

# **DLP® HIGH-DEFINITION TELEVISION**

# **MODELS**

**C** Series

WD-73C8

735 Series

WD-60735, WD-65735, WD-73735

736 Series

WD-65736, WD-73736

835 Series

WD-65835, WD-73835

# **OWNER'S GUIDE**

- For questions:
  - Visit our website at www.mitsubishi-tv.com.
  - E-mail us at MDEAservice@mdea.com.
  - Call Consumer Relations at 800-332-2119.
- For information on 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 11.



x.v.Color







#### 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 the TV.

MODEL NUMBER	
SERIAL NUMBER	
PURCHASE DATE	
RETAILER NAME	
LOCATION	



# CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN



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



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

**MAINS DISCONNECTION:** The mains plug is used as the disconnect device. The disconnect device shall remain readily operable.

**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, unplug the power cord, and disconnect all cables before moving it.

**WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

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

# **FCC Declaration of Conformity**

Product: Projection Television Receiver

Models: WD-73C8

WD-60735, WD-65735, WD-73735

WD-65736, WD-73736 WD-65835, WD-73835

Responsible Mitsubishi Digital Electronics

Party: 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 interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and 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.

# **Contents**

In	nportant Information About Your TV
	Installation Notes, Operating Notes, Cleaning
	Recommendations 4
	Important Safety Instructions 5
1	Television Overview
	Package Contents 6
	Special Features of Your TV 6
	TV Front Panel
	TV Back Panel
2	TV Setup
	Guidelines for Setting Up and Using Your New
	Widescreen TV
	Installing the Remote Control Batteries 12
	When You First Power On the TV
	Initial TV Setup
	Setting Up TV Inputs
	Controlling A/V Receiver Sound Volume 14
	Using the TV with a Personal Computer 16
_	
3	TV Connections
	Before You Begin
	HDTV Cable Box or Satellite Receiver, DVD
	Player, or Other Device with Component Video . 18
	HDMI Device (Cable Box, Satellite Receiver, DVD
	Player, or Other Device)
	DVI Video Device (Cable Box, Satellite Receiver,
	DVD Player, or Other Device)
	Wall Outlet Cable (no cable box) 20
	Antenna with a Single Lead 20
	Antennas with Separate UHF and VHF Leads 20
	Standard Cable Box, Satellite Receiver, or Other
	Device with S-Video
	VCR to an Antenna or Wall Outlet Cable 21
	VCR to a Cable Box (Audio & Video)
	Older Cable Box
	A/V Receiver (Sound System) Using the TV's
	Audio Output
	A/V Receiver with HDMI Output
	Camcorder
	Audio-Only Device
4	TV Operation and Features
	Choosing a Viewing Source
	Sleep Timer
	Remote Control

ChannelView Channel Listings	. 28
NetCommand for HDMI Devices	. 28
Status Display	. 29
Fav (Favorite Channels)	
TV Signals and Display Formats	
Viewing Camera Files	
JPEG Photos and the USB Photo Port	
Photos and Moving Video as Composite	. 02
Video	. 33
3D Video	
3D Video	. 54
5 TV Menus	
Main Menu	. 35
Remote Control Keys for the TV Menu System .	. 35
AV Menu	
Video Menu	
Audio Menu	
Captions Menu	
Setup Menu	
Inputs Menu	
Lock Menu.	
Pass Codes	
Parent Menu	
Other Menu (Alternate Rating System)	
Bypassing TV Locks	
6 NetCommand IR Control	
About NetCommand IR Control	. 51
IR Emitter Placement	. 52
Initial NetCommand Setup for Most Devices	. 53
Adding or Removing Device Keys from	
NetCommand Control	. 53
NetCommand Specialized Device Keys	. 54
Operating NetCommand-Controlled Devices	. 55
Setting Up NetCommand Control of an A/V	
Receiver	. 57
Appendices	
Appendix A: Specifications	
Appendix B: Bypassing the Parental Lock	
Appendix C: Programming the Remote Control	. 65
Appendix D: Troubleshooting	. 73
Appendix E: Lamp-Cartridge Replacement and	
Cleaning	. 80
Trademark and License Information	. 82
Mitsubishi TV Software	
Warranty	
Index	. 86

#### 5

# **Important Information About Your TV**

#### **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-60735, WD-65735 WD-65736	MB-S60/65
WD-73C8 WD-73735 WD-73736	MB-S73

#### 835 Series Stands

Mitsubishi does not design, manufacture or sell matching bases for 835 series model televisions (WD-65835, WD-73835). When selecting a stand, base or other furniture to support the TV, please make sure it is designed with the appropriate dimensions for stability and to support the TV's total weight as well as the weight of any additional equipment you plan to store.

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.

## **Internal Fans**

Internal cooling fans maintain proper operating temperatures inside the TV. It is normal to hear the fans when you first turn on the TV, during quiet scenes while viewing the TV, and for a short time after shutting off the TV. About thirty seconds after shutting off the TV you may notice the fans getting louder. This is normal during rapid cool-down of the lamp.

# Lamp Replacement

For lamp-replacement instructions, see Appendix E.

**To Order a Replacement Lamp Under Warranty**Call (800) 553-7278. Please have model number, serial number, and TV purchase date available.

Important: All lamps replaced under warranty must be returned to Mitsubishi where they will be inspected for defect verification.

To Purchase a Replacement Lamp After Warranty Visit our website at www.mitsuparts.com or call (800) 553-7278. Order new lamp part number 915B403001.

#### **TV** Software

Do not attempt to update the software of this TV with software or USB drives 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.

# **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.

Occasionally clean dust build-up from the air-intake grilles on the back and sides of the TV. Clean using a vacuum cleaner with a brush attachment.

# 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, nonabrasive cloth.

#### Glossy Surfaces (835 series models)

Use the soft cleaning cloth supplied with the TV.

- Clean the cloth before each use by shaking or brushing to remove any residual dirt particles.
- Gently wipe down the glossy surfaces of your TV with the soft cloth. Do not apply pressure while wiping.
- If necessary, lightly dampen the soft cloth with water.
   Do not use chemical or abrasive cleaners.
- Wash the soft cloth by hand or machine. Use only mild soap.

#### Screen

- Follow the instructions for the top and sides, wiping gently in an up and down motion.
- Clean the entire screen evenly, not just sections of the screen.
- Do not allow liquid to drip down 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 Precautions**

- 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 Safety Instructions**

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 these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



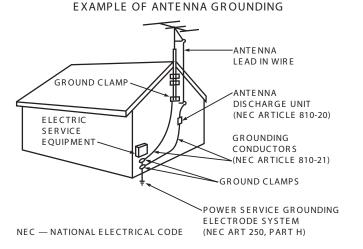
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

# **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.

# **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.



# **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
- Owner's Guide
- 4. Quick Reference Guide
- 5. Quick Connect Guide
- 6. Product Registration Card
- 7. 736 and 835 Series: Two-**Ended IR Emitter**
- 8. 835 Series: Cleaning Cloth for Glossy Surfaces (see instructions under "Cleaning Recommendations," page 4.



# 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:

# 1080p High-Definition DLP Display System

Your Mitsubishi HDTV uses Texas Instruments Digital Light Processing<sup>™</sup> technology for rear-projection TVs to create the picture you see on screen. All images are displayed at 1080p. The TV uses Plush 1080p® to convert lower-resolution signals to 1080p for display. The TV can also accept 1080p original signals and maintain them at 1080p through all processing until displayed.

## 3D Ready

All Mitsubishi 1080p DLP HDTV's are 3D Ready. This feature lets you experience the new 3D technologies applied to many recent movies and video games. Immerse yourself in your favorite video game, movie, or sporting event displayed in 3D.

#### 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**

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

**HDMI Inputs.** These inputs accept digital 480i,

480p, 720p, 1080i, and 1080p video signals plus PCM digital stereo signals. The HDMI™ inputs can also accept a variety of PC signals and resolutions. These inputs support HDMI 1.3 Deep Color (up to 36 bits) and the x.v.Color extended color gamut. Used with an adapter, these inputs also accept compatible digital 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.

# **Easy Connect Auto Input Sensing**

Easy Connect™ Auto Input Sensing 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.

# **Home Theater Control**

## **NetCommand for HDMI**

Available for all models. HDMI devices with Consumer Electronics Control (CEC) capabilities may be compatible with the TV's NetCommand for HDMI feature. Compatible devices can receive control signals through the HDMI connection. The TV's remote control may be able to operate some functions of these devices without any further setup.

# Front Inputs

INPUT 4 is a readily accessible set of input jacks for a camcorder, game, or other audio/video device.

- To view NTSC/480i composite video signals, plug the single composite video cable (usually yellow) into the VIDEO/Y jack.
- To view Y Pb Pr component video in 480i, 480p 720p, or 1080i format, connect cables to the VIDEO/Y, Pb and Pr jacks.
- A convenient fourth HDMI input is provided on 736 and 835 series models.
- A USB photo port lets you view JPEG images.
- Plug stereo audio cables into the AUDIO L and R jacks for sound from connected devices. You can use the audio jacks for sound from a DVI device connected to the HDMI jack or from an audio device playing while viewing photos from the USB



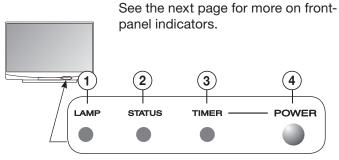
Front inputs on C and 735 series models.



Front inputs on 736 and 835 series models.

#### Front Panel Indicators and Power Button

- 1. LAMP indicator shows lamp condition (usually off during normal TV operation).
- 2. STATUS indicator. Off during normal TV operation.
- **3. POWER/TIMER** indicator. Lit when TV is powered on; flashes when TV is powered off and the auto-on TV Timer is set.
- **4. POWER** button. Turns TV on and off; works the same as the POWER key on the remote control.



Indicator LED lights and POWER button

# **NetCommand with IR Learning**

Available on 736 and 835 series models. Your Mitsubishi HDTV offers a new level of networking that seamlessly integrates selected older A/V products with new and future digital products. NetCommand® supports IR (infrared) control of products such as VCRs, DVD players, cable boxes, and satellite receivers. Net-Command can "learn" remote control signals directly from many devices, allowing you to create a customized NetCommand-controlled home-theater system.

# TV Front Panel

# **Control Panel**

Buttons on the front control panel duplicate commonly used keys on the remote control. The upper labels show control functions when no TV menus are displayed; the

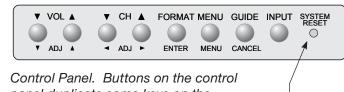
use buttons and inputs on the front panel.

lower labels indicate functions when TV menus are displayed or when a special function has been activated. See "Remote Control," page 26, for a full description of the functions of these buttons.

Flip down cover to

**SYSTEM** 

**RESET** 



panel duplicate some keys on the remote control.

## System Reset Button

If the TV fails to respond to the remote control, control panel buttons, or will not power on/off, press the SYSTEM RESET button on the control panel.

The green LED on the front panel will flash guickly for up to one and a half minutes. When the green LED stops flashing, you may turn on the TV. Recent setting changes you made before using SYSTEM RESET may be 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 control panel at the same time.
- To reset the defaults for individual inputs, use the Reset selection on the AV menu. See "AV Menu," page 36.

#### 1. Television Overview

# **Front-Panel Indicators**

O Off Steady On

Steady On Slow Blinking

Sast Blinking

LAMP	STATUS	TIMER	— POWER

#### **POWER/TIMER Indicator**

LED Color	TV Condition	Additional Information
None O	TV is powered off.	Normal operation.
Green O	TV is powered on.	Normal operation.
Green $\mathbb O$	TV powered off, auto-on timer is set.	Normal operation. TV can be turned on at any time.
Green ©	<ul> <li>TV just plugged into AC outlet.</li> <li>AC just restored after power failure.</li> <li>TV is rebooting after System Reset used.</li> <li>TV is rebooting after power fluctuation or receiving abnormal digital signals from a digital channel or digital device.</li> <li>You have begun the procedure to update software from an authorized flash memory device.</li> </ul>	Wait approximately two minutes for blinking to stop before turning on. Normal operation.

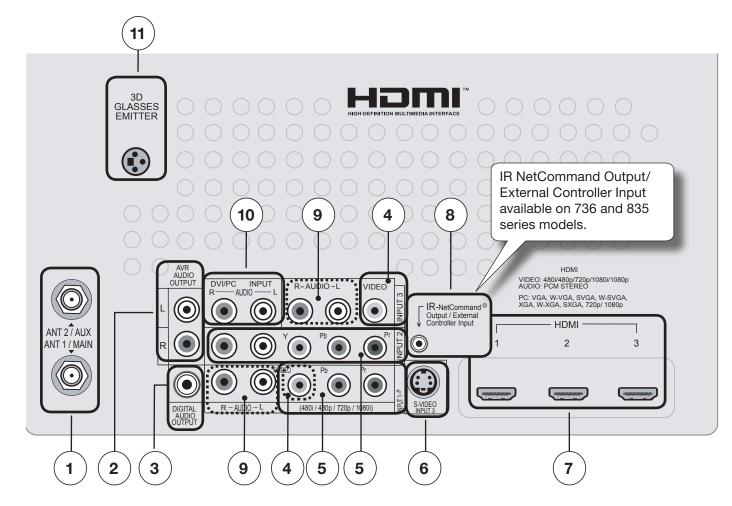
## **STATUS Indicator**

LED Color	TV Condition	Additional Information	
None O	Normal TV on or standby condition.	Normal operation.	
Yellow O	TV is too hot.	<ul> <li>The TV will display a warning message and shut off if it overheats.</li> <li>Ambient room temperature may be too high. Turn off the TV and let the room temperature to drop.</li> <li>Clear blocked air vents. Ensure at least a four-inch clearance on all sides of the TV.</li> <li>Clean the lamp-cartridge air filter. See Appendix E.</li> </ul>	
Red 0	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. See Appendix D. If the LED is still on, contact your dealer or a Mitsubishi Authorized Service Center. Go to www.mitsubishi-tv.com or call 1-800-332-2119 to receive Authorized Service Center information.	

#### **LAMP Indicator**

LED Color	TV Condition	Additional Information	
None O	Normal TV on or standby condition.	Normal operation.	
Green	TV just powered off and lamp is cooling.	Starts to blink 60 seconds after turning off TV. TV can be turned back on before blinking starts or after blinking stops, but not while the indicator is blinking. Normal operation.	
I CITOW C		TV will not operate until lamp access door is secure. See Appendix E for installation information.	
	2. No lamp installed.	TV will not operate without a lamp. See Appendix E for installation information.	
Red O	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 E for installation information.	

# TV Back Panel



# 1. ANT 1/ANT 2 (Antenna)

If you are connecting an antenna or direct cable service without a cable box, connect the main antenna or cable source to **ANT 1**. Use **ANT 2** for a second source.

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

# 2. AVR AUDIO OUTPUT

Use **AVR AUDIO OUTPUT** to send analog audio of the program currently shown on the screen to an analog A/V surround sound receiver or stereo system. Digital audio from digital channels and HDMI devices is converted to analog audio by the TV. This is the only audio connection needed between it and the TV if using an analog A/V receiver or stereo system.

## 3. DIGITAL AUDIO OUTPUT

This output sends Dolby Digital or PCM digital audio to your digital A/V surround sound receiver. Analog audio from analog channels and devices and HDMI 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.

# 4. Composite Video (INPUT 1, INPUT 3)

Use the **VIDEO** jacks to connect a VCR, DVD player, standard satellite receiver, or other A/V device to the TV. Use the adjacent **AUDIO R** and **L** inputs for **INPUT 1** or **INPUT 3** if you wish to send audio to the TV. Note that the **INPUT 3** composite video jack is automatically disabled when you connect to **S-VIDEO** (item 6).

# 5. Component Video (INPUT 1, INPUT 2)

Y Pb Pr Component Video (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. Use the adjacent AUDIO R and L jacks for INPUT 1 or INPUT 2 if you wish to send audio to the TV. See Appendix A specifications for signal compatibility.

# TV Back Panel, continued

# 6. S-VIDEO (INPUT 3)

Connect an S-Video device to this input. Use the **AUDIO R** and **L** jacks for **INPUT 3** (item **9**) if you wish to send audio to the TV.

# 7. HDMI™ Inputs (High-Definition Multimedia Interface)

The HDMI inputs support uncompressed standard and high-definition digital video formats and PCM digital stereo audio.

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

Mitsubishi recommends you use category 2 HDMI cables, also called high-speed HDMI cables, to connect HDMI 1.3 source devices. High-speed category 2 cables bring you the full benefits of Deep Color and **x.v.Color**.

These HDMI inputs can also accept digital DVI video signals. To connect a device's DVI output to the TV's HDMI input, use an HDMI-to-DVI adapter or cable plus analog audio cables. Connect the analog audio cables to the **DVI/PC INPUT AUDIO** jacks (item **10**) on the TV to receive left and right stereo audio from your DVI device.

The TV's HDMI inputs are compatible with many DVI-D and HDMI computer video signals. For additional information on PC compatibility, see "Using the TV with a Personal Computer," page 16, and Appendix A, "Specifications," page 62.

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

These inputs are *SimplayHo* certified for proper interoperability with other products certified by Simplay<sup>™</sup>.

# 8. IR NetCommand Output/External Controller Input

736 and 835 series models. IR emitters connected to this jack are used by the TV's NetCommand system to send control signals to external IR remote-controlled devices such as cable boxes, VCRs, DVD players, satellite receivers and audio receivers.

When NetCommand is not being used, this jack can be switched to receive wired IR control signals from external system controllers. To switch this jack for use as an input, connect the external controller's IR output to this jack, then with the TV remote:

- **1.** Press **MENU** to display the TV menu.
- **2.** Enter the number sequence 2, 4, 7, 0 to display the *Installer* menu.

# **HDMI Cable Categories**

HDMI cables are available as Category 1 and Category 2 types.

- Category 2 Cables (also called high-speed HDMI cables). Newer, HDMI 1.3-compliant DVD players, video games, and set-top boxes require Category 2 cables, suitable for clock frequencies up to 340 MHz or data rates of up to 10.2 gigabits per second. Use category 2 cables for high-speed 1080p HD signals carrying extended color encodings (i.e., 30 or more bits, also called Deep Color). Category 2 cables are also suitable for standard HDTV signals.
- Category 1 Cables (also called standard HDMI cables). Category 1 cables may be unmarked.
  They are suitable for standard HDTV 720p,
  1080i, and 1080p signals with 8-bit color depth.
  Use category 1 cables for clock frequencies up to 74.25 MHz or data rates of up to 2.23 gigabits per second.
- 3. Highlight the **WIRED IR** selection and press ENTER to change the setting from **OFF** to **ON**.

If the IR device is disconnected at any time when the TV is turned on, the setting returns to the NetCommand mode (**OFF**).

**Note:** When the **WIRED IR** option is set to **ON** (control by an external device), the **Low Power** setting for Energy Mode is unavailable.

# 9. AUDIO L and R (INPUT 1, INPUT 3)

These are analog stereo inputs shared by more than one video input.

- INPUT 1 stereo audio jacks are for use with INPUT 1 composite video (single yellow cable) or component video (Y Pb Pr cables).
- INPUT 3 stereo audio jacks are for use with INPUT 3 composite video or S-Video.

#### 10. DVI/PC INPUT AUDIO

Use the **DVI/PC INPUT AUDIO** jack when connecting a DVI device to one of the TV's HDMI inputs using a DVI-to-HDMI cable. These jacks allow you to send left and right analog audio from your computer or other DVI device to the TV.

## 11. 3D GLASSES EMITTER

Use this jack to connect the special IR emitter supplied with 3D glasses. The emitter will send a signal that synchronizes your 3D glasses with the screen display.

# 2

# TV Set-Up

# Guidelines for Setting Up and Using Your New Widescreen TV

## **Getting Started**

- **1.** Review the important safety, installation, and operating information at the beginning of this book.
- 2. Choose a location for your TV.
  - Allow at least four inches of space on all sides of the TV to help prevent overheating. Overheating may cause premature failure of the TV as well as shortened lamp life.
  - 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 the next page for instructions. See page 26. For more on use of the remote control.
- **4.** Plug your TV into a power outlet. The green LED on the front of the TV will start blinking rapidly. After the green LED 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.** Connect your audio/video (A/V) devices to the TV and perform initial setup.
  - See chapter 3, "TV Connections," for connection diagrams.
  - See the following pages for initial TV setup and use of the Auto Input Sensing feature.
  - To connect the TV to a personal computer, see "Using the TV with a Personal Computer," page 16.
  - 736 and 835 series models: See chapter 6, "NetCommand IR Control," to perform Net-Command IR "learning" to set up control of your home theater.
- Mitsubishi recommends you perform a channel scan for channels received on ANT 1 and ANT 2.
   See "Initial TV Setup" page 13,
- **8.** You can now start watching TV or you can perform additional setup and customization through the TV menus.

# **TV** Operation

- **1.** Review chapter 4, "TV Operation and Features," 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 "Choosing a Viewing Source," page 25
  - Program Listings. Press GUIDE to see ChannelView™ listings for programs on ANT 1 and ANT 2. See "ChannelView Channel Listings," page 28
  - **Picture Formats.** Press FORMAT to cycle through picture sizes and shapes to find the one best suited to the current program. See "TV Signals and Display Formats," page 31.
- 2. To view still and moving digital camera images on the TV, see page 32, "Viewing Camera Files."
- **3.** 736 and 835 series models: To control A/V devices with NetCommand, see page 55, "Operating NetCommand-Controlled Devices."

# **Additional TV Setup**

- 1. Review chapter 5, "TV Menus," to customize TV operation. Press the MENU key to enter the menu system. Some examples of settings you may wish to change include:
  - Fav. Use an on-screen menu to create custom lists of your favorite channels from ANT 1 and ANT 2. See Setup > Edit, page 43.
  - Order. Rearrange the device icons in the Input Selection menu to put frequently used icons near the front. See Inputs > Order, page 47.
  - Name. Change the device types that appear in the *Input Selection* menu. See *Inputs* > *Name* options, page 47.
  - Parental Locks. Restrict TV viewing by program rating, by channel, or by time of day. You can also disable the control-panel buttons if you have small children.
    - To restrict TV use by program rating, see the *Lock* > *Parent* menu, page 49.

- To lock the control-panel buttons, use the Lock > Control Panel menu, page 50.
- To restrict TV use by channel, see Setup > Edit > Lock, page 43.
- Video Settings. Change video adjustments to get the best picture for your viewing conditions. See "AV Menu," page 36.

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

2. To program the remote control to operate A/V devices not under NetCommand control, see Appendix C, "Programming the Remote Control."

#### TV Care

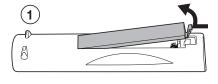
- Lamp Cartridge. When the lamp cartridge needs replacement, replace the lamp yourself and save the cost of a service call. See Appendix E for instructions.
- **General Cleaning.** See "Cleaning Recommendations," page 4.

## **Assistance**

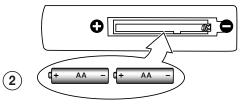
- For troubleshooting, service, and product support, see Appendix D.
- For warranty information, see the TV warranty on page 84.

# Installing the Remote Control Batteries

- 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.



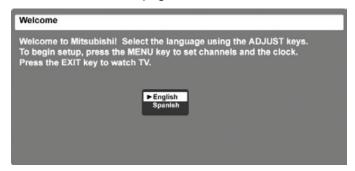
The remote control requires two AA alkaline batteries.



## When You First Power On the TV

# **Choosing a Language for Menus**

- 1. Power on the TV for the first time.
- Press ▲ ▼ to select either English or Spanish
  for all menus. You can later change the language
  selection through the Setup > Language menu
  described on this page.



When you first power on the TV, the Welcome screen lets you change the menu language.

# **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 control panel of the TV.

#### If You Turn Off the TV by Mistake

- 1. Press POWER again within about 60 seconds, while the lamp is still hot, to have the TV come back on immediately.
- 2. If the LAMP indicator starts blinking (about 60 seconds after you shut off power), wait a few moments for the LAMP indicator to stop blinking and press POWER to turn the TV on again.

# Initial TV Setup

Use the **Setup** menu for basic TV setup options.

- 1. Press MENU to open the *Main* menu.
- Press ▼ to highlight the Setup icon and display the Setup menu.

# **Changing the Menu Language**

Choose to display on-screen menus in either English or Spanish.

- **1.** With the **Setup** menu displayed, press ▶ to highlight the Language icon.
- 2. Press ▲ ▼ to highlight either English or Spanish.
- Press MENU to return the highlight to the top row of icons.

# Initial TV Setup, continued



Select a menu language in the Setup menu.

# **Memorizing Channels**

For ANT 1 and ANT 2

#### To start channel memorization

 With the Setup menu displayed, press ➤ to highlight the Scan icon.



Start channel memorization from the Setup menu.

2. Press ▲ ▼ to highlight an input selection based on your connections:

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

- 3. Press ▶ to highlight the on-screen **START** button.
- Press ENTER to start automatic channel memorization

# To stop channel memorization before completion, press CANCEL.

- **5.** When memorization is complete you can:
  - Press MENU once to return to the top row of icons.
  - Press MENU again to return to the *Main* menu.
  - Press EXIT to watch TV.

#### After channels have been memorized:

- To tune to memorized channels, press CH ^/∨
   while watching TV on the ANT 1 or ANT 2 inputs.
- Use the **Setup** > **Edit** menu (page 43) for additional channel options, such as adding or deleting chan-

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

See chapter 5, "TV Menu Settings," to:

- Set the TV clock (page 44)
- Set the TV Timer (page 45)
- Select an Energy Mode to manage power use while the TV is off (page 46)
- Select a lamp brightness mode (page 46)
- Enable 3D video (pages 34 and 46)

# Setting Up TV Inputs

#### When You First Connect a Device

The TV's Easy Connect™ Auto Input Sensing feature detects most connections automatically.

**Note:** For connection and setup of a personal computer, see the information on page 16.

# Auto Input Sensing for Most Devices

When you first connect a device, the TV will:

- Detect the connected device and automatically switch to it
- b. Prompt you to identify the device type
- c. Prompt you to perform NetCommand set-up for the device, if available (736 and 835 series only)
- d. Repeat these steps for any additional newly detected devices

See below for connections which trigger Auto Input Sensing.

# **Auto Input Sensing Available**

**VIDEO** (detected as composite video)

Y plus Pb (detected as component video)

S-VIDEO

#### HDMI\*

**USB** (USB photo port on front)

# Auto Output Sensing Available

#### **DIGITAL AUDIO OUTPUT**

AVR AUDIO OUTPUT red jack

# No Auto Sensing

# ANT 1 and ANT 2

\* If the device is powered off when connected, detection occurs when the device is next powered on.

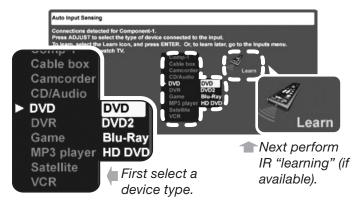
#### Auto Input Sensing for CEC Devices

Most devices with CEC capabilities enabled are recognized and identified automatically by the TV. This TV's NetCommand for HDMI feature (available on all models) may allow you to control some or all functions of a CEC-enabled device without further setup. See "NetCommand for HDMI Devices," page 28 and check the device's owner's manual for instruction on enabling CEC.

# Setting Up TV Inputs, continued

# Setup Procedure

Connect your devices to the TV, making note
of which TV input is used for each device. See
chapter 3, "TV Connections." The TV and the
devices can be either on or off when connecting.



