COM-POWER CORPORATION

Comb Generator
CGO-501

Features

Frequency range of 1 MHz to 1 GHz

Stable Frequency Output

Automatic Low Voltage Signal Shutoff

Battery Operated

Three-Year Warranty

Description

The CGO-501 Comb Generator is a conducted and radiated signal reference source. The signal contains frequency harmonics at 1 MHz intervals. These reference signals are used for validating EMC test sites; therefore the reference signal source must have a stable and precise output. Com-Power's Comb Generators line is designed to meet this requirement.

Due to the broad frequency range, two antennas are supplied with the CGO-501, a 12" antenna for low frequency up to 450 MHz, and 5" antenna for 450 MHz and above. The radiated signals are generated by connecting one of the two antennas to the BNC connector located at the center of the CGO-501. The circular chassis of Comb Generator helps radiate the signal more uniformly in all directions within the same plane. The conducted reference signals can be obtained by connecting a Coaxial Cable between the BNC connector mentioned above and a Spectrum Analyzer.

The CGO-501 is powered by an enclosed rechargeable battery pack to minimize disturbances of external cables that might interfere with the radiated signal. When the battery voltage reaches below the operating level, the output signal will shut off automatically to prevent further use and misleading data. When fully charged, the battery allows continuous use of the Comb Generator for up to 18 hours. Batteries, charger and antennas are included.

Application

EMI measurements are usually collected in an Open Area Test site (OATS) or inside an Anechoic Chamber. OATS and chambers must be calibrated before put into service using published calibration procedures at regular intervals. These calibration methods are very elaborate and time consuming to be performed before each test to ensure that the data taken is consistent and accurate. The CGO-501 is a quick Site Verification tool that the test engineer can use to detect potential problems with site. Maintaining a log of the Comb Generator radiated readings, prior to taking measurement from a product in the same setup, and comparing them will help in detecting possible faults. The same process can be utilized when emissions measurements that are taken from the same products varies on a repeated test. It is difficult to determine if it is the test site or the product causing the variation. Using the same test setup, measurements can be taken with a Comb Generator in place of the product. This data can be compared with previous Comb Generator measurements to determine the problem. Other uses of the Comb Generator include testing cables and filters.

Specifications

Intended Application	EMI Radiated Site Reference Source
Frequency Range	1 MHz to 1 GHz
Frequency Step Size	1 MHz
Frequency Stability	50 ppm
Amplitude Stability	± 0.1 dB
Time Stability	<1 dB over 12 months
Charger Output / Input	6 VDC, 500 mA / 110VAC 60 Hz or 230 VAC 50 Hz
Battery Type	6V NiMH, 1 Ah
Operating Time	>18 Hours Typical With Fully Charged Battery
External Indicators	Battery Low and Power On
Antenna Size	5 and 12 inch Monopole
Dimensions	7 x 0.75 inches / 17.7 x 1.9 cm
Weight	2 lbs. / 0.9 kg
Polarization	Vertical and Horizontal

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

Radiated Data: 3 meters, vertical polarization, antenna height varied from 1 to 4 meters.