

You, Your Antenna, and Safety!

Please read these important safety instructions before installing your new antenna product.



Warning!

Installation of this product near power lines is *dangerous*. For your safety, follow the installation instructions.

Each year, hundreds of people are either killed, mutilated, or they receive severe, permanent injuries while attempting to install or remove an antenna. In many of these cases, the victim was aware of the danger of electrocution but did not take adequate steps to avoid the hazard.

For your safety, and for proper installation, please *read and follow* the safety precautions that follow -- **THEY MAY SAVE YOUR LIFE.**

Since the same precautions will apply when dismantling and/or removing an antenna, these instructions should be saved for future reference.

GENERAL SAFETY INSTRUCTIONS AND PRECAUTIONS

1. If you are installing an antenna for the first time, please, for your safety, as well as others, *obtain the assistance of a professional installer*. Consult your dealer. He can explain which mounting method is best suited for the size and type of antenna you are about to install and help you obtain on-site assistance.
2. When selecting your installation site, keep safety in mind as well as performance. General safety precautions and guidelines for selecting your installation site are outlined in the "Site Selection" section of this document.
REMEMBER, ELECTRICAL POWER LINES, PHONE LINES AND GUY WIRES LOOK ALIKE. FOR YOUR SAFETY, ASSUME THAT ANY OVERHEAD LINES COULD KILL YOU.
3. Call your electric power company. Tell them your plans and ask them to come look at your proposed installation. This is little inconvenience, considering that *your life is at stake*.
4. Plan your installation procedure carefully and completely before you begin. Successful raising of a mast or tower is largely a matter of coordination. Each person working on the installation should be assigned a specific task, and they should know what to do and when to do it. One person should be designated as the foreman of the operation. The foreman should call out instructions to the other workers and watch for any signs of trouble.
5. When installing your antenna, *remember*
 - *DO NOT* use a metal ladder.
 - *DO NOT* work on a wet or windy day, especially during electrical storms or when there is thunder and lightning in the area.

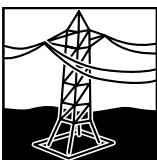
- *DO* dress properly - wear shoes with rubber soles and heels, rubber gloves, and a long sleeve shirt or jacket.
6. If the assembly starts to fall, get away from it and let it fall. Remember, the antenna, the mast, the cable and any metal guy wires are excellent conductors of electrical current. If you are touching the antenna, the mast, or any of their components and they come in contact with an electrical wire -- even the slightest touch -- an electrical path will be completed through the antenna and the installer -- **THAT'S YOU!** If you are unsure about how to install your antenna, or you have any doubts about your abilities to successfully perform the job, *stop and obtain the help of a professional installer.*
 7. If any part of the antenna system should ever come into contact with a power line, **DON'T TOUCH IT! NEVER TRY TO REMOVE IT YOURSELF! CALL YOUR LOCAL POWER COMPANY.** They will remove it safely.
 8. If an accident should occur involving a power line and someone is electrocuted, **NEVER grab hold of a person who is in contact with the antenna and/or the power line. If you do, you too will be electrocuted. Have someone call for medical help immediately.** If possible -- without causing injury to yourself -- use a dry board, stick or rope to push or pull the victim away from the antenna and/or power line. Once you and the victim are clear of the electrical line, check to see if the victim has stopped breathing; if so, artificial respiration should be administered. Artificial respiration should be continued until medical help arrives.

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NOTICE

The installation, maintenance, or removal of an antenna requires qualified, experienced personnel. Andrew installation instructions are written for such installation personnel. Antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment.

Andrew disclaims any liability or responsibility for the results of improper or unsafe installation practices.



Do not install near power lines. Power lines, telephone lines, and guy wires look the same. Assume any wire or line can electrocute you.



Do not install on a wet or windy day or when lightning or thunder is in the area. Do not use metal ladder.

