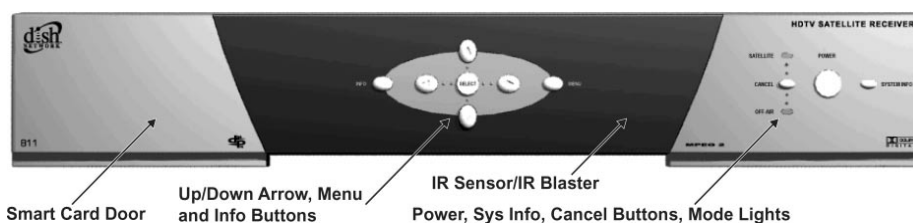


# Chapter 2

## Receiver Description and Installation

### The Receiver Front Panel








#### Smart Card Door

Behind this door is a slot for a future smart card. No smart card is included with this receiver.

#### Info Button

Press the INFO button to see information about a program you watch or a program you highlight in a menu. The information may include one or more of these signs:

-  for a program you can't buy
-  for a blacked-out program
-  for a pay per view program
-  for a program with an event timer
-  for a locked program

#### Menu Button

Press the MENU button to open the Main Menu.

#### Arrow Buttons

Use the ARROW buttons to move a menu highlight to an option or a program.

Use the UP and DOWN ARROW buttons to change channels while watching a program.

When watching a program, pressing the LEFT ARROW button opens the Themes menu and the RIGHT ARROW button opens the Browse Banner.

#### **Select Button**

Press the SELECT button to select an item you highlight in a menu.

#### **Sys Info Button**

Press the SYS INFO button to open the **Important System Information** screen.

#### **Cancel Button**

Press this button to cancel and return to the previous menu or to watch a program if there are no previous menus.

#### **Power Button**

Press the POWER button to turn the receiver on or off.

#### **Mode Lights**

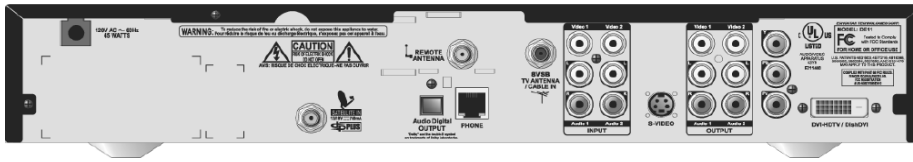
These lights indicate that the receiver is on and operating in either SATELLITE mode or OFF-AIR mode. The SATELLITE mode light is blue and the OFF-AIR mode light is green.

**Note:** Even when one of the Mode lights are off, the receiver continues to work and requires power. Don't unplug the receiver unless you need to move it!

#### **IR Sensor and IR Blasters**

The IR SENSOR receives IR signals from the remote control. For information on the IR BLASTERS, see the section *Setting Up the Receiver and VCR to Use a VCR Event Timer* in Chapter 3.

## The Receiver Back Panel Connections



Tighten the connections by hand *only*. If you use a wrench you might over-tighten the connections and cause damage that *would not* be covered by the *Limited Warranty*.

The receiver back panel has ports you can use to connect the receiver to other devices (you may not need to use some of these ports). The back panel also has the power cord and phone jack.

### DVI-HDTV/DishDVI Connector

This digital connection will give you the highest quality video, both in standard definition and high definition. Use a DVI cable to make this connection to your HDTV or HD Monitor. If you use this output for video, you must still connect the audio with the **PHONO (RCA) AUDIO OUTPUTS** or the **AUDIO DIGITAL OUTPUT** (described below).



### YPbPr Component Connectors

This connection provides another high quality video output for high definition viewing. Use a YPbPr cable to make this connection to your HDTV or HD monitor. The cable is color coded to match the connections on your receiver and your TV. If you use this output for video, you must still connect the audio with the **PHONO (RCA) AUDIO OUTPUTS** or the **AUDIO DIGITAL OUTPUT** (described below).



This output connection is not active if **DVI-HDTV/DISHDVI** is connected to a DVI display device.

### S-Video

The **S-VIDEO** connection provides high quality standard definition video output. Use S-Video cables to connect this output to an S-Video equipped device such as a VCR. If you use this output for video, you must still connect the audio with the **PHONO (RCA) AUDIO OUTPUTS** or the **AUDIO DIGITAL OUTPUT**.



**TIP:** For the best viewing experience, you should use the off-air tuner provided in your DishDVI-equipped DISH HD satellite receiver. The satellite receiver's off-air tuner can receive both analog and digital off-air broadcasts, integrate off-air programming into its Electronic Program Guide, and allow all of the satellite and off-air programming to be viewed over a single high-quality digital connection.

**Tip:** Tighten the coaxial cable connections by hand only.

### Phono (RCA) Audio and Video Outputs

Two sets of color coded **RCA A/V OUTPUT** connectors provide good quality standard definition audio and video. Use Phono RCA-type cables to connect these outputs to a VCR, for example, for use in recording. You can also connect the audio outputs for use with either of the HDTV video connections (**DISHDVI** and **YPBPR**) or the S-Video connection.