# Sample Auto Input Sensing screen

- Power on the TV if not already on. When the TV detects a connection, the *Auto Input Sensing* screen opens.
  - Most Device Types: Specify the device type.
    - a. In the Auto Input Sensing screen, press ▲ ▼ to move through the device list to select the device type connected to the input. The device type you select here will appear as an icon in the Input Selection menu.
    - T36 and 835 Series Models: To perform NetCommand "learning" after selecting the device type, highlight the Learn icon and press ENTER. See chapter "Initial NetCommand Setup for Most Devices," page 53.
  - A/V Receiver: The TV can detect audio connections on the DIGITAL AUDIO OUTPUT jack and the right (red) analog AVR AUDIO OUTPUT jack.
    - **736 and 835 Series Models:** To perform NetCommand "learning" now, highlight the Learn icon in the *Auto Output Sensing* screen and press ENTER. See "Setting Up NetCommand Control of an A/V Receiver," page 57.
  - HDMI Devices Compatible with the TV's
    NetCommand for HDMI Feature (all models):
    Compatible HDMI devices with CEC enabled are
    often recognized automatically by the TV. After connecting the device, you may briefly see the standard
    Auto Input Sensing screen shown above before
    the TV recognizes the device type. The TV's remote
    control may operate some device functions without
    further setup. To add control over more functions:
    - **All Models:** Program the TV's remote control to operate the device.

- 736 and 835 Series Models: Perform
   NetCommand IR "learning" to add functions.
- Press EXIT to close the Auto Input Sensing screen. The TV will then display the Auto Input Sensing screen for the next connection it finds.

# **More About Auto Input Sensing**

- Choose a different name for each input.
- Antenna inputs (ANT 1/ANT 2) are never detected, although you can turn off unused antenna inputs in the Inputs > Name menu.
- You can change the device type at a later time using the *Inputs* > *Name* menu (page 47). Any "learned" NetCom-mand IR codes will be erased, however.

# **Changing Devices on an HDMI Input:**

- 1. Disconnect the HDMI device.
- 2. Turn off the HDMI input in the *Inputs* > *Name* menu.
- Connect the new device and the Auto Input Sensing screen will display. If you want the device under NetCommand IR control, perform NetCommand "learning" for the new device.

# Note for Analog A/V Receivers

When you disconnect an analog A/V receiver, be sure to manually change the Speakers setting to TV to hear sound from the TV speakers.

# Controlling A/V Receiver Sound Volume

Although the TV detects when you connect an A/V receiver, you must use one of the methods below to control sound volume from the A/V receiver.

#### With a Standard TV Setup (all models)

- Recommended Method: Program the TV's remote control for your A/V receiver and enable the Audio Lock feature. See Appendix C, page 65.
- Program the TV's remote control for your A/V receiver and set the TV remote's slide switch to the AUDIO position to control A/V receiver volume. Set the switch back to the TV position to control the TV.
- Use the remote control that came with the A/V receiver.

#### With an HDMI CEC-enabled A/V Receiver (all models)

The TV's remote control may control some or all functions of the A/V receiver without further setup. Connect the A/V receiver to the TV with an HDMI cable and test the TV's remote control with the slide switch in the **TV** position.

# With NetCommand Control of an A/V Receiver (736 and 835 series models)

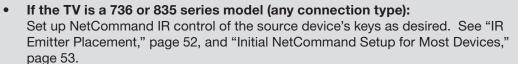
- Set up NetCommand control of the A/V receiver's volume functions in the *Inputs* > *AVR* menu. The TV's remote will then automatically control A/V receiver volume. See page 57.
- Use any of the methods described for the standard TV setup.

# **About Home-Theater Control Systems**

This summary outlines the control methods available using the **TV's remote control**. You may wish to use one or more of these methods for your home theater.

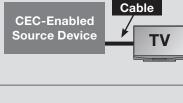
# Case 1: The source device you want to control is connected directly to the TV

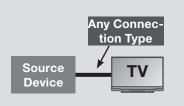
- If the source device has CEC capability:
  - a. Check the device's owner's guide and enable the device's CEC functionality before connecting to the TV's HDMI input. Wait for the TV to recognize the device and switch to it.
  - b. Experiment with the TV's remote control (slide switch set to TV) to determine which device functions it can operate. See "NetCommand for HDMI Devices" on page 28.



For any TV model (any connection type):

Program the remote control to operate the source device. To control the device, set the slide switch to the correct position for the device type. See Appendix C, "Programming the Remote Control."

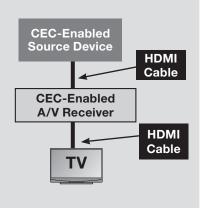




# Case 2: The source device you want to control is connected to an A/V receiver connected to the TV

- If the A/V receiver has CEC capability:
  - a. Check the A/V receiver's owner's guide and enable the A/V receiver's CEC functionality before connecting to the TV's HDMI input. Wait for the TV to recognize the device and switch to it.
  - b. Try using the TV's remote control to operate volume and mute functions. See "NetCommand for HDMI Devices" on page 28.
  - c. If the connected source device has CEC capability:
    - i) Enable the device's CEC functionality before connecting to the A/V receiver's HDMI input. Wait for the TV to recognize the device and switch to it.
    - ii) Test using the TV's remote control to determine which device functions it can operate.

**Note:** If the source device is connected to the A/V receiver by another connection type (e.g., component video, S-video), see the alternative control methods below.



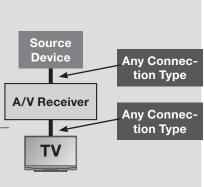
# • If the TV is a 736 or 835 series model (any connection type):

- a. Set up NetCommand IR control of the A/V receiver's keys as desired. See "IR Emitter Placement," page 52, and "Setting Up NetCommand Control of an A/V Receiver," page 57.
- b. Set up NetCommand IR control of the **source device's** keys as desired. See "Initial NetCommand Setup for Most Devices," page 53.

For the special case of NetCommand IR control of a device connected to an HDMI A/V receiver, see "NetCommand IR Control of a Device Connected to an A/V Receiver with HDMI Output," page 61.

# For any TV model (any connection type)

- a. See Appendix C, "Programming the Remote Control."
- Program the remote control to operate the A/V receiver. To control the A/V receiver, set the slide switch to AUDIO.
- c. Program the remote control to operate the **source device**. To control the device, set the slide switch to the correct position for the device type.



# Using the TV with a Personal Computer

# Connecting a Computer to the TV

Use one of the connection methods listed below based on your computer's video output.

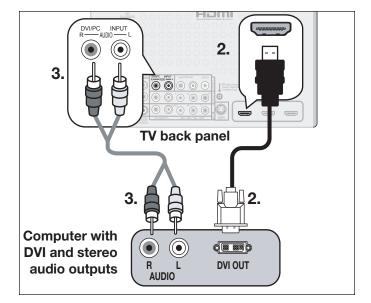
Computer Video Output	Video Connection	Audio Connection
Digital DVI	DVI-to-HDMI cable or an HDMI cable with an HDMI-to- DVI adapter	Stereo audio cables
	Note: If the comput is a single mini jack, RCA-male "Y" adapt required.	a mini audio-to-
НДМІ	HDMI-to-HDMI cable	No additional audio connection is required.

#### **IMPORTANT**

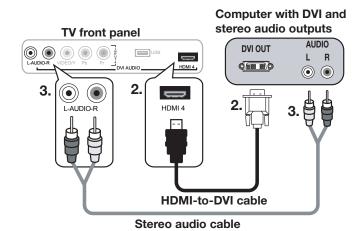
This TV accepts digital computer signals only.

- 1. See the TV specifications in Appendix A to confirm that your computer signal is compatible with the TV.
- **2.** Connect the computer's digital signal output to one of the TV's **HDMI** jacks. See the connection diagrams for the method suited to your equipment.
- **3.** Connect the computer's audio output using one of these options:
  - For digital DVI signals, connect analog left/right audio to the TV's **DVI/PC INPUT AUDIO** jacks.
  - For HDMI signals, no additional audio connection is required.
- 4. Power on the TV and computer. The TV will detect the connection and display the **Auto Input Sensing** screen.
- 5. In the Auto Input Sensing screen, press ▲ ▼ to highlight PC in the list of device types. It is important to use the name PC so that the TV can process the video signal correctly.
- 6. Press EXIT to close the **Auto Input Sensing** screen.

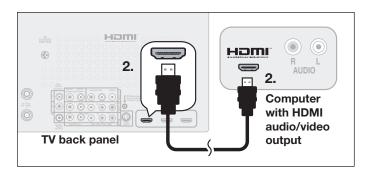
**Note:** If your computer provides digital audio output (coaxial or digital), you can connect it directly to a digital A/V receiver and bypass the TV.



A DVI connection from a personal computer requires a separate audio connection. A computer connected to the TV back panel is shown above.



736 and 835 Series Models: Computer with DVI output connected to the TV front panel.



An HDMI-to-HDMI connection carries all video and audio on a single cable.

# Using the TV with a Personal Computer

# **Computer Video Adjustments**

- **1.** Power on the computer if it is not already on.
- 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. Working from the computer, change the resolution of the computer image. View the computer image on the TV and maximize the computer resolution while maintaining a suitable aspect ratio for the image.
- 4. Perform TV video adjustments. Press VIDEO repeatedly to access video-adjustment options. The following additional adjustments are available for computer video:
  - **Horiz Position** (Horizontal Position). Manually adjust the horizontal position.
  - **Vert Position** (Vertical Position). Manually adjust the vertical position.
- 5. Press FORMAT repeatedly to find the picture format best suited to the image. See the chart on this page showing how different computer resolutions can be displayed on the TV.

#### Distortion in Computer Images

Computer images may show distortion when viewed on the TV, e.g., lines that should be straight may appear slightly curved.

### **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. The resolution of 1920 x 1080 is supported at refresh rates of 24, 30, and 60 Hz. See Appendix A, "Specifications" (page 62) 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. Refer to your computer operating system's instructions for information on changing the screen resolution.

You may need to restart the computer for changes to take effect.

#### Tip:

Set the computer's screen saver to display a pattern after several minutes of inactivity. This acts as a reminder that the TV is powered on and the lamp is in use. The lamp is in use whenever the TV is powered on, even if the screen appears dark.

# **Computer Display Formats**

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

Computer Signal		As Displayed on TV Screen		
Original	Format	4 X 3 Standard	16 X 9 Standard	Zoom
VGA 640 X 480				
WVGA 848 X 480		000		
SVGA 800 X 600				
WSVGA 1064 X 600		000		
Original	Format	Standard	Zoom	

Original Format	Standard Zoom
XGA 1024 X 768	
PC 720p 1280 X 720	
WXGA 1360 X 768	
SXGA 1280 X 1024	
Original Format	Standard Poduce

Original Format	Standard	Reduce
PC 1080p 1920 X 1080		

# Before You Begin

## **Auto Input Sensing**

The TV's Auto Input Sensing feature automatically recognizes most connections and prompts you to identify the type of device connected. See chapter 2, "TV Setup," for more on Auto Input Sensing.

## **Connection Types**

Review the connection types available on your input devices and use connections that will give the best video quality. For example, choose HDMI over component video, and choose component video over S-video or composite video.

#### **Picture Quality**

For best picture quality, route signals directly from the input device to the TV; avoid routing video signals through an A/V receiver, for example.

#### **Surround Sound**

For best surround sound audio quality, route audiosignal cables or HDMI cables from the source device directly to your A/V receiver or sound system.

#### **IMPORTANT**

Accessory items such as cables, adapters, splitters, or combiners required for TV connections are not supplied with the TV. These items are available at many electronics stores.

# HDTV Cable Box or Satellite Receiver, DVD Player, or Other Device with Component Video

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

Required: RCA component video cables, left/right analog stereo audio cables.

- 1. Connect RCA-type cables from the Y Pb Pr outputs on the device to the Y Pb Pr inputs on the TV back panel, matching the colored green, blue, and red connections.
- 2. Connect left (white) and right (red) audio cables from the device to AUDIO L and R on the TV back panel.
- 3. Cable Box or Satellite Receiver Only: 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.

**Note:** To hear digital surround sound, connect the digital audio output from the device directly to your digital A/V receiver.

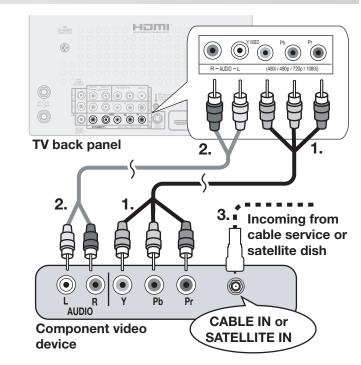


Figure 1. Connecting a device with component video outputs

3. TV Connections

# DVI Video Device (Cable Box, Satellite

Receiver, DVD Player, or Other Device)

19

Connect DVI devices (digital only) to the TV's HDMI input jacks.

Analog stereo audio cables and a DVI-to-HDMI cable or DVI/HDMI adapter and HDMI cable are required.

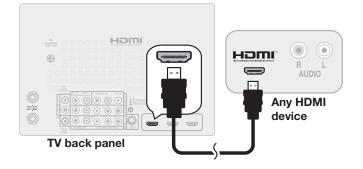
1. Connect the DVI-to-HDMI cable (recommended) or HDMI cable with DVI/HDMI adapter from the DVI device's back panel to the TV's HDMI jack.

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 DVI/PC INPUT AUDIO on the TV back panel. Connect the red cable to the R jack and the white cable to the L jack.

**Note:** The HDMI connection supports copy protection (HDCP).

Some devices require connection 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.



HDMI Device (Cable Box, Satellite

Required: HDMI-to-HDMI cable.

audio through the single cable.

types.

Receiver, DVD Player, or Other Device)

Connect an HDMI cable from the TV back panel to the HDMI device output. HDMI devices provide video and

Mitsubishi recommends you use category 2 (highspeed) HDMI cables to connect HDMI 1.3 source

devices. High-speed category 2 cables bring you the

full benefits of Deep Color and x.v.Color. See "HDMI

Cable Categories," page 10, for more on HDMI cable

Figure 2. Connecting an HDMI device.

Note: HDMI inputs are Simplay HD certified for proper interoperability with other products certified by Simplay<sup>™</sup>.

#### **IMPORTANT**

#### **HDMI** and Audio Signals

Digital Surround Sound: The TV's HDMI inputs can receive digital stereo audio signals only. To hear digital surround sound from an HDMI device, connect the device's HDMI or digital audio output directly to your A/V receiver. See the Owner's Guides for those devices for instructions.

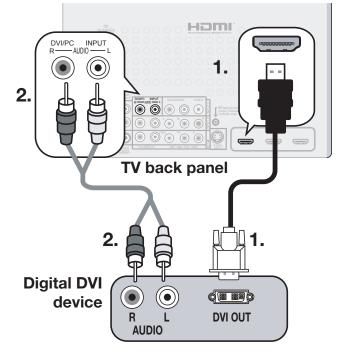


Figure 3. Connecting a digital DVI device

# Wall Outlet Cable (no cable box)

It is very important to connect the incoming cable for your primary viewing source to ANT 1.

- 1. Connect the primary incoming coaxial lead cable to ANT 1 on the TV back panel.
- 2. For an optional secondary antenna source, connect an antenna (or cable) to ANT 2.

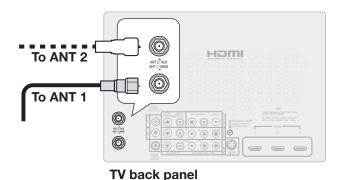


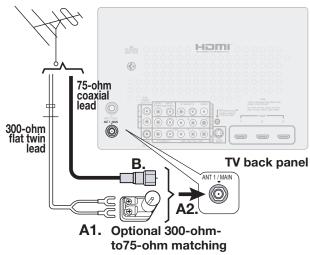
Figure 4. Wall Outlet Cable

# Antenna with a Single Lead

# A. For an antenna with flat twin leads

Required: 300-ohm-to-75-ohm transformer.

- 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.



transformer

Figure 5. Connecting a Single Antenna Lead

# Antennas with Separate UHF and VHF Leads

Required: UHF/VHF combiner

- 1. Connect the UHF and VHF antenna leads to the UHF/VHF combiner.
- 2. Push the combiner onto ANT 1 on the TV back

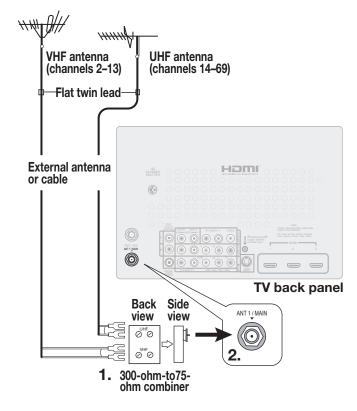


Figure 6. Connecting separate UHF and VHF Antennas

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.

# 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 S-VIDEO OUT on the cable box or satellite receiver back panel to INPUT 3 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 3 AUDIO L and R on the TV back

Note: Refer to the cable box or satellite receiver Owner's Guide for cable or dish antenna connections to the receiver.

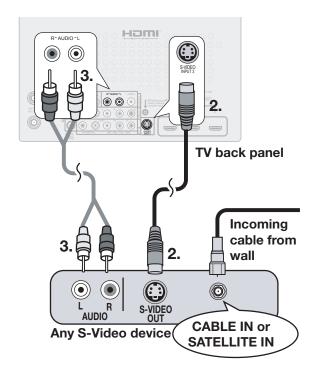


Figure 7. Connecting a device with S-Video

# VCR to an Antenna or Wall Outlet Cable

Required: Two-way RF splitter, two coaxial cables, right and left analog audio cables, either S-video or composite video cable.

- 1. Connect the incoming cable or antenna to IN on the
- 2. Connect one coaxial cable from OUT on the RF splitter to ANTENNA IN on the VCR back panel.
- Connect one coaxial cable from **OUT** on the RF splitter to ANT 1 on the TV back panel.
- 4. Connect either an S-Video or composite video cable from VIDEO OUT on the VCR back panel to a VIDEO composite or S-VIDEO jack on the TV back panel. Connect only one type of video cable; S-Video is recommended, if available.
- 5. To use the TV speakers with the VCR, connect left (white) and right (red) audio cables from AUDIO OUT on the VCR to the associated AUDIO L and R jacks on the TV back panel. If your VCR is mono (nonstereo), connect only the white (left) cable.

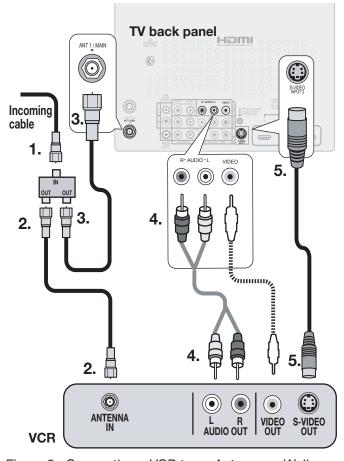


Figure 8. Connecting a VCR to an Antenna or Wall **Outlet Cable** 

# VCR to a Cable Box (Audio & Video)

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

- 1. Connect the incoming cable to IN on the RF splitter.
- 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** on the TV back panel.
- Connect one coaxial cable from OUT on the cable box to ANTENNA IN on the VCR back panel.

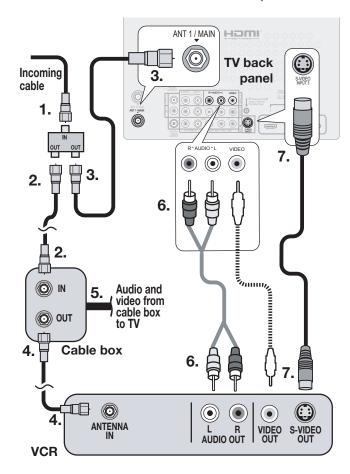


Figure 9. Connecting a VCR to a cable box

- 5. Connect the cable box outputs to the TV as shown in one of the options listed below. This connection allows the TV to receive the best available signal directly from the cable box.
  - Figure 1, page 18: Component video output to the TV's Y Pb Pr jacks; analog stereo audio to the associated AUDIO jacks.
  - Figure 2, page 19: HDMI output to the TV's HDMI jack.
  - Figure 7, page 21: S-Video output to the TV's INPUT 3 S-VIDEO jack; analog stereo audio to the INPUT 3 AUDIO jacks.

- 6. Connect either an S-Video or composite video cable from VIDEO OUT on the VCR back panel to a VIDEO composite or S-VIDEO jack on the TV back panel. Connect only one type of video cable. S-Video is preferable to composite video, if available.
- 7. 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 the associated INPUT AUDIO L and R on the TV back panel. If your VCR is mono (non-stereo), connect only the white (left) cable.

**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 TV input connected to the cable box device.

# Older Cable Box

Required: One coaxial cable.

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

- 1. Connect the incoming cable to IN on cable box.
- Connect one coaxial cable from OUT on the cable box to ANT 1 on the TV back panel.

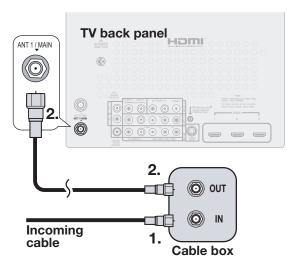


Figure 10. Connecting an older cable box

# A/V Receiver (Sound System) Using the TV's Audio Output

Most setups require either a digital audio cable or analog stereo audio cables. To send audio from TV channels received on **ANT 1**, **ANT 2**, or devices connected directly to the TV, you must use one of the connections shown below.

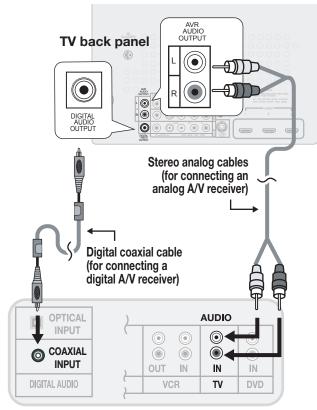
The TV makes all audio available in digital and analog formats:

- Analog audio coming into the TV is available as output in digital stereo format on the DIGITAL AUDIO OUTPUT jack.
- Digital incoming audio is available as analog output on the AVR AUDIO OUTPUT L and R jacks.

Usually, only one of the following audio connections is required:

#### To connect an analog A/V receiver

- Connect left (white) and right (red) audio cables from AVR AUDIO OUTPUT L and R 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 OUTPUT 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 back panel

Figure 11. Connecting 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 copyprotected signals through the A/V receiver, use the connection for an analog A/V receiver.
- 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.

# A/V Receiver with HDMI Output

Required: One HDMI-to-HDMI cable

This option allows you to view content from devices connected to an A/V receiver. The A/V receiver can send audio and video to the TV over a single HDMI cable. You can use an HDMI connection as described here in addition to an audio connection from the TV's audio output.

**All models:** You may be able to use the TV's remote control (with slide switch set to TV) to operate connected CEC-enabled HDMI devices without further setup. Experiment with your equipment to determine which functions are available to the TV's remote control. See "NetCommand for HDMI Devices," page 28.

**736 and 835 series models only:** This setup allows you to use NetCommand-controlled audio and video switching over the HDMI cable. See "A/V Receiver Control: Automatic Video and Audio Switching via HDMI" on page 60.

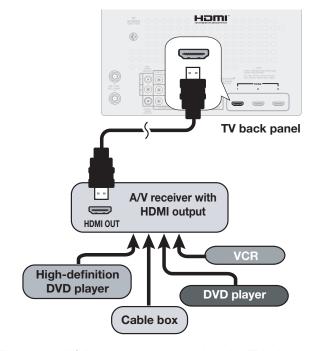


Figure 12. A/V receiver connected to the TV with an HDMI cable may offer special control capabilities.

# Camcorder

Inputs on the front of the TV (INPUT 4) offer the most convenient way to connect a camcorder, although you can use jacks located on the back panel instead. Three different connection options are described on this page.

Use jacks on the TV front panel to connect a camcorder



# A: Y Pb Pr Component Video Connection

Required: Component video and analog stereo audio cables supplied with the camcorder.

- Connect component video cables from VIDEO OUT on the camcorder to the TV's Y Pb Pr component jacks on the front panel.
- Connect left (white) and right (red) audio cables from AUDIO OUT on the camcorder to AUDIO L and R on the TV.

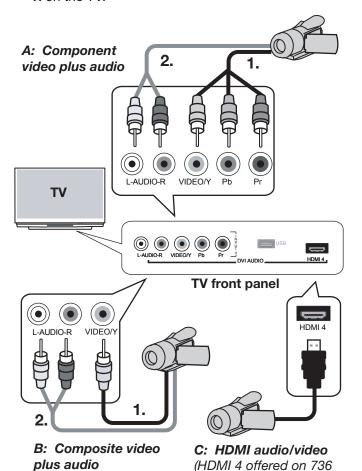


Figure 13. INPUT 4 on the front of the TV offers up to 3 connection options for a camcorder.

and 835 series models)

# **B:** Composite Video Connection

Required: Composite video and analog stereo audio cables supplied with the camcorder.

- Connect the composite video cable from VIDEO OUT on the camcorder to VIDEO/Y on the front of the TV.
- Connect left (white) and right (red) audio cables from AUDIO OUT on the camcorder to AUDIO L and R on the front of the TV.

#### C: HDMI Connection

Required: HDMI cable supplied with the camcorder.

736 and 835 series models. Connect the camcorder to the TV's **HDMI** jack on the front panel.

# **Audio-Only Device**

If you wish to connect an audio-only device to the TV, such as an audio CD player or an MP3 player, follow these instructions. The front panel offers the most convenient jacks for this purpose, but you can use the rear-panel jacks as well.

- Insert an unused RCA-style connector into the VIDEO/Y jack. The presence of this connector activates the TV's auto input sensing feature.
- Connect left (white) and right (red) audio cables from AUDIO OUT on the device to AUDIO L and R on the TV.
- **3.** Keep the connector in the **VIDEO/Y** jack while using the audio-only device.

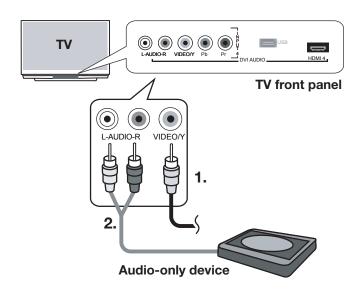


Figure 14. First insert an unused RCA-type connector into the VIDEO/Y jack on the TV front or back panel before connecting audio cables.

# 4

# **TV Operation and Features**

# Choosing a Viewing Source



#### Input Selection menu

Choose a viewing source from the *Input Selection* menu. The current TV input appears as a full-color icon in this menu.

- Press INPUT to display the *Input Selection* menu. If there are only two inputs to the TV, INPUT switches between them without displaying the menu.
- Highlight an input icon using ▲ ▼ ◀ ▶.
- Press ENTER to switch to the input and close the menu.

#### More About the Input Selection Menu

- To assign meaningful names to the icons, see the *Inputs* > *Name* menu, page 47.
- To rearrange the icons, see the *Inputs* > *Order* menu, page 47.

# Sleep Timer

The Sleep Timer turns the TV off after the length of time you set. To set the TV to turn on at a certain time, see the **Setup > Timer** menu on page 45.

#### **Setting the Sleep Timer**

- 1. Press **SLEEP** on the remote control.
- 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 keys 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.

# **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 control panel of the TV.

## If You Turn Off the TV by Mistake

- Press POWER again within about 60 seconds (while the lamp is still hot) to have the TV come back on immediately.
- 2. If the LAMP indicator starts blinking (about 60 seconds after you shut off power), wait a few moments 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.
- See also "Controlling A/V Receiver Sound Volume" on page 14.

#### Changing Channels (antenna sources)

To change channels:

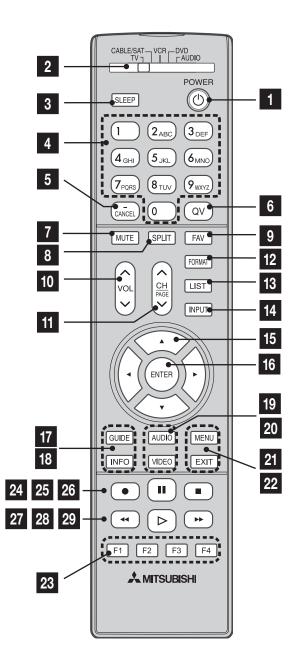
- Enter the channel number using the number keys on the remote control and press ENTER. For a twopart digital channel, such as 3-1, press 3 CANCEL 1 to enter a dash (separator).
- Press and hold CH/PAGE ^/∨ to move quickly through channels.
- Press QV (QuickView) to switch back to the previously tuned channel.
- Press GUIDE to display ChannelView channel listings, highlight a channel, and press ENTER to select.
- Use the Fav (Favorites) feature to set up lists of favorite channels and tune to them with the FAV key.
   See Setup > Edit > Fav 1-Fav 6 on page 43.

