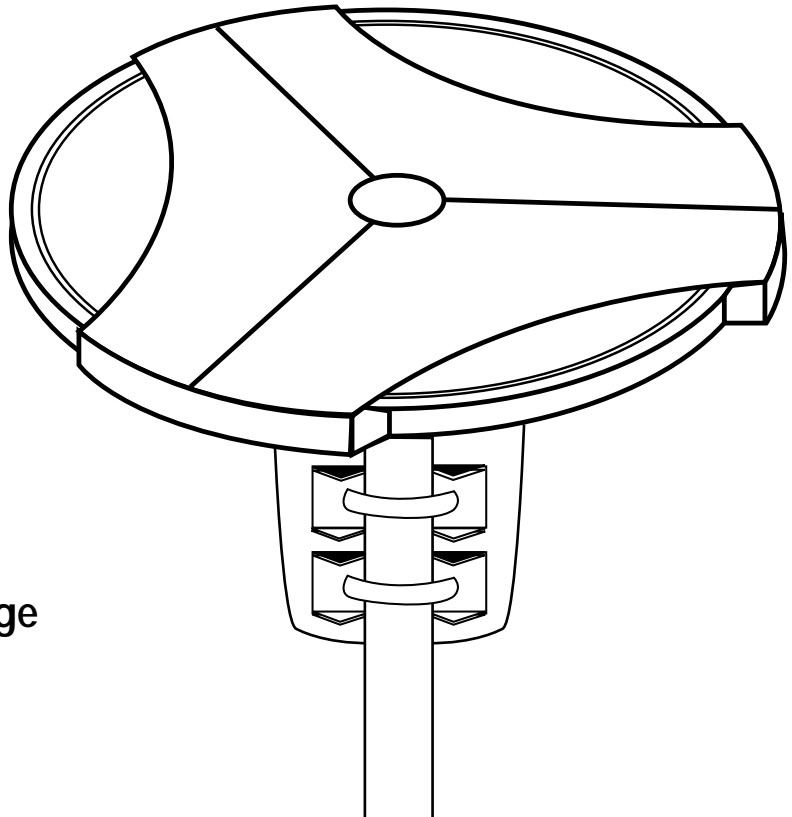




## OPERATING INSTRUCTIONS

### ANT2020X

## Omnidirectional Antenna with Off-Air Mounting Kit



21" UHF/VHF TV Antenna

Built - In Amplifier

VHF/UHF FM Gain ; 20dB Average

Fixed FM Trap (88 - 108 MHz)

UV Protected Housing



**WARNING!** USE EXTREME CAUTION WHEN INSTALLING AN OUTDOOR ANTENNA CLOSE TO OVERHEAD WIRES. IF THE ANTENNA STARTS TO FALL, LET IT GO! IF ANY PART OF THE ANTENNA MAKES CONTACT WITH OVERHEAD POWER LINES, TOUCHING 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.

#### Before You Begin

Please read **Important Safety Precautions** prior to installation. For your safety and convenience, plan each step of the installation and purchase the necessary hardware in advance. The order in which you perform the steps and the hardware required depends on the mounting and connection methods you choose. We recommend two people assemble the entire antenna on the ground, then mount the assembled antenna on the mast.

## Important Safety Precautions

Many do-it-yourself and professional antenna installers are injured or killed each year by electric shock. While anyone can see the obvious danger of falling, the most resourceful people sometimes fail to recognize overhead wires as being potentially lethal. To touch any part of the antenna mast or guy wire to these overhead wires is the same as touching the wires with your bare hand. A very serious shock is almost sure to result when contacting an electrical wire and, in the case of primary wires on the top of poles, the shock is like being struck by a bolt of lightning. Many power wires are within 20 to 25 feet of the ground and could easily be touched by an assembled antenna and mast.

Please read and follow these important safety precautions:

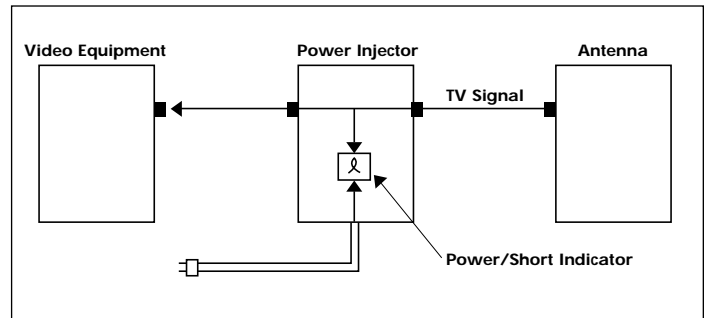
- Be sure to select an antenna site well away from all overhead wires.
- Do not try to guess which overhead wires carry high voltage. Check with the power company.
- If you notice anything making contact with the overhead wires, call the power company to have it removed safely.
- Do not run the downlead cable over power wires.
- Get help from a qualified professional when removing the old antenna if there is any doubt of clearing overhead wires.
- Never install an antenna by yourself. Be sure to have at least two people available for help, if needed.
- Never install the antenna when it is windy.
- Be sure to do all assembly work on the ground, then raise the antenna.
- Make sure the antenna mast downlead cable is connected to suitable lightning arrester.
- Use 8 (or larger) AWG ground wire between the mast and the ground.
- Make sure the installation is secure. Use plenty of guy wires and new hardware.

## Important Antenna Notes

This antenna system is designed to work properly when the power injector is connected to the antenna through only 75-ohm coaxial cable.

The power injector has an indicator light to indicate that:

- DC power is supplied to the antenna
- There are no shorts in the connection between the power injector and antenna



The coaxial cable between the power injector and the antenna is used for:

- Carrying DC power from the power injector to the amplifier board in the antenna
- Carrying the amplified TV signal from the antenna, through the power injector, to the video equipment

If any devices are used in your home cabling system such as amplifiers, splitters, combiners, matching transformers, or 300-ohm cable, they must be connected only between the power injector and your video equipment. Any devices connected between the power injector and the antenna might cause a short in the amplifier power source. If this happens, the injector's indicator does not light and the signals to your video equipment (multiple Vs or VCRs) might be significantly degraded.

### Pre-Installation Test

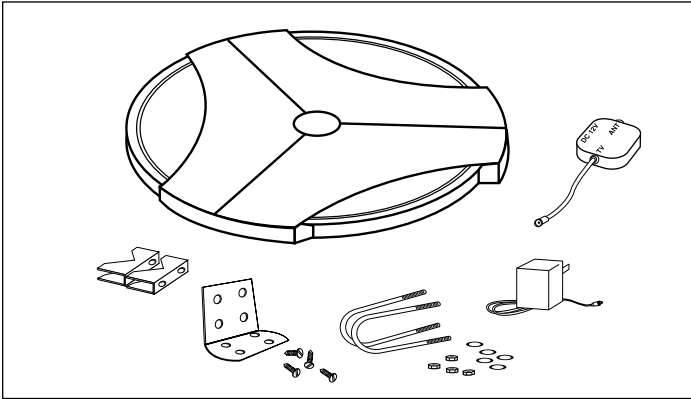
To make sure your antenna system works properly, perform this test before installing it.

1. Connect a temporary 75-ohm cable between the power injector's F - Connector and the antenna's F-connector.  
**Note:** If installing new lead-in cable, use the actual cable to be used in the installation.
2. Connect the power injector's TV cable to your TV's VHF/UHF 75-ohm F-connector.
3. Insert the supplied AC adapter's small plug into the DC 12V jack on the power injector.  
**Note:** If installing the antenna in a motor home, we recommend you use a DC cord (not supplied).
4. Plug the supplied AC adapter into a standard AC outlet.  
If the power injector's indicator lights, the antenna is properly connected.

## Mounting The Antenna

For the best results, mount the antenna away from trees or other obstructions. Higher frequencies are noticeably affected by these obstructions.

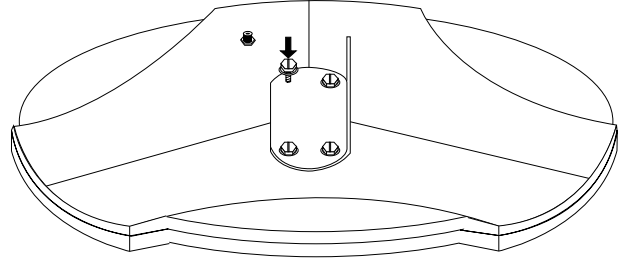
The antenna is easy to install on any antenna mast or optional light-duty mount using simple hand tools. The antenna package includes these parts:



Antenna	1
Antenna Mounting Bracket	1
Mast Clamps	2
1/4" U-Bolts	2
1/4" Split Lockwashers	4
1/4-20" Hex Nuts	4
#12 x 1/2" Long Self-Tapping Screws	4
#12 Split Lockwashers	4
Power Injector	1
AC Adapter	1
4-Piece Off-Air Mounting Kit	1