### RCA Audio and Video Input

These input connections allow other devices (such as a VCR or game console) to display content through the receiver audio/video outputs. Use an Phono RCA style cable to make the connection to the outputs of other video source devices.

**Note:** While your receiver can convert the input to high definition format on the **DISHDVI** or **YPBPR** connections, the receiver cannot convert the picture to high definition quality.

These inputs are selected as sub-channels of Channel 1 from the program guide. See *Using the Program Guide in Chapter 3* for details.



### Audio Digital Output

Connect to the **AUDIO DIGITAL OUTPUT** with an Audio Digital Optical cable (available at any consumer electronics store). This connection point is for use with high quality sound systems.



### 8VSB TV Antenna/Cable In

This input connection receives programming signals from either local off-air broadcasters in both analog and digital broadcast formats or a cable TV system. Use a coaxial cable to make this connection to an external off-air antenna or a cable TV service. This connector is color coded black.



This input connection can only be used if your receiver is activated with qualifying DISH Network programming.

### UHF Remote Control Antenna

This input connection receives UHF signals from the remote control. Connect the UHF antenna here, and set it so it doesn't touch anything. Set the antenna straight up so you can use the remote control as far away as possible. This connector is color coded green.



### Telephone Jack

Connect a telephone cable with a standard RJ-11 telephone connector to the receiver here, and then connect the cable to an active telephone line.



**Note:** The receiver *must* be connected at all times to an active telephone line. See *Connecting Your Receiver to a Phone Line* later in this Chapter.

### Satellite In

The **SATELLITE IN** connection point is used to connect your DISH Network antenna to your receiver so you can receive satellite TV signals. The connection is made using RG-6 coaxial cable. This connector is color coded blue.



## THE REMOTE CONTROL

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This section describes the functions of the remote control. Information about controlling other devices with the remote control can be found in the section titled *Control Other Devices with the Remote* in Chapter 3.

If you lose or damage the remote control, you will not be fully able to access the receiver. If this happens, call the Customer Service Center at 1-800-333-DISH (3474) to order a replacement.

**Note:** The remote control shown here is for example only. The remote that comes with your receiver may look different.

**Tip:** Tighten the coaxial cable connections by hand only.

**Tip:** Be sure to connect each receiver to an active phone line to permit full use of the receiver features.

**Tip:** If you have the receiver connected to a DSL (Digital Subscriber Line) phone line and it cannot dial out, you may have to install a DSL filter between the receiver and the telephone jack on the wall.



#### REMOTE CONTROL BATTERIES

The remote control comes with AAA batteries. When you replace old batteries, you should replace *all* of the batteries. Use batteries of the same kind, *for example*, alkaline or carbon zinc. *Don't* mix batteries of different kinds. Alkaline batteries last longer.

1. Press down on the top of the battery cover and slide the cover off.
2. Take out all of the old batteries.
3. Put the new batteries in. Make sure you match the plus (“+”) ends with the plus markings on the battery case.
4. Slide the cover back into place.



## ON SCREEN LOW REMOTE BATTERY WARNING

When you see a low battery warning message below the Program Banner, the batteries in your remote control are weak and need to be replaced.



## ATTACH A UHF ANTENNA

You need to attach the UHF remote antenna to the receiver's back panel **REMOTE ANTENNA** input so you can use your UHF Pro Remote Control.

**Note:** Be sure to set the antenna straight up so you can use the remote control from as far away as possible. Don't let the antenna touch anything.



If your UHF Pro Remote Control isn't working very well from far away, you may be experiencing interference from objects near your receiver. To improve your remote control's range, try any or all of the following:

- Place the receiver higher than all of the other equipment in your entertainment center.
- Provide room above the receiver so that the antenna can be installed straight up. If this is not possible, tilt the UHF antenna at about a 45° angle.
- Place the UHF antenna outside the entertainment center by using a coaxial cable to connect the antenna to the receiver.
- Try moving the receiver to other locations.

## USING THE REMOTE CONTROL

The following section describes how to use the remote control in the **SAT** mode to control your satellite receiver. If you want to use the remote to control your VCR and other devices, see *Control Other Devices with the Remote* in Chapter 3.

### Sat Mode Button

Press this button to set the remote to **SAT** mode, to control the receiver. The **SAT** mode button's back light turns **ON** briefly to show that the remote is set to **SAT** mode.



**Note:** Make sure to keep the remote in **SAT** mode to use the buttons that are described here.

#### Power Buttons

Press the blank **POWER** button to turn the receiver **ON** or **OFF**. Press the **TV POWER** button to turn the **TV ON** and **OFF** even when the remote control is in **SAT** mode.

**Note:** You must program the remote to control your TV for the **TV POWER** button to work as described. See *Control Other Devices with the Remote* in Chapter 3.



#### Menu Button

Press this button to open the **Main Menu**.



#### Page Up And Page Down (Arrow) Buttons

Press the **PAGE UP** button or the **PAGE DOWN** button to scan, page by page, through the **Program Guide**, a **Theme Categories** list, a **Favorite List**, an **Event Timers** list, or a list of channels.



