

## Features

- **Quick, Pre-Test Site Validations**
- **Wide Frequency Range**  
1 GHz to 40 GHz
- **Battery Operated - Extended Battery Life**  
operates >18 hours per charge
- **Automatic Low-Battery Voltage Shut-off**
- **Stable RF Output**
- **One-Year Warranty**

## Description

The CGO-51000 Comb Generator is a radiated reference signal source for the frequency range of 1 GHz to 40 GHz, at 1 GHz intervals. It is compact, lightweight, self-contained and easy to operate.

The integral stub antenna is located at the center-point of the CGO-51000 Comb Generator's circular chassis, which serves as its counterpoise.

The CGO-51000 Comb Generator will operate while powered by its internal battery pack or the supplied AC/DC adapter (battery charger). However, stand-alone, battery-powered operation is recommended during field strength measurements, with the battery charger and its cable removed from the test setup, along with all any other unnecessary objects which are not normally present within the test volume. This will reduce unwanted reflections which could potentially impact your measurements.

When fully charged, the battery allows continuous use of the Comb Generator for up to 18 hours. When the 'battery low' indicator turns on, the generator will continue to operate for about ten to twenty minutes, before it automatically shuts itself off. The auto-shut-off feature is designed to disable the generator output well before the battery voltage drops to the point at which the amplitude of the generator's output could start to change or become unstable.



## Application

Radiated emissions measurements for EMC are usually performed on an Open Area Test Site (OATS), Semi-anechoic Chamber (SAC) or Fully-anechoic Chamber (FAC). These test sites are typically calibrated once per year by making Normalized Site Attenuation (NSA) measurements. Tedious and time-consuming to say the least, NSA measurements can take several days.

Annual NSA measurements satisfy your regulatory responsibilities for qualifying the test site, and, if the NSA measurements are not within spec, it may be an indirect indication that some problem exists with your test site, and/or one or more individual component(s) of your measurement system (eg.: cable, antenna, preamplifier, and/or measuring instrument.) But, the real problem is, you don't know when it actually became a problem...it could have occurred the day after your last NSA calibration measurements...a YEAR ago? Without regular site checks, daily or otherwise; to a large degree, you're flying blind.

Using a Com-Power Comb Generator, regular site checks can be performed in just a few minutes by taking field strength measurements at a few chosen output frequencies, and comparing the values against your reference data from previous measurements.

The Comb Generator output frequencies chosen for your checks should be strategically selected based on your site's frequency range, with test frequencies in each subrange (where different antennas or preamps may be used). For site verifications performed on OATS, avoid those frequencies where ambient signals are within 10 dB of the comb generator signal level.

## Specifications

<i>Intended Application</i>	<b>Radiated Reference Signal Source</b> (for OATS, SAC, FAC, etc.)
<i>Frequency Range</i>	<b>1 GHz to 40 GHz</b>
<i>Frequency Step Size</i>	<b>1 GHz</b>
<i>Frequency Stability</i>	<b>25 ppm</b>
<i>Amplitude Stability</i>	<b>± 0.1 dB</b>
<i>Time Stability</i>	<b>&lt;1 dB over 12 months</b>
<i>Charging Adapter Output</i>	<b>6 VDC (unregulated), 500 mA</b>
<i>Battery Type</i>	<b>6V NiMH, 1 Ah</b>
<i>Battery Operation</i>	<b>&gt;18 Hours Typical</b> (fully-charged battery)
<i>External LED Indicators</i>	<b>Battery Low, Power On</b>
<i>Antenna Type</i>	<b>Integral Stub-type (w/protective cover)</b>
<i>Dimensions</i>	<b>7 in. x 1 in.</b> (17.8 cm x 2.5 cm)
<i>Weight</i>	<b>2.5 lbs</b> (1.1 kg)
<i>Polarization(s)</i>	<b>Vertical, Horizontal</b>

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

### Related items available from Com-Power:



PAM-840A Preamplifier (18-40 GHz)



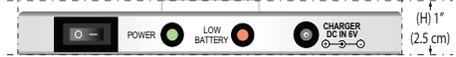
CGC-255E Conducted Comb Generator



AHA-840 Active Horn Antenna (18-40 GHz)



(W/D)  
7" (17.8 cm)



(H) 1"  
(2.5 cm)

### Typical Field Strength at 3-meter Distance (Ant. Height Fixed at 1 meter)

