



DIRECTV® HD Receiver

User Guide

DIRECTV® HD RECEIVER USER GUIDE



Great TV viewing is in your hands!
A good way to begin learning about your DIRECTV® System is to familiarize yourself with the remote control. You'll find further details throughout the User Guide relating to specific functions.

Navigating 101

You'll find you can get around nearly all onscreen menus the same simple way.

- **Highlight...** a menu or button by using the ARROW keys (up, down, left and right).
- **Choose it...** by pressing SELECT while the item is highlighted.

Note: Don't worry about getting stuck in a menu. You can always press EXIT to return to video.

Keys in the shaded area below can be programmed to function with your VCR, DVD player or stand-alone DVR unit.

MODE SWITCH Changes remote to control other equipment, for example, a DVD	TV INPUT Changes the "source" — the piece of equipment whose signal is displayed on your TV
FORMAT Cycles through HD resolution and screen format options	
STOP Changes the "source" — the piece of equipment whose signal is displayed on your TV	
REPLAY Replays the last channel viewed	
REWIND Replays the last channel viewed	
PAUSE Pauses the last channel viewed	
ADVANCE Advances the last channel viewed	
PLAY Plays the last channel viewed	
FFWD Fast forwards the last channel viewed	
RECORD Records the last channel viewed	
POWER Turns your DIRECTV HD Receiver and other equipment on and off, as selected with MODE switch	DIRECTV & TV POWER ON/OFF Turns your TV and DIRECTV HD Receiver on and off
LIST Displays your To Do List	
EXIT Exits any menu and returns to last channel viewed	
ARROWS Move highlight to items in whatever direction needed	
INFO Displays info for a highlighted or full screen program	
BLUE In live TV, displays the Mini Guide; other functions vary — look for onscreen hints	
YELLOW In fullscreen TV, cycles through alternate audio tracks; other functions vary — look for onscreen hints	
CHAN/PAGE In live TV, changes channel up or down; in a menu, such as the Guide, scrolls page up or down	
PREV Tunes to last channel viewed	
ENTER Activates channel number entries quickly	

ACTIVE GUIDE
Displays the DIRECTV Active™ Channel—local weather and more!

SELECT
Selects any highlighted item

BACK
Takes you to the screen you visited previously

MENU
Displays a compact menu of settings and services

RED
In Guide, jumps 12 hours back; other functions vary — look for onscreen hints

GREEN
In Guide, jumps 12 hours forward; other functions vary — look for hints onscreen

VOLUME
Raises or lowers volume

MUTE
Toggles sound volume on/off

NUMBER KEYS & DASH
Tune to a channel directly; also input numbers when needed in onscreen menus

Safety & Care

Your DIRECTV® HD Receiver has been designed and manufactured to stringent quality and safety standards. You should, however, be aware of the following important precautions for safe and optimal use of the equipment.

Meaning of symbols printed on the rear panel of the product:



This symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

Important Safety Instructions

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

WARNING

To reduce the risk of fire or electric shock, do not expose this product to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

IMPORTANT: Be sure not to place your DIRECTV HD Receiver near anything WET or HOT!



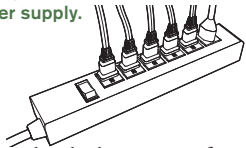
If this product is used at 240VAC, a suitable attachment plug should be used.





TIP

We highly recommend plugging the DIRECTV HD Receiver into a surge protector to prevent damage from fluctuations in your power supply.



- **CAUTION:** Avoid moisture to reduce the risk of fire or electric shock. The DIRECTV HD Receiver should not be used near water (for example, kitchen sink, bathtub, pool, damp basement). Also, never spill liquid on the receiver, and do not place vases or other vessels containing liquid on top of it.
- Ensure proper ventilation — the vent slots on the DIRECTV HD Receiver must be left uncovered to allow proper airflow to the unit. Blocking the airflow to the unit could impair performance or damage your receiver and other components.
- Do not stack electronic components or other objects on top of the DIRECTV HD Receiver. Also, do not stack the receiver on top of a “hot component” such as an audio power amplifier.
- Protect your components from power surges by connecting all the components before plugging any power cords into the wall outlet. Use of a surge protector is also recommended.
- Don’t overload power outlets or extension cords, which can result in the risk of fire or shock. It’s also important to use only the type of power source indicated on the marking label or in this manual.

- Avoid audio hum or interference by inserting all cable plugs firmly into their jacks. Also, place Audio/Video (A/V) cables to the sides of the TV back panel rather than down the middle once connected. Try not to coil any twin-lead cables and keep them away from A/V cables as much as possible.
- Never insert objects of any kind into any openings in the DIRECTV HD Receiver (other than the DIRECTV® Access Card as detailed in this chapter).
- Place it on a flat, hard surface — do not operate the DIRECTV HD Receiver on a carpet or other padded surface.
- Always unplug your DIRECTV HD Receiver before moving it.
- Always unplug the DIRECTV HD Receiver, TV and other equipment before you connect or disconnect any cables.
- The mains power connector at the back of the unit or at the outlet should be accessible to allow quick shutdown in case of emergency.
- **CAUTION:** Electric Shock — never attempt to disassemble the DIRECTV HD Receiver yourself; always take it to a qualified service person when repair is required. Opening or removing covers may expose dangerous voltage or other risks, and incorrect reassembly can cause shock when receiver is subsequently used. Attempted self-repair may also void your warranty. Changes or modifications not expressly approved by the party responsible for compliance (by the warranty or by the manufacturer) could void the user’s authority to operate the equipment.
- Do not drop your DIRECTV HD Receiver and always move it with care.
- Have your DIRECTV HD Receiver professionally serviced (do not attempt to service it yourself)
- Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.
- To reduce the risk of fire, use only No. 26 AWG or better telecommunications line cord.
- Do not install this equipment in a confined space such as a book case or similar unit.

For your information:

- The identification sticker can be located underneath or on the back of your receiver.
- The telecommunication network voltage used is the category number 3.

Note to Satellite Dish Installer

This reminder is provided to call your attention to articles 810 and 820 of the 2005 National Electrical Code. Refer to article 810, in particular 810-1 and 810-15, for required grounding of the metal structure of the dish antenna. Refer also to the 810-2 which, by reference to article 820, requires that the satellite dish coaxial cable shield be connected to the grounding system of the building as close to the point of cable entry as practical.

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Icon Reference	.xci
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Important

Important: This device incorporates an anticopy process technology that is protected by U.S. patents and other intellectual property rights. The anticopy process is licensed for non-commercial, home use only. Reverse engineering or disassembly is prohibited. Unauthorized changes or modifications to this equipment may void the user's authority to operate it.

Chapter 1

Getting Started

- 2 Welcome
- 4 Installation and Activation
- 5 DIRECTV HD Receiver Front Panel
- 6 DIRECTV HD Receiver Rear Panel

Welcome

With its astounding variety of channels and choices, crisp digital-quality picture and sound and one-of-a-kind sports and events, DIRECTV® HD service offers everything you'd want in your television experience. With the DIRECTV® HD Receiver you can expect more than ever before, with access to over 225 channels, including our awesome HD selections and over 30 premium movie channels, with something to please everyone in the family. DIRECTV Pay Per View offers a handy choice in recent hit movies, plus exciting live sports, concerts and specials, even Pay Per View selections in HD. There's exclusive sports subscriptions for every taste and team. Even access to 36 commercial-free music channels!

To deliver this unique programming and enhance your entertainment experience, the DIRECTV HD Receiver has been designed to be simple and user-friendly. You'll find that most features are self-explanatory, with onscreen directions to lead you through them.

So, welcome to the family.



You can find additional information and the latest updates at DIRECTV.com.

What You Can Watch

With the DIRECTV HD Receiver, you have access to all types of televised programming, including:

- ▶ DIRECTV high-definition and standard-definition digital programming via satellite, including network channels if offered in your area (DIRECTV service subscription required).

Equipment You'll Need

To view HD programming, you'll need, in addition to your DIRECTV HD Receiver:

- ▶ A high-definition TV set (or HDTV monitor)
- ▶ A 5 LNB Multi-Satellite dish antenna—MPEG4 and Ka/Ku compatible

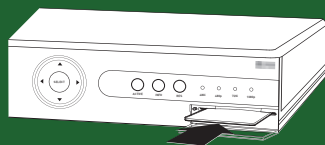
Installation and Activation

If you or a professional installer have not yet connected your DIRECTV® HD Receiver and other components, please see *Appendix A, Installation* at the end of this User Guide. Following activation, you will need to activate your DIRECTV® service. If you have not activated already, see page 69 for more information.

Package Contents

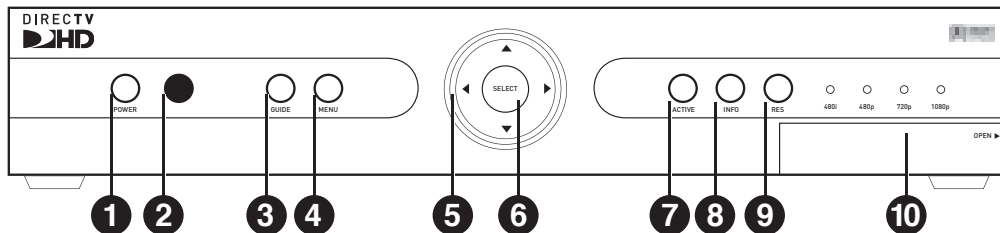
The following items are included with your DIRECTV HD Receiver:

- ▶ User Guide
- ▶ IR Remote Control & batteries
- ▶ Phone cord
- ▶ Power cord
- ▶ B-Band Converter
- ▶ Access card
- ▶ Video and audio cables



Locate the access card that came with your DIRECTV HD Receiver. Write down the card number in the space below, then insert the card into the receiver, facing upward, fully into the slot.

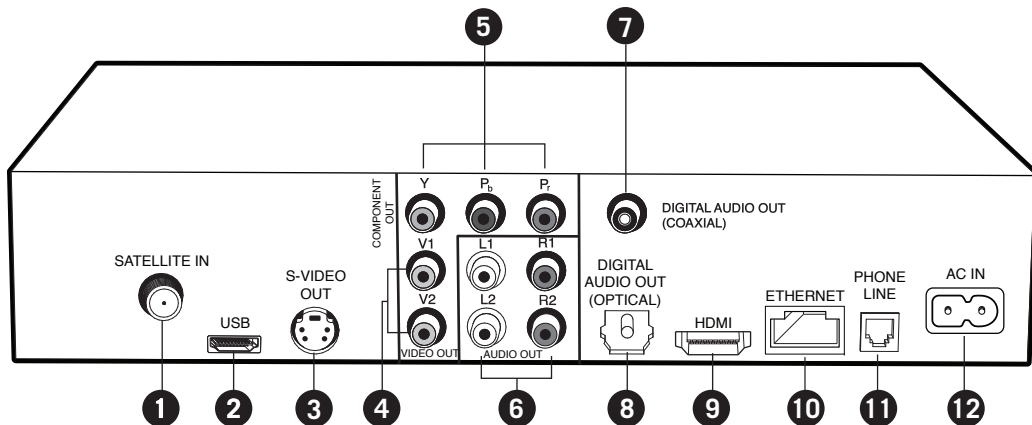
Card #



Your equipment may not look exactly like the model illustrated.

