

Information and Instructions

Wireless Telecommunications Bureau Schedule for Station Locations and Antenna Structures

Form FCC 601, Schedule D, is a supplementary schedule for use with the FCC Application for Wireless Telecommunications Bureau Radio Service Authorization, FCC 601 Main Form. This schedule is used to supply technical information for fixed transmit station locations, including antenna structures and Mobile, Temporary Fixed, Itinerant, and 6.1 Meter Control Station Locations. It is also used by geographic licensees (all radio services, except microwave) to apply for a site-specific authorization to fulfill international coordination requirements, environmental assessment requirements or for reporting of cell transmitter stations (CTS) in the 218-219 MHz Service (when required by Part 95) or for reporting of base or fixed stations operating in excess of 1 kW ERP in the Lower 700 MHz WCS channels (when required by Part 27). File as many schedules as necessary to describe all station locations, including antenna structures, in your application. The FCC 601 Main Form must be filed in conjunction with this schedule. This schedule is used in conjunction with the following technical data schedules:

Note: When required, antenna structures must be registered using FCC Form 854. The use of this form to supply antenna structure information does not replace the requirement to register antenna structures on the FCC Form 854. For more information, see our web site at <http://wireless.fcc.gov/antenna>, call the Consumer & Governmental Affairs Bureau at 888-CALLFCC (888-225-5322), or e-mail questions to FCCDMD@fcc.gov.

FCC 601, Schedule F - Technical Data Schedule for the Cellular and Air-ground (Commercial Aviation) Radiotelephone Services (Part 22)

Note: Services that use Schedule F may only apply for fixed station locations.

FCC 601, Schedule G - Technical Data Schedule for the Maritime and Aviation Services (Parts 80 and 87)

FCC 601, Schedule H - Technical Data Schedule for the Private Land Mobile and Broadcast Auxiliary Land Mobile Radio Services (Parts 90 and 74)

Note: Part 90 Services that use Schedule H may only have a maximum of six fixed sites per call sign.

FCC 601, Schedule J - Technical Data Schedule for the Paging, Rural, Air-ground (General Aviation), and Offshore Radiotelephone Services (Part 22)

It is recommended that Schedule D be completed prior to completing any required technical data schedules.

Note: Some services have specific requirements and/or restrictions for some of the items on this schedule. Please refer to the instructions of the appropriate technical data schedule for service specific response requirements and restrictions.

Schedule D Instructions

This schedule must be completed when any station location is to be added, modified, or deleted. Use as many copies of Schedule D as necessary to provide information for all stations.

Adding a Fixed Station Location

If you are adding a new fixed station location, complete all required items for each fixed station location being added.

Note: If you are adding a 6.1 Meter (20 foot) Control Station in the 470-512 MHz band, 72-76 MHz band or adding a 6.1 Meter (20 foot) Control Station that requires greater than 5 watts output power/ERP for operations in regions North of Line 'A' or in Alaska East of Line 'C', complete all required items for the control station as if adding a fixed station location. Enter location description code as "FX" in Item 3.

Modifying a Fixed Station Location

If you are modifying a fixed station location, in addition to Items 1, 2, and 6 (provide the seven digit antenna structure registration number), complete only the items that have changed for each fixed station location. If the modification is to delete existing data, enter CLR (clear) in the appropriate field (manual filed forms only). If the modification involves technical data filed on one of accompanying FCC Technical Data Service Schedules F, G, H, or J, or involves the relocation of a fixed station, then Items 26 and 27 (if applicable) must also be completed.

Adding a Mobile, Temporary Fixed, Itinerant, or 6.1 Meter Control Station Location

If you are adding a new mobile station, temporary fixed station, itinerant station, or 6.1 meter control station, complete all required items for each station to be added.

