SIRIUS
SATELLITE RADIO
THE BEST RADIO ON RADIO™

SCH2P
Sirius Satellite Radio Connect Tuner

Installation and User Guide

Congratulations on the purchase of your new SIRIUS Connect SCH2P Satellite Radio Tuner

Your new SCH2P SIRIUS® Connect Tuner is designed to work with SIRIUS-ready receivers. Consult the SIRIUS website at http://www.sirius.com for model compatibility.

What is Sirius Satellite Radio?
Over 120 channels of the best entertainment and completely commercial-free music for your car, home or office.

Only SIRIUS has more than 65 original music channels, from today's hits to R&B oldies to classical masterpieces. From authentic country and real bluegrass to cool jazz, hot latin, reggae, rock, and many more. Best of all, it's all completely commercial-free.

SIRIUS also has more than 55 channels of world-class sports, news, and entertainment. Included as part of your subscription, you get up to 16 NFL games a week, up to 40 NBA games a week, and up to 40 NHL games a week. (Games are broadcast during their respective seasons.) Coupled with great sports news from ESPN, the SIRIUS sports offering is unrivaled. And don't forget a host of other great news and entertainment, like NPR, CNBC, Fox News, Radio Disney, and E! Entertainment Radio. For more information, visit the SIRIUS website at http://www.sirius.com.

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Warning and Safety Information

Important Safety Instructions

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with a dry cloth.
- Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use the attachments specified by the manufacturer.
- Use only with the cart, stand, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- The apparatus should not be exposed to dripping or splashing liquids. Containers filled with liquids, such as vases, cups, soda cans, etc., should be not placed on the apparatus.

• DISCONNECTING POWER FROM THE DEVICE – The AC power cord provided with the device is used to disconnect the power from the device. Access to the power cord should remain easily accessible.

FCC Warning

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in this installation and user guide. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

Note: This equipment has been tested and found to comply with Part 15 of the FCC Rules. These rules are designed to provide reasonable protection against harmful interference. This equipment may cause harmful interference to radio communications if it is not installed and used in accordance with these instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of more of the following measures:

• Relocate the receiving antenna.
• Consult the dealer or an experienced technician for help.

Equipment Warning Labels

|	
⚡	This symbol found on apparatus indicates hazards arising from dangerous voltages.
⚠	This symbol found on apparatus indicates the user should read all safety statements found in the user manual.
▣	This symbol found on apparatus indicates double insulation.
⊘	Warning! To reduce the risk of fire or electrical shock, do not expose this apparatus to rain or moisture.

Package Contents

The following items are included with your purchase of the SCH2P SIRIUS Connect Tuner. Unpack the kit carefully and make sure that everything shown is present. If anything is missing or damaged, or if the kit fails to operate properly, notify your dealer immediately. It is recommended that you retain the original carton and packing materials in case you need to ship your kit in the future.
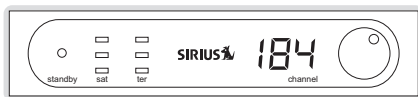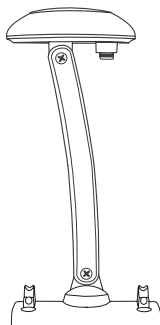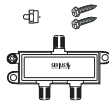

SIRIUS Connect Tuner
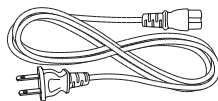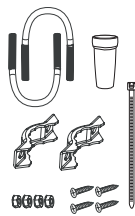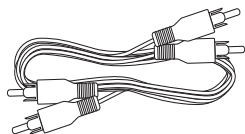