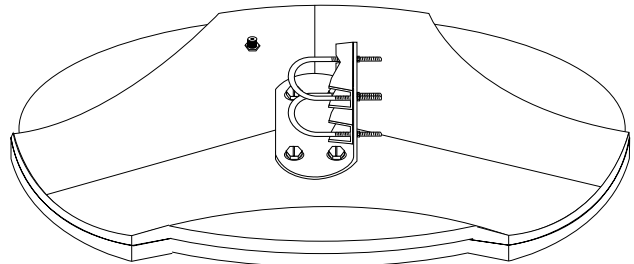
## Outside Mounting

1. Attach the antenna mounting bracket to the bottom of the antenna using the four #12 x 1/2" long self tapping screws and four #12 split lockwashers



2. Attach both mast clamps, U-bolts, four 1/4" split lockwashers, and four 1/4-20 hex nuts to the mounting bracket.

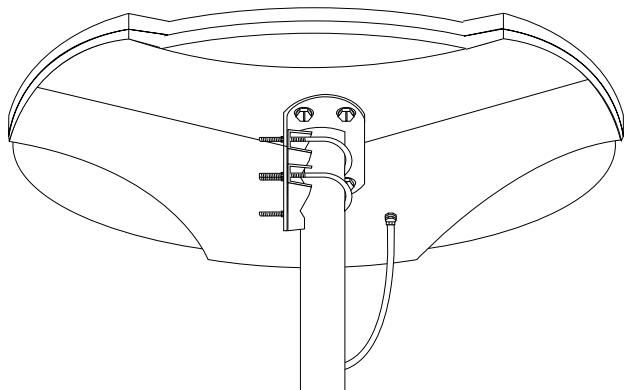
**Note:** Do not tighten the hex nuts.



3. Plug one end of the 75-ohm coaxial downlead cable to the antenna's jack and seal the connection with coax sealant tape or a weather boot.

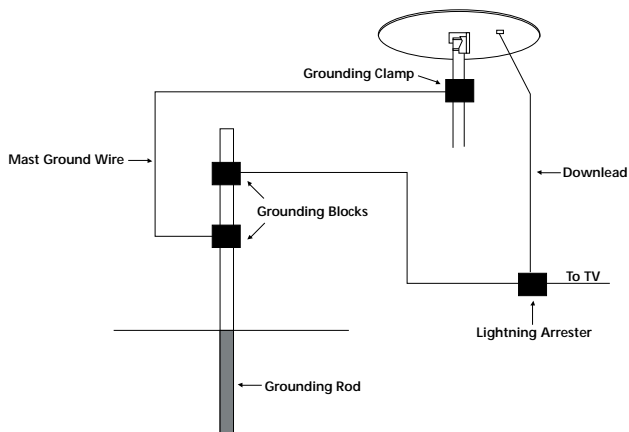
**Note:** If your existing downlead is 300-ohm cable, you must replace it with 75-ohm coaxial cable. (300-ohm cable requires a matching transformer that significantly interferes with the antenna's operation.)

4. Mount the antenna on the mast, and secure it by tightening the hex nuts evenly onto the U-bolts.



## Lightning Protection (When Mounting The Antenna Outside)

- Ground wires for both the mast and downlead should be copper or aluminum wire, 8 AWG or larger.
- Mount a grounding block, not supplied, as close as possible to where the downlead enters the house.
- Downlead wire from the antenna to the grounding block and the mast ground wire should be secured to the house with stand-off insulators, spaced 4 - 6 feet apart.
- For a "ground - up" antenna installation, you might not need to go around the mast if the mast extends 4 or more feet into the earth.

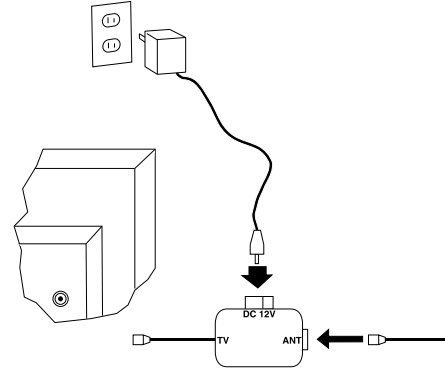


## Inside Mounting

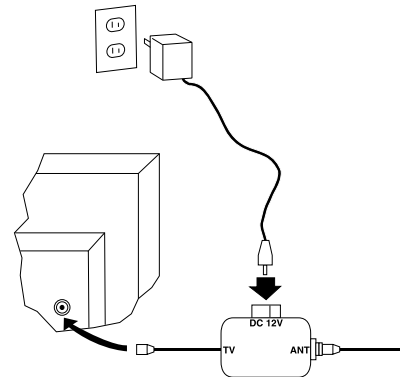
You can mount the antenna in an attic, closet or other out of the way indoor location. The antenna can be mounted on a horizontal mast, closet rod, or on a short piece of mast suspended from a roof support by a 4 inch wall mount bracket, not supplied. Or you can simply place the antenna on a shelf in a closet. Be sure the antenna is not in a position where it could easily fall or be damaged.