**NOTE:** Perform channel memorization to make finding channels easier. See **Setup** > **Scan, page 42**.

# 4. TV Operation and Features

# Remote Control

- 1. POWER: Turns TV power on and off.
- 2. Slide Switch: Selects the A/V device to be operated by the remote control. Set the slide switch to TV for operation of the TV, and NetCommandcontrolled devices. Control of additional devices requires programing (see Appendix C, "Programming the Remote Control."
- 3. SLEEP: Sets the TV to turn off within 2 hours in increments of 30 minutes.
- 4. Digits/Letters: Press digits for channel numbers, then press ENTER for faster tuning. Use numbers and the CANCEL key to enter digital sub-channel numbers. Use also for entering letters or names in
  - To select letters when naming channels, repeatedly press the associated number key. Press ENTER to set the letter. Special characters are available with the 1 key (!, &, blank space) and 0 key (/, \*, -).
- 5. -/CANCEL (SUB-CHANNEL/CANCEL): When entering digital channel numbers, adds a separator between main and sub-channel numbers. Clears Fav and some menu entries.
- 6. QV (QuickView™): Switches between the current channel and the last channel viewed.
- 7. MUTE: Turns TV sound on and off.
- 8. SPLIT: Not used in this model.
- 9. FAV (Favorites): Scans through memorized lists of favorite channels. See **Setup > Edit > Fav1-Fav6** on page 43.
- 10. WL ^/∨ (Volume Up/Down): Changes sound level.
- 11. CH/PAGE ^/∨ (Channel or Page Up/Down): Scans up or down through memorized channels. Pages up and down through screens when used with ChannelView™.
- **12. FORMAT:** Changes the shape and size of the TV picture.
- 13. LIST (835 Series): Works like the LIST key for a cable box or satellite receiver when "learned" for NetCommand or when the remote has been programmed for the device.
- **14.** 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.
- **15.** ▲ ▼ ◀ ▶ (Adjust Up/Down/Left/Right): Navigate menus and change settings.
- **16.** ENTER: Selects a channel number or menu item.



- 17. GUIDE: Displays or removes ChannelView™ channel listing for ANT 1 and ANT 2. Displays DVD disc or top menu for a NetCommand-controlled DVD player. Displays the guide for a NetCommand-controlled cable box or satellite receiver.
- 18. INFO: Displays an on-screen summary of the current device in use and any broadcast information available. including current V-Chip ratings information. See "Status Display," page 29, for details.
- 19. AUDIO: Selects individual audio settings to adjust.
- 20. VIDEO: Selects individual video settings to adjust.

# Remote Control, continued

- 21. MENU: Displays the main TV menu. When a submenu is open, backs up one menu level.
- 22. EXIT: Closes TV on-screen menus/displays.
- 23. F1-F4

For devices under NetCommand control: Perform NetCommand "Learning" to assign your choice of functions to the F1-F4 keys.

For devices operating independently of **NetCommand:** The F1-F4 keys work like the A, B, C, D buttons on some cable boxes, satellite receivers, and DVD players. Program the remote control for your equipment and test the keys. See Appendix C, "Programming the Remote Control."

25. (II) (PAUSE): Freezes a broadcast TV picture from an antenna source, cable box, or satellite receiver (if key has not been reassigned for NetCommand use).

## Record/Playback Keys

Use any of these methods to enable the recording and playback commands of the TV's remote control:

- Program the remote control for your DVR, VCR, or DVD player/recorder and set the slide switch to VCR, DVD, CABLE/SAT, or AUDIO as appropriate.
- Check HDMI devices for compatibility with the TV's NetCommand for HDMI feature (see "NetCommand for HDMI Devices" on the next page).
- 736 and 835 series models only: Perform NetCommand IR "learning" for the device.
- 24. ( (RECORD): Records with a VCR or DVR.
- 25. (III) (PAUSE): Pauses a VCR, DVR, or DVD. See above for use during TV viewing.
- 26. (STOP): Stops play of a VCR, DVR, or DVD.
- 27. (REVERSE): Rewinds a VCR. Reverse scans a DVR or DVD.
- 28. (PLAY): Plays a VCR, DVR, or DVD.
- 29. (FORWARD): Fast forwards a VCR. Forward scans a DVR or DVD.

**Note:** To operate other audio/video devices using the TV's remote control:

- See Appendix C, "Programming the Remote Control."
- For HDMI devices compatible with the TV's Net-Command for HDMI feature, see "NetCommand for HDMI Devices" on the next page.
- 736 and 835 series models only: See chapter 6, "NetCommand IR Control," for NetCommand IR "Learning" of device keys.
- For use of specific keys with NetCommand-controlled devices, see "Special Operation Methods," page 55.

# **Resetting the Remote Control**

If the slide switch is set to TV and the TV does not respond properly, 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. While entering the code, pause for a moment between each key press to ensure it is recognized.

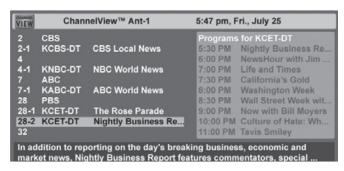
# **Low-Battery Indicator**

If you press a key and the POWER key blinks five times, replace the remote control's batteries.

#### Care of 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.

# ChannelView Channel Listings



#### ChannelView screen

ChannelView<sup>™</sup> shows memorized channels on **ANT** 1 or **ANT** 2. It displays channel names and program information as sent by broadcasters or your local cable service provider and may be incomplete. No program information is displayed for analog channels. An analog channel name is displayed only if you assigned a name in the **Setup** > **Edit** menu (page 43).

To receive ChannelView updates:

- Keep the Energy Mode set to Fast Power On
- Set the TV clock
- Leave the TV powered off for a while each day to receive updates.

**Note:** Whenever you watch a digital channel, listings are updated for the channel you are watching.

# **Using ChannelView**

Feature	Press Key
See ChannelView listings from <b>ANT 1</b> or <b>ANT 2</b> .	Press GUIDE.
Close ChannelView	Press GUIDE or EXIT.
Scan channels one by one.	Press and hold ▲ or ▼.
Scan channels quickly.	Press and hold PAGE ^/V.
Jump to listings for a specific channel.	Enter the channel number (see numbers in upper left of screen).     Press ENTER.
See more of the program description (if available).	Press INFO.
Move navigation to the program listings.	Press ▶.
Move navigation to the channel listings.	Press <b>◀</b> .
Tune to the highlighted channel.	Press ENTER.

# **NetCommand for HDMI Devices**

**Available for all TV models.** The TV's remote may operate some functions of compatible CEC devices without any additional setup. See the your devices' owner's guides for instructions on enabling the devices' CEC capabilities.

If you have a CEC-enabled A/V receiver, CEC-enabled devices connected to the A/V receiver with an HDMI cable may also be controllable. They can be selected from the TV's *Input Selection* menu. See "A/V Receiver with HDMI Output," page 23, and the *Inputs* > *Name* menu, page 47.

Test your equipment with the TV's remote control to find out which commands are supported. See below for commands that may be available, depending on the individual device.

As an example of using NetCommand for HDMI devices, you would press PLAY on the device itself to:

- Turn on the TV if not already on
- Switch to the device (no need to display the *Input Selection* menu)
- Begin play of the device

# CEC-enabled VCR, DVD, and DVR functions that may be available:

Record/ Playback	Menu Navigation	Channel Tuning	Other
	$\blacktriangleleft \blacktriangleright \blacktriangle \blacktriangledown$	CH // /	GUIDE
•	ENTER	Digits 0-9, CANCEL	F1 (content)*
<b>4</b>	(to cancel)	ENTER	MENU

★ The F1 key defaults to work like the devices's LIST key.

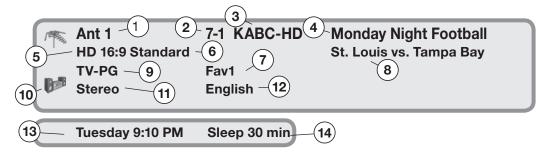
# **CEC-**enabled A/V receiver functions that may be available:

- Try the VOL, MUTE, and menu-navigation keys.
- To open the A/V receiver menu, follow these steps:
  - 1. While watching TV, press AUDIO.
  - Press ▲ repeatedly until the Speakers option displays.
  - 3. While **Speakers** is still displayed, press **MENU**.

**736 and 835 series models:** You can add commands in addition to those supported by CEC. Use NetCommand IR "learning" after connecting and placing IR emitters for the devices. See "Initial NetCommand Setup for Most Devices," page 53, and "Setting Up NetCommand Control of an A/V Receiver," page 57.

# Status Display

Press the INFO key to see the on-screen status display. The most common displays are shown here. You will rarely, if ever, see all status indicators at the same time.



On-screen status display sample information



	Analog Sources	Digital Sources
1.	Source antenna or input	Source antenna or input
2.	Analog channel being received (antenna sources only)	Digital major and sub-channel numbers (antenna sources only)
3.	Analog channel name (if named in the <b>Setup</b> > <b>Edit</b> menu); antenna sources only.	Digital Channel Name (if broadcast or if named in the <b>Setup</b> menu > <b>Edit</b> options; antenna sources only)
4.	(Does not apply)	Program name (if broadcast)
5.	Signal Type Being Received. Possible: On antenna sources or <b>VIDEO</b> composite or <b>S-VIDEO</b> jacks: 480i On component jacks: 480i, 480p, 720p, 1080i	Signal Type Being Received. Possible: On antenna sources: SD 4:3, SD 16:9, HD On HDMI: 480i, 480p, 720p, 1080i, 1080p, all supported PC resolutions
6.	Screen Format in use. Possible: Analog 480i /480p signals: Standard, Expand, Zoom, Stretch, Stretch Plus, Narrow 720p/1080i signals: Standard, Wide Expand, Zoom	Screen Format in Use. Possible: SD 4:3, 480i, or 480p: Standard, Expand, Zoom, Stretch, Stretch Plus, Narrow SD 16:9 or HD 16:9, 720p, or 1080i: Standard, Wide Expand, Zoom 1080p: Standard, Wide Expand, Zoom
7.	Current Fav bank number of channel (antenna sources only)	Current Fav bank number of channel (antenna sources only)
8.	(Does not apply)	Program description (if broadcast); antenna sources only)
9.	V-Chip rating (antenna sources or <b>VIDEO</b> composite and <b>S-VIDEO</b> jacks only)	V-Chip rating (antenna sources only)
10.	Audio Source. Possible:  OTV speakers, external sound system	Audio Source. Possible:  OTV speakers, external sound system
11.	Listen To indicator. Possible: Stereo, Stereo SAP, SAP (antenna sources only))	Listen To indicator. Possible: Stereo, Surround 3.1, Surround 5.1, Surround 7.1, Dual Mono
12.	(Does not apply)	Current language (antenna sources only)
13.	Day and time	Day and time
14.	Sleep Timer remaining time	Sleep Timer remaining time
15.	Mute indicator	Mute indicator
16.	(Does not apply)	Signal strength indicator (antenna sources only)

# 4. TV Operation and Features

**Original Signal** 

SD 16:9 or

**HD** Digital

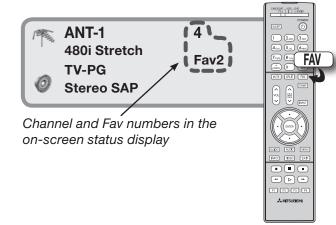
720p, 1080i,

1080p Signal

# Fav (Favorite Channels)

Use the six Fav channel banks to store groups of your favorite channels from **ANT 1** and **ANT 2**. You can set up a Fav channel bank for each of your favorite program types or set up a bank for each TV user.

You may prefer to perform Fav channel setup from a menu. See the *Setup* > *Edit* options, page 43.



Using Fav Channels	
See the current Fav bank number	Press INFO.
View channels in current Fav bank	<ol> <li>Press the FAV key. Wait for the TV to tune to a channel in the current Fav bank.</li> <li>Press the FAV key repeatedly to cycle through the channels available in the current Fav bank.</li> </ol>
Change Fav banks	<ol> <li>Press the FAV key. Wait for the TV to tune to a channel in the current Fav bank.</li> <li>When tuning is complete and while the TV status display is still visible on screen, press the number key for the desired bank (1–6).</li> <li>Note: Wait for the channel change to finish before pressing the number key. Otherwise, the TV may ignore the Fav number.</li> </ol>
If no Fav banks are set up	The FAV key switches to the previously tuned channel; works like the QV key.

Fav Setup Using Only the Remote Control		
Add Fav channels	<ol> <li>While watching TV, tune to the channel you want to add to the current Fav memory bank. The default bank is Fav1. See the instructions above if you need to change to a different Fav bank.</li> <li>Press and hold the FAV key for about 2 seconds. When Fav and the memory bank number appear under the channel number, the channel has been successfully added.</li> </ol>	
Remove Fav channels  This procedure removes the channel only from the selected bank and leaves the other banks unchanged.	<ol> <li>While watching TV, press the FAV key.</li> <li>While the TV status display is still visible on screen, press the number key for the memory bank.</li> <li>Press the FAV key repeatedly until you see the desired channel in the onscreen status display.</li> <li>While the channel number and Fav indicator (with correct bank number) are still displayed on the screen, press CANCEL. You must press CANCEL while the indicator is displayed. When the Fav indicator disappears after pressing CANCEL, the channel has been successfully removed.</li> </ol>	

# TV Signals and Display Formats

This is a 16:9 widescreen TV suitable for images available from HDTV and many DVDs. You can view olderstyle squarish images (4:3 aspect ratio) using one of the display formats described on this page. Press the FORMAT key to cycle through the available display formats. The TV remembers the format you last used for each input.

# **DVD Image Definitions**

Image information may be stated on the DVD case. Some DVDs support both of the formats described below.

Anamorphic (or Enhanced for WideScreen TV) Indicates DVDs recorded to show widescreen images properly on 16:9 TV sets using the TV's Standard format mode (recommended).

# Non-Anamorphic (or 4:3, 1:33:1, Letter Box, or Full Screen)

Indicates DVDs recorded for viewing on squarish TV screens. 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.

# **Signal Definitions**

**480i:** Traditional interlaced signals from **ANT-1** and **ANT 2**, composite **VIDEO**, component **Y Pb Pr**, and **HDMI** jacks.

**480p:** Progressive-scan DVD signals on component **Y Pb Pr** and **HDMI** jacks.

**720p and 1080i:** High-definition signals received through component **Y Pb Pr** and **HDMI** jacks. These signals are always 16:9 (widescreen).

**SD 4:3:** Standard-definition squarish-screen-format signals from digital channels on **ANT 1** and **ANT 2**.

**SD 16:9:** Standard-definition widescreen-format signals from digital channels on **ANT 1** and **ANT 2**.

**HD 16:9:** High-definition 16:9 widescreen signals from digital channels on **ANT 1** and **ANT 2**.

#### **TV Display Format Definitions**

**Standard:** This is the full-screen format used by HDTV signals. Use this format to display anamorphic DVDs with a 1.78:1 or 1.85:1 aspect ratio. Anamorphic DVDs with a 2.35:1 aspect ratio are displayed correctly but with top and bottom black bars. Narrow (4:3) images are stretched evenly from side to side. Available for all signals.

**Expand**: Enlarges the picture to fill the screen by cropping the top and bottom; useful for reducing the letter box top and bottom bars of non-anamorphic DVD images.

**Zoom:** Enlarges the picture to fill the screen by cropping the sides, top, and bottom to eliminate black bars. 480i/480p and SD 4:3 signals: Eliminates top and bottom bars on anamorphic DVDs with a 2.35:1 aspect ratio. 720p, 1080i, SD 16:9, and HD signals: Eliminates bars added to 4:3 images.

Original Signal TV Display	Non-anamorphic or SD 4:3	Anamorphic DVD
Standard	Distorted. Not recommended.	Recommended
Expand	Recommended for letterbox. See Note 1.	Distorted; not recommended. See Note 1.
Zoom	Distorted. Not recommended. See Note 1.	Recommended for anamorphic 2.35:1 images. See Note 1.
Stretch	Recommended for standard broadcasts. See Note 1.	Distorted; not recommended. See Note 1.
Stretch Plus	Recommended for standard broadcasts. See Note 1.	Distorted; not recommended. See Note 1.
Narrow	See Note 1	Distorted; not recommended. See Note 1.

**TV Display Formats.** Press the FORMAT key repeatedly to see the displays available for the current program. Press the INFO key to see the name of the display format in use.

Note 1: Available for 480i, 480p, and digital SD 4:3 signals only.

**Display Formats** 

Wide Recommended to re-

Recommended to re-

bottom, and sides.

move bars from the top.

**Expand** move side bars.

**Stretch**: Stretches a narrow 4:3 image across the screen to display the entire image with less distortion than the Standard format.

**Stretch Plus:** Similar to Stretch, but minimizes distortion on the sides by expanding the picture to crop off portions of the top and bottom. You can adjust the vertical position of the picture. Press VIDEO repeatedly to show the **Vert Adjustment** option, then press ENTER. Use ▲ ▼ to move the picture.

**Narrow:** Displays narrow 4:3 images in their original shape. Adds black side bars to fill the screen.

**Wide Expand:** Enlarges the picture, cropping the image on both sides. Removes or reduces black side bars added to narrow images converted to 16:9 signals for digital broadcast.

**Note:** All high-definition channels send widescreen (16:9) signals, but not all such programming was created for this format. The broadcaster may stretch the image or add side bars to fill the widescreen area.

# 4. TV Operation and Features

# Viewing Camera Files

# JPEG Photos and the USB Photo Port

1. Connect your USB card reader or USB drive to the TV's USB Photo port.



displays while files are being read. Wait until you see the

Note: Some manufacturers' devices may be incompatible with the TV. If the TV is unable to display your photos, you can:

completion message on screen before continuing.

- Transfer files to a different USB device.
- Use the camera's composite video output as described later in this chapter.



USB Photo menu

- 2. Refer to the table below for use of the **USB Photo** menu after files have been read.
- 3. Optional: Connect an audio device to the AUDIO L and **R** stereo jacks to play sound while viewing pictures

USB Photo Menu Opt	ions
Start slide show.	With the Slideshow icon highlighted, press or ENTER.
Activate menu options.	Highlight an icon and press  ENTER to:  • start the slide show  • display picture thumbnails  • open the <i>Media Setup</i> submenu.
Display or close the <i>Main</i> menu.	Press MENU.
Display status for the file source.	Press INFO.
Select a different con- nected device	<ol> <li>Press INPUT.</li> <li>Highlight the icon for a different device.</li> <li>Press ENTER.</li> </ol>
Clear status display or menu to show the	Press EXIT.

**USB Photo** menu



#### JPEG Thumbnail Menu

Use these keys while viewing JPEG thumbnail images:

Keys for th	ne JPEG Thumbnail Menu
<b>▲▼∢▶</b>	
FORMAT	Rotate the thumbnail clockwise in 90° increments
or enter	Play the slide show starting with the high-lighted thumbnail.
<b>P</b>	Highlight the last thumbnail on the current page.
44	Highlight the first thumbnail on the current page.
CH/PAGE ∧/∨	Display the next or previous page of thumbnails.
EXIT	Close the <b>Thumbnail</b> menu and display the <b>USB Photo</b> menu.
MENU	Close the <b>Thumbnail</b> menu and display the <b>Main</b> menu.
INPUT	Close the <b>Thumbnail</b> menu and display the <b>Input Selection</b> menu.

#### **Notes on Viewing JPEG Files**

- The TV ignores all commands while reading files. Wait for the completion message before continuing.
- Large files or high-capacity storage devices may take a long time to display. The screen will be blank while files
- Use only one source device at a time.

#### **IMPORTANT**

Stop playback or change to a different TV input before disconnecting from the USB photo port.

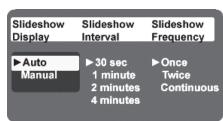
# Slide Show

Use these keys during the slide show:

Keys	for JPEG Picture Slide Show
$\bigcirc$	Begin or resume slide show playback
	Pause or resume playback while in automatic advance mode.
►► or ENTER	Advance to the next slide.
44	Go to the previous slide.
FORMAT	Rotate the slide clockwise in 90° increments.
	Stop slide show and display the <b>USB Photo</b> menu.
INFO	Display status for the viewing device and current image.
INPUT	Display the <i>Input Selection</i> menu.
MENU	Display or remove the TV <i>Main</i> menu.
Note:	Always press (\$\infty\$ (\$TOP) to stop slide show playback before disconnecting from the USB Photo port

port.

#### Media Setup Menu



Media Setup menu

In the *Media Setup* menu you can adjust the slide show display, number of repetitions, or display interval.

- Select either Auto or Manual advance. During manual operation, press (>) or ENTER to advance to
- For automatic advance, select the time interval for display of each slide. The interval you select here is the minimum time between slides; actual time may be longer for larger files.
- For automatic advance, select the number of times (frequency) to play the complete slide show: **Once**, Twice. or Continuous.
- Press EXIT to close the *Media Setup* menu and return to the USB Photo menu.

# **IMPORTANT**

The TV can read JPEG files as created by the camera. If you edit a picture file on a computer and resave the image, the TV may be unable to read the resaved file.

#### **USB Photo Menu Compatible Picture Files**

- Still images recorded on digital cameras using the Exchangeable Image File Format, version 2.1 (EXIF 2.1) standard for digital still cameras and Design Rules for Camera File Systems version 1.0 (DCF 1.0)
- Some images opened and resaved on a computer may not play back or may not display in the thumbnail list. This happens if the files were resaved in an incompatible format.
- Full path file names can be no longer than 50 characters and must end in a .jpg extension. Only the first 20 of the 50 characters will display.
- Images on storage devices with a capacity of over 256 MB can take a longer initial time to display.

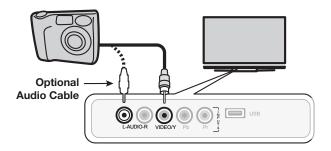
# **Photos and Moving Video as Composite** Video

Connect the camera to the TV using a composite video cable if:

- You are unable to see images using the USB photo
- You wish to view moving video from the camera.

The TV's **USB Photo** menu will be unavailable and you must control the slide show through the camera. Display resolution is standard-definition (480i).

- 1. Refer to the owner's manual supplied with the camera for instructions needed for this setup.
- 2. Set the camera's output signal type to NTSC and put the camera into playback mode.
- 3. With the camera still turned on, connect your digital camera's composite video cable (usually yellow) to the VIDEO/Y jack on the front of the TV. To hear audio, connect the camera's audio output cable to the AUDIO L jack.
- 4. When the Auto Input Sensing screen displays, press EXIT or assign the name Camcorder.
- 5. Press INPUT to display the *Input Selection* menu.
- Highlight the icon for the camera input and press
- 7. If viewing photos, advance through the images manually or set the camera to advance automatically.



Camera connection using a composite video cable

34 4. TV Operation and Features

# 3D Video

This section provides Instructions for viewing 3D video using the TV's **3D** feature. The **3D** options are found in the Setup > 3D menu described on page 46.

# **Initial Set-Up**

- Check if your HDMI 3D video source device outputs a 1080p 60 Hz signal. This information will be needed when you assign an input name in the Auto Input Sensing screen.
- If your 3D glasses came with an emitter box, connect the emitter box to the 3D GLASSES EMITTER jack on the back of the TV. See page 9 for the location of the jack.

- 3. Power on the TV and the source device.
- 4. Connect the source device to the TV's HDMI input.
- **5.** When the **Auto Input Sensing** screen displays, name the input according to the table below.

The signal type and choice of name are important because the TV will process the video signal differently depending on the name you assign. If your source device is a high-definition disc system, such as Blu-Ray or HD DVD, or is a game console, the signal must be 1080p at 60 Hz.

6. Press EXIT to close the **Auto Input Sensing** screen.

Source of 3D Video	Type of 3D Video Signal	Name to Assign to Video Input
Computer	Recommended: 1080p 60 Hz (1920 X 1080). The image will fill the TV screen.  Other 60-Hz computer video signals compatible with the TV will display with black bars. See "Computer Display Formats" on page 17.	PC
Any other 3D video source	To see 3D video, signal must be 1080p 60 Hz	Any name other than <b>PC</b>

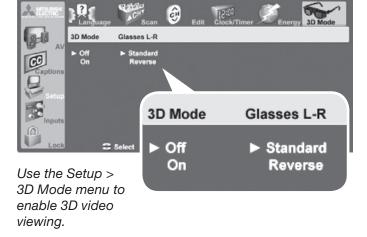
#### To Watch 3D Video

- 1. Press INPUT to display the *Input Selection* menu.
- **2.** Highlight the icon for the 3D video input and press ENTER.
- 3. Press MENU and select the **Setup > 3D Mode** menu.
- **4.** Set **3D Mode** to **On**. The **On** setting will be memorized for the current input when you exit this menu.
- 5. Press EXIT to close the menu.

# To Watch Regular (non-3D) Video

The **3D Mode** setting is memorized for each input. When you want to watch non-3D video on the input selected above:

- 1. Select the input in the *Input Selection* menu.
- Open the Setup > 3D menu and set 3D Mode to Off.

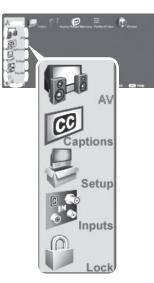


TV Menus

# Main Menu

Press MENU on the remote control to open the *Main* menu.

Icon	Menu Name and Description		Page
8-18	AV Menu	Customize picture and sound settings.	36
CC	Captions Menu	Turn closed captions on and off; customize caption displays.	41
	Setup Menu	Perform basic TV setup. Set language, scan (memorize) channels, set the TV clock, edit channel options, lock TV use by channel, set Energy Mode, Lamp Mode, auto-on TV Timer.	42
E CO	Inputs Menu	Assign names to TV inputs, change icon order in the <i>Input Selection</i> menu, perform NetCommand IR "learning."	47
	Lock Menu	Restrict TV use by program ratings and by time of day. Disable the control-panel buttons. Set a pass code.	48



35

Main menu

# Remote Control Keys for the TV Menu System



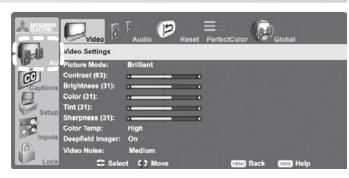
Ke	у	Function	
1	MENU	Display or close the <i>Main</i> menu or move back one menu level.	
2	EXIT	Close all menus and return to TV viewing.	
3	<ul><li>✓ ►</li><li>(Adjust Left/Right Keys)</li><li>▲ ▼</li><li>(Adjust Up/Down Keys)</li></ul>	<ul> <li>Move through screens to select menu options.</li> <li>Change settings.</li> <li>Scroll through lists.</li> </ul>	
4	ENTER	Start an automatic function or check/uncheck a check box. When setting time, move from hour digits to minutes digits and from month to day to year digits.	
5	Numbers Letters	Enter channel numbers. Enter custom names in some text boxes.	
6	CANCEL	<ul><li>Clear a setting or stop an automatic function.</li><li>Add a separator in a digital channel number.</li></ul>	
7	INFO	Get context-sensitive help.	

5. TV Menus



# AV Menu

An on-screen slider displays when making some audio and video adjustments. Numeric values represented on the slider range from 0 (minimum) to 63 (maximum), with 31 as the mid-point.



