

AM-2 Installation Instructions

This active antenna is optimized for AM Broadcast Band reception and has a very high dynamic range amplifier mounted inside the loop that is designed for minimum distortion in the presence of very high level signals that would normally overload most amplifiers. For proper operation this amplifier needs to be powered as shown in the diagram and the antenna should be pointed in the proper direction to maximize reception of the desired stations.

Supplied Components	
QTY	Description
1	Loop antenna
1	L-bracket pole mount
2	Saddle clamps
2	U-bolts
1 lot	Mounting bolts and washers
2	Wall mount clamps
1	Weather boot
1	Power inserter
1	12 VDC power supply
2	3 ft F-male to F-male jumper cables
1	Surge protector
1	20 dB attenuator
1	10 dB attenuator
1	Twin lead to F-female adapter
1	Grounding Lug

Positioning the Antenna

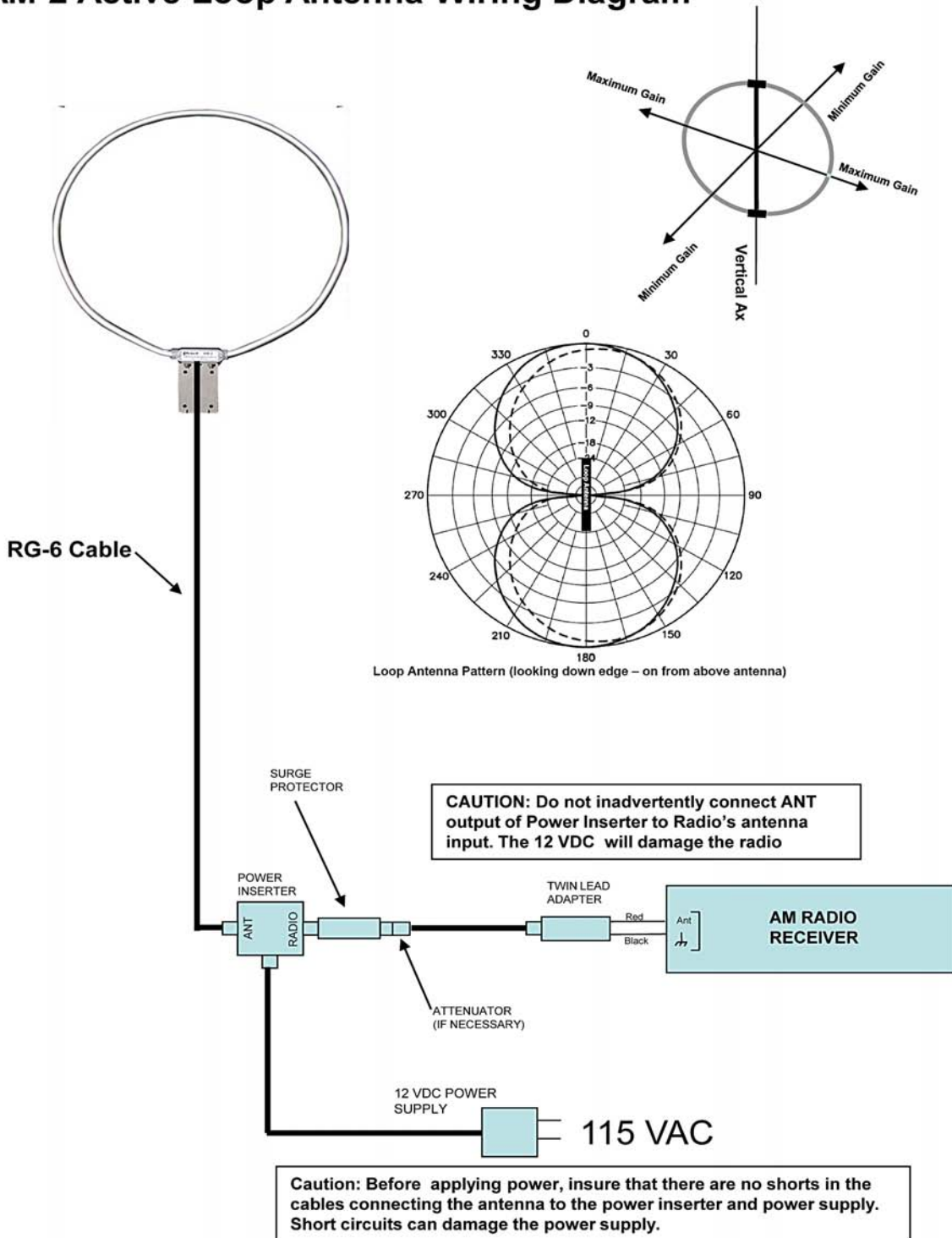
This antenna has a directional figure Eight pattern with two deep 30 dB nulls as shown in the diagram, so for maximum daytime ground wave reception of a desired station (or stations) it should be oriented so that the imaginary plane in which the loop rests should be vertical to the ground and should, if extended, pass through the general location of the transmitter(s) of the desired station(s). **There is a label on the antenna's upper junction box that shows the proper pointing directions for maximum signals and the nulls.** At night this antenna will also pick up sky-wave distant signals from all directions in an omni-directional pattern.

