CVPD50

50-INCH HIGH-DEFINITION PLASMA DISPLAY

CVR700

HIGH-PERFORMANCE AUDIO/VIDEO RECEIVER/VIDEO PROCESSOR/OPTICAL DISC CHANGER

JBL®

OWNER'S GUIDE

JBL CINEMA VISION™ SYSTEM

JBL CINEMA VISION™ SYSTEM: CVPD50 HIGH-DEFINITION PLASMA DISPLAY AND CVR700 CONTROL CENTER WITH AUDIO/VIDEO RECEIVER, VIDEO PROCESSOR AND OPTICAL DISC CHANGER

See trademark acknowledgements on page 114.

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.

CAUTION: To prevent electric shock, do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to 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 appliance.

Typographical Conventions

In order to help you use this manual with the remote controls, front-panel controls and rear-panel connections, certain conventions have been used.

EXAMPLE – (bold type) indicates a specific remote control or front-panel button or indicator, or rear-panel connection jack

EXAMPLE – (OCR type) indicates a message that is visible on the front-panel information display or screen

EXAMPLE – (Synchro type) indicates a message that is visible on the CVR700R2 remote's LCD display

1 – (number in a square) indicates a specific front-panel control

❶ – (number in an oval) indicates a button or indicator on the CVR700R2 remote control

❶ – (number in a circle) indicates a rear-panel connection

A – (letter in a square) indicates an indicator in the front-panel information display

1 – (number in a triangle) indicates a button or an indicator on the CVR700R1 remote control

read first! Important Safety Precautions!

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 a dry cloth.

7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.

9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus.

11. Only use attachments/accessories specified by the manufacturer.

12. Use only with the cart, stand, tripod, bracket or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15. Do not use attachments not recommended by the product manufacturer, as they may cause hazards.

16. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

17. If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.

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

19. Do not overload wall outlets, extension cords, or integral convenience receptacles, as this can result in a risk of fire or electric shock.

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

21. The apparatus shall not be exposed to dripping or splashing, and no objects filled with liquids, such as vases, shall be placed on the apparatus.

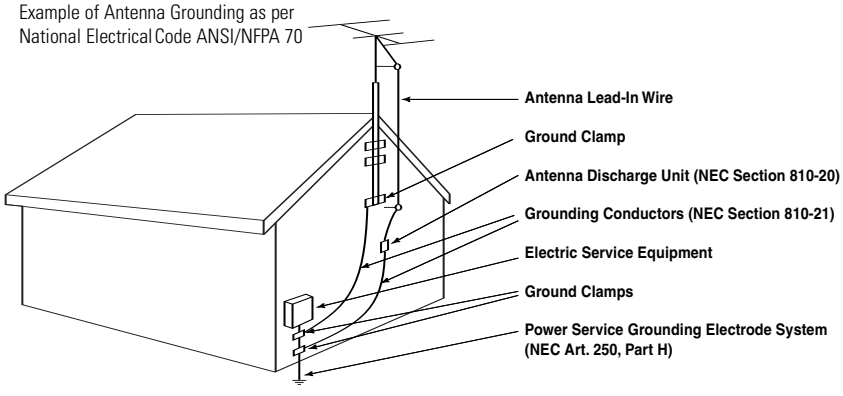
22. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

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

24. Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

25. The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

Figure A.
Example of Antenna Grounding as per National Electrical Code ANSI/NFPA 70



Part No. HCGUL1492/6500 04/2004 EN

INTRODUCTION

Thank you for choosing JBL®. The JBL Cinema Vision™ home theater system is truly an entertainment system for the 21st century. JBL Cinema Vision is a complete, integrated audio/video system that combines the sophisticated performance of separate components with the convenience of a turnkey solution. The system includes a 50-inch high-definition plasma display monitor and an audio/video system controller that contains a 5-disc DVD-Audio/DVD-Video/CD changer, high-performance A/V receiver and a video processor. The multichannel loudspeaker system is designed to acoustically, electrically and visually complement the JBL Cinema Vision source and video components. Satellites and the center feature common voicing, dual-neodymium-driver satellites, and a 1-inch titanium-laminate tweeter. The subwoofer features a 400-watt RMS power amplifier and a 12-inch cast-basket woofer.

This manual describes the CVR700 control center, and the CVPD50 50-inch high-definition plasma display. Together with the CVSAT50, CVCEN50 and CVSUB50 loudspeakers, the JBL Cinema Vision system delivers a complete home theater experience, including high-quality playback of most optical discs.

The CVPD50 and CVR700 have been engineered so that it is easy to take advantage of all of the power of their digital technology. However, to obtain the maximum enjoyment from your new home theater system, we urge you to read this manual. A few minutes spent learning the functions of the various controls will enable you to take advantage of all the power these components are able to deliver.

If you have any questions about these products, their installation or operation, please contact your retailer or custom installer, as they are your best local sources of information.

CVPD50 50-Inch High-Definition Plasma Display Monitor

The CVPD50 is a state-of-the-art, true high-definition plasma display that may be used to display HDTV cable or satellite television signals, as well as movies played using the CVR700's internal DVD changer, or it may be used with a personal computer, as well as other external devices such as video gaming consoles and recording devices. The sophisticated processor automatically configures 4:3 video sources for full-screen 16:9 display, but purists may manually set the processor to display 4:3 video images without scaling or adjustment. The CVPD50 offers stunning picture quality, even under normal lighting conditions, thanks to its 3,000:1 contrast ratio and 1,000cd/m^2 brightness rating. The digital video processor on board the CVR700 outputs a digital video signal via a single, proprietary connection to the CVPD50 display. (The CVPD50 display requires the CVR700 control center for operation.)

CVR700 7 x 100 Watts System Control Center

The CVR700 is a unique multifeatured component, combining audio and video source selection and processing with a five-disc magazine changer capable of playing DVD-Audio, DVD-Video, CD, CD-R/RW, DVD+R/RW, DVD-R/RW, MP3, WMA, Kodak® Picture CD, VCD and JPEG discs. Video playback using the internal DVD changer is of the highest quality, benefiting from pixel-by-pixel processing and digital output to the plasma display. The CVR700 is capable of reconstructing the 3/2 pulldown effect introduced when film-based programs are transferred to video. In conjunction with precision video output DACs, the result is a full 60-frame-per-second image that is the closest thing to film this side of your local cinema.

The audio section includes all of the latest surround sound processing formats, including Dolby* Digital, Dolby Pro Logic* IIx, Dolby Headphone, DTS®, DTS-ES®, DTS Neo:6®, DTS 96/24 and Logic 7®. High-efficiency digital amplifiers are designed to match the characteristics of the JBL Cinema Vision speakers, preserving signal quality and delivering the power and fidelity you expect from JBL.

In addition to providing a wide array of listening and viewing options, the CVR700 is easy to configure so that it provides the best results for your specific listening environment and viewing preferences. On-screen menus make it simple to customize system settings, on-screen status banners streamline user interaction, and the EzSet remote automatically measures and calibrates sound levels for a perfectly balanced sound field presentation.

Although the CVR700 is designed to be used with the internal DVD changer and CVPD50 display, it also includes a full complement of inputs and outputs that are normally found only on standalone audio/video receivers. It includes audio/video source inputs for two recording devices, a cable television/satellite receiver/HDTV tuner, a personal computer and an auxiliary device. A sixth source may be connected to the front-panel jacks, which include not only analog audio and video inputs, but S-video, component video and optical and coaxial digital audio inputs. A front-panel optical digital audio output enables recording with compatible portable devices. Dedicated rear-panel digital audio inputs (4 optical and 4 coaxial) are pre-assigned to the sources, and 2 outputs (1 optical and 1 coaxial) are also provided. An HDCP (high-definition copy-protected) DVI video input may be used with a DVI-enabled HDTV tuner, a satellite or cable set-top box, or a DVD player, or with a personal computer featuring a DVI or Analog VGA video output. A composite video input may be used with the PIP (picture-in-picture) function for simultaneous viewing of two video sources using either a traditional small screen inset or a split screen.

A universal remote control operates all devices, and may be programmed to operate other components in your system, such as a VCR, personal video recorder (PVR), or other devices. The main remote control is easy to program using its two-line LCD text display. A second, simplified remote is also included.

Simple to Install and Use

The JBL Cinema Vision system is designed for easy installation and simple operation. Its sophisticated processing capabilities operate automatically, transparent to the user. The JBL On Screen Library™ display of loaded discs simplifies navigation and selection of desired program material. With state-of-the-art audio and video components, the JBL Cinema Vision home theater system is the perfect combination of the latest digital audio and video technologies in an elegant, easy-to-use package.

- 50" True high-definition plasma display with ultrawide viewing angle
- 3,000:1 contrast ratio and 1,000cd/m^2 brightness
- 7 x 100W digital control center with an audio/video receiver, video processor and DVD changer
- A wide range of digital and matrix surround modes, including Dolby Digital, Dolby Digital EX, Dolby Pro Logic II and IIx, DTS, DTS-ES Discrete and Matrix, DTS 96/24, DTS Neo:6, Logic 7

(5.1 and 7.1, Cinema and Music modes)

- Seven channels of amplification
- Internal five-disc changer plays DVD-Audio, DVD-Video, CD, VCD, CD-R/RW, DVD-R/RW, DVD+R/RW, MP3, WMA, Kodak® Picture CD and JPEG discs
- Extensive bass management options, including quadruple crossover and EzSet output-level calibration
- Six A/V inputs with composite video and S-video, three HDTV-compatible component (Y/Pr/Pb) inputs, one DVI input
- Ten digital audio inputs, including front-panel optical and coaxial inputs
- Front-panel component video inputs, in addition to conventional audio/video and S-video inputs
- Picture-in-picture capability for simultaneous viewing of two video sources
- Accommodates 4:3 aspect ratio programs, with intelligent options for fitting to 16:9 full-screen display
- Universal programmable learning remote with LCD text display
- Secondary remote for everyday use

SAFETY INFORMATION

Verify Line Voltage Before Use
Your CVR700 and CVPD50 have been designed for use with 120-volt AC current, and the plugs are specifically designed for 120-volt applications. Connection to a line voltage other than that for which the unit is intended can create a safety and fire hazard and may damage the unit.

If you have any questions about the voltage requirements for your specific model, or about the line voltage in your area, contact your selling dealer before plugging the unit into a wall outlet.

Do Not Use Extension Cords
We do not recommend that extension cords be used with this product. As with all electrical devices, do not run power cords under rugs or carpets or place heavy objects on them. Damaged power cords should be replaced immediately by an authorized service center with cords meeting factory specifications.

Handle the AC Power Cord Gently
When disconnecting the power cord from an AC outlet, always pull the plug; never pull the cord. If you do not intend to use the unit for any considerable length of time, disconnect the plug from the AC outlet.

Do Not Open the Cabinet
There are no user-serviceable components inside this product. Opening the cabinet may present a shock hazard, and any modification to the product will void your guarantee. If water or any metal object such as a paper clip, wire or a staple accidentally falls inside the unit, disconnect it from the AC power source immediately, and consult an authorized service center.

Installation Location
- To ensure proper operation, and to avoid the potential for safety hazards, place the unit on a firm and level surface. When placing the unit on a shelf, be certain that the shelf and any mounting hardware can support the weight of the product.
- Make certain that proper space is provided both above and below the unit for ventilation. If this product will be installed in a cabinet or other enclosed area, make certain that there is sufficient air movement within the cabinet.
- Do not place the unit directly on a carpeted surface.
- Avoid moist or humid locations.
- Avoid installation in extremely hot or cold locations, or an area that is exposed to direct sunlight or heating equipment.
- Do not obstruct the ventilation slots on the sides of the unit, or place objects directly over them.

Cleaning
When the unit gets dirty, wipe it with a clean, soft, dry cloth. If necessary, wipe it with a soft cloth dampened with mild soapy water, then a fresh cloth with clean water. Wipe immediately with a dry cloth. NEVER use benzene, aerosol cleaners, thinner, alcohol or any volatile cleaning agent. Do not use abrasive cleaners, as they may damage the finish of metal parts. Avoid spraying insecticide near the unit.

Unpacking
Cartons and shipping materials used to protect your new system components during shipment are specially designed to cushion them from shock and vibration. We suggest that you save the carton and packing materials for use in shipping if you move, or should the unit ever need repair.

To minimize the size of the cartons in storage, you may wish to flatten them. This is done by carefully slitting the tape seams on the bottom, and collapsing the carton down to a more two-dimensional appearance. Other cardboard inserts may be stored in the same manner. Packing materials that cannot be collapsed should be saved along with the carton in a plastic bag.

If you do not wish to save the packaging materials, please note that the carton and other sections of the shipping protection are recyclable. Please respect the environment and discard those materials at a local recycling center.

Important Note for CVPD50 Plasma Display: Always make sure that two people lift the CVPD50 plasma display together. *Never attempt to lift the unit by yourself.* **Failure to follow this instruction may result in personal injury or irreparable damage to the unit that is not covered under warranty.**

Remove Front-Panel Protective Film
In order to protect the lens covering the front panel of your new CVR700, it is shipped from the factory covered by a protective plastic film. Before using the unit, remove this film by grabbing one corner and gently peeling back the plastic sheet. Note that the film must be removed for proper operation of the remote control.

Moving the Unit
Before moving any of the units, be certain to disconnect any interconnection cords with other components, and make certain that you disconnect the unit from the AC outlet.

Important Note for CVPD50 Plasma Display: Always make sure that two people lift the CVPD50 plasma display together. *Never attempt to lift the unit by yourself.* **Failure to follow this instruction may result in personal injury or irreparable damage to the unit that is not covered under warranty.**

IMPORTANT NOTE: To avoid damage to the CVR700 that may not be covered by the warranty, be certain that all discs are removed from the unit before it is tilted in place or moved. Once the CVR700 is installed, a disc may be left in the unit when it is turned off, but the unit should NEVER be tilted or moved with a disc left in the changer. **Failure to do so may result in discs becoming dislodged and jamming the mechanism which will require that the unit be returned to an authorized service facility for repair.**

Important Information for the User
The CVR700 and CVPD50 have been tested and found to comply with the limits for a Class B device, pursuant to Part 15 of FCC Regulations 47. Operation is subject to the following conditions: (1) These devices may not cause harmful interference, and (2) these devices must accept interference received, including interference that may cause undesired operation. 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 communication. However, there is no guarantee that harmful interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

NOTE: Changes or modifications may cause these units to fail to comply with Part 15 of the FCC Rules and may void the user's authority to operate the equipment.

CAUTION: The CVR700 uses a laser system. To prevent direct exposure to the laser beam, do not open the cabinet enclosure or defeat any of the safety mechanisms provided for your protection. DO NOT STARE INTO THE LASER BEAM. To ensure proper use of this product, please read this owner's manual carefully and retain it for future use. Should the unit require maintenance or repair, please contact your local JBL service center. Refer servicing to qualified personnel only.

The following is important safety information that you should read carefully in order to prevent the possibility of personal injury to yourself or others, or damage to the equipment. Errors in installation or connection may lead to damage to the CVPD50, the CVR700 or other devices in your system.

Never allow children to use the CVPD50, CVR700 or any other electrical appliances without supervision. Take care to install these devices where they are safe from children and pets.

Never operate the CVPD50 plasma display in environmental conditions other than those listed in the technical specifications on pages 111–112 of this manual.

Protect the CVPD50 plasma display and the CVR700 from moisture, including high levels of humidity, proximity to standing water, dripping water, spray water and rain. Do not install this equipment outdoors, near a hot tub or in a bathroom. Do not put any vessels that are filled with water, such as vases, on the unit. If you connect an external antenna to any device connected to the CVR700, ensure that no water can penetrate the cable.

Protect this equipment from heat, heat accumulation and direct sunlight. Avoid placing the unit near fire, heat sources or ovens. Maintain sufficient space on all sides of the unit for proper ventilation. Do not drape curtains over the unit. Do not mount the unit in an enclosed cabinet or wall.

Failure to follow these instructions may lead to personal injury or death due to electric shock and/or fire caused by overheating, and/or irreparable damage to the unit that is not covered under warranty.

Power Connection and Operator Control

The CVPD50 plasma display and the CVR700 are completely disconnected from electrical power *only* when the power cables are removed from both units and/or the wall outlets, and the JBL Digital Link™ cable connecting the CVR700 to CVPD50 is unplugged. Only connect the CVPD50 plasma display and the CVR700 to a plug receptacle that has been installed in compliance with local regulations regarding proper grounding, and which provides 120V. Make sure that the power plug and outlet are accessible at all times.

Use only the power cord supplied with the CVPD50 plasma display. Never remove the plug from the outlet by pulling on the cable. Do not run the power cord near heat-producing objects.

If you will be away for an extended period of time, it is a good idea to unplug the units and any antennae. It is also a good idea to do the same before any thunderstorms. This is a precautionary measure to prevent the possibility of personal injury or death due to fire or electric shock resulting from a lightning strike, and to prevent damage to the unit.

Always power off all units and unplug them before connecting them to each other.

Failure to follow this instruction may result in personal injury due to electrical shock or fire, and/or irreparable damage to the unit that is not covered under warranty.

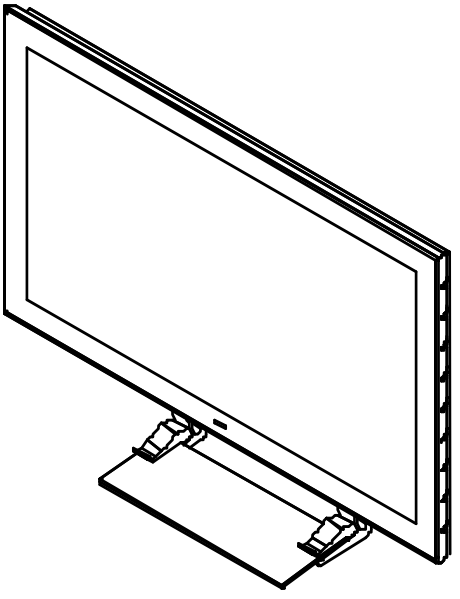
The CVPD50 plasma display is equipped with an attached glass filter plate. If the unit is exposed to excessive stress, e.g. due to shock, vibration, bending or heat, the glass surface can break. Do not subject the glass surface to any pressure or knocks. If the glass is cracked, unplug the power cord immediately. Do not touch the fragments with your bare hands. **Failure to follow these instructions may result in personal injury due to sharp-edged glass fragments.**

Always make sure that two people lift the CVPD50 plasma display together. Never attempt to lift the unit by yourself. **Failure to follow this instruction may result in personal injury or irreparable damage to the unit that is not covered under warranty.**

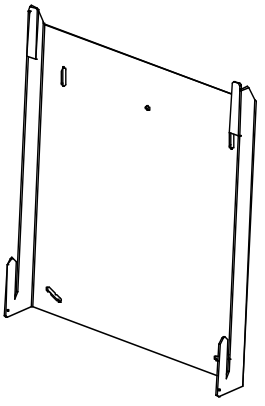
What's Included

CVPD50 Carton Contents:

One CVPD50 50-Inch Plasma Display Screen (shown with credenza stand)



One wall-mount bracket for the CVPD50 screen



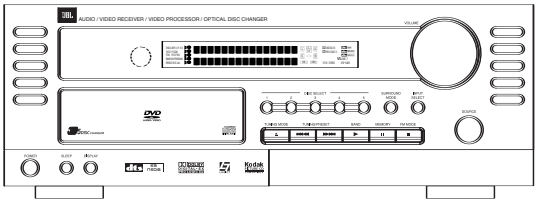
One power cord for the CVPD50 screen (packed with CVPD50)

One JBL Digital Link cable to connect the CVPD50 screen to the CVR700 (3 meters; 5- and 10-meter lengths available separately), packed with CVPD50

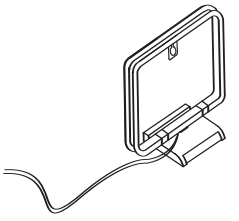
One VGA to DVI cable for analog PCs (3 meters), packed with CVPD50

CVR700 Carton Contents:

One CVR700 audio/video receiver/video processor/optical disc changer with owner's guide, quick-start guide and warranty cards.