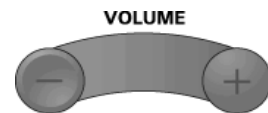
#### Mute Button

Press this button to turn off the TV sound. Press it again to restore the TV sound.



#### Volume Button

Press the minus (-) side of this button to lower the TV sound. Press the plus (+) side of this button to raise the TV sound.



**Note:** You must program the remote to control your TV for the **VOLUME** and **MUTE** buttons to work as described. See *Control Other Devices with the Remote* in Chapter 3.

**Note:** You can program this button to control the volume on a TV or amplifier. See *Using TV or Amplifier Volume Control* in Chapter 3 for instructions.

#### Guide Button

Press the **GUIDE** button to open the **Program Guide**. When the **Program Guide** is open, press this button to switch among **Favorite Lists**.



#### Up/Down/Left/Right (Arrow) Buttons

When using a menu, press these buttons to move the highlight to an option.

- When watching a program, press the **RIGHT ARROW** button to open the **Browse Banner** or the **UP** or **DOWN ARROW** button to change channels.



- When the **Browse Banner** is open, press the UP or DOWN ARROW button to see the **Browse Banner** for the next channels
- When the **Browse Banner** is open, press the RIGHT or LEFT ARROW button to obtain information on the next program that will be on that channel.
- When a menu offers a list of choices, press the UP or DOWN ARROW button to see more choices.
- When the **Program Guide** is open, press these buttons to move the highlight among the programs.
- When watching a program, press the LEFT ARROW button to open the **Theme Categories** menu.

### Select/OK Button

Press the SELECT/OK button to select a highlighted option or program in a menu.



### Recall Button

Press the RECALL button to return to the last channel you were watching. Press it again to switch between the last two channels that you watched.



### Info Button

Press this button for more information when the **Program Guide** or the **Browse Banner** is open, or when watching a program.



- When a menu is open that includes a **Help** option, press this button to see help information for that menu.
- Highlight a program in a **Theme Categories** list and then press this button for more information on that program.
- When the receiver is OFF, press this button to open the **Important System Information** menu.

### View TV Button

Press this button to return to watching a program.

- If you are watching a program, press this button to briefly display the Program Banner.
- While using any menu, press this button to cancel a procedure and return to watching a program.



### Cancel Button

Press this button to cancel a procedure and to return to the previous menu or to watching a program.



### Record Button

Press this button to conveniently set up a timer to automatically start recording a later program on a connected VCR.



**Tip:** The arrow buttons can be used to quickly navigate through menus and the program guide. When you find a program or menu option you would like to access, just press SELECT.

**Tip:** To open some of the menus, use the matching buttons on the remote control. For example, press the LEFT ARROW button to quickly open the Themes Menu.

**Tip:** When you're in the Program Guide, a Theme Category or a Favorites List, use the INFO button to get a description of the program, the names of the actors, and other important details.

**Note:** To use this feature with a VCR, you must set up the remote to control the VCR. See *Control Other Devices with the Remote* in Chapter 3.

#### Number Pad Buttons

When watching a program or with the Program Guide open, use these buttons to enter a channel number to change to that channel.

- When the **Program Guide** is open, you can skip ahead and then back a number of hours. Just enter the number you want to skip ahead (or back), and then press the RIGHT (or LEFT) ARROW button.
- Use these buttons to enter menu option numbers instead of highlighting the option and then pressing the SELECT button.
- Use these buttons to enter numbers in a menu.
- Highlight the place where you want to enter the first number, and press the appropriate number buttons on the remote.
- Use the LEFT or RIGHT ARROW button to move the highlight to the next place where you want to enter a number. When you are done entering numbers, press SELECT.



#### Dish Home Button

This button is reserved for use with exciting interactive features of Dish Home coming in the future.



#### Format/Star Button

Press the FORMAT/STAR button to toggle through the available display modes (Normal, Zoom) on widescreen displays.



#### Recover Button

Press the RECOVER button if you accidentally change the channel or video input on your TV and cannot get the picture back from your satellite receiver. When you press the RECOVER button as described below, the remote control sends commands to your TV to change channels or video inputs to try to get you back to watching satellite programming. This procedure works only if you have accidentally changed the TV channel or video input. It does not recover lost satellite signal (See *Chapter 5 - Reference* for troubleshooting information). RECOVER only works if the remote control has been set up to control the TV and/or VCR, if connected.



**Note:** You may need to press the RECOVER button up to 30 times to recover your satellite TV video.

1. Press and hold the RECOVER button until all four mode buttons light, and then let go of the button. The SAT mode button flashes twice and then all four mode buttons flash three times.
2. Press the RECOVER button. Wait for the TV mode button to flash once and then all four mode buttons to flash once.

3. If you see the **Important System Information** screen, press the **SELECT** button to close the screen. You have recovered your satellite video.
4. If you do not see the **Important System Information** screen, repeat steps 2 and 3 until you have recovered your satellite video.

