

## Information and Instructions

### Technical Data Schedule for the Private Land Mobile and Land Mobile Broadcast Auxiliary Radio Services (Parts 90 and 74)

Form FCC 601, Schedule H, is a supplementary schedule for use with the FCC Application for Radio Service Authorization: Wireless Telecommunications Bureau and/or Public Safety and Homeland Security Bureau, FCC 601 Main Form. This schedule is used to apply for an authorization to operate a radio station in the Private Land Mobile and Land Mobile Broadcast Auxiliary Radio Services, as defined in 47 CFR, Parts 90 and 74. It is also used to amend a pending application or modify an existing license in these services. Additionally, this schedule is used by auction winners that must file site-specific technical data for international coordination or for an environmental assessment of a particular site. The FCC 601 Main Form must be filed in conjunction with this schedule.

You must file technical information for each fixed location, including the antenna structures and/or each hand held/mobile transmit location, temporary fixed station location, itinerant station, or 6.1 meter control station location using FCC 601, Schedule D, Schedule for Station Locations and Antenna Structures. It is recommended that you complete Schedule D prior to completing Schedule H.

**IMPORTANT INFORMATION REGARDING LOCATION, ANTENNA, AND CONTROL POINT NUMBERS:** To identify existing locations, antennas, or control points, you must use the location, antenna, and control point numbers assigned by the Universal Licensing System (ULS). These numbers may not be identical to the location, antenna, and control point numbers on your current authorization if that authorization was not issued by the Universal Licensing System. If you are unsure of the location, antenna, or control point number that corresponds to a particular location, antenna, or control point, you can query the ULS for the most up-to-date information regarding your authorization. To query the ULS license database for your call sign, point your web browser to <http://wireless.fcc.gov/uls> and click on Search - Licenses. Alternatively, you may call (877) 480-3201 (TTY 717-338-2824) for assistance.

## Schedule H Instructions

### Eligibility

Item 1. Enter the number and paragraph of the FCC Rule Section that describes the eligibility for the radio service you specified in Item 1 of the FCC 601 Main Form.

Item 2. Provide a statement that clearly indicates your qualifications for the chosen service. This statement should include:

- (1) A general description of your business or activity;
- (2) A description of how the radio will be employed in this activity;
- (3) Any other information you believe will aid in a determination of your eligibility for the service requested.

### Frequency Coordinator Information

Items 3-6. These items will be completed by the appropriate certified frequency coordinators for those Applicants who are required to comply with the frequency coordination requirements. Broadcast Auxiliary Applicants who have notified their local frequency coordination committee should enter the name of the frequency coordinator, telephone number, including area code, of the person contacted, and date coordinated (Item 3 may be left blank).

Item 7. Enter 'Y' if this application has been successfully coordinated. Otherwise enter 'No'.

## **Extended Implementation (Slow Growth)**

**Item 8** If you are applying for an extended implementation period in which to construct and place a system in operation or requesting a modification to an existing extended implementation schedule, enter 'Y'. Otherwise enter 'N'. If you answer 'Y' to this question, you must submit an exhibit containing a justification for the extended implementation and a detailed implementation plan. Check applicable FCC rules for eligibility for extended implementation plans (e.g., 47 CFR §§ 90.155(b) and 90.629).

**Note:** To modify an authorization with a regular construction period to one with an extended implementation period, you should file FCC 601 Main Form with the purpose of MD - Modification and, enter 'Y' for Item 8 of FCC 601 Schedule H, and attach supporting documentation. Do not file FCC 601 Schedule L - Waiver Request for Extension of Time for Wireless Services to request an extended implementation period.

## **Associated Call Signs**

**Item 9** List any call signs that are part of the system and licensed separately.

## **Broadcast Auxiliary Only**

Items 10-14 apply only to the Land Mobile Broadcast Auxiliary Radio Services, LP, LV and RP.

If there is an associated Broadcast Parent station, Items 10 through 12 must be completed. If there is more than one Parent station, select one for the purpose of filing this application. Actions taken on the Broadcast Parent station identified in Item 10 will similarly affect the Broadcast Auxiliary Station (i.e., renewal, assignment of authorization, cancellation, etc.).

