems for radioastronomy service and for radar astronomy, with particular reference to associated interference problems.

Chairman: F. HORNER (United Kingdom)

Vice-Chairman: H. G. KIMBALL (USA)

STUDY GROUP 3

(FIXED SERVICE AT FREQUENCIES BELOW ABOUT 30 MHz)

Terms of reference:

To study questions relating to complete systems for the fixed service operating at frequencies below about 30 MHz and terminal equipment associated therewith.

Chairman: H. KAJI (Japan)

Vice-Chairman: J. E. ADAMS (USA)

STUDY GROUP 4

(FIXED-SATELLITE SERVICE)

Terms of reference:

To study questions relating to systems for the fixed-satellite service and intersatellite links in the fixed-satellite service (including the associated tracking, telemetry, and telecommand functions).

Chairman: E. HAUCK (Switzerland)

Vice-Chairmen: F. S. LEITE (Brazil)
T. MURATANI (Japan)
P. REMEDI (Indonesia)

STUDY GROUP 5

(PROPAGATION IN NON-IONIZED MEDIA)

Terms of reference:

To study with the object of improving radiocommunication the propagation of radio waves (and the study of associated radio noise):

- at the surface of the Earth,
- through the non-ionized regions of the Earth's atmosphere,
- and in space where the effect of ionization is negligible.

Chairman: A. KALININ (USSR)

Vice-Chairmen: F. FEDI (Italy)
Y. HOSOYA (Japan)

STUDY GROUP 6

(PROPAGATION IN IONIZED MEDIA)

Terms of reference:

To study with the object of improving radiocommunication:

1. the propagation of radio waves through the ionosphere, and through ionized regions beyond the ionosphere;
2. the characteristics of related radio noise.

Chairman: L. W. BARCLAY (United Kingdom)

Vice-Chairmen: G. L. MUTTI (Zambia)
G. PILLET (Miss) (France)

STUDY GROUP 7

(STANDARD FREQUENCIES AND TIME SIGNALS)

Terms of reference:

1. To coordinate services of standard frequency and time signal dissemination on a world-wide basis.
2. To study the technical aspects of emission and reception, including the use of satellite techniques in these services, and means to improve the accuracy of measurement.

Chairman: J. McA. STEELE (United Kingdom)

Vice-Chairman: S. LESCHIUTTA (Italy)

STUDY GROUP 8

(MOBILE, RADIODETERMINATION AND AMATEUR SERVICES)

Terms of reference:

To study the technical and operating aspects of systems in:

1. all mobile services and all mobile-satellite services;
2. the radiodetermination services and the radiodetermination-satellite services and;
3. the amateur service and amateur-satellite service.

Chairman: E. GEORGE (Germany (Federal Republic of))

Vice-Chairmen: Y. HIRATA (Japan)
J. KARJALAINEN (Finland)
R. C. McINTYRE (USA)
O. VILLANYI (Hungarian People's Republic)

STUDY GROUP 9

(FIXED SERVICE USING RADIO-RELAY SYSTEMS)

Terms of reference:

To study questions relating to line-of-sight and trans-horizon radio-relay systems operating via terrestrial stations at frequencies above about 30 MHz.

Chairman: J. VERRÉE (France)

Vice-Chairmen: M. MUROTANI (Japan)
H. WILLENBERG (Germany (Federal Republic of))

STUDY GROUP 10

(BROADCASTING SERVICE (SOUND))

Terms of reference:

To study:

technical aspects of the broadcasting service and the broadcasting-satellite service when these services are used for sound;

the special problems of broadcasting in the Tropical Zone, taking into account the standards required for good quality service; interference in the shared bands; power required for an acceptable service; design of suitable transmitting antennas; receiving equipment; optimum conditions for utilization of the frequency bands and other associated questions;

standards for audio-frequency equipment, including recording, to facilitate the international exchange of programmes.

Chairman: C. TERZANI (Italy)

Vice-Chairmen: A. KELLER (France)
O. P. KHUSHU (India)
H. KUSSMANN (Germany (Federal Republic of))

STUDY GROUP 11

(BROADCASTING SERVICE (TELEVISION))

Terms of reference:

To study:

1. technical aspects of the broadcasting service and the broadcasting-satellite service when these services are used for television;
2. standards for video-frequency equipment, for motion picture films intended for television and for all forms of television recording, to facilitate the international exchange of programmes.