**Note:** If you have a DISH Network HD monitor, you may be able to use the **SAT** button instead of the **RECOVER** button to restore your TV back to watching satellite programming. See your DISH Network HD Monitor User's Guide for details.

## **CONNECTING YOUR RECEIVER TO AN HDTV OR HD MONITOR**

There are two ways to connect this receiver to display high definition programming quality on an HDTV or HD monitor: using the **DVI-HDTV/DISHDVI** connection or the **YPbPr** connections. The instructions below guide you through the connection setup process:

### **DVI-HDTV/DISHDVI**

This video output port is the preferred method of connecting the receiver to a DVI-equipped HDTV or HD monitor for best picture quality and simplest installation.

1. Connect a DVI cable between the **DVI-HDTV/DISHDVI** connection on the receiver and the DVI input on your HDTV set or monitor.
2. Connect an RCA A/V cable between the receiver **PHONO (RCA) AUDIO OUTPUTS** and the HDTV audio inputs that go with the DVI input on your TV or monitor.
3. Turn on your receiver and TV.
4. Consult your HDTV User's Guide, then set your HDTV to display from the DVI input. Confirm that you are getting a picture from the receiver.

**Note:** In most cases connecting the DVI cable will provide plug-and-play control of the monitor's display resolution and other settings. However, your HDTV may require selecting a 480p format to display from the receiver during this installation phase. Consult your HDTV User's Guide.

5. Complete installation of the receiver with the dish antenna. See *Installing a Receiver in an Existing DISH Antenna System* in the next section of this chapter.
6. Order your programming using the instructions in Chapter 1.
7. If you have ordered a qualifying DISH Network package, you can now switch the DVI format from 480p to one of the high definition formats. Go to *Setting the HDTV Resolution* below.

### **YPbPr Connections**

If your HDTV or HD monitor does not include a DVI input port, you can use the **YPbPr** component video connections to provide high definition picture quality to your HDTV or HD monitor. Make the connection using a color-coded YPbPr cable. However, since not all HDTVs or monitors

**Tip:** You can quickly change channels by using the **NUMBER** buttons on the remote. Just enter the numbers for the channel you would like to view next.

## Chapter 2

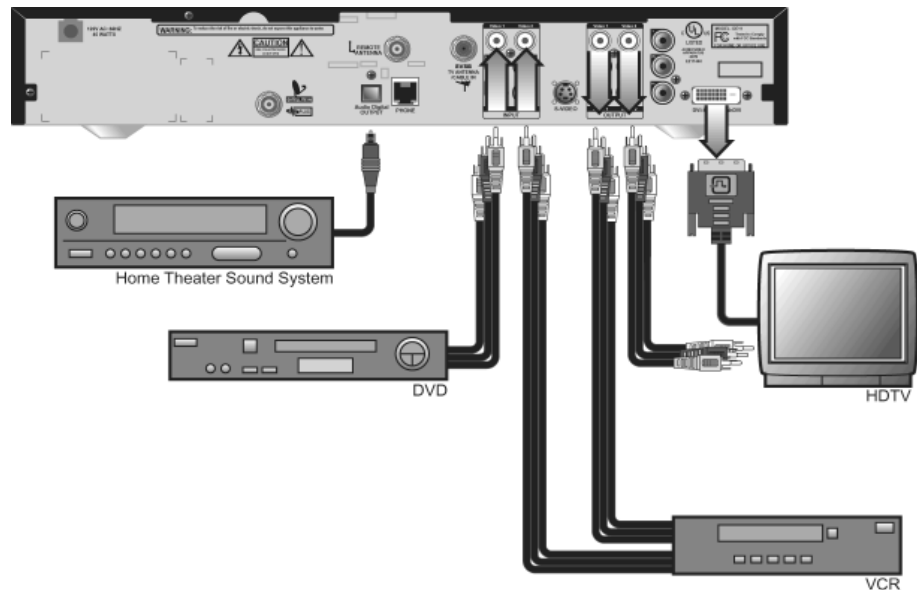
### Receiver Description and Installation

include plug-and-play control of the monitor's display resolution and format using **YPbPr** connections, you may need to use the instructions below to get the picture to display using this connection.

1. Connect Phono RCA type cables between the receiver **PHONO RCA A/V OUTPUTS** and corresponding input connections on the HDTV or monitor.
2. Connect between the **YPbPr** component connections on the receiver and the HDTV using component video cables.
3. Power on the TV and receiver using the front panel power button.
4. Consult your HDTV User's Guide, then set your HDTV to display from the RCA input. Confirm that you are getting a picture from the receiver.
5. Complete installation of the receiver with the dish antenna. See *Installing a Receiver in an Existing DISH Antenna System* in the next section of this chapter.
6. Order your programming using the instructions in Chapter 1.
7. If you have ordered a qualifying DISH Network package, you can now switch the DVI format from 480p to one of the high definition formats. Go to *Setting the HDTV Resolution* below.