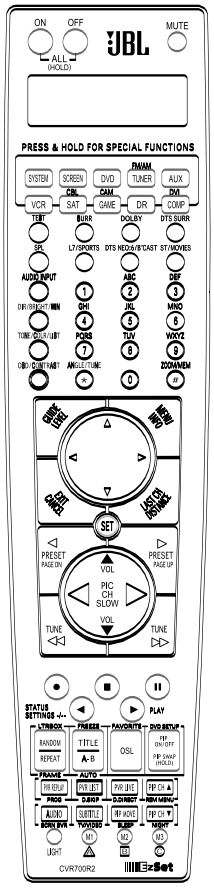


One AM loop antenna

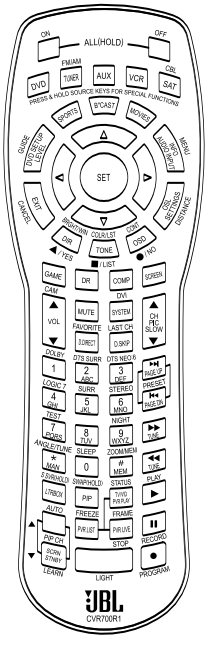


One FM antenna

What's Included (continued)



One CVR700R2 remote control



One CVR700R1 remote control

DISC FORMATS SUPPORTED BY THIS PLAYER

The unit can play the following types of discs:

DVD
8cm (3") disc
12cm (5") disc

CD
8cm (3") disc
12cm (5") disc

The CVR700 will also play most DVD-Video, DVD-R, DVD-RW, DVD+R or DVD+RW blank discs, but we cannot guarantee complete playback compatibility of DVD-recordable discs due to the wide variation in recorders and blank discs.

CD-RW
12cm (5")

CD-R
8cm (3")
12cm (5")

VCD
8cm (3")
12cm (5")

NOTE: Playback of CD-R or CD-RW discs created on a computer requires proper formatting and finalization of the disc for audio playback. Some computers and/or software programs may not be capable of creating compatible discs.

DVD-Video Disc Compatibility:

- 8cm (3") or 12cm (5") discs
- Single-sided or double-sided discs
- Single-layer or dual-layer discs
- Dolby Digital, DTS, MPEG or Linear PCM digital audio tracks
- MPEG-2 digital video
- Discs are generally divided into one or more titles, which may be further subdivided into chapters.

DVD-Audio Disc Compatibility:

- 8cm (3") or 12cm (5") discs
- Single-sided discs
- Single-layer or dual-layer discs
- Linear or packed PCM digital audio
- Some discs may contain MPEG-2 video, and Dolby Digital, DTS or MPEG digital audio
- Discs are generally divided into one or more groups, which may be further subdivided into tracks.

Audio CD Compatibility:

- 8cm (3") or 12cm (5") discs
- Linear PCM digital audio
- Audio CDs are divided into tracks

CD-R/RW Compatibility:

- 12cm (5") discs
- Linear PCM, MP3 (32kbps – 320kbps) or Windows Media® WMA (16kbps – 192kbps) digital audio
- May contain JPEG still images (up to 5 megapixels, file size up to 5mb)
- Linear PCM discs are generally divided into tracks like an audio CD. MP3, WMA and JPEG discs (or discs that contain more than one of these formats) are divided into files, which may be organized into folders, depending on how the disc was created.

VCD Compatibility:

- 12cm (5") discs
- Linear PCM, MP1 (MPEG-1, Layer 1), MP3 (MPEG-1, Layer 3) digital audio
- MPEG-1 digital video
- May contain JPEG still images (Video CD Version 2.0)
- Some discs may contain menus and chapters, while other discs simply contain tracks. Version 2.0 discs may offer interactive playback control (PBC).

However, it will NOT play the following:

- DVD discs with a Region Code other than that indicated on the rear panel
- DVD-ROM data discs
- DVD-RAM discs
- CD-I discs
- CD-G discs
- SVCD discs
- Kodak® Photo CD discs (Kodak Picture CD discs, which are available to consumers, contain files in the JPEG format which may be viewed using the CVR700.)

NOTE: Due to differences in the formatting of certain discs, it is possible that some discs may include features that are not compatible with the CVR700. Similarly, although the CVR700 is capable of a wide range of features, not all discs include every capability of the DVD system. For example, although the CVR700 is compatible with multi-angle discs, that feature is only possible when the disc is specially encoded for multiple-angle play. In addition, the CVR700 is capable of playing back both Dolby Digital and DTS soundtracks, but the number and types of tracks available will vary from disc to disc. To make certain that a specific feature or soundtrack option is available, please check the options noted on the disc jacket.

- Playback capability for CD- or DVD-recordable discs may vary due to variations in the quality of the disc and the recorder used to create the disc.
- The CVR700 is compatible with most discs recorded with files encoded using MP3 or Windows Media 9, as well as JPEG still images. However, note that variations in the encoder or codec used and the bit rate of the encoding may affect the CVR700's ability to play back a specific disc. As a result, we cannot guarantee complete compatibility with all encoders and versions of the codecs. For best results, we recommend that MP3 files be encoded at bit rates ranging between 32kbps and 320kbps. WMA files should be encoded at bit rates between 16kbps and 192kbps. JPEG files should contain no more than 5 megapixels, and the file size should be no larger than 5Mb.

Note on DVD-Audio Discs: Due to the newness of this format and some authoring issues, it is possible that some DVD-Audio discs will not play, or that all features and menus may not be available. Note that in many cases, in order to access the disc menu, instead of pressing the **Menu Button** 46 38, it is necessary to press the **Title Button** 25 or the **Audio Button** 31. In addition, many DVD-Audio discs provide two menus: a DVD-Audio menu and a DVD-Video menu intended for use on older players that do not support the DVD-Audio format. If you wish to view the DVD-Video menu and access surround modes and other features only available through that menu (such as Dolby Digital 5.1 or PCM audio tracks), you will need to temporarily disable the CVR700's DVD-Audio capability using the DVD Setup menu (see Fig. 31).

TERMINOLOGY

Home theater equipment has changed a great deal since the first VCR was introduced about 30 years ago. Some of the terms used to describe and configure your CVPD50 PDP plasma display monitor and the internal DVD/CD changer in your CVR700 may be unfamiliar. Some of these terms are described in this section.

Since they share some of the characteristics and technology of CD players, many of the terms and operational concepts used in a DVD player are similar to what you may be familiar with from CD players and changers, or older video disc formats such as Laser Disc. However, if this is your first DVD product, some of the terms used to describe the features of a DVD player may be unfamiliar. The following explanations should solve some of the mysteries of DVD, and help you to enjoy all the power and flexibility of the DVD format and the CVR700.

With the arrival of DVD, disc data capacity has increased dramatically. On a DVD Video disc, most of this capacity is taken up by MPEG 2 video and the multichannel movie soundtrack in Dolby Digital and/or DTS. This information is compressed. But with DVD Audio, most of this capacity is available for music only, without any compression. This allows us to put the audio information on the disc in the same quality as the original mastering in the studio, in PCM up to 24-bit/192kHz.

DVD-Audio's 24-bit system provides substantially improved resolution of fine detail, because it describes a specific point in the musical information using a 24-digit-long string of ones and zeros with 16,777,216 possible combinations, while CD's primitive 16-bit system offers only 65,536 options. The 192kHz frequency allows us to have fast changes in music made audible, which results in more dynamism, and also allows us to obtain a higher bandwidth, up to 96kHz. Although that is far beyond the human audible spectrum, it still improves the musical realism.

Aspect Ratio: This is a description of the width of a video image in relation to its height. A conventional video screen is four units wide for every three units of height, making it almost square. Newer wide-aspect-ratio video displays are 16 units wide for every nine units of height, making them more like the screen in a movie theater. The program material on a DVD may be recorded in either format.

NOTES:

- Due to the advent of HD (high-definition) programming and the new 16:9 (also called 1.85 or widescreen) aspect ratio, many newer sources now offer their own scaling (resizing of the picture to fit a frame) options which are accessed through their remote or through their on-screen menu. To take advantage of CVR700's robust scaling capabilities, it is best to allow the CVR700 to handle all rescaling duties. This means that all high-definition external sources connected to CVR700 should be configured to supply a 16:9 picture to CVR700 if at all possible and all non-HD legacy sources should supply their native 4:3 (otherwise called 1.33 or FULL SCREEN) aspect ratio (with older devices, there are usually no adjustments or options for picture size, anyway). Regarding HD sources, some experimentation may be necessary, as not all offer a basic 16:9 aspect ratio option without other parameter settings. The correct mode may be called 16:9 FULL SCREEN in some brand products; in other brand products, you may need to select the 16:9 aspect ratio separately from selecting FULL SCREEN scaling. Some experimentation with the settings on your source device may be necessary to find the most pleasing appearance.
- There are two film formats commonly used in movie theaters today that are close to the 16:9 aspect ratio of your CVPD50 screen – 1.85:1 and 2.35:1. The aspect ratio of your screen is 1.78:1, which is very close to the 1.85:1 film ratio that is found in many movies recorded on DVDs or broadcast on television, and these programs will fill your screen. However, some movies are filmed in the wider 2.35:1 ratio. Check the jacket of your DVD to find its aspect ratio. When playing such a DVD on your JBL Cinema Vision system, if you have turned off the DVD Auto Resize feature, or if your analog video signal is of higher resolution than 480i or DVI, you may need to repeatedly press the **Letterbox Button** 26  on your remote control to select either the "2.35 LTRBOX TO 16:9" or "2.35 LB TO 16:9 CROPPED" mode, choosing the mode that provides the picture most pleasing to you. Note that the cropped mode may leave out portions of the frame in order to fit the image to the screen, and you may prefer the scaled mode, even though black bars will appear on the top and bottom of your screen.

If you have turned off the DVD Auto Resize feature, you may also choose how to view 4:3 ratio images. You may view the image as is, in which case black bars will appear on the left and right sides of the screen. You may set the system to stretch the image to fill the screen, using either linear (the stretch is even across the entire image) or non-linear (the stretch is more pronounced towards the edges of the image, leaving the center nearly unmodified) scaling. When the 4:3 ratio image consists of a letterboxed movie, you may simply zoom in to remove the black bars at the top and bottom of the screen.

Chapter: DVD programs are divided into chapters and titles. Chapters are the subsections programmed into a single title on a disc. Chapters may be compared to the individual tracks on an audio CD. Press the **Menu Button** 46  to see a listing of the chapters on a disc. On DVD-Audio discs, a Chapter is referred to as a Track.

Component Video: This form of video signal eliminates many of the artifacts of traditional composite video signals by splitting the signal into a separate luminance channel (the Y signal channel) and two color-difference signals (the Pr and Pb signal channels). With a component video connection, you will see greater picture resolution and eliminate many picture imperfections such as the moiré patterns often seen on check-patterned cloth. However, in order to benefit from component video you must have a video display with Y/Pr/Pb component video inputs. Do not connect the component video outputs of the CVR700 to the standard composite or S-video inputs of a TV or recorder.

NOTE: The CVR700 is optimized to be used with the CVPD50 High-Definition

Plasma Display. Composite, S-video and component video monitor outputs on the CVR700 are provided as a means of connecting an auxiliary display only. On-screen status messages, and all digital video post-processing – including scaling, de-interlacing, and upconversion features of the CVR700 – are only available when used with the CVPD50.

When using the CVR700 with the CVPD50 display, there is no need to use the CVR700's component video outputs. All video signals, including those from the internal DVD/changer as well as those originating with external source devices, are upconverted to the digital format utilized by the single proprietary interface cable between the CVR700 and the CVPD50.

High-Definition Television (HDTV): HDTV is a form of digital television that advances picture quality by leaps and bounds over conventional analog television. HDTV signals are broadcast in a digital format that compresses the signal, allowing far more information to be sent. Broadcasters take advantage of the additional bandwidth by offering high-resolution images containing millions more pixels than an analog picture, the end result being an image so sharp it looks more like a photograph than television.

The resolution of a digital video signal can vary, depending on the number of pixels used, and whether the image frames are interlaced or progressive. Conventional television uses interlaced frames, in which first the odd horizontal pixels are scanned, then all of the even pixels are scanned to display one frame. Progressive scanning, as described below, displays all of the horizontal lines of pixels in one pass. These are the common digital video formats:

- 480i – The picture is 704 x 480 pixels, sent at 60 interlaced frames per second (30 complete frames per second).
- 480p – The picture is 704 x 480 pixels, sent at 60 complete frames per second.
- 720p – The picture is 1280 x 720 pixels, sent at 60 complete frames per second.
- 1080i – The picture is 1920 x 1080 pixels, sent at 60 interlaced frames per second (30 complete frames per second).
- 1080p – The picture is 1920 x 1080 pixels, sent at 60 complete frames per second.

The "p" and "i" designations stand for "progressive" and "interlaced."

The 480p and 480i (when digital) formats are called the SD (standard-definition) formats, and 480i is the digital equivalent of a normal analog TV picture. When analog TV shows are upconverted and broadcast on digital TV stations, they are broadcast in 480p or 480i.

The 720p, 1080i and 1080p formats are HD (high-definition) formats. When you hear about "HDTV," this is what is being discussed – a digital signal in the 720p, 1080i or 1080p format. If your HD source allows you to choose a picture resolution, set it to 720p, which works best with the CVR700 and CVPD50.

Strictly speaking, the 480p format is considered ED (enhanced definition). However, the JBL Cinema Vision system processes 480p signals as high-definition, and when referring to high-definition signals, we will be talking about 480p or better images.

JPEG Files: JPEG stands for the Joint Photographic Experts Group, which developed a standard for compressing still images, such as photographs. JPEG files may be created on a personal computer by importing images from a digital camera, or scanning printed photographs. These files may be burned onto a compact disc. The CVR700 is among the DVD players that are capable of recognizing JPEG files and enabling you to view them on your video screen.

MP3 Files: MP3 is an audio compression format that was developed by the Motion Picture Experts Group as an adjunct to the MPEG-1 video compression format. A number of encoding software programs are available for transferring CDs and other audio programs into the MP3 format. The main benefit of MP3 is that it reduces the size of audio files considerably, depending on the amount of compression selected during the encoding process, enabling you to store many more songs on one compact disc than in the standard audio CD format. The CVR700 is capable of playing MP3 files and displaying the filenames on screen.

Multiple Angle: DVDs have the capability to show up to four different views of the same scene in a program. When a disc is encoded with multiple-angle information, pressing the **Angle Button** 15 will enable you to switch between these different views. Note that, at present, few discs take advantage of this capability and, when they do, the multiple-angle technology may only be present for short periods of time within the disc. Producers will usually insert some sort of icon or graphic in the picture to alert you to the availability of multiple-angle scenes.

Progressive scan: If you are using the CVR700 with the CVPD50 display, and with no external DVD players, you may skip this section, as the internal DVD player outputs a digital video signal that is passed directly to the CVPD50 using the proprietary interface cable. The CVR700 offers progressive scan video outputs for use with compatible high-resolution televisions and projectors. Before DVD, no consumer medium could store, transmit or display video with full resolution. To conserve bandwidth, analog compression (interlacing) is employed: first the odd-numbered lines of a frame are displayed, followed by the even-numbered lines. The result is that only half of the video image is drawn at one time; the viewer's brain must reassemble the complete image. This is acceptable, if the monitor is not too large and if there is not too much motion in the image. Large displays and fast-moving images reveal the limitations of this system. Thanks to DVD's immense data capacity, images are now stored intact (progressively), so that all the lines in each frame (odd and even) are shown at the same time. But because most TVs cannot handle a progressive signal, all current DVD players generate an interlaced output for compatibility. The CVR700 is among the select few DVD players with true progressive scan video output for use with compatible TVs and CRT projectors and with all plasma, LCD and DLP display devices via the component video output. The result is 40% greater light output than a conventional TV and a stunningly detailed high-definition image, along with an almost complete absence of visible scanlines and motion artifacts. The CVR700's sophisticated pixel-by-pixel processing is a major advancement over the previous generation's line-by-line processing, bringing out even greater detail in your favorite video presentations. Of course, traditional Y/Pr/Pb component video, S-video and

composite video outputs are included for use with conventional televisions and projectors.

Reading: This is a message that you will see when you first press the **Play Button** 11 41 . It refers to the fact that the player must first examine the contents of the disc to see whether it is a CD or DVD, and then extract the information about the type of material on the disc, such as languages, aspect ratios, subtitles, number of titles and more. The slight delay while the contents of the disc are read is normal.

Resume: The operation of the **Stop Button** 13 23 on the CVR700 works differently from what you are used to on CD players. On a traditional CD player, when you press the Stop button, the unit does just that: it stops playback. On a CD player, when you press the Start button again, the disc starts from the beginning. With the CVR700, however, you have two options when playing DVD discs. Pressing the **Stop Button** 13 23 once will stop the playback, but it actually puts the unit in the Resume mode. This means that when you press the **Play Button** 11 41 the next time, the disc will resume or continue from the point on the disc where the **Stop Button** 13 23 was pressed. This is helpful if you are watching a movie and must interrupt your viewing session but wish to pick up where you left off. Pressing the **Stop Button** 13 23 twice will stop the machine in a traditional manner and, when the disc is played again, it will start from the beginning.

Note that the Resume function will be canceled if you shut the unit off (place it in Standby mode), change to another disc or select a different source. Also, there may be a brief 1- to 2-second delay between the second press of the **Stop Button** 13 23 and the CVR700 acknowledging the mode change in the **Upper Display Line** H.