AC Power Cord

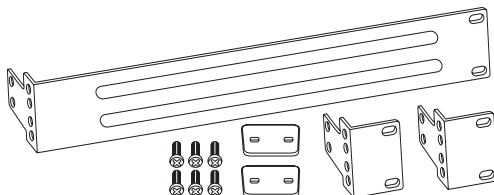**DIN Cable**

Outdoor Antenna

Splitter, Mounting Screws, Terminator

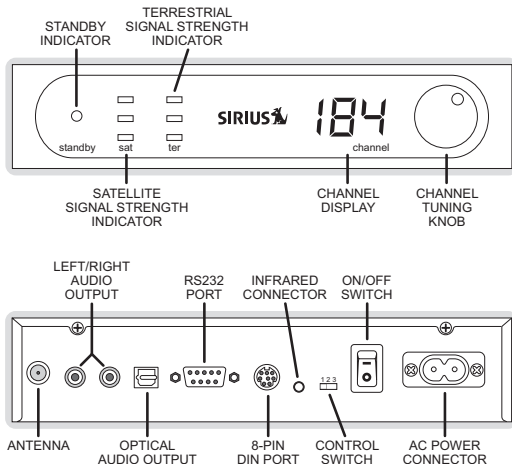**Outdoor Antenna Mounting Hardware**

Audio Cable

Rack Mounting Hardware

Controls and Connectors

Figure 1 and the table following identify and describe the displays, controls, and connectors of the SCH2P SIRIUS Connect Tuner.

Figure 1

Description of Tuner Display, Controls, and Connectors		
Display/ Control/Connector	**Description**	
Standby	Standby indicator light is lit when power is connected to the tuner and the On/Off Switch is On	
Sat	Satellite signal strength indicator lights	**All Off:** No Signal **One Light:** Weak Signal Level **Two Lights:** Good Signal Level **Three Lights:** Excellent Signal Level **All Flashing:** Antenna not detected
Ter	Terrestrial signal strength indicator lights	
Channel	Displays the currently tuned channel	
Channel Tuning Knob	Used to tune the satellite radio channel	
Antenna	Connects to the satellite antenna	
L - Audio - R	Left/Right RCA-type analog audio output connectors	
Opt. Audio	Toslink optical digital audio output connector	
RS232	RS232 interface connector for tuner control	
8-PIN	8-PIN DIN interface connector for tuner control and audio output	
IR	Infrared connector	
Control Switch 1 - 2 - 3	Switches control between the RS232, 8-PIN DIN, or Infrared connector	1. **Left-most position:** RS232 2. **Center position:** 8-PIN DIN 3. **Right-most position:** Infrared
On/Off Switch	Turns the power to the tuner on and off	
AC Power Connector	Connection for AC power cord	

Installation

It is recommended that prior to starting the installation, you read this installation section completely and then follow the instructions. In addition, consult the manual of the audio device or A/V system to which you will be connecting the tuner to determine the required installation configuration.

Mounting the Tuner

When considering a mounting location be sure that you avoid any location where the tuner is exposed to moisture or extreme heat. The tuner can be placed on a flat surface or rack mounted using the provided rack mounts.

If you will be rack mounting the tuner, attach the rack mounting hardware to the tuner as shown in Figure 2. If you have purchased two tuners and are rack mounting both tuners, attach the rack mount hardware as shown in Figure 3.
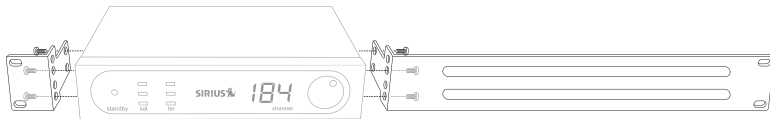
Figure 2
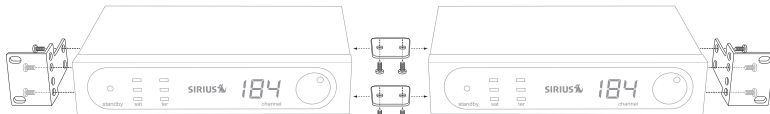
Figure 3

Connecting the AC Power Cord

Connect the AC power cord to the AC power connector at the rear of the tuner, and plug it into a wall outlet. (Refer to Figure 1 on page 8.)

Installing the Outdoor Antenna

Before installing the outdoor antenna, read this entire section.

