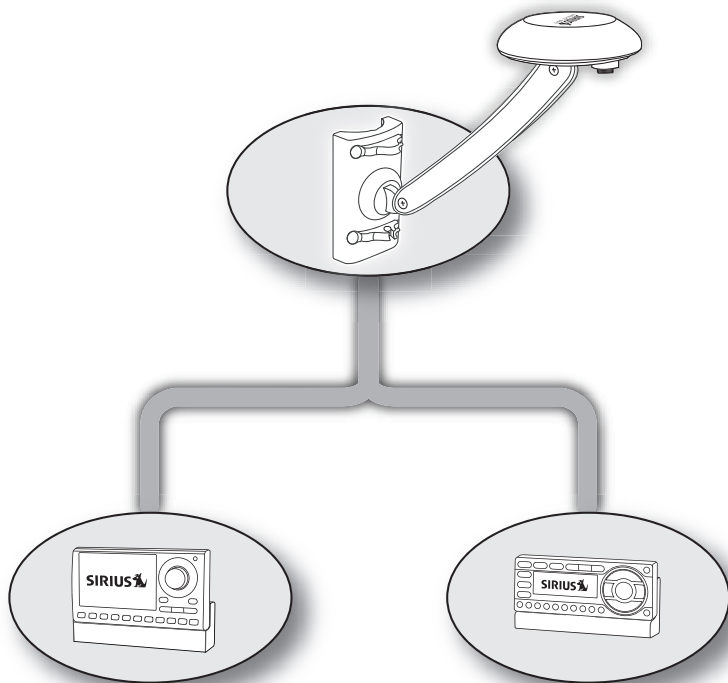


# SIRIUS<sup>®</sup>



## SATELLITE RADIO



## **SIRIUS Home Signal Distribution Kit for Satellite Radio**

*For Use With One or Two SIRIUS Radios*

**Installation Manual**

# Thank you for purchasing the SIRIUS Home Signal Distribution Kit for Satellite Radio

The SIRIUS Home Signal Distribution Kit for Satellite Radio will allow you to connect one or two SIRIUS radios using only one outdoor antenna, with standard RG-6 antenna cable wire, the same cable used in cable TV installations. This allows you great flexibility as to where you locate the outdoor antenna and where you locate your SIRIUS radios. RG-6 cables can be purchased at your local hardware store, home center, or electronics retailer. Short adapter cables are included for adapting the RG-6 cable to your SIRIUS radios.

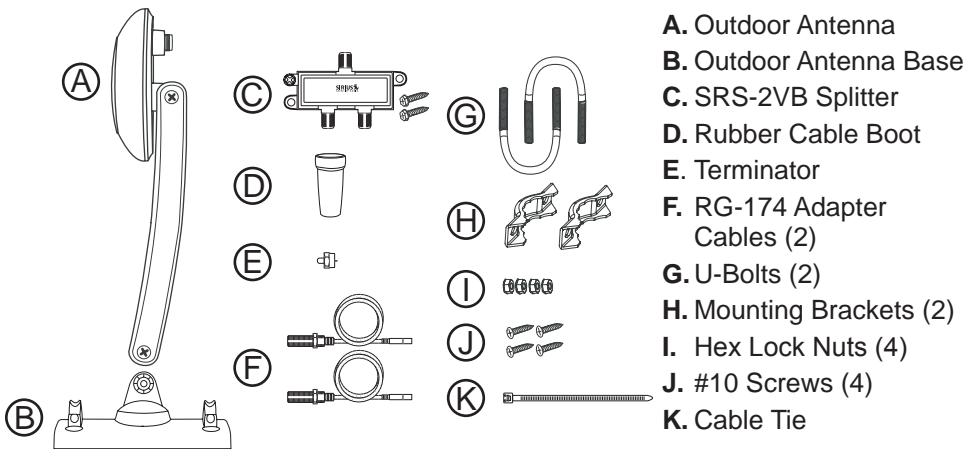
The outdoor antenna is a high-performance antenna, specifically designed to receive signals from the SIRIUS satellites and terrestrial (ground) transmitters when mounted outdoors on a home or other building. The antenna has been approved by Sirius Satellite Radio to receive the SIRIUS signal under a variety of conditions within the SIRIUS North American coverage area.

Installation of the antenna and splitter requires experience in mechanical and electrical procedures. Review this installation manual before beginning the installation process. If you are not comfortable or experienced with the installation procedures, SIRIUS recommends that you have a professional install the kit and wiring for you.

The antenna should be mounted according to the instructions in this manual to ensure the best quality reception of the SIRIUS signal. All necessary mounting hardware for a variety of mounting options is included with the kit.