Note: If you are adding a 6.1 Meter (20 foot) Control Station in the 470-512 MHz band, 72-76 MHz band or adding a 6.1 Meter (20 foot) Control station that requires greater than 5 watts output power/ERP for operations in regions North of Line 'A' or in Alaska East of Line 'C', complete all required items for the control station as if adding a fixed station location. Enter location description code as "FX" in Item 3.

Modifying a Mobile, Temporary Fixed, Itinerant, or 6.1 Meter Control Station Location

If you are modifying a station, in addition to Items 1, and 2, complete only the items that have changed for each station. If the modification is to delete existing data, enter CLR (clear) in the appropriate field (manual filed forms only). If the modification involves technical data filed on one of accompanying FCC Technical Data Service Schedules G, H, or J, or involves the relocation of a control station, then Items 26 and 27 (if applicable) must also be completed.

Deleting a Station Location

If you are deleting a station location, only Items 1, 2, 7 and 8 are required, if applicable. If a station location is deleted, the frequency, emission, and all related technical data that is linked to that station location will automatically be deleted and will no longer be part of your authorization. Therefore, it is not necessary to complete the complementary technical data service schedule to delete frequency and emissions when a station location is deleted using this schedule. Station locations that are currently licensed under the call sign by the FCC will continue to be shown on the Authorization as is, unless a specific action is requested.

IMPORTANT ANTENNA STRUCTURE REGISTRATION INFORMATION: The Commission will evaluate your application for a fixed location based on the Antenna Structure Registration number you provide (if required). If you mistype your Antenna Structure Registration Number, or provide location data (latitude, longitude, elevation, and structure heights) that is inconsistent with the data found in the Commission's Antenna Structure Registration database, your application will be dismissed.

Inconsistent data is defined as follows:

1. Latitude and Longitude data provided on Schedule D differs from the data in the Antenna Structure Registration database by more than 1 second; or
2. The height or elevation reported on Schedule D is more than 0.5 meters (1.5 feet) greater than the data in the Antenna Structure Registration Database; or elevation is more than 3 meters (9.8 feet) less than the elevation listed in the Antenna Structure Registration Database.

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 the Search - Licenses. Alternatively, you may call 1-888-CALLFCC (888-225-5322) for assistance.

Item 1 This item must be completed. It indicates the action the applicant wants the FCC to take on the specified location. Enter 'A' for Add, 'M' for Modify, or 'D' for Delete.

Item 2 This item must be completed. If the station location has been previously licensed under this call sign by the FCC, enter its FCC-assigned location number (see Important Information Regarding Location, Antenna, and Control Point Numbers. For a new station location, assign a temporary code to represent the station location. The assigned code should begin with 'L' to indicate it is a location and end with a number to uniquely identify it (e.g., L1, L2, L3, etc.). The FCC will assign an official number to the new station, which will appear on the Authorization.

Item 3 Enter the appropriate location description for the specified location. Valid location description codes are listed below:

- FX - Fixed
- MO - Mobile
- IT - Itinerant
- TF - Temporary Fixed
- 6.1 - 6.1 Meter Control Station

Item 4 Does not apply if Item 3 equals FX. For Mobile, Temporary Fixed, Itinerant, and 6.1 Meter Control Stations, enter the appropriate area of operation code using the table that follows. Additional Schedule D fields must be completed according to the area of operation code chosen. Refer to the table to determine which additional fields are required on Schedule D for the chosen area of operation code. Only one area of operation code may be selected for each location.

Note: If area of operation will cover multiple counties/boroughs/parishes, use area of operation code 'O' and in Item 24, specify all applicable counties/boroughs/parishes in and the state(s) the counties/boroughs/parishes are located in.