The AV menu contains sub-menus for audio and video adjustments

AV Menu Options				
Video	See the description of video adjustments on page 38.			
Audio	See the description of audio adjust	ments on page 40.		
Reset	<ul> <li>To reset audio and video adjustments for the current input, highlight the Reset icon and press ENTER.</li> <li>Reset has no effect on settings for Balance, Listen To, Language, and Film Mode.</li> </ul>			
	PerfectColor Sliders	Adjust the saturation (intensity) of six colors for the current image source.		
PerfectColor	PerfectTint Sliders (835 series models)	Adjust six hues for the current image source		
	<ul> <li>To use PerfectColor and PerfecTint: Highlight the PerfectColor™ icon and press ENTER to display the PerfectColor menu. Settings are retained in memory independently for each TV input.</li> <li>To switch between PerfectColor™ and PerfecTint™ adjustments, highlight Adjust Mode and press ▼ ►.</li> <li>Press ▲ ▼ to move from one color bar to the next.</li> <li>Press ■ to change settings.</li> <li>Press CANCEL to restore default settings.</li> <li>Press MENU to return to the Main menu.</li> </ul>			

5. TV Menus 37



# AV Menu, continued



AV > Global menu

AV Menu Options	AV Menu Options				
Global	Video Mute	On, Off	<ul> <li>On: Displays a solid purple background when there is no video signal from the current input.  Use the On setting to let the colored screen remind you that the TV is powered on at times when there is no picture. The TV will power off after five minutes if it detects no video signal.</li> <li>Off. The screen appears black if there is no video signal from the current non-antenna input.</li> </ul>		
	Audio Only Screensaver	On, Off	<ul> <li>On: Select On to display a random screensaver pattern while playing an audio-only device. The device must be named CD/Audio or MP3 Player to use this feature.</li> <li>Off: No screensaver pattern displays during play of an audio-only device.</li> <li>Note: When playing an audio-only device, the TV will power off after 12 hours of inactivity.</li> </ul>		
	Film Mode (480i and 1080i signals only)	Auto, Off	In <b>Auto</b> , the TV automatically detects and applies film-decoding correction to movies filmed at 24 frames per second. Try the <b>Off</b> setting if images show many jagged edges.		
	Smooth 120 Hz (835 series)	Off, On	When <b>On</b> , Smooth 120Hz <sup>™</sup> reduces motion blur in action scenes but may show pixel structure during slower motion or in still images. When <b>Off</b> , standard picture smoothing processing is employed.		
	Blue Glow (835 series)	On if TV off, On if TV on, Off	Select one of the <b>On</b> settings to see decorative blue lighting on the TV.		
	Test Picture	Displays a test of TV servicing	picture. For use during troubleshooting under the direction personnel.		

38 *5. TV Menus* 



# Video Menu

Mitsubishi recommends you assign names to TV inputs before making video adjustments (use the *Inputs > Name* menu). Otherwise, adjustments will be reset to the defaults if you name inputs afterwards.

To make video adjustments:

- From the Video menu:
  - **1.** Press ▲ ▼ to highlight an option.
  - **2.** Press **◆ ▶** to display the submenu and adjust.
  - 3. Press MENU to return to the AV menu.
- While watching TV: Press the VIDEO key repeatedly to display the video option you want to change. Press ◀
   to change settings.



AV menu, Video options

**Note:** See "Computer Video Adjustments" on page 17 for additional adjustments for computer images.

Video Menu Options						
Picture Mode	Brilliant	For use under bright light; unavailable when the current input is named <b>Game</b> or <b>PC</b> .	Set the Picture Mode first before changing other video settings, as			
	Game	Optimizes picture and video processing for gaming consoles. Available only when the name of the input is <b>Game</b> or <b>PC</b> .	some settings are stored independently for each Picture Mode. Use Picture Modes to get the best image under different viewing conditions.			
	Bright	For most daytime viewing and <b>x.v.Color</b> sources				
	Natural	For most nighttime viewing and <b>x.v.Color</b> sources				
Contrast	<ul> <li>Adjusts the white-to-black level</li> <li>Settings are stored independently for each Picture Mode.</li> <li>Low contrast shows a variety of shades in darker images</li> <li>In most home lighting situations, medium contrast looks best.</li> <li>High contrast shows darker images more uniformly black and makes colors appear more vibrant. High contrast is good for brightly lit environments.</li> </ul>					
Brightness	<ul> <li>Adjusts overall picture brightness</li> <li>Settings are stored independently for each Picture Mode.</li> </ul>					
Color	Adjusts ove	erall color intensity from no color to fully satura	ated.			
Tint	Adjusts the	red-to-green ratio.				
Sharpness	Adjusts picture detail and clarity.					
Color Temp	Adjusts the white balance. Settings are stored independently for each Picture Mode.					
	High	Gives white images a cool cast. May provide the most realistic picture under bright lighting.				
	Low	Gives white images a warm cast. Natural/Color Temp at the low setting disp video at approximately the 6500K industry standard for NTSC pictures.				
Video Noise	Reduces minor noise (graininess) in the picture. Use <b>Low</b> with good-quality signals. Use <b>Off</b> to leave the picture unaltered. Satisfying the control of th					

5. TV Menus

39



# Video Menu, continued

SharpEdge (835 series models)	On, Off SharpEdge™ adds special edge enhancements to make the image appear sharper. Saved by input.	
Deep Field Imager	On	DeepField™ Imager dynamically enhances black levels in portions of the screen to provide strong contrast with detail over mixed screen content.
(736 and 835 series models)	Off	Contrast is adjusted uniformly across the entire screen.
,	Demo	For comparison, displays a split picture to show <b>On</b> (right side) and <b>Off</b> (left side).
Vert Adjustment (Stretch Plus mode only)	<ul> <li>Press the ENTER key to enter adjustment mode (in Stretch Plus only).</li> <li>Press ▲ ▼ to move the picture up or down.</li> </ul>	
Horiz position (Computer image only)	Press ◀ ▶ to display the adjustment slider. Press ◀ or ▶ to shift the image horizontally.	
Vert position (Computer image only)	Press ◀ ▶ to display the adjustment slider. Press ◀ or ▶ to shift the image vertically.	

# 📕 闧 Audio Menu

To make audio adjustments:

- From the Audio menu:
  - **1.** Press ▲ ▼ to highlight an option
  - 2. Press ◀ ▶ to display the submenu and adjust.
  - 3. Press MENU to return to the AV menu.
- While watching TV: Press the AUDIO key repeatedly to display the audio option you want to change.
   Press ◀ ▶ to change settings.



AV menu, Audio options

Speakers	The <b>Speakers</b> option displays only if an A/V receiver connection has been detected.			
	TV	Turns on the internal TV speakers.		
	AV Receiver	Turns off the TV speakers so you hear sound only from a connected A/V receiver.  Note: When you disconnect an analog A/V receiver, be sure to manually change the Speakers setting to TV to hear sound from the TV speakers.		
Bass	Controls volum	ne of low-pitched sound from the TV speakers.		
Treble	Controls volum	ne of high-pitched sound from the TV speakers.		
Balance	Controls audio	balance between the right and left TV speakers		
Sound Mode	Normal	No special audio effects from the TV speakers (default)		
	Expand	Modifies audio from the TV speakers.  • For monaural (non-stereo) programs, creates a simulated stereo effect.  • For stereo programs, creates a simulated surround sound effect.		
Listen To  Available for analog chan-	Stereo	Default setting. The TV plays stereo broadcasts in stereo and mono broadcasts in mono. The word <b>Stereo</b> is displayed when you tune to a channel broadcasting in stereo.		
nels from ANT1/ANT2 only	Mono	Reduces background noise. Use when receiving a weak stereo audio signal. All audio is played as mono with this setting.		
<b>,</b>	SAP (Second Audio Program)	Selects an additional monaural sound track not audible during normal TV viewing. The SAP signal might be related to the program (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 <b>SAP</b> are displayed when you tune to the channel		
Language	English French German Italian Portuguese Spanish Other	Selects the current language for a digital program from <b>ANT1</b> or <b>ANT2</b> . Each digital program may include zero to seven language choices.  Available for digital channels from <b>ANT1/ANT2</b> only		
Level Sound	On, Off	Reduces differences in sound volume between programming segments, such as the difference between regular broadcast programs and commercial segments.		



# Captions Menu

# **Captions on Analog Channels**

The TV can decode captions from ANT 1/ANT 2 and the VIDEO composite and S-VIDEO jacks. Broadcasters can send either standard closed captions or text service. Standard closed captions follow the dialogue of the program 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.

#### **IMPORTANT**

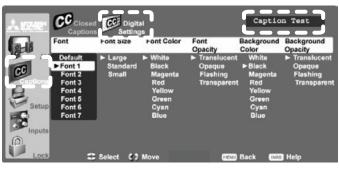
- Analog text-service options display a large black or gray box on the screen when no signal is being broadcast.
- The content of captions is determined by the broadcaster. If captions show strange characters, misspellings, or odd grammar, it is not a malfunction of the TV.
- Closed caption signals are not available through HDMI or component jacks. See the menus for these devices for closed-caption decoding.

**Background** 

Opacity

## **Captions on Digital Channels**

The TV can decode captions from **ANT 1/ANT 2** only. Broadcasters can send up to six different captioning selections or can send analog captions that match those sent by the analog station. A TV station may broadcast only one or two types of captions or none at all.



Digital Settings menu. Check the caption test area (upper right) to see how custom settings look.

sample text in the upper right corner of

the menu.

#### **Captions Menu Options** On if Mute On if Mute: Displays analog closed captions signal CC 1 Analog CC CC 1-CC 4 when audio from the TV speakers is muted. When watching **Captions** Text 1-Text 4 TV, press MUTE to turn captions on/off. Closed Off • CC 1-CC 4: Standard closed-caption signals **Captions** • **Text 1–Text 4:** Text-service signals Gray, Black Selects either a gray or black text background to make analog Analog Background closed captions easier to read. On if Mute • On if Mute: Displays digital closed caption signal Caption 1 **Digital** when audio from the TV speakers is muted. When watching **Captions** Caption 1-Caption 6 TV, press MUTE to turn closed captions on/off. Off • Caption 1-Caption 6: Caption signals sent by the broadcaster Font Default **Default** changes settings to those selected by the captions pro-CC Font 1-Font 7 vider, or, if none, to the TV's own captions defaults. Use Fonts 1 through 7 to give captions a custom appearance. **Digital Settings Font Size** Large **Large** is the recommended size. Standard Small **Font Color** White, Black, Magenta, etc. Guidelines for setting digital captions: A white font on a black translucent **Font Opacity** Translucent, Opaque, Flashing, background makes an easy-to-read **Transparent** combination. Use contrasting colors for captions and Background White, Black, Magenta, etc. background. Color Check readability of captions using the

Translucent, Opaque, Flashing,

**Transparent** 

5. TV Menus







# Setup Menu

## Use the Setup menu to:

- Select English or Spanish for menus and on-screen text.
- Scan the channels available for the antenna or cable service connected to the ANT 1 or ANT 2 jacks.
- Edit channel options, including channel locking.
- Set the TV's internal clock.
- 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.
- Set the TV Lamp Mode.
- Turn 3D mode on and off.



Setup menu, Scan option

3. Press ENTER to start channel memorization for the selected input.

#### **Setup Menu Options English** Display on-screen menus in either English or Spanish. **Spanish** Note: To listen to audio in other languages (when available), see the section on the **AV** menu, **Audio** submenu, and refer to either Listen To > SAP (analog Language signal) or Language (digital signal). Scan memorizes broadcast channels to make them easier to find. To start Ant-1 Air Ant-1 Cable channel memorization: Scan Ant-2 Air 1. Highlight one of the input selections based on your connection to ANT 1 **Ant-2 Cable** or **ANT 2**: Air when connected to an indoor or outdoor antenna. **Cable** when connected to direct cable (no cable box) 2. Press ▶ to highlight START.

#### Notes on Scan and channel memorization:

- Channel memorization may take up to 15 minutes to complete.
- To stop channel memorization before completion, press CANCEL.
- When watching TV, press CH ▲ ▼ to move through memorized channels.
- To add a digital channel that does not appear in the *Edit* menu without repeating channel memorization:
  - Look up the physical channel number for the new digital channel. The website www.antennaweb.org can help you find the physical channel number.
  - 2. Tune to any channel on the **ANT 1** or **ANT 2** input your antenna is connected to.

3. Use the number keys and CANCEL key to enter the physical channel number followed by "-1" and ENTER. For example, for physical channel 36, press

3 6 CANCEL 1 ENTER.

The TV will search for a digital channel on the channel 36 frequency. When it finds the channel, it will:

- a. Add the channel to memory.
- b. Change the channel number to the virtual channel number sent by the broadcaster.
- c. Add to memory any associated subchannels.
- Rememorize channels if you move the TV to a different geographic area with a different channel line-up.



# Setup Menu, continued

#### **Edit**

**Virtual Channel Number** (digital channels only). A channel number sent by a local broadcaster. Usually the virtual number is associated with the corresponding analog channel number. For example, a broadcaster may associate digital channel 2-1 with their analog channel 2.

**Physical Digital Channel Number.** The channel number officially assigned to the actual broadcast frequency; shown on screen in parentheses.



Setup menu, Edit channel options

#### **Setup Menu Options**



Edit

Use the *Edit* menu to edit channel options when **ANT 1** or **ANT 2** is the current source, To highlight a channel number to edit:

# Press CH △/ン to jump to the next page of channel numbers. Press and hold CH △/ン to speed

 Press ▲ ▼ to move through all channel numbers, one at a time. Press and hold ▲ ▼ to speed through channel numbers.

The TV tunes to the highlighted channel on release of CH  $\wedge$ / $\vee$  or  $\blacktriangle \nabla$ .

#### Channel

Channels marked with a check are in memory. To add or delete a channel from memory, highlight the channel number and press **ENTER**. To add a single digital channel not in the list, see the notes under **Scan** on the opposite page.

Digital channels are listed by virtual channel number with the physical channel number shown in parentheses.

#### Name

Assign a custom name up to six characters long to memorized channels. You can name analog channels and digital channels if broadcast without pre-assigned names.

- 1. With the cursor in the **Name** field, press a number key repeatedly to cycle through the characters associated with the key, including !, &, blank (1 key) and /, \*, (0 key).
- 2. Press ENTER to set the letter and move to the next letter position. To delete the current character and move back one position, press CANCEL.

#### Fav1-Fav6

Use the six Fav channel banks to store groups of your favorite channels. For example, you can set up a Fav channel bank for each of your favorite program types (e.g., sports, news, children's programs) or set up a bank for each TV user.

- Use ▲ ▼ ◀ ▶ to move the highlight through the Fav area of the screen.
- Press ENTER to insert a check mark to add the highlighted channel to one of the Fav banks
- The same channel can be added to multiple Fav banks
- To remove a channel from a Fav bank, highlight the check mark and press ENTER.

**Note:** To set up Fav channel banks without using this menu, see "Fav (Favorite Channels)" on page 30.

# Lock

Lock channels so that a pass code is required to view them. When you rememorize channels, all lock settings are cleared.

Highlight the **Lock** column and enter a pass code when prompted. If you previously set a pass code to open the main **Lock** menu, use the same pass code. See "Lock Menu," page 48 for more on pass codes.

To lock or unlock a channel, highlight the lock icon for the channel and press **ENTER** to switch between the locked and unlocked versions of the icon.

5. TV Menus



# Setup Menu, continued

#### Clock

Use either the manual or auto method to set the clock. Set the clock if you wish to:

- Use the TV's Timer function.
- Maintain accurate ChannelView listings.



Setup menu, Clock options

#### **Setup Menu Options**



# **Settings**

**Manual.** To set the clock manually:

- 1. Select Manual.
- 2. Set the time of day.
- 3. Set the date.
- 4. Select your time zone.
- 5. Select either Applies or Ignore for Daylight Savings Time.

**Note:** If using **Manual**, each time the time change occurs, you must open this menu and set the TV's clock ahead or back.

Auto. To set the clock automatically:

- 1. Select Auto.
- 2. Select your time zone.
- 3. Select either Applies or Ignore for Daylight Savings Time.
- **4.** After exiting the menus, tune the TV to an analog station on **ANT 1** or **ANT 2** carrying XDS data, typically a PBS station.

#### Note:

- With the Auto setting, the TV's clock adjusts automatically to daylight savings time.
- The TV's clock will be reset if you tune to a channel sending incorrect time data. 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**.

# Time (Manual option only)

- With the hour highlighted, press ▲ ▼ repeatedly to change the hour and the AM/PM indicator. Press and hold to change the hour display quickly.
- 2. Press ENTER to set the hour.
- **3.** With the minutes highlighted, press ▲ ▼ to change the minutes. Press and hold to change the minutes display quickly.

Date	
(Manu	al
option	only)

- **1.** With the month highlighted, press  $\blacktriangle \blacktriangledown$  to select. Press **ENTER** to set.
- 2. With the day highlighted, press ▲ ▼ to select. Press ENTER to set.
- 3. With the year highlighted, press ▲ ▼ to select the current year.

# Time Zone

Savings

Time

Eastern, Central, Mountain, Pacific, etc.

Ignore

Required for both the **Manual** and **Auto** methods.

Daylight Applies

Required for both the **Manual** and **Auto** methods. Select the option for your area.

5. TV Menus 4



# Setup Menu, continued

#### Timer

Use the Timer to set a time for the TV to turn on automatically. Use this menu to set a day, time, input, and channel for the Timer. If the TV is already on at the requested time, the TV will automatically tune to the designated channel.

- The TV clock must be set before you can use the Timer feature.
- To open the *Timer* menu, highlight the Timer icon in the *Setup* menu and press ENTER.
- The TIMER indicator on the front of the TV flashes slowly when the TV is off to indicate the TV Timer has been set to turn on the TV automatically.
- When the Timer turns on the TV, press any key on the remote control to keep it on. Otherwise, the TV will turn off after five minutes.



Setup menu, Timer options

Setup Menu Options				
45	Timer	On, Off		
Timer	Day	Daily, Mon-Fri, (every) Sunday, (every) Monday, (every) Tuesday, etc. Select the day or days of the week for the Timer to turn on the TV.		
	Time	<ol> <li>To set the time for the TV to come on:</li> <li>With the hour highlighted, press ▲ ▼ repeatedly to change the hour and the AM/PM indicator. Press and hold to change the hour display quickly.</li> <li>Press ENTER to highlight the minutes.</li> <li>Press ▲ ▼ to change the minutes. Press and hold to change the minutes display quickly.</li> </ol>		
	Input	Ant-1, Ant-2, DVD, VCR, etc.  Select the input you want displayed when the TV comes on. Choose from the defined and enabled inputs that appear in the <i>Input Selection</i> menu.		
	Channel	If the input is an antenna (ANT 1, ANT 2), enter a channel number in any of three ways:  • Enter the number using the remote control's number keys.  • Press ▲ ▼ repeatedly  • Press and hold ▲ ▼ to scroll quickly through the available channel numbers.		

46 *5. TV Menus* 

**Setup Menu Options** 



# Setup Menu, continued



Setup menu, Energy options

	Energy Mode	Fast Power On	Use the Energy Mode option to select the level of power consumption while the TV is turned off. The default setting is <b>Fast Power On</b> .				
Energy		Low Power	Low Power uses less energy, but TV power-on takes longer and some TV features may be unavailable.				
	<ul><li>Have fa</li><li>Receiv</li><li>Keep tl</li></ul>	<ul> <li>Keep Energy Mode set to Fast Power On if you need to:</li> <li>Have faster power on.</li> <li>Receive updates to ChannelView channel listings.</li> <li>Keep the TV Clock accurate for the TV Timer. With the Low Power setting, you must reset the TV Clock if the TV is left turned off for over 48 hours.</li> </ul>					
	Lamp Mode	Standard	Standard is for most viewing conditions and may extend lamp life by using lower wattage. Use <b>Bright</b> in brightly lit rooms.				
	Wiode	Bright	using lower wattage. Ose <b>bright</b> in brightly lit rooms.				
-	3D Mode	On, Off	Use the <b>On</b> setting for video games and movies that require 3-D glasses.				
3D Mode	Glasses L-R	Standard, Reverse	Synchronizes the 3D glasses with the image on screen to provide the best 3D effect. <b>Standard</b> is the default; try <b>Reverse</b> if this seems incorrect.				
	Note: 3D	Note: 3D options are available only for 1080p 60 Hz video sources connected to an HDMI input.					

5. TV Menus 47

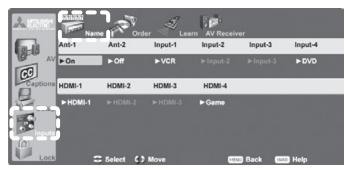


# Inputs Menu

#### Note:

When you change an input name in the *Name* menu and then exit the *Name* menu:

- The name is changed
- The icon in the *Input Selection* menu is changed
- Audio and video settings are changed to the defaults for the new device type.
- All previous NetCommand "learning" for the input is erased.



Change input names using the Inputs > Name menu.

## **Inputs Menu Options**



Cable Box, Camcorder, CD/ Audio, DVD (DVD, DVD2, Blu-Ray, HD DVD), DVR, Game (Game, PS, Xbox, Wii), MP3 Player, PC, Satellite, VCR, AVR

On/Off (ANT 1 and ANT 2 only)

Off (HDMI only)

Control Enable, Control Disable (CEC-enabled devices only)

- Lets you assign or change names of inputs appearing in the *Input Selection* menu.
- Lets you turn **Ant-1** and **Ant-2 On/Off** (to display/hide in *Input Selection* menu).
- Lets you turn unused HDMI inputs **Off** (to remove from *Input* **Selection** menu).
- Press ◀ ▶ to move between inputs.
- Press ▲ ▼ to select a name.
- If you change the name of an input after performing NetCommand "learning," the IR codes you "learned" are erased.

#### **Notes for HDMI devices**

- **Disconnecting an HDMI device:** When you disconnect an HDMI device, the icon remains in the *Input Selection* menu until you remove it. To remove an unwanted HDMI icon, select **Off** for the HDMI input.
- **Disabling TV's use of CEC:** CEC-enabled devices appear in the *Inputs > Name* menu with an option to turn off the TV's CEC signals to the device. You may want to disable the TV's CEC signals if control conflicts occur. The default setting is **Control Enable. Press** ▲ ▼ to highlight **Control Disable** to turn off TV CEC for the device. To enable or disable the device's response to CEC signals, see the device's owner's manual.
- Names of CEC-enabled devices: CEC-enabled devices send their own predefined name to the TV. You cannot change the name of CEC-enabled devices.



Order

Lets you put frequently used icons at the start of the *Input Selection* menu.

- **1.** Press ▲ ▼ ◀ ▶ to highlight the icon to move.
- 2. Press ENTER to confirm the selection.
- **3.** Press  $\triangle \nabla \blacktriangleleft \triangleright$  to drag the icon to the desired position.
- **4.** Press **ENTER** to set the new position.



#### 736 and 835 series models

- Select **Learn** to perform initial set-up of NetCommand control of the current viewing device.
- Lets you add or remove individual keys from NetCommand control of a device.

See detailed instructions in chapter 6, "NetCommand IR Control."



#### 736 and 835 series models

Sets up NetCommand control of an A/V receiver. This set-up allows you to:

- Operate the A/V receiver's power and volume functions with the TV's remote control.
- Automatically switch an A/V receiver to the correct audio input when a device is selected in the Input Selection menu.
- Automatically switch an A/V receiver with an HDMI output to the correct audio and video inputs when a device is selected in the Input Selection menu.

See detailed instructions in chapter 6, "NetCommand IR Control," starting on page 57.

5. TV Menus



# Lock Menu

TV locks available from the **Lock** menu are:

P	Parent Other	Lock by Ratings Restricts access to programming based on V-Chip rating signals sent by the broadcaster.
	Time	Lock by Time Restricts TV use by time of day.
CP	Control Panel	Lock Control Panel Disables the buttons on the TV's control panel. Use this option if small children in the home try to press control-panel buttons.

**Note:** Channel Lock is an additional lock that blocks access to specific channels. Channel Lock is available under the **Setup** menu (**Setup** > **Edit** > **Lock**, page 43).

## **Pass Codes**

#### Setting a Pass Code

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

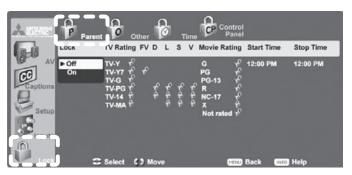
- 1. Press MENU, highlight Lock, then press ▶. A screen prompting you for a pass code will display.
- 2. Input a four-digit pass code using the number keys on the remote control.
  - Press CANCEL to delete a number and move back one space.
  - Press MENU or EXIT to close the menu without setting a pass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

#### Resetting a Pass Code

See the procedure in Appendix C.

#### Important Notes on Rating Locks

- Parent menu rating locks apply only to channels and signals received on ANT 1, ANT 2, and the VIDEO composite and S-VIDEO jacks.
- Other menu rating locks apply only to digital channels received on ANT 1 or ANT 2.
- When viewing a cable box, satellite receiver, or other device connected to the component Y Pb Pr or HDMI inputs, check the device's owner's guide for use of parental locks.



The Lock > Parent menu lets you set parental controls using V-Chip technology.

# **Parent Menu**

The TV comes from the factory with the rating locks turned off and with pre-set U.S. ratings TV-PG and movie rating PG. Turn on blocking for U.S. ratings to activate these rating restrictions. Use the *Lock* > *Parent* menu to change the level of blocking with U.S. ratings.

Any time you change the channel or device, it may take up to five seconds for the rating restrictions to take effect.

# Other Menu (Alternate Rating System)

This TV can recognize new rating systems that may come into effect in the future. The *Other* menu allows you to block digital programming when such systems come into effect.

The first time you tune to a channel broadcasting an alternate rating system, the TV defaults to the most restrictive setting if the *Lock* menu > *Other Lock* option is set to **On**. Use this menu to change the allowed rating if you are unable to watch a program broadcast with an alternate system.

## Bypassing TV Locks

- If you try to watch a blocked program or channel, or the TV is locked by time, a notice will appear prompting you for a pass code. To use the TV, input your four-digit pass code and press ENTER.
  - To reactivate the locks after using a pass code, power the TV off and then on.
  - To reactivate only the parent ratings lock, change to a different channel or device.
- If a program or channel is blocked, you can still
  use the TV without entering a pass code. The lock
  allows you to change to a channel airing an allowed
  program or change to another device.

5. TV Menus



# Lock Menu, continued



# Parent Menu Options (U.S.-based rating system)

Option N	lame and Des	scription			
Lock	Off, On	Off, On Disables or enables program blocking based on V-Chip signals and the U.S. rating system.			
TV Rating	TV-Y	Youth. For children under 7.	Highlight the rating level you wish to change and press ENTER to block it		
	TV-Y7	Youth 7 and older.			
	TV-G	General Audience. For the entire family.	( or allow it ( ).		
	TV-PG	Parental Guidance. Parental Guidance recommended; may not be suitable for some children.	<ul> <li>You can apply supple- mental content blocking to the age-based rating</li> </ul>		
	TV-14	Adolescent 14 and older. Not recommended for children under 14.	by using the TV content categories listed below.		
	TV-MA	Mature Audience. For adults only.			
FV	Fantasy Vi	olence. Applies to TV-Y7 only.			
D	Sexual Dia	Sexual Dialog. Applies in differing degrees to TV-PG and TV-14.			
L	Adult Language. Applies in differing degrees to TV-PG, TV-14, and TV-MA.  TV Content				
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.				
Movie	G	General Audience. Designed for the entire family to view.			
Rating	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.			
	Not Rated	t Rated The program has not been assigned an MPAA rating.			
Start Time Stop Time	<ul> <li>Allows you to set the time of day for enforcement of rating restrictions set in the <i>Parent</i> menu.</li> <li>1. Highlight the hour digits for <b>Start Time</b>.</li> <li>2. Press ▲ ▼ repeatedly to change the hour and associated <b>AM/PM</b> indicator. You can also just press and hold to move quickly through the numbers.</li> <li>3. Press ENTER to highlight the minutes.</li> <li>4. With the minutes digits highlighted, press ▲ ▼ repeatedly to change the minutes. You can also just</li> </ul>				

- 4. With the minutes digits highlighted, press ▲ ▼ repeatedly to change the minutes. You can also just press and hold to move quickly through the numbers.
- 5. Highlight the **Stop Time** digits and set the time as described above.

**Note:** To make rating restrictions active 24 hours a day, make **Start Time** and **Stop Time** the same.

5. TV Menus



# Lock Menu, continued



# Other Menu Options (alternate rating system)

This TV can recognize new rating systems that may come into effect in the future. The **Other** option remains grayed out until the TV receives a signal using an alternate rating system. Such alternate rating systems will apply only to digital programming received on the **ANT 1** and **ANT 2** inputs.