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

You will need to purchase two RG-6 cables to complete the installation of the antenna. These cables are the same as the cables used for cable TV installations, and may be purchased from your local hardware store, home center, or electronics retailer. RG-6 cable is typically sold in lengths of 25, 50, or 100 ft., all with "F" type connectors on each end.

Figure 3 shows the two cables you will need to purchase. The length of cable **2** cannot exceed 50 ft., and the overall length of both cables cannot exceed 150 ft.
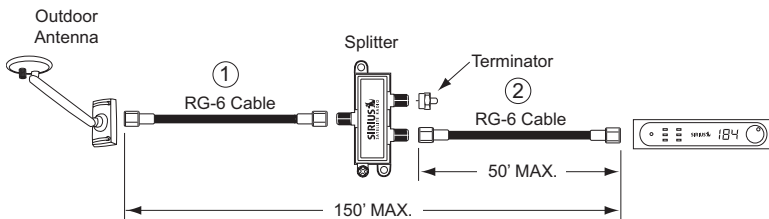
Figure 3

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 as shown in Figure 4.

No obstructions to the
sky within this area
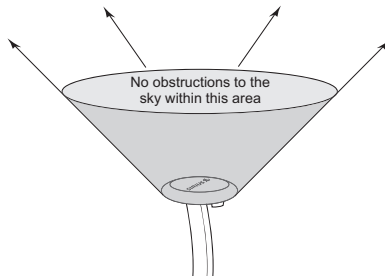
Figure 4

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 map in Figure 5.
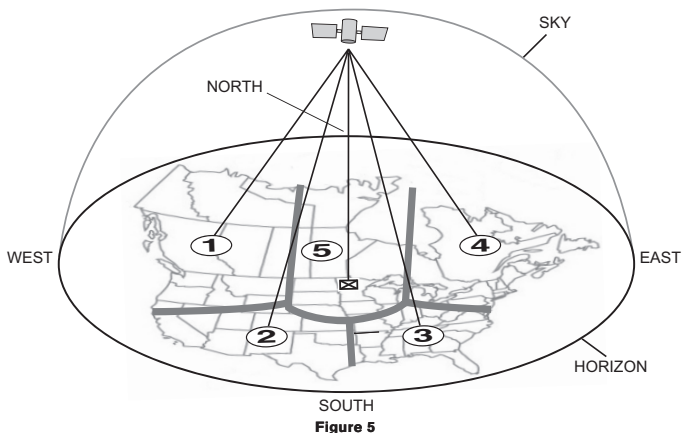
Figure 5

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 **NORTH-EAST**

   Area 3: You will need a location with a clear view of the sky facing **NORTH** or **NORTH-WEST**

   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.

Figure 6 shows a correct antenna installation for **Area 2**, with a clear view of the sky in the **North** to **Northeast** direction.

No obstructions to the sky within the area facing North to Northeast

NORTH
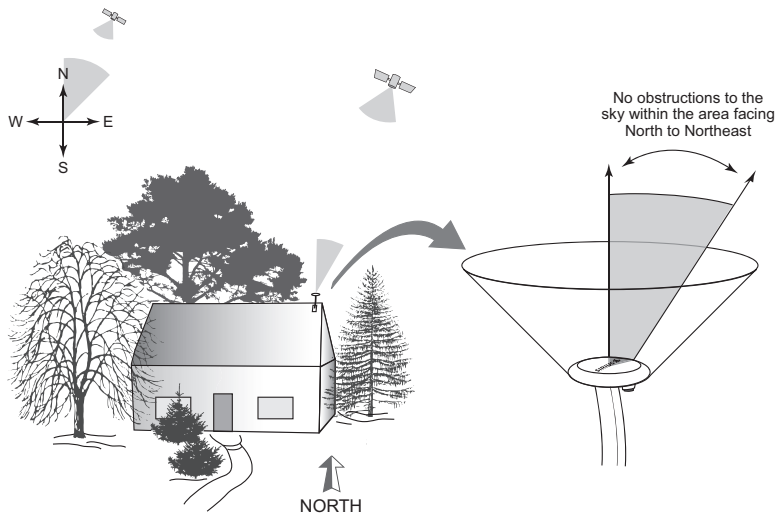
Figure 6

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 the tuner and verify that your antenna is receiving a good SIRIUS signal. If a good SIRIUS signal is being received, 2 or 3 of the signal strength lights will be lit on the front of the tuner, either SAT or TER, or both.

