

## Features

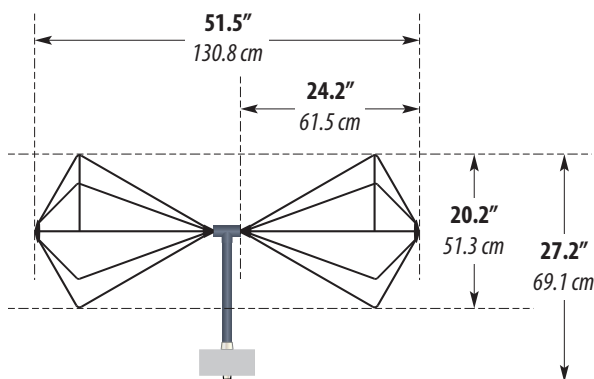
- Frequency Range: 25 MHz to 300 MHz
- Complies with  $\pm 1$  dB Antenna Symmetry/Balance Requirements of ANSI C63.5 and CISPR 16-1-4
- >20 dB Cross-Polarization Rejection per CISPR 16-1-4
- Transmit & Receive Capabilities
- Individual Calibration Included
- Three-year Standard Warranty

## Description

The **AB-900A** is a broadband, linearly polarized Biconical Dipole Antenna, operating over the frequency range of 25 MHz to 300 MHz. It can be used as either a receiving antenna (for EMI measurements) or as a transmitting antenna (for immunity tests) at power levels up to 50 watts.

## Construction

The antenna elements are constructed using corrosion resistant aluminum, which is powder coated for additional durability. Implemented in the element design is a 'gamma match' rod, which connects the element's center rod to one of the outer elements at the inside edge of the 90 degree bend. The gamma match is necessary in order to avoid the 'dip' in response common to most biconical antennas.



## Calibration

Each antenna is individually calibrated per ANSI C63.5 or SAE ARP958 with NIST traceability. The calibration data and certificate is provided. Recognized ISO 17025 accredited calibration is also available upon request.



## Application

The **AB-900A** Biconical Antenna is intended for use as an EMI test antenna for qualification-level regulatory compliance measurements (FCC, CE, MIL-STD-461, RTCA DO-160, FDA, SAE Automotive, and similar applications).

The **AB-900A** can also be used in conjunction with an RF power amplifier (up to 50 watts) to generate RF fields associated with radiated immunity testing.

In addition, a pair of **AB-900A** Biconical Antennas can be used for Normalized Site Attenuation (NSA) calibrations of Open Area Test Sites (OATS) or Semi-Anechoic Chambers (SAC) using the Geometry Specific Correction Factors (GSCF) given in Tables G.1 through G.3 of ANSI C63.5, as its physical dimensions conform to the minimum and maximum values given in Figure G.1 of ANSI C63.5 (Dimensions of biconical dipole antennas evaluated for numerical correction). If biconical antennas have dimensions which do not conform to these dimensions, the given GSCF values can not be used, and would need to be determined by performing GSCF calibration on a Standard Antenna Calibration Site (SACS) as described in Annex H of ANSI C63.5.

Notwithstanding the above applications, the **AB-900A** can also be used for test site comparisons, shielding effectiveness tests of large enclosures, field monitoring, site surveys and other general purposes.

## Mounting

The recommended support structures for the **AB-900A** are Com-Power's **AM-400** Antenna Mast and **AT-812** Antenna Tripod. One of the standard **AT-812** accessories is the **ATHP-812** Antenna Pipe Holder, which clamps securely around the feed tube of the **AB-900A**. The **ATHP-812** is then secured to a tripod or mast via its 1/4" x 20 thread mounting hole.

