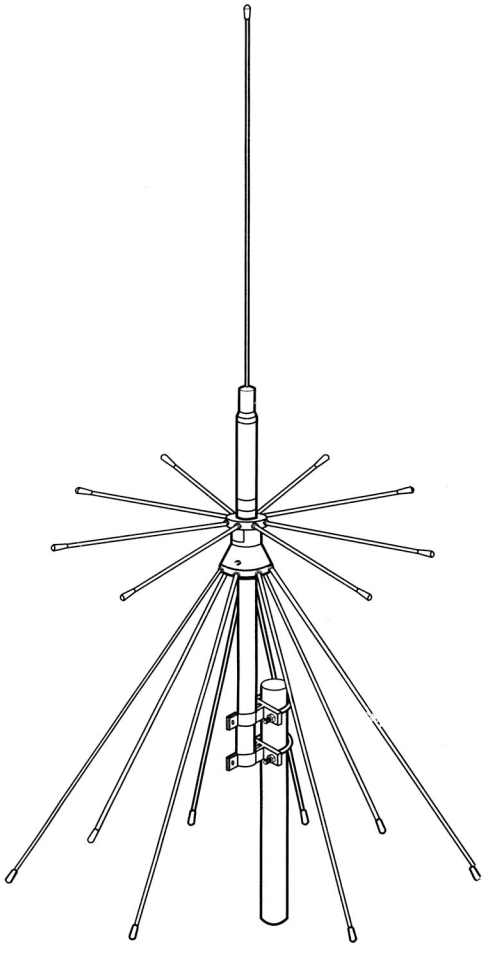
Outdoor Scanner - Ham Discone Antenna 25 — 1,300 MHZ

OWNER'S MANUAL — Please read before using this equipment.



Your RadioShack Discone Scanner and Ham Base Station Antenna is our most efficient omnidirectional antenna system, combining a disc antenna with electrically matched radiators. You can use it to receive and transmit a wide range of signals, including amateur radio, aircraft, and other special services, on your scanner or other receiver. The antenna is designed to provide high efficiency when receiving and transmitting signals on selected frequencies.

Your antenna receives VHF and UHF frequencies between 25 MHz and 1300 MHz (1.3 GHz), and transmits effectively at 50, 144, 220, 440, 900, and 1296 MHz. It handles a maximum transmitting output power of 200 watts and provides a standing wave ratio (SWR) efficiency of 1.5:1 or better over the receiving and transmitting spectrum. It is 44-inches high overall, and fits on masts up to 1½-inches in diameter. It also has these features:

Compact Design — allows flexibility when choosing an installation site.

Low Wind Resistance and Lightweight — allow higher mast mounting.

Resonator and Tunable Whip — for best 50 MHz performance.

Easy Assembly and Connection — uses rugged stainless steel hardware, radiator rods, and standard SO-239 and PL-259 connectors.

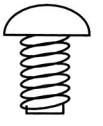
BEFORE YOU BEGIN

Before beginning assembly, read this manual and the separate "Safety Instructions" sheet.

Warning: When you install your antenna, use extreme caution. If the antenna starts to fall, let it go! It could contact overhead power lines. If the antenna touches the power line, contact with the antenna, mast, cable, or guy wires can cause electrocution and death. Call the power company to remove the antenna. DO NOT attempt to remove it yourself.

For your safety and convenience, plan each step of the installation. Organize the parts and check them against the following list. You need a suitable length of RG-58 coaxial cable fitted with a PL-259 connector at each end, mast mounting hardware, and a small wrench with a 5/16-inch opening (none of which is supplied with this product).

The item number of each part appears in the assembly instructions to help you identify the parts during assembly.