### Connection Diagram Example

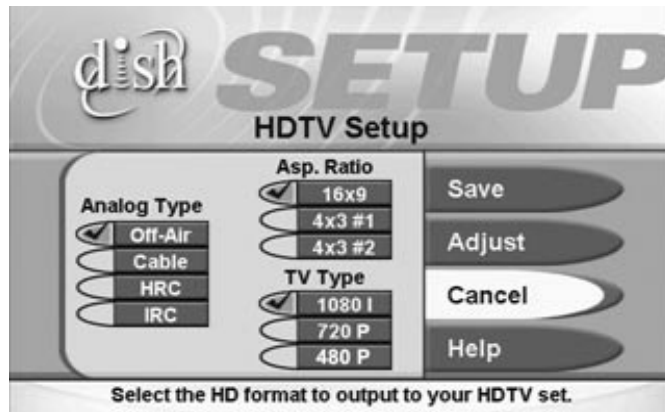
The diagram below provides an example how the back panel ports can be used to connect to an HDTV as well as connections for a VCR, and DVD Player. Your installation may be different.



### Setting the HDTV Resolution

Once the receiver has been activated with qualifying DISH Network programming, use the following steps to select the desired HDTV format.

1. Consult your HDTV user for the HD format that the TV supports (1080i or 720p). If required, set up the HDTV to display in the format you desire. Some HDTV's will automatically adjust to the resolution setting of the receiver.
2. Press MENU 6-1-9 on the receiver remote control to bring up the receiver HD Format screen.



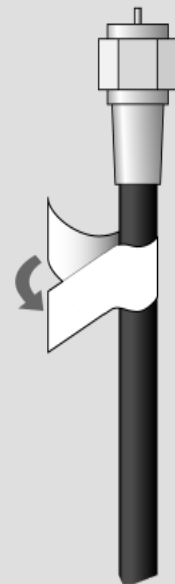
3. Select the HD format that matches the format your TV is set up to support. Press **Save** to save these settings.
4. If you were using the standard definition A/V input, switch your HDTV to display from it's DVI or **YPbPr** component inputs. Consult your HDTV user guide for instructions.
5. Confirm you are watching picture from the receiver over the HDTV connections.
6. Connect the **AUDIO DIGITAL OUTPUT** or the **PHONO (RCA) AUDIO OUTPUTS** on the receiver, as needed, to the corresponding HDTV audio inputs to hear sound.

**Note:** The default resolution on both HDTV outputs is 480p until the receiver is authorized and subscribed to a qualifying programming package and the desired HDTV resolution has been selected.

### INSTALLING A RECEIVER IN AN EXISTING DISH ANTENNA SYSTEM

Before you can begin connecting your receiver to your dish antenna, you must first complete the preceding section on connecting your TV to the receiver. Then if you are installing a dish antenna system for the first time, see *Chapter 4 - DISH Antenna Installation*. Otherwise, if you already have a dish antenna system installed and peaked for maximum signal strength, complete the following instructions to connect the dish antenna system to the receiver.

**Tip:** Using cable labels makes it easy to tell which cables connect to the receiver ports.



1. Connect an RG-6 coaxial cable (see notes below) from the **SATELLITE IN** port on the receiver's back panel to an available port on your switch or LNBF in your existing system. See *Chapter 4* wiring diagrams for appropriate receiver connections in your system. Peel off the blue sticker and affix it to the cable close to where it connects to the **SAT IN** connection on the back of the receiver.

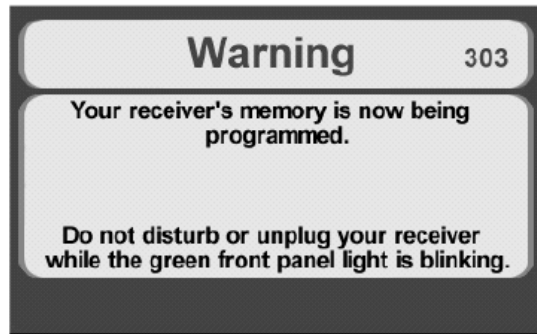
**Note:** If you are installing your receiver into a system with DishPro LNBFs (and/or switches), you can have as much as 200 feet of cable between the LNBF and the receiver. However, you must use only RG-6 coaxial cables rated for 950 to 2150 MHz. Some cables may say "Swept tested for 2150 MHz." If you have any doubt about this, ask your DISH retailer, or look on the container the cable came in. Do not use cable company TV cables or cables from other satellite TV systems not rated for 950-2150 MHz. These other cables may cause signal loss. Do not use existing cables such as RG-59. Also, be sure that any outdoor connections are made using waterproof F connectors.



Tighten all the coaxial cable connections only by hand. Using a wrench may over-tighten the connections, causing damage. Such damage is not covered by the Limited warranty.

