



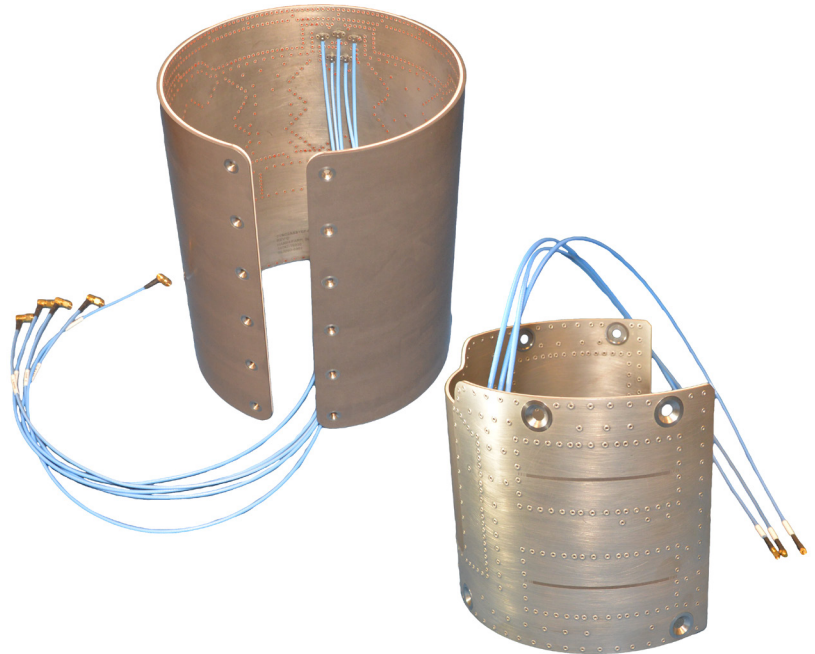
# Wraparound™ Antennas

The Haigh-Farr Wraparound™ is a self-contained omnidirectional antenna for cylindrical or conical shaped bodies. A single point feed is used and no external splitters, combiners or cable harnesses are required for installation. The antenna is conformal, and may be mounted flush, or on the exterior of the vehicle.

Designs are available from 300 MHz to 13 GHz with typical applications including Flight Termination, GPS, Telemetry, Data Links and Transponder. Multiple antenna elements may be combined within the same physical Wraparound™, providing multi-band capability in a single, compact package.

Wraparound™ antennas have been flown on vehicles from subsurface sea to space, including high-mach kinetic kill weapons, high-G projectiles and re-entry vehicles. The Wraparound™ has been qualified for use on several high performance vehicles flown on test and launch ranges throughout the United States and Europe.

For high aero-heating applications an ablative heat shield may be added to the antenna for additional thermal protection.



## FEATURES:

- Omnidirectional: Full Spherical Coverage
- 300 MHz to 13 GHz
- Multi-Channel Designs
- Single Point Feed
- No External Dividers and Cables Required
- Thin, Aerodynamic Shape
- Conformal – Flush or External Mounting
- Fastened or Bonded to the Vehicle
- OEM or Retro-Fit Applications
- Rugged Construction - Designed for High-G, High Radial G (Spinup), and Extreme Vibration Environments

## APPLICATIONS:

- Launch Vehicles, Atmospheric Rockets, Missiles
- High Speed UAV's and Targets
- Artillery Rounds
- Spacecraft, Guided Bombs
- Scoring Systems
- Oil Rigs

## DESIGN CAPABILITY:

Haigh-Farr has an over 50 year history of designing and producing exceptionally rugged, high-performance antennas. If you don't find an antenna meeting your requirements in our standard list of products, Haigh-Farr has the experience and modeling capability to customize a solution. Adaptations of existing designs can be done with very short lead times.

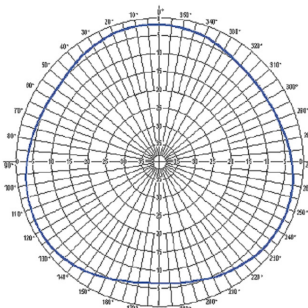
Contact Haigh-Farr for a review of your antenna requirements.



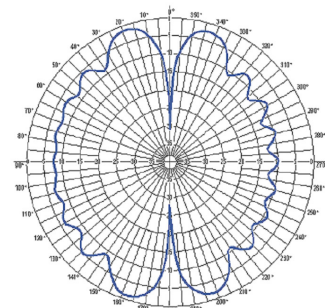
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## TYPICAL SPECIFICATIONS:

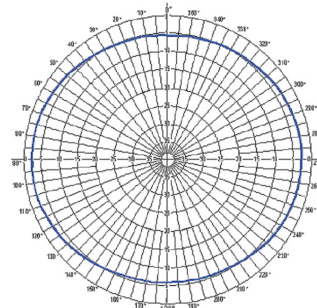
<b>Operating Band:</b>	300 MHz to 13 GHz
<b>Number of Channels:</b>	Design parameter – 1, 2, 3, 4 or greater
<b>Input Impedance:</b>	50 Ohms
<b>Bandwidth:</b>	Design parameter, 1% - 5%
<b>VSWR Across Band:</b>	2:1 Max across Band
<b>Polarization:</b>	Design Parameter
<b>Power:</b>	40 W cw, 5 kW peak
<b>Radiation Pattern:</b>	See plots below
<b>Connector:</b>	SMA standard, other connector options available including direct cable feeds
<b>Weight:</b>	Design parameter - Function of diameter and electrical requirements
<b>Dimensions:</b>	Design parameter - Function of diameter and electrical requirements; Thickness: .05" (1.25mm) to .3" (7.6 mm)
<b>Mounting Surface:</b>	Antenna is flexible and designed to naturally mate with specified cylindrical or conical surface
<b>Securing:</b>	Screw and/or Bond
<b>Altitude:</b>	Any
<b>Environment:</b>	Design parameter - typical of tactical supersonic missiles and kinetic kill weapons



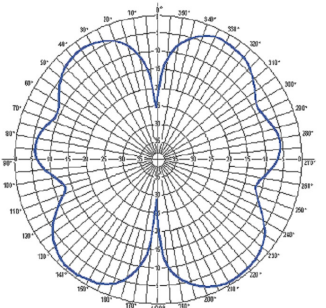
ROLL – 2230 MHz  
ISOTROPIC - 2 dB



PITCH - 2230 MHz  
ISOTROPIC - 7 dB



ROLL - 421 MHz  
ISOTROPIC - 2 dB



PITCH - 421 MHz  
ISOTROPIC - 7 dB

†Radiation patterns are a function of the vehicle shape and size since the vehicle serves as the ground plane for the antenna. The patterns shown were measured on a typical smooth cylindrical ground plane.