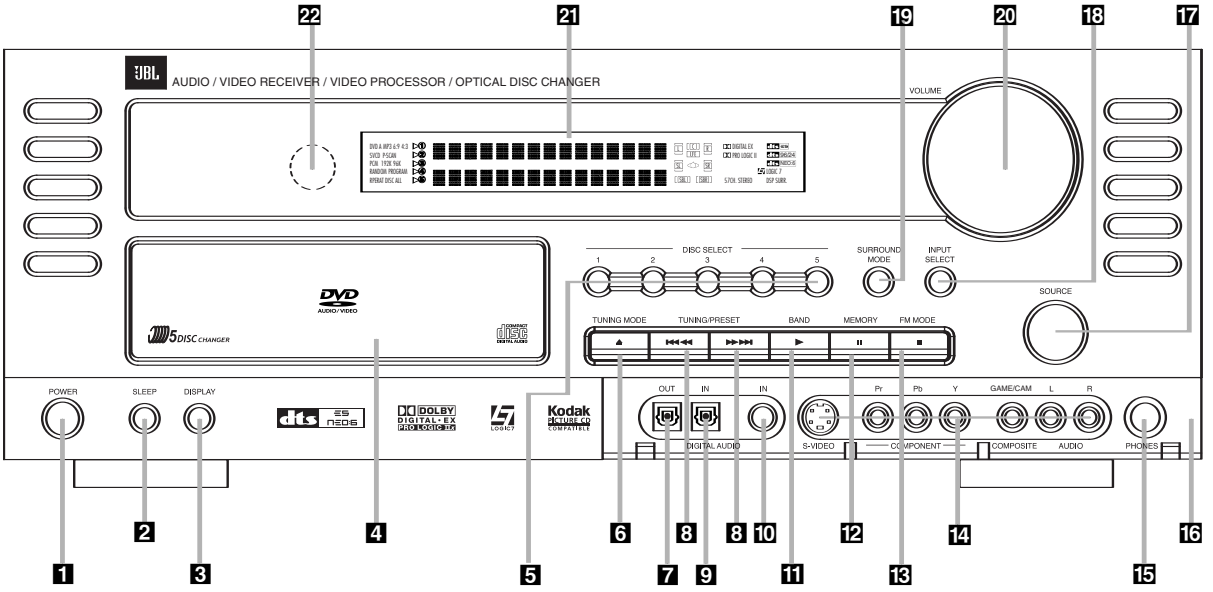
The resume function is not available for CDs, VCDs or JPEG files. For DVDs only, the resume function will be retained even after the CVR700 has been placed in Standby mode by pressing the **Power Off Button** 1 1 .

Title: For a DVD, a title is defined as an entire movie or program. There may be as many chapters within a title as the producers decide to include. Most discs include only one title, but some may have more than one, to give you a "Double Feature" presentation or to include other special features. Press the **Title Button** 25 to see a listing of the titles on a disc. When a disc has only one title, pressing the **Title Button** 25 may show a list of the chapters.

- On DVD-Audio discs, a Title is referred to as a Group. Many DVD-Audio discs require you to press the **Title Button** 25 to access the disc menu.

WMA Files: WMA (Windows Media Audio) is another audio compression format that was developed by the Microsoft® Corporation for use with its Windows Media Player. WMA files can be even smaller in size than MP3 files, while maintaining similar quality. The CVR700 is among the DVD players capable of playing discs containing WMA files. Note that Windows Media Player uses other file formats; however, the CVR700 is only capable of playing files that end in the ".wma" extension.

CVR700 FRONT-PANEL CONTROLS



1 Main Power On/Off
2 Sleep Button
3 Display Dimmer
4 Disc Drawer
5 Disc Selector
6 Tuning Mode/Eject Button
7 Front-Panel Optical Digital Audio Output
8 Tuning/Preset/Skip/Search Button
9 Front-Panel Optical Digital Audio Input
10 Front-Panel Coaxial Digital Audio Input
11 Tuner Band Selector/Play Button
12 Memory/Pause Button
13 FM Mode/Stop Button
14 Front-Panel Audio/Video Inputs
15 Headphone Jack
16 Front-Panel Door
17 Source Selector
18 Surround Mode Selector
19 Input Select Button
20 Volume Control
21 Information Display
22 Remote Sensor Window

1 Main Power On/Off: Press this button to apply power to the CVR700. The LED indicator in the center of the button will turn orange. Press it again to place the CVR700 in Standby mode, and the LED indicator will turn red.

If the CVPD50 is in use, pressing this button will also turn the CVPD50 on or off, if it is plugged into AC power and its master power switch has been turned on. If the LED on the CVPD50's front panel is flashing, then check that its master power switch is on (the "1" position).

2 Sleep Button: Press this button to place the unit in the Sleep mode. After the time shown in the display, the CVR700 will automatically go into the Standby mode. Each press of the button changes the time until turn-off in the following order:

90 min → 80 min → 70 min → 60 min → 50 min
40 min → 30 min → 20 min → 10 min → OFF

When the Sleep timer is in use, the front-panel displays and other indicators will dim to half-brightness.

3 Display Dimmer: Press this button to reduce the brightness of the **Information Display 21** by 50%, or to turn the display off completely, in the following order: FULL BRIGHTNESS -> HALF BRIGHTNESS -> OFF -> FULL BRIGHTNESS.

4 Disc Drawer: This drawer is used to access the five-disc magazine changer. While a disc is playing, you may load a disc into or remove a disc from another location in the changer. If you select the current disc, it will first stop playing. Seat all discs carefully within the recess in the drawer. Do not press down on the drawer when it is open, to avoid damage to the player. It is also best to open and close the drawer by pressing the **Eject Button 6** rather than by pushing the drawer itself.

5 Disc Selector: Press one of these buttons when prompted by a message on the **Lower Display Line E** and on the CVPD50 screen for a disc number after pressing the **Eject Button 6**. If you have selected the internal disc changer as the source device using the **Source Selector 17** or by pressing the **DVD Input Selector 4** ▲2 on either remote control, and then pressed the **Play Button 11** or **Disc Direct Button** ●37 ▲13, the CVR700 will prompt you to enter a disc number by pressing one of these buttons.

6 Tuning Mode/Eject Button: This button's function varies, depending on whether you have selected the tuner or the disc changer as the current input source. When the tuner is the source, press this button to select the function of the **Tuning/Preset Buttons 8**. Each press will alternate between the tuning function and the preset selections function, with the current choice displayed on the **Lower Display Line E**.

When the tuning function has been selected, each press of one of the **Tuning/Preset Buttons 8** will tune the next higher or lower frequency, regardless of whether an acceptable signal is available. Press and hold the **Tuning Button 8** to scan up or down through the frequencies until a station with acceptable signal quality is located. Tap the **Tuning Button 8** again to end the scan.

When the preset selection function is in force, each press of one of the **Tuning/Preset Buttons 8** will tune the next higher or lower preset station that was previously stored in the CVR700's memory.

See page 64 for information on storing preset stations.

When the disc changer is the source, press this button to open or close the **Disc Drawer 4**. The **Lower Display Line E** will prompt you to press a disc number. Press the **Disc Selector 5** corresponding to the number of the drawer you wish to access.

7 Front-Panel Optical Digital Audio Output: Connect the optical digital input of an audio or video product to this jack.

8 Tuning/Preset/Skip/Search Buttons: The function of these buttons varies depending on whether you have selected the tuner or the disc changer as the current input source, and in what context you press it.

When the tuner is the source, press the left button to tune lower-frequency stations and the right button to tune higher-frequency stations. Each tap of the buttons will increase or decrease the frequency by one increment. Press and hold the button, and the tuner will scan for a station with acceptable signal strength. When the next higher or lower frequency station with a strong-enough signal is tuned, the frequency scan will pause. Press the button again to stop scanning.

When the tuner is the source and you have pressed the **Tuning Mode Button 6** so that PRESET appears in the **Lower Display Line E**, pressing these buttons enables you to scroll through the list of stations that have been previously stored in the CVR700's memory.

See page 64 for more information on using the tuner.

When the disc changer is the source, press and release these buttons to move (skip) either backward (left button) or forward (right button) through the tracks on a DVD-Audio, CD or VCD disc or the chapters on a DVD-Video disc. Press and hold either button for at least 1 second and then release to search either backward (left button) or forward (right button) the current track or chapter at 2x speed. Press and hold again and release to increase the scan speed to 4x. Repeat this procedure while in scan mode to cycle through these scan speeds: 2x, 4x, 16x, 100x, 2x and so forth. Press and release the button while scanning to skip tracks or chapters. To stop searching, you must press the **Play Button 11**, the **Pause Button 12**, the **Stop Button 13** or the other **Search Button 8**.

9 Front-Panel Optical Digital Audio Input: Connect the optical digital output of an audio or video product to this jack.

10 Front-Panel Coaxial Digital Audio Input: Connect the coaxial digital output of an audio or video product to this jack.

11 Tuner Band Selector/Play Button: The function of this button varies depending on whether you have selected the tuner or the disc changer as the source.

When the tuner is the source, pressing this button will switch between the AM and FM frequency bands. (See page 64 for more information on the tuner.)

When the disc changer is the source, pressing this button will prompt you to enter the number of the disc you wish to play (corresponding to the drawer in which the disc is loaded). You may select a disc either by pressing one of the **Disc Selectors 5** numbered 1 through 5, or by pressing the **Numeric Keys 48** numbered 1 through 5 on either remote control. If you don't select a disc number within 5 seconds, the CVR700 will play the last disc that was selected. If the disc is an MP3 or WMA disc, each press of this button will expand the current folder until a file is located, and the final press will begin play of that file. If no disc is found, the STOP MODE, DISC 1 message will appear and you will need to open the drawer to insert a disc.

12 Memory/Pause Button: The function of this button varies depending on whether you have selected the tuner or the disc changer as the input source.

When the tuner is the source, press this button to store the currently tuned station as a preset. Two flashing underlines will appear in the **Upper Display Line H**. Press the **Tuning Mode Button 6** until PRESET appears in the **Lower Display Line E** to indicate the function of the **Tuning/Preset Buttons 8**, then press either of the **Preset Buttons 8** until the desired preset location appears in place of the flashing underlines. Press the **Memory Button 12** again to store the station in the preset location displayed.

When the disc changer is the source, pressing this button during playback freezes a picture (for DVD and VCD discs) and pauses the playback signal. Pressing the **Pause Button 12** twice places the DVD changer in the Step Forward mode, in which each subsequent press of the **Pause Button 12** advances the picture one step or frame. Press the **Play** or **Stop Button 11 13** to exit the Step Forward mode.

13 FM Mode/Stop Button: The function of this button varies depending on whether you have selected the tuner or the disc changer as the input source.

When the tuner is the source, press this button to switch between Stereo and Mono modes for FM radio reception. When weak reception is encountered, select the Mono tuning mode. Press again to switch back to Stereo mode. See page 64 for more information.

When the disc changer is the source, press this button once to stop playback of the current disc and enter Resume mode. In Resume mode, the CVR700 will "remember" the point on the disc where play was stopped, and the next time the disc is played, it will commence playback from this point, unless the unit was turned off, another disc was selected or another source was selected. To fully stop the disc, press this button twice. There may be a 1- or 2-second delay before Stop mode takes effect. Resume mode is not available for CDs, VCDs, MP3 discs or WMA discs. If one of those disc types is playing, a single press of this button will place the disc in Stop mode, as indicated by the solid square and the word STOP appearing in the **Upper Display Line H**.

14 Front-Panel Audio/Video Inputs: The front-panel inputs give you the flexibility to temporarily connect a device to the CVR700. This capability is useful for such applications as viewing home movies directly from the camcorder, or playing a video game. For video devices, connect one of the composite video, S-video or component video outputs of the device to the corresponding front-panel input, and connect the left and right audio outputs to the analog audio inputs. Do not make more than one type of video connection. In addition to the analog audio connection, you may also connect an optical or coaxial digital audio output from the device to the CVR700. You will then need to press the **Input Select Button 19** to select the desired audio input (analog, optical or coaxial), and specify the correct video input using the audio on-screen menu system. Press the **System Selector 6**, and then the **OSD Button 14** to enter the menu system. Select the SOURCES submenu, and make sure the GAME/CAMERA source is selected (or select the

SOURCE line to adjust it). Scroll down to the VIDEO INPUT line and select it to configure the CVR700 to use the video input you connected your device to.

15 Headphones Jack: This jack may be used to listen to the CVR700's output through a pair of headphones. Be certain that the headphones have a standard 1/4" stereo phone plug, or that you use an adapter, as needed, to convert the plug on your headphones to the 1/4" jack used on the CVR700. When the headphone jack is in use, the main room speakers will automatically be turned off and the unit will output a standard stereo signal. For more information on headphone listening, see page 60.

16 Front-Panel Door: The door may be closed to hide the front-panel jacks when they are not in use for a smoother appearance. To open the door, gently push on the bottom of the door in the center to swing it down towards you, or gently pull on the upper right corner. Push upward on it to close.

17 Source Selector: Rotate this knob to scroll through the available input sources. Turn the knob slowly and gently, and you will feel a soft click as each source is engaged. You may also hear a click as the CVR700's electrical circuits engage the source. This is normal, and assures you that you have correctly selected the source. The name of the source will be displayed in the **Upper Display Line H**, and in a Status Banner on screen, together with the source's audio input (for external sources) and video format.

18 Surround Mode Selector: Press this button repeatedly to scroll through the available surround modes. The modes available will depend on the number of speakers in the system and whether the input is analog or digital. See page 60 for more information on surround modes.

NOTE: 6.1 and 7.1 digital modes are available only when the appropriate digital bitstream is present.

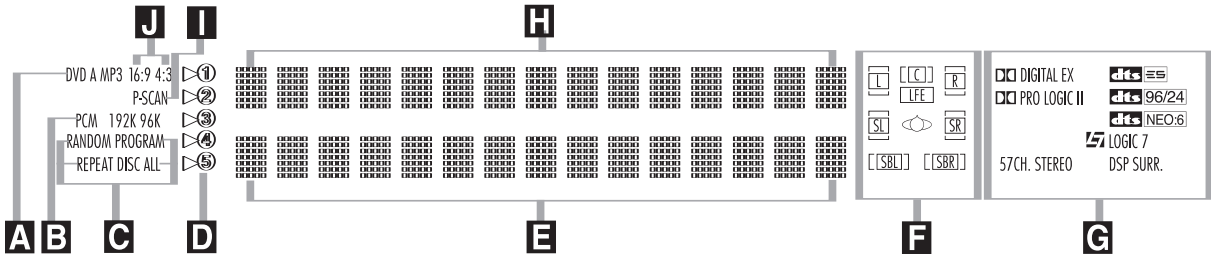
19 Input Select Button: After you have selected the desired input source, press this button repeatedly to scroll through the analog, optical digital and coaxial digital audio inputs available for that source.

20 Volume Control: Turn this knob clockwise to increase the volume, counterclockwise to decrease the volume. If the CVR700 is muted, adjusting the volume control will automatically release the unit from the silenced condition.

21 Information Display: This display delivers messages and status information to help you operate the CVR700. See page 19 for a complete explanation of the display.

22 Remote Sensor Window: The sensor behind this window receives infrared signals from the remote control that are intended to control the non-video functions of the CVR700 only. Aim the remote at this area and do not block or cover it unless an external remote sensor is installed. Note that unless the CVR700 is not being used with the CVPD50, it is best to aim the remote at the LED light on the front of the CVPD50 plasma display, as the IR receiver located there can accept remote control signals intended for both the plasma display and the CVR700.

CVR700 FRONT-PANEL INFORMATION DISPLAY



A Disc-Type Indicators
B PCM Bitstream Indicators
C Programmed Play Indicators
D Disc Indicators
E Lower Display Line
F Speaker/Channel Input Indicators
G Surround Mode Indicators
H Upper Display Line
I Progressive Scan Indicator
J Aspect Ratio Indicator

A Disc-Type Indicators: The **DVD**, **DVD-Audio**, **CD**, **VCD** or **MP3** indicator will light to show the type of disc currently being played. WMA and JPEG discs will be identified in the **Upper** and **Lower Display Lines E H**.

B PCM Bitstream Indicators: The PCM indicator will light when a PCM (pulse code modulation) bitstream is detected. PCM bitstreams are used on audio CDs, and may also be found on other disc types either as the main audio format or as the format used on certain portions of the disc, such as a "making of" featurettes on a DVD. The 96K or 192K indicators will light when a high-resolution audio signal is detected. This type of audio track may be found on some DVD-Audio discs.

C Programmed Play Indicators: The CVR700 is capable of playing discs in a programmed order other than the order in which the tracks are found on the disc. Tracks may be played in random order, or you may program some or all of the tracks on a CD to play in a playlist order. In addition, you may program the CVR700 to repeat play of some of the tracks on a disc, an entire disc, all discs, or a programmed playlist. Some of the programmed modes may not be available for certain disc formats. See page 75 for more information.

D Disc Indicators: The circled numbers will light to indicate the positions of loaded discs, and the indicator for the current disc will flash.

E Lower Display Line: Depending on the unit's status, a variety of messages will appear here. In normal operation, the current surround mode will appear on this line.

F Speaker/Channel Input Indicators: These indicators are multipurpose, indicating both the speaker type selected for each channel and the incoming data signal configuration. The left, center, right, right surround and left surround speaker indicators are composed of two boxes, while the subwoofer is a single box. The inner box lights when a "small" speaker is selected, and the outer boxes light when "large" speakers are selected. When none of the boxes are lit for the center, surround or subwoofer channels, no speaker has been assigned that position. (See page 48 for more information on configuring speakers.) The letters inside each box display the active input channels. For standard analog inputs, only the L and R will light, indicating a stereo input. For a digital source, the indicators will light to display the channels being received at the digital input. When the letters flash, the digital input has been interrupted. When a 6.1-channel bitstream is detected, a horizontal line will appear between the icons for the surround back left and right channels to indicate that these two channels are in mono mode. (See page 61 for more information on the Channel Indicators.)

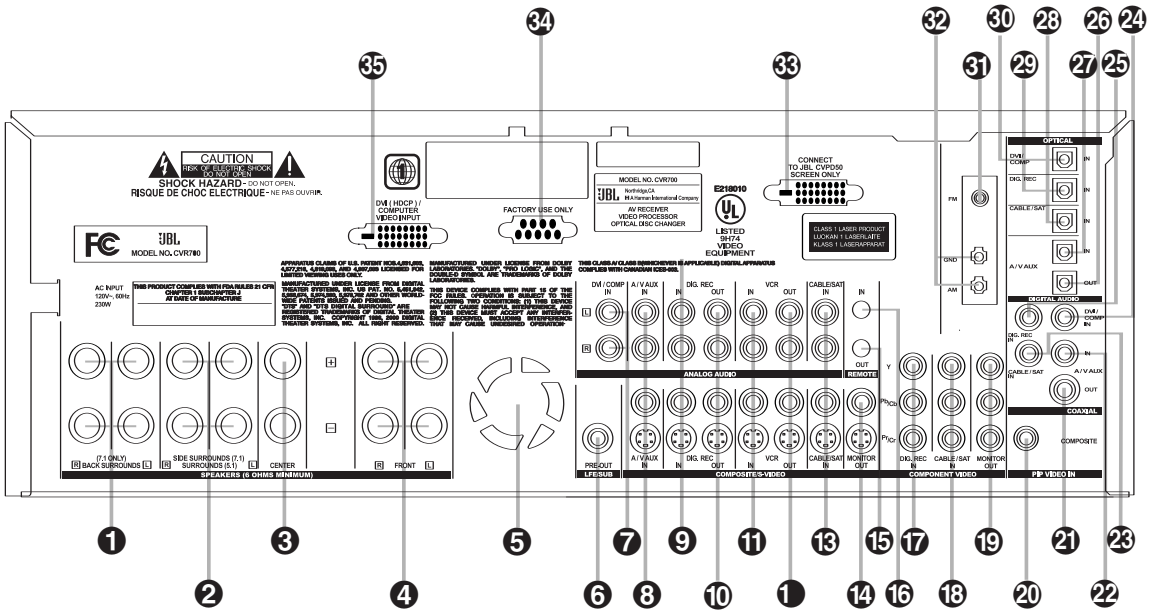
G Surround Mode Indicators: One of these indicators will light to show the surround mode in use. Depending on the specific combination of input sources and surround mode selected, more than one indicator may light. (See page 61 for more information.)

