1180 Series
High Power Broadband Master FM Antenna Systems

High Power FM Panel Antenna Systems
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. All custom patterns proposed using our 1180 elements are verified and certified using our modern 70 acre test range.

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 1180 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 1180 element is virtually unaffected by environmental changes due to its unique design and construction.
About Electronics Research, Inc.

Founded in 1943, Electronics Research, Inc. delivers high quality, innovative, integrated solutions to broadcasters across the U.S. and around the world. Our dedicated staff of engineers, designers, fabricators, and project managers take pride in contributing to your success by providing AM, FM, VHF, UHF, BRS-EBS, and Mobile Media broadcast systems including the industry's best antenna, transmission line, filter/combiner, and tower and structural support systems. In addition to manufacturing the full range of broadcast system components and installation accessories, ERI offers a suite of engineering and field services needed to plan, install, optimize, and maintain your broadcast facility. We are your single source for broadcast solutions.

Broadcast Antenna Systems
- ROTOTILLER® FM Antenna
- LYNX™ Dual Input Antenna for FM-IBOC
- 1105 Circularly Polarized FM Antenna
- 100A Series Low Power Circularly Polarized FM Antenna
- FM Low Power Horizontally Polarized Educational FM Antenna
- P300/P350 Series Vertically Polarized FM Antenna
- 1180 and 1090 Series Broadband Panel FM Radio Antenna
- SLIMWING™ Batwing VHF Television Antenna
- CRUCIS™ Crossed Dipole VHF Television Antenna
- STINGRAY™ Broadband Television Panel Antenna
- TRASAR® High Power Traveling Wave Television Antenna
- AGW Quick-Deploy Emergency UHF Television Antenna
- AL PLUS Low and Medium Power UHF Television Antenna
- AL Series Low Power UHF Television Antenna
- HMD BRS-EBS Antenna
- SHADOWMASTER® Shadow-Filling BRS-EBS Antenna

Transmission Line Systems
- MACXLine® Rigid Transmission Line with Bellows
- HELIAX® Air- and Foam-dielectric Coaxial Cable
- HELIAX® Standard Elliptical Waveguide
- GUIDELine® Circular Waveguide
- Standard Rectangular Waveguide
- Dehydrators and Pressurization Equipment

Filter and Combining Systems
- FM Radio Filter and Combining Systems
- UHF and VHF Television Filter and Combining Systems
- DAB Filter and Combining Systems
- Mobile Media Filter and Combining Systems
- RF Components
- System Monitoring and Protection Components

Structural Support Systems
- Guyed Towers
- Self-Supporting Towers
- Roof-top Antenna Support Structures
- Specialty Structures and Custom Antenna Supports

RF and Structural System Services
- RF Field and Engineering Services
- Installation and Structural Engineering Services