Option Name and Description			
Lock	On, Off Enable or disable program blocking.		
System Name	The rating s	ystem available for the channel	
<b>Group</b> Rating groups available in the rating system shown on the screen. Rating groups are the rating system in effect.			
Rating	Rating restrictions available in the selected rating system and group. Highlight the rating and press ENTER to check (block) or uncheck (allow) rated content.		



#### Time

Blocks all use of the TV during the time period you specify. You must enter a pass code to use the TV when the time lock is in effect.

Lock by Time	On, Off	Enable or disable Lock by Time.
Lock Time, Unlock Time  To set the lock and unlock ti  Highlight the hour digits		and unlock times: e hour digits for the <b>Lock Time</b> .
		repeatedly to change the hour and associated <b>AM/PM</b> indicator. To move quickly numbers, just press and hold.
	3. Press ENTER	to set the hour and highlight the minutes.
		nutes highlighted, press ▲ ▼ repeatedly to change the minutes. To move quickly numbers, just press and hold.
	5. Highlight the	e Unlock Time digits and set the time as described above.
	Note: To make	e Lock by Time active 24 hours a day, make <b>Start Time</b> and <b>Stop Time</b> the same.



# **Control Panel**

# On, Off

**On** locks and **Off** unlocks the buttons on the TV's control panel. Use this option if small children may try to press TV buttons.

If the remote control is unavailable, use the control panel to release the Control Panel Lock. Press and hold the MENU button for over eight seconds. You can do this to release the lock even if the TV is powered off. To reactivate the lock, you must return to this menu and change the setting to **On**.



About NetCommand IR Control

for HDMI Devices" on page 28.

able on the following models:

- WD-65736, WD-73736

WD-65835, WD-73835NetCommand setup is optional.

supplement CEC control.

**Note:** To learn about NetCommand for HDMI devices,

NetCommand IR home-theater control is avail-

You may wish to use NetCommand IR control to

You can perform NetCommand setup when the TV

NetCommand operates by sending remote control

or at any convenient time afterward.

first recognizes a device during Auto Input Sensing

signals from the TV to your other devices via the IR

emitters, telling the devices to play, record, change

inputs, adjust volume, change channels, or perform

**Important Note on NetCommand** 

Be sure to connect the IR emitter cable to the

TV and properly place the emitters so that

the explanation on the next page.

NetCommand can control your devices. See

available on all TV models, see "NetCommand

# **NetCommand IR Control**

other functions. All this is accomplished with the

TV's remote control and the slide switch left in the TV

51

 The IR "Learning" feature of NetCommand allows the TV to learn the IR control signals for your A/V devices

position.

- You can choose the level of NetCommand control for your home theater.
  - Standard Setup. Perform a standard setup if you:
    - Want NetCommand to control only a few devices, such as the TV, a playback device (like a DVD player), and a cable box. With this setup, you can use the TV's remote control to operate these devices.
  - A/V Receiver Setup. Perform A/V receiver setup if you want NetCommand to:
    - Control a surround sound A/V receiver.
    - Automatically change audio input selections on an A/V receiver when you change inputs on the TV.
    - Automatically change audio and video input selections on an A/V receiver with an HDMI output to the TV.

# IR Emitter Placement

An IR emitter cable is included with the TV.

The NetCommand system uses emitters connected to the IR—NetCommand Output jack to control other devices such as DVD players, cable boxes, satellite receivers, and VCRs.

- Connect the plug end of the supplied IR emitter cable to the IR-NetCommand Output jack on the TV back panel.
- 2. Run the cable for each of the emitter ends under, alongside, or over each device to be controlled so that the emitter end is in front of the area where the remote control sensor is located.
- 3. Position the emitter end with the emitter bulb facing the remote control sensor. The bulb emits infrared light in a cone-shaped pattern. Place the bulb far enough from the sensor to allow the cone pattern to reach the sensor.

The IR sensor is usually behind the plastic window of the front display panel. It is sometimes visible with the aid of a flashlight and is normally a round or square cutout behind the plastic.

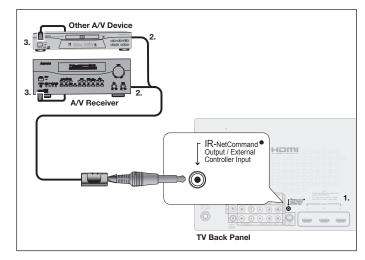
If you cannot see the sensor and the device's Owner's Guide does not specify the location, you can find it by following these steps using the device's remote control:

- a. Hold the device's remote about one-half inch from the front of the device. Starting from one end of the display window plastic, press the POWER button.
- **b.** If the device does not respond, move the remote control one inch toward the center and try again.
- c. Repeat this until the device responds.
- **d.** Note this location and then start over from the other end of the display window plastic, repeating until the device responds again.

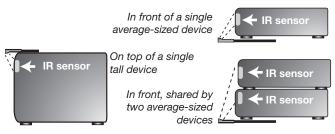
The remote control sensor is somewhere between these two positions. This is usually enough accuracy for placement of the IR emitters

In some cases, the emitter works better facing downward from the top of the device. Experiment to find what works best.

- **5.** Secure the emitter ends in place using double-sided tape.
- Place any unused ends behind the devices to prevent stray signals from reaching the IR sensors.



Connecting IR-NetCommand Output



Place IR emitters so the signal can be "seen" by the IR sensor on each device.

#### **IMPORTANT**

Position IR emitters so that each device's sensor "sees" the signal from only one emitter. Otherwise, a device receiving signals from multiple sources (remote controls, IR emitters) may not respond at all.

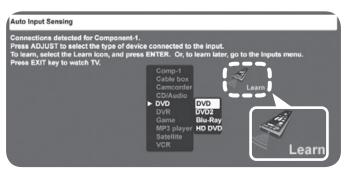
# Initial NetCommand Setup for Most Devices

To perform this procedure, you need:

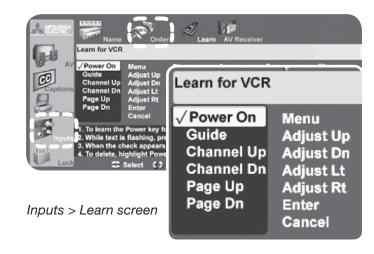
- The remote controls for both the TV and the device you want to control.
- The IR emitter cable supplied with the TV.

**Note:** To set up an A/V receiver, see "Set Up NetCommand Control of an A/V Receiver" later in this chapter.

- Connect and position the IR emitters for the devices you wish to control. See "IR Emitter Placement" on the opposite page.
- 2. Set the **TV's** remote control slide switch to the **TV** position and power on the TV if needed.
- Open the NetCommand *Learn* screen in one of two ways:
  - If working from the Auto Input Sensing screen for the device, highlight the Learn icon and press ENTER to open the Learn screen for the device.
  - If performing NetCommand setup at any time after the device has been recognized through Auto Input Sensing:
    - Press INPUT to open the *Input Selection* menu.
    - **b.** Highlight the desired input icon and press **ENTER** to switch to that input.
    - c. Press MENU, highlight Inputs, and highlight Learn to open the Inputs > Learn screen for the device.
- 4. The first function highlighted in the Learn screen is always Power On. Aim the TV's remote control at the TV and press ENTER to begin learning for that function.
- When the Power On text starts flashing, aim the device's remote control at the TV and press and hold the POWER key until a check mark appears next to Power On.
  - If the text stops flashing before the check mark appears, repeat the previous step.
  - To remove the key from NetCommand control, press the CANCEL key while the key name is highlighted.
- 6. Press the ▲ ▼ ◀ ▶ keys on the *TV's* remote control to highlight other keys on the list. Repeat steps 4 and 5 for each additional function you wish to control through NetCommand.
- 7. If the device's remote control has keys that are not in the list, you can associate up to any four keys with the F1 through F4 keys. Perform NetCommand setup for the F keys the same way you did for the named keys. For example, you can:
- Assign your DVD player's CHAPTER SKIP FORWARD and CHAPTER SKIP BACK keys to F1 and F2.



From the Auto Input Sensing screen, highlight the Learn icon and press ENTER to open the NetCommand Learn screen.



- "Learn" your A/V receiver's DSP options for the current device.
- 8. If the device has a separate POWER OFF key, press ▲ ▼ ◀ ▶ on the TV's remote to highlight Power Off. Repeat the earlier steps to "learn" the POWER OFF key. If the device has no POWER OFF key, skip this step.
- **9.** Press **EXIT** to finish NetCommand "learning" for the current device.

# Adding or Removing Device Keys from NetCommand Control

- 1. Press INPUT to open the *Input Selection* menu, highlight the device's icon and press ENTER.
- 2. Open the *Inputs* menu and highlight the **Learn** icon.
- 3. When the **Learn** screen displays:
  - To add keys: Continue as described earlier under "Initial NetCommand Setup for Most Devices" on this page.
  - To delete keys: Highlight the name of the key you wish to delete and press CANCEL on the TV's remote control to clear the check mark.

# **NetCommand Specialized Device Keys**

Refer to this chart when "learning" device keys. "Learn" some, all, or none of the keys used for each device type. The chart has space for you to write in functions you assign to the F1-F4 keys.

See the following page for more on keys marked in the "Special Operation Method" column.

Key Name in Learning Screen	Function	Name on TV Remote Con- trol	See Special Operation Method Table
Power On	Power On or Power ON/OFF (toggle)	POWER	*
Guide	On Screen Program Guide or DVD Disc Menus	GUIDE	*
Channel Up	Next Channel Higher	CH/PAGE ^	
Channel Dn	Next Channel Lower	CH/PAGE ✓	
Page Up	Page Up in Guides	CH/PAGE ^	*
Page Dn	Page Down in Guides	CH/PAGE ✓	*
Menu	Setup menu for device	MENU	*
Adjust Up	Adjust or arrow up	<b>A</b>	
Adjust Dn	Adjust or arrow down	▼	
Adjust Lt	Adjust or arrow left	•	
Adjust Rt	Adjust or arrow right	<b>&gt;</b>	
Enter	Enter or Select (menus)	ENTER	*
Cancel	Cancel or erase (menus)	-/CANCEL	*
Play	Start playback		
Stop	Stop playback		
Forward	Fast Forward	<b>P</b>	
Rewind	Rewind/Fast Reverse	44	
Pause	Pause playback	(II)	
Record	Start Recording	•	
1, 2, 3, 4, 5, 6, 7, 8, 9, 0	Digit functions	1, 2, 3, 4, 5, 6, 7, 8, 9, 0	
Enter (digits)	Use after digits to directly access channels by number	ENTER	*
- (separator)	Add digital channel separator between main channel number and sub-channel number	-/CANCEL	*
Recall (QV)	Last Channel Recall	QV	
Info	On-screen status display or information display	INFO	May require two keypresses
F1	ASSIGN YOUR	F1	
F2	CHOICE OF	F2	
F3	SPECIALIZED	F3	
F4	FUNCTIONS	F4	
Power Off	Power Off	POWER	

# **Operating NetCommand-Controlled Devices**

# **Controlling Most Device Types**

As an example of NetCommand control, if you are watching your cable box and you wish to tune to the next channel higher, press CH/PAGE . NetCommand then sends the "learned" channel-up control signal to the cable box.

- With an IR emitter properly positioned in front of the device, use the *Inputs* > *Learn* screen to perform NetCommand setup for the device.
- **2.** When you wish to use the device, press **INPUT** to display the **Input Selection** menu.
- 3. Press  $\blacktriangle \lor \blacktriangleleft \blacktriangleright$  to highlight the icon for the device.
- 4. Press ENTER to switch the TV to the device.

**Note:** if you have set up automatic input switching for the A/V receiver, the A/V receiver will automatically switch to the correct input for the device.

- **5.** To operate the device using the **TV's** remote control, set the slide switch to the **TV** position.
- **6.** Point the remote control at the **TV** (not the device) and press the key for the desired function.

# Controlling an A/V Receiver

# Switching Audio to and from the A/V Receiver

- 1. Press AUDIO.
- 2. Press ▲ to show the Speakers option.
- 3. Press ▶ to select either AV Receiver or TV.

# Controlling A/V Receiver Power

- 1. Press AUDIO.
- 2. Press ▲ ▼ to show the Speakers option.
- 3. Press ▶ to select AV Receiver.
- Point the remote control at the TV (not the A/V receiver) and press POWER to power the A/V receiver on or off

#### **Controlling Other A/V Receiver Functions**

With the A/V receiver powered on and selected, the TV's remote operates the volume and mute functions. Also, when you switch to a device in the *Input Selection* menu, the A/V receiver automatically switches to the correct audio input for the device.

2. Press MENU to send the menu signal to the

matically clear from the screen.

device. The Input Selection menu will auto-

# **Special Operation Methods**

Key Name in Learning Screen	Special Operation Description and Setup	Но	ow to Use
Power On	Manual Power On/Off Use for devices that have only one POWER key.		Press INPUT to display the <i>Input Selection</i> menu.
		2.	Press ▲ ▼ ◀ ▶ to highlight the icon for the device to be powered on or off.
			With the <i>Input Selection</i> menu still displayed, press POWER to send the power signal; you may need to press POWER twice.
		No	ote: If you press POWER without the <i>Input Selection</i> menu displayed, the TV will turn off.
		4.	Press ENTER to switch the TV to the device.
Power On	Automatic Power On/Off	•	To Power On the Device
Power Off	POWER ON and POWER OFF keys on their original remote controls. If your device does not have a separate POWER OFF key, do not use the Power Off learn-		<ol> <li>Press INPUT to display the <i>Input Selection</i> menu.</li> </ol>
			2. Press ▲ ▼ ◀ ▶ to highlight the icon for the device to be powered on or off.
	<ul> <li>ing position; use only the Manual Power ON/OFF method described above.</li> <li>In the NetCommand <i>Learn</i> screen:</li> <li>a. "Learn" the <b>Power On</b> command in the <b>Power On</b> learning position.</li> <li>b. "Learn" the <b>Power Off</b> command in the <b>Power Off</b> learning position.</li> </ul>		3. Press ENTER to switch the TV to the device and NetCommand will send the Power On
			command to the device.
			To Power Off the Device When you turn the TV off, the TV sends all
			learned <b>Power Off</b> commands to all devices.
Menu	Displaying the Menu for a Device	1.	While watching a device, press INPUT to display the <i>Input Selection</i> menu with the device icon highlighted

# Operating NetCommand-Controlled Devices, continued

Key Name in						
Learning Screen	Special Operation Description and Setup	How to Use				
Guide	Displaying the Disc Menu (DVD or high-definition disc format)	While watching the device, press <b>GUIDE</b> to display the disc menu.				
	"Learn" the DISC MENU, TOP MENU, or other key as named on the original remote in the <b>Guide</b> learning position.					
	Displaying the On-Screen Program Guide (cable box or satellite receiver)	<ol> <li>While watching the device, press GUIDE to display the guide.</li> </ol>				
	<ol> <li>"Learn" the GUIDE key on the original remote in the Guide learning position.</li> </ol>	<ol> <li>Press CH/PAGE</li></ol>				
	<ol> <li>Learn the PAGE</li></ol>					
Page Up Page Dn	Using Page Up/Down  If the device's original remote control has separate keys for Channel Up/Dn and Page Up/Dn, the TV remote control's CH/PAGE    'Very key can work like the two separate keys.  1. "Learn" CHANNEL    'Very in the Channel Up/Dn positions.  2. "Learn" PAGE    'Very in the Page Up/Dn positions.	<ul> <li>Inside the Guide         Press CH/PAGE</li></ul>				
Enter	Enter Functions (cable boxes, satellite receivers, etc.)					
	Some devices have two keys that have "enter" fund SELECT or OK. A second key is for use with number ket the same ENTER key for both operations.	etions. One key is for menus and is often labelled eys for direct channel selection. NetCommand uses				
	When ENTER has a menu or guide function or when the original remote control uses the same key for menus and channel selection:	<ol> <li>Press MENU or GUIDE to display the device's menu or guide.</li> <li>Press ENTER within the menu and NetCommand</li> </ol>				
	Learn the ENTER, SELECT, or OK key in the NetCommand Enter learning position.	will send the <b>Enter</b> signal for menus.				
Enter (digits)	When ENTER is for channel changes, i.e., the original remote control has a separate ENTER key for this function):	Press digit key(s) and then press ENTER.  NetCommand will send the Enter signal for channel selection.				
	Learn the ENTER key for channel selection in the NetCommand Enter (digits) learning position. Use this learning position only if the original remote control has separate keys for Enter in menus and Enter for channel selection.					
Cancel	CANCEL as the Cancel or Exit Function	<b>1.</b> Press MENU or GUIDE to display the menu or guide.				
	"Learn" the <b>Cancel</b> or <b>Exit</b> function in the NetCommand <b>Cancel</b> learning position	2. Press CANCEL and NetCommand will send the Cancel or Exit signal.				
– (separator)	The symbol "—" can serve as the separator between a digital channel's main and subchannel digits, e.g., digital channel 12-1 (main channel is 12, sub-channel is 1).  "Learn" the channel separator function in the	Press digit key(s) and press CANCEL. NetCommand will send the channel-separator signal.				
	NetCommand – (separator) learning position.					

# Setting Up NetCommand Control of an A/V Receiver

Several varieties of A/V receiver control are described here using the *Inputs* > *AV Receiver* menu, shown on this page.

- Controlling power and volume is described on this page.
- For most equipment setups, see "A/V Receiver Control: Automatic Audio Switching" on the next page.
- If your A/V receiver has an HDMI output, you have the option of sending both audio and video through the A/V receiver over a single HDMI cable to the TV. See "A/V Receiver Control: Automatic Video and Audio Switching via HDMI," page 60.

**Note:** To set up control of other device types, see "Initial NetCommand Setup for Most Devices," page 53.

#### A/V Receiver Control: Power and Volume

Perform this setup to operate the A/V receiver's power and volume functions with the TV's remote control.

To perform this setup you need:

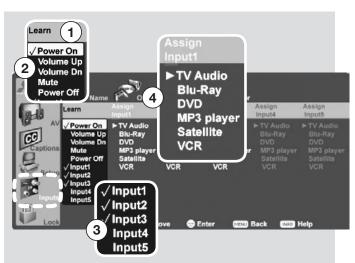
- The remote controls for both the TV and the A/V receiver.
- The IR emitter cable supplied with the TV.

#### Before You Begin

- Connect your A/V receiver to the TV and any additional devices. See chapter 3, "TV Connections," for suggestions. Important: You must connect the A/V receiver to the TV's audio output; use the TV's AVR AUDIO OUTPUT or DIGITAL AUDIO OUTPUT jack.
- 2. Connect the IR emitter cable to the TV and position the IR emitter where it can send signals to the A/V receiver. See "IR Emitter Placement," page 52.
- Set the TV's remote control slide switch to the TV position and power on the TV if not already on.

#### Setup to Control A/V Receiver Power and Volume

- 1. Open the **AV Receiver** screen in one of two ways:
  - If using the Auto Output Sensing screen for the A/V receiver, highlight the Learn icon and press ENTER to open the AV Receiver screen.
  - If performing NetCommand setup at any time after the A/V receiver has been recognized through Auto Output Sensing:
  - Press MENU, highlight Inputs, and highlight AV Receiver to open the AV Receiver screen.
- 2. The first function highlighted in the *AV Receiver* screen is always **Power On**. Aim the *TV's* remote



# **AV** Receiver menu overview

- 1) The **Learn** column lists "learnable" keys on the A/V receiver's remote control.
- (2) A check mark next to a key name indicates it has been "learned" by NetCommand.
- (3) Input1 through Input5 are arbitrary names the TV uses to uniquely identify A/V receiver inputs.
- 4 After "learning" IR codes for A/V receiver inputs, use the **Assign Input** column to identify the device connected to the associated A/V receiver input.

  For example, if you "learned" the A/V receiver's TV audio input as **Input1**, select **TV Audio** from the **Assign Input1** column. Likewise, if you "learned" the A/V receiver's DVD input as **Input2**.

select **DVD** in the **Assign Input2** column.

control at the TV and press ENTER to begin learning for **Power On**.



AV Receiver screen. Perform NetCommand IR "learning" for A/V receiver power and volume keys.

- 3. When the Power On text starts flashing, aim the A/V receiver's remote control at the TV and press and hold the POWER or POWER ON key until a check mark appears next to Power On.
  - If the text stops flashing before the check mark appears, repeat this step.
  - To remove the key from NetCommand control, press the CANCEL key while the key name is highlighted.

# Setting Up NetCommand Control of an A/V Receiver, continued

- 4. Press the ▼ key on the TV's remote control to highlight other keys in the list. Repeat steps 2 and 3 for each additional function you wish to control through NetCommand.
- 5. If the A/V receiver has a separate POWER OFF key, press ▼ on the TV's remote to highlight Power Off. Repeat steps 2 and 3 to "learn" the POWER OFF key.
- 6. When finished "learning" the power and volume keys, either press EXIT to watch TV or leave the AV Receiver screen open to continue with NetCommand setup to control switching of A/V receiver inputs.

# A/V Receiver Control: Automatic Audio Switching

Perform this setup to enable the A/V receiver to switch automatically to the correct audio input when you select a device in the TV's *Input Selection* menu.

To set up control of an A/V receiver you need:

- The remote controls for both the TV and the A/V receiver.
- The IR emitter cable supplied with the TV.

Two different setups are described here:

**Setup 1:** Automatic A/V Receiver Switching to TV Audio Input

**Setup 2:** Automatic A/V Receiver Switching for a device sending audio directly to the A/V receiver

Review these descriptions to find the setup needed for your equipment.

- Audio Available from TV only: Use Setup 1.
   Audio from ANT 1 and ANT 2 must be sent to the A/V receiver from the TV's DIGITAL AUDIO OUTPUT or analog AVR AUDIO OUTPUT.
  - Use Setup 1 to make the A/V receiver switch to its designated TV audio input when viewing these sources.
- HDMI Digital Stereo Audio: Use Setup 1
   Digital stereo audio from an HDMI connection is available both in digital format (from the TV's DIGITAL AUDIO OUTPUT) jack and in analog format (from the TV's AVR AUDIO OUTPUT jack).
- Analog Stereo Audio: Use Setup 1.

Audio from sources with only analog stereo output (such as a VCR) can be sent either directly to the A/V receiver or through to the TV and then on to the A/V receiver.

Mitsubishi recommends you send audio through the TV as shown in the example. Setup 1 causes the A/V receiver to switch to its input designated for TV audio. If you have a digital A/V receiver, the TV makes the audio available by converting analog audio to a digital output.

## • Digital Surround Sound: Use Setup 2.

A device can send digital surround sound such as Dolby Digital or DTS directly to the A/V receiver, bypassing the TV entirely. The device might be a DVD player, cable box, or satellite receiver, and could have HDMI output. A DVD player is used in this example.

Your setup may include additional devices with digital surround sound connected directly to the A/V receiver. These devices might be a DVD player plus a cable box or satellite receiver.

#### Before You Begin

- Connect your A/V devices to the TV and connect your A/V receiver to the audio outputs on the TV and the DVD player. See chapter 3, "TV Connections," for suggestions. Important: You must connect the A/V receiver to the TV's audio output; use the TV's AVR AUDIO OUTPUT or DIGITAL AUDIO OUTPUT jack.
- **2.** Position NetCommand IR emitters as described in "IR Emitter Placement," page 52.
- 3. Open the *Inputs* > AV Receiver menu.

Note: The terms Input1-Input5 used in the AV Receiver menu are arbitrary names used by the TV to distinguish A/V receiver inputs.

# Setup 1: Automatic A/V Receiver Switching to the TV Audio Input

Most devices are set up like the VCR in this example, in which analog audio from the device is sent through the TV.

Use this setup for:

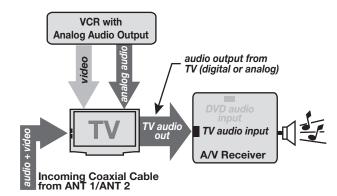
- Sources providing only analog stereo output, such as a VCR.
- Audio from ANT 1 and ANT 2

#### **IMPORTANT**

To hear audio sent from the TV to the A/V receiver, you must have:

- physically connected the TV to the A/V receiver
- selected the A/V receiver as the audio source.
   Press AUDIO, then ▲ ▼ to show the Speakers option, then ▶ to select the A/V Receiver.
- "learned" the IR codes for the A/V receiver inputs
- chosen the correct input in the NetCommand A/V Receiver Learn screen

# Setting Up NetCommand Control of an A/V Receiver, continued



**Setup 1:** A/V receiver audio from the TV's digital or analog audio output (**DIGITAL AUDIO OUTPUT** or **AVR AUDIO OUTPUT**)

- Under Learn, highlight Input1.
   In this example, the IR code for the A/V receiver's TV Audio input will be "learned" as Input 1.
- 2. Press ENTER on the TV's remote control.
- **3.** While the text **Input1** is flashing, press and hold the TVINPUT key on the *A/V receiver's* remote control.
- **4.** When a check appears next to **Input 1**, release the TV INPUT key.
  - If the text stops flashing before the check mark appears, repeat this step.
  - To erase the IR code just "learned," press CANCEL while the name is highlighted.
- Press ➤ once to highlight TV Audio (TV audio output) in the Assign Input1 column. The triangular marker is always next to the assigned sound source.
- **6.** Press **EXIT** if finished or continue with setup for another TV audio source.

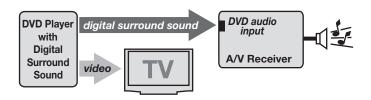


Completed NetCommand setup described for controlling A/V receiver switching to the A/V receiver's audio input from the TV's AUDIO OUTPUT.

# Setup 2: Automatic A/V Receiver Switching for a Surround Sound Device

Use this setup to send digital surround sound directly from a device to an A/V receiver.

- Under Learn, highlight Input2.
   In this example, the IR code for the A/V receiver's DVD Audio input will be "learned" as Input2.
- 2. Press ENTER on the TV's remote control.



**Setup 2:** A/V receiver audio from a device providing surround sound directly to the A/V receiver



Completed NetCommand setup described for controlling A/V receiver switching to an A/V receiver input "learned" as Input2.

- 3. While the text Input2 is flashing, press and hold the DVD INPUT key on the A/V receiver's remote control.
- **4.** When a check appears next to **Input2**, release the DVD INPUT key.
  - If the text stops flashing before the check mark appears, repeat this step.
  - To erase the IR code just "learned," press CANCEL while the name is highlighted.
- Press ➤ once to automatically move the highlight to the Assign Input2 column.
- 6. Use ▲ ▼ to highlight DVD in the list of devices recognized by the TV. The triangular marker always shows the assigned sound source.
- Press EXIT if finished or continue for additional TV sources.

# **IMPORTANT**

All audio from what you are watching on the TV is always available from both the TV's AVR AUDIO OUTPUT and DIGITAL AUDIO OUTPUT jacks.

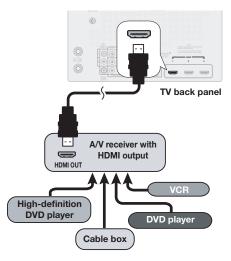
To use the digital surround sound capabilities of your A/V receiver however, you must connect your DVD player, satellite receiver, or cable box directly to the A/V receiver, as surround sound may not be available from the TV's audio output.

# Setting Up NetCommand Control of an A/V Receiver, continued

# A/V Receiver Control: Automatic Video and Audio Switching via HDMI

If your A/V receiver has an HDMI output, you can use this procedure to set up control of the A/V receiver's audio and video switching. The HDMI connection allows you to route video signals from multiple devices over a single cable to the TV. See the diagram below. The connected devices can be analog, digital, or a mixture or the two.

**Note:** If your HDMI A/V receiver has CEC capabilities, you may be able to fully or partially control your equipment without performing NetCommand IR setup.



You can connect multiple video devices to an A/V receiver that has an HDMI output.