## Box Contents

Open the box and verify that all the items shown below are included with the kit. If any items are missing, please contact your dealer or retailer immediately. Keep your purchase receipt and the packaging materials should you need to return or ship the kit.



## Tools Required

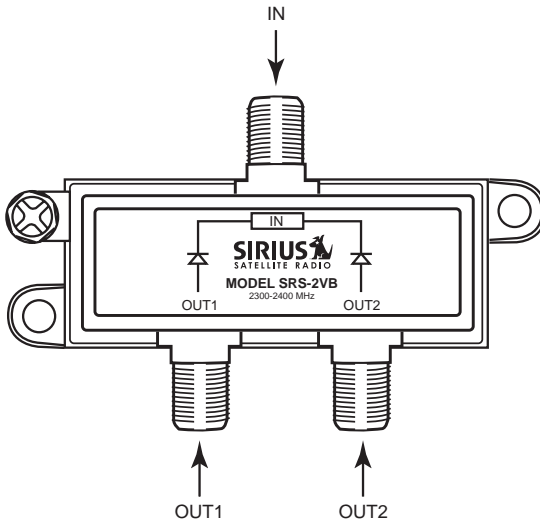
A phillips-type screwdriver and a 3/8 in. wrench is needed for installation. Depending upon the type of installation, a power drill with a 3/32 in. drill bit may also be required.

## Caution and Warnings

**WARNING:** Be sure not to cut, damage, or puncture the external jacket of the antenna cables during the installation procedure. Damage to the antenna cable can cause the SIRIUS signal to be degraded or unavailable, and can also cause water to intrude into the antenna cable causing the cable to fail.

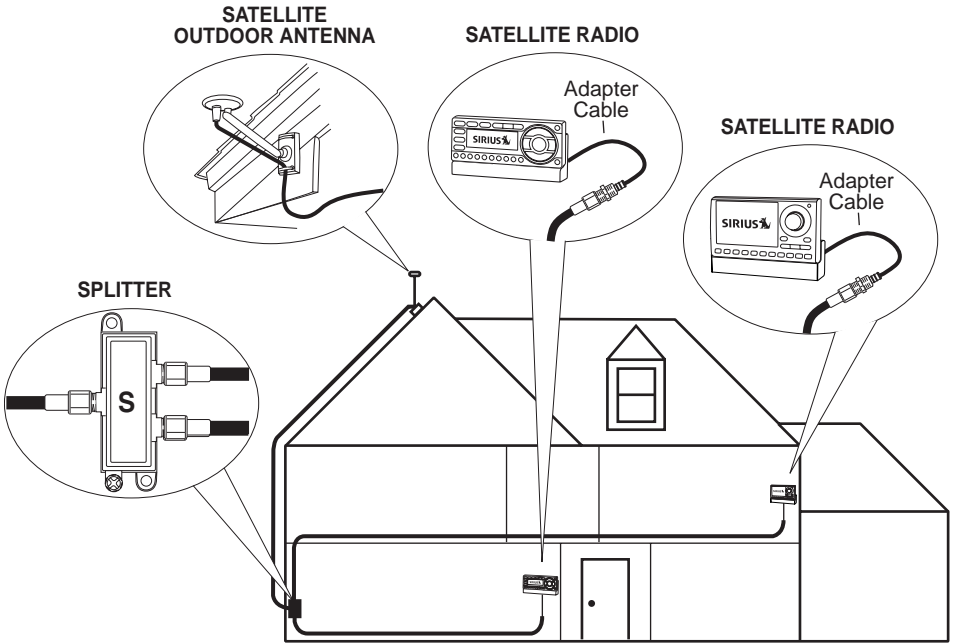
## Splitter Port Identification

For a successful installation, the various cables used in the installation process described later in this manual must be connected to the correct ports on the Splitter. The following illustration identifies the 3 ports on the Splitter. This diagram should be used for reference during installation.



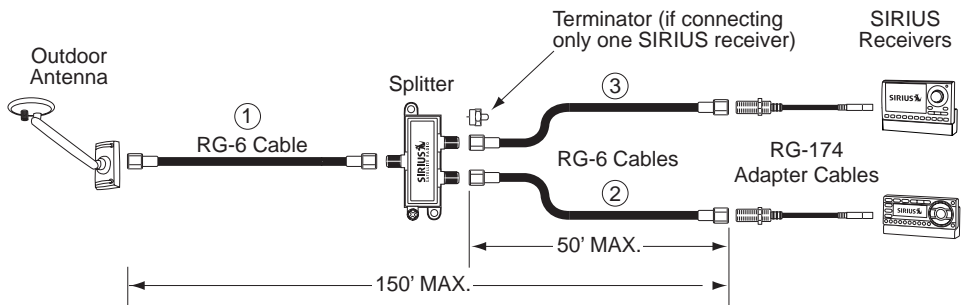
## Materials Required and Installation Considerations

In order to install the antenna you will need to purchase several lengths of RG-6 antenna cables to complete your installation. The following illustration shows a typical home installation.



