**MITSUBISHI
ELECTRIC**

DIGITAL TELEVISIONS™

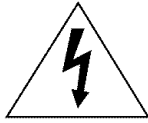# DLP™ PROJECTION TELEVISION

MODELS

WD-52631
WD-57731
WD-65731

OWNER'S GUIDE

- For questions:
  - Call Consumer Relations at 800-332-2119.
  - E-mail us at MDEAservice@mdea.com.
  - Visit our website at www.mitsubishi-tv.com.
- For information on **Demo Mode** and **System Reset**, please see the back cover.
- To order replacement or additional remote controls, lamp cartridges, or Owner's Guides, visit our website at www.mitsuparts.com or call 800-553-7278.
- Guidelines for setting up and using your new widescreen TV start on page 13.

▶**ViewPoint**®
ON-SCREEN OPERATING SYSTEM

HᴅᴍI™
HIGH DEFINITION MULTIMEDIA INTERFACE

ᴅᴛᴠ Liᴎᴋ™

PICTURE BY
DLP™
A TEXAS INSTRUMENTS TECHNOLOGY

DCR™

Simplay HD™

FCC Declaration of Conformity

Product:	Projection Television Receiver
Models:	WD-52631, WD-57731, WD-65731
Responsible Party:	Mitsubishi Digital Electronics America, Inc. 9351 Jeronimo Road Irvine, CA 92618-1904
Telephone:	(800) 332-2119

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.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interfer-ence to radio or television reception, which can be determined by turning the equipment off and on, the user is encour-aged to try to correct the interference by one or more of the following measures:

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

Changes or modifications not expressly approved by Mitsubishi could cause harmful interference and would void the user's authority to operate this equipment.

Our Thanks...

Thank you for choosing Mitsubishi as your premier Home Entertainment provider

This Owner's Guide describes the features and functions of your Mitsubishi widescreen, high definition TV. We urge you to examine this Owner's Guide to become familiar with the innovative features and operations this unique television offers.

The very core of our corporate philosophy is to provide our customers with the very best. Our development team at Mitsubishi has worked to provide you with a television that defines "state-of-the-art," with the capability to meet your needs now and in the future.

Whether this is your first Mitsubishi electronic product, or an addition to your Mitsubishi collection, we believe you and your family will continue to enjoy your Mitsubishi home theater for many years.

Thank you,

Mitsubishi Digital Electronics America, Inc.

For Your Records

Record the model number, serial number, and purchase date of your TV. The model and serial numbers are on the back of the TV. Refer to this page when requesting assistance with this TV.

MODEL NUMBER (check one):

☐ WD-52631   ☐ WD-57731   ☐ WD-65731

SERIAL NUMBER _____

PURCHASE DATE _____

Retailer Information

RETAILER NAME _____

LOCATION _____

Contents

WARNING: This product contains chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

TV WEIGHT: This TV is heavy! Exercise extreme care when lifting or moving it. Lift or move the TV with a minimum of two adults. To prevent damage to the TV, avoid jarring or moving it while it is turned on. Always power off your TV before moving it.

Installation Notes

Stand Requirement

CAUTION: Use these Mitsubishi TV models only with the Mitsubishi stand models shown here. Other stands can result in instability and possibly cause injury.

TV Model	Stand Model
WD-52631	MB-52B
WD-57731	MB-57DS
WD-65731	MB-65DS

Custom cabinet installation must allow for proper air circulation around the television.

NOTE TO CATV SYSTEM INSTALLER: THIS REMINDER IS PROVIDED TO CALL THE CATV SYSTEM INSTALLER'S ATTENTION TO ARTICLE 820-40 OF THE NEC THAT PROVIDES GUIDELINES FOR THE PROPER GROUNDING AND, IN PARTICULAR, SPECIFIES THAT THE CABLE GROUND SHALL BE CONNECTED TO THE GROUNDING SYSTEM OF THE BUILDING, AS CLOSE TO THE POINT OF CABLE ENTRY AS PRACTICAL.

Operating Notes

Standby Fan

When the TV is off, you may hear a low-power standby fan. This is normal operation. The fan cools advanced circuitry in this TV that must continue to operate even when the TV is turned off.

Demo Mode

This TV has a demo mode for use in retail stores. To turn off demo mode:

1. Press MENU.
2. When the Main menu appears with **Setup** highlighted, press ENTER.
3. When the Setup menu opens, press ▶ to highlight the on-screen **Demo Mode Off** button.
4. Press ENTER.

Lamp Replacement

The image on this TV is produced by a powerful lamp that will operate for many hours. Eventually, however, this lamp will need to be replaced. **Order a new lamp when you notice the TV image becoming dimmer. Replace the lamp yourself and save the cost of a service call.** Please see Appendix C for details on lamp replacement.

To Receive a Replacement Lamp Under Warranty

Call (800) 553-7278. Please have model number, serial number, and TV purchase date available.

To Purchase a Replacement Lamp After Warranty

Visit our website at www.mitsuparts.com or call (800) 553-7278. Order lamp part number 915P049010.

Cleaning Recommendations

Normally, light dusting with a dry, non-scratching duster will keep your TV clean. If cleaning beyond this is needed, please use the following guidelines:

First, turn off the TV and unplug the power cord from the power outlet.

Top and Sides of the TV

- Gently wipe down your TV with a soft, non-abrasive cloth such as cotton flannel or a clean cloth diaper, lightly moistened with water. Dry with a second dry, soft, non-abrasive cloth.

- For oily dirt, add a few drops of mild liquid detergent, such as dishwashing detergent, to the water used to moisten the cloth. Rinse with a second cloth moistened only with water. Dry with a third dry, soft, non-abrasive cloth.

Screen

- Follow the instructions for the top and sides, wiping gently in an up and down motion, following the grooves in the screen.

- Clean the entire screen evenly, not just sections of the screen.

- Do not allow liquid to drip down the grooves of the screen, as some liquid may enter the TV through the gap between the screen and screen frame.

- You may purchase Mitsubishi Screen Cleaner, part number CLEANER-VSS, by calling (800) 553-7278.

General Cleaning Warnings

- DO NOT allow liquid to enter the TV through the ventilation slots or any crevice.

- DO NOT use any strong or abrasive cleaners, as these can scratch the surfaces.

- DO NOT use any cleaners containing ammonia, bleach, alcohol, benzene, or thinners, as these can dull the surfaces.

- DO NOT spray liquids or cleaners directly on the TV's surfaces.

- DO NOT scrub or rub the TV harshly. Wipe it gently.

> **IMPORTANT**
> **DO NOT use any kind of abrasive cleaner on the surface of the TV screen.**

TV Software

Unauthorized Software

Do not attempt to update the software of this TV with software or cards that are not provided by or authorized by Mitsubishi Digital Electronics America, Inc. Non-authorized software may damage the TV and will not be covered by the warranty.

Software Updates

From time to time, Mitsubishi may offer software updates to expand the features or operation of this TV. When these updates are available they will be announced on our web site, Mitsubishi-tv.com. If you return your owner's registration card, with your model and serial number, you may receive written notification of available software updates.

Important Safeguards

Please read the following safeguards for your TV and retain for future reference. Always follow all warnings and instructions marked on the television.

1. **Read, Retain and Follow All Instructions**
   Read all safety and operating instructions before operating the TV. Retain the safety and operating instructions for future reference. Follow all operating and use instructions.

2. **Heed Warnings**
   Adhere to all warnings on the appliance and in the operating instructions.

3. **Cleaning**
   Unplug the TV from the wall outlet before cleaning. Do not use liquid, abrasive or aerosol cleaners. Cleaners can permanently damage the cabinet and screen. Use a lightly dampened cloth for cleaning.

4. **Attachments and Equipment**
   Never add any attachments and/or equipment without approval of the manufacturer as such additions may result in the risk of fire, electric shock or other personal injury.

5. **Water and Moisture**
   Do not use the TV where contact with or immersion in water is possible. Do not use near bath tubs, wash bowls, kitchen sinks, laundry tubs, swimming pools, etc.

6. **Accessories**

   Do not place the TV on an unstable cart, stand, tripod, or table. The TV may fall, causing serious injury to a child or adult and serious damage to the TV. Use only with a cart, stand, tripod, bracket or table recommended by the manufacturer, or sold with the TV. Any mounting of the TV should follow the manufacturer's instructions, and should use mounting accessories recommended by the manufacturer.
   An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

7. **Ventilation**
   Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the TV and to protect it from overheating. Do not block these openings or allow them to be obstructed by placing the TV on a bed, sofa, rug, or other similar surface. Nor should it be placed over a radiator or heat register. If the TV is to be placed in a rack or bookcase, ensure that there is adequate ventilation and that the manufacturer's instructions have been adhered to.

8. **Power Source**
   This TV should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your appliance dealer or local power company.

9. **Grounding or Polarization**
   This TV is equipped with a polarized alternating current line plug having one blade wider than the other. This plug will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

10. **Power-Cord Protection**
    Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the TV.

11. **Lightning**
    For added protection for this TV during a lightning storm, or when it is left unattended and unused for long period of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the TV due to lightning and power-line surges.

Important Safeguards, continued

12. Power Lines

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

13. Overloading

Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
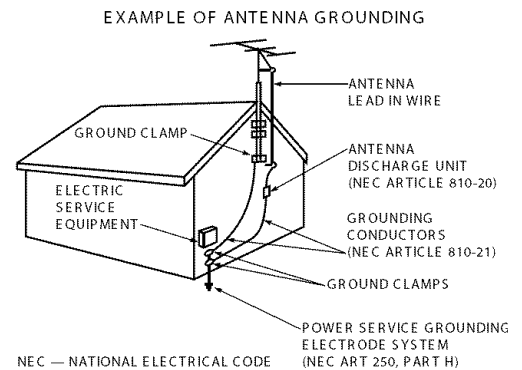
14. Object and Liquid Entry

Never push objects of any kind into this TV through openings as they may touch dangerous voltage points or short-out parts that could result in fire or electric shock. Never spill liquid of any kind on or into the TV.

15. Outdoor Antenna Grounding

If an outside antenna or cable system is connected to the TV, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges.

Article 810 of the National Electric Code, ANSI/NFPA No. 70-2002, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

EXAMPLE OF ANTENNA GROUNDING

ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC ARTICLE 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC ARTICLE 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM
NEC — NATIONAL ELECTRICAL CODE   (NEC ART 250, PART H)

16. Servicing

Do not attempt to service this TV yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

17. Damage Requiring Service

Unplug the TV from the wall outlet and refer servicing to qualified service personnel under the following conditions:

(a) When the power-supply cord or plug is damaged.
(b) If liquid has been spilled, or objects have fallen into the TV.
(c) If the TV has been exposed to rain or water.
(d) If the TV does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the TV to its normal operation.
(e) If the TV has been dropped or the cabinet has been damaged.
(f) When the TV exhibits a distinct change in performance - this indicates a need for service.

18. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

19. Safety Check

Upon completion of any service or repair to the TV, ask the service technician to perform safety checks to determine that the TV is in safe operating condition.

20. Heat

The product should be situated away from heat sources such as radiators, heat registers, stoves or other products (including amplifiers) that produce heat.
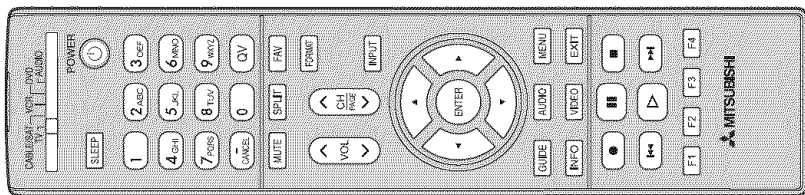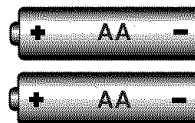
1

Television Overview

Package Contents

Please take a moment to review the following list of items to ensure that you have received everything.

1. **Remote Control**

2. **Two AA Batteries**

3. **Product registration card** *(not pictured)*

4. **Owner's Guide** *(not pictured)*

5. **Quick Reference Guide** *(not pictured)*

Special Features of Your TV

Your new high-definition widescreen television has many special features that make it the perfect center of your home entertainment system, including:

High Definition DLP™ Display System

Your widescreen Mitsubishi HDTV uses Texas Instruments most advanced Digital Light Processing™ technology for rear-projection televisions. This TV is truly a high-performance multimedia monitor uniquely capable of both stunning high-definition video images and clear, detailed, high-resolution images from a personal computer.

16:9 Widescreen Picture Format

Enjoy a full theatrical experience in the comfort of your home. View pictures as film directors intended them. Digital TV broadcasts, DVDs and newer video game consoles support this widescreen format.

Integrated HDTV Tuner

Your widescreen Mitsubishi HDTV has an internal HDTV tuner able to receive both over-the-air HDTV broadcasts (received via an antenna) and non-scrambled digital cable broadcasts, including non-scrambled HDTV cable programming.

High-Definition Video Inputs

♦ **Two Component Video Inputs,** also called Y/Pb/Pr inputs. These inputs receive standard analog video formats of 480i, 480p, 720p, 1080i, and 1080p high-definition signals. This provides a high level of flexibility when connecting DVD players/recorders, cable boxes, and satellite receivers.

♦ **Two HDMI Inputs** that accept digital 480i, 480p, 720p, 1080i, and 1080p video signals plus PCM digital stereo signals. Used with an adapter, these inputs also accept compatible DVI video signals. HDMI inputs provide additional high-performance, high-definition connections for maximum flexibility in your choice of home theater products. The HDMI inputs are HDCP copy-protection compatible.

♦ **Two IEEE 1394 Digital Interfaces** that receive and send compressed digital signals, including high-definition signals, along with digital audio and control signals between devices such as the TV, digital cable boxes, and D-VHS digital video recorders.

ClearThought® Easy Connect Auto Input Sensing

ClearThought® automatically recognizes when you plug in an input and prompts you to assign a name to it. The TV ignores any unused inputs, so the result is an uncluttered Input Selection menu where you can easily find and select connected devices by name.

Digital Cable Ready (CableCARD™), Models WD-57731 and 65731

Your widescreen Mitsubishi HDTV is "Plug-and-Play" digital cable ready. It can descramble a cable provider's one-way digital signals with the use of a CableCARD security module. The CableCARD is used in place of a traditional cable box to access digital cable programming (including high definition). Contact your local cable provider for availability information and service details.

Guidelines for Setting Up and Using Your New Widescreen TV

Getting Started

1. Read the section entitled **"Important Information About Your TV"** starting on page 5.

2. Choose a location for your TV.
   - Allow at least four inches of space on all sides of the TV to help prevent overheating.
   - Avoid locations where light may reflect off the screen.
   - See the stand requirements under **"Important Information About Your TV."**

3. Install the batteries in the remote control. See **chapter 3, "TV Operation,"** for information on use and care of the remote control.

4. Plug your TV into a power outlet. The POWER indicator on the front of the TV will start blinking rapidly. After the POWER indicator stops blinking, press the POWER key to power on the TV.

5. When the Welcome screen appears the first time you power on the TV, select a language for TV menus. You can later change the language through the **Setup menu.**

6. Some TVs are shipped from the factory with demo mode active for use in retail stores. If demo mode is active when you first turn on the TV:
   a. Press MENU.
   b. When the Main menu appears with **Setup** highlighted, press ENTER.
   c. When the Setup menu opens, press ▶ to highlight the on-screen **Demo Mode Off** button.
   d. Press ENTER.

7. Connect your other A/V devices to the TV and assign device names to the TV inputs when prompted. See **chapter 2, "TV Connections,"** for connection diagrams. You can reassign device names later if needed. See **"Input Name Menu"** in **chapter 4, "TV Menu Settings."**

8. **Memorize channels** if you plan to watch over-the-air channels or programming over direct cable. Channel memorization may take up to 15 minutes to complete.

See **"Setup Menu"** in **chapter 4, "TV Menu Settings,"**

9. You can now start watching TV or you can perform additional setup and customization through the TV menus.

Additional TV Setup

1. To program the remote control to operate your other A/V devices, see **chapter 5, "Operating Other Devices with the Remote Control."**

2. Review **chapter 4, "TV Menu Settings,"** to customize TV operation. Press the MENU key to enter the menu system. Some examples of settings you may wish to change include:
   - **Energy Mode.** For faster power-on, keep the Energy Mode set to **Fast Power On**. For lower power consumption while the TV is off, use the **Low Power** setting. See **"Setup Menu."**
   - **Input Name.** Change the device names that appear in the Input Selection menu. See **"Input Name Menu."**
   - **Icon Order.** Rearrange the device icons in the Input Selection menu to put frequently used icons near the front. See **"Icon Order Menu."**
   - **FAV.** Create lists of your favorite channels so you can find them quickly. See **"Channel Menu."**
   - **Clock.** If you wish to schedule future recordings or use the Timer feature to have the TV come on automatically, you must first set the TV clock to the correct time. See **"Setup Menu."**
   - **Parental Lock.** You can restrict TV viewing by program rating or by time of day. You can also disable the front-panel buttons—useful if you have small children. See **"Parental Lock Menu."**
   - **Video Settings.** Change the video adjustments to get the best picture for your viewing conditions. See **"Audio/Video Menu."**

     You may wish to change the Picture Mode from the default **Brilliant** to either **Bright** or **Natural**, which are suitable for most home viewing environments.

3. If you have IEEE 1394 A/V devices, see **chapter 7, "Using IEEE 1394 Devices,"** for details on operating such devices and using the TV to control recording.

Guidelines for Setting Up and Using Your New Widescreen TV, continued

TV Operation

Review **chapter 3, "TV Operation,"** for TV features including:

- **Input Selection (viewing source).** Select a connected program source to watch, such as a VCR, DVD player, or antenna. Press INPUT on the remote control to select from icons for the TV inputs. See **"Input Selection Menu."**

- **Channel Listings.** Press GUIDE to view ChannelView™ channel listings. See **"ChannelView™ Channel Guide."**

- **Picture Formats.** Press FORMAT to cycle through the available picture sizes and shapes to find the one best suited to the program you're watching. See **"TV Signals and Display Formats."**

- **SPLIT.** Press SPLIT to view two programs at the same time. See **"Split Screen Mode."**

TV Care

Caring for your TV:

- **Lamp Cartridge.** When the lamp cartridge needs replacement, **replace the lamp yourself and save the cost of a service call.** See **Appendix C** for instructions.

- **General Cleaning.** To keep your TV looking its best, see the cleaning recommendations under **"Important Information About Your TV."**

Assistance

If you need assistance with this TV:

- For troubleshooting, service, and product support, see **Appendix D.**

- For warranty information, see the TV warranty in the back of this book.

TV Tips

Turning the TV On or Off

To turn the TV on or off, point the remote control at the front of the TV and press the POWER button. Alternatively, press the POWER button on the front panel of the TV.

If You Turn Off the TV by Mistake

1. Press POWER again within about 30 seconds, while the lamp is still hot, to have the TV come back on immediately.

2. If the LAMP indicator starts blinking (about 30 seconds after you shut off power), **wait about one minute for the LAMP indicator to stop blinking and press POWER to turn the TV on again.**

Controlling Sound Volume

Press VOL ∧/∨ to adjust the sound level.

Changing Channels

To change channels:

- Enter the channel number using the number keys on the remote control and press ENTER. For a two-part digital channel, such as 3-1, press 3 –/CANCEL 1 to enter a dash (separator).

- Press CH ∧/∨ to change channels one channel at a time.

- Press and hold CH ∧/∨ to move quickly through channels.

- Press QV (QuickView) to switch back to the previously tuned channel.

- Use the FAV (Favorites) feature to set up lists of favorite channels and tune to them with the FAV key. See "Channel Menu" in chapter 4.

NOTE: Memorize channels to make finding channels easier. See "Setup Menu" in chapter 4, "TV Menu Settings."

TV Front Panel

Model WD-52631
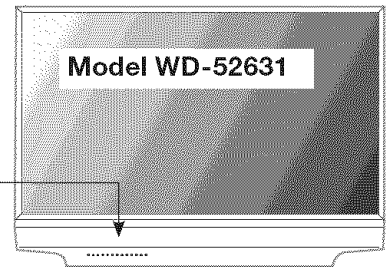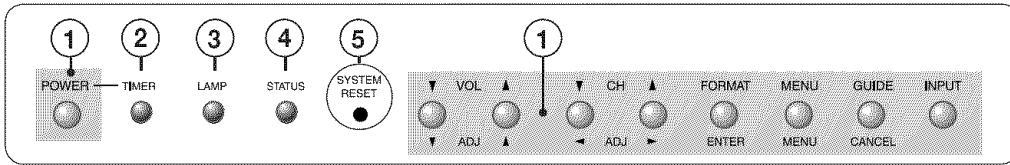
Control Panel

The shaded buttons on the front control panel dupli-cate keys on the remote control. The upper labels show control functions when no TV menus are displayed; the lower labels indicate functions when TV menus are displayed or when a special function has been activated. See "Remote Control Overview" in chapter 3, "TV Opera-tion," for further details on the functions of these buttons.

System Reset Button

If the TV does not respond to the remote control, front panel controls, or will not power on/off, press the SYSTEM RESET button on the front panel with a pointed object, such as the point of a pencil or end tip of a paperclip. The green LED will flash quickly for about one minute. When the green LED stops flashing, you may turn on the TV. The changes you made most recently, before using SYSTEM RESET, may be lost. Changes you made previously, however, are not lost.
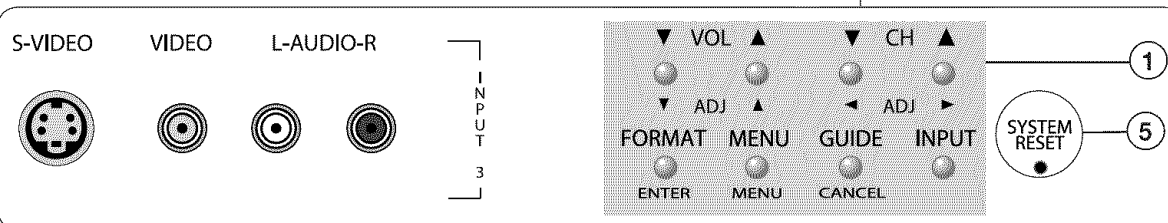
A/V Reset

If you wish to reset the A/V (Audio/Video) settings back to the factory defaults:

• To reset all settings at once, press GUIDE and FORMAT on the front panel at the same time.

• To reset the defaults for individual devices, use the **A/V Memory Reset** selection on the Audio/Video menu.

Input 3

INPUT 3 provides an easily accessible set of standard audio/video jacks. These jacks allow for convenient con-nection of a camcorder or other audio/video device. Note that if you connect to the **S-VIDEO** jack, the **VIDEO** jack is deactivated.

INPUT 3

S-VIDEO

VIDEO

AUDIO L

AUDIO R

Model WD-52631

Above and Below:

1. Shaded buttons are duplicates of keys on the remote control

2. **POWER/TIMER** indicator—lit during normal operation; flashing when auto-on TV Timer is set

3. **LAMP** indicator shows lamp condition (usually off during normal TV operation)

4. **STATUS** indicator (off during normal TV opera-tion)

5. **SYSTEM RESET** (see description this page)

Models WD-57731 and WD-65731

Lift cover to use the control panel and INPUT 3 front A/V jacks.

LAMP   STATUS   TIMER — POWER

S-VIDEO   VIDEO   L-AUDIO-R

INPUT 3

INPUT 3 *and controls on front panel of WD-57731 and WD-65731*
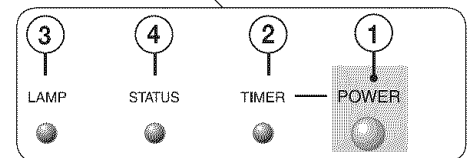
Front-Panel Indicators

○ Off   ● Steady On   ◖ Slow Blinking   ◉ Fast Blinking

LAMP Indicator

LED Color	TV Condition	Additional Information
None ○	Normal TV on or standby condition.	Normal operation.
Green ◉	TV just powered off and lamp is cooling.	Starts to blink 30 seconds after turning off TV. TV can be turned on before blinking starts or after blinking stops, but not while the indicator is blinking. Normal operation.
Yellow ◖	1. Lamp access door is open or not secure.	TV will not operate until lamp access door is secure. See Appendix C for installation information.
	2. No lamp installed.	TV will not operate without a lamp. See Appendix C for installation information.
Red ●	Lamp no longer illuminates and has reached the end of the lamp life.	Replace the lamp. The TV will not operate when the lamp no longer illuminates. See Appendix C for installation information.

STATUS Indicator

LED Color	TV Condition	Additional Information
None ○	Normal TV on or standby condition.	Normal operation.
Yellow ●	Room temperature is too high.	TV will not operate when the ambient room temperature is too high. Turn off the TV and wait until the room temperature drops.
Red ● ◖	TV may require service.	Turn off the TV and unplug the set from the AC power source. Wait one minute and then plug the set back in. If the LED is still on, contact your dealer or a Mitsubishi Authorized Service Center. See www.mitsubishi-tv.com or call 1-800-332-2119 to receive Authorized Service Center information.

POWER/TIMER Indicator

LED Color	TV Condition	Additional Information
None ○	TV is powered off.	Normal operation.
Green ●	TV is powered on.	Normal operation.
Green ◉	1. TV just plugged into AC outlet.	
	2. AC just restored after power failure.	
	3. TV Rebooting after System Reset used.	Wait until blinking stops before turning on (approximately 1 minute). Normal operation.
	4. TV Rebooting after power fluctuation or receiving abnormal digital signals from digital channel, CableCARD™, or digital device.	
	5. You have begun the procedure to update software from an authorized flash memory device.	For detailed information, see the instructions that accompany the authorized software update. Important: Do not use unauthorized software at any time.
Green ◖	TV powered off and auto-on timer is set.	Normal operation. TV can be turned on at any time.

CableCARD™ Technology
(models WD-57731 and WD-65731)

CableCARD is a nationwide system standard that allows your local cable TV provider to supply you with an access card customized to your account. This card allows your TV to receive, decode, and unscramble the premium digital channels included in your cable TV subscription without the use of a cable box. When you move to a new cable provider's area, return the CableCARD to the original cable provider and get a new card from your new provider.

Please note that CableCARD is a relatively new technology and your local cable provider may not currently be offering this service. As time passes, this system will become broadly supported by most cable providers.

The CableCARD system is unidirectional, meaning your cable provider can send updates to the TV, but the TV cannot send signals back. As a result, certain advanced and interactive digital cable services, such as requests for video-on-demand and pay-per-view programs, a cable operator's enhanced program guide, and data-enhanced television services may require use of a set-top box instead. For more information, call your local cable operator.

Digital cable channels authorized by the CableCARD are available on the Firewire® IEEE 1394 network and can be shared by other products on the network. You may be unable to record or copy some digital programs, however, because of copy restrictions set by the content or copyright owners.

Using a CableCARD™

Power on the TV and insert the CableCARD into the CableCARD slot with the top of the card oriented as indicated by **CARD TOP ▲.** When the initial screen displays, write down the information that appears and have it ready when calling your cable provider.
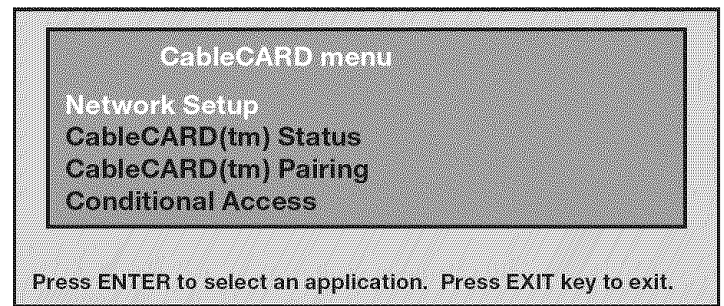

> In order to start cable
> service for this device, please contact
> your cable provider
> 1-800-xxx-xxxx
> CableCARD(tm): xxx-xxx-xxx-xxx-xxx-x
> Host: xxx-xxx-xxx-xxx-x
> Data: xxx-xxx-xxx-xx
> UnitAddress: xx-xxxxx-xxxxx-xxx
>
> Press EXIT to exit.

Sample CableCARD initial screen. Record the information before contacting your cable provider.

To review the information later, press MENU and when the Main menu appears, press 9 9 9 to re-display the screen.

Note: CableCARD™ requires the TV's **Fast Power On** setting. If you insert a CableCARD™, the TV will automatically override a **Low Power** setting and change to the **Fast Power On** setting.

CableCARD™ Menu

> **CableCARD menu**
>
> **Network Setup**
> **CableCARD(tm) Status**
> **CableCARD(tm) Pairing**
> **Conditional Access**
>
> Press ENTER to select an application. Press EXIT key to exit.

Sample CableCARD menu

To display the CableCARD menu with links to applications from your cable provider:

1. While watching CableCARD, press INPUT to open the Input Selection menu.
2. With the CableCARD icon highlighted, press MENU to open the CableCARD menu.
3. Press ▲ ▼ to highlight a link (blue text), then press ENTER to access the linked page.
4. To redisplay the CableCARD menu, repeat steps 1 and 2.
5. Press EXIT to return to TV viewing.

If there are technical problems with the CableCARD, an error screen automatically displays with information that may be needed by your cable provider when you call them for assistance.

Moving Through Other CableCARD Screens

In addition to CableCARD menus, other CableCARD application screens may display and require you to make additional selections. When using these screens on your Mitsubishi television:

- Blue text denotes a link to another screen. Press ENTER to move to the next application. Screens without blue text contain no links.

- You cannot move backward through the links. To exit the CableCARD system, press EXIT. The CANCEL key may not work with some CableCARD screens.

All information on these application screens is provided by your local cable company. Contact your cable provider if you have any problems with the application screen displays.

> ### IMPORTANT
> **Most CableCARD screens show only status or diagnostic information and do not allow you to make changes. These screens are meaningful only to your local cable provider.**

> ### IMPORTANT
> **To use a CableCARD, connect the primary incoming cable to ANT 1/MAIN on the TV.**

TV Back Panel

ANT 1 and ANT 2 on WD-52631

CableCARD™ compatibility offered on models WD-57731 and WD-65731.
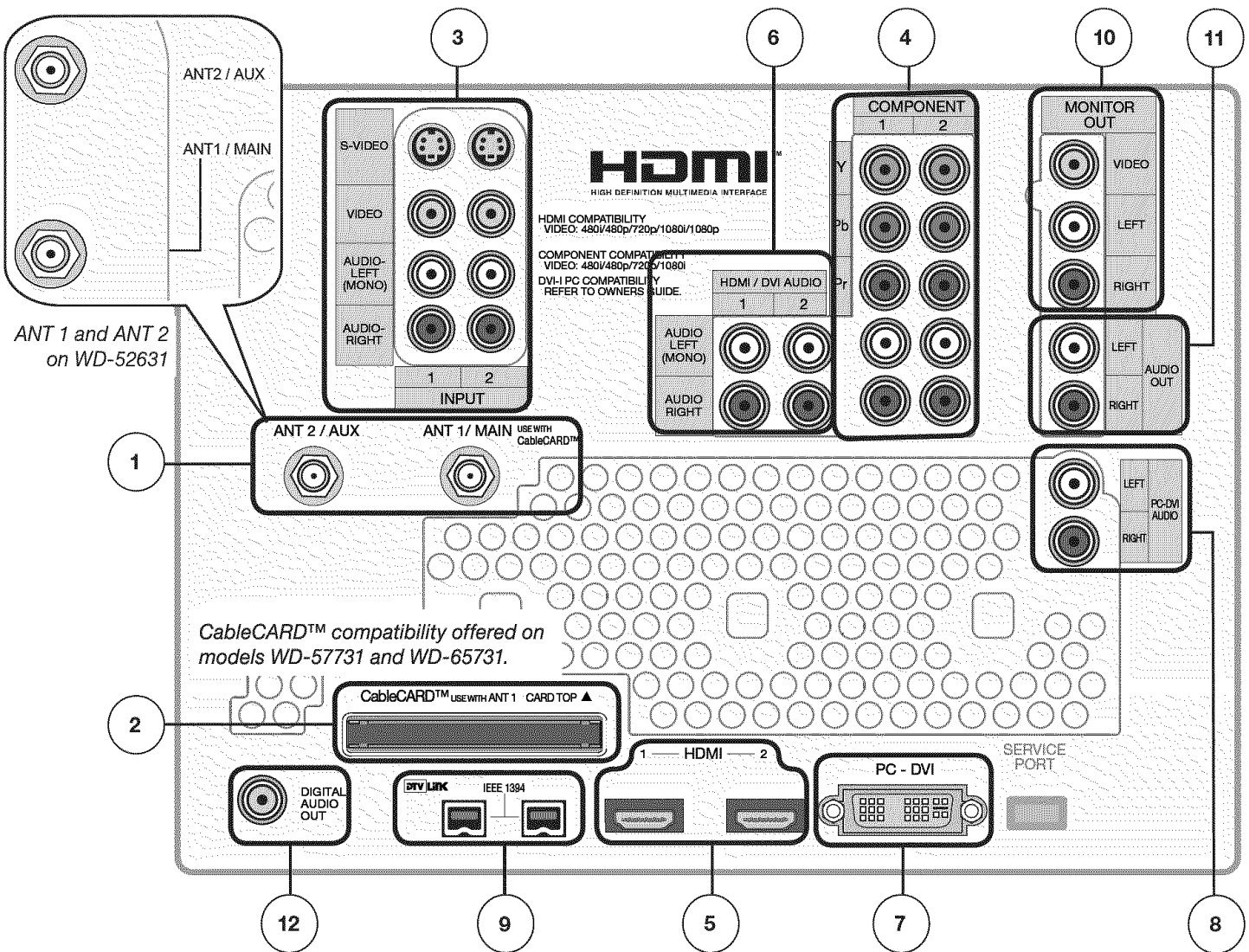
1. ANT 1/MAIN, ANT 2/AUX (Antenna)

If you are connecting an antenna, direct cable without a cable box, or are using cable with a CableCARD™, connect the main antenna or cable source to **ANT 1/MAIN**.

