

# EXHIBIT A

## SUPPLEMENTAL PUBLICATIONS:

*Annual Reports of the Federal Communications Commission to Congress.*  
*Federal Communications Commission Reports of Orders and Decisions.*  
*Communications Act of 1934 (with amendments and index thereto), revised to Sept. 13, 1960; Packet No. 1, revised pages, Sept. 1960 to Dec. 1961; Packet No. 2, revised pages, Dec. 1961 to Oct. 1962.*  
*Statistics of Communications Common Carriers, 1957, 1959, 1960, and 1962.*

## MISCELLANEOUS PUBLICATIONS:

*Study Guide and Reference Material for Commercial Radio Operator Examinations, May 1955 edition. Figure M-3, Estimated AM Ground Conductivity of the United States (set of two maps).*

## SUBCHAPTER B—COMMON CARRIER SERVICES

## PART 20—[RESERVED]

## PART 21—DOMESTIC PUBLIC RADIO SERVICES (OTHER THAN MARITIME MOBILE)

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**AUTHORITY:** The provisions of this Part 21 issued under secs. 4, 303, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, unless otherwise noted.

**SOURCE:** The provisions of this Part 21 appear at 28 F.R. 13002, Dec. 5, 1963, unless otherwise noted.

## § 21.0 Basis and purpose.

(a) The basis for the rules in this part is the Communications Act of 1934, as amended, and applicable treaties and agreements to which the United States is a party. The rules in this part are issued pursuant to the authority contained in Titles II and III of the Communications Act of 1934, as amended, which vests authority in the Federal Communications Commission to regulate common carriers of interstate and foreign communications and to regulate radio transmissions and issue licenses for radio stations.

(b) The purpose of the rules and regulations in this part is to prescribe the manner in which portions of the radio spectrum may be made available for the use of radio for domestic communication common carrier operations which require transmitting facilities on land.

## Subpart A—Definitions

## § 21.1 Definitions.

As used in this part:

**Antenna power gain.** The square of the ratio of the root-mean-square free space field intensity produced at one mile in the horizontal plane, in millivolts per meter for one kilowatt antenna input power to 137.6 mv/m. This ratio should be expressed in decibels (db). (If specified for a particular direction, antenna power gain is based on the field strength in that direction only.)

**Antenna power input.** The radio frequency peak or RMS power, as the case may be, supplied to the antenna from the antenna transmission line and its associated impedance matching network.

**Antenna structures.** The term antenna structures includes the radiating system, its supporting structures, and any surmounting appurtenances.

**Assigned frequency.** The frequency coinciding with the center of the radio frequency channel in which the station is authorized to work. This frequency does not necessarily correspond to any frequency in an emission.

**Authorized frequency.** The frequency assigned to a station by the Commission, and specified in the instrument of authorization.

**Authorized power.** The power assigned to a radio station by the Commission and specified in the instrument of authorization. The authorized power does not necessarily correspond to the

power used by the Commission for purposes of its Master Frequency Record (MFR) and notification to the International Telecommunications Union.

**Auxiliary test station.** A fixed station used for test transmissions only, operating on mobile station frequencies from a specified fixed location, for the purpose of determining the performance of fixed receiving equipment which is remotely located from the base station with which it is associated, or where the receiving equipment is located with the base station and both are remotely located from the control point of the station.

**Bandwidth occupied by an emission.** The band of frequencies comprising 99 percent of the total radiated power extended to include any discrete frequency on which the power is at least 0.25 percent of the total radiated power.

**Base station.** A land station in the land mobile service carrying on a service with land mobile stations.

**NOTE:** In certain cases, also communicates with fixed stations and vessels.

**Carrier.** In a frequency stabilized system, the sinusoidal component of a modulated wave whose frequency is independent of the modulating wave; or the output of a transmitter when the modulating wave is made zero; or a wave generated at a point in the transmitting system and subsequently modulated by the signal; or a wave generated locally at the receiving terminal which when combined with the side bands in a suitable detector, produces the modulating wave.

**Carrier frequency.** The frequency of the carrier.

**Central office.** A landline termination center used for switching and interconnection of public message communication circuits.

**Central office station.** A fixed station used for transmitting communications to rural subscriber stations associated therewith.

**Communication common carrier.** Any person engaged in rendering communication service for hire to the public.

**Control point.** A control point is an operating position at which an operator responsible for the operation of the transmitter is stationed and which is under the control and supervision of the licensee.

**Control station.** A fixed station whose transmissions are used to control auto-

matically the emissions or operations of another radio station at a specified location, or to transmit automatically to an alarm center telemetering information relative to the operation of such station.

*Coordination distance.* For the purpose of this part, the expression "coordination distance" means the distance from an earth station, within which there is a possibility of the use of a given transmitting frequency at this earth station causing harmful interference to stations in the fixed or mobile service, sharing the same band, or of the use of a given frequency for reception at this earth station receiving harmful interference from such stations in the fixed or mobile service.

*Dispatch communication.* Two-way voice communication, normally of not more than one minute's duration, between common carrier base and land mobile stations, or between a common carrier land mobile station and a land-line telephone station not connected to a public message telephone system.

*Dispatch point.* A dispatch point is a base station operating position, operated by a subscriber, which is under the control and supervision of the base station licensee.

*Dispatch station.* A fixed station, operated by a subscriber, or a group of subscribers, which communicates, under the supervision and control of the base station licensee, through the base station, with the individual subscriber's own mobile station or stations.