## Specifications

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

Product Name	Biconical Antenna
Frequency Range	25 MHz to 300 MHz
Polarization	Linear
Cross-Polarization	>20 dB Rejection
Ant. Symmetry (balance)	< ± 1 dB
Nominal Impedance	50Ω
Power Handling	50 Watts (continuous)
Connector	N-type (female)
Antenna Factors	6 to 19 (average: 13.8) [dB(m <sup>-1</sup> )] @ 10 meters
Isotropic Gain	-19 to 3 (average: -0.8) dBi @ 10 meters
VSWR	1.2 to 104 (average: 7.3) :1 without impedance matching pad 1.12 to 1.86 (average: 1.39) :1 with 5 dB impedance matching pad
Max. Radiated Field	see graphs below
Test Specifications	FCC, CISPR, EN, ETSI, FAA, MIL-STD 461, Automotive and similar
Dimensions	51.5" x 20.2" x 27.2" [130.8 x 51.3 x 69.1 cm]
Weight	5 lbs. [2.3 kg]

## Accessories available from Com-Power:



PAM-103 Preamplifier



AT-812 Antenna Tripod



SPA-900TG Series Spectrum Analyzers

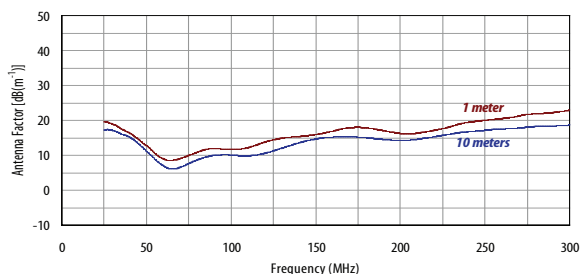
## Also Available:

AL-130R Active Loop Antenna

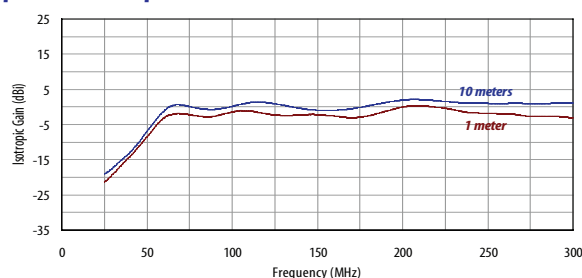
AM-741R Active Monopole Antenna

AL-100, ALP-100, ALC-100 Log Periodic Antennas

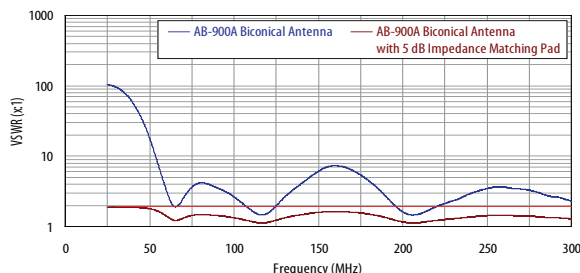
## Typical Antenna Factors



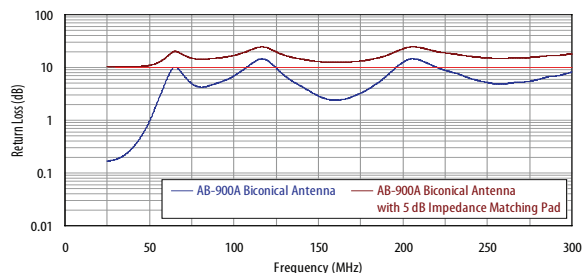
## Typical Isotropic Gain



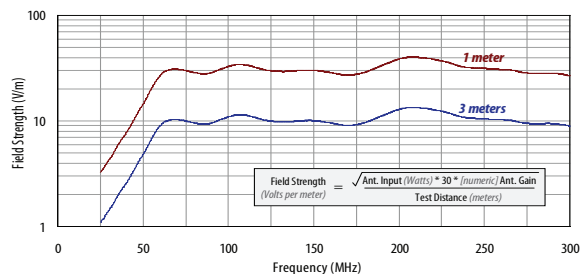
## Typical Voltage Standing Wave Ratio (VSWR)



## Typical Return Loss



## Typical Field Strength with 50W Input Power



## Typical Forward Power Levels