DIRECTV HD Receiver Front Panel

- 1) **POWER** – Turns your DIRECTV HD Receiver on or off. Your Receiver still tunes and receives messages when powered off.
- 2) **REMOTE SENSOR** – The infrared sensor picks up commands from the remote control.
- 3) **GUIDE** – Displays the onscreen program guide.
- 4) **MENU** – Brings up the Menu to access settings and services.
- 5) **ARROWS** – Move the onscreen highlight up, down, left or right.
- 6) **SELECT** – Selects the item highlighted.
- 7) **ACTIVE** – Displays the DIRECTV Active™ Channel—local weather and more!
- 8) **INFO** – Displays channel banner or info to a highlighted program or channel cell.
- 9) **RESOLUTION/RESOLUTION INDICATOR** – The RESOLUTION key switches the output resolution of the HD receiver. Each time you press the key, it cycles to the next available resolution: 480i, 480p, 720p and 1080i. The adjacent lights indicate the current resolution setting.
- 10) **DOOR PANEL** – The access card slot and RESET button are located behind the door panel.



Your equipment may not look exactly like the model illustrated.

DIRECTV HD Receiver Rear Panel

- 1) **SATELLITE IN** – Use to connect the DIRECTV HD Receiver to the satellite dish antenna.
- 2) **USB** – For future services and accessories. Additional hardware may be required.
- 3) **S-VIDEO OUT** – Provides the best non-HD picture quality, better than VIDEO RCA-type jacks. If your TV has only RCA and S-Video jacks, use it along with the audio jacks (S-Video only carries picture information, not sound) to connect to your TV.
- 4) **VIDEO OUT** – Provides good, but non-HD, picture quality. You can connect the second RCA-type composite VIDEO jack to another device, such as a VCR. You must also connect the AUDIO cables when using the VIDEO connection.

The Rear Panel may look complicated, but you probably won't use all the connections.

**Connect video,
audio, your
satellite dish, a
phone line, power,
and you're done!**

- 5) **COMPONENT OUT/ YPbPr (G, B, R)** – Provides good HD picture quality, but not as good as HDMI. YPbPr carries only picture information, not sound; use it along with a digital audio connection or Audio Out (L/R white/red) jacks. (Note, some TV sets have component video inputs that are non-HD. In this case, component video has the best available non-HD picture quality.)
- 6) **AUDIO OUT (R and L)** – Connect a second set of audio cables to another component, such as a VCR or stereo.
- 7) **DIGITAL AUDIO OUT (COAX)** – Provides digital-quality audio signal. (Cable sold separately.)
- 8) **S/PDIF DIGITAL AUDIO OUT (OPTICAL)** – Provides digital-quality audio signal. (Cable sold separately.)
- 9) **HDMI** – Provides the best quality HD picture (better than YPbPr/component video). The HDMI also provides audio, for a high-quality, “one-cable” solution. (Additional cables sold separately.)
- 10) **ETHERNET**– For future use.
- 11) **PHONE LINE**– Connects the DIRECTV HD Receiver to a telephone line. The DIRECTV HD Receiver requires a land-based telephone line connection to communicate periodically with DIRECTV.
- 12) **POWER** – Use to connect the power cord for your DIRECTV HD Receiver. We recommend you use a surge protector to safeguard your DIRECTV HD Receiver from power spikes. Your DIRECTV HD Receiver is rated to operate at 100-240V, with the appropriate power cord.

Chapter 2

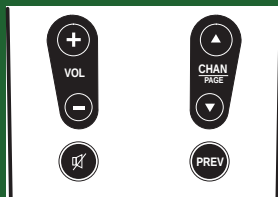
What's On

- 11 Watching TV
- 15 The Guide
- 17 Autotune
- 19 Pay Per View





Use the Channel Lineup (included in your Welcome package) to get familiar with our channel numbers.



Watching TV

Now that everything's set up, you're ready to grab your remote and start surfing!

With the MODE switch to the left (under the DIRECTV logo), press PWR. To access the channel of your choice, simply key in its numbers on your remote (the channel will appear in a second or two, or press ENTER after the numbers and it will appear right away). You can also navigate to different channels through the Guide, described in detail later in this chapter. Keep in mind, either way, you'll only be able to access those channels in your chosen DIRECTV® programming package. For a list of the channels available in the DIRECTV programming packages, visit DIRECTV.com.

Use the black keys on the left side of your remote control to adjust volume up or down (VOL) or mute the sound (MUTE - ). The black keys on the right side can take you to the next channel numerically up or down (CHAN), or jump to the previous channel you watched (PREV).

DIRECTV Active™ Channel

The DIRECTV Active™ Channel provides a variety of interactive services, including daily and extended weather forecasts, daily horoscopes, lottery results, pay per view and broadcast TV recommendations, and special DIRECTV promotions.

Press the ACTIVE key to access these features.



7
LAT

Sunday Football

Tap: All Channels

Mini Guide

Wed 12/15 7:14p

6:00p - 8:00p

TV-PG



1

2

3

4

5

6

7

8



1 Current Date & Time

2 DIRECTV Channel

3 Program Info

4 Current Favorites

5 Audio Options



6 Messages



7 Parental Controls



8 Color Hint

To see program details at any time press INFO on your remote (press a second time to clear). Select More Info button to see additional options.

The Channel Banner

Any time you tune to a channel, the Channel Banner appears across the top of the screen, displaying info on the channel and show you are currently watching:

- 1) **Current Date & Time**
- 2) **DIRECTV Channel** – Channel logo, number and call letters of the station you're currently viewing.
- 3) **Program Info** – Program title, stop and start time and rating of the current program.
- 4) **Current Favorites** – Favorite Channels list currently in use.
- 5) **Audio Options** – A “filled in” icon indicates alternate audio options are available. A “hollow” icon, no alternate audio options are available.
- 6) **Messages** – A “filled in” icon indicates new DIRECTV messages in Caller ID & Messages. A “hollow” icon, there are no new or unread messages.
- 7) **Parental Controls** – Parental Controls lock status. Three icons: Locked (“filled-in” locked icon), unlocked (“hollow” unlocked icon) and temporarily unlocked (“filled-in” unlocked icon).
- 8) **Color Hint** – The color hint is a reminder that pressing the BLUE key displays the Mini Guide. Other messages or instructions are displayed in this location as needed.

Music Channels

Your DIRECTV service includes dozens of enjoyable, continuous, commercial-free music channels with something for every taste. Tune to these just as you would to any channel. You'll see a special Channel Banner that initially displays the channel description (for example, “The '60s,” “US Country”). As each song is played, its info will appear in the banner, including song title, artist and record company.



DIRECTV

Red Slippers

Wed 7:14p

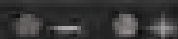
6:00p - 8:00p

PG-13



Movie, Drama (2002) Joe Macauley, Danielle Lyful, Kat Osata. Young woman goes on a quest to find the man of her dreams. (AC, AL), CC.

Current Guide: All Channels



Wed 12/15

7:00p

7:30p

8:00p

2 LA2

< Red Slippers

Quiet Time



4 LA4

The Fleshy Black Cat



5 LA5

< Local News

Beach City Fun



7 LA7

< Helicopter Cops



9 LA9

Sierra Quest



11 LA11

< My Red Bag

Up Too Late





Press the **GUIDE** key twice
to skip the Category Sort
screen.



The Guide

Overview of the DIRECTV Advanced Program Guide®

The Guide displays listings of current and upcoming programs for up to 7 days in advance. Find out what's on (now or later), change the channel, find and purchase a pay per view movie or event, or search for a program you're interested in.

Icons you may see in the Guide:

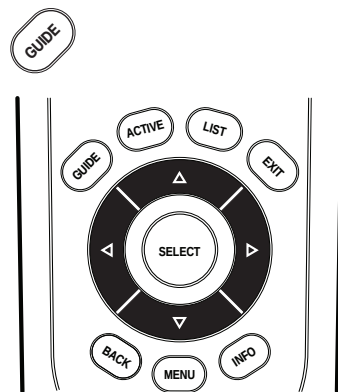
- ▶  – Broadcast in letterbox (16:9 widescreen) format
- ▶  – All Day Ticket Pay Per View showings (pay once, watch all day)
- ▶  – HD program
- ▶  – Dolby Digital audio available

Getting Around in the Guide

Press the GUIDE key on your remote, then choose how you want to filter the Guide (or press GUIDE twice to skip the filter). Select All Channels, or channels in a specific category.

Moving through the Guide is simple:

- ▶ The UP, DOWN, LEFT and RIGHT arrow keys move you through listings and time slots. Highlight a program or channel cell to view its description.
- ▶ Use the CHAN key up or down to scroll a full page.
- ▶ Press the RED or GREEN keys to move forward or back in time.
- ▶ To tune to a program that is on now, highlight the program and press SELECT. Selecting a future program displays program information.
- ▶ Press INFO when you've highlighted a show in the Guide to view a more in-depth description and options. Pressing INFO when you've highlighted the channel name displays the channel's listing for up to 7 days.
- ▶ Press SELECT when you've highlighted a channel cell (far left) to view that channel in the TV window.
- ▶ Press MENU to see Guide options, change your Favorites list, or jump to a desired date and time.



Highlight an item by using the arrow keys to move LEFT, RIGHT, UP or DOWN. Press SELECT to access the information or channel.



Autotune

An even better way to catch all your favorites

Autotune is a great way to see your favorite programs on your schedule. You won't forget to tune to your favorite team's playoff game because you got distracted. Just set a program to autotune and your DIRECTV® Receiver will tune to it automatically when it starts.

To schedule a program for autotuning with specific options:

- 1) Highlight a program that interests you and press INFO.
- 2) Highlight and select *Autotune*. A screen is displayed where you can set Autotune options for that program. Follow the onscreen instructions to set the program to autotune as you wish.
- 3) Select the *Set Autotune* button, then *OK* on the confirmation screen.

To schedule a program for autotuning using the default options:

- 1) Highlight a program that interests you and press ENTER.
- 2) Press ENTER again to cancel the autotune.

If a program you select to autotune conflicts with another program, you will be notified of the conflict at the time and given a choice of which autotune to cancel.

Changing Autotune Options/Canceling an Autotune

Once you have scheduled a program to autotune, you can change the autotune options or cancel the autotune by selecting the program in the Guide or the To Do List (press LIST); then, select the *Autotune* item in the left menu, and follow the onscreen instructions to change the program's options or cancel the Autotune completely. For all programs, you can extend Autotune start and stop times (for example, start 1 minute before the program; stop 5 minutes after the scheduled end of the program).

Recording to VCR

To record a program on your VCR, make sure you've connected your VCR properly to your DIRECTV HD Receiver, then set up your VCR to record at the same time as a scheduled autotune and you're set. See your VCR User's Guide for information on how to set it up for scheduled or manual recording.



**Use Autotune
to record your
favorite shows to
your VCR.**

Important

To obtain optimum picture quality, make sure the receiver is connected directly to the TV. Connecting the receiver to the TV through a VCR or DVD recorder is known to yield less than optimum picture quality, particularly when viewing copy-protected programming.



Pay Per View

The Latest Movies, 24 Hours a Day

You don't have to go out for the best and biggest movies and special events! Recent hits and events like sports, comedy and more are available 24 hours a day on DIRECTV® Pay Per View. You'll find them listed in the Guide in the 100s.

Tune to a pay per view program or press INFO on a highlighted pay per view program. Select the Buy option and follow the onscreen instructions. As long as your receiver has been connected to a land-based phone line, you can use your remote to order.

You can cancel your pay per view order for any reason as long as none of the program has been viewed. Press LIST to display the To Do List. Press SELECT on the *Purchase* item in the left menu. Select the desired program and follow the onscreen instructions.



You can also order DIRECTV Pay Per View movies and events on the Internet at DIRECTV.com or over the phone at 1-800-531-5000. Keep in mind, though, there is an additional ordering fee for purchases placed over the phone.