H Upper Display Line: Depending on the unit's status, a variety of messages will appear here. In normal operation, this line will show the current input source and identify whether an analog or digital input is in use. When the tuner is selected as the input, this line will identify the station as AM or FM and show the frequency and preset number, if any.

I Progressive Scan Indicator: This indicator lights when the CVR700's progressive scan component video output is activated.

J Aspect Ratio Indicators: The aspect ratio of the incoming video signal will light. These indicators are informational only and reflect the aspect ratio information provided by the DVD disc itself. You may need or wish to make manual adjustments to display the images so that they fill the screen, or if you prefer to avoid any scaling or cropping of the images, you may wish to letterbox the image. See pages 13 and 27 for more information on adjusting the CVPD50 display to compensate for various aspect ratio issues.

CVR700 REAR-PANEL CONNECTIONS



NOTE: To make it easier to follow the instructions that refer to this illustration, a larger copy may be downloaded from the Product Support section for this product at www.jbl.com.

❶ Back Surround Speaker Outputs (7.1-channel only)
❷ Side Surround (7.1-channel) or Surround (5.1-channel) Speaker Outputs
❸ Center Speaker Outputs
❹ Front Speaker Outputs
❺ Fan Slots
❻ Subwoofer Output
❼ DVI/Computer Analog Audio Inputs
❽ Auxiliary Analog Audio/Video Inputs
❾ Digital Recorder Analog Audio/Video Inputs
❿ Digital Recorder Analog Audio/Video Outputs
⓫ VCR Analog Audio/Video Inputs
⓬ VCR Analog Audio/Video Outputs
⓭ Cable/Satellite Analog Audio/Video Inputs
⓮ Composite and S-Video Monitor Outputs
⓯ Remote IR Output
⓰ Remote IR Input
⓱ Digital Recorder Component Video Inputs
⓲ Cable/Satellite Component Video Inputs
⓳ Component Video Monitor Outputs
⓴ Picture-in-Picture (PIP) Composite Video Input
㉑ Coaxial Digital Audio Output
㉒ Auxiliary Coaxial Digital Audio Input
㉓ Cable/Satellite Coaxial Digital Audio Input
㉔ DVI/Computer Coaxial Digital Audio Input
㉕ Digital Recorder Coaxial Digital Audio Input
㉖ Optical Digital Audio Output
㉗ Auxiliary Optical Digital Audio Input
㉘ Cable/Satellite Optical Digital Audio Input
㉙ Digital Recorder Optical Digital Audio Input
㉚ DVI/Computer Optical Digital Audio Input
㉛ FM Antenna Jack
㉜ AM Antenna Terminals
㉝ Output to JBL Cinema Vision CVPD50 Screen
㉞ Port for Factory Use Only
㉟ DVI (HDCP)/Computer Video Input

NOTE: To assist in making the correct connections for multichannel input, output and speaker connections, all connection jacks and terminals are color-coded in conformance with the CEA standards as follows:

Front Left:	White	Subwoofer:	Purple
Front Right:	Red	Digital Audio:	Orange
Center:	Green	Composite Video:	Yellow
Side Surround/Surround Left:	Blue	Component Video "Y":	Green
Side Surround/Surround Right:	Gray	Component Video "Pr":	Red
Back Surround Left:	Brown	Component Video "Pb":	Blue
Back Surround Right:	Tan		

❶ Back Surround Speaker Outputs: These speaker terminals are normally used to power the back surround left/back surround right speakers in a 7.1-channel system. In conformance with the CEA color-code specification, the brown terminal is the positive (+) terminal that should be connected to the red (+) terminal on the Back Surround Left speaker with older color-coding, while the tan terminal should be connected to the red (+) terminal on the Back Surround Right speaker with the older color-coding. Connect the black (–) terminal on the CVR700 to the matching black negative (–) terminals for each back surround speaker. (See page 42 for more information on speaker polarity.)

❷ Side Surround Speaker Outputs: Connect these outputs to the matching + and – terminals on your side surround (7.1-channel system) or Surround (5.1-channel system) speakers. Conforming to CEA color-code specifications, the blue terminal is the positive (+) terminal that should be connected to the (+) terminal on the Side Surround/Surround Left speaker with older color-coding; the gray

terminal should be connected to the red (+) terminal on the Side Surround/ Surround Right speaker with the older color-coding. Connect the black (–) terminals on the CVR700 to the matching black negative (–) terminals for each side surround speaker. (See page 42 for more information on speaker polarity.)

❸ **Center Speaker Outputs:** Connect these outputs to the matching + and – terminals on your center channel speaker. In conformance with the CEA color-code specification, the green terminal is the positive (+) terminal that should be connected to the red (+) terminal on speakers with the older color-coding. Connect the black (–) terminal on the CVR700 to the black negative (–) terminal on the speaker. (See page 42 for more information.)

❹ **Front Speaker Outputs:** Connect these outputs to the matching + or – terminals on your left and right speakers. When making speaker connections always make certain to maintain correct polarity by connecting the color-coding (white for front left and red for front right) (+) terminals on the CVR700 to the red (+) terminals on the speakers and black (–) terminals on the CVR700 to the black terminals on the speakers (see page 42 for more information).

❺ **Fan Slots:** These ventilation holes are the output of the CVR700's airflow system. To ensure proper operation of the unit and to avoid possible damage to delicate surfaces, make certain that these holes are not blocked and that there is at least three inches of open space between the vent holes and any wooden or fabric surface. It is equally important to make sure that the holes in the top and bottom covers of the unit are not blocked, either. It is normal for the fan to remain on at all times at one of three speeds, depending on the selection you make in the ADVANCED SETTINGS submenu. By selecting the default MINIMUM NOISE setting, the fan will run at its slowest speed at volumes below –20dB, and at its slightly faster medium speed at higher volumes. This setting should only be selected when the CVR700 is placed on a shelf and not within an enclosed space. When the CVR700 is placed inside a cabinet or other enclosed space, select the MAXIMUM COOLING setting, in which the fan will always be on at its highest setting.

❻ **Subwoofer Output:** Connect this jack to the line-level input of a powered subwoofer. If an external subwoofer amplifier is used, connect this jack to the subwoofer amplifier input. Use a Y-adaptor when connecting two subwoofers.

❼ **DVI/Computer Analog Audio Inputs:** Connect the left/right analog audio outputs of a computer or other device with a DVI output to these jacks to benefit from the CVR700's surround processor for added realism and excitement when playing computer games, or giving multimedia presentations, or for other uses. When you have also connected the computer's DVI video output to the **DVI/Computer Video Input** ㉟, you may also benefit from the superior visual presentation of the JBL Cinema Vision CVPD50 screen.

You may connect any device with left and right analog audio outputs to these jacks.

❽ **Auxilliary Analog Audio/Video Inputs:** Connect the left/right analog audio and composite or S-video jacks of a video device to these jacks. You may connect any video source such as a VCR, HDTV receiver, or other device to these inputs. Note that if the source device offers digital audio capability, that connection must be made separately, and the CVR700 configured accordingly. Note that the Auxiliary Source Input does not have component video inputs assigned to it and thus may only be used with composite or S-video. Therefore, if possible, it is recommended that an HDTV receiver be used with the Cable/Sat or even the Digital Recorder source, so that a component video connection may be made. (See page 46 for more information on configuring an input for various source options.)

❾ **Digital Recorder Analog Audio/Video Inputs:** Connect the left/right analog audio and composite or S-video PLAY/OUT jacks of a video recording device such as a VCR, DVD-Recorder or personal video recorder to these jacks. The CVR700's remote control has a variety of digital recorders available as the default devices for this input, but you may connect any video source such as a VCR, HDTV or cable set-top box, personal video recorder, or other device to these inputs. Note that if the source device offers either digital audio or component video capability, those connections must be made separately, and the CVR700 configured accordingly. (See page 46 for more information on configuring an input for various source options.)

❿ **Digital Recorder Analog Audio/ Video Outputs:** Connect the left/right analog audio and composite or S-video RECORD/IN jacks of a video recording device such as a DVD-Recorder, personal video recorder or VCR to these jacks.

⓫ **VCR Analog Audio/Video Inputs:** Connect the left/right analog audio and composite or S-video PLAY/OUT jacks of a video recording device such as a VCR, DVD-Recorder or personal video recorder to these jacks.

❶ **VCR Analog Audio/Video Outputs:** Connect the left/right analog audio and composite or S-video RECORD/IN jacks of a video recording device such as a VCR, DVD-Recorder or personal video recorder to these jacks.

The CVR700's remote control has a VCR as the default device for this input, but you may connect any video source such as an HDTV or cable set-top box, personal video recorder, or other device to these inputs. Note, however, that the VCR source is not associated with any digital audio inputs or component video inputs, and should therefore only be used as a last resort for devices that have those capabilities. The preferred system configuration is to connect an HDTV tuner or digital cable or satellite receiver to the Cable/Sat source, and to connect a personal video recorder, such as a TiVo,® to the Digital Recorder source.

⓭ **Cable/Satellite Analog Audio/Video Inputs:** Connect the left/right analog audio and composite or S-video jacks of a video device to these jacks. The CVR700's remote control has a cable, satellite or HDTV set-top as the default devices available for this input, but you may connect any video source such as a VCR, HDTV or satellite receiver, personal video recorder, or other device to these inputs. Note that if the source device offers either digital audio or component video capability, those connections must be made separately, and the CVR700 configured accordingly.

⑭ Composite and S-Video Monitor Outputs: If you are not using the CVPD50, or if you desire a secondary display, connect thse jacks to the composite or S-video input of a TV monitor or video projector to view the output of any standard video source selected by the receiver's video switcher. If both standard composite and S-video sources are used, you must make connections from both Video Monitor Output jacks to your display. Also, if component video sources are used, you must also connect the **Component Video Monitor Output ⑲** to the display.

NOTE: The CVR700 is optimized to be used with the CVPD50 High-Definition Plasma Display. Composite, S-video and component video monitor outputs on the CVR700 are provided as a means of connecting an auxiliary display only. On-screen status messages, and all digital video post-processing – including scaling, de-interlacing, and upconversion features of the CVR700 – are only available when used with CVPD50.

⑮ Remote IR Output: This connection permits the IR sensor in the receiver to serve other remote controlled devices. Connect this jack to the "IR IN" jack on JBL (or other compatible) equipment.

⑯ Remote IR Input: If the CVR700's front-panel IR sensor is blocked due to cabinet doors or other obstructions, an external IR sensor may be used. Connect the output of the sensor to this jack.

NOTE: The remote IR input and output on the CVR700 are only used for non-video functions, and will have no effect on the CVPD50 plasma display. JBL recommends that you point the remote control at the LED light on the front of the CVPD50 display for all functions, as the CVPD50 will pass any non-video command codes to the CVR700.

⑰ Component Video Digital Recorder Inputs: These inputs may be used with any video source device equipped with analog Y/Pr/Pb component video outputs. These jacks are permanently linked to the Digital Recorder Source input.

⑱ Component Video Cable/Satellite Inputs: These inputs may be used with any video source device equipped with analog Y/Pr/Pb component video outputs. These jacks are permanently linked to the Cable/Satellite source input.

⑲ Component Video Monitor Outputs: If you are not using the CVPD50, or if you desire a secondary video display, connect these outputs to the component video inputs of a video projector or monitor. When a source connected to one of the **Component Video Inputs ⑰⑱** is selected, the signal will be sent to these jacks.

NOTE: The CVR700 is optimized to be used with the CVPD50 High-Definition Plasma Display. Composite, S-video and component video monitor outputs on the CVR700 are provided as a means of connecting an auxiliary display only. On-screen status messages, and all digital video post-processing – including scaling, de-interlacing, and upconversion features of the CVR700 – are only available when used with CVPD50.

⑳ Picture-in-Picture (PIP) Composite Video Input: Connect the composite video output of a video device that you would like to have available for picture-in-picture (PIP) viewing using the JBL Cinema Vision CVPD50 screen. When the PIP function is activated, the signal fed to this jack will appear within a small field over the main program visible on the plasma screen. Except for the DVI/Computer source, the PIP view may also be available as a split screen. Use the Screen menu system to configure the PIP view. When the main source is HD component video (480p or better), the PIP function is not available.

The PIP source must be able to output composite video simultaneously with its main method of connection to the CVR700. If the PIP device is connected via its composite video output to a source input on the CVR700, a Y-Cable will be required to connect to both the main source input jack and the PIP input.

㉑ Coaxial Digital Audio Output: Connect this jack to the coaxial digital input of a DVD+R/RW, DVD-R/RW, CD-R/RW, MiniDisc or other compatible digital recorder.

㉒ Auxiliary Coaxial Digital Audio Input: Connect the coax digital output from a DVD player, HDTV receiver, the S/P-DIF output of a compatible computer sound card playing audio files or streams, LD player or CD player to this jack. The signal may be a Dolby Digital signal, DTS signal or a standard PCM digital source. Do not connect the RF digital output of an LD player to this jack. This input is permanently assigned to the Auxiliary source input.

㉓ Cable/Satellite Coaxial Digital Audio Input: Connect the coaxial digital audio output from a DVD player, HDTV receiver, the S/P-DIF output of a compatible computer sound card playing audio files or streams, LD player or CD player to this jack. The signal may be a Dolby Digital signal, DTS signal or a standard PCM digital source. Do not connect the RF digital output of an LD player to this jack. This input is permanently assigned to the Cable/Satellite source input.

㉔ DVI/Computer Coaxial Digital Audio Input: Connect the coaxial digital audio output from a DVD player, HDTV receiver, the S/P-DIF output of a compatible computer sound card playing audio files or streams, LD player or CD player to this jack. The signal may be a Dolby Digital signal, DTS signal or a standard PCM digital source. Do not connect the RF digital output of an LD player to this jack. This input is permanently assigned to the DVI/Computer source input.

㉕ Digital Recorder Coaxial Digital Audio Input: Connect the coaxial digital audio output from a DVD player, HDTV receiver, the S/P-DIF output of a compatible computer sound card playing audio files or streams, LD player or CD player to this jack. The signal may be a Dolby Digital signal, DTS signal or a standard PCM digital source. Do not connect the RF digital output of an LD player to this jack. This input is permanently assigned to the Digital Recorder source input.

㉖ Optical Digital Audio Output: Connect this jack to the optical digital input connector on a DVD+R/RW, DVD-R/RW, CD-R/RW, MiniDisc or other compatible digital recorder.

㉗ Auxiliary Optical Digital Audio Inputs: Connect the optical digital output from a DVD player, HDTV receiver, the S/P-DIF output of a compatible computer sound card playing audio files or streams, LD player or CD player to these jacks. The signal may be a Dolby Digital signal, a DTS signal or standard PCM digital source. This input is permanently assigned to the Auxiliary source input.

㉘ Cable/Satellite Optical Digital Audio Input: Connect the optical digital audio output from a DVD player, HDTV receiver, the S/P-DIF output of a compatible computer sound card playing audio files or streams, LD player or CD player

to this jack. The signal may be a Dolby Digital signal, DTS signal or a standard PCM digital source. Do not connect the RF digital output of an LD player to this jack. This input is permanently assigned to the Cable/Satellite source input.

㉙ **Digital Recorder Optical Digital Audio Input:** Connect the optical digital audio output from a DVD player, HDTV receiver, the S/P-DIF output of a compatible computer sound card playing audio files or streams, LD player or CD player to this jack. The signal may be a Dolby Digital signal, DTS signal or a standard PCM digital source. Do not connect the RF digital output of an LD player to this jack. This input is permanently assigned to the Digital Recorder source input.

㉚ **DVI/Computer Optical Digital Audio Input:** Connect the optical digital audio output from a DVD player, HDTV receiver, the S/P-DIF output of a compatible computer sound card playing audio files or streams, LD player or CD player to this jack. The signal may be a Dolby Digital signal, DTS signal or a standard PCM digital source. Do not connect the RF digital output of an LD player to this jack. This input is permanently assigned to the DVI/Computer source input.

㉛ **FM Antenna:** Connect the supplied indoor or an optional external FM antenna to this terminal

㉜ **AM Antenna Terminal:** Connect the AM loop antenna supplied with the receiver to these terminals. If an external AM antenna is used, make connections to the AM and GND terminals in accordance with the instructions supplied with the antenna.

NOTE: If using indoor antennas, please mount them as far away from CVR700 and CVPD50 as possible, and empirically position them for the least amount of possible interference from the many digital processors inside the CVR700 and CVPD50.

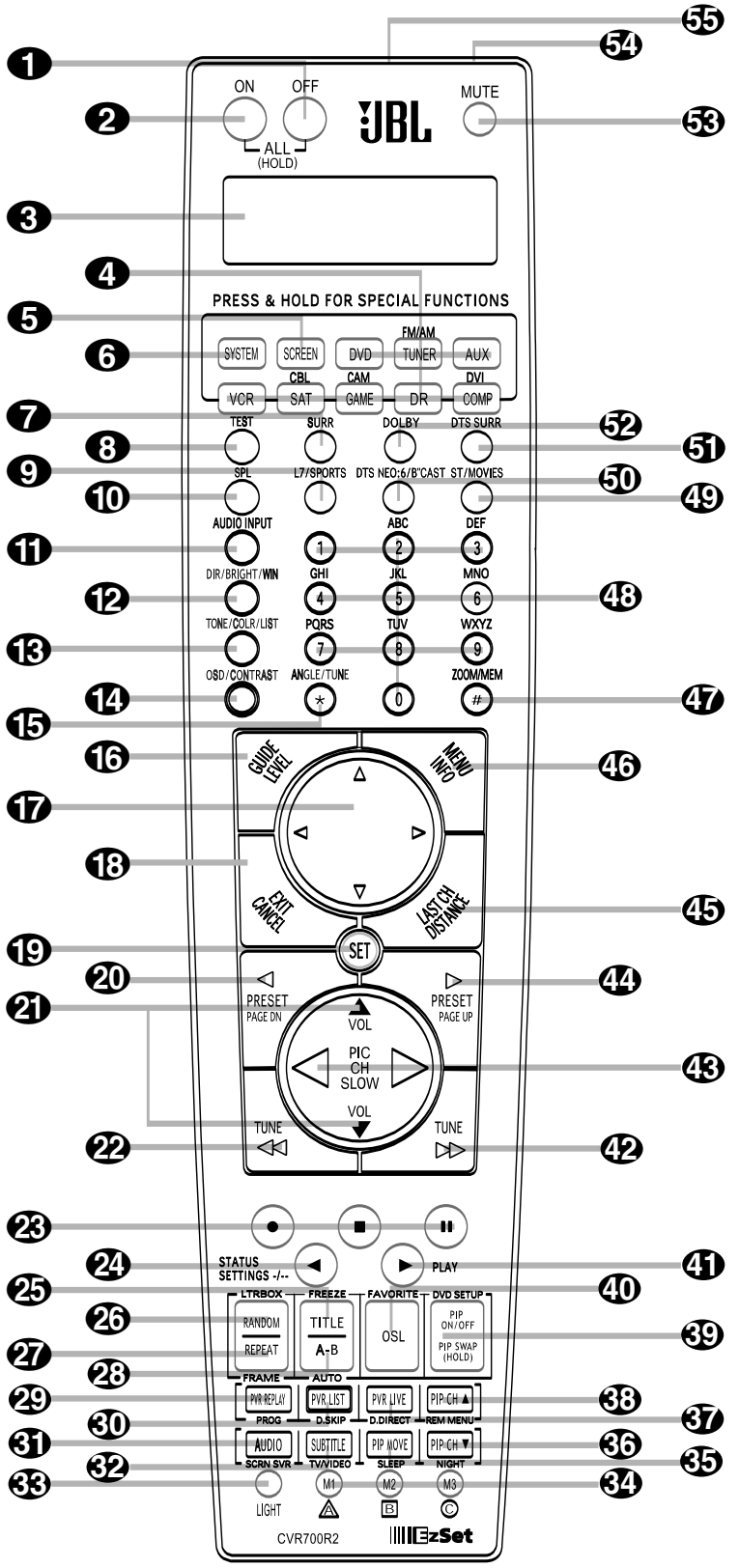
㉝ **Output to JBL Cinema Vision CVPD50 Screen:** Connect this output to the JBL Cinema Vision CVPD50 screen using the cable supplied with the screen. When the CVR700 is used with the JBL Cinema Vision CVPD50 screen, no other video monitor connections need to be made. Do not connect this output to any other device. Doing so may cause serious damage to the device or to the CVR700, which would not be covered under the warranty.