Cables will be needed for the following:

1. A length of RG-6 cable to go from the SIRIUS outdoor antenna to the location of the Splitter.
2. A length of RG-6 cable to go from the Splitter to the first SIRIUS radio. (**50 ft. maximum length.**)
3. If you are installing a second SIRIUS radio, a length of RG-6 cable to go from the Splitter to the second SIRIUS radio. (**50 ft. maximum length.**)



RG-6 cable is typically sold in lengths of 25, 50, or 100 ft., all with “F” type connectors on each end. These cables may be purchased at your local hardware store, home center, or electronics retailer.

The combined length of the RG-6 cables from the outdoor antenna to each SIRIUS radio **should not exceed 150 ft.**, as shown in the preceding illustrations. The overall length for your particular installation may be less than 150 ft. Also note that the individual lengths of the cables from the Splitter to the SIRIUS radios is **limited to 50 ft. maximum for each cable.**

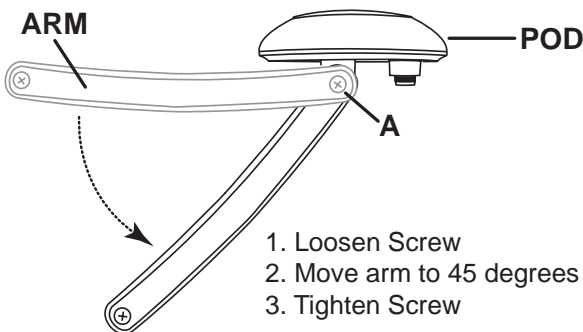
Determine the overall length of the RG-6 cable run by measuring the distance from the SIRIUS outdoor antenna mounting location to where the Splitter will be located. (It is recommended that the Splitter be located indoors.) Next measure the distance from the Splitter to where the SIRIUS radio is located, and note that this particular cable length should not exceed 50 ft. The sum of these cable lengths should not exceed 150 ft.

## Antenna Installation

A successful antenna installation consists of four steps: **First**, assembling the antenna; **Second**, determining a location for the antenna; **Third**, choosing a mounting option; and **Fourth**, adjusting and aiming the antenna. Please read the following four sections before beginning the antenna installation so that you understand the entire installation process.

### 1. Assembling the Antenna

The antenna arm should be temporarily adjusted to be at a 45 degree angle relative to the antenna pod. To adjust the position of the arm, refer to the following figure and loosen screw **A** until the arm can be moved. Adjust the arm so that it's at a 45 degree angle and then tighten screw **A**.

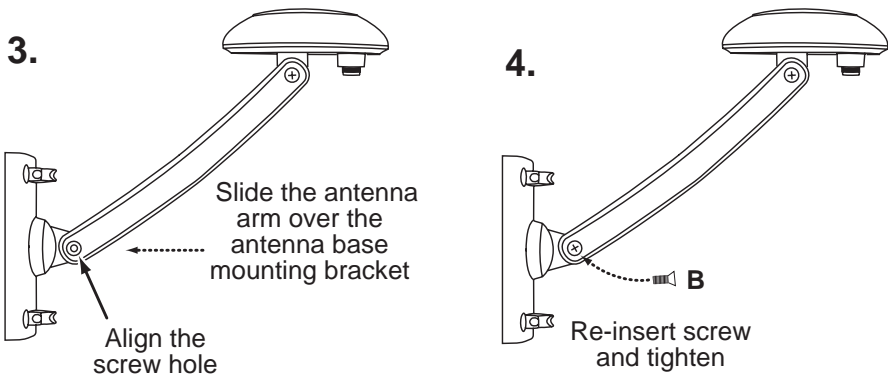
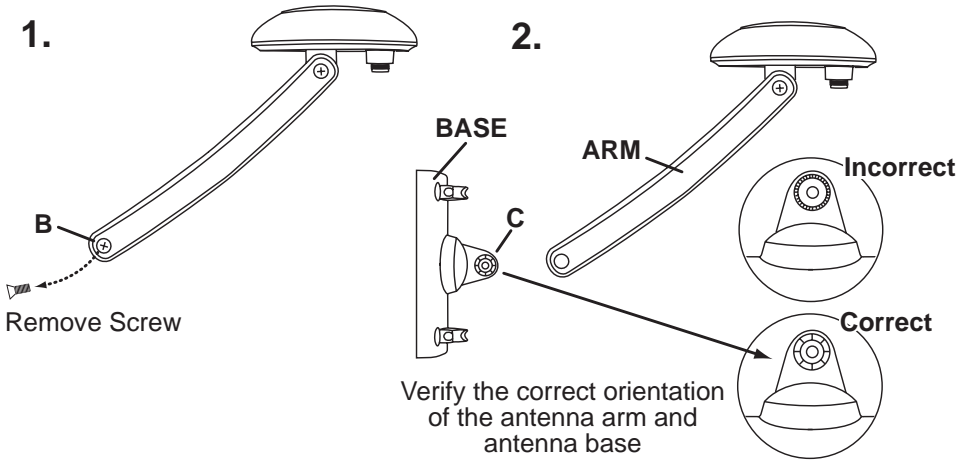