Area of Operation Codes and Required Data Values

Code Description	Additional Schedule D Data Elements Required for each Area of Operation Code	Item Numbers
A KMRA* around a Fixed location (option not available to Maritime or Aviation Services)	Fixed Location Number, Temporary Fixed or Mobile Radius	17, 18
P KMRA* around a Center point	Latitude, Longitude, City**, State, County/Borough/Parish**, Temporary Fixed or Mobile Radius	7, 8, 10, 11, 12, 18
R Rectangular Area of Operation	Latitude, Longitude, Maximum Latitude, Maximum Longitude	7, 8, 21, 22
N Nationwide including Hawaii Alaska & US Territories		
U Continental US		
C County/Borough/Parish Wide Area of Operation	State, County/Borough/Parish	11, 12
S Statewide Area of Operation	State	11
O Other	Description (should include State)	24
X Land Mobile Control Station Meeting the 6.1 Meter Rule	State, County/Borough/Parish	11, 12

*Kilometers Radius

** Complete as applicable - refer to instructions for applicability.

Item 5 This item is optional. Enter a location name that describes the location (up to 20 characters maximum).

Item 6 This item is required for fixed locations if the action requested in Item 1 is 'A' or 'M'. If antenna structure registration is required, enter the seven digit FCC Antenna Structure Registration Number (shown on the structure's registration, FCC Form 854R). Otherwise, enter N/A to indicate that FAA notification is not required.

Note: Effective 7/1/96 the Commission requires owners to register certain structures. When required, antenna structures must be registered using FCC Form 854. The use of this FCC Form 601 to supply antenna structure information does not replace the requirement to register antenna structures on the FCC Form 854. For more information, see our web site at <http://wireless.fcc.gov/antenna/>, call the Consumer and Governmental Affairs Bureau at 888-CALLFCC (888-225-5322), or e-mail questions to FCCDMD@fcc.gov.

Note: If, in accordance with 47 CFR § 17.14, Antenna Structure Registration is not required because the structure is shielded by existing structures or because it is fixed by its functional purpose, submit supporting documentation as an attachment to your application.

Items 7 and 8 For fixed locations, if you entered 'N/A'; in Item 6, you must enter the geographic coordinates (latitude and longitude) of the location. If you provided an Antenna Structure Registration Number in Item 6, then these items are optional (see Important Antenna Structure Registration Information on page 2 of these instructions). For all other locations enter the geographic coordinates as specified in the table in the instructions for Item 4:

If 'P' was entered in Item 4, enter the geographic coordinates of the center point;

If 'R' was entered in Item 4, enter the geographic coordinates of the southeast corner of the rectangular area or box. (See also Items 21 and 22 for the Northwest corner)

Enter the latitude using the format *DD-MM-SS*, where the degrees (*DD*) term can have a value in the range of 0 to 71, minutes (*MM*) can range from 0 to 59, and seconds (*SS*) can range from 0 to 59.9. If desired, seconds may be rounded to the nearest tenth of a second (in which case, use the format *DD-MM-SS.S*). In the right corner, specify the direction as either N for North or S for South.

Enter the longitude using the format *DDD-MM-SS*, where the degrees (*DDD*) term can have a value in the range of 64 to 180, minutes (*MM*) can range from 0 to 59, and seconds (*SS*) can range from 0 to 59.9. If desired, seconds may be rounded to the nearest tenth of a second (in which case, use the format *DDD-MM-SS.S*). In the right corner, specify the direction as either E for East or W for West.

All coordinates must be referenced to the North American Datum of 1983 (NAD83). This information can be determined in many ways, including a GPS receiver, a 7.5-minute topographical quadrangle map of the area, or you may consult the city or county/borough/parish surveyor in your area. Topographical maps may be purchased from the U.S. Geological Survey, Washington, DC 20242 or from its office in Denver, Colorado 80225.

Note: Location coordinates (latitude and longitude) for sites in the Continental United States, Puerto Rico, the U.S. Virgin Islands, Alaska, Hawaii, American Samoa, and Guam must be referenced to the North American Datum of 1983 (NAD83). Coordinates for sites in the Northern Mariana Islands, Wake Island, and Midway Island should be referenced to the applicable local datums. If the source from which you obtain the coordinates still utilizes an older datum (*i.e.*, NAD27, PRD40) you must convert to NAD83. Conversion routines are available through the internet at <http://wireless.fcc.gov/uls/utilities/nadcon.html>.

