Acronyms, Abbreviations, and Glossary

Acronyms and Abbreviations

AFNAVSAT	— Air Force Navigation Satellite
AM	— amplitude modulation
ARFA	— Allied Radio Frequency Agency (NATO)
AWACS	— Airborne Warning and Control System
BSS	— broadcasting-satellite service
C-E	— communications-electronics (DOD parlance)
CCIR	— International Radio Consultative Committee of the International Telecommunication Union
CCIs	— reference to both the CCIR and CCITT
CCITT	— International Telegraph and Telephone Consultative Committee of the International Telecommunication Union
CITEL	— Inter-American Telecommunication Conference of the Organization of American States
COMSAT	— Communications Satellite Corp.
COPUOS	— The United Nations Committee on the Peaceful Uses of Outer Space
C^3I	— command, control, communications, and intelligence (DOD parlance)
DNS	— The Department of Defense Navigation Satellite system
DOD	— Department of Defense
DSCS	— Defense Satellite Communication System
ECAC	— Electromagnetic Compatibility Analysis Center (DOD), Annapolis, Md.
EHF	— extremely high frequency (30 to 300 GHz)
EIRP	— effective isotropically radiated power (measured in watts)
EMC	— electromagnetic compatibility
FAS	— Frequency Assignment Subcommittee of the Interdepartment Radio Advisory Committee
FCC	— Federal Communications Commission
FLTSATCOM	— Fleet Satellite Communication System (Naval)
FM	— frequency modulation
FMAC	— Frequency Management Advisory Committee to the National Telecommunications and Information Administration
FSS	— fixed satellite service
FX	— fixed service
GHz	— gigahertz (1 billion cycles per second)
GPS	— global positioning satellite (sometimes NAVSTAR/GPS) (DOD)
HF	— high frequency (3 to 30 MHZ)
Hz	— hertz (one cycle per second)
IBI	— International Bureau of Informatics
ICA	— International Communications Agency
ICAO	— International Civil Aeronautical Organization
IFL	— International Frequency List
IFRB	— International Frequency Registration Board
IMCO	— Intergovernmental Maritime Consultive Organization
INMARSAT	— International Maritime Satellite Organization
INTELSAT	— International Telecommunications Satellite System
IRAC	— Interdepartment Radio Advisory Committee
ITU	— International Telecommunication Union
kHz	— kilohertz (1000 cycles per second)
LF	— low frequency (30 to 300 kHz)
LR	— radiolocation service (fixed)
MF	— medium frequency (300 to 3000 kHz)
MHz	— megahertz (1 million cycles per second)
MO	— mobile service
MR	— radiolocation service (mobile)
NASA	— National Aeronautics and Space Administration
NATO	— North Atlantic Treaty Organization
NTIA	— National Telecommunications

and Information Administration
RARC — Regional Administrative Radio Conference
RL — radionavigation service (fixed)
RO — radionavigation service (mobile)
SHF — super high frequency (3 to 30 GHz)
UHF — ultrahigh frequency (300 to 3000 MHz)
U.N. — United Nations
UNDP — United Nations Development Program
UNESCO – United Nations Educational, Scientific, and Cultural Organization
UPU – Universal Postal Union
VHF — very high frequency (30 to 300 MHz)
VLF — very low frequency (3 to 30 kHz)
WARC – World Administrative Radio Conference
WIPO – World Intellectual Property Organization

Glossary

A priori planning—procedure by which frequencies and orbital locations are allotted to individual countries according to a plan negotiated by member-nations and implemented by ITU,

Aeronautical mobile service-a mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may participate; emergency position-indicating radiobeacon stations may also participate in this service on designated distress and emergency frequencies.

Aeronautical mobile-satellite service-a mobile-satellite service in which mobile Earth stations are located onboard aircraft; survival craft stations and emergency position-indicating radiobeacon stations may also participate in this service.

Aeronautical radionavigation-satellite service-a radionavigation-satellite service in which Earth stations are located onboard aircraft.

Aeronautical radioavigation service—a radionavigation service intended for the benefit and for the safe operation of aircraft.

Allocation (of frequency band) –entry in the table of frequency allocations of a given frequency band for the purpose of its use by one or more terrestrial or space radiocommunication services or the radio astronomy service under specified conditions. This term shall also be applied to the frequency band concerned.