#### Before You Begin

To complete these steps you will need:

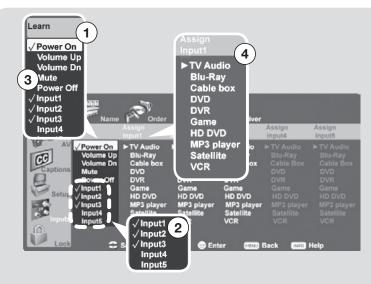
- The remote controls for both the TV and the A/V receiver.
- The IR emitter cable supplied with the TV.
- An HDMI-to-HDMI cable to connect the A/V receiver to the TV and cables necessary to connect devices to the A/V receiver.
- Connect your audio/video devices to the A/V receiver. Note the name of the A/V receiver input used for each device. This information will be needed later to set up NetCommand's automatic input switching.
- Connect the A/V receiver to the TV with an HDMIto-HDMI cable.
- 3. Connect the IR emitter cable to the TV and position the IR emitter where it can send signals to the A/V receiver. See "IR Emitter Placement," page 52.
- 4. Power on the A/V receiver.
- Set the TV's remote control slide switch to the TV position and power on the TV if needed.
- When the Auto Input Sensing screen displays, select device name AVR.

# Setup to Control A/V Receiver Power and Volume

If you want NetCommand control over the A/V receiver's power and volume functions, perform the steps under "A/V Receiver Control: Power and Volume," page 57.

## Setup to Control TV Audio Output

If your A/V receiver is connected to the TV's **AVR AUDIO OUTPUT** or **DIGITAL AUDIO OUTPUT** jacks, set up Net-Command to control switching to the TV audio input. Perform the steps under "Setup 1: Automatic A/V Receiver Switching to the TV Audio Input," page 58.



# Guide to the *Inputs > AV Receiver* menu for an A/V receiver with HDMI output

- 1) The **Learn** column lists "learnable" keys from the A/V receiver's remote control.
- 2 Input1 through Input5 are arbitrary names used by the TV to uniquely identify "learnable" A/V receiver inputs.
- (3) A check mark next to a key name indicates it has been "learned" by NetCommand.
- (4) The Assign Input column provides a list of possible device types. Use this list to assign the name of the device type connected to the associated A/V receiver input. The assigned device name will appear in the *Input Selection* menu.

# Setting Up NetCommand Control of an A/V Receiver, continued

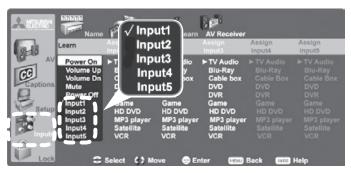
# Setup to Control Automatic Video and Audio Switching via HDMI

Follow these steps if you wish NetCommand to control switching of A/V receiver video as well as audio inputs. When this setup is complete, you can use the TV's *Input Selection* menu to select a video device connected to the A/V receiver. You can also perform additional NetCommand setup to control devices connected to the A/V receiver.

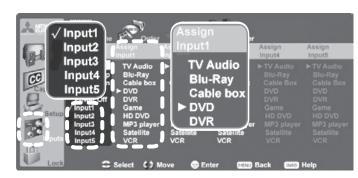
1. Display the Inputs > AV Receiver menu.

**Note:** The labels **Input1** through **Input5** in the **Learn** column are arbitrary names used by the TV to distinguish between A/V receiver inputs.

2. With the highlight in the **Learn** column, highlight one of the **Input** labels (**Input1** through **Input5**).



- **3.** Press ENTER and the highlighted **Input** label will start flashing to indicate readiness for "learning."
- 4. While the Input text is flashing, press and hold the key on the A/V receiver's remote control for the input you wish to associate with the selected Input label.
- When a check appears next to the **Input** label, release the remote control key.
  - If the text stops flashing before the check mark appears, repeat this step.
  - To erase the IR code just "learned," press CANCEL while the name is highlighted.



 On the TV's remote control, press ➤ once. The highlight will move automatically to the associated Assign Input column (Assign Input1 through Assign Input5).

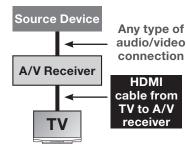
- 7. Use ▲ ▼ to highlight the device type connected to the A/V receiver input just "learned." The Assign Input column contains a list of possible device types.
  - In the example above, a DVD player is connected to the A/V receiver input the TV knows as **Input1**.
  - The device type you select here will appear as an icon in the TV's *Input Selection* menu. You can assign each device type in the list only once.
- 8. Press EXIT if finished or repeat these steps for additional video sources connected to the A/V receiver.

# NetCommand IR Control of a Device Connected to an A/V Receiver with HDMI Output

Use this setup if you wish to have NetCommand control a device sending audio and video through the A/V receiver to the TV via HDMI.

Note: If your A/V receiver and the connected device have CEC capability, you may be able to partially operate the device using the TV's remote control without any special setup. In that case, use this procedure to add commands not available with CEC.

 Set up NetCommand control of A/V receiver audio/ video switching via HDMI as described on this page.



- **2.** Press **EXIT** to close any open menus and return to normal TV viewing.
- 3. Press INPUT to open the *Input Selection* menu.
- **4.** Highlight the icon for an A/V receiver input assigned in "Setup to Control Automatic Video and Audio Switching via HDMI" on this page .
- **5.** Press **ENTER** to switch the TV to the A/V receiver and the A/V receiver to the device.
- 6. Open the Inputs > Learn menu.
- 7. Perform NetCommand "learning" for the device by following the steps in "Initial NetCommand Setup for Most Devices," page 53.

# Appendix A: Specifications

Size, Weight, and Power Consumption					
Model	Dime	ensions (	Weight	Power	
	Height	Width	Depth	(lbs.)	(watts)
WD-60735	36.7	53.8	14.4	68.3	265
WD-65735	39.5	58.2	15.4	75.4	265
WD-73C8, WD-73735	43.6	65.2	17.5	95	265
WD-65736	39.5	58.2	15.4	75.4	270
WD-73736	43.6	65.2	17.5	95	270
WD-65835	39.5	58.2	15.4	78	270
WD-73835	43.6	65.2	17.5	98	270

Inputs		
Туре	Qty.	Input Specifications
Antenna/Cable input	2	RF F connector, 75-ohm
HDMI (digital video/audio)		CEA-861D standard for digital audio and video via HDMI HDMI standard connector
WD-73C8 WD-60735 WD-65735	3	Video: 60 Hz: 480i, 480p, 720p, 1080i 24 Hz, 30 Hz, 60 Hz: 1080p Audio: PCM stereo HDMI inputs are compliant with
WD-73735 WD-65736 WD-73736 WD-65835	4	CEA-861D standards for standard, extended, and high-definition video; digital audio, and HDCP copy protection.
WD-73835		PC (digital signals only): 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 SXGA (1280 x 1024, 60 Hz) 1920 x 1080 (24 Hz, 30 Hz, 60 Hz) WXGA (1360 x 768, 60 Hz))
Composite Video	up to 3	NTSC 480i only Video: RCA Pin Plug, 1.0 V p-p, 75 ohm
		1 dedicated composite video jack; 2 shared with component video Y
S-Video	1	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)	up to 3 sets	CEA-770.1 & CEA 770.2 480i, 480p, CEA 770.3 720p and 1080i (TV analog component video standards) RCA Pin Plug Y: 1.0 Vp-p (includes sync), 75-ohm Pr: 700 mV p-p, 75-ohm Pb: 700 mV p-p, 75-ohm 1 dedicated set of component video jacks; 2 sets share a jack with composite video

USB Photo Port	1	For transfer of JPEG files only.
Audio Inputs	5 pairs	Analog left and right audio RCA Pin Plug 500 mV (full scale), 43-k ohm

Outputs				
Description	Qty.	Output Specifications		
Audio Speakers	2	5.75" x 2.4"		
Analog Audio (Signal)	1 pair	RCA Pin Plug, 500 mV rms ± 200 mV (full scale) for analog sources, 1.5 Vrms ± 0.5 Vrms (full scale) for digital sources.		
Digital Audio Output	1	RCA Pin Plug, Signal Type Dolby Digital, PCM stereo		
3-D Glasses Emitter	1	VESA 1997-11 Connector and Signal Standards for Stereoscopic Display Hardware		

Image Technology	Lamp
DLP, 0.65" chip, 1920 x 1080 pixels with Smooth Picture™	180-watt VIP type

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

\* 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.

# Appendix B: Bypassing the Parental Lock

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**Lock Bypass Instructions Have** 

Reference

Future |

# **Bypassing the Parental Lock**

After you set the lock, you must use your pass code to view a locked program, view the locked TV, view a locked channel, cancel the lock, or enter the **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 keys on the TV remote control at the same time. This process temporarily unlocks the TV.

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

- You can either enter a new pass code to open the Lock menu and make changes or press EXIT to close the menu.
- If any of the locks are turned on and you exit the menus when prompted for a new code, the old code and all lock settings are retained.
- If all locks are turned off and you exit the menus when prompted for a new code, then the previous code is erased.

## **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.

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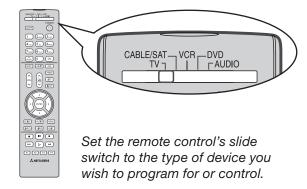
# Appendix C: Programming the Remote Control

This appendix explains programming the TV's remote control to operate other A/V devices. This is distinct from NetCommand control. The TV's remote control can operate other devices by three different methods:

- Remote Control Programming: You must move the slide switch to the position specific to the type of device.
- NetCommand® IR "learning": You can operate other devices with the slide switch in the TV position.
- NetCommand for CEC devices (all TV models): You may be able to operate compatible HDMI devices with the slide switch in the TV position. See the device's Owner's Guide and "NetCommand for HDMI Devices," page 28.

#### 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.



#### **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 //
- POWER
- SLEEP
- (FAST FORWARD) (PAUSE)
- (PLAY)

- (RECORD)
- (REVERSE)
- (STOP)
- **GUIDE** (DVR only)
- MENU (DVR only)
- 0-9 Number Buttons

Mitsubishi VCRs are compatible with some additional buttons.

## **Cable Boxes and Satellite Receivers**

- AUDIO (PAGE UP)
- CANCEL (on some models)
- CH ///
- ENTER (on some models)
- **GUIDE** (on some models)
- LIST
- POWER
- ▲ ▼ ◀ ▶ (on some models)
- VIDEO (PAGE DOWN)
- QV (ENTER; for channels on some models)

- 0-9 Number Buttons (on some models)
- **F1-F4** (A, B, C, D keys on some models)

The record/playback keys (on some models):

- (FAST FORWARD)
- (PAUSE) (PLAY)
- (RECORD)
- (REVERSE)
- (STOP)

## A/V Receivers

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

## CD Players

(not all functions for all models)

- SLEEP
- (FAST FORWARD)
- (PAUSE)
- (PLAY)
- (REVERSE)
  - (STOP)
  - 0-9 Number Buttons

# **DVD** and Laser Disc Players

(not all functions for all models)

- CANCEL (on some models)
- CH ∕/✓ (for track skip on some models)
- ENTER
- MENU
- POWER
- SLEEP
- ▲ ▼ ◀ ▶ (on some models)

- (FAST FORWARD)
- (PAUSE)
- (PLAY)
- (RECORD) (REVERSE)
- (STOP)
- 0-9 Number Buttons (on some models)

# **Programming the Remote Control**

 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

- Press and hold POWER on the remote control for several seconds until the button blinks twice and goes off.
- 3. Release the POWER button.
- 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.
- 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.

**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		

#### **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.
- 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.
- With the slide switch in the AUDIO position, press and hold POWER on the remote control for several seconds until the button blinks twice and goes off.
- 3. Press keys 9 9 3 ENTER
  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

- Press and hold POWER for several seconds until the key blinks twice and goes off.
- 2. 2. Press keys 9 9 3 VOL ...

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

# Appendix C: Programming the Remote Control, continued

**Cable Boxes** 

Code

10883

10040

10883

10883

11187

10637 10476

Make

ClearMax

Cool Box

Coolmax

Digeo Digi

Director

Comtronics

# **Programming Codes**

Acurus         30765           Adcom         31100, 30577           Altec Lansing         31742           Aragon         30765           Bel Canto Design         31583           Bose         30674           Carver         30892           Cary Audio         31879           Design         Classe           Classe         31461           Curtis Mathes         30300           Durabrand         31561           Flextronics         31879           GE         30078           Halcro         31934           Harman/Kardon         30892           JVC         30331           Klipsch         30765           Krell         31837           Left Coast         30892           Lenoxx         31561           Lexicon         31802, 31145           Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30309, 3000, 30013           Parasound         31934           Philips	<b>Audio Amplifiers</b>	
Adcom       31100, 30577         Altec Lansing       31742         Aragon       30765         Bel Canto Design       31583         Bose       30674         Carver       30892         Cary Audio       31879         Design       Classe         Classe       31461         Curtis Mathes       30300         Durabrand       31561         Flextronics       31879         GE       30078         Halcro       31934         Harman/Kardon       30892         JVC       30331         Kilipsch       30765         Krell       31837         Left Coast       30892         Lenoxx       31561         Lexicon       31802, 31145         Marantz       30892         Mark Levinson       31483         McIntosh       30251         Modulaire       30395         Mondial       30765         Optimus       30823, 30395, 30300, 30013         Parasound       31934         Philips       30892         Pioneer       30823, 30300, 30013         Polk Audio       30892	Make	Code
Altec Lansing       31742         Aragon       30765         Bel Canto Design       31583         Bose       30674         Carver       30892         Cary Audio       31879         Design       Classe         Classe       31461         Curtis Mathes       30300         Durabrand       31561         Flextronics       31879         GE       30078         Halcro       31934         Harman/Kardon       30892         JVC       30331         Kilipsch       30765         Krell       31837         Left Coast       30892         Lenoxx       31561         Lexicon       31802, 31145         Marantz       30892         Mark Levinson       31483         McIntosh       30251         Modulaire       30395         Mondial       30765         Optimus       30823, 30395, 30300, 30013         Parasound       31934         Philips       30892         Pioneer       30823, 30300, 30013         Polk Audio       30892         Primare       31395	Acurus	
Aragon       30765         Bel Canto Design       31583         Bose       30674         Carver       30892         Cary Audio       31879         Design       Classe         Classe       31461         Curtis Mathes       30300         Durabrand       31561         Flextronics       31879         GE       30078         Halcro       31934         Harman/Kardon       30892         JVC       30331         Klipsch       30765         Krell       31837         Left Coast       30892         Lenoxx       31561         Lexicon       31802, 31145         Marantz       30892         Mark Levinson       31483         McIntosh       30251         Modulaire       30395         Mondial       30765         Optimus       30823, 30395, 30300, 30013         Parasound       31934         Philips       30892         Pioneer       30823, 30300, 30013         Polk Audio       30892         Primare       31395         RadioShack       30395	Adcom	31100, 30577
Bel Canto Design         31583           Bose         30674           Carver         30892           Cary Audio         31879           Design         1           Classe         31461           Curtis Mathes         30300           Durabrand         31561           Flextronics         31879           GE         30078           Halcro         31934           Harman/Kardon         30892           JVC         30331           Kilipsch         30765           Krell         31837           Left Coast         30892           Lenoxx         31561           Lexicon         31802, 31145           Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack <td>Altec Lansing</td> <td>31742</td>	Altec Lansing	31742
Bose         30674           Carver         30892           Cary Audio         31879           Design         1           Classe         31461           Curtis Mathes         30300           Durabrand         31561           Flextronics         31879           GE         30078           Halcro         31934           Harman/Kardon         30892           JVC         30331           Klipsch         30765           Krell         31837           Left Coast         30892           Lenoxx         31561           Lexicon         31802, 31145           Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA <td< td=""><td>Aragon</td><td>30765</td></td<>	Aragon	30765
Carver         30892           Cary Audio         31879           Design         31461           Curtis Mathes         30300           Durabrand         31561           Flextronics         31879           GE         30078           Halcro         31934           Harman/Kardon         30892           JVC         30331           Klipsch         30765           Krell         31837           Left Coast         30892           Lenoxx         31561           Lexicon         31802, 31145           Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 3000, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395	Bel Canto Design	31583
Cary Audio         31879           Design         31461           Curtis Mathes         30300           Durabrand         31561           Flextronics         31879           GE         30078           Halcro         31934           Harman/Kardon         30892           JVC         30331           Klipsch         30765           Krell         31837           Left Coast         30892           Lenoxx         31561           Lexicon         31802, 31145           Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 3000, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078	Bose	30674
Design         31461           Curtis Mathes         30300           Durabrand         31561           Flextronics         31879           GE         30078           Halcro         31934           Harman/Kardon         30892           JVC         30331           Klipsch         30765           Krell         31837           Left Coast         30892           Lenoxx         31561           Lexicon         31802, 31145           Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372	Carver	30892
Classe         31461           Curtis Mathes         30300           Durabrand         31561           Flextronics         31879           GE         30078           Halcro         31934           Harman/Kardon         30892           JVC         30331           Klipsch         30765           Krell         31837           Left Coast         30892           Lenoxx         31561           Lexicon         31802, 31145           Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372	Cary Audio	31879
Curtis Mathes         30300           Durabrand         31561           Flextronics         31879           GE         30078           Halcro         31934           Harman/Kardon         30892           JVC         30331           Klipsch         30765           Krell         31837           Left Coast         30892           Lenoxx         31561           Lexicon         31802, 31145           Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331	Design	
Durabrand         31561           Flextronics         31879           GE         30078           Halcro         31934           Harman/Kardon         30892           JVC         30331           Klipsch         30765           Krell         31837           Left Coast         30892           Lenoxx         31561           Lexicon         31802, 31145           Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 3000, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331	Classe	31461
Flextronics         31879           GE         30078           Halcro         31934           Harman/Kardon         30892           JVC         30331           Klipsch         30765           Krell         31837           Left Coast         30892           Lenoxx         31561           Lexicon         31802, 31145           Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 3000, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331	Curtis Mathes	30300
GE       30078         Halcro       31934         Harman/Kardon       30892         JVC       30331         Klipsch       30765         Krell       31837         Left Coast       30892         Lenoxx       31561         Lexicon       31802, 31145         Marantz       30892         Mark Levinson       31483         McIntosh       30251         Modulaire       30395         Mondial       30765         Optimus       30823, 30395, 30300, 30013         Parasound       31934         Philips       30892         Pioneer       30823, 30300, 30013         Polk Audio       30892         Primare       31395         RadioShack       30395         RCA       30823, 30300, 30013         Realistic       30013, 30395         Soundesign       30078         Technics       30372         Victor       30331	Durabrand	31561
Halcro         31934           Harman/Kardon         30892           JVC         30331           Klipsch         30765           Krell         31837           Left Coast         30892           Lenoxx         31561           Lexicon         31802, 31145           Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331	Flextronics	31879
Harman/Kardon         30892           JVC         30331           Klipsch         30765           Krell         31837           Left Coast         30892           Lenoxx         31561           Lexicon         31802, 31145           Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331	GE	30078
JVC         30331           Klipsch         30765           Krell         31837           Left Coast         30892           Lenoxx         31561           Lexicon         31802, 31145           Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331	Halcro	31934
Klipsch       30765         Krell       31837         Left Coast       30892         Lenoxx       31561         Lexicon       31802, 31145         Marantz       30892         Mark Levinson       31483         McIntosh       30251         Modulaire       30395         Mondial       30765         Optimus       30823, 30395, 30300, 30013         Parasound       31934         Philips       30892         Pioneer       30823, 30300, 30013         Polk Audio       30892         Primare       31395         RadioShack       30395         RCA       30823, 30300, 30013         Realistic       30013, 30395         Soundesign       30078         Technics       30372         Victor       30331	Harman/Kardon	30892
Krell         31837           Left Coast         30892           Lenoxx         31561           Lexicon         31802, 31145           Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331	JVC	30331
Left Coast       30892         Lenoxx       31561         Lexicon       31802, 31145         Marantz       30892         Mark Levinson       31483         McIntosh       30251         Modulaire       30395         Mondial       30765         Optimus       30823, 30395, 30300, 30013         Parasound       31934         Philips       30892         Pioneer       30823, 30300, 30013         Polk Audio       30892         Primare       31395         RadioShack       30395         RCA       30823, 30300, 30013         Realistic       30013, 30395         Soundesign       30078         Technics       30372         Victor       30331	Klipsch	30765
Lenoxx       31561         Lexicon       31802, 31145         Marantz       30892         Mark Levinson       31483         McIntosh       30251         Modulaire       30395         Mondial       30765         Optimus       30823, 30395, 30300, 30013         Parasound       31934         Philips       30892         Pioneer       30823, 30300, 30013         Polk Audio       30892         Primare       31395         RadioShack       30395         RCA       30823, 30300, 30013         Realistic       30013, 30395         Soundesign       30078         Technics       30372         Victor       30331	Krell	31837
Lexicon         31802, 31145           Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331	Left Coast	30892
Marantz         30892           Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331	Lenoxx	31561
Mark Levinson         31483           McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331	Lexicon	31802, 31145
McIntosh         30251           Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331	Marantz	30892
Modulaire         30395           Mondial         30765           Optimus         30823, 30395, 30300, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331	Mark Levinson	31483
Mondial         30765           Optimus         30823, 30395, 30300, 30013           Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331	McIntosh	30251
Optimus     30823, 30395, 30300, 30013       Parasound     31934       Philips     30892       Pioneer     30823, 30300, 30013       Polk Audio     30892       Primare     31395       RadioShack     30395       RCA     30823, 30300, 30013       Realistic     30013, 30395       Soundesign     30078       Technics     30372       Victor     30331	Modulaire	30395
30013 Parasound 31934 Philips 30892 Pioneer 30823, 30300, 30013 Polk Audio 30892 Primare 31395 RadioShack 30395 RCA 30823, 30300, 30013 Realistic 30013, 30395 Soundesign 30078 Technics 30372 Victor 30331	Mondial	
Parasound         31934           Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331	Optimus	30823, 30395, 30300,
Philips         30892           Pioneer         30823, 30300, 30013           Polk Audio         30892           Primare         31395           RadioShack         30395           RCA         30823, 30300, 30013           Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331		30013
Pioneer       30823, 30300, 30013         Polk Audio       30892         Primare       31395         RadioShack       30395         RCA       30823, 30300, 30013         Realistic       30013, 30395         Soundesign       30078         Technics       30372         Victor       30331	Parasound	31934
Polk Audio       30892         Primare       31395         RadioShack       30395         RCA       30823, 30300, 30013         Realistic       30013, 30395         Soundesign       30078         Technics       30372         Victor       30331	Philips	30892
Polk Audio       30892         Primare       31395         RadioShack       30395         RCA       30823, 30300, 30013         Realistic       30013, 30395         Soundesign       30078         Technics       30372         Victor       30331	Pioneer	30823, 30300, 30013
RadioShack       30395         RCA       30823, 30300, 30013         Realistic       30013, 30395         Soundesign       30078         Technics       30372         Victor       30331	Polk Audio	
RCA       30823, 30300, 30013         Realistic       30013, 30395         Soundesign       30078         Technics       30372         Victor       30331	Primare	31395
Realistic         30013, 30395           Soundesign         30078           Technics         30372           Victor         30331	RadioShack	30395
Realistic       30013, 30395         Soundesign       30078         Technics       30372         Victor       30331	RCA	30823, 30300, 30013
Technics         30372           Victor         30331	Realistic	30013, 30395
Victor 30331	Soundesign	30078
	Technics	30372
	Victor	30331
Wards 30078, 30013	Wards	30078, 30013
Yamaha 30354	Yamaha	

Cable Boxes	
Make	Code
A-Mark	10144, 10008
ABC	10237, 10014, 10011,
	10008, 10007, 10003
Accuphase	10014, 10011, 10007,
	10003
Acorn	10237
Action	10237
Active	10237
Americast	10899
Archer	10237
BCC	10276
Bell & Howell	10014
Bell South	10899
British Telecom	10003
Century	10008
Clearmaster	10883

Dumont	10637
Emerson	10014
Everquest	10040
Fosgate	10276
GC Electronics	10040
GE	10144
General Instru-	10810, 10476, 10276,
ment	10020, 10014, 10012,
	10011, 10003
Gibralter	10003
GMI	10883
GoldStar	10144, 10040 10273, 10259, 10020
Hamlin	10273, 10259, 10020
Hitachi	10011, 10008, 10003
Houston	10011
Hytek	10007
Hytex	10007
Insight	10476, 10810
Jebsee	10014
Jerrold	10810, 10476, 10276,
	10020, 10014, 10012,
	10011, 10003
Memorex	10000
Mitsubishi	10003
Motorola	11376, 11254, 11187,
	11106, 10810, 10476,
	10276, 10014
Multitech	10883
Nova Vision	10008
Novaplex	10008
NSC	10637, 10012
Oak	10007
Pace	11877, 10877, 10237,
	10008
Panasonic	10144, 10107, 10008,
	10000
Panther	10637
Paragon	10525, 10008, 10000
Penney	10637, 10000
Philips	11305, 10317, 10259
Pioneer	11877, 10877, 10533,
	10144
Prism	10012
Pulsar	10040, 10000
Pulser	10040
Quasar	10000
R-Line	10040
RadioShack	10883
RCA	11256
Regal	10279, 10276, 10273,
5	10259, 10020
Regency	10020
Rembrandt	10040, 10011
Runco	10000

Cable Boxes Make	Code
Samsung	10144, 10040, 10003
Scientific Atlanta	11877, 10877, 10477,
Scientific Atlanta	10237, 10012, 10008,
	10237, 10012, 10006,
Ciamal	10003, 10000 10040, 10011
Signal	
Signature	10011
SL Marx	10040
Sony	11006
Sprucer	10144
Starcom	10014, 10003
Stargate	10040, 10014
Storm	10637
Supercable	10276
Supermax	10883
Teleavia	10040
Teleview	10040
Thomson	11256
Timeless	10040
Tocom	10012
Torx	10003
Toshiba	10000
Tristar	10883
TV86	10040
United Artists	10007
United Cable	10276, 10014, 10011,
	10003
US Electronics	10276, 10008, 10003
V2	10883
Videoway	10000
Viewmaster	10883
Vision	10883
Vortex View	10883
Zenith	10899, 10525, 10000

Make	Code
Acoustic	30420
Research	
Aiwa	30157
Akai	30083
Arcam	30157
Audio Pro	30437
Audio Research	30157
Burmester	30420
Cairn	30157
California Audio	30303, 30029
Labs	
Cambridge	30157
Soundworks	
Carver	30437, 30179, 30157
Cary Audio	31876
Design	
Classic	31297
Curtis Mathes	30032
Denon	30766, 30034, 30003
DKK	30000
DMX Electronics	30157
Fisher	31325, 30179, 30000
Garrard	30420
Genexxa	30032
GPX	31296

# **Programming Codes, continued**

CD Players	
Make	Code
Grundig	30157
Hafler	30173
Harman/Kardon	31202, 30173, 30157,
	30100, 30083
Hitachi	30032
Inkel	30180, 30157
Integra	30101
Jerrold	30003
JVC	31294, 30072, 30032
Kenwood	30626, 30190, 30037
	30029, 30028, 30000
KLH	31711, 31318
Koss	31317
Krell	30157
LG	31208
Linn	30157
LXI	
	30179
Magnavox	30274, 30157, 30038
Marantz	30626, 30435, 30180
	30157, 30038, 30029
Mark Levinson	31484
Matsui	30157
McIntosh	31703, 30660, 30290
	30256
MCS	30029
Memorex	30468, 30437, 30420
	30179, 30032, 30000
MGA	30083
Micromega	30157
Miro	30000
Mission	30157
Mitsubishi	30098, 30083
Modulaire	30468, 30437, 30420
Modulanc	30180, 30179, 30145,
	30087, 30032, 30000
MTC	30420
Myryad	30157
NAD	31208
NSM	30157
Onkyo	31327, 30101
Optimus	31075, 30468, 30437,
	30420, 30179, 30145,
	30087, 30037, 30032,
	30000
Panasonic	30752, 30388, 30303
	30029
Parasound	30420
Penney	30029
Philips	30626, 30274, 30157
Pioneer	31087, 31062, 30468,
FIOHEE	
Dalla Assalla	30032
Polk Audio	30157
Primare	31852
Primare Proceed	31852 30420
Primare Proceed Proton	31852 30420 30157
Primare Proceed Proton QED	31852 30420 30157 30157
Primare Proceed Proton	31852 30420 30157
Primare Proceed Proton QED	31852 30420 30157 30157 30157 30029
Primare Proceed Proton QED Quad	31852 30420 30157 30157 30157
Primare Proceed Proton QED Quad Quasar	31852 30420 30157 30157 30157 30029 31075, 30468, 30437,
Primare Proceed Proton QED Quad Quasar	31852 30420 30157 30157 30157 30029

u		
CD Players		
Make	Code	
RCA	30032, 30053, 30179,	
	30420, 30468, 31062	
Realistic	30468, 30437, 30420,	
	30180, 30179, 30145,	
	30087, 30032, 30000	
Revox	30157	
Roksan	30435	
Rotel	30420, 30157	
SAE	30157	
Sansui	30157, 30000	
Sanyo	30179, 30087, 30000	
Sears	30179	
Sharp	30180, 30037	
Sherwood	31950, 30180	
Sonic Frontiers	30157	
Sony	31364, 30490, 30185,	
_	30100, 30000	
Soundesign	30145	
Sugden	30157	
Sylvania	30157	
Symphonic	30180	
TAG McLaren	30157	
Tandy	30032	
Tascam	30420	
TDK	31208	
Teac	30490, 30420, 30180	
Technics	30029, 30303	
Techwood	30303	
Thule Audio	30157	
Tivoli Audio	31553	
Universum	30437	
Victor	30072	
Wards	30179, 30157, 30087,	
	30053, 30032	
Yamaha	31292, 30490, 30036	
Yorx	30000	

