





WARNING VS. ATTENTION

You *must* be aware of safety when you install and use this system. These *Instructions* provide various procedures. Some of these procedures could result in injury or property damage if you do them improperly. Other procedures require special attention.

In this *Guide*, the following notes tell you when you need to pay special attention:

<p>WARNING!</p> 	<p>Marks a procedure where the following may happen:</p> <ul style="list-style-type: none">• Personal injury or death may occur.• Equipment or property may be damaged.
<p>ATTENTION!</p> 	<p>Marks the following issues:</p> <ul style="list-style-type: none">• Important operation or maintenance instructions follow.• Special attention is required.

FOR YOUR SAFETY

<p>WARNING!</p> 	<ul style="list-style-type: none">• Do <i>not</i> try to open the case of the receiver. There is risk of electrical shock, which may cause damage to the receiver and/or personal injury or death to you. There are <i>no</i> user-serviceable parts inside the receiver. Opening the receiver case or making unauthorized changes will void the warranty.
<p>WARNING!</p> 	<ul style="list-style-type: none">• To reduce the risk of fire or electric shock, do <i>not</i> expose this appliance to rain or moisture.

Note: This *Guide* covers receiver Model 6000, and Software Model ID number 6000. This *Guide* may cover other models, not listed here.

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You should address comments or questions about this *Guide* to: *Technical Publications, EchoStar Technologies Corporation, 94 Inverness Terrace East, Englewood, Colorado 80112.*

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Contents

Important Safety Information	3
Chapter 1 - Introduction	5
Setting Up the Receiver for HDTV	6
Quick Start Tips.....	7
Chapter 2 - The Parts of the System	9
The Receiver	9
The Remote Control	10
The Menu	11
Chapter 3 - Using the System	17
Ordering Your Programs	17
Using the Remote Control	18
Using the Menu	24
Cancelling a Procedure	26
Changing Channels	27
Using the Program Guide	27
Displaying Program Information	28
Ordering Pay Per View Programs	31
Using Themes	32
Using Favorite Lists	32
Using Locks	34
Resetting the Receiver	40
Recording Programs	41
Changing Program Languages	41
Testing the System	42
Using the Remote to Control Other Devices	46
Device Codes	55
Chapter 4 - Advanced Features	59
Using Event Timers.....	59
Using Dolby Digital Sound	64
Installing and Using the Digital Off-Air Cartridge	65
How to Set Up the System	66
How to Add Local Off-Air Digital Channels	67
How to Add Local Off-Air Analog Channels	69
How to Find a Program to Watch	71

Chapter 5 - Installation Instructions..... 75

- How to Use These Instructions 75
- For Installing a DISH 500 or a DISH 300 75
- Mounting the Dish 80
- Installing a DISH 500 82
- Installing a DISH 300 89
- Grounding the System 92
- Wiring Diagrams 96

Reference..... 103

- Connecting the Receiver 103
- Glossary 106
- Problems and Solutions Tables 107

Appendix A 115

- Limited Warranty 115
- Residential Customer Agreement 118

Appendix B 127

- Staying Legal 127
- FCC Compliance 127

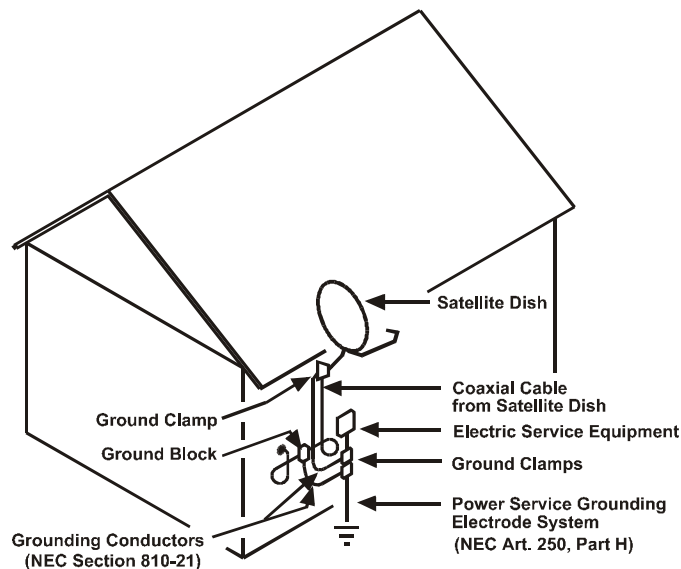
Index..... 132

Safety Instructions

- **Read** all safety and operating instructions before you operate the receiver.
- **Retain** all safety and operating instructions for future reference.
- **Heed** all warnings on the receiver and in the safety and operating instructions.
- **Follow** all installation, operating, and use instructions.
- **Unplug** the receiver from the AC power outlet before cleaning. Use only a damp cloth for cleaning the exterior of the receiver.
- **Do not use** accessories or attachments not recommended by the receiver manufacturer, as they may cause hazards and void the warranty.
- **Do not operate** the receiver in high humidity areas or expose it to water or moisture.
- **Do not place** the receiver on an unstable cart, stand, tripod, bracket, or table. The receiver may fall, causing serious personal injury and damage to the receiver.
- **Do not block** or cover slots and openings in the receiver. These are provided for ventilation and protection from overheating. Never place the receiver near or over a radiator or heat register. Do not place the receiver in an enclosure such as a cabinet without proper ventilation.
- **Do not stack** the receiver on top of or below other electronic devices.
- **Operate** the receiver using only the type of power source indicated on the marking label. Unplug the receiver power cord by gripping the power plug, not the cord.
- **Insert** the plug properly. The receiver is equipped with a polarized AC line plug (one blade is wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact an electrician to replace the obsolete outlet. Do not defeat the safety purpose of the polarized plug.
- **Route** power supply cords so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.
- **Do not overload** wall outlets or extension cords, as this can result in a risk of fire or electrical shock.
- **Never insert** objects of any kind into the receiver through openings, as the objects may touch dangerous voltage points or short out parts. This could cause fire or electrical shock.
- **Make sure** that the outdoor parts of the antenna system are grounded in accordance with local, state, federal, and *National Electrical Code* (NEC) requirements.
Note to CATV System Installer: This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies

that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

- **Do not locate** the antenna near overhead light or power circuits, or where it can fall into such power lines or circuits. When installing the antenna, take extreme care to avoid touching such power lines or circuits, as contact with them can be fatal.
- **Do not attempt** to service the receiver yourself, as opening or removing covers may expose you to dangerous voltage, and will void the warranty. Refer all servicing to authorized service personnel.
- **Unplug** the receiver from the wall outlet and refer servicing to authorized service personnel whenever the following occurs:
 - The power supply cord or plug is damaged.
 - Liquid has been spilled or objects have fallen into the receiver.
 - The receiver has been exposed to rain or water.
 - The receiver has been dropped or the chassis has been damaged.
 - The receiver exhibits a distinct change in performance.
- **Make sure** that the service technician uses replacement parts specified by the receiver manufacturer. Unauthorized substitutions may damage the receiver or cause electrical shock or fire, and will void the warranty.
- **Upon completion** of any service or repair to the receiver, ask the service technician to perform safety checks to ensure that the receiver is in proper operating condition.
- **Use** an outlet that contains surge suppression or ground fault protection. For added protection during a lightning storm, or when the receiver is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the lines between the receiver and the antenna. This will provide some protection against damage caused by lightning or power line surges.



Chapter 1

Introduction

WELCOME!

Congratulations! You are about to enjoy the pleasure and convenience of an advanced High Definition/Standard Definition satellite TV receiver.


- High definition television brings the motion picture experience into your home with wide screen format, improved picture sharpness and quality, and surround sound. The DISH Network uses updated technology to deliver this exciting picture format in perfect digital clarity.
- This receiver also provides the features you expect in a high-end satellite product, such as UHF/IR remote control, on-screen program information, theme-based program selection, favorite lists, program locks, and VCR timers.
- Best of all, you can upgrade this receiver to receive off-air analog and digital broadcasts. With this upgrade, the receiver will provide seamless switching among off-air analog, off-air digital, Standard Definition satellite, and High Definition satellite programs.

FOR MORE INFORMATION

For installation procedures, see *Chapter 5 - Installation Instructions*. For professional installation, call the Customer Service Center at 1-800-333-DISH (3474). ***For help using the receiver or remote:***

1. Review this *Guide*.
2. If you still have questions, review the *Problems and Solutions Tables* that begin on page 36.
3. For more information, call the Customer Service Center or visit our website at www.dishnetwork.com.

SETTING UP THE RECEIVER FOR HDTV

<p>ATTENTION!</p> 	<p>You should set up your satellite TV system and make sure that your receiver and TV are working correctly in Standard Definition (SD) mode <i>first</i>. This will make setting up the receiver and TV to work in High Definition (HD) mode as <i>easy</i> as possible.</p> <p>See <i>Watching HDTV Programs</i> on page 24 for more information.</p>
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SATELLITE TELEVISION

Satellite television uses a satellite in a *geosynchronous* orbit over the Earth to deliver television and audio programs. This orbit enables the satellite to stay aligned over one place on the surface of the Earth. Once the you have aimed the satellite dish at the satellite, you do not have to move the dish to follow it.

A facility on the ground called the “Uplink Center” transmits the signal to the satellite. The satellite then transmits the signal to the dish. The receiver processes the signal based on the programs or services that you have ordered.

To receive DISH Network satellite television services, you *must* have a satellite dish and receiver installed that are compatible with the DISH Network. To order pay per view programs, you *must* connect the receiver to an active telephone connection.

SATELLITE SIGNAL QUALITY

RAIN AND SNOW FADE

Heavy rain, snow, or cloud cover can block the satellite signal, which can interrupt your programs. By aiming the satellite dish to get the strongest signal, you can help prevent rain and snow from interrupting the signal.

SOLAR INTERFERENCE

Twice a year, the sun is in a position behind the satellite, in orbit around the Earth. The exact time of the year that this occurs varies, depending on the location, but it is around the beginning of spring and again around the beginning of autumn. When the sun is directly behind the satellite, sunlight overpowers the satellite signal for just a few minutes. This is an unavoidable natural event for all satellite television providers. During this period, you will *not* be able to see programs. Once the sun is no longer behind the satellite, the programs will reappear.







AVAILABLE SERVICES

The DISH Network provides a wide range of exciting and entertaining services that cover a variety of interests, including movies, sports, news, education, hobbies, music, shopping, comedy, and more.

- **Subscription Services** are programs or services that you buy for long periods. They are billed at set times, and stay active until you call the Service Center to cancel them.
- **Package Services** are groups of services offered to you at a discount. They provide the greatest value to you because they combine the services that you want at a reduced rate.
- **One-Time Services** are special broadcast events and other items you use once. They include pay per view programs and special programs.





QUICK START TIPS

The following tips help you get a fast start using the system. The left column describes some common options and the right column shows which button on the remote control to use.

<p>Turn ON the Receiver With the remote control in SAT mode, press the Power button.</p>	
<p>Switch Between SD and HD Mode With the remote control in SAT mode, press the Standard Definition / High Definition (SD / HD) button.</p>	
<p>Change Channels With the remote control in SAT or TV mode, press the Up or Down button, or enter the channel using the number pad buttons. The Up and Down buttons have different functions in other modes.</p>	
<p>See the Last Channel You Watched Press the Recall button. Press this button again to switch between the last two channels that you have watched.</p>	
<p>Open the Main Menu With the remote control in SAT mode, press the Menu button.</p>	
<p>Open the Program Guide With the remote control in SAT mode, press the Guide button.</p>	

Chapter 1

Introduction

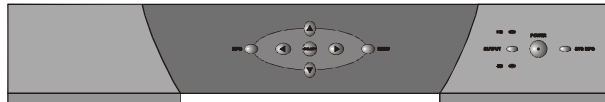
<p>Open the Browse Banner With the remote control in SAT mode, press the Right arrow button.</p>	
<p>See Information about a Program With the remote control in SAT mode, and while using the Program Guide, Browse Banner, Themes, or while watching a program, press the Information button</p>	
<p>Activate a Favorite List With the remote control in SAT mode, press the Guide button to open the Program Guide. Press the Guide button again to switch among the available Favorite Lists.</p>	
<p>Select a Program Based on a Theme With the remote control in SAT mode, press the Left button.</p>	

Chapter 2

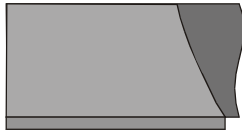
The Parts of the System

THE RECEIVER

THE RECEIVER FRONT PANEL

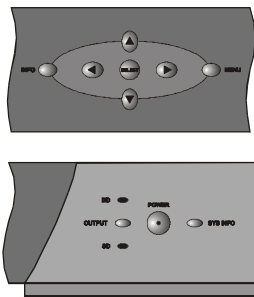


ACCESS DOOR



The Smart Card should already be inserted in the receiver front panel slot, behind the door.

CONTROL BUTTONS



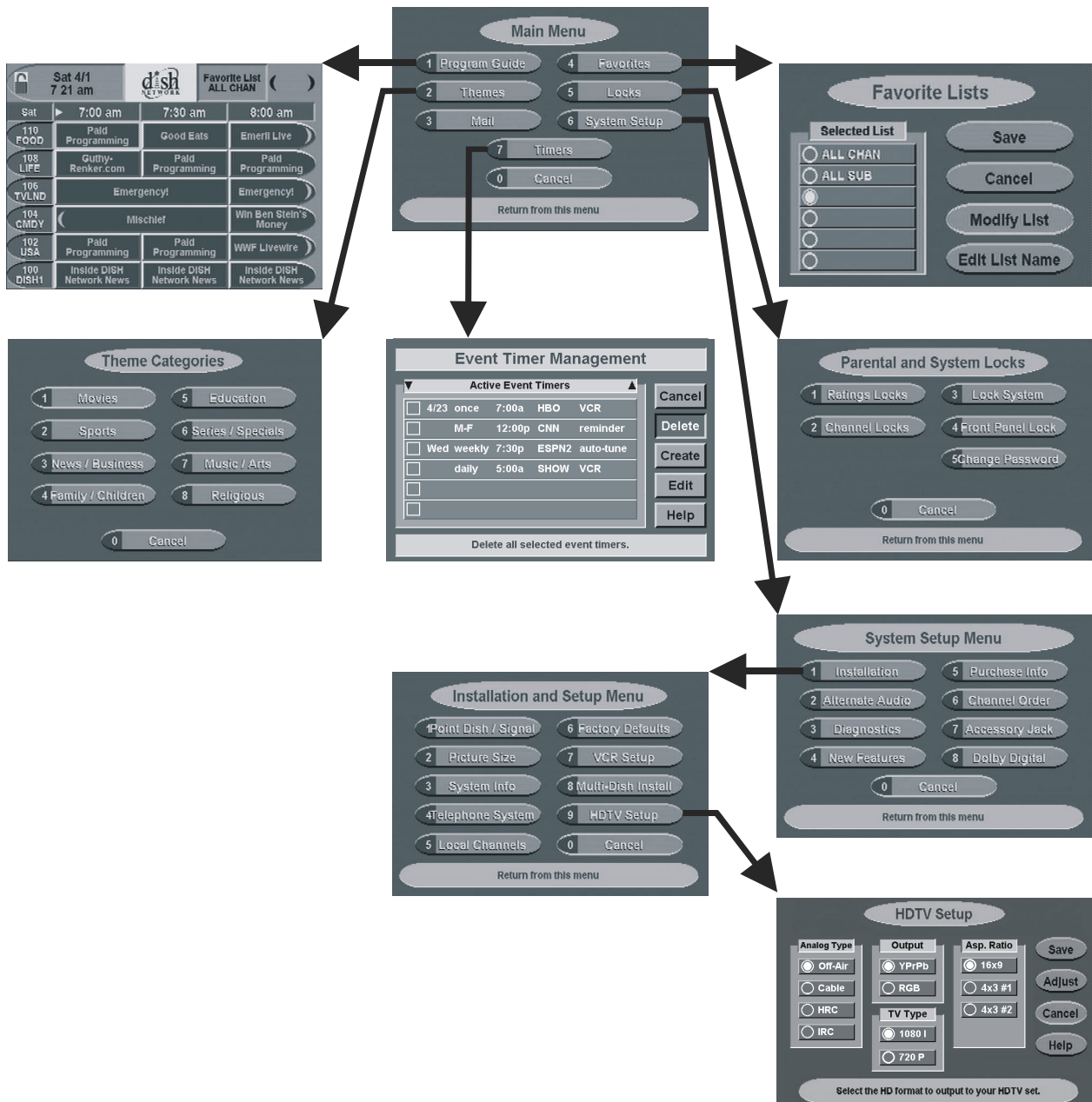
The front panel buttons give you some control over the receiver. These buttons work the same way as the matching remote control buttons, described in *Chapter 3 - Using the System*.

The green light in the middle of the **Power** button lights up when you turn the receiver ON and goes out when you turn the receiver OFF. The **Output SD** light (amber) and the **Output HD** light (blue) show that the receiver is in Standard Definition or High Definition mode, respectively.

THE MENUS

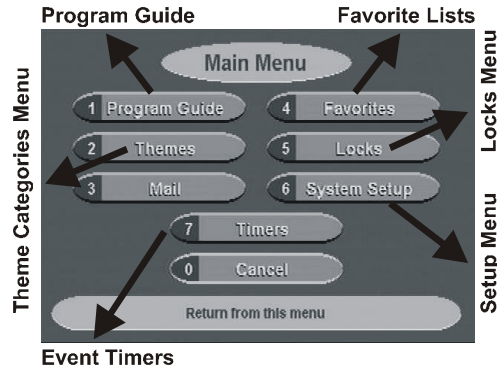
This diagram shows how the menus that the receiver displays on the television screen, relate to one another. The next few pages describe these menus. *Chapter 3 - Using the System* explains in more detail how to use the menus to operate the system.

Note: The **Mail** feature is *only* for delivery of DISH Network messages to you, and *only* under special circumstances.



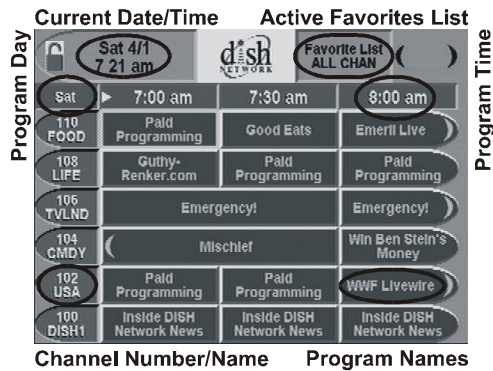
MAIN MENU

The **Main Menu** is the key to the menus. Each option on this menu displays another menu.



PROGRAM GUIDE

The **Program Guide** lists the available channels and programs. **Note:** **(DD)** designates Dolby[®] Digital sound, and **(HD)** designates High Definition Television programming.



THEME CATEGORIES MENU

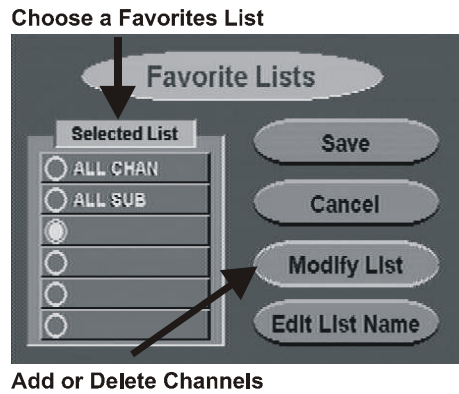
The **Theme Categories** menu allows you to choose programs based on their contents.



Available Theme Categories

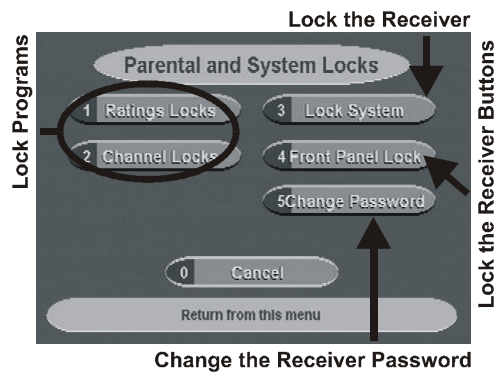
FAVORITE LISTS MENU

The **Favorite Lists** menu allows you to create, change, and activate lists of favorite channels.



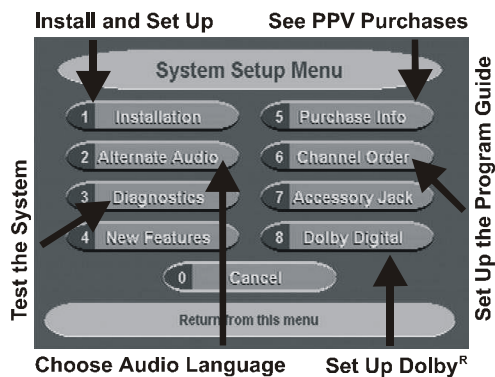
PARENTAL AND SYSTEM LOCKS MENU

The **Parental and System Locks** menu allows you to set and use locks.



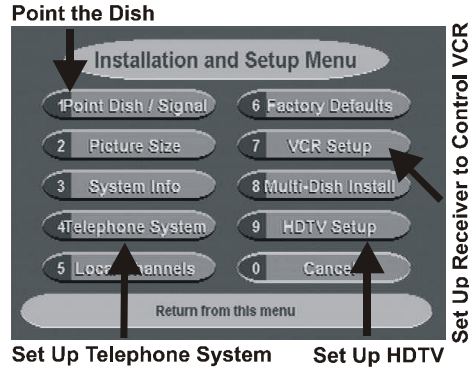
SYSTEM SETUP MENU

The **System Setup** menu provides a number of features that help you set up and maintain the system.



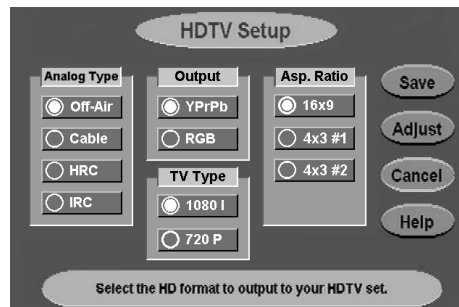
INSTALLATION AND SETUP MENU

The **Installation and Setup** menu provides a number of features that help you set up and maintain the system.



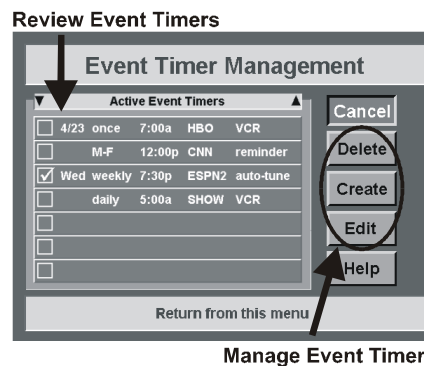
HDTV SETUP MENU

The **HDTV Setup** menu allows you to set up the receiver for High Definition TV.



EVENT TIMER MANAGEMENT MENU

The **Event Timer Management** menu allows you to work with event timers.



Manage Event Timers

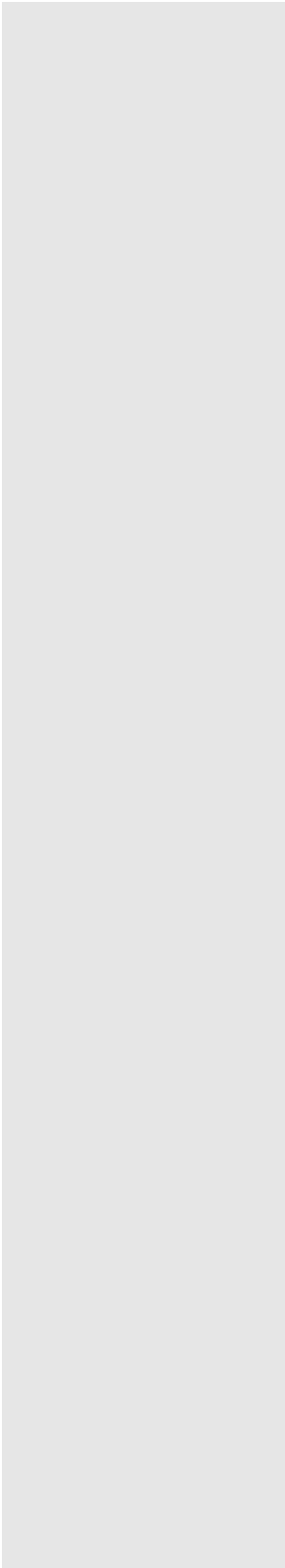
THE BROWSE BANNER

You can use the **Browse Banner** to change channels, or to see what other programs are available without changing the program that you are watching. The receiver displays the **Browse Banner** information at the top and bottom of the TV screen.

Note: If the **ALL CHAN** Favorite List is active, the **Browse Banner** displays all the channels. If another list is active, the **Browse Banner** displays *only* the channels on that list. If you have set up the **Program Guide** to hide adult channels and the receiver is locked, the **Browse Banner** does *not* display such channels.

Here is an *example*:





Notes

Chapter 3

Using the System

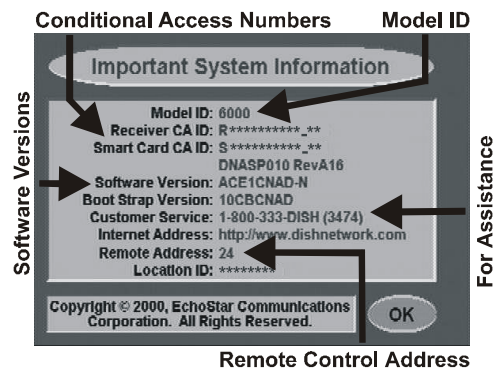
ORDERING YOUR PROGRAMS

1. Make sure the dish is aimed for the maximum signal strength. See the installation instructions in *Chapter 5* for this procedure.
2. If the receiver does not display the **Preview Channel**, you need to allow the receiver to accept a transmission (“download”) of the latest operating software, via the satellite.

To do this, turn the receiver OFF using the remote control **Power** button. During the download, the receiver front panel lights will flash.

The download will take at least 15 minutes. When the download is done, and you turn the receiver back ON, the receiver will display the **Preview Channel**.

3. Turn the receiver ON. Then, press the remote control **System Information** button to display the **Important System Information** menu, as in the *example* shown below. Keep the menu displayed while you do steps 4 and 5.



4. Call to tell the Customer Service Center that the system has been installed and that you would like to begin receiving programs. The representative will explain the available program packages. Give the representative information from the **Important System Information** menu.
5. Your programs will be activated using the satellite signal. When this is done, you should be able to tune the receiver to channels other than the **Preview Channel**.

USING THE REMOTE CONTROL

UHF remotes (with the UHF symbol on the front side) can control the receiver through the walls of your building. To use such a remote, you *must* attach a UHF antenna to the receiver back panel **UHF Remote Antenna** input.

Note: Because UHF signals travel long distances and go through walls, a neighbor's remote may accidentally control your receiver. If this happens, do the *Changing the Remote Address* procedure on page 23.

You *must* point an IR remote control (with "INFRARED REMOTE" on the back side) directly at the receiver, with no objects blocking the line of sight. You can use such a remote *only* within 40 feet of the receiver.

You can also use the remote to control other devices. For information on how to do this, please see page 46. Once you have set the remote to control other devices, the buttons function differently than in SAT mode. You will find information on how the buttons function in the different modes beginning on page 46.

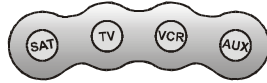
INSTALLING BATTERIES IN THE REMOTE

The remote control comes with AAA batteries, packaged separately. When you replace old batteries, you should replace all of the batteries. Use batteries of the same grade, *for example*, alkaline or carbon zinc, and do not mix batteries of different grades. Alkaline batteries provide longer battery life.



1. Press down on the slot in the battery cover (on the back of the remote control) and slide the cover off.
2. Insert the new batteries, making sure to match the plus ("+") ends with the plus markings on the battery case.
3. Replace the battery cover by sliding the cover back up into place.

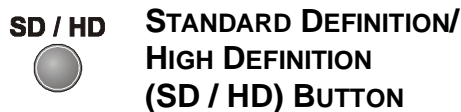
USING THE REMOTE CONTROL BUTTONS



MODE BUTTONS

The **SAT** (satellite receiver), **TV**, **VCR**, and **AUX** (auxiliary) mode buttons show which device the remote will control.

To change modes, press the button for the device. The button's background light turns on.



With the remote control in **SAT** mode, use this button to switch the receiver between Standard Definition (SD) outputs and High Definition (HD) outputs. The receiver front panel **Output SD** light (amber) and **Output HD** light (blue) show the receiver mode.

Note: The receiver front panel **Output (SD / HD)** button works the same way as this remote control button.



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



Press the **Power** button to turn the receiver ON or OFF. The green **Power** light on the receiver front panel lights up to show that the receiver is ON. For each mode, the **Power** button will turn that device ON and OFF, if the remote has been programmed for that device.

Note: If you program the TV mode to control a television and do not program the **AUX** mode, the **AUX** mode button will turn the television ON and OFF. This allows you to turn the television ON or OFF without leaving **SAT** mode.



Press the **Page Up** or **Page Down** arrow button to scan, page by page, through the **Program Guide** or the **Theme Categories** menu.



MUTE BUTTON

Press the **Mute** button to turn off the sound. Press it again to restore the sound.

The **Mute** button works *only* if you have programmed the remote.



VOLUME BUTTON

Press the plus (+) side of the **Volume** button to raise the sound volume.

Press the minus (-) side of the **Volume** button to lower the sound volume.

This button works *only* if you have programmed the remote.



GUIDE BUTTON

Press the **Guide** button to open the **Program Guide**. When the **Program Guide** is open, press the **Guide** 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** button to open the **Browse Banner** or the **Up** or **Down** button to change channels.
- When the **Browse Banner** is open, press the **Up** or **Down** button to see the **Browse Banner** for the next channel.
- When a menu offers a list of choices (different from menu options), press the **Up** or **Down** button to see more choices.
- When the **Program Guide** is open, press these buttons to move the highlight among the programs (but *not* to a program that has ended).

- When you need to enter a number in a menu, highlight the field where you need to enter the number. Then, press the **Up** or **Down** button to increase or decrease the number in the highlighted field.
- When the **Browse Banner** is open, press the **Left** or **Right** button to display programs in different time periods (but *not* a program that has ended).
- When watching a program, press the **Left** button to open the **Theme Categories** menu.



RECALL BUTTON

Press the **Recall** button to go back to the last channel you were watching. Press it again to switch between the last two channels that you watched.



INFORMATION BUTTON

- Press this button for more information when the **Program Guide**, **Browse Banner**, or **Theme Categories** menu 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 display the **Important System Information** menu.



VIEW 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 the procedure and return to watching a program.



CANCEL BUTTON

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



SYSTEM INFORMATION BUTTON

Press this button to display the **Important System Information** menu.



RECORD BUTTON

Display the **Program Guide** and select a future program. Then, press this button to create a one-time *VCR Event Timer*.



NUMBER PAD BUTTONS

- When watching a program or with the **Program Guide** open, enter the channel number to change to that channel.
- Use the number pad buttons to enter menu option numbers.
- Use these buttons to enter a number such as a ZIP code or password in a menu.
- When the **Program Guide** is open, enter a number of hours using the number pad buttons, and then press the **Left** or **Right** arrow to display programs in the time period offset by that number of hours. The receiver *cannot* display programs that have ended.



STAR (*) BUTTON

Use this button to switch among picture aspect ratios.







POUND (#) BUTTON

Use this button in the procedure to change the remote control address.

CHANGING THE REMOTE ADDRESS

Because UHF signals travel long distances and go through walls, a neighbor's remote may accidentally control your receiver. If this happens, you may change the remote address.

Note: Do *not* change the remote address unless it is absolutely necessary, because the remote *cannot* control the receiver if the two devices have different addresses. If you start this procedure and then do not press any button for 20 seconds, the remote will return to normal operating mode. Just start over again.

1. Press the **Menu** button. 
2. Select the **System Setup** option. 
3. Select the **Installation** option. 
4. Select the **System Info** option. This displays the **Important System Information** menu. Note the **Remote Address** shown on this menu.
5. Press and hold the **SAT** mode button about three seconds, until all the mode button backlights come on, and then release the **SAT** button.
6. Use the number pad buttons to enter a number from 1 to 15. The **SAT** mode button backlight will blink off after you enter each digit, and then come on again.
7. Press the **Pound (#)** button. If the address you entered is valid for the remote control, the **SAT** mode button backlight flashes three times. 
8. Press the **Record** button. The number in the **Remote Address** field on the **Important System Information** menu should match the one you entered.
9. To check the code, press and hold the **SAT** mode button for three seconds. Then, press the **Pound (#)** button twice. The **SAT** mode button backlight flashes the same number of times as the address.