Chairman: M. KRIVOCHEEV (USSR)

Vice-Chairmen: S. AGUERREVERE (Venezuela)
A. TODOROVIC (Yugoslavia (Socialist Federal Republic of))
WU XIANLUN (China (People's Republic of))
R. ZEITOUN (Canada)

CMTT

(CCIR/CCITT JOINT STUDY GROUP FOR
TELEVISION AND SOUND TRANSMISSION)

Terms of reference:

To study, in cooperation with the Study Groups of the CCIR and CCITT, the specifications to be satisfied by telecommunication systems to permit the transmission of sound and television broadcasting programmes over long distances.

Chairman: W. G. SIMPSON (United Kingdom)

Vice-Chairman: G. ZEDLER (Germany (Federal Republic of))

CMV

(CCIR/CCITT JOINT STUDY GROUP FOR
VOCABULARY AND RELATED SUBJECTS)

Terms of reference:

1. Vocabulary

1.1 To coordinate the terminology work within the CCIs and to seek agreement among all other Study Groups concerned to ensure acceptability of the definitions. In particular, to assist both CCIs in arriving at mutually acceptable definitions of technical terms of common interest.

1.2 To ensure liaison with other organizations dealing with terminology work in the telecommunication field, namely with the International Electrotechnical Commission (IEC) by means of the "CCI-IEC Joint Coordinating Group for Vocabulary" (JCG).

2. Related subjects

2.1 To collect the needs of the other Study Groups concerning graphical symbols (to be used in diagrams or on equipment), and to ensure liaison with the "CCI-IEC Joint Working Group for Graphical Symbols and Diagrams" (JWG).

2.2 To study the needs of the other Study Groups concerning graphical and letter symbols and other means of expression, systematic classification, units for measurement, etc., in cooperation with the relevant IEC Technical Committee (TC 25) and with the International Organization for Standardization (ISO).

Chairman: M. THUÉ (France)

Vice-Chairmen: M. DUCOMMUN (Switzerland)
V. MIRALLES MORA (Spain)
T. MYLES (United Kingdom)

PLAN COMMITTEES

These Committees being administered by the CITT, the Chairmen are elected by that Committee, and some Vice-Chairmen by the CCIR. In consequence, requests for participation in the work of these Committees should be addressed to the Director, CCITT.

Terms of reference:

There shall be a World Plan Committee, and such Regional Plan Committees as may be jointly approved by the Plenary Assemblies of the International Consultative Committees. These Plan Committees shall develop a General Plan for the international telecommunication network to facilitate coordinated development of international telecommunication services. They shall refer to the International Consultative Committees' Questions, the study of which is of particular interest to developing countries, and which are within the terms of reference of those Consultative Committees (No. 93 of the International Telecommunication Convention).

These Committees are responsible:

1. for establishing a General Plan for development of the international network to help Administrations and recognized private operating agencies, when they conclude mutual agreements, to organize and improve the international services between their respective countries;

2. for examining the technical, operating and tariff questions raised either directly or indirectly in the various regions of the world by the application of the different stages of this Plan, to make an inventory of Questions of interest to developing countries, and to set such Questions for study by the competent CCI, or in cooperation with the two CCIs if necessary, in accordance with No. 326 of the International Telecommunication Convention.

WORLD PLAN COMMITTEE*

Chairman: C. CRUMP (USA)
Vice-Chairmen: C. S. CARREON (Philippines)
 P. GONIN (France)
 C. K. SAGOE (Côte d'Ivoire)

PLAN COMMITTEE FOR AFRICA

Chairman: E. KAMDEM-KAMGA (Cameroon)
Vice-Chairmen: A. B. MAPUNDA (Tanzania)
 J. A. MBEKEANI (Malawi)
 D. HELLA ONDO (Gabon)
 A. N'DIAYE (Senegal)
 M. KEITA (Mali)

PLAN COMMITTEE FOR ASIA AND OCEANIA

Chairman: A. M. AL-SABEJ (Kuwait)
Vice-Chairmen: N. MORISHIMA (Japan)
 A. R. SHARAFAT (Iran (Islamic Republic of))
 A. DARMAN (Indonesia)