2. Plug in the receiver's power cord. Make sure both the receiver and TV are turned on.
3. You should see the **Point Dish/Signal** menu appear on the screen. If you do not, open the **Main Menu**, by pressing MENU followed by 6-1-1 on the remote.
4. Select **Check Switch** or **Test**. An **Attention** screen will open. Select **Check** to run **Check Switch**.
5. When Check Switch is complete, you will see an **Installation Summary** screen. If the screen shows the correct switch and the message "Satellite reception verified" for all satellites in your system, go to step 7. If the **Installation Summary** screen does not detect all of the satellites your system should be receiving, check and retighten (by hand) the cable connections between your receiver, LNBFs and switches in your system. Then press Retest or Test to rerun Check Switch again.
6. Select **OK** or **Cancel** to return to the **Point Dish/Signal** screen. Then select Cancel to exit the **Point Dish/Signal** screen.
7. An **Attention** screen will open. This screen asks if the mounting and positioning of your dish is complete with a "Locked" indication in the **Point Dish/Signal** screen. Since your system is already installed and your dish is pointed for the strongest possible signal strength, you can select **Yes**.

8. The receiver will begin taking a software upgrade. You will see the message shown below:



A progress bar at the bottom of the screen will show how the software upgrade is progressing. Once the software upgrade is complete, you will see a second message that the receiver's memory is now being programmed.

This message may disappear and your screen may go blank for a few minutes. This is normal and does not indicate a problem with the receiver.

9. When the software upgrade is complete, press VIEW TV and you should now be able to watch TV programming. To activate your programming on this newly installed receiver, call 1-800-333-DISH (3474). *See Chapter 1, Introduction.*

## **CONNECTING YOUR RECEIVER TO A PHONE LINE**

You *must* keep each receiver connected to an active telephone line. Otherwise, you may not be able to order pay per view programs or use all of the DISH Interactive features. Run a telephone cable with a standard RJ-11 connector from each receiver's back panel **PHONE JACK** to an active telephone connection.

**Note:** You may be able to use a wireless telephone extender. However, this may not support all the features of some receivers, such as Caller ID.

**Note:** If you have a Digital Subscriber Line (DSL), you may have to install a DSL filter between the receiver's back panel **PHONE JACK** and the telephone wall jack to successfully connect with the DISH Network. You can obtain a filter from your DSL provider.

You must also set up each receiver for your telephone system (touchtone or rotary/pulse), and set a telephone number prefix, if you need a prefix to make an outside call.

1. Display the **Installation and Setup** menu (press MENU then 6-1-4).
2. Select the **Telephone System** option to display the **Telephone System Setup** menu.
3. Select the **Touch Tone** or the **Rotary/Pulse** option in the **Phone Type** list.

- If you do not need a dialing prefix call to outside your premises, select the **Save** option, and stop here. If you do need to set a prefix to dial outside your premises (for example, dial 9 to get an outside line), go to step 5.



**Note:** Usually, you need a telephone number prefix only for business installations. For most residential installations, all you need to do is set the telephone system type.

- Move the highlight to the **Outside Line Prefix** list. Press the **SELECT** button to select the highlighted option.
- Select the **Prefix Code** option. The receiver displays the same number of boxes (highlighting the first box) where you must enter the digits. Use the Number Pad to enter the prefix code. As you enter each number, the highlight moves to the next box.



- Select the **Save** option to save the settings.

## OPTIMIZE YOUR REMOTE CONTROL

### Change the Address

When you receive your system, your remote control and receiver have been set to communicate on address 1. However, because UHF signals travel long distances and go through walls, a neighbor's UHF Pro remote could control your receiver by mistake if they are on the same address. To handle this problem, you can change the address on your remote control and the receiver as follows:

1. Press **SYS INFO** button on the receiver's front panel. The **System Information** screen displays and shows the Remote Address.

Write down this address: \_\_\_\_\_

2. Press and hold the **SAT** button on your remote control for about three seconds, until all of the mode buttons light up, and then let go of the **SAT** button.
3. Use the **NUMBER PAD** buttons to enter any number between 1 and 16, but not the one you wrote in step 2. Write down the number you entered: \_\_\_\_\_
4. Press the **POUND (#)** button. If you entered the address correctly, the **SAT** mode will flash three times.



search



RECORD

5. Press the **RECORD** button.  
**Note:** Make sure the **Remote Address** you see on the **System Information** screen is the same as the one you entered in step 3. If it isn't, the remote cannot control the receiver.
6. Press the **SELECT** button to close the **System Information** screen.



### Checking the Remote Control Address

1. Press and hold the **SAT** mode button for three seconds, until all of the mode buttons light up, and then let go of the **SAT** button.
2. Press the **POUND (#)** button twice. The **SAT** mode button will flash the same number of times as the address number (three flashes means address 3).



search

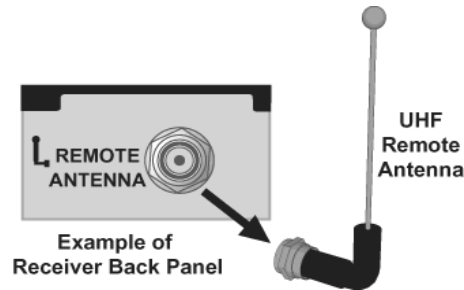


#### Attach a UHF Attenuator

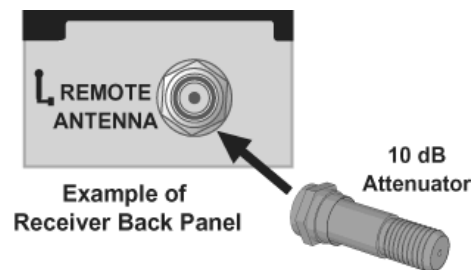
Stray UHF signals can block signals from the remote control to the receiver. To prevent blocks, you can install a 10 dB attenuator (you can buy one from a consumer electronics parts store).

