

Features

Range - 9 kHz - 30 MHz

Built in Amplifier

Battery Powered

Individual Calibration



Description

The Active Monopole antenna Model AM-741 was designed to measure electric field strength in the frequency range from 9 kHz to 30 MHz. This antenna includes a built-in broadband amplifier covering the frequency range of operation. The built in preamplifier improves the sensitivity of the antenna and also provides a 50 Ω matched output.

The antenna amplifier is enclosed in an aluminum enclosure. The 41 inch collapsible rod element is connected to BNC connector located on the top the amplifier enclosure. The amplifier enclosure is mounted on the bottom of a 60 x 60 cm stainless steel plate. The front panel of the AM-741 Monopole antenna has battery status and saturation indicators. The saturation indicator will illuminate if the if the field measured is saturating the built in preamplifier.

The antenna can be used for 6-8 hours continuous with a fully charged battery. An external charger addapter is included with each antenna.

The antenna has 1/4 inch x 20 threaded hole which allows the AM-741 to be mounted on an antenna tripod with matching threads. The manual and certificate of calibration will be shipped with each unit.

Application

The 41 inch Monopole antenna is required for making electric field emission measurements below 30 MHz per Military standards (MIL-STD-461) and FAA (DO-160) specifications. This antenna is for emissions measurements only. It cannot be used for transmitting.

The Active Monopole antenna is generally used in a shielded room or in a screen room, with the equipment under test (EUT) placed on a metal ground plane. The 41 inch rod and the ground plane behave electrically as though a mirror image of the rod were located below the ground, and the ground removed. Since the stainless steel plate does not have enough surface area to mirror the entire 41 inch rod, it is bonded to the surrounding ground plane during use.

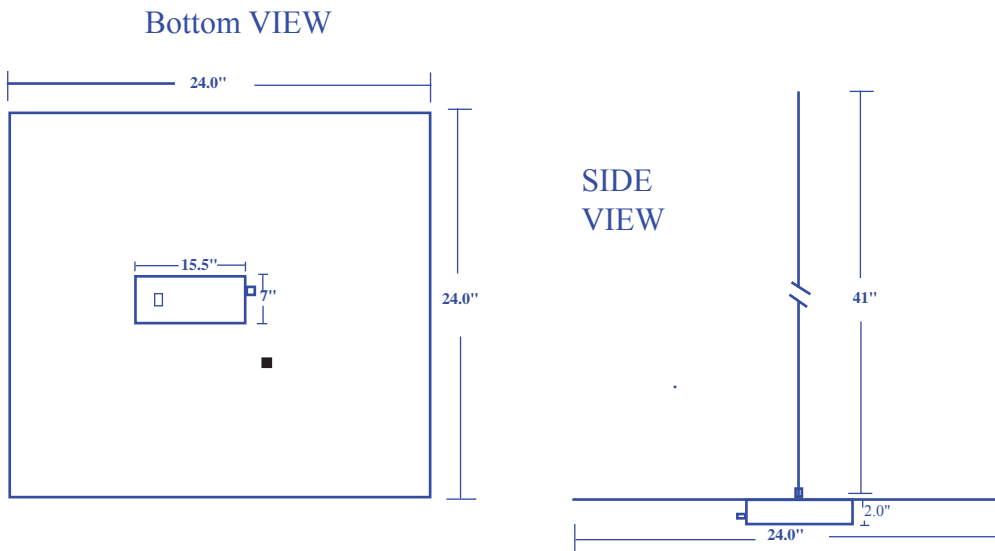
The AM-741 is battery powered to prevent measurement errors that maybe caused by external power cables.

The ANSI equivalent capacitance substitution (ECSM) method is the recommended method for calibrating AM-741 monopole antenna. The individual calibration data will be included with each antenna.

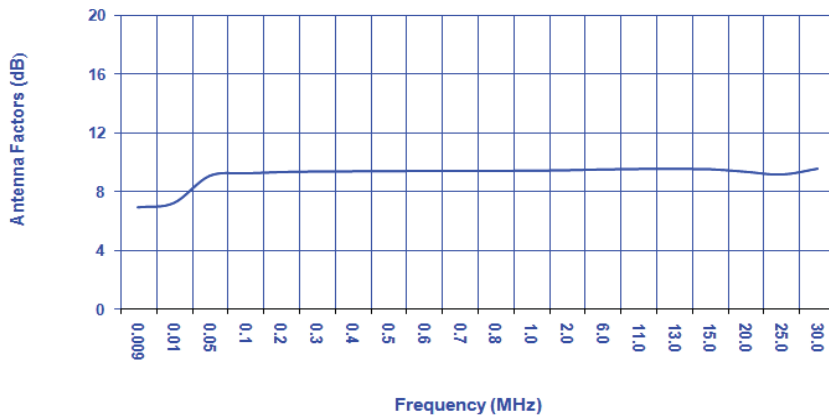
Specifications

Frequency Range:	9 kHz - 30 MHz
Flatness:	±1 dB
Output Impedance:	50 Ohm
Connector Type:	BNC (f)
Collapsible Element Length:	41 inches (fully extended)
Base Plate:	24 x 24 inches (60 x 60 cm)
Battery Type:	6 V NimH
Charger Input:	6 VDC 500, mA
Tripod mount:	1/4 x 20 inch threads hole
Size:	see below
Weight:	19 lbs. (8.6 kg)

Mechanical Outline



Typical AM-741 Characteristics using ANSI C63.5 ESCM calibration method



$$\text{Field strength (dBuV/m)} = \text{Output measured(dBuV)} + \text{Antenna factor(dB)}$$

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