Next, the antenna arm with the pod needs to be attached to the antenna base. Refer to the following figure and attach the antenna arm to the antenna base:

1. Use a phillips screwdriver to remove the screw **B** from the antenna arm.
2. The mounting bracket **C** on the antenna base has two sides. Before you slide the antenna arm over the mounting bracket **C**, be sure the antenna arm and antenna base are in the correct orientation as shown.
3. When correctly oriented, slide the antenna arm over the mounting bracket **C**

on the antenna base and align the screw holes in the mounting bracket with the screw hole in the antenna arm.

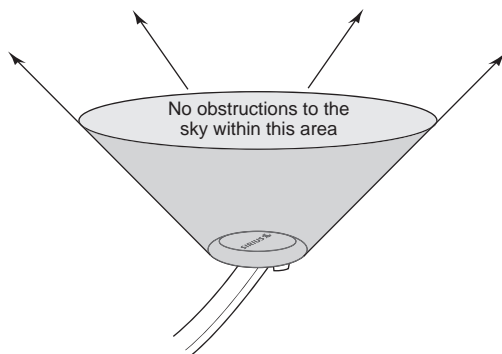
4. When the screw hole is aligned, re-insert screw **B** and snug it until it is tight.



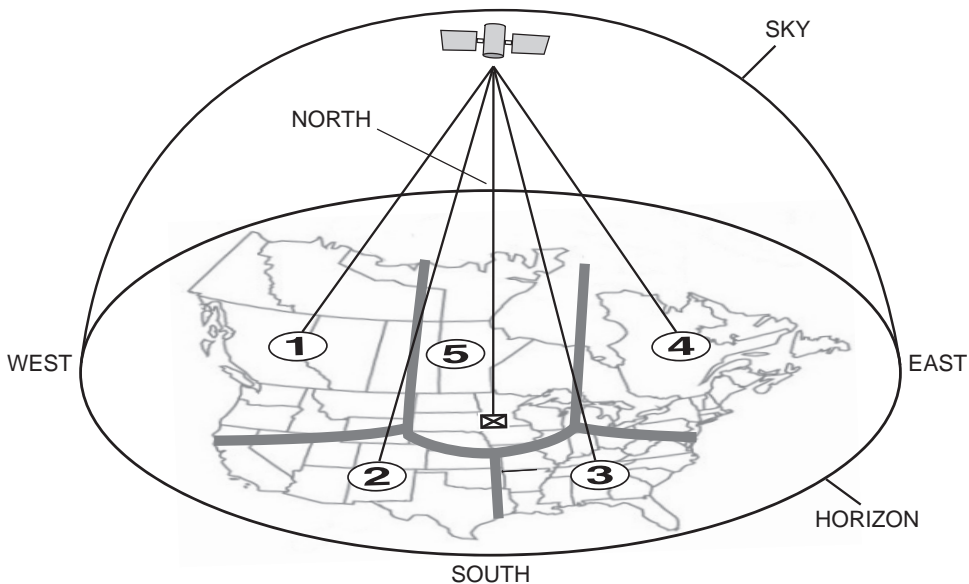
## 2. Determining a Location for the Antenna

For correct operation and best reception of the SIRIUS signal, it is important that the outdoor antenna is located in a place where it will have a clear view of the SIRIUS satellites in the sky. Obstructions such as bushes, trees, other homes or buildings, overhangs, soffits, chimneys, gables, dormers, etc., will impair or prevent the antenna from receiving a signal.

The best reception is obtained if the pod portion of the antenna (where the SIRIUS logo is printed) has a clear 360 degree view of the sky within the cone-shaped area shown in the following illustration.



If you cannot obtain a clear 360 degree view of the sky, then you must at least have a clear view of the sky in the direction of the SIRIUS satellites, as shown in the following map diagram.



