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from the coordinates of the metropolitan areas and on the channels listed in §90.303(a) of this chapter. For PLMRS/CMRS operations authorized by waiver outside of the metropolitan areas listed in §90.303(a) of this chapter, co-channel and adjacent channel TVBDs may not operate closer than 54 km and 51 km, respectively from a base station.

(e) *Offshore Radiotelephone Service.* TVBDs may not operate on channels used by the Offshore Radio Service within the geographic areas specified in §74.709(e) of this chapter.

(f) *Low power auxiliary services, including wireless microphones:* (1) Fixed TVBDs are not permitted to operate within 1 km, and personal/portable TVBDs will not be permitted to operate within 400 meters, of the coordinates of registered low power auxiliary station sites on the registered channels during the designated times they are used by low power auxiliary stations.

(2) TVBDs are not permitted to operate on the first channel on each side of

TV channel 37 (608–614 MHz) that is not occupied by a licensed service.

(g) *Border areas near Canada and Mexico:* Fixed and personal/portable TVBDs shall comply with the required separation distances in §15.712(a)(2) from the protected contours of TV stations in Canada and Mexico. TVBDs are not required to comply with these separation distances from portions of the protected contours of Canadian or Mexican TV stations that fall within the United States.

(h) *Radio astronomy services:* Operation of fixed and personal/portable TVBDs is prohibited on all channels within 2.4 kilometers at the following locations.

(1) The Naval Radio Research Observatory in Sugar Grove, West Virginia at 38 30 58 N and 79 16 48 W.

(2) The Table Mountain Radio Receiving Zone (TMRZ) at 40 08 02 N and 105 14 40 W.

(3) The following facilities:

Observatory	Latitude (deg/min/sec)	Longitude (deg/min/sec)
Allen Telescope Array .....	40 49 04 N	121 28 24 W
Arecibo Observatory .....	18 20 37 N	066 45 11 W
Green Bank Telescope (GBT) .....	38 25 59 N	079 50 23 W
Very Large Array (VLA) .....	Rectangle between latitudes 33 58 22 N and 34 14 56 N, and longitudes 107 24 40 W and 107 48 22 W	
Very Long Baseline Array (VLBA) Stations:		
Pie Town, NM .....	34 18 04 N	108 07 09 W
Kitt Peak, AZ .....	31 57 23 N	111 36 45 W
Los Alamos, NM .....	35 46 30 N	106 14 44 W
Ft. Davis, TX .....	30 38 06 N	103 56 41 W
N. Liberty, IA .....	41 46 17 N	091 34 27 W
Brewster, WA .....	48 07 52 N	119 41 00 W
Owens Valley, CA .....	37 13 54 N	118 16 37 W
St. Croix, VI .....	17 45 24 N	064 35 01 W
Hancock, NH .....	42 56 01 N	071 59 12 W
Mauna Kea, HI .....	19 48 05 N	155 27 20 W

[74 FR 7326, Feb. 17, 2009, as amended at 75 FR 75839, Dec. 6, 2010; 77 FR 29246, May 17, 2012]

**§ 15.713 TV bands database.**

(a) *Purpose.* The TV bands database serves the following functions:

(1) To determine and provide to a TVBD, upon request, the available TV channels at the TVBD's location. Available channels are determined based on the interference protection requirements in §15.712. A database must

provide fixed and Mode II personal portable TVBDs with channel availability information that includes scheduled changes in channel availability over the course of the 48 hour period beginning at the time the TVBDs make a re-check contact. In making lists of available channels available to a TVBD, the TV bands database shall ensure that all communications and interactions between the TV bands database and the TVBD include adequate security measures such

that unauthorized parties cannot access or alter the TV bands database or the list of available channels sent to TVBDs or otherwise affect the database system or TVBDs in performing their intended functions or in providing adequate interference protections to authorized services operating in the TV bands. In addition, a TV bands database must also verify that the FCC identifier (FCC ID) of a device seeking access to its services is valid; under this requirement the TV bands database must also verify that the FCC ID of a Mode I device provided by a fixed or Mode II device is valid. A list of devices with valid FCC IDs and the FCC IDs of those devices is to be obtained from the Commission's Equipment Authorization System.