**Item 10** If there is an associated Broadcast Parent station, enter the Facility Identification Number. This identification number is typically a 5 digit number assigned by the FCC's Media Bureau. This is **not** the Call Sign of the Parent station.

**Item 11** Enter the Radio Service Code of the Broadcast Parent station. The Parent Station Radio Service Code must be AM, FM or TV.

**Item 12** Enter the City and State of the Parent Station's principal community.

**Items 13-14** If there is no associated Broadcast parent station, enter the appropriate code for the Applicant and the State of primary operation.

- A – Cable Network Entity
- B - Broadcast Network Entity
- C - Television Cable Operator

L - Large Venue Owner or Operator      M - Motion Picture  
Producer P - Professional Sound Company    T - Television Producer

**Note:** [If you enter L or P as the appropriate code, include on an attachment to your application the following certification and sign and date the certification: "The applicant hereby certifies that it routinely uses 50 or more low power auxiliary station devices, where the use of such devices is an integral part of major events or productions." See 47 CFR § 74.832\(e\).](#)

## **Control Points**

This section must be completed for a primary control point. If you are adding a new control point, complete all items in this section for each control point to be added. If you are modifying a control point, in addition to Items 15 and 16, complete only the items that have changed for each control point. If you are deleting a control point, only Items 15 and 16 are required. Control points that are currently licensed under this call sign by the FCC will continue to be shown on the authorization as is, unless a specific action is requested in this section.

**Item 15** This item indicates the action the filer wants the FCC to take on the specified control point. Enter 'A' for Add, 'M' for Modify, or 'D' for Delete.

**Item 16** Enter the FCC-assigned control point number (see Important Information Regarding Location, Antenna, and Control Point Numbers on page 1 of these instructions). For a new control point, assign a temporary code to represent the control point. The assigned code should begin with C to indicate it as a control point and end with a number to uniquely identify it (e.g., C1, C2, C3, etc.). The FCC will assign an official number to the new control point, which will appear on the Authorization and in the ULS database.

**Item 17** Enter the street address, city or town, county/borough/parish or equivalent entity, and state of the control point. Refer to FCC Main Form Instructions, Appendix II, for a list of valid state, jurisdiction, and area codes.

Item 18 Enter the telephone number (including area code) where a person responsible for operation of the control point could be reached.

## Antenna Information

This section is for fixed stations (Schedule D Item 3 = FX) and must be completed only when antenna information is to be added, modified, or deleted. If you are adding a new antenna, complete Items 19-23 for each antenna to be added. If you are modifying an existing antenna, in addition to Items 19, 20, and 21, complete only the items that have changed for the antenna. If you are deleting an antenna, only Items 19, 20, and 21 are required. Antennas that are currently licensed under this call sign by the FCC will continue to be shown on the Authorization as is, unless a specific action is requested in this section. All stations proposing to operate on frequencies below 27.5 MHz **MUST** complete Items 19-27 if the filing is for a new Authorization. Failure to do so will result in the return of your application without further action. Land Mobile stations located near international borders that seek protection from interference should also complete Items 24-27 if you believe that the assumptions listed would leave your station insufficiently protected. If so, provide the actual data on which interference protection should be based. If you do not provide the actual data and an interference problem arises involving another country's station, your station will be protected only to the limit of the FCC's assumptions. This is especially important for stations proposed to be operated in any of the counties/boroughs listed in Appendix I of the FCC 601 Main Form instructions.

Item 19. This item indicates the action the filer wants the FCC to take on the specified antenna. Enter 'A' for Add, 'M' for Modify, or 'D' for Delete.

Item 20. For each antenna, enter its corresponding location number, as entered on Schedule D Item 2. If the location has been previously licensed under this call sign by the FCC, enter the FCC-assigned location number (see Important Information Regarding Location, Antenna, and Control Point Numbers on page 1 of these instructions). Otherwise, enter the code assigned on Schedule D to represent the location. Refer to the instructions for Schedule D for more information on assigning location numbers.