Items 9-12

Fixed Locations

If you answered 'N/A' in Item 6 for a Fixed Location, you must complete Items 9 through 12. If you provided an Antenna Registration Number in Item 6 for a Fixed Location, you must complete Item 12, County/Borough/Parish name.

Item 9 This item must be completed for the Fixed Location. Enter a complete description of the location such as street number and address or other geographic description such as direction and distance from a town or known landmark (*i.e.*, RT 81, 5 km South of Fairview). P. O. Box numbers or geographical coordinates are not acceptable for this item.

Item 10 This item must be completed with the City in which the station is located.

Item 11 This item must be completed with the State code in which the station is located. Refer to FCC Form 601 Main Form Instructions, Appendix II, for a list of valid state, jurisdiction and area codes.

Item 12 This item must be completed with the County/Borough/Parish in which the station is located unless any of the following pertain to the Fixed Location:

- a) The City entered in Item 10 is an Independent City that is not affiliated with a County/Borough/Parish (*i.e.*, Baltimore, MD)
- b) The State code entered in Item 11 does not have Counties/Boroughs/Parishes (*i.e.*, Puerto Rico, Virgin Islands)
- c) The State code entered in Item 11 is GM, Gulf of Mexico

NOTE: If the nearest City, County/Borough/Parish and State are located in a bordering County/Borough/Parish and/or State, enter a complete description of the location in Item 9 as shown in the example. Complete Item 10 if a City, Town or Village within the station's County/Borough/Parish is nearby, and complete Items 11 and 12 with the County/Borough/Parish and State in which the coordinates are actually located.

Example: 9) (Street) Summit Mtn near Palo Verde, Imperial County, CA
 10) (City) Palo Verde
 11) (State) AZ
 12) (County/Borough/Parish) La Paz

Area Locations

For area locations, respond to items 9-12 as specified in the table in the instructions for Item 4:

Item 9 This item is not applicable for area locations and should be left blank.

Item 10 If 'P' was entered in Item 4, enter the city or town name of the location in this item. This item is required only if Item 12 is blank.

Item 11 If 'P', 'C', 'S', or 'X' was entered in Item 4, enter the State of the location in this item (if 'X' was entered in Item 4, enter the State of the primary control station). Refer to FCC 601 Main Form Instructions, Appendix II, for a list of valid state, jurisdiction, and area codes.

Item 12 If 'C', 'P' or 'X' was entered in Item 4, enter the County/Borough/Parish of the location in this item.

This item is always required for area of operation code 'C'.

This item is required for area of operation code 'P' except when: (a) the City entered in Item 10 is an Independent City that is not affiliated with a County/Borough/Parish (*i.e.*, Baltimore, MD), (b) the State entered in Item 11 does not have counties/boroughs/parishes (*i.e.*, Puerto Rico, Virgin Islands), or (c) the State entered in Item 11 is 'GM' (Gulf of Mexico).

This item is required for area of operation code 'X' for Radio Service Codes IK or YK utilizing frequencies below 470 MHz except when: (a) the City entered in Item 10 is an Independent City that is not affiliated with a County/Borough/Parish (*i.e.*, Baltimore, MD), (b) the State entered in Item 11 does not have counties/boroughs/parishes (*i.e.*, Puerto Rico, Virgin Islands), or (c) the State entered in Item 11 is 'GM' (Gulf of Mexico).

Note: Items 13-16 only apply to Fixed Locations. If you answered 'N/A' in Item 6 for a Fixed Location, you must complete Items 13-16. If

you provided an Antenna Registration Number in Item 6 for a Fixed Location, Items 13-16 are optional. (See Important Antenna Structure Registration Information on Page 2 of Schedule D Instructions.)