Chapter 3

The Menu

- 22 Using the Menu
- 22 Help & Settings
- 24 Audio Options
- 25 Dolby* Digital
- 26 Category Sort
- 26 Pay Per View
- 27 Search
- 28 Date & Time
- 28 Favorites
- 29 Caller ID & Messages
- 30 Parental Controls

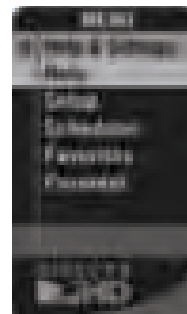
Using the Menu

Press MENU on your remote to easily access DIRECTV® features. Once the Menu is displayed, use the UP and DOWN arrows to highlight a desired menu item, then press SELECT to access that item. Some menu items will display a submenu, others will take you directly to a new screen. To remove the Menu at any time, press MENU again. The features in the Menu change as needed to display only the most helpful features at any time. For example, when the Menu is displayed over the Guide, it displays special features to help you with the Guide.



Help & Settings

Selecting *Help & Settings* in the Menu displays a submenu of items that lets you customize, adjust and keep track of your DIRECTV viewing experience.



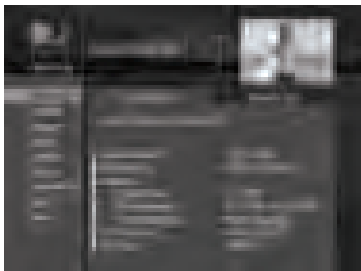
Help

The *Help* item in the Menu displays a list of help topics and Frequently Asked Questions.

Setup

The *Setup* item in the Menu displays the Setup screen, where you can access the Info & Test, Satellite Setup, Remote Setup, Audio Setup, Display Setup, Access Card and System Reset screens.

Info & Test: The *System Info* option lets you view the current system information. The *System Test* option lets you run a test on the tuner, access card, receiver ID and phone line.



Satellite: This option is useful if your DIRECTV® HD Receiver has lost signal strength, or you need to realign your satellite dish.

Remote: Use this option to setup your remote to control your TV and other equipment.

Audio: The *Audio* option in Setup lets you make lasting adjustments to settings such as language, sound effects and Dolby Digital. To make temporary adjustments, use the *Audio Options* item in the Menu.

Display: This option lets you change display settings such as native mode, screen format, bar color, the Channel Banner display time, the language in onscreen menus, time zone (for the clock), captioning and screen centering.

TV Type: The *TV Type* option is where you can set your TV's aspect ratio and resolution.

Access Card: Follow the onscreen directions to replace your access card. You will need your old and new access cards to complete this process. (Note: DIRECTV will provide new access cards and instructions when necessary.)

Reset: From here you can restart the receiver, reset to factory defaults, or reset everything.

Scheduler

This feature gives you an overview of and access to all the programs you've set to Autotune or purchase.

Favorites

Check the current status of your *Favorites* list(s) by clicking here, and make changes if you like. See page 28 for more details.

Parental Controls

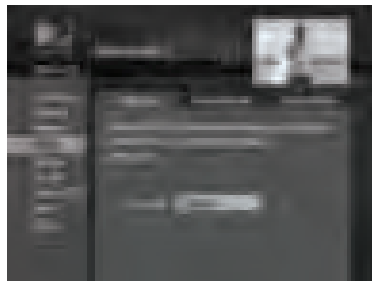
Check the current restrictions of your *Parental Controls* by clicking here, and make any adjustments. See page 30 for more details.

Audio Options

Some programs have alternate audio available (such as other language tracks or Dolby Digital). *This option only appears in the Menu over Live TV when the current program has alternate audio.* You can set the default so that whenever a program has alternate audio available, it automatically plays this audio, or you can change the alternate audio temporarily for the program you are watching. In either case, press MENU while in Live TV, then:

To change the default audio, from the Menu, select *Help & Settings*, select *Setup*, then select *Audio* in the left menu and follow the onscreen instructions.

To temporarily change the audio, from the Menu, select *Audio Options*, then select the audio track you prefer. Once the program is over or you change the channel, the audio will change back to the default setting.



What is 5.1 Audio?

It's 5 channels of audio for theater-style sound, plus a subwoofer for heart-pounding bass.

Dolby* Digital

The recommended audio format for HDTV is Dolby® Digital.

Your DIRECTV HD Receiver is capable of reproducing 5.1-encoded audio: five discrete channels of full-range digital audio, plus one channel of low-frequency (subwoofer) audio, for use by A/V receivers capable of decoding the 5.1-channel signal. The audio signals are broken into left-front, center, right-front, left-rear, right-rear and low-frequency channels. The result, when your DIRECTV® HD Receiver is connected to a compatible Dolby Digital A/V receiver and 5.1 channel speaker setup, is an experience that gives you much of the dynamic range, 360-degree imaging and sonic excitement of a real theater.

Not all TV programs deliver 5.1 channel signals, and not all programs are broadcast using Dolby Digital for DIRECTV® programming. Programs using this high-quality audio standard are indicated by the words Dolby Digital in the program description in the Channel Banner (see page 13) and the Guide (see page 15).

To change the Digital Audio format, press MENU, select *Help & Settings*, then select *Setup*. Select *Audio* in the left menu. Highlight the *Dolby Digital* tab and press SELECT, then follow the onscreen instructions and select from the following options:

- ▶ *On*: Turns on Dolby Digital audio output. (Note: True Dolby Digital is only available via HDMI or optical outputs.)
- ▶ *Off*: Select this option to turn off Dolby Digital Audio output.

Note

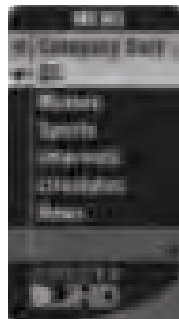
* "Dolby" and the Double-D symbol are trademarks of Dolby Laboratories.

Category Sort

This feature lets you temporarily arrange the Guide to list only programs in a particular category such as Movies, Sports or News. *This option only appears in the Menu over the Guide.*

While in the Guide, from the Menu, select *Category Sort*. To further narrow your search, select the category you want, then select a subcategory if you wish.

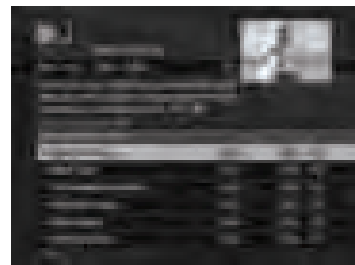
To quickly move through the Category Search results, use the GREEN or RED key on your remote to advance or reverse in 90-minute increments. Press GUIDE to return to the regular Guide, or EXIT to return to live TV.



Pay Per View

This option enables you to check out DIRECTV® Pay Per View listings by category. *This option only appears in the Menu over the Guide.*

While in the Guide, press MENU, then select *Pay Per View*. You will see three choices for sorting the listings. Choose *All* to display all current pay per view programs. *Movies* will give you listings of all current movies available. Pick *Special Events* to see specific events such as sports, comedy specials and more. The Guide will display only programs that match the selected choice.





Search

Would you like to locate a particular program, movie or sports event you want to see — even shows starring a favorite actor, or games with your favorite team? *Search* offers some easy ways to spot just what you want to watch.

Press **MENU**, then select *Search*. You can search for a program by *Title*, *Person*, *Keyword* or *Channel*.

Your search will be quicker if you narrow your search by selecting subcategories; just follow the onscreen instructions. Once you've found a program you're after, all you have to do is highlight and select the title to display when the program is on. If you'd like to repeat a previous search, select *Recent Searches*, then select your search to view matching programs.



Note

Keep in mind, when you search with *Search*, only those programs slated to air within the Guide's number of days of programming supported by your receiver will appear on your list.

Date & Time

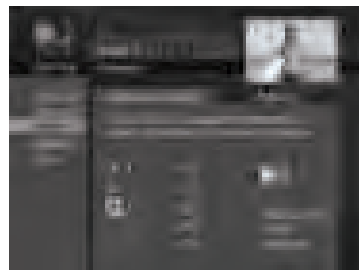
This option gives you a convenient way to jump several days ahead in the Guide, without having to scroll through pages of programs.

Favorites

Favorites allows you to set up a special, customized Guide that shows only those channels you choose. So you can have easy access to the channels you like best, or perhaps a grouping of family channels just for the kids.

When you're using a Favorites list, the Guide will only display those channels you've chosen — and you'll also only see those channels when you change channels using CHAN UP/DOWN on your remote.

Keep in mind, no matter what Favorites list you're currently using, you can still always access any channel you receive by keying in its channel number on your remote. You can also edit or delete a list at any time by returning to *Favorite* and editing your list(s).



Caller ID & Messages

This feature lets you receive important messages from DIRECTV about your service. Also, if you have Caller ID service*, you can also view phone calls you've received or turn call notification on or off. Press MENU to display the Menu, select *Caller ID & Msgs*, then select *Edit Settings*. Select either *Caller ID* or *Messages* from the left menu, as desired.



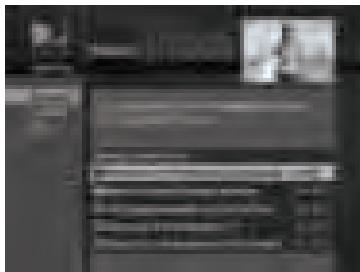
Caller ID

The *Call Log* tab displays up to 25 recent incoming calls. Highlight and select a name to delete that listing from your log.

The *Notification* tab lets you turn the notification feature on or off. When the *Notification* option is on, you'll see a notice on your TV screen whenever a call comes in.

DIRECTV Messages

This feature lets you view a listing of current DIRECTV messages waiting for you. Simply highlight and select a message in the list to read, then you'll have the choice to keep or delete it. The messages icon will appear brightly on your channel banner whenever there's any new or unread message in your Inbox.



Note

** You must subscribe to Caller ID service through your local telephone company, and your DIRECTV HD Receiver must be connected to a phone line.*

Parental Controls

Parental Controls enables parents to place certain restrictions on just who's watching what, and require a passcode to view restricted programming. Whether it's for mature content or spending amounts, you're always able to keep limitations where you want them for the whole family.

Press MENU to display the Menu, SELECT *Parental*, then *Edit Settings*, and you'll see the current status showing any restrictions. The system default is "unlocked" for all categories.

Adult Channels

You can block all adult channels and programs from your receiver so that they do not appear in the Guide or the Scheduler. Once these channels are hidden, they can't be tuned, so it will be as though they don't exist. Select *Adult Channels* from the left menu, then press SELECT on *Hide Adult*.

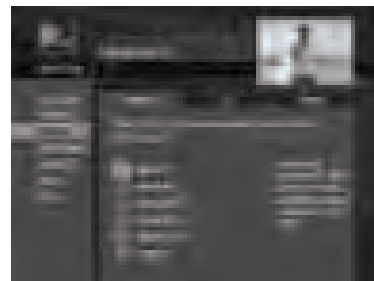
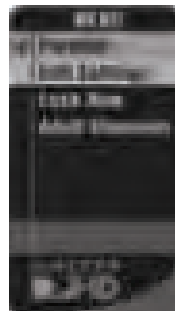
Ratings

Here you can set rating limits for Movies and TV:

- 1) SELECT *Ratings*.
- 2) Highlight the desired tab using the ARROW keys and press SELECT. Note: You can also use RED or GREEN to cycle tabs.

Movies

Highlight and select the *Movies* tab, then set the overall rating limit you wish to impose. Brief descriptions of the ratings appear for your guidance.



TIP

For ratings limits and channel blocks, as well as most other checkbox-type items, pressing SELECT toggles the item on and off when setting them up.