Item 21. If the antenna has been previously licensed under this call sign by the FCC, enter the antenna's FCC-assigned number (see Important Information Regarding Location, Antenna, and Control Point Numbers on page 1 of these instructions). Otherwise, enter a temporary code to represent each antenna. The assigned code should begin with an A to indicate it is an antenna and end with a number to uniquely identify it (e.g., A1, A2 and A3). A single location can have multiple antennas. Antenna numbers need only be unique within each location. The FCC will assign an official number to the new antenna, which will appear on the Authorization and in the ULS database.

**Note:** Location number (Item 20) and antenna number (Item 21) are used to associate information in the Antenna Information Section with information in the Frequency Information Section. To do this, enter the necessary technical information into the Antenna Information Section using the appropriate location number and antenna number. Then, enter the necessary technical information in Frequency Information Section for that antenna, using the same location number/antenna number pair. Each antenna specified in the Frequency Information Section must have corresponding data in the Antenna Information Section.

Item 22. This is not required for Land Mobile Broadcast Auxiliary Radio Services. For operations in 150-174 MHz, 220-222 MHz, 450-512 MHz, 851-869 MHz and 935-940 MHz, enter the height of the antenna above ground elevation for the average terrain. Enter this item in meters, rounded to the nearest tenth. See the applicable rules for instructions for computing the height above average terrain for the antenna. Applicants applying on frequencies not mentioned in this paragraph may omit this item.

Item 23. Enter the overall height above ground of the highest part of your antenna (antenna structure plus the height of the antenna, if top mounted; the total height to the tip of the antenna, if side-mounted). Enter this item in meters, rounded to the nearest tenth.

Item 24. Enter the angle in the horizontal plane of the transmitting antenna main lobe measured clockwise with respect to True North (degrees) or enter '360' to indicate the transmitting antenna is omni-directional.

Item 25. For directional antennas, enter the total angle (degrees) measured horizontally in a plane containing the direction of maximum radiation within which the power radiated in any direction does not fall more than 3 dB below the power radiated in the direction of maximum radiation. For omnidirectional antennas, enter '360.0'. This information should be available from the specification sheet included with the antenna at time of purchase.

Item 26. Enter one of the following code letters to represent the polarization of the transmitting antenna:

- E – Elliptical
- F – 45 degrees
- H – Horizontal
- J – Linear
- L – Left-hand circular
- R – Right-hand circular
- S – Horizontal and vertical
- T – Right and left-hand circular
- V – Vertical
- X – Other (provide a description in an attachment)

Item 27. Enter the ratio (decibels) of the power required at the input of a loss-free reference antenna to the power supplied to the input of the given antenna to produce, in a given direction, the same field strength or the same power flux-density at the same distance. This information should be available from the specification sheet included with the antenna at time of purchase.

Unless advised to the contrary, the FCC will make certain assumptions which reflect the typical station in these services. Carefully review the list below with respect to your particular situation. If you believe that these assumptions would leave your station insufficiently protected, provide the correct data in the Antenna Section. If you do not provide the actual data and an interference problem arises involving another country's station, your station will be protected only to the limit of the FCC's assumptions.

**The following station parameters will be assumed by the FCC unless otherwise stated:**

Item 24 - **Antenna Azimuth of Main Lobe.** The FCC will report each base or mobile relay station as having an omnidirectional (360<sup>0</sup>)

azimuth. It will also be assumed that each control station associated with a mobile relay station has a directional antenna with its azimuth of maximum radiation directed toward the mobile relay station.

Item 25 - **Beamwidth.** Where an omnidirectional antenna is assumed, beamwidth has no relevance, and therefore, no assumed value will be used. For control stations, 20 percent will be assumed.

Item 26 - **Antenna Polarization.** All stations will be reported as having antennas with vertical

polarization. Item 27 - **Antenna Gain.** The antenna gain for all stations will be assumed to be 6 dB.

**Receiver Information.** All stations specified on the same application form are assumed to be communicating with each other as a system. Receivers will be assumed to operate at the same location as the transmitter. In other words, it is assumed that the receiver site for a mobile station transmission is the location of the associated base station. The receiver site for a base station transmission is assumed to be the area of operation of the associated mobile stations. For a control station transmission, it is assumed that the location of the associated mobile relay station is the location of the receiver.