Laser Disc Players		
Make	Code	
Carver	20194, 20064	
Denon	20241, 20172, 20059	
Harman/Kardon	20194	
Magnavox	20241, 20217, 20194,	
	20064	
Marantz	20194, 20064	
Mitsubishi	20243, 20241, 20059	
NAD	20059	
Optimus	20059	
Panasonic	20204	
Philips	20194, 20064	
Pioneer	20241, 20059	
Polk Audio	20194	
Quasar	20204	
Sony	20201, 20193	
Technics	20204	
Theta Digital	20194	
Toshiba	20059	
Wards	20059	
Yamaha	20217	

A/V Receivers	
Make	Code
ADC	30531
Adcom	31617, 31616
Aiwa	31641, 31405, 31388,
	31347, 31321, 31243,
	30189, 30121
Akai	31255
Alco	31390
AMC	31077
Amplifier Tech-	31584
nologies	
Anam	31609, 31074
Apex Digital	31774, 31430, 31257
Arcam	31189
Atlantic Technol-	31487
ogy	
Audiophase	31387
Audiotronic	31189
Audiovox	31627, 31390
B & K	30840, 30820, 30702,
D ά ľ\	
	30701
Bel Canto Design	31584
BK	30702
Bose	31933, 31253, 31229,
	30639
Brix	31602
Cairn	30189
Cambridge	31477
Soundworks	01477
Capetronic	20521
	30531
Carver	31289, 31189, 30189,
	30121
Classe	31920
Clatronic	30797
Coby	31263
Curtis	31263, 30797
Curtis Mathes	30014
Delphi	31414
Denon	31360, 31311, 31306,
5011011	31142, 30121
Electrohome	32026
_	00504
Emerson	30531
Fisher	31801, 31409, 30797
Fosgate	31487
Glory Horse	31263
Goodmans	30797
GPX	31299
Grundig	31387, 30189
Harman/Kardon	31306, 31304, 31289,
	30891, 30189, 30110
Hitachi	31801, 31273
Insignia	31077, 31030
Integra	31805, 31320, 31298,
IDI	30842, 30135
JBL	31306, 30110
	31811, 31643, 31495,
JVC	
JVC	31374, 31282, 31263,
JVC	31374, 31282, 31263, 31058
	31058
Kawasaki	31058 31390
	31058 31390 31570, 31569, 31363,
Kawasaki	31058 31390

# Appendix C: Programming the Remote Control, continued

# **Programming Codes, continued**

	ig Codes, contin
A/V Receivers	
Make	Code
Koss	31497, 31366
Linn	30189
Liquid Video	31497
Magnavox	31514, 31269, 31266,
	31189, 30531, 30189
Marantz	31289, 31269, 31189,
	30891, 30200, 30189
McIntosh	31289
Micromega	31189, 30189
Mitsubishi	31957, 31922, 31921,
	31920, 31393
Myryad	31189
Nakamichi	31555, 31313, 30097
Onkyo	21905 21220 21209
Olikyo	31805, 31320, 31298, 30842, 30135
Ontine	30042, 30133
Optimus	31074, 31023, 30849,
	30797, 30670, 30531,
	30121, 30014
Oritron	31497, 31366
Outlaw	31487
Panasonic	32967, 31764, 31763,
	31633, 31548, 31518,
	31509, 31363, 31350,
	31316, 31308, 31288,
	30309
Dhiling	1
Philips	31368, 31365, 31283,
	31269, 31268, 31266,
	31189, 30891, 30189
Pioneer	31384, 31343, 31123,
	31023, 30630, 30531,
	30150, 30014
Polk Audio	31414, 31289, 30189
Proceed	31922
RadioShack	31609, 31263
RCA	31609, 31511, 31390,
	31123, 31074, 31023,
	30531
Realistic	31609, 30121
_	30189
Revox	
Rio	31869
Samsung	31500, 31304, 31295
Sangean	32165
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
Oyivariia	30131

A/V Receivers	
Make	Code
Teac	31528, 31390, 31267,
	31074
Technics	31633, 31518, 31308,
	30309
Thorens	31189
Toshiba	31788, 31123, 30842,
	30135
Venturer	31390, 30849
Wards	30189, 30014
XM	31414, 31406
Yamaha	31815, 31476, 31375,
	31331, 31276, 31176,
	31023, 30176
YBA	31921

YBA	31921
Satellite Receiv	ers
Make	Code
AlphaStar	10772
Bell ExpressVu	11170, 10775
Chaparral	10216
Crossdigital	11109
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	11775, 11505, 11170,
System	11005, 10775
Dishpro	11775, 11505, 11005,
	10775
Echostar	11775, 11505, 11170,
	11005, 10775
Expressvu	11775, 10775
Fortec Star	11821
Funai	11377
GE	10566, 10392
GOI	11775, 10775
Goodmans	11246
Hitachi	11250, 10819, 10749
Houston	10775
HTS	11775, 10775
Hughes Network	11749, 11444, 11443,
Systems	11442, 11142, 10749
Humax	11790, 11781
Innova	10099
JVC	11775, 11170, 10775
LG	11414, 11226
Magnavox	10724, 10722
Memorex	10724
Mitsubishi	10749
Motorola	10856
NEC	11270
Netsat	10099
Optimus	10724
Panasonic	10701, 10247
Pansat	11807
Paysat	10724
-	

Satellite Receivers			
Make	Code		
Philips	11749, 11442, 11142,		
	11076, 10819, 10775,		
	10749, 10724, 10722,		
	10099		
Pioneer	11442, 11142		
Proscan	10566, 10392		
RadioShack	10775, 10566		
RCA	11442, 11392, 11142,		
	10855, 10775, 10566,		
	10392, 10143		
Samsung	11609, 11442, 11377,		
	11276, 11142, 11109,		
	11108		
Sanyo	11219		
SKY	10856, 10099		
Sony	11640, 11639, 10639		
Star Trak	10772		
Thomson	10566, 10392		
Tivo	11444, 11443, 11442,		
	11142		
Toshiba	11749, 10790, 10749		
UltimateTV	11640, 11392		
Uniden	10724, 10722		
Zenith	11856, 11810, 10856		

Make	Code
A-Mark	20278, 20240, 20046
	20037, 20000
ABS	21972
Accurian	20000
Admiral	20479, 20209, 20104
	20060, 20048, 2004
	20039
Adventura	20240, 20037, 20000
Adyson	20072
Aiko	20278
Aiwa	20124, 20037, 20000
Akai	20242, 20175, 20041
Alba	20278, 20209, 20072
Alienware	21972
Allegro	20039
America Action	20278
American High	20081, 20035
Amstrad	20000
Asha	20240
Astra	20240, 20035
Audiovox	20278, 20038, 2003
Avis	20072, 20000
Beaumark	20240
Bell & Howell	20479, 20104, 20048
	20046, 20039, 2003
	20000
Broksonic	20479, 20209, 20184
	20121, 20002
Calix	20037
Candle	20037, 20038
Canon	20035
Capehart	20002
Carrera	20240
Carver	20035, 20081

# **Programming Codes, continued**

VCRs Make	Code
CCE	20072, 20278
Cineral	20278
Citizen	20479, 20278, 20240
Oluzon	20209, 20037, 20035
	20000
Classic	20037
Colortyme	20278, 20060, 20045
Colortyffle	20035
Colt	
	20072, 20000
Craig	20240, 20072, 20047,
Out and an	20037
Criterion	20072, 20000
Crosley	20081, 20035, 20000
Crown	20278, 20072
Curtis Mathes	20432, 20278, 20240
	20162, 20060, 20041
0.1	20035, 20000
Cybernex	20240
CyberPower	21972
Daewoo	20278, 20046, 20045
	20037
Daytron	20278, 20037
Dell	21972
Denon	20081, 20042
Derwent	20041
DirecTV	20739
Dual	20000
Durabrand	20039, 20038
Dynatech	20240, 20000
Electrohome	20240, 20209, 20060
	20043, 20037, 20000
Electrophonic	20037
Emerald	20184, 20121
Emerex	20032
Emerson	21593, 20593, 20479
	20278, 20240, 20209
	20184, 20121, 20043,
	20037, 20002, 20000
Fisher	20104, 20047, 20046
	20039, 20000
Fuji	20035, 20033
Fujitsu	20000
Funai	21593, 20593, 20278
	20072, 20037, 20000
Garrard	20000
Gateway	21972
GE	20240, 20060, 20048
	20035, 20000
Gemini	20060
Genexxa	20278, 20037, 20000
Go Video	20614, 20526, 20432
	20240
GoldStar	20278, 20039, 20038
	20037, 20035, 20000
Goodmans	20278, 20081, 20072
	20037, 20000
Gradiente	20000
Granada	20081, 20042
Grundig	20081
Harley Davidson	20000
Harman/Kardon	20081, 20075, 20038
naman/Naruuff	,,,,,

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VCRs	
Make	Code
Harvard	20072
Harwood	20072
Headquarter	20046
Hewlett Packard	21972
HI-Q	20047, 20035, 20000
Hitachi	20089, 20045, 20042,
Пітастії	
	20041, 20037, 20035,
	20000
Howard Computers	21972
HP	21972
Hughes Network	20739, 20042
	20739, 20042
Systems	0.1000 0.1707 00700
Humax	21988, 21797, 20739
Hush	21972
Hytek	20072, 20047, 20000
iBUYPOWER	21972
ITT Nokia	20240, 20041
Janeil	20240
Jensen	20067, 20041
	01160 00007 00044
JVC	21162, 20067, 20041
KEC	20278, 20037
Kenwood	20067, 20046, 20041,
	20038
KLH	20072
Kodak	20037, 20035
KTV	20000
LG	21037, 20240, 20038,
Lu	
1	20037
Linksys	21972
Lloyd's	20240, 20072, 20038,
	20000
Loewe	20081
Logik	20240, 20072, 20000
Lumatron	20278
Luxor	
	20046
LXI	20067, 20042, 20037,
	20000
M Electronic	20240
Magnasonic	20593, 20278, 20240,
	20072, 20037, 20000
Magnavox	21593, 20618, 20593,
IVIAGIIAVOA	
	20563, 20240, 20081,
	20048, 20039, 20037,
	20035, 20000
Magnin	20240
Marantz	20081, 20038, 20035
Marta	20037
Matsui	20209, 20037
Matsushita	21162, 20162, 20081,
iviaiouoriita	
Marilla O. J. DO	20035
Media Center PC	21972
MEI	20035
	21262, 21162, 21037,
Memorex	
Memorex	20479, 20278, 20240.
Memorex	20479, 20278, 20240, 20209, 20162, 20104
Memorex	20209, 20162, 20104,
Memorex	20209, 20162, 20104, 20072, 20048, 20047,
Memorex	20209, 20162, 20104, 20072, 20048, 20047, 20046, 20039, 20037,
	20209, 20162, 20104, 20072, 20048, 20047, 20046, 20039, 20037, 20035, 20000
Memorex	20209, 20162, 20104, 20072, 20048, 20047, 20046, 20039, 20037,

VOD	
VCRs	01-
Make	Code
MGN Technology	20240
Microsoft	21972
Midland	20240
Mind	21972
Minolta	20042
Mitsubishi	20443, 20242, 20214,
	20173, 20075, 20067,
	20060, 20048, 20047,
	20043, 20042, 20041,
	20000
Motorolo	20048, 20035
Motorola	
Movie Walker	20072
MTC	20240, 20072, 20000
MTX	20000
Multitech	20072, 20039, 20000
NAD	20240, 20104
NEC	20104, 20067, 20041,
	20038
New Tech	20072
Nikko	20278, 20037
Nikkodo	20278, 20037
Nishi	20240
Niveus Media	21972
Noblex	20240
Northgate	21972
Olympus	20162, 20104, 20035
Onkyo	20222
Optimus	21262, 21162, 21062,
	21048, 20593, 20432,
	20240, 20162, 20104,
	20048, 20047, 20037,
	20035, 20000
Orion	20479, 20278, 20240,
	20209, 20184, 20121,
	20104, 20002, 20000
Panama	20035
Panasonic	21262, 21162, 21062,
T dilasonio	
	20616, 20614, 20225,
D	20162, 20035, 20000
Penney	20240, 20162, 20081,
	20067, 20047, 20042,
	20038, 20037, 20035,
	20000
Pentax	20042
Philco	20479, 20209, 20081,
	20035, 20000
Philips	21181, 21081, 20739,
	20618, 20616, 20209,
	20162, 20081, 20048,
	1 1
Dilet	20045, 20035, 20000
Pilot	20037
Pioneer	20162, 20081, 20067,
	20042
Polk Audio	20081
Portland	20278
Presidian	21593
Profitronic	20240
Proscan	20060
Protec	20072, 20000
Protech	20072
Dulcar	20278 20240 20039

20278, 20240, 20039

Pulsar

# Appendix C: Programming the Remote Control, continued

# **Programming Codes, continued**

VCRs			
Make	Code		
Pulser	20240		
Quarter	20046		
Quartz	20047, 20046, 20035		
Quasar	21162, 20162, 20035,		
Quadai	20002		
RadioShack	21162, 21037, 20240,		
naulostiack			
	20162, 20104, 20048,		
	20047, 20046, 20037,		
	20035, 20000		
Radix	20037		
Randex	20037		
RCA	20880, 20240, 20060,		
	20048, 20045, 20042,		
	20035, 20000		
Realistic	21162, 20278, 20240,		
	20162, 20121, 20104,		
	20048, 20047, 20046,		
	20037, 20035, 20000		
Replay/T\/	20616, 20614		
ReplayTV			
Ricavision	21972		
Runco	20039		
Salora	20075		
Samsung	20739, 20432, 20240,		
	20060, 20045,		
	20038, 20000		
Samtron	20240		
Sanky	20048, 20039		
Sansui	20479, 20240, 20209,		
	20072, 20067, 20041,		
	20002, 20000		
Sanyo	20470 20240 20150		
Sariyo	20479, 20240, 20159,		
	20104, 20047, 20046,		
	20000		
Scott	20184, 20121, 20045,		
	20043		
Sears	20209, 20162, 20104,		
	20072, 20067, 20060,		
	20048, 20047, 20046,		
	20045, 20043, 20042,		
	20041, 20039, 20037,		
	20035, 20033, 20000		
Sharp	20848, 20048, 20047,		
Sharp	20032, 20000		
Shintom	20240, 20072, 20039,		
GIIIIIUIII			
Ch a suus	20000		
Shogun	20240		
Siemens	20037, 20104		
Signature	20479, 20060, 20048,		
	20046, 20037, 20035,		
	20000		
Singer	20240, 20072, 20037		
Sonic Blue	20616, 20614		
Sonographe	20046		
Sony	21972, 21032, 20636,		
'	20067, 20047, 20046,		
	20035, 20033, 20032,		
	20000		
Coundmaster			
Soundmaster	20000		
Stack 9	21972		
STS	20042		
SV2000	20072, 20000		

VCDo	
VCRs Make	Code
SVA	20000
Sylvania	21593, 20593, 20081,
Sylvailla	
Cumphonio	20043, 20035, 20000
Symphonic	21593, 20593, 20240,
0 1	20002, 20000
Systemax	21972
Tagar Systems	21972
Tandy	20104, 20000
Tatung	20081, 20067, 20048,
	20041, 20000
Teac	20067, 20041, 20000
Technics	20162, 20037, 20035,
	20000
Teknika	20037, 20035, 20000
Telecorder	20240
Telefunken	20041
Tevion	20479
Thomas	20002, 20000
Thomson	20060, 20041
Tisonic	20278
Tivo	20739, 20636, 20618
TMK	20240, 20000
TNIX	20037
Tocom	20240
Toshiba	21988, 21972, 21008,
	20240, 20209, 20045,
	20043, 20041, 20000
Tosonic	20278
Totevision	20240, 20037
Touch	21972
Trix	20037
Ultra	20278, 20045
Unitech	20240
Vector	20045
Vector Research	20184, 20038
Vextra	20072
Victor	20067, 20041
Video Concepts	20242, 20045
Videomagic	20037
Videosonic	20240, 20072, 20000
Viewsonic	21972
Villain	20000
Voodoo	21972
Wards	
vvarus	20479, 20240, 20081,
	20072, 20060, 20048,
	20047, 20046, 20045,
	20043, 20042, 20041,
	20038, 20037, 20035,
	20033, 20000
Wharfedale	20593
White	20479, 20278, 20209,
Westinghouse	20072, 20000
World	20479, 20209, 20002
XR-1000	20240, 20072, 20035,
	20000
Yamaha	20041, 20038
Zenith	21139, 20479, 20278,
	20209, 20041, 20039,
	20037, 20033, 20000
ZT Group	21972

DVD Players	
Make	Code
3D LAB	
-	20539, 20503
Acoustic Solu-	20730
tions	04440 04070 00075
Accurian	21416, 21072, 20675
Adcom	21094
Afreey	20698
Aiwa	20641
Akai	21089, 20770, 20705,
	20695
Alba	20717, 20672
Alco	20790
Allegro	20869
Amphion Media	20872
Works	
AMW	20872
Apex Digital	21061, 21056, 21020,
. 5	20794, 20755, 20717,
	20672, 20533
Arrgo	21023
Aspire Digital	21407, 21168
Audiovox	21072, 21041, 20790,
, adiovox	20717
Awa	20730
Axion	21072
B & K	
_ ****	20662, 20655
BBK	21224
Bel Canto Design	21571
Blaupunkt	20717
Blue Parade	20571
Blue Sky	20699, 20695
Brandt	20651
Broksonic	20695
California Audio	20490
Labs	
Celestial	21020
Centrex	20672
Cinea	20831
CineVision	20876, 20869, 20833
Citizen	22116, 21587, 21277,
	21003, 20695
Clairtone	20571
Coby	21351, 21177, 21165,
	21107, 21086, 21077,
	20852, 20778
Craig	20831
Creative	20539, 20503
Curtis Mathes	21087
CyberHome	21537, 21502, 21129,
Cybon lonic	21117, 21024, 21023,
Cytron	20874, 20816
Cytron Daewoo	20705
Daewoo	21242, 21234, 21172,
	21169, 20869, 20833,
	20784, 20770, 20705
Dansai	20770
Daytek	20872
Decca	20770
Denon	20634, 20490
Denver	20778
Desay	21407
Digitrex	20672

# **Programming Codes, continued**

DVD Players Make Disney DiViDo Dual Durabrand DVD2000 Electrohome	Code 21270, 20675 20705 21085, 21068, 20675 21127
Disney DiViDo Dual Durabrand DVD2000	21270, 20675 20705 21085, 21068, 20675 21127
DiViDo Dual Durabrand DVD2000	20705 21085, 21068, 20675 21127
Dual Durabrand DVD2000	21085, 21068, 20675 21127
Durabrand DVD2000	21127
DVD2000	
Flectrohome	20521
	22116, 21003
Emerson	21268, 20675, 20591
Enterprise	20591
Entivo	20539, 20503
Enzer	20770
ESA	21268
Firstline	20651
Fisher	20670
Funai	21334, 21268, 20675
Gateway	21158, 21077, 21073
GE	20815, 20717, 20522
Go Video	21730, 21304, 21158,
GO VIGEO	21144, 21099, 21075,
	21044, 20869, 20833
	20783, 20744, 20741,
	20717, 20715, 20573
Go Vision	21072
GoldStar	20869, 20741
Goodmans	20790
GPX	20769, 20699 20651, 20490
Gradiente	20651, 20490
Greenhill	20717
Grundig	20705, 20539
Harman/Kardon	20702, 20582
Hello Kitty	20831
Hitachi	20664, 20573
Hiteker	20672
iLo	21348
Initial	20717
Insignia	22095, 21268
Integra	20627, 20571
IRT	20783
Jaton	21078
JBL	20702
JMB	20695
JSI	21423
JVC	21164, 20867, 20623
	20558
i\\/in	21051, 21049
jWin Kawasaki	
Kawasaki	20790
Kenwood	20534, 20490
KLH	21149, 21020, 20790,
1.61	20717
Kloss	20533
Konka	20721, 20711
Koss	21423, 21061, 20896
	20769, 20651
Lasonic	21173, 20798, 20627
Lecson	21533
Lenoxx	21127
LG	20869, 20741, 20591
LiteOn	21440, 21416, 21158,
	21058
Loewe	20741, 20511
Logix	20783
Magnasonic	20675, 20651

DVD Players	
Make	Code
Magnavox	21506, 21268, 20675,
•	20646, 20539, 20503
Malata	21159, 20782
Marantz	20675, 20539, 20503
	01500 01070
McIntosh	21533, 21273
Medion	20651
Memorex	21270, 20831, 20695
Microsoft	22083, 20522
Minato	20752
Mintek	20839, 20717
Mitsubishi	21521, 20521
Momitsu	21082
Mustek	20730
Myryad	20894
NAD	20741
	-
Naiko	20770
Nakamichi	21222
NEC	20869, 20785
Nesa	20717
NexxTech	21402
Nintaus	21051
Norcent	21265, 21107, 21003,
Norcent	20872
0.1	
Onkyo	21769, 20627, 20503
Орро	21525, 21224, 20575
Optimus	20571
OptoMedia Elec-	20896
tronics	
Oritron	20651
Palsonic	20852, 20672
Panasonic	
Fariasonic	21762, 21641, 20703,
	20571, 20503, 20490
Philco	20675
Philips	22084, 22056, 21354
	21267, 20675, 20646,
	20539, 20503
Phonotrend	20699
PianoDisc	21024
Pioneer	21571, 20631, 20571,
i ioneei	
<b>D</b>	20525, 20142
Polaroid	21086, 21061, 21020
Polk Audio	20539
Portland	20770
Presidian	21072, 20675
Proceed	20672
Proscan	20522
Prosonic	20699
ProVision	20778
Qwestar	20651
Radionette	20741
RadioShack	20571
RCA	21769, 20822, 20790
	20717, 20571, 20522
Realistic	20571
Reoc	20752
DECIC:	20699
	12Uh99
Revoy	
Revoy Rio	20869
Revoy Rio RJTech	20869 21360
Revoy Rio	20869
Revoy Rio RJTech	20869 21360

Make	Code
Sampo	20752, 20698
Samsung	21075, 21044, 20820,
· ·	20744, 20573, 20490,
	20199
Sansui	20695
Sanyo	
Sariyo	21334, 20873, 20695,
0 1 11	20675, 20670
Schneider	20783
Schwaiger	20752
Sensory Science	21158
Sharp	21256, 20752, 20675,
	20630
Sharper Image	21117
Sherwood	21077, 21043, 20770,
	20633
Shinsonic	20839, 20533
Slim Art	20784
SM Electronic	20730
Sonic Blue	21099, 20869, 20783,
Soffic blue	21099, 20009, 20/83,
•	20715, 20573
Sony	21536, 21533, 21516,
	21431, 21070, 21033,
	20864, 20533
Sungale	21074
SVA	21105, 20860, 20717
Sylvania	21268, 20675
Symphonic	21334, 21268, 20675
TAG McLaren	20894
Tatung	20770
Teac	20790, 20717, 20571
Technics	20703, 20490
Technika	20770
Technosonic	20730
Tevion	20651
Theta Digital	20571
Thomson	20522, 20511
Tivo	21503
Toshiba	21769, 21608,, 21515,
	21503, 21154, 20695,
	20573, 20539, 20503
Tredex	20804, 20803, 20800
Unimax	20770
United	20730
Universum	20591
Urban Concepts	20539, 20503
US Logic	20839
V	21226, 21064
Venturer	20790
Vizio	21226, 21064
Vocopro	21360
Wesder	20699
Xbox	22083, 20522
Yamaha	
Tallialia	20545, 20539, 20497,
	20490
Yamakawa	20872
Zenith	20869, 20741, 20591,
	20503
Zeus	20784
2000	

21265

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# Appendix D: Troubleshooting

# **TV Reset Comparison Guide**

You can resolve many common TV problems using the reset functions described in the following table. See also the troubleshooting suggestions later in this appendix.

# **IMPORTANT**

**Before you change sound or picture settings:** If picture or sound settings seem wrong for a broadcast

channel (a channel from **ANT 1**, **ANT 2**, a cable box, or satellite receiver), first check other channels from the same input before changing settings. If most other channels from the same input seem correct, there is likely a problem with the broadcast rather than with the TV. Use care in this case, as changes you make to fix problems on individual channels also affect all other channels on the same input.

Reset Name	When to Use	How to Use	Resulting Action
Format	When the picture shape seems incorrect, use FORMAT to change the shape of the picture.	Press the FORMAT key to cycle through the available formats to find the best format for the current picture.	The last-used format for a signal type is memorized for each input. The next time the same input and the same signal type is viewed, the last-used format will be recalled.
PerfectColor™ and PerfecTint™ Reset (for the single input currently being watched)	When the color intensities seem out of balance, use the PerfectColor/ PerfecTint reset to reset the color balances to the original factory settings. Both PerfectColor and PerfecTint and are reset at the same time.	<ol> <li>While viewing the input to be reset, press MENU to display the Main menu with the A/V icon highlighted.</li> <li>Use ▶ to highlight PerfectColor and press ENTER to display the PerfectColor adjustment screen.</li> <li>Press CANCEL to reset the colors.</li> </ol>	All PerfectColor/PerfecTint sliders are reset to the original center position. The PefectColor/PerfecTint settings for other inputs remain unchanged.
A/V Memory Reset (for the single input currently being watched)	When audio and/or video settings for a single input seem incorrect, use A/V Memory Reset to return the input to the original factory settings.	<ol> <li>While viewing the input to be reset, press MENU to display the <i>Main</i> menu with the A/V icon highlighted.</li> <li>Use ▶ to highlight the Reset icon and press ENTER to reset.</li> </ol>	All Audio and Video settings for the individual input are reset except for the Listen To, Language, audio Balance, and Closed Caption settings.
A/V Reset (for all inputs)	To reset audio and video adjustments for all inputs to the original factory settings.	While viewing the TV, press the control- panel buttons GUIDE and FORMAT at the same time.	All Audio and Video settings are returned to the original factory settings, including Listen To and Language, plus Closed Captions settings and Format settings.
Channel Memorization	To erase and re-memorize channels on ANT 1 or ANT 2.	<ol> <li>While viewing the TV, press MENU to display the <i>Main</i> menu.</li> <li>Press ▼ to highlight the Setup icon.</li> <li>Press ▶ to highlight the Scan icon.</li> <li>Press ▼ to highlight the antenna input and reception mode, e.g. Ant 1 Air.</li> <li>Press ▶ to highlight the Start button icon and press ENTER to start the memorization.</li> </ol>	All previously memorized channels for the selected antenna input are erased and a new set of memorized channels is created. All custom settings for Fav, channel names, and channel locks are deleted. To add or delete individual channels, see <i>Edit</i> menu instructions on page 43.
Lock Menu Pass Code	To change your <b>Lock</b> menu pass code	See the cutout page in Appendix B, page 63.	Allows a new code to be established.
Control-Panel Lock Release	To re-enable the control- panel buttons after activation of the Control- Panel Lock	Press and hold the MENU button on the control panel for over eight seconds. This works even if the TV is powered off.	Allows the control panel to be unlocked if the remote control is misplaced.

