

## Features

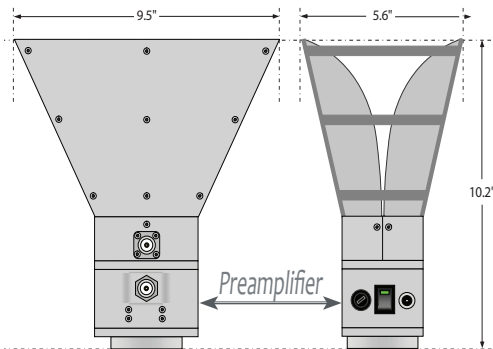
- **Frequency Range**  
1 GHz to 18 GHz (useable from 700 MHz)
- **Built-in Preamp** with 40 dB Gain
- **Transmit & Receive Capabilities**
- **Individual Calibration Included**
- **Three-year Standard Warranty**

## Description

The AHA-118A is a broadband, linearly polarized Double Ridge Horn Antenna with a built-in, 40 dB gain, low noise preamplifier, operating over the frequency range of 700 MHz to 18 GHz. This arrangement, with the preamplifier near the antenna, rather than next to (or embedded into) the test receiver, increases measurement sensitivity, as well as accuracy, by amplifying the received signals prior to being significantly attenuated by the long cable run between the test site and test equipment area.

## Construction

The AHA-118A is designed to be extremely durable, making it an ideal choice for daily use in laboratory environments, both indoors and outdoors, and even under continuous exposure to extreme weather conditions. The antenna is constructed using a heavy gauge, high grade, corrosion resistant aluminum. It is fitted with high quality, precision N-type coaxial connectors at the antenna terminals, as well as the preamplifier input/output terminals.



## Calibration

Each antenna is individually calibrated per ANSI C63.5 with NIST traceability. The calibration data and certificate is provided. Recognized ISO 17025 accredited calibration is also available upon request.



## Application

The AHA-118A Active Double Ridge Horn Antenna is suitable for use in the following capacities:

- » as an EMI test antenna for qualification-level regulatory compliance measurements (FCC, CE, Mil-Std, RTCA DO-160, FDA, SAE Automotive, etc.)
- » as a transmitting antenna (preamp bypassed) for establishing radiated RF fields for product immunity tests, with up to 300 Watts input power
- » as a “substitution antenna” (preamp bypassed) for determining the Effective Radiated Power (ERP) and/or Effective Isotropic Radiated Power (EIRP) of intentional radiators
- » test site comparisons, shielding effectiveness tests of large enclosures, field monitoring, site surveys, and other general purposes

## Flexibility

The AHA-118A can easily be configured by the operator on the fly, as necessary, to meet the specific requirements for the task at hand. Where system sensitivity (large signal to noise ratio) is not the primary concern; attenuation, notch or bandpass filters can be inserted between the antenna and preamplifier, in order to facilitate measurements in the presence of high-amplitude signals. Or, the preamplifier can be bypassed altogether, in which case the antenna can be used for receiving or transmitting purposes.

## Mounting

The AHA-118A can easily be secured to any tripod or mast via its standard 1/4-inch x 20 mounting hole located on the back of the antenna.

For installations which do not accommodate a horizontal arrangement of the mounting bolt, a right angle mounting bracket is also supplied, which has the same 1/4-inch x 20 mounting hole in the vertical axis.

Rev. D04.15

### Specifications

All specifications are subject to change without notice.  
All values are typical, unless specified.