10. Select the **Cancel** option again to exit the menus.

INSTALLING AN ATTENUATOR (UHF REMOTE ONLY)

Other UHF signals may block signals from the UHF remote control to the receiver. To prevent such interference, you can install a 10 dB attenuator (*not* included with the receiver). This will reduce the sensitivity of the receiver to other UHF signals but also reduce the operating range of the UHF remote control.

Do the following:

1. Remove the UHF antenna from the **UHF Remote Antenna** connection on the receiver back panel.
2. Attach a 10 dB attenuator to the **UHF Remote Antenna** connection.
3. Attach the UHF antenna to the attenuator.

USING THE MENUS

The menus make using the receiver and selecting programs quick and easy. The receiver displays the menus on the TV screen. Use the menus to control the receiver and to use its features, such as setting locks, choosing a program, or setting up a Favorite List.

OPENING THE MENUS

You can open the menus in either of two ways:

- To quickly open some of the menus, use the matching buttons on the remote control:



Open the **Program Guide**.



Display information about a program. For a menu with a **Help** option, display a help menu.



Open the **Main Menu**.



Open **Themes Categories**.



Display the **Browse Banner**. **or:**



- Open the **Main Menu**, then open any of the other menus from the **Main Menu**.

CLOSING THE MENU

To close a menu and return to watching a program, press the remote control **View** button, or the remote control **Cancel** button. **Note:** If you do not do anything in a menu for several minutes, the menu closes. This will discard any changes you made, and display the program you were watching. *This does not mean that anything is wrong with the receiver!*

MENU OPTIONS

A menu option looks like this:



HIGHLIGHTING A MENU OPTION

To highlight a menu option, use the remote control **Arrow** buttons to move the on-screen highlight to the option. A highlighted menu option has a *yellow* border and looks like this:



SELECTING A MENU OPTION

When you select a menu option, that option takes effect right away. You can select a menu option in either of two ways:

- **Either:** Press the remote control number pad button that matches the number, if any, of the option. If you do this, you do not need to highlight the option first. **or:**
- Move the highlight to the menu option using the remote control **Arrow** buttons. Then press the remote control **Select** button.

LISTS OF CHOICES IN THE MENU

When you make a choice in a list, the receiver does not apply the change until you select the **Save** or **OK** option. If you do not want to save any changes, select the **Cancel** option to discard all the changes made in the menu.

There are two types of lists:

- A *single choice* list allows you to select only one choice at one time. If you select another choice, your previous choice is deselected.



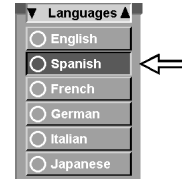
- A **multiple choice** list allows you to select more than one choice at one time. If you select another choice, your previous choice(s) stays selected.



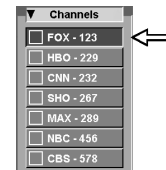
HIGHLIGHTING A CHOICE IN A MENU LIST

Use the remote control **Arrow** buttons to move the highlight to the desired item in the list. The arrows on the list show where you can move the highlight.

When you highlight a choice in a single choice list, it looks like this:

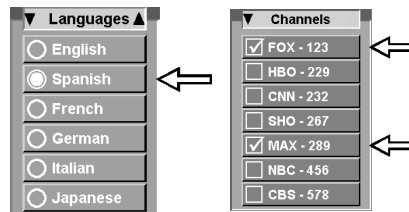


When you highlight a choice in a multiple choice list, it looks like this:



SELECTING A CHOICE IN A MENU LIST

When you select a choice in a single choice list, or choices in a multiple choice list, the list looks like this:



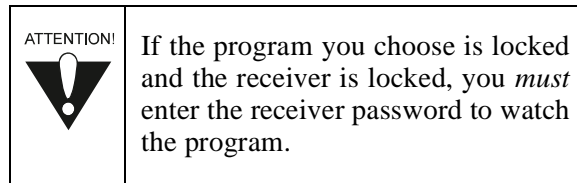
CANCELLING A PROCEDURE

To cancel a procedure, you *must* press the remote control **Cancel** or **View** button *before* you do the last step of the procedure. If this does not work, you *must* finish the procedure. You can cancel a procedure in any one of three ways:

- If you want to return to watching a program, press the remote control **View** button.
- If you want to return to the previous menu, press the **Cancel** button.
- Wait a few minutes and the menu will close, discarding any changes you have made.



CHANGING CHANNELS



Either: Press the remote control **Up** or **Down** arrow button to get to the desired channel.

or: Use the remote control number pad buttons to enter the desired channel number.

or: Press the receiver front panel **Up** or **Down** arrow button to change channels.

USING THE PROGRAM GUIDE

The on-screen **Program Guide** provides a complete listing of the available channels and programs. You can use the **Program Guide** to change channels, to see what programs are scheduled, and to buy pay per view programs.

- The **Program Guide** shows which Favorite List is active. If the **ALL CHAN** list is active, the **Program Guide** displays all the channels. If another list is active, the **Program Guide** displays *only* the channels on that list.
- The **(DD)** symbol shows that a program features Dolby^R Digital audio. The **(HD)** symbol shows that a program features High Definition video.
- A *red* background behind a channel shows that you have not subscribed to that channel. You *cannot* tune in to this channel.
- The **Program Guide** shows programs that are on now and that are scheduled for some time beyond the present. The guide does *not* include programs that have ended.
- You can set up the **Program Guide** to list channels in *ascending* order, with the highest channel number at the top, or in *descending* order, with the highest channel number at the bottom. To do this, open the **Main Menu**. Then, select the **System Setup** option. Finally, select the **Channel Order** option, select the **Ascending** or **Descending** option, and then select the **Save** option. **Note:** If you do not set a channel order, the **Program Guide** displays the channels in *descending* order.

OPENING THE PROGRAM GUIDE

Either: Press the **Guide** button.

or:



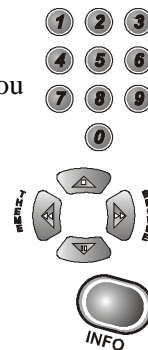
1. Press the **Menu** button to display the **Main Menu**.
2. Select the **Program Guide** option.



SELECTING A PROGRAM IN THE PROGRAM GUIDE

Note: If you select a program that has not started yet, the receiver displays the **Create an Event Timer** menu.

1. Use the number pad buttons to enter the desired channel number. The **Program Guide** displays the channel number and a block of channels including the one that you just entered.
2. Use the **Up/Down/Left/Right** buttons to move the highlight to the desired program.
3. You may press the **Information** button for more information about the highlighted program.



Press the **Cancel** button to return to the **Program Guide**.

4. Press the **Select** button to change to the new channel.



You may press the **Page Up** or **Page Down** arrow button to scan, page by page, through the listing of channels. **Note:** The remote *must* be in **SAT** mode to do this.

You may skip the display forward or backward. To do this, enter the number of hours that you want to skip, using the number pad buttons (the upper right hand corner of the menu displays this number of hours). Then, press the **Left** or **Right** arrow button. **Note:** The **Program Guide** can display programs scheduled for some time beyond the present, but *cannot* display programs that have ended.



CLOSING THE PROGRAM GUIDE

To close the **Program Guide**, press the remote control **Cancel** button. The receiver displays the program you were watching before you opened the **Program Guide**.



DISPLAYING PROGRAM INFORMATION

USING THE PROGRAM BANNER

The **Program Banner** provides information about the program you are watching, plus the picture aspect ratio. The receiver displays the **Program Banner** for a few seconds at the top of the TV screen every

time you change the channel or press the remote control **View** button. Here is an *example*:

PROGRAM BANNER

Program on Now



USING THE BROWSE BANNER

You can use the **Browse Banner** to change channels, or to see what other programs are available without changing the program that you are watching. The receiver displays the **Browse Banner** information (including the picture aspect ratio) at the top and bottom of the TV screen.

Note: If the **ALL CHAN** Favorite List is active, the **Browse Banner** displays all the channels. If another list is active, the **Browse Banner** displays *only* the channels on that list. Here is an *example*:

BROWSE BANNER



OPENING THE BROWSE BANNER

To open the **Browse Banner**, press the remote control **Right** arrow button.



DISPLAYING INFORMATION ON OTHER PROGRAMS

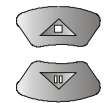
1. Press the remote control **Right** arrow button to open the **Browse Banner** for the program that you are watching.



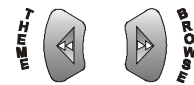
2. **Either:** Enter the channel number for the program that you want, using the number pad buttons.



or: Press the **Up** or **Down** arrow button to display the channel that you want.



3. Press the **Right** arrow button to display the next program. Press the **Left** arrow button to display the previous program. **Note:** The receiver can display programs that are on now, and programs scheduled for some time beyond the present, but *cannot* display programs that have ended.



4. You may press the **Information** button for more information about the program listed.



CHANGING CHANNELS USING THE BROWSE BANNER

If you are using the **Browse Banner** and see a program that you want to watch, press the **Select** button to change to the new channel. Make sure the program is displayed in the bottom part of the **Browse Banner**.




Note: If you select a program that has not started yet, the receiver displays the **Create an Event Timer** menu.

CLOSING THE BROWSE BANNER

To close the **Browse Banner**, press the remote control **Cancel** button. The receiver stays tuned to the program you are watching.



ORDERING PAY PER VIEW PROGRAMS

<p>ATTENTION!</p> 	<p><i>You are responsible for all pay per view purchases! To lock such purchases, see <i>Locking Pay Per View Programs</i> on page 38.</i></p> <p><i>You must connect the receiver to an active telephone line. If you use more than one receiver, each receiver must be connected to an active telephone connection. If you want to watch a pay per view program on TVs connected to different receivers, you must order the program for each receiver.</i></p>
---	--

1. Highlight the desired pay per view program in the **Program Guide** and press the **Select** button.
2. If the receiver is locked, enter the password using the number pad buttons. As soon as you enter the fourth digit of the password, the receiver highlights the **OK** option.
3. Press the **Select** button.
4. **Either:** *To buy the pay per view program, select the **Yes** option.*



The receiver displays a **Confirmation** menu.
Go on to step 4.

or: *If you do not want to buy the pay per view program, press the **Up** or **Down** arrow button (if you are watching a program), or select the **No** or **Cancel** option. If you do this, you can stop here.*

5. At the **Confirmation** menu
Either: Select the **Yes** option to confirm the purchase. The pay per view fee will be added to your next bill.


or: Select the **No** or **Cancel** option to cancel the purchase.

Note: Once you confirm an order for a pay per view program, you *cannot* cancel the order and you will be billed for it.


USING THEMES

You can list and choose programs by the theme of their contents, *for example*, just movies or just sports. You can then quickly list programs based on that theme, and choose the program you want.

Note: If you select a program that has not started yet, the receiver displays the **Create an Event Timer** menu.

1. **Either:** While watching a program, press the **Left** arrow button to display the **Theme Categories** menu.
or: Press the **Menu** button, and then select the **Themes** option to display the **Theme Categories** menu.
 
2. Select the option for a category. This displays a list of programs in the category. Programs on channels to which you have not subscribed are shown with a *red* background.
3. To speed your search:

Either: Use the **Page Up** or **Page Down** options to page through the list of programs.

or: Press the **Page Up** or **Page Down** arrow button to scan, page by page, through the listing of channels. **Note:** The remote must be in **SAT** mode to do this.
4. Highlight the desired program in the program list.
5. Press the **Select** button to watch the program.
 

USING FAVORITE LISTS

Favorite Lists are lists of your favorite channels. You can create and change the lists yourself, adding and removing channels as you wish. When you make a Favorite List active, the **Program Guide** displays *only* the channels in that list. Also, the receiver skips channels not on that list when you use the remote control **Up** or **Down** arrow button to change channels.

- The **ALL CHAN** Favorite List contains all the channels. You *cannot* make any changes to this list.
- The **ALL SUB (All Subscribed)** Favorite List contains all the channels to which you have subscribed. You *cannot* make any changes to this list, except by changing your subscriptions.
- You can tune the receiver to a channel whether or not that channel is on the active Favorite List by entering the channel number using the remote control number pad buttons.
- If you choose a program using **Theme Categories**, the receiver tunes to the channel for that program whether or not that channel is on

the active Favorite List. However, if the program has not started yet, the receiver displays the **Create an Event Timer** menu.

- You can create up to four custom Favorite Lists. Each Favorite List has a unique color in the **Program Guide**. You can give each list a name. When you first get the receiver, the four lists are named **LIST 1**, **LIST 2**, **LIST 3**, and **LIST 4**. The lists are empty until you add channels to them.
- Your custom list (or lists) can hold up to a total of 120 channels. *For example*, you could create four lists of 30 channels each, or four lists of 50, 50, 10, and 10 channels, respectively, or one “super” list of 120 channels. The **Modify Favorite List** menu shows what channels are stored in each list, and how much space is left. **Note:** The **ALL CHAN** and **ALL SUB** lists do *not* count toward the total of 120 channels.

MAKING A FAVORITE LIST ACTIVE

Either: If the **Program Guide** is open, press the **Guide** button to select the next Favorite List. Press the **Guide** button again to scan through all the available lists. **Note:** This works *only* if you have added channels to the Favorite Lists.



or:

1. Press the **Menu** button.
2. Select the **Favorites** option.
3. Highlight the desired Favorite List.
4. Select the **Save** option. **Note:** If you try to make an empty Favorite List active, the receiver displays an error message. You *must* add at least one channel to this Favorite List before you can make it active.

MENU



CREATING OR CHANGING A FAVORITE LIST

You can create, add channels to, and remove channels from a Favorite List.

1. Press the **Menu** button.
2. Select the **Favorites** option.
3. Select the option for the Favorite List that you want to create or change.
4. Select the **Modify List** option.

MENU



Note: If you select the **ALL CHAN** or the **ALL SUB** list and then select the **Modify List** option, the receiver displays an error message. You *must* select another Favorite List to modify.

Note: At any time you can select the **Clear** option to remove all channels from the current list. This does *not* apply to the **ALL CHAN** and **ALL SUB** lists.

- In the **Channels** list, highlight a channel you want to add to the Favorite List.

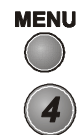
Note: You can also use the number pad buttons to enter the channel number, or select the **Page Up** or **Page Down** option to move quickly through the list.



- Press the **Select** button to add the highlighted channel to the Favorite List. A check mark appears next to the channel, and the number in **Total Capacity Left** goes down by one.
- Repeat steps 5 and 6 until you have added all the channels that you want.
- To delete a channel from the Favorite List, select the channel in the list. The check mark next to the channel disappears.
- Select the **Save** option to save all changes to the Favorite List.

CHANGING THE NAME OF A FAVORITE LIST

- Press the **Menu** button.
- Select the **Favorites** option.
- Select the Favorite List that you want to change.
- Select the **Edit List Name** option. **Note:** You *cannot* change the name of the **ALL CHAN** or **ALL SUB** list.
- Select a letter in the keypad area on the menu. Repeat to spell out the desired name. You can enter up to eight characters, including spaces. If needed, select the **space** option to insert a space in the name or the **<back** option to correct a letter.



Note: A list name *must* have at least one character. Two lists *cannot* have the same name.

Note: At any time, you can select the **Clear** option to clear the name.

- Select the **Save** option to save all changes.

USING LOCKS

You may use either or both of two types of security, or you may choose not to use either.

- You can lock the receiver so that *only* someone who knows the password can access locked features (see the following pages).

- You can set up a Personal Identification Number (PIN) at the Service Center to keep anyone from ordering services (see page 40).

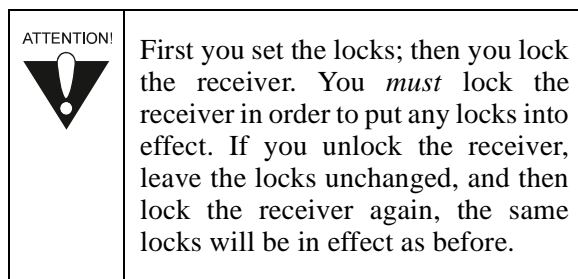
You can set locks so that *only* someone who knows the password can:

- Watch certain channels;
- Watch programs with certain rating or extended rating (content) codes;
- Buy added cost services such as pay per view programs; or,
- Use the receiver front panel **Control Buttons**.

HOW TO SET LOCKS: A TWO STEP PROCESS

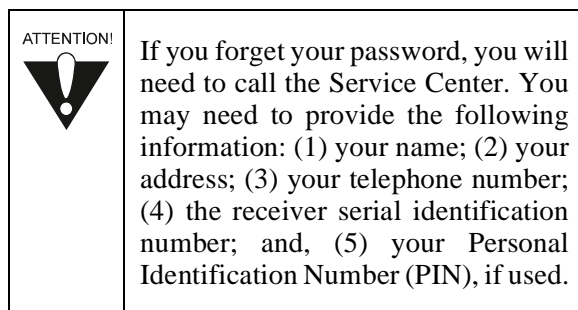
1. Create the locks that you want.
2. Lock the receiver.

Once the receiver is locked, anyone who wants to access locked items *must* enter the password.




WHEN YOU HAVE LOCKED THE RECEIVER

- If you try to access a locked item or open the **Parental and System Locks** menu, the receiver displays a message prompting you to enter the password.
- The receiver allows you three tries to enter the correct password. If you fail to do this, the receiver does not allow more tries for several minutes.
- If you enter the correct password, you can access the locked item or open the **Parental and System Locks** menu.
- If you exit a locked item or the **Parental and System Locks** menu, you *must* enter the password again to access the item or the menu again.



CREATING OR CHANGING RATING (CONTENT) CODE LOCKS

Do the following to set program locks based on rating or extended rating (content) codes. Then, when the receiver is locked, *only* someone who knows the password can watch these programs. See the *Glossary* on page 29 for the meaning of each of the rating codes.

<p>ATTENTION!</p> 	<p><i>Please be aware of the following:</i></p> <ul style="list-style-type: none"> • The locks use the codes that the <i>original program providers</i> assigned to the programs. The actual content of the programs <i>may differ</i> from their assigned ratings. <i>No</i> rating system can guarantee that <i>all</i> objectionable material is screened out. Like all other locks, these locks are <i>only</i> in effect when the receiver is <i>locked</i>. • Program locks <i>apply</i> to pay per view programs. • The locks built into some televisions do <i>not</i> apply to satellite programs. • Television program ratings <i>differ</i> substantially from movie ratings.
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1. Press the **Menu** button.

MENU



2. Select the **Locks** option.

If the receiver is locked, enter the password using the number pad buttons. The receiver displays stars (*) as you enter the digits of the password. As soon as you enter the fourth digit of the password, the receiver highlights the **OK** option. Press the **Select** button.



3. Select the **Ratings Locks** option.

4. Highlight the rating that corresponds to the lowest acceptable audience age. Press the **Select** button to lock the highlighted rating.

Note: All ratings that are more restrictive than the selected rating are also selected. *For example*, if you lock PG-13 rated programs, then all programs with the R, NC-17, and NR/AO ratings are also locked.

5. Select the expanded rating code(s), if you want to lock these ratings also.

6. To unlock a rating code, select the code.

7. Select the **Save** option to save the changes.

- If the receiver is not locked, you must lock it to put the lock you just created into effect.

CREATING OR CHANGING CHANNEL LOCKS

- Press the **Menu** button.

MENU



- Select the **Locks** option.

If the receiver is locked, enter the password using the number pad buttons. The receiver displays stars (*) as you enter the digits of the password. As soon as you enter the fourth digit of the password, the receiver highlights the **OK** option. Press the **Select** button.



- Select the **Channel Locks** option.

- Highlight the channel that you want to lock. If necessary, press the **Up** or **Down** arrow button to see the desired channel. You can also enter each channel number using the number pad buttons.

- Press the **Select** button to lock or unlock the highlighted channel. If the checkbox next to the channel has a checkmark, the channel is locked. Select the **Save** option to save the changes.

- If the receiver is not already locked, you *must* lock it to put the lock you just created into effect.

LOCKING THE RECEIVER FRONT PANEL CONTROL BUTTONS

This keeps anyone from changing the channel, but it does *not* lock the remote control buttons.

To lock the receiver front panel buttons, do the following:

- Press the **Menu** button.

MENU



- Select the **Locks** option.

If the receiver is locked, enter the password using the number pad buttons. The receiver displays stars (*) as you enter the digits of the password. As soon as you enter the fourth digit of the password, the receiver highlights the **OK** option. Press the **Select** button.



- Select the **Front Panel Lock** option.

- Select the **Yes** option.

- If the receiver is not locked, you *must* lock it to put the lock you just created into effect.

To unlock the receiver front panel buttons, you must use the remote control:

- Press the **Menu** button.

MENU



2. Select the **Locks** option.

If the receiver is locked, enter the password using the number pad buttons. The receiver displays stars (*) as you enter the digits of the password. As soon as you enter the fourth digit of the password, the receiver highlights the **OK** option. Press the **Select** button.



3. Select the **Front Panel Lock** option.
4. Select the **Yes** option.

LOCKING PAY PER VIEW PROGRAMS

This keeps anybody who does not know the password from buying pay per view programs.

To lock pay per view programs, all that you have to do is lock the receiver.

HIDING ADULT CHANNELS

This keeps the **Program Guide**, **Themes** lists, **Favorite Lists**, and the **Browse Banner** from displaying adult channels. It also keeps anyone from choosing such channels by using the **Up** or **Down** arrow buttons or the remote control number pad buttons.

To hide adult channels, do the following:

1. Lock *any* adult channel.
2. Lock the receiver.

LOCKING THE RECEIVER

You *must* lock the receiver for any receiver locks that you set to be in effect.

1. Press the **Menu** button.
2. Select the **Locks** option. **Note:** If the receiver displays a message prompting you to enter a password, it already has been locked.
3. Select the **Lock System** option. The receiver displays a message prompting you to enter a password. **Note:** If this option appears as **Unlock System** instead, the receiver is already locked.
4. Enter and check a password, using the number pad buttons. The receiver displays stars (*) as you enter the digits of the password.



Write down the password and put it in a safe place. From

now on, you *must* enter this password to lock or unlock the receiver.

5. Select the **OK** option. Enter the password again. All the locks you have set are now in effect.

ACCESSING A LOCKED ITEM, OR OPENING THE LOCKS MENU

Note: See *Ordering Pay Per View Programs* on page 31 to order a pay per view program when the receiver is locked.

1. Select an item that is locked. To open the **Parental and System Locks** menu, select the **Locks** option on the **Main Menu**. The receiver displays an **Attention** message telling you that the item is locked.

2. Enter the password using the number pad buttons. The receiver displays stars (*) as you enter the digits. As soon as you enter the fourth digit of the password, the receiver highlights the **OK** option.



3. Press the **Select** button.



4. To unlock the receiver:

Note: If you unlock the receiver, leave the locks unchanged and then lock the receiver again, the same locks will be in effect as before.

1. Press the **Menu** button.

MENU



2. Select the **Locks** option. With the receiver locked, you must enter the password using the number pad buttons. The receiver displays stars (*) as you enter the digits of the password. As soon as you enter the fourth digit of the password, the receiver highlights the **OK** option.



3. Press the **Select** button.



4. Select the **Unlock System** option. If this option appears as **Lock System** instead, the receiver is already unlocked.



CHANGING THE RECEIVER PASSWORD

1. Press the **Menu** button.

MENU



2. Select the **Locks** option. If the receiver is locked, enter the password using the number pad buttons. The receiver displays stars (*) as you enter the digits of the password. As soon as you enter the fourth digit of the password, the receiver highlights the **OK** option.






3. Press the **Select** button.



4. Select the **Change Password** option.



5. Enter the current password using the number pad buttons. As soon as you enter the fourth digit of the password, the receiver highlights the **OK** option.

6. Press the **Select** button.

7. Enter the new password using the number pad buttons. As soon as you enter the fourth digit of the password, the receiver highlights the **OK** option.

8. **Either:** Select the **OK** option to change the password. **or:** If you do not want to change the password, press the **Cancel** button or select the **Cancel** option. You can stop here.
9. Enter the new password again for checking, using the number pad buttons. The receiver displays stars (*) as you enter the digits of the password. As soon as you enter the fourth digit of the password, the receiver highlights the **OK** option. Press the **Select** button. **Write down the new password and put it in a safe place.** From now on, you *must* enter this password to lock or unlock the receiver.

PERSONAL IDENTIFICATION NUMBER

You can set up a Personal Identification Number (PIN) for call-in requests only. Anyone calling the Service Center with a request *must* provide this PIN to authorize any changes to your account. This includes buying services and getting account information. You may call the Service Center at any time to set up a PIN

If you forget your PIN, you will need to speak with a Service Representative. He or she may ask for more information to make sure that you are authorized to make changes to your account.

RESETTING THE RECEIVER

If you want to reset the receiver to be the same as when it was shipped from the factory, do the following (see the top of the next column):

Note: Resetting the receiver to the factory default settings discards all Favorite Lists *except* the **ALL CHAN** list. If you have set locks on the receiver, and the receiver is locked, these locks will be kept. If the receiver is unlocked, these locks will be lost. You *cannot* reset the receiver to default settings to discard a password you have forgotten. Nobody can reset the receiver to bypass a receiver lock.

1. Press the **Menu** button.
2. Select the **System Setup** option.



3. Select the **Installation** option.
4. Select the **Factory Defaults** option. The receiver displays a warning message, prompting you to confirm that you want to reset the receiver.
5. Select the **Yes** option to confirm the reset. The receiver resets, and then displays the **Installation and Setup** menu.

1

RECORDING PROGRAMS

With the remote control in VCR mode, press the **Record** button to tape a satellite program that you are watching.

- You *cannot* tape any satellite program except the one you are watching.
- To tape a program using the receiver High Definition (HD) outputs to an HD VCR, you *must* set an event timer for HD output. To do this, select the **HD - VCR** check box on the timer setup menu. A check mark appears in the box. To tape a program using the receiver Standard Definition (SD) outputs to a conventional VCR, you *must* set the timer for SD output. To do this, just make sure that the **HD - VCR** check box is *not* checked.
- You *cannot* watch a video tape through the receiver.

Note: Many TV programs are copyrighted. Copyright law may apply to private, in-home taping. If you open *any* menu (including the **Program Guide**) while recording a program, the menu will also be recorded. If you change the volume or press the **Mute** button, the volume change will be recorded.

CHANGING PROGRAM LANGUAGES

You may be able to change the language of the programs you watch by using the **Alternate Audio** menu. An alternate language may not be available for all programs. Some programs, such as movies, show at the start whether an alternate language is available. An alternate language applies *only* to the audio part of a program and does *not* change the language used in the menus displayed by the receiver.

1. Press the **Menu** button.
2. Select the **System Setup** option.
3. Select the **Alternate Audio** option.
4. Select the desired language in the **Languages** list. **Note:** If the program is being transmitted in a language not listed, then selecting the **Alternate** option selects that language. If not, then selecting the **Alternate** option selects English.
5. **Either:** Select the **Save** option to save your language choice. The receiver displays the **System Setup** menu. **or:** Press the **Cancel** button to cancel any changes. The receiver displays a *confirmation* menu. At that menu:

MENU



6

2

Either: Select the **Yes** option to discard any language changes.
or: Select the **No** option to save any language changes you have made.

TESTING THE SYSTEM

STARTING A TEST

1. Press the **Menu** button.
2. Select the **System Setup** option.
3. Select the **Diagnostics** option.
4. In the **Diagnostics** menu, select the option for the test that you want to do, as follows.

MENU



FRONT PANEL CONTROL BUTTONS TEST

1. Select the **Front Panel** option.
2. Press the receiver front panel **Up** or **Down** button. **Note:** If you press the receiver front panel **Power** button, the receiver turns OFF, ending the test. If the front panel **Control Buttons** are working correctly, the receiver briefly displays a **Front Panel Button** message. If the front panel **Control Buttons** are not working correctly, the receiver does not display *any* message. In this case, see the *Doing Diagnostic Tests* section of the *Problems and Solutions Tables* that begin on page 30.
3. Press the remote control **Power** or **Cancel** button to end the test.

REMOTE CONTROL TEST

1. Select the **Remote Control** option.
2. Press any remote control button, except the **Power**, or the **Cancel** button. If the remote control is working correctly, the receiver briefly displays a **Remote Control Button** message. If the remote control is not working correctly, the receiver does not display *any* message. In this case, see the *Doing Diagnostic Tests* section of the *Problems and Solutions Tables* that begin on page 30.
3. Press the **Power** button or **Cancel** button to end the test.

DISH SIGNAL TEST

This test checks that the receiver is receiving a signal normally. Select the **Dish Signal** option to begin the test. The receiver displays a message asking you to wait until the test is done. Do *not* press any buttons on the remote control or the receiver while doing this test. If the signal reception is normal, the receiver displays a **Signal Reception OK** message. If the signal reception is not normal, the receiver displays a failure message. In this case, see the *Doing Diagnostic Tests* section of the *Problems and Solutions Tables* that begin on page 30.


TELEPHONE CONNECTION TEST



This test checks that the receiver telephone connection is correct. Select the **Phone Connection** option to begin the test. The receiver displays a message asking you to wait until the test is done. If the telephone connection is correct, the receiver displays a **Phone Connection OK** message. If the telephone is not connected properly, the receiver displays a failure message. In this case, see the *Doing Diagnostic Tests* section of the *Problems and Solutions Tables* that begin on page 30.

MAIN UNIT (RECEIVER) TEST

This test checks that the receiver is working correctly. Select the **Main Unit Test** option to begin the test. The receiver displays a message asking you to wait until the test is done. If the receiver is working correctly, it displays a **Main Unit OK** message. If the receiver is not working correctly, it displays a failure message. In this case, call the Service Center for assistance.

Note: This test may briefly distort the TV picture. Watching HDTV Programs

<p>ATTENTION!</p> 	<p>Your receiver may come equipped with a Digital Off-Air Cartridge, or you may have purchased one to use with your receiver. If the cartridge is not already installed, you <i>must</i> first install it. See <i>Installing the Digital Off-Air Cartridge</i> on page page 45.</p>
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<p>ATTENTION!</p> 	<p>You should set up the satellite TV system and make sure that the receiver and TV are working correctly in Standard Definition (SD) mode <i>first</i>. This will make setting up the receiver and TV to work in High Definition (HD) mode as <i>easy</i> as possible.</p>
<p>ATTENTION!</p> 	<p>The receiver provides video through <i>either</i> Standard Definition (SD) outputs <i>or</i> High Definition (HD) outputs. You <i>cannot</i> use SD and HD outputs at the same time.</p>

SETTING UP THE RECEIVER FOR SDTV

1. Connect the coaxial cable that carries the satellite signal to the **QPSK Tuner Input** on the receiver back panel.
2. Use RCA cables to connect the receiver back panel **Phono (RCA) Audio/Video Outputs** to the audio/video inputs on the TV. **Note:** If you use the receiver back panel **S-Video Output**, you *must* still connect the audio using the **Phono (RCA) Audio Outputs**.
3. Press the **Power** button on the receiver front panel or the remote control to turn ON the receiver.
4. If needed, press the receiver front panel **Output (SD / HD)** button or the remote control **Standard Definition/High Definition (SD / HD)** button to put the receiver into **SD** mode. This is shown by the receiver front panel **Output SD** light (amber) being lit.
5. Finish installing the system. Follow all the procedures in the installation instructions that came with the system.

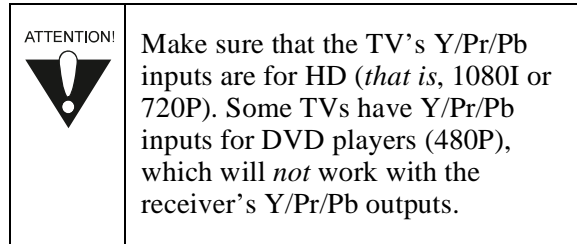
Note: When you are viewing a program in SD mode, you can press the star (*) button on the remote to toggle through a choice of view modes until you find the one you like best.

SETTING UP THE RECEIVER FOR HDTV

Note: See your TV owner's manual for information on the signal format required.

1. Make sure that the receiver is in **SD** mode, as shown by the receiver front panel **Output SD** light (amber) being lit.

- If the TV accepts Y/Pr/Pb. signals, use a Y/Pr/Pb cable to connect the receiver back panel **Y/Pr/Pb Video Outputs** to the Y/Pr/Pb inputs on the TV. **Note:** The Y/Pr/Pb cable that came with the receiver may require adapters to connect to the TV. Such adapters do *not* come with the receiver.



- If the TV accepts RGB signals, use an RGB cable to connect the receiver back panel **DB15 Output** (RGB video) to the RGB input on the TV. **Note:** The RGB cable does *not* come with the receiver.