As a signatory party to international treaty agreements, the FCC performs certain actions regarding the use of radio. The technical details of your station parameters may be reported to the International Telecommunications Union, Geneva, Switzerland, and to countries which border on or in close proximity to the United States. This information along with data reported by other nations will be used to protect reported stations and aid in resolution of interference disputes between Licensees in different countries.

Certain stations, because of their geographic location, would be best protected by provision of additional information. Specifically, this includes any proposed station which is located in the region north of Line 'A', or in the State of Alaska east of Line 'C'. Refer to the Commission's rules for a detailed explanation of Lines A and C. Appendix I in FCC 601 Main Form Instructions contains a list of counties/boroughs, by state, having areas North of Line A and East of Line C. If the desired station is to operate in the 806-821/851-866, 821-824/866-869, 896-901/935-940 MHz bands, please consult the applicable rules for available frequencies and use near the United States/Canada/Mexico borders.

**Note:** If you are adding a 6.1 Meter (20 foot) Control Station criteria that requires greater than 5 watts output power/ERP for operations in regions North of Line 'A' or in Alaska East of Line 'C', on Form 601 Schedule D, complete all required items for the control station as if adding a fixed station location.

**Frequency Information**

This section must be completed only when frequencies are to be added, modified, or deleted. If you are adding a new frequency, complete all items for each frequency to be added. If you are modifying a frequency (*i.e.*, changing from one operating frequency to a different operating frequency), enter the existing and new frequencies in the appropriate boxes in Item 31. If you are modifying attributes of an existing frequency, in addition to Items 28 through 32, complete only the items that have changed for the frequency.

In order to modify an Emission Designator (Item 37), complete Items 28-32, specifying the appropriate location number, antenna number, frequency, and station class code, and list **all** active emission designators now associated with the specified location, antenna, frequency, and station class (complete as many rows as necessary, listing emission designators in Item 37).

**NOTE: To add an emission designator, the purpose should be 'M' (MOD) in Item 28. List all existing emission designator(s) and any new emission designator(s) in Item 37 for that specific frequency.**

If you are deleting a frequency, only Items 28 through 31 are required. Deleting a frequency will delete all station classes for that frequency. To delete a station class from a frequency, complete Items 28-32. Frequencies and station classes that are currently licensed under this call sign by the FCC will continue to be shown on the Authorization as is, unless a specific action is requested in this section.

Enter frequency information for each antenna specified in the Antenna Information Section. For multiple frequency lines, repeat the location number/antenna number combination for each frequency. For example:

Location	Antenna	Frequency (MHz)
L1	A1	XXX.XXXX
L1	A1	YYY.YYYY
L1	A1	ZZZ.ZZZZ
L1	A2	AAA.AAAA
L1	A2	BBBBB.BBBB
L2	A1	CCCCC.CCCC
L2	A1	DDDDD.DDDD

(Note: Frequency bands should be shown in same block, for example 806 – 821, (carrier/assigned) 2326 – 2327.4.)

ADDITIONAL NOTE: Radio Services in the 150-174 MHz and 421-512 MHz bands must provide a Narrowbanding type attachment stating the equipment meets the efficiency standard of one channel per 12.5 kHz (voice) or 4800 bits per second per 6.25 kHz (data).

**Item 28** This item indicates the action the filer wants the FCC to take on the specified antenna. Enter 'A' for Add, 'M' for Modify, or 'D' for Delete.

**Item 29** For each antenna, enter its corresponding location number, as entered in Item 20 of the Antenna Information Section of this Schedule.

**Item 30** For each antenna, enter its corresponding antenna number, as entered in Item 21 of the Antenna Information Section of this Schedule.

**Item 31** To add frequencies on an antenna at a location, enter the specific frequencies in Megahertz in the column labeled 'New'. The requested frequencies must be available in the Commission's rules governing the radio service in which you are seeking eligibility. Use a separate line for each frequency (the exceptions being that 800 MHz SMR mobile and control stations are now designated by frequency range 806-821 and 900 MHz SMR mobile and control stations are now designated by frequency range 896-901). Low Power Broadcast Auxiliary Applicants should refer to Rule Section 74.802 for a complete and accurate listing of the acceptable frequency ranges.