(2) To register the identification information and location of fixed TVBDs.

(3) To register protected locations and channels as specified in paragraph (b)(2) of this section, that are not otherwise recorded in Commission licensing databases.

(b) *Information in the TV bands database.* (1) Facilities already recorded in Commission databases. Identifying and location information will come from the official Commission database. These services include:

- (i) Digital television stations.
- (ii) Class A television stations.
- (iii) Low power television stations.
- (iv) Television translator and booster stations.
- (v) Broadcast Auxiliary Service stations (including receive only sites), except low power auxiliary stations.
- (vi) Private land mobile radio service stations.
- (vii) Commercial mobile radio service stations.
- (viii) Offshore radiotelephone service stations.
- (ix) Class A television station receive sites.
- (x) Low power television station receive sites.
- (xi) Television translator station receive sites.

(2) Facilities that are not recorded in Commission databases. Identifying and location information will be entered into the TV bands database in accordance with the procedures established

by the TV bands database administrator(s). These include:

- (i) MVPD receive sites.
- (ii) Sites where low power auxiliary stations, including wireless microphones and wireless assist video devices, are used and their schedule for operation.
- (iii) Fixed TVBD registrations.

(c) *Restrictions on registration.* (1) Television translator, low power TV and Class A station receive sites within the protected contour of the station being received are not eligible for registration in the database.

(2) MVPD receive sites within the protected contour or more than 80 kilometers from the nearest edge of the protected contour of a television station being received are not eligible to register that station's channel in the database.

(d) *Determination of available channels.* The TV bands database will determine the available channels at a location using the interference protection requirements of §15.712, the location information supplied by a TVBD, and the data for protected stations/locations in the database.

(e) *TVBD initialization.* (1) Fixed and Mode II TVBDs must provide their location and required identifying information to the TV bands database in accordance with the provisions of this subpart.

(2) Fixed and Mode II TVBDs shall not transmit unless they receive, from the TV bands database, a list of available channels and may only transmit on the available channels on the list provided by the database.

(3) Fixed TVBDs register and receive a list of available channels from the database by connecting to the iInternet, either directly or through another fixed TVBD that has a direct connection to the Internet.

(4) Mode II TVBDs receive a list of available channels from the database by connecting to the Internet, either directly or through a fixed or Mode II TVBD that has a direct connection to the Internet.

(5) A fixed or Mode II TVBD that provides a list of available channels to a Mode I device shall notify the database of the FCC identifier of such Mode I device and receive verification that that

FCC identifier is valid before providing the list of available channels to the Mode I device.

(6) A fixed device with an antenna height above ground that exceeds 30 meters or an antenna height above average terrain (HAAT) that exceeds 250 meters shall not be provided a list of available channels. The HAAT is to be calculated using computational software employing the methodology in §73.684(d) of this chapter.

(f) *Fixed TVBD registration.* (1) Prior to operating for the first time or after changing location, a fixed TVBD must register with the TV bands database by providing the information listed in paragraph (f)(3) of this section.

(2) The party responsible for a fixed TVBD must ensure that the TVBD registration database has the most current, up-to-date information for that device.

(3) The TVBD registration database shall contain the following information for fixed TVBDs:

- (i) FCC identifier (FCC ID) of the device;
- (ii) Manufacturer's serial number of the device;
- (iii) Device's geographic coordinates (latitude and longitude (NAD 83) accurate to  $\pm$  50 m);
- (iv) Device's antenna height above ground level (meters);
- (v) Name of the individual or business that owns the device;
- (vi) Name of a contact person responsible for the device's operation;
- (vii) Address for the contact person;
- (viii) E-mail address for the contact person;
- (ix) Phone number for the contact person.

