

Features

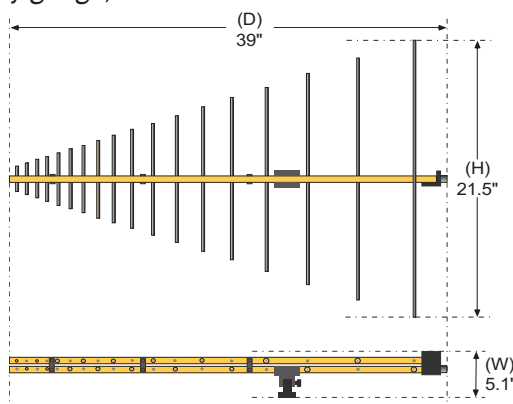
- **Frequency Range**
300 MHz to 1 GHz (useable from 200 MHz)
- **Transmit & Receive Capabilities**
emissions/immunity applications
- **Individual Calibration Included**
per ANSI C63.5 with NIST traceability
- **Three-year Standard Warranty**

Description

The **AL-100** is a broadband, linearly polarized Log Periodic Antenna Dipole Array (LPDA) Antenna, operating over the frequency range of 200 MHz to 1 GHz; and with excellent efficiency between 300 MHz and 1 GHz. It can be used as either a receiving antenna or as a transmitting antenna.

Construction

The **AL-100** 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 elements of the AL-100 are solid stainless steel. The “feeder tubes”, to which the elements are attached, are constructed from a heavy gauge, corrosion resistant aluminum.



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 **AL-100** Log Periodic Antenna is intended for use as an EMI test antenna for qualification-level regulatory compliance measurements (FCC, CE, RTCA DO-160, FDA, SAE Automotive, etc.).

The **AL-100** can also be used in conjunction with an RF power amplifier (up to 50 watts) to generate RF fields associated with radiated immunity tests. For high power applications, Com-Power's **ALP-100** Power Log Periodic Antenna is an excellent choice.

In addition, a pair of **AL-100** Log Periodic Antennas can be used in lieu of dipole antennas for Normalized Site Attenuation (NSA) calibrations of Open Area Test Sites (OATS) or Semi-Anechoic Chambers (SAC); thereby avoiding the time-consuming process of tuning the dipole element lengths at each discrete frequency.

Notwithstanding the above applications, the **AL-100** can also be used for test site comparisons, shielding effectiveness tests of large enclosures, field monitoring, site surveys and other general purposes.

Mounting

The mounting assembly for the the **AL-100** incorporates a hinge mechanism to quickly and easily change the antenna polarization.

The assembly is equipped with a standard 1/4-inch x 20 mounting hole, which allows it to be affixed to Com-Power's **AT-812** Antenna Tripod, **AM-400** Antenna Mast, or any other similar structure with compatible mounting arrangements.

Specifications

Product Name	Log Periodic Antenna
Frequency Range	300 MHz to 1 GHz (useable from 200 MHz)
Polarization	Linear
Nominal Impedance	50Ω
Power Handling	50 Watts (continuous)
Connector	N-type (female)
Antenna Factor	12.3 to 23.2 (average: 18.8) [dB(m ⁻¹)]
Isotropic Gain	6.2 to 7.7 (average: 7.1) dBi
VSWR	1.03 to 1.89 (average: 1.24) :1
Return Loss	10.2 to 35.5 (average: 21.3) dB
Radiated Field Strength	see graph below
Specifications	FCC, CISPR, EN, ETSI, FAA, MIL-STD-461, SAE, etc.
Dimensions (H x W x D)	21.5" x 5.1" x 39" [54.6 x 13 x 99.1 cm]
Weight	3 lbs. [1.4 kg]

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

Accessories available from Com-Power:



PAM-103 Preamplifier



AT-812 Antenna Tripod

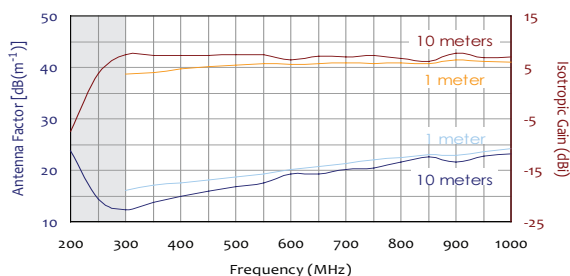


SPA-900TG Series Spectrum Analyzers

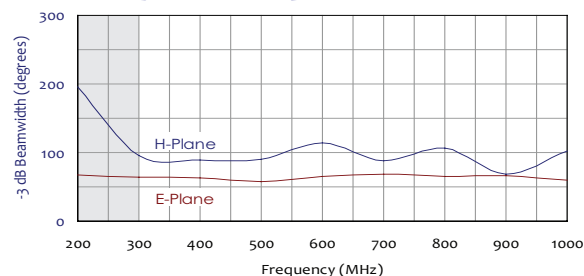
Also Available:

AL-130R Active Loop Antenna
AM-741R Active Monopole Antenna
AB-900A/ABF-900A Biconical Antennas

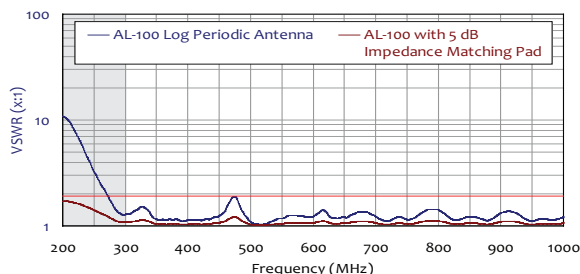
Typical Antenna Factors / Isotropic Gain



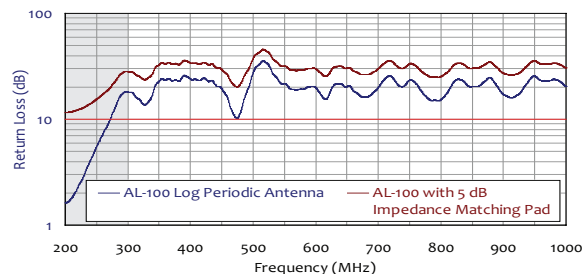
Typical -3 dB [Half-Power] Beamwidth



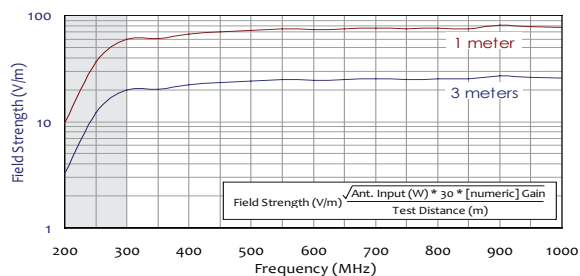
Typical Voltage Standing Wave Ratio (VSWR)



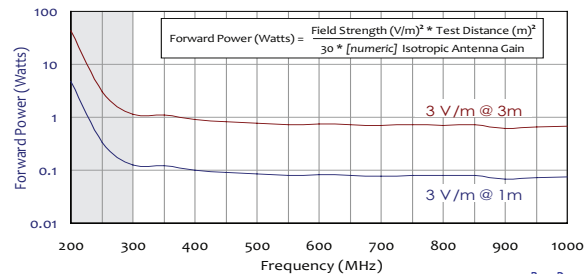
Typical Return Loss



Typical Field Strength with 50W Input Power



Typical Forward Power Levels



Rev. D10.18