

Instructions for Schedule I Supplement 2 - Path Data

This Supplement must be completed only when a transmission path is to be added, modified, or deleted. For purposes of filing this application, a 'path' is defined as the transmitting antennas (along with their height, orientation, and polarization); the final receiver (if present) and any associated passive repeaters. File as many copies of Supplement 4 (Frequency Data) as necessary to describe all transmitters and frequencies associated with each transmission path. Transmission paths are linked on Supplement 2 and Supplement 4 by Item 2, path number, located respectively on each supplement (see Important Information Regarding Location and Path Numbers on page 1 of Schedule I instructions).

A Supplement 2 must be completed for each transmission path added, modified, or deleted. If you are adding a new transmission path, complete a Supplement 2 for each transmission path to be added, and a Supplement 4 (Frequency Data) for all transmitters and frequencies on the new path. If you are modifying a transmission path, in addition to Items 1 through 3, complete only the items that have changed for each transmission path. If you are deleting a transmission path, only Items 1 through 3 are required. Transmission paths 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 Supplement.

Note: If a path is deleted, the transmitter and frequency data that is linked to the path will automatically be deleted and will no longer be part of your authorization.

Refer to Table 2 on pages 17 & 18 of Schedule I instructions for assistance in filling out Supplements 2 and 4. Table 2 indicates the fields and their values that are applicable for various path types. For Permanent Fixed Point-to-Point paths, enter the actual value used for each item on Supplement 2, or leave blank if not applicable.

Transmit Location

This section identifies the transmit location and path number of the transmission paths. Transmit location information is entered on Supplement 1 of Schedule I. Path information is entered in the remaining sections of Supplement 2.

Item 1

Enter the transmit location name as entered in Item 5 of Supplement 1.

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Item 2

Enter the path number. If the path has been previously licensed under this call sign by the Commission, enter its FCC-assigned path number (see Important Information Regarding Location and Path Numbers on page 1 of Schedule I instructions). If you are adding a new path to the transmit location as part of this filing, assign a code to represent the path. Number each new path consecutively, beginning each assigned path number with 'P' to indicate it is a path and end with a number to uniquely identify it (e.g., P1, P2, P3, etc.). A single transmitter can have multiple paths. Path numbers need only be unique for each transmitting antenna and final receiver (if present). The FCC will assign an official number to the new path, which will appear on the Authorization.

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Item 3

This item indicates the action the applicant wants the FCC to take on the path specified in Item 2. Enter only one action per copy of Supplement 2. Enter 'A' to Add a New Path, 'M' to Modify an Existing Path, or 'D' to Delete an Existing Path.

If 'A' is entered, complete all remaining items on this supplement (Items 4 through 32). Also complete as many copies of Supplement 4 (Frequency Data) as necessary to describe all transmitters and frequencies associated with the new path. If 'M' is entered, in addition to completing Items 1 through 3, complete only those Items of 4 through 32 that are being modified (enter new data only). If the modification also affects transmitters or frequencies, also complete as many copies of Supplement 4 as necessary to describe the transmitter or frequency modifications (enter new data only). Modification of a path will affect all parameters of that path. If 'D' is entered, only complete Items 1 through 3. Deletion of a path will delete the entire path, including all frequencies.

Note: To add one path and modify another, complete two Supplement 2 forms.

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Item 4a

This item is to be completed for MAS (Multiple Address System) and DEMS (Digital Electronic Message Service) stations only, as entered in Item 3 on main Schedule I. This item further classifies various MAS and DEMS operations. Enter the sub-type of operation codes for the path. Enter only one sub-type of operation code for each path.

Fixed Two-way MAS Master-Remote or DEMS Nodal-User

Normal fixed MAS master-remote or DEMS nodal-user two-way operation, with single fixed master/nodal, located at the coordinates stated in Items 7 and 8 of Supplement 1, transmitting to four or more MAS remotes or any number of DEMS users, and remotes/users transmitting back to master/nodal. Two of Supplement 2 must be filed for this sub-type, one for the master/nodal-to-remotes/user path, and one for the remotes/user-to-master/nodal path.

Fixed One-way Outbound MAS Master

A fixed MAS master, located at the coordinates stated in Items 7 and 8 of Supplement 1, transmitting to four or more receive-only remotes. Only one Supplement 2 must be filed for this sub-type for the master-to-remote path.

Fixed One-way Inbound MAS Master

Four or more remotes transmitting to a receive-only fixed master, located at the coordinates stated in Items 7 and 8 of Supplement 1. Only one Supplement 2 must be filed for this sub-type for the remote-to-user path.

Multiple Two-way MAS Master-Remote or DEMS Nodal-User (DEMS only permitted under waiver)

Multiple MAS masters or DEMS nodals at unspecified locations within an area around the coordinates stated in Items 7 and 8 of Supplement 1, transmitting to at least four multiple receive-only MAS remotes or any number of DEMS users and remotes/users transmitting back to multiple masters/nodals. Two of Supplement 2 must be filed for this sub-type, one for the master/nodal-to-remote/user path, and one for the remote/user-to-master/nodal path.

Multiple One-way Outbound MAS Master

Multiple MAS masters at unspecified locations within an area around the coordinates stated in Items 7 and 8 of Supplement 1. Only one Supplement 2 must be filed for this sub-type for the master-to-remote path.

Mobile MAS Master (Mobile-only)

Mobile master(s) at unspecified locations within an area described in items 7, 8, and 17 of Supplement 1. A path code should not be filed for this subtype (see Note in Item 4b).

Mobile MAS Master (Non-Mobile-only)

Mobile master(s) added to the authorization of an existing MAS station and associated with the fixed location of that existing MAS station. A path code should not be filed for this subtype (see the Note in Item 4b).

Notes: For MAS, sub-types of operation Fixed Two-way MAS Master-Remote, Fixed One-way Outbound MAS Master, and Fixed One-way Inbound MAS Master, each must be licensed separately from each other. Do not enter these sub-types of operation together on the same license. Multiple Two-way MAS Master-Remote, Multiple One-way Outbound MAS Master, and Mobile MAS Master sub-types of operation may be licensed by themselves or in conjunction with any valid MAS sub-type of operation code. A Mobile MAS Master Sub-type can only be used in conjunction with other sub-types if they operate on the same frequency.

For DEMS, Fixed Two-way DEMS Nodal-User or Multiple Two-way DEMS Nodal-User sub-types of operation may be licensed either by themselves or in combination with each other.

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Item 4b

Enter the path code (only one for each path) for the MAS/DEMS type of operation. See Table 1 on page 16 of Schedule I instructions for a list of path codes.

Note: Path codes are not collected for the following types of operation, as their path codes are predefined and shown within the parentheses: Permanent Fixed Point to Point (PP), Temporary Fixed/Mobile (MM), Multiple Address System Mobile Only (MM), 18 GHz Low Power (MM), 31 GHz (MM), 38 GHz (MM).

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Items 5 and 6

Enter the name of the manufacturer and model number of the transmit antenna.

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Item 7

Enter the height above ground to the center of the final radiating element. Enter this item in meters, rounded to the nearest tenth. For a parabolic dish antenna, this is the height to the center of the dish. For a periscope antenna system, this is the height to the center of the reflector. In all cases, the height should not exceed the overall height of the structure with appurtenances.

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Item 8

Enter the beamwidth (degrees, rounded to one decimal place) of the transmitting antenna. That is, enter the angular distance between the half power points of the antenna's main lobe in the horizontal plane. For omnidirectional antennas, enter '360'.

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Item 9

Enter the gain of the transmitting antenna over an isotropic radiator in dBi, rounded to one decimal place.

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Items 10-12

If a diversity antenna is used, complete Items 10 through 12 with the antenna height above ground level, beamwidth, and gain for the diversity antenna. See instructions for Items 7 through 9.

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Item 13

For fixed stations only, enter the elevation angle of the antenna (rounded to the nearest degree), measured in degrees from the horizontal up to the center line of radiation of the antenna. If the antenna tilts down (depression angle), indicate with a minus sign.

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Item 14

Indicate polarization with the following codes:

- V – Vertical
- H – Horizontal
- R – Right-hand circular
- L – Left-hand circular
- S - Variable

For linear polarization other than horizontal or vertical, the polarization should be stated in degrees measured from the vertical, with angles between 1 and +89 degrees denoting the outgoing electric field vector displacement in the clockwise direction, and angles between -1 and -89 degrees denoting the outgoing electric field vector displacement in the counterclockwise direction. For a periscope antenna system, enter the expected polarization of the signal radiated off the reflector.

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Item 15

Enter the azimuth, clockwise from True North (degrees, rounded to one decimal place), from the station to the receive site or to the first passive repeater, if any, on this transmission path.

For omnidirectional antennas, enter '360'. For a directional antenna without a fixed azimuth -- as with temporary, mobile, Multiple Address Remote, or Digital Electronic Message stations -- enter 999.

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Item 16

Enter the height and width of the periscope reflector, if used. Enter this item in meters, rounded to the nearest tenth.

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Item 17

Enter the separation distance between the transmit antenna and the periscope reflector, if used. Enter this item in meters, rounded to the nearest tenth.

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Item 18

If the final receiver is located outside of the United States, enter the name of the country and attach an exhibit explaining the circumstances.

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Item 19

If this path includes a passive repeater, enter 'Y'. Supplement 3 requests information about passive repeaters. If none, enter 'N'.

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Item 20

If the application proposes installation or reorientation of a transmitting antenna that operates with a frequency in the 5925-6875 MHz band and is aimed within 2 degrees of the geostationary satellite orbit, enter 'Y' and submit, as an exhibit, a justification for waiver. Otherwise, enter 'N'.

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Item 21

Enter the receiver location name as entered in Supplement 1, Item 5 of this application for the station at the far end of the transmission path. For a receive only station, enter a name that relates to its location. For example, the name of a city, town, or geographic feature may be used.

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Items 22 and 23

Enter the name of the manufacturer and model number of the receiving antenna.

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Item 24

Enter the call sign of the station at the far end of the transmission path. This is the station that will receive the transmissions of this path on the frequencies entered in Item 4 and 5 of Supplement 4. For a receive-only station or a new station, leave this item blank.

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Item 25

Enter the height above ground level to the center of the receiving antenna. Enter this item in meters, rounded to the nearest tenth. For a parabolic dish antenna, this is the height to the center of the dish. For a periscope antenna system, this is the height to the center of its reflector.

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Item 26

Enter the beamwidth (degrees, rounded to one decimal place) of the receiving antenna. That is, enter the angular distance between the half power points of the antenna's major lobe in the horizontal plane. For omnidirectional antennas, enter '360'.

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Item 27

Enter the gain of the receiving antenna over an isotropic radiator in dBi, rounded to one decimal place.

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Item 28

Enter the height above ground level to the center of the diversity receiving antenna. Enter this item in meters, rounded to the nearest tenth. For a parabolic dish antenna, this is the height to the center of the dish. For a periscope antenna system, this is the height to the center of its reflector.

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Item 29

Enter the beamwidth (degrees, rounded to one decimal place) of the diversity receiving antenna. That is, enter the angular distance between the half power points of the antenna's major lobe in the horizontal plane. For omnidirectional antennas, enter '360'.

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Item 30

Enter the gain of the diversity receiving antenna over an isotropic radiator in dBi, rounded to one decimal place.

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Item 31

Enter the height and width of the receiving periscope reflector, if used. Enter this item in meters, rounded to the nearest tenth.

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Item 32

Enter the separation distance between the receive antenna and the periscope reflector, if used. Enter this item in meters, rounded to the nearest tenth.

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