ANT 1/MAIN and **ANT 2/AUX** can each receive both digital and analog over-the-air channels from a VHF/UHF antenna or non-scrambled digital/analog cable source.

ANT 1/MAIN and CableCARD™ (models WD-57731 and WD-65731)

Use **ANT 1/MAIN** to receive premium subscription cable TV service authorized by the CableCARD™ access card. The CableCARD access card is provided by your local cable company. **ANT 2/AUX** can continue to receive over-the-air or non-scrambled cable signals when **ANT 1** is used for CableCARD™ service.

2. CableCARD™ Slot

(models WD-57731 and WD-65731)

The CableCARD access card from your cable TV service provider is inserted into this slot. When inserting, ensure that the top of the card faces in the direction indicated by **CARD TOP ▲**.

If your cable company is not currently offering CableCARD access cards, use the cable box provided and authorized by your local cable company to view scrambled channels.

3. INPUT 1 and 2 Inputs

(Audio and Video)

INPUT 1 and **2** can be used to connect a VCR, Super VHS (S-VHS) VCR, DVD player, standard satellite receiver, or other A/V device to the TV. **INPUT 3** is a third set of jacks located on or near the front of the TV for convenience. Please note that if **S-VIDEO** and **VIDEO** are both available, you must choose to connect only one.

TV Back Panel, continued

4. COMPONENT 1 and 2 Inputs

(Audio and Video)
Y Pb Pr (480i/480p/720p/1080i)
Use these jacks to connect devices with component video outputs, such as DVD players, external HDTV receivers, or compatible video game systems. Please see Appendix B for signal compatibility.

5. HDMI™ 1 and 2

The HDMI (High Definition Multimedia Interface) supports uncompressed standard and high-definition digital video formats and PCM digital audio format. For PC video, use the **PC-DVI** input instead.

Do not connect a computer to either TV HDMI jack.

Use these inputs to connect to EIA/CEA-861 compliant devices such as a high-definition receiver or DVD player. These inputs support 480i, 480p, 720p, 1080i, and 1080p video formats.

These inputs can also accept DVI video inputs. To connect a DVI input, use an HDMI-to-DVI adapter or cable plus analog audio cables. Connect the analog audio cables to the **HDMI/DVI AUDIO** inputs on the TV to receive left and right stereo audio from your DVI device.

These inputs are HDCP (High-Bandwidth Digital Copy Protection) compliant.

These inputs are *SimplayHD* certified for proper interoperability with other products certified by Simplay™.

6. HDMI/DVI AUDIO

Use these analog audio inputs when connecting DVI devices to the TV's **HDMI** jacks. Unlike HDMI, DVI does not carry audio information on the same cable. **For analog audio from a personal computer, use the PC-DVI AUDIO jacks instead.**

7. PC-DVI

PC-DVI is a DVI-I input compatible with both DVI-A (analog) and DVI-D (digital) inputs. Connect your personal computer's HDMI, DVI, or VGA video output to this jack. An adapter or converter cable may be required. Please see Appendix B for signal compatibility. To hear audio from the computer, connect analog audio cables from the computer to the **PC-DVI AUDIO** jacks.

8. PC-DVI AUDIO

Use the **PC-DVI AUDIO** jacks in conjunction with the **PC-DVI** video input from a personal computer. These jacks allow you to send left and right analog audio from your computer to the TV.

9. DTVLINK™/IEEE 1394

These jacks allow the TV to connect to external IEEE 1394 digital products by means of a single cable. See chapter 7, "Using IEEE 1394 Devices" for detailed information regarding IEEE 1394 connections and recording.

10. MONITOR OUT

Use these composite video and left/right audio jacks to send analog video and audio signals to an external recording device such as a VCR. The signals from these jacks are from the program currently being viewed on the TV screen. **To make recordings from this output, the TV must be in normal full-screen mode rather than in mode.**

- From this output you can record audio and video signals from **ANT 1**, **ANT 2**, **INPUT 1-3**, and IEEE 1394 devices.

- Digital signals from **ANT 1**, **ANT 2**, and IEEE 1394 devices are converted to analog video and audio signals.

- Some signals cannot be recorded because of copy-protection flags in the content.

11. AUDIO OUT LEFT/RIGHT

AUDIO OUT LEFT/RIGHT jacks send analog audio of the program currently shown on the screen to an A/V surround sound receiver or stereo system. Digital audio from digital channels, FireWire® (DTVLink/IEEE 1394) devices and HDMI devices is converted to analog audio by the TV. If using an analog A/V receiver or stereo system, this is the only audio connection needed between it and the TV.

12. DIGITAL AUDIO OUT

This output sends Dolby Digital or PCM digital audio to your digital A/V surround sound receiver. Analog audio from analog channels and devices is converted by the TV to PCM digital audio. If you have a digital A/V receiver, in most cases this is the only audio connection needed between the TV and your A/V receiver.

TV Connections

Before You Begin

Choosing a Language for Menus

When you power on the TV for the first time, you can select either English or Spanish for all menus. You can later change the language through the Setup menu.
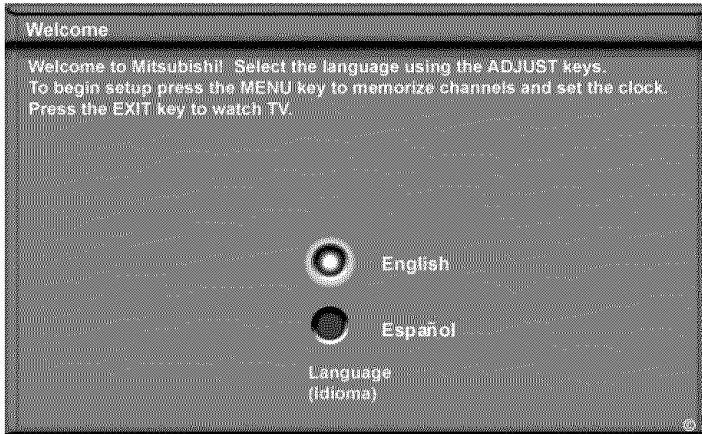

Welcome

Welcome to Mitsubishi! Select the language using the ADJUST keys.
To begin setup press the MENU key to memorize channels and set the clock.
Press the EXIT key to watch TV.

○ English

○ Español

Language
(Idioma)

Figure 1. The Welcome screen lets you change the menu language when you first power on the TV.

ClearThought® Easy Connect Auto Input Sensing

This TV's ClearThought® auto input sensing feature allows it to detect most connections automatically. The first time you connect each device you will be prompted to identify it by selecting from a pre-set list of device names. The table below defines how connections on each TV jack are handled.

Auto Detection Active	No Auto Detection
INPUT 1, 2, 3 video jacks	ANT 1/ANT 2
COMPONENT video jacks	MONITOR OUT (all jacks)
HDMI*	
DVI*	All AUDIO jacks
IEEE 1394	

*   If the device is powered off when connected, detection will occur when the device is next powered on.

1. Connect your devices to the TV.
   The TV and the devices can be either on or off when connecting. If the TV is powered off, the detection process will occur the next time you turn on the TV.

2. When the Auto Input Sensing screen opens (figure 2), you can accept the default name or press ▲ ▼ to select from a list of device names (e.g., cable box, DVD, Satellite, VCR).

   Choose a name that will help you when selecting inputs in the Input Selection menu.

3. Press EXIT to close the screen. If you connected several devices at the same time, the screen for the next connection will open.
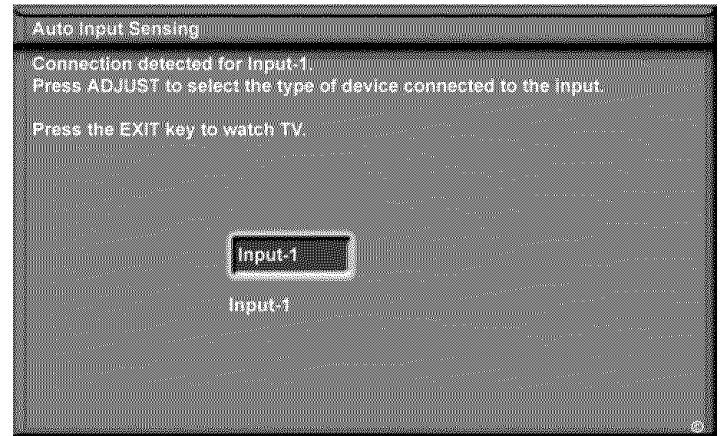

Auto Input Sensing

Connection detected for Input-1.
Press ADJUST to select the type of device connected to the input.

Press the EXIT key to watch TV.

Input-1

Input-1

Figure 2. The Auto Input Sensing screen appears when a device is first detected. Select a name for the connected device in this screen.

More About Auto Input Sensing

• You can change the input name at a later time using the Input Name menu.

• If you disconnect a device and then later connect a different device to the unused jack, open the Input Name menu to update the device name.

• Antenna inputs (ANT 1/ANT 2) and TV outputs are never detected.

• Be careful to choose different names for each input.

IEEE 1394 Connections

The screen in figure 3 appears when you make an IEEE 1394 connection,

IEEE 1394 Device with an Analog Connection.

Some IEEE 1394 devices have both digital and analog outputs to the TV. If you have such a device, place a check mark in the **Analog Connection** check box to:

• Allow a cable box with both analog and digital outputs to switch automatically between them.

• Allow you to use a TV menu to select either the analog or digital output from the device.

For instructions on switching between analog and digital outputs, see chapter 7, "Using IEEE 1394 Devices."

Before You Begin, continued
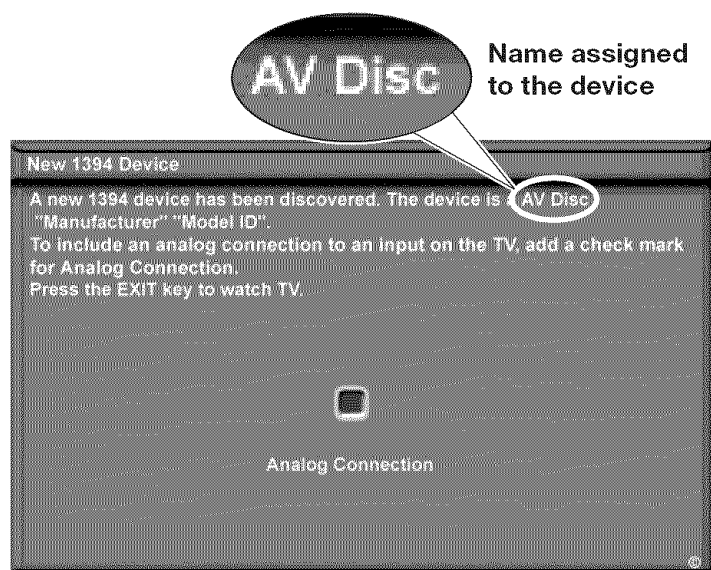

Name assigned to the device

Figure 3. The ClearThought Auto Input Sensing screen for IEEE 1394 devices includes a check box for an associated analog connection.

If your IEEE 1394 device has an analog connection to the TV, follow the instructions below.

1. Connect the device to the TV with an IEEE 1394 cable and a supplemental analog connection.

2. When the New 1394 Device screen appears, highlight the **Analog Connection** check box and press **ENTER** to enter a check mark.

Note: **It is important to check mark the box when this screen appears upon first connecting the device**, as later changes can only be made after returning all TV settings to their defaults.

3. In the New 1394 Device screen, note the name assigned to the device, as you will need to use the same name in a later step. See figure 3.

4. Complete setup for other devices through the Auto Input Sensing screens.

5. Display the Input Name menu. To do so, press **MENU**, highlight the Input Name icon, and press **ENTER**.

6. Highlight the analog input used for the analog connection to the IEEE 1394 device.

7. Press ▲ ▼ to scroll through the available names to display the name you earlier noted for the IEEE 1394 device.

8. Press **EXIT**.

To Add an Analog Connection at a Later Time (not recommended)

1. Disconnect the IEEE 1394 device from the TV.

2. Reset all TV settings to their defaults using the TV Reset service menu as follows:
   a. Press **MENU** to display the Main menu.
   b. Press 1 2 3 to open the Reset service menu.
   c. Press **ENTER**.

3. Reconnect the IEEE 1394 device to the TV.

4. When the TV recognizes the device, place a check in the **Analog Connection** check box.
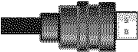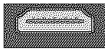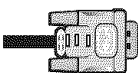
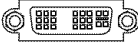5. Press **EXIT**.

Digital Video and Home Recording
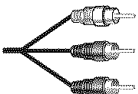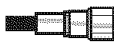
The table below will help you decide which type of connection to use for digital video. Digital video comes to your home in a compressed state, whether received on recorded media (e.g., disc) or broadcast over the air, over cable, or via satellite. Some compressed digital video is available for recording as noted in the table.

Connection Type into the TV	Effect on Home Recording
HDMI or DVI Compressed video is converted to uncompressed form by an external device such as a cable box, satellite receiver, or DVD player before it is sent to the TV on an HDMI or DVI cable.	You cannot record the resultant uncompressed video sent to the TV via HDMI or DVI.
IEEE 1394 (FireWire®) Connections Your TV can receive and decode digital channels, MPEG2 compressed digital audio, and Dolby Digital audio.	You can record compressed digital video either • on compatible digital recorders as digital signals • as standard-definition composite video from the **MONITOR OUT** jack converted to analog signals You may be unable to record some programming because of copy restrictions added by the content owners.

Connection Types

Video and Combined Audio/Video Connections
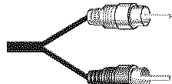
These descriptions apply to TV video only and do not cover signals from personal computers.

Picture Quality (most sources)	Name	Signal Type	Figures (not to scale)	Additional Information
Best (carry high-definition video when available)	HDMI	Digital audio and video		Carries digital audio and uncompressed digital video on a single one-way cable.
	DVI	Digital video		Carries uncompressed digital video alone on a single one-way cable; requires separate audio connections.
	Component Video	Analog video		Carries analog high-definition and standard-definition signals. Y Pb Pr RCA-style connectors are colored green, blue, and red.
Good	S-Video	Analog video		Carries analog standard-definition signals. Provides better quality video than composite or RF coaxial video.
Fair	Composite Video	Analog video		Carries analog standard-definition signals. RCA-style connector, usually colored yellow
Fair to Best (depending on source; carry all qualities of signals)	IEEE 1394 (FireWire®)	Digital audio and video		Carries compressed digital video and audio as well as device control signals on a single two-way cable.
	RF Coaxial Video	Analog and digital audio and video		Carries audio and video on a single cable.

Note: Only some TV signals are high-definition signals. To view high-definition programming from your cable or satellite provider, you must subscribe to the provider's high-definition service. Some over-the-air broadcasts are in high-definition and can be received with a high-quality antenna suited to your location.

Audio-Only Connections

There are two types of audio connections used on this TV. Refer to the table below.

Audio Connection	Figures (not to scale)	Additional Information
Left/Right Analog Stereo Audio		RCA-style connectors usually colored white for left and red for right stereo audio. For monaural sound (all speakers playing the same sound), use only the white connector.
Digital Audio (Coaxial)		RCA-style connector usually colored orange. Use to send digital audio from the TV to your digital A/V receiver for surround-sound effects. Usually the only audio connection required between the TV and the A/V receiver.

HDTV Cable Box or Satellite Receiver with Component Video

If your cable box or satellite receiver has HDMI or DVI outputs, use the connections for HDMI or DVI video devices described later in this chapter.

Required: RCA component video cables, left/right analog audio cables.
A coaxial splitter, available at most electronic supply stores, may be required to complete this installation.

1. Connect the cable from the outside cable or satellite service to **CABLE IN** or **SATELLITE IN** on the cable box or satellite receiver. See your device's owner's guide for instructions and cable compatibility.
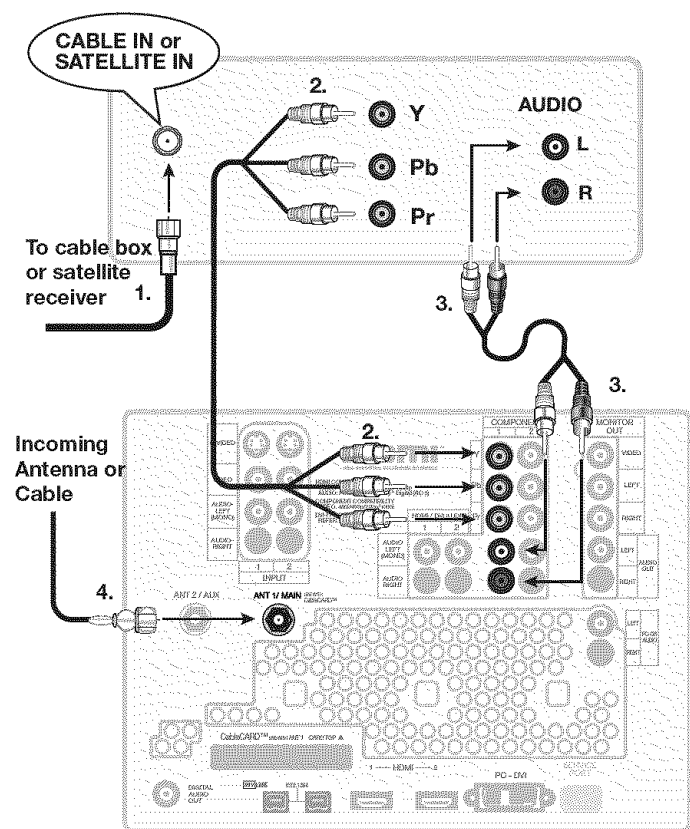
Figure 4. Connecting an external HDTV receiver with component video connections

2. Connect RCA-type cables from the Y Pb Pr outputs on the HDTV cable box or satellite receiver to **COMPONENT** on the TV back panel, matching the colored connections.

3. Connect left (white) and right (red) audio cables from the HDTV cable box or satellite receiver to **COMPONENT /AUDIO LEFT** and **AUDIO RIGHT** on the TV back panel.

4. Optional: To allow use of the Split Screen feature with channels from **ANT 1** and the cable box or satellite receiver, connect the incoming terres-

trial antenna or cable service (not satellite) to **ANT 1/MAIN** on the TV back panel. A coaxial splitter, available at most electronics supply stores, may be required to complete this installation.

Note: To receive the benefits of digital surround sound, connect the digital audio output from your cable box or satellite receiver directly to your digital A/V receiver.

Standard Cable Box, Satellite Receiver, or Other Device with S-Video

Required: S-Video cable and left/right analog stereo audio cables.

1. Connect the cable from the outside cable or satellite service to **CABLE IN** or **SATELLITE IN** on the cable box or satellite receiver.

2. Connect an S-Video cable from **VIDEO OUT** on the cable box or satellite receiver back panel to **INPUT S-VIDEO** on the TV back panel.

3. Connect left (white) and right (red) audio cables from **AUDIO OUT** on the cable box or satellite receiver to **INPUT/AUDIO LEFT** and **AUDIO RIGHT** on the TV back panel.

Note: Refer to the cable box or satellite receiver Owner's Guide for cable or dish antenna connections to the receiver.
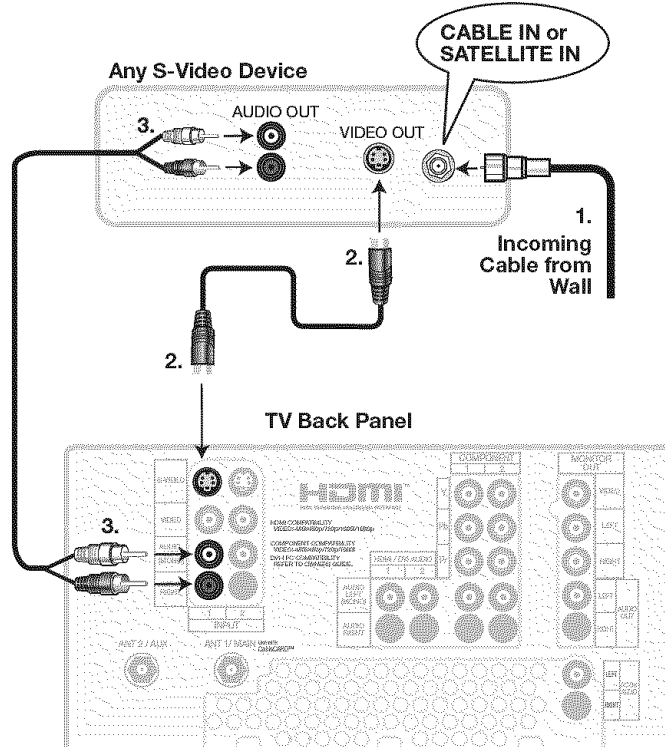
Figure 5. Connecting a device with S-Video

Wall Outlet Cable (no cable box)

(can be used with a CableCARD™, models WD-57731 and 65731)

It is very important to connect the incoming cable for your primary viewing source to **ANT 1/MAIN**, especially for CableCARD™ use.

1. Connect the primary incoming coaxial lead cable to **ANT 1/MAIN** on the TV back panel.
2. For an optional secondary antenna source, connect an antenna (or cable) to **ANT 2/AUX**.
3. If you have subscribed to a CableCARD™ service, Insert the CableCARD into the CableCARD slot. The top of the card must face in the direction indicated by the **CARD TOP** arrow.

See chapter 1, "Television Overview," for additional CableCARD information.

TV back panel detail
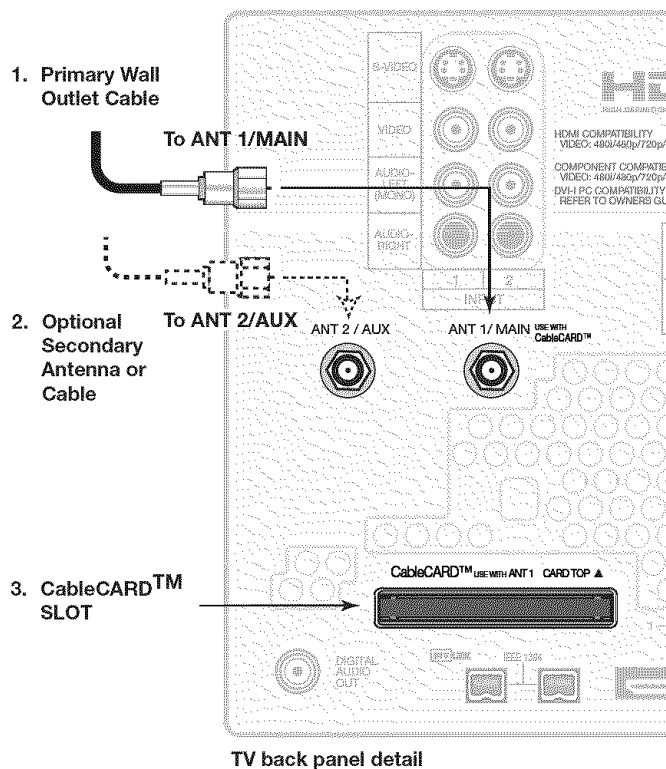
Figure 6. Wall Outlet Cable

Antenna with a Single Lead

A. For an antenna with flat twin leads

A 300-ohm-to-75-ohm transformer is required. This is not included with the TV, but is available at most electronics stores.

A1. For an antenna with flat twin leads, connect the 300-ohm twin leads to the 300-ohm-to-75-ohm transformer.

A2. Push the 75-ohm side of the transformer onto **ANT 1** on the TV back panel.

B. For cable or antenna with coaxial lead

Connect the coaxial lead directly to **ANT 1** on the TV back panel.
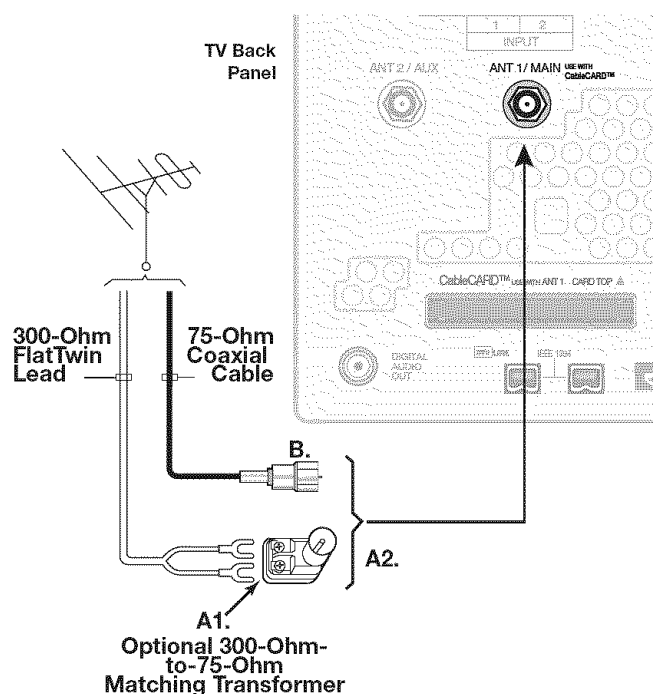
Figure 7. Connecting a Single Antenna

Antennas with Separate UHF and VHF Leads

Required: UHF/VHF combiner
This is not included with the TV, but is available at most electronics stores.

1. Connect the UHF and VHF antenna leads to the UHF/VHF combiner.

2. Push the combiner onto **ANT 1/MAIN** on the TV back panel.
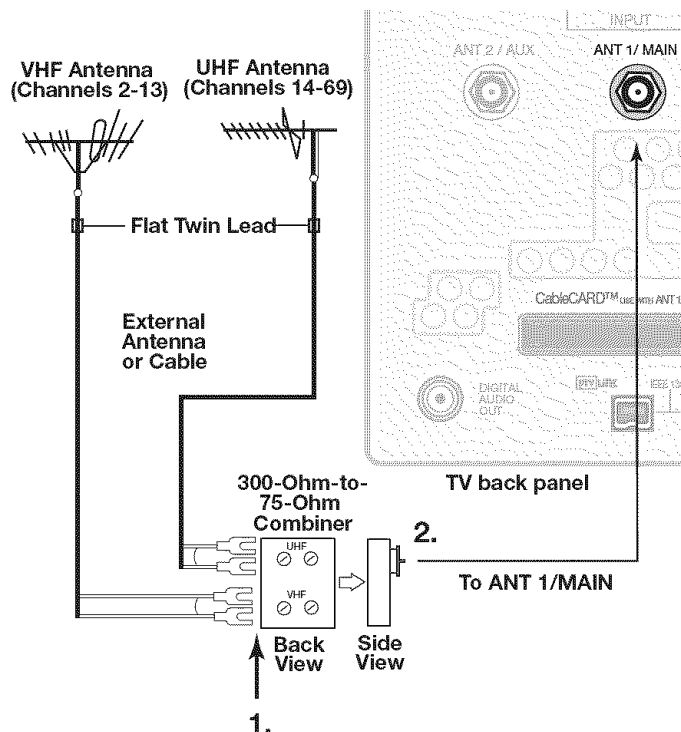
Figure 8. Connecting separate UHF and VHF Antennas

Mitsubishi strongly recommends you avoid using antennas with flat twin leads. Flat twin lead antenna wires are subject to interference which may adversely affect the performance of the TV. We recommend using coaxial antenna cable.

VCR to an Antenna or Wall Outlet Cable

Required: Two-way RF splitter, 3 coaxial cables, right and left analog audio cables, either S-video or video cable. These are not included with the TV but are available at most electronics stores.

1. Connect the incoming cable or antenna to **IN** on the RF splitter.
2. Connect one coaxial cable from **OUT** on the RF splitter to **ANTENNA IN** on the VCR back panel.
3. Connect one coaxial cable from **OUT** on the RF splitter to **ANT 1/MAIN** on the TV back panel.
4. To use the TV speakers with the VCR, connect left (white) and right (red) audio cables from **AUDIO OUT** on the VCR to **INPUT/AUDIO LEFT** and **AUDIO RIGHT** on the TV back panel. If your VCR is mono (non-stereo), connect only the white (left) cable.

5. Connect either an S-Video or composite video cable from **VIDEO OUT** on the VCR back panel to **INPUT/VIDEO** or **S-VIDEO** on the TV back panel. Connect only one type of video cable; S-Video is recommended, if available.

Optional

To record high-definition digital channels converted to analog standard-definition video and analog stereo audio, perform these two additional steps.

6. Connect left (white) and right (red) audio cables from **AUDIO IN** on the VCR to **MONITOR OUT LEFT/RIGHT** on the TV back panel. If your VCR is mono (non-stereo), connect only the white (left) cable.
7. Connect a composite video cable from **VIDEO IN** on the VCR back panel to **MONITOR OUT/ VIDEO** on the TV back panel.
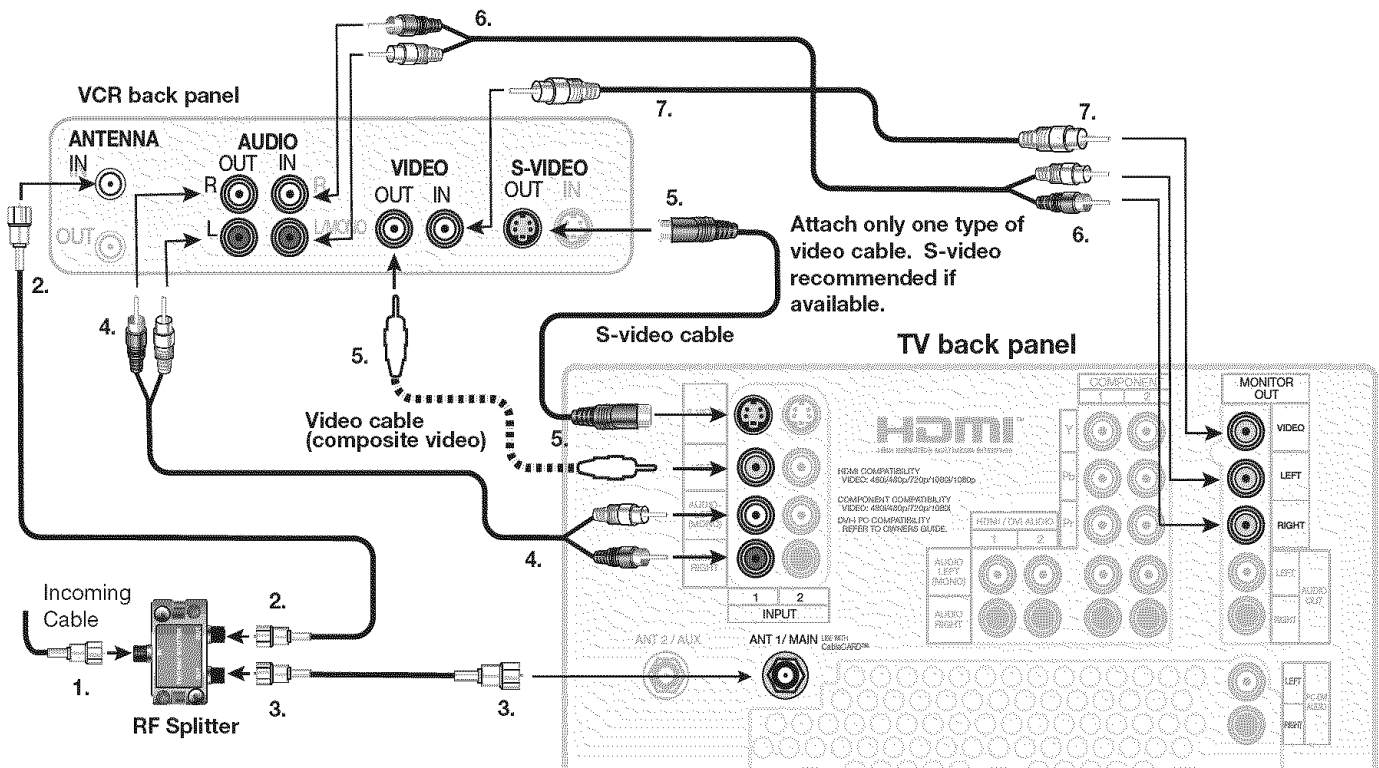
Figure 9. Connecting a VCR to an Antenna or Wall Outlet Cable

VCR to a Cable Box (Audio & Video)

Required: Two-way RF splitter, 4 coaxial cables, right and left audio cables, S-Video or composite video cable, plus component or S-Video cables and audio cables required to connect the TV to the cable box.

1. Connect the incoming cable to **IN** on the RF splitter.
2. Connect one coaxial cable from **OUT** on the RF splitter to **CABLE IN** on the cable box.
3. Connect one coaxial cable from **OUT** on the RF splitter to **ANT 1/MAIN** on the TV back panel.
4. Connect one coaxial cable from **OUT** on the cable box to **ANTENNA IN** on the VCR back panel.
5. Connect the cable box outputs to the TV as shown in either figure 4 or figure 5, earlier in this chapter. This connection allows the TV to receive the best available signal directly from the cable box.

   Figure 4: Component video output to the TV's **COMPONENT Y Pb Pr** jacks; analog stereo audio to the associated **AUDIO** jacks.

   Figure 5: S-Video output to the TV's **INPUT/S-VIDEO** jack; analog stereo audio to the associated **AUDIO** jacks.

6. To use the TV speakers with the VCR, connect left (white) and right (red) audio cables from **AUDIO**

OUT on the VCR back panel to **INPUT/AUDIO LEFT** and **AUDIO RIGHT** on the TV back panel. If your VCR is mono (non-stereo), connect only the white (left) cable.

7. Connect either an S-Video or composite video cable from **VIDEO OUT** on the VCR back panel to **INPUT/VIDEO** or **INPUT/S-VIDEO** on the TV back panel. Connect only one type of video cable. S-Video is recommended, if available.

Optional

8. To allow recording from the TV to the VCR:

   a. Connect left (white) and right (red) audio cables from **AUDIO IN** on the VCR back panel to **MONITOR OUT/LEFT** and **RIGHT** on the TV back panel.

   b. Connect a video cable from **VIDEO IN** on the VCR back panel to **MONITOR OUT/VIDEO** on the TV back panel.