Allotment (of a radio frequency or radio frequency channel) —entry of a designated frequency channel in an agreed plan, adopted by a competent conference, for use by one or more administrations for a terrestrial or space radiocommunciation service in one or more identified countries or geographical areas and under specified conditions.

Amateur service-a radiocommunication service for the purpose of self-training, intercommunication, and technical investigations carried out by amateurs, i.e., by duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest.

Analog transmission—a technique that transmits the signal in a continuous electrical waveform. The information context of the signal is conveyed by the value or magnitude of some characteristics of the signal such as the amplitude, phase, or frequency of a voltage.

Assigned frequency–the center of the frequency band assigned to a station.

Assigned frequency band–the frequency band within which the emission of a station is authorized; the width of the band equals the necessary bandwidth plus twice the absolute value of the frequency tolerance. Where space stations are concerned, the assigned frequency band includes twice the maximum Doppler shift that may occur in relation to any point of the Earth's surface.

Assignment (of a radiofrequency or radiofrequency channel) —authorization given by an administration for a radio station to use a radiofrequency or radiofrequency channel under specified conditions.

Band–in radio, frequencies that are within two definite limits and are allocated for a definite purpose or service, e.g., the standard AM broadcast band.

Broadcasting-satellite service–a radio-communication service in which signals transmitted or retransmitted by space stations are intended for direct reception by the general public.

Broadcasting service– a radio-communication service in which the transmissions are intended for direct reception by the general public. This service may include sound transmissions, television transmissions, or other types of transmission.

CCIR–International Radio Consultative Committee, a permanent organ of ITU where member-nations and recognized private operating agents formulate recommendations concerning technical and operational radio matters.

CCITT–International Telegraph and Telephone Consultative Committee, a permanent organ of ITU where member-nations and recognized private operating agents formulate recommendations concerning technical, operational, and tariff aspects of telecommunication.

CCIR SPM–special preparatory meeting of CCIR convened in 1978 by the Secretary General of ITU to provide technical support to WARC-79.

dBW–a measure of power, decibels referened to 1 watt,

Digital transmission—a technique that transits the signal in the form of one of a discrete number of codes. The information content the signal is concerned with discrete state

the signal, such as the presence or absence of a voltage, a contact in the open or closed position, or a hole or no hole in certain positions on a card.

Earth exploration-satellite service–a radio-communication service between Earth stations and one or more space stations, which may include links between space stations, in which: 1) information relating to the characteristics of the Earth and its natural phenomena is obtained from active sensors or passive sensors on Earth satellites; 2) similar information is collected from airborne or Earth-based platforms; 3) such information maybe distributed to Earth stations within the system concerned; and 4) platform interrogation may be included. This service may also include feeder links necessary for its operation.

Emission–radiation produced, or the production of radiation, by a radio transmitting station.

Evolutionary planning approach–procedure by which frequency assignments and orbital locations are notified by member-nations and recorded by ITU on a more or less first-come, first-served basis without any rigid a priori plan.

Facsimile–a form of telegraphy for the transmission of fixed images, with or without halftones, with a view to their reproduction in a permanent form.

Feeder link-a radio link from an Earth station at a specified fixed point to a space station, or vice versa, conveying information for a space radio-communication service other than for the fixed-satellite service.

Fixed-satellite service-a radio-communication service between Earth stations at specified fixed points when one or more satellites are used; in some cases this service includes satellite-to-satellite links, which may also be effected in the intersatellite service; the fixed-satellite service may also include feeder links for other space radio-communication services.

Fixed service–a radio-communication service between specified fixed points.

Footnote– in the international table of frequency allocations a "footnote" conveys special information and often is a means by which an ITU member-nation may claim frequency band usage for a service that is in addition to or alternative to the service stated in the cable of allocations.

Frequency allocation table (international)–a table in the radio regulations allocating bands for frequencies, in the usable portion of the radio spectrum, to radio-communication services.

Frequency allocation table (national)–a table in the FCC Rules and Regulations allocating bands of frequencies, in the usable portion of the radio spectrum, to radio-communication services.

Geostationary satellite–a geosynchronous satellite whose circular and direct orbit lies in the plane of the Earth's Equator and which thus remains fixed relative to the Earth; by extension, a satellite that remains approximately fixed relative to the Earth.