Use the above map and find the area you are located in (1 to 5). Then find the direction in which you need to have a clear view of the sky:

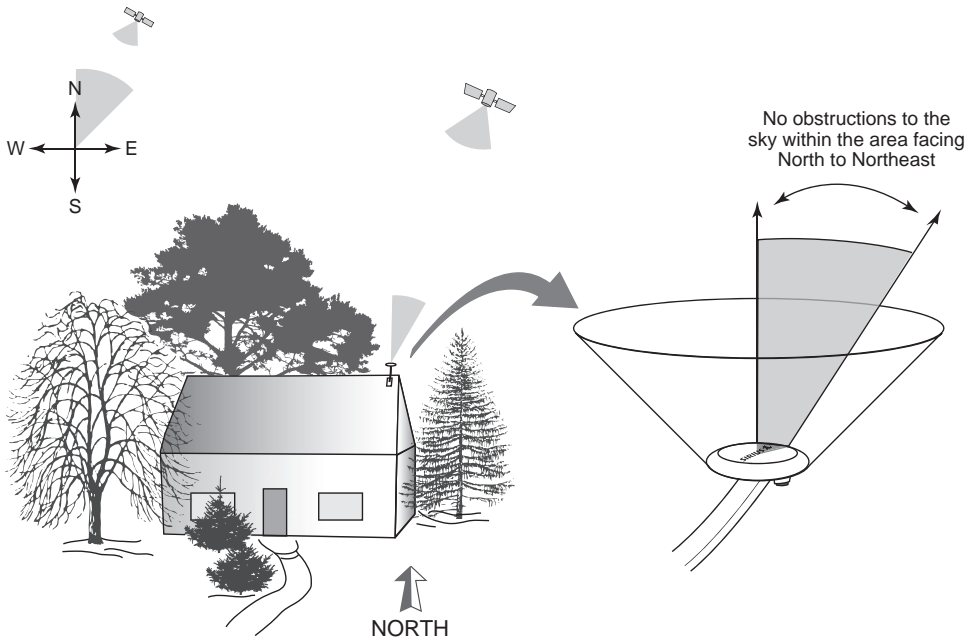
- Area 1:** You will need a location with a clear view of the sky facing **EAST** or **NORTHEAST** or **SOUTHEAST**
- Area 2:** You will need a location with a clear view of the sky facing **NORTH** or **NORTHEAST**
- Area 3:** You will need a location with a clear view of the sky facing **NORTH** or **NORTHWEST**
- Area 4:** You will need a location with a clear view of the sky facing **WEST** or **NORTHWEST** or **SOUTHWEST**
- Area 5:** You will need a clear view of the sky facing **STRAIGHT UP**

Choose a mounting location for the antenna which has an unobstructed view of

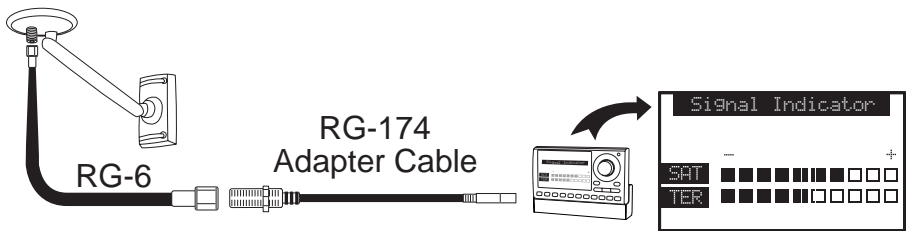
the sky in the direction for your area.

For example, suppose you live in **Area 2**. You determined that your antenna will need to have a clear view of the sky facing **North** or **Northeast**. The exact direction is determined by your specific location in **Area 2** relative to the **X** on the map: If you live in **Texas**, you will need a more **North** facing clear view of the sky whereas if you live in **southern California**, you will need a more **Northeast** facing clear view of the sky.

The following illustration shows a correct antenna installation for **Area 2**, with a clear view of the sky in the **North** to **Northeast** direction.



Once you have determined a possible mounting location for your area, it is recommended that you put the antenna in place temporarily and connect the antenna to your SIRIUS radio as shown in the following illustration. Using the Antenna Aiming or Signal Indicator feature of your radio, verify that your antenna is receiving a good SIRIUS signal. (Consult the user guide of the radio for specific instructions.)



### 3. Antenna Mounting Options

There are three possible mounting options for the outdoor antenna, and the antenna mounting location you have chosen may determine which mounting methods you can use:

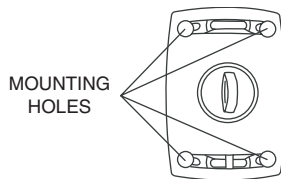
**Wall Mount:** Mounting the antenna directly on the side of a home or building.