(g) A personal/portable device operating in Mode II shall provide the database its FCC Identifier (as required by §2.926 of this chapter), serial number as assigned by the manufacturer, and the device's geographic coordinates (latitude and longitude (NAD 83) accurate to  $\pm$ 50 m)

(h) *TV bands database information.* The TV bands database shall contain the listed information for each of the following:

(1) Digital television stations, digital and analog Class A, low power, translator and booster stations, including

stations in Canada and Mexico that are within the border coordination areas as specified in §73.1650 of this chapter (a TV bands database is to include only TV station information from station license or license application records. In cases where a station has records for both a license application and a license, a TV bands database should include the information from the license application rather than the license. In cases where there are multiple license application records or license records for the same station, the database is to include the most recent records, and again with license applications taking precedence over licenses.):

- (i) Transmitter coordinates (latitude and longitude in NAD 83);
- (ii) Effective radiated power (ERP);
- (iii) Height above average terrain of the transmitting antenna (HAAT);
- (iv) Horizontal transmit antenna pattern (if the antenna is directional);
- (v) Amount of electrical and mechanical beam tilt (degrees depression below horizontal) and orientation of mechanical beam tilt (degrees azimuth clockwise from true north);
- (vi) Channel number; and
- (vii) Station call sign.

(2) Broadcast Auxiliary Service.

- (i) Transmitter coordinates (latitude and longitude in NAD 83).
- (ii) Receiver coordinates (latitude and longitude in NAD 83).
- (iii) Channel number.
- (iv) Call sign.

(3) Metropolitan areas listed in §90.303(a) of this chapter.

- (i) Region name.
- (ii) Channel(s) reserved for use in the region.
- (iii) Geographic center of the region (latitude and longitude in NAD 83).
- (iv) Call sign.

(4) PLMRS/CMRS base station operations located more than 80 km from the geographic centers of the 13 metropolitan areas defined in §90.303(a) of this chapter (e.g., in accordance with a waiver).

- (i) Transmitter location (latitude and longitude in NAD 83) or geographic area of operations.
- (ii) Effective radiated power.
- (iii) Transmitter height above average terrain (if specified).

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(iv) Antenna height above ground level (if specified).

(v) Call sign.

(5) Offshore Radiotelephone Service. For each of the four regions where the Offshore Radiotelephone Service operates.

(i) Geographic boundaries of the region (latitude and longitude in NAD 83 for each point defining the boundary of the region.

(ii) Channel(s) used by the service in that region.

(6) MVPD receive sites. Registration for receive sites is limited to channels that are received over-the-air and are used as part of the MVPD service.

(i) Name and address of MVPD company;

(ii) Location of the MVPD receive site (latitude and longitude in NAD 83, accurate to  $\pm$  50 m);

(iii) Channel number of each television channel received, subject to the following condition: channels for which the MVPD receive site is located within the protected contour of that channel's transmitting station are not eligible for registration in the database;

(iv) Call sign of each television channel received and eligible for registration;

(v) Location (latitude and longitude) of the transmitter of each television channel received;

(7) Television translator, low power TV and Class A TV station receive sites. Registration for television translator, low power TV and Class A receive sites is limited to channels that are received over-the-air and are used as part of the station's service.

(i) Call sign of the TV translator station;

(ii) Location of the TV translator receive site (latitude and longitude in NAD 83, accurate to  $\pm$  50 m);

(iii) Channel number of the re-transmitted television station, subject to the following condition: a channel for which the television translator receive site is located within the protected contour of that channel's transmitting station is not eligible for registration in the database;

(iv) Call sign of the retransmitted television station; and

(v) Location (latitude and longitude) of the transmitter of the retransmitted television station.