Geostationary satellite orbit–the oribit in which a satellite must be placed to be a geostationary satellite.

Geosynchronous satellite–an Earth satellite whose period of revolution is equal to the period of rotation of the Earth about its axis.

Harmful interference–interference that endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs, or repeatedly interrupts a radio-communication service operating in accordance with these regulations.

HF broadcasting—high frequency, or shortwave broadcasting, used primarily for government-sponsored information services (e.g., Radio Moscow, Voice of America), and for domestic broadcasting in many developing countries.

IFRB–International Frequency Registration Board, a permanent organ of ITU with five officials elected by the plenipotentiary conference, examines notifications of frequency assignments from member-nations for conformity with the radio regulations.

INTELSAT– International Telecommunication Satellite Organization with 106 member-nations that own and operate the satellites in the Global Communication Satellite System.

Interference–the effect of unwanted energy due to one or a combination of emissions, radiations, or inductions upon reception in a radio-communication system, manifested by any performance degration, misinterpretation, or loss of information that could be extracted in the absence of such unwanted energy.

International frequency list-a listing of all the frequencies in use in the world, as notified by administrations to the International Telecommunication Union.

IRAC–Interdepartment Radio Advisory Committee; a body of 20 Federal agencies and de-

partments that assists NTIA in the development of the National Table of Frequency Allocations, the assignment of frequencies to stations operated by the Federal Government and other spectrum management functions.

IRAC Ad Hoc 144–the ad hoc group established within IRAC to develop recommended U.S. proposals for WARC-79 pertaining to the Federal Government use of the spectrum and to comment on U.S. position papers.

ITU—International Telecommunication Union; the U.N. related organization with responsibilities in the field of international telecommunications including spectrum management; present membership of 155 nations.

ITU Convention–the governing instrument of ITU that sets forth the structure and activities of the Union; only the plenipotentiary conference of ITU can amend or revise the Convention; it last met in Malaga-Torremolinos in 1973.

Land mobile-satellite service-a mobile-satellite service in which mobile Earth stations are located on land.

Land mobile service—a mobile service between base stations and land mobile stations, or between land mobile stations.

Maritime mobile-satellite service–a mobile-satellite service in which mobile Earth stations are located onboard ships; survival craft stations and emergency position-indicating radiobeacon stations may also participate in this service.

Maritime mobile service-a mobile service between coast stations and ship stations, or between ship stations, or between associated onboard communication stations; survival craft stations and emergency position-indicating radiobeacon stations may also participate in this service.

Maritime radio-navigation-satellite service—a radio-navigation-satellite service in which Earth stations are located onboard ships.

Maritime radionavigation service-a radionavigation service intended for the benefit and for the safe operation of ships.

Meteorological aids service—a radio-communication service used for meteorological, including hydrological, observations and exploration.

Mobile-satellite service—a radio-communication service: 1) between mobile Earth stations and one or more space stations, or between space stations used by this service; or 2) between mobile Earth stations by means of one or more space stations.

Mobile service—a radio-communication service between mobile and land stations, or between mobile stations.

Orbit–the path, relative to a specified frame of reference, described by the center of mass of a satellite or other object in space subjected primarily to natural forces, mainly the force of gravity.

Permissible interference–interference at a higher level than that defined as permissible interference and which has been agreed upon between two or more administrations without prejudice to other administrations.

Permitted service-a class of allocation. Permitted and primary services have equal rights, except that in the preparations frequency plans, the primary service should have prior choice of frequencies (printed in "grotesque light" type in the ITU table of allocations.)

Plenipotentiary conference–the supreme body of ITU that has the power to amend or revise the ITU convention.

Power flux density—a measure of the power radiated by a transmitter, used as a constraint on certain services to protect other services in a shared band.

Primary service–a class of allocation. Stations in a primary service may not cause harmful interference to stations in the same, or another primary service, and can claim protection from interference from stations in primary, permitted, and secondary services. Printed in solid capitals in the ITU table of allocations.

Private operating agency–any individual or company or corporation, other than a governmental establishment or agency, which operates a telecommunication installation intended for an international communications service or capable of causing harmful interference with such a service.

Radar-a radiodetermination system based on the comparison of reference signals with radio signals reflected, or retransmitted, from the position to be determined.

Radiation–the outward flow of energy from any source in the form of radio waves.

Radio–a general term applied to the use of radio waves.