Note: When using this connection configuration with the connections used in step 5, it is possible to view live cable programs through the VCR Device. For best picture quality always view live cable programs directly from the cable box device.
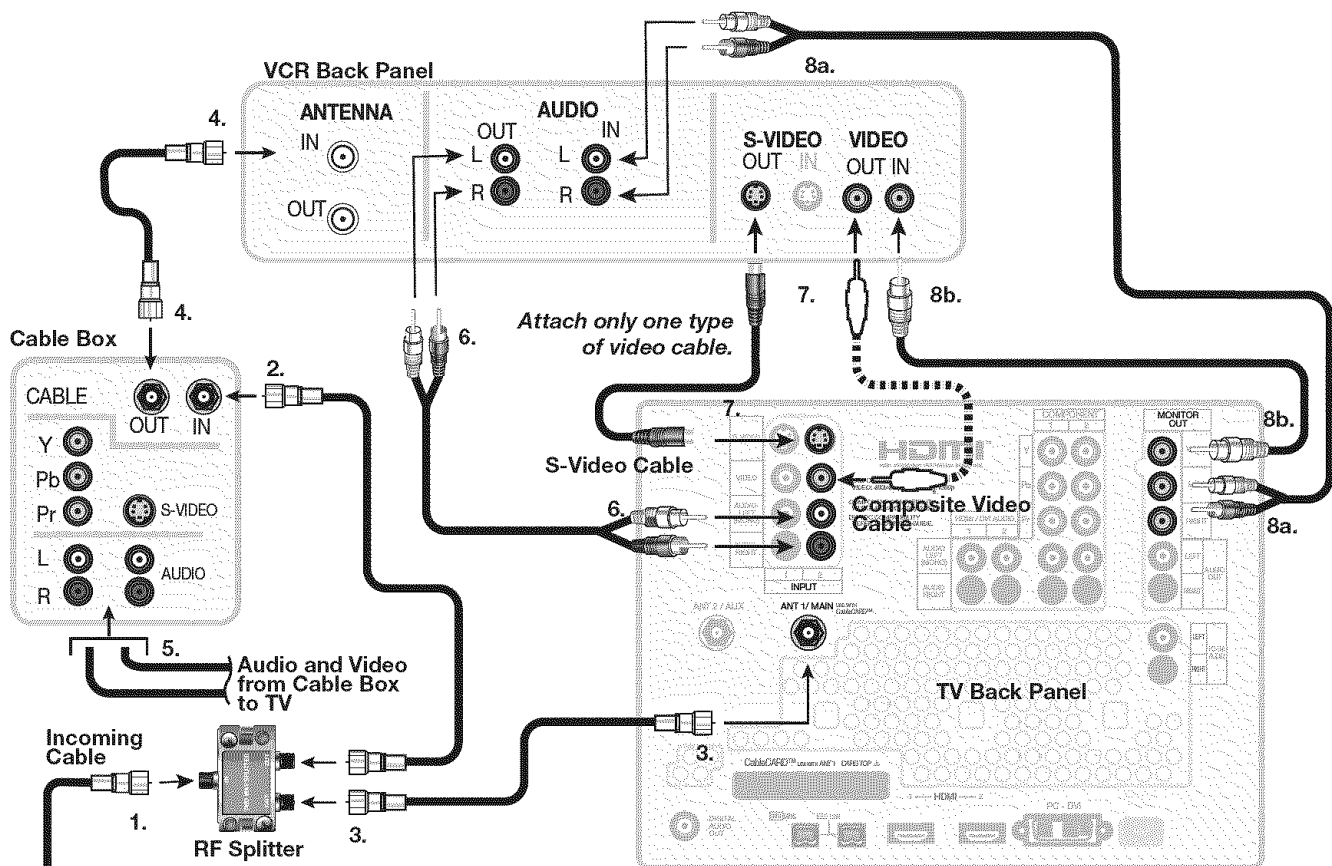
Figure 10. Connecting a VCR to a cable box

HDMI Device (Cable Box, Satellite Receiver, DVD Player, or Other Device)

Required: HDMI-to-HDMI cable. This is not included with the TV.

Connect an HDMI cable from the TV back panel to the HDMI device output. HDMI devices provide video and audio through this cable, so no other connection is required. You can connect two HDMI devices to the TV back panel through the HDMI connections.

TV Back Panel
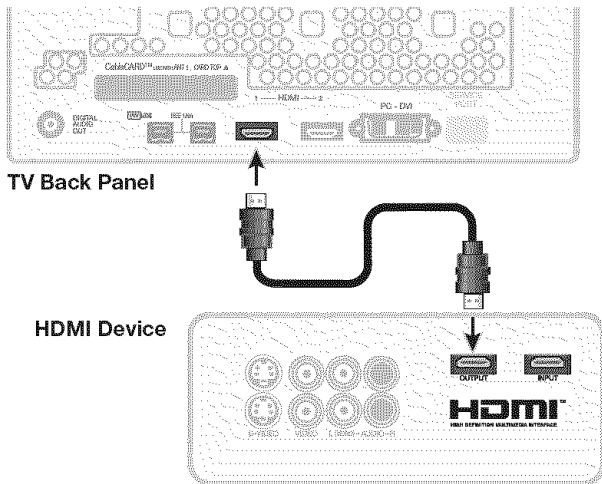
HDMI Device

Figure 11. Connecting an HDMI device.

Note: HDMI inputs are *SimplayHD* certified for proper interoperability with other products certified by Simplay™.

IMPORTANT

To connect a personal computer to the TV, see chapter 6, "Using the TV with a Personal Computer."

The HDMI input processes signals as standard motion video and is not designed to process computer resolutions.

DVI Video Device (Cable Box, Satellite Receiver, DVD Player, or Other Device)

Analog stereo audio cables and a DVI-to-HDMI cable or DVI/HDMI adapter and HDMI cable are required. These are not included with the TV. They may be available at your local electronics retailer.

1. Connect the DVI-to-HDMI cable (recommended) or HDMI cable with DVI/HDMI adapter from the DVI device's back panel to the TV back panel.

   NOTE: If you are using a DVI/HDMI adapter, it is important to connect the adapter to the DVI device for best performance.

2. Connect a set of audio cables from **AUDIO OUT** on the DVI device back panel to the **HDMI/DVI AUDIO** on the TV back panel. Connect the red cable to the **RIGHT** jack and the white cable to the **LEFT** jack.

   NOTE: The HDMI connection supports copy protection (HDCP).

   Some devices require connecting to an analog input first, in order to view on-screen menus and to select DVI as the ouput. Please review your equipment instructions for DVI connectivity and compatibility.

TV Back Panel   **1.**

DVI-to-HDMI Cable
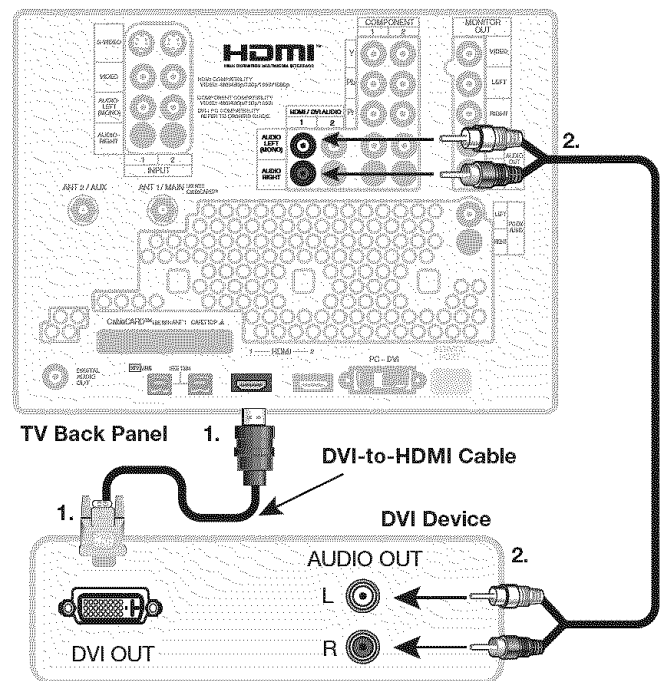
DVI Device

Figure 12. Connecting a DVI device

DVD Player with Component Video

Component video cables and analog audio cables are required. These are not included with the TV.

1. Connect the component video cables from **Y PB PR VIDEO OUT** on the back of the DVD player to the **COMPONENT** jacks on the TV back panel, matching the red, green, and blue colored connections.

2. Connect left (white) and right (red) stereo audio cables from **AUDIO OUT** on the back of the DVD player to **COMPONENT/AUDIO LEFT** and **RIGHT** on the TV back panel.

TV Back Panel

DVD Player Back Panel
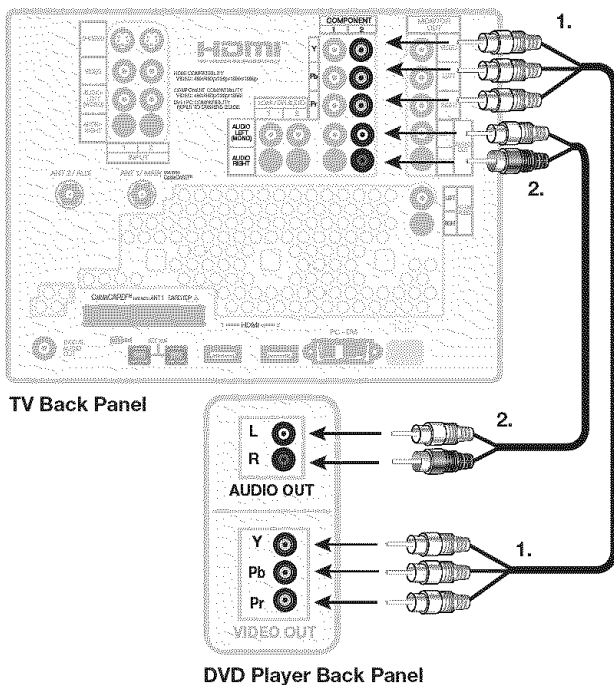
Figure 13. Connecting a DVD player with component video

A/V Receiver (Stereo System)

Most setups require either a digital audio cable or analog stereo audio cables.

The TV makes all audio available in digital and analog formats. Analog audio coming into the TV is available in digital format on the **DIGITAL AUDIO OUT** jack. Digital incoming audio is available in analog format on the **AUDIO OUT LEFT/RIGHT** jacks. Usually, only one of the following connections is required:

- **To connect an analog A/V receiver**
  Connect left (white) and right (red) audio cables from **AUDIO OUT/LEFT** and **RIGHT** on the TV back panel to the **TV AUDIO INPUT** on the A/V receiver.

- **To connect a digital A/V receiver with Dolby Digital surround sound and PCM audio support**
  Connect one end of the digital audio cable to **DIGITAL AUDIO OUT** on the back of the TV. Connect the other end to the **COAXIAL DIGITAL INPUT** on the back of the A/V receiver.

A/V Receiver Panel

Use if connecting a digital A/V receiver.

Use if connecting an analog A/V receiver.

TV Back Panel
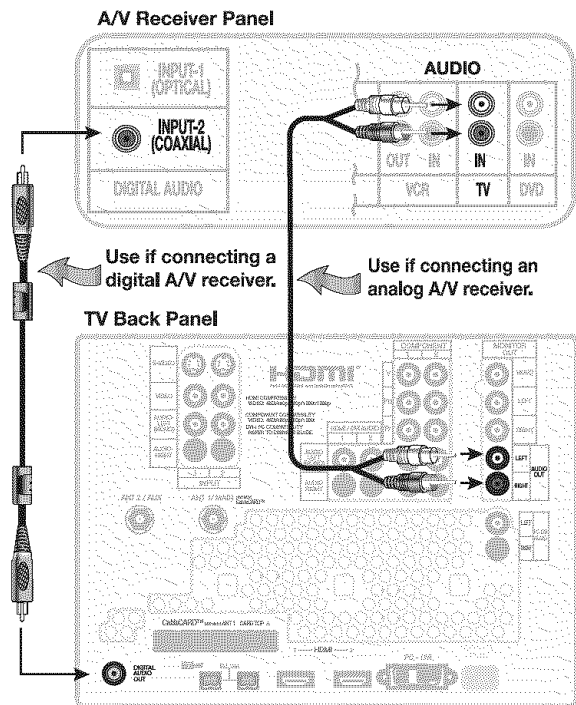
Figure 14. Connecting audio from the TV to an A/V receiver

Note:

- On rare occasions, an HDMI signal may be copy-restricted and cannot be output from the TV as a digital signal. To hear these copy-protected signals through the A/V receiver, use connections for analog A/V receivers.

- Check the A/V receiver's Owner's Guide for information concerning use of the digital input and switching between digital sound and analog stereo sound from the TV.

IMPORTANT

See Appendix B for component video signal compatibility information.

For digital audio connections to your A/V receiver, see your DVD player and A/V receiver Owner's Guides.

Older Cable Box

Required: 3 coaxial cables, one two-way RF splitter. These are not included with the TV.

When this setup is complete, you can use the TV remote control, when programmed, to change channels on the cable box.

Note: This connection is not recommended. The other connections described in this chapter provide better quality audio and video to the TV.

1. Connect the incoming cable to **IN** on the RF splitter.
2. Connect one coaxial cable from **OUT** on the RF splitter to **ANT 1/MAIN** on the TV back panel.
3. Connect one coaxial cable from **OUT** on the RF splitter to **IN** on the standard cable box.
4. Connect one coaxial cable from **OUT** on the cable box to **ANT 2/AUX** on the TV back panel.
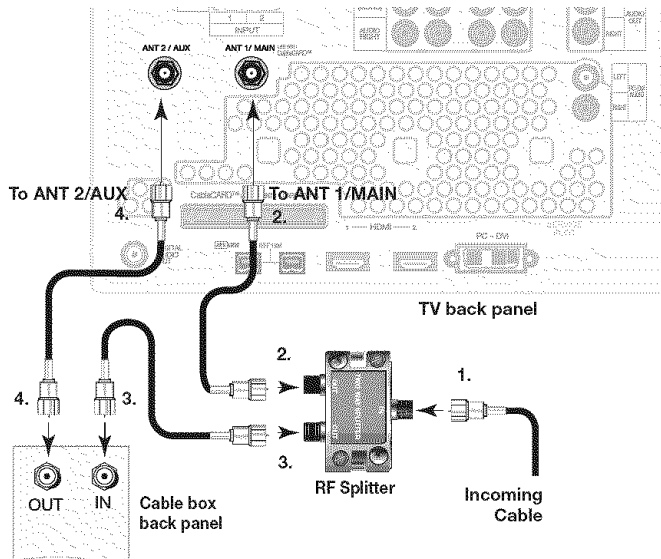
Figure 15. Connecting an older cable box

Camcorder

Required: Analog stereo audio cables and either an S-Video or composite video cable.

NOTE: For IEEE 1394 camcorders, see also chapter 7, "Using IEEE 1394 Devices."

1. Connect either an S-Video or composite video cable from **VIDEO OUT** on the camcorder to **INPUT 3/VIDEO** or **S-VIDEO** on the TV. Connect only one type of video cable; S-Video is recommended, if available.
2. Connect left (white) and right (red) audio cables from **AUDIO OUT** on the camcorder to **INPUT 3/AUDIO L** and **AUDIO R** on the TV.
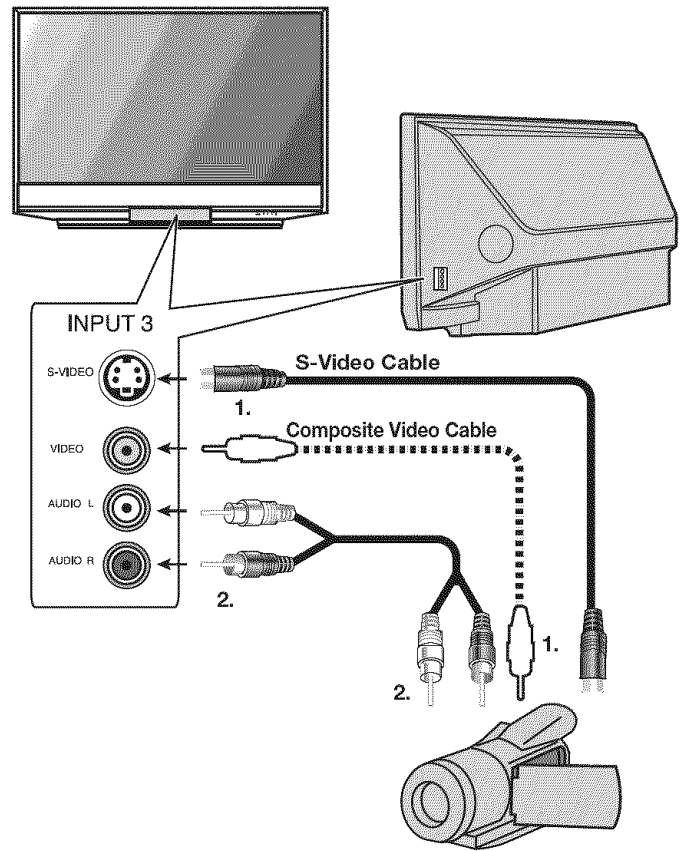
Figure 16. Analog connections for a camcorder

TV Operation

Remote Control

Overview

Figure 1, next page

1. **Slide Switch:** Selects the A/V device to be controlled by the remote control. Set the slide switch to TV for operation of the TV and IEEE 1394 devices. Control of other device types requires programing (see chapter 3, "TV Operation").

2. **SLEEP:** Sets the TV to turn off within 2 hours. See the next page for instructions.

3. **Digits/Letters:** Allow you to tune to a channel by entering channel numbers; press ENTER for faster tuning. Use numbers and the CANCEL key to enter digital sub-channels. Also use for entering information into menus.

   To select letters when naming channels, repeatedly press the associated number key. The following special characters are available with the 1 and 0 keys:

1	!	&	blank space
0	/	*	-

4. **-/CANCEL (SUB-CHANNEL/CANCEL):** When entering digital channel numbers, adds a separator between main and sub-channel numbers. Clears FAV and some menu entries.

5. **POWER:** Turns TV power on and off.

6. **QV (QuickView™):** Switches between the current channel and the last channel viewed.

7. **MUTE:** Turns TV sound off or on.

8. **SPLIT:** Turns Split Screen mode on and off.

9. **VOL ∧/∨ (Volume Up/Down):** Changes sound level.

10. **CH/PAGE ∧/∨ (Channel or Page Up/Down):** Scans up or down through memorized channels. Pages up and down through screens when used with ChannelView™.

11. **FAV (Favorites):** Scans through memorized lists of favorite channels. See "Channel Menu" in chapter 4, "TV Menu Settings," for more information.

12. **FORMAT:** Changes the shape and size of the main TV picture. When in Split Screen mode, changes the size of the split images while maintaining their aspect ratios.

13. **INPUT:** Displays the **Input Selection** menu from which you can select an input source to view, such as an antenna input (**ANT 1/2**) or a connected device.

14. **▲ ▼ ◄ ► (Adjust Up/down/Left/Right):** Navigate menus and change settings.

15. **ENTER:** Selects a channel number or menu item.

16. **GUIDE:** Displays or removes ChannelView™ on-screen channel listing for **ANT 1** and **ANT 2**.

17. **INFO:** Displays an on-screen summary of the current device in use and any broadcast information available, including current V-Chip information. See chapter 3, "TV Operation," for details.

18. **AUDIO:** Selects individual audio settings for adjustment.

19. **VIDEO:** Selects individual video settings for adjustment.

20. **MENU:** Displays the main TV menu using the ▶ViewPoint on-screen menu system. When a sub-menu is open, backs up one level.

21. **EXIT:** Closes all TV on-screen menus and displays and returns to normal TV viewing.

22. **F1-F4:** When programmed, work like the A, B, C, D buttons on some cable boxes and satellite receivers. Program the remote control for your equipment and test the keys. See chapter 5, "Operating Other Devices with the Remote Control."

24. **(⏸) (PAUSE):** Freezes a broadcast TV picture when no Split Screen image is displayed. When Split Screen is displayed, freezes the sub-picture. See below for use with recordable media.

Record/Playback Keys

To enable the recording and playback functions, program the remote for your VCR or DVD player/recorder and set the slide switch to VCR or DVD. See chapter 5 for instructions on programming the remote. If you have an IEEE 1394 device, see chapter 7 on IEEE 1394 devices.

23. **(⏺) (RECORD):** Records with a VCR or DVD recorder.

24. **(⏸) (PAUSE):** Pauses a VCR or DVD. See above for use during TV viewing.

25. **(⏹) (STOP):** Stops play of a VCR or DVD.

26. **(⏪) (REVERSE):** Rewinds a VCR. Reverse scans a DVD.

27. **(▷) (PLAY):** Plays a VCR or DVD.

28. **(⏩) (FAST FORWARD):** Fast forwards a VCR. Forward scans a DVD.

Remote Control, continued
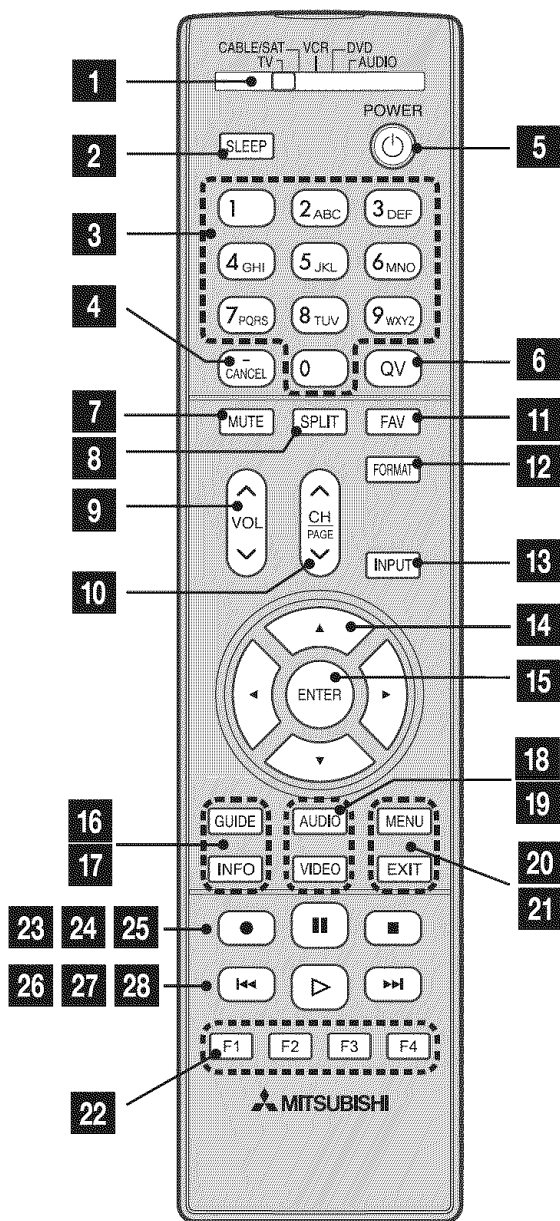
Figure 1. Remote Control Overview

Battery Installation

Figure 2

1. Remove the remote control's back cover by gently pressing in the tab and lifting off the cover.

2. Load the batteries, making sure the polarities (+) and (-) are correct. For best results, insert the negative (-) end first.

3. Snap the cover back in place.
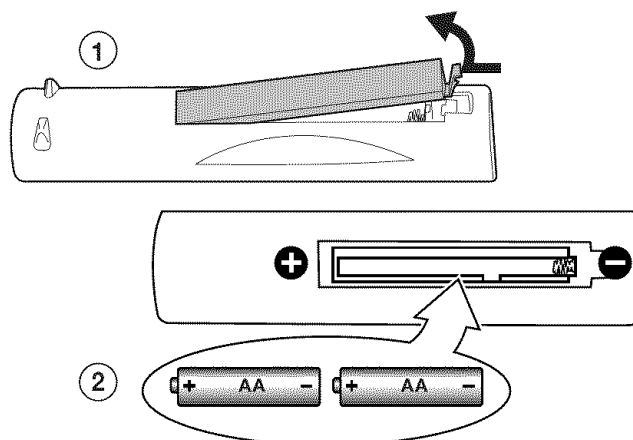
Figure 2. The remote control requires two AA alkaline batteries.

Sleep Timer

Setting the Sleep Timer

1. Press SLEEP on the remote control.

2. Press SLEEP additional times to increase the time in 30-minute increments up to the maximum of 120 minutes.

3. Press EXIT or wait five seconds without pressing any buttons for the message to disappear.

4. Press SLEEP to view the time remaining before the sleep timer turns off the TV.

Cancelling the Sleep Timer

1. Press SLEEP to display the on-screen message.

2. Press SLEEP repeatedly until **OFF** is displayed.

Note: After five seconds of inactivity, the message box will disappear.

Care

For Best Results from the Remote Control:

- Use only alkaline batteries.
- Be within 20 feet of the equipment.
- Do not press two or more buttons at the same time unless instructed to do so.
- Do not allow unit to get wet or become heated.
- Avoid dropping on hard surfaces.
- Do not use harsh chemicals to clean. Use only a soft, lightly moistened cloth.
- Do not mix old and new batteries.
- Do not heat, take apart, or throw batteries into fire.

Resetting the Remote Control

If the slide switch is set to TV and the TV does not respond properly, do the following to reset the remote control.

1. Press and hold POWER for several seconds until the button blinks twice and goes off.

2. Release the POWER button.

3. Press keys 0 0 9 3 5 and the POWER button will blink twice when you finish entering the code.

Choosing a Program Source

NOTE: If your only viewing sources are connected to the **ANT 1** and **ANT 2** antenna jacks, you can switch inputs without the Input Selection menu. Press **INPUT** to switch between **ANT 1** and **ANT 2**. To verify which is the current source while watching TV, press **INFO** to see the on-screen status display.

Selecting from Multiple Sources: The Input Selection Menu

The Input Selection menu allows you to select an input to watch on the TV. The current input appears as a gold-colored icon.

1. Press **INPUT** on the TV's remote control to display the Input Selection menu (Figure 2).
2. To select a different input, press ▲▼◄ ► on the TV's remote control to move the highlight through icons in the input section.
3. Press **ENTER** to switch to the device and close the menu.

More About the Input Selection Menu

- To assign meaningful labels to the icons, such as "VCR" or "DVD," see the "Input Name" section of chapter 4, "TV Menu Settings."
- To rearrange the icons, see the "Icon Order" section of chapter 4, "TV Menu Settings."
- To use with IEEE 1394 devices, see additional information in chapter 7, "Using IEEE 1394 Devices."
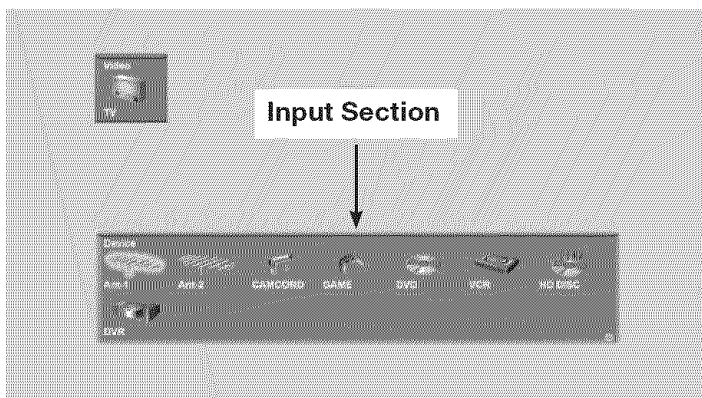
Figure 2. Input Selection menu

IMPORTANT

To receive ChannelView updates: Set the Energy Mode to Fast Power On and leave the TV powered off for a while each day. If the TV loses power, program listings will be lost until the next update.

ChannelView™ Channel Listings

ChannelView provides listings, as sent by the broadcasters, for memorized channels on **ANT 1** or **ANT 2**. Digital channels are indicated with a "D" and analog channels with an "A." Digital channels are shown with the major channel and sub-channels (or bitstreams). Analog channel information is displayed as sent.

Note: If limited data is shown or no program data appears, it is because the broadcaster is not sending the information. *This is not a defect of your TV.*

Using ChannelView

Feature	Instructions
View listings while viewing **ANT 1** or **ANT 2.**	Press **GUIDE**.
Scan through memorized channels one by one.	Press ▲ or ▼.
Scan quickly through memorized channels.	Press **PAGE** ∧/∨.
View detailed information for digital channels.	Press ▲ or ▼ to highlight a channel and press ►.
Return to viewing basic listings information	Press ◄.

Figure 3. ChannelView screen, current programs. Use ◄ ► to exchange displays for current and future programs.

Figure 4. ChannelView screen, future programs on the selected channel (digital channels only)

Status Display

The on-screen status display appears when you turn on the TV, change inputs, change channels, or press the INFO button on the remote control. The most common displays are shown below. Seldom or never do all the status indicators appear at the same time.

Analog Program

1. Source Antenna or Input
2. Analog Channel being received (If an antenna source)
3. Channel Name (if or named in the Channel menu)
4. Signal Type Being Received. Possible:
   From **ANT-1**, **ANT-2**, or **INPUT** jacks: 480i
   From **COMPONENT** jacks: 480i, 480p, 720p, 1080i
5. Screen Format in use
   Possible:
   Analog 480i /480p signals: Standard, Expand, Zoom, Stretch, Stretch Plus, Narrow
   720p/1080i signals: Standard, Wide Expand
6. Stereo and/or SAP being broadcast. In Split Screen mode, the speaker icon is on the right to indicate the sub-picture is the sound source.
7. V-Chip Ratings
8. Channel is in current FAV bank (FAV bank 2)
9. Day and Time

Ant-1 3 XXXX   ANT-1 3
480i Standard
Stereo SAP
TV-PG DLSV   Copy Once
FAV2
Monday 11:00 AM
Sleep Timer: 30
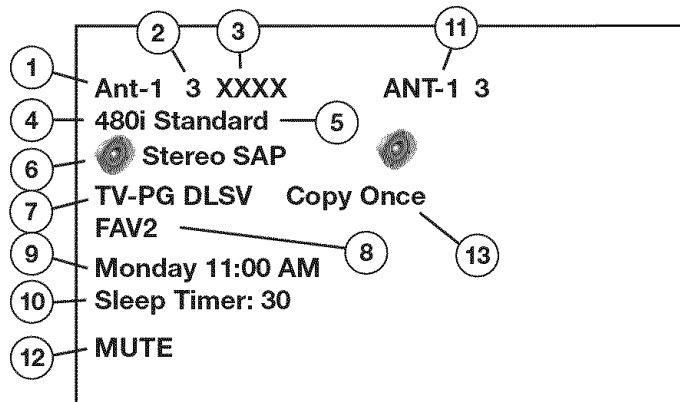
MUTE

10. Sleep Timer remaining time
11. Split Screen picture source and channel
12. Audio Mute on
13. Copy-Protection Status. Possible:
    Copy Once
    Copy Never

Digital Program

1. Digital Major and Sub-Channel Number
2. Digital Channel Name (only if broadcast)
3. Signal Type Being Received
   Possible: SD 4:3, SD 16:9, HD
4. Screen Format in Use
   Possible:
   SD 4:3: Standard, Expand, Zoom, Stretch, Stretch Plus, Narrow
   SD 16:9 or HD: Standard, Wide Expand
5. Language(s) being broadcast
6. Program Name (if broadcast)
7. Copy-Protection Status. Possible:
   Copy Once: Program can be recorded
   Copy Never [Retention Period]: Program can never be recorded; may display program retention period

Ant-1 42-1 XXXXXXX   XXXXXXXXXXXXXX
HD Standard
English
TV-PG DLSV   Copy Never: 3 Days
FAV2

Monday 11:00 AM
Sleep Timer: 30
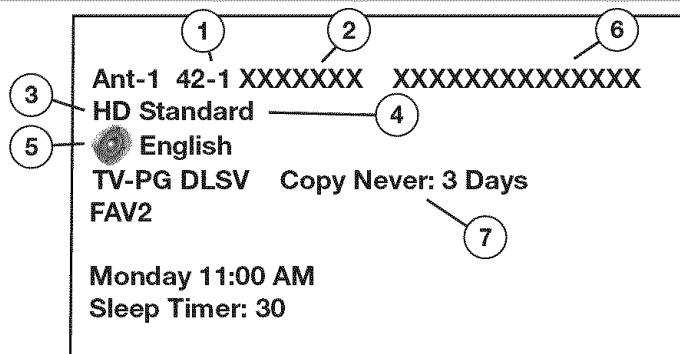
Digital IEEE 1394 Device

1. Status of D-VHS VCR or IEEE 1394 device
2. Counter of D-VHS VCR
3. Special message line (shows only when a special message is needed; may be seen with analog signals)
4. Copy-Protection Status. Possible:
   Copy Once: Program can be recorded
   Copy No More: Program can never be recorded; program may be moveable.
   Copy Never [Retention Period]: Program can never be recorded; may display program retention period

DVCR
HD Standard
English
TV-PG DLSV   Copy No More
Play 01:20:15
Monday 11:00 AM
Sleep Timer: 30

Special Message Line
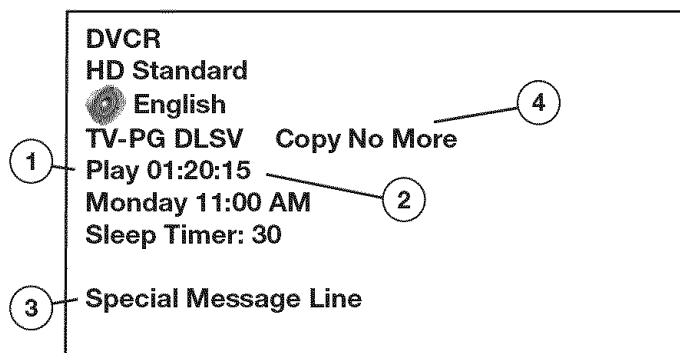
TV Signals and Display Formats

This is a widescreen TV, also known as a 16:9 TV. This shape reflects the new types of images available from HDTV and many DVDs. There are still many older style narrow-screen images (called 4:3 aspect ratio) you will encounter. While there is no perfect solution for displaying a squarish, narrower image on a wide screen, Mitsubishi offers several display formats from which you can choose.