TV Programs

SELECT the *TV* tab, then highlight and select the TV rating you desire. You can also set ratings for particular content (for example, Fantasy Violence, Dialogue), each of which is described when highlighted.

Other Shows

To block programming that has no rating — such as news and sports — select the *Other* tab.

Channel Blocks

You can block viewing of a certain channel or channels from this menu.

SELECT *Chan Blocks* in the left menu, then scroll down the channel list to SELECT those you wish to block, or key in channel numbers for quicker access. Use *Block All* or *Allow All* to save time if you wish to affect a large number of channels.

Spending

From the left menu, SELECT *Spending*, then set your preferred spending limit for any single pay per view purchase. Simply key in the amount using the numbers on your remote.

Hours

From the left menu, SELECT *Hours*, then set your preferred hours during which TV can be viewed. You can set hours based on “school nights” and weekend nights—Monday through Thursday, Friday through Saturday, or Sunday.

Now, lock it

Once you've set the restrictions you want, choose *Lock Now* from the left menu. You'll be directed to create a passcode (which you'll want to make easy enough to remember, but hard enough that the little ones won't guess it!). This passcode will be your entry to unlocking and adjusting limitations in the future.

An onscreen message will appear whenever anyone tries to tune to a channel or program that has been restricted, or attempts to spend or watch beyond limitations that have been set. He or she will not be allowed to proceed without the passcode. Using your passcode, you can easily override the limits.

Let me in...!

Temporarily or permanently unlocking a restriction is easy. To temporarily unlock a particular program:

- 1) When any controls are currently activated, *Unlock Now* will appear if you try to tune to a restricted program.
- 2) Select *Unlock Now* and enter the password.

For more unlock options:

- 1) Press MENU, then SELECT *Parental*.
- 2) Various options for removing restrictions temporarily or permanently will appear. Select one and enter your password.



The Parental Control icon in the Channel Banner will tell you if the receiver is locked, unlocked, or temporarily unlocked.



Locked



Unlocked



Temporarily
Unlocked

**Don't use
obvious
numbers, like
birthdays or
addresses, for
your passcode.**

**Your kids are
smarter than you
think.**

Note: If you have Parental Controls set and temporarily unlocked, turning the receiver power off will relock the box.

Making multiple entries aimed at guessing the passcode is discouraged by a time delay; each invalid passcode entered lengthens the delay for subsequent entry by one second.

To change your passcode at any time:

- 1) Press MENU, SELECT *Parental*, then *Edit Settings*.
- 2) Scroll down to *Passcode* and press SELECT.
- 3) Enter your old password, then enter a new one twice to confirm.

Chapter 4

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- 45** Limited 90-Day Warranty
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- 53** FCC Customer Information

Other Info

Troubleshooting

Many problems can be corrected by performing a simple reset of the DIRECTV® HD Receiver. If you experience image freezes, audio freezes or blank screen, or the system won't respond to front panel button or remote control, try one of these:

- ▶ Press the RESET button behind the access card panel door on the front of the DIRECTV HD Receiver, then wait for program guide information to be acquired.
- ▶ If the problems persist, try unplugging the power cord of the DIRECTV HD Receiver for 15 seconds, then plug it in again.
- ▶ Running the System Test (later in this section) can also help you diagnose and solve many common problems.

System Upgrades

Your DIRECTV HD Receiver is able to receive upgrades or modifications to some of its features and functions. These modifications will occur automatically, usually at times when the receiver would likely be turned off. If your receiver is on when an upgrade or modification is sent, you may experience a disruption in reception for a minute or two. Your reception should return to normal after the modification is complete. Your receiver must be plugged in to AC power to receive any



You can find additional troubleshooting help at DIRECTV.com.

Having a problem? Then check the following:

1. Cables and connections

2. MODE switch on your remote

3. Remote batteries

4. TV Input

5. Power

Most problems have simple solutions.

upgrades. Do not unplug your receiver while an upgrade is in progress. Please consult the System Info screen to check for an upgrade or modification planned by DIRECTV.

DIRECTV HD Receiver or TV Problems

Progress bar freezes during Satellite Data Acquisition

This may be normal. After five minutes, the screen saver is displayed. Press any key on the remote to see the progress bar again. If Satellite Data Acquisition still does not move forward, press the RESET button behind the access panel door on the front of the DIRECTV HD Receiver and wait for program guide information to be acquired.

Wrong picture, blue screen, snow or black/blank picture

The DIRECTV HD Receiver and most TVs and VCRs let you toggle between video sources. If you don't see the signal you think you should be seeing, try using these buttons to toggle between the signals:

- ▶ Press the TV/VCR button on the VCR remote or on the VCR's front panel.
- ▶ Press the TV INPUT button on the DIRECTV remote control.
- ▶ If problems persist, turn off all equipment that is connected to your TV, wait a few minutes, then turn the DIRECTV HD Receiver back on.
- ▶ Check your connections and cables.

Problems with Caller ID

- ▶ **You must subscribe to Caller ID service through your local phone company.**

Also, check to be sure your Caller ID feature is turned on (see page 29).

- ▶ If you are plugging your receiver to a wireless phone jack, note that it typically does not transmit Caller ID information and you may need a special wireless phone jack to use with Caller ID service. See the user's manual that came with the wireless phone jack to see if it transmits Caller ID information. If it doesn't, either connect the phone line directly to a standard wall-mount phone jack or install a wireless phone jack that transmits Caller ID information.

DIRECTV HD Receiver will not turn on

- ▶ Check to make sure the power cord is plugged into the DIRECTV HD Receiver and the wall outlet.
- ▶ Check the wall receptacle (or extension cord) to make sure it is "live" by plugging in something else.
- ▶ Make sure the remote control is on DIRECTV mode, and press PWR (power key).
- ▶ Press DIRECTV & TV POWER ON, then press it a second time if needed.
- ▶ Check batteries in remote control.
- ▶ Be sure remote control is pointed at remote sensor, and front of receiver is not blocked.
- ▶ Unplug the receiver. Wait five minutes. Plug it in again.

Turns off while playing

- ▶ Electronic protection circuit may have been activated because of a power surge. Wait 30 seconds, then turn on again.
- ▶ Unplug DIRECTV HD Receiver for a few minutes, then plug back in. If this happens frequently, the voltage in your house may be abnormally high or low.
- ▶ Consider using a surge protector or line conditioner.
- ▶ If your TV turns off while playing, *and other lights/appliances in your house do too*, you may have blown a circuit breaker or be experiencing a power outage.
- ▶ Consult an electrician if the problem is frequent or severe, especially if other household appliances or electronics are affected.

DIRECTV HD Receiver turns on or changes channels unexpectedly

- ▶ An Autotune may have been activated. See page 17.
- ▶ Your TV's timer may have been activated.
- ▶ Check your TV owner's manual.

Blank screen

- ▶ Check that all components connected to the input jacks are turned on.
- ▶ Try another channel.
- ▶ Your DIRECTV HD Receiver may be hooked up incorrectly to the TV. Press the INFO button on the front panel of the DIRECTV HD Receiver to see if the channel banner appears. If it does not, check the *Setup and Connections* section for instructions about connecting your satellite receiver.
- ▶ Press the TV INPUT key on the remote to make sure your TV input is set to the TV input your DIRECTV HD Receiver is connected to.
- ▶ Press the POWER button on the front of the DIRECTV HD Receiver.
- ▶ Press the RESET button behind the door on the front panel of the DIRECTV HD Receiver.

Temporary loss of the satellite signal or Searching for Satellite Signal message

- ▶ Your satellite system may be experiencing *rain fade*, a temporary loss of the satellite signal due to unusually heavy rain clouds or rainfall. Rain fade is usually brief, lasting only as long as the heavy rain cloud condition persists.
- ▶ Your dish may be blocked. Check that something is not blocking the dish.

If you live in a newly built neighborhood, be sure to place your dish where it is unlikely to become blocked by a fast-growing tree.

Partial programming loss/channels missing from the Guide/channel is in the Guide but can't tune to

- ▶ Your satellite dish antenna may be incorrectly configured. Check the dish type set in your receiver's preferences and change if necessary. Press the MENU key on the remote control, then select *Help & Settings*, then *Setup*. In the next menu, select *Satellite*, then *Repeat Satellite Dish Setup*. Follow the steps. From the *Satellite Dish Type* screen, make sure the proper dish type is selected (round, oval with a dual LNB or oval with a triple LNB, or a 5 LNB dish).
- ▶ The channels might be excluded from the *Favorites* list currently in use. Press MENU on the remote, select *Favorites*, then *All Channels*, or enter the channel number manually.

My video and audio are out of sync.

- ▶ Try changing channels.
- ▶ Press LIST, then EXIT.
- ▶ If neither of those work, restart your DIRECTV HD Receiver. Press the RESET button behind the access panel door on the front of the DIRECTV HD Receiver. You can also press MENU, press SELECT on *Help & Settings*, then SELECT *Setup*. Select the *Reset* item from the left menu and follow the onscreen instructions.

My DIRECTV HD Receiver is "frozen" on a single frame of a TV picture.

- ▶ If you are on a Pay Per View channel, watching the free portion of a program, the free portion may be completed. You must buy the program to continue watching.
- ▶ If that doesn't work, restart your DIRECTV HD Receiver. Press the RESET button behind the access panel door on the front of the DIRECTV HD Receiver. You can also press MENU, press SELECT on *Help & Settings*, then SELECT *Setup*. Select the *Reset* item from the left menu, then press SELECT on *Restart Receiver*.

Remote Control Problems

Problems with the remote control

- ▶ Check that nothing is between the remote control and the remote sensor.
- ▶ Make sure the remote control is in DIRECTV mode. Slide the MODE switch on the remote to the DIRECTV position so the remote will control the DIRECTV HD Receiver.
- ▶ Check the batteries in the remote control. They may be weak, dead or installed incorrectly. Try replacing batteries.
- ▶ If you're entering a channel number that is less than four digits long, the receiver might wait two seconds before tuning to the channel. Press ENTER after entering a channel number to tune immediately.
- ▶ If you are trying to operate a device other than the DIRECTV HD Receiver that you have programmed the remote to control, make sure you first slide the MODE switch to the mode that is programmed for that device (AV1 or AV2). The indicator light for the component you're trying to control should light up when you press a valid key for that component. If it doesn't, make sure the MODE switch is in the correct position.

A remote control indicator light starts flashing.

The batteries in the remote control are running low and should be replaced soon. You may also see an onscreen message that the batteries are low. Note that when you replace the batteries, you should not have to reprogram your remote to control other devices unless the batteries have been completely dead for a month or more.

With proper care and fresh batteries, the only problem you should have with the remote is remembering where you left it.

Fine-Tuning the Signal

If you self-installed your satellite dish antenna, you may have already used the *Satellite Setup* section of *Guided Setup* to find the dish-pointing coordinates, acquire and fine-tune the signal and run a system test. If you need to run *Satellite Setup* again, press MENU. Select *Help & Settings* from the Menu, then select *Setup*. When the System Setup screen is displayed, press SELECT on *Satellite* in the left menu, then select the *Repeat Satellite Setup* button.

Running the System Test

The System Test allows you to run a basic diagnostics check on your DIRECTV HD Receiver. If you are experiencing any trouble with your receiver, run the system test. It will also allow you to get your access card and receiver ID numbers or to initiate diagnostic procedures on your digital satellite receiver.

First make sure that:

- ▶ All connections — jacks, cables, etc. — are in place correctly (see Appendix A, *Installation*, for more information)
- ▶ There are batteries in the remote control, and they are working correctly
- ▶ The access card is installed in the DIRECTV HD Receiver.