Item 13 Enter the elevation above mean sea level (AMSL) of the ground at the antenna location. Enter this item in meters, rounded to the nearest tenth. Refer to letter 'a' in the antenna structure figure examples on page 6 of these instructions. This information can be determined in many ways, including a GPS receiver, 7.5 minute topographical quadrangle map of the area, or you may consult the city or county/borough/parish surveyor in your area. Topographical maps may be purchased from the U.S. Geological Survey, Washington, DC 20242 or from its office in Denver, Colorado 80225.

Item 14 Enter the height above ground level to the highest point of the **supporting structure only**. Enter this item in meters, rounded to the nearest tenth. For example, if the antenna structure consists of a building/tower combination, include any elevator shaft, flag pole, or penthouse in the **overall** support structure height, but not the antenna, tower, pole, or mast. If the antenna structure is a tower only, include the height of the tower but not the antenna. Refer to letter 'b' in the antenna structure figure examples on page 6 of these Instructions.

Item 15 Enter the overall height above ground level of the entire antenna structure to the highest point, including any appurtenances. Enter this item in meters, rounded to the nearest tenth. You must include antennas, dishes, obstruction lighting, etc. Refer to letter 'c' in the antenna structure figure examples on page 6 of these instructions.

Item 16 Enter the code for the type of structure on which the antenna is or will be mounted from the following valid structure types:

<u>Code</u>	<u>Definition</u>
B	Building with a side mounted antenna
BANT	Building with Antenna on Top
BMAST	Building with Mast/Antenna on Top
BPIPE	Building with Pipe/Antenna on Top
BPOLE	Building with Pole/Antenna on Top
BRIDG	Bridge
BTWR	Building with Tower/Antenna on Top
MAST	Self-Support Structure
NNTANN*	Antenna Tower Array
NTOWER**	Multiple Structures
PIPE	Any Type of Pipe
POLE	Any Type of Pole, used only to mount an antenna
RIG	Oil or Other Type of Rig
SIGN	Any Type of Sign or Billboard
SILO	Any Type of Silo
STACK	Smoke Stack
TANK	Any Type of Tank (Water, Gas, etc.)
TOWER	A Free Standing or Guyed Structure Used for Communications Purposes
TREE	When Used as a Support for an Antenna
UPOLE	Utility Pole/Tower Used to Provide Service (Electric, Telephone, etc.)

* Valid Tower Arrays. Code definition: The first NN indicates the number of towers in an array. The second NN is optional and indicates the position of that tower in the array (e.g., 3TA2 would identify the second tower in a three-tower array).

** Valid Multiple Structures. Code Definition: The N indicates the number of structures where multiple antenna structures are present in a multiple structure (Ex.: 2TOWER, 3TANK, 6BANT, 7BMAST).

Item 17 If you entered Area of Operation code 'A' in Item 4, enter the location number of the corresponding fixed location.

Item 18 For Area of Operation codes 'A' or 'P', enter the radius of the area of operation. Enter in kilometers, rounded to the nearest tenth. Refer to CFR 47 for limitations.

Item 19 Applicable to Aviation Services (Part 87) only. Enter the three or four character code assigned to the airport (if applicable).

Item 20 This item only applies when Item 3 equals FX and Item 1 is 'A' or 'M'. If Commission's rules recognize Primary and Secondary protection in conjunction with other fixed site facilities in the service, enter 'P' if you wish primary protection for the site or 'S' if you wish no protection for the site. If Commission's rules do not recognize Primary and Secondary protection in conjunction with other fixed site facilities in the service, Item 20 can be left blank. Refer to the applicable Commission's rules for your service for more information on Primary and Secondary protection.

Items 21 and 22 These items must be completed for operations that are defined by a rectangular area or box coordinates (Area of Operation code in Item 4 = 'R'). Enter geographic coordinates (latitude and longitude) of the northwest corner of the rectangular area of box in Items 21 and 22. See Notes in Items 7 and 8 of these instructions for important information regarding coordinates.

