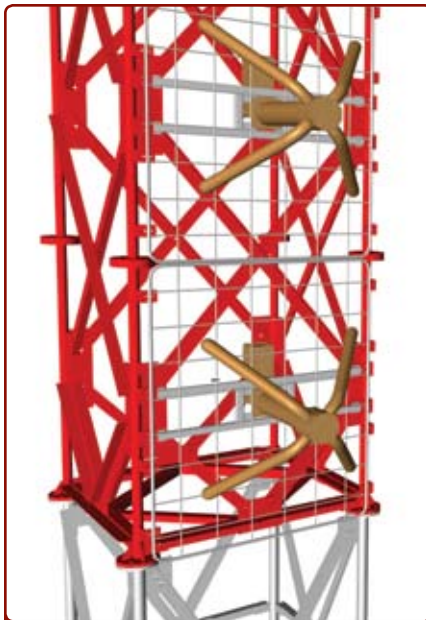


1180 Series High Power FM Panel Antenna



1180 Series FM Antenna



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ERI manufactures a full range of circular polarized custom antenna systems. All systems are designed and engineered to the most exacting standards and provide dependable high quality performance over a wide range of applications. A typical application might be for a system to radiate an omni-directional signal with good bandwidth stability for multi-channel operation.

Gain requirements are achieved by stacking layers of the arrangement vertically on the support structure. The number of layers and the vertical spacing between layers are the predominate factors in determining the vertical power gain. Options such as tilting the main vertical beam and /or null fill are incorporated in the antenna array through a suitable arrangement of the feed system.

Parameters can vary greatly for custom vertical pattern shaping, and details for any given configuration are available upon request. It is highly recommended that a professional radio consultant assist in determining your needs for custom vertical pattern shaping.

ERI has engineered two broadband element models to be used as building blocks in the construction of custom horizontal radiation patterns. The 1180 Flat Panel and the 1183 Iris Cavity both utilize the 1180 pressurized balun support stems with crossed, dipole arms. The arms may be straight or bent as necessary to meet pattern requirements. These radiators are then mounted in cavities, or on flat reflecting panels and fed using a broadband hybrid feed harness. A wide range of radiation patterns, using multiple elements mounted on either triangular, round or square cross section structures can be achieved. The versatility of pattern shaping is demonstrated in the following horizontal plane relative field patterns.

Features

- The 1180 design simplifies the antenna feed system, requiring only one semi-flexible coaxial feeder be used to supply power to each bay element.
- Each bay element input is normally 50 ohms over the entire FM band and capable of handling up to 25 kW of input power.
- For protection from lightning, all 1180 elements provide a DC path to tower ground.
- High power and trouble-free performance is provided by the 1180 element support stem. The stem is a pressurized housing for the element baluns and crossed radiating arm internal feeds.
- Crossed radiating arms are manufactured of tubular brass and attached to a large melamine insulator in a pressurized dry gas environment.
- Screens are constructed in half panels for ease of installation and removal.
- On most designs, screens continuously surround the support structure, electrically isolating the structure from the antenna.
- Screens and cavities are constructed mostly of steel rod for low weight, low wind load and maximum strength.

Benefits

- Configurations available to allow multiplexing simulcast FM IBOC signals.
- Existing installations can be retrofit for dual input operation.
- A rugged mounting bracket which has a wide latitude of adjustment to assist in overcoming possible interface problems is provided to secure the antenna to the supporting structure.
- All steel parts are hot-dipped galvanized to permanently protect all points of welding and construction against corrosion. (Some items are available in stainless steel by special request.)
- The 1080 element/hybrid feed combination assures excellent axial ratio characteristics over the entire FM band.
- The element hybrid is an integral part of each bay element. Its use ensures that proper power and phase is maintained to the crossed radiating arms.
- The broadband operating performance of the 1080 element is virtually unaffected by environmental changes due to its unique design and construction.
- All custom patterns proposed using our 1080 elements are verified and certified using our modern 70 acre test range.