**Roof Mount:** Mounting the antenna on the roof of a home or building.

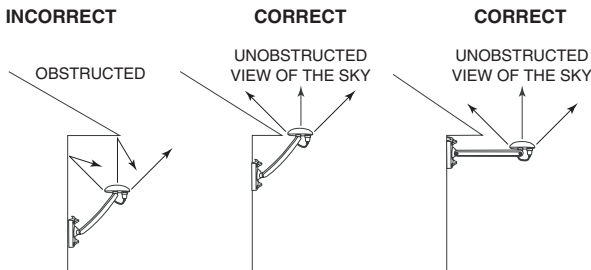
**Mast Mount:** Mounting the antenna on a mast or pole, such as an existing satellite TV dish mast, an existing TV antenna mast, or other mast or pole, not exceeding 2 inches in diameter.

#### **Wall Mount**

The antenna mounting bracket should be oriented in a vertical position (as shown) and mounted directly to the wall of the building or home using the provided #10 screws.



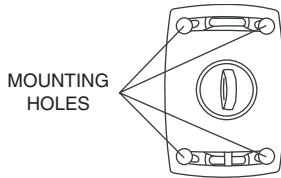
Remember to avoid blocking the antenna's view of the sky as described in the previous section by locating the antenna too high under the eaves or soffit of the home or building.



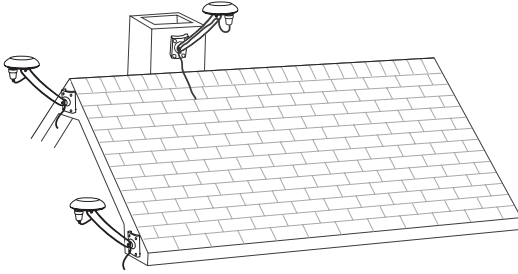
Once you have determined a suitable mounting location, use the mounting bracket as a template and mark the wall with the location of the four screw holes in the bracket. Then, using a 3/32 in. drill bit, drill pilot holes in the wall for the screws and then screw the bracket to the wall.

#### **Roof Mount**

When mounting the antenna on the roof of a home or building, mount the antenna as close as possible to the peak of the roof. It can be mounted on the chimney or on the soffit of the home or building. Do not mount it directly on the roof surface to avoid leaks. Remember to avoid blocking the antenna's view of the sky by locating it where a chimney, dormer, gable, etc., may obstruct the view of the sky.



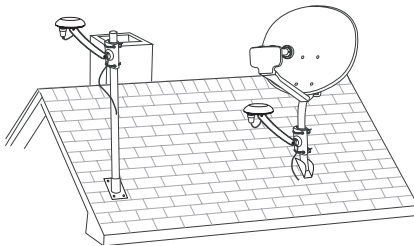
The antenna mounting bracket should be oriented in a vertical position as shown, and mounted directly to the building or home using the provided #10 screws.



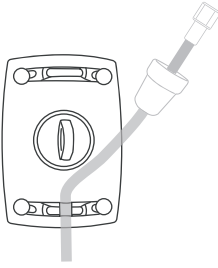
Once you have determined a suitable mounting location, use the mounting bracket as a template and mark the mounting surface with the location of the four screw holes in the mounting bracket. Then, using a 3/32 in. drill bit, drill pilot holes for the screws. It may be necessary to fill the holes with a small amount of roof cement or caulk to insure a watertight installation. Screw the bracket to the mounting surface using the provided #10 screws.

### ***Mast Mount***

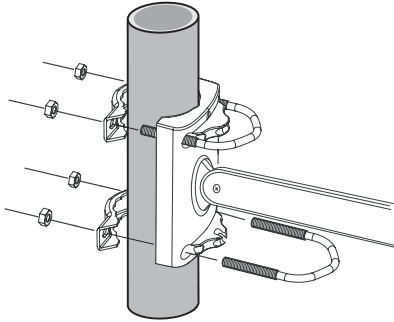
The outdoor antenna can be mounted on most any mast or pole which does not exceed 2 inches in diameter using the provided U-bolts and mounting brackets. If you have a satellite TV dish, the outdoor antenna may be mounted on the same mast as the satellite dish, but remember that the dish cannot obstruct the antenna's view of the sky in the direction which you determined from the map in the previous section.



To mount the antenna to the mast, you will need to use the two provided U-bolts, the two mounting brackets, and the four hex nuts. Keep in mind that the antenna cable is routed under the lower U-bolt, in the slot provided in the antenna base as shown.