㉞ **Port for Factory Use Only:** This connector is used only by factory-authorized service personnel. Do not connect any control devices to this port, or attempt to connect it to any other device. Doing so may cause serious damage to the device or to the CVR700, which would not be covered under warranty.

㉟ **DVI (HDCP)/Computer Video Input:** Connect the compatible DVI video output of a computer, HDTV tuner or DVD player to this input. This input can also be connected to the VGA output of a conventional PC (cable for connection to a VGA output PC is included with the CVPD50). Be sure to select the appropriate device from the SCREEN MENU. You must select the DVI input first by pressing the **DVI Input Selector** ④ on the remote control or the **Source Selector** **17** on the CVR700 front panel before you can configure your DVI input via the SCREEN MENU. Please note that due to newness of HDCP technology, all HDCP-encoded DVI outputs may not be compatible with the CVR700. We recommend that you test the compatibility of an HDCP DVI source with your CVR700 before purchasing that source unit. In certain problematic connections, switching to a top-quality DVI cable that is as short as possible will help improve connection consistency. This input is assigned to the DVI/Computer source input.

CVR700R2 REMOTE CONTROL FUNCTIONS

1. Power Off (All)
2. Power On (All)
3. LCD Information Display
4. Input Selectors
5. Screen Selector
6. System Selector
7. Surround Mode Selector
8. Test Tone Button
9. Logic 7 Mode/Sports Preset Button
10. SPL Select Button
11. Audio Input Selector
12. Direct/Brightness/Window Button
13. Tone Mode/Color/List Button
14. OSD/Contrast Button
15. Angle/Tuning Mode Button
16. Level/Guide Button
17. ▲/▼/◀/▶ Navigation Disc
18. Exit/Cancel Button
19. Set Button
20. Preset/Page Down/Reverse Skip Button
21. Volume Up/Down Control
22. Tuning Down/Reverse Search Button
23. Record/Stop/Pause Transport Controls
24. Status/Settings/Button
25. Title/Freeze Button
26. Random/Letterbox Button
27. Repeat/Frame Button
28. A-B/Auto Button
29. Program/PVR Replay Button
30. Disc Skip/PVR List Button
31. Audio/Screen Saver Button
32. Subtitle/TV/Video Button
33. Light Button
34. Macro/A/B/C Buttons
35. Sleep/PIP Move Button
36. Night Mode/PIP Channel Down Button
37. Disc Direct/PVR Live Button
38. Remote Menu/PIP Channel Up Button
39. DVD Setup/PIP On-Off/PIP Swap Button
40. JBL On Screen Library™/Favorite Button
41. Play Transport Control Button
42. Tuning Up/Forward Search Button
43. Channel/Slow Play Up/Down Control
44. Preset/Page Up/Forward Skip Button
45. Last Channel/Distance Button
46. Screen Setup/Disc Menu/Info Button
47. Zoom/Memory Button
48. Alphanumeric Keys
49. Stereo Mode/Movies Preset Button
50. DTS Neo:6 Mode/Broadcast Preset Button



51. DTS Digital Surround Mode Button
52. Dolby Surround Mode Button
53. Mute Button
54. EzSet Microphone Sensor
55. IR Transmitter/Receiver

CVR700R2 REMOTE CONTROL FUNCTIONS

IMPORTANT NOTE: The JBL Cinema Vision remotes are powerful devices capable of controlling virtually your entire home cinema system. In comparison to a traditional system of the same capabilities, these remotes can replace up to 10 separate remote controls and therefore end the confusion and clutter associated with having a different remote for each of your system components. In order to achieve this goal, the JBL Cinema Vision remotes are designed to assume the duties of controlling different devices within your system by first pressing one of the 10 **Selector Buttons** 4 6 7 2 10 35 34 . Pressing one of these buttons places your remote control in a different "page", where the remote buttons are assigned control functions available for that specific purpose. For example, all internal DVD changer functions are accessed by pressing the **DVD Button** 4 2 first, and all CVPD50 Plasma Display functions are accessed by pressing the **Screen Button** 5 34 first, and all overall audio and system commands for the CVR700 are accessed by first pressing the **System Button** 6 33 . Throughout this manual, you will see references to the system being active in DVD, SYSTEM, SCREEN, CABLE/SAT, or other modes. This means that one of these 10 keys is to be pressed first to place your remote in the prescribed mode before accessing any specific controls. It is important to always remember to press the appropriate page selection button before trying to access any specific functions for a system or source. This may take a little bit of discipline and practice at first, but it should become second nature in a very short time.

NOTES:

- The function names shown here are each button's function when used with the CVR700 (System), its internal DVD changer (DVD/Main) and the CVPD50 (Screen). Most buttons have additional functions when used with other devices, and some of these functions may be assigned to different buttons, depending on which device was selected. The device name will appear in the upper line of the **LCD Information Display** 3 and the function assigned to that device will appear in the lower line when the button is pressed. See pages 89 through 91 for a list of the functions assigned to each button for each device type.
- Some buttons have special functions when they are pressed and held for 3 seconds.
- The jack on the upper right side of the remote is reserved for future use. Do not remove the plug provided or connect any device to the jack.
- To make it easier to follow the instructions that refer to this illustration, a larger copy may be downloaded from the Product Support section for this product at www.jbl.com.
- The JBL Cinema Vision main remote control may be programmed to control up to eight devices, including the CVR700 receiver with disc changer and the CVPD50 screen. Before using the remote, it is important to press the **Input Selector** 4 that corresponds to the device you wish to operate.
- The remote is capable of operating a wide variety of products made by other manufacturers using control codes that are programmed into the remote's code library. As described on pages 76–78, it is simple to program the remote to operate your device by selecting the device type and brand, and then programming the correct set of codes for that brand.

1 **Power Off (All):** Press this button to place the CVR700 (and the CVPD50) or a selected device in the Standby mode.

Press and hold this button to place all devices, including the CVR700, the CVPD50 and any other products whose codes you have programmed into the remote, into the Standby mode.

2 **Power On (All):** Press this button to power on the CVR700 (and CVPD50) or another device you selected by first pressing the appropriate **Input Selector** 4.

Press and hold this button to power on all devices, including the CVR700, the CVPD50 and any other products whose codes you have programmed into the remote.

3 **LCD Information Display:** This two-line screen displays various information depending on the commands that have been entered into the remote. Normally, the upper line will display the current device (e.g., DVD/MAIN), and the lower line will display the name of the function key when pressed (e.g., DISC SKIP). See page 85 for information on renaming devices and keys.

4 **Input Selectors:** Pressing one of these buttons will perform two actions. The CVR700 will switch to the source selected, and the remote will switch to the control codes for the selected source. In order to control the CVR700 again, press the **System Selector** 6, and to control the CVPD50 screen, press the **Screen Selector** 5.

Press and hold any of these buttons to power on the CVR700, the CVPD50 and the source device, and to begin play of the source device.

5 **Screen Selector:** Press this button to select the control codes for the CVPD50 screen.

6 **System Selector:** Press this button to select the control codes for the CVR700.

7 **DSP Surround Mode Selector:** In System mode, press this button to select one of the DSP audio surround modes, such as Hall 1, Hall 2 or Theater. Each press of the button selects another mode. See page 62 for descriptions of the various surround modes.

8 **Test Tone Button:** Press this button to activate the CVR700's test tone that is used to calibrate speaker output levels. See pages 50–51 for more information on calibrating speaker output levels.

9 **Logic 7 Mode/Sports Preset Button:** When the **System Selector** 6 is active, press this button to select from among the available Logic 7 surround modes. (See page 62 for descriptions of the various surround modes.) When the **Screen Selector** 5 is active, press this button to select the CVPD50 picture settings that were preset at the factory for optimal viewing of sporting events.

NOTE: The **Sports/Broadcast/ Movies Buttons** 9 49 50 3 optimize picture settings for a specific viewing medium. The Broadcast settings are the most neutral, balanced and accurate, and are optimized for clarity. The Movies settings are softer and less bright. The Sports settings are more vibrant and optimized for fast-moving action.

10 **SPL Select Button:** This button activates the EzSet function to quickly and accurately calibrate the speaker output levels. The EzSet remote also has a manual SPL meter function to assist with manual setting of the output levels, or trimming the settings to an external source. See page 51 for more information on EzSet.

⓫ **Audio Input Selector:** Press this button to select one of the digital audio inputs 9 10 22 23 24 25 27 28 29 30 for use with its source or to select the analog audio input for that source. It is not possible to reassign a digital audio input to another source. See page 60 for more information on using digital inputs.

⓬ **Direct/Brightness/Window Button:** Press this button when the tuner is in use to directly enter a station's frequency, or when a CD is in use to directly enter a track number. After pressing this button, press the appropriate **Alphanumeric Keys** 48 to select a station or track.

When the Screen mode is active, press this button to adjust the brightness of the CVPD50. Use the ◀/▶ **Navigation Controls** ⓱ ⚠6 to increase or decrease the brightness setting.

See page 55 for more information on screen adjustments. This button also activates the Window function for TiVo players. See your TiVo owner's manual for more information on the Window function.

⓭ **Tone Mode/Color/List Button:** This button controls the tone settings, enabling adjustment of the bass and treble boost or cut. You may also use it to disable the tone controls, for a "flat" response. The first press of the button displays a TONE IN message in the **Lower Display Line** E and on-screen display. To disable the controls, press the ▲/▼ **Navigation Controls** ⓱ until the display reads TONE OUT. To change the bass or treble settings, press this button again until the desired control appears in the **Lower Display Line** E and in the on-screen display, and then press the ▲/▼ **Navigation Controls** ⓱ until the desired setting appears.

When the Screen mode is active, press this button to adjust the color temperature of the CVPD50 display. See page 55 for more information on screen adjustments. This button also activates the List function for TiVo players. See your TiVo owner's manual for more information on the List function.

⓮ **OSD/Contrast Button:** Press this button when the System mode is active to access the setup menu for the CVR700's audio functions. When the Screen mode is active, press this button to adjust the contrast of the CVPD50 display. See page 55 for more information on screen adjustments.

⓯ **Angle/Tuning Mode Button:** When the DVD mode is active, press this button so select an alternate camera angle, if available on the current DVD.

When the tuner is in use, press this button to change the tuner scan mode between manual and automatic. When the button is pressed so that TUNE AUTO appears in the **Lower Display Line** E, only stations with acceptable signal quality will be tuned when scanning, and the tuner will play FM stations in stereo, when available. In the Auto mode, when the **Tuning Up/Down Buttons** 8 22 42 ⚠1 ⚠2 are pressed and held, the unit will automatically search for the next available station with good signal strength. When the **Tuning Mode Button** ⓯ is pressed so that TUNE MANUAL appears in the **Lower Display Line** E, pressing and holding the **Tuning Up/Down Buttons** 8 22 42 ⚠1 ⚠2 will cause the tuner to scan up or down through the frequencies and stop when the button is released, even if that frequency does not provide an acceptable signal. In either TUNE AUTO or TUNE MANUAL mode, each tap of the **Tuning Up/Down Buttons** 8 22 42 ⚠1 ⚠2 will cause the tuner to step through the frequencies in single-step increments.

When the FM band is in use, pressing the button so that the TUNE MANUAL mode is activated will enable you to tune stations with weak signals by changing to monaural reception. See page 64 for more information on tuner operation.

⓰ **Level/Guide Button:** This button is used to start the process of setting the CVR700's output levels to an external source, such as a favorite DVD. While the source is playing, press this button, and then press the ▲/▼ **Navigation Controls** ⓱ until the channel to adjust appears. Press the **Set Button** ⓳ to select that channel, and then use the ▲/▼ **Navigation Controls** ⓱ again to adjust the level setting. See page 64 for more information.

⓱ ▲/▼/◀/▶ **Navigation Disc:** This single disc-like button is used to navigate the on-screen configuration menus, to scroll through options lists and to select various settings such as delay, speaker configurations, surround modes, digital inputs, etc. To use the button, simply press it left, right, up or down in the direction indicated by the ▲/▼/◀/▶ icons printed on the disc.

⓲ **Exit/Cancel Button:** When programming the remote, press this button to cancel the current function and return to the previous remote function. When using the remote to enter frequencies for direct tuner access or track numbers for direct access on a CD, press this button to clear previous entries.

⓳ **Set Button:** This button is used to enter settings into the CVR700's memory, or to confirm a selection while setting delay distances, speaker configuration and output level adjustments. It is used as the Enter or OK button for most other devices.

⓴ **Preset/Page Down/Reverse Skip Button:** This multipurpose button has a different function depending on the source in use.

When used with the tuner, this button scrolls through the preprogrammed station presets.

When used with optical sources, such as the internal disc changer or an external CD player, press this button once to return to the beginning of the current track, and again quickly to go to the beginning of the previous track.

The Page Down function is used with cable and satellite television to page quickly through on-screen menus.

When a disc containing JPEG still images is being played using the internal changer, press this button to scroll to the previous image.

㉑ **Volume Up/Down Controls:** To raise the volume, press towards the top of the disc, where it is marked ▲ Vol, and to lower the volume, press towards the bottom of the disc, where it is marked ▼ Vol. The left and right arrows on this disc have different functions, depending on the source in use. See **Channel/Slow Play Up/Down Control** 43 below for more information.

㉒ **Tuning Down/Reverse Search Button:** This button has different functions depending on whether the tuner or another source is in use.

Press this button when the tuner is in use to change the station to one with a lower frequency. Each tap of this button will decrease the frequency by one increment. When the tuner receives a strong enough signal for adequate reception, MANUAL TUNED will appear in the **Lower Display Line** E. When the tuner is in the Auto/Stereo mode, press and hold the button to cause the tuner to scan for the

next lower station with acceptable signal strength and stop. The **Lower Display Line** E will indicate AUTO TUNED. When an FM Stereo station is tuned, the display will read AUTO ST TUNED. When the tuner is in Manual/Mono mode, you may press and hold this button to scan downward through the frequencies, and the tuner will stop immediately when you release this button, even if no acceptable signal is detected at that frequency.

See page 64 for more information on using the tuner.

When an optical player source, such as the internal DVD changer, is in use, press this button to search quickly in reverse through the current track or chapter. Depending on the type of disc used in the internal DVD changer, each additional press will cycle through the available scan speeds as follows (available scan speeds may differ for external optical source devices):

DVD-Audio and DVD-Video discs: 2x, 4x, 16x, 100x

CD and VCD discs: 2x, 4x, 8x

MP3 and WMA discs: 2x, 4x, 8x, 16x

See page 68 for more information on using the internal DVD changer's transport controls.

㉓ **Record/Stop/Pause Transport Controls:** These buttons have no function in the System or Screen modes, but are used with sources such as the internal disc changer or external DVD or CD players, tape or digital recorders or VCRs. When the internal disc changer is in use, pressing the Stop button once will place a DVD in resume mode, meaning that you may press the **Play Button** ㊶ to continue playing the disc from the point where it was stopped. If you press the Stop button twice, play will resume from the beginning of the disc. Pressing the **Pause Button** ㉓ will pause play, allowing you to step frame by frame forward through a DVD with each additional press of the **Pause Button** ㉓. Press the **Play Button** ㊶, to resume normal play, or press the **Stop Button** ㉓ to stop.

㉔ **Status/Settings Button:** This button has different functions, depending on which device is in use.

Press it to display the CVR700 system's status, or an external DVD recorder's status.

When the internal disc changer or tuner, or an external cable television box is in use, press this button to access the current settings for the device.

For digital VCRs and game consoles, this button performs the Back function. For some PVRs/DVRs this button performs the Instant Replay function.

㉕ **Title/Freeze Button:** This button's function differs, depending on whether the internal disc changer (DVD/Main mode) or the Screen mode is active. To use this button, be careful to press only on the upper portion of the button, as other functions are accessed by pressing on the lower portion of the button.

In DVD/Main mode, press this button while a disc is playing to display the current title number. Press it again to jump to the next numbered title on the disc. This function may be available even when the disc's software prohibits title-jumping using the **Forward/Reverse Skip Buttons** ⑳ ㊹. Many DVD-Audio discs require you to press this button to access the disc menu.

In Screen mode, you may use this button to pause playback of the video picture while allowing the audio playback to continue uninterrupted, enabling you to capture an instance or frame of the video.

㉖ **Random/Letterbox Button:** This button's function differs, depending on whether the internal disc changer (DVD/Main mode) or the Screen mode is active. To use this button, be careful to press only on the upper portion of the button, as other functions are accessed by pressing on the lower portion of the button.

In DVD/Main mode, press this button for playback in random order. The Random function is not available when playing DVD-Audio or DVD-Video discs unless a playlist has been programmed, and it is not available at all for JPEG discs.

In Screen mode, when using the internal DVD changer, this button is only active if the Auto Resize feature is turned off via the SCREEN MENU (see page 57). This button performs the Letterbox function, which enables you to adjust the screen to eliminate black bars that may appear on the top and bottom or sides of the image due to the aspect ratio of the program material differing from the 16:9 aspect ratio of the CVPD50. In most cases, the CVR700's video processor is able to automatically detect the aspect ratio setting of the program material and adjust the display automatically to fill the screen. However, in some cases the material may be a movie displayed in widescreen (2.35:1) format, or the material may not contain embedded information necessary for the CVR700 to make an automatic adjustment. The available letterbox modes are:

16:9 – This setting is used to display 16:9 program material in the full-screen 16:9 mode on the CVPD50. This setting will also apply a linear (consistent) stretch to a 4:3 picture.