74 Appendices

# Appendix D: Troubleshooting, continued

Reset Name	When to Use	How to Use	Resulting Action
System Reset	If the TV does not turn on or off, does not respond to the remote control or control-panel buttons, or has audio but no video.	Press the SYSTEM RESET button on the control panel.	The TV will turn off and 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 IMPORTANT: Use this reset only if all other resets have been unsuccessful.	To reset all consumer-accessible settings and all memories to the original factory defaults.  CAUTION: All owner-performed setups and adjustments will be erased.	<ol> <li>While viewing the TV, press MENU to display the TV <i>Main</i> menu.</li> <li>With the <i>Main</i> menu displayed, press number keys 1 2 3 to display the <i>Reset</i> menu.</li> <li>READ THE ON-SCREEN WARNING AND INSTRUCTIONS.</li> <li>If you do not wish to use this reset, press EXIT or MENU to back out.</li> <li>If you do wish to use the reset, press ENTER to erase all memories and settings.</li> </ol>	The TV will start the initialization process. The TV will then turn off and the front green LED will start flashing. When the LED stops flashing, you can turn the TV on again. The Parental Lock Pass code will remain unaffected, but all other memories and settings outlined in this Owner's Guide will need to be set again.

# **Service and Customer Support**

#### Service

If you are unable to correct a problem with your TV, consult your Mitsubishi dealer or Mitsubishi Consumer Relations at (800) 332-2119.

- DO NOT adjust any controls other than those described in this Owner's Guide.
- DO NOT remove the protective back cover of your TV.

# **Customer 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

# **Important**

All lamps replaced under warranty must be returned to Mitsubishi where they will be inspected for defect verification.

Appendices 75

# Appendix D: Troubleshooting, continued

Gei	neral TV Operation	
	Symptom	Remarks
1.	A fan is running even while the TV is powered off.	The room is too warm. When the TV is off, internal components continue to draw power and must be cooled by the fan.
2.	The fan gets louder after the TV is shut off.	Normal operation. The fan speeds up to cool the lamp quickly after the TV has been shut off.
3.	The TV remote control does not work.	<ul> <li>Check that the batteries are fresh and installed correctly.</li> <li>Check that the slide switch on the remote is set to TV.</li> <li>Be no more than 20 feet from the TV when using the remote control.</li> <li>Program the remote control to operate the TV or other device.</li> <li>Reset the remote control.</li> <li>If you have a custom home theater controller but prefer to use the TV's remote control, unplug the controller cable from the TV's IR-NetCommand® Output/External Controller Input.</li> </ul>
4.	When I try to use the remote control, the POWER key blinks five times.	Replace the batteries.
5.	TV does not respond to the remote control or to control-panel buttons and TV will not power on or off.	<ul><li>Unplug the AC power cord for 10 seconds.</li><li>Use the System Reset button.</li></ul>
6.	When a device is selected from the Input Selection menu, the screen is purple or black (no signal source).	<ul><li>Make sure the selected device is turned on.</li><li>Begin play of the device.</li></ul>
7.	You have forgotten your Lock menu pass code.	See Appendix B, "Bypassing the Parental Lock," page 63.
8.	Rating restrictions are not working.	<ul> <li>Open the Parental Lock menu and:</li> <li>Verify that the U.S. Ratings or Other Ratings setting is On.</li> <li>Check the Lock Time/Unlock Time to check if rating restrictions are disabled.</li> <li>Rating restrictions apply only to content on ANT 1 and ANT 2, and VIDEO composite video jacks.</li> </ul>
9.	On-screen displays appear each time you change a function.	Normal TV operation.
10.	A warning message appeared on screen stating, "TV will shut down in a few seconds. Please check if the air flow is blocked."	<ul> <li>Room temperature has exceeded proper levels. Cool the room.</li> <li>The TV has overheated. Clear blocked air vents and ensure at least four inches of clearance on all sides of the TV.</li> <li>Clean the air filter on the lamp cartridge See page 80.</li> </ul>

TV	Channels	
	Symptom	Remarks
1.	The TV takes several seconds to respond to channel changes.	<ul> <li>It is normal for digital channels to take longer to tune in.</li> <li>Press ENTER after a entering channel number to avoid delays.</li> <li>Use a 4-digit number for an over-the-air digital channel.</li> <li>Use a 6-digit number for digital cable channels if your cable service is able to recognize 6-digit channel numbers.</li> </ul>
2.	You cannot access a channel.	<ul> <li>Use number keys instead of CH △/ ✓.</li> <li>Be sure the channel you want to view is in memory. See Setup &gt; Scan on page 42.</li> <li>Check that the TV is switched to the correct device or antenna for that channel by pressing the INPUT key.</li> <li>Make sure Channel Lock is off.</li> <li>Make sure the Lock &gt; Parent menu lock is set to off.</li> <li>If you cannot tune to a virtual digital channel even though the TV has already memorized digital channels, tune to the physical channel number used by the broadcaster. The virtual channel will then be automatically added to memory.</li> </ul>

76 Appendices

# Appendix D: Troubleshooting, continued

TV	TV Channels	
	Symptom	Remarks
3.	Name options are not available for some channels.	You can name only memorized analog channels and memorized digital channels not named by the broadcaster.
4.	When ChannelView list is displayed, information appears incomplete	<ul> <li>Available information is sent from the broadcaster or cable provider. No other data is available.</li> <li>Make sure the TV clock is set correctly.</li> </ul>

TV	TV Power On/Off	
	Symptom	Remarks
1.	TV takes an excessively long time to power on.	<ul> <li>When switched on, the TV needs time to boot up, just as a computer does. Also, the TV's lamp requires a few moments to heat up to full brightness.</li> <li>TV Energy Mode is set to Low Power. Change TV Energy Mode to Fast Power On in the Setup menu.</li> </ul>
2.	You cannot program the TV to turn on automatically (Timer function)	<ul> <li>The TV may be locked.</li> <li>The clock may not be set.</li> <li>TV Energy Mode is set to Low Power. Change to Fast Power On in Setup menu.</li> </ul>
3.	The TV will not turn on after being plugged in.	If light on front panel is blinking, wait at least one and a half minutes 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.	<ul> <li>Momentary power fluctuation caused the TV to turn off to prevent damage. Wait for the green light to stop flashing and turn the TV on again.</li> <li>If the TV does not stay on, use the System Reset button on the control panel. If this happens frequently, obtain an AC line power conditioner/surge protector.</li> <li>An unusual digital signal may have been received, triggering a protection circuit. Wait for the light to stop flashing and turn TV on.</li> </ul>
5.	TV turned itself off and the STATUS light is a steady yellow.	<ul> <li>The TV has overheated. Clear blocked air vents and ensure at least four inches of clearance on all sides of the TV.</li> <li>Clean the lamp-cartridge air filter. See Appendix E.</li> </ul>
6.	TV will not power off.	Use the System Reset button.

Pic	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 overthe-air broadcasts are in high-definition and can be received with a high-quality antenna suited to your location.	
2.	Picture has become dimmer.	<ul> <li>The lamp is nearing the end of its life. Order a new lamp. See Appendix E for ordering information and replacement instructions.</li> <li>Adjust picture brightness and contrast to maximum levels.</li> <li>Change Lamp Mode from Standard to Bright.</li> </ul>	
3.	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 <i>Captions</i> menu. Turn off because there is no text information being broadcast.	

Appendices 77

# Appendix D: Troubleshooting, continued

Picture		
	Symptom	Remarks
4.	You cannot view a picture when playing a VHS tape.	Check your VCR's owner's guide for further troubleshooting.
5.	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 con- verts them to high-definition graphics.
6.	When viewing a stopped VCR, white lines are rolling on the screen.	<ul> <li>Turn off video mute for the VCR.</li> <li>Begin playing the tape.</li> <li>Change the VCR input to the antenna input.</li> </ul>
7.	A color program appears as a black and white image, or the colors are dim, or the screen is black.	The PerfectColor color balance has been incorrectly set. Reset the PerfectColor balance.
8.	Picture from an HDMI input is noisy (poor quality).	Upgrade a Category 1 (unmarked) HDMI cable to a Category 2 high-speed HDMI cable.
9.	The image from a computer appears distorted when viewed on the TV.	Normal TV operation. The TV does not correct distortion in the picture from a computer because the correction process may cause the edges of the image to be cut off.

	Sound (see also NetCommand troubleshooting for additional help with A/V receiver concerns)	
	Symptom	Remarks
1.	There is no sound even when the volume is turned up.	<ul> <li>Check if the MUTE button is on.</li> <li>The TV's "Listen to:" setting may be set to SAP.</li> <li>Check that the Speakers option is set to TV to hear sound from the TV speakers.</li> <li>If using an A/V receiver, check that the Speakers option is set to AV Receiver to hear sound from the A/V receiver speakers.</li> <li>Perform a System Reset.</li> </ul>
2.	The sound does not match the screen picture.	The TV's Listen to: setting may be set to SAP. See page 40.
3.	The sound from my A/V receiver does not match the screen picture (I should hear the correct audio from my A/V receiver).	<ul> <li>Check that DIGITAL AUDIO OUTPUT and/or AVR AUDIO OUTPUT on TV's back panel is connected to the A/V receiver. Without this connection, devices connected only to the TV (and not the A/V receiver) can be heard only from the TV speakers. Note that this includes the ANT 1/ANT 2 inputs, a device (such as a camcorder) connected to the front panel, and any other device sending audio to the TV only.</li> <li>Check A/V receiver input selection in the Inputs &gt; AV Receiver menu. If NetCommand is set up incorrectly for the A/V receiver, see "A/V Receiver Control: Automatic Audio Switching," page 58.</li> </ul>
4.	The sound from my A/V receiver does not match the screen picture (my source device should be sending both audio and video through the A/V receiver).	<ul> <li>Check A/V receiver input selection in the Inputs &gt; AV Receiver menu. If NetCommand is set up incorrectly for the A/V receiver, see "Setup to Control Automatic Video and Audio Switching via HDMI," page 61.</li> <li>The TV's Listen to: setting may be set to SAP. See page 40.</li> </ul>
5.	Cannot select an audio-only device; it does not appear in the Input Selection Menu.	Plug a video plug into any composite <b>VIDEO</b> jack for the Auto Input Sensing screen to appear. See "Audio-Only Device," page 24.

78 Appendices

# Appendix D: Troubleshooting, continued

Ind	Indicators	
	Symptom	Remarks
1.	LAMP indicator light is a constant red.	Turn the TV off for at least 2 minutes. Turn it back on. If light is still red, the lamp has failed. Replace it. See Appendix E for lamp replacement information. For questions, please call Mitsubishi Consumer relations at (800) 332-2119.
2.	LAMP indicator light is a flashing yellow.	Lamp cover door is open or lamp cartridge is not secure. See Appendix E for lamp replacement information.
3.	STATUS indicator light is a steady yellow.	<ul> <li>Room temperature has exceeded proper levels. Cool the room.</li> <li>The TV has overheated. Clear blocked air vents and ensure at least four inches of clearance on all sides of the TV.</li> <li>Clean the air filter on the lamp cartridge. See Appendix E.</li> </ul>
4.	STATUS indicator light is a steady/flashing red.	<ul> <li>Unplug set from AC power. Plug back in and wait one minute for blinking to stop.</li> <li>Press SYSTEM RESET button and wait for blinking to stop.</li> <li>If blinking continues, 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.</li> </ul>

Net	Command		
Syr	nptom	Remarks	
1.	Cannot see the menu from the A/V Receiver.	A/V Receiver Set Up for Audio-Only Switching     The A/V Receiver is not connected to any video input of     the TV. To check the A/V Receiver menu, temporarily plug     into an unused input of the TV, such as Input 3. Exit the     Auto Input Sensing screen and select Input 3 from the Input     Selection menu. Press MENU.	
		A/V Receiver Set Up for Audio and Video Switching over HDMI     Use the MENU key on the A/V receiver's remote control.	
		A/V Receiver with NetCommand for HDMI.     Press INPUT to open the Input Selection menu. Highlight the A/V receiver icon and press MENU.	
2.	NetCommand unable to learn specific device keys.	<ul> <li>A/V Device does not use IR format for remote control signal. ITT and RF formats cannot be learned.</li> <li>Room lighting may affect the signal. Have the remotes very close (6 inches or less) to the TV during Learning.</li> <li>If learning a Mitsubishi remote control, make sure slide switch is not set to TV position.</li> <li>Some, but not all, device key functions can be learned by NetCommand. For example, POWER and PLAY may be learned, but other functions may not.</li> <li>The signal from the remote control may not be strong enough. Insert fresh batteries and try Learning again.</li> </ul>	

Appendices 79

# Appendix D: Troubleshooting, continued

Net	NetCommand		
Syn	nptom	Remarks	
3.	The A/V receiver is the selected audio source but there is no sound.	<ul> <li>A/V Receiver Set Up for Audio-Only Switching         <ul> <li>Check to see if the A/V Receiver power is turned on.</li> <li>With A/V receiver power turned on, redisplay the Input Selection menu and press ENTER to allow NetCommand to correctly select the A/V Receiver input.</li> <li>Incorrect setup in the Inputs &gt; AV Receiver menu. Check the device connection assigned in the AV Receiver menu.</li> </ul> </li> <li>A/V Receiver Set Up for Audio and Video Switching over HDMI         <ul> <li>Check to see if the A/V Receiver power is turned on.</li> <li>If the device is connected only to the TV (e.g., on ANT1, ANT 2, or a front panel input), verify that the TV's AUDIO OUTPUT is connected to the A/V receiver.</li> <li>The A/V receiver is not switching properly because you have not learned the inputs. See "Setting Up</li> </ul> </li> </ul>	
4.	There is no sound from the A/V receiver for my DVD player or other surround sound device even though I learned the IR code for the A/V receiver's DVD input or other input. (A/V Receiver Set Up for Audio-Only Switching)	NetCommand Control of an A/V Receiver," page 57.  NetCommand A/V receiver setup for the DVD player or digital surround sound device or other device is not switching properly. See chapter 6, "NetCommand IR Control," and perform A/V receiver setup for a digital surround sound device as described under "A/V Receiver Control: Automatic Audio Switching," page 58.	
5.	There is no sound or picture from the A/V receiver for my DVD player or other device connected to the A/V receiver; the A/V receiver should be sending video to the TV over an HDMI cable.  (A/V Receiver Set Up for Audio and Video Switching over HDMI)	NetCommand A/V receiver setup is not switching audio and video inputs properly. See "Setup to Control Automatic Video and Audio Switching via HDMI," page 61.	
6.	I've selected my DVD player or other surround sound device in combination with the TV speakers but hear no sound from the TV speakers.	<ul> <li>A/V Receiver Set Up for Audio-Only Switching If you have only an audio connection from the device to the A/V receiver, a physical audio connection from the device to the TV is also required.</li> <li>Connect the left and right audio output from the device to the appropriate TV audio input. Now you can hear audio from the device through either the TV speakers or the A/V receiver.</li> <li>To switch audio sources, press AUDIO, press ▲ ▼ to show the Speakers option, then press ► to select AV Receiver or TV.</li> <li>A/V Receiver Set Up for Audio and Video Switching over HDMI With your DVD player connected to the A/V receiver, only video is passed from the A/V receiver to the TV because of copy-protection restrictions on the HDMI signal</li> </ul>	
7.	I "learned" the RECORD key for my VCR/DVR but when I pressed the RECORD key, the VCR/DVR did not record anything.	Check that the VCR or DVR is receiving a signal directly from your cable box or satellite receiver.	

# Appendix E: Lamp-Cartridge Replacement and Cleaning

# **WARNING**

THE ACCESS PANEL IS PROVIDED WITH AN INTERLOCK TO REDUCE THE RISK OF EXCESSIVE ULTRAVIOLET RADIATION. DO NOT DEFEAT ITS PURPOSE OR ATTEMPT TO SERVICE WITHOUT REMOVING PANEL COMPLETELY.



# **BURN DANGER! HOT SURFACES INSIDE!**

Touch lamp cartridge handle only. Do not touch lamp or lamp cartridge housing. Keep lamp cartridge horizontal during removal. Do not tilt as glass may come out and cause injury. Replace lamp cartridge only with the same part number 915B403001.

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, the selected lamp mode, and your viewing patterns. Warmer air or poor ventilation shorten the lamp life, as does use of the **Bright** lamp mode and 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.

# To Order a New Lamp

#### To Receive a Replacement Lamp Under Warranty

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

**Important:** All lamps replaced under warranty must be returned to Mitsubishi where they will be inspected for defect verification.

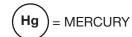
#### To Purchase a Replacement Lamp After Warranty

Visit our website at www.mitsuparts.com or call (800) 553-7278. Order the following:

# Lamp Part Number 915B403001

#### **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.



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 E: Lamp-Cartridge Replacement and Cleaning, continued

# **Lamp-Cartridge Replacement**

# Removing the Old Lamp Cartridge

- 1. Turn off TV power and allow the lamp to cool for at least one hour before proceeding.
- 2. After the lamp has cooled, remove the cover of the lamp compartment, located on the back of the TV. Refer to figures 1 and 2. Use a #2 (large) Phillips screwdriver to loosen the screw securing the cover. Keep the screw and cover for re-installation
- 3. With a large Phillips 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 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 figure 3.

**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

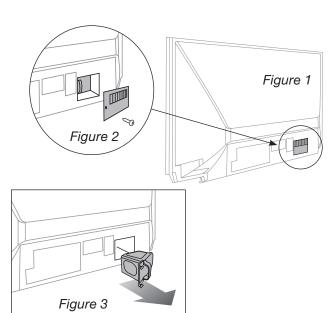
- 1. Do not touch the glass parts of the new lamp cartridge. Insert the new cartridge into the TV in the same orientation as the old cartridge. Push on the cartridge housing until it is fully seated.
- 2. With either your fingers or the screwdriver, gently tighten the two shiny screws. If using a screwdriver, 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

**Lamp under warranty:** All lamps replaced under warranty must be returned to Mitsubishi. Use the return shipping label provided and send to Mitsubishi Digital Electronics, America, 1001 Cherry Drive, Suite 2, Braselton, GA 30517.

IMPORTANT: Lamps found to be without defect will be returned and charged back to the sender.

Lamp no longer under warranty: Contact your local authorities or the Electronic Industries Alliance at www.eiae.org for lamp-disposal or recycling instructions. Do not dispose of the old lamp with common trash.



Use only replacement lamp part number 915B403001.

# **Lamp-Cartridge Filter Cleaning**

If the TV shuts off after displaying the message "TV will shut down in a few seconds. Please check if the air flow is blocked" and/or the STATUS LED is yellow, the air filter may need cleaning. The air filter is part of the lamp cartridge. Use the following procedure to clean the filter.

- Remove the lamp cartridge from the TV as described under "Removing the Old Lamp Cartridge." Do not tilt or rotate the cartridge. Do not touch the glass parts of the lamp cartridge.
- 2. Holding the lamp cartridge horizontal (do not tilt or rotate), use a soft dry brush or vacuum cleaner to remove any dust that may be present on the mesh filter. Do not use liquids. See figure 4.
- **3.** Reinstall the lamp cartridge as described under "Installing the New Lamp Cartridge."

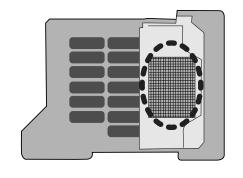


Figure 4
Keep lamp
cartridge horizontal
and remove dust
from the mesh filter
using a vacuum
cleaner or soft dry
brush.

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83

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- 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

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- **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, 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 vent 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.
- 7. In the event of any dispute under this limited warranty, jurisdiction and venue for resolving that dispute will be in the state where the television was purchased and the laws of such state will govern.



MITSUBISHI DIGITAL ELECTRONICS AMERICA, INC. 9351 Jeronimo Road Irvine, CA 92618-1904

# Index

A
Adjust Keys (Up/Down/Left/Right)
26, 35
Anamorphic Picture Format 31
Antenna
Connecting 20
Signal Strength for Digital Chan- nels 29
= = =
Antenna Inputs (ANT 1, ANT 2) 9
Audio Lock (A/V receiver control) 66
Audio Output Jacks 9
Auto Input Sensing 13
Auto-Off (Sleep Timer) 25
Auto-On (Timer) 45
A/V Memory Reset 73
A/V Receiver
and TV Speakers 40
and TV's Remote Control 57, 60,
65
Audio Lock 66
Connecting 9, 23
Controlling Sound Volume 14
Disconnecting Analog 14
NetCommand IR Control 51, 55,
57
Controlling a Device Connected
to the A/V Receiver 15, 61
Video and Audio Switching via
HDMI 61
A/V Reset 7, 73

ш	,
_	
в	ć

ack Panel (described) 9, 10 Batteries 12 Blue Glow 37 Bright (Lamp Mode) 46 Brightness (picture adjustment) 38

# C

Cable Box and TV's Remote Control 27, 65 Connecting 18, 19, 21, 22 Camcorder 24 Captions Menu 41 CEC (Consumer Electronics Control) 6, 28, 65 A/V Receiver 14, 78 CEC-Enabled Devices and the Inputs Name menu 47

Disabling CEC for a Device 47 Channels

antennaweb.org 42 Changing Channels 25 Channel Lock 43 Digital Channel Numbers 62 Edit Channels (menu) 43

Favorites (Fav) 30, 43 Memorizing 13 Naming 43

Physical/Virtual Channel Numbers 42, 43

Scan (memorize) 42 Status Display 29 Troubleshooting 75

ChannelView™ Channel Listings 28

Cleaning 4

Clock, Set Date and Time 44 Closed Captions 41

Color Adjustments 36, 38 Reset Color 36, 73

Computer

and Display Formats 17, 62 Connecting 16

Contrast 38 Control Panel 7

Control Panel Lock 50

Customer Service and Support 74

D

Date. See Clock Defaults, Resetting 73 DIGITAL AUDIO OUT 9 Dolby Digital 9, 23, 58, 62 d DVD Player and TV's Remote Control 27, 65

Connecting 19 DVI Device, Connecting 19

Ε Edit Menu (channels) 43 Energy Mode 46 External Controller Input and Setup

F1-F4 Kevs 27, 53 Fan Noise 4 Fast Power On 46 FAV (Favorite Channels) 30, 43 Film Mode 37 Filter, Air (on lamp cartridge) 81 Font (digital closed captions) 41 FORMAT Key 31 Freeze Picture 27 Front Panel 7 Blue Glow 37

G Game

3D Video 34

Controls 7

Game as Input Name 47 Game Picture Mode 38

Front-Panel Indicators (lights) 8

HDMI Cables for Games 10 Global Menu 37 GUIDE Key 26, 65 ChannelView 28

Н

HD (High-Definition) Signal) 31 HDMI

Changing Out an HDMI Device and Auto Input Sensing 14 Connecting an HDMI Device 19 A/V Receiver 23 HDMI Cable Categories 10 HDMI Jack 10 NetCommand for HDMI Devices

6, 28, 65, 78 Removing an HDMI Device from the Input Selection Menu 47

INFO Key

ChannelView 28 in TV Menus 35 USB Photo Menu 32 Input Selection Menu

Choose Viewing Source 25 Disconnected HDMI Device 14.

Icon Order 47 INPUT Key 26 Inputs Menu 47

IR (infrared) Emitter Placement

IR NetCommand Output (jack) 10

J

JPEG Photo Files 32

Lamp Cartridge Replacement 80 LAMP Indicator 8 Lamp Mode 46 Language in Digital Programs 40 SAP (Second Audio Program) 40 Language Menu 42 Learn 47. See also NetCommand IR Control Learn Menu 47 LED Indicator Lights 8 Troubleshooting 78 Letter Box Image Display 31

Level Sound 40 Light, Decorative 37 Listen To 40 Listings 28

Lock Menu. See Lock TV Lock TV

Bypassing the Lock 63

Lock by Channel 43 Lock by Ratings 49 Lock by Time 50 Lock Control Panel 50 Preset V-Chip Blocking 48 Low Power (Energy Mode) 46

M

Media Setup Menu 33 Memorizing Channels 13 Add Single Channel to Memory 42, 43 Memory Reset, A/V 73 Mute Closed Captions 41 MUTE key 26

Ν

Name (Inputs menu) 47 Name Menu (Inputs > Name) 47 NetCommand for HDMI Devices 6. 28, 65 Disabling CEC 47

NetCommand IR Control About 51

Video Mute 37

A/V Receiver Control 57 Compared to Programming the Remote Control 65 Initial Setup for Most Devices 53 Operating 55, 56 Specialized Device Keys 54 Troubleshooting 78

0

Noise, Video 38

120 Hz Picture Processing 37 Order Menu (Inputs > Order) 47

Р

Parent Menu 49 Pass Code Resetting 63 Setting 48 PAUSE Key 27 PerfectColor 36 PerfectTint 36 Photo Viewing 33 Picture AV Menu Controls 36 Picture Quality and Film Mode 37 Troubleshooting 76, 77 Picture Mode 38 Power Consumption Energy Mode 46 Specifications 62 Power On/Off 12, 25

Troubleshooting 76

POWER/TIMER Indicator 8

QV Key (QuickView™) 26 and FAV Key 30

Ratings (TV and Movie) 49

Remote Control Keys and Functions 26, 27 Programming Codes (reference chart) 67 Programming, Compared to

NetCommand "Learning" 65 Programming Instructions 66 Reset 27

Reset

AV Menu Reset (by input) 36 A/V Reset (all settings) 7 Color 73 Pass Code 63 Remote Control 27 Remote Control Audio Lock 66 System Reset 7 TV Reset Comparison Guide 73

S Safety Instructions 5 SAP (second audio program) 40 Satellite Receiver and the Remote Control 65 Connecting 18, 19, 21 Scan (memorize channels) 42 Screen Saver 37 SD (Standard-Definition Signal) 31 Signal Definitions 31 Signal Strength Indicator 29 Sleep Timer 25 Smooth 120Hz 37 Sound Audio Menu 40 Controlling A/V Receiver Volume 57, 60 Level Sound 40

Sound Mode (audio effects) 40 Speakers Option In Audio Menu 40 Specifications, TV 62 Standard-Definition Signal 31 Standard (Lamp Mode) 46 Stand Part Number 4 Status Display 29 STATUS Indicator 8 Stereo System. See A/V Receiver

Surround Sound 9, 23, 58, 59

System Reset 7, 74

Simulated Surround Sound 40

Test Picture 37 3D GLASSES EMITTER Jack 10 3D Video 34, 46 Time. See Clock Timer (auto-on) 45 TIMER Indicator (POWER/TIMER) 8 Time Zone. See Clock Troubleshooting 73

V

V-Chip Ratings Applying Restrictions 48 Definitions 49 In Status Display 29

**VCR** 

Connecting 21, 22 Troubleshooting 77 Vert Adjustment 39 Video from a Digital Camera 33 Video Game, See Game Video Menu 38 Video Mute 37 Video Noise 38

Viewing Device. See Input Selection

Wall Outlet Cable 20

X

Menu

x.v.Color 10, 19, 38



Website:

www.mitsubishi-tv.com

E-mail:

MDEAservice@mdea.com

# For questions, call Consumer Relations at 800-332-2119

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Visit our website www.mitsuparts.com

or call

800-553-7278

# **SYSTEM RESET**

If the TV does not respond to the remote control, control-panel buttons, or will not power on/off, press the SYSTEM RESET button on the control panel.

The green LED will flash quickly for about one minute. When the green LED stops flashing, you may turn on the TV. Settings changes you made most recently, before using \$Y\$TEM RESET, may be lost.