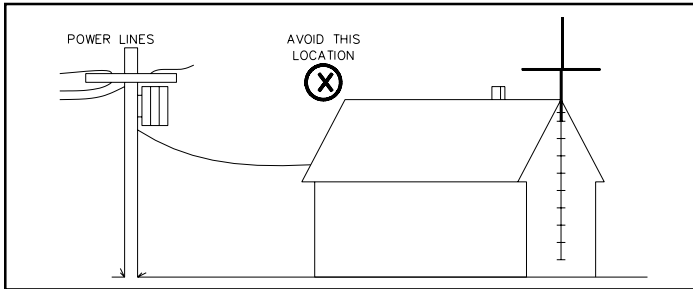


Wear shoes with rubber soles and heels. Wear protective clothing including a long-sleeved shirt and rubber gloves.

SITE SELECTION

Before attempting to install your antenna, think of the best place to locate your antenna for both safety and performance. Perform the following simple steps to determine a safe distance from wires, power lines and trees:

1. Measure the height of your antenna.
2. Add this length to the length of your tower or mast.
3. Now, double this total to obtain the minimum recommended safe distance.



If you are unable to maintain a safe distance from power lines, select a different location. Remember: A safe distance from power lines should be at least twice the height of the antenna and the mast combined. If a different location is not available, stop and obtain the help of a professional installer.

Many antennas are supported by pipe masts attached to the chimney, the roof or the side of a building. Antennas can also be attached to self-supporting towers or masts, or to towers and masts supported by guy lines. Generally, the higher the antenna is above the ground, the better it performs. Good practice is to install your vertical antenna about 5 to 10 feet above the building's roof line and away from power lines and obstructions; however, keep in mind that the FCC limits your antenna height to 60 feet.

If possible, find a mounting place directly above your set, where the antenna wire can take a short, vertical drop on the outside of the building for entry through a wall or window near the set. Your dealer will be able to provide a complete line of installation hardware.

CHOOSE PROPER SUPPORT AND MOUNTING METHOD

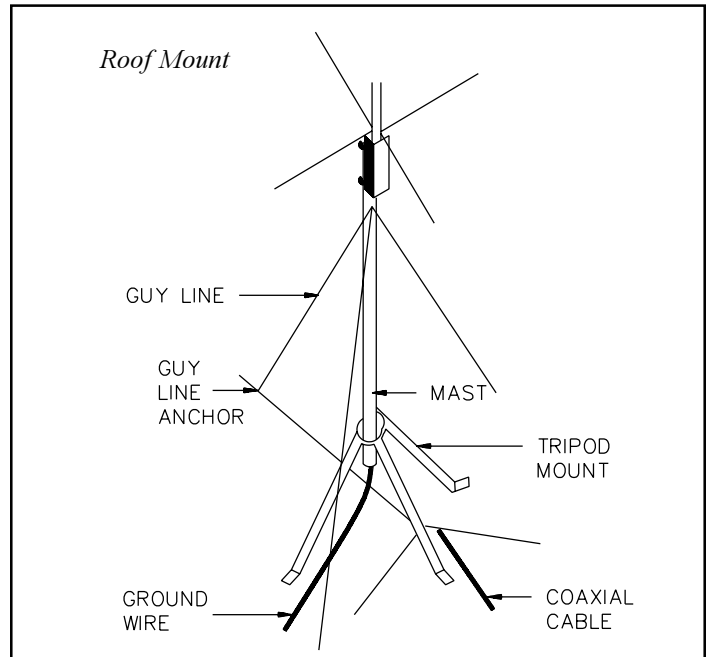
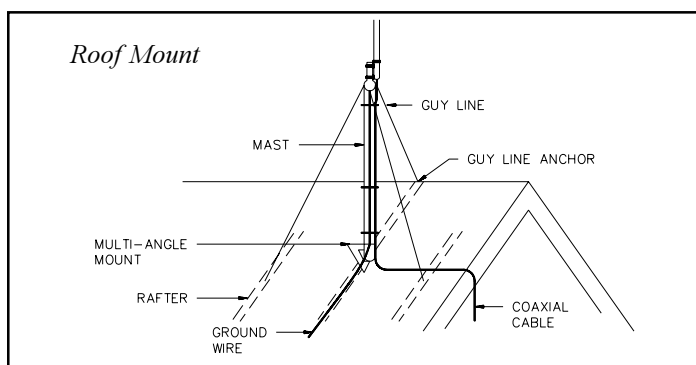
There are three types of supporting structures commonly used in antenna installations: a roof, a freestanding structure, and the side of a building. These various mounting methods are illustrated and discussed in the following sections.