4:3 LTRBOX TO 16:9 – This mode is used to adjust an image which is designed to display a 16:9 movie on a 4:3 screen. In order to preserve the full width of the movie on a narrower screen, the image is reduced in size and black bars appear above and below it. This setting zooms in on the image, enabling it to fill the CVPD50's 16:9 screen without losing any portion of the image. The image is simply enlarged so that its two sides fit the edges of the CVPD50 16:9 screen and the black bars on top and bottom are cropped off. The image is stretched in a linear fashion (evenly throughout the frame).

2.35 LB TO 16:9 NL – This mode is used to adjust an image from a widescreen film which is actually at a wider ratio than the CVPD50's 16:9 ratio. In order to fit on the smaller screen, the image is compressed in a nonlinear fashion, but no portion of the image is lost.

2.35 LB TO 16:9 CROPPED – This mode is an alternative adjustment for a widescreen film. The image is not compressed or scaled in any way, but the outer edges are cropped, sacrificing a slight amount of the original content in exchange for 100% accurate image proportions.

4:3 HDTV TO 16:9 – As HDTV is new to the broadcast industry and there is still a considerable amount of older 4:3 standard recording and broadcast equipment in use, 4:3 material is sometimes broadcast in HD 16:9 format with black or other color bars on its sides. Since these bars are a part of the actual picture, conventional picture resizing techniques do not work in eliminating them. This setting is specifically designed to address this problem. It first crops the bars off the sides of the 16:9 picture to render it a 4:3 picture, and then performs a natural-looking nonlinear stretch to fill the entire 16:9 screen.

The Letterbox adjustment is temporary and will only apply to that disc. We encourage you to experiment with the modes to find one that suits you for a given presentation.

Additional aspect ratio adjustments are available using the **Frame Button ㉗**.

㉗ Repeat/Frame Button: This button's function differs depending on whether the internal disc changer (DVD/Main mode) or the Screen mode is active. To use this button, be careful to press only on the lower portion of the button, as other functions are accessed by pressing on the upper portion of the button.

In DVD mode, pressing this buttons accesses the Repeat functions. You may repeat a chapter, track, title, disc, file or programmed playlist. For JPEG discs, you may repeat one file or one folder, but the repeat disc function is not available.

In Screen mode, when using the internal DVD changer, this button is only active if the Auto Resize feature is turned off via the SCREEN MENU. This button performs the Frame function, which enables you to set the desired aspect ratio for viewing program materials, independent of the aspect ratio encoded on the disc. The following settings are available:

16:9 – This setting is used to display 16:9 program material in the full-screen 16:9 mode on the CVPD50.

4:3 TO 16:9 NL – This mode adjusts a 4:3 aspect ratio image to fill the CVPD50's 6:9 screen while creating a more natural-looking picture. This is accomplished by stretching the two sides of the picture more than the center of the picture where most of the content is.

4:3 LTRBOX TO 16:9 – This mode is used to adjust an image which is designed to display a 16:9 movie on a 4:3 screen. In order to preserve the full width of the movie on a narrower screen, the image is reduced in size and black bars appear above and below it. This setting zooms in on the image, enabling it to fill the CVPD50's 16:9 screen without losing any portion of the image. The image is simply enlarged so that its two sides fit the edges of the CVPD50 16:9 screen and the black bars on top and bottom are cropped off.

2.35 LB TO 16:9 NL – This mode is used to adjust an image from a widescreen film which is actually at a wider ratio than the CVPD50's 16:9 ratio. In order to fit on the smaller screen, the image is compressed, but no portion of the image is lost.

2.35 LB TO 16:9 CROPPED – This mode is an alternative adjustment for a widescreen film. The image is not compressed or scaled in any way, but the outer edges are cropped, sacrificing a slight amount of the original content in exchange for 100% accurate image proportions.

4:3 HDTV TO 16:9 – As HDTV is new to the broadcast industry, and there is still a lot of older 4:3 standard recording and broadcast equipment in use, 4:3 material is sometimes broadcast in HD 16:9 format with black or other color bars on its sides. Since these bars are a part of the actual picture, conventional picture resizing techniques do not work in eliminating them. This setting is specifically designed to address this problem. It first crops the bars off of the sides of the 16:9 picture to render it a 4:3 picture, and then performs a natural-looking nonlinear stretch to fill the entire 16:9 screen.

4:3 – This mode may be used with programs that are known to be in the 4:3 aspect ratio. The image's original aspect ratio is preserved unaltered, and black bars will appear on the left and right sides of the image to fill the CVPD50's 16:9 aspect ratio screen.

The difference between the Frame and Letterbox functions is that the Frame function allows access to the 4:3 and 4:3 TO 16:9 NL modes, which are mainly useful for materials originating in the 4:3 format.

NOTE: The Letterbox and Frame functions are not available with the internal DVD/CD changer unless the DVD Auto Resize function has been turned off using the screen setup menus. See page 57 for more information.

㉘ A-B/Auto Button: This button's function differs depending on whether the internal disc changer (DVD/Main mode) or the Screen mode is active. To use this button, be careful to press only on the lower portion of the button, as other functions are accessed by pressing on the upper portion of the button.

In the DVD mode, press this button once to select the beginning (point A), and again to select the end (point B) of a passage you wish to play repeatedly. Press the button again to end repeat playback. A-B repeat play is not available for VCD, MP3, WMA or JPEG discs.

In the Screen mode, this button selects automatic detection of the aspect ratio of program material from external sources, with playback in the 16:9 format. It will display 4:3 images stretched to fill the 16:9 screen. This function is not available with HD (480p or better) signals. If the 4:3 image is in letterbox format, with bars at the top and bottom of the screen, those bars will remain. See pages 13 and 27 for more information on configuring aspect ratios.

㉙ Program/PVR Replay Button: In the DVD/Main mode, press this button to access the screen for programming playlists. When a PVR (personal video recorder) is in use, press this button for replay of recorded materials. Refer to your PVR's owner's manual for more information.

㉚ Disc Skip/PVR List Button: In the DVD/Main mode, press this button to begin play of the next available disc in the changer. When a PVR is in use, press this button to list recorded materials. Refer to your PVR's owner's manual for more information.

㉛ Audio/Screen Saver Button: This button has different functions depending on whether it is pressed in DVD/Main mode or Screen mode.

In DVD/Main mode, pressing this button accesses the available audio soundtracks on a DVD. In some cases, the disc may simply contain different languages. Other discs may switch the audio format: e.g., to linear PCM or Dolby Digital 5.1. Pressing this button may sometimes provide access to commentary soundtracks.

In Screen mode, pressing this button places the CVPD50 display in Screen Saver mode, in which a JBL logo will appear to move around the screen. *It is important to turn on the Screen Saver any time a still image is likely to remain on screen for more than a few minutes, because a still image, such as a menu display, may be "burned" into the display, causing permanent damage to the plasma screen that is not covered under warranty.* This danger is not present when a moving image is displayed.

㉜ Subtitle/TV/Video Button: This button has different functions depending on whether it is pressed in DVD/Main mode or Screen mode.

In DVD/Main mode, press this button to select a subtitle language or to turn subtitling off.

In Screen mode, or when used with a video source device that is used for obtaining television broadcasts, such as a cable box, satellite receiver, TiVo, PVR, DVR or VCR, this button allows you to select between the television signal or one of the device's video inputs. See the device's owner's manual for more information on the use of this function.

㉝ Light Button: Press this button to activate the remote's backlight for ease of use in darkened rooms. The light will remain active for 7 seconds after this button has been pressed, and will remain lit for an additional 7 seconds after any other button on the remote has been pressed.

㉞ Macro/A/B/C Buttons: Press these buttons to store or recall a "Macro", a sequence of commands that you may program into the remote. See page 80 for more information on programming and using macros. These buttons have unique functions when used with game consoles, cable TV boxes and PVRs. See the owner's manual for the appropriate device for further information.

㉟ Sleep/PIP Move Button: This button has different functions depending on which device is in use when it is pressed.

In the System mode, the Sleep function is activated to automatically place the CVR700 and CVPD50 in Standby mode after a period of time. Each press of the button changes the time until turn-off: 90 minutes, 80 minutes, 70 minutes, 60 minutes, 50 minutes, 40 minutes, 30 minutes, 20 minutes, 10 minutes, Sleep mode Off, and then cycling back to 90 minutes, and so forth. When the Sleep timer is in use, the front-panel displays will dim to half brightness.

In the Screen mode, this button places the CVPD50 display in Standby mode, without affecting use of the CVR700. This function may be preferred for audio-only listening sessions to prevent burning the plasma display.

When a composite video output from a PIP-capable device, such as a cable box, has been connected to the **Picture-in-Picture Composite Video Input ⑳**, pressing this button enables you to move the PIP inset display around the CVPD50 screen, using the **▲/▼/◀/▶ Navigation Disc ⑰**.

㊱ Night Mode/PIP Channel Down Button: This button's function differs depending on the device in use when it is pressed.

When pressed in the System mode, this button activates the Night mode, preserving dialogue (center-channel) intelligibility at low volume levels when available in specially encoded Dolby Digital sources.

When used with a compatible device whose video output has been connected to the **Picture-in-Picture Composite Video Input ⑳**, it changes the channel of the PIP device to the next lower one. It has no effect on the CVR700 or CVPD50.

㊲ Disc Direct/PVR Live Button: This button's function differs depending on which device is in use when it is pressed.

In DVD/Main mode, press it, and then press the numeric key corresponding to the position number of the disc you wish to play to immediately begin playback of that disc.

When a PVR is in use, this button switches to play of the signal currently being received by the PVR. See the PVR's owner's manual for more information.

㊳ Remote Menu/PIP Channel Up Button: This button's function differs depending on whether it is pressed when a picture-in-picture source is in use.

In System mode, this button accesses the menu system for the remote control, enabling you to program product codes, use the EzSet speaker calibration system, record macros, rename functions, and perform other functions, as described on pages 76 through 91.

When used with a compatible device whose video output has been connected to the **Picture-in-Picture Composite Video Input ⑳**, pressing this button changes the channel of the PIP device to the next higher one. It has no effect on the CVR700 or CVPD50.

㊴ DVD Setup/PIP On-Off/PIP Swap Button: This button's function differs depending on whether it is used with the internal DVD changer, or with a source whose video output has been connected to the **Picture-in-Picture Composite Video Input ⑳**.

When used with the DVD changer, this button accesses the DVD setup menu and enables you to configure the DVD changer.

When used in Screen mode with a PIP source connected, press this button once to turn on the PIP function, and again to turn it off. Pressing and holding this button for several seconds causes the main source to appear in the PIP inset display, and the PIP source to appear in the main display. Pressing and holding the button again returns the PIP source to the inset, and the main source to the main display.

㊵ JBL On Screen Library™/ Favorite Button: This button performs different functions depending on whether it is used with the internal DVD changer or another source.

In DVD/Main mode, this button accesses the JBL On Screen Library, which displays on screen a thumbnail image and description of each disc currently loaded in the CVR700's internal changer, including disc type and title if available. Use the **▲/▼/◀/▶ Navigation Controls ⑰** and the **Set Button ⑲** to conveniently select and play any loaded disc.

When used with cable television boxes or satellite receivers, pressing this button scrolls through your list of preprogrammed favorite channels.

㊶ Play Transport Control Button: This button is used with the internal DVD changer or an external DVD player, VCR, tape deck, digital recorder, CD player or any other device with a transport mechanism to begin playback.

㊷ Tuning Up/Forward Search Button: This button has different functions depending on whether the tuner or another source is in use.

Press this button when the tuner is in use to change the station to one with a higher frequency. Each tap of this button will increase the frequency by one increment. When the tuner receives a strong enough signal for adequate reception, MANUAL TUNED will appear in the **Lower Display Line E**. When the tuner is in the Auto/Stereo mode, press and hold the button to cause the tuner to scan for the next higher station with acceptable signal strength and stop. The **Lower Display Line E** will indicate AUTO TUNED. When an FM Stereo station is tuned, the display will read AUTO ST TUNED. When the tuner is in Manual/Mono mode, you may press and hold this button to scan upward through the frequencies, and the tuner will stop immediately when you release this button, even if no acceptable signal is detected at that frequency. See page 64 for more information on using the tuner.

When an optical player source, such as the internal DVD changer, is in use, press this button to search quickly forward through the current track or chapter. Depending on the type of disc used in the internal DVD changer, each additional press will cycle through the available scan speeds as follows (available scan speeds may differ for external optical source devices):

DVD-Audio and DVD-Video discs: 2x, 4x, 16x, 100x

CD and VCD discs: 2x, 4x, 8x

MP3 and WMA discs: 2x, 4x, 8x, 16x

See page 68 for more information on using the internal DVD changer's transport controls.

43 Channel/Slow Play Up/Down Control: These controls use the ◀/▶ icons on the same disc as the **Volume Up/Down Controls 21**. The left and right arrows have different functions, depending on the source in use.

When a disc containing JPEG still images is being played using an external disc player, press the right side of this button to advance to the next image on the disc or the left side of this button to return to the previous image. (When using the internal changer, the **Page Up/Down Buttons 20 44** perform this function.)

When a cable television box, satellite receiver, HDTV tuner or TiVO device is in use, press the right side of this button to tune in to the next higher channel, or the left side to tune in to the next lower channel.

When the internal DVD changer or an external DVD player is in use and a DVD is playing, press the right side of this button once to switch to the DVD slow forward play mode. Each additional press of the right side of the button will cycle through the available slow-play speeds of 1/2x, 1/4x and 1/8x. Pressing the left side of the button switches to the DVD slow reverse play mode. Additional presses of the left side of the button cycles through the available slow-play speeds of 1/2x, 1/4x and 1/8x. No slow-play speeds are available for CDs or other disc types.

44 Preset/Page Up/Forward Skip Button: This multipurpose button has a different function depending on the source in use.

When used with the tuner, this button scrolls through the preprogrammed station presets.

When used with optical sources, such as the internal disc changer or an external CD player, press this button once to skip to the beginning of the next track.

The Page Up function is used with cable and satellite television to page quickly through on-screen menus. When a disc containing JPEG still images is being played using the internal changer, press this button to scroll to the next image.

45 Distance/Last Channel Button: This button's function differs depending on whether it is used in the System mode or with another source.

In the System mode, this button is used to enter the distance from each speaker group to the listening position to avoid unnatural sound caused by the speakers being placed at varying distances from the listener, which could result in delay artifacts. When this button is pressed, DIST FRONT LOFT will appear in the **Lower Display Line E**, with FRONT and LOFT both flashing. Press the **Set Button 19** to select the front speaker group, and FRONT will stop flashing. Use the ▲/▼ **Navigation Controls 17** to select the desired distance, and press the **Set Button 19** again to enter it. Use the ▲/▼ **Navigation Controls 17** to scroll through the remaining speaker groups: CENTER, SIDE-S (side surround) or BACK-S (back surround – this setting may only be available after a 6.1-channel bitstream has been detected; for example, by playing a Dolby Digital EX DVD).

When used with most video sources, this button returns to the previously selected broadcast channel.

46 Screen Setup/Disc Menu/Info Button: This button is used in Screen mode to access the setup menus to configure and adjust the CVPD50 display screen. In DVD mode, this button accesses the menu on the current disc, enabling you to select the main feature or accompanying featurettes for playback or make other selections, depending on how the disc is programmed.

47 Memory/Zoom Button: When used with the tuner, press this button to enter the currently tuned radio station into a desired preset location using the **Alphanumeric Keys 48** to select the preset location between the numbers 01 and 30. Press this button a second time to store your selection. To recall that station later, select the tuner as the source, then either use the **Preset Up/Down Buttons 20 44** to scroll to the desired preset station, or use the **Alphanumeric Keys 48** to directly enter the preset station location.

In DVD/Main mode, this button may be used while a DVD-Video disc is playing to zoom the picture so that it is enlarged. There are four steps to the zoom function, each progressively larger. Continue pressing the button to cycle through the steps and return to the normal view. Depending on the disc, you may also be able to use the ▲/▼/◀/▶ **Navigation Controls 17** to view different areas of the enlarged image.

48 Alphanumeric Keys: Select numbers by pressing these keys. When renaming functions or devices on the remote, these keys may be used to select letters.

49 Stereo Mode/Movies Preset Button: This button's function varies depending on whether the System or Screen mode has been selected.

In System mode, this button is used to select a stereo listening mode. When the button is pressed so that 2 CHANNEL STEREO appears in the **Lower Display Line E** and on-screen display, and the DSP and **Surround Off Surround Mode Indicators C** are lit, you will enjoy a two-channel presentation of the sound along with the benefits of bass management. Depending on whether your system is configured for 5.1 or 6.1/7.1 channels, the next press of the button will cause 5 CH STEREO and then 7 CH STEREO to appear, and the stereo signal will be routed to all five (or seven) speakers. See page 62 for more information on stereo playback modes.

In the Screen mode, pressing this button automatically adjusts the screen's picture settings to preprogrammed settings that are recommended as optimal for viewing movies.

NOTE: The **Sports/Broadcast/ Movies Buttons 9 49 50** ⚠ optimize picture settings for a specific viewing medium. The Broadcast settings are the most neutral, balanced and accurate, and are optimized for clarity. The Movies settings are softer and less bright. The Sports settings are more vibrant and optimized for fast-moving action.

50 DTS Neo:6 Mode/Broadcast Preset Button: This button's function varies depending on whether the System or Screen mode has been selected.

In System mode, this button is used to select a DTS Neo:6 audio surround mode. See page 62 for more information on the available DTS Neo:6 options.

In the Screen mode, pressing this button automatically adjusts the screen's picture settings to preprogrammed settings that are recommended as optimal for viewing broadcast television programs.

NOTE: The **Sports/Broadcast/ Movies Buttons 9 49 50** ⚠3 optimize picture settings for a specific viewing medium. The Broadcast settings are the most neutral, balanced and accurate, and are optimized for clarity. The Movies settings are softer and less bright. The Sports settings are more vibrant and optimized for fast-moving action.

51 DTS Digital Surround Mode Button: In System mode, when a DTS-encoded digital source is playing, each press of this button will scroll through the available DTS audio surround modes. The specific choice of modes will vary according to the type of encoding on the disc and your system's speaker configuration (5.1-channel or 6.1/7.1-channel). See page 62 for more information on DTS modes.

52 Dolby Surround Mode Button: In System mode, this button is used to select from the available Dolby audio surround modes. Each press of this button will select one of the Dolby Pro Logic II (available in 5.1-channel systems) or IIx (available in 6.1/7.1-channel systems) modes, Dolby 3 Stereo, or Dolby Digital when a Dolby Digital-encoded source is in use. Each press of this button will scroll through the available modes. See page 62 for more information on Dolby modes.

53 Mute Button: Press this button to momentarily silence the CVR700. Press it again, or use the **Volume Up/Down Control 21** to restore audio.

54 EzSet Microphone Sensor: The microphone sensor that is used by the EzSet system is behind the three slots at the top of the remote control. When using EzSet to calibrate the CVR700, be certain that the slots are not covered. See page 51 for more information on EzSet.