Press FORMAT on the TV remote control to cycle through the available display formats. The last-used format for each device is used when you return to that device.

Note:
- Only standard format is available for Split Screen.
- PC formats vary depending on the PC signal.
- For 1080p signals from an HDMI input, see "Computer Display Formats" in chapter 6, "Using the TV with a Personal Computer."

DVD Definitions

Anamorphic (or Enhanced for WideScreen TV)
These DVDs are recorded in a special way to properly show widescreen images on 16:9 TV sets using the Standard format mode. This is the recommended viewing choice.

Non-Anamorphic (or 4:3, 1:33:1, Letter Box, or Full Screen)
These DVDs are recorded for use with traditionally shaped, squarish TVs. They may be full screen (4:3 or 1:33:1) which crops movies to fit the narrow TV, or letter box, which adds black top and bottom bars.

This information may be listed on the DVD case. Some DVDs support both types of recordings.

Signal Definitions

480i Signals: Traditional analog interlaced signals from or through **ANT-1** and **2**, **INPUT 1-3**, **COMPONENT 1** and **2**, **HDMI 1** and **2**.

480p Signals: Progressive-scan DVD signals on **COMPONENT** inputs and **HDMI 1** and **2**.

720p and 1080i Signals: High-definition signals received through **COMPONENT** inputs and **HDMI 1** and **2**. These signals are always 16:9 (widescreen).

SD 4:3: Standard-definition narrow-screen format signals from digital channels and IEEE 1394 devices.

SD 16:9: Standard-definition widescreen format signals from digital channels and IEEE 1394 devices.

HD: High-definition wide-screen format signals from digital channels and IEEE-1394 devices. These signals are always 16:9 (widescreen).

TV Display Format Definitions

Standard: This is the full-screen format. HDTV signals use this format. This format is useful for displaying Anamorphic DVDs that have 1.78:1 or 1.85:1 aspect ratios. Anamorphic DVDs that have a 2.35:1 aspect ratio are displayed with black bars at the top and bottom, but show the entire image correctly. Narrow (4:3) images are stretched evenly from side to side. Available for all signals.

Expand: This enlarges the picture to fill the screen, cropping off some of the image at the top and bottom. This is useful for reducing the letter box top and bottom bars of non-anamorphic DVD images. Available for 480i, 480p, and digital SD 4:3 signals only.

Zoom: This enlarges the picture, cropping off some of the image at each side and top and bottom. This is useful for removing or reducing the black top and bottom bars on anamorphic DVDs with a 2.35:1 aspect ratio. Available for 480i, 480p, and SD 4:3 signals only.

Stretch: This format stretches a narrow (4:3) image across the screen; there is less stretch in the center than at the sides, however. This allows the entire narrow image to be displayed across the screen with less distortion than is seen in the Standard format. Available for 480i, 480p, and SD 4:3 signals only.

Stretch Plus: Similar to stretch mode, but to minimize distortions on the side, the picture is expanded to crop off portions of the top and bottom. Except when displaying menus or Split Screen, press ▲ ▼ to adjust the position of the picture vertically. Available for 480i, 480p, and SD 4:3 signals only.

Narrow: This format displays narrow (4:3) images in their original shape, and adds stationary black side bars to fill the screen. Available for 480i, 480p, and SD 4:3 signals only.

Wide Expand: Enlarges the picture, cropping some of the image on both sides. This Expand format is useful to remove or reduce black side bars added to narrow images that are converted to 16:9 signals for digital broadcast. Available for 1080i, 720p, digital SD 16:9 and digital HD signals.

Note: All high-definition channels send widescreen (16:9) signals, but not all programming sent on these channels was created for this format. As a result, the broadcaster must convert such programming for broadcast, and may stretch the image or add side bars to fill the widescreen area.

TV Display Formats

See descriptions on the preceding page.

ORIGINAL SIGNAL
Non-anamorphic or SD 4:3
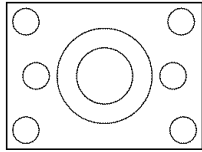
ORIGINAL SIGNAL
Anamorphic DVD
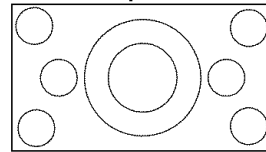
TV Display

TV Display

Standard
(not recommended, distorted)
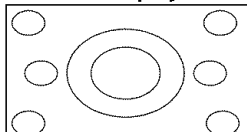
Standard
(recommended)
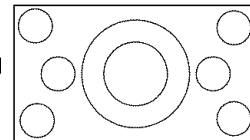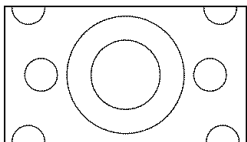
Expand
not available for HD, SD 16:9 or analog 720p, 1080i
(recommended for letterboxed)

Expand
not available for HD, SD 16:9 or analog 720p, 1080i
(not recommended, distorted)

Zoom
not available for HD, SD 16:9 or analog 720p, 1080i
(not recommended, distorted)
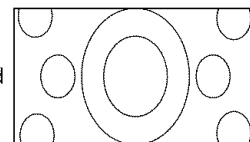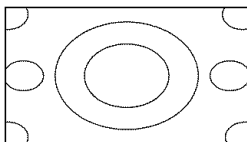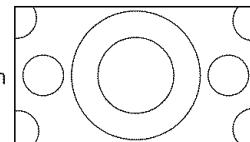
Zoom
not available for HD, SD 16:9 or analog 720p, 1080i
(recommended for anamorphic 2.35:1)

Stretch
not available for HD, SD 16:9 or analog 720p, 1080i
(recommended for standard broadcast)
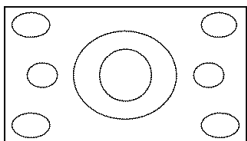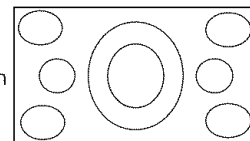
Stretch
not available for HD, SD 16:9 or analog 720p, 1080i
(not recommended, distorted)
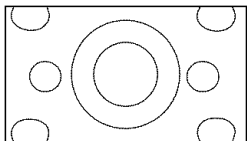
Stretch Plus
not available for HD, SD 16:9 or analog 720p, 1080i
(recommended for standard broadcast)
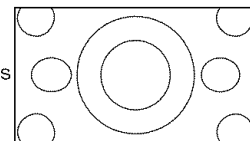
Stretch Plus
not available for HD, SD 16:9 or analog 720p, 1080i
(not recommended, distorted)

Narrow
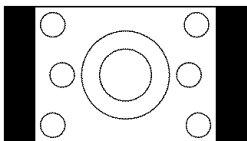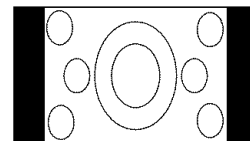
Narrow
not available for HD, SD 16:9 or analog 720p, 1080i
(not recommended, distorted)

SD 16:9 or HD Digital
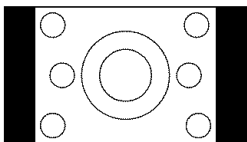
Standard
Original HD or SD 16:9, 720p or 1080i
(with side bars in broadcast)
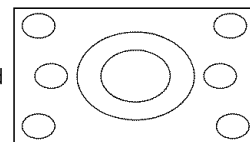
Wide Expand
available only for digital SD 16:9, HD, analog 1080i or 720p
(recommended to remove side bars)

Split Screen

Split Screen allows you to view pictures from two different sources at the same time. Split Screen is available when you have video sources connected to the TV in addition to any connections to **ANT 1** and **ANT 2**.

Operation

Split Screen Operations	Instructions
Turn Split Screen on or off	Press **SPLIT**.
Switch the sound source between main and sub-pictures.	Press ◀ or ▶. The speaker icon appears briefly to indicate the new sound source.
Check which picture is the sound source.	Press **INFO**. The speaker icon appears in the information display to indicate the sound source.
Change the source of the sub-picture.	1. Press ▶ to make the sub-picture the sound source. 2. Press **INPUT** and move the highlight to the icon for the input you wish to view as the sub-picture (see figure 5). 3. Press **ENTER** to make the change. Grayed-out input icons are unavailable as Split Screen sources or with the current source.
Change channels (when the input source is **ANT 1** or **ANT 2**).	• Press **CH** ∧/∨. • With the main picture as the sound source, enter the channel number and press **ENTER**.
Freeze or unfreeze the sub-picture.	Press ⏸ **(PAUSE)**. Press ⏸ again to return to normal moving video.
Change the size of the main and sub-pictures.	Repeatedly press **FORMAT** to cycle through picture sizes. See the following page for sample displays.
Make the sub picture fill the screen.	1. Press ▶ to make the sub-picture the sound source. 2. Press **SPLIT** to close Split Screen mode.

"SPLIT" appears under the Video icon to distinguish this menu from the Input Selection menu.

Choice of Split Screen sub-Picture Sources
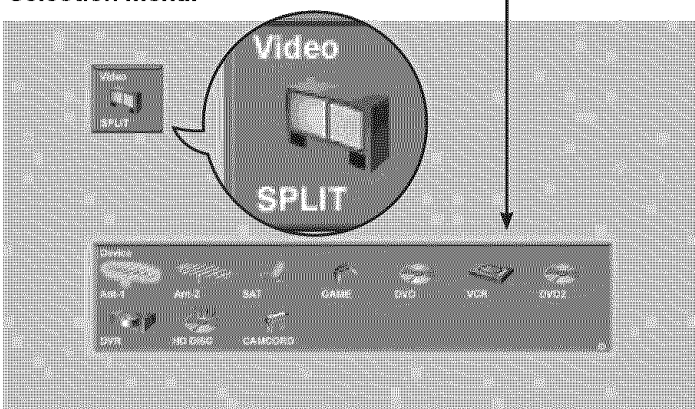
IMPORTANT

Split Screen is unavailable if:

• **Your only inputs are ANT 1 and ANT 2.**

• **Either picture source is a 1080p signal from an HDMI jack.**

• **Either picture source is from a personal computer.**

Figure 5. Change the source of the sub-picture with the Split Screen Input Selection menu.

Split Screen Displays
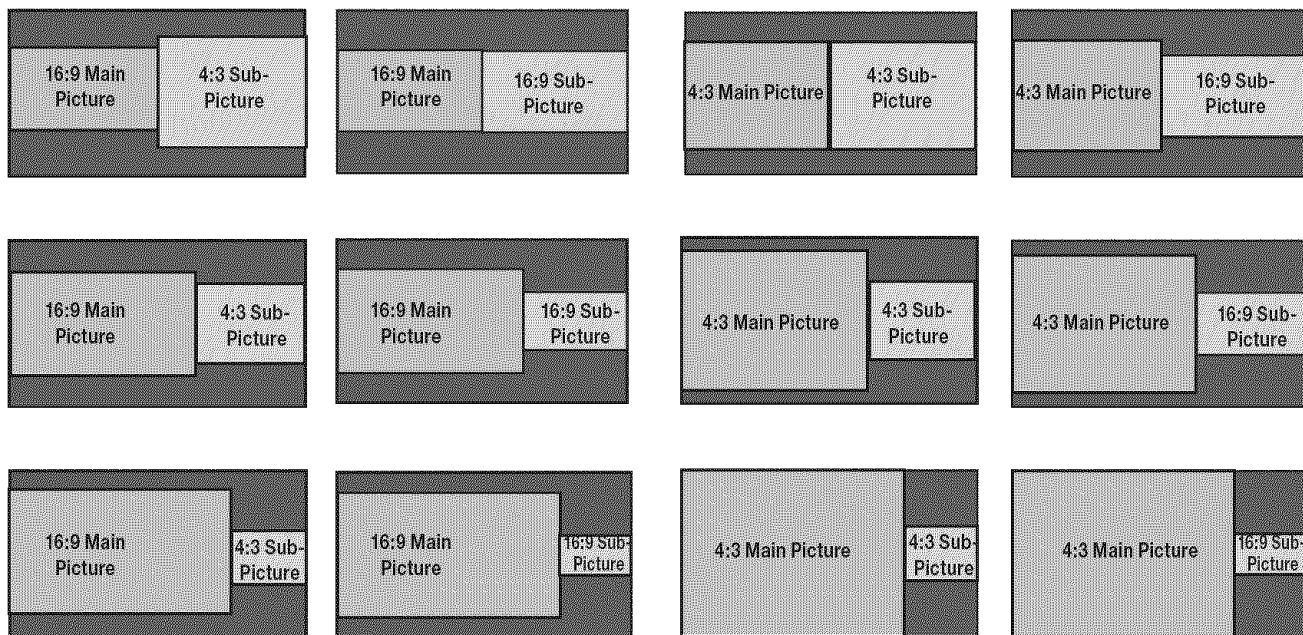
Display choices. Press the FORMAT *key repeatedly while in Split Screen mode to view different displays.*

TV Inputs for Split Screen

The available Split Screen picture sources are listed below.

Available as either main picture or sub-picture	• Analog channels • Devices on **VIDEO/S-VIDEO** inputs • Devices on **COMPONENT** inputs • Devices on either **HDMI** input
Available as main picture only	• Digital channels received from CableCARD™ or either Antenna input • IEEE 1394 devices

Main Picture \ Sub-Picture	ANT 1 (analog only)	ANT 2 (analog only)	INPUT	COMPONENT	HDMI 1 (no 1080p)	HDMI 2 (no 1080p)
ANT 1			✓	✓	✓	✓
ANT 2			✓	✓	✓	✓
INPUT	✓	✓	✓*	✓	✓	✓
COMPONENT	✓	✓	✓	✓**	✓	✓
HDMI 1 (no 1080p)	✓	✓	✓	✓		
HDMI 2 (no 1080p)	✓	✓	✓	✓		
IEEE 1394	✓	✓	✓	✓	✓	✓
PC-DVI						

* Only when main picture and sub-picture are from different **INPUT** jacks
** Only when main picture and sub-picture are from different **COMPONENT** jacks

Combinations of picture sources you can view with Split Screen. Check marks indicate available combinations.

4

TV Menu Settings

3D Graphical ▶ViewPoint® Menu System

Your TV has Mitsubishi's exclusive 3D Graphical ▶ViewPoint® on-screen operating system, which provides on-screen information for menu choices and changes using the TV's remote control.

▶ViewPoint® Menu Screens

A picture (icon) is highlighted on the menu screen when selected with the directional arrows ▲ ▼ ◄ ►. You may then make changes within the menu or access sub-menus, if available.

You can also open sub-menus from a button. Sometimes when you select a button, an automatic function begins.

The ▶ViewPoint® system includes the following special features:

- The currently selected icon or button is highlighted with a yellow outline; the text color is yellow.
- On-screen instructions, shown in the message line at the bottom of the menu, provide feature selection and adjustment information.
- Some on-screen menu options must be set before other options are available.
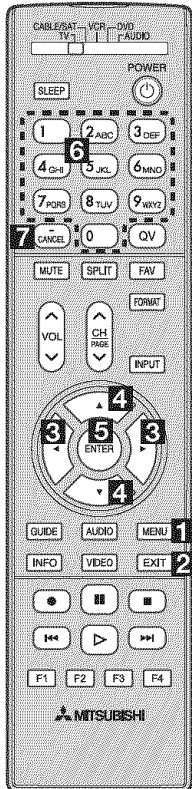
▶ViewPoint® Remote Control Buttons

The following buttons on the remote control help you navigate within the ▶ViewPoint® system:

Key	Function
1 MENU	Display or close the Main menu or move back one menu screen at a time.
2 EXIT	Close all menus and return to TV viewing.
3 ◄ ► (Adjust Left/Right Keys)	◄ ► to select a menu item to change.
4 ▲ ▼ (Adjust Up/Down Keys)	• to change the settings. • to scroll through pre-set text-box entries.
5 ENTER	Open a menu, start an automatic function, or select a check box.
6 Numbers, Letters	Enter custom names in some text boxes.
7 CANCEL	Clear a setting or stop an automatic function.

Main Menu

Press MENU on the remote control to open the Main menu, figure 1. See below for an overview of the options available through the Main menu.
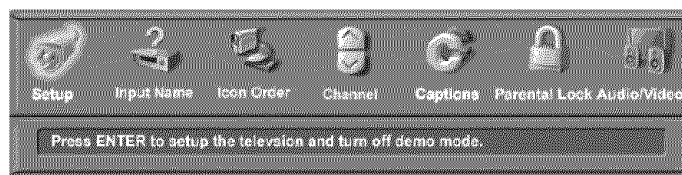
Figure 1. Main menu.

Setup

+ Select English or Spanish for menus and on-screen displays.
+ Memorize the available channels for the antenna or cable service connected to the **ANT 1** and **ANT 2** jacks.
+ Set the TV's internal clock either manually or have the TV set the clock automatically.
+ Set the TV Timer to turn on the TV automatically at a designated time.
• Set the energy mode for power consumption when the TV is powered off.
• Turn off Demo Mode.
• View the TV's software version.

Input Name

Assign useful names to TV inputs so that you can easily find them in the Input Selection menu.

Icon Order

Rearrange icons in the Input Selection menu to put frequently used icons first.

Channel

+ Edit channels for the **ANT 1** and **ANT 2** inputs.
+ Manually add or delete channels from memory, name analog channels, or add your favorite channels to a **FAV** (Favorites) list.
+ View signal strength of a currently tuned digital channel.

Captions

+ Display closed captions (if sent by the broadcaster).
+ Select settings for analog or digital captions.

Parental Lock

+ Block or allow programming based on rating signals sent by the broadcast station.
+ Lock the TV by time.
+ Lock the front-panel buttons.

Audio/Video

+ Reset a selected device's A/V memory to the original factory settings.
+ Customize individual audio and video settings.
+ Display a blue screen when viewing a device with no video signal or a poor video signal.
+ Enable/disable Film Mode.
+ Turn the TV speakers on or off.

Setup Menu

Figure 2. Setup menu

Language (Setup Menu)

Choose to display the on-screen menus in either English or Spanish (Español).

To listen to audio in other languages (when available), see the "Audio Settings" section in this chapter and refer to "SAP" (analog signal) or "Language" (digital signal).

Memorize Channels (Setup Menu)

For ANT 1/MAIN and ANT 2/AUX

The memorization process performs two scans of all possible channels on the selected **ANT** input. Analog channels are scanned first, then the process is repeated for digital channels. Channel memorization may take up to 15 minutes to complete.

To start channel memorization

1. Highlight an input selection based on your connections:

Input	Condition
Ant 1 Air, Ant 2 Air	When connected to an indoor/outdoor antenna
Ant 1 Cable, Ant 2 Cable	When connected to direct cable (no cable box)

2. Press ENTER to start automatic channel memorization.

To stop channel memorization before completion

Press CANCEL.

Channels memorized before you pressed CANCEL are retained in memory. If you restart memorization, all previously memorized channels for the selected antenna input are erased and the process starts over from the beginning.

After channel memorization, press CH ∧/∨ to tune to memorized channels. Select the Channel menu for further channel editing, such as adding and deleting

channels from memory, naming channels, and saving favorite channels in custom memory banks.

Note: If using a CableCARD™, the complete list of available channels is provided through the CableCARD and the **ANT 1** option is grayed out.

Clock (Setup Menu)

Set the clock if you wish to use the TV's Timer function or schedule delayed recordings. You can use either the manual or auto method to set the clock.
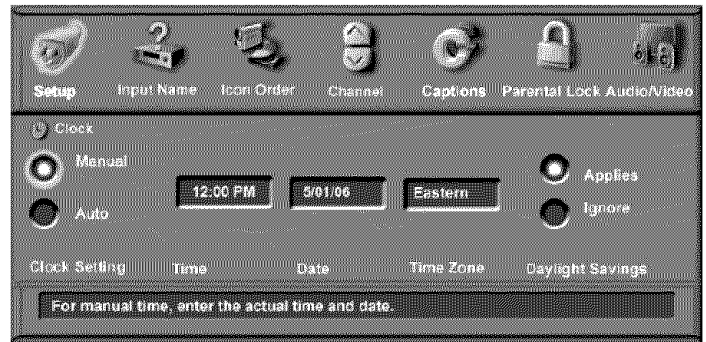
Figure 3. Clock submenu

Setting the Clock Manually

Time
With the hour highlighted in yellow characters, press ▲▼ repeatedly to slowly increment the hour and associated **AM/PM** indicator or press and hold to quickly increment the hour. Press ENTER to highlight the minutes in yellow. Press ▲▼ to set the minutes.

Date
With the month highlighted in yellow characters, press ▲▼ to select the correct month. Press ENTER to highlight the day. Press ▲▼ to select the correct day. Press ENTER to highlight the year. Press ▲▼ to select the current year.

Time Zone
Select your correct time zone. Press ▲ or ▼ to select the time zone for your area (**Atlantic, Eastern, Central, Mountain, Pacific, Alaska** or **Hawaii**). Press ▶ to move to the **Daylight Savings** option.

Daylight Savings
Press ▲ or ▼ to select either **Applies** or **Ignore**, depending on whether or not daylight savings time is in effect. This setting is used by ChannelView for channel listings and does not cause the TV's clock to adjust to daylight savings time; you must manually set the TV's clock ahead or back each time the time change occurs.

Setting the Clock Automatically

Select the **Time Zone** and the **Daylight Savings** (DST) options for your state. Press ▲▼ to select **Applies** or **Ignore**. You may then tune to a channel on **ANT 1** or

Setup Menu, continued

ANT 2 that uses Extended Data Service (XDS) time data, typically a PBS channel. With **Auto** selected, the TV automatically retrieves the correct time and date information from this channel.

Be aware that if a channel displays incorrect time information, it is because of information sent from the broadcaster and is not a defect of the TV.

Note: You may find that some channels send the incorrect time and the TV clock is reset every time you tune to those channels. To prevent unwanted clock resets, first use the **Auto** method to set the clock from a channel sending the correct time, then change the method to **Manual**.

Timer (Setup Menu)
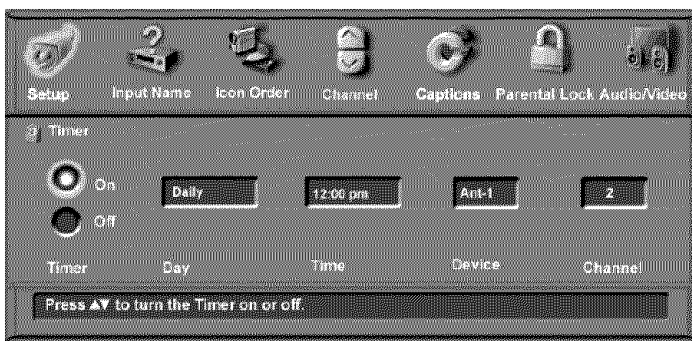
Figure 4. Timer submenu

The Timer feature allows you to set a day and time for the TV to turn on automatically and the device and channel to display when it switches on. If the TV is already on at the requested time, the TV automatically tunes to the channel you designated in the Timer menu.

When the Timer turns on the TV, the following message is displayed: "Press a button for the TV to stay on." Press any button on the remote control within five minutes if you wish the TV to remain on.

Note: The TV clock must be set before you can use the Timer feature (see preceding page to set the clock).

On/Off

Press ▲ ▼ to enable or disable the Timer.

Set Day

Select the day or days that the TV will turn on automatically. Press ▲ or ▼ to select **Daily**, **Mon-Fri** (Monday through Friday), or individual days of the week.

Set Time

With the hour highlighted in yellow characters, press ▲ ▼ repeatedly to slowly increment the hour and associated **AM/PM** indicator or press and hold to quickly increment

the hour. Press **ENTER** to highlight the minutes. Press ▲ ▼ to set the minutes.

Device

Press ▲ or ▼ to select the device to use when the Timer turns on the TV. If the TV is already on at the selected time, the Timer will switch the TV to this device.

Channel

When the selected device is an antenna, you can select a channel for the TV to tune to when it comes on. Highlight the **Channel** box and

- press CH ∧/∨ or ▲ ▼ to choose from memorized channels.

- Enter a channel number from the remote control. You can also enter sub-channel numbers for digital channels.

Energy Mode (Setup Menu)

The Energy Mode option lets you select the TV's level of power consumption while the TV is turned off. Choose either **Low Power** or **Fast Power On**. The **Low Power** setting uses less energy, but TV power-on takes longer. The default is **Fast Power On**. Keep this setting at **Fast Power On** if you:

- Need faster power on.

- Wish to turn off the TV while recording to an IEEE 1394 device.

- Wish to schedule future IEEE 1394 recordings for a time when the TV will be off.

- Expect to use the TV Timer function to turn on the TV at a preselected time.

- Need the TV Clock to remain accurate for the TV Timer and for scheduling recordings. With the **Low Power** setting, you must reset the TV Clock if the TV is left turned off for over 48 hours.

- Wish to receive updates to the ChannelView™ channel listings.

Note: CableCARD™ requires the **Fast Power On** setting. If you insert a CableCARD™, the TV will automatically override a **Low Power** setting and change to the **Fast Power On** setting.

Demo Mode Off (Setup Menu)

Some TVs are shipped from the factory with Demo Mode active for use in retail stores. If Demo Mode is active, highlight the **Demo Mode Off** button and press **ENTER**.

Software Version (Setup Menu)

For servicing purposes it may be necessary to know the software version in your TV. This information is displayed at the right side of the Setup menu screen.

Input Name Menu

Use the Input Name menu to assign useful labels to the TV inputs that appear in the Input Selection menu. Unused inputs appear grayed out and unselectable.

Use the **PC DVI** option to specify the type of video signal coming from your computer, either **Analog** or **Digital**. For more about this option, see chapter 6, "Using the TV with a Personal Computer."

Detected Inputs that Can   Type of Video Signal from
Be Renamed   Personal Computer
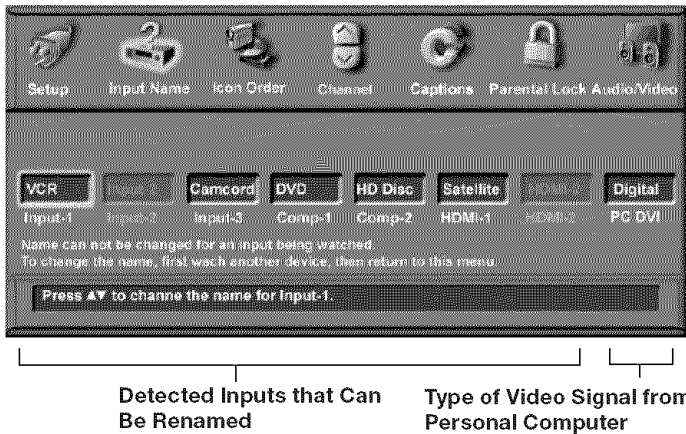
Figure 5. Input Name menu

To rename an input

1. If you are currently watching the input you wish to rename, change to another input. To do so, press **INPUT** to open the Input Selection menu, highlight a different input, and press **ENTER**.

2. With the Input Name menu displayed, press ◄ ► to move the highlight to the box for the input you wish to rename.

3. Press ▲ ▼ to select from the following list.

Cable Box	**Game**
Camcorder	**HD Disc**
DVD	**Satellite**
DVD2	**VCR**

DVR (digital video recorder, recordable DVD)

Only one VCR label is available, so If you have a second VCR connected, leave the name as the default name.

Icon Order Menu

The Icon Order menu allows you to rearrange the device icons that appear in the Input Selection menu. Change the sequence to put frequently used icons at the start of the list.

To change the icon order

1. Press ▲ ▼ ◄ ► to highlight the icon to be moved and then press **ENTER**.

2. Press ▲ ▼ ◄ ► to drag the icon to the desired position. Press **ENTER** to set the new position.
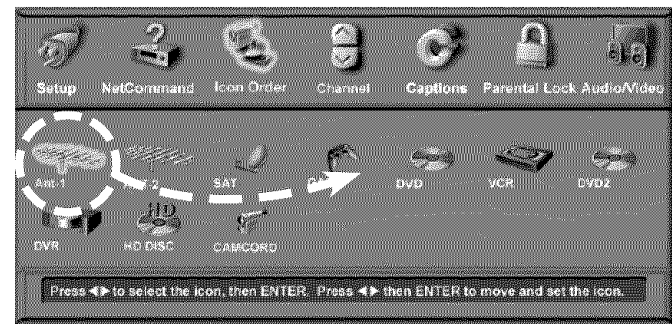
Figure 6. Icon Order menu

IMPORTANT

It is possible to use the same name for more than one input. To avoid confusion, be sure to use different names for each input.

Channel Menu

Settings for the Channel Number Shown

FAV Memory Banks

Signal-Strength Indicator (digital channels only)
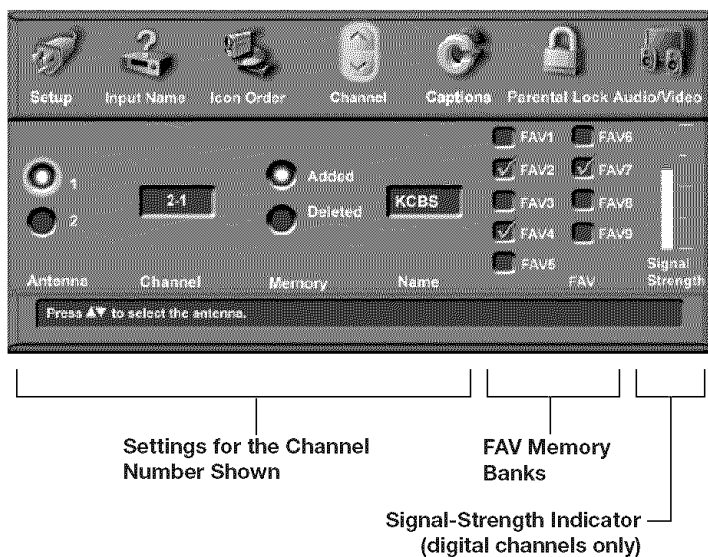
Figure 7. Channel menu

Antenna (Channel Menu)

Select either **1** (**ANT 1 MAIN**) or **2** (**ANT 2 AUX**) as the antenna source for the channels you wish to edit.

Channel (Channel Menu)

Select the channel number affected by this menu in any of three ways:

- Press ▲ ▼ to move through all channel numbers, one at a time. If you also wish to tune to the channel, highlight the channel number and press ENTER.

- Press CH ∧/∨ to select from channels already in memory. If you also wish to tune to the channel, highlight the channel number and press ENTER.

- Enter the number directly and press ENTER. Note that with this method, you must press ENTER for the screen to display settings for the selected channel.

Channel numbers can be one part, analog or digital (up to the number 16383), or two part for digital channels. For a two-part digital channel, press (CANCEL) on the remote to enter a separator after the first, second, or third number, depending on the broadcaster's channel information.

For digital channels, when the broadcaster has sent a virtual channel number, the virtual channel number is shown in the text box and the original physical digital channel is shown below on screen as a reference. One original channel number can be associated with several different virtual channels.

Memory (Channel Menu)

After the available channels have been memorized with **Memorize Channels** on the Setup menu, you can add

weaker channels or delete unwanted channels using this option. For example, if you wish to see only digital channels listed, use this menu to delete analog channels from memory.

Press CH ∧/∨ to review the channels in memory. Press ▲ ▼ to select **Added** or **Deleted** for the channel shown in the **Channel** box.

Name

Analog channels from **ANT 1** and **ANT 2** can be named with up to four characters. The name you enter here will appear on the TV screen as part of the on-screen status display. Digital channels may already be named if the broadcaster sends the information.

1. Press a number key repeatedly to cycle through the characters associated with the key. You can also use ▲ ▼ to change a highlighted character.

2. Press ENTER to set the letter and move to the next letter position. Press CANCEL to move back one position.

Signal Strength (Channel Menu)

Displays the approximate signal strength of the currently tuned digital channel. Use this indicator to help you adjust the antenna direction for best signal reception. The taller the bar, the stronger the signal. This indicator applies only to digital channels.

To view the effects of antenna adjustments on digital channels, tune to the digital channel you wish to measure while remaining in this menu. To tune to a channel, either:

- Highlight the channel box, press CH ∧/∨ or ▲ ▼ to display the desired channel number, and press ENTER.

- Enter the channel number on the remote control and press ENTER.

Terminology

Virtual Channel Number

A channel number used by a local broadcaster to help you identify their digital channel. Usually this is associated with their traditional analog channel number.

Physical Digital Channel Number

The channel number officially assigned to the actual broadcast frequency.

Channel Menu, continued

FAV (Channel Menu)

The FAV feature allows you to put together lists of your favorite channels available on the antenna inputs. You can store channels in any of the nine different FAV memory banks. You can also store the same channel in multiple memory banks.

Once you have added a channel to FAV memory, **FAV** and the memory bank number appear under the tuned channel number on the TV screen. You can access the FAV feature through the Channel menu or you can bypass the menu and use only the remote control.

FAV Setup Using the Channel Menu

Adding FAV Channels Using the Menu	1. Select the channel using one of the methods described on the preceding page.
	2. Highlight the desired bank (**FAV1–FAV9**).
	3. Press **ENTER** to check mark the selected FAV memory bank.
	4. Repeat for additional channels or banks.
Removing FAV Channels Using the Menu	1. With the channel selected, highlight the box for the FAV bank number.
	2. Press **ENTER** to remove the check mark.

FAV Setup Using the Remote Control

Adding FAV Channels	1. Press CH ∧/∨ or number buttons to tune to the channel you want to add to the current FAV memory bank.
	2. Press and hold the FAV button for about 2 seconds. When **FAV** and the memory bank number appear under the channel number, the channel has been successfully added.
Removing FAV Channels	This procedure removes the channel only from the selected bank and leaves the other banks unchanged.
	1. Press the FAV button and then the memory bank number.
	2. Press the FAV button repeatedly until you see the desired channel.
	3. While the channel number and **FAV** indicator (with correct bank number) are still displayed on the screen, press **CANCEL**. For the channel to be removed, you must press the **CANCEL** button before the indicator disappears.