ROOF MOUNT --

-- for flat or peaked roofs:

A tripod mount will accept a five- to ten-foot 1-1/4" diameter steel mast for omnidirectional antennas. One clamp-type bracket is used with three or four guy wires equally spaced around the mast and anchored to the roof.

The swivel feature of a multi-angle mount makes a convenient omnidirectional antenna mount. One clamp-type bracket is used with three or four guy wires equally spaced around the mast and anchored to the roof.



The chimney is often an easy and convenient mounting place. But, the chimney must be strong enough to support the antenna in high winds. Do not use a chimney that has loose bricks or mortar.

A good chimney mount makes use of a five- or ten-foot 1-1/4" diameter steel mast and a heavy duty two-strap clamp-type bracket. Install the upper bracket just below the top course of bricks and the lower bracket two or three feet below the upper brackets. For maximum strength, space the brackets as far apart as possible and use guy wires.

Follow suitable mounting methods and observe any limitations described in the instructions supplied with the mount.

Make guy wire attachments through the roof and into the rafters for strength. On roof mounts, apply roofing compound around the base of all brackets, screws and anchors to seal out moisture.

Remember: A safe distance from power lines should be at least twice the height of the antenna and the mast combined.

FREESTANDING MOUNTS --

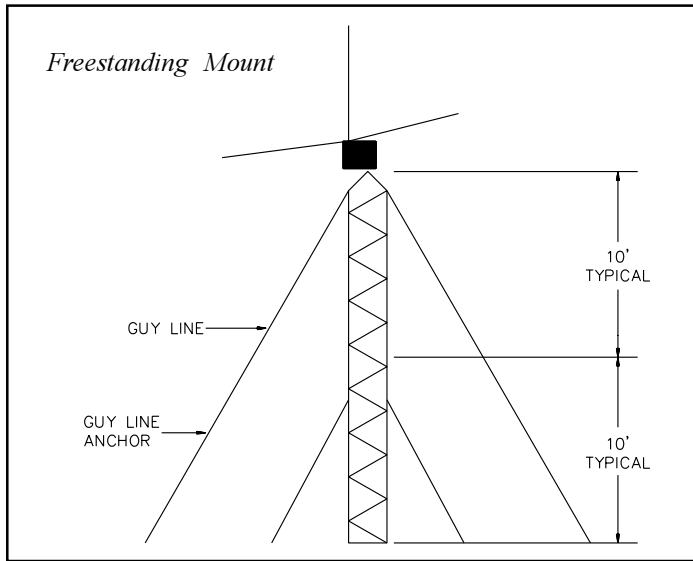
-- using guy wires or standing alongside a structure:

A one-piece mast, telescopic standing mast, or a tower allows an antenna to be mounted away from structures. However, for added strength, a mast or tower may be erected next to a structure and attached to it.

The minimum safe diameter mast for an antenna will be specified in the antenna assembly instructions. Guy wires should be equally spaced in at least three directions. Also, at least three guy wires should be used for each 10-foot length of mast.