55 IR Transmitter/Receiver: The infrared emitters and receivers behind the plastic lens at the top of the remote communicate the remote codes to the CVR700 and other programmed devices. Be certain that the lens is not covered when using the remote, and point the lens toward the CVR700 for the best results. In learning mode, the remote receives IR codes to be learned through a receiver behind the lens. See page 78 for more information on learning remote codes.

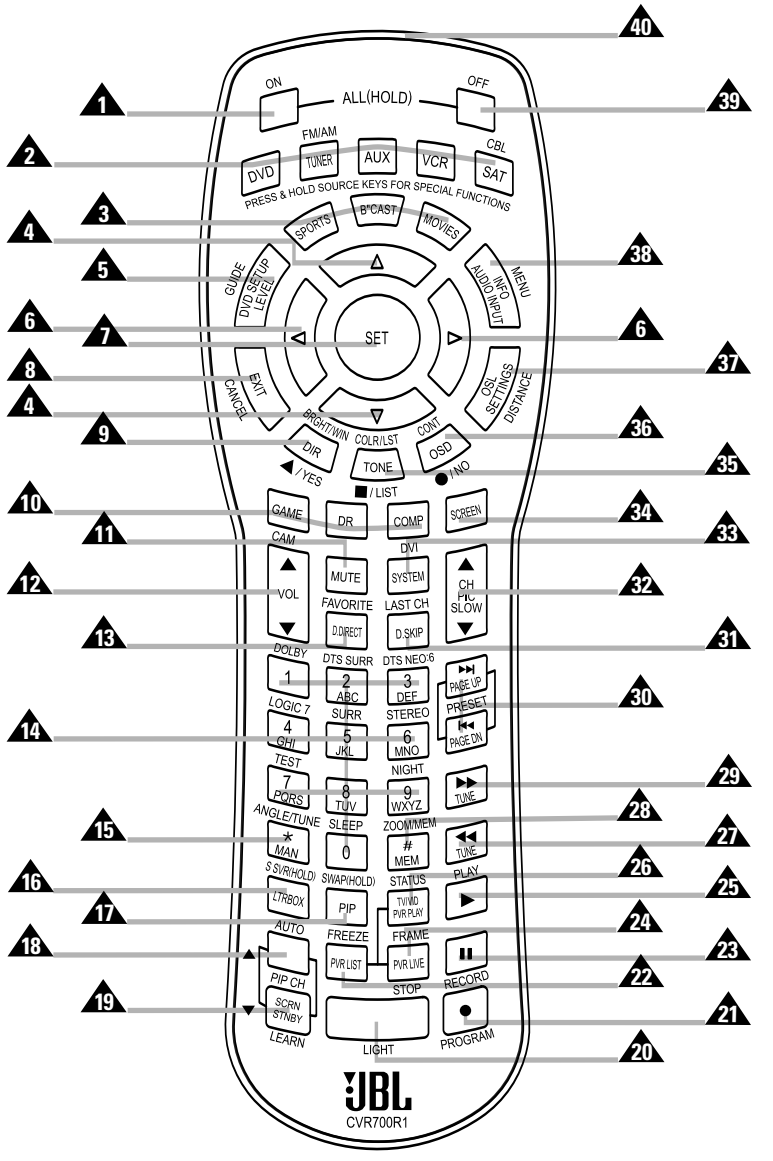
NOTE: DO NOT remove the rubber plug that is supplied to cover the jack on the upper right side of the remote. The jack is not active and is reserved for future use.

CVR700R1 REMOTE CONTROL FUNCTIONS

The CVR700R1 remote is capable of performing most of the same functions as the CVR700R2 remote control, which is intended mainly for system setup, but is smaller and easier to handle on a day-to-day basis. The most noticeable functions missing from the CVR700R1 remote are the LCD information screen, and the EzSet speaker calibration function.

As it is a programmable, learning remote that is capable of controlling the source devices in your system, you will need to program it separately from the CVR700R2 remote with the codes for your other components. It is already preprogrammed at the factory to control your CVR700 and its internal disc changer, as well as the CVPD50 screen.

1. Power On (All)
2. DVD/Tuner/Auxiliary/VCR/CBL/SAT Input Selectors
3. Sports, Broadcast and Movies Preset Selectors
4. ▲/▼ Navigation Buttons
5. Level/DVD Setup/Guide Button
6. ◀/▶ Navigation Buttons
7. Set Button
8. Exit/Cancel Button
9. Direct/Brightness/Window Button
10. Game/Digital Recorder/Computer Input Selectors
11. Mute Button
12. Volume Up/Down Control
13. Disc Direct/Favorite Button
14. Alphanumeric Keys*
15. Angle/Tuning Mode (Tune-Manual) Button
16. Screen Saver/Letterbox Button
17. PIP On-Off/PIP Swap Button
18. Auto/PIP Channel Up Button
19. Learn/Screen Standby/PIP Channel Down Button
20. Light Button
21. Program/Record Button
22. Freeze/PVR List Button
23. Pause Button
24. Frame/Stop/PVR Live Button
25. Forward Play Button
26. Status/TV/Video/PVR Play Button
27. Tuning Down/Reverse Search Button
28. Memory/Zoom Button
29. Tuning Up/Forward Search Button
30. Preset/Page Up/Down/Forward/Reverse Skip Buttons
31. Disc Skip/Last Channel Buttons
32. Picture/Channel Up/Down and Slow Play Forward/Reverse Button
33. System Selector
34. Screen Selector
35. Tone Mode/Color/List Button
36. OSD/Contrast Button
37. JBL On Screen Library™/Settings/Distance Button
38. Menu/Info/Audio Input Selector
39. Power Off (All)
40. IR Transmitter/Receiver



*The alphanumeric keys function as such for all devices except in System mode of the CVR700, where pressing each key will access certain audio functions as follows:

1: Dolby Surround Mode Selector
2: DTS Digital Surround Mode Selector
3: DTS Neo:6 Surround Mode Selector
4: Logic 7 Surround Mode Selector
5: DSP Surround Mode Selector
6: Stereo Mode Selector
7: Test Tone
8: No additional function
9: Night Mode
0: Sleep Timer

IMPORTANT NOTE: The JBL Cinema Vision remotes are powerful devices capable of controlling virtually your entire home cinema system. In comparison to a traditional system of the same capabilities, these remotes can replace up to 10 separate remote controls and therefore end the confusion and clutter associated with having a different remote for each of your system components. In order to achieve this goal, the JBL Cinema Vision remotes are designed to assume the duties of controlling different devices within your system by first pressing one of the 10 **Selector Buttons** 4 6 7 2 10 33 34 . Pressing one of these buttons places your remote control in a different "page", where the remote buttons are assigned control functions available for that specific purpose. For example, all internal DVD changer functions are accessed by pressing the **DVD Button** 4 2 first, and all CVPD50 Plasma Display functions are accessed by pressing the **Screen Button** 5 34 first, and all overall audio and system commands for the CVR700 are accessed by first pressing the **System Button** 6 33 . Throughout this manual, you will see references to the system being active in DVD, SYSTEM, SCREEN, CABLE/SAT, or other modes. This means that one of these 10 keys is to be pressed first to place your remote in the prescribed mode before accessing any specific controls. It is important to always remember to press the appropriate page selection key before trying to access any specific functions for a system or source. This may take a little bit of discipline and practice at first, but it should become second nature in a very short time.

Each function on the CVR700R1 remote has the same effect on the CVR700, CVPD50 and other devices as described earlier for the CVR700R2 remote control functions; however, functions may be combined on different keys. Each key has an independent function depending on the device currently in use. Be careful to press the input selector, or the System or Screen mode selector, corresponding to the device you wish to control prior to pressing a button to be sure that your button press will operate the desired function. Refer to the function list on pages 96 through 97 for information on which function is assigned to a given key for a given device.

1 **Power On (All):** Press this button to power on the CVR700, the CVPD50 or another device you selected by first pressing the appropriate **Input Selector** 2 10 .

Press and hold this button to place all devices, including the CVR700, the CVPD50 and any other products whose codes you have programmed into the remote, into the Standby mode.

2 **DVD/Tuner/Auxiliary/VCR/CBL/SAT Input Selectors:** Pressing one of these buttons will perform two actions. First, the CVR700 will switch to the source selected. Then, the remote will switch to the control codes for the selected source. In order to control the CVR700 again, press the **System Selector** 33 , and to control the CVPD50 screen, press the **Screen Selector** 34 .

Press and hold any of these buttons to power on the CVR700, the CVPD50 and the source device, and to begin play of the source device.

3 **Sports, Broadcast and Movies Preset Selectors:** When the **Screen Selector** 33 is active, press any of these buttons to select the CVPD50 picture settings that were preset at the factory for optimum viewing of sporting events, broadcast television programs or movies.

NOTE: The **Sports/Broadcast/ Movies Buttons** 9 49 50 3 optimize picture settings for a specific viewing medium. The Broadcast settings are the most neutral, balanced and accurate, and are optimized for clarity. The Movies settings are softer and less bright. The Sports settings are more vibrant and optimized for fast-moving action.

4 ▲/▼ **Navigation Buttons:** These buttons are used to navigate the on-screen configuration menus, to scroll through options lists and to select various settings such as delay, speaker configurations, surround modes, digital inputs, etc.

5 **Level/DVD Setup/Guide Button:** This button is used to start the process of setting the CVR700's output levels to an external source, such as a favorite DVD. While the source is playing, press this button, and then press the ▲/▼ **Navigation Controls** 4 until the channel to adjust appears. Press the **Set Button** 7 to select that channel, and then use the ▲/▼ **Navigation Controls** 4 again to adjust the level setting. See page 64 for more information.

In DVD mode, this button accesses the DVD setup menu described on page 53, and enables you to configure the DVD changer.

6 ◀/▶ **Navigation Buttons:** These buttons are used to navigate the on-screen configuration menus, to scroll through options lists and to select various settings such as delay, speaker configurations, surround modes, digital inputs, etc.

7 **Set Button:** This button is used to enter settings into the CVR700's memory, or to confirm a selection while setting delay times, speaker configuration and output level adjustments. It is used as the Enter or OK button for most other devices.

8 **Exit/Cancel Button:** When programming the remote, press this button to cancel the current function and return to the previous remote function. When using the remote to enter frequencies for direct tuner access or track numbers for direct access on a CD, press this button to clear previous entries.

9 **Direct/Brightness/Window Button:** Press this button when the tuner is in use to directly enter a station's frequency, or when a CD is in use to directly enter a track number. After pressing this button, press the appropriate **Alphanumeric Keys** 48 to select a station or track.

When the Screen mode is active, press this button to adjust the brightness of the CVPD50. See page 55 for more information on screen adjustments. This button also activates the Window function for TiVo players. See your TiVo owner's manual for more information on the Window function.

NOTE: The **Sports/Broadcast/ Movies Buttons** 9 49 50 3 optimize picture settings for a specific viewing medium. The Broadcast settings are the most neutral, balanced and accurate, and are optimized for clarity. The Movies settings are softer and less bright. The Sports settings are more vibrant and optimized for fast-moving action.

10 **Game/Digital Recorder/Computer Input Selectors:** Pressing one of these buttons will perform two actions. First, the CVR700 will switch to the source selected. Then, the remote will switch to the control codes for the selected source. In order to control the CVR700 again, press the **System Selector** 33 , and to control the

CVPD50 screen, press the **Screen Selector** 34 .

Press and hold any of these buttons to power on the CVR700, the CVPD50 and the source device, and to begin play of the source device.

11 **Mute Button:** Press this button to momentarily silence the CVR700. Press it again, or use the **Volume Up/Down Control** 12 to restore audio.

12 **Volume Up/Down Control:** To raise the volume, press towards the top of the button (marked ▲); to lower the volume, press towards the bottom of the button, where it is marked ▼.

13 **Disc Direct/Favorite Button:** In DVD mode, press this button, and then press the numeric key corresponding to the position number of the disc you wish to play to immediately begin playback of that disc.

When used with cable television boxes or satellite receivers, pressing this button scrolls through your list of preprogrammed favorite channels.

14 **Alphanumeric Keys:** Select numbers or letters by pressing these keys, except in System mode (when operating the audio section of the CVR700), in which case each key has the following functions:

1: Dolby Surround Mode Selector: This button is used to select from the available Dolby audio surround modes. Each press of this button will select one of the Dolby Pro Logic II (available in 5.1-channel systems) or IIx (available in 6.1/7.1-channel systems) modes, Dolby 3 Stereo, or Dolby Digital when a Dolby Digital-encoded source is in use. Each press of this button will scroll through the available modes. See page 62 for more information on Dolby modes.

2: DTS Digital Surround Mode Selector: When a DTS-encoded digital source is playing, each press of this button will scroll through the available DTS audio surround modes. The specific choice of modes will vary according to the type of encoding on the disc and your system's speaker configuration (5.1-channel or 6.1/7.1-channel). When a DTS source is not in use, this button has no function in System mode. See page 62 for more information on DTS modes.

3: DTS Neo:6 Surround Mode Selector: This button is used to select a DTS Neo:6 audio surround mode. See page 62 for more information on the available DTS Neo:6 options.

4: Logic 7 Surround Mode Selector: Press this button to select from among the available Logic 7 surround modes. (See page 62 for descriptions of the various surround modes.)

5: DSP Surround Mode Selector: Press this button to select one of the DSP audio surround modes, such as Hall 1, Hall 2 or Theater. Each press of the button selects another mode. See page 62 for descriptions of surround modes.

6: Stereo Mode Selector: This button is used to select a stereo listening mode. When the button is pressed so that SURROUND OFF appears in the **Lower Display Line** E, the CVR700 will operate in a bypass mode with true, fully analog, two-channel left/right stereo mode with no surround processing or bass management, as opposed to other modes where digital processing is used. When the button is pressed so that SURROUND OFF appears in the **Lower Display Line** E, and the DSP and **Surround Off Surround Mode Indicators** G are lit, you will enjoy a two-channel presentation of the sound along with the benefits of bass management. Depending on whether your system is configured for 5.1 orf 6.1/7.1 channels, the next press of the button will cause either 5 CH STEREO or 7 CH STEREO to appear, and the stereo signal will be routed to all five (or seven) speakers. See page 62 for more information on stereo playback modes.

7: Test Tone: Press this button to activate the CVR700's test tone that is used to calibrate speaker output levels. See pages 50 through 52 for more information on calibrating speaker output levels. (The EzSet function is not available on the secondary remote.)

8: No Additional Function

9: Night Mode: This button activates the Night mode, which preserves dialogue (center-channel) intelligibility at low volume levels when available in specially encoded Dolby Digital sources.

0: Sleep Timer: The Sleep function is activated to automatically place the CVR700 and CVPD50 in Standby mode after a period of time. Each press of the button changes the time until turn-off: 90 minutes, 80 minutes, 70 minutes, 60 minutes, 50 minutes, 40 minutes, 30 minutes, 20 minutes, 10 minutes, Sleep mode Off, and then cycling back to 90 minutes, and so forth. When the Sleep timer is in use, the front-panel displays will dim to half brightness.

15 **Angle/Tuning Mode (Tune-Manual) Button:** When the DVD mode is active, press this button to select an alternate camera angle if available on the current DVD.

When the tuner is in use, press this button to change the tuner mode between manual and automatic. When the button is pressed so that TUNE AUTO appears in the **Lower Display Line** E, only stations with acceptable signal quality will be tuned when scanning, and the tuner will play FM stations in stereo, when available. In the Auto mode, when the **Tuning Up/Down Buttons** 8 22 42 27 29 are pressed, the unit will automatically search for the next available station with good signal strength. When this button is pressed so that TUNE MANUAL appears in the **Lower Display Line** E, pressing and holding the **Tuning Up/Down Buttons** 8 22 42 27 29 will cause the tuner to scan up or down and stop when you release the button, even if there is no acceptable signal at that frequency. In either Auto or Manual mode, each tap of the **Tuning Up/Down Buttons** 8 22 42 27 29 will move the frequency up or down in single-step increments. When the FM band is in use, pressing the button so that the Tune Manual mode is activated will enable you to tune stations with weak signals by changing to monaural reception. See page 64 for more information on tuner operation.

16 **Letterbox/Screen Saver Button:** This button performs the Letterbox function, which enables you to adjust the screen to eliminate black bars that may appear on the top and bottom or sides of the image due to the aspect ratio of the program material differing from the 16:9 aspect ratio of the CVPD50. In most cases, the CVR700's video processor is able to automatically detect the aspect ratio setting of the program material and adjust the display automatically to fill the screen. However, in some cases the material may be a movie displayed in widescreen format, or the material may not contain embedded information necessary for the CVR700 to make an automatic adjustment. The available letterbox modes are:

16:9 – This setting is used to display 16:9 program material in the full-screen 16:9 mode on the CVPD50. This setting will also apply a linear (consistent) stretch to a 4:3 picture.

4:3 LTRBOX TO 16:9 – This mode is used to adjust an image which is designed to display a 16:9 movie on a 4:3 screen. In order to preserve the full width of the movie on a narrower screen, the image is reduced in size and black bars appear above and below it. This setting zooms in on the image, enabling it to fill the CVPD50's 16:9 screen without losing any portion of the image. The image is simply enlarged so that its two sides fit the edges of the CVPD50 16:9 screen and the black bars on top & bottom are cropped off. The image is stretched in a linear fashion (evenly throughout the frame).

2.35 LB TO 16:9 NL – This mode is used to adjust an image from a widescreen film which is actually at a wider ratio than the CVPD50's 16:9 ratio. In order to fit on the smaller screen, the image is compressed in a nonlinear fashion, but no portion of the image is lost.

2.35 LB TO 16:9 CROPPED – This mode is an alternative adjustment for a widescreen film. The image is not compressed or scaled in any way, but the outer edges are cropped, sacrificing a slight amount of the original content in exchange for 100% accurate image proportions.

4:3 HDTV TO 16:9 – As HDTV is new to the broadcast industry and there is still a considerable amount of older 4:3 standard recording & broadcast equipment in use, 4:3 material is sometimes broadcast in HD 16:9 format with black or other color bars on its sides. Since these bars are a part of the actual picture, conventional picture resizing techniques do not work in eliminating them. This setting is specifically designed to address this problem. It first crops the bars off the sides of the 16:9 picture to render it a 4:3 picture, and then performs a natural-looking nonlinear stretch to fill the entire 16:9 screen.

The Letterbox adjustment is temporary, and will only apply to that disc. We encourage you to experiment with the modes to find one that suits you for a given presentation.

NOTE: The Letterbox and Frame functions are not available with the internal DVD/CD changer unless the DVD Auto Resize function has been turned off using the Screen setup menus. See page 57 for more information.

When pressed and held for at least two seconds, this button places the CVPD50 display screen in Screen Saver mode, in which a JBL logo will appear to move around the screen. It is important to turn on the Screen Saver any time a still image is likely to remain on screen for more than a few minutes, as a still image, such as a menu display, may be "burned" into the display, causing permanent damage to the plasma screen that is not covered under warranty. This danger is not present when a moving image is displayed.

17 PIP On-Off/PIP Swap Button: When used with a PIP source whose composite video output has been connected to the **Picture-in-Picture Composite Video Input 20**, press this button once to turn on the PIP function, and again to turn it off.