PLAN COMMITTEE FOR EUROPE AND THE MEDITERRANEAN BASIN

Chairman: L. TEROL MILLER (Spain)
Vice-Chairmen: C. RUSSO (Miss) (Italy)
 G. WISNIEWSKI (Poland (People's Republic of))
 M. BOUMAIZA (Tunisia)

PLAN COMMITTEE FOR LATIN AMERICA

Chairman: C. ROMERO SANJINÉS (Peru)
Vice-Chairmen: R. PEDROSA PÉREZ (Cuba)
 J. R. NEEDE (Suriname)
 J. POLLONI (Chile)

**NOTE: CONSULT THE RECENT CCIR/CCITT PUBLICATIONS
 FOR THE CURRENT STATUS!**

SPECIAL AUTONOMOUS GROUP 3 (GAS 3)**

Terms of reference:

Economic and technical aspects of the choice of transmission systems.

Chairman: J. JACOBY (USA)
Vice-Chairmen: J. C. SEYDUM (Ethiopia)
 R. MOUMTAZ (Lebanon)
 S. STEFANESCU (Romania)

* At the close of the CCITT VIIIth Plenary Assembly, October 1964.

** To be noted for information, pending action within the CCITT.

SPECIAL AUTONOMOUS GROUP 9 (GAS 9)*

Terms of reference:

Economic and technical aspects of transition from an analogue to a digital telecommunication network.

Chairman: M. GHAZAL (Lebanon)
Vice-Chairmen: R. LARBAOUI (Algeria)
 P. LANSARD (France)
 K. ANSARI (Iran (Islamic Republic of))
 M. HOSHI (Japan)
 S. MBAYE (Senegal)
 M. J. STEFANICK (USA)
 G. CHATZOPOULOS (Greece)
 B. GUÉRET (Central African Republic)

RES 61-3

**NOTE: CONSULT THE RECENT CCITT/CCIR PUBLICATIONS
 FOR THE CURRENT STATUS!**

SPECIAL AUTONOMOUS GROUP 7 (GAS 7)*

Terms of reference:

Rural telecommunications.

Chairman: C. RUDILOSSO (Italy)

Vice-Chairmen: A. B. M. TAHER (Bangladesh)
M. RAZANI (Iran (Islamic Republic of))
K. SAKOH (Japan)
F. WANMI (Cameroon)
J. DOMINGUEZ SANZ (Spain)

RES. 61-3

SPECIAL AUTONOMOUS GROUP 10 (GAS 10)*

Terms of reference:

Planning data and forecasting methods.

Chairman: A. ZOLFAGHARI (Iran (Islamic Republic of))

Vice-Chairmen: P. MAGONZI (Central African Republic)
D. DE MAIO (Italy)

RES. 61-3

SPECIAL AUTONOMOUS GROUP 11 (GAS 11)*

Terms of reference:

Strategy for public data networks.

Chairman: J. PÉCRESSE (France)

Vice-Chairmen: R. SUMITRO (Indonesia)
K. BOUFARHAT (Lebanon)
M. NAKAMURA (Japan)
J. R. THOMAS (United Kingdom)
K. AYIKOE (Togo)
A. BOUDJEMAI (Algeria)

RES. 61-3

NOTE: CONSULT THE RECENT CCITT/CCIR PUBLICATIONS
FOR THE CURRENT STATUS!



PERIODIC

INTERNATIONAL SYMPOSIA

ORGANIZED IN COOPERATION WITH CCIR

(related to national spectrum management problems)

ELECTROMAGNETIC COMPATIBILITY 1984, (WROCLAW)

ELECTROMAGNETIC COMPATIBILITY 1985, (ZURICH)

ELECTROMAGNETIC COMPATIBILITY 1986, (WROCLAW), 88, 90...

ELECTROMAGNETIC COMPATIBILITY 1987, (ZURICH), 89, 91...