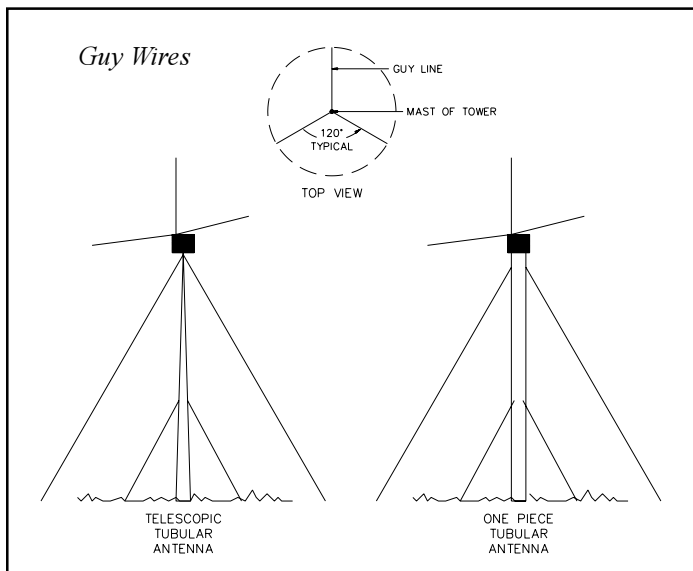
Never attempt to raise or lower a mast that is in excess of 30 feet in height/length (not including the antenna proper) with the mast in a fully extended position. Thirty-foot to fifty-foot tubular masts must be raised or lowered one section at a time with the base or outer section secured in place with guy wires.

Follow suitable mounting methods and observe any limitations described in the instructions supplied with the tower or mast. If you are unsure about how to install your antenna, or you have doubts about being able to perform the job successfully, obtain the help of a professional installer. Remember: A safe distance from power lines should be at least twice the height of the antenna and the mast combined.



MOUNTING TO THE SIDE OF A BUILDING

Where the roof overhang is not excessive, the side of a house or other building provides a convenient mounting location. Position the brackets so that they can be anchored into a stud when possible. The brackets should be mounted one above the other and spaced two to three feet apart. If mounting on siding, first mark the mounting holes, then drill pilot holes through the siding to accept the mounting screws. Again, position the brackets over studs when possible.



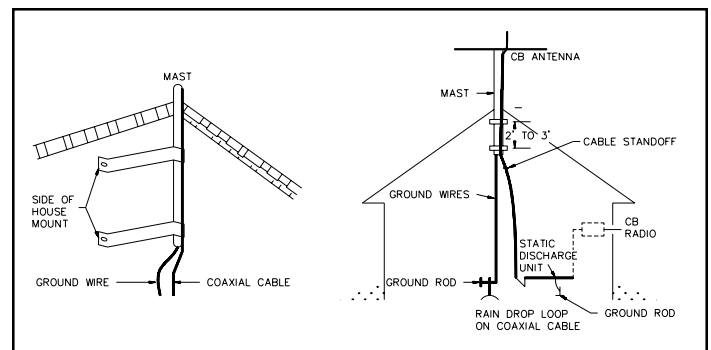
Follow suitable mounting methods and observe any limitations described in the instructions supplied with the tower or mast. Remember: A safe distance from power lines should be at least twice the height of the antenna and the mast combined.

GENERAL INSTALLATION INSTRUCTIONS FOR MAST-MOUNTED ANTENNAS

1. Additional materials needed to complete the installation are described in the assembly instructions supplied with the antenna.
2. Lay the antenna out at the installation site and assemble the antenna on the ground. The assembly instructions supplied with the antenna should be kept separate from any other instructions (such as for the mount, cable, etc.).
3. With the mast still on the ground, clamp the antenna(s) to the mast.

Then, connect the coaxial cable to the antenna; be sure to leave adequate slack in the cable to allow for raising of the mast.

4. Various methods of raising an antenna or mast -- such as "walking up" or the use of an "X frame" -- can be found in manuals and handbooks available at most dealers. To ensure that a mast does not fall the "wrong way" if it should begin to fall during installation or removal, durable nonconductive ropes should be secured to the mast at ten foot intervals. As the mast is raised or lowered, the foreman or other designated worker should stand in a position such that he can pull on the ropes if the need arises to deflect the falling mast away from hazards -- such as power lines -- and into a "safe fall" area such as a yard or driveway. After installation, the ropes should be tied taut at the base of the mast and in place at various levels along the mast. If you are unsure about any aspect of the installation of your antenna, or you have doubts about being able to perform the job successfully, *obtain the help of a professional installer.*
5. Install the selected mount following the instructions supplied with the mount. Note any limitations and follow recommended installation procedures.
6. When using guy wires:
 - Install guy anchor bolts
 - Estimate length of guy wire and cut
 - Attach guy wire ring to mast
 - Attach guy wires to mast and anchor securely



7. Carefully position the antenna and mast assembly into the mounting bracket and tighten the clamp bolts. In the case of an installation in which guy wires are used, it will be necessary to have at least a second person hold the mast upright while the guy wires are attached and tightened to the anchor bolts.
8. The self-adhering "DANGER" label packaged with the antenna should be placed onto the mast.
9. A ground rod, used to dissipate static electricity buildup, should be installed. A special rod designed for this purpose should be used; do not simply use a spare piece of pipe. A ground wire should then be connected from the mast to the ground rod.

