Equipment Manual
Log-Periodic Antenna

Model 3146A

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EMC TEST SYSTEMS, L.P. – An ESCO Company
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REV B - PN 399044

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WARRANTY

The Electro-Mechanics Company (EMCO) warrants that our products are free from defects in materials and workmanship for a period of two years from the date of shipment. If you notify us of a defect within the warranty period, we will, at our option, either repair or replace those products which prove to be defective. If applicable, we will also recalibrate the product.

There will be no charge for warranty services performed at the location we designate. You must however, prepay inbound shipping costs and any duties or taxes. We will pay outbound shipping costs for a carrier of our choice, exclusive of any duties or taxes. You may request warranty services to be performed at your location, but it is our option to do so. If we determine that warranty service can only be performed at your location, you will not be charged for our travel related costs.

This warranty does not apply to:

1. Normal wear and tear of materials.
2. Consumable items such as fuses, batteries, etc.
3. Products which have been improperly installed, maintained or used.
4. Products which have been operated outside of specifications.
5. Products which have been modified without authorization.
6. Calibration of products, unless necessitated by defects.

THIS WARRANTY IS EXCLUSIVE. NO OTHER WARRANTY, WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

THE REMEDIES PROVIDED BY THIS WARRANTY ARE YOUR SOLE AND EXCLUSIVE REMEDIES. IN NO EVENT ARE WE LIABLE FOR ANY DAMAGES WHATSOEVER, INCLUDING BUT NOT LIMITED TO, DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER LEGAL THEORY.

Please contact our Sales Department for a Return Material Authorization Number before shipping equipment to us.

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DESCRIPTION AND USE OF THE EMCO MODEL 3146A LOG-PERIODIC ANTENNA

Description

The EMCO Model 3146A Log-Periodic Antenna is a linearly-polarized broadband antenna designed to operate over the frequency range of 300-1000 MHz.

Size considerations are of primary concern in this design. This, as well as an all aluminum construction makes it easily portable and suitable for use in applications where space is limited, such as shielded rooms. It is completely assembled and requires no adjustment.

The antennas has been fully calibrated for use in measurement applications. They are also suitable for susceptibility testing and are capable of handling up to 1 kW of power.

Specifications

Frequency Range:	300-1000 MHz
Nominal Impedance:	50 Ω
Average VSWR:	Less than 2.5
Connector:	Type N
Assembled Dimensions:	
Length:	57.2 cm (22.5")
Maximum Width:	6.4 cm (19")
Depth:	6.4 cm (2.5")
Weight:	144 KG (3 lb 2.5 oz)

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EMCO Calibration of Log Periodic Dipole Antennas

This EMCO Log Periodic antenna was calibrated at a spacing of 1 meter (m) per ARP-958. This document shows that R, the 1m spacing, should be measured tip-to-tip.

This antenna was also calibrated at spacings of 3m and 10m per ANSI C63.5. This document states that "The spacing R between log-periodic array antenna is measured from the projection onto the ground plane of the midpoint of the longitudinal axis of each antenna."

The ARP and ANSI specifications disagree because they were written for different purposes. It seems unlikely at this time that they will ever agree.

Therefore, when calibrating log-periodic array antennas, we measure R, the spacing between antennas, tip-to-tip for the 1m calibration (ARP 958 applications) and midpoint-to-midpoint for the 3m and 10m calibrations (ANSI C63.5 applications). It is important in compliance testing to measure the spacing as it is measured for calibration.

If you would like to discuss this matter, or if you have any other questions, please do not hesitate to contact EMCO.