- Press the **Menu** button.

MENU



- Select the **System Setup** option.



- Select the **Installation** option.



- Select the **HDTV Setup** option to display the **HDTV Setup** menu.

- In the **Analog Type** list, select the **Off-Air** option for broadcast TV

- Select your choice of **Cable, HRC** or **IRC**.

Note: If you do not know which of these to select, please check with your local cable TV provider to find out which option you should use.

- In the **Output** list, select the **YPrPb** or **RGB** output option for the HD output that your TV accepts.

- In the **TV Type** list, select the **1080I** or **720P** option for the format that your TV accepts.

- In the **Asp. (Aspect) Ratio** list, select the **16x9** option for program with a cinematic picture size (as you would see in a theater). Select the **4x3 #1** option for a TV with vertical compression. You'll see the picture in "letterbox" format on the screen. Select the **4x3 #2** option for a TV without vertical compression. The picture will fill your screen. Please see your TV user's manual to find out which option you should choose for your TV.

Note: When you are watching a program in an aspect ratio such as 16x9 or 4x3 #1, you can press the star (*) button on the remote to toggle through a choice of display modes until you find the one you like best.

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

- Tune the receiver to a satellite channel that provides a clear picture, to check the system.

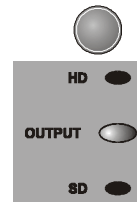
15. Check the HD connection by doing the following: Press the receiver front panel **Output (SD / HD)** button or the remote control **Standard Definition/High Definition (SD / HD)** button to put the receiver into **HD** mode (as shown by the blue **Output HD** light being lit). Switch the TV to **HD** mode. If the TV screen shows the satellite channel properly, the connection is working. If not, switch both devices back to **SD** mode and check the HD connections and settings.
16. If you want to adjust the position of the picture on the TV screen, display the **HDTV Setup** menu again. Select the **Adjust** option. The receiver displays a message on the screen. Use the remote control **Up/Down/Left/Right** arrow buttons to move the picture around the screen.
17. When you are satisfied with the picture position, press the **Select** button to return to the program that you were watching.

SWITCHING BETWEEN SD AND HD

Either: Press the remote control **Standard Definition/High Definition (SD / HD)** button,

or: Press the receiver front panel **Output (SD / HD)** button. The receiver front panel **Output SD** light (amber) and **Output HD** light (blue) show the receiver mode.

Note: You also need to switch the TV to the appropriate input. See your TV owner's manual for instructions.



USING THE REMOTE TO CONTROL OTHER DEVICES

This section explains how to set up the remote to control a device such as a TV, a VCR, a cable TV box, a tuner, or an amplifier.


ATTENTION!



Note: The remote control comes already set up to control the receiver. But, you *must* set up the remote to control the TV *before* you can use the MUTE and VOLUME buttons.

You can use either the procedure described below or the *Scan for Device Codes* procedure on page 53.

Note: If you want to program the **AUX** mode, program it *before* you program the **TV** mode. If you already have programmed the **TV** mode, do the following: (a) write down the TV code, (b) reprogram the TV mode using code 222, (c) program the **AUX** mode, and (d) reprogram the **TV** mode using the code that you wrote down.

1. Turn ON the device you want the remote to control. You *must* turn ON the device using its buttons or the remote control that came with it.
2. Find the brand name of the device in the tables that start on page 55. If the brand is not listed, see the *Doing the Remote Control Device Code Scan* procedure on page 53.
3. Press and hold the mode button for the device that you want the remote to control, for about three seconds. When all the other mode button backlights come on, release the mode button.
4. *Only for AUX Mode:* Use a number pad button to enter a prefix for the device (if needed — 0 is for a second TV, and 1 is for a second VCR).
5. Use the number pad buttons to enter the code for the device. If you are programming in the **AUX** mode, you must enter a 4-digit code. The first digit is the code for the device, as follows: 0 is for a second TV, 1 is for a second VCR, and 2 is for an audio amplifier or cable TV box.
6. Press and release the **Pound (#)** button. If the code is valid, the mode button backlight flashes three times. 
7. Test if the code works for the device by pressing the **Power** button. If the code works, the device should turn OFF.
8. Turn the device back ON and try some other buttons to make sure they work. Sometimes, the **Power** button may work when other buttons do not. If the code works for other buttons, stop here.
9. If the code you entered does not work, repeat steps 3 through 7 using another code from the tables.
10. If you have tried all of the codes listed for the device without success, or if you cannot find the device brand name in the tables, use the *Device Code Scan* procedure described on page 53

HOW TO SWITCH BETWEEN TV AND DEVICE VOLUME CONTROL

If you set up the remote to control a television, the MUTE and VOLUME buttons — in most modes — control the TV volume. But, if you use the AUX mode to control a tuner or amplifier and the device has a volume setting, you can set up the remote to control the device's volume, instead of the TV volume.

If you want to control a device that has a volume setting, using any remote mode, do the following:

1. Press and hold the **AUX** mode button for three seconds, then release it.



2. Press the **Pound (#)** button.



3. Press the plus (+) side of the **Volume** button.

4. Press the **0** number button.



5. Press the **Pound (#)** button.



6. The **AUX** mode button backlight blinks three times

To switch back to TV volume control, do the following:

1. Press and hold the **TV** mode button for three seconds, then release it.



2. Press the **Pound (#)** button.



3. Press the plus (+) side of the **Volume** button.




4. Press the **0** number button.



5. Press the **Pound (#)** button. The **AUX** mode button backlight blinks three times.



TV (TELEVISION) MODE

<p>ATTENTION!</p> 	<p>Some of the features described below may <i>not</i> apply to the TV. See your TV owner's manual for details about the TV's features. If a remote control button is <i>not</i> described in this section, it does <i>not</i> work in TV mode.</p>
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TV MODE BUTTON

To use the remote to operate a television, you *must first* set up the remote to control the television. See *Use the Remote to Control Other Devices* on page 46. *Then*, you *must* press the **TV** mode button to set the remote to **TV** mode. The **TV** mode button's back light turns ON to show that the remote is set to **TV** mode. Make sure to keep the remote in **TV** mode to use the buttons as described in this section.

TV/VIDEO



SD/HD BUTTON

Use this button to switch between programs broadcast in high definition (HD) and those broadcast in standard definition (SD).



POWER BUTTON

Press this button to turn the television ON or OFF.



MUTE BUTTON

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



VOLUME BUTTON

Press the left-hand, minus (-) side of this button to lower the sound volume. Press the right-hand, plus (+) side of this button to raise the sound volume.



SELECT BUTTON

The **Select** button works as the **Enter** button for a TV.



UP/DOWN (ARROW) BUTTONS

Use the **Up/Down** arrow buttons to change channels on the TV.



RECALL BUTTON


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



NUMBER BUTTONS

Use these buttons to enter numbers in a menu.

VCR (VIDEOCASSETTE RECORDER) MODE

<p>ATTENTION!</p> 	<p>Some of the features described below may <i>not</i> apply to the VCR. See your VCR owner's manual for details about the VCR's features. If a remote control button is <i>not</i> described in this section, it does <i>not</i> work in VCR mode.</p>
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VCR MODE BUTTON

To use the remote to operate a VCR, you *must first* set up the remote to control the VCR. See *Use the Remote to Control Other Devices* on page 46. Then, you *must* press the **VCR** mode button to set the remote to **VCR** mode.

The **VCR** mode button's back light turns ON to show that the remote is set to **VCR** mode. Make sure to keep the remote in **VCR** mode to use the buttons as described in this section.



You *must* set the remote control to **VCR** mode to set it up to control a DVD player. You *must* set the remote control to **VCR** mode to use it to control a DVD player.



MUTE BUTTON

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



VOLUME BUTTONED

Press the left-hand, minus (-) side of this button to lower the sound volume. Press the right-hand, plus (+) side of this button to raise the sound volume.



SELECT BUTTON

The **Select** button works as the **Play** button. Press this button to play or to resume playing a videotape.



**UP/DOWN/LEFT/RIGHT
(ARROW) BUTTONS**

- The **Up** arrow button works as the **Stop** button. Press this button to stop a videotape.

- The **Down** arrow button works as the **Pause** button. Press this button to pause a videotape. Press this button or the **Select** button (**Play**) to restart the tape.
- The **Left** arrow button works as the **Rewind** button. Press this button to rewind a videotape.
- The **Right** arrow button works as the **Fast Forward** button. Press this button to forward a videotape.



NUMBER BUTTONS

Use these buttons to enter numbers in a menu.

AUX (AUXILIARY) MODE FOR CABLE TV BOX

ATTENTION! 	Some of the features described below may <i>not</i> apply to the cable TV box. See your cable box owner's manual for details about the box's features. If a remote control button is <i>not</i> described in this section, it does <i>not</i> work for a cable TV box.
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AUX MODE BUTTON

To use the remote to operate a cable TV box, you *must first* set up the remote to control the cable box. See *Use the Remote to Control Other Devices* on page 46. Then, you *must* press the **AUX** mode button to set the remote to **AUX** mode. The **AUX** mode button's back light turns ON to show that the remote is set to **AUX** mode. Make sure to keep the remote in **AUX** mode to use the buttons as described in this section.



MUTE BUTTON

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



VOLUME BUTTON

Press the left-hand, minus (-) side of this button to lower the sound volume. Press the right-hand, plus (+) side of this button to raise the sound volume.



SELECT BUTTON

The **Select** button works as the **Enter** button for the cable box.



UP/DOWN (ARROW) BUTTONS

Use the **Up/Down** arrow buttons to change channels on the cable box.



RECALL BUTTON

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



NUMBER BUTTONS

Use these buttons to enter numbers in a menu.



STAR BUTTON

Use this button to set up the remote control in **AUX** mode.

AUX (AUXILIARY) MODE FOR TUNER OR AMPLIFIER

ATTENTION!



Some of the features described below may *not* apply to the tuner or amplifier. See the device owner's manual for details about the device's features. If a remote control button is *not* described in this section, it does *not* work for a tuner or amplifier.



AUX MODE BUTTON

To use the remote to operate a tuner or amplifier, you *must first* set up the remote to control the device. See *Use the Remote to Control Other Devices* on page 46. *Then*, you *must* press the **AUX** mode button to set the remote

to **AUX** mode. The **AUX** mode button's back light turns ON to show that the remote is set to **AUX** mode. Make sure to keep the remote in **AUX** mode to use the buttons as described in this section.



MUTE BUTTON

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



VOLUME BUTTON

Press the left-hand, minus (-) side of this button to lower the sound volume. Press the right-hand, plus (+) side of this button to raise the sound volume.



SELECT BUTTON

This button works as the **Input Select** button for a tuner or amplifier.



UP/DOWN (ARROW) BUTTONS

Use these buttons to change channels on the tuner or amplifier.



STAR BUTTON

Use this button to set up the remote control in **AUX** mode.

FINDING THE DEVICE CODES

You can find out what device code is set for each remote control mode. Do the following:

1. Press and hold the mode button for the device, for about three seconds. When all the other mode button backlights come on, release the mode button.
2. Press the **Pound (#)** button twice. The mode light flashes the number for each digit of the current mode, with a pause between the groups of flashes. A quick flash is for zero. *For example*, the mode light flashes five times, pauses, flashes seven times, pauses, and flashes quickly for the 570 code.



DOING THE REMOTE CONTROL DEVICE CODE SCAN

If a device is not listed in the tables or if the listed codes do not work, you can scan through all the codes, testing each one. **Note:** The remote may not control some devices.

1. Press and hold the mode button for the device that you want the remote to control, for about three seconds. When all the other mode button backlights come on, release the button. It will flash to show that the remote is ready for address programming.

For **AUX** mode *only*, use the number pad buttons to enter a number as follows: 0 is for a second TV, 1 is for a second VCR/DVD player, and 2 is for an audio amplifier or cable TV box. Then, press the **Star (*)** button.

2. Press the **Power** button.
3. Press the **Up** or **Down** arrow button to set the remote to the next code. The **Down** arrow button scans backward, and the **Up** arrow button scans forward. Press the button again to continue scanning. When the correct code is reached, the device turns OFF. If this happens, press the **Pound (#)** button to store the code in the remote. If the code is valid, the matching mode light blinks three times.
4. Press the **Power** button to turn the device back ON.
5. Try some other buttons to make sure they work. Sometimes, the POWER button may work when other buttons do not.

Note: The mode button for the device starts flashing if you have scanned all the codes for that device.

TV OR AMPLIFIER VOLUME CONTROL

If you program the remote to control a television, the **Volume** button - in any mode - controls the TV volume. **Note:** This will *not* apply to the **AUX** mode if you programmed it for a device that has a volume setting. Remember, you should program the **AUX** mode *before* you program the **TV** mode.

If you want to control a device that has a volume setting, using any remote mode, do the following:

1. Press and hold the **AUX** mode button for three seconds, then release it.
2. Press the **Pound (#)** button.
3. Press the plus (+) side of the **Volume** button.
4. Press the **0** number pad button.
5. Press the **Pound (#)** button. The **AUX** mode button backlight blinks three times to show that the procedure is done.

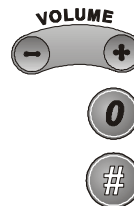


To switch back to automatic TV volume control, do the following:

1. Press and hold the **TV** mode button for three seconds, then release it.
2. Press the **Pound (#)** button.



3. Press the plus (+) side of the **Volume** button.
4. Press the **0** number pad button.
5. Press the **Pound (#)** button. The **AUX** mode button backlight blinks three times to show that the procedure is done.



DEVICE CODES

Use these codes to set up the remote to control other devices. If a device is not listed or the codes do not work, the remote may not be able to control the device.

Note: The end of the **VCR** table provides codes for DVD players. *Only* for a receiver that has its own volume control, use code 222 with the remote in **SAT, TV, or VCR** mode to set up the remote to control the receiver sound volume.

TVs

Akai	532, 570, 573
Alba	613
A-Mark	620
Amstrad	533
Anam	509, 541, 620, 621, 691, 698
AOC	505, 506, 519, 520, 620, 695, 712
Archer	620
Audiovox	620
Bauer	611
Baycraft	536
Brockwood	695
Broksonic	562, 691
Candle	506, 522, 523, 525, 536, 691, 695, 712
Capehart	519, 695
Circuit City	695
Citizen	506, 516, 522, 523, 524, 525, 526, 691, 712
Colortyme	573, 695
Concerto	523
Contec	527, 528, 541, 591, 691
Craig	536, 541, 691, 694
Crown	526, 536
Curtis Mathes	506, 516, 526, 573, 703, 712
CXC	541, 691
Daewoo	505, 524, 526, 529, 530, 531, 532, 698, 712, 719
Daytron	526, 695
Dixi	532, 588, 620
Dumont	695
Electrohome	526, 573, 709, 713
Elta	532
Emerson	526, 527, 528, 533, 534, 535, 536, 537, 538, 539, 540, 541, 573, 622, 691, 692, 695, 696, 699, 720
Envision	506, 712
Etron	532
Fisher	542, 590
Formenti	611
Fortress	573, 605
Fujitsu	534, 694
Funai	534, 541, 691, 694
Futuretech	541, 691, 694

General Electric (GE)	503, 508, 509, 515, 540, 543, 544, 630, 695, 698, 701, 714, 715, 716
Genexxa	613
Goldstar	505, 523, 526, 545, 546, 573, 588, 693, 712
Granada	695, 711
Grand	695
Grandiente	711
Grundig	547
Hallmark	695
Harman Kardon	561
Hinari	534
Hitachi	523, 526, 548, 549, 550, 551, 552, 553, 554, 555, 585, 597, 626, 702, 718
Infinity	566
JBL	566
JC Penney	503, 505, 506, 516, 526, 531, 543, 596, 701, 714
Jensen	556, 573
JVC	557, 558, 559, 560
Kawasho	548, 561, 712
Kenwood	506, 573, 712
Kloss	522, 561, 610, 698
KTV	526, 539, 540, 541, 691, 696, 712
Lloyds	695
Lloytron	526
Loewe	588
Logik	518
Luxman	523
LXI	503, 563, 566, 590, 595, 617, 625, 701
Magnasonic	573
Magnavox	506, 520, 525, 536, 564, 565, 566, 567, 568, 569, 573, 575, 610, 710, 712
Marantz	506, 566, 573, 588, 712
Matsui	532, 609
Megatron	695
Memorex	518, 532, 590, 695, 720
MGA	504, 505, 506, 571, 573, 695
Mitsubishi	504, 505, 570, 571, 572, 597, 623, 695, 705, 707, 712
Teknika	504, 505, 516, 518, 522, 523, 524, 525, 526, 534, 536, 541, 614, 615, 691, 712
Teleavia	551
Telefunken	551
Teletex	532
Tera	513
Thomas	695
Thompson	709
Thomson	551, 616
TMK	523, 573, 695
Toshiba	516, 590, 596, 617, 618, 631
Tosonic	528
Totevision	526
Toyomenko	695
Universal	543
Vector Research	506
Victor	557
Video Concepts	570, 691
Vidtech	505, 695, 712
Viking	522
Yamaha	505, 506, 712
York	695
Zenith	501, 518, 693
Zonda	620

VCRs

Aiwa	588, 622, 623, 624
Akai	513, 514, 515, 516, 517, 518, 519, 520, 568

Montgomery Wards	505, 506, 515, 518, 534, 536, 543, 564, 565, 567, 568, 607, 619, 712, 714, 715
MTC	505, 506, 516, 523, 531, 695, 712
NAD	502, 617, 695
National	509, 697
National Quenties	697
NEC	505, 506, 507, 517, 523, 573, 627, 712
Nikkai	612, 613, 618
Nordmende	551
Normande	717
Novabeam	561, 698
Nyon	701
Orwa	541, 691
Optonica	605, 607
Orion	694
Osaki	612
Panasonic	508, 509, 510, 511, 512, 566, 574, 689, 697, 698, 700, 706, 714, 716
Philco	505, 506, 525, 536, 564, 565, 568, 573, 610, 712
Philips	566, 588
Pioneer	502, 548, 551, 576, 708
Portland	505, 526, 712
Proscan	503
Proton	513, 519, 526, 536, 585, 624, 695
Pulsar	501
Quasar	508, 509, 577, 698, 700
Radio Shack	526, 541, 607, 612, 691, 698
RCA	503, 505, 515, 548, 579, 580, 581, 582, 583, 584, 586, 587, 625, 633, 634, 691, 698, 701, 708, 714, 715, 716
Realistic	590
Saba	551
Saisho	532, 533, 609
Sampo	506, 519, 698
Samsung	505, 506, 516, 523, 526, 532, 588, 612, 695, 704, 712, 721
Samwon	620
Sanyo	542, 589, 590, 591, 592, 609
SBR	588
Schneider	588
Scott	526, 534, 537, 541, 593, 600, 691, 696, 701
Sears	503, 523, 534, 542, 563, 589, 590, 594, 595, 596, 598, 599, 601, 602, 603, 604, 617, 695, 703
Seimitsu	695
Sharp	526, 585, 591, 605, 606, 607, 608, 628, 629
Siemens	591
Signature	518
Silver	573
Solavox	612
Sony	500, 514, 521, 578, 609, 619, 622, 685, 686, 687, 688, 690
Soundesign	525, 536, 541, 691, 695
Spectricon	520, 620
Squareview	694
SSS	505, 541, 573, 691, 712
Supra	523
Supre-Macy	522
Sylvania	506, 525, 536, 564, 565, 566, 568, 573, 575, 600, 610, 611, 712
Symphonic	632, 692, 694
Tandy	605, 613
Tatung	509, 698
Technics	508
Techwood	523, 573

Alba	546
Amstrad	588
ASA	565
Audio Dynamics	594, 600
Broksonic	559
Bush	589
Candle	580, 592, 593
Canon	542, 553, 554
Capehart	543, 546
Citizen	591, 592, 593
Craig	591, 608
Croslex	553
Curtis Mathes	554, 592, 605
Daewoo	534, 545, 546, 547, 593
Daytron	546
DBX	594, 600
Dumont	549
Dynatech	588
Electrohome	609
Emerson	505, 506, 507, 508, 509, 510, 511, 512, 559, 568, 588, 590, 609, 618
Finlandia	549
Finlux	549, 565, 588
Fisher	548, 549, 584, 588, 608, 610
General Electric (GE)	550, 551, 552, 554, 572, 591, 605
Goldstar	530, 555, 592, 612, 613
Goodmans	585, 589
Go Video	557, 558, 620
Granada	549, 581
Grundig	565
Harman Kardon	530, 569
Hinari	589
Hitachi	536, 537, 538, 539, 540, 541, 553, 588, 595, 596, 597
Instant Replay	553
ITT	518
JC Penney	530, 554, 580, 591, 594, 600, 601
Jensen	560
JVC	561, 562, 563, 564, 592, 594, 600, 601
DVD Players	
Note: You must set the remote control to VCR mode to set it up to control a DVD player.	
Magnavox	626
Pioneer	619
RCA	627
Sony	617
Toshiba	616

TUNERS/AMPLIFIERS

Aiwa	2656, 2680
Carver	2653
Fisher	2653
GE	2665
Goldstar	2677
JVC	2657, 2683
Kenwood	2676
Luxman	2681
LXI	2665
Marantz	2651
Memorex	2675
NAD	2669
Nakamichi	2671
Onkyo	2660, 2662, 2678
Optimus	2664
Panasonic	2652
Pioneer	2658, 2675, 2679
Proton	2654
Quasar	2652
RCA	2655
Realistic	2665, 2666
Scott	2659
Sherwood	2670

Kenwood	562, 581, 592, 594, 600, 601
Lloyd	588
Logik	589
Luxor	518
Magnavox	527, 553, 554, 556, 565, 611
Marantz	530, 554, 565, 585, 592, 594, 600, 601, 603
MEI	554
Memorex	533, 549, 554, 566, 581, 585, 588, 608
MGA	567, 568, 609
Mitsubishi	562, 567, 568, 569, 570, 571, 609
Montgomery Wards	527, 554, 580, 585, 588, 589, 590, 591, 607, 608, 609
MTC	544, 580, 588
Multitech	588, 589, 591
NAD	573
NEC	530, 531, 532, 562, 592, 594, 599, 600, 601, 602, 603, 604
Olympic	553
Optonica	585
Orion	506, 507
Panasonic	521, 522, 523, 524, 526, 553, 554, 598, 614, 628
Pentax	537, 592
Perdio	588
Philco	553, 554, 611
Philips	553, 554, 565, 585
Pioneer	553, 562, 573, 574, 575, 576, 600
Portland	546, 593
Proscan	553, 605
Pulsar	533
Quartz	581
Quasar	553, 554, 577, 578
Radio Shack	607, 608, 609, 610
RCA	525, 526, 527, 528, 529, 537, 553, 591, 605, 606, 615, 630, 631
Realistic	549, 554, 580, 581, 584, 585, 588
Ricoh	502
Saisho	506, 507
Salora	567, 581
Samsung	517, 534, 579, 580, 591
Sansui	532, 544, 562, 600, 621
Sanyo	549, 581, 582, 583, 608
SBR	565
Schneider	589
Scott	508, 559, 590
Sears	548, 549, 581, 584, 608, 610
Sentra	546
Sharp	585, 607, 609, 625
Shintom	589
Sony	500, 501, 502, 503, 504, 629
Sylvania	553, 554, 567, 588, 611
Symphonic	588, 594
Tandy	588
Tashiko	588
Tatung	586, 594, 601
Teac	588, 594, 601
Technics	553, 554
Teknika	554, 587, 588
TMK	506
Toshiba	534, 535, 567, 590
Totevision	580, 591
Unitech	580
Vector Research	530, 600
Victor	561, 562, 600
Video Concepts	568, 600
Videosonic	591
Yamaha	530, 592, 594, 600, 601
Zenith	500, 501, 533

Chapter 3

Using the System

Sony	2667, 2668, 2672, 2673, 2674, 2680, 2684
Symphonic	2666
Technics	2652
Victor	2657
Yamaha	2663, 2682

CABLE TV BOXES

Eastern	2649
GI/Tocom	2640
Jerrold	2635, 2636
Memorex	2637
Oak	2646
Panasonic	2637, 2644, 2645
Paragon	2637
Pioneer	2642, 2643
Regency	2649
Scientific Atlanta	2638, 2639, 2647, 2648, 2650
Zenith	2641

Chapter 4

Advanced Features

USING EVENT TIMERS

Event Timers allow you to program the receiver to tune in and/or record a future “event,” *that is*, a program. You can set *automatic* event timers for programs listed with start and stop times in the **Program Guide**. You can set *manual* event timers for programs not listed in the **Program Guide**. Manual event timers also allow you to set custom start and stop times for a timer.

EVENT TIMER TYPES

Reminder - Reminds you that the desired program is about to start.

Auto-Tune - Reminds you that the program is about to start, and tunes the receiver to the channel of the program when it begins.

VCR - Does all of the above, plus it starts a VCR to record the event.

Note: To record a program in HD format, you *must* use an HD VCR *and* set the timer for HD output. See the following pages for details.

EVENT TIMER FREQUENCIES

Once - Operates *only* once. If the program time changes, this timer will operate at the new program time. This timer is deleted when it operates.

Mon.-Fri. - Operates on Monday through Friday on the same channel at the same time.

Daily - Operates on Monday through Sunday on the same channel at the same time.

Weekly - Operates once a week on the same channel at the same time.

BEFORE THE TIMER ACTIVATES

Only in the five minutes before an event timer is to operate, the receiver displays a small blinking “clock” symbol on the TV screen to remind you that an event timer is scheduled. While the symbol is displayed, you may do the following:

- Press the remote control **Cancel** button to clear the symbol from the TV screen. This does *not* affect the timer; it will still operate.
- Press the remote control **Information** button to display more information on the scheduled event timer. The receiver displays the title, the time, and the channel of the program. You have the following choices:


Either: Continue with the event timer. The timer will operate as scheduled.

Or: Stop the event timer.

This stops *only* this occurrence of a *Mon.-Fri.*, *Daily* or *Weekly* timer. The timer will still operate the next time it is scheduled. To stop all operations of a *Mon.-Fri.*, *Daily* or *Weekly* timer, you *must* delete the timer (see *Deleting an Event Timer* on page 62). For a *Reminder Event Timer*, instead of having the option to stop the timer you have the option to tune to the channel of the program.

Note: If a program time changes by more than twenty-four hours from the originally scheduled time, the timer will *not* operate.

SETTING UP AN AUTOMATIC EVENT TIMER

1. Highlight a future program using the **Browse Banner**, the **Program Guide**, or **Theme Categories**.
2. Press the **Select** button to display the **Create An Event Timer** menu. 
3. Select the desired event timer type.
4. Select the desired timer frequency.
5. To tape a program using the receiver High Definition (HD) outputs to an HD VCR, you *must* set the timer for HD output. To do this, select the **HD - VCR** check box. A check mark appears in the box.

To tape a program using the receiver Standard Definition (SD) outputs to a conventional VCR, you *must* set the timer for SD output. To do this, just make sure that the **HD - VCR** check box is *not* checked.



You may select the **Start 1 min. early** option to start the timer one minute before the scheduled program start time. **Note:** You may start any event timer (including a repeated timer) one minute early without affecting any other event timer. However, if you set back-to-back event timers and the second one *starts* early, the first one will *end* early. An event timer *cannot* start one minute early for a pay per view program. Also, this option may appear as **Start Early** or **Early** instead of **Start 1 min. early**.

Either: Select the **Create** option to save the event timer. The receiver displays the previous menu. The receiver displays a timer symbol in the **Program Guide**, and also when you press the **Information** button to get information about the program. This shows that you have set a timer.

Or: If you want to return to the previous menu without creating an event timer, press the **Cancel** button.



SETTING UP A MANUAL EVENT TIMER

Note: You *cannot* set a manual event timer for a pay per view program. *Only* an automatic event timer will work.

1. Press the **Menu** button. 
2. Select the **Timers** option. 
3. On the **Event Timer Management** menu, select the **Create** option.
4. On the **Create a Manual Event Timer** menu, select the desired timer type and frequency.
5. To select a channel, *either* scroll through the channels using the **Up** or **Down** arrow button *or* enter a channel using the number pad buttons.
6. Select the **Set Date/Time** option.
7. On the **Set Date/Time for Manual Timer** menu, using the number pad buttons, enter the **Start Time**, **End Time**, and **Date**.
8. To tape a program using the receiver High Definition (HD) outputs to an HD VCR, you *must* set the timer for HD output. To do this, select the **HD - VCR** check box. A check mark appears in the box. To tape a program using the receiver Standard Definition (SD) outputs to a conventional VCR, you *must* set the timer for SD output. To do this, just make sure that the **HD - VCR** check box is *not* checked.
9. Select the **Create Timer** option. The **Event Timer Management** menu lists the event timers that you have created. To create another event timer, select the **Create** option again. If you want to return to the previous menu without creating another event timer, press the **Cancel** button.

QUICK RECORD

You can quickly create a one-time *VCR Event Timer*.

1. Highlight a future program in the **Browse Banner**, the **Program Guide** or **Theme Categories**.
2. Press the **Record** button. The receiver displays a message showing that you are about to create an event timer. To tape a program using the receiver High Definition (HD) outputs to an HD VCR, you *must* set the timer for HD output. To do this, select the **HD - VCR** check box. A check mark appears in the box. To tape a program using the receiver Standard Definition (SD) outputs to a conventional VCR, you *must* set the timer for SD output. To do this, just make sure that the **HD - VCR** check box is *not* checked. 
3. Press the **Select** button to create the timer. 

OVERLAPPING TIMERS

If you try to create event timers for overlapping programs, the receiver displays an **Event Timer Scheduling Conflict** menu, with the dates and times of both programs. The receiver also displays this menu if a program time has changed, causing one timer to overlap another. You *must* delete *or* edit one of the timers.

MAXIMUM NUMBER OF EVENT TIMERS



The receiver allows you to create up to ten (10) event timers. If you try to create more, the receiver displays a menu giving you the option to delete an existing timer. If you do not delete an existing timer, you will *not* be able to create any new ones.

Note: Event timers with the *Once* frequency are deleted when they operate. You *must* delete all other types of event timers yourself.



EDITING AN EVENT TIMER

You can edit any aspect of an event timer, including the start and stop times. You can edit both automatic and manual event timers. Editing an automatic event timer converts the timer to a manual event timer that operates at the times you choose, not the actual program times.

Note: You *cannot* edit an event timer for a pay per view program.

1. Press the **Menu** button. 
2. Select the **Timers** option. 
3. In the **Event Timer Management** menu, highlight the event you want to edit, then select the **Edit** option.
4. In the **Edit a Manual Event Timer** menu, change the **Type**, **Frequency**, and **Channel** as you wish, and then select the **Set Date/Time** option.
5. On the **Set Date/Time for Manual Timers** menu, change the **Start Time**, **Stop Time**, and **Date** as you wish. Then, select the **Create Timer** option. The **Event Timer Management** menu shows the changes you have made.

DELETING AN EVENT TIMER

1. Press the **Menu** button. 
2. Select the **Timers** option. 
3. Select an event timer that you want to delete. A check mark appears in the box next to the highlighted event timer.

4. Repeat step 3 for any other timer(s) that you want to delete.
5. **Either:** Select the **Delete** option to delete the timer(s).
Or: To return to the **Main Menu** without deleting any timers, press the **Cancel** button.

REVIEWING EVENT TIMERS

You can review event timers by using the **Event Timer Management** menu. To open this menu, press the **Menu** button to open the **Main Menu**, and then select the **Timers** option.

LOCKS, BLACKED-OUT PROGRAMS, AND EVENT TIMERS

You *must* enter the receiver password *before* you can create an automatic event timer for a locked program, and order a pay per view program *before* you can create such a timer for it. You can create a manual event timer for a locked program *without* entering the password. However, if you do this, or if the program is blacked out in your area, when the timer operates the receiver may display *only* an error or password entry menu. If you have set a *VCR Event Timer*, the VCR will record *only* that menu.

POWER OFF AND EVENT TIMERS





If the receiver is OFF at the time an *Auto-Tune* or *VCR Event Timer* is scheduled to operate, the receiver will turn ON. Once the program has ended, the receiver will turn OFF, unless you pressed any remote control or receiver front panel buttons during the time that the timer was active.

If the receiver is OFF at the time a *Reminder Event Timer* is scheduled to operate, the timer will turn the receiver ON and tune it to the channel you last watched. The receiver will then display the reminder menu. You will have a few seconds to respond. If you do not respond to the reminder menu, the receiver will turn OFF.

SETTING UP THE RECEIVER AND VCR FOR VCR EVENT TIMERS

To use *VCR Event Timers*, you *must* set up the receiver so that it can control the VCR.