Product Name	<b>Active Double Ridge Horn Antenna</b>
Frequency Range	<b>1 GHz to 18 GHz (useable from 700 MHz)</b>
Polarization	<b>Linear</b>
Nominal Impedance	<b>50Ω</b>
Power Handling	<b>300 Watts Continuous</b>
Pre-amplifier Gain	<b>40 dB (±2.5 dB)</b>
$P_{OUT}$ @ 1 dB Compression	<b>+12 dBm</b>
RF Connectors	<b>Precision N-type (female)</b>
-3 dB Beamwidth	[see graph below]
Antenna Factor / Gain	[see graph below]
VSWR/Return Loss	[see graphs below]
Radiated Field Strength	[see graph below]
Specifications	FCC, CISPR, EN, ETSI, FAA, Mil-Std, Automotive, etc.
Dimensions (L x W x H)	<b>10.2" x 5.6" x 9.5" [25.8 x 14.2 x 24.1 cm]</b>
Weight	<b>4 lbs. [1.8 kg]</b>

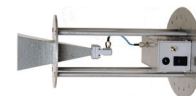
### Accessories available from Com-Power:



PAM-840A Pre-amplifier



AT-812 Antenna Tripod

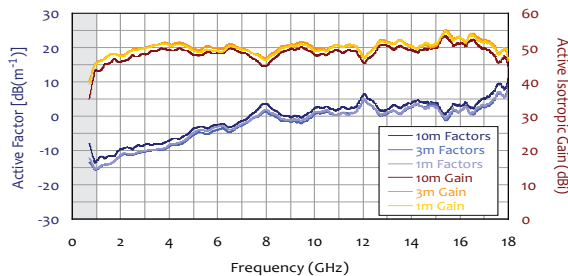


AHA-840 Active Horn Antenna

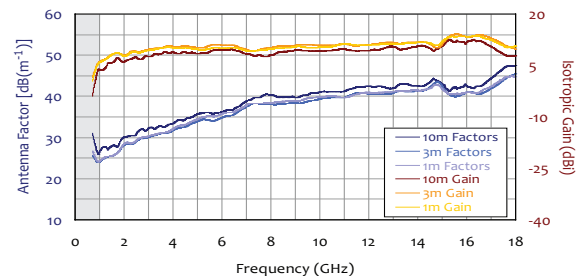
### Also Available:

- AC-220 CombiLog Antenna
- AH-118 Double Ridge Horn Antenna
- AL-100, ALC-100, ALP-100 Log Periodic Antennas

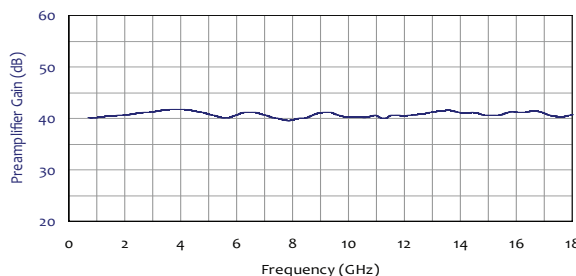
### Active Antenna Factors / Isotropic Gain



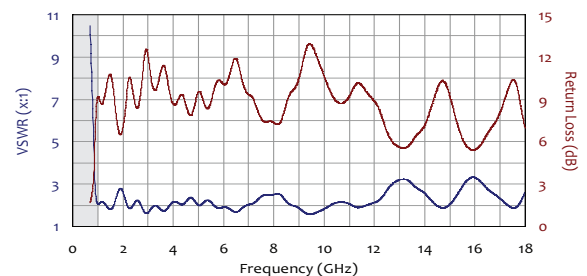
### Antenna Factors / Isotropic Gain (preamp bypassed)



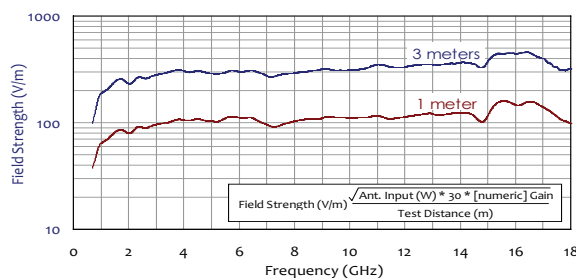
### Pre-amplifier Gain



### VSWR / Return Loss Characteristics



### Typical Field Strength with 300W Input Power



### -3 dB Beamwidth