INTERNATIONAL AND REGIONAL ORGANIZATIONS
PARTICIPATING IN THE CEIR STUDIES

EUROPEAN SPACE AGENCY (ESA)

8-10, rue Mario-Nikis
F - 75738 Paris Cedex 15

**ASSOCIATION OF STATE
TELECOMMUNICATION UNDERTAKINGS
OF THE ANDEAN SUB-REGIONAL
AGREEMENT (ASETA)**

Avenida Coruña 2669
y González Suárez
Casilla postal 6042
Quito, Ecuador

**INTERNATIONAL AIR TRANSPORT
ASSOCIATION (IATA)**

IATA Building
2000, Peel Street
Montréal, Québec H3A 2R4, Canada

**INTERNATIONAL ASSOCIATION
OF BROADCASTING (IAB)**

Calle Yi No. 1264
Montevideo, Uruguay

**INTERNATIONAL ASSOCIATION OF
LIGHTHOUSE AUTHORITIES (IALA)**

13, rue Yvon-Villarcieu
F - 75116 Paris

**INTERGOVERNMENTAL BUREAU
FOR INFORMATICS (IBI)**

P.O. Box 10253
23, viale Civiltà del Lavoro
I - 00144 Roma

INTERNATIONAL TIME BUREAU (BIH)

61, avenue de l'Observatoire
F - 75014 Paris

**COMMITTEE ON SPACE RESEARCH
(COSPAR)**

51, boulevard de Montmorency
F - 75016 Paris

**INTERNATIONAL MARITIME
RADIO ASSOCIATION (CIRM)**

Southbank House
Black Prince Road
GB - London SE1 7J

**INTERNATIONAL SPECIAL COMMITTEE
ON RADIO INTERFERENCE (CISPR)**

British Standards Institution
2, Park Street
GB - London W1A 2BS

**INTERNATIONAL ELECTROTECHNICAL
COMMISSION (IEC)**

3, rue de Varembo
CH - 1211 Genève 20

**INTER-UNION COMMISSION ON
FREQUENCY ALLOCATIONS FOR RADIO
ASTRONOMY AND SPACE SCIENCE
(IUCAF)**

c/o Dr. A. R. Thompson
National Radio Astronomy Observatory
Edgemont Road
Charlottesville, Virginia 22903, USA

**INTER-AMERICAN TELECOMMUNICATIONS
CONFERENCE (CITEL)**

1889 F Street, N.W. OAS
Washington, DC 20006, USA

**INTERNATIONAL CONFERENCE
ON LARGE HIGH VOLTAGE
ELECTRIC SYSTEMS (CIGRE)**

122, boulevard Hausmann
F - 75008 Paris

**GULF COOPERATION COUNCIL (GCC)
FOR ARAB COUNTRIES**

P.O. Box 26431
Manama, Bahrain

**INTERNATIONAL COUNCIL
OF SCIENTIFIC UNIONS (ICSU)**

51, boulevard de Montmorency
F - 75016 Paris

**INTERNATIONAL
ASTRONAUTICAL FEDERATION (IAF)**

3-5, rue Mario Nikis
F - 75015 Paris

GULFVISION

P.O. Box 6802
Riyadh, Saudi Arabia

**NORTH AMERICAN NATIONAL
BROADCASTERS
ASSOCIATION (NANBA)**

1500, Bronson Avenue
Ottawa, Canada K1G 3J5, Canada

**ARAB SATELLITE COMMUNICATIONS
ORGANIZATION (ARABSAT)**

P.O. Box 1038
Riyadh, Saudi Arabia

**IBERO-AMERICAN
TELEVISION ORGANIZATION (OTI)**

Varsovia 44, 4° piso
México 6, D.F., México

**EUROPEAN TELECOMMUNICATIONS
SATELLITE ORGANIZATION (EUTELSAT)**

Tour Maine-Montparnasse
33, avenue du Maine
F - 75755 Paris Cedex 15

**INTERNATIONAL RADIO AND
TELEVISION ORGANIZATION (OIRT)**

Štokánska
16936 Praha 6, Czechoslovakia

**INTERNATIONAL MARITIME
SATELLITE ORGANIZATION
(INMARSAT)**

40, Melton Street
GB - London NW1 2EQ

**INTERNATIONAL TELECOMMUNICATIONS
SATELLITE ORGANIZATION (INTELSAT)**

3400, International Drive, N.W.
Washington, DC 20008-3098, USA

**INTERNATIONAL ORGANIZATION
OF SPACE COMMUNICATIONS
(INTERSPUTNIK)**

2, Smolensky 1/4
Moskva 121099, USSR

**INTERNATIONAL SOCIETY FOR
AERONAUTICAL TELECOMMUNICATIONS
(SITA)***

112, avenue Charles-de-Gaulle
F - 92522 Neuilly-sur-Seine

ASIA-PACIFIC TELECOMMUNITY (APT)