**Note:** This will help keep out stray UHF signals, but also cut down how far away you can use the remote control.

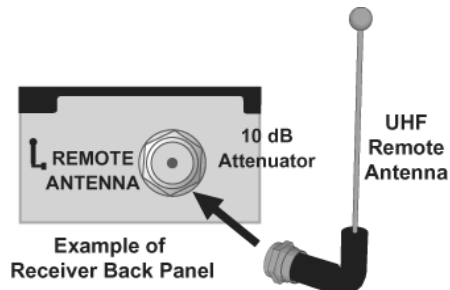
1. Take the UHF antenna off of the receiver's back panel **UHF REMOTE ANTENNA** input.



2. Put a 10 dB attenuator onto the **UHF REMOTE ANTENNA** input.



3. Put the UHF antenna onto the attenuator.



## Setting up to Receive Off-Air Broadcasts or Cable

The **8VSB TV Antenna/Cable** input on your receiver's back panel can be used to receive and view programming from an off-air antenna or cable service. This connection can support viewing both ATSC Digital over-the-air broadcasts or analog NTSC over-the-air broadcasts. It can also support viewing analog cable TV service.



This input connection can only be used when your receiver is activated with qualifying DISH Network programming.

You can add local off-air channels and assign them network affiliations. Once you have done this, you can access the channels via the **Program Guide** or the **Browse Banner** in much the same way as you would satellite channels. See *Chapter 3, Adding New Local Off-Air Channels to the Program Guide*.

Connect an external VHF/UHF off-air antenna or analog cable TV source to the **8VSB TV ANTENNA/CABLE** port. Peel off the black sticker and affix it to the cable close to where it connects to the back of the receiver.

**Note:** The type of antenna required depends on the channels used by, and the locations of, the local broadcasters for your area. Contact a professional installer if you are unsure about how to connect an external antenna to this input.



The audio/video quality on local off-air channels depends on the distance and terrain between the broadcast station and your home, and on the placement and quality of the off-air TV antenna you use. If you have questions about off-air channels, contact the broadcaster, *not* the DISH Network!

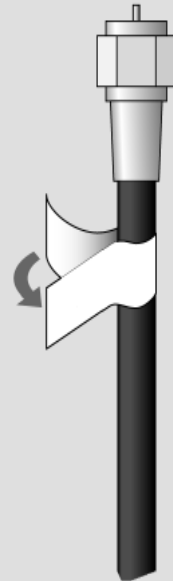


Make sure to follow the antenna installation instructions correctly. Ground the antenna per the *National Electrical Code* (NEC) and any local electrical codes!

### HOW TO ADD LOCAL OFF-AIR DIGITAL CHANNELS

To add a local digital channel:

**Tip: Using cable labels makes it easy to tell which cables connect to the receiver ports.**



1. Press **Menu 6-1-5** to open the **Local Channel Setup** menu.



2. Use the **Scan Digital** selection to add the local channels to the **Program Guide** automatically or select the **Add Digital** option on the **Local Channel Setup** menu. This opens the **Add Local Digital Channel** menu.



3. Enter the **Transmit Channel** number for the channel you want to add. You may need to enter zeros at the start of the number.  
**Note:** The **Transmit Channel** number may differ from the familiar broadcast channel number. See page 29 for details.
4. The menu displays a signal strength bar. Adjust the aim of the TV antenna until the bar is green, shows the strongest possible signal, and says **Locked**. menu shows a **Channel Number** in green if the receiver is getting enough digital channel information via the off-air signal, in yellow if it is not.  
**Note:** Some digital channels do not broadcast all the time. You may need to wait until the channel is being broadcast.

5. Select the **Save** option to add the channel. This opens the **Edit Local Channel Name** menu:



Highlight a letter and press the **SELECT** button. Do this again to spell out the channel name. You can enter up to five characters. If you need to, use the space option to insert a **space** or the **<back** option to correct a letter. When you are done entering the channel name, select the **Save** option. This opens the **Local Channel Setup** menu again.

6. Repeat steps 3 through 5 if you want to add another local digital channel.
7. To delete one or more channel(s), select the channel(s) in the **Channels** list and then select the **Remove** option.
8. Select the **Save** option to leave the **Local Channel Setup** menu.