Follow these steps to run the diagnostics system test on your DIRECTV HD Receiver.

- 1) Turn on your TV and the DIRECTV HD Receiver.
- 2) Slide the mode switch to the DIRECTV position to put the remote control in satellite receiver-controlling mode, then press MENU to display the Menu.
- 3) Select *Help & Settings*.
- 4) Select *Setup*, then *Info & Test*.
- 5) Highlight the *System Test* tab and press SELECT, then press SELECT on *Run Test*.

- 6) If your system does not pass the system test, check any of these potential trouble areas: cabling, pointing the satellite dish, phone connection and access card.
- 7) If you continue to have problems, call DIRECTV Customer Service at 1-800-DIRECTV.

You should run a system test several times before concluding that there is a problem. Occasional fluctuations in the phone line or satellite signal can give temporary false readings.

Factory Defaults

To reset all the remote control and clear all but DIRECTV mode, follow these steps:

- 1) Point the remote away from your DIRECTV HD Receiver and components. Press and hold MUTE and SELECT until the light above the slide switch on the remote flashes twice (about 5 seconds).
- 2) Enter 9-8-1. The light on the remote will flash twice, indicating you have cleared AV1, AV2 and TV modes.

If you get a bunch of new equipment (lucky you!), you may find it useful to reset your remote before you re-program it.

Limited 90-Day Warranty

DIRECTV warrants your DIRECTV HD Receiver (Model Number: H21) and any included accessories against defects in material or workmanship for a period of ninety (90) days after the date of acquisition.

Who is Covered?

You must have proof of acquisition to receive warranty service. A receipt or other document showing that you acquired the product is considered proof of acquisition. THIS LIMITED WARRANTY EXTENDS ONLY TO THE ORIGINAL CONSUMER ACQUIRER OR ANY PERSON RECEIVING THE DIRECTV HD Receiver AS A GIFT FROM THE ORIGINAL CONSUMER ACQUIRER AND TO NO OTHER ACQUIRER OR TRANSFEREE. THIS WARRANTY DOES NOT EXTEND TO COMMERCIAL USERS. THIS PRODUCT IS NOT AUTHORIZED FOR USE OUTSIDE THE UNITED STATES AND ANY SUCH USE VOIDS THIS WARRANTY.

What is Covered?

Warranty coverage begins the day you acquire the product. For ninety (90) days from the acquisition date, at the option of DIRECTV, the DIRECTV HD Receiver will be repaired or replaced with a new, repaired, refurbished or comparable product (whichever is deemed necessary) if it becomes defective or inoperative. This exchange is done without charge to you for parts and labor. You will be responsible for the cost of shipping to and from the location designated by DIRECTV. If DIRECTV cannot reasonably repair or replace the Receiver then DIRECTV may, at its sole discretion, refund the price you paid for the product or the current retail price of the product.

All products, including replacement products, are covered only for the original warranty period. When the warranty on the original product expires, the warranty on the replacement product also expires. After ninety (90) days from the date of acquisition, you pay for the replacement of all parts, and for all labor charges.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

What is Excluded?

Your warranty does NOT cover:

- ▶ Labor charges for installation or setup of the product.
- ▶ Installation, performance of, or repair of: audio/video cabling, telephone line, or accessory attachments used with the product.
- ▶ Product replacement because of misuse, accident, lightning damage, unauthorized repair, or other cause not within the control of DIRECTV.
- ▶ Incidental or consequential damages resulting from the product. SOME STATES DO NOT ALLOW THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU.
- ▶ Any modifications or other changes to the product, including but not limited to software or hardware modification in any way other than as expressly authorized by DIRECTV will void this limited warranty. Except in the case of hardware or software provided by DIRECTV, installing software modifications, “hacks” or utilizing service access or “back doors” will void this limited warranty.

The warranty does not cover deliberate misuse.

So be nice to your DIRECTV HD Receiver.

- ▶ Reception transmission problems caused by signal conditions, telephone line, or cable or antenna systems outside the unit.
- ▶ A product that has been modified or adapted to enable it to operate in any country other than the country for which it was designed, manufactured, approved and/or authorized, or repair of products damaged by these modifications.
- ▶ A product used for commercial or institutional purposes.
- ▶ DIRECTV makes no warranty that the access connection will be a local (not long distance) phone call.
- ▶ The continued provisioning of any of the programming and other services delivered through the Receiver including but not limited to television programming, show information, program guide data, and scheduling information.

Make Sure You Keep...

Please keep your receipt or other document showing proof of acquisition. Attach it to this User Guide and keep both nearby. Also keep the original box and packing material in case you need to return your product.

Before Requesting Repair Service...

Please check the troubleshooting section of this guide. This may save you a call to DIRECTV Customer Care.

To Get Warranty Service...

Warranty service will be provided by DIRECTV. If you believe you need service for your Receiver, contact DIRECTV at 1-800-DIRECTV. A representative will go through a diagnostic checklist with you. If it is determined that the product needs to be returned for service or exchanged, you will receive a return authorization number. The representative will give you complete shipping details.

To Get Out-of-Warranty Service...

To obtain out-of-warranty service contact DIRECTV at 1-800-DIRECTV for information on the possibility of and any costs for repair or replacement of out-of-warranty products.

ALL WARRANTIES IMPLIED BY LAW, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY LIMITED TO THE DURATION OF THIS EXPRESS LIMITED WARRANTY.

WITH THE EXCEPTION OF ANY WARRANTIES IMPLIED BY THE LAW OF ANY STATE OF THE U.S.A., THIS EXPRESS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, GUARANTEES, AGREEMENTS AND SIMILAR OBLIGATIONS OF DIRECTV. REPAIR OR REPLACEMENT AS PROVIDED IN THIS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY UNDER THIS LIMITED WARRANTY. IN NO EVENT WILL DIRECTV BE LIABLE FOR ANY AMOUNT GREATER THAN THE RETAIL PRICE OF THE DIRECTV RECEIVER. DIRECTV SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THE

SOME STATES DO NOT ALLOW LIMITATIONS ON WARRANTIES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

DIRECTV, Inc.

2230 E. Imperial Hwy

El Segundo, CA 90245

1-800-DIRECTV

Product Information

Keep your receipt to obtain warranty parts and service and for proof of acquisition. Attach it here and record the serial and model numbers in case you need them. These numbers are located on the product. *(You may have noted some of this information on page 67 when you connected the cables to your receiver.)*

Model No. _____

Serial No. _____

Acquisition Date: _____

Dealer/Address/Phone: _____

Access Card: _____

Receiver ID: _____

DIRECTV PROTECTION PLAN

Protect your DIRECTV® System with the DIRECTV PROTECTION PLAN. For a low monthly fee, the DIRECTV PROTECTION PLAN covers the components of your DIRECTV System, giving you peace of mind and comprehensive support to ensure that you and your family enjoy nonstop DIRECTV® entertainment.

DIRECTV PROTECTION PLAN Benefits

Your DIRECTV Limited Warranty provides certain remedies for this receiver during the stated coverage term. The DIRECTV PROTECTION PLAN provides comprehensive coverage for your DIRECTV System, including:

▶ In-home service calls when needed	▶ 24-hour Technical Support
▶ Power surge related repairs	▶ Dish antenna realignments
▶ Cables, switches, and associated wiring throughout home	▶ Replacement of defective equipment (if problem can not be resolved over the phone) *
▶ Defective remote control replacements	▶ All parts and labor for repair

Get ALL THAT FOR JUST \$5.99 a month. This one low monthly fee covers every DIRECTV component and receiver on your account.

Note

*A fee of \$49 for standard IRD equipment, \$249 for DIRECTV DVR, DIRECTV PLUS DVR or Ultimate TV equipment, \$400 for HD equipment, or \$1,000 for DIRECTV HD DVR equipment will be charged to your DIRECTV bill if the defective equipment that we are replacing for you is not returned within 30 calendar days. The plan will provide a return box for the defective equipment and even pick up the shipping costs. You'll receive replacement equipment in about 72 hours.

Sign up for the DIRECTV PROTECTION PLAN Today

If you have standard DIRECTV HD Receiver(s), visit DIRECTV.com and SIGN IN using the simple steps below or call 1-800-DIRECTV.

1. SIGN IN with your user name and password, or click on the “Register Now” link and go through the easy steps, then continue with Step 2.
2. SELECT Option B, and then click the “Next” button at the bottom of the page.
3. SCROLL down to Step 3 (Add Additional Services) and SELECT “DIRECTV PROTECTION PLAN,” then CLICK on the “Next” button.
4. REVIEW your change and CLICK on the “Accept These Changes” button.

If you have a DIRECTV Plus Receiver, DIRECTV DVR, DIRECTV HD Receiver, DIRECTV HD DVR or DIRECTV HD Receiver with UltimateTV Service, please call 1-800-DIRECTV to sign up.

The DIRECTV PROTECTION PLAN is offered by AIG Warranty Guard and underwritten by New Hampshire Insurance Company on behalf of DIRECTV where authorized by law. Certain limitations apply. Pricing, terms and conditions of the DIRECTV PROTECTION PLAN are subject to change. Full terms and conditions will be mailed to you prior to service billing and are available at DIRECTV.com. (Note: Annual payment option no longer available.)

**Protect your
investment
in quality TV.**

**Call 1-800-
DIRECTV
and sign up
today!**

FCC Customer Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:

DIRECTV, Inc.
2230 E. Imperial Hwy
El Segundo, CA 90245
1-800-DIRECTV

- ▶ Trade Name: DIRECTV
- ▶ Type of Equipment: DIRECTV Satellite Receiver
- ▶ Model Number: H21

Federal Communications Commission (FCC): This equipment complies with both Part 15 and Part 68 of the FCC rules.

This equipment has been tested and found to comply with the limits of 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 removing and applying power to the equipment, the user is encouraged to try to correct the interference by one or more of the following measures:

- ▶ Reorient or relocate the receiving satellite dish antenna.
- ▶ Increase the separation between the equipment and the DIRECTV HD Receiver.
- ▶ Connect the equipment into an outlet on a circuit different from that to which the DIRECTV HD Receiver is connected.
- ▶ Consult the dealer or an experienced radio/TV technician for help.
- ▶ CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

The user may find the following booklet, prepared by the Federal Communications Commission, helpful: "How to Identify and Resolve Radio and TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, DC. To meet FCC requirements, only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with Class B limits may be attached to this device. Operation with non-certified peripherals is likely to result in interference to radio and TV reception. To meet FCC requirements, shielded cables are required to connect the device to a personal computer, peripheral, or other Class B certified device.

This equipment complies with Part 68 of the FCC Rules and the requirements adopted by ACTA. On the back of this equipment is a label that contains a product identifier in the format US:AAAEQ##TXXXX. If requested, this information

Use the telephone cord supplied with this equipment to ensure proper operation.

must be provided to your telephone company. This equipment uses the following USOC Jack: RJ11C. A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. See installation instructions for details.

The REN is used to determine the number of devices that may connect to a telephone line. Excessive RENs on a 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 a line, as determined by the total RENs, contact your local telephone company. The REN for this product is part of the product identifier that has the format US: AAAEQ##TXXXX. The digits represented by ## are the REN without the decimal point (e.g., 03 is a REN of 0.3).

If this DIRECTV HD Receiver causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't 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 proper functioning of your equipment. If they do, you will be notified in advance in order for you to make necessary modifications

to maintain uninterrupted service. Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

If trouble is experienced with this unit, for repair or warranty information, please contact DIRECTV Customer Care at the address and phone number listed below. If the equipment is causing harm to the network, the telephone company may request that you disconnect the equipment until the problem is resolved.