Item	Description	Quantity
1	Bracket	2
2	Support Tube	1
3	Screw, 8-32 × 1/2-inch 	2
4	Lockwasher, #8 	2
5	Nut, 8-32 	18
6	Screw, 4-40 × 3/16-inch 	3

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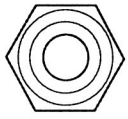
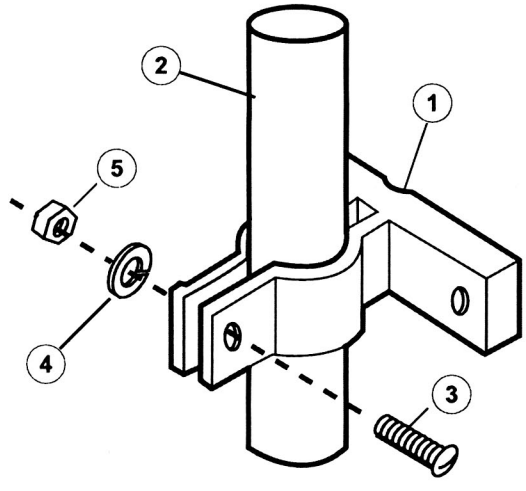
Item	Description	Quantity
(7)	Lockwasher, #4 	3
(8)	Apex/Coil Assembly	1
(9)	Rod, Disk Element	8
(10)	Rod, Cone Assembly	8
(11)	Whip Assembly	1
(12)	Allen Wrench	1
(13)	U-bolt	2
(14)	Split Lockwasher, 1/4-inch 	4
(15)	Nut, 1/4-20 	4
(16)	Danger Label	1

ASSEMBLING THE ANTENNA

Follow these instructions to assemble your antenna.

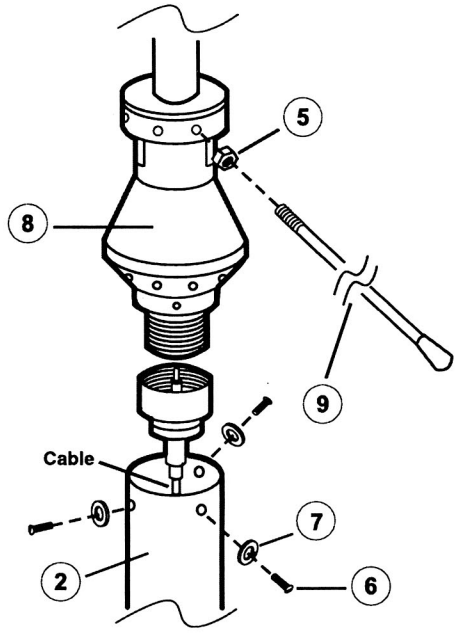
1. Install two brackets (1) on the support tube (2) using one 8-32 x 1/2-inch screw (3), one #8 lockwasher (4), and one 8-32 nut (5) for each bracket. Do not fully tighten the hardware yet.



Position one bracket at the midpoint of the tube. Position the other bracket at the bottom of the tube.

2. Slide the RG-58 coaxial cable through the support tube. Connect the PL-259 connector to the SO-239 terminal on the apex assembly (8).

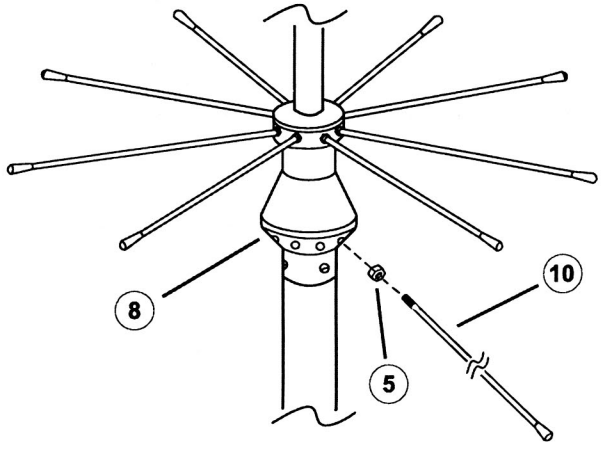
3. Install the apex assembly (8), into the end of the support tube (2) and secure it with three 4-40 x 3/16 screws (6) and lockwashers (7).



4. Screw one 8-32 nut (5) onto the threaded end of each of the eight disc element rods (9).

5. Screw each disc element rod (9) into the holes around the upper disc of the apex assembly (8), and hand tighten each rod. Rotate each 8-32 nut (5) until it fits snugly against the disc. Then use a 5/16-inch wrench to tighten each nut against the disc surface to secure each rod.