EXAMPLE OF ANTENNA GROUNDING ACCORDING TO NATIONAL ELECTRICAL CODE INSTRUCTIONS

1. Use No. 10 AWG copper, or No. 8 AWG aluminum, or No. 1 AWG (or larger) copper-clad steel or bronze wire as ground wires for the mast ground. Clamp the wire securely to the bottom of the mast.
2. The lead-in wire from the antenna to the antenna discharge unit and the mast ground wire should be secured to the building with standoff insulators spaced from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart.
3. Mount the antenna discharge unit as close as possible to where the lead-in wire enters the building.

4. A hole that is just large enough to permit entry of the lead-in cable should be drilled into the wall. (Before drilling, locate and avoid any electrical wires or plumbing that may be inside the wall.)
5. Push the cable through the hole. Be sure to form a rain drip loop close to where the cable enters the building.
6. To keep out moisture, drafts, insects, etc., caulking or other suitable sealant should be used to seal the area around the cable where it enters the building.
7. Install the static electricity discharge unit. Route the grounding conductor so that it runs in as straight a line as possible from the antenna mast and/or the antenna discharge unit to the grounding rod.
8. Connect the antenna cable to the set.

Keep this installation instruction booklet for future reference in case it ever becomes necessary to remove the antenna. Remember, use caution when disassembling and/or removing an antenna -- the hazards that existed during installation are still present. If you are unsure about any aspect of the installation or removal of your antenna, or you have doubts about being able to perform the job successfully, *obtain the help of a professional installer.*

ANTENNA REMOVAL

For your safety, read the following directions before you begin the removal of an antenna.

CHECK FOR POWER LINES:

Before beginning, **LOCATE ALL POWER LINES IN THE VICINITY OF YOUR ANTENNA.** The closeness of these power lines to the antenna may not have been considered when the antenna was installed or new power lines may have been installed near the antenna since the antenna was installed.

Remember, to determine the safe distance from any power line, calculate the combined height of the antenna and the mast, then *double it.* If the power lines are not at a distance that is at least twice the combined height of the antenna and the mast, *stop and contact your power company or a professional antenna installer.*

CHECK FOR OTHER HAZARDS:

Are there any other antennas nearby or on the same mast that may get in the way? Are there other objects such as trees, air conditioning units, chimneys, dormers, etc., that may interfere with the antenna's removal?

CHECK THE CONDITION OF THE ANTENNA:

It is possible that the condition of the antenna has changed since it was put up: the weather may have caused rust and corrosion to develop, and some parts may be weak, cracked or broken.

If possible, inspect the radials, elements, brackets, etc., and remove any broken or loose parts that may cause injury if they fall off unexpectedly during disassembly.

CAREFULLY DISASSEMBLE AND REMOVE ANTENNA:

DO NOT remove an antenna on a windy day or during bad weather, especially during electrical storms or when there is thunder and lightning in the area.

Have at least one other person available to assist you -- two would be even better.

Hand tools usually required are pliers, screwdrivers and an adjustable wrench. Penetrating oil may also be needed to loosen any rusted screws, nuts, and/or bolts. Since each situation is different, however, other tools or equipment may be needed.

Disconnect all cables from equipment and power sources first. Then disconnect all cables at the antenna.

If any radials or elements can be easily removed while the antenna is still mounted, do so.

Be careful not to let the antenna, its parts or any tools fall that could cause damage or injury.

Some antennas may be heavy and difficult to handle. Strong rope -- such as nylon or hemp -- should be securely attached to the antenna to help control it while it is being removed.