DIRECTV, Inc.
2230 E. Imperial Hwy
El Segundo, CA 90245
1-800-DIRECTV

If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this DIRECTV Satellite Receiver does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your alarm company, telephone company or a qualified installer.

DO NOT DISASSEMBLE THIS EQUIPMENT. It does not contain any user-serviceable components.

We recommend the installation of an AC surge arrester in the AC outlet to which this equipment is connected. Telephone companies report that electrical surges, typically lightning transients, are very destructive to customer terminal equipment connected to AC power sources.

Appendix A

Installation

- 58** Before you begin
- 58** Hardware Reference
- 62** Making the Video Connections
- 64** Making the Audio Connections
- 66** Making the Basic Connections
- 68** Guided Setup
- 69** Activate Your DIRECTV Service
- 70** Programming Your Remote Control
- 71** Using an IR/RF Remote to Control Your DIRECTV HD Receiver

Before you begin

Your satellite dish antenna must be installed before you can begin following the procedures in this User Guide. (Professional installation is highly recommended.) Your dish needs to be mounted in a position where it has access to the satellite signals, and RG-6 coaxial cables must be run into the room(s) where your receiver(s) will be located. If you choose to install the dish yourself, see the separate instruction manual that came with your satellite dish antenna.

Hardware Reference

Satellite Dish Antenna

This is your “dish” and related hardware, affixed to your roof or other surface, which picks up the broadcast signals from our satellites.

DIRECTV HD Receiver (or Satellite Receiver)

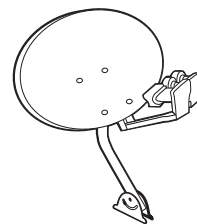
Your DIRECTV HD Receiver picks up the signal from your satellite dish antenna and translates it into viewable TV programming.

Access Card

Contains information about your DIRECTV® service. It must be properly inserted for your receiver to work and to activate your programming.



You can find additional information and the latest updates at DIRECTV.com.



Cables & Connections

HDMI Jack and Cable

The DIRECTV HD Receiver incorporates HDMI™ [or High-Definition Multimedia Interface] technology. HDMI offers a high-quality connection that combines the video and audio signal into a single cable.

The HDMI jack uses HDCP content protection to allow you to view HD programming that has been encoded using the HDCP protection system. For the best access to HD programming at the highest available resolution, connect this to an HDTV that supports HDCP technology.

DVI (Digital Visual Interface) is an older digital connection standard that has been replaced by HDMI and is compatible with HDMI. DVI carries video only. You can also use an HDMI to DVI converter (not included), which also carries video only, so must be used with audio cables to receive the audio signal.

Component Video Output (YPbPr)

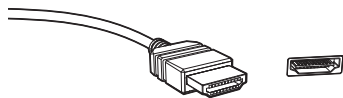
The component connector provides high-quality video for your HDTV system. Component video is also referred to as “YPbPr.” It uses three separate cables—with connectors colored green, red and blue—one for each component of the HD video signal.

Digital Audio Outputs (Coaxial Jack and Cable)

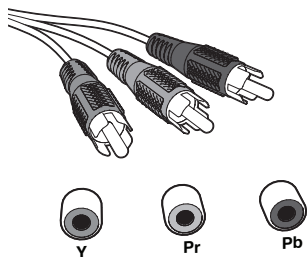
The Digital Audio Coaxial cable provides excellent quality audio, second only to the Digital Audio Optical cable.

Note

HDMI and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.



Note: You may need to purchase additional cables depending on your setup.
Optical cable not included.



Digital Audio Outputs (Optical Jack and Cable)

The Digital Audio Optical cable provides the best quality audio. The jack and cable use light to send digital audio data to A/V receivers equipped to receive and interpret it. The jack and cable (cable not included) must be aligned before plugging in, and may be covered by protective caps, which must be removed before making connections. Use caution when handling optical cables: They are delicate!

S-Video Jack and Cable

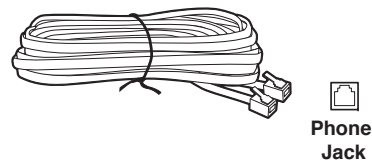
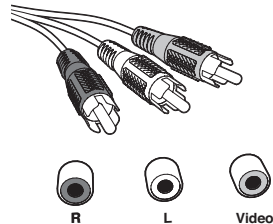
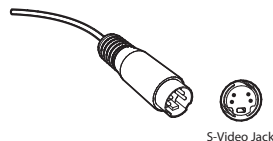
S-Video jacks and cables provide the best non-HD picture quality. You will still need to connect the left and right audio cables to the TV, or digital audio (optical or coax) cable to your stereo, because the S-Video cable only carries the picture signal, not sound.

Audio/Video (A/V) Jack and Cable

Audio/Video (A/V) cables provide very good picture quality and stereo sound, and should be used if you don't have HDMI, component or S-Video cables, or your TV does not have HDMI, component or S-Video jacks. The DIRECTV HD Receiver's A/V jacks are color coded (yellow for video, red for right audio and white for left audio). If your TV has only one input for audio (mono), connect it to the left (white) audio jack on the DIRECTV HD Receiver.

Telephone Jack and Cord

The telephone line cord connects your DIRECTV HD Receiver to a land-based telephone line. The phone line connection is used to periodically call DIRECTV. This connection is required for sports package subscriptions and for purchasing PPV movies and events. You will need an RJ11-type modulator jack (the most common type of phone jack). Note: Do not connect your receiver to a digital PBX phone system — doing so may permanently damage your equipment and void your warranty.





When working with cables, be sure to connect corresponding outputs and inputs (Video OUT to Video IN, Right Audio OUT to Right Audio IN, etc.). Never connect an IN to an IN or an OUT to an OUT.



All A/V jacks and inputs are color coded. Always match the color of the plug to the same color of the jack.

Choose Your Setup

There are several ways to connect your receiver to match your particular equipment setup and to gain optimum signal quality. The basic steps are as follows:

- Connect the satellite dish cable to your receiver.
- Connect the receiver audio and video to your TV or VCR.
- If you connected the receiver to a VCR, connect the VCR to your TV.
- Connect the receiver to a telephone line.
- Plug in all power cords.

This section gives detailed instructions on the types of connections you can make, depending on the equipment you have, in order to get the best picture and sound quality. Note that the back panels of your TV and other equipment may not exactly match those illustrated.

Connecting Your DIRECTV HD Receiver to your TV or VCR

Depending on the inputs on the back of your TV or VCR, you have the following options for connecting your DIRECTV HD Receiver:

- HDMI
- YPbPr Video
- S-Video
- Digital Audio (optical or coax)
- Analog Audio

These connections are described on the following pages.

Making the Video Connections

Choose one of the following connections:

- **Best (HD Video and Digital Audio):** Connect the HDMI cables to the HDMI jacks on the receiver and your TV. HDMI cables also carry digital audio, so you do not need to make a separate audio connection, unless you would like to use other audio outputs; for example, if you want to connect your DIRECTV HD Receiver to a stereo or home theater system.
- **Better (HD Video):** Connect one end of the Component (Y Pb Pr) video cables to the COMPONENT OUT video jacks on the DIRECTV HD Receiver. Connect the other end of the component video cable to the component input on your TV, making sure to correctly match the red, green and blue connectors. You will need to connect audio separately. (Note, some TV sets have component video inputs that are non-HD. In this case, component video has the best available non-HD picture quality.)
- **Good (Non-HD):** Connect one end of the S-Video cables to the S-VIDEO OUT jacks on the DIRECTV HD Receiver. Connect the other end to the S-Video input on your TV. Note: The S-Video cable will not provide an HD signal to your TV.
- **Not recommended (Non-HD).** You *can* use RCA connectors to connect your DIRECTV HD Receiver to your TV, but it is not recommended. To get the best quality of image, use one of the above methods. However, if your TV does not support S-Video, component or HDMI connections, connect one end of the RCA cable (usually with a yellow plug) to the VIDEO OUT jack on the DIRECTV HD Receiver. Connect the other end to the video input on your TV.



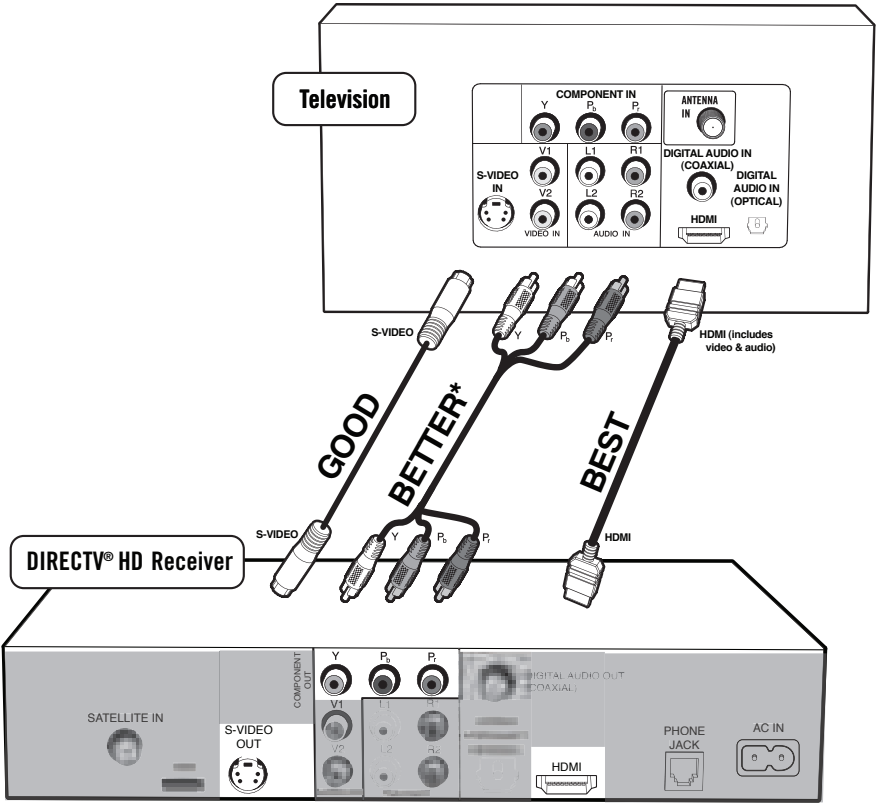
To switch between watching your VCR and watching video from your receiver, you may need to program the INPUT key on your DIRECTV Remote. (See page 70 for info.) Some TVs also have a MENU button that allows you to change the video source using an onscreen menu. If you have trouble changing the video source, refer to the instructions that came with your TV.

Important

To obtain optimum picture quality, make sure the receiver is connected directly to the TV. Connecting your TV directly to the Audio/Video output of your receiver will assure a more vivid picture and enhance your viewing enjoyment, particularly when viewing copy-protected programming.

Connect Video
Cables –

The back panels of your
equipment may not
look exactly like those
illustrated.



*Note: Do not confuse the component YPbPr cable with a standard Audio/Video (RCA-type) cable. Observe the Red, Green, Blue color-coding. You will not get HD video if you use the Video Out connector on your DIRECTV HD Receiver or TV.