Using FAV Channels

Viewing and Changing FAV Banks	1. Press the FAV button.
	2. To change memory banks, press a number button within one-half second of pressing the FAV button.
	3. Press the FAV button repeatedly to cycle through the channels available in that bank.

Captions Menu

For analog channels, broadcasters can send either standard closed captions or text service. Standard closed captions follow the dialogue of the characters on screen and display in a small section of the screen. Text-service closed captions often contain information such as weather or news and cover a large portion of the screen.

For digital channels, broadcasters can send up to six different captioning selections or can send analog captions that are the same as those sent by the analog station. Each TV station may broadcast only one or two types of captions or none at all. The TV cannot decode closed captions received on component or HDMI inputs.
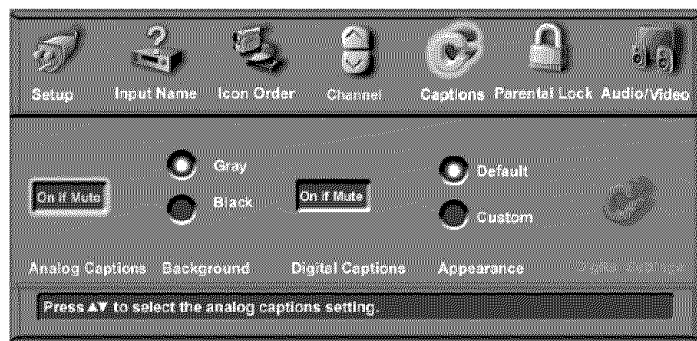
Figure 8. Captions menu

Analog Captions

The TV can display one of the following captions for analog sources:

- **CC1, CC2, CC3, or CC4:** standard closed-caption signals
- **Text1, Text2, Text3, or Text4:** Text-service signals
- **On if mute:** Closed captions appear when audio is muted. When selected, press **MUTE** on the TV remote control to turn on/off the standard closed-caption signal CC1.
- **Off:** No closed captions.

Background

To make the analog closed captions easier to read, you can choose to display the background color as either black or gray behind the text.

IMPORTANT

When analog text closed captioning is selected, a large black or gray box appears on your TV screen if no signal is broadcast.
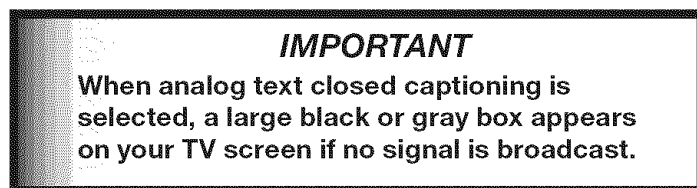
Digital Captions

The following display options are available for digital sources:

- **Captions 1–6:** Sent by broadcaster.
- **On if Mute:** Closed captions are displayed when audio is muted. When selected, press **MUTE** on the TV remote control to turn captioning on/off (Caption 1).
- **Off:** No closed captions.

  Note: For digital programs, if the broadcaster is sending only analog captions converted to digital format, then the analog caption settings apply.

Appearance

The closed-captions provider selects the default options when sending digital closed captions. Select **Custom** to override defaults and customize the appearance of closed captions. These settings do not apply to analog closed captioning converted to digital.

Digital Settings

The Digital Settings menu allows you to customize the appearance of the closed captions sent by the broadcaster. Digital settings do not apply to analog closed captions converted to digital.

To open the Digital Settings menu, select **Custom** for the **Appearance** option. Move the highlight to the **Digital Settings** icon and press **ENTER**.
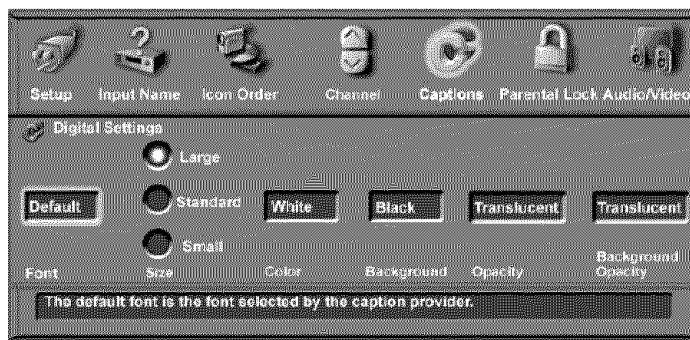
Figure 9. Closed Captions, Digital Settings sub-menu

Font

The available font options are as follows:

- **Default:** Selected by the closed-captions provider
- **Font 1:** Monospaced font with serifs
- **Font 2:** Proportionally spaced font with serifs
- **Font 3:** Monospaced font without serifs
- **Font 4:** Proportionally spaced without serifs
- **Font 5:** Casual font
- **Font 6:** Cursive font
- **Font 7:** Small capitals

Captions Menu, continued

Size

Select the desired font size. Large is the recommended font size.

Color

The available font colors are listed below. Text and background cannot be set to the same color.

White	Yellow
Black	Green
Magenta	Cyan
Red	Blue

Background

You can change the background color to make the digital closed captions easier to read. The available background colors are listed below. Text and background cannot be set to the same color.

White	Yellow
Black	Green
Magenta	Cyan
Red	Blue

Opacity (Font)

You can customize the visibility of your fonts using the following settings:

- **Translucent:** TV program is dimmed behind the text
- **Transparent:** Invisible text reveals the TV program behind.
- **Opaque:** Solid text blocks view of the TV program
- **Flashing:** Text flashes at intervals

Background Opacity

You can customize the background for digital captions using the following settings:

- **Translucent:** TV program is dimmed behind the background
- **Transparent:** No visible background
- **Opaque:** Solid background covers TV program
- **Flashing:** Background flashes at intervals

IMPORTANT

Mitsubishi recommends you use contrasting colors for captions and background. Black translucent background combined with a white font makes an easy-to-read combination. Use care when selecting custom colors. Your choice may affect the readability of captions.

IMPORTANT

The content of captions is determined by the broadcaster. If your captions show strange characters, misspellings, or odd grammar, it is not a malfunction of the TV.

Parental Lock Menu

The Parental Lock menu gives you control over three different types of parental controls. You must use a pass code to open this menu to enable/disable the lock options. The three parental controls available are:

- **Ratings (U.S. Ratings/Other Ratings)**
  V-Chip technology lets you restrict access to programming based on program-rating signals sent by the broadcaster. For U.S. ratings, you can also set the time of day for these restrictions to be in effect.
- **Lock by Time**
  Lets you restrict TV use by time of day.
- **Front Panel Lock**
  Lets you disable the controls on the front of the TV. Use this option if there are small children near the TV who may be tempted to press the buttons.

| Access to Ratings Menus | Lock TV by Time | TV Front Panel Lock On/Off |
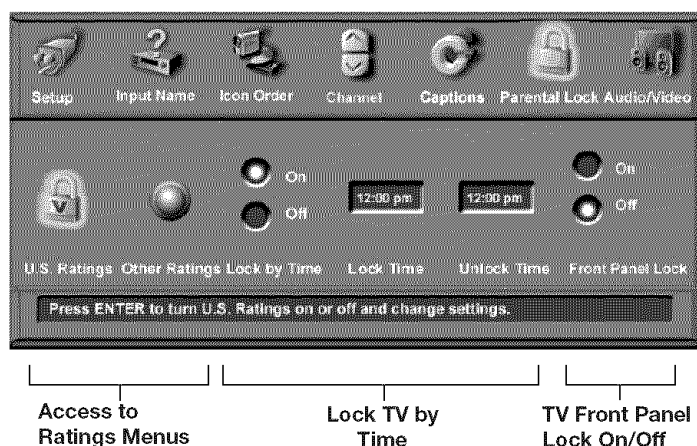
Figure 10. Parental Lock menu

Setting a Pass Code

You are prompted to enter a pass code whenever you select Parental Lock on the Main menu. To set a pass code for the first time:

1. Press MENU, highlight **Parental Lock**, then press ENTER. A screen prompting you for a pass code will display.
2. Input a four-digit pass code using the number keys on the remote control.
   - Press CANCEL to delete a number and move back one space.
   - Press MENU or EXIT to close the menu without setting a pass code.
3. Press ENTER to set the pass code just input.

To reset the pass code, see the procedure in Appendix A.

Lock TV by Time and Front-Panel Lock

Lock by Time (Parental Lock Menu)

Lock by Time allows you to block all use of the TV during specified hours. During the lock time, you must use your pass code to view the TV. To lock the TV by time:

1. Press ▲ ▼ to select **On** or **Off** for **Lock by Time**.
2. Press ▶ to move to the **Lock Time** box.
   a. With the hour number highlighted in yellow, press ▲ ▼ repeatedly to change the hour and associated **AM/PM indicator**. You can also just press and hold to change the hour.
   b. Press ENTER to move the highlight to the minutes.
   c. With the minutes number highlighted in yellow, press ▲ ▼ repeatedly to change the minutes. Just press and hold to move quickly through the numbers.
   d. Press ▶ to move to the **Unlock Time** and set the time as described above.

NOTE: To make **Lock by Time** active 24 hours a day, set **Lock** and **Unlock** to the same time.

Front Panel Lock (Parental Lock Menu)

Front Panel Lock lets you disable controls on the front panel to prevent inadvertent changes to TV settings. Select **On** to disable the buttons and select **Off** to restore their operation.

To disable the front button lock without using the remote control, press and hold the MENU button on the front panel for more than eight seconds. If the TV is on, a message will display confirming release of the Front Panel Lock.

Rating Menus

The rating menus allow you to:
- Turn rating restrictions on or off
- Change the permitted rating level
- Set the time of day to enforce rating restrictions (U.S. ratings only)

The TV comes from the factory with pre-set U.S. V-Chip ratings and with the rating locks turned off. The pre-set ratings are TV rating TV-PG and movie rating PG. If you turn on V-Chip blocking, these presets allow only programs rated TV-PG/PG or lower until you change the rating level.

After changing the channel or device, there may be a delay of up to five seconds before the rating restrictions take effect.

> **IMPORTANT**
> If you forget your four-digit pass code, see Appendix A.

Parental Lock Menu, continued

U.S. Ratings Menu

Use this menu to turn U.S. rating restrictions on or off and to change the permitted rating levels.
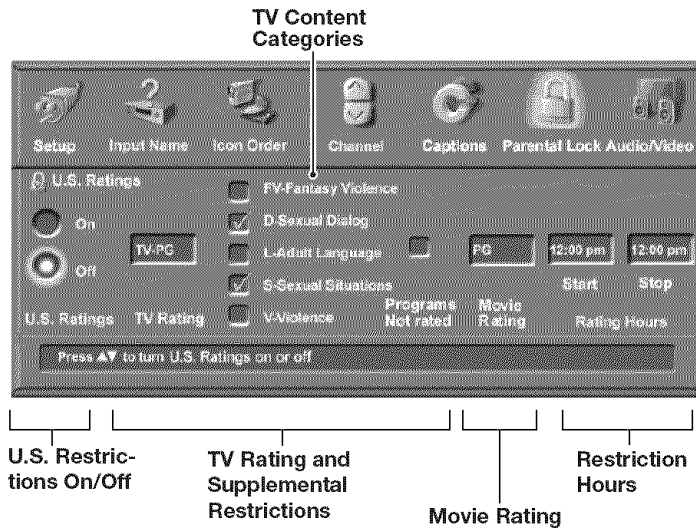
Figure 11. U.S. Ratings menu

1. Highlight the **U.S. Ratings** icon 🔒 on the Parental Lock menu (figure 10) and press ENTER to open the U.S. Ratings menu (figure 11).

2. Press ▲ ▼ to select **On** or **Off**.

3. If you selected **On**, press ▶ to move to the **TV Rating** box.

4. Press ▲ ▼ to select the TV rating level you want to allow.

5. Press ▶ to move to the TV content categories. This section allows you to specify content blocking in addition to that blocked by the TV rating. See the section on V-Chip ratings for an explanation of TV content categories.

    • Press ▲ ▼ to move the highlight among the categories.

    • Press ENTER to add a check mark to each TV content category you want to block.

6. Press ▶ to move to the **Programs Not Rated** box. Press ENTER to add or remove a check mark to allow or block programs that are not rated.

Note: Use care when choosing to block unrated programming. News programs and emergency bulletins carry the "None" or "NR" (Not Rated) V-Chip signal, and they are blocked with this option active.

7. Press ▶ to move to the **Movie Rating** box. Press ▲ ▼ to select the movie rating level you want to allow. Detailed information on rating guidelines follows this discussion of the Parental Lock menu.

8. To set the time of day for these restrictions to be in effect, press ▶ to move to the **Start** box. To make the rating restrictions active twenty-four hours a day, set **Start** and **Stop** to the same time. To set the time:

    a. With the hour number highlighted in yellow, press ▲ ▼ repeatedly to change the hour. You can also just press and hold to change the hour.

    b. Press **ENTER** to move the highlight to the minutes.

    c. With the minutes number highlighted in yellow, press ▲ ▼ repeatedly to change the minutes. Just press and hold to move quickly through the numbers.

    d. Repeat these steps for the **Stop** time.

9. Press MENU to return to the Parental Lock menu or press EXIT to close all menus.

Other Ratings Menu

This TV can recognize new rating systems that may come into effect in the future. The Other Ratings menu allows you to block digital programming based on such alternate rating systems. The alternate rating systems will apply to digital programming only.

Note: The **Other Ratings** button remains inaccessible until the TV receives signals for an alternate rating system.

The first time you tune to a channel broadcasting an alternate rating system, the TV defaults to the most restrictive setting. Use this menu to change the allowed rating if you are unable to watch a program broadcast with an alternate system.
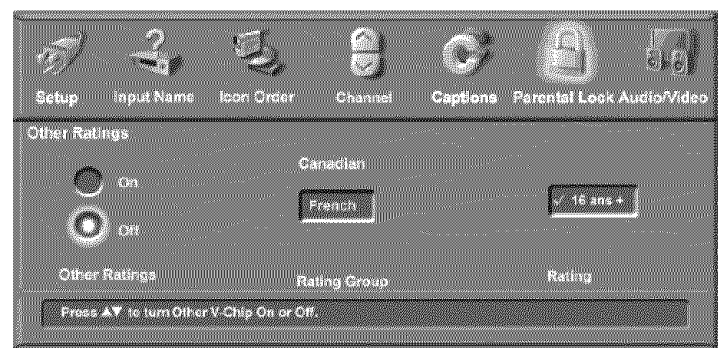
Figure 12. The Other Ratings menu is available only if the TV receives broadcast signals carrying an alternate rating system.

IMPORTANT

New rating systems recognizable by the TV may be new U.S.-based systems not included in the original V-Chip rating system. The use of "Canadian" in the sample screen is just one possibility.

Parental Lock Menu, continued

1. Highlight the button labelled **Other Ratings** on the Parental Lock menu (figure 10) and press ENTER to open the Other Ratings menu (figure 12).

2. Press ▲ ▼ to select **On** or **Off**.

3. If you selected **On**, press ▶ to move to the **Rating Group** box.

   Note that you can change settings only for the rating system available on the currently tuned channel. In the figure above, for example, the Canadian rating system is in effect. To change settings at a later time for the Canadian rating system, you must again tune to a channel broadcasting the Canadian system.

4. Press ▲ ▼ to select from the subgroups available for the rating system—**English** or **French** in this example.

5. Press ▶ to move to the **Rating** box.

6. Press ▲ ▼ to select the program rating level you want to block.

7. Press ENTER to add a check mark to indicate blocking is in effect for the rating. When a rating shows a check mark, press ENTER to remove the check mark and allow programs with this rating.

8. Repeat steps 3 through 7 for each additional rating system you would like to set up.

9. Press MENU to return to the Parental Lock menu or press EXIT to close all menus.

Bypassing the Ratings Lock and Lock by Time

If you try to watch blocked programming, a notice appears prompting you for a pass code. To use the TV:

- Input your four-digit pass code and press **ENTER**.
- Change to a channel airing an allowed program or change to another device.

If you try to use the TV when it is locked by time, a similar screen appears, prompting you for your pass code.

To reactivate the rating lock or TV Lock by Time after using the pass code, power the TV off and then on.

V-Chip Signal Information

When provided by the broadcaster or program source, V-Chip ratings let you control the types of programming that can be viewed on the TV. When V-Chip ratings are supplied, they are displayed when you change the channel or press INFO on the remote control.

TV Ratings

TV ratings apply to TV programs and made-for-TV movies. You can apply supplemental blocking to TV ratings based on the TV content categories described below. TV ratings are:

TV-Y   Youth. For children under the age of 7.
TV-Y7   Youth 7 and older.
TV-G   General Audience. For the entire family to view.
TV-PG   Parental Guidance. Parental Guidance is recommended; may not be suitable for some children.
TV-14   Adolescent 14 and older. Not recommended for children under the age of 14.
TV-MA   Mature Audience. For adults only.

TV Content Categories

Used in association with the TV ratings above, TV content categories allow you to apply supplemental blocking. Apply supplemental blocking using the U.S. Ratings menu.

FV   **Fantasy Violence.** Applies to TV-Y7 only.
D   **Sexual Dialog.** Applies in different degrees to TV-PG and TV-14.
L   **Adult Language.** Applies in differing degrees to TV-PG, TV-14, and TV-MA.
S   **Sexual Situations.** Applies in differing degrees to TV-PG, TV-14, and TV-MA
V   **Violence** (graphic or realistic). Applies in differing degrees to TV-PG, TV-14, and TV-MA.

TV Rating	FV	D	L	S	V
TV-Y		*Not Applicable*			
TV-Y7	X				
TV-PG	*Not*	X	X	X	X
TV-14	*Appli-*	X	X	X	X
TV-MA	*cable*		X	X	X

TV content categories. Boxes marked with an "X" indicate supplemental blocking you can apply to each rating level.

The TV rating you select is for the least-restrictive program level allowed. For example, if you select TV-PG, programs rated TV-Y, TV-Y7, and TV-PG can be viewed, but programs rated TV-14 and TV-MA are blocked.

When you select a TV content category to block, all TV programs with the same content category listing are blocked. For example, if you select to block V (Violence) at the TV-14 level, any programs with the V category listing rated TV-PG are also blocked.

V-CHIP EXCEPTIONS

- V-Chip blocking is ineffective for programs viewed on devices connected to component or HDMI inputs. Many of these devices, however, have their own parental-control systems.

- Videotapes, laser discs, and DVDs may not contain V-Chip rating signals. V-Chip cannot block playback of recordings without V-Chip rating signals.

- Broadcasters are not currently required to include V-Chip rating signals. V-Chip cannot block programming broadcast without the V-Chip rating signal.

Movie Ratings

Movie ratings are the MPAA ratings used for theater-released and direct-to-video movies. Movie ratings are:

G   **General Audience.** Designed for the entire family to view.
PG   **Parental Guidance.** Parental Guidance is recommended, may not be suitable for some children.
PG-13   **Parental Guidance, 13 and Older.** Not recommended for children under the age of 13.
R   **Restricted.** Restricted in theaters to 17 years old and older unless accompanied by an adult.
NC-17   **No Children 17 or Under.** Restricted in theaters to 18 years old and older.
X   **Adult.** Designed for and restricted in theaters to adult audiences only.

The movie rating you select is for the least-restrictive program level that can be viewed. For example, if you select the PG-13 rating, movies rated G, PG and PG-13 can be watched, but movies rated R, NC-17, and X are blocked.

Programs Not Rated: This refers to programs that carry no rating, such as news, sports, weather, emergency bulletins, or movies prior to or without MPAA ratings. This does not include programs without V-Chip signals.

IMPORTANT

If you enable blocking with the Programs Not Rated option, you may block news or emergency bulletins carrying the "None" or "NR" Not Rated V-Chip rating. Use care when blocking programming that is not rated.

Audio/Video Menu
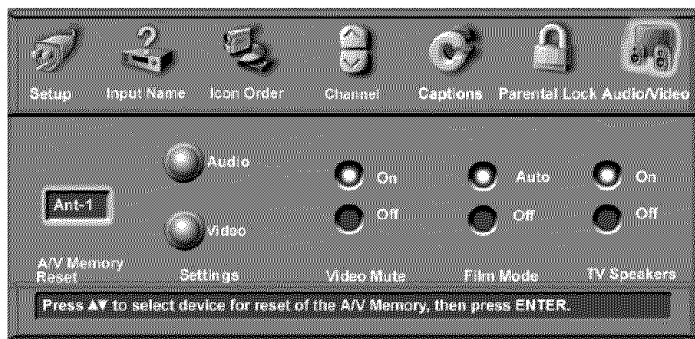
Figure 13. Audio/Video Menu

A/V Memory Reset

A/V Memory Reset allows you to reset a specific input's A/V settings to the original factory settings. Highlight the box and press ▲ ▼ to select the input name. Next press ENTER.

The audio settings of **Balance**, **Listen to**, and **Language** are general TV settings unaffected by A/V Memory Reset.

To reset all A/V settings at once, including the three general settings, perform an A/V Reset by pressing the front-panel buttons GUIDE and FORMAT simultaneously.

Settings (Audio and Video)

Each input or device has its own A/V memory. Press ▲ ▼ to select the input or device in the **A/V Memory Reset** box, then select **Audio** or **Video** to adjust individual settings. Press ENTER to close the menu and display the individual settings.

Use ▲ ▼ to cycle through the individual settings. Use ◄ ► to change the setting values. Press EXIT to return to normal TV viewing. For descriptions of the individual A/V settings, see the following pages.

Video Mute

The default is **On**, which displays a blue background when no signal is being received on the **INPUT, COMPO-NENT,** or **HDMI** jacks.

Film Mode (480i signals only)

Auto is the default setting. With **Auto** selected, the TV automatically detects and applies film-decoding correction for images that originated on 24-frame-per-second film cameras and were converted to 30-frame-per-second video for broadcast (3:2 pulldown conversion). Try the **Off** setting if the TV adds noticeable jagged edges to the images.

When the original video was filmed on 30-frame-per-second cameras, the **Auto** setting automatically applies video decoding, the same as used with the **Off** setting.

Film Mode is not effective for high-definition signals.

TV Speakers

This selection turns the TV's internal speakers on or off. Select **Off** when sending the sound through a separate stereo system or surround sound A/V receiver.

Note: To prevent damage from a sudden increase in volume, turn the TV volume down low before changing this option to **On**.

Audio/Video Settings and the Remote Control

To adjust individual audio or video settings directly with the remote control:

1. Press AUDIO or VIDEO repeatedly to cycle through the available settings.

2. Press ◄ ► to adjust the setting. The setting display will disappear after five seconds of inactivity.

Audio/Video Menu, continued

Audio Settings

Analog and Digital Audio Settings

Enter the audio adjustment mode using either the Audio/
Video menu or the AUDIO key. Use ◄ ► to change settings.
The adjustable settings display a slider and corresponding
numeric value on screen. Values can be adjusted from 0
to 63, with 31 as the midpoint.

Note: The effects of the audio settings of **Bass**, **Treble**,
Balance, and **Surround** affect only the sound
heard through the TV speakers.

◊ **Bass**
Enhances or reduces low-pitched sound.

◊ **Treble**
Enhances or reduces high-pitched sound.

◊ **Balance**
Adjusts the level of sound between the left and right
TV speakers.

◊ **Surround**
Creates simulated stereo and surround effects
through the TV speakers. Your choices are:

- **Off**: No surround effects (default).

- **Simulated Stereo**: The TV creates a simulated
  stereo effect when watching a non-stereo
  program.

- **Surround Sound**: The TV creates a simulated
  surround effect when watching a stereo program.

◊ **Level Sound**
When on, automatically equalizes the volume level
when there are significant sound-level differences
between program segments, such as between regular
programming and commercials.

- To receive the best fidelity with music programs,
  change this setting to **Off**.

- When connecting to an A/V receiver, set **Level
  Sound** to **Off** and turn off the TV speakers to
  send full dynamics to the A/V receiver.

Analog-Only Audio Settings

You can set analog-only audio settings while viewing
either analog or digital sources, but the settings affect
only broadcast analog content.

◊ **Listen To**
Determines how your TV receives a broadcast audio
signal and plays the sound you hear.

Your choices are:

- **Stereo**: Default setting. The TV plays stereo
  broadcasts in stereo and mono broadcasts in
  mono. The word **Stereo** is displayed when you
  tune to a channel broadcasting in stereo.

- **SAP** (Second Audio Program): Additional mon-
  aural sound track that you cannot hear during
  normal TV viewing. The SAP signal might be
  related to the program you are watching, (such as
  a sound track in a foreign language), or it might
  be unrelated (such as a weather report). If an SAP
  signal is broadcast, the letters **SAP** are displayed
  when you tune to the channel.

- **Mono**: Reduces background noise. Use when
  receiving a weak stereo audio signal. All audio is
  played mono with this setting.

Listen To is not available for 1394 devices or devices con-
nected to the **INPUT, COMPONENT** and **HDMI** jacks.

Digital-Only Audio Settings

You can set digital-only audio settings while viewing either
analog or digital sources, but the settings affect only
broadcast digital content.

◊ **Language**
Determines what possible language you can hear.
Your choices are:

English	**Portuguese**
French	**Spanish**
German	**Other**
Italian	

IEEE 1394 Amplifier Settings

◊ **Balance**
Adjusts the level of sound between the left and right
speakers. The slider range is 0–254, with 127 as the
midpoint.

◊ **Loudness**
When on, makes the audio level more uniform.

◊ **Preset**
Select the mode that matches the audio source.
Your choices are:

Off	**Classical Music**
Jazz	**Movie**
Rock	**Speech**

◊ **Equalizer**
Equalizes the sound.

Audio/Video Menu, continued

Video Settings

Enter the video adjustment mode using either the Audio/Video menu or the VIDEO key. Press the VIDEO key repeatedly to cycle through the video options to the one you want to change. Use ◀ ▶ to change settings.

Note: A slider displays on screen for some settings. When the slider is displayed, it represents numeric values, with 63 as the maximum, 31 as the mid-point, and 0 as the minimum.

◊ **Picture Mode:** Set the Picture Mode first before adjusting other settings, as each Picture Mode stores its own values for Contrast, Brightness, and Color Temperature. Picture Modes allow you to optimize the image for different lighting conditions. The Picture Modes are:

- **Bright**: Suited for most daytime viewing.
- **Natural**: Suited for most nighttime viewing.
- **Brilliant**: The default setting. For use under strong light.

◊ **Contrast** (Bright/Natural/Brilliant): Provides a slider to adjust the white-to-black level. Low contrast shows a variety of shades in darker images, while high contrast shows darker images more uniformly black and makes colors appear more vibrant. In most home lighting situations, a medium contrast looks best. High contrast is good for brightly lit environments.

◊ **Brightness** (Bright/Natural/Brilliant): Provides a slider to adjust the overall brightness of the picture.

◊ **Color:** Provides a slider to adjust color intensity.

◊ **Tint:** Provides a slider to adjust the red-to-green ratio.

◊ **Sharpness:** Provides a slider to adjust the detail and clarity.

◊ **Color Temperature** (Bright/Natural/Brilliant): Allows you to adjust how white is displayed.

- **Low**: White images have a warm cast. This adjustment is an average and can vary due to ambient room lighting, video scene brightness, and the TV's age. Natural/Color Temp at the low setting displays video at the 6500K industry standard for NTSC pictures.
- **High**: White images have a cool cast. This setting may provide the most realistic picture under bright lighting.

◊ **PerfectColor™:** Lets you adjust the intensity of any or all of six colors (Magenta, Red, Yellow, Green, Cyan and Blue) to create color balance for the current image source. PerfectColor settings are memorized

for each TV input or device. Select the **PerfectColor** option and press ENTER to open the adjustment screen.

Individual sliders for each color are displayed. Highlighted text shows which slider you are adjusting. Press CANCEL while in the PerfectColor screen to reset all colors to the default settings.
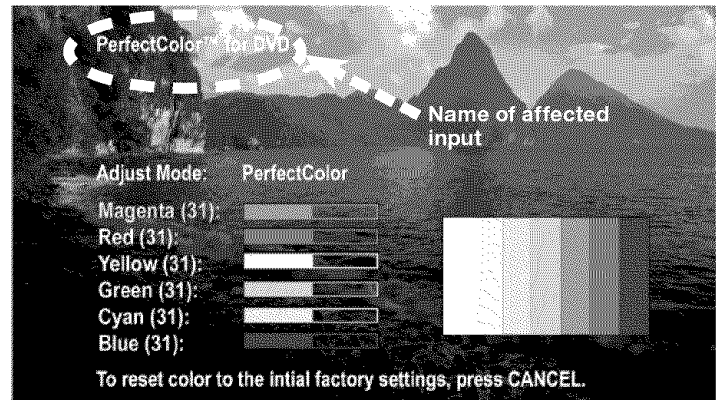
Figure 14. Set PerfectColor adjustments independently for each TV input.

◊ **Video Noise:** Reduces minor noise (graininess) in the picture. Use the **Low** setting with good-quality signals. Use **Medium** or **High** with poor-quality signals. Turn off to leave the picture unaltered.

Personal Computer Video Settings

Video settings available for images from a personal computer are:

◊ **Contrast**

◊ **Brightness**

◊ **PerfectColor™.** The adjustment screen displays without the vertical color bars when used for a computer image,

◊ **Auto Position:** Press ENTER to automatically center the position of the PC video.

◊ **HorizPosition (Horizontal Position):** Manually adjust the horizontal position of PC video. This selection overrides the Auto Position selection.

◊ **VertPosition (Vertical Position):** Manually adjust the vertical position of PC video. This selection overrides the Auto Position selection.

◊ **Fine Detail:** Manually adjust the picture quality of PC video, analog signals only. This selection overrides the Auto Position selection.

5

Operating Other Devices with the Remote Control

Functions Available for Other A/V Devices

The TV's remote control can be programmed to operate other types and brands of A/V products. To use the remote when programmed, set the slide switch to the position labelled for the product type. The functions performed in each switch position can vary depending on the product. Not all functions work for all models. The most common functions available are listed on this page.
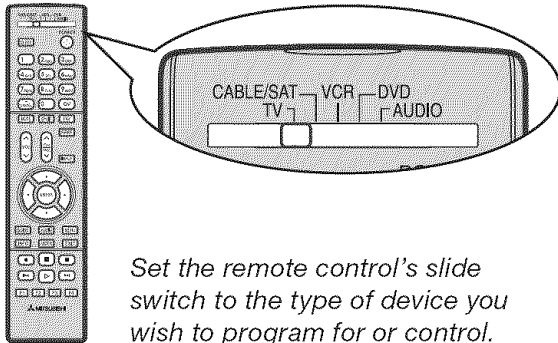
Set the remote control's slide switch to the type of device you wish to program for or control.

IMPORTANT

Some manufacturers may change their products or they may use more than one remote control system. The TV's remote control may be unable to operate your A/V equipment in these cases.

VCRs and DVRs

• CH ∧/∨	• ▷ (PLAY)
• POWER	• ● (RECORD)
• SLEEP	• ◄◄ (REVERSE)
• ▶▶ (FAST FORWARD)	• ■ (STOP)
• ❚❚ (PAUSE)	• 0-9 Number Buttons

Mitsubishi VCRs are compatible with some additional buttons.

Cable Boxes and Satellite Receivers

• AUDIO	• 0-9 Number Buttons (on some models)
• CANCEL (on some models)	• F1-F4 (A, B, C, D keys on some models)
• CH ∧/∨	
• ENTER (on some models)	The record/playback keys (on some models):
• GUIDE (on some models)	• ▶▶ (FAST FORWARD)
• PG ∧/∨	• ❚❚ (PAUSE)
• POWER	• ▷ (PLAY)
• ▲▼◄▶ (on some models)	• ● (RECORD)
	• ◄◄ (REVERSE)
• VIDEO	• ■ (STOP)

A/V Receivers

• MUTE	• Direct Input Selection buttons: numbers, FAV and QV (on some Mitsubishi models)
• POWER	
• SLEEP	
• VOLUME	
• 0-9 Number Buttons	

CD Players

(not all functions for all models)

• SLEEP	• ◄◄ (REVERSE)
• ▶▶ (FAST FORWARD)	• ■ (STOP)
• ❚❚ (PAUSE)	• 0-9 Number Buttons
• ▷ (PLAY)	

DVD and Laser Disc Players

(not all functions for all models)

• CANCEL (on some models)	• ▶▶ (FAST FORWARD)
	• ❚❚ (PAUSE)
• CH ∧/∨ (on some models)	• ▷ (PLAY)
• ENTER	• ● (RECORD)
• MENU	• ◄◄ (REVERSE)
• POWER	• ■ (STOP)
• SLEEP	• 0-9 Number Buttons (on some models)
• ▲▼◄▶ (on some models)	

Programming the Remote Control

Method 1: Code Entry

1. Move the slide switch at the top of the remote to the position for the product you want to control. Refer to the table below. Only one of each device type can be controlled in each slide-switch position.

Switch Position	Affected Device
CABLE/SAT	Cable Box DTV Receiver Satellite Receiver
VCR	VCR DVR Laser Disc Player DVD Player/Recorder
DVD	DVD Player/Recorder DVR Laser Disc Player VCR
AUDIO	A/V Receiver Audio Amplifier CD Player*

2. Press and hold POWER on the remote control for several seconds until the button blinks twice and goes off.
3. Release the POWER button.
4. Enter the first five-digit code listed for your equipment.
   - The POWER button blinks twice when you start to enter the code and then once for each additional keypress.
   - The POWER button blinks twice when you finish entering a valid code.
   - Move the slide switch to another position if you need to start over or wish to exit programming mode.
5. Point the remote control at the equipment and press POWER. If the product has no power on/off function, press a different key, such as ⏵ (PLAY), ⏹ (STOP), VOL ⋀, or MUTE.
   - If the equipment responds, the remote control is properly programmed to operate the equipment.
   - If the equipment does not respond, repeat steps 2–4 with the next five-digit code listed for your equipment.