For best results it should be located as far away as possible from any metal objects that could distort or shield the antenna's reception like gutters, downpipes, metal plumbing and aluminum foil backed thermal insulation. It can be positioned indoors or outdoors at ground level, but for best results it should be as far as possible from sources of interference such as AC power cables, cat 5 network cables, fluorescent lights, light dimmers, computers and flat panel TV's. If located outdoors it can be camouflaged with shrubbery. Ideally a location outdoors at least 20 feet away from any buildings will yield superior results. It can be mounted to any pole up to 2 inches in diameter or attached to a flat surface or wall via the included L-bracket or plastic clamps provide for wall mounting.

Connection Diagram:

Before applying any AC power, connect the antenna to the receiver as shown in the diagram.

AM-2 Active Loop Antenna Wiring Diagram



Be extremely careful to avoid inadvertently connecting the antenna output of the power inserter to the antenna input on the receiver. This will put 12 VDC on the input of the receiver that could easily burn out the receiver's antenna input transformer.

Also check that the lead wire to the loop antenna is not inadvertently shorted to ground. The 12 VDC power supply will fail if it is connected to ground for any sustained period of time.

Normal RG-6 cable has a maximum loss in the AM band of only 0.35 dB per 100 feet, so long cable runs are typically not a problem. The cable length between the receiver and antenna can be up to 500 feet using standard RG-6 cable. (We recommend quad shielded cable for maximum shielding from interference) For runs up to 1000 feet, solid copper core RG-6 should be used to minimize DC loss. (The antenna typically draws 50 milliamps from the power supply so a run of 1000 feet with solid core cable like Belden 1829 BC would introduce less than 1 Volt of DC loss)

Use of Attenuators:

Because this antenna can provide very high output levels when located at sites near high power transmitters, it is possible to overload the input of some receivers. The symptom of overload is that during daylight hours you will hear multiple stations on a single channel. This "bleed through" can usually be eliminated by inserting one or two attenuators on the input of the twin-lead adapter to the receiver's antenna. Two attenuators are provided for this purpose (a 10 dB and 20 dB unit). They can be cascaded for up to 30 dB of attenuation. At night "bleed through" is a common problem caused by sky – wave reception of distant stations on frequencies common to local stations. It may be possible to eliminate or reduce this kind of sky wave interference by locating the antenna indoors in a basement or other location that is shielded from these high angle-of-arrival sky waves.

HD Radio Reception

This antenna is ideal for reception of HD AM radio stations on receivers that are so equipped. HD AM digital signals are transmitted in the adjacent guard bands at lower power levels than the main AM analog carrier, so a high quality antenna is required for good reception of these low power signals. At night results might vary do to reception of distant sky-wave signals that can interferer with reliable HD reception.

V-soft.com

This web site (<http://www.v-soft.com/zipsignal/>) provides details for any zip code of all the radio signals available and their field strength in that zip code. This antenna has been tested to provide reliable reception of signals down to 1 mV/ M and in some cases well below this threshold.