Making the Audio Connections

- **Best:** If you connected your DIRECTV HD Receiver to your TV with HDMI cables you do not need to make a separate audio connection, unless you would like to use other audio outputs; for example, if you want to connect your DIRECTV HD Receiver to a stereo or home theater system.
- **Better:** You may also receive digital audio using the Digital Optical (S/PDIF) or Digital Coaxial connections:
 - **Better 1:** Connect an Optical Audio cable from the DIGITAL AUDIO OUT (OPTICAL) jack on your DIRECTV HD Receiver to a DIGITAL AUDIO IN (OPTICAL) jack on your TV.
 - **Better 2:** Connect a Coaxial Audio cable from the DIGITAL OUTPUT (COAXIAL) jack on your DIRECTV HD Receiver to an DIGITAL INPUT (COAXIAL) jack on your TV.

These outputs can also be used if you wish to listen to audio on a stereo or home theater system, even if you are already using an HDMI cable for audio on your TV. Note: Optical Audio and Audio Coax cables are not included with the DIRECTV HD Receiver.

- **Good:** For analog audio, connect the white (L) and red (R) RCA-type cables from the DIRECTV HD Receiver to your TV.

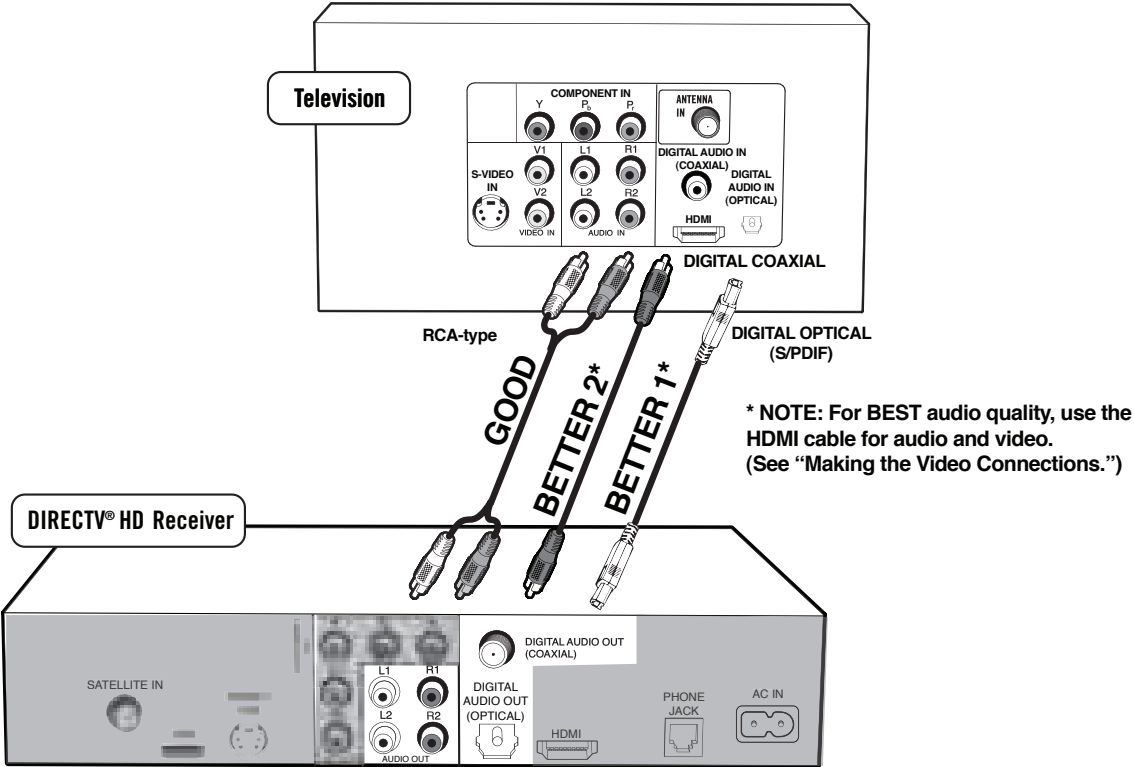
If you used an HDMI cable to hook up video, you can skip this section.

Note

If your TV only has one audio input jack use AUDIO L (white) jack on the back of the DIRECTV HD Receiver to make the connection.

Connect Audio Cables –

The back panels of your equipment may not look exactly like those illustrated.



Making the Basic Connections

- 1) **Connect DIRECTV HD Receiver to Satellite Dish.** Connect the RG-6 RF coaxial cable from your satellite dish to the jack labeled SATELLITE IN on the DIRECTV HD Receiver. If your installation includes an SWM (Single Wire Multiswitch), you should connect the RG-6 RF coaxial cable from your SWM to the SATELLITE IN jack. Some systems may instead make this connection to a cable entry point in your house. Your DIRECTV installer will make the appropriate connection.
- 2) **Connect DIRECTV HD Receiver to Telephone Line.** Plug one end of the telephone cord into a phone jack on your wall (or into a phone splitter that is plugged into a phone jack) and the other end into the PHONE JACK on the back of the DIRECTV HD Receiver.
- 3) Plug all power cords into electrical sockets.

**You're almost
done!**

Connect Other Cables –

The back panels of your equipment may not look exactly like those illustrated.

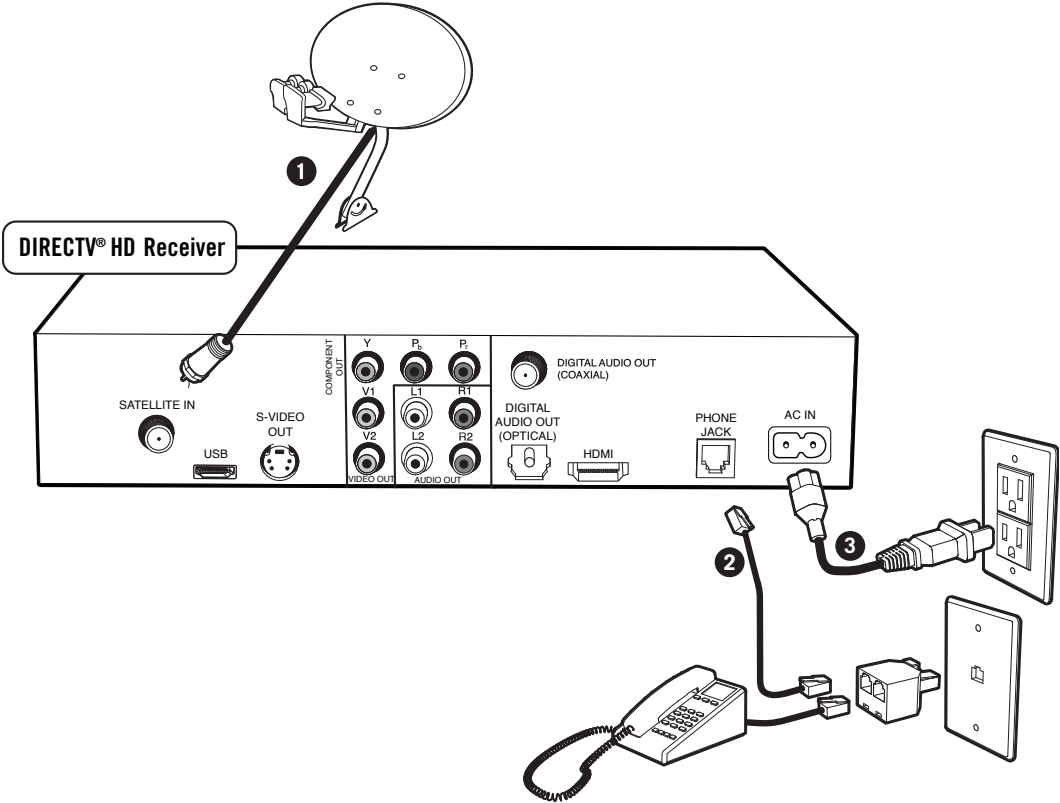
While you're looking at the back of your DIRECTV HD Receiver, write down the serial number, receiver ID and model number. You'll need them later.

Serial #

Receiver ID

Model #

(Copy these numbers to page 50 along with your other purchase information)



Guided Setup

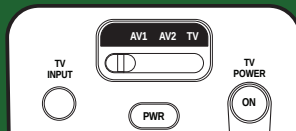
Now that your receiver and equipment are all hooked up and plugged in, you're ready to complete setup to begin enjoying your DIRECTV® service.

- 1) Make sure the MODE switch at the top of the remote control is set to DIRECTV, which is the far-left position.
- 2) Press TV POWER ON. The DIRECTV HD Receiver will turn on.
- 3) The first screen will allow you to select a language. Using the arrow keys on the remote control, move to the language you prefer and press SELECT.
- 4) You will see a *Welcome* screen.

HDTV settings in Guided Setup

Several screens in the Guided Setup process are related to HDTV:

- ▶ **TV Ratio Screen:** This screen lets you select your TV's aspect ratio: 4:3 or 16:9.
- ▶ **TV Resolutions Screen:** As you select each resolution, an onscreen message asks if you can still see the screen properly. If you can, press the INFO key. If not, the unsupported resolution is turned off after a few seconds. If you turn on Native mode, the receiver will automatically adjust resolution to match the resolution of individual TV programs as they are tuned.



You may decide to set up, change or adjust some of the settings later. When you're ready, press MENU on your remote, press SELECT on Help & Settings then select Setup.

MENU

SELECT

The User Guide that came with your TV will help you set the HDTV settings properly.

**Guided Setup
is as simple
as following
the onscreen
instructions. When
in doubt, we've
usually highlighted
the most likely
choice for you.**



Now, let us lead the way...

Simply follow the onscreen directions to complete your setup functions. If you've installed your satellite dish and system yourself, you'll be guided through various functions for optimizing your signal and setup — including positioning your dish and a system test. If you had your system professionally installed, these functions already have been completed.

After these setup procedures are complete, you'll see a message onscreen that says, "Acquiring Satellite Info," as the receiver gathers information from the satellite for the onscreen program guide.

Next, you'll be given the opportunity to program your remote to control other equipment such as your TV and/or DVD player. Just follow the screen instructions and you'll be ready to watch in no time!

Activate Your DIRECTV® Service

Once all the setup processes are complete, all that's left to do is activate your DIRECTV service. Before you make the call, be sure to:

- ▶ Have on hand your service address, social security number and a valid major credit card.
- ▶ Note your access card and receiver ID numbers. (You may have written them down earlier in this chapter.)

When you're ready, just call **1-800-DIRECTV** (1-800-347-3288) and pick the programming package that's right for you.

Important

In order to protect your TV screen from burn-in (a side-effect caused when a stationary image is displayed for too long), the DIRECTV HD Receiver interface automatically goes into screen saver mode, and displays a black screen with a moving logo when no key is pressed for 5 minutes or more while a stationary image is displayed on the TV. To dismiss the screen saver and return to what you were doing, press any key on the remote. Burn-in may cause permanent damage to your TV and DIRECTV is not liable for any damages that may be caused to your TV.

Programming Your Remote Control

You may have already programmed your remote control during Guided Setup, but if you didn't, or you want to make changes, or you've acquired some new equipment, follow these instructions.

You can program the DIRECTV® Remote Control to operate your TV power, volume and mute, additional equipment such as a DVD, VCR, stereo, or second TV or DIRECTV HD Receiver.

- 1) Press MENU to display the Menu.
- 2) Highlight *Help & Settings* and press SELECT.
- 3) Highlight *Setup* and press SELECT.
- 4) Press SELECT on *Remote* in the left menu.
- 5) Follow the onscreen instructions to program your remote for your TV or additional equipment (AV1 and AV2).

Once your remote is programmed to work with your TV, the VOL and MUTE key control the TV regardless of the slide switch position. If you would like to change the VOL and MUTE to work with other audio equipment, such as a stereo, you can. When you program the remote for the audio equipment, onscreen instructions will direct you on how to do this.

If you programmed your Remote Control during Guided Setup, you can skip this section.