IMPORTANT

You may need to reprogram the remote control after changing the batteries.

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6. Once you have found the correct code, write it in the space below for future reference.

Switch Position	Device Type	Code
CABLE/SAT		
VCR		
DVD		
AUDIO		

Method 2: Code Search

In this method of programming, you step through the remote control's internal code library to find the correct code for your A/V product.

1. Move the slide switch at the top of the remote control to the correct position for the product. See the table under "Method 1."
2. Press and hold POWER on the remote control for several seconds until the button blinks twice and goes off.
3. Press keys 9 9 1
4. Press the number 1, 2, or 3 depending on the slide-switch position and the table below.

Switch Position	Number
CABLE/SAT	1
DVD, VCR	2
AUDIO	3

5. Press CH ⋀ and POWER repeatedly until the product responds by powering on or off. You can press CH ⋁ to move backward through the code library if needed.

NOTE: If the product has no power on/off function, check for a response using a different function. Press ⏵ (PLAY), ⏹ (STOP), VOL ⋀, or MUTE and then repeatedly press CH ⋀/⋁ to check for a response.

6. When the product responds, press ENTER to set the code.

Code Verification

To determine the code programmed for any position of the slide switch:

1. Move the slide switch to the position you wish to verify.
2. Press and hold POWER on the remote control for several seconds until the button blinks twice and goes off.
3. Press keys 9 9 0
4. Press 1 and count the blinks of the power button. Write down the number of blinks as the first digit of the code.
5. Repeat step 4 for the second, third, fourth, and fifth digits of the code.

Audio Lock: Universal A/V Receiver Control

With Audio Lock active, the remote control operates the volume and mute functions of the A/V receiver in all positions of the slide switch. Activate Audio Lock if you normally use an A/V receiver with your TV and other A/V equipment.

1. Program the AUDIO position for your A/V receiver as described earlier in this section.
2. Move the slide switch to the TV position.
3. Press and hold POWER on the remote control for several seconds until the button blinks twice and goes off.
4. Press keys 9 9 3

   The POWER button will blink twice to indicate Audio Lock is active.

To Reset the Remote Control to Operate Volume and Mute for the TV Speakers

1. Press and hold POWER for several seconds until the button blinks twice and goes off.
2. Press keys 9 9 3 VOL ∧.

   The POWER button will blink four times to indicate Audio Lock has cleared.

Programming Codes

Audio Amplifiers

Brand	Code
Acurus	30765
Adcom	31100, 30577
Altec Lansing	31742
Aragon	30765
Bel Canto Design	31583
Bose	30674
Carver	30892
Classe	31462, 31461
Curtis Mathes	30300
Durabrand	31561
Elan	30647
GE	30078
Harman/Kardon	30892
JVC	30331
Klipsch	30765
Left Coast	30892
Lenoxx	31561
Lexicon	31802
Logitech	31408
Marantz	30892
Mark Levinson	31483
McIntosh	30251
Mondial	30765
Optimus	30823, 30395, 30300
Philips	30892
Pioneer	30823, 30300, 30257, 30013
Polk Audio	30892
RCA	30823, 30300
Realistic	30395
Sharp	30226
Sony	30815
Soundesign	30078
Technics	30374, 30372
Toshiba	30353
Victor	30331
Wards	30078, 30013
Yamaha	30354

A/V Receivers

Brand	Code
ADC	30531
Adcom	31617, 31616
Aiwa	31641, 31405, 31388, 31347, 31321, 31243, 30189, 30121
Akai	31255
Alco	31390
AMC	31077
Amplifier Technologies	31584
Anam	31609, 31074
Apex Digital	31774, 31430, 31257
Arcam	31189
Atlantic Technology	31487
Audiophase	31387

Programming Codes, continued

A/V Receivers

Brand	Code
Audiotronic	31189
Audiovox	31627, 31390
B & K	30840, 30820, 30701
Bel Canto Design	31584
BK	30702
Bose	31253, 31229, 30639
Brix	31602
Cambridge Soundworks	31477
Capetronic	30531
Carver	31289, 31189, 30189, 30121
Coby	31263
Curtis	30797
Delphi	31414
Denon	31360, 31311, 31142, 30121,
Fisher	31801, 31409
Fosgate	31487
Glory Horse	31263
GPX	31299
Harman/Kardon	31306, 31304, 31289, 30891, 30189, 30110
Hitachi	31801, 31273
Integra	31320, 31298, 30135
JBL	31306, 30110
JVC	31811, 31643, 31495, 31374, 31282, 31263, 31058
Kenwood	31570, 31569, 31313
KLH	31428, 31390
Koss	31497, 31366
Linn	30189
Liquid Video	31497
Magnavox	31514, 31269, 31189, 30531, 30189
Marantz	31289, 31269, 31189, 30200, 30189,
McIntosh	31289
Micromega	31189
Mitsubishi	31957, 31922, 31921, 31920, 31393, 30176
Myryad	31189
Nakamichi	31555, 31313, 30097
Onkyo	31320, 31298, 30842, 30135
Optimus	31074, 31023, 30849, 30797, 30670, 30531
Oritron	31497, 31366
Outlaw	31487
Panasonic	31764, 31763, 31633, 31548, 31518, 31509, 31363, 31350, 31316, 31308, 31288, 30309
Philips	31368, 31365, 31283, 31269, 31268, 31266, 31189, 30189
Pioneer	31384, 31343, 31023, 30630, 30531, 30150, 30014
Polk Audio	31414, 31289, 30189
Proscan	31254
RadioShack	31263

A/V Receivers

Brand	Code
RCA	31609, 31511, 31390, 31254, 31074, 31023, 30531
Rio	31869
Samsung	31500, 31295
Sansui	31189, 30189
Sanyo	31801
Sharp	31386, 31361
Sharper Image	31416, 31411, 31410, 31409, 31385, 31263, 30797
Sherwood	31077
Sirius	31811, 31627, 31602
Sonic Blue	31869
Sony	31858, 31759, 31758, 31658, 31622, 31558, 31529, 31503, 31458, 31441, 31406, 31382, 31371, 31367, 31258, 31131, 31058
Soundesign	30670
Stereophonics	31023
Sunfire	31313
Sylvania	30797
Teac	31528, 31390, 31267, 31074
Technics	31633, 31518, 31308, 30309
Thorens	31189
Toshiba	30135
Venturer	31390, 30849
Wards	30189, 30014
XM	31414, 31406
Yamaha	31375, 31331, 31276, 31176, 30176

CD Players

Brand	Code
Aiwa	30157
Akai	30156
Arcam	30157
Audio-Technica	30170
Burmester	30420
California Audio Labs	30303, 30029
Carver	30437, 30299, 30179, 30157
Classic	31297
Denon	30873, 30034, 30003
DKK	30000
DMX Electronics	30157
Emerson	30305
Fisher	31325, 30179, 30174
Garrard	30420, 30393
Gemini	30625
Genexxa	30305, 30032
GPX	31296
Harman/Kardon	31202, 30173, 30157, 30083
Hitachi	30032
Integra	30101

Programming Codes, continued

CD Players

Brand	Code
JVC	31294, 30072
Kenwood	30826, 30681, 30626, 30190, 30037, 30028,
KLH	31711, 31373, 31372, 31318
Koss	31317
Krell	30157
LG	31208
Linn	30157
LXI	30305
Magnavox	30305, 30157, 30038
Marantz	30626, 30435, 30180, 30157, 30038, 30029
Mark Levinson	31484
McIntosh	30660, 30290, 30256
MCS	30029
MGA	30083
Miro	30000
Mission	30157
Mitsubishi	30098, 30083
MTC	30625, 30420
NAD	30299, 30019
Nikko	30625, 30174, 30170
NSM	30157
Onkyo	31327, 30868, 30102, 30101
Optimus	31075, 31063, 30468, 30437, 30420, 30305, 30179, 30145, 30087, 30037, 30032, 30000
Panasonic	30752, 30388, 30303, 30029
Parasound	30420
Philips	30626, 30274, 30157
Pioneer	31087, 31063, 31062, 30551, 30468, 30305, 30032
Polk Audio	30157
Proceed	30420
Proton	30157
QED	30157
Quad	30157
Quasar	30029
RadioShack	31075
RCA	31062, 30764, 30468, 30420, 30305, 30179, 30053, 30032
Realistic	30420, 30180, 30179
Rotel	30420, 30157
SAE	30157
Sansui	30305, 30157
Sanyo	30179, 30087
Scott	30305
Sears	30305
Sharp	30861, 30265, 30180, 30037
Sherwood	31067, 30180
Sonic Frontiers	30157
Sony	31364, 30673, 30605, 30604, 30490, 30185, 30100, 30000
Soundesign	30145
Sugden	30157

CD Players

Brand	Code
Symphonic	30305
TAG McLaren	30157
Tascam	30420
TDK	31208
Teac	30420, 30393, 30378, 30180, 30174
Technics	30303, 30029
Tivoli Audio	31553
Toshiba	30299, 30019
Victor	30072
Wards	30157, 30053
Yamaha	31292, 30888, 30490, 30261, 30187, 30170, 30036,
YBA	30625
Yorx	30461

Cable Boxes

Brand	Code
ABC	10017, 10014, 10013, 10011, 10008, 10007, 10003, 10001
Allegro	10315, 10153
Americast	10899
Antronix	10207, 10022
Archer	10797, 10207, 10153, 10022
BBT	10267
Belcor	10056
Bell & Howell	10014
Bell South	10899
Cable Star	10056
Cabletenna	10022
Cableview	10022
Century	10153
Citizen	10315, 10153
Clearmaster	10883
ClearMax	10883
Colour Voice	10031, 10025
Comtronics	10040
Contec	10019
Coolmax	10883
Digeo	11187
Digi	10637
Director	10476
Dumont	10637
Eastern	10002
Emerson	10797
Everquest	10040, 10015
Focus	10400
Garrard	10153
GC Electronics	10207, 10056
Gemini	10797, 10015
General Instrument	10810, 10476, 10276, 10011, 10003
GoldStar	10144, 10040
Goodmind	10797

Programming Codes, continued

Cable Boxes	
Brand	**Code**
Hamlin	10273, 10259, 10034, 10020, 10009
Hitachi	10011
Hytex	10007
i3 Micro	11602
Jasco	10315, 10153, 10015
Jerrold	10810, 10476,10276, 10024, 10015, 10014, 10012, 10011, 10003
Linsay	10440
Magnavox	10027
Memorex	10000
Motorola	11376, 11254, 11187, 11106, 10810, 10476, 10276, 10014
Movie Time	10156, 10063
Multitech	10883
Myrio	11602
Novaplex	10618
NSC	10156, 10063
Oak	10019, 10007
Optimus	10021
Pace	11877, 10237, 10008
Panasonic	10107, 10021, 10000
Panther	10637
Paragon	10000
Philips	11305, 10317, 10153, 10031, 10027, 10025
Pioneer	11877, 10877, 10533, 10144, 10023
Popular Mechanics	10400
Pulsar	10000
Quasar	10000
RadioShack	10883, 10797, 10315, 10015
RCA	11256, 10021
Realistic	10207
Recoton	10400
Regal	10279, 10273, 10259, 10020
Regency	10002
Rembrandt	10011
Runco	10000
Samsung	10144, 10040
Scientific Atlanta	11877, 10877, 10477, 10017, 10008,
Seam	10510
Sejin	11602
Signal	10040, 10015
Signature	10011
SL Marx	10040
Sony	11006
Sprucer	10021
Starcom	10015, 10003
Stargate	10797, 10040, 10015
Starquest	10015
StarSight	10422
Supercable	10276
Supermax	10883

Cable Boxes	
Brand	**Code**
Sylvania	10001
Tandy	10258
TeleCaption	10221
Teleview	10040
Texscan	10001
TFC	10310
Thomson	11256
Timeless	10418, 10040
Tocom	10013, 10012
Torx	10003
Toshiba	10000
Tristar	10883
Tusa	10015
TV86	10063
Unika	10207, 10153, 10022
United Artists	10007
Universal	10207, 10191, 10153, 10056, 10022,
V2	10883
Viewmaster	10883
Viewstar	10258, 10063, 10027
Vision	10883
Vortex View	10883
Zenith	10899, 10525, 10054, 10000
Zentek	10400

DVD Players/Recorders	
Brand	**Code**
Adcom	21094
Aiwa	20641
Akai	21089, 20770
Alco	20790
Allegro	20869
Amphion Media Works	20872
AMW	20872
Apex Digital	21100, 21061, 21056, 21020, 21004, 20797, 20796, 20794, 20755, 20717, 20672
Aspire Digital	21407, 21168
Audiologic	20736
Audiovox	21072, 21041, 20790
Axion	21072
B & K	20662, 20655
Bel Canto Design	21571
Blaupunkt	20717
Blue Parade	20571
Broksonic	20695
California Audio Labs	20490
CAVS	21057
Cinea	20831
CineVision	20876, 20869, 20833
Citizen	21277
Coby	21351, 21177, 21165, 21107, 21086, 20852, 20778
Craig	20831

Programming Codes, continued

DVD Players/Recorders	
Brand	Code
Curtis Mathes	21087
CyberHome	21129, 21117, 21024, 21023, 20874, 20816
Daewoo	21242, 21234, 21172, 21169, 20869, 20833, 20784, 20705
Daytek	20872
Denon	20634, 20490
Desay	21407
Disney	21270, 20675
Dual	21085, 21068
Durabrand	21127
DVD2000	20521
Emerson	21268, 20675, 20591
Enterprise	20591
Fisher	20670
Funai	21334, 21268, 20675
Gateway	21158, 21077, 21073
GE	20815, 20717, 20522
Go Video	21730, 21304, 21158, 21144, 21099, 21075,21044, 20869, 20833, 20783, 20744, 20741, 20715
Go Vision	21072
GoldStar	20741
GPX	20769, 20699
Gradiente	20490
Greenhill	20717
Grundig	20539
Harman/Kardon	20702, 20582
Hitachi	20664, 20573
Hiteker	20672
iLo	21348
Initial	20717
Integra	20627, 20571
Jaton	21078
JBL	20702
JSI	21423
JVC	21275, 21164, 20867, 20623, 20558
jWin	21051, 21049
Kawasaki	20790
Kenwood	20737, 20682, 20534, 20490
KLH	21149, 21020, 20790, 20717
Konka	20721, 20711
Koss	21423, 20896, 20651
Landel	20826
Lasonic	21173, 20798
Lecson	21533
Lenoxx	21127
LG	20869, 20801, 20741, 20591
LiteOn	21440, 21416, 21158, 21058
Loewe	20511
Magnavox	20675, 20646, 20539, 20503
Malata	21159, 20782
Marantz	20539

DVD Players/Recorders	
Brand	Code
McIntosh	21533, 21273
Memorex	21270, 20831, 20695
Microsoft	20522
Mintek	20839, 20717
Mitsubishi	21521, 20521
Momitsu	21082
Myryad	20894
NAD	20741, 20692, 20591
Nakamichi	21222
NEC	20785
Nesa	20717
Next Base	20826
NexxTech	21402
Norcent	21265, 21107, 21003, 20872
Onkyo	20792, 20627, 20503
OptoMedia Electronics	20896
Oritron	20651
Panasonic	21762, 20703, 20632, 20503, 20490
Philips	21354, 21267, 20675, 20646, 20539, 20503,
PianoDisc	21024
Pioneer	21571, 20632, 20631, 20571, 20525
Polaroid	21086, 21061, 21020
Polk Audio	20539
Portland	20770
Princeton	20674
Proceed	20672
Proscan	20522
ProVision	20778
Qwestar	20651
RCA	20822, 20790, 20717, 20571, 20522
Rio	20869
RJTech	21360
Rotel	21178, 20623
Rowa	20823
Sampo	20752, 20698
Samsung	21075, 21044, 20820, 20744, 20573, 20490
Sansui	20695
Sanyo	20873, 20695, 20670
Sensory Science	21158
Sharp	21256, 20752, 20675, 20630
Sharper Image	21117
Sherwood	21077, 21043, 20770, 20633
Shinsonic	20839, 20533
Sigma Designs	20674
Sonic Blue	21099, 20869
Sony	21533, 21431, 21033, 20864, 20533
Sungale	21074
SVA	21105, 20860
Sylvania	21268, 20675
Symphonic	21268, 20675
TAG McLaren	20894
Teac	20809, 20790

Programming Codes, continued

DVD Players/Recorders

Brand	Code
Technics	20703, 20490
Technosonic	20730
Techwood	20692
Terapin	21031
Theta Digital	20571
Toshiba	21154, 20695, 20503
Tredex	20804, 20803, 20800, 20799
Urban Concepts	20503
US Logic	20839
Venturer	20790
Vizio	21226, 21064
Vocopro	21027
Xbox	20522
Xwave	21001
Yamaha	20545, 20539, 20490
Yamakawa	20872
Zenith	20869, 20741, 20591, 20503
Zoece	21265

Laser Disc Players

Brand	Code
Aiwa	20203
Carver	20323, 20194, 20064
Denon	20243, 20241, 20172, 20059
Disco Vision	20023
Funai	20203
Harman/Kardon	20194
Hitachi	20023
Kenwood	20258
Magnavox	20243, 20241, 20217, 20194
Marantz	20194, 20064
Mitsubishi	20059
NAD	20059
Optimus	20059
Panasonic	20204
Philips	20194, 20064
Pioneer	20059, 20023
Polk Audio	20194
Quasar	20204
Realistic	20203
Samsung	20323
Sega	20023
Sony	20270, 20201, 20193
Technics	20204
Theta Digital	20194
Yamaha	20451, 20217

Satellite Receivers

Brand	Code
AlphaStar	10772
Chaparral	10216
Crossdigital	11109

Satellite Receivers

Brand	Code
DirecTV	11856, 11749, 11640, 11639, 11609, 11444, 11443, 11442, 11414, 11392, 11377, 11142, 11109, 11108, 11076, 10819, 10749, 10724, 10639, 10566, 10392, 10247, 10099
Dish Network System	11775, 11505, 11170, 11005, 10775,
Dishpro	11775, 11505, 11005, 10775
Echostar	11775, 11505, 11170, 11005, 10775
Expressvu	11775, 10775
GE	10566, 10392
General Instrument	10869
GOI	11775, 10775
Goodmans	11246
Hisense	11535
Hitachi	11250, 10819
HTS	11775, 10775
Hughes Network Systems	11749, 11444, 11443, 11442, 11142, 10749
iLo	11535
Jerrold	10869
JVC	11775, 11170, 10775
LG	11414, 11226
Magnavox	10724, 10722
Memorex	10724
Mitsubishi	10749
Motorola	10869, 10856
NEC	11270
Next Level	10869
Panasonic	10701, 10247
Paysat	10724
Philips	11749, 11442, 11142, 11076, 10819, 10749, 10724, 10722, 10099
Pioneer	11442
Proscan	10566, 10392
Proton	11535
RadioShack	10869
RCA	11392, 10855, 10566, 10392, 10143,
Samsung	11609, 11442, 11377, 11276, 11142, 11109, 11108
Sanyo	11219
Sony	11640, 11639, 10639
Star Choice	10869
Tivo	11444, 11443, 11442, 11142
Toshiba	11749, 11285, 10819, 10790, 10749
UltimateTV	11640, 11392
Uniden	10724, 10722
US Digital	11535
USDTV	11535
Voom	10869
Zenith	11856

Programming Codes, continued

VCRs and DVRs	
Brand	**Code**
ABS	21972
Admiral	20479, 20209, 20048
Adventura	20000
Aiko	20278
Aiwa	20307, 20124, 20037, 20000
Akai	20242, 20175, 20106, 20061, 20041
Alienware	21972
America Action	20278
American High	20035
Asha	20240
Audiovox	20278, 20037
Beaumark	20240
Bell & Howell	20104
Broksonic	20479, 20295, 20209, 20184, 20121, 20002
Calix	20037
Canon	20035
Capehart	20020
Carver	20081
CCE	20278, 20072
Citizen	20278, 20037
Colt	20072
Craig	20271, 20240, 20072, 20047, 20037
Curtis Mathes	20760, 20162, 20060, 20041, 20035
Cybernex	20240
CyberPower	21972
Daewoo	20637, 20561, 20278, 20045, 20020
Daytron	20020
Dell	21972
Denon	20042
DirecTV	20739
Durabrand	20039, 20038
Dynatech	20000
Electrohome	20043, 20037
Electrophonic	20037
Emerex	20032
Emerson	21593, 20637, 20593, 20561, 20479, 20295, 20278, 20212, 20209, 20208, 20184, 20121, 20068, 20061, 20043, 20037, 20036, 20002, 20000
Fisher	20104, 20066, 20054, 20047
Fuji	20035, 20033
Funai	21593, 20593, 20000
Garrard	20000
Gateway	21972
GE	20761, 20760, 20240, 20202, 20060, 20035
Go Video	20643, 20526, 20432, 20240
GoldStar	20038, 20037
Gradiente	20000

VCRs and DVRs	
Brand	**Code**
Harley Davidson	20000
Harman/Kardon	20081, 20075, 20038
Harwood	20072, 20068
Headquarter	20046
Hewlett Packard	21972
HI-Q	20047
Hitachi	20105, 20089, 20042, 20041, 20000
Howard Computers	21972
HP	21972
Hughes Network Systems	20739, 20042
Humax	20739
Hush	21972
iBUYPOWER	21972
Jensen	20041
JVC	21162, 20067, 20041, 20008
KEC	20278, 20037
Kenwood	20067, 20041, 20038
KLH	20072
Kodak	20037, 20035
LG	21037
Linksys	21972
Lloyd's	20208, 20000
Logik	20072
LXI	20037
Magnasonic	20593
Magnavox	20593, 20563, 20149, 20110, 20081, 20039, 20035, 20000
Magnin	20240
Marantz	20081, 20035
Marta	20037
Matsushita	21162, 20162, 20035
Media Center PC	21972
MEI	20035
Memorex	21262, 21162, 21037, 20479, 20307, 20240, 20209, 20162, 20104, 20048, 20047, 20046, 20039, 20037, 20035, 20000
MGA	20240, 20061, 20043
MGN Technology	20240
Microsoft	21972
Mind	21972
Minolta	20105, 20042
Mitsubishi	20443, 20242, 20214, 20173, 20075, 20067, 20061, 20043
Motorola	20048, 20035
MTC	20240, 20000
Multitech	20072, 20000
NEC	20104, 20067, 20041, 20040, 20038
Nikko	20037
Nikon	20034
Niveus Media	21972
Noblex	20240
Northgate	21972
Olympus	20035
Onkyo	20222

Programming Codes, continued

VCRs and DVRs	
Brand	**Code**
Optimus	21262, 21162, 21062, 21048, 20593, 20432, 20162, 20104, 20048, 20037
Optonica	20062
Orion	20479, 20295, 20209, 20184, 20002
Panasonic	21262, 21162, 21062, 20616, 20225, 20162, 20077, 20035
Penney	20240, 20054, 20042, 20040, 20038, 20037, 20035
Pentax	20105, 20042
Philco	20035
Philips	21181, 21081, 20739, 20618, 20110, 20081, 20062, 20035
Pilot	20037
Pioneer	20067
Polk Audio	20081
Portland	20020
Profitronic	20240
Proscan	20761, 20760, 20202, 20060
Protec	20072
Pulsar	20039
Quarter	20046
Quartz	20046
Quasar	21162, 20162, 20077, 20035
RadioShack	21037, 20000
Radix	20037
Randex	20037
RCA	20880, 20761, 20760, 20240, 20202, 20149, 20106, 20105, 20077, 20060, 20042
Realistic	20104, 20066, 20062, 20048, 20047, 20046, 20037, 20035, 20000
ReplayTV	20616, 20614
Ricavision	21972
Ricoh	20034
Runco	20039
Salora	20075
Samsung	20739, 20240, 20045
Samtron	20643
Sanky	20048, 20039
Sansui	20479, 20271, 20209, 20067, 20041, 20000
Sanyo	20240, 20159, 20104, 20047, 20046
Scott	20212, 20210, 20184, 20121, 20045, 20043
Sears	20105, 20104, 20066, 20054, 20047, 20046, 20042, 20037, 20035, 20000
Sharp	20848, 20062, 20048
Shintom	20072
Shogun	20240

VCRs and DVRs	
Brand	**Code**
Singer	20072
Sonic Blue	20616, 20614
Sony	21972, 21032, 20636, 20035, 20034, 20033, 20032, 20000
Stack 9	21972
STS	20042
Sylvania	21593, 20593, 20110, 20081, 20043, 20035, 20000
Symphonic	21593, 20593, 20000
Systemax	21972
Tagar Systems	21972
Tatung	20041
Teac	20041, 20000
Technics	20162, 20035
Teknika	20037, 20035, 20000
Thomas	20000
Tivo	21503, 20739, 20636, 20618
TMK	20240, 20208, 20036
Toshiba	21972, 21503, 21008, 20212, 20210, 20209, 20066, 20045, 20043
Totevision	20240, 20037
Touch	21972
Unitech	20240
Vector	20045
Vector Research	20040, 20038
Video Concepts	20061, 20045, 20040
Videomagic	20037
Videosonic	20240
Viewsonic	21972
Villain	20000
Voodoo	21972
Wards	20760, 20240, 20212, 20149, 20081, 20072, 20062, 20060, 20048, 20047, 20042, 20035, 20000
White Westinghouse	20637, 20209, 20072
XR-1000	20072, 20035, 20000
Yamaha	20038
Zenith	21139, 20637, 20479, 20209, 20039, 20034, 20033, 20000
ZT Group	21972

6

Using the TV with a Personal Computer

Setup

1. See the TV specifications in Appendix B to confirm that your computer video signal is compatible with the TV.
2. Note whether the computer supplies a digital or analog video signal. You will need this information during the setup procedure.
   - Digital video signal: Comes from the computer's DVI or HDMI output.
   - Analog video signal: Comes from the computer's VGA 15-pin output and requires a VGA-to-DVI cable or a VGA cable and VGA/DVI adapter.
3. Power on the TV.

IMPORTANT

In the next step, select the correct video signal type (analog or digital) in the Input Name menu. Otherwise, the TV will be unable to display a picture from the computer.

---
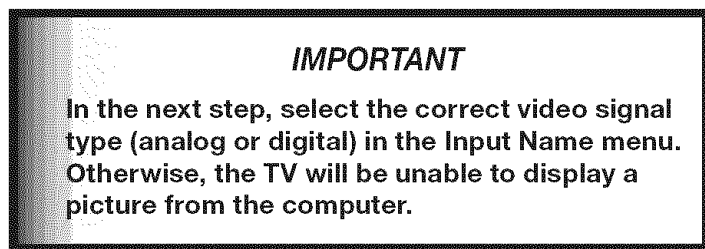
4. Press MENU to open the Main menu, highlight the **Input Name** icon and press ENTER.
5. Highlight the **PC-DVI** text box and press ▼ to change the setting to match your computer's video signal type, either **Digital** or **Analog**.
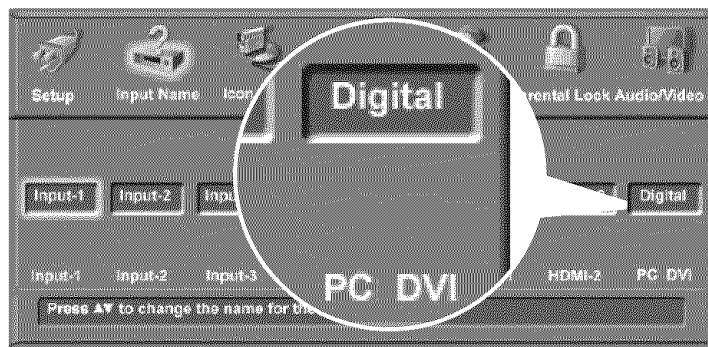
Figure 1. Specify your computer's video signal type (analog or digital) in the Input Name menu.

6. Press EXIT to close all menus.
7. Connect the computer's video output to the TV's **PC-DVI** jack. See the connection diagrams in this chapter to find the method best suited to your equipment.
8. Connect the computer's audio output using one of these options:
   - Connect analog left/right audio to the TV's **PC -DVI AUDIO** jack.
   - If your computer offers digital audio output, connect it to a digital A/V receiver instead.

Video Adjustments

1. Power on the computer if it is not already on.
2. Select **PC** from the Input Selection menu. To do this, press INPUT to open the Input Selection menu, move the highlight to the PC icon, and press ENTER.
3. Change the resolution of the computer image. The goal is to maximize the computer resolution while maintaining a suitable aspect ratio for the image. See the explanation later in this chapter.
4. Perform TV video adjustments. Press VIDEO repeatedly to cycle through the video-adjustment options. The following additional adjustments are available for computer video:

   Auto Position. Press ENTER to automatically center the position of the PC video.

   HorizPosition (Horizontal Position). Manually adjust the horizontal position of the PC. This selection overrides the **Auto Position** selection.

   VertPosition (Vertical Position). Manually adjust the vertical position of the PC. This selection overrides the **Auto Position** selection.

   Fine Detail (analog DVI-A signals only). Manually adjust the picture quality of the PC. This selection overrides the **Auto Position** selection.

5. Change the TV picture format to suit the image. Press FORMAT to cycle through the available picture formats. See the chart later in this chapter showing how various computer resolutions are displayed on the TV.

IMPORTANT

See Appendix B for signal compatibility.

Note

- The **PC-DVI** input on the TV can accept either analog (DVI-A) or digital (DVI-D) signals.
- You must specify the **PC-DVI** setting in the Input Name menu as either **Analog** or **Digital**, depending on the signal type sent by your computer.
- No analog-to-DVI conversion box is required.
- If your computer offers digital audio output, you can connect your computer's digital audio out to a digital input on a digital A/V receiver.

Connecting a Computer to the TV

Computer with DVI Monitor Output

Required: DVI-to-DVI cable, stereo audio cables

If the computer's audio output is a single mini jack, a mini audio-to-RCA-male "Y" adapter cable is also required.

1. Connect the DVI-to-DVI cable from the computer **DVI** output to the **PC-DVI** jack on the TV back panel.
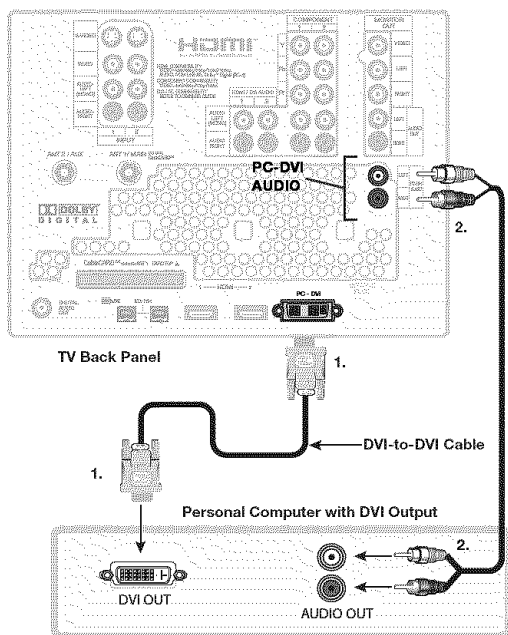2. Connect the left (white) and right (red) audio cables from **AUDIO OUT** on the PC back panel to **PC-DVI AUDIO** on the TV back panel.

Figure 2. Connecting a personal computer with DVI Monitor Output

Computer with HDMI Monitor Output

Required: HDMI-to-DVI cable or an HDMI cable with an HDMI/DVI adapter, stereo audio cables

If the computer's audio output is a single mini jack, a mini audio-to-RCA-male "Y" adapter cable is also required.

1. Connect the computer's **HDMI** output to the TV's **PC-DVI** jack. Use either an HDMI-to-DVI cable or an HDMI cable with an HDMI/DVI adapter.
2. Connect the left (white) and right (red) audio cables from the computer's **AUDIO OUT** to **PC-DVI AUDIO** on the TV back panel.
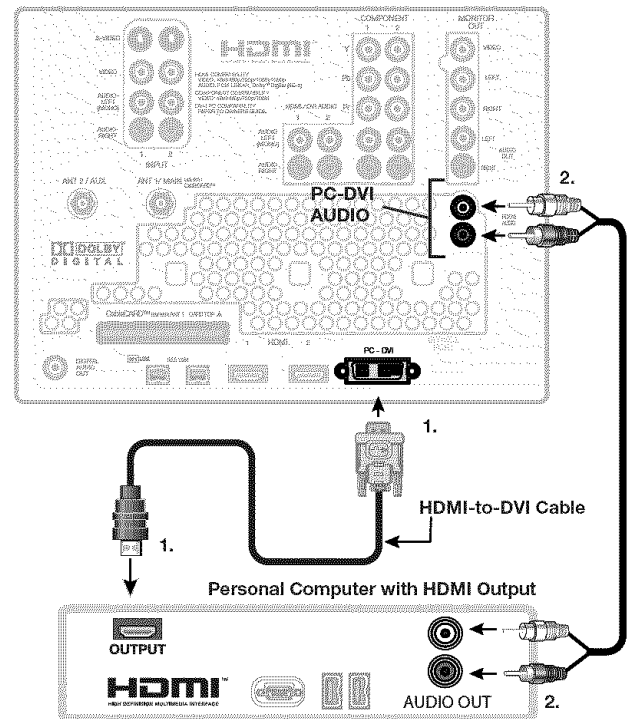
Figure 3. Connecting a personal computer with an HDMI monitor output

Connecting a Computer to the TV, continued

Computer with VGA 15-Pin Monitor Output (Analog Video)

Required: 15-pin computer VGA-to-DVI cable or a VGA computer cable and a DVI/VGA adapter, stereo audio cable.

If the computer's audio output is a single mini jack, a mini audio-to-RCA-male "Y" adapter cable is also required.