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 method 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 in Figure 7) and mounted directly to the wall of the building or home using the provided #10 screws.

MOUNTING HOLES
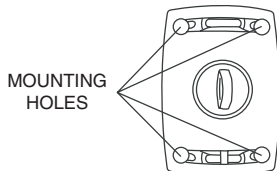
Figure 7

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. (Figure 8)

INCORRECT
VIEW OF THE SKY
IS OBSTRUCTED
BY THE SOFFIT
AND GUTTER

CORRECT
UNOBSTRUCTED
VIEW OF THE SKY

CORRECT
UNOBSTRUCTED
VIEW OF THE SKY

Figure 8

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 to the peak of the roof as possible. Remember to avoid blocking the antenna's view of the sky by locating it where a chimney, dormer, gable, etc., may obstruct the sky view. (Figure 9)
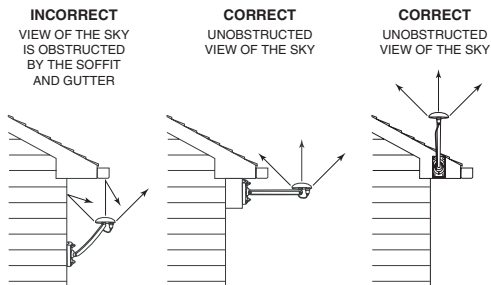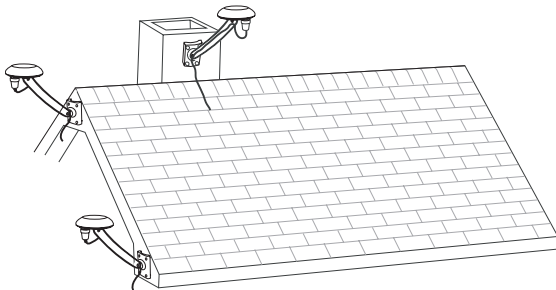
The antenna mounting bracket should be oriented in a vertical position as shown in Figure 5, and mounted directly to the soffit or chimney of the building or home using the provided #10 screws.

Figure 9

Once you have determined a suitable mounting location, use the mounting bracket as a template and mark the mounting area with the location of the four screw holes in the 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 caulk to insure a watertight installation. Screw the bracket to the mounting location 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. (Figure 10)
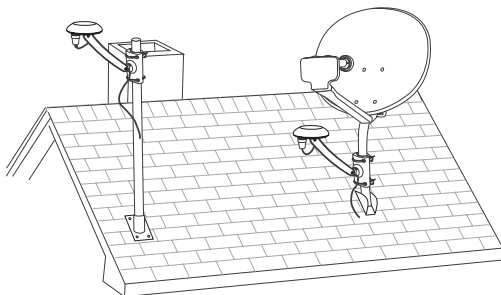
Figure 10

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 in Figure 11.
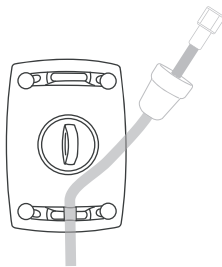
Figure 11

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. (Figure 12)
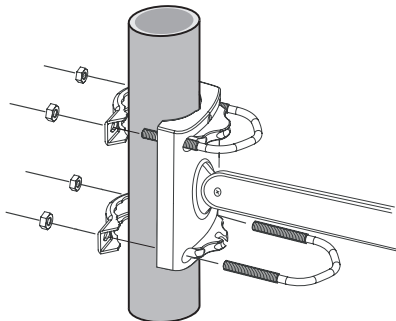
Figure 12

Next, screw the hex nuts on each leg until they are snug. Do not yet tighten the hex nuts be-

yond 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.