*Domestic fixed public service.* A fixed service, the stations of which are open to public correspondence, for radiocommunications originating and terminating solely at points all of which lie within: (a) the State of Alaska, or (b) the State of Hawaii, or (c) the contiguous 48 States and the District of Columbia, or (d) a single possession of the United States. Generally, in cases where service is afforded on frequencies above 72 Mc/s, radiocommunications between the contiguous 48 States (including the District of Columbia) and Canada or Mexico, or radiocommunications between the State of Alaska and Canada, are deemed to be in the domestic fixed public service.

*Domestic public land mobile radio service.* A public communication service for hire between land mobile stations wherever located and their associated base stations which are located within the United States or its possessions, or between land mobile stations in

the United States and base stations in Canada.

*Domestic public radio services.* The land mobile and domestic fixed public services the stations of which are open to public correspondence.

*NOTE:* Parts 81 and 83 of this chapter are applicable to maritime services. Part 87 is applicable to aeronautical services; and Part 85 is applicable to certain Alaskan services.

*Earth station.* A station in the space service located either on the earth's surface, including on board a ship, or on board an aircraft.

*Effective radiated power.* The product of the antenna power input and the antenna power gain. This product should be expressed in watts. (If specified for a particular direction, effective radiated power is based on the antenna power gain in that direction only.)

*Exchange.* A unit of a communication company or companies for the administration of communication service in a specified area, which usually embraces a city, town, or village and its environs, and consisting of one or more central offices, together with the associated plant, used in furnishing communication service in that area.

*Exchange area.* The geographic area included within the boundaries of an exchange.

*Facsimile.* A system of telecommunication for the transmission of fixed images with a view to their reception in a permanent form.

*Fixed earth station.* An earth station intended to be used at a specified fixed point.

*Fixed microwave auxiliary station.* A fixed station used in connection with (1) the alignment of microwave transmitting and receiving antenna systems and equipment, (2) coordination of microwave radio survey operations, and (3) cue and contact control of television pickup station operations.

*Fixed service.* A service of radiocommunication between specified fixed points.

*Fixed station.* A station in the fixed service.

*Frequency tolerance.* The frequency tolerance, expressed as a percentage or in cycles per second, is the maximum permissible deviation, with respect to the reference frequency of the corresponding characteristic frequency of an emission.

**General communication.** Two-way voice communication, through a base station, between a common carrier land mobile station and a landline telephone station connected to a public message landline telephone system, or between two common carrier land mobile stations via a base station.

**Harmful interference.** Any radiation or any induction which endangers the functioning of a radionavigation service or of a safety service or obstructs or repeatedly interrupts a radio service.

**Inter-office station.** A fixed station in the domestic fixed public service which is used exclusively for interconnection of telephone central offices.

**Landing area.** A landing area means any locality, either of land or water, including airports and intermediate landing fields, which is used, or approved for use for the landing and take-off of aircraft, whether or not facilities are provided for the shelter, servicing, or repair of aircraft, or for receiving or discharging passengers or cargo.

**Land mobile service.** A mobile service between base stations and land mobile stations, or between land mobile stations.

**Land mobile station.** A mobile station in the land mobile service capable of surface movement within the geographical limits of a country or continent.

**Land station.** A station in the mobile service not intended for operation while in motion.

**Local television transmission service.** A domestic public radio communication service for the transmission of television material and related communications.

**Message center.** The point at which messages from members of the public are accepted by the carrier for transmission to the addressee.

**Mobile earth station.** An earth station intended to be used while in motion or during halts at unspecified points.

**Mobile microwave auxiliary station.** A mobile station used in connection with (1) the alignment of microwave transmitting and receiving antenna systems and equipment, (2) coordination of microwave radio survey operations, and (3) cue and contact control of television pickup station operations.

**Microwave frequencies.** As used in this part, this term refers to frequencies of 890 Mc/s and above.

**Miscellaneous common carriers.** Communications common carriers which are not engaged in the business of providing

either a public landline message telephone service or public message telegraph service.

**Mobile service.** A service of radio-communication between mobile and land stations or between mobile stations.

**Mobile station.** A station in a mobile service intended to be used while in motion or during halts at unspecified points.

**Necessary bandwidth of emission.** The necessary bandwidth is the width of the frequency band which is necessary in the over-all system, including both transmitter and receiver, for the proper reproduction at the receiver of the desired information, and does not necessarily indicate the interfering characteristics of an emission.

**Note:** The necessary bandwidth for an emission may be calculated using the formulas in § 2.202 of this chapter.

**Point-to-point microwave radio service.** A domestic public radio service rendered on microwave frequencies by fixed stations between points which lie within the United States or between points in its possessions or to points in Canada or Mexico.

**Private line service.** A service whereby facilities for communication between two or more designated points are set aside for the exclusive use or availability for use of a particular customer and authorized users during stated periods of time.

**Public correspondence.** Any telecommunication which the offices and stations, by reason of their being at the disposal of the public, must accept for transmission.

**Public message service.** A service whereby facilities are offered to the public for communication between all points served by a carrier or by interconnected carriers on a non-exclusive message by message basis, contemplating a separate connection for each occasion of use.

**Radiocommunication.** Any telecommunication by means of Hertzian waves.

**Radio station.** A separate transmitter or a group of transmitters under simultaneous common control, including the accessory equipment required for carrying on a radiocommunication service.

**Rated power output.** The term "rated power output" of a transmitter means the normal radio frequency power output capability (Peak or Average Power) of a transmitter, under optimum conditions of adjustment and operation, specified by its manufacturer.