> ### IMPORTANT
>
> **To use this connection, you must first select the Analog setting in the PC DVI box of the Input Name menu. See the "Setup" section for more.**

- .   Connect the computer's **PC MONITOR OUT** to **PC-DVI** on the TV back panel. Use either a VGA-to-DVI monitor cable or a VGA computer cable with a VGA/DVI adapter.

2. Connect the left (white) and right (red) audio cables from the computer's analog audio ouput to **PC-DVI AUDIO** on the TV back panel.

VGA-to-DVI Cable

PC MONITOR OUT   L   R   AUDIO

Computer with VGA Monitor Output
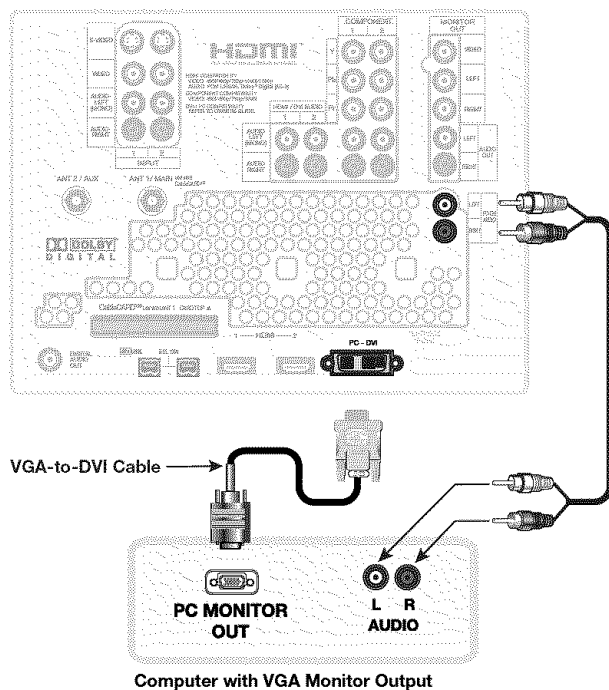
Figure 4. Connecting a computer with a VGA 15-pin monitor output.

Adjusting Image Resolution

Your Mitsubishi TV can display resolutions from standard VGA (640 x 480) through 1920 x 1080 signals at a refresh rate of 60 Hz. Note that 1280 x 1024 and 1920 x 1080 signals are supported only for digital computer signals, and 1920 x 1080 at 24, 30, and 60 Hz. See Appendix B in this book for more on compatible screen resolutions.

In most cases, the computer will select the best resolution match to display on the TV. You can override this setting if you wish. The instructions below are for setting the resolution on most personal computers.

1. In the PC's Start menu, select **Settings**.
2. Select **Control Panel**.
3. Select **Display**.
4. Choose the **Settings** tab.
5. Change the resolution to the highest resolution with the aspect ratio best suited for the image. See the table on the next page showing possible PC formats. Depending on your computer's operating system, adjust the resolution with either:
   - the Screen area slider.
   - the Screen Resolution slider

6. To change the refresh rate, click on the **Advanced** button.
7. On the **Monitor** tab, select a setting from the **Screen refresh rate** drop-down list. The resolution of 1920 x 1080 is supported at 24, 30, and 60 Hz; other resolutions are supported at 60 Hz.

You may need to restart the computer for this change to take effect.

NOTE: Whenever the TV is powered on, the lamp is in use, even if the TV screen appears dark. As a reminder that the TV is powered on and that time is being added to the lamp's elapsed hours, set the computer's screen saver to a pattern that will display after several minutes of inactivity.
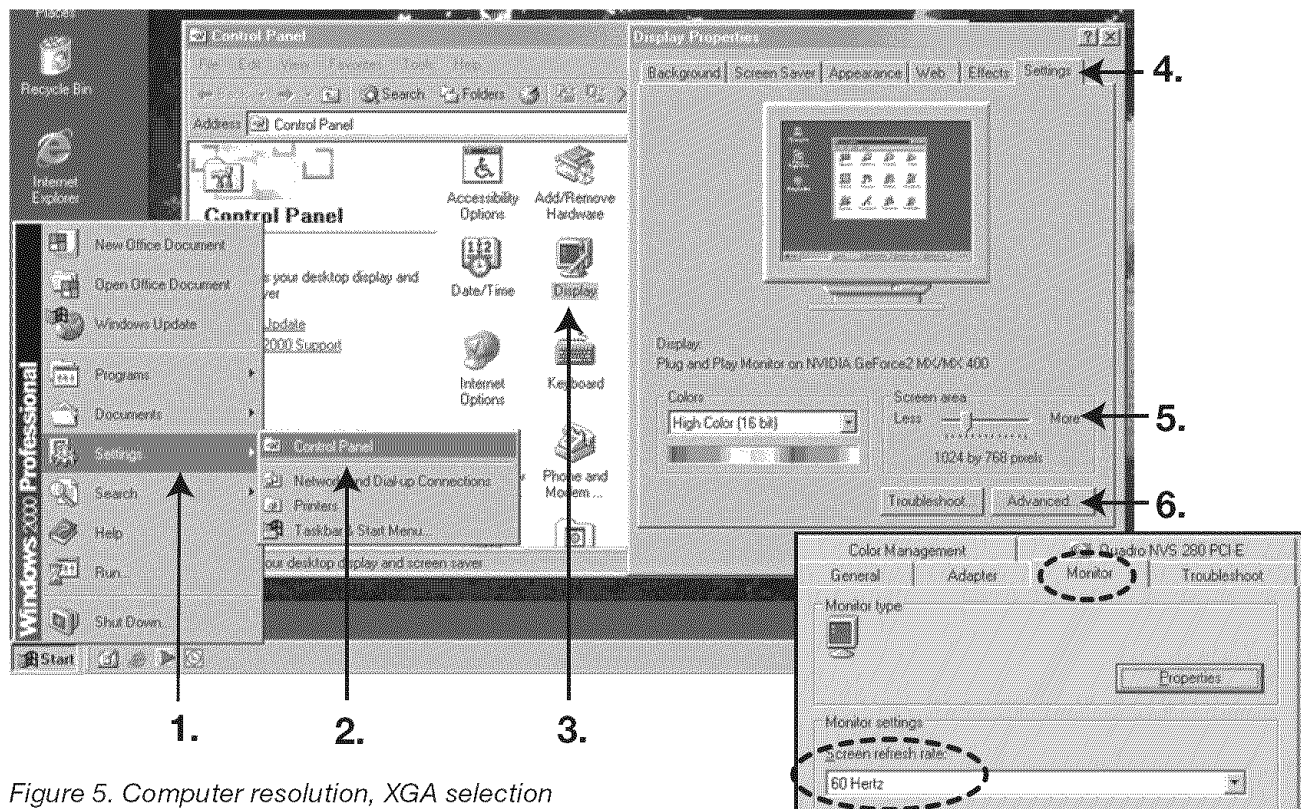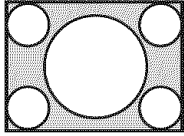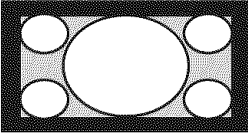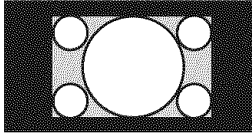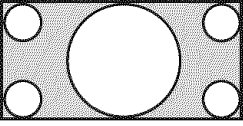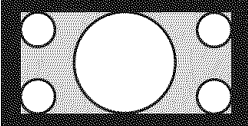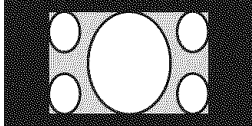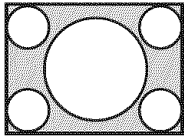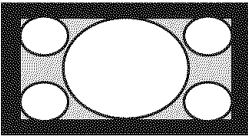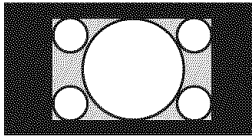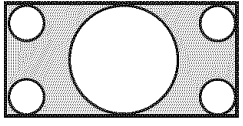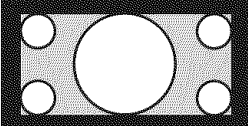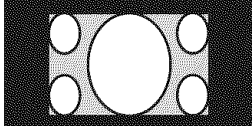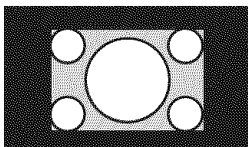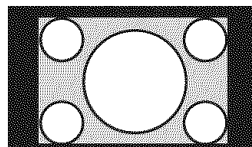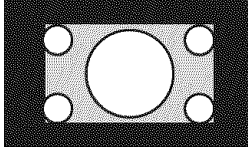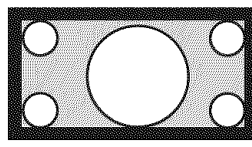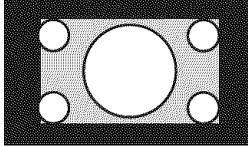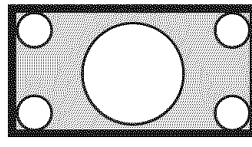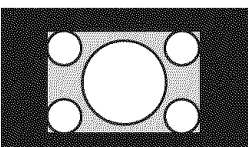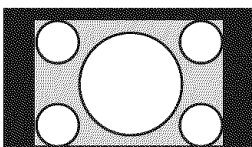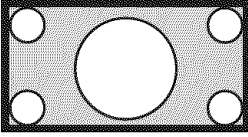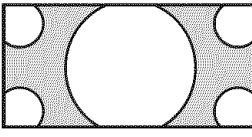

Figure 5. Computer resolution, XGA selection

Computer Display Formats

Repeatedly press the FORMAT key to cycle through the TV displays available for your computer's video signal.

Computer Signal Format	As Displayed on TV Screen 16 X 9 Standard	4 X 3 Standard
VGA 640 X 480		
WVGA 848 X 480		
SVGA 800 X 600		
WSVGA 1064 X 600		

Format	Standard	Zoom
XGA 1024 X 768		
PC 720p 1280 X 720		
WXGA 1365 X 768		

Format	Reduced	Standard
SXGA 1280 X 1024		
PC 1080p 1920 X 1080 (DVI-D signals only)		

7

Using IEEE 1394 Devices

Overview

Compatible IEEE 1394 Devices

Compatible A/V devices include some, but not all, cable boxes, D-VHS VCRs, A/V discs, and future products. Some devices may have IEEE 1394 connectors but are not compatible with the TV. Areas of compatibility to consider are:

1. Digital Video Signals

The TV can decode MPEG2 video as provided by cable boxes and some camcorders. Many camcorders provide DV video, which the TV cannot decode. Connect a DV camcorder to the TV using analog audio plus composite video, S-video, or component video, or use HDMI audio/video. Other types of digital video, such as PC video provided by some computers, must be decoded by the source device and sent to the TV as analog video, S-video, or DVI/HDMI video.

2. Digital Audio Signals

When received with video signals, the TV can decode Dolby Digital signals and MPEG audio signals. Other types of digital audio as provided by some digital recording devices, such as MP3 audio and DTS audio, cannot be decoded by the TV when received over IEEE 1394 connections.

The TV may not be able to pass incompatible digital audio signals on the coaxial digital audio output. These signals may pass to other devices, however, on the IEEE 1394 cable.

3. Digital Control Signal

The TV can serve as the control center for IEEE 1394 audio/video devices, such as VCRs, A/V Discs, tuners, cable boxes, and amplifiers that are compatible with the following IEEE 1394 control standards.

- **EIA-775.** Designed for tuning devices such as cable boxes, allowing the device to send simple graphics. This standard does not, however, allow the TV to control the cable box by IEEE 1394.

- **AV/C (Audio Video Control).** Designed to provide basic controls such as play, stop, channel selection, and volume, as appropriate for the device.

Four-Pin and 6-Pin Connections

There are two different types of connectors used for IEEE 1394 terminals and cables: a 4-pin and a 6-pin type. Both types send the same digital audio, video, and control signals, but the 6-pin connectors can also supply low-voltage electrical power to connected devices. This TV uses only 4-pin type connectors.

A 6-pin connector cannot be connected directly to a 4-pin jack, and vice versa. To connect a 6-pin device to a 4-pin device, use a 6-pin-to-4-pin adapter or adapter cable. These cables are available from electronics and computer stores.
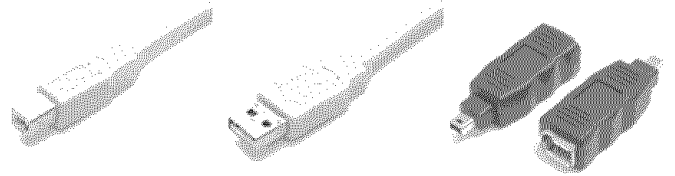
4-pin connector   6-pin connector   6-pin-to-4-pin adapter

If you wish to connect a 6-pin device to the TV (such as a camcorder), and the device is designed to receive electrical power from another 6-pin device, there are several ways to provide electrical power to the device:

- Connect the camcorder directly to the household AC.
- Use the camcorder's battery for power.
- Connect the camcorder directly to another 6-pin device in the network that can provide power.

Connection Methods

There are two connection methods for IEEE 1394 devices. Use the method that fits your network of audio/video products.

Direct Device-To-Device Method

The IEEE 1394 interface allows you to chain devices, unlike audio and video connections that require you to connect each individual device directly to the TV. For example, you can connect your D-VHS to your 1394 A/V disc and then connect the 1394 A/V disc to the TV. The resulting IEEE 1394 chain allows you to add more devices to the chain. You will see an icon for each device in the TV's Input Selection menu and can also send information from any IEEE 1394 device to other compatible devices.
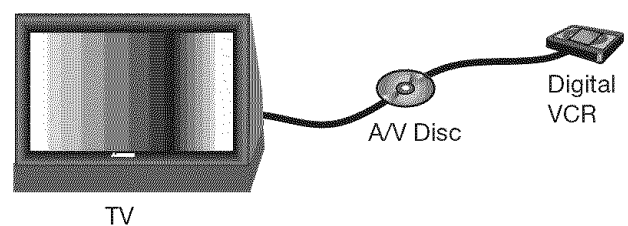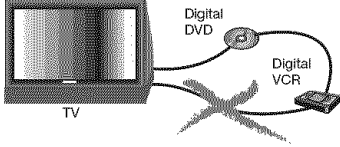

Hub Connection Method

The IEEE 1394 standard allows you to use the TV as a hub within the audio/video network. Each device can send information, which may include audio and video, to any other device in the network.
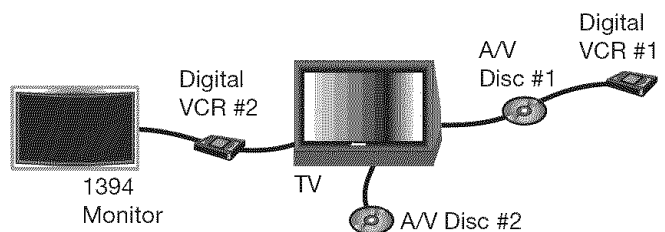
Overview, continued

Tips for Connecting IEEE 1394 Devices

- Do not loop the last device in the chain back to the TV. When the device chain is looped, the TV may not be able to work with the other devices.

- Place devices that have only a mechanical (two-position) power switch at the end of the chain or leave the power switch in the on position. When turned off, IEEE 1394 signals may not be able to pass through the device to other devices.

- Place devices with the slowest communication speed at the end of the chain. Sometimes the communication speed is marked near the IEEE 1394 connector with an "S" number. The higher the number, the faster the communication speed. This TV has a communication speed of s400. Devices with slow communication speeds can interfere with IEEE 1394 signals from faster devices. When setting up a digital recording between a faster device and a slower device, make the slower device the source and make the faster device the recorder.

- Use IEEE 1394 cables 15 feet or less in length between devices.

- This TV is an IEEE 1394a device. It can be used with an IEEE 1394b system when an IEEE-1394a-to-1394b convertor is used. 1394b systems are capable of greater distances and multi-room applications.

- The TV can recognize a maximum of five IEEE 1394 devices.

IEEE 1394 Devices and the Input Selection Menu

Select an IEEE 1394 device to watch from the Input Selection menu just as you would any other device. See figure 3, Input Selection menu.

When you connect an IEEE 1394 device to the TV network and power it on, the new device is automatically detected. Some non-audio/video or incompatible IEEE 1394 devices, such as personal computers (PCs), may not be detected by the TV and do not appear in the Input Selection menu. Such devices can, however, coexist and are still available to other devices on the IEEE 1394 network that are compatible with these non-audio/video devices.

Some devices may be a combination of two or more types of devices, such as a recording device that is also a tuning device. Each portion of the device is called a sub-unit. When you select a device on the Input Selection menu

that has sub-units, a pop-up menu will appear to allow you to select the sub-unit you wish to use.

IEEE 1394 Amplifiers

You can use the TV to control switching between the TV speakers and speakers connected to your IEEE 1394 amplifier.

1. Press INPUT to open the Input Selection menu. The screen will show an icon for a connected IEEE 1394 amplifier. See the Input Selection menu, figure 3.

2. Press AUDIO to move the highlight to the audio section.

3. Press ◄ ► to select either the TV speakers or the IEEE 1394 amplifier.

4. Press ENTER to select and hear the new audio source.

IEEE 1394 Camcorders

- **Control Functions.** Connect the camcorder to the TV's IEEE 1394 jack on the rear of the TV and test using the TV's remote control to operate the camcorder. If your model does not operate properly, use the camcorder's control buttons instead.

- **MPEG Camcorder.** If you are unable to play back over the IEEE 1394 interface, use the analog audio/video connections described in chapter 2, "TV Connections."

- **DV Camcorder.** Connect the camcorder using the analog audio and video connections described in chapter 2, "TV Connections."

TV Back Panel
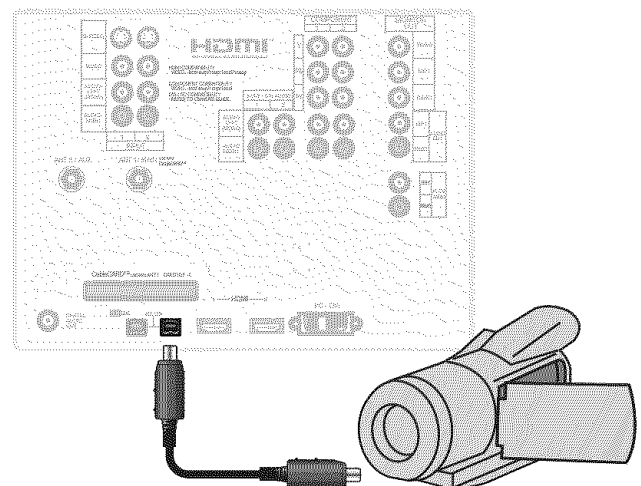
You can connect an IEEE 1394 camcorder with an IEEE 1394 cable or with analog audio/video cables. In either case, test using the TV's remote control to operate the camcorder over the IEEE 1394 cable.

Recording to IEEE 1394 Recordable Devices

You can use the TV to control recording to IEEE 1394 devices. While recording, you can view a program on a different input or power off the TV. The following table lets you see what signals can be recorded to an IEEE 1394 digital VCR or A/V disc.

Recording Availability	Signal Type	TV Input
Can be recorded	Digital channels, including high-definition channels	ANT 1, ANT 2
	Digital signals, including high-definition signals	IEEE 1394 devices
Cannot be recorded	Analog channels	ANT 1, ANT 2
	Analog signals	INPUT 1-3, COMPONENT 1 and 2
	Digital signals	HDMI 1 and 2, PC-DVI

Summary of signal inputs and recording to an IEEE 1394 digital VCR or A/V disc.

There are two ways to record digital content to an IEEE 1394 recordable A/V disc or DVCR:

- From the TV's Recording Setup menu
- From the TV's ChannelView™ channel guide

Immediate Recording from the Recording Setup Menu

Recording Now from the Menu

1. Press ⦿ (RECORD) to open the Recording Setup menu.

Figure 1. The Recording Setup menu

2. Review the recording setup information. Move the highlight to each box you need to change.
   - With the leftmost icon highlighted (the source), press ▲ ▼ to change the source input if needed.
   - **Channel.** If the source is an antenna, select a memorized digital channel using ▲ ▼, CH ∧/∨, or enter the channel number from the remote control.

- **Record To**. If you have more than one recordable IEEE 1394 device connected, use ▲ ▼ to select it from the list in the **Record To** box.
- **Duration**. Use ▲ ▼ to select a recording duration of from 30 minutes to six hours in 30-minute increments. The default is one hour.

3. Press ⦿ a second time to start recording.

Time-Delayed Recording from the Menu

1. Ensure that TV Energy Mode is set to **Fast Power On** and the TV clock is set to the correct time and day. See "Setup Menu" to make changes.

2. Press ⦿ (RECORD) to open the Recording Setup menu.

3. Review the recording setup information. To change the source, recording device, or duration, follow the steps described above under "Recording Now."

4. Specify when to start the recording.
   - **Start Time**
     a. With the hour highlighted in gold characters, press ▲ ▼ to select the hour, including **AM** or **PM**. Press ENTER to move the highlight to the minutes.
     b. With the minutes highlighted, press ▲ ▼ to select the minutes.
   - **Day**. Use ▲ ▼ to select a day of the week.

5. Select **Add** and press ENTER to add the recording to the Record List. A confirmation message will be displayed if your selection is successful. If you pick overlapping times, day(s), or destination devices, you will see a message stating there is a conflict.

6. While the Recording Setup menu is displayed, press GUIDE to view a list of scheduled recordings and verify the addition of the recording to the Record List, figure 2.

7. From the Record List you can:
   - Press GUIDE to return to the Recording Setup menu.
   - Press EXIT to return to TV viewing,

Figure 2. Record List screen. From the Record menu, press GUIDE to open the Record List to review or cancel scheduled recordings.

Recording to IEEE 1394 Recordable Devices, continued

Recording from the ChannelView™ Channel Guide

ChannelView provides program listings, as sent by the broadcasters, for memorized channels on **ANT 1** and **ANT 2**. Press the GUIDE key while watching **ANT 1** or **ANT 2** to view ChannelView listings and to set up immediate or future recordings as described here.

Immediate Recording from ChannelView

1. Press INPUT to open the Input Selection menu. Highlight an **ANT 1** or **ANT 2** program source and press ENTER.
2. Press GUIDE to open the ChannelView channel guide for the current input.
3. Use ▲ ▼ to highlight the channel and program you wish to record from the list of channels.
4. Press ⦿ (RECORD).
   A red "R" temporarily displays next to the program listing to indicate the program will be recorded.
5. Press EXIT to return to TV viewing.

Time-Delayed Recording from ChannelView

Set Up the Recording

1. Ensure that TV Energy Mode is set to **Fast Power On** and the TV clock is set to the correct time and day. See "Setup Menu" in chapter 4, "TV Menu Settings."
2. Perform steps 1 and 2 described above.
3. Press ▲ ▼ to highlight the source channel you wish to record from.
4. Press ▶ to view a list of future programs on that channel.
5. Press ▲ ▼ to highlight a future program.
6. Press ⦿ (RECORD).
   A red "R" temporarily displays next to the program listing to indicate the program will be recorded. You can schedule a maximum of 32 recordings.
7. Press EXIT to close the menu.

Confirm the Recording Setup

1. Press ⦿ (RECORD) to open the Record menu.
2. Press GUIDE to open the Record List (figure 2) and view all scheduled recordings. Press CH ∧/∨ to page quickly through the list.
3. Verify that the program you wish to record appears in the list.
4. Press EXIT to close the menu.

Cancelling Recordings

To Cancel a Recording in Progress

1. Press INPUT to open the Input Selection menu.
2. Move the highlight to the source input icon. There is no need to press ENTER.
   The Input Selection menu displays an icon for an active recording connection to a recordable IEEE 1394 device. See the IEEE 1394 connection icon in figure 3.
3. Press CANCEL. The connection icon will disappear to indicate termination of the recording connection.
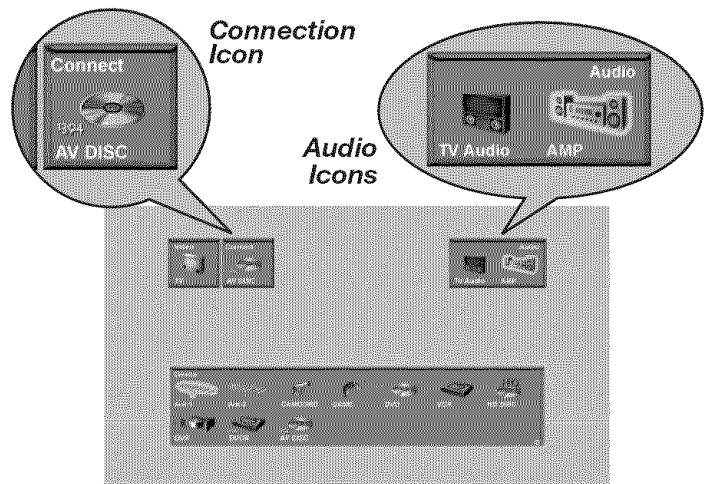4. Press EXIT to return to TV viewing.

Figure 3. The Input Selection menu displays specialized icons for IEEE 1394 devices. The audio icons are displayed only when an IEEE 1394 amplifier is connected.

To Cancel a Scheduled Recording

1. Press ⦿ (RECORD) to open the Record menu.
2. Press GUIDE to open the Record List (figure 2) and view all scheduled recordings. Press CH ∧/∨ to page quickly through the list.
3. Highlight the program you wish to remove from the Record List and press CANCEL.
4. Press EXIT to close the menu.

The TV Remote Control and IEEE 1394 Devices

- For compatible satellite receivers and some cable boxes, the TV remote control **GUIDE** key displays the on-screen programming guide for the receiver or cable box. Press ▲ ▼ ◄ ► and **ENTER** to navigate the displayed program guide.

- For satellite receivers, you may also be able to use the numbers or other additional buttons.

- For an IEEE 1394 cable box or satellite receiver, you can also try using the **CABLE/SAT** position of the TV remote control to see if it can operate the device. If not, use the remote control that came with the device.

To Power On or Off a Compatible IEEE 1394 Device

1. Press **INPUT** to open the Input Selection menu.
2. Move the highlight to the icon for the device. There is no need to press **ENTER**.
3. Press **POWER**.
4. Press **EXIT** to return to TV viewing.

Operation of IEEE 1394 Devices with the TV's Remote Control
(slide switch set to TV position)

Device ➡ Remote Control Key	CABLE/SAT	A/V DISC	DVCR	AMPLIFIER
POWER	Power the device on/off when highlighted in the Input selection menu. See the instructions above.			
CH ∧/∨	Channel up/down	Page up/down (when track list is displayed)	Index search forward/reverse (if supported by DVCR)	
VOL ∧/∨				Volume Up/Down
MUTE				Mute On/Off
0-9 (DIGITS)	Number functions	Search by time (when followed by **ENTER**)		
QV	Last Channel Recall			
EXIT	Exit menus/displays	Exit menus/displays	Exit menus/displays	
ENTER	Enter or select	Enter or select	Enter or select	
CANCEL	Cancel function	Delete recording from Track List	Cancel function or counter reset	
GUIDE	Digital-channel guide (may need to press twice)	Display Track List.		
▲ ▼ ◄ ►	Up/down/left/right	Skip Forward 30 seconds during playback Skip Backwards 12 seconds during playback Skip to end or beginning of program Up/down in track list	Up/down/left/right	
▷ PLAY		Play	Play	
■ STOP		Stop	Stop	
● RECORD		Record	Record	
◄◄ REV		Reverse picture scan or Slow Play	Reverse or Slow Play	
►► FFWD		Fast picture scan or Fast Play	Fast Play	
❙❙ PAUSE		Pause	Pause	

A/V Discs

A/V Disc Track List Screen

When viewing an A/V Disc:

- Press GUIDE to display its Track List (see figure below).
- Press ▲ or ▼ to navigate through the Track List.
- To play a track, select it on the list, then press ENTER.
- Press INFO to view details for a highlighted track.
- To move through listings quickly, press PAGE ∧/∨.
- To delete a track, highlight it and press CANCEL.

Track List for AV DISC			Free Disk Space: 11G	
Channel	Station	Date	Time	Program	Watched
62	KNBC-DT	Su 7/25	8:00 pm	West Wing	N

With the country at a heightened state of alert because suspected terrorists have disappeared, the President wrestles with what message to give his youngest daughter's graduating class at Georgetown.
45 min   6G   COPY FREE

				Chicago Hope	
02.01	KCBS-DT	Su 8/08	5:30 pm	CBS Local News	N
04.01	KNBC-DT	M 8/09	5:30 pm	NBC Evening News	Y
7		M 8/09	8:00 pm		N
1104	KNBC-DT	W 8/11	8:30 pm	NBC Evening News	N

Select a program with the ADJUST keys. Press ENTER to watch the program. Press CANCEL to delete.

Figure 4. A/V Disc Track List screen

A/V Disc Search by Time

While playing an IEEE 1394 A/V disc you can search to a specific time in the recording.

1. Start playing the desired track on the A/V disc.
2. Use the number buttons to enter the time code position of hours followed by minutes. For example, to enter one hour and twenty-two minutes (1:22) into the track, enter 1, 2, 2.
3. Press ENTER to skip to the time code position. To cancel the request or to start over, press CANCEL instead of ENTER.

Copying A/V Disc Recordings

Tracks you record to disc may have copy restrictions assigned to them. To learn a track's copy status, highlight the track in the Track List and press INFO. Tracks are assigned one of these ratings:

Copy Free (or no status shown)	No copy restrictions apply.
Copy Never	The track cannot be transferred to another recording device. Tracks of this type may have an assigned retention period. See below for more information.

Retention Period

Some **COPY NEVER** tracks have a retention period assigned by the content provider. The retention period is the length of time you can keep and view the recording. The initial retention period, if any, is shown next to the copy status in the Track List INFO display (see figure 4). To check how much time remains of the retention period, start viewing the recording and press INFO.

Note: The retention period for all tracks on the disc expires if there is any loss of power to the TV, even momentary. For example, expiration of the retention period will occur if you:

- Unplug the TV from the AC power source.
- Experience a power outage or power fluctuation.

Remember that you can safely turn off TV power using the POWER button without affecting the retention period.

To Copy a Track to Another IEEE 1394 Device

1. Press INPUT on the remote control and press ▲▼ ◄ ► to select the source A/V disc. Press ENTER to open the Track List.
2. Press ▲ or ▼ to select a track. Then press ENTER to start playback.
3. Press ⊞ (PAUSE) to pause playback.
4. Press ⊙ (RECORD) on the TV remote. The Record menu will display.
5. In the **Record To** section, review the destination device (A/V Disc, DVCR). Change if necessary. If moving, leave the other settings unchanged.
6. Press ⊙ a second time to start recording.

Switching Between Analog and Digital IEEE 1394 Outputs

To enable switching between analog and digital outputs, you must have check marked the **Analog Connection** box when the New 1394 Device screen displayed when you first connected the device. See the section "Before You Begin" in chapter 2, "TV Connections."
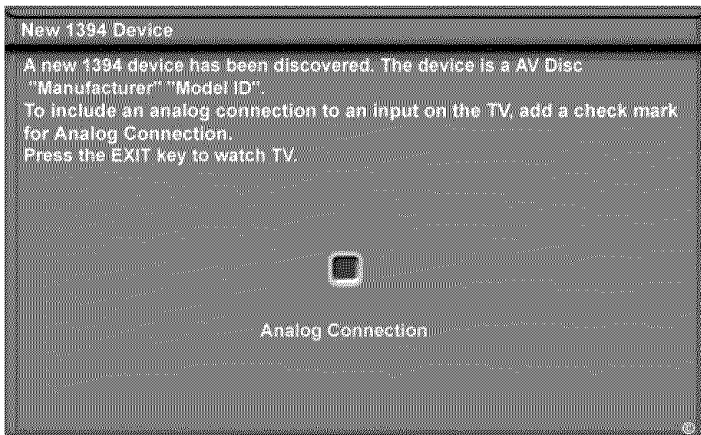

Figure 5. The ClearThought Auto Input sensing screen for IEEE 1394 devices. Place a check in the Analog Connection box if your device has both analog and digital outputs.

1. Press INPUT to display the Input Selection menu.
2. Highlight the icon for the IEEE 1394 device.
3. Press ▲ ▼ to switch between icons representing the analog and digital outputs of the device. See figure 6.

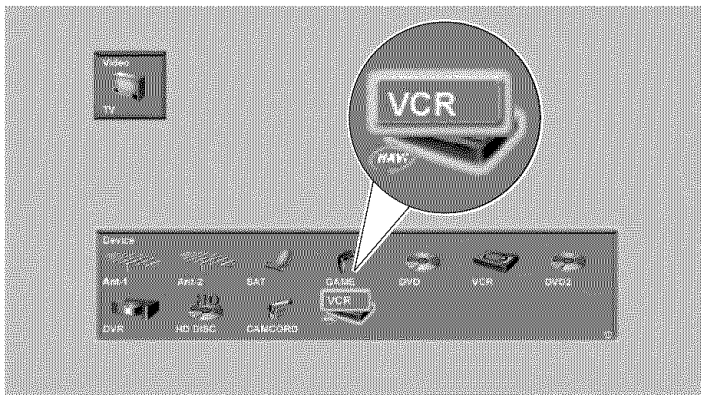*Figure 6. The Input Selection menu shows icons for the analog and digital outputs of the IEEE 1394 device.*

4. Press ENTER to select the device output.

Appendices

Appendix A: Bypassing the Parental Lock

Lock Bypass Instructions Have Been Filed for Future Reference

Bypassing the Parental Lock

After you set the lock, you must use your pass code to view a locked program, view the locked TV, cancel the lock, or enter the Parental Lock menus.

If you forget your pass code, you can view the locked TV without entering your pass code. When you are prompted for your pass code, press the number 9 and QV buttons on the TV remote control at the same time. This process temporarily unlocks the TV

When entering the Parental Lock menu, this process deletes your old pass code and prompts you to enter a new pass code. Press EXIT to exit the menu.