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. 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 in Figure 13.
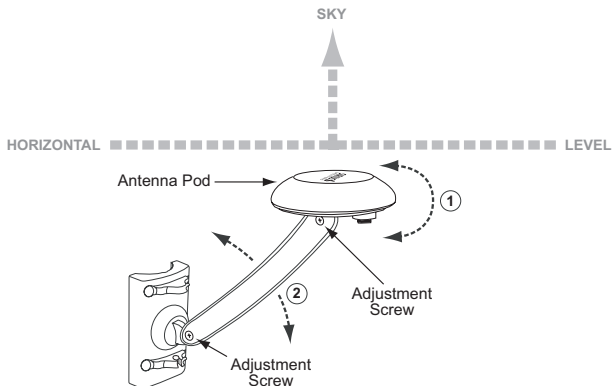
Figure 13

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.

CABLE INSTALLATION

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

1. Using one of the RG-6 cables you purchased separately, slide the rubber boot over the cable connection. Attach the cable to the antenna and slide the rubber boot over the connection to provide a weatherproof seal. 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. (Figure 14)
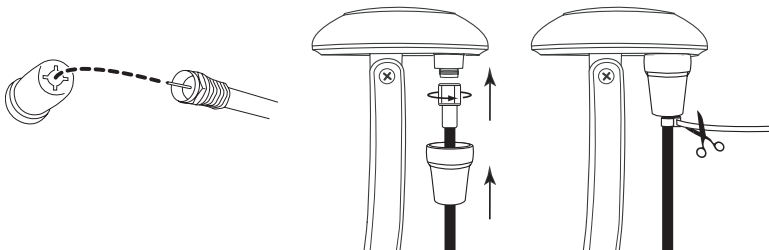
Figure 14

2. 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.

3. Connect the cable from the antenna to the **IN** port on the Splitter. (Figure 15) Note that you must use the Splitter.
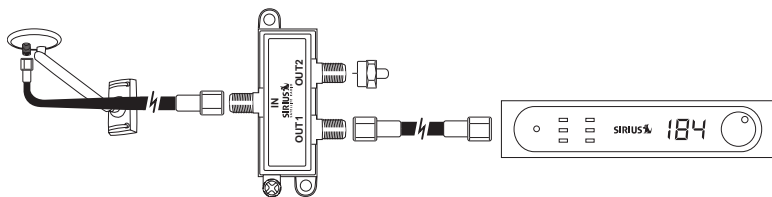
Figure 15

4. Connect the other RG-6 cable you purchased separately to the **OUT1** connector of the Splitter and route and connect the cable to the tuner. (Figure 15)

5. Connect the provided terminator to the unused **OUT2** connector on the splitter. (Figure 15)

Connecting the Tuner

The tuner can be connected to your audio system using the DIN port on SIRIUS-Ready audio devices, the RS-232 port, or by using the Infrared connector. Each of these options are described in the following table. The control switch must be set to the correct position, 1, 2, or 3.

Connector	Control Switch Position	Description
RS-232	1 (Left-most)	This connection is typically used by high end multi-room audio/visual systems. Consult the appropriate manuals for your A/V system, your installer, or the manufacturer, for information about connecting the SIRIUS tuner to the A/V system. If your A/V system is not able to control the tuner, a simple software upgrade may be available from the manufacturer of your A/V system which would add the capability. The audio should be connected using either the L/R RCA-type audio output jacks, or the optical audio output connector. (You will need to purchase an optical audio cable separately.)
8-Pin DIN	2 (Center)	This connection is typically used for SIRIUS-Ready receivers which can control the tuner using this connection. Check the manual which accompanied your receiver to verify that it is SIRIUS-Ready. If your receiver does not support audio input via the DIN connection, you can connect the audio to your receiver by using the L/R RCA-type audio output jacks, or the optical audio output connector. (You will need to purchase an optical audio cable separately.)