Radio astronomy service–a service involving the use of radio astronomy.

Radio Regulations, Geneva, 1979–the Final Acts

of WARC-79 will constitute the Radio Regulations, Geneva, 1979 and enter into force on January 1, 1982, for those countries that have formally adopted the Final Acts.

Radio waves or hertzian waves–electromagnetic waves of frequencies arbitrarily lower than 3000 GHz, propagated in space without artificial guide.

Radio communication–telecommunication by means of radio waves.

Radiocommunication service-a service involving the transmission, emission, and/or reception of radio waves for specific telecommunication purposes.

Radiodetermination–the determination of the position, velocity, and/or other characteristics of an object, or the obtaining of information relating to these parameters, by means of the propagation properties of radio waves.

Radiodetermination-satellite service–a radiocommunication service for the purpose of radiodetermination involving the use of one or more space stations.

Radiodetermination service–a radio-communication service for the purpose of radiodetermination.

Radiolocation—radiodetermination used for purposes other than those of radionavigation.

Radiolocation service—a radiodetermination service for the purpose of radiolocation.

Radionavigation-radiodetermination used for the purposes of navigation, including obstruction warning.

Radionavigation-satellite service–a radio-determination-satellite service used for the purpose of radionavigation.

Radionavigation service—a radiodetermination service for the purpose or radionavigation.

Recognized private operating agency–any private operating agency, as defined above, which operates a public correspondence or broadcasting service and upon which the obligations provided for in article 44 of the convention are imposed by the member in whose territory the head office of the agency is situated, or by the member that has authorized this operating agency to establish and operate a telecommunication service on its territory.

Regions of ITU–for the allocation of frequencies, the world has been divided into three regions by ITU. Exact boundaries of the regions are given in the radio regulations; a general description follows: *region* I—Europe, Africa, the U. S. S. R., Turkey, the Territory of the Mongolian People's Republic, and areas to the north of the U. S. S. R.; *region* 2–North, Central, and South Americas, the Caribbean, and Greenland; and *region* 3—Asia, Oceania, Australia, and New Zealand.

Safety service—a radio-communication service used permanently or temporarily for the safeguarding of human life and property.

Satellite-a body that revolves around another body of preponderant mass and that has a motion primarily and permanently determined by the force of attraction of that other body.

Satellite link-a radio link between a transmitting Earth station and a receiving Earth station through one satellite.

Satellite system—a space system using one or more artificial Earth satellites.

Secondary service—a class of allocation. Stations on a secondary service may not cause interference to stations in a primary or secondary service, and may not claim protection against interference from stations in a primary service existing or subsequently installed. Printed in upper and lower case in the ITU table of allocations.

Services—a functional use of the radio spectrum where designated frequency bands are allocated for particular uses, e.g., broadcasting service, radiolocation service.

Space-radio communication—any radio communication involving the use of one or more space stations or the use of one or more reflecting satellites or other objects in space.

Space research service—a radio-communication service in which spacecraft or other objects in space are used for scientific or technological research purposes.

Space system–any group of cooperating Earth stations and/or space stations employing space-radio communication for specific purposes,

Telecommunications—any transmission, emission, or reception of signs, signals, writing, images, and sounds or intelligence of any nature by wire, radio, optical, or other electromagnetic systems.

Telegram—written matter intended to be transmitted by telegraphy for delivery to the addressee. This term also includes radiotelegrams unless otherwise specified.

Telegraphy–a form of telecommunication that is concerned in any process providing transmis-

sion and reproduction at a distance of documentary matter, such as written or printed matter or fixed images, or the reproduction at a distance of any kind of information in such a form. For the purposes of the radio regulations, unless otherwise specified therein, telegraphy shall mean a form of telecommunication for the transmission of written matter by the use of a signal code.

Telephony–a form of telecommunication set up for the transmission of speech or, in some cases, other sounds.

Television—a form of telecommunication for the transmission of transient images of fixed or moving objects.

Terrestrial radio communication—any radio communication other than space-radio communication or radio astronomy.

WARC-77—a specialized World Administrative Radio Conference that met in Geneva in the winter of 1977 to plan for the broadcasting-satellite service in the band 11.7 to 12.5 GHz.

WARC-79–a General World Administrative Radio Conference that met in Geneva in the fall of 1979 to revise the international radio regulations of ITU.