Deactivating the Front Button Lock

Press and hold the MENU button on the TV front panel for over eight seconds. If the TV is off, this action turns it on.

IMPORTANT

Cut along the dotted line and file bypass instructions in a safe place for future reference.

IMPORTANT

When changing or deleting your pass code, you must use the remote control included with this TV. You cannot use a Mitsubishi remote control from another component or a "universal" remote.

Appendix B: Specifications

Picture Technology	
Projection System	DLP, 0.65" chip, 1920 x 1080 pixels with Smooth Picture™
Lamp	150-watt VIP type

Reception		
Channel Frequency Reception	Over-the-Air: VHF 2–13, UHF 14–69 Analog Cable: 1–125 Digital Cable: 1–135	
Channel Type*	Over the Air:	Analog NTSC, Digital ATSC with sub-channels (all 18 video formats)
	Cable:	Analog NTSC (non-scrambled) Digital QAM 64 and 256 with sub-channels (non-scrambled)
	CableCARD™: (WD-52731, WD-65731)	Authorized scrambled and non-scrambled digital channels

* Note for Digital Channels: The channel numbers displayed on screen are determined by the broadcaster or cable company and can vary from the standard frequency number. If there is no channel-number information provided by the broadcaster or cable company, the TV creates a channel number. The created channel number uses the frequency number as the main channel number and the program number as the sub-channel number. When using an authorized CableCARD, the channel numbers are determined by the cable company.

Inputs			
Description	**Qty.**	**Signal Type**	**Input Specifications**
Antenna/Cable input	2	RF	F connector, 75-ohm
HDMI (digital video/audio)	2	HDMI EIA-861B standard for digital audio and video	HDMI standard connector Video: 60 Hz: 480i, 480p, 720p, 1080i 24 Hz, 30 Hz, 60 Hz: 1080p Audio: PCM stereo Note: Not for use with personal computers.
Video/S-Video (one front, two rear)	3	NTSC 480i only	Video: RCA Pin Plug, 1.0 V p-p, 75 ohm S-Video: Four-Pin DIN Plug Y: 1.0 Vp-p 75-ohm C: 0.286 Vp-p (burst signal), 75-ohm
Component Video (Y/Pr/Pb)	2	EIA-770.1 & EIA 770.2 480i, 480p, EIA 770.3 720p and 1080i (video standards)	RCA Pin Plug (EIA-770.3 Standard Levels and Timing) Y: 1.0 Vp-p (includes sync), 75-ohm Pr: 700 mV p-p, 75-ohm Pb: 700 mV p-p, 75-ohm
Audio Inputs	8 pairs	analog left and right audio	RCA Pin Plug 500 mV (full scale), 43-k ohm
PC DVI-I Input	1	analog and digital video	VGA (640 x 480, 60 Hz) W-VGA (848 x 480, 60 Hz) SVGA (800 x 600, 60 Hz) W-SVGA (1064 x 600, 60 Hz) XGA (1024 x 768, 60 Hz) 1280 x 720, 60 Hz
		digital video only	SXGA (1280 x 1024, 60 Hz) 1920 x 1080 (24 Hz, 30 Hz, 60 Hz) WXGA (1360 x 768, 60 Hz)

Appendix B: Specifications, continued

Outputs		
Description	**Qty.**	**Output Specifications**
Video	1	Video: RCA Pin Plug 1.0 Vp-p, 75-ohm Signal Type: NTSC 480i only
Audio (Signal)	2 pairs	RCA Pin Plug, 500 mV rms ± 200 mV (full scale) for analog sources, 1.5 Vrms ± 0.5 Vrms (full scale) for digital sources.
Audio (Speakers)	2	5.5" x 2.2"

Digital Interfaces		
Digital Audio Output	1	RCA Pin Plug, Signal Type, Dolby Digital, PCM
IEEE 1394 (input/output) (2 rear)	2	IEEE 1394 Four-Pin-Type Terminal, S400

Physical Characteristics and Power Consumption					
Model	**Dimensions (inches)**			**Weight**	**Power Consumption**
	Height	**Width**	**Depth**		
WD-52631	33 5/16	47 1/8	17 1/8	77.5 lbs.	250 w
WD-57731	36 3/16	51 1/2	17 15/16	85.8 lbs.	250 w
WD-65731	40 3/4	58 1/2	19 13/16	99.0 lbs.	250 w

IEEE 1394 System Compatibility
* This television is designed to conform to IEEE 1394 AV/C Software standards in effect at the time of development. This networking and control technology is designed to provide high-performance digital connections and product control, making the product easier to use.
* Mitsubishi D-VHS VCRs are fully compatible with this TV in audio, video, and control.
* As other manufacturers distribute products that use the IEEE 1394 AV/C standards, they will be responsible for developing products that meet the standards of the technology, as well as compatibility testing with other products. Mitsubishi cannot be responsible for their efforts, and therefore cannot promise compatibility with these other products. Any compatibility problems with other manufacturers' products should be brought to the attention of those manufacturers.

HDMI
The HDMI input is compliant with EIA-861B standards for standard, extended, and high-definition video; digital audio, and HDCP copy protection. The HDMI inputs on this TV are not intended for use with personal computers or devices outputting video signals with computer resolutions.

Appendix C: Lamp Cartridge Replacement

```
┌─────────────────────────────────────────────┐
│  ⚠        CAUTION        ⚠                   │
│              BURN DANGER!                     │
│   During normal operation, the surfaces inside│
│      the TV near the lamp are extremely hot.  │
│   TOUCH THE LAMP CARTRIDGE BY THE HANDLE ONLY │
│   Do not touch the glass parts of the lamp cartridge. │
└─────────────────────────────────────────────┘
```
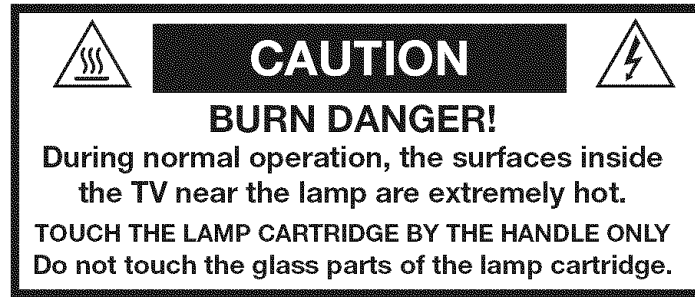
CAUTION: If the television is on, press POWER to turn it off. Unplug the television and allow it to cool for at least one hour before attempting to replace the lamp cartridge.

Lamp Life

The light source for this television is a lamp, which is part of a lamp cartridge assembly. The life of the lamp can vary, based on the lamp itself, the air temperature around the TV while it is operating, and your viewing patterns. Warmer air or poor ventilation shorten the lamp life, as does turning the television on and off frequently. Mitsubishi warrants the lamp for one (1) year from the date of original purchase at retail. It is likely that the lamp will last much longer than this.

Order a new lamp when the TV picture becomes noticeably dimmer. It is best to have a replacement lamp on hand before the existing lamp fails.

To Order A New Lamp

While Under Warranty	After Warranty
Call (800) 553-7278. Please have model number, serial number, and TV purchase date available.	Visit our website at www.mitsuparts.com or call (800) 553-7278. Order lamp part number 915P049010.

WARNING

- Do not remove the lamp cartridge immediately after turning off the television. You may get burned because the lamp is very hot. Allow the television to cool for at least one hour before replacing the lamp cartridge.

- Do not remove the lamp cartridge except when replacing it. Careless treatment can result in injury or fire.

- Do not touch the lamp glass element. It may be very hot and break, causing injuries or burns.

- Be sure not to insert any metal or flammable object into the lamp cartridge opening, as it may cause fire or electrical shock. If a foreign object is inserted into the opening, unplug the AC cord of the TV and contact your dealer for service.

- Install the lamp cartridge securely. Failure to do so may cause a fire.

- Do not touch the lamp glass elements. Oils from your fingers may cause premature lamp failure.

(Hg) = MERCURY   THE LAMP INSIDE THIS PRODUCT CONTAINS MERCURY AND MUST BE RECYCLED OR DISPOSED OF ACCORDING TO LOCAL, STATE OR FEDERAL LAWS. For disposal or recycling information, please contact your local authorities or the Electronic Industries Alliance at **www.eiae.org**

Appendix C: Lamp Cartridge Replacement, continued

> ## WARNING
> THE COVER IS PROVIDED WITH AN INTERLOCK TO
> REDUCE THE RISK OF EXCESSIVE ULTRAVIOLET
> RADIATION. DO NOT DEFEAT ITS PURPOSE
> OR ATTEMPT TO SERVICE THE TV WITHOUT
> REMOVING THE COVER COMPLETELY.

Removing the Old Lamp Cartridge

1. Turn off TV power and allow the lamp to cool at least one hour before proceeding.

2. After the lamp has cooled, remove the cover. Refer to figure 1. Use a #2 (large) Phillips screwdriver to remove the two screws securing the cover. Keep the screws and cover for re-installation

3. With a large flat-blade screwdriver, loosen the two shiny screws securing the lamp cartridge until they disengage from the mating threads. These are captive screws and cannot be separated from the lamp cartridge.

4. Fully open up the bag supplied with the replacement lamp and set the opened bag aside.

5. Gently grasp the handle of the lamp cartridge and pull the old cartridge straight out. See figures 1 and 2.

   CAUTION: Do not tilt or rotate the cartridge, as small glass fragments may fall out.

6. Without tilting or putting down the lamp cartridge, insert it into the opened bag. Close the bag while being careful not to let any glass particles fall out.

Installing the New Lamp Cartridge

1. Do not touch the glass parts of the new lamp cartridge. Insert the new cartridge into the TV using the following guidelines:

   a. Refer to figures 3 and 4 and note the location of the top and bottom guides inside the lamp compartment and the corresponding grooves on the top and underside of the lamp.
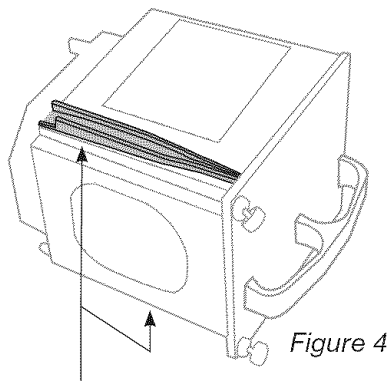
Guides inside the lamp compartment
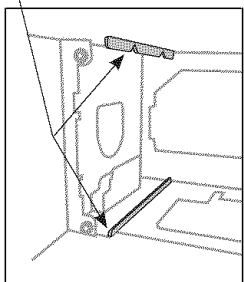
Figure 3

Grooves are on the top and underside of the lamp cartridge
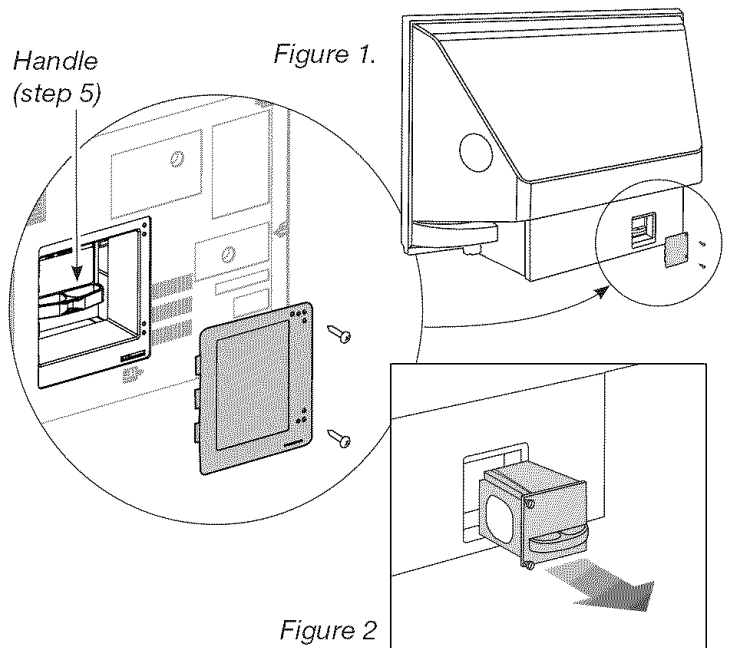
Figure 4

Handle (step 5)

Figure 1.

Figure 2

b. Hold the lamp cartridge level with the lamp compartment, oriented as shown in figure 5.

c. Align the grooves on the cartridge with the top and bottom guides in the lamp compartment. See figure 5.

d. Carefully push in the cartridge until it is fully seated. If the cartridge does not slide in smoothly, gently wiggle the handle from side to side while pushing in.
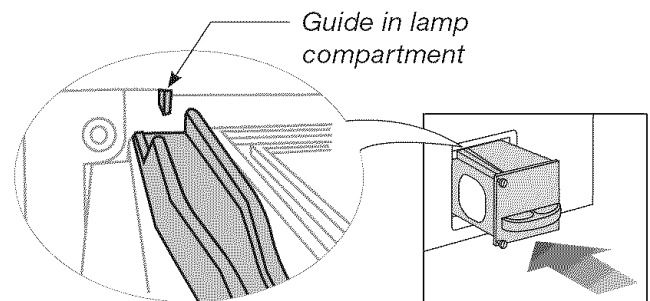
Guide in lamp compartment

Figure 5

2. With either your fingers or the screwdriver, gently tighten the two shiny screws. If using a screwdriver, use only two fingers for final tightening. AVOID OVERTIGHTENING!

3. Replace the plastic cover and retaining screws.

4. WASH YOUR HANDS THOROUGHLY, AS THIS LAMP CONTAINS MERCURY.

Disposal of the Old Lamp Cartridge

Contact your local authorities or the Electronic Industries Alliance at www.eiae.com for lamp-disposal or recycling instructions. Do not dispose of the old lamp with common trash.

Appendix D: Troubleshooting

System Reset Button

If the TV does not respond to the remote control, front panel controls, or will not power on/off, press the SYSTEM RESET button on the front panel with a pointed object, such as the point of a pencil or end tip of a paperclip.

The green LED will flash quickly for about one minute. When the green LED stops flashing, you may turn on the TV. The changes you made most recently, before using SYSTEM RESET, may be lost. Changes you made previously, however, are not lost.

TV Reset Menu

1. Select any device from the Input Selection menu.
2. Press MENU followed by 1 2 3 to open the Reset Service Menu. CAUTION: All settings except V-Chip will be reset to the original factory defaults

Read on-screen warnings before proceeding, as some user data or settings may be erased.

3. Press ENTER to reset TV defaults.

Demo Mode

This TV has a demo mode for use in retail stores. To turn off demo mode:
1. Press MENU.
2. When the Main menu appears with **Setup** highlighted, press ENTER.
3. When the Setup menu opens, press ▶ to highlight the on-screen **Demo Mode Off** button.
4. Press ENTER.

Service and Support

Service

If you are unable to correct a problem with your TV, consult your Mitsubishi dealer or a Mitsubishi Authorized Warranty Service Center.

- DO NOT adjust any controls other than those described in this Owner's Guide.

- DO NOT remove the protective back cover of your TV.

Menus not described and shown in this Owner's Guide are designed for factory use and for authorized service personnel. Damage caused to the TV by unauthorized changes or changes to these menus made by unauthorized persons are not covered under warranty.

Support

- To order replacement or additional remote controls, lamp cartridges, or Owner's Guides, visit our website at www.mitsuparts.com or call (800) 553-7278.

- For questions:
  - call Consumer Relations at 800-332-2119.
  - E-mail: MDEAservice@mdea.com
  - Website: www.mitsubishi-tv.com

Appendix D: Troubleshooting, continued

General TV Operation

	Symptom	Remarks
1.	A fan is running even while the TV is powered off.	Normal TV operation. When the TV is off, internal components continue to draw power and must be cooled by the fan.
2.	The TV remote control does not work.	• Check that the batteries are installed correctly. • Check that the slide switch is set to TV. • Be no more than 20 feet from the TV when using the remote control. • Program the remote control to operate the TV or other device (see chapter 5).
3.	TV does not respond to the remote control or to front panel control and TV will not power on or off.	Use the System Reset button.
4.	When a device is selected from the Input Selection menu, the screen is blue (no signal source).	• Make sure the selected device is turned on. • Begin play of the VCR.
5.	Devices are grayed out in the Input Selection menu or the Split Screen Input Selection menu.	• A recording is in progress. Cancel the recording to select the device. • Digital channels, IEEE 1394 digital devices, and PCs cannot display in the Split Screen sub-picture.
6.	You have forgotten your Parental Lock pass code.	See Appendix A, Bypassing the Parental Lock.
7.	Rating restrictions are not working.	Open the Parental Lock menu and: • Verify that the U.S. Ratings or Other Ratings setting is On. • Check the Lock Time/Unlock Time to check if rating restrictions are disabled. • Rating restrictions apply only to content on ANT 1 and ANT 2, INPUT 1–3, and IEEE 1394 inputs.
8.	On-screen displays appear each time you change a function.	Normal TV operation.
9.	Cable provider needs information to start CableCARD™ service.	On the remote control, press MENU and then enter the numbers 999 to display the Host ID and CableCARD™ ID information.

TV Channels

	Symptom	Remarks
1.	The TV takes several seconds to respond to channel changes.	• It is normal for digital channels to take longer to tune in. • Press ENTER after a channel number to avoid delays. • Use a 4-digit number for an over-the-air digital channel. • Use a 6-digit number for digital cable channels if your cable service is able to recognize 6-digit channel numbers.
2.	You cannot access a channel.	• Use number keys instead of CH ∧/∨. • Be sure the channel you want to view is in memory. See "Channel Menu" in chapter 4, "TV Menu Settings." • Check that the TV is turned to the correct device or antenna for that channel by pressing the INPUT button. • Make sure the Parental Lock is off. • If you cannot tune to a virtual digital channel even though the TV has already memorized digital channels, tune to the actual channel number used by the broadcaster. The virtual channel will then be automatically added to memory.
3.	Name options are not available for some channels.	Only memorized analog channels can be named.
4.	When ChannelView™ list is displayed, information appears incomplete	Available information is sent from the broadcaster or cable provider. No other data is available.

Appendix D: Troubleshooting, continued

TV Power On/Off

	Symptom	Remarks
1.	TV takes an excessively long time to power on.	• When switched on, the TV needs time to boot up, just as a computer does. The TV's lamp also requires a few moments to heat up to full brightness. • TV Energy Mode is set to Low Power. To change TV Energy Mode to Fast Power On: Press MENU, open the Setup menu, highlight the Fast Power On radio button, press ENTER.
2.	You cannot program the TV to turn on automatically (Timer function)	• The TV may be locked. • The clock may not be set. • A time-delayed recording may have started. • TV Energy Mode is set to Low Power. Change to Fast Power On in Setup menu.
3.	The TV will not turn on after being plugged in.	If green light on front panel is blinking, wait for at least one minute for the light to turn off, then press POWER again.
4.	TV turned itself off and the light on the front panel started to blink.	• Momentary power fluctuation caused the TV to turn off to prevent damage. Wait for the green light to stop flashing and turn on again. • If the TV does not stay turned on, use the System Reset button on the front panel. If this happens frequently, obtain an AC line power conditioner/surge protector. • An unusual digital signal may have been received, triggering a protection circuit. Wait for the light to stop flashing and turn TV on.
5	TV will not power off.	Use the System Reset button.

Picture

	Symptom	Remarks
1.	Picture does not look like a high-definition picture.	Not all signals are high-definition signals. To receive high-definition programming from your cable or satellite provider, you must subscribe to the provider's high-definition service. Some over-the-air broadcasts are in high-definition and can be received with a high-quality antenna suited to your location.
2.	Picture is getting dimmer over time.	The lamp is nearing the end of its life. Order a new lamp soon. See Appendix C for ordering information and replacement instructions.
3.	Split Screen does not display a sub-picture.	• Make sure the Parental Lock is off. • Not all inputs can be displayed as a sub-picture.
4.	CableCARD channel is not shown as Split Screen sub-picture when CableCARD channel is the main image.	CableCARD allows only one channel at a time to be used.
5.	There is a large black or gray rectangle on the screen.	The TV's analog closed captioning has been set to "text" mode in the Captions menu. Turn off because there is no text information being broadcast.
6.	You cannot view a picture when playing a VHS tape.	Check your VCR's owner's guide for further troubleshooting.
7.	VCR or DVD player's on-screen menus jitter up and down.	Possible cause: Many VCRs and DVD players provide on-screen menus at only half-resolution. These lower-resolution graphics may appear to jitter up and down when the TV converts them to high-definition graphics.

Appendix D: Troubleshooting, continued

Picture		
	Symptom	**Remarks**
8.	When viewing a stopped VCR, white lines are rolling on the screen.	• Turn off video mute for the VCR. • Begin playing the tape. • Change the VCR input to the antenna input.
9.	Screen is black when trying to view digital channels or IEEE 1394 device.	The PerfectColor™ color balance has been incorrectly set. Press VIDEO repeatedly until you see the PerfectColor option and press ENTER to open the PerfectColor ™ menu.
10.	DVCR analog/digital problems.	If the tape is currently playing but no picture displays, there may be a mismatch of the media with the display. Press INPUT to display the Input Selection menu. Press ENTER for the DVCR device. If digital is selected, try analog, or if analog is selected, try digital.

Indicators		
	Symptom	**Remarks**
1.	Lamp indicator light is a constant red.	Turn the TV off for at least 2 minutes. Turn back on. If light is still red, the lamp has failed. Replace it. See Appendix C for lamp replacement information.
2.	Lamp indicator light is a flashing yellow.	Lamp cover door is open or lamp cartridge is not secure. See Appendix C for lamp replacement information.
3.	Status indicator light is a steady yellow.	Room temperature has exceeded proper levels. Cool the room.
4.	Status indicator light is a steady/flashing red.	Service is required. Contact your dealer or a Mitsubishi Authorized Service Center to arrange for a service evaluation. Listings of Mitsubishi Authorized Service locations can be obtained from our web site, www.mitsubishi-tv.com or by calling 1-800-332-2119.

Sound		
	Symptom	**Remarks**
1.	There is no sound even when the volume is turned up.	• Check if the MUTE button is on. • The TV's "Listen to:" setting may be set to SAP. • Check that the TV Speakers setting is On in the Audio/Video menu. • If using an IEEE 1394 amplifier, check audio source in Input Selection menu.
2.	The sound does not match the screen picture.	• The TV's Listen to: setting may be set to SAP. • If using stereo or A/V receiver speakers, check their input selection. • If using stereo or A/V receiver, check that AUDIO OUT LEFT/RIGHT on TV's back panel is connected to the A/V receiver.

Appendix D: Troubleshooting, continued

IEEE 1394 Recording	
Symptom	**Remarks**
1. Program to be recorded was correctly selected from ChannelView, however, incorrect program was recorded.	The broadcaster supplied program information that was incorrect and/or was changed after a recording was added to the Record List.
2. Incomplete ChannelView program recorded.	Recording device may lack sufficient blank space to make a full recording.
3. ChannelView program recording failed.	• Connection and compatibility issues with IEEE 1394 (FireWire®) digital devices. This may include too many Firewire devices in use at one time, or the recording device not understanding the record command. • Television lost power long enough to lose current clock time. • Analog VCR power was left off. • TV energy Mode was set to Low Power. Change TV Energy mode to Fast Power On. Press MENU, open the Setup menu, highlight the Fast Power On radio button, press ENTER.
4. Cannot record to or from the IEEE 1394 device, including dubbed recordings.	• To initiate a recording to IEEE 1394 device, press the ⊙ (RECORD) key. The Record menu displays allowing setup of the recording. • The source device for the recording is not powered on. • When dubbing, the destination device for the recording is not powered on. • The wrong medium (analog tape for digital recording, or digital tape for the analog recording) is in the device. • The program is copy protected. • The program has already been recorded once and the copy protection only allows one recording. • Unapproved source device for copy protected material. • The recording device can not decode the copyright signal included in the signal source (try another device if available). • The playing device (for dubbing) does not support copyrighted material. • Source for recording is copyrighted • Too many IEEE 1394 devices in network. Insufficient bandwidth available. Disconnect unused devices. • Source Device has higher speed (S 400) than record device. If possible, reverse devices, play in the slower device and record in the faster device.

IEEE 1394 Devices	
Symptom	**Remarks**
1. Excessive digital artifacts appear when viewing an IEEE 1394 device.	• The IEEE 1394 cable is too long; 15 feet between devices is the maximum. • There may be a slow device in the middle of the IEEE 1394 network. Move the slow devices to the end so that connections for faster devices do not pass through them.
2. D-VHS recordings for digital cable have drop-outs (loss of picture or sound), or no playback.	Digital cable signals on IEEE 1394 can exceed the data rate standards supported by DVCR.

Appendix D: Troubleshooting, continued

IEEE 1394 Devices	
Symptom	**Remarks**
3. There is no audio and video from the IEEE 1394 device.	• The device is not turned on. Turn the device power on. • No media (tape or disc) is inserted into the device. • The media is blank (has no recording). • The play command failed - Try pressing play again on the device's remote control or front panel. • The device is already in use (for example, the device is currently recording). • The source is copy-protected or violates copy protection. • The device's digital video signal is not supported by the TV, as may be the case with an IEEE 1394 signal from a computer. Use analog connections instead, if available. • The device is not an audio/video device. • Too many other devices are already communicating over IEEE 1394. Remove or stop some devices and try again.
4. The IEEE 1394 Device is no longer listed in the Input Selection menu.	• The IEEE 1394 plug is disconnected or loose. • The IEEE 1394 device has not been powered on. Turn on. • The device has not been discovered. • The device is not an audio/video device
5. The IEEE 1394 device cannot be selected (is grayed out).	The device may be busy with a recording. Cancel the recording.
6. MENU button does not display a menu.	• The IEEE 1394 device does not provide a menu. • The TV cannot support IEEE 1394 menus.
7. All IEEE 1394 devices disappear.	• The connected devices must not be in a loop that returns to the TV. Make sure a device is connected at the end. • Disconnect all the cables and devices from the TV. Replace them one by one to locate the problem device or cable. • Use System Reset (front control panel).
8. Cannot rediscover a deleted IEEE 1394 device.	The device has been disconnected. Plug it in.
9. An IEEE 1394 device has been plugged in but does not appear in the Input Selection menu (not discovered).	• The IEEE 1394 connection to the TV or another device is not secure or is loose. • The IEEE 1394 device is not powered on. • A device in the IEEE 1394 chain is not powered on. Turn on all the devices. • The device discovery can take as long as a minute to initiate. • IEEE 1394 cable is too long (maximum of 15 feet between devices). • The IEEE 1394 device uses an incompatible protocol and will not be discovered
10. Cannot view video from an IEEE 1394 DV camcorder.	Use analog connections for video and audio. You can still use the IEEE 1394 connection for control functions, however.
11. An IEEE 1394 device is not responding properly.	• Unplug the device's power cord. Wait at least ten seconds and plug it in again. • Some IEEE 1394 devices are not supported by the TV because of incompatible standards.

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Mitsubishi TV Software

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8.   GENERAL. This License Agreement will be governed by the laws of the State of California.

WARNING: This product contains chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm.

Mitsubishi DLP™ Projection Television Limited Warranty

MITSUBISHI DIGITAL ELECTRONICS AMERICA, INC. ("MDEA") warrants as follows to the original purchaser of this television from an authorized MITSUBISHI Audio/Video Dealer, should it prove defective by reason of against defects arising from improper workmanship and/or material:

a. Parts. The lenticular (i.e. front picture) screen is warranted against defects in materials and workmanship for a period of thirty (30) days from the date of the original purchase at retail. The lamp and all other parts (except any software incorporated into this television) are warranted for a period of one (1) year from the date of the original purchase at retail. We will repair or replace, at our option, any defective part without charge for the part. Parts used for replacement may be replaced with those of like kind and quality and may be new or remanufactured. Parts used for replacement are warranted for the remainder of the original warranty period.

b. Embedded Software. MDEA warrants that all software incorporated into this television set (the "Embedded Software") will perform in accordance with the functional description of Embedded Software in all material respects, but MDEA does not warrant that the Embedded Software is error-free. MDEA also does not warrant that the Embedded Software will be compatible under IEEE 1394 AV/C and HAVi software standards with products produced by any other manufacturer. The limited warranty contained in this section shall continue for a period of one (1) year from the date of the original purchase at retail. If, after prompt notice within the warranty period, MDEA determines that the Embedded Software has failed to perform in accordance with such functional description in all material respects and if such failure is not due to accident, misuse, modification or misapplication of the Embedded Software, then MDEA shall modify or replace the nonconforming Embedded Software at no charge to you, which at MDEA's sole discretion may be fulfilled by means of modification or replacement software contained on a replacement memory card for Customer installation. The foregoing shall be MDEA's sole obligation to you under this limited warranty. All rights under this limited warranty on the Embedded Software also subject to your acceptance of and compliance with the terms of the Software License Agreement applicable to this television, and this limited warranty on the Embedded Software shall be null and void if the Embedded Software is modified or changed in any manner except as specifically authorized by MDEA.

c. Labor. For thirty (30) days after the original purchase at retail, we will repair or replace, at our option, the lenticular screen if it proves defective. For certain items that are designed to be replaced by the consumer, including (but not limited to) some Embedded Software, the consumer is solely responsible for any replacement labor. For all other parts, we will provide the labor for a warranty repair by an authorized MITSUBISHI service center without charge for one (1) year from the original date of purchase at retail.

d. Notice. To obtain warranty service, you must notify an authorized MITSUBISHI service center of any defect within the applicable warranty time period.

e. This DLP Projection Television uses a single DLP chip to create the screen image. This technology creates the image using small dots, or picture elements (pixels). Your DLP Projection TV is manufactured to a high level of performance and quality, in fact, 99.99% perfect in the number of properly functioning pixels. As in other display technology, sometimes a pixel is continuously active, inactive or the incorrect color. Our standard is clear; MDEA warrants only that the percentage of properly functioning pixels will be not less than 99.99% of all pixels.

BEFORE REQUESTING SERVICE, please review the instruction booklet to insure proper installation and correct customer control adjustment. If the problem persists please arrange for warranty service.

1. TO OBTAIN WARRANTY SERVICE:

a. Contact your nearest authorized MITSUBISHI service center, whose name and address can be obtained from your MITSUBISHI dealer, by writing at the address provided below, calling MDEA at the 800-332-2119, or by using the support feature of our website at www.Mitsubishi-tv.com.

b. Warranty service will be provided in your home or, if required, at an authorized service shop, provided that your television is located within the geographic territory customarily covered by an authorized MITSUBISHI service center. If not, you must either deliver your television to an authorized service location at your own expense, or pay for any travel and/or transportation costs the service center may charge to and from your home. Actual service labor will be provided without charge.

c. Proof of purchase date from an authorized MITSUBISHI dealer is required when requesting warranty service. Present your sales receipt or other document which establishes proof and date of purchase. THE RETURN OF THE OWNER REGISTRATION CARD IS NOT A CONDITION OF COVERAGE UNDER THIS LIMITED WARRANTY. However, please return the Owner Registration Card so that we can contact you should a question of safety arise which could affect you.

d. To obtain a replacement lamp during the warranty period, please contact the MDEA Consumer Relations Department at (800) 332-2119. After the warranty period you may order the lamp directly from the MDEA Parts Department at (800) 553-7278.

2. THIS LIMITED WARRANTY DOES NOT COVER:

a. Up to .01% pixel outages (small dot picture elements that are dark or incorrectly illuminated).

b. Damage to the lenticular screen or Fresnel lens, screen frame, cosmetic damage or to any other damage where such damage is caused by unauthorized modification, alteration, repairs to or service of the product by anyone other than an authorized MITSUBISHI service center; physical abuse to or misuse of the product (including any failure to carry out any maintenance as described in the Owner's Guide including air filter cleaning or any product damaged by excessive physical or electrical stress); any products that have had a serial number or any part thereof altered, defaced or removed; product use in any manner contrary to the Owner's Guide; freight damage; or any damage caused by acts of God or other factors beyond the reasonable control of MDEA, such as power surge damage caused by electrical system or lightning. This limited warranty also excludes service calls where no defect in the product covered under this warranty is found, service calls related to unsatisfactory audio or visual reception or signal unless caused by a defect in the product that is covered under this limited warranty, all costs, expenses or any other damages arising from product installation, or set-ups, any adjustments of user controls (including contrast, brightness, color, tint, fine tuning, sharpness), other adjustment necessary to prepare the unit for display or use, connection with any external audio receiver, antenna, cable or satellite systems, or service of products purchased or serviced outside the U.S.A. Please consult the operating instructions contained in the Owner's Guide furnished with the product for information regarding user controls.

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6. This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

▲ MITSUBISHI

MITSUBISHI DIGITAL ELECTRONICS AMERICA, INC.
9351 Jeronimo Road
Irvine, CA 92618-1904

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MITSUBISHI ELECTRIC
DIGITAL TELEVISIONS™

Website:
www.mitsubishi-tv.com

E-mail:
MDEAservice@mdea.com

For questions, call Consumer Relations at

800-332-2119

**To order replacement or additional
remote controls, lamp cartridges, or Owner's Guides**

Visit our website at www.mitsuparts.com

or call

800-553-7278

Demo Mode
This TV has a demo mode for use in retail stores. Demo mode causes the TV to display a series of screens outlining the TV's features.

To turn off demo mode:
1. Press MENU.
2. When the Main menu appears with **Setup** highlighted, press ENTER.
3. When the Setup menu opens, press ▶ to highlight the on-screen **Demo Mode Off** button.
4. Press ENTER.

System Reset
If the TV does not respond to the remote control, front panel controls, or will not power on/off, press the SYSTEM RESET button on the front panel with a pointed object, such as the point of a pencil or end tip of a paperclip.
The green LED will flash quickly for about one minute. When the green LED stops flashing, you may turn on the TV. The changes you made most recently, before using SYSTEM RESET, may be lost. Changes you made previously, however, are not lost.