To modify a frequency on an antenna at a location, you must complete Items 28-30 and enter the existing frequency in the column labeled 'Existing' and enter the new frequency in the column labeled 'New'.

**Item 32** Enter the appropriate station class code from the following table. Definitions for most of these items are listed in the Commission's rules.

**Note:** Where appropriate, follow each code with 'T' for Temporary, 'I' for Itinerant, 'S' for Standby, 'A' for Airport Terminal Use, 'C' for Interconnect, 'J' for Temporary Interconnect, 'K' for Standby Interconnect, or 'L' for Itinerant Interconnect. For example, FBT means Temporary Base. (NOTE: MO, MO3, MO6, MO7, MO8 & FXO use the alpha character "O").

Base.....	FB
Mobile Relay .....	FB2
Community Repeater .....	FB4
Private Carrier (Profit) .....	FB6
Private Carrier (Nonprofit) .....	FB7
Centralized Trunked Relay.....	FB8
Control .....	FX1*
Mobile .....	MO
Mobile/Vehicular Repeater.....	MO3
Private Carrier Mobile Operation (Profit) .....	MO6
Private Carrier Mobile Operation (Non-profit).....	MO7
Centralized Trunked Mobile .....	MO8
Operational Fixed.....	FXO
Fixed Relay .....	FX2
Fixed .....	FX**
Primary Permanent Fixed Stations or Links.....	
FXB Radiolocation Land .....	LR
Radiolocation Weather Radar .....	WDX
Radiolocation Mobile.....	MR
Secondary Fixed Signaling .....	FX3

\*Station associated with a mobile relay that employs the same frequency as the associated mobile station for control

purposes.

**\*\*Station operating on frequencies available for fixed use for control purposes in accordance with applicable rules.**

Item 33. Enter the number of actual transmitting units at each station.

Normally, only one transmitter (base, mobile relay, etc.) is associated with station classes that indicate operation at a permanent/fixed location. Therefore, for these station classes, the number 1 should usually be entered. However, if more than one transmitter is placed at the same location, then enter the appropriate number.

For transmitters associated with station classes that indicate mobile operation, enter the total number of mobile units. The total number of mobile units is normally the sum of vehicular, portable, aircraft, and marine units that will be placed in operation at the time of grant plus the units for which purchase orders have been signed and will be in use prior to the end of the station's construction period. Some exceptions are provided for in the rules, which should be noted.

**Note:** Paging receivers should not be counted as mobile units. These receivers should be listed separately in Item 34.

Item 34. Enter the number of paging receivers in this system.

Item 35. For operations using the emissions NON, A1A, A2D, A3E, A9W, F1B, F2D, F3E, and F9W -- enter the mean RF output power (watts) normally supplied by the transmitter to the antenna feedline. Enter Output Power for transmitter when operating with single sideband (A3J or new J3E) emission; enter the peak envelope power (watts). (See the applicable rules.)

**Note:** The power entered should be the minimum required for satisfactory operations.

Item 36. This information is required for operations above 10 MHz from Applicants requesting new station authorizations and for modifications as described in the applicable rules.

Enter the Effective Radiated Power (ERP). The ERP is the transmitted output power times the net gain of the antenna system. This is the gain of the antenna minus the transmission losses, which include losses attributable to the transmission line, duplexers, cavity filters, and isolators. The actual formula is:

ERP (watts) equals Power (watts) times Antilog of (net gain in dB divided by 10)

Item 37. Enter the emission designator for each station. Normally, land mobile operations are intended to provide voice communications. The new ITU (International Telecommunications Union) emission designators **must** be used in place of the old designators. The following provides samples of the corresponding new ITU designators for the most commonly used emission designators. These are samples only and do not necessarily represent an emission for which you should apply.

	<b>Old</b>	<b>New</b>
Frequency modulated (FM) voice	20F3	20K0F3E
Frequency modulated (FM) voice	13.6F3	13K6F3E
Frequency modulated digitized voice	20F3Y	20K0F1E
Frequency modulated digitized non-voice	20F9Y	20K0F1D
Amplitude modulated single sideband voice	3A3J	3K00J3E
Amplitude modulated (AM) voice	8A3	8K00A3E
Frequency modulated voice (12.5 KHz channel)		11K3F3E