Pressing and holding this button for several seconds causes the main source to appear in the PIP inset display, and the PIP source to appear in the main display. Pressing and holding the button again returns the PIP source to the inset, and the main source to the main display.

18 Auto/PIP Channel Up Button: In the Screen mode, this button selects automatic detection of the aspect ratio of program material, with playback in the 16:9 format, inserting black bars on the right and left sides as required for 4:3 images, unless you have configured your system to display 4:3 images stretched to fill the 16:9 screen. This function is not available with HD (480p or better) signals. See pages 13 and 27 for more information on configuring aspect ratios.

When used with a PIP-capable device whose composite video output has been connected to the **Picture-in-Picture Composite Video Input 20**, pressing this button changes the channel of the PIP device to the next higher one. It has no effect on the CVR700 or CVPD50.

19 Learn/Screen Standby/PIP Channel Down Button: Press this button to begin the process of "learning" the codes from another product's remote into the CVR700 secondary remote. (See page 93 for more information on using the remote's learning function.)

When used in the Screen mode, this button places the CVPD50 display in Standby mode, without affecting use of the CVR700. This function may be preferred for audio-only listening sessions to aviod burning a still image into the plasma display.

When used with a PIP-capable device whose composite video output has been connected to the **Picture-in-Picture Composite Video Input 20**, pressing this button changes the channel of the PIP device to the next lower one. It has no effect on the CVR700 or CVPD50.

20 Light Button: Press this button to activate the remote's backlight for ease of use in darkened rooms. The light will remain active for 7 seconds after this button has been pressed, and will remain lit for an additional 7 seconds after any other button on the remote has been pressed.

21 Program/Record Button: In the DVD mode, press this button to access the screen for programming play lists.

The Record function is used when the **DR Input Selector 10** has been activated for use with an external recorder.

22 Freeze/PVR List Button: In Screen mode, you may use this button to pause playback of the video picture while allowing the audio playback to continue uninterrupted.

When a PVR is in use, press this button to list recorded materials. Refer to your PVR's owner's manual for information.

23 Pause Button: This button may be used with the internal disc changer or with an external DVD or CD player or other playback device. Pressing the Pause button will pause play, allowing you to step forward frame by frame through a DVD with each press of the **Forward Skip Button 30** . Press the **Pause Button** again, or the **Play Button 25** , to resume normal play.

24 Frame/Stop/PVR Live Button: In Screen mode, this button performs the Frame function, which enables you to set the desired aspect ratio for viewing program materials, independent of the aspect ratio encoded on the disc. The following settings are available through the Frame function:

16:9 – This setting is used to display 16:9 program material in the full-screen 16:9 mode on the CVPD50.

4:3 TO 16:9 NL – This mode adjusts a 4:3 aspect ratio image to fill the CVPD50's 16:9 screen while creating a more natural looking picture. This is accomplished by stretching the two sides of the picture more than the center of the picture where most of the content is.

4:3 LTRBOX TO 16:9 – This mode is used to adjust an image which is designed to display a 16:9 movie on a 4:3 screen. In order to preserve the full width of the

movie on a narrower screen, the image is reduced in size and black bars appear above and below it. This setting zooms in on the image, enabling it to fill the CVPD50's 16:9 screen without losing any portion of the image. The image is simply enlarged so that its two sides fit the edges of the CVPD50 16:9 screen and the black bars on top and bottom are cropped off.

2.35 LB TO 16:9 NL – This mode is used to adjust an image from a widescreen film which is actually at a wider ratio than the CVPD50's 16:9 ratio. In order to fit on the smaller screen, the image is compressed, but no portion of the image is lost.

2.35 LB TO 16:9 CROPPED – This mode is an alternative adjustment for a widescreen film. The image is not compressed or scaled in any way, but the outer edges are cropped, sacrificing a slight amount of the original content in exchange for 100% accurate image proportions.

4:3 HDTV TO 16:9 – As HDTV is new to the broadcast industry and there are still a considerable amount of older 4:3 standard recording and broadcast equipment in use, 4:3 material is sometimes broadcast in HD 16:9 format with black or other color bars on its sides. Since these bars are a part of the actual picture, conventional picture resizing techniques do not work in eliminating them. This setting is specifically designed to address this problem. It first crops the bars off of the sides of the 16:9 picture to render it a 4:3 picture, and then performs a natural-looking nonlinear stretch to fill the entire 16:9 screen.

4:3 – This mode may be used with programs that are known to be in the 4:3 aspect ratio. The image's original aspect ratio is preserved unaltered, and black bars will appear on the left and right sides of the image to fill the CVPD50's 16:9 aspect ratio screen.

The difference between the Frame and Letterbox functions is that the Frame function allows access to the 4:3 and 4:3 TO 16:9 NL modes, which are mainly useful for materials originating in the 4:3 format.

NOTE: The Letterbox and Frame functions are not available with the internal DVD/CD changer unless the DVD Auto Resize function has been turned off using the Screen setup menus. See page 57 for more information.

The stop function may be used with the internal disc changer or with an external DVD or CD player or other playback device. When the internal disc changer is in use, pressing the Stop button once will place a DVD in resume mode, meaning that you may press the **Play Button** 41 25 to continue playing the disc from the point where it was stopped. If you press the Stop button twice, play will resume from the beginning of the disc.

When a PVR is in use, this button switches to play of the signal currently being received by the PVR. See the PVR's owner's manual for more information.

25 **Forward Play Button:** This button may be used with the internal disc changer or with an external DVD or CD player or other playback device.

26 **Status/TV/Video/PVR Play Button:** Press it to display the CVR700 system's status, or an external DVD recorder's status.

In Screen mode, or when used with a video source device that is used for obtaining television broadcasts, such as a cable box, satellite receiver, TiVo, PVR, DVR or VCR, this button allows you to select between the television signal or one of the device's video inputs. See the device's owner's manual for more information on the use of this function.

27 **Tuning Down/Reverse Search Button:** Press this button when the tuner is in use to change the station to one with a lower frequency. Each tap of this button will decrease the frequency by one increment. When the tuner receives a strong enough signal for adequate reception, MANUAL TUNED will appear in the **Lower Display Line** E. When the tuner is in the Auto/Stereo mode, press and hold the button to cause the tuner to scan for the next lower station with acceptable signal strength, and stop. The **Lower Display Line** E will indicate AUTO TUNED. When an FM Stereo station is tuned, the display will read AUTO ST TUNED. When the tuner is in Manual/Mono mode, you may press and hold this button to scan downward through the frequencies, and the tuner will stop immediately when you release this button, even if no acceptable signal is detected at that frequency. See page 64 for more information.

When an optical player source, such as the internal DVD changer, is in use, press this button to search quickly in reverse through the current track or chapter.

Depending on the type of disc used in the internal DVD changer, each additional press will cycle through the available scan speeds as follows (available scan speeds may differ for external optical source devices):

DVD-Audio and DVD-Video discs: 2x, 4x, 16x, 100x

CD and VCD discs: 2x, 4x, 8x

MP3 and WMA discs: 2x, 4x, 8x, 16x

See page 68 for more information on using the internal DVD changer's transport controls.

28 **Memory/Zoom Button:** When used with the tuner, press this button to enter the currently tuned radio station into a desired preset location using the **Numeric Keys** 14 to select the preset location between the numbers 01 and 30. Press this button a second time to store your selection. To recall that station later, select the tuner as the source, then either use the **Preset Up/Down Buttons** 20 to scroll to the desired preset station, or use the **Numeric Keys** 14 to directly enter the preset station location.

In DVD mode, this button may be used while a DVD-Video disc is playing to zoom the picture so that it is enlarged. There are four steps to the zoom function, each progressively larger. Continue pressing the button to cycle through the steps and return to the normal view. Depending on the disc, you may also be able to use the ▲/▼/◀/▶ **Navigation Controls** 4 6 to view different areas of the enlarged image.

25 **Tuning Up/Forward Search Button:** Press this button when the tuner is in use to change the station to one with a higher frequency. Each tap of this button will increase the frequency by one increment. When the tuner receives a strong enough signal for adequate reception, MANUAL TUNED will appear in the **Lower Display Line** E. When the tuner is in the Auto/Stereo mode, press and hold the button to cause the tuner to scan for the next higher station with acceptable signal strength, and stop. The **Lower Display Line** E will indicate AUTO TUNED. When an FM Stereo station is tuned, the display will read AUTO ST TUNED. When the tuner is in Manual/Mono mode, you may press and hold this button to scan downward through the frequencies, and the tuner will stop immediately when you release this button, even if no acceptable signal

is detected at that frequency. See page 64 for more information on using the tuner.

When an optical player source, such as the internal DVD changer, is in use, press this button to search quickly forward through the current track or chapter. Depending on the type of disc used in the internal DVD changer, each additional press will cycle through the available scan speeds as follows (available scan speeds may differ for external optical source devices):

DVD-Audio and DVD-Video discs: 2x, 4x, 16x, 100x

CD and VCD discs: 2x, 4x, 8x

MP3 and WMA discs: 2x, 4x, 8x, 16x

See page 68 for more information on using the internal DVD changer's transport controls.

30 Preset/Page Up/Down/Forward/ Reverse Skip Buttons: When used with the tuner, these buttons scroll through the preprogrammed station presets.

When used with optical sources, such as the internal disc changer or an external CD player, press the forward button once to skip to the beginning of the next track. Press the reverse button once to return to the beginning of the current track, and once again quickly to skip to the beginning of the previous track. When the **Pause Button** 22 has been pressed while a DVD is playing, the picture advances frame by frame each time the forward skip button is pressed.

The Page Up and Down functions are used with cable and satellite television to page quickly through on-screen menus.

31 Disc Skip/Last Channel Buttons: In the DVD mode, press this button to begin play of the next available disc in the changer.

When used with most video sources, this button returns to the previously selected broadcast channel.

32 Picture/Channel Up/Down and Slow Play Forward/Reverse Button: When a disc containing JPEG still images is being played using the internal disc changer, press the top of this button to advance to the next image on the disc or the bottom of this button return to the previous image.

When a cable television box, satellite receiver, HDTV tuner or TiVo device is in use, press the top of this button to tune in to the next higher channel, or the bottom to tune in to the next lower channel.

When the internal DVD changer or an external DVD player is in use, press the top of this button once to switch to the DVD slow forward play mode. Each additional press of the top of the button will cycle through the available slow-play speeds of 1/2x, 1/4x and 1/8x. Pressing the bottom of the button switches to the DVD slow reverse play mode. Additional presses of the bottom of the button cycles through the available slow-play speeds of 1/2x, 1/4x and 1/8x. No slow-play speeds are available for CDs or other disc types.

33 System Selector: Press this button to select the control codes for the CVR700.

34 Screen Selector: Press this button to select the control codes for the CVPD50 screen.

35 Tone Mode/Color/List Button: This button controls the tone settings, enabling adjustment of the bass and treble boost or cut. You may also use it to disable the tone controls, for a "flat" response. The first press of the button displays a TONE IN message in the **Lower Display Line** E. To disable the controls, press the ▲/▼ **Navigation Controls** 4 until the display reads TONE OUT. To change the bass or treble settings, press this button again until the desired control appears in the **Lower Display Line** E and in the on-screen display, and then press the ▲/▼ **Navigation Controls** 4 until the desired setting appears.

When the Screen mode is active, press this button to adjust the picture settings of the CVPD50 display. See page 55 for more information on screen adjustments. This button also activates the List function for TiVo players. See your TiVo owner's manual for more information on the List function.

NOTE: The **Sports/Broadcast/ Movies Buttons** 9 49 50 3 optimize picture settings for a specific viewing medium. The Broadcast settings are the most neutral, balanced and accurate, and are optimized for clarity. The Movies settings are softer and less bright. The Sports settings are more vibrant and optimized for fast-moving action.

36 OSD/Contrast Button: Press this button when the System mode is active to access the setup menu for the CVR700's audio functions. When the Screen mode is active, press this button to adjust the contrast of the CVPD50 display. See page 55 for more information on screen adjustments.

NOTE: The **Sports/Broadcast/ Movies Buttons** 9 49 50 3 optimize picture settings for a specific viewing medium. The Broadcast settings are the most neutral, balanced and accurate, and are optimized for clarity. The Movies settings are softer and less bright. The Sports settings are more vibrant and optimized for fast-moving action.

37 JBL On Screen Library/Settings/ Distance Button: In DVD mode, this button accesses the JBL On Screen Library, which displays on screen a thumbnail image and description of each disc currently loaded in the CVR700's internal changer, including disc type and title if available. Use the ▲/▼/◀/▶ **Navigation Controls** 4 6 and the **Set Button** 7 to conveniently select and play any loaded disc.

In the System mode, this button is used to enter the distance from each speaker to the listening position to avoid unnatural sound caused by the speakers being placed at varying distances from the listener, which could result in delay artifacts. When this button is pressed, DIST FRONT 10FT will appear in the **Lower Display Line** E, with FRONT and 10FT both flashing. Press the **Set Button** 7 to select the front speaker group, and FRONT will stop flashing. Use the ▲/▼ **Navigation Controls** 4 to select the desired distance, and press the **Set Button** 7 again to enter it. Use the ▲/▼ **Navigation Controls** 4 to scroll through the remaining speaker groups: CENTER, SIDE-S (side surround) or BACK-S (back surround, available only after a 6.1-channel bitstream has been detected).

38 Menu/Info/Audio Input Selector: In DVD mode, this button accesses the menu on the current disc, enabling you to select the main feature or accompanying featurettes for playback or make other selections, depending on how the disc is programmed.

In System mode, press this button to assign one of the **Digital Audio Inputs** 9 10 22 23 24 25 27 28 29 30 to a source. See page 60 for more information on using digital inputs.

39 **Power Off (All):** Press this button to place the CVR700 and CVPD50, or a selected device, in the Standby mode.

Press and hold this button to place all devices, including the CVR700, the CVPD50 and any other products whose codes you have programmed into the remote, into the Standby mode.

40 **IR Transmitter/Receiver:** The infrared emitters and receivers behind the plastic lens at the top of the remote communicate the remote codes to the CVR700 and other programmed devices. Be certain that the lens is not covered when using the remote, and point the lens toward the CVR700 for the best results. In learning mode, the remote receives IR codes to be learned through a receiver behind the lens. See page 93 for more information on learning remote codes.

Before unpacking and placing the JBL Cinema Vision components, it is important to select appropriate locations for each component. Make sure that all power switches are turned off and all equipment remains unplugged from AC power until the system is completely installed and connected in order to prevent electric shock, or transient signals that may damage equipment.

IMPORTANT NOTES:

- Never attempt to lift the CVPD50 plasma screen by yourself. Always make sure an assistant is available to lift the plasma screen with you.
- Do not block the ventilation holes of the CVR700, and make sure that air can circulate freely around it.
- Read through this manual before beginning installation.
- Remember to observe the color coding when connecting audio and video cables.

Recommended Placement

The JBL Cinema Vision system will provide the best results when installed in a rectangular room, with the screen installed on one of the shorter walls.

The front speakers should be placed the same distance from each other as they are from the listening position. They should be placed at about the same height from the floor as the listeners' ears will be, or they may be angled toward the listeners.

The center channel speaker should be placed slightly behind the front left and right speakers, and no more than 2 feet above or below the tweeters of the left and right speakers. This placement may be obtained by placing the CVPD50 screen, and the left, right and center speakers on a credenza using the included pair of CVTS50 table stands for the left and right CVSAT50 speakers, and the included credenza stand for the CVPD50 screen and CVCEN50 center speaker.

The JBL Cinema Vision speaker system may be used in 5.1- or 7.1-channel applications. Your system includes enough loudspeakers for a 5.1-channel system. Additional pairs of CVSAT50 satellite speakers are available from your JBL dealer or custom installer, along with pairs of CVSAT50 table stands, should you wish to upgrade to a 7.1-channel system.

If desired, a second subwoofer may be added to create a 5.2 or 7.2 system. If so, connect one end of a Y-adaptor interconnect to the **Subwoofer Output** ❻, and connect each end to the LFE input of a powered subwoofer.

In 5.1-channel applications, two of the surround speakers should be placed slightly behind the listening position and, ideally, should face each other and be at a level higher than the listeners' ears. If that is not possible, they may be placed on a wall behind the listening position, facing forward. In 7.1-channel applications, place two of the surround speakers in the side positions, and place the two surround back speakers on the rear wall. It is appropriate to configure the CVR700 for either 5.1- or 7.1-channel operation, but not for 6.1 channels. When 6.1-channel program material or a 6.1-channel processing mode is in use, material for the surround back channel will be outputted simultaneously through both the **Surround Back Left** and **Right Speaker Outputs** ❶. Connecting only one loudspeaker to these speaker terminals will not only deprive you of the benefits of 7.1-channel surround modes, such as Logic 7, but will also interfere with the functioning of EzSet speaker calibration, as described on page 51. It may also put undesirable strain on the surround back amplifier circuits and power supplies.

In Dolby Digital and DTS systems, it is best to aim all of the speakers (except the subwoofer) toward the listening position at about ear-level height. The low-frequency material reproduced by the subwoofer is mostly omnidirectional, and this speaker may be placed in a convenient location in the room. However, bass reproduction will be maximized when the subwoofer is placed in a corner along the same wall as the front speakers. Experiment with subwoofer placement by temporarily placing the subwoofer in the listening position and moving around the room until the bass reproduction is best. Place the subwoofer in that location.

Wall-Mounting the CVPD50 Plasma Display

Due to its weight and fragility, there are special concerns in wall-mounting the CVPD50 screen. The customer is solely responsible for proper selection of mounting hardware not included with the CVPD50 plasma screen, and for proper installation of the wall bracket, including but not limited to the selection of appropriate weight-bearing supports and proper use of the bracket. JBL disclaims any liability for the selection of mounting hardware and/or bracket installation. Be sure to follow these bracket assembly and installation instructions carefully. If you have any questions or doubts about your ability to correctly wall-mount the CVPD50 plasma display, consult with your authorized JBL dealer or custom installer.

The bracket must be installed in wood studs; there is no wall-anchor option. The slot holes in the bracket are designed to accommodate 16-inch on-center wall studs. See the illustration (Figure 1) for the dimensions of the bracket.

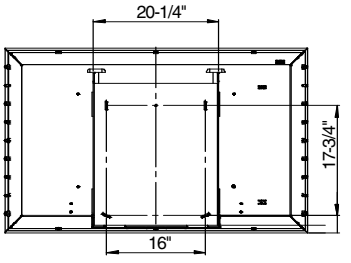


Figure 1

The bracket must be installed using four lag bolts, each at least 1/4 inch in diameter. Each bolt must be long enough to engage in the stud by at least 2 inches.

In order to avoid splintering the wall studs, it is necessary to drill pilot holes for each lag bolt.

Use a carpenter's level to ensure that the bracket is installed squarely. You will observe that the bracket uses slotholes to assist you in making adjustments to level the bracket before fully tightening the lag bolts.

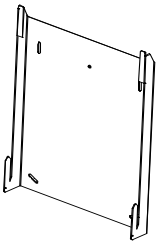


Figure 2

Once the