Item 23 Respond to this Item only if Item 3 is MO, TF, IT or 6.1. Does not apply when Item 3 equals FX. This item helps the FCC to determine if it will initiate coordination procedures with the Government of Canada. If any part of the mobile location is in an area that requires frequency coordination with Canada and you intend to operate in this area, enter 'Y'. In the event the applicant needs to submit additional information regarding coordination of a channel assignment with the Government of Canada, this should be attached as an exhibit, which references Schedule D Item 23. If 'N' is entered, the FCC will not initiate coordination procedures with the Government of Canada and your area of operation will be excluded from these border areas. Appendix I in FCC Form 601 Main Form Instructions contains a list of counties/boroughs, by state, having areas within the various coordination zones and a list of which coordination zones apply for various frequency bands. (If the county/borough has an 'X' in the block then enter 'Y'. If the county/borough doesn't have an 'X' then enter 'N'. If the county/borough has an 'X' and a 'P', this indicates part of the county/borough requires frequency coordination with Canada, then enter 'Y' or 'N' depending on whether or not you intend on operating in the border area.)

Item 24 If the response to Item 4 was 'O', enter a description of the area of operation. P.O. Box numbers or geographic coordinates are not acceptable for Item 24. The use of 'Other' should only be used if the area of operation cannot be described by using codes A, P, R, C, S, N, or U. Area of operation provided as 'Other' may delay processing of the application.

Item 25 This item is applicable only if you are applying for an area of operation in services other than Land Mobile (public or private) or Broadcast Auxiliary Land Mobile Radio. Enter the number of units for each type listed: Hand Held, Mobile, Temporary Fixed, Aircraft, and Itinerant. For paging systems (Part 22), provide the number of subscribers (in mobiles) along with the number of temporary fixed transmitters.

Item 26 This item is required for compliance with the National Environmental Policy Act of 1969 (NEPA), as amended, 42 U.S.C. 4321-4335. See also Part 1, Subpart I of the FCC rules (47 CFR 1.1301 - 1.1319). This item must be answered, either 'Y' or 'N'.

Enter 'Y' if an FCC grant of this application will have a significant environmental effect. Section 1.1307 of the FCC rules lists categories of environmental effects for which applicants must file an environment assessment. Other wise enter 'N'. Examples of facilities that may have a significant effect on the environment include:

An antenna structure located in a residential area (as defined by applicable zoning laws) that will utilize high intensity aviation obstruction lighting

A facility located in an officially designated wilderness area, wildlife preserve, or floodplain

A facility that affects a site significant in American history

A facility whose construction involves extensive changes in surface features

Facilities, operations, or transmitters that would cause human exposure to levels of radio frequency radiation in excess of the limits as detailed in § 1.1310 and 2.109 of the Commission's rules

Item 27 Applicants for stations located in one of the Quiet Zones listed below must notify the proper authority and indicate the date (mm/dd/yy) such notification was sent in Item 27.

1. National Radio Astronomy Observatory, Green Bank, Pocahontas County, West Virginia. The quiet zone is located within Virginia, West Virginia, and Garrett County, Maryland and bounded by N 39 degrees 15' 0.4" on the north, W 78 degrees 29' 59.0" on the east, N 37 degrees 30' 0.4" on the south, and W 80 degrees 29' 59.2" on the west. Contact the National Radio Astronomy Observatory, P.O. Box 2, Green Bank, West Virginia 24944.

2. Arecibo Observatory, Puerto Rico. The quiet zone consists of the islands of Puerto Rico, Desecheo, Mona, Vieques, and Culebra. Contact the Interference Office, Arecibo Observatory, HC 3 Box 53995, Arecibo, Puerto Rico 00612.

Antenna Structure Figure Examples:



