

Low Power FM Antennas and Supports

What is low power radio?

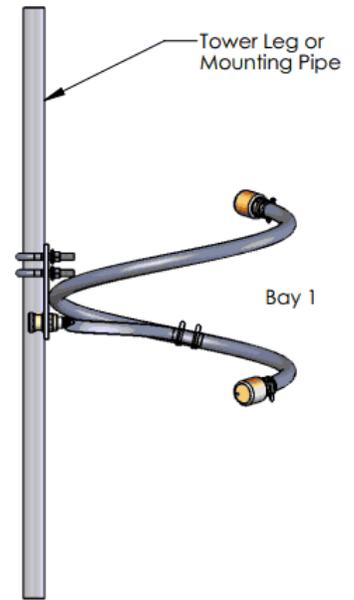
Low power FM (LPFM) stations are noncommercial radio stations licensed by the FCC. They are run by nonprofit organizations, schools, community groups, local governments, and churches. They are not available to individuals or for commercial operations. Low power FM stations operate at 100 watts or less, the same power used by one incandescent light bulb.



Tower with two co-located low power antennas connected to transmitters in building closet via 140ft underground conduit

How is the antenna mounted?

The antenna needs to be higher than any obstacles around it like buildings or trees. Antennas can be mounted on the top of buildings, towers, or other tall structures. If a structure is not available, a freestanding tower can be installed.



Jampro JLCP low power antenna

Unlike regular FM antennas, LPFM antennas are compact and light. The antenna pictured (top right), a common low power antenna, weighs 11 lbs and takes up about 1 square foot of space. An antenna will need to be mounted on a pipe, tower, or other support which will take up more space and add weight.

Pictured left are two different types of low power antennas mounted on the side of a small freestanding tower. Pictured below is a tower mounted on a rooftop secured using the weight of concrete blocks. The two-bay antenna (circled) is connected to a transmitter and other equipment sheltered from the elements in a nearby cabinet (pictured bottom right).

Can this go here?

Low power antennas can go where full power antennas cannot because of their small size and minimal energy output. They have been mounted on residential houses, churches, schools, and in unlikely places like atop flagpoles and trees. Zoning and building codes vary by municipality and should be consulted before installing the antenna. When mounting an antenna on existing structures, a local structural engineer should be consulted.

Images courtesy of Tom Voorhees



Two-bay low power antenna attached to a rooftop tower



Equipment cabinet containing transmission equipment for antenna pictured left