Using an IR/RF Remote to Control Your DIRECTV HD Receiver

You can skip this section if you do not have an RF Capable Remote (sold separately) or you set up your RF Remote Control during Guided Setup. This information is included here if you skipped that part, or if you want to change your Remote setup later.

The remote control included with your DIRECTV HD Receiver works using IR (infrared). Most remotes you are familiar with are probably IR. (An IR remote must be pointed at its associated device for it to respond.) If you have an RF Capable Remote, you can use it to operate the DIRECTV HD Receiver without having to point your remote directly at it, such as when the receiver is installed in a cabinet, or you use the remote from another room in your house. The operating range of an RF Remote is up to 200 feet, with some possible decrease due to weak batteries or obstacles such as walls in your house. Once programmed, your RF Remote will be addressed to only one receiver, so will not affect other receivers in your home.

To set up an RF Capable Remote, press the MENU key, press SELECT on *Help & Settings*, then select *Setup*, then select *Remote* from the left menu. Press SELECT on the *IR/RF Setup* button. Follow the onscreen instructions to configure your remote.

Appendix B

High-Def 101

- 74** About High-Definition
- 77** Options For Changing Video Output
- 79** Supported Resolutions
- 80** Wide-Screen vs. Standard Formats

About High-Definition

What is HD, and how does it differ from regular TV? To learn more, here's some helpful information about high-definition and your DIRECTV HD Receiver.

Types of TV Broadcasts

Analog TV is the type of TV broadcast you may be most familiar with. If you get your broadcasts via a standard off-air antenna, it's the type you receive, and most broadcasts from local cable companies are analog as well.

Digital TV is a newer system for broadcasting TV signals delivering higher quality audio and video. "Digital TV" refers to a television that can receive and display digital images. Following are terms you might see used regarding Digital TV broadcasts. Although your DIRECTV HD Receiver is a "true" HD receiver, the type of TV or monitor you plug it into (SD, ED, or HD) can affect the resolution of the TV picture you see. See "Resolution and Interlacing" on page 75, for an explanation of display resolutions.

- ▶ **SD** (standard definition) is digital TV that offers a picture quality that is better than older analog televisions. SDTV displays images at a resolution of 480i.
- ▶ **ED** (enhanced definition) is digital TV that can display a higher resolution picture than SDTV. An EDTV can display at 480i or 480p.
- ▶ **HD** (high definition) is digital TV that can provide the highest quality picture, at resolutions 1080i, 720p, 480p, or 480i.

To get the best-quality TV picture, you need an HD TV to go with your DIRECTV HD Receiver.

Resolution & Interlacing

Two elements that determine the quality of a TV picture are:

Resolution

If you've ever looked very closely at your TV, you have noticed the picture is actually made up of many lines scanning across the screen. The set of lines that make up a complete image are called a "frame." For TV equipment and broadcasts, resolution is defined by the number of horizontal lines displayed to make up each frame of a video image. The more lines of resolution used to compose each frame, the more detailed and sharp the picture. Standard TV resolution uses 480 horizontal lines to make up each video frame; HDTV uses either 720 or 1080 lines to compose each frame.

Interlaced & Progressive

The term "interlacing" refers to whether each of those frames contains all of the lines of image, or every other line. Interlaced signals take every other line from 2 frames, each lasting 1/60th of a second, and combine them into one frame lasting 1/30th of a second. In this way, interlacing tricks the eye into thinking it's seeing twice the resolution that's actually being displayed. In non-interlaced video, referred to as "progressive scan" video, frames are displayed every 1/60th of a second containing all of the lines of video information.

The specifications for video resolution are usually stated by giving the number of horizontal lines (480, 720 or 1080, as described above) followed by either the letter "i" (for interlaced) or "p" (for progressive scan). Most standard TV broadcasts are 480i; some DVDs and non-HDTV digital broadcasts use 480p. Specification for HDTV broadcasts and equipment requires either 1080i or 720p.

Aspect Ratio

In addition to resolution and interlacing, a television picture is also defined by its aspect ratio—referring to the shape of the screen as defined by the ratio of the screen's width to its height.

For analog TV, the aspect ratio is 4 units wide by 3 units high (4:3). This is the familiar shape of conventional TVs—slightly wider than they are tall. SDTV and EDTV can be either 4:3 or 16:9. For HDTV broadcasts, the aspect ratio is 16:9—nearly twice as wide as it is tall. This is, not coincidentally, more like the shape of movies shown in theaters, which makes HD an ideal format for viewing movies on TV. You will be able to see much of what is captured on film, but lost on an SDTV display.

Screen Formats

What if you're watching a nearly square-shaped 4:3 broadcast on a 16:9 TV, or vice versa? The DIRECTV HD Receiver lets you choose from a variety of screen formats to deal with those scenarios. You can set up your preferences for format during Guided Setup and change them at any time.

See the next page for your options.

The FORMAT key, made simple: Keep pressing the FORMAT key until you like the picture on your TV.

Options For Changing Video Output

In order to optimize the display of programs on your television, you may occasionally need to change the resolution and/or screen format. There are two keys that can be used to make changes: the FORMAT key on the remote control and the RESOLUTION key on the front panel of the receiver.

FORMAT key on Your Remote

Pressing this key will cycle the resolutions that you've indicated in System Setup as being supported by your TV. In addition, it will cycle through Stretch, Letter and Crop settings for each of your TV resolution selections (i.e. 480i, 720p, etc). Available screen formats are based on the TV Aspect Ratio you set in System Setup. With each press, an onscreen message will let you know what the current resolution/format setting is. For example, if you selected only 720p as your resolution, the FORMAT key will cycle through 720p Stretch, 720p Letter and 720p Crop, and back again. If you indicated that your TV supports only 1080i, 480i and 480p and it is a 16:9 television, and Native is turned off*, the cycle of settings for the FORMAT key are as follows:

1st press: 480i/Stretch
2nd press: 480i/Letter box
3rd press: 480i/Crop
4th press: 480p/Stretch
5th press: 480p/Letter box

6th press: 480p/Crop
7th press: 1080i/Stretch
8th press: 1080i/Letter box
9th press: 1080i/Crop
10th press: repeat cycle

- * In Native mode, the receiver automatically adjusts resolution to match the resolution of individual TV programs as they are tuned.

If your TV supports all formats (1080i, 720p, 480i and 480p), then your cycle would also include 720p. If Native is turned on, the FORMAT key cycles through Stretch, Letter and Crop for the current TV program's native resolution. The FORMAT key allows you to easily cycle all resolution and format settings with a single key until the picture displays the way you like it. Navigating menus to modify settings is not necessary.

If pressing this key causes a loss of video and audio, continue to press it until the picture returns. (Wait a second between presses to allow the Receiver to change the resolution.) This can happen if your settings include a resolution that your TV doesn't support. To correct this, you'll need to change your resolution setting: Press MENU, select *Help & Settings*, then *Setup*, then *TV Type* in the left side menu. Press SELECT on the *Resolution* tab and mark or unmark the TV Resolutions to display the resolutions supported by your television.

RESOLUTION Key on Receiver Front Panel

This key is used to cycle all available resolutions on your DIRECTV HD Receiver. It does not cycle format settings. If video and audio are not appearing, it may be because the current resolution setting is not supported by your television. By pressing this key, you can check all available resolutions to see if that solves the problem. The lights next to the RESOLUTION key on the front panel will light above the resolution to which the receiver is set; they will change with each key press.

Resolution made simple: Set the resolution to the highest number that your TV supports by pressing the RESOLUTION key.

Supported Resolutions

The following table shows the resolutions that can be output from each type of connection:

Output Connection	Available Resolutions
YPbPr	1080i, 720p, 480i, 480p
HDMI	1080i, 720p, 480i, 480p
S-Video	480i
Video (RCA Type/Yellow)	480i

NOTES:

720p and 1080i are HD formats. 480i and 480p are not.

S-Video and RCA outputs display all resolutions as 480i.

Wide-Screen vs. Standard Formats

4:3 TVs Showing 16:9 programs

For a standard 4:3 TV showing a wide screen program, the program is too wide to fit on the screen. To alleviate this, choose:

Letterbox

With this format, the 16:9 image is shrunk until the entire width of the program fits on your TV. Since the aspect ratio of the program is maintained, the image is no longer tall enough to fill your screen, so gray or black bars are seen at the top and bottom of the screen. To change the bar color, press MENU, then select *Help & Settings*. Select *Setup*, then select the *Display* menu. Highlight the *Preferences* tab and press SELECT, then set *Bar Color* option to the desired color. See your TV owner manual for information on the best color for your set.

Stretch

In the Stretch setting, instead of adding bars to the top and bottom, the 16:9 program image is stretched vertically until it's tall enough to fill the screen. Your entire screen will be full, but the program images are stretched to compensate.

Crop

This format crops (cuts off) the left and right portions of the 16:9 frame so it fits the 4:3 screen.

**You can watch
HD programs
on a standard
TV, but you
won't really be
watching HD.**

**Only Letterbox
shows the entire
original 16:9
image without
distortion.**

If your display is a 4:3 format TV or monitor, your format options include these:			
For 4:3 program signals:	 Fills TV Screen		
For 16:9 program signals:	 Letterbox	 Stretch	 Crop

16:9 TVs Showing 4:3 programs

For a wide screen 16:9 TV showing a standard 4:3 TV program, the program is too tall to fit the screen. Your choices here include:

Pillar box

Here the 4:3 image is shrunk until the entire height of the program fits on your TV. Since the aspect ratio is maintained, the image is no longer wide enough to fill the screen, so gray or black bars are seen at the left and right edges. To change the bar color, access the Display Options screen in System Setup as described previously, then select the desired bar color option under the *Preference* tab.

Stretch

In this setting, instead of adding bars to the sides, the 4:3 program image is stretched horizontally until it's wide enough to fill the screen. Your entire screen will be full, but the images are a little stretched to compensate.

Crop

This format crops (cuts off) the top and bottom of a 4:3 frame, keeping the 4:3 ratio intact.

**Fortunately, you
can still watch
regular TV on
your HD TV.**

**Only Pillar Box
shows the entire
original 4:3
image without
distortion.**

If your display is a 16:9 format TV or monitor, your format options include these:			
For 4:3 program signals:			
	Pillar Box	Stretch	Crop
For 16:9 program signals:			
	Fills TV Screen		

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Notes

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Icon Reference

Arrow Icons

-  Indicate that a show's start or end time is earlier or later than is visible in the Guide program cell.
-  LEFT and RIGHT arrows move the highlight in the indicated direction.
-  Objects are scrollable above or below the visible window.
-  UP and DOWN arrows move the highlight in the indicated direction.

Scheduler Icons

-  Shows an Autotune has been set for a future program, or a present program is Autotuned.
-  Indicates an Autotune has been set for all episodes of an ongoing program.
-  Indicates an Autotune set for a present or future program conflicts with another scheduled program.
-  Shows an Autotune has been set for matching programs in a "Search."
-  Indicates a present or future pay per view program has been scheduled for purchase.

Other Icons

-  Denotes one or more alternate audio tracks available for a program.
-  Denotes that no alternate audio tracks available.
-  Indicates one or more new messages are in the Inbox.
-  Indicates no new messages are in the Inbox.
-  Shows that Parental Control limits are currently "locked."
-  Shows that limits are temporarily unlocked.
-  Shows that there are no current limits imposed.
-  Indicates a rating level or channel that is blocked via Parental Controls.
-  Indicates a pay per view program is available as an All Day Ticket replay.
-  Indicates program shown in letterbox format.
-  Denotes an error condition has occurred.