Connector	Control Switch Position	Description
Infrared	3 (Right-most)	This connection is typically used in older systems which use an IR blaster to control the SIRIUS tuner. Instead of using the IR blaster, the IR signal can be hard-wired directly into this connection. Note that this type of connection only supports one-way control with no metadata feedback available.
		The audio should be connected using either the L/R RCA-type audio output jacks, or the optical audio output connector. (You will need to purchase an optical audio cable separately.)

Subscribing to the SIRIUS Service

Before you can listen to the SIRIUS service, you need to subscribe to the Sirius Satellite Radio service. Until you subscribe, you will only be able to tune to channels 0 and 184. To subscribe, do the following:

1. Be sure that the tuner is correctly installed as described in this manual, and that the antenna is oriented to receive the SIRIUS signal.
2. Turn the tuner on. Verify that it is receiving a good signal. The tuner must remain on during the entire subscription process.
3. The tuners's unique 12-digit SIRIUS ID Number (SID) is on a label on the underside of the tuner, and is also available on the tuners's packaging. Write the SID number down in the space provided near the end of this guide.
4. Have your credit card handy and contact SIRIUS on the Internet at:
    https://activate.siriusradio.com/
    and follow the prompts to activate your subscription. You can also call SIRIUS toll-free at:
    1-888-539-SIRIUS (1-888-539-7474).
5. When you have successfully subscribed to the SIRIUS service, and the tuner has been updated with your subscription information, you will be able to tune to all the channels.

You are now ready to begin enjoying SIRIUS Satellite Radio's digital entertainment!

Operation

Consult the owners manual of your SIRIUS-Ready receiver for operating instructions.

You can change channels using the receiver or A/V system to which you connected the tuner, or by using the tuner's channel change knob. Note that while the channel display on the tuner will always show the currently tuned channel number, the receiver or A/V system connected to the tuner may not properly update its display if the tuner's channel change knob is used to change channels.

Troubleshooting

Symptom	Solution
Tuner does not power on	The AC power cord is not connected, or the AC outlet into which it is plugged is not working. Check that the AC power cord is connected to the tuner. Try plugging the AC power cord into a different outlet.
The **SAT** and **TER** lights on the front panel are flashing	The satellite antenna is not connected to the tuner. Check the satellite antenna connection to the tuner.
The **SAT** and **TER** lights on the front panel are off	No satellite signal is being received. Check for obstacles over or around the satellite antenna. Change the location of the antenna to eliminate nearby obstacles (buildings, trees, overhangs, etc).
Audio static or loss of clarity	Check the cable connections to the SIRIUS-Ready receiver or A/V system.
No sound	Can your SIRIUS-Ready receiver receive audio via the DIN connector? If not, then use the RCA-type audio connectors or the optical audio connection. Check the cable connections to the SIRIUS-Ready receiver or A/V system.

Specifications

Operational Frequencies
   Satellite . . . . .2322.293/2330.207 MHz
   Terrestrial 2326.250MHz

Power Requirements . . . . .110 Volts AC, less than 1A

Operation Temperature . . . .-5° to +40° C (23° to 104° F)

Dimensions (Height x Width x Depth) . . . . .1.7" x 8.27" x 5.93"
                                              (4.3 cm x 21 cm x 15.05 cm)

Audio Output . . . . .2.0v RMS

Signal-to-noise (S/N) 75dB

Antenna Type . . . . .Outdoor Radome

Antenna Connector Type . . . ."F" type, Female

Data Interface. . . . . 8 pin DIN Control Port (audio, power, serial control)
                             RS232 DSub9 Female Connector (control only)

Audio Interface. . . . . .RCA-type Stereo L/R Connectors
                                           Optical Link Connector

Copyrights & Trademarks

SIRIUS ID

Write down the SIRIUS ID (SID) of your SIRIUS radio in the space provided below.

SID: _____

SIRIUS
SATELLITE RADIO
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SIRIUS Customer Service: 1-888-539-7474
customercare@sirius-radio.com

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