



We Make HF Better

SG-103 and SG-104 Broadband Antennas

Description

The SGC broadband dipole antenna has been designed to provide optimum performance over a wide frequency range. Its unique broadband design circumvents the common requirements for multiple antennas or additional tuners between the transmitter and antenna.

Specifications

Frequency Range	2-28 MHz
Power Rating	SG-103: 150W PEP SG-104: 1KW PEP/Cont.
Input Impedance	50 Ohms
VSWR	Typically 2:1 (Maximum 3:1)
Length	90 Feet (27 Meters)
Connector	SO-239

Installation

For the best performance, the antenna should be installed with the radiating elements in a horizontal (flat top) configuration, and as high as possible. Theoretically, maximum radiation and reception occur at right angles to the radiating elements. This radiation pattern is based on an ideal antenna in free space and may differ in a practical situation near the ground and adjacent to surrounding structures and power lines.

We recommend that the antenna be installed, if possible, with consideration for these theoretical principles. However, satisfactory results can be achieved under less than ideal conditions. Some experimentation with mounting and orientation can offer significantly improved performance. See the suggested installations on reverse.

Proximity to the ground and to surrounding structures may also affect the input impedance of the antenna. Some rearrangement of the antenna could be required to achieve a good VSWR. However, the design of the SGC broadband dipole makes it considerably less susceptible to the influence of surrounding structures than the traditional tuned dipole antenna.

Performance Verification

Prior to using the antenna with a transmitter, or if there is any doubt about the performance, verify the impedance match as follows:

- Insert a directional wattmeter between the antenna and the receiver.
- Key the transmitter and adjust the output to apx. 20 watts forward power.
- Switch the wattmeter to read reflected power.

Typically, the reflected power will be in the range of 1 to 2 watts, indicating a good match. Reflected power in excess of 5 watts is undesirable and should be corrected before attempting to use the antenna.

Troubleshooting

- Look for obvious failures such as broken or shorted wires, grounds or connections.
- Review the orientation of the antenna relative to the ground.
- Note: the center element cannot be repaired.

SG-103 and SG-104 Broadband Antennas: Suggested Installations