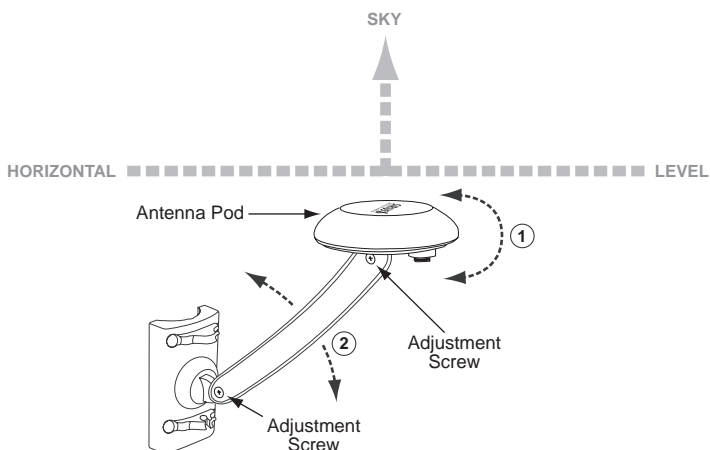
Slide one of the U-bolts through the holes at the top of the mounting bracket. Then slide one of the mounting brackets over the two legs of the U-bolt.



Next, screw the hex nuts on each leg until they are snug. Do not yet tighten the hex nuts beyond finger tight. Repeat this procedure with the other U-bolt. When all the hex nuts are snug, verify that the antenna is facing the correct direction and begin tightening each hex nut with a 3/8" wrench. Turn each hex nut one-half turn and then move to the next hex nut repeating this one-half turn pattern until all the hex nuts are equally tight. Tighten the hex nuts enough so that the antenna is secured to the mast or pole, but do not overtighten them.

#### 4. Adjusting and Aiming the Antenna

The pod portion of the antenna (where the SIRIUS logo is printed) needs to be adjusted and aimed so that it is level and horizontal to the sky. As shown in the following illustration, there are two possible adjustments that may be made on the antenna to accomplish this: tilting the antenna pod itself (1), and adjusting the antenna support arm (2), as shown.



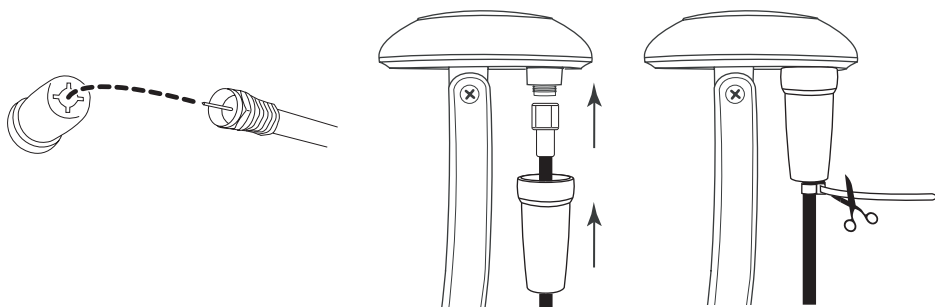
Slightly loosen the adjustment screws and position the antenna so that the top of the antenna pod is level, with the top of the pod horizontal to the sky as shown. When the antenna is adjusted correctly, tighten the adjustment screws but be careful not to overtighten them.

Continue with the next section for installations with exposed wiring, or the section following for installations with hidden wiring.

## Cable Installation

Once the antenna is mounted according to the previous instructions, you can continue with the cable and Splitter portion of the installation:

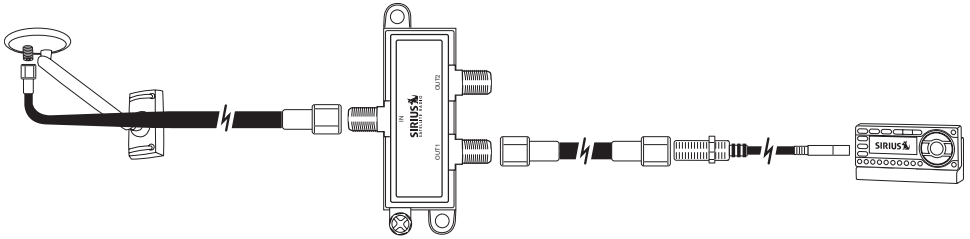
1. Take the RG-6 cable which you purchased to connect to the antenna and thread one end of the cable through the opening in the end of the rubber boot. Then connect the cable to the antenna pod as shown in the illustration following.
2. Slide the rubber boot over the cable connection to provide a weather proof seal and install the cable tie around the cable directly below the rubber boot to prevent the rubber boot from slipping down. Trim off the excess cable tie.