(8) Licensed low power auxiliary stations, including wireless microphones and wireless assist video devices. Use of licensed low power auxiliary stations at well defined times and locations may be registered in the database. Multiple registrations that specify more than one point in the facility may be entered for very large sites. Registrations will be valid for no more than one year, after which they may be renewed. Registrations must include the following information:

(i) Name of the individual or business responsible for the low power auxiliary device(s);

(ii) An address for the contact person;

(iii) An email address for the contact person (optional);

(iv) A phone number for the contact person;

(v) Coordinates where the device(s) are used (latitude and longitude in NAD 83, accurate to  $\pm$  50 m);

(vi) Channels used by the low power auxiliary devices operated at the site;

(vii) Specific months, weeks, days of the week and times when the device(s) are used (on dates when microphones are not used the site will not be protected); and

(viii) The stations call sign.

(9) Unlicensed wireless microphones at venues of events and productions/shows that use large numbers of wireless microphones that cannot be accommodated in the two reserved channels and other channels that are not available for use by TVBDs at that location. Such sites of large events and productions/shows with significant wireless microphone use at well defined times and locations may be registered in the database. Entities responsible for eligible event venues registering their site with a TV bands data base are required to first make use of the two reserved channels and other channels that are not available for use by TVBDs at that location. As a benchmark, at least 6-8 wireless microphones should be operating in each channel used at such venues (both licensed and unlicensed wireless microphones used at the event may be counted to comply

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with this benchmark). Multiple registrations that specify more than one point in the facility may be entered for very large sites. Sites of eligible event venues using unlicensed wireless microphones must be registered with the Commission at least 30 days in advance and the Commission will provide this information to the data base managers. Parties responsible for eligible event venues filing registration requests must certify that they are making use of all TV channels not available to TV bands devices and on which wireless microphones can practicably be used, including channels 7–51 (except channel 37). The Commission will make requests for registration of sites that use unlicensed wireless microphones public and will provide an opportunity for public comment or objections. Registrations will be valid for one year, after which they may be renewed. The Commission will take actions against parties that file inaccurate or incomplete information, such as denial of registration in the database, removal of information from the database pursuant to paragraph (i) of this section, or other sanctions as appropriate to ensure compliance with the rules. Registrations must include the following information:

- (i) Name of the individual or business that owns the unlicensed wireless microphones;
- (ii) An address for the contact person;
- (iii) An e-mail address for the contact person (optional);
- (iv) A phone number for the contact person;
- (v) Coordinates where the device(s) are used (latitude and longitude in NAD 83, accurate to ±/– 50 m);
- (vi) Channels used by the wireless microphones operated at the site and the number of wireless microphones used in each channel. As a benchmark, least 6–8 wireless microphones must be used in each channel. Registration requests that do not meet this criteria will not be registered in the TV bands data bases;
- (vii) Specific months, weeks, days of the week and times when the device(s) are used (on dates when microphones are not used the site will not be protected); and

(viii) The name of the venue.

(i) Commission requests for data. (1) A TV bands database administrator must provide to the Commission, upon request, any information contained in the database.

(2) A TV bands database administrator must remove information from the database, upon direction, in writing, by the Commission.

(j) *Security.* The TV bands database shall employ protocols and procedures to ensure that all communications and interactions between the TV bands database and TVBDs are accurate and secure and that unauthorized parties cannot access or alter the database or the list of available channels sent to a TVBD.

(1) Communications between TV bands devices and TV bands databases, and between different TV bands databases, shall be secure to prevent corruption or unauthorized interception of data. A TV bands database shall be protected from unauthorized data input or alteration of stored data.

(2) A TV bands database shall verify that the FCC identification number supplied by a fixed or personal/portable TV bands device is for a certified device and may not provide service to an uncertified device.

(3) A TV bands database must not provide lists of available channels to uncertified TV bands devices for purposes of operation (it is acceptable for a TV bands database to distribute lists of available channels by means other than contact with TVBDs to provide list of channels for operation). To implement this provision, a TV bands database administrator shall obtain a list of certified TVBDs from the FCC Equipment Authorization System.

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**§ 15.714 TV bands database administration fees.**

(a) A TV bands database administrator may charge a fee for provision of lists of available channels to fixed and personal/portable TVBDs and for registering fixed TVBDs.

(b) The Commission, upon request, will review the fees and can require