Soi 5, Chaengwattana Road
Thungsohong, Bangkok
Bangkok 10210, Thailand

**AFRICAN POSTAL AND
TELECOMMUNICATIONS UNION (UAPT)**

Avenue Patrice Lumumba
Boite postale 44
Brazzaville, Congo

ARAB TELECOMMUNICATION UNION (ATU)

P.O. Box 28015
Baghdad, Iraq

**INTERNATIONAL ASTRONOMICAL UNION
(IAU)**

61, avenue de l'Observatoire
F - 75014 Paris

**ASIA-PACIFIC BROADCASTING UNION
(ABU)**

P.O. Box 1164
Kuala Lumpur 22-07, Malaysia

**ARAB STATES BROADCASTING UNION
(ASBU)**

17, rue El-Mansoura
Boite postale 65 El Menzah
El Menzah IV
Tunis 1014, Tunisia

**UNION OF NATIONAL RADIO
AND TELEVISION ORGANIZATIONS
OF AFRICA (URTN)**

Centre technique
Boite postale 39
Bamako, Mali

* New participant with effect on 1 January 1987.

EUROPEAN BROADCASTING UNION (EBU)

Centre technique
32, avenue Albert-Lancaster
B - 1180 Bruxelles

**PANAFRICAN TELECOMMUNICATION
UNION (PATU)**

Boite postale 3634
Kinshasa I, Zaïre

**INTERNATIONAL AMATEUR RADIO UNION
(IARU)**

225 Main Street
P.O. Box AAA
Newington, Connecticut 06111, USA

**INTERNATIONAL UNION
OF RADIO SCIENCE (URSI)**

32, avenue Albert-Lancaster
B - 1180 Bruxelles

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SPECIALIZED AGENCIES OF THE UNITED NATIONS •**INTERNATIONAL CIVIL AVIATION
ORGANIZATION (ICAO)**

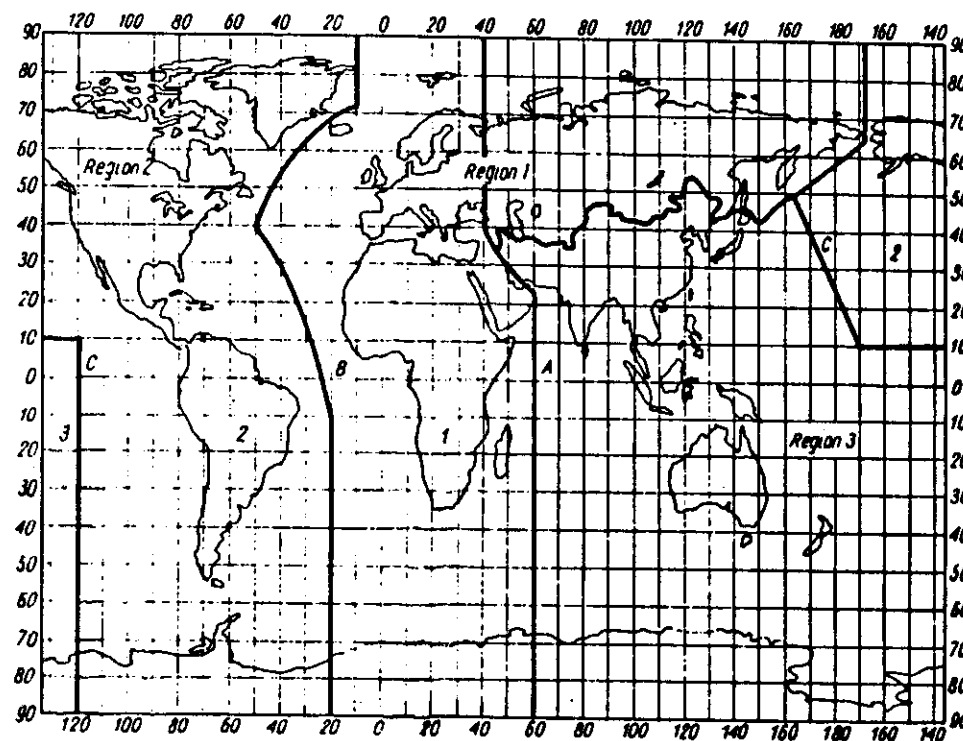
Place de l'Aviation Internationale
1000, rue Sherbrooke Ouest
Montréal, Québec H3A 2R2, Canada