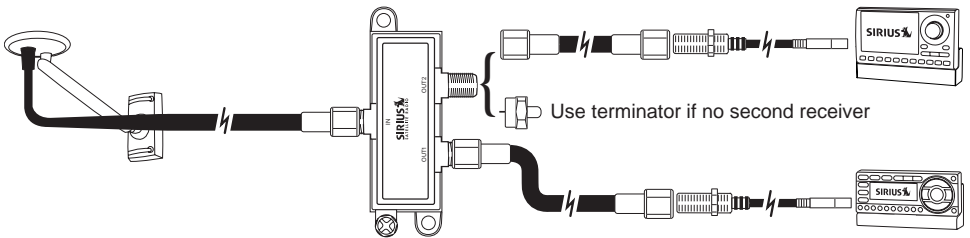
3. Route the remainder of the antenna cable into the home or building to where

you are locating the Splitter. When routing the antenna cable, be careful not to pinch, squash, kink, or crimp the cable, or cut, damage, or puncture the external jacket of the antenna cable.

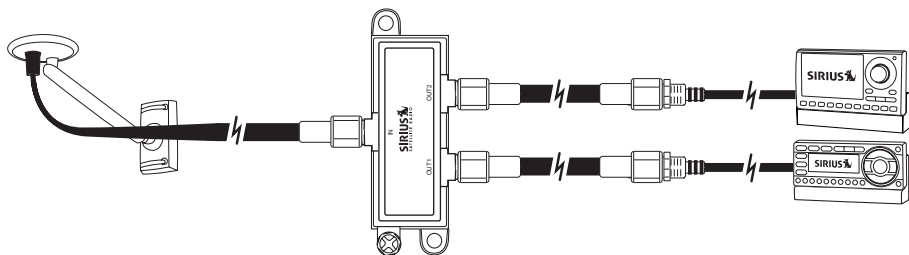
4. Connect the cable from the antenna to the **IN** port on the Splitter as shown. (Refer to page 3 for the Splitter port identification.) Note that you must use the Splitter even if you are only connecting one SIRIUS radio.



5. Connect another RG-6 cable to the **OUT1** connector of the Splitter and route the cable to the SIRIUS radio. (Refer to page 3 for the Splitter port identification.)
6. Connect one of the supplied RG-174 adapter cable to the RG-6 cable, and connect the other end of the RG-174 cable to the **ANT** connection on the SIRIUS radio.
7. Repeat steps 5 and 6 if you are connecting a second SIRIUS radio, this time using the **OUT2** connector of the Splitter. If you will not be connecting a second radio, connect the provided terminator to the unused **OUT2** connector on the splitter. (Refer to page 3 for the Splitter port identification.)



The installation of the Home Distribution Kit is now completed. The completed installation for two SIRIUS radios should be as shown in the following illustrations:



If you are connecting one SIRIUS radio, the completed installation should be as illustrated below:



## Troubleshooting

**SIRIUS radio displays “Antenna Error” or “Check Antenna” message.**

Check the antenna cable connections to be sure they are connected tightly.

**SIRIUS radio displays “No Signal” or “Acquiring Signal” message.**

The radio is not receiving a good SIRIUS signal. Check that the antenna has a clear view of the sky, and that the antenna is pointed in the direction of the SIRIUS satellites. (See the section titled, *Antenna Installation*.)

This message may also be an indication that your cable length has exceeded 150 ft., and that an in-line amplifier is required for your installation.

## Antenna Specifications

### *Electrical Specifications*

Frequency.....2320 to 2332.5 MHz

LNA Current Drain ..... 160 mA, maximum

### *Mechanical Specifications*

Radome Diameter ..... 95mm

Arm Length.....8 inches

Material..... AES

Antenna Connector..... “F” type, female

Weight .....1.75 lbs.

Temperature Range.....-40°C to +85°C



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**[www.sirius.com](http://www.sirius.com)**



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## 90 DAY LIMITED WARRANTY

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To obtain repair or replacement within the terms of this Warranty, the product is to be delivered with proof of warranty coverage (e.g. dated bill of sale), specification of defect(s), transportation prepaid, to an approved warranty station or the Company at the address shown below.

This Warranty does not extend to the elimination of externally generated static or noise, to costs incurred for installation, removal or reinstallation of the product, damage to speakers, accessories, or vehicle and home electrical systems, malfunction of satellite transmissions, repeater signal or receiver unit.

This Warranty does not apply to any product or part thereof which, in the opinion of the Company, has suffered or been damaged through alteration, improper installation, mishandling, misuse, neglect, accident, or by removal or defacement of the factory serial number/bar code label(s). THE EXTENT OF THE COMPANY'S LIABILITY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT PROVIDED ABOVE AND, IN NO EVENT, SHALL THE COMPANY'S LIABILITY EXCEED THE PURCHASE PRICE PAID BY PURCHASER FOR THE PRODUCT.

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