## Connecting The Antenna To Your TV

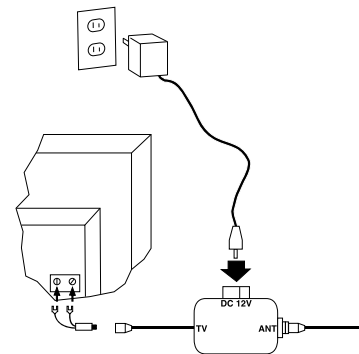
1. Connect the coax downlead from the antenna to the ANT jack on the power injector



2. If your TV has an F connector, connect the short piece of coax cable from the power injector to your TV's VHF/UHF 75-ohm F connector.



3. Insert the supplied AC adaptor's small plug into the power injector's DC 12V jack. Then plug the adaptor into a standard AC outlet. The LED on the power injector lights to indicate that the antenna is properly connected.

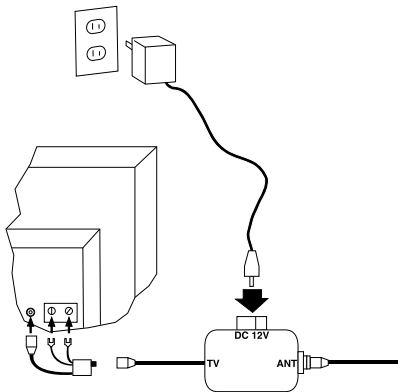


If your TV has screw terminals for VHF/UHF connection, connect a 75 to 300 ohm transformer, not supplied, between the power injector and the VHF/UHF terminals.

## Specifications

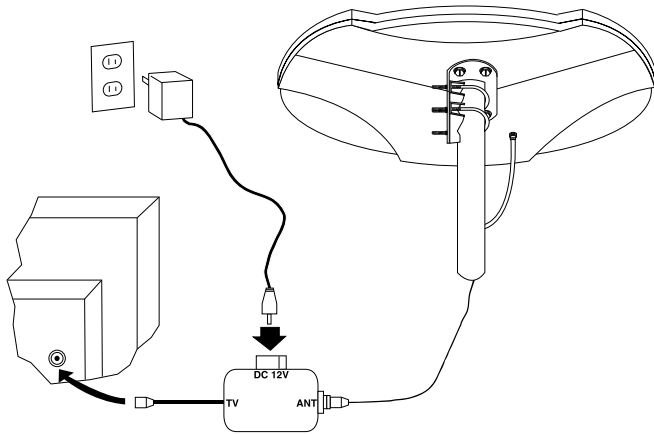
### Bandpass:

VHF .....	58-88,170-216 MHz
UHF .....	470-810 MHz
FM Trap (Fixed) .....	88-108 MHz
VHF/UHF Gain .....	20 dB Average
Impedance .....	75 Ohms, Unbalanced
Power Requirement .....	12V DC 120 VAC, 60 HZ (with supplied adaptor)
Weatherproof Housing .....	UV Protected Filled Copolymer
Mounting .....	1½ Inch Outer Diameter Round Mast



If your TV has a 75 ohm VHF connection and a 300 ohm UHF connection, connect a signal splitter, not supplied, between the power injector and the TV's VHF/UHF connections.

Specifications are typical. Individual Units might vary. Specifications are subject to change and improvement without notice.