6. Screw one 8-32 nut (5) onto the threaded end of each of the eight cone assembly rods (10).

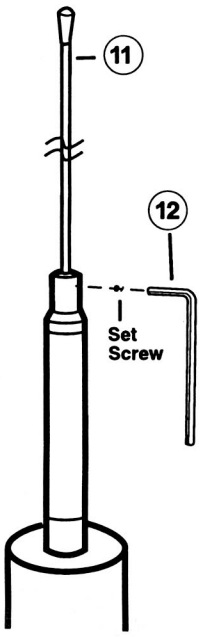


7. Screw each cone assembly rod into the base of the cone section of the apex assembly (8), and hand tighten each rod. Next, use a wrench to tighten each nut against the cone surface to secure each rod.

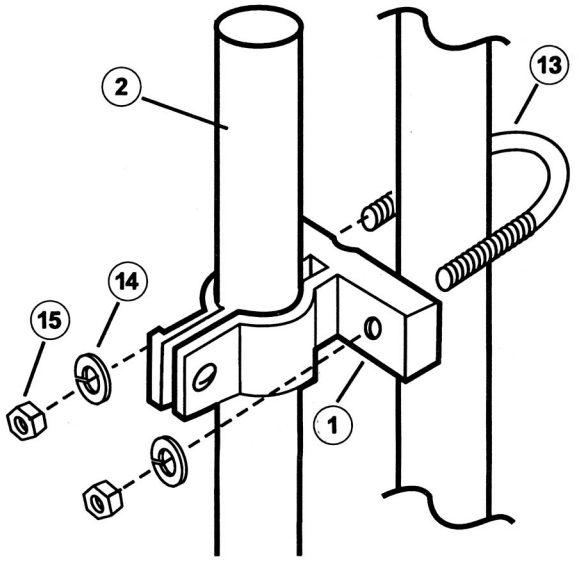
8. Insert the whip assembly (11) into the top of the coil assembly.

Note: Never use a wrench on the black plastic insulator part of the apex assembly.

To secure the whip assembly, use the allen wrench (12) to tighten the set screw.



9. Place the mounting brackets (1) against the chosen section of the antenna mast, and secure each bracket with a U-bolt (13), two 1/4 -inch split lockwashers (14), and two 1/4-20 hex nuts (15). When each bracket is in the correct position, tighten the nuts fully.



10. Use the appropriate mast mounting hardware (not supplied) to secure the coaxial cable to the antenna mast, leaving some slack in the cable. Mount the mast section to your chosen mast support system following the instructions that accompany the support system.

11. Route the remainder of the RG-58 cable to the receiver or transmitter.

A self-adhering Danger Label (16) is supplied. As a safety warning, affix this label at eye level on the mast holding the antenna.

TUNING THE ANTENNA

To ensure your antenna works with a minimum standing wave ratio (SWR) on all channels in the 6-meter amateur radio band, we allowed extra whip length for proper tuning.

To properly tune your antenna, you need an SWR meter. RadioShack stores sell many scanner and amateur radio accessories, including SWR meters.

1. Connect the SWR meter between the transceiver and the antenna cable, as described in the meter's instructions.

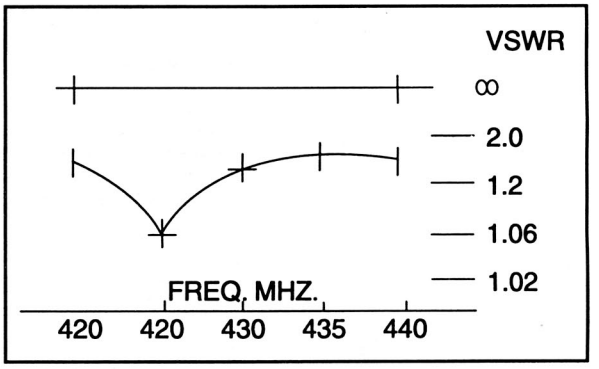
2. Measure the SWR on the lowest and highest channels.