**WORLD METEOROLOGICAL
ORGANIZATION (WMO)**

41, avenue Giuseppe-Motta
CH - 1211 Genève 20

**INTERNATIONAL MARITIME
ORGANIZATION (IMO)**

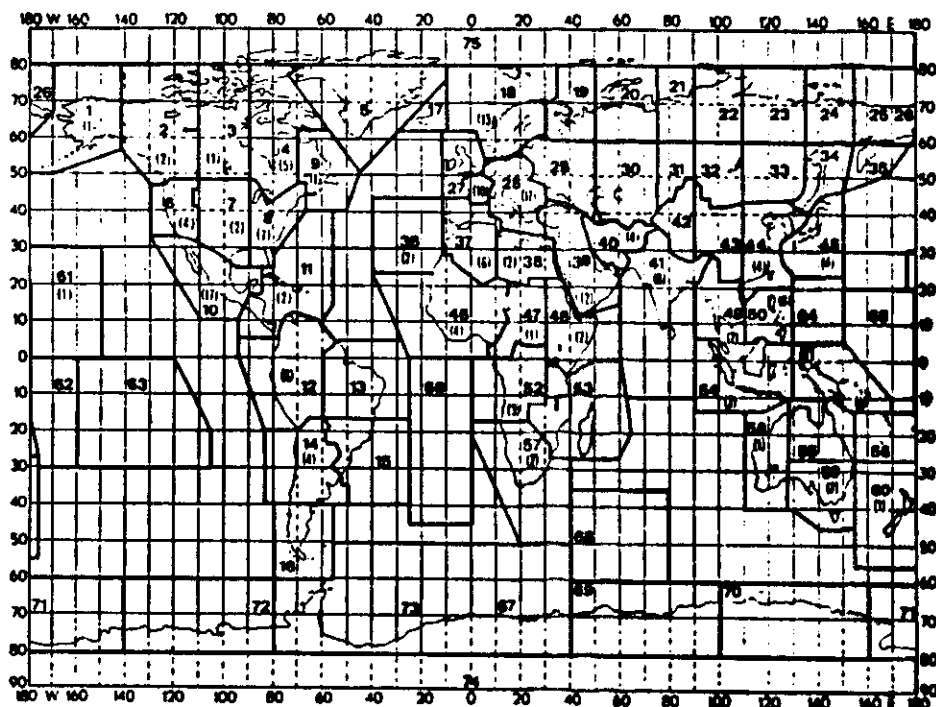
4, Albert Embankment
GB - London, SE1 7SR



Division of the world in Regions according to Radio Regulations

REFERENCES

- RADIO REGULATIONS, ITU, GENEVA (THE MOST RECENT EDITION)
 - RECOMMENDATIONS AND REPORTS OF THE CCIR, ITU, GENEVA (THE MOST RECENT EDITION)
 - CCIR HANDBOOK: SPECTRUM MANAGEMENT & COMPUTER-AIDED TECHNIQUES, ITU, GENEVA
 - CCIR HANDBOOK FOR MONITORING STATIONS ITU, GENEVA (THE MOST RECENT EDITION)
 - SPECTRUM MANAGEMENT AND ENGINEERING F. MATOS (Ed.), IEEE PRESS, N.Y. (1985)
 - ELECTROMAGNETIC COMPATIBILITY IN RADIO ENGINEERING, ELSEVIER, (1982)
 - CATALOGUES OF:
 - ITU PUBLICATIONS
 - ITU FILM LIBRARY
 - CCIR COMPUTER PROGRAMS
- (AVAILABLE FROM: ITU - Place des Nations
CH 1211 GENEVA 20, SWITZERLAND)



9-3. For international monitoring purposes the world is divided into 74 numbered areas according to the Geographical zones for Broadcasting given in Radio Regulations. The numbers appearing between brackets on the map represent the number of monitoring stations notified to the ITU for the Geographical Zones concerned [8] [CCIR Handbook for monitoring stations]