## Coaxial Cable Installation Precautions

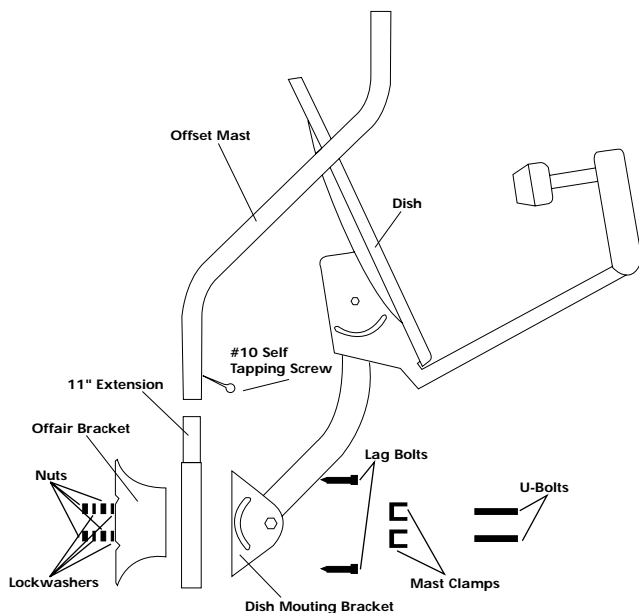
- Do not bend coaxial cable into less than a 3 inch radius. Tighter bends can cause shorts and change the cable's impedance.
- Do not install coaxial cable where it will have a pulling tension greater than 50 pounds maximum. Leave no tension on the cable after installing it.
- Use only round headed staples. Any clamps or securing devices used with coax should grip the cable evenly about the circumference without crushing the cable. Flat staples can damage coax cable.
- Do not expose coaxial cable to a temperature greater than 176° (80°C). Keep the cable away from heating vents and water heaters.
- The cable jacket withstands most outdoor environments. However, you must seal connections and splices against water entry.

## Assembling The Mounting Bracket

The ANT2020 consists of an off-air bracket and hardware, an offset mast, and eleven inch extension, and a swaged tube for non-vertical mounting. **The bracket may be used with a satellite dish or alone to mount this off-air antenna.**

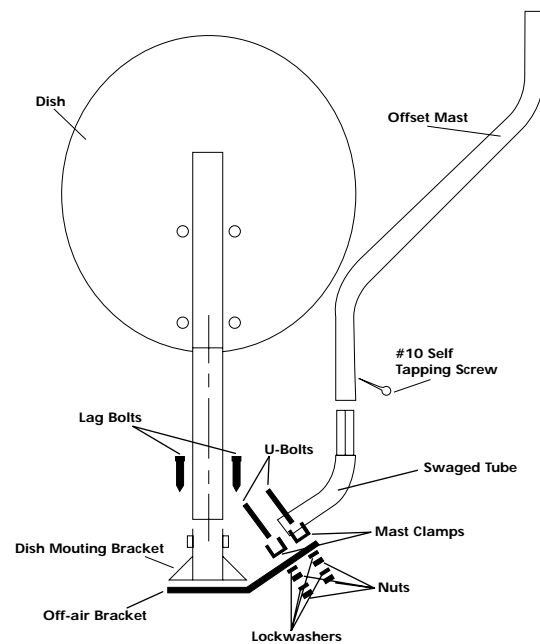
For vertical mounting, place the off-air bracket behind the Satellite Mounting Bracket and follow the mounting instructions that came with the satellite system. Insert eleven inch extension into offset mast. Drill a hole through both and secure the two together with #10 self tapping screw. With the bracket secured to the wall or other vertical surface, mount the offset mast assembly to off-air bracket using U-bolts, mast clamps, lockwashers, and nuts as shown. Adjust the offset mast assembly so the off-air antenna is horizontal and does not interfere with the DBS antenna.

The off-air bracket may be used alone to mount an off-air antenna. Mount the off-air bracket to the wall with the four lag bolts supplied and mount the offset mast to off-air bracket as shown.



**Vertical Mounting**

For non-vertical mounting, place the off-air bracket behind the Satellite Mounting Bracket and follow the instructions that came with the satellite system. With the off-air bracket secured to the non-vertical surface, mount the swaged tube to the off-air bracket using U-bolts, mast clamps, lockwashers, and nuts shown. Mount offset mast to swaged tube. NOTE: If additional off-air antenna height is needed or desired, insert eleven inch extension into offset mast. Drill a hole through both and secure the two together with #10 self tapping screw. Adjust the swaged tube and offset mast/offset mast assembly so the off-air antenna is horizontal and the mast does not interfere with the DBS antenna. Drill a hole through offset mast/offset mast assembly and swaged tube. Secure the two together with #10 self tapping screw. NOTE: Be sure to route coaxial cable through the slot provided at top of offset mast when making coaxial connections.



**Non - Vertical Mounting**

## One Year Limited Warranty

Thomson Consumer Electronics will replace this antenna if found to be defective in materials or workmanship. Return it postage prepaid to the address below for prompt, no charge replacement with a current equivalent antenna.

This replacement is TCE's sole obligation under this warranty. TCE will not be responsible for any incidental or consequential damages, or for any loss arising in connection with the use or inability to use this product.

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

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