3. If the SWR reading on the lowest channel is higher than that specified in the meter's instructions, lengthen the antenna by loosening the set screw and pulling the whip out of the coil about 1/8-inch. If the SWR reading on the highest channel is higher than that specified in the meter's instructions, remove the whip from the coil and cut 1/8-inch from its lower end. You can cut the whip with a hacksaw or large wire cutters. You can also use a file to make a small groove around the whip and then break off the piece.

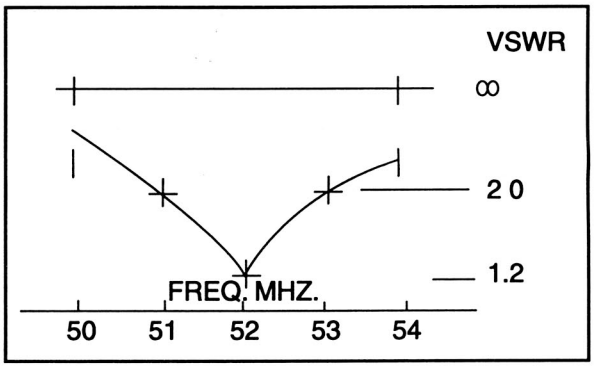
4. Measure the SWR again and repeat the adjustment, if necessary. Cut off only 1/8-inch at a time, checking the SWR each time.

FREQUENCY CURVES

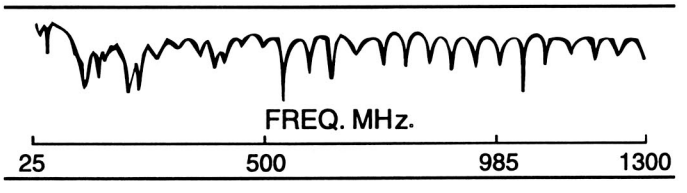
70 CM - VSWR VS. FREQUENCY



6 METER - VSWR VS. FREQUENCY



VSWR VS> FREQUENCY



Limited Ninety-Day Warranty

This product is warranted by RadioShack against manufacturing defects in material and workmanship under normal use for ninety (90) days from the date of purchase from RadioShack company-owned stores and authorized RadioShack franchisees and dealers. EXCEPT AS PROVIDED HEREIN, RadioShack MAKES NO EXPRESS WARRANTIES AND ANY IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE DURATION OF THE WRITTEN LIMITED WARRANTIES CONTAINED HEREIN. EXCEPT AS PROVIDED HEREIN, RadioShack SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO CUSTOMER OR ANY OTHER PERSON OR ENTITY WITH RESPECT TO ANY LIABILITY, LOSS OR DAMAGE CAUSED DIRECTLY OR INDIRECTLY BY USE OR PERFORMANCE OF THE PRODUCT OR ARISING OUT OF ANY BREACH OF THIS WARRANTY, INCLUDING, BUT NOT LIMITED TO, ANY DAMAGES RESULTING FROM INCONVENIENCE, LOSS OF TIME, DATA, PROPERTY, REVENUE, OR PROFIT OR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, EVEN IF RadioShack HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

In the event of a product defect during the warranty period, take the product and the RadioShack sales receipt as proof of purchase date to any RadioShack store. RadioShack will, at its option, unless otherwise provided by law: (a) correct the defect by product repair without charge for parts and labor; (b) replace the product with one of the same or similar design; or (c) refund the purchase price. All replaced parts and products, and products on which a refund is made, become the property of RadioShack. New or reconditioned parts and products may be used in the performance of warranty service. Repaired or replaced parts and products are warranted for the remainder of the original warranty period. You will be charged for repair or replacement of the product made after the expiration of the warranty period.

This warranty does not cover: (a) damage or failure caused by or attributable to acts of God, abuse, accident, misuse, improper or abnormal usage, failure to follow instructions, improper installation or maintenance, alteration, lightning or other incidence of excess voltage or current; (b) any repairs other than those provided by a RadioShack Authorized Service Facility; (c) consumables such as fuses or batteries; (d) cosmetic damage; (e) transportation, shipping or insurance costs; or (f) costs of product removal, installation, set-up service adjustment or reinstallation.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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