



WiNRADiO AX-71C

Discone Antenna

By Bob Grove W8JHD

Meeting the requirements of the newer wideband receivers, transceivers and scanners, WiNRADiO has introduced their AX-71C wideband discone antenna.

Intended for VHF/UHF receiving and transmitting applications, the AX-71C has a VSWR measurement of under 2:1 (50 ohms characteristic impedance) continuously from 85 MHz to well above 3000 MHz (3 GHz). Throughout this range, the antenna has performance roughly equivalent to a resonant ground-plane antenna at any frequency.

The sturdy, stainless-steel elements and rugged center insulator/connector accept power of at least 300 watts. Overall height of the antenna is 62 inches, with a maximum skirt diameter of 33 inches.

A two-foot-long, 1-inch diameter, black-anodized, aluminum mounting tube is provided to attach the antenna to the user-provided support mast. The tube is drilled, with screws provided, for rigid attachment to the base insulator. A low-loss, polyethylene-insulated, SO-239 receptacle accepts the standard PL-259 connector on the user's coax.

Mounting clamps are not provided, but are available as an accessory kit; alternatively (and more economically), the user may simply purchase a pair of U-bolts and nuts or a pair of hose clamps at a hardware outlet to affix the antenna tube to a convenient mast.

❖ Assembly

Eight pairs of upper and lower stainless-steel elements are threaded for easy assembly into the center insulator; nuts are provided to lock the elements solidly into place. The assembly will take about ten minutes.

When the assembled antenna is ready to be mounted, the coax is inserted through the aluminum mounting tube and screwed into the center insulator connector. Three stainless-steel screws are then inserted to firmly attach the tube to the base.



Since this is a wideband, omni-directional antenna, no alignment or adjustments are needed. As with all antennas, the discone should be mounted as high as practical, away from reflective or signal-absorbing obstructions. Low-loss coax (RG-8 foam, RG-6/U, LR-400, etc.) is mandatory for UHF/microwave applications.

❖ Let's Try it Out

Since the Grove Scantenna is such a hot performer, we thought it would be a good baseline against which to test the reception of the AX-71C. A six-foot test stand held each antenna alternately; the same coax was used for both antennas.

Comparative reception tests were performed at 10, 15, 120, 27, 54, 75, 81, 88, 110, 152, 158, 162, 172, 407, 417, 860, 871, 879, 940, 947 and 1090 MHz. Taking into consideration predictable variables like fade and flutter, both antennas received identically.

❖ The Bottom Line

Choose the WiNRADiO AX-71C if:

- (1) You are planning to transmit, especially on widely-separated VHF/UHF frequencies;

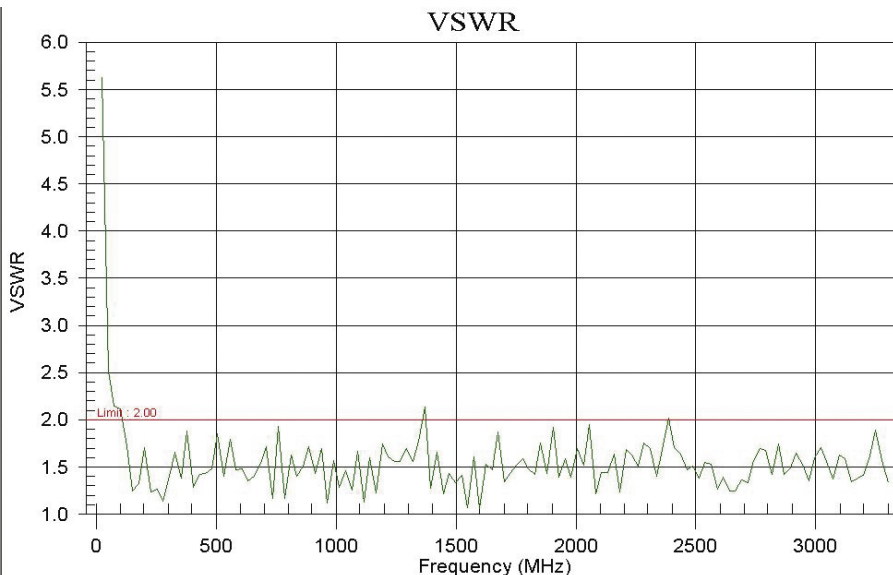
- (2) Consistent impedance match is important throughout the VHF/UHF spectrum;

- (3) Durability under high winds, ice loading, or corrosive climate must be considered;

- (4) If long-term use is planned, especially at a difficult-to-access mounting location.



The AX-71C is \$89.95 from Grove Enterprises (7540 Hwy 64, Brasstown, NC 28904; 800-438-8155; <http://www.grove-ent.com/order>)



ICOM SP-23

Noise-Reducing Speaker

While it's always best to reduce noise interference with the receiver, it's not always possible. Several accessories are sold as add-ons to process the audio from the receiver, and noise-reducing speakers are popular.

One of the newest, and certainly one of the nicest, is the SP-23 from ICOM,

prominent manufacturer of communications receivers and transceivers.

The SP-23 utilizes passive circuitry (no transistors or ICs) to limit the bandwidth of the internal speaker element; no power source is required.

Measuring 5-3/4"W x 4-1/4"H x 11"D and weighing 3.6 pounds, the SP-23's black-

finished steel cabinet makes a professional statement alongside any radio accessory.

Without filter activation, the speaker accessory is rated at a flat 200 Hz - 10 kHz. Upper- and lower-frequency cutoffs are selected by front-panel pushbuttons, nominally set at 250 and 500 Hz for the low end, and 1 and 3 kHz for the high end.

Additional pushbuttons permit selection of either of two 1/8" mini-jack inputs from the attendant radio, and speaker on/off as well.

A front-panel 1/4-inch headphone jack is also provided. Four husky rubber feet prevent scratching the surface of the listening position while cushioning the speaker cabinet.



The internal, 3-inch speaker element accepts up to 4 watts of audio at a nominal 8 ohms impedance. A 1/8-inch mono interconnect cable is supplied with the speaker unit.

❖ Let's try it out

Connecting the SP-23 to our ICOM R-8500 test receiver, we immediately saw improvement in voice intelligibility when hiss was present, or if too much "boominess" accompanied the communications.

The SP-23 does not attenuate sharp-rise-time pulses like spark interference, although the taming of the spark's high-frequency components makes it slightly more tolerable.

Passive circuitry doesn't offer the sharp rolloff characteristics of active circuitry, but its ability to compress the desired audio passband by reducing unwanted highs and lows works quite well, and it doesn't require any power source.

The SP-23 is available from Grove Enterprises for \$169.95 (7540 Hwy 64, Brasstown, NC 28904; 800-438-8155; <http://www.grove-ent.com/order>) and other leading ICOM dealers.

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