1. Program the remote to control the VCR. By doing this, you will find the right code for the receiver to use to control the VCR. **Note:** If the receiver does not control your VCR model, use an *Auto-Tune Event Timer* to tune the receiver to the channel for the program you want to record. Use the timers built into the VCR to start and stop the VCR at the required times.
2. To tape a program using the receiver High Definition (HD) outputs to an HD VCR, you *must* set the timer for HD output. To do this, select the **HD - VCR** check box on the timer setup menu. A check mark appears in the box. To tape a program using the receiver Standard Definition (SD) outputs to a conventional VCR, you *must* set the timer for SD output. To do this, just make sure that the **HD - VCR** check box is *not* checked.

3. The receiver uses an infra-red signal to control the VCR. This signal is much stronger than the signal the remote uses, so it can bounce off walls or other objects on its way to the VCR. This works in most home setups. However, shelves or smoked glass doors between the receiver and the VCR may block the signal. Also, if the signal must cross a very large room, or bounce off curtains, it may not be strong enough to control the VCR. Make sure that nothing blocks the signal, and that the signal can bounce off relatively nearby, light-colored, smooth surfaces.
4. Press the **Menu** button. 
5. Select the **System Setup** option. 
6. Select the **Installation** option. 
7. Select the **VCR Setup** option.
8. **Either:** Enter the 3-digit code number from the tables, using the number pad buttons.
Or: Highlight each digit of the VCR code, and then press the **Up** or **Down** arrow button to enter the number for that digit.
9. Make sure the VCR is turned ON. Insert a rewind tape on which you want to record. *The receiver starts the VCR recording, but does **not** turn ON the VCR, so you **must** do this yourself.*
10. To test the new code, highlight the **Test** option. The receiver displays a message warning you to make sure the VCR is turned ON.
11. Press the **Select** button to start the test. The VCR records for a few seconds, stops, and then rewinds. The receiver displays a message saying that the VCR test is complete. Follow the instructions on the message. If the VCR did not do the test, enter another code from the table. Repeat step 10 and this step. 
12. Once you have found the right VCR code: **Either:** Select the **Save** option to save the VCR code you entered and return to the **Installation and Setup** menu. **Or:** If you want to return to the **Installation and Setup** menu without saving the VCR code, press the **Cancel** button.

USING DOLBY DIGITAL SOUND

Dolby[®] Digital allows you to use Dolby[®] Surround sound in your home audio/video system. To use Dolby[®] Digital sound, you *must* have a capable amplifier/decoder. The receiver has a built-in Dolby Digital adapter. Dolby[®] Digital sound will not always be available on all programming.

The receiver provides two audio types: Dolby[®] Digital and Linear PCMA (regular mono or stereo sound).

1. Press the **Menu** button.
2. Select the **System Setup** option.
3. Select the **Dolby Digital** option.
4. In the **Dolby Digital Setup** menu, select one of the following options:

MENU



Dolby Digital Only - Choose this option if your amplifier is *only* Dolby[®] Digital capable. See your amplifier owner's manual for more details on your amplifier.

PCM Only - Choose this option *only* if your amplifier is *not* Dolby[®] Digital capable.

Dolby Digital/PCM - This is the most common option. Choose this option if your amplifier is capable of accepting *both* Dolby[®] Digital and Linear PCM signals. **Note:** Your speakers could be damaged if you choose this option and your amplifier is not capable of processing both types of audio signals.

5. Highlight the **Save** option and press the remote control **View** button to exit.

Note: The TV audio will continue to run normally at all times. If Dolby[®] Digital is not available, you will hear the normal TV audio. For best results when using an amplifier, you may want to lower the volume on the TV.

Note: Some satellite High Definition programs (with the **(HD)** symbol in the **Program Guide**) feature Dolby[®] Digital audio, even though the **Program Guide** does not show the **(DD)** symbol for such programs.


INSTALLING AND USING THE DIGITAL OFF-AIR CARTRIDGE

Your HDTV receiver may come equipped with a Digital Off-Air Cartridge, or you may have purchased one to use with your HDTV receiver.

If the Digital Off-Air Cartridge is not already installed, you *must* first install it. If it is already installed, you can skip the next section and go to *How To Use the Cartridge* on page 66.

INSTALLING THE DIGITAL OFF-AIR CARTRIDGE

1. Unplug the receiver power cord.
2. Remove the cover from the left-hand port on the receiver back panel.
Keep the cover screws to use in attaching the cartridge.

<p>ATTENTION!</p> 	<p>You <i>must</i> cover the port when it is not in use, to prevent damage to the port. Damage to an uncovered port is <i>not</i> covered by the Limited Warranty.</p>
--	--




3. Plug the cartridge into the port, so the serial number is right side up,

and attach the cartridge with the two cover screws.

- If the receiver is not already connected to a high definition TV, connect it now. (If you need information on the proper setup of your TV's HD inputs, see your High Definition television user manual for details.)

HOW TO USE THE CARTRIDGE

To use the cartridge, *first* set up the system (see below), and *then* choose a program to watch (to learn how, see page 71).

<p>ATTENTION!</p> 	<p>The following section <i>works with</i> the <i>Setting Up the Receiver for SDTV</i> and <i>Setting Up the Receiver for HDTV</i> procedures as described beginning on page 66.</p>
<p>ATTENTION!</p> 	<p>You should set up the satellite TV system and make sure the receiver and TV work correctly in Standard Definition (SD) mode <i>first</i>. This will make setting up the receiver and TV to work in High Definition (HD) mode as <i>easy</i> as possible.</p>
<p>ATTENTION!</p> 	<p>The receiver provides video through <i>either</i> Standard Definition (SD) outputs <i>or</i> High Definition (HD) outputs. You <i>cannot</i> use SD and HD outputs at the same time. But, you <i>can</i> watch SD programs in HD mode <i>and</i> HD programs in SD mode.</p>

HOW TO SET UP THE SYSTEM





HOW TO SET UP THE RECEIVER FOR STANDARD DEFINITION TV (SDTV)

Do this *only* if the receiver is not already set up for Standard Definition (SD) television (to learn how to do this, see page 24).

HOW TO SET UP THE RECEIVER FOR OFF-AIR TV RECEPTION

Unless you have already done so, do the *Setting Up the Receiver for SDTV* and *Setting Up the Receiver for HDTV* procedures as described beginning on page 24. *Make sure* to do the following:

- Connect the coaxial cable from the off-air TV antenna or cable TV box to the back panel of the Digital Off-Air (8VSB) Cartridge.
- On the **HDTV Setup** menu, in the **Analog Type** list, select the type of analog TV signals for the system (select the **Off-Air** option for an off-air TV antenna).

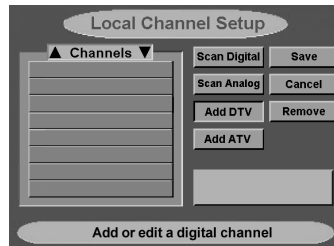
<p>ATTENTION!</p> 	<p>The next two sections tell how you can add local off-air channels and assign them network affiliations. Once you have done this, you can access the channels via the Program Guide or the Browse Banner in much the same way as you would satellite channels. The Program Guide may display “prime time” program information for the major off-air networks. “Prime time” hours vary. The information may be inaccurate if regularly-scheduled programs are preempted or if other changes occur.</p>
<p>ATTENTION!</p> 	<p>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, <i>not</i> the DISH Network! To learn about off-air TV, see <i>About Off-Air TV Broadcasts</i> on page 72.</p>
<p>ATTENTION!</p> 	<p>If you want to install an off-air TV antenna, you have several choices. You can receive a limited number of channels via 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. This applies <i>both</i> to analog and digital channels. To learn about off-air TV, see <i>About Off-Air TV Broadcasts</i> on page 72.</p>
<p>WARNING!</p> 	<p>Make sure to follow the antenna installation instructions correctly. Ground the antenna per the <i>National Electrical Code</i> (NEC) and any local electrical codes!</p>

HOW TO ADD LOCAL OFF-AIR DIGITAL CHANNELS

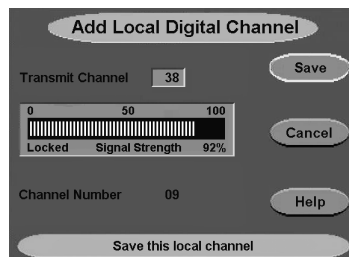
To add a local digital channel, do the following. To add a local analog channel, see *How to Add Local Off-Air Analog Channels* on page 69.

1. Press the **Menu** button.
2. Select the **System Setup** option.
3. Select the **Installation** option.

4. Select the **Local Channels** option to open the **Local Channel Setup** menu. Here is an *example*:



5. To have the receiver automatically add local digital channels for you, select the **Scan Digital** option. The receiver will scan all local channels, and then automatically add those that are digital.
Note: When the receiver finishes, it displays a list of the digital transmit channels it found. These numbers may differ from the familiar broadcast channel numbers (see “Broadcast Channel Numbers and Transmit Channel Numbers” on page 71).
6. If you want to change the transmit number into a channel number select the **Add DTV** option on the **Local Channel Setup** menu. This opens the **Add Local Digital Channel** menu. Here is an *example*:



7. Enter the **Transmit Channel** number for the channel you want to add. You may need to enter zeros at the start of the number.
8. 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**. The 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.

9. Select the **Save** option to add the channel. This opens the **Edit Local Channel Name** menu. Here is an *example*:



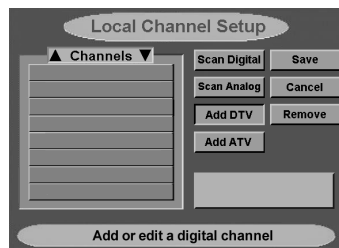
Highlight a letter and press the **Select** button. Do this again to spell out the channel name. You can enter up to five characters. If you need to, use the **space** option to insert a space or the **<back** option to correct a letter. When you are done entering the channel name, select the **Save**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

10. Repeat the above steps 5 through 8 if you want to add another local digital channel.
11. To delete one or more channel(s), select the channel(s) in the **Channels** list and then select the **Remove** option.
12. 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, do the following. To add a local digital channel, see *How to Add Local Off-Air Digital Channels* on page 67.

1. Press the **Menu** button.
2. Select the **System Setup** option.
3. Select the **Installation** option.
4. Select the **Local Channels** option to open the **Local Channel Setup** menu. Here is an *example*:

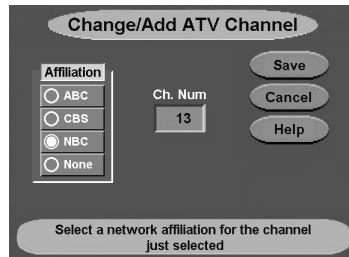


5. To have the receiver automatically add local analog channels for you, select the **Scan Analog** option. The receiver will scan all local channels, and then automatically add those that are analog.

Note: When the receiver finishes, it displays a list of the analog transmit channels it found. These numbers may differ from the familiar broadcast channel numbers (see “Broadcast Channel Numbers and Transmit Channel Numbers” on page 71).

If you want to change the transmit number into a local channel number, select the **Add a TV** option on the **Local Channel Setup**

menu. This opens the **Change/Add A TV Channel** menu shown below.



6. Enter the channel number in the **Ch. Num** field. **Note:** You may need to enter zeros at the start of the number.
7. 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.
8. To edit the name of the channel, select the **Save** option. This opens the **Edit Local Channel Name** menu. Here is an *example*:



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.

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

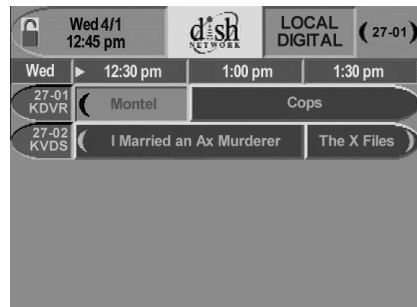
HOW TO FIND A PROGRAM TO WATCH

To do this, use printed TV listings or the on-screen **Program Guide**. In the **Program Guide**, off-air channels that have digital content have a *yellow* background.

See the **27 MY DIG** channel in this *example*.



If you select a digital channel, the receiver opens a separate guide for that channel's sub-channels (see the *example* below). You can use this guide in the same way you use the **Program Guide**.




In this *example*, **27-01 KDVR** and **27-02 KDVS** are the sub-channels for the **27 MY DIG** digital channel.

BROADCAST CHANNEL NUMBERS AND TRANSMIT CHANNEL NUMBERS

For information on channel numbers, you can visit the National Association of Broadcasters (NAB) web page at www.nab.org. On this web page, go to www.nab.org/Newsroom/Issues/digitaltv/DTVstations.asp for a listing of broadcast channel numbers and **Transmit Channel** numbers. **Note:** The NAB web page uses the term “analog channel” for what this *User Guide* calls the “broadcast channel number,” and the term “digital channel” for what this *User Guide* calls the “**Transmit Channel** number.”

ABOUT OFF-AIR TV BROADCASTS

Digital off-air TV broadcasting uses advanced technology like that of the DISH Network to deliver superb picture quality and CD quality sound.

ATTENTION! 	To receive high quality audio and video via the DISH Network or digital off-air broadcasts, you <i>must</i> get the strongest possible signal. See the installation instructions in <i>Chapter 5</i> to learn how to get the strongest possible satellite signal. Read more of this section to learn how to get the strongest possible off-air signal.
--	--

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. Surely you are familiar with analog off-air TV signals - these are the signals that have been used to broadcast TV for many years. Digital off-air TV signals are broadcast and received in the same way.

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.

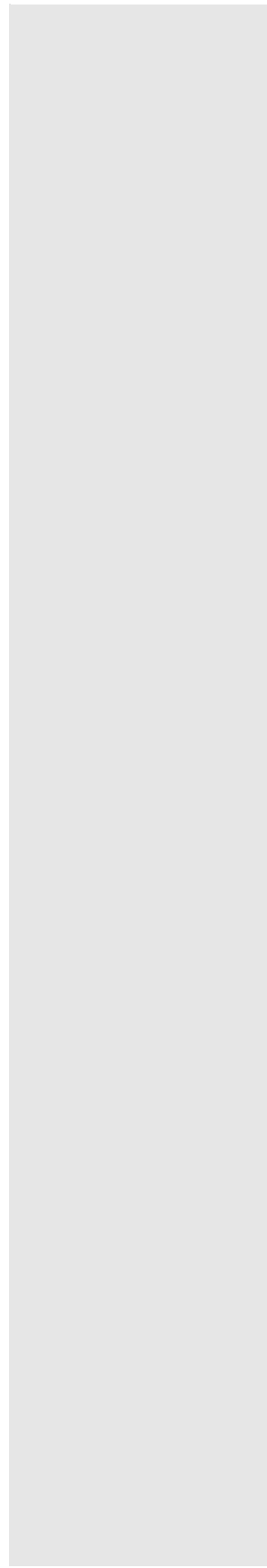
To get the best possible digital signal reception, make sure you use the best off-air antenna for where you live:

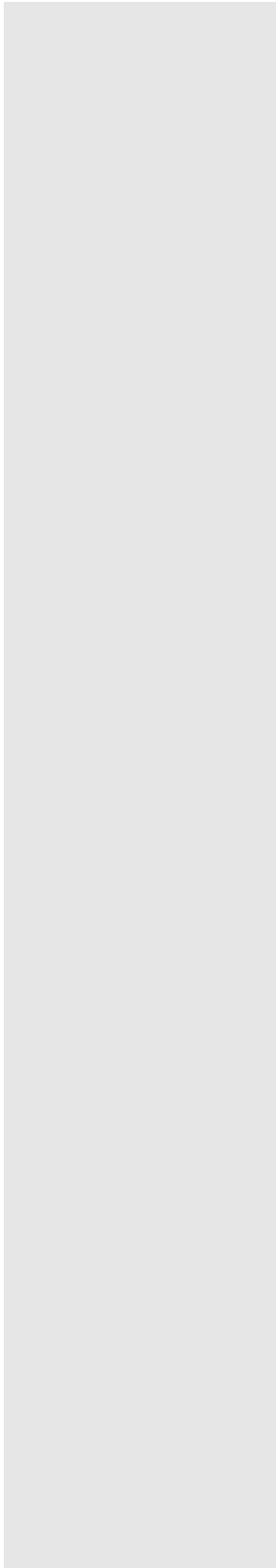
- You can receive a limited number of channels using a “rabbit ears” type antenna on top of the TV set, or a much larger number via a large UHF/VHF indoor/outdoor antenna.
- The higher the quality of the antenna you use, the greater its range and the better its reception will be.
- The Consumer Electronics Association maintains a website, *antennaweb.org*, 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.
- Broadcasters are not legally required to provide full-time digital signals for several years.
- Some digital channels do not broadcast all the time.

<p>ATTENTION!</p> 	<p>If you have questions about off-air channels, contact the broadcasters, <i>not</i> the DISH Network! The DISH Network does <i>not</i> broadcast off-air signals and so <i>cannot</i> 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.</p>
<p>WARNING!</p> 	<p>Make sure to follow the antenna installation instructions correctly. Ground the antenna per the <i>National Electrical Code</i> (NEC) and any local electrical codes!</p>





Notes

Chapter 5

Installation Instructions

HOW TO USE THESE INSTRUCTIONS

TO USE THE MODEL 6000 RECEIVER FOR HDTV PROGRAMMING

- To use a Model 6000 receiver to get HDTV programming, you *must connect it to a* satellite dish pointed at a DISH Network satellite that provides HDTV programming.

Note: If you are not sure which satellite the dish must be pointed at to get HDTV programming, call the Customer Service Center at 1-800-333-DISH (3474).

- If you are installing *only* a DISH 300, you will need to follow the instructions that begin below through *Mounting the Satellite Dish* on page 82. After you finish mounting the dish, you will need to go to page 89 to complete the installation.
- If you are installing both a DISH 500 and DISH 300, you should install the DISH 500 first, following the instructions that begin below. After you finish this installation you can install the DISH 300, following the instructions that begin on page 89.
- If you are adding a DISH 300 to an existing DISH 500 system, install the DISH 300 following the instructions that begin on page 89, and then use one of the wiring diagrams that begin on page 96 to complete the installation.

FOR INSTALLING A DISH 500 OR A DISH 300



The following instructions are for installing either a DISH 500 or DISH 300. After you complete these instructions, you will need to follow the instructions that begin on page 82 to finishing installing a DISH 500 or on page 89 to finishing installing a DISH 300.

WARNING VS. ATTENTION


You *must* keep safety in mind when you install and use this system. These *Instructions* provide various procedures. Some of these procedures could result in injury or property damage if you do them improperly. Other procedures require special attention.

Installation Instructions

In these *Instructions*, the following notes tell you when you need to pay special attention:

<p>WARNING!</p> 	<p>Marks a procedure where the following may happen:</p> <ul style="list-style-type: none">• Personal injury or death may occur.• Equipment or property may be damaged.
<p>ATTENTION!</p> 	<p>Marks the following issues:</p> <ul style="list-style-type: none">• Important operation or maintenance instructions follow.• Special attention is required.

SAFETY TIPS

<p>ATTENTION!</p> 	<p>You can get safety guidelines from the Occupational Safety and Health Administration (OSHA). To contact OSHA, see the blue pages of your telephone book, under <i>United States Government, Occupational Safety and Health Administration</i>.</p>
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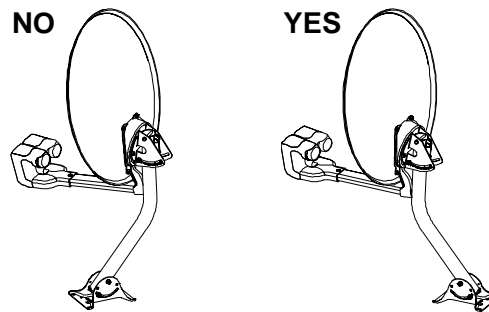
- *Assemble* the satellite dish in a safe location before climbing up to the mounting location.
- Use caution when *climbing* up to, and when working at the mounting location.
- If you use a *ladder*, follow the safety instructions provided by the ladder manufacturer. Use only a fiberglass ladder, to avoid the risk of electrical shock if the ladder were to contact any overhead power lines, lights, or power circuits.
- Use the proper *tools* for each procedure. Follow the safety instructions provided by the tool manufacturers.
- While working, avoid wearing loose-fitting *clothes* and wear safe shoes.
- If you mount the satellite dish on a *roof*, you should be in good physical condition in order to climb up to, and work on the roof. Also, keep the following safety considerations in mind:
 - Beware of small holes in the roof or loose shingles, which may cause you to fall;
 - Keep tools within easy reach, for convenience and safety;
 - Use a safety harness;
 - Wear sturdy shoes with good tread, for sure footing and traction;
 - Do not work on a roof that is wet or icy;
 - If the roof is sloped or made of tile or metal, use slide guards.

- Install the satellite dish only on a *solid* surface or solid foundation material. If you install it on the side of a building, make sure that the center bolts are attached directly to a building stud or other solid material. Use the appropriate drilling and attachment hardware for the type of surface.
- Make sure you have determined the best location for the satellite dish *before* drilling the holes in the building or setting up the mounting pole. Make sure that you can run the cable from the location into the building. If you install a mounting pole, make sure that you can run the cable overhead, or underground to the building.
- Before *drilling* any holes in the building, make sure there are no wires or pipes in the area of the holes. Before digging any holes in the ground, contact the local utility and telephone companies for help in locating underground utility or telephone lines.
- All installations should *conform* to the local building and electrical codes. If you are not sure, contact a licensed building inspector or electrician in your area to assist you. Be aware that community covenants, if any, may have additional requirements.
- Also, check your homeowner's insurance policy for any restrictions or exceptions that may apply.
- Choose a location that is easily *accessible* in most weather conditions. You may need to clean snow or debris off the satellite dish. Such materials can interfere with signal reception.
- Place the satellite dish as *close* to the receiver as possible. Do not use more than 100 feet of RG-6 cable between the receiver and the satellite dish without a line amplifier to boost the satellite signal. Otherwise, the system is more likely to lose the signal, especially during periods of rain, snow, or heavy cloud cover. If the setup requires over 100 feet of cable, you should consider having the system professionally installed.
- Consider *seasonal* changes. The location may appear clear in the winter, but spring and summer leaves could block the signal to the satellite dish.
- As you work, be aware of your *surroundings*. Take adequate precautions to avoid injury to yourself or damage to buildings, structures, or equipment.
- *Never* install the satellite dish near *power lines*.
- Do *not* install the satellite dish where it can be jostled, bumped, or blocked by people, animals, or vehicles.
- Do *not* install the satellite dish where it is exposed to high winds. Do *not* try to install the satellite dish in windy or stormy weather, particularly if there is a chance of lightning.
- Do *not* attempt to fasten the satellite dish to the *mortar* between bricks or cinder blocks.
- Do *not* mount the satellite dish on vinyl or aluminum *siding*. These materials are structurally too weak to securely hold the satellite dish, even with a building stud underneath.
- Do *not* mount the satellite dish *downwind* of a chimney or furnace vent. Ashes and dirt could collect on the dish, possibly causing damage and poor reception. If practical, locate the dish so that it faces away from the vent.
- Do not install the satellite dish on *stucco* or imitation masonry unless the base material is solid.
- Do *not* mount the satellite dish on *composite* materials such as strand,

Installation Instructions

chip, fiber, or particle board unless the fastener attaches securely to a wall stud, rafter, or other foundation material beneath the surface.

- Do *not* mount the satellite dish on a *railing*, on a tile roof, or in a tree.
- Do *not* mount the satellite dish on a chimney that is not structurally *sound*. Wind causes the dish to vibrate, and these vibrations can damage an unsound chimney. Install the dish on a chimney only if there is no other suitable mounting location.
- Place the mounting foot so that you can aim the satellite dish *away* from the mounting foot, as shown on the right, below. This gives the dish the most room to move for azimuth and elevation adjustments.

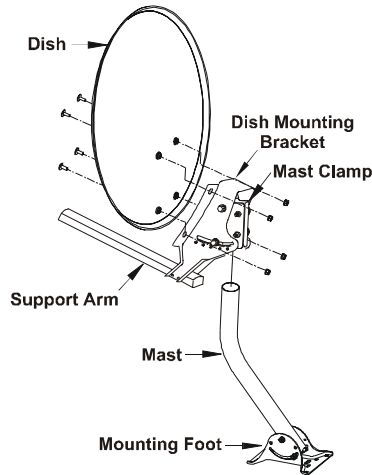


BEFORE YOU START

UNPACKING AND CHECKING THE CONTENTS

Unpack the contents carefully. Electronic devices can easily be damaged if bumped or handled roughly. Check all the parts for damage during shipment. If you find any damage, call the location where you bought the system or the Service Center *before* doing the installation.

Keep the shipping materials, in case you ever need to return the parts.



BEFORE MOUNTING THE DISH

Because you will make changes at the location where you mount the dish, you should be somewhat familiar with, and able to safely do the following:

- You should be able to use a bubble level to set both horizontal and vertical surfaces. This is especially important for vertical surfaces.
- You should know how to drill holes in the mounting surface (wood, brick, cinder block, etc.).
- You should know how to run cables through your building. This includes sealing the holes once you have run the cables.

Do the following to find the best location for the dish.

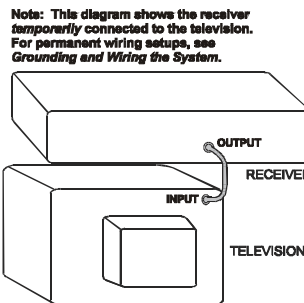
FINDING THE SATELLITES

To find the satellite in the sky, you need to know the azimuth angle (the south, southeast, or southwest direction to the satellites) and the elevation angle (the angle up to the satellites) from your location.

Note: If you are installing a DISH 500, you will also need to get the skew angle, which you will use later.

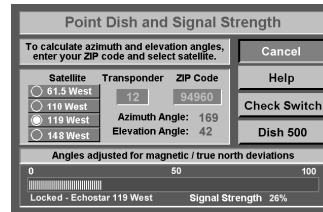
To get these angles, do the following:

1. Connect the receiver to a television, using the receiver back panel **TV Set Out** connection (or another video output connection if the receiver does not have a **TV Set Out** connection).
2. Make sure that the TV is tuned to the channel that you select for receiver output.
3. Make sure that the remote control batteries are fresh, and are installed properly. If needed, make sure that the remote is in **SAT**



mode to control the satellite receiver. If needed, make sure that the UHF remote control antenna is attached to the receiver.

4. Turn ON the television and receiver.
5. You should see the **Point Dish and Signal Strength** menu. If you do not, open the **Main Menu** and press 6-1-1 on the remote.



6. If you are installing a DISH 500, Make sure the check mark is next to **119 West**. If the check mark is not next to **119 West**, use the Up/Down/Left/Right arrow keys on the remote to move the highlight to **119 West** and press Select.

Note: If you are installing a satellite dish to receive high definition TV, you need to make sure the check mark is next to the DISH Network satellite that provides HDTV for your area. If you do not know which satellite this is, call the Customer Service Center a 1-800-333-DISH (3474).

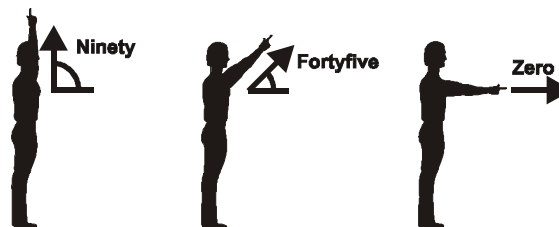
7. Enter your ZIP code in the **ZIP Code** box to get the necessary azimuth, elevation and skew angles. Write these down.

Note: If you are installing a DISH 300, the receiver will not display a Skew angle, as the DISH 300 does not require a skew setting.

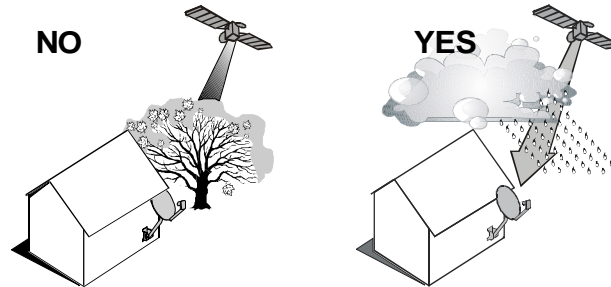
Azimuth _____ **Elevation** _____
Skew _____

MOUNTING THE DISH

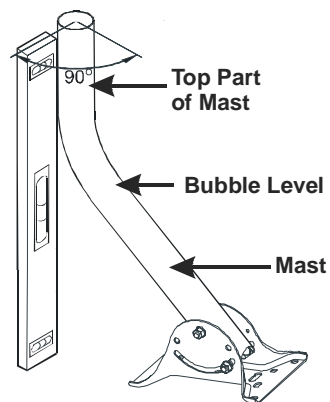
1. Using these azimuth, and elevation angles, find a location for the satellite dish which can be pointed towards the satellites located at these angles. With a compass, find the required azimuth angle. Then, use the elevation angle to find out how high the satellites are in the sky from your location.



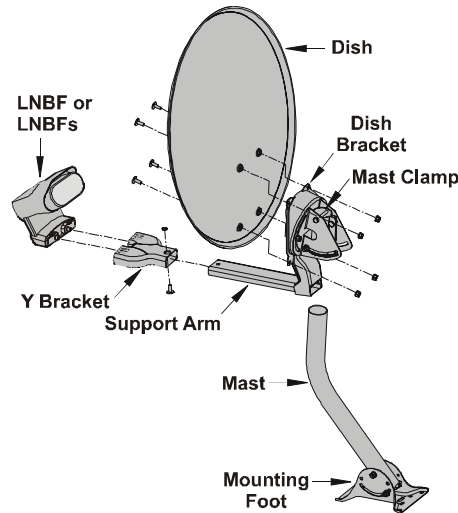
2. Make sure nothing blocks the line of sight to the satellites. Mount the mast to a solid surface so that the dish antenna cannot move or be bumped out of adjustment. Keep in mind that physical and environmental conditions can block your satellite dish's ability to receive a clear satellite signal. Make sure you mount the dish so there are no obstacles between the dish and the satellite. This will help keep the signal strength strong even in bad weather. Obstacles that can block the signal include eaves and overhangs on your building or house, wind, plant growth, and deterioration of the mounting surface. Never mount to a tree.



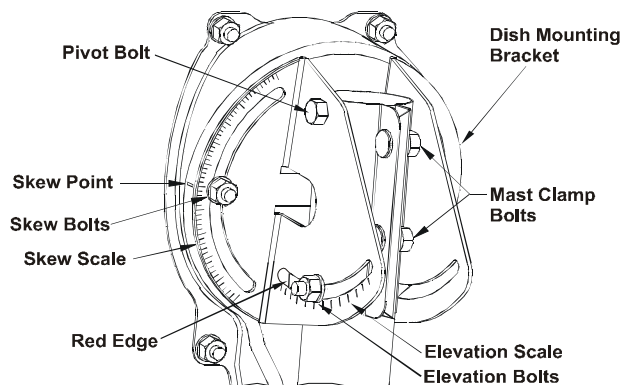
3. Align the top part of the mast so that it is absolutely vertical, as shown below. If the top part of the mast is off vertical by only a few degrees, it will be difficult or maybe even impossible for you to find the satellites. Take at least two readings with a bubble level, on the upper mast, that are 90 degrees apart from one another.



4. Assemble the satellite dish as shown below.



5. *Only if you are installing a DISH 500*, loosen both skew bolts and set the skew by rotating the dish mounting bracket to align the red mark with the required angle on the skew scale which you wrote down on page 80. Tighten the skew bolts securely to keep the dish from rotating. Once the skew is set, *do not* try to fine-tune this angle when aiming the dish.



6. Set the elevation by tilting the dish mounting bracket to align the red edge with the required angle on the elevation scale. Tighten the elevation bolts, but *do not* tighten the pivot bolt at this time.

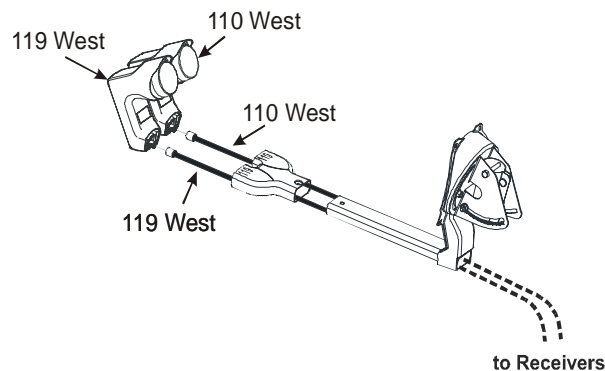
INSTALLING A DISH 500

If you are installing a DISH 500 with two single LNBFs or a dual LNBF, follow the instructions that begin below. If you are installing a DISH 500 with a twin LNBF, go to page 86 and follow the instructions titled *Installing a DISH 500 with a Twin LNBF*.