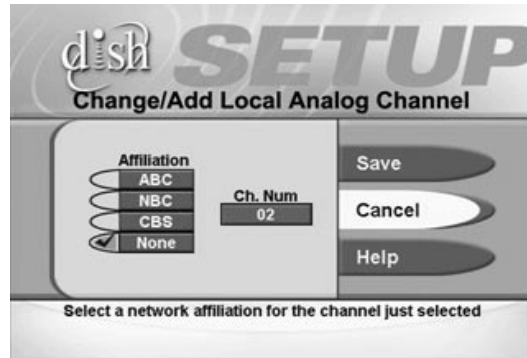
## **HOW TO ADD LOCAL OFF-AIR ANALOG CHANNELS**

To add a local analog channel:

1. Press **Menu 6-1-5** to open the **Local Channel Setup** menu.



- Use the **Scan Analog** selection to add the local channels to the **Program Guide** automatically or select the **Add Analog** option on the **Local Channel Setup** menu. This opens the **Add Local Analog Channel** menu.



- Enter the channel number in the **Ch. Num** field.  
**Note:** You may need to enter zeros at the start of the number.
- To assign the channel to one of the major broadcast networks, select an **Affiliation** option. Or, select the **None** option if you do not want to assign the channel to a broadcast network.
- To edit the name of the channel, select the **Save** option. This opens the **Edit Local Channel Name** menu:



- Highlight a letter and press the **SELECT** button.
- Do this again to spell out the channel name. You can enter up to five characters. If you need to, use the space option to insert a **space** or the **<back** option to correct a letter. When you are done entering the channel name, select the **Save** option. The receiver displays the **Local Channel Setup** menu again.
- Repeat the above steps 3 through 7 if you want to add another local analog channel.
- To delete one or more channel(s), select the channel(s) in the **Channels** list and then select the **Remove** option.
- Select the **Save** option to leave the **Local Channel Setup** menu.

## **TRANSMIT CHANNEL NUMBERS**

For information on channel numbers, you can visit the National Association of Broadcasters (NAB) web page at [www.nab.org](http://www.nab.org). On this web page, go to [www.nab.org/Newsroom/Issues/digitaltv/DTVstations.asp](http://www.nab.org/Newsroom/Issues/digitaltv/DTVstations.asp) for a listing of digital broadcast stations and their **Transmit Channel** numbers.

**Note:** The NAB web page uses the term “RF Channel” for what this User Guide calls the “**Transmit Channel**” number.

Another good source of local channel information is available from the Consumer Electronics Association (CEA) web page at: [www.antenna.org](http://www.antenna.org). This website provides recommendations for antenna types and pointing directions.

## **ABOUT OFF-AIR TV BROADCASTS**

*Off-air TV signals* are broadcast from stations on the ground, while satellite TV signals are broadcast from satellites in space. You receive off-air TV signals using an indoor or outdoor antenna instead of the satellite dish. You are likely familiar with analog off-air TV signals - these are the signals that have been used to broadcast TV for many years. New digital off-air TV signals are broadcast and received in the same way. Digital off-air TV broadcasting uses advanced technology like that of the DISH Network to deliver superb picture quality and CD quality sound. However, *Digital off-air signal reception* (like analog off-air signal reception) depends on several things:

- The distance between the broadcast station and your home (the farther away the station, the weaker the signal);
- The broadcast station's power (the lower the power, the weaker the signal);
- Obstacles between the station and your home, such as mountains, buildings, trees, or other objects (these may block or reflect the signal before it reaches you);
- Multiple broadcast stations (to receive good signals from several stations, you may need to compromise in how you aim the antenna or you may need more than one antenna).

*The effects of poor digital reception* are different from the effects of poor analog reception:

- Poor analog reception usually causes the TV picture to be "snowy" or to include "ghosts," that is, multiple images caused by receiving reflected signals along with the direct signal from a station.
- Poor digital reception may cause the TV picture to be "pixelized," that is, broken up into small squares of various colors, or to be lost completely (the TV screen is all black or all blue).
- Digital broadcasts often provide either a very good picture or no picture at all.
- You may be able to receive a poor analog signal but not be able to receive a digital signal at all.

*To get the best possible digital signal reception*, make sure you use the best off-air antenna for where you live:

- You can receive a limited number of channels using a "rabbit ears" type antenna on top of the TV set, or a much larger number via a large UHF/VHF indoor/outdoor antenna.
- The higher the quality of the antenna you use, the greater its range and the better its reception will be.
- The Consumer Electronics Association maintains a website, [antennaweb.org](http://antennaweb.org), that you can visit for help in choosing an antenna.
- You may want to contact a professional TV antenna installer for advice or help in choosing, installing, and aiming an antenna.

Keep in mind, *digital off-air TV broadcasting* is in its infancy. So, digital off-air service may be interrupted because:

- Broadcasters are testing digital signals, and may stop broadcasting without notice.
- Many broadcasters do not yet have permanent broadcast stations and may be operating at less than full power.
- Broadcasters are not legally required to provide full-time digital signals for several years.
- Some digital channels do not broadcast all the time.

If you have questions about off-air channels, contact the broadcasters, not DISH Network. DISH Network does not broadcast off-air signals and so cannot do anything to change off-air signal quality. However, the receiver's digital channel setup menus provide a signal strength bar that can help you in aiming the off-air TV antenna for the strongest possible signal.