FOR INSTALLING A DISH 500 SYSTEM WITH TWO SINGLE OR DUAL LNBFs

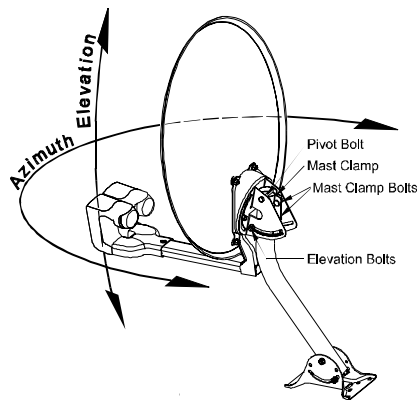
Note: Make sure there is no more than 100 feet of cable between the satellite dish's LNBF connectors and the receiver, and that you use only RG-6 cable. Also, be sure that any outdoor connections are made using waterproof "F-connectors."

1. Once you have the dish mounted by completing all the steps in the section titled *Mounting the Satellite Dish*, label one coaxial cable "119" on both ends, and the other coaxial cable "110" on both ends. These cables need to be long enough to reach from the receiver to the LNBF (the section *Grounding the Dish* (page 92) has detailed cable installation instructions).
2. Thread both coaxial cables through the mast (optional) support arm and the Y-bracket. Make sure the cable labeled "119" is threaded through the 119 side and the "110" cable is threaded through the "110" as shown.



3. Attach the Y-bracket using the Y-bracket screw. Connect the cables to the LNBFs.
4. Attach the LNBFs to the Y-bracket using the two LNBF screws
5. Slide the dish assembly down on the mast. Make sure the pivot bolt rests on the top of the mast. Turn the dish assembly so that it points in the general direction of the satellite, using the azimuth angle from page 80.
6. Connect the RG-6 coaxial cable from the "119" LNBF *directly* to the **Satellite In** connection on the receiver's back panel. You may temporarily need to use a female-to-female splice in place of where your switch will go later to do this. Do *not* connect the multi-dish switch at this time.
7. Turn On the television and the receiver. The **Point Dish/Signal** menu should be displayed. If not, open the **Main Menu** and press 6-1-1 on the remote.
8. Make sure the check mark is next to **119 West**. If it is not, use the Up/Down/Left/Right arrow keys on the remote to move the highlight to **119 West** and press Select on the remote control.
9. Turn the dish back and forth *very slowly*, until the signal strength bar

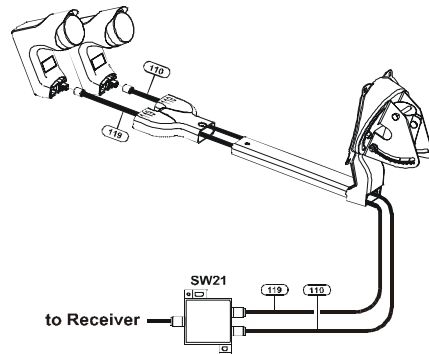
turns *green*. This shows that you have found the signal.



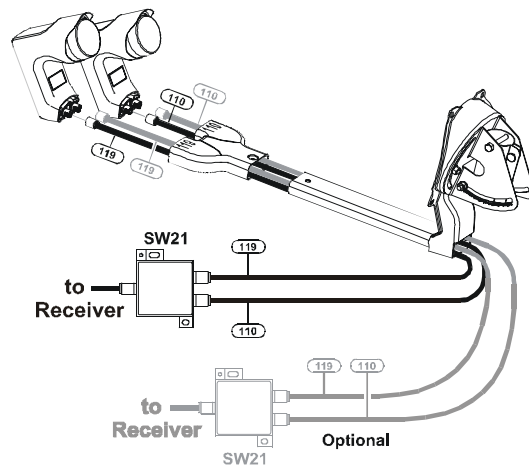
Note: If you cannot find the signal, turn the dish back to the original azimuth setting. Then, loosen both elevation bolts *just enough* to be able to tilt the dish. Tilt the dish up by two degrees, and then tighten both bolts. Now, try turning the dish back and forth again. Repeat these steps, raising and lowering the elevation, until you find the satellite signal.

10. Once you have a signal, turn the dish assembly back and forth very slightly until the signal strength bar displays the strongest possible signal strength. Tighten the mast clamp bolts. Then, loosen the elevation bolts and adjust the elevation of the dish up and down slightly until the signal strength bar displays a strong signal. Do not adjust skew. Tighten all the bolts in the dish assembly so that the dish cannot be moved.
11. Once you have the strongest possible signal, press the **Cancel** button on the remote to exit the **Point Dish/Signal** menu. The receiver displays an **Attention** message asking if the mounting of the dish is complete and you have the "Locked" indication. If the answer is yes, select the **Yes** option. The receiver will begin taking a software upgrade. Be sure to follow any instructions you see on the TV screen, and do not turn off the receiver until the upgrade is complete.
12. Next, disconnect the "119" cable from the receiver and connect it to the **Dish 1** connection on the multi-dish switch. Connect the "110" cable from the LNBF to the **Dish 2** connection the multi-dish switch. Connect a cable from the multi-dish switch to the **Satellite In** port on the receiver's back panel.

You can use one of the wiring diagrams shown here, or one of the alternate wiring diagrams that begin on page 96.



Two single LNBFs and one SW21 multi-dish switch.



Two dual LNBFs and an SW21 multi-dish switch (second switch optional).

13. Open the **Main Menu** and press 6-1-1 on the remote to again open the **Point Dish/Signal** menu.
14. Select **Check Switch**. The receiver will check your multi-switch installation. After the system checks the installation, you will see the **Installation Summary** screen. Make sure that the correct switch is displayed and that you have “Satellite reception verified” from both the **110 West** and **119 West** satellites.
15. Go back to the **Point Dish/Signal** menu by opening the **Main Menu** and then pressing 6-1-1 on the remote. Move the check mark to **110 West** option. Verify that you have a green signal strength bar with a “Locked” indication.

- If the signal from the **110 West** satellite is weak and you do not see a green signal strength bar, repeat step #10 to fine-tune the dish until you have about the same signal strength for both the **119 West** and **110 West** satellites.

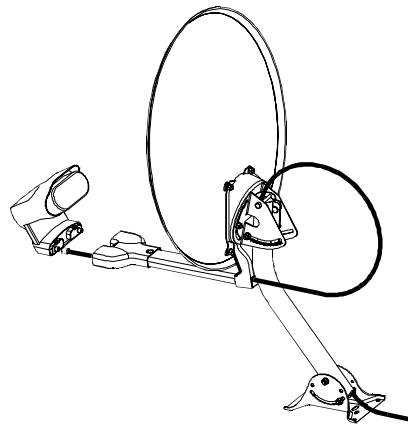
- If there is *no signal strength* on **110 West**, check your connections and select **Check Switch** again. If there is still no signal strength, check to make sure your skew angle is correct, and start over, beginning with step #7 until you have a good signal from both the **110 West** and **119 West** satellites.

16. Connect any other receivers in the system, and run **Check Switch**, so they can take the software upgrade.

FOR INSTALLING A DISH 500 WITH A TWIN LNBF

Note: Make sure there is no more than *100 feet* of cable between the satellite dish's LNBF connectors and the receiver, and that you use only RG-6 cables. Also, be sure that any outdoor connections are made using waterproof "F" connectors.

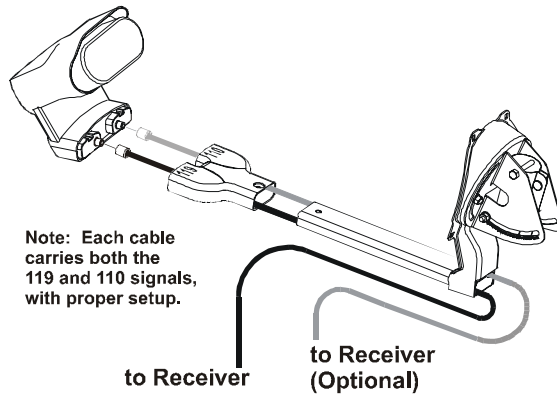
1. Once you have the dish mounted, thread the coaxial cable through the support arm, mast (optional), and the Y-bracket. The cable should be long enough to reach from the LNBF on the satellite dish to the receiver (refer to *Ground the System* beginning on page 96 for detailed cabling instructions).



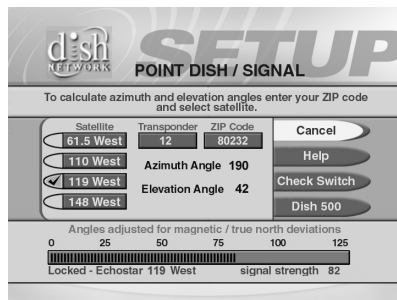
Note: If you are planning on adding a second satellite receiver, thread another cable through the support arm and the Y-bracket.

2. Attach the Y-bracket, using the Y-bracket screw.

3. Connect the RG-6 cable from the **Satellite In** connection on the back of the receiver *directly to the* DISHPro Twin LNBF, as shown below. Be sure there are no multi-dish switches between the LNBF and the receiver.

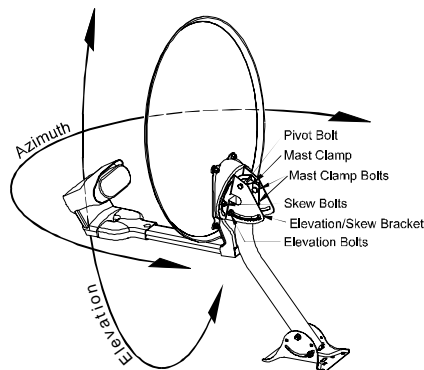


4. Attach the LNBF to the Y-bracket using the two LNBF screws.
5. Slide the dish assembly down on the mast. Make sure the pivot bolt rests on the top of the mast. Turn the dish assembly so that it points in the general direction of the satellite, using the azimuth angle form page 80.
6. Turn On the television and the receiver. The **Point Dish/Signal** menu should be displayed (see example below).



If it is not, open the **Main Menu** and press 6-1-1 on the remote. Select the **119 West** option if it is not already selected.

7. Turn the dish back and forth *very slowly*, until the signal strength bar turns *green*. This shows that you have found the signal.



Note: If you cannot find the signal, turn the dish back to the original azimuth setting. Then, loosen both elevation bolts *just enough* to be able to tilt the dish. Tilt the dish up by two degrees, and then tighten both bolts. Now, try turning the dish back and forth again. Repeat these steps, raising and lowering the elevation, until you find the satellite signal.

8. Once you have a signal, turn the dish assembly back and forth very slightly until the signal strength bar displays the strongest possible signal strength. Tighten the mast clamp bolts. Then, loosen the elevation bolts and adjust the elevation of the dish up and down slightly until the signal strength bar displays a strong signal. *Do not adjust skew.* Tighten all the bolts in the dish assembly so that the dish cannot be moved.
9. Once you have the strongest possible signal, press the CANCEL button on the remote to exit the **Point Dish/Signal** menu. The receiver displays an **Attention** message asking if the mounting of the dish is complete and you have a “locked” indication. If the answer is yes, select the **Yes** option. The receiver will begin taking a software upgrade. Do not turn off the receiver while it is taking this upgrade and follow any instructions you see on the TV screen.

If the answer is no, you will need to repoint your dish following the preceding steps until the mounting and positioning is complete and you do have the “locked” indication

10. When the software upgrade finishes, you need to return to the **Point Dish/Signal** screen. To do this, open the **Main Menu** and press 6-1-1 on the remote.
11. Select **Check Switch** from the **Point Dish/Signal** menu. When the **Check Switch** menu opens, select **Check**. The receiver will check your satellite system. After the system checks your installation, an **Installation Summary** screen will appear. This screen should show you have a 500 Twin, and “Satellite reception verified” for the 119 and 110 satellites. Select **OK**.
12. Go back to the **Point Dish/Signal** menu by opening the **Main Menu** and pressing 6-1-1 on the remote.
13. Move the check mark to **110 West** option and verify that you have a green signal strength bar with a locked signal.
 - If the signal from the **110 West** satellite is weak and you do not see a green signal strength bar, repeat step #8 to fine-tune the dish until you have about the same signal strength for both the **119 West** and **110 West** satellites.
 - If there is *no signal strength* on **110 West**, check your connections and select **Check Switch** again. If there is still no signal, confirm that your skew angle is correct, and start over with step #7.

Note: You must next ground the DISH 500. To do this, go to *Grounding the Dish* on page 92. Then, if you are also installing a DISH 300, come back to this page and follow the instructions that come next.

INSTALLING A DISH 300

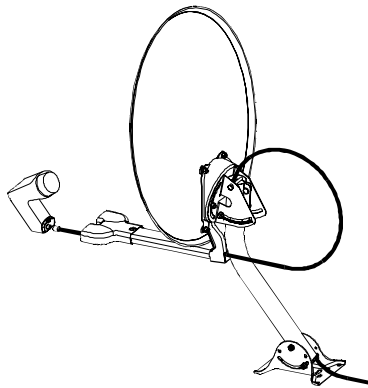
The following instructions assume you have already assembled and mounted the satellite dish, following the directions that begin on page 78.

Note: If you installed a DISH 500 and are now adding a DISH 300, you will need to connect the two dishes to your receiver(s). To do this, you need to completely install the DISH 300, and then follow one of the wiring diagrams that begin on page 96 to connect the two.

1. If you are installing a DISH 300 with a single LNBF, be sure you connect the cable directly from this LNBF to the **Satellite In** port on the receiver's back panel. Also make sure there are *no multi-dish switches between the LNBF and the receiver*. If you are installing a DISH 300 with two single LNBFs or a dual LNBF to send the satellite signal to two receivers, connect the cable directly between one of the LNBFs and the receiver. It does not matter which LNBF you connect to.

Note: Make sure you do have more than *100 feet* of cable between the satellite dish's LNBF connectors and the receiver. Make sure you use only RG-6 cables. Also, be sure that any outdoor connections are made using waterproof "F-connectors."

2. Thread the coaxial cable through the support arm, mast (optional), and the Y-bracket. **Note:** If you are installing two single LNBFs or two dual LNBFs, be sure to thread the additional cables your system will need through the support arm and the Y-bracket.

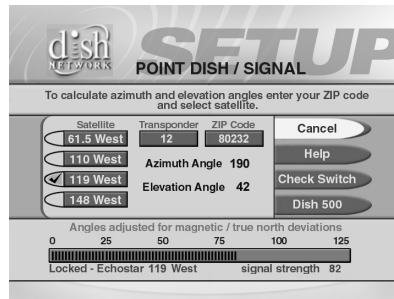


In either case, make sure the cable(s) is long enough to reach from the LNBF(s) on the satellite dish to the receiver (refer to *Ground the System* beginning on page 92 for detailed cabling instructions).

3. Attach the Y-bracket, using the Y-bracket screw.
4. Slide the dish assembly down on the mast. Make sure the pivot bolt rests on the top of the mast. Turn the dish assembly so that it points in the

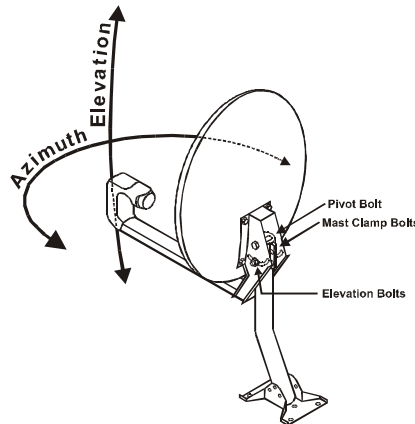
general direction of the satellite, using the elevation and azimuth angles from page 80.

5. Attach the LNBF(s) to the Y-bracket using the two LNBF screws.
6. If you have not yet direct connected the cable from the LNBF to the **Satellite In** port on the receiver's back panel, do this now.
7. Turn On the television and the receiver. The **Point Dish/Signal** menu should be displayed (see example below).



If it is not, open the **Main Menu** and press 6-1-1 on the remote. Select the **119 West** option if it is not already selected.

8. Turn the dish back and forth *very slowly*, until the signal strength bar turns *green*. This shows that you have found the signal.



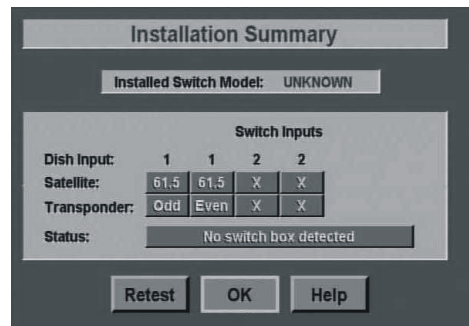
Note: If you cannot find the signal, turn the dish back to the original azimuth setting. Then, loosen both elevation bolts *just enough* to be able to tilt the dish. Tilt the dish up by two degrees, and then tighten both bolts. Now, try turning the dish back and forth again. Repeat these steps, raising and lowering the elevation, until you find the satellite signal.

9. Once you have a signal, turn the dish assembly back and forth very slightly until the signal strength bar displays the strongest possible signal strength. Tighten the mast clamp bolts. Then, loosen the elevation bolts and adjust the elevation of the dish up and down slightly until the signal strength bar displays a strong signal. *Do not adjust skew*. Tighten all the bolts in the dish assembly so that the dish cannot be moved.

10. When you have the strongest possible signal, and a “Locked” indication, press the Cancel button on the remote to exit the **Point Dish/Signal** menu. An **Attention** screen will open asking if the mounting and positioning of the dish is complete with a “Locked” indication in the **Point Dish/Signal** screen. If the answer is yes, select **Yes**. The receiver will begin taking a software upgrade. Do not turn off the receiver while it is taking this upgrade, and be sure to follow any instructions you see on the TV screen.

If the answer is no, you will need to repoint your dish following the preceding steps until the mounting and positioning is complete and you do have the “locked” indication

11. When the software upgrade finishes, you should see a DISH information channel. Go back to the **Point Dish/Signal** menu by opening the **Main Menu**, and then pressing 6-1-1 on the remote.
12. Connect any switches in the system.
13. In the **Point Dish/Signal** menu, select **Check Switch**.
14. When the **Check Switch** menu opens, select **Check**.
15. The receiver displays another **Attention** message that says it is checking the installation. Wait for this test to finish. When the test is done, the receiver displays an **Installation Summary** screen similar to the one shown below.



Note: If you have a multi-dish switch(es) in the system, you need to see an **Installation Summary** screen with satellite input from all satellites in the system. You also need to see the “Satellite reception verified” message. If you do not, check all connections, and then select **Retest** to run **Check Switch** again, and you do see satellite input from all satellites in the system and the “Satellite reception verified” message.

16. When you have satellite reception verified and the screen shows the right switch installed, select **OK** to cancel out of this menu. You will go back to the **Point Dish/Signal** menu.
17. In the **Point Dish/Signal** menu, select **Cancel**.
18. If the setup includes any other receiver(s), be sure to run **Check Switch** on all the other receivers so they will also have the latest software.

GROUNDING THE SYSTEM

You should ground the satellite dish(es) and the coaxial cable(s) per the latest revision of the *National Electrical Code* (NEC) and local electrical codes to provide some protection against damage caused by lightning strikes and other electrical discharges. Even lightning strikes several miles away can generate enough electricity in the air to damage the system.

WARNING!



Proper grounding will minimize the possibility of damage to the system and maximize safety. How you ground the system can also affect its performance. *This section is intended as a guideline only.* For more information, see the NEC and local electrical codes.

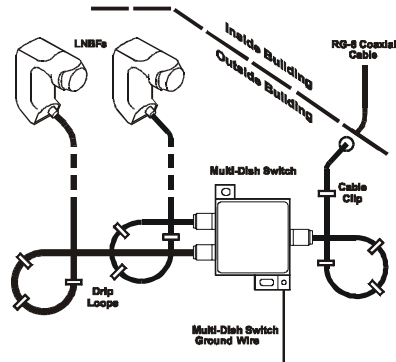
The NEC and some local electrical codes permit the use of types of grounding other than those discussed in these *Instructions*. Follow the NEC and all local electrical codes. Contact a licensed electrician or the local electric utility company if you have any questions.

Locate and avoid underground sewer, gas, water, and telephone lines *before* digging. Local utility companies can tell you where these are located.

GENERAL GUIDELINES


The following guidelines apply to *all* grounding systems.

- Make sure that the grounding system provides a solid, permanent earth grounding per the *National Electrical Code* (NEC) and local electrical codes. Contact a licensed electrician or the local electric utility company if you have any questions.
- See the grounding diagram in the *Important Safety Instructions*. This diagram suggests grounding the satellite dish and coaxial cable to the power service grounding electrode system of the building.
- If you install a grounding electrode separate from the power service grounding electrode system, connect the separate electrode to the grounding system in accordance with the NEC and local electrical codes.



FOR EXAMPLE ONLY

INSTALLING THE GROUND BLOCK

<p>WARNING!</p> 	<p>A properly grounded multi-dish switch <i>can take the place of</i> a ground block. The following instructions apply to a block <i>or</i> a switch.</p>
--	---

You may want to install the ground block onto the side of the building, or on some other sturdy structure near the satellite dish. Make sure that the location is stable, and that you fasten the ground block tightly to the surface. Article 820-40 of the *National Electrical Code* (NEC) states that you should locate the ground block as close as possible to where you have the system grounded (*for example*, to a water pipe or to a rod driven into the ground).

RUNNING THE COAXIAL CABLES TO THE GROUND BLOCK


1. Mount the ground block so that its connections are horizontal. This helps keep moisture from leaking into the block.
2. Using the shortest path possible, run the coaxial cable(s) from the LNBF(s) to the input(s) on the ground block.
3. Put a drip loop in each cable to allow moisture to drip from the cable before it runs into the ground block.
4. Run the ground wire to the power entry ground of the building in accordance with the *National Electrical Code* (NEC) and all local electrical codes.

WARNING! A ground wire must *always* be a single piece of wire. *Never* splice two wires together for a ground. Corrosion and weathering can lead to a poor connection at the splice, making the ground ineffective and dangerous. If you cut the ground wire too short, replace it with a single wire cut to the correct length.


5. Use cable clips to attach the cable to the side of the building. This helps prevent damage.

RUNNING THE COAXIAL CABLE(S) TO THE RECEIVER(S)


1. Using the shortest path possible, run the coaxial cable(s) from the ground block to the satellite receiver(s). Do *not* kink or pinch any cable. Cables should be bent *only* in gentle curves.

 **WARNING!** Do *not* use more than a total of 100 feet of RG-6 coaxial cable between the satellite dish and the receiver, without installing a line amplifier to boost the satellite signal. Otherwise, the system is more likely to lose the signal during periods of rain, snow, or heavy cloud cover. If the setup requires more than 100 feet of cable, you should consider having the system professionally installed.

2. Put a drip loop in each cable at a point before it enters the building. A drip loop allows moisture to drip from the cable before it runs into the building.

 **WARNING!** Before drilling any holes in the wall or roof of your building, make sure that there are no wires or pipes in the area of the holes. If you are not comfortable doing this, contact a professional in your area. Make sure that you follow all safety instructions and building codes.

3. Locate each receiver inside the building, against or near an outside wall. Then drill a hole through the outer wall to pass a cable inside the building. If a receiver is located in an interior room, run a cable through the outside wall, and into an attic, basement, or crawl space in order to reach the receiver.
4. Seal all holes that you drill in the building with silicone or other weatherproof sealant after installation. Once each cable is inside the building, you may attach it to a wall receptacle or directly to a receiver.

 **WARNING!** Tighten the back panel 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 in the *User Guide* that came with the system.

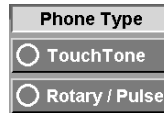
CONNECTING EACH RECEIVER TO A TELEPHONE LINE

You *must* keep each receiver connected to an active telephone line. Otherwise, you may not be able to order pay per view programs. 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.

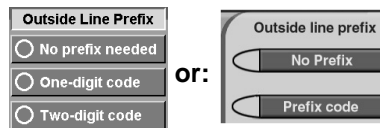
You *must* also set up each receiver for your telephone system (touchtone or rotary/pulse), and set a telephone number prefix, if you need a prefix to make an outside call.

1. Open the **Installation and Setup** menu.
2. Select the **(Tele) phone System** option to open the **(Tele)Phone System Setup** menu.
3. Select the **Touch Tone** or the **Rotary/Pulse** option in the **Phone Type** list.



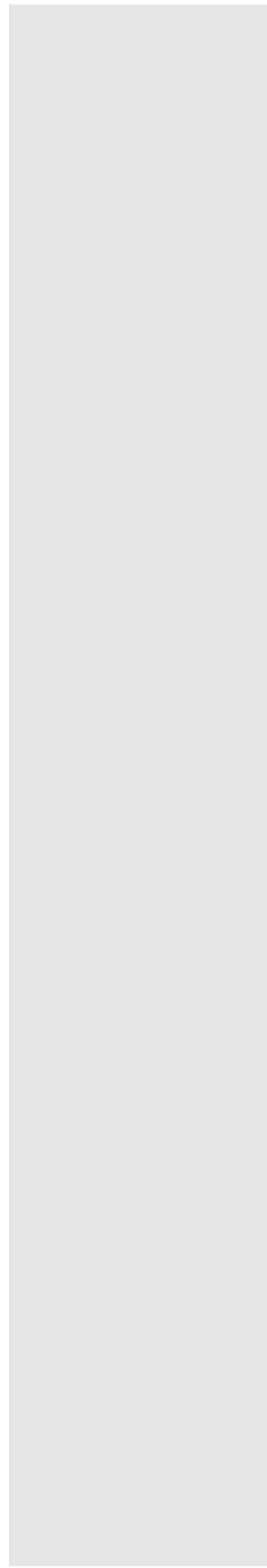
Note: Usually, you need a telephone number prefix *only* for business installations. For most residential installations, all you need to do is set the telephone system type. The default setting of **No Prefix needed** will allow correct dialing. If this is the case, select the **Save** option to save the above setting, and stop here. If you *do* need to set a prefix, then instead of selecting the **Save** option, go on to step 4.

4. Move the highlight to the appropriate option in the **Outside Line Prefix** list. Press the **Select** button to select the highlighted option.



5. The menu may highlight a box where you enter the number of digits in the prefix (this may be "1" or larger number). If so, enter the number. The receiver may highlight a box where you enter the first (maybe the only) digit of the prefix, or you may need to highlight the box yourself. Enter the number. The receiver may highlight another box, where you enter the second digit (if any) of the prefix, or you may need to highlight the box yourself. Enter the number. Continue to enter the digit(s) of the prefix, in the same way as above. When you are done entering the digit(s) of the prefix, go on to step 6.
6. Move the highlight to the **Save** option. Press the **Select** button to save the settings.

This completes the installation instructions for a DISH 300. If you are adding a DISH 300 to an existing DISH 500 system, use one of the wiring diagrams that begin on the following page to integrate the DISH 300 into your existing system.

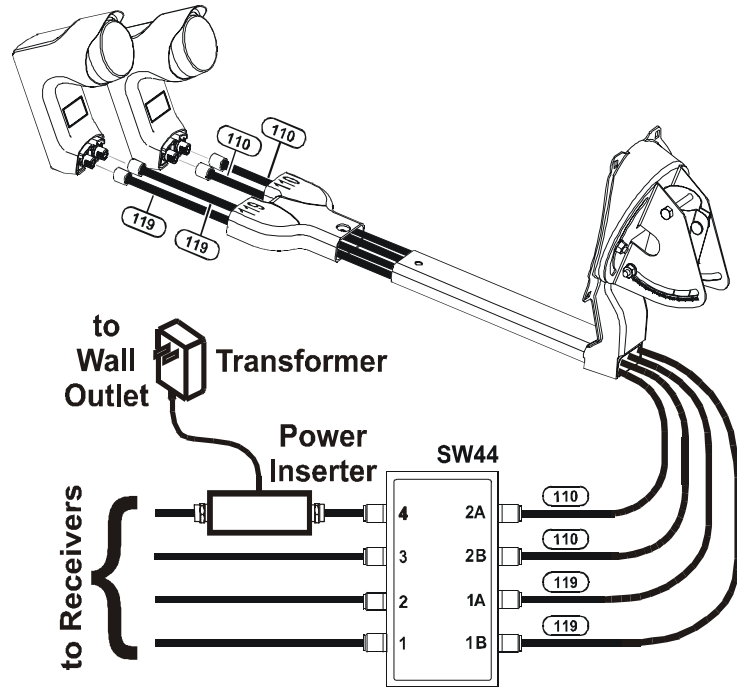


WIRING DIAGRAMS

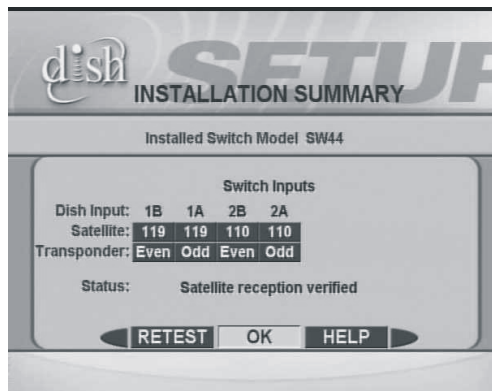
DISH 500, TWO DUAL-OUTPUT LNBFs AND ONE SW44 MULTI-DISH SWITCH, FOUR RECEIVERS



This diagram omits grounding for clarity. Make sure to ground the system per the *National Electrical Code (NEC)* and all local electrical codes. See *Grounding the System* for grounding procedures.

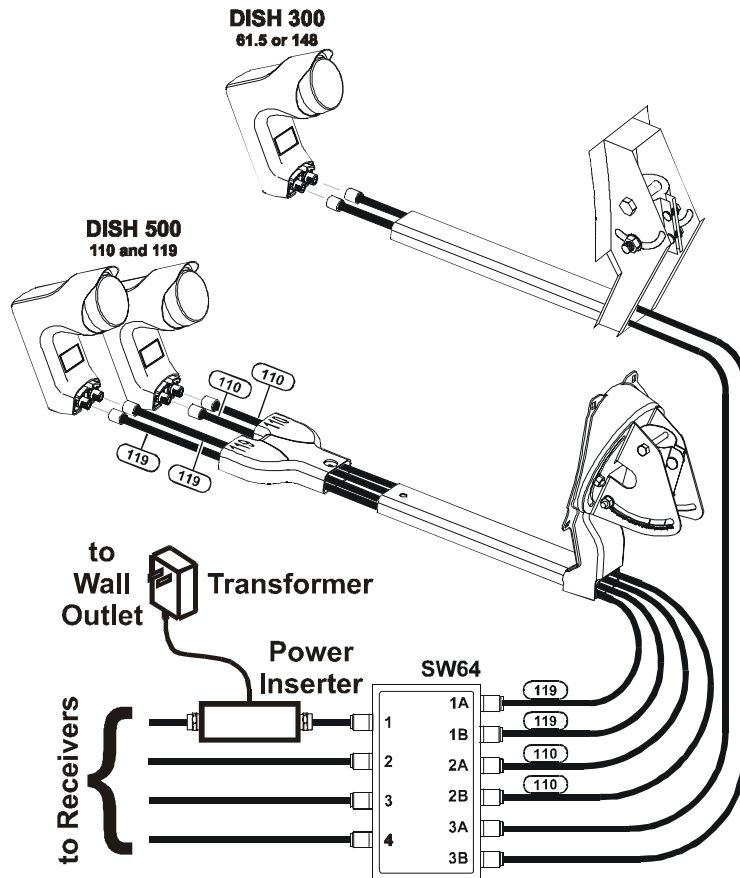


When you set up your system following this diagram and run **Check Switch** the **Installation Summary** screen should look similar to the one shown below. **ONE SINGLE OUTPUT LNBF (OPTIONAL ONE DUAL**

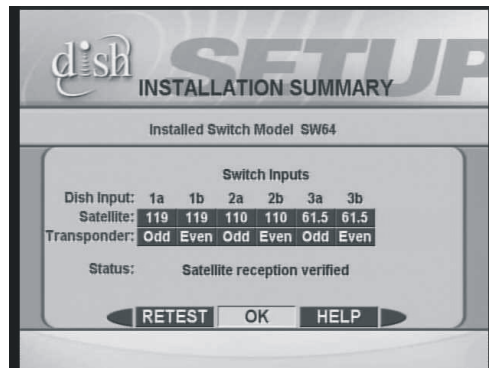


TWO DISHES, THREE DUAL-OUTPUT LNBFs, ONE SW64 MULTI-DISH SWITCH, FOUR RECEIVERS

This diagram omits grounding for clarity. Make sure to ground the system per the *National Electrical Code (NEC)* and all local electrical codes. See *Grounding the System* for grounding procedures.



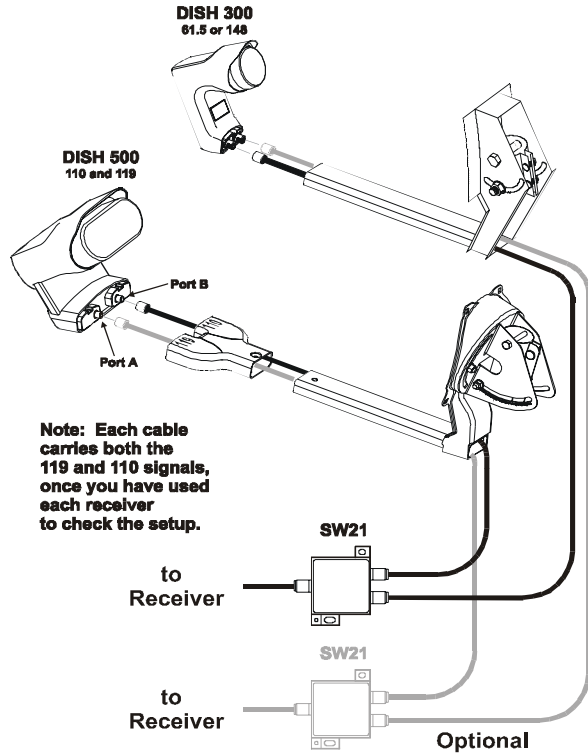
When you set up your system following this diagram and run **Check Switch** the **Installation Summary** screen should look similar to the one shown below.



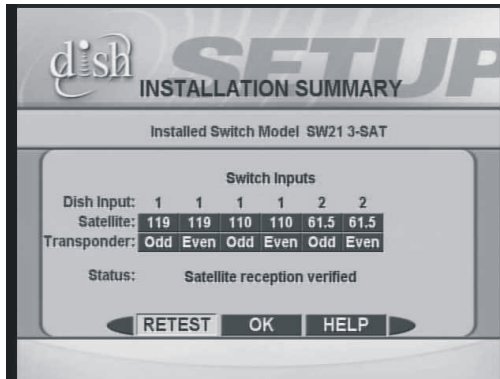
TWO DISHES, ONE DUAL LNBF, TWO RECEIVERS, TWO SW21 MULTI-DISH SWITCHES, TWO RECEIVERS



This diagram omits grounding for clarity. Make sure to ground the system per the *National Electrical Code* (NEC) and all local electrical codes. See *Grounding the System* for grounding procedures.



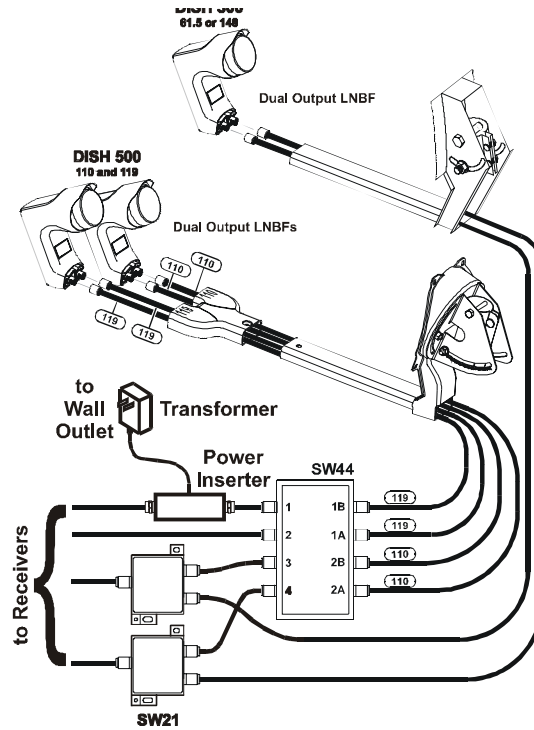
When you set up your system following this diagram and run **Check Switch** the **Installation Summary** screen should look like the one shown below.



TWO DISHES, THREE DUAL-OUTPUT LNBFs, ONE SW44 SWITCH, TWO SW21 SWITCHES, FOUR RECEIVERS

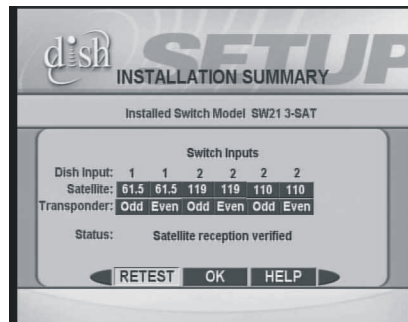


This diagram omits grounding for clarity. Make sure to ground the system per the *National Electrical Code* (NEC) and all local electrical codes. See *Grounding the System* for grounding procedures.



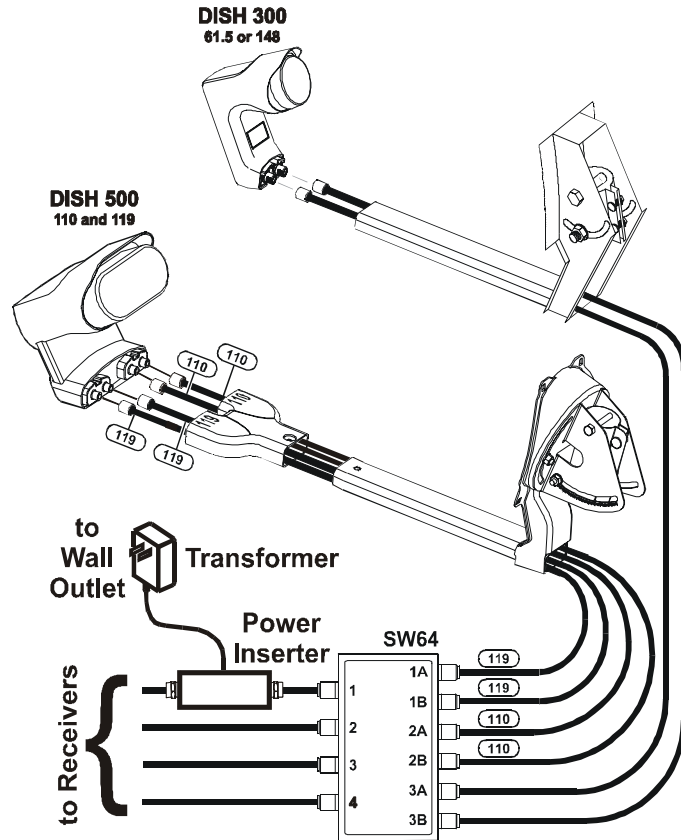
Note: In this installation, only two receivers will get signal from all three LNBFs. The other two receivers will get signal from only two LNBFs.

When you set up your system following this diagram and run **Check Switch** the **Installation Summary** screen should look similar to the one shown below.

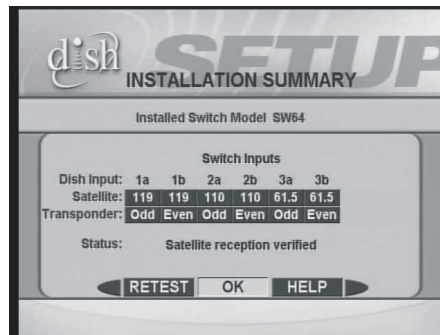


TWO DISHES, ONE QUAD LNBF, ONE DUAL-OUTPUT LNBF, ONE SW64 MULTI-DISH SWITCH, FOUR RECEIVERS

WARNING! This diagram omits grounding for clarity. Make sure to ground the system per the *National Electrical Code (NEC)* and all local electrical codes. See *Grounding the System* for grounding procedures.



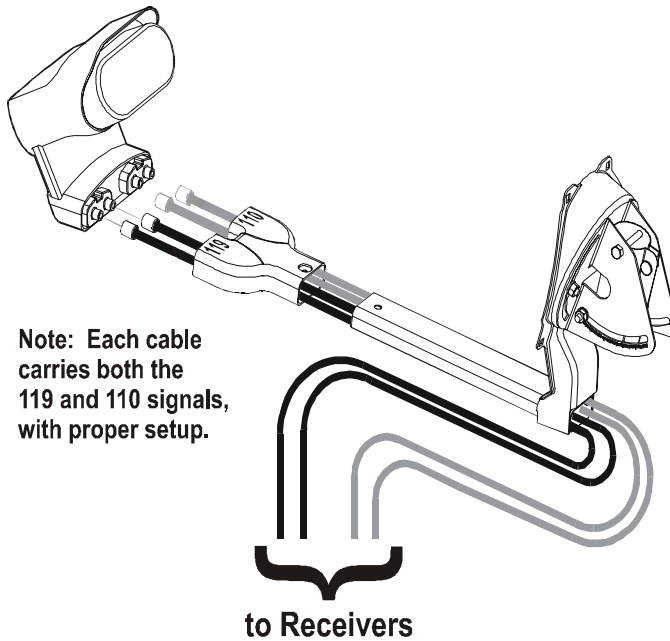
When you set up your system following this diagram and run **Check Switch** the **Installation Summary** screen should look similar to T the one shown below.



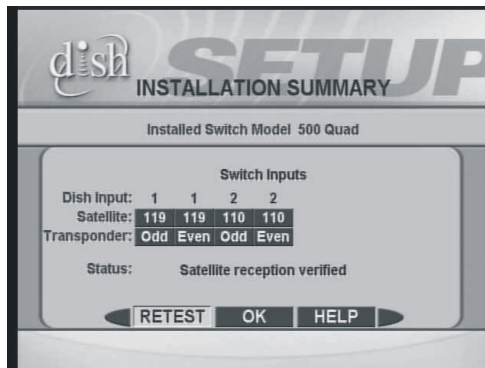
DISH 500, ONE QUAD LNBF, FOUR RECEIVERS

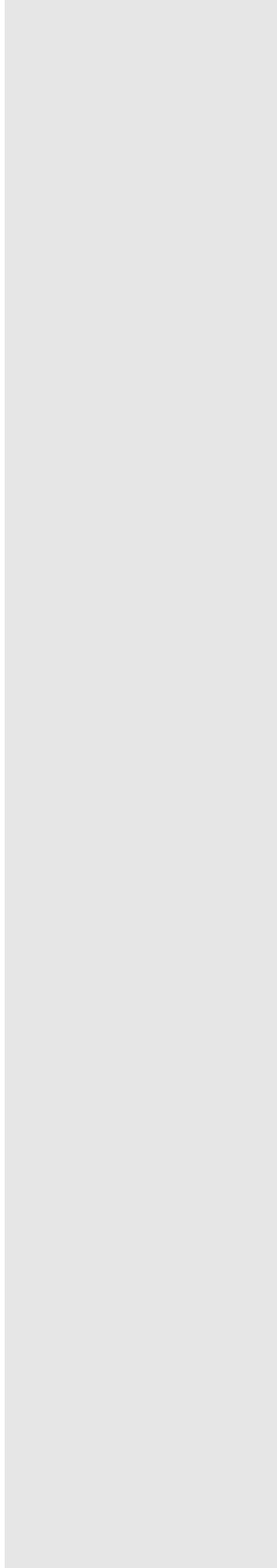


This diagram omits grounding for clarity. Make sure to ground the system per the *National Electrical Code (NEC)* and all local electrical codes. See *Grounding the System* for grounding procedures.



When you set up your system following this diagram and run **Check Switch** the **Installation Summary** screen should look similar to the one shown below.









Reference

CONNECTING THE RECEIVER

RECEIVER BACK PANEL CONNECTIONS

<p>ATTENTION!</p> 	<p>This section describes the connections on the receiver back panel. For information on wiring, and wiring diagrams, please see the installation instructions that came with the system. These instructions include information on multi-dish setups and switches. Also, please see your HD television user manual for the proper setup of the TV's HD inputs.</p>
<p>ATTENTION!</p> 	<p>Tighten the receiver back panel coaxial cable connections <i>only</i> by hand. Using a wrench may over-tighten the connections, causing damage. Such damage is <i>not</i> covered by the Limited Warranty.</p>
<p>ATTENTION!</p> 	<p>You should set up your satellite TV system and make sure that your receiver is working correctly in Standard Definition (SD) mode <i>first</i>. This will make setting up the receiver to work in High Definition (HD) mode as <i>easy</i> as possible.</p> <p>You <i>must</i> set up the receiver for HD mode, using the HDTV Setup menu.</p>
<p>ATTENTION!</p> 	<p>The receiver provides video through <i>either</i> Standard Definition (SD) outputs (the Phono (RCA) Video Output or the S-VIDEO Output) <i>or</i> High Definition (HD) outputs (the Y/Pr/Pb Outputs or the DB15 Output). You <i>cannot</i> use SD and HD outputs at the same time.</p>

QPSK TUNER INPUT

Cable

Input on Receiver

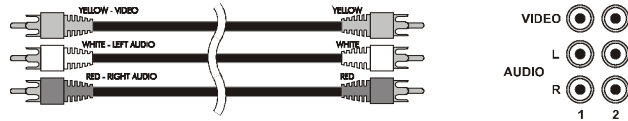


This input is for the primary tuner for satellite programs.

PHONO (RCA) AUDIO/VIDEO OUTPUTS (SD)

Cable

Outputs on Receiver



Note: These outputs work *only* if the receiver is in **SD** mode, as shown by the amber **Output SD** light on the front panel being lit.

The back panel phono (RCA) audio/video outputs provide good Standard Definition (SD) picture quality and stereo sound. The phono (RCA) audio/video cable is available as a single cable with three connectors on either end, or as three separate cables. The yellow connector carries the video signal, the white connector carries the left audio signal, and the red connector carries the right audio signal. If the TV has only one input for this type of audio, connect it to the right (**R**) phono (RCA) audio output on the receiver.

If you use the phono (RCA) audio/video outputs to connect the receiver with other devices, then depending on the type of device that you connect to the receiver you may need to use the menus displayed by each device to change the input from local broadcast TV to satellite TV. See the user manuals that came with the other devices for more information.



For UHF remote controls *only*, the receiver uses the UHF antenna to receive commands from the remote. Connect the UHF antenna here, and place it so it does not touch anything.

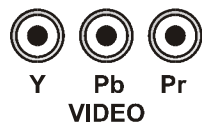
Note: Place the antenna vertically for maximum remote range. If necessary for space you can place the antenna horizontally, but this will reduce the range.



**SUPER VHS VIDEO
(S-VIDEO) OUTPUT
(SD)**

Note: This output works *only* if the receiver is in **SD** mode, as shown by the amber **Output SD** light on the front panel being lit.

The receiver supports S-VIDEO, which provides better quality SD video. If you use this back panel output for video, you *must* still connect the audio using the **Phono (RCA) Audio Outputs**.



**Y/PR/PB OUTPUTS
(HD)**

Note: These outputs work *only* if the receiver is in **HD** mode, as shown by the blue **Output HD** light on the front panel being lit.

The receiver provides Y, Pr, and Pb component video outputs for an HDTV monitor. These outputs provide HD format for the best available picture quality.

Note: If you use these back panel outputs for video, you *must* still connect the audio using the **Phono (RCA) Audio Outputs**.



**DB15 OUTPUT
(HD)**

Note: This output works *only* if the receiver is in **HD** mode, as shown by the blue **Output HD** light on the front panel being lit.

The receiver provides RGB component video output for an HDTV monitor. This output provides HD format for the best available picture quality.

Note: If you use this back panel output for video, you *must* still connect the audio using the **Phono (RCA) Audio Outputs**.



**OPTICAL SPDIF
OUTPUT**

The receiver provides Dolby[®] Digital encoded output and linear PCM for a Dolby[®] Digital compatible amplifier/decoder.



TELEPHONE JACK OUTPUT

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

Note: The receiver *must* be connected at all times to an active telephone line. If you install two or more receivers, each receiver *must* be connected at all times to an active telephone line.



ACCESSORY JACK OUTPUT

ACCESSORY

If you use a multi-dish switch that is connected to the receiver back panel **Accessory Jack**, or if you use an IR extender, you *must* set up the receiver properly.

To do this, display the **Main Menu**, and select the **System Setup** option. Next, select the **Accessory Jack** option. Finally, select the **IR Extender** or **Switchbox** option, and then select the **Save** option.

GLOSSARY

Blacked Out Program	A Program that cannot be watched in specific locations (for example, a sports event).
Changing Channels	While watching a Program , selecting channels using the remote control Up or Down button or the number pad buttons or the receiver front panel Up or Down button.
Critique	The Critique supplied in some Program information uses a four star (* = lowest) to (**** = highest) rating system. The “+” symbol is one-half star. Note: The Critique is supplied by the Program provider, <i>not</i> the receiver manufacturer.
Event	See Program .
HD	High Definition (HD) is a new, very clear video format, available for some satellite Programs . Two kinds of HD formats are available: 1080i and 720P.
IR (Infra-Red)	Some remote controls use Infra-Red light to send signals to the receiver.

Program	A TV show, movie, or pay per view Program .
Program, Pay Per View	A Program that you pay a fee to watch once.
Program Guide	An on-screen guide to the Programs that are on now, and the Programs that will be shown for some time beyond the present. You can select Programs , and buy Pay Per View Programs using the Program Guide .
QPSK	QPSK is a modulation format used for satellite signals.
Rating Codes	<p>The following codes have been assigned to Programs to indicate content and suggested audience.</p> <p>G: <i>General Audience.</i> Suitable for young children. PG-13: <i>Parental Guidance suggested.</i> Not recommended for children under the age of 13. R: <i>Restricted.</i> Not recommended for children under 17 unless accompanied by an adult. NC-17: <i>Not recommended for Children under the age of 17.</i> NR/AO: <i>Not Rated/Adult Oriented</i></p> <p>Expanded Ratings, which can be locked out by content, are as follows:</p> <p>Language: Adult language Violence: Graphic Violence Sexual Content: Sexual scenes Nudity: Nude scenes</p>
SD	Standard Definition (SD) is the existing video format, available for most satellite Programs . This format is called 480i.
UHF	Ultra-High Frequency. Some remote controls use UHF to control devices. UHF signals can travel longer distances than Infra-Red signals and can go through walls, letting you control devices from other rooms in your building.

PROBLEMS AND SOLUTIONS TABLES

Use these tables if you have problems using the system, *before* calling the Service Center. Many problems come from misunderstanding how the system works, especially when you first use it. To solve a particular problem, do the following:

1. Review the section in this *Guide* that relates to the problem.
2. If you cannot find a solution, then find one of the following tables that relates to the problem. Look down the **What Is Happening** column until

Reference

you find the problem.

3. Try each of the suggested solutions in the **What to Do** column (for better understanding, read the information in the **Possible Reason** column).
4. If you still have questions, call the Service Center at 1-800-333-DISH (3474), or visit our website at www.dishnetwork.com. **Note:** Before calling the Service Center, please have ready the receiver date of purchase and either your customer account number, the receiver conditional access number, or the receiver model number. Display the **Important System Information** menu to find these numbers (see *Ordering Your Programs* on page 7). Also, write down any error messages that the receiver displays on the television screen.

ERROR MESSAGES IN THE MENUS

What Is Happening	Possible Reason	What to Do
The receiver displays an ERROR message on the TV screen.	When the receiver finds a problem, it displays an ERROR message on the TV screen.	In most cases, the ERROR message explains the error. Sometimes, the ERROR message prompts you to do something. However, usually all you need to do is select the OK option on the ERROR message to clear the message from the TV screen.
ERROR message text: “The number of password entry retries has been exceeded. Please try again later.”	You may try to enter the password three times. If you do not enter the correct password any of those times, then you must wait several minutes until you may try again.	Wait until several minutes have passed, and try again.
ERROR message text: “The front panel buttons are locked.”	You or someone else locked the receiver front panel buttons.	You <i>must</i> use the remote control to unlock the receiver front panel buttons.
ERROR message text: “Unable to acquire signal.” or “Unable to acquire program guide information.”	The receiver is not receiving a strong enough signal to maintain an uninterrupted, clean picture.	Check the condition of all the coaxial cables and cable connections in the system. Check the condition of the dish mounting and aiming. If needed, contact your installer to re-aim the dish. If the system is OK, then there may be a weather-related problem with transmission of the satellite signal.
ERROR message text: “Please insert your Smart Card” or “Smart Card not inserted correctly” or “The Smart Card currently inserted is not valid for use with this receiver.”	The Smart Card is missing or not inserted correctly. The Smart Card is inserted upside down or backwards.	Check that the Smart Card is fully inserted into the receiver front panel slot. Check that the Smart Card is inserted right side up, with the picture on top and the arrow facing in the correct direction. Insert the proper Smart Card. The receiver will work <i>only</i> with the Smart Card that was inserted in the receiver when the receiver was authorized by the Service Center.
ATTENTION message text: “Your Smart Card does not currently have authorization to view or purchase this program. Please wait or channel up or down.”	There is a problem with the Program Guide information transmitted to the receiver via the satellite signal.	Wait a few minutes, and the problem may be corrected. If not, you <i>cannot</i> watch the selected program, even though it is displayed in the Program Guide . Try a different program or channel.
ERROR message text: “Your receiver has not yet been authorized.”	The receiver has not yet been electronically linked with the Smart Card, via the satellite signal. The satellite dish may have moved so that it is no longer picking up the satellite signal. The coaxial cables may have loosened or have moisture inside. There may be an interruption of the satellite signal.	If you have authorized your system, wait a few minutes to see if the message is removed. Check that the Signal Strength bar in the Point Dish and Signal Strength menu is <i>green</i> and displays the word Locked . If not, contact your installer to re-aim the satellite dish. If you have not authorized your system, call the Service Center for assistance.

<p>ATTENTION message text: “Acquiring satellite signal.”</p>	<p>The receiver may have just been plugged in. If so, it is acquiring the satellite signal. There may be an interruption of the satellite signal. The satellite dish may have moved so that it is no longer picking up the satellite signal. The coaxial cables may have loosened or have moisture inside.</p>	<p>Wait a few minutes to see if the message is removed. Note the local weather conditions. Heavy rain, snow, or cloud cover may be interfering with transmission of the satellite signal. Remove any snow or other debris which may have collected on the satellite dish. Check that the Signal Strength bar in the Point Dish and Signal Strength menu is <i>green</i> and displays the word Locked. If not, contact your installer to re-aim the satellite dish.</p>
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USING THE REMOTE CONTROL

What Is Happening	Possible Reason	What to Do
<p>You cannot find the remote control.</p>	<p>N/A</p>	<p>Use the receiver front panel Control Buttons to control the receiver until you find the remote. If the remote control is permanently lost or too damaged to use, call the Service Center to order a replacement.</p>
<p>When you press a button on the remote control, the receiver does not do what you expect.</p>	<p>The remote control may be missing batteries, the batteries may be incorrectly placed in the remote, or the batteries may be weak or dead. The remote control address may not match the receiver address.</p>	<p>If the batteries are missing or dead, insert fresh AAA-size batteries. If the remote has fresh batteries, check whether they are placed according to the label diagram. If not, remove them and place correctly. Make sure that the remote control address matches the receiver address.</p>
<p>When you press the remote control Power button to turn the receiver ON, the receiver front panel Power light does not light up.</p>	<p>You may not be able to see that the receiver Power light is on, if other lights in the room are too bright. The remote control may not be operating properly or the batteries may be weak or dead. The receiver power cord may not be plugged into a power outlet, or there may be a problem with the power. The remote control address may not match the receiver address.</p>	<p>Try other remote control buttons to see if the receiver is responding. Replace the remote batteries with fresh ones. Check that the receiver power cord is not damaged, and that the plug is inserted correctly into the outlet. Make sure that the remote control address matches the receiver address.</p>
<p>You use infrared (IR) remote control extenders (called “pyramids”). Other electronic devices exhibit ultra-high frequency (UHF) interference.</p>	<p>The extenders use UHF signals to transmit signals from one room of the building to another. These signals may be causing the interference.</p>	<p>Temporarily stop using the extenders, to see whether this eliminates the interference. If the extenders are the source of the interference, you will have to avoid using them whenever you do not want interference with other devices that use UHF. This is because UHF signals have a long range and go through walls and other solid objects.</p>
<p>You use infrared (IR) remote control extenders (called “pyramids”). The IR remote control extenders do not seem to work.</p>	<p>The IR sensor on the extender that receives the remote control signals may not be facing the remote control. The IR cable on the extender that sends the signal to the receiver may not be right in front of the IR sensor on the receiver front panel.</p>	<p>Make sure that the extender that receives the signal from the remote control is facing the right way, so that the IR sensor can receive the remote control signals. Make sure that the IR cable on the extender that sends the signal to the receiver is right in front of the IR sensor on the receiver front panel, so that the receiver IR sensor can receive the signals. If doing the above does not solve the problem, contact the manufacturer of the extenders for assistance.</p>

HEARING PROGRAM SOUND

What Is Happening	Possible Reason	What to Do
<p>The receiver front panel Power light is on and there is a good picture on the TV set, but you do not hear any sound.</p>	<p>You may have muted the sound, or set the volume so low that you cannot hear it. The audio connections may not be properly connected. Remember that if you use the receiver back panel S-VIDEO Output for video, you still need to use the Phono (RCA) Audio Outputs for audio.</p>	<p>Check the volume level on the TV or audio equipment. Turn off the mute or turn up the volume, as required. Check the audio connectors and cables from the receiver to the TV or the sound system you are using. Check the TV speakers or the sound system you are using.</p>
<p>You hear a foreign language with a program.</p>	<p>You may have programmed the receiver to select an alternate audio language.</p>	<p>Use the System Setup menu to open the Alternate Audio Language menu, where you can select the language you prefer.</p>

WATCHING A PROGRAM

What Is Happening	Possible Reason	What to Do
The receiver front panel Power light is on, but the TV image: is black (no picture), is frozen, has break-ups, has "snow," or shows small squares of various colors, or there is no TV image.	The TV set may not be working properly If the TV and the receiver are working properly, there may be interference with the satellite signal. The TV may be wired to the wrong input. The receiver may be set to the wrong video format (High Definition or Standard Definition).	Make sure that the TV set is plugged into an electrical outlet. Make sure the outlet has electrical power. Make sure that the TV is turned on Make sure that the TV brightness and contrast are adjusted correctly Make sure that the TV is connected properly to the receiver Check that the system has been installed correctly. Make sure that all required coaxial cables are in place, and check that all cable connectors are firmly connected Make sure that the satellite dish is aimed at the satellite. Check the strength of the signal using the Point Dish and Signal Strength menu. Consult your installer to re-aim the dish, if necessary, to obtain the maximum possible signal strength Note the local weather conditions. Heavy rain, snow, or cloud cover may be interfering with transmission of the satellite signal. Remove any snow or other debris which may have collected on the satellite dish. Set the TV to SVIDEO or VIDEO input Make sure that the receiver is set to Standard Definition or High Definition mode by checking the front panel Output SD and HD lights. You may need to change the mode by pressing the remote control Standard Definition/High Definition (SD / HD) button or the receiver front panel Output (SD / HD) button. Make sure that the receiver is connected to the TV appropriately for Standard Definition or High Definition mode. Make sure the HD outputs are setup properly, using the HDTV Setup menu.
The receiver front panel Power light is on, and there is a picture on the TV screen, but the picture: has sparkles or is grainy, has a herringbone pattern, lacks color or vertical hold, or wobbles, or looks "washed out" or fuzzy.	The TV set may not be working properly There may be interference from other nearby electrical devices (such as cellular telephones, computers, microwave ovens, radios, stereos, or TVs).	Make sure that the TV brightness and contrast are adjusted correctly, and that the TV is working properly Make sure that the TV is connected properly to the receiver Check other nearby electrical devices as possible sources of interference. Check that all required coaxial cables are in place. Check for moisture or water leaking in all connections. Dry them out if needed, then seal them with coaxial cable sealant.
A "black box" fills almost all of the TV screen.	You may have activated the Close Caption feature on the TV, and put that feature into Text mode.	Using the TV remote control and/or menus displayed by the TV (<i>not</i> the receiver remote control or the menus displayed by the receiver), deactivate the Close Caption feature.
The TV screen is all blue.	You may have connected the receiver to an incorrect input connection on the TV for the signal output from the receiver.	Check your TV owner's manual for the correct TV input connection to use for the signal output from the receiver.

USING THE MENUS

What Is Happening	Possible Reason	What to Do
You were using a menu, and it suddenly closed, taking you back to the program you were watching.	The menus have a time-out feature that closes any menu after several minutes of no activity. This will discard any changes you have made, but otherwise does no harm to the receiver.	Start over again.

USING THE PROGRAM GUIDE OR THE BROWSE BANNER

What Is Happening	Possible Reason	What to Do
You try to display future programs in the Program Guide or Browse Banner , but find you cannot.	The Program Guide and Browse Banner can display programs scheduled for an extended, but not unlimited time beyond the present.	Try displaying the Program Guide again later. By that time, it may show programs for the time and date you want.
You try to display past programs (programs that have ended) in the Program Guide or Browse Banner , but find you cannot.	The Program Guide and Browse Banner can display only programs that have not yet ended. These features cannot display a time earlier than the present.	Contact the program providers for information on past programs.

<p>When you are using the Program Guide or Browse Banner, some channels are missing.</p>	<p>You may have activated a Favorite List other than the list named ALL CHAN. You may have hidden adult channels, so that when the receiver is locked, such channels do not appear in the Program Guide or the Browse Banner.</p>	<p>You can change the active Favorite List while using the Program Guide, by pressing the remote control Guide button. You can choose another custom Favorite List or the ALL CHAN list, which includes all the channels. Unlock the receiver to enable the Program Guide and the Browse Banner to display adult channels.</p>
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CHANGING CHANNELS

What Is Happening	Possible Reason	What to Do
<p>You enter a desired channel number. The channel changes, but the new channel is not exactly the channel you entered. You are scanning up or down through the channels, and the receiver is skipping channels that you know you have purchased.</p>	<p>You may have made a mistake entering the channel number, or the channel number you entered may be invalid. If so, the channel displayed is the closest possible to the channel you entered. If you were watching a program and entered the number for a channel that you have not purchased, the receiver will change to the unpurchased program and allow a purchase or display a message. If a Favorite List other than ALL CHAN is active, the receiver will skip channels not on the active list. If you have hidden adult channels and the receiver is locked, the receiver will skip such channels.</p>	<p>Carefully retry entering the channel number you want. Press the remote control Recall button to return to the previous channel number. Select ALL CHAN as the active Favorite List. Unlock the receiver so that it does not skip adult channels.</p>

USING FAVORITE LISTS

What Is Happening	Possible Reason	What to Do
<p>You try to change the active Favorite List by pressing the remote Guide button while the Program Guide is displayed. Nothing happens.</p>	<p>If channels have not been added to any Favorite List, the ALL CHAN list will remain active.</p>	<p>You <i>must</i> add channels to a Favorite List <i>before</i> you can make it active.</p>
<p>You try to change the ALL CHAN list. The receiver displays an ERROR message.</p>	<p>The receiver will not allow you to change the ALL CHAN list.</p>	<p>Choose another list to change.</p>
<p>You try to make an empty Favorite List active. The receiver displays an ERROR message.</p>	<p>The receiver will not allow you to activate an empty list.</p>	<p>Choose another list to use, or add at least one channel to the empty list.</p>
<p>You try to add a channel to a Favorite List. The receiver displays an ERROR message.</p>	<p>You already have added the maximum total number of channels allowed among the four Favorite Lists.</p>	<p>You <i>must</i> delete a channel from any one of the lists to make room for each new channel.</p>

USING LOCKS

What Is Happening	Possible Reason	What to Do
You set a lock (<i>for example</i> , a lock on programs by ratings), but the lock does not take effect.	You have not locked the receiver.	You <i>must</i> lock the receiver for any lock to take effect.
You forgot your password, so that you are unable to unlock the receiver.	You may not have written down the password, to keep it in a safe place.	Call the Service Center. You <i>must</i> provide the following information: (1) your name; (2) your address; (3) your telephone number; (4) the receiver serial identification number; and (5) your Personal Identification Number (PIN), if you use one.

ORDERING A PAY PER VIEW PROGRAM

What Is Happening	Possible Reason	What to Do
Someone orders a pay per view program without your permission.	You may have been away from the receiver, and someone else used it.	Lock the receiver to lock the purchase of pay per view programs. <i>Remember that you are responsible for all pay per view purchases, whether or not you authorize such purchases.</i> If the receiver is locked, then anyone who wants to order a pay per view program <i>must</i> enter the password.
You are not able to order a pay per view program.	The receiver may not be connected to an active telephone line. The Smart Card credit limit may have been exceeded.	The receiver <i>must</i> be connected at <i>all</i> times to an active telephone connection. If you install two or more receivers, <i>each</i> receiver <i>must</i> be connected at <i>all</i> times to an active telephone connection. Call the Service Center.
You find that you are not able to cancel a pay per view program.	You ordered a pay per view program, and then decided not to watch it.	You <i>cannot</i> cancel an order for a pay per view program, whether it was just ordered or ordered previously.

TESTING THE SYSTEM

What Is Happening	Possible Reason	What to Do
You are doing a Front Panel or Remote Control Diagnostic Test, and the receiver turns OFF.	You pressed the remote control Power button or the receiver front panel Power button.	Turn the receiver back ON, and use the on-screen menus to return to the Diagnostics menu. You can now resume the test, but remember not to press the remote control Power button or the receiver front panel Power button.
You are doing a Front Panel Diagnostic Test, and the receiver displays no message.	The front panel buttons are not working correctly. Note: The front panel button lock has no effect on this test.	Call the Service Center for assistance.
You are doing a Remote Control Diagnostic Test, and the receiver displays the Diagnostics menu.	You pressed the remote control Cancel button.	Pressing the remote control Cancel button returns the receiver to the Diagnostics menu. Select the Remote Control option to resume the test, but remember not to press the remote control Cancel button.
You are doing a Remote Control Diagnostic Test, and the receiver displays no message.	The remote control may be missing batteries, the batteries may be incorrectly placed in the remote, or the batteries may be weak or dead. The remote control address may not match the receiver address. The remote control may be damaged or defective.	If the batteries are missing or dead, insert fresh AAA-size batteries. Make sure that the remote control address matches the receiver address. If the remote is damaged or defective, call the Service Center for assistance.
You are doing a Dish Signal Diagnostic Test, and the receiver displays a failure message.	The satellite dish may have been moved, so that it no longer receives the satellite signal. Coaxial cables may have loosened, or have moisture inside. There may be interference with the satellite signal. The dish may be full of snow or debris.	Contact your installer to re-aim the satellite dish for the maximum signal strength. Check the dish mount, tightening bolts if needed. Check that all coaxial cables are firmly connected and dry. A variety of weather (in particular, heavy rain, snow, or cloud cover) may interrupt the satellite signal. Check whether the dish is full of snow or debris, and clean it out if necessary. Call the Service Center for assistance.

You are doing a Telephone Connection Diagnostic Test, and the receiver displays a failure message.	The receiver cannot get a dial tone through the telephone connection.	Check the receiver back panel Telephone Jack connection and the telephone line. Make sure that the telephone line is connected to an active telephone connection. Make sure that the receiver is set up for the type of telephone system that you use. Make sure that no one else is using the telephone line while you do the test. Check the telephone line for a dial tone; if there is no dial tone, call the local telephone company for assistance.
You are doing a Main Unit Diagnostic Test, and the receiver displays a failure message.	The receiver may have been damaged or be defective.	Call the Service Center for assistance.

USING THE TELEPHONE FOR VOICE/DATA/FAX

What Is Happening	Possible Reason	What to Do
During a telephone call, you hear "clicks."	The receiver may have tried to call the Service Center in order to send pay per view purchase information. When the receiver found that the telephone was busy, it automatically disconnected.	You do not have to do anything.
You pick up the telephone to make a call, but you do not hear a dial tone.	The receiver was calling the Service Center in order to send pay per view information. When the receiver found that the telephone was picked up, it automatically disconnected.	Press the telephone receiver button to hang up. Release the button to get a dial tone.
Your computer or facsimile (FAX) machine tries to send a FAX or modem transmission, but fails.	The receiver was calling the Service Center in order to send pay per view information. When the receiver found that a call was being made on the telephone, it automatically disconnected. The FAX or modem found that there was no dial tone, and cancelled the transmission.	Resend the FAX or modem transmission.
Your computer or FAX machine was receiving a FAX or modem transmission, but an error occurred.	The receiver may have tried to call the Service Center in order to send pay per view purchase information during the FAX or mode call. When the receiver found that the telephone was busy, it automatically disconnected. This generated "clicks" that caused an error in the FAX or modem transmission.	Have the sender resend the FAX or modem transmission.

USING EVENT TIMERS

What Is Happening	Possible Reason	What to Do
You try to set up an event timer, but the receiver displays an ERROR message noting that the event is locked.	You <i>must</i> enter the password <i>before</i> you can create an event timer for a locked event.	To be able to set up an event timer for the event, first enter the password.
You try to set up an event timer, but the receiver displays an ERROR message noting that the event is a pay per view event.	You <i>must</i> order a pay per view event <i>before</i> you can create an event timer for it. You <i>cannot</i> create a manual event timer for a pay per view event.	To be able to set up an event timer for the event, first order it. Use <i>only</i> an automatic event timer for a pay per view event.
You try to set up an event timer, but the receiver displays an ERROR message giving you the option to delete a previously set up event timer.	You have already set up the maximum number of event timers.	To be able to set up a new event timer, delete one of the event timers you previously set up.
You set up an event timer, but the receiver does not tune to the channel of the event, or does not start the VCR to record the event.	You may have set up a <i>Reminder Event Timer</i> but what you should have set up is an <i>Auto-Tune Event Timer</i> or a <i>VCR Event Timer</i> .	Remember that a <i>Reminder Event Timer</i> only reminds you that the event is about to start. An <i>Auto-Tune Event Timer</i> reminds you and tunes the receiver to the channel of the event. A <i>VCR Event Timer</i> does all of the above and starts the VCR.
You set up an event timer for an event that is repeated (such as a regularly scheduled program), but the timer does not operate for a showing of the event.	You may have set up a timer with an inappropriate frequency.	Remember that a <i>Once</i> event timer executes only one time. A <i>Mon-Fri</i> event timer executes Monday through Friday on the same channel at the same time. A <i>Daily</i> event timer does the same, Monday through Sunday. A <i>Weekly</i> event timer executes once a week on the same channel at the same time.

Reference

You set up an event timer, but the timer does not operate at all.	The event time may have changed so that the event timer conflicted with another event timer. The event time may have changed by more than twenty-four hours.	If the receiver is ON and detects an event timer conflict, it will display the Event Timer Scheduling Conflict menu. You <i>must</i> delete one of the conflicting event timers. No event timer will operate if the event time changes by more than twenty-four hours.
You set up a <i>Once</i> event timer, but the timer operates at a time different from what you expect.	The event time changed.	A <i>Once</i> event timer always operates at the actual time of the event.
You stop the operation of an event timer for one showing of an event that is repeated (such as a regularly scheduled program), but the timer operates for the next showing.	Stopping the event timer applies <i>only</i> to the current showing of the event.	To stop all operations of a repeated event timer, you <i>must</i> delete the event timer. Note that a <i>Once</i> event timer is automatically deleted when it operates.
You are testing a VCR code to see if the receiver controls a VCR. The VCR does not do the test.	The VCR may not be turned ON, there may not be a tape inserted, the tape may not be rewound, or the write-protect tab on the tape may have been removed. The code you are testing may not be valid for the VCR.	Make sure the VCR is turned ON, with a blank tape inserted on which you want to record, that the tape is rewound, and that the write-protect tab on the tape is intact. Try another VCR code from the device codes table.
You set up a <i>VCR Event Timer</i> , but the VCR does not record the program you want. In particular, the VCR may record only a black TV screen.	You may not have turned the VCR ON, inserted a tape, or rewound the tape. Or, the write-protect tab on the tape may have been removed. There may be obstacles between the receiver and the VCR. If you set up the <i>VCR Event Timer</i> using the Create an Event Timer menu, you may have selected an <i>Auto-Tune</i> or <i>Reminder</i> timer instead of a <i>VCR</i> timer. If you did select a <i>VCR</i> timer, you may have selected an inappropriate timer frequency. If you set up the <i>VCR Event Timer</i> using the quick record feature, the timer was one-time only, and may have missed another showing of the program. If the VCR recorded only a black TV screen, the receiver may have been in the wrong video mode for the VCR.	Make sure the VCR is turned ON, with a tape inserted on which you want to record, that the tape is rewound, and that the write-protect tab on the tape is intact. Remove any obstacles between the receiver and the VCR. When you set up a <i>VCR Event Timer</i> , make sure to select the <i>VCR</i> option in the Timer Type list on the Create an Event Timer menu. Also, make sure to select the proper option in the Timer Frequency list on this menu. Remember that you can set up only a <i>Once</i> (one-time only) <i>VCR Event Timer</i> using the quick record feature. To tape a program using the receiver back panel High Definition (HD) outputs to an HD VCR, make sure to set the timer for HD output. To tape a program using the Standard Definition (SD) outputs to a conventional VCR, make sure that the timer is <i>not</i> set for HD output.
You edit an automatic event timer. The timer does not start or does not end according to the program you want to activate the timer.	Editing an automatic event timer <i>converts</i> it to a manual event timer. Such a timer starts and stops at the times you specify, <i>not</i> the start and stop times of any specific program.	If you want an automatic event timer to start and stop according to a specific program, avoid editing that event timer.
You try to create a manual event timer. The receiver displays an ERROR message.	You may have tried to set a manual event timer for a pay per view program, or with invalid start or stop times.	Use <i>only</i> an automatic event timer for a pay per view event. Review the rules on start and stop times for manual event timers.
The receiver does not display the program name for a manual event timer.	The receiver may not be able to display a program name for a manual event timer.	Use the Program Guide or a printed schedule to find the program name.
You create an event timer. The event timer misses the beginning of a program.	The program may have started a little earlier than scheduled.	Use the Start 1 min. early option to start any event timer one minute early, except for a pay per view event. Note that the option may appear as Start Early or Early instead of Start 1 min. early .

USING DOLBY[®] DIGITAL SOUND

What Is Happening	Possible Reason	What to Do
Instead of providing Dolby [®] Digital sound, the system provides only regular stereo or monaural (non-stereo) sound.	The program that you are watching may not offer Dolby [®] Digital sound. You may have selected the wrong sound option on the Dolby Digital Setup menu. The amplifier/decoder may not be compatible with Dolby [®] Digital sound.	Dolby [®] Digital sound is not available on all programs. Check the program's Program Guide entry for the (DD) symbol. On the Dolby Digital Setup menu, select the Dolby Digital Only option if the amplifier/decoder is only Dolby [®] Digital compatible, the PCM Only option if the equipment is not Dolby [®] Digital compatible, and the Dolby Digital/PCM option only if the equipment is compatible with both regular and Dolby [®] Digital sound. Note: Selecting the Dolby Digital/PCM option when the amplifier/decoder is not Dolby [®] Digital compatible could cause damage to the speakers. If the amplifier/decoder is not Dolby [®] Digital compatible, it will not provide Dolby [®] Digital sound. See the equipment owner's manual or your audio equipment dealer for more information.

Appendix A

LIMITED WARRANTY

ATTENTION!



This **Limited Warranty** is a legal document. Keep it in a safe place. Remember to retain your Bill of Sale for warranty service! Any items returned without a copy of the Proof of Purchase will be considered out of warranty.

WHAT THE WARRANTY COVERS

This warranty extends *only* to the original user of the equipment and is limited to the purchase price of each part. EchoStar Communications Corporation and its affiliated companies (“EchoStar”) warrant this system against defects in materials or workmanship as follows:

- **LABOR:** For a period of one (1) year from the original date of purchase, if EchoStar determines that the equipment is defective subject to the limitations of this warranty, it will be replaced at no charge for labor. EchoStar warrants any such work done against defects in materials or workmanship for the remaining portion of the original warranty period.
- **Parts:** For a period of one (1) year from the original date of purchase, EchoStar will supply, at no charge, new or re-manufactured parts in exchange for parts determined to be defective subject to the limitations of this warranty. EchoStar warrants any such replacement parts against defects in materials or workmanship for the remaining part of the original warranty period. **Note:** “Parts” means items included in this package, which may include the satellite dish assembly, receiver, LNBF, remote control, or dish mounting hardware. It does *not* include other parts purchased separately.

WHAT THE WARRANTY DOES NOT COVER

- This warranty *does not cover* replacement of lost or damaged Smart Cards.
- This warranty *does not cover* installation of the system. If applicable, such installation will be warranted under a separate installation agreement.
- This warranty *does not cover* consumer instruction, physical setup or adjustment of any consumer electronic devices, remote control batteries, signal reception problems, loss of use of the system, or unused programming charges due to system malfunction.
- This warranty *does not cover* cosmetic damage, damage due to

lightning, electrical or telephone line surges, fire, flood, or other acts of Nature, accident, misuse, abuse, repair or alteration by other than authorized factory service, use of accessories not recommended by the receiver manufacturer, negligence, commercial or institutional use, or improper or neglected maintenance.

- This warranty *does not cover* equipment sold AS IS or WITH ALL FAULTS, **shipping and handling**, removal or reinstallation, shipping damage if the equipment was not packed and shipped in the manner prescribed, nor equipment purchased, serviced, or operated outside the continental United States of America.

LEGAL LIMITATIONS

REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS YOUR EXCLUSIVE REMEDY. ECHOSTAR SHALL NOT BE HELD LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESSED OR IMPLIED WARRANTY ON THIS SYSTEM, NOR FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF, OR INABILITY TO USE, THIS SYSTEM. UNDER NO CIRCUMSTANCES SHALL ECHOSTAR'S LIABILITY, IF ANY, EXCEED THE PURCHASE PRICE PAID FOR THIS SYSTEM. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS SYSTEM IS LIMITED IN DURATION TO THE PERIOD OF THIS WARRANTY. ECHOSTAR RESERVES THE RIGHT TO REFUSE TO HONOR THIS WARRANTY IF ECHOSTAR DETERMINES ANY OF THE ABOVE EXCEPTIONS TO HAVE CAUSED THIS SYSTEM NOT TO HAVE PERFORMED PROPERLY. THIS WARRANTY SHALL BE VOID IF ANY FACTORY-APPLIED IDENTIFICATION MARK, INCLUDING BUT NOT LIMITED TO SERIAL OR CONDITIONAL ACCESS NUMBERS, HAS BEEN ALTERED OR REMOVED. THIS WARRANTY SHALL ALSO BE VOID IF THE RECEIVER HAS BEEN OPENED BY AN UNAUTHORIZED PERSON.

IF YOU NEED ASSISTANCE

1. Call the Customer Service Center at 1-800-333-3474. Have the date of purchase and either your customer account number, the receiver conditional access number, or the receiver model number ready. Display the **Important System Information** menu to find these numbers.
2. A Customer Service Representative will assist you.
3. If the Representative determines you should return any equipment, you will be directed to call a Return Authorization representative. *Before shipping* any equipment, you *must* talk to a Return Authorization representative and *must* obtain a Return Authorization (RA) number.
4. You will be given the appropriate address for which to return your equipment. Whether under warranty or not, you will be responsible for the cost of shipping back the defective equipment. For faster service, see the *Advance Exchange Program* below.
5. Returned equipment must be packaged properly, using either the original shipping materials or the packaging in which the replacement equipment is shipped. Include a copy of the Bill of Sale. *Any items returned without a copy of the Proof of Purchase will be considered out of warranty.* Follow the instructions given to you by the Customer Service Representative.
6. Write the RA number in large, clearly visible characters on the outside of the shipping

box that you use to return the equipment. *To avoid confusion and misunderstandings, shipments without an RA number clearly visible on the outside of the box will be returned to you at your expense.*

7. If you return the receiver, you *must* return the Smart Card with the receiver. If you do not return the Smart Card with the receiver, a fee will be assessed against your account.

ADVANCE EXCHANGE PROGRAM

The Advance Exchange Program allows you to have replacement equipment shipped immediately to you (depending upon where you live, it could take three to five business days). Along with replacement equipment, you will receive a prepaid shipping label and instructions on how to return the defective equipment.

The shipping charge, for receiving replacement equipment and returning the defective equipment, is a one time fee based on EchoStar's competitive bulk shipping rates (additional charges may apply outside of the continental US). This fee will be charged to your billing account or your valid credit card.

If you do not ship the defective equipment to EchoStar within ten days after receiving the replacement, your billing account or credit card will be charged the market price of the replacement. If you return the defective equipment after ten days, you will receive a full refund less an administrative fee.

If your equipment is out of warranty and can be repaired your billing account or credit card will be charged the standard repair fee for the replacement. If damage to the defective equipment is found, which EchoStar in its sole discretion determines has voided the warranty, or makes the equipment unrepairable, your billing account or credit card will be charged the market price of the replacement.

POST RECEIPT EXCHANGE PROGRAM

You may choose to ship the equipment to us at your cost. To provide faster service, upon receipt of your equipment you will be shipped a replacement. Your original equipment will not be available for return.

The equipment you return will be checked to verify whether it is covered under this warranty. If the defective equipment is covered under this warranty, it will be replaced and shipped back to you at no additional cost (additional charges may apply outside of the continental US).

If your equipment is out of warranty and can be repaired your billing account or credit card will be charged the standard repair fee for the replacement. If damage to the defective equipment is found, which EchoStar in its sole discretion determines has voided the warranty, or makes the equipment unrepairable, your billing account or credit card will be charged the market price of the replacement.

ACCESSORY WARRANTY

An accessory is any DISH Network branded equipment, displaying the DISH Network logo, excluding the receiver, Smart Card, cables and hookups, and non-mechanical components. A one-year warranty becomes effective upon the activation of the DISH system or date of purchase, if bought separately. A proof of purchase is required to verify the purchase date. If an accessory has an expired warranty, no exchange will be issued. You may purchase replacement accessories from DISH Network or your local retailer.

RESIDENTIAL CUSTOMER AGREEMENT

RESIDENTIAL CUSTOMER AGREEMENT

Effective as of September 1, 2001 until replaced.

THIS DOCUMENT DESCRIBES THE TERMS AND CONDITIONS UNDER WHICH DISH NETWORK WILL PROVIDE ITS SERVICE TO YOU. IF YOU DO NOT ACCEPT THESE TERMS AND CONDITIONS, PLEASE NOTIFY US IMMEDIATELY AND WE WILL CANCEL YOUR SERVICE. IF YOU ARE A NEW DISH NETWORK CUSTOMER, YOUR ACTIVATION OF A DISH NETWORK ACCOUNT AND RECEIPT OF DISH NETWORK SERVICES SHALL CONSTITUTE YOUR ACCEPTANCE OF THIS AGREEMENT AND ITS TERMS AND CONDITIONS WILL BE LEGALLY BINDING UPON YOU. IF YOU ARE AN EXISTING DISH NETWORK CUSTOMER, YOUR CONTINUED RECEIPT OF DISH NETWORK SERVICES FOLLOWING RECEIPT OF THIS AGREEMENT SHALL CONSTITUTE YOUR ACCEPTANCE OF ITS TERMS AND CONDITIONS, AND, ACCORDINGLY, THEY WILL BE LEGALLY BINDING ON YOU.

Thank you for choosing DISH Network for your television service provider. DISH Network is happy to answer any questions you may have and to provide you with technical and other customer support through the following toll-free number and email address:

1-800-333-DISH

feedback@echostar.com

or you may write to:

DISH Network

Customer Service Center

P.O. Box 33577

Northglenn, CO 80233

and, for general knowledge, try our website at www.dishnetwork.com.

“Dish Network” is a trademark of EchoStar Satellite Corporation.

1. THE DISH NETWORK SERVICE.

A. Services Defined. DISH Network offers a wide variety of video and audio programming and other services and we are constantly striving to add new services to our lineup. For purposes of this Agreement the term “Services” shall mean the programming available on DISH Network (whether subscription based or pay per view based) and any other services that we may provide to consumers either now or in the future. For purposes of this Agreement the terms “You” or “Your” refer to you, the DISH Network subscriber.

B. Programming Changes. Except as otherwise set forth in this Agreement, you may change your programming selection at any time by notifying us. A fee may apply to such changes (Change of Service Fee). In addition, you may be charged a fee (Service Access Fee) if you fail to subscribe to one of DISH Network’s basic programming packages which include America’s Top 50, America’s Top 100/CD, America’s Top 150, DISH Latino or DISH Latino Dos.

C. Programming Availability. Certain Services transmitted by us, including but not limited to some subscription Services, sporting events and broadcast network Services, may be blacked out in your area of reception. If you circumvent or attempt to circumvent any of these blackouts, you may be subject to legal action. You must be at least 18 years of age, or the applicable age of majority where you reside, in order to receive

D. Ordering Pay Per View. You may order DISH Network pay-per-view Services by using your on-screen Program Guide and remote control unit to select the movies and other events we offer. To order DISH Network pay-per-view Services, your DISH Network DBS digital receiver must be connected to a telephone outlet. You may also order DISH Network special events and pay-per-view Services over the telephone by calling the Customer Service Center or by using our automated system through the following toll free numbers:

1-877-778-MOVI (6684) for ordering movies

1-877-363-EVNT (3868) for ordering events

1-877-778-ADLT (2358) for ordering adult movies

A small fee will apply for use of the automated system (Pay-Per-View Automated Fee) or the Customer Service Center (Pay-Per-View Fee).

E. Private Viewing. DISH Network provides Services to you for your private home viewing, use and enjoyment. You agree that the Services provided will not be viewed outside of your private residence. You are permitted to exhibit the Services solely in your private residence and not in any other areas. The Services may not be rebroadcast, transmitted,

recorded or performed, nor may admission be charged for listening to or viewing any Services provided by us. If we later determine that you utilized your DISH Network Equipment (including any additional DISH Network receivers) or sold, leased or otherwise gave possession of the same to a third party who you knew or reasonably should have known intended to use it to permit the viewing of the Services in a commercial establishment or any other area open to the public, we may terminate the Services and in addition to all other applicable fees, you agree to pay us the difference between the price actually paid for the Services and the full commercial rate for such Services, regardless of whether we have or had the commercial rights to such Services. The payment of that amount and/or the termination of Services shall not prejudice our ability to exercise any other rights and remedies we may have under this Agreement, at law, in equity, or otherwise.

F. Additional Receivers. To independently tune additional televisions within your home, a separate DISH Network receiver is required for each television. DISH Network will allow you to place up to five additional receivers on your account. Each additional receiver would be authorized to receive the same Services as your initial receiver. DISH Network will charge you a reduced monthly fee (Additional Receiver Authorization Fee) for each additional receiver added to your account. This option is only available if your initial DISH Network receiver and all additional receiver(s) are located at the same residence and are continuously connected to the same telephone line. If you desire to receive Services at two different locations, you must open a separate account for each location. You agree that you will not directly or indirectly use a single account for the purpose of authorizing Services for multiple DISH Network receivers that are not all located in the same residence and connected to the same phone line. If we later determine that you did, we may terminate your Services and, in addition to all other applicable fees, you agree to pay us the difference between the amounts actually received by us and the full retail price for the Services authorized for each DISH Network DBS receiver on the account, whether owned by you or not. The payment of that amount and/or the termination of Services shall not prejudice our ability to exercise any other rights and remedies we may have under this Agreement, at law, in equity, or otherwise.

G. Changes in Services offered. DISH Network reserves the right to change the Services that we offer, and our prices or fees related to such Services at any time. If the change affects you, we will provide you notice of the change and its effective date. The notice may be provided on your billing statement or by other communication permitted under Section 9B. In the event of a change in the contents of any programming, programming packages or other Services, you understand and agree that we have no obligation to replace or supplement the programming, programming packages or other Services previously offered that have been deleted, rearranged or otherwise changed. You further understand and agree you will not be entitled to any refund because of a change in the contents of any programming, programming packages, or other Services previously offered.

H. Multi-Month Subscriptions. For multi-month subscriptions, you may downgrade the Services only at the time of renewal. You may not downgrade the Services during the term of the multi-month

2. BILLING POLICIES AND PAYMENTS FOR SERVICES.

A. You agree to pay all amounts billed for Services and to pay all taxes, fees and other charges, if any, which are now or may in the future be assessed on the Services you receive from us. Unless you prepay for a multi-month subscription to Services, we will bill you each month, in advance, for Services ordered by you or anyone who uses your DISH Network Equipment, whether with or without your permission, until you cancel the Services. The bills you receive will show the total amount due, the payment due date, payments, credits, purchases and other charges to your account.

B. You agree to pay us in full monthly by the payment due date for the Services and for any other charges due us, including any fees set forth in this Section 2. Payment of your bill after the due date will result in you paying us a Late Payment Fee. Other fees and charges may also be assessed. If partial payments are made, they will be applied first to the oldest outstanding bill. If you send checks or money orders marked “payment in full,” we can accept them without losing any of our rights to collect any other amounts owed by you, notwithstanding your characterization of the payment. DISH Network does not extend credit to our customers, and the Late Payment Fee is not interest, a credit service charge or a finance charge. You understand and agree that in the case of late payment or nonpayment for any Services ordered by you or for any of the charges stated below, we may report such late payment or nonpayment to credit reporting agencies. If you do not pay your bill by the due date, we have the right to disconnect your Services at any time thereafter, in our sole discretion. DISH Network may require you to pay all past due charges, a Reconnect Fee, a deposit equal to a minimum of one month's advance charges and all outstanding balances accrued through the date of deactivation, before we reconnect your Services. Deposits will not be held segregated from other funds and shall not earn or accrue interest.

C. If you at any time fail, neglect, or refuse to make timely payments hereunder, or if a petition in bankruptcy shall be filed on your behalf or against you, or if you take advantage of any insolvency law or become insolvent or make an assignment for the benefit of creditors, or if a receiver, liquidator, or trustee is appointed for your property or affairs, we shall be wholly relieved from our obligations hereunder.

D. If you paid for an annual or other multi-month subscription to any Services and your account is past due for any amounts owed to us, at our option we may suspend any or all Service until payment is received, and/ or convert your annual or other multi-month subscription to a monthly subscription. If we convert your multi-month subscription to a monthly subscription, we will first apply the amount you paid for your multi-month subscription to any past due amounts and then any remaining amounts to future obligations. If we elect to offset the amount paid for the remaining portion of a multi-month subscription against amounts past due, you agree to pay, in addition to all other applicable fees, the Offset

Fee set forth below for each month and partial month that the multi-month subscription was previously received.

E. If we use a collection agency or attorney to collect money you owe us or to assert any other right which we may have against you, you agree to pay the reasonable costs of collection or other action. These costs might include, but are not limited to, the costs of a collection agency, reasonable attorney's fees and court costs. If there are billing errors or other requests for credit, you can contact our Customer Service Center by telephone or in writing. You must contact us within sixty (60) days of the time you receive the billing statement for which you are seeking corrections. Failure to timely notify us of a dispute shall constitute acceptance of the bill. Undisputed portions of the billing statement must be paid before the next billing statement is issued to avoid an administrative fee for late payment. All payments for Services must be made directly by you to us. DISH Network shall have no obligation to provide Services for which payment is made by you to a third party.

F. In addition to the amounts due for Services, you agree to pay the fees referenced below (“Fees”) when applicable. DISH Network reserves the right to increase these Fees or add additional Fees in the future, in our sole discretion.

Smart Card Replacement Fee	\$50.00
Additional Receiver Authorization Fee (monthly, per receiver)	\$4.99
Late Payment Fee	\$5.00
Change of Service Fee	\$5.00
Duplicate Billing Statement Fee	\$2.00
Overnight Delivery Fee	\$24.95
Restart Fee	\$25.00
Returned Payment Fee	\$25.00
Service Access Fee (monthly)	\$5.00
Offset Fee	\$2.00
Ledger Request Fee	\$5.00
Pay-Per-View Automated Fee	\$1.00
Pay-Per-View Fee	\$5.00

3. CANCELLATION OF SERVICE

A. Your Service will continue until cancelled as provided for herein. Your subscription will be automatically renewed unless you contact us to cancel as provided for in the next paragraph.

B. You have the right to cancel your Service for any reason at any time by notifying us via telephone or in writing at the phone number or address set forth on page 1, above. Please be aware that certain promotional offers have a minimum subscription commitment (usually 12 months) and if you cancel your service prior to the expiration of that commitment, certain early termination fees may apply.

C. DISH Network has the right to terminate your Services at any time without providing notice to you if: (i) you fail to pay your bill when it is due; (ii) we receive confirmation that you have received the Services, or any part of the Services without paying for them; or (iii) you otherwise violate the terms of this Agreement.

D. If your Service is canceled for any reason, you are still responsible for payment of all outstanding balances accrued, including any applicable Fees.

E. You understand that charges for Services, once charged to your account, are nonrefundable. For monthly subscriptions, the cancellation will be effective at the end of the period covered by the last monthly bill. No refunds or credits will be provided in connection with the cancellation of monthly subscriptions. For annual or other multi-month subscriptions, the cancellation will be effective as of the date the multi-month subscription expires. Because you are receiving a discounted price in exchange for your agreement to pay for your services on an annual or other multi-month basis, in the event you cancel the Services prior to expiration of your multi-month subscription, you understand and agree that you are not entitled to any refund or credit for the unused portions of the multi-month subscription and that we have the right to retain any prepaid monies as liquidated damages.

4. EQUIPMENT.

A. In order to receive the Services it will be necessary for you to purchase or lease certain reception equipment consisting primarily of a DISH Network compatible satellite receiver, a satellite antenna, LNBF unit and remote control ("Equipment"). You will also be provided with a conditional access card ("Smart Card") that is inserted into your satellite receiver. The Smart Card remains the property of EchoStar Communications Corporation, the corporate parent of DISH Network and any tampering or other unauthorized modification to the Smart Card is strictly prohibited and may result in, and subject you to, legal action. You agree to return the Smart Card to us upon request.

B. Smart Cards are nontransferable. Your Smart Card will only work in the DISH Network receiver to which it was assigned by DISH Network. If you report to the Customer Service Center that your Smart Card was lost, damaged, defective or stolen we will replace it, as long as there is no evidence of unauthorized tampering or modification. A replacement fee will apply. In addition, in order to minimize downtime for your

Equipment, DISH Network will, upon your request, deliver a replacement Smart Card to you via overnight delivery. Our Overnight Delivery Fee will apply.

C. DISH Network reserves the right to alter the software in your DISH Network receiver through periodic updates. DISH Network will use commercially reasonable efforts to schedule the updates in a manner that result in the least amount of interference with or interruption to your Service.

D. Your DISH Network receiver contains certain components and software which are proprietary to DISH Network. You agree that you will not try to reverse-engineer, decompile or disassemble any software or hardware contained within your receiver or our Smart Card. Such actions are strictly prohibited and may result in the termination of your Services and/or legal action.

E. For proper operation of your Equipment, DISH Network requires that you connect each DISH Network receiver on your account to a telephone line. For accounts containing multiple receivers, each receiver must be connected to the same telephone line.

F. If your DISH Network Equipment is stolen or otherwise removed from your premises without your authorization, you must notify our Customer Service Center immediately, but in any event not more than three (3) business days after such removal to avoid liability for payment for unauthorized use of the DISH Network Equipment. You will not be liable for unauthorized use after we have received your timely notification.

5. LEASED EQUIPMENT.

A. If you decide to lease your Equipment from DISH Network, such Equipment shall at all times remain the sole and exclusive property of DISH Network and we will have the right, at our discretion, to replace it with new or reconditioned equipment and to remove the equipment upon termination of Services. None of the equipment shall be deemed fixtures or part of your realty. Our ownership of the equipment may be displayed by notice contained on the equipment. You shall have no right to pledge, sell, mortgage, give away or remove, relocate, alter or tamper with the equipment (or any notice of our ownership thereon) at any time. Any reinstallation, return of or change in location of the equipment shall be performed by us at the service rates in effect at the time of service. You shall not attach any electrical or other devices to or otherwise alter the equipment without our prior written consent. DISH Network shall have the right to make such filings as are necessary to evidence our ownership rights in the equipment, and you agree to execute any and all documents as are necessary for us to make such filings. Upon termination of Services, you must notify our Customer Service Center to schedule the return the Equipment.

B. You shall notify us promptly of any defect in, damage to, or accident involving the equipment. All maintenance and repair of the equipment shall be performed by us or our designees. DISH Network may charge you for any repairs that are necessitated by any damage to, or misuse of, the Equipment.

6. TRANSFER OF ACCOUNT, SERVICES, OR EQUIPMENT.

DISH Network may sell, assign or transfer your account to a third party without notice to you. You may not assign or transfer your Services without our written consent which will not be unreasonably withheld.

We may, however, refuse to allow you to assign or transfer your Services if you lease your Equipment or if your account has an outstanding balance.

7. LIMITATION OF LIABILITY.

A. WE WILL NOT BE LIABLE FOR ANY INTERRUPTIONS IN SERVICE OR LIABLE FOR ANY DELAY OR FAILURE TO PERFORM, IF SUCH DELAY OR NONPERFORMANCE ARISES IN CONNECTION WITH THE TERMINATION OF ALL OR A PORTION OF THE SERVICES, THE RELOCATION OF ALL OR A PORTION OF THE SERVICES TO DIFFERENT SATELLITE(S), A CHANGE IN THE FEATURES AVAILABLE WITH YOUR DISH NETWORK DBS EQUIPMENT OR ANY ACTS OF GOD, FIRES, EARTHQUAKES, FLOODS, POWER OR TECHNICAL FAILURE, ACTS OF ANY GOVERNMENTAL BODY OR ANY OTHER CAUSE BEYOND OUR CONTROL. WE WILL NOT BE LIABLE FOR ANY DAMAGE RESULTING FROM LOSS OF RECORDED MATERIAL OR THE PREVENTION OF RECORDING DUE TO ANY FAULT, FAILURE, DEFICIENCY OR DEFECT IN SERVICES OR EQUIPMENT. WE MAKE NO WARRANTY, EITHER EXPRESSED OR IMPLIED, REGARDING THE DISH NETWORK DBS EQUIPMENT OR ANY SERVICES FURNISHED TO YOU. ALL SUCH WARRANTIES ARE EXPRESSLY EXCLUDED. IN NO EVENT SHALL WE HAVE ANY LIABILITY FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES RELATING TO THE DBS EQUIPMENT OR RESULTING FROM OUR FURNISHING OR FAILURE TO FURNISH ANY SERVICES OR EQUIPMENT TO YOU, OR FROM ANY FAULT, FAILURE, DEFICIENCY OR DEFECT IN SERVICES OR EQUIPMENT FURNISHED TO YOU.

B. It is your responsibility to impose any restrictions on viewing by you, other members of your household, or guests, and we shall have no liability to anyone due to or based on the content of any of the Services furnished to you.

8. WARNING AGAINST PIRACY

It is a violation of several U.S. federal and state laws to receive any Services, or any portion of such Services, without paying for them. The penalties for violating such laws can range from imprisonment to civil damage awards of up to \$110,000 per violation.

9. MISCELLANEOUS

A. Physical Address/Change of Address. When setting up your DISH Network account, you agree to provide us with the physical street address where the Equipment will be located. A post office box does not constitute a physical address and is not sufficient to meet this

requirement. You agree to give us prompt notice of your change of name, mailing address, physical address where the Equipment is located or telephone number. You may do this by notifying our Customer Service Center by telephone or in writing.

B. Notice. If we send you notice, it will be considered given when deposited in the U.S. Mail, addressed to you at your billing address or hand-delivered to you. Our notice to you will also be effective if provided on your billing statement or by telephone. If you give notice to us, it will be deemed given when received by us at the address listed on the first page of this Agreement.

C. Applicable Law. This Agreement, including all matters relating to its validity, construction, performance and enforcement, shall be governed by applicable federal law, the rules and regulations of the Federal Communications Commission, and the laws and regulations of the state and local area where Service is provided. These terms and conditions are subject to amendment, modification or termination if required by such regulations or laws. If any provision in this Agreement is declared to be illegal or in conflict with any law or regulation, that provision may be deleted or modified, without affecting the validity of the other provisions.

D. Other. This document contains the entire agreement between DISH Network and you, the customer, and no salesperson, installer, customer service representative, authorized retailer, or other similarly situated individual is authorized to change the terms set forth herein. DISH Network may, however, change the terms and conditions of this Agreement in the future and will notify you if that occurs.

The terms of this Agreement, which either are expressly stated to survive or by their nature would logically be expected to survive termination, shall continue thereafter until fully performed.

Appendix B


STAYING LEGAL

Title 47, Section 605(e)4, United States Code (U.S.C.) makes it a federal crime to modify this receiver to enable it to receive encrypted (scrambled) television programming without payment of required subscriptions. Conviction can result in a fine of up to \$500,000 and imprisonment for five years, or both. Any owner of this receiver who procures or willfully causes its modification is an accessory to that offense and may be punishable in the same manner. Investigative authority for violations lies with the Federal Bureau of Investigation (FBI).

This product may incorporate copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of such copyright protection technology must be authorized by Macrovision, and is intended for home and other limited pay-per-view uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

FCC COMPLIANCE

TELEPHONE COMMUNICATION

<p>ATTENTION!</p> 	<p>The following text is extracted from Federal Communication Commission (FCC) regulations, as of the publication date of this <i>Guide</i>. Contact the FCC (see the following) or your library for the complete text of the regulations.</p>
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This equipment complies with Part 68 of the FCC rules. On the rear panel of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

The REN for this product is 0.0B.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

This equipment uses the following Universal Service Order Code (USOC) jacks: RJ-11C.

An FCC compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68 compliant.

This equipment cannot be used on telephone company-provided coin service. Connection to Party Line Service is subject to state tariffs.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.


The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If you experience trouble with this equipment, please contact the Customer Service Center at 1-800-333-3474 for repair and warranty information. If the trouble is causing harm to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.

The customer may perform minor adjustments such as the following, in case of problems with the equipment.

- Move or realign the antenna or receiving device, such as your broadcast TV antenna.
- Increase the distance between the receiver and the equipment with the interference. Change the angle of the receiver relative to the equipment.
- Plug the receiver into a different power outlet, preferably on a different fuse circuit within your building.

Refer to the *Problems and Solutions Tables* starting on page 36 for a detailed description of recommended customer actions.

 <p>WARNING!</p>	<p>Do <i>not</i> attempt to open the receiver, as this will void the Limited Warranty (with the exception of opening the Smart Card access door on the receiver front panel). There is risk of electrical shock, which may result in damage to the equipment, or personal injury or death. There are no user-serviceable parts inside the receiver. Unauthorized modification will void the Limited Warranty.</p>
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This equipment is hearing-aid compatible.

It is recommended that the customer install an AC surge arrester in the AC outlet to which this device is connected. This is to avoid damage to the equipment caused by local lightning strikes and other electrical surges.

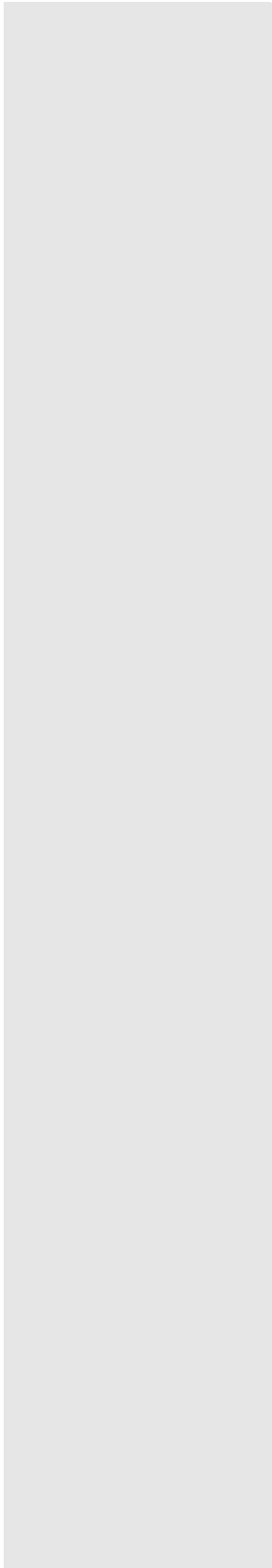
RADIO INTERFERENCE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. 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 or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

In addition, the FCC provides a booklet that can help you. You can order the booklet from the following address:

How to Identify and Resolve Radio-TV Interference Problems
Stock No. 004-000-00345-4
U.S. Government Printing Office
Washington, DC 20402



Notes

Index

A

- Accessory Jack Output 106
 - Setting Up the Receiver to Use the Accessory Jack Output 106
- Adding Local Off-Air Analog Channels 69
- Adding Local Off-Air Digital Channels 67
- Amplifier Codes 57
- Appendix B 127
- Arrow (Up/Down/Left/Right) Buttons 20
- Attenuator - How to Install 24
- Attenuator, Installing an (UHF Remote Only) 24
- Audio
 - Changing Program Languages 41
 - Hearing Program Sound 109
 - Mute Button 20
 - Using Dolby Digital Sound 64
 - Volume Button 20
- Automatic Event Timers 59
- Automatic Event Timers - Setting Up 60
- Auto-Tune Event Timer 59
- AUX (Auxiliary) Mode 19
- AUX (Auxiliary) Mode for Cable TV Box 51
- AUX (Auxiliary) Mode for Tuner or Amplifier 52
- Available Services 7
 - One-Time Services 7
 - Package Services 7
 - Programs 7
 - Subscription Services 7

B

- Back Panel, Receiver 10
- Banner, Browse 29
- Banner, Program 28, 29
- Batteries
 - Installing in the Remote Control 18
- Blacked-Out Program 63, 106
- Blacked-Out Programs 63
- Browse Banner 15, 29
 - Changing Channels Using the Browse Banner 30
 - Closing the Browse Banner 30
 - Displaying Information on Other Programs 30
 - Opening the Browse Banner 30
 - Using the Browse Banner 29
- Buttons
 - Arrow (Up/Down/Left/Right) 9, 20
 - Cancel 22
 - Guide 20
 - Information (Info) 9, 21
 - Locking the Receiver Front Panel Control Buttons 37

- Menu 9, 19
- Mode 19
- Mute 20
- Number Pad 22
- On/Off 19
- Output (High Definition/Standard Definition) 9
- Output (Standard Definition/High Definition) 19, 46
- Output High Definition (HD) Light 19, 46, 105
- Output Standard Definition (SD) Light 19, 46, 104, 105
- Pound (#) (SAT Mode) 23
- Power 19
- Recall 21
- Receiver Front Panel 9
- Receiver Front Panel Control Buttons Test 42
- Record (VCR Mode) 22
- Remote Control 19
- Select 9
- Standard Definition/High Definition (SD / HD) 19, 46
- Star (*) (AUX Mode) 23
- System Information 9
- System Information (Sys Info) 22
- Up/Down/Left/Right (Arrow) 9
- Up/Down/Left/Right Arrow 20
- View 21
- Volume 20

Buying

- Ordering Your Programs 17
- Pay Per View Programs 31

C

- Cancel Button 22
- Canceling a Procedure 26
- Changing Channels 27, 106
- Changing Program Languages 41
- Changing the Name of a Favorite List 34
- Channel Locks 37
- Channel Order in the Program Guide 27
- Channels - Changing 27
- Channels, Changing 27, 106
- Check Device Codes 47
- Closing the Menus 25
- Coaxial Cable Connections 10
- Codes, Content (Rating) 107
- Codes, Rating (Content) 107
- Connecting the Receiver 103
- Connections
 - Accessory Jack Output 106
 - DB15 Output (HD) 105
 - Optical SPDIF Output 105
 - Phono (RCA) Audio/Video Outputs (SD) 104
 - QPSK Tuner Input 104
 - Receiver Back Panel 103
 - Super VHS Video (S-VIDEO) Output (SD) 105
 - Telephone Jack Output 106
 - UHF Remote Antenna Input 104

- Y/Pr/Pb Outputs (HD) 105
- Content (Rating) Codes 107
- Control Buttons 9
- Control, Remote 10
- Critique, Program 106
- Customer Service 5, 17, 107

D

- Daily Event Timer 59
- DB15 Output (HD) 105
- Default Settings 40
- Deleting an Event Timer 62
- Device Code Scan 53
- Device Codes 55
- Digital Off-Air Cartridge - Installing 65
- Digital Off-Air Cartridge - Installing and Using 65
- Displaying Program Information 28
- Doing the Remote Control Device Code Scan 24
- Dolby Digital Sound 64
- Dolby Digital Sound - Using 64
- Dolby Digital Sound, Using 64
- Download of Receiver Software 17

E

- Editing an Event Timer 62
- Event Timer Frequencies 59
- Event Timer Management Menu 14
- Event Timer Types 59
- Event Timers
 - Automatic Event Timers 59
 - Auto-Tune Event Timers 59
 - Before the Timer Activates 59
 - Daily Event Timers 59
 - Deleting an Event Timer 62
 - Early (Start One Minute Early) Option 60
 - Editing an Event Timer 62
 - Frequencies of Event Timers 59
 - Locks, Blacked-Out Programs, and Event Timers 63
 - Manual Event Timers 59
 - Maximum Number of Event Timers 62
 - Monday to Friday Event Timers 59
 - Once (One-Time) Event Timers 59
 - Overlapping Timers 62
 - Power Off and Event Timers 63
 - Quick Record 61
 - Reminder Event Timers 59
 - Reviewing 63
 - Setting a VCR Event Timer for an HD Program 60, 61, 63
 - Setting Up a Manual Event Timer 61
 - Setting Up an Automatic Event Timer 60
 - Setting Up the Receiver and VCR for VCR Event Timers 63
 - Start One Minute Early Option 60
 - Types of Event Timers 59
 - Using Event Timers 59
 - VCR Event Timers 59
 - Weekly Event Timers 59
- Event Timers - Deleting 62
- Event Timers - Editing 62

Event Timers - Maximum Number 62
Event Timers - Overlapping 62
Event Timers - Reviewing 63
Event Timers - When Power is Off 63
Events (Programs) 59, 106

F

Favorite List - Changing the Name of 34
Favorite List - Creating or Changing 33
Favorite List - Making One Active 33
Favorite Lists
 Changing the Name of a Favorite List 34
 Creating or Changing a Favorite List 33
 How Resetting the Receiver Affects Favorite Lists 40
 Making a Favorite List Active 33
 Using Favorite Lists 32
Favorite Lists - Using 32
Favorite Lists Menu 13
FCC (Federal Communication Commission) Compliance 127
Federal Communication Commission (FCC) Compliance 127
Finding HDTV Programs to Watch 71
Finding the Device Codes 53
Formats, Modulation
 QPSK 107
Formats, Video
 HD 44, 103, 106
 SD 44, 103, 107
Front Panel Control Buttons Test
 Test - Front Panel Control Buttons 42
Front Panel, Receiver 9

G

Geosynchronous Orbit 6
Glossary 106
Guide Button 20
Guide, Program 12, 27, 107

H

HD (High Definition) 44, 103, 106
HD (High Definition) Video Outputs 105
HDTV
 Setting a VCR Event Timer for an HD Program 60, 61, 63
 Setting Up the Receiver for HDTV 6, 44
 Setting Up the Receiver for SDTV 44
 Switching between SD and HD 46
 Watching Programs 43
HDTV Programs - Finding 71
HDTV Setup Menu 14
Help Menu 24
High Definition (HD) 44, 103, 106
High Definition (HD) Video Outputs 105
Highlighting a Choice in a Menu List 26
Highlighting a Menu Option 25

- How to Add Local Off-Air Digital Channels 67
- How to Find HDTV Programs to Watch 71
- How to Switch Between TV and Device Volume Control 47

I

- Important Safety Instructions 1
- Important System Information Menu 17
 - Displaying the Menu 17
- Information
 - For More Information 5
 - Important System Information Menu 17
 - Ordering Your Programs 17
 - Problems and Solutions Tables 107
 - World Wide Web home page 5
- Information (Info) Button 21
- Infra-Red (IR) 106
- Installation and Setup Menu 14
- Installing an Attenuator 24
- Installing an Attenuator (UHF Remote Only) 24
- Installing Batteries in the Remote Control 18
- Installing the Digital Off-Air Cartridge 65
- Instructions, Safety, Important 1
- Interference, Radio 129
- IR (Infra-Red) 106

L

- Legal Considerations
 - Copyright Protection 127
 - Encryption (Scrambling) 127
 - FCC Compliance for Radio Interference 129
 - FCC Compliance for Telephone Communication 127
 - Pay Per View 127
 - Recording Copyrighted Materials 41
 - Scrambling (Encryption) 127
- Limited Warranty 115
- Lists of Choices in the Menus
 - Multiple Choice Lists 25
 - Single Choice Lists 25
- Lock 63
- Locks
 - Accessing a Locked Item or Opening the Locks Menu 35, 39
 - Changing the Receiver Password 39
 - Creating or Changing Channel Locks 37
 - Creating or Changing Rating (Content) Code Locks 36
 - Hiding Adult Channels 38
 - How Resetting the Receiver Affects Locks 40
 - How to Set Locks - A Two Step Process 35
 - Locking Pay Per View Programs 38
 - Locking the Receiver 38
 - Locking the Receiver Front Panel Control Buttons 37
 - Ordering Pay Per View Programs 31
 - Personal Identification Number (PIN) 40
 - Using Locks 34
 - When You Have Locked the Receiver 35
- Locks Menu (Parental and System Locks Menu)
 - Opening the Menu When You Have Locked the Receiver 35
- Locks, Blacked-Out Programs, and Event Timers 63

M

- Main Menu 12
- Manual Event Timers 59
- Manual Event Timers - Setting Up 61
- Maximum Number of Event Timers 62
- Menu Button 19
- Menu Lists - Highlighting a Choice in 26
- Menu Options 25
 - Highlighting a Menu Option 25
 - Selecting a Menu Option 25
- Menus 11
 - Browse Banner 15, 29
 - Canceling a Procedure 26
 - Closing the Menus 25
 - Displaying Program Information 28
 - Error Messages 108
 - Event Timer Management 14
 - Favorite Lists Menu 13
 - HDTV Setup 14
 - Help Menu 24
 - Highlighting a Choice in a Menu List 26
 - Highlighting a Menu Option 25
 - Important System Information 17
 - Installation and Setup 14
 - Lists of Choices in the Menus 25
 - Locks (Parental and System Locks) 13
 - Main Menu 12
 - Menu Options 25
 - Opening the Menus 24
 - Parental and System Locks (Locks) 13
 - Program Banner 28
 - Program Guide 12, 27
 - Selecting a Choice in a Menu List 26
 - Selecting a Menu Option 25
 - System Setup 13
 - Theme Categories (Themes) 12
 - Time-Out Feature 25
 - Using the Menus 24
- Menus - Closing 25
- Menus - Opening 24
- Mode Buttons 19
- Modes, Receiver (HD, SD) 106, 107
- Modes, Receiver (SD / HD) 19
- Modes, Remote Control
 - AUX (Auxiliary) 19
 - SAT (Satellite Receiver) 19
 - TV 19
 - VCR 19
- Monday to Friday Event Timer 59
- Mute Button 20, 49

N

- Number Pad Buttons 22

O

- Off-Air Analog Channels 69
- Off-Air Digital Channels 67
- Off-Air TV Broadcasts 72
- Off-Air TV Reception - Setting Up the Receiver For 66
- On/Off Button 19
- Once (One-Time) Event Timer 59
- One-Time Services 7
- Opening the Menus 24
- Opening the Program Guide 27
- Optical SPDIF Output 105
- Ordering Pay Per View Programs 31
- Ordering Your Programs 7, 17
 - Downloading Receiver Software 17
- Output (Standard Definition/High Definition) Button 19, 46
- Overlapping Event Timers 62

P

- Package Services 7
- Parental and System Locks Menu (Locks Menu)
 - Opening the Menu When You Have Locked the Receiver 35
- Parts of the System, The 9
- Pay Per View Programs 107
 - Locking Pay Per View Programs 38
 - Ordering Pay Per View Programs 31
- Personal Identification Number (PIN) 40
- Phone Jack Output 106
- PIN (Personal Identification Number) 40
- Pound (#) Button (SAT Mode) 23
- Power 49
- Power Button 19, 49
- Power Cord and Plug, Receiver 10
- Power Light 9
- Power Off and Event Timers 63
- Problems and Solutions Tables 107
 - Changing Channels 111
 - Error Messages in the Menus 108
 - Hearing Program Sound 109
 - Ordering a Pay Per View Program 112
 - Testing the System 112
 - Using Dolby Digital Sound 114
 - Using Event Timers 113
 - Using Favorite Lists 111
 - Using Locks 112
 - Using the Menus 110
 - Using the Program Guide or the Browse Banner 110
 - Using the Remote Control 109
 - Using the Telephone for Voice/Data/FAX 113
 - Watching a Program 110
- Program Banner 28, 29
 - Using the Program Banner 28
- Program Critique 106
- Program Guide 12, 27, 107
 - Closing the Program Guide 28
 - Setting Up the Channel Order 27
- Program Guide - Selecting a Program In 28
- Programming the Remote to Control Other Devices 46
 - TV or Amplifier Volume Control 54

Programs 107
 Available Services 7
 Blacked-Out 106
 Closing the Program Guide 28
 Displaying the Information on Other Programs 30
 Pay Per View Programs 107
 Program Banner 28
 Program Critique 106
 Program Guide 107
 Rating (Content) Codes 107
Programs (Events) 59, 106
Programs, Ordering Your 17

Q

QPSK 107
Quick Record 61
Quick Start Tips 7

R

Radio Interference 129
Rain and Snow Fade 6
Rating (Content) Code Locks 36
Rating (Content) Codes 107
Recall Button 21
Receiver 9
 Back Panel Connections 103
 Download of Operating Software 17
 Menus 11
 Modes (SD / HD) 19
 Setting Up the Receiver for HDTV 6, 44
 Setting Up the Receiver for SDTV 44
 Setting Up the Receiver to Use the Accessory Jack Output 106
 Switching between SD and HD 46
 Test 43
Receiver Back Panel 10
 Accessory Jack Output 106
 DB15 Output (HD) 105
 Optical SPDIF Output 105
 Phono (RCA) Audio/Video Outputs (SD) 104
 Power Cord and Plug 10
 QPSK Tuner Input 104
 Super VHS Video (S-VIDEO) Output (SD) 105
 Telephone Jack Output 106
 UHF Remote Antenna Input 104
 Y/Pr/Pb Outputs (HD) 105
Receiver Front Panel 9
 Arrow (Up/Down/Left/Right) Buttons 9
 Control Buttons 9
 Control Buttons Test 42
 Information Button 9
 Locking the Front Panel Control Buttons 37
 Menu Button 9
 Output (High Definition/Standard Definition) Button 9
 Output (Standard Definition/High Definition) Button 19, 46

- Output High Definition (HD) Light 19, 46, 105
- Output Standard Definition (SD) Light 19, 46, 104, 105
- Power Light 9
- Select Button 9
- Smart Card Access Door 9
- System Information Button 9
- Up/Down/Left/Right (Arrow) Buttons 9
- Receiver Modes (HD, SD) 106, 107
- Record Button (VCR Mode) 22
- Recording Programs 41
- Reference 103
- Reminder Event Timer 59
- Remote Control 10
 - Accidental UHF Signals 18, 23
 - Amplifier Codes 57
 - Arrow (Up/Down/Left/Right) Buttons 20
 - Cancel Button 22
 - Changing the Remote Address 23
 - Changing the Remote Control Address 18
 - Doing the Remote Control Device Code Scan 53
 - Guide Button 20
 - Information (Info) Button 21
 - Installing an Attenuator (UHF Remote Only) 24
 - Installing the Batteries 18
 - Menu Button 19
 - Mode Buttons 19
 - Mute Button 20
 - Number Pad Buttons 22
 - On/Off Button 19
 - Pound (#) Button (SAT Mode) 23
 - Power Button 19
 - Programming the Remote to Control Other Devices 46
 - Recall Button 21
 - Record Button (VCR Mode) 22
 - Standard Definition/High Definition (SD / HD) Button 19, 46
 - Star (*) Button (AUX Mode) 23
 - System Information (Sys Info) Button 22
 - Television Codes 55
 - Test 42
 - TV or Amplifier Volume Control 54
 - UHF Remote Antenna Input 104
 - Up/Down/Left/Right Arrow Buttons 20
 - Using the Buttons 19
 - Using the Remote Control 18, 109
 - View Button 21
 - Volume Button 20
- Remote Control - Battery Installation 18
- Remote Control - Changing the Address 23
- Remote Control - Using 18
- Remote Control - Using the Buttons 19
- Remote Control Device Code Scan 24
- Remote Control Modes (SAT, TV, VCR, AUX) 19
- Remote Control Test 42
- Resetting the Receiver 40
- Residential Customer Agreement 118
- Reviewing Event Timers 63

S

- Safety Instructions, Important 1

- SAT (Satellite Receiver) Mode 19
- Satellite Signal Quality 6
 - Rain and Snow Fade 6
 - Solar Interference 6
- Satellite Television 6
- SD 48
- SD (Standard Definition) 44, 103, 107
- SD (Standard Definition) Video Outputs 104, 105
- SDTV - Setting Up the Receiver For 44, 66
- Selecting a Choice in a Menu List 26
- Selecting a Menu Option 25
- Selecting a Program in the Program Guide 28
- Service, Customer 107
- Services
 - Customer Service 5
 - Ordering Your Programs 17
 - World Wide Web home page 5
- Setting 44
- Setting Up a Manual Event Timer 61
- Setting Up an Automatic Event Timer 60
- Setting Up the Receiver for Off-Air TV Reception 66
- Setting up the Receiver for Off-Air TV Reception 66
- Setting Up the Receiver for SDTV 44
- Setting Up the Receiver for Standard Definition TV (SDTV) 66
- Setting Up the Receiver for VCR Event Timers 63
- Setting up the System 66
- Signal Quality, Satellite 6
- Smart Card Access Door 9
- Software
 - Download of Receiver Software 17
- Solar Interference 6
- Sound Volume Button 20
- Standard Definition (SD) 107
- Standard Definition (SD) Video Outputs 104, 105
- Standard Definition SD) 44, 103
- Standard Definition/High Definition (SD / HD) Button 19, 46
- Star (*) Button (AUX Mode) 23
- Starting Quick Tips 7
- Staying Legal 127
- Subscription Services 7
- Super VHS Video (S-VIDEO) Output (SD) 105
- System Information (Sys Info) Button 22
- System Setup Menu 13

T

- Taping Programs 41
- Telephone Connection
 - Telephone Jack Output 106
 - Using the Telephone for Voice/Data/FAX 113
- Telephone Connection - Testing 43
- Telephone Jack Output 106
- Television Codes 55
- Television, Satellite 6
- Test - Remote Control 42
- Testing the System 42

- Dish Signal 43
- Main Unit (Receiver) 43
- Receiver Front Panel Control Buttons Test 42
- Remote Control 42
- Starting a Test 42
- Telephone Connection 43
- Theme Categories (Themes) 32
- Theme Categories (Themes) Menu 12
- Themes (Theme Categories) 32
- Timers, Event
 - Automatic Event Timers 59
 - Auto-Tune Event Timers 59
 - Before the Timer Activates 59
 - Daily Event Timers 59
 - Deleting an Event Timer 62
 - Early (Start One Minute Early) Option 60
 - Editing an Event Timer 62
 - Frequencies of Event Timers 59
 - Locks, Blacked-Out Programs, and Event Timers 63
 - Manual Event Timers 59
 - Maximum Number of Event Timers 62
 - Monday to Friday Event Timers 59
 - Once (One-Time) Event Timers 59
 - Overlapping Timers 62
 - Power Off and Event Timers 63
 - Quick Record 61
 - Reminder Event Timers 59
 - Reviewing 63
 - Setting a VCR Event Timer for an HD Program 60, 61, 63
 - Setting Up a Manual Event Timer 61
 - Setting Up an Automatic Event Timer 60
 - Setting Up the Receiver and VCR for VCR Event Timers 63
 - Start One Minute Early Option 60
 - Types of Event Timers 59
 - Using Event Timers 59
 - VCR Event Timers 59
 - Weekly Event Timers 59
- Tips for Quick Start 7
- Troubleshooting
 - Problems and Solutions Tables 107
 - Testing the System 42
- TV 48
- TV Mode 19
- TV/Video Button 48
- TV Mode 48
- Types of Event Timers 59

U

- UHF (Ultra-High Frequency) 107
- UHF Remote Antenna Input 104
- UHF Signals, Accidental 18
- UHF Signals, Interference 24
- Ultra-High Frequency (UHF) 107
- Up/Down/Left/Right Arrow Buttons 20
- Uplink Center 6
- Using Dolby Digital Sound 64
- Using Event Timers 59
- Using Favorite Lists 32
- Using Locks 34

- Accessing a Locked Item or Opening the Locks Menu 39
- Changing the Receiver Password 39
- Creating or Changing Channel Locks 37
- Creating or Changing Rating (Content) Code Locks 36
- How to Set Locks - A Two Step Process 35
- Locking the Receiver 38
- Locking the Receiver Front Panel Control Buttons 37
- Locks, Blacked-Out Programs, and Event Timers 63
- Ordering Pay Per View Programs 31
- Personal Identification Number (PIN) 40
- When You Have Locked the Receiver 35
- Using the Digital Off-Air Cartridge 65
- Using the Menus 24
 - Canceling a Procedure 26
 - Closing the Menus 25
 - Displaying a Help Menu 24
 - Highlighting a Choice in a Menu List 26
 - Highlighting a Menu Option 25
 - Lists of Choices in the Menus 25
 - Menu Options 25
 - Opening the Menus 24
 - Selecting a Choice in a Menu List 26
 - Selecting a Menu Option 25
- Using the Program Guide 27
- Using the Remote Control 18, 109
- Using the Remote Control Buttons 19
- Using Theme Categories (Themes) 32
- Using Themes (Theme Categories) 32

V

- VCR (Videocassette Recorder) Mode 49
- VCR Event Timer 59
- VCR Event Timers - Setting Up the Receiver For 63
- VCR Mode 19
- View Button 21
- Volume 49
- Volume Button 20
 - TV or Amplifier Volume Control 54

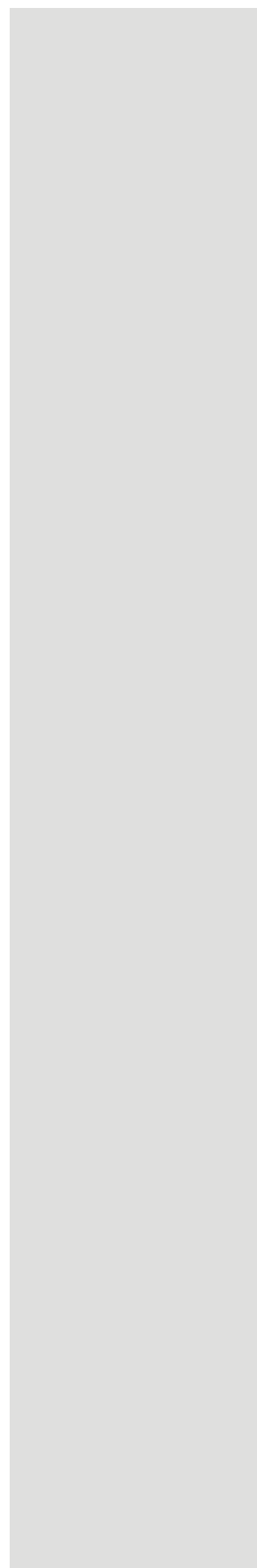
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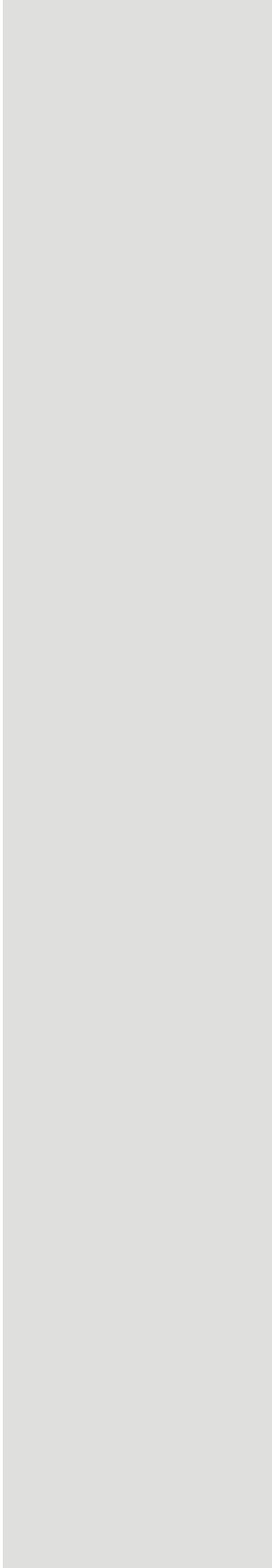
- Warranty 115
- Watching HDTV Programs 43
 - Setting Up the Receiver for HDTV 6, 44
 - Setting Up the Receiver for SDTV 44
 - Switching between SD and HD 46
- Weekly Event Timer 59
- Welcome! 5
- World Wide Web home page 5

Y

- Y/Pr/Pb Outputs (HD) 105

Notes





Notes

Write the following information in the spaces provided below. You may need to provide this information if you call the Customer Service Center.

Purchase Location Name:	
Purchase Location Telephone Number:	
Receiver Serial Number:	
Receiver Conditional Access Number	
Smart Card Conditional Access Number:	
FCC Ringer Equivalence Number (REN):	0.0B

Codes Programmed into Remote Control	
Remote Address	
Television (TV) Code	
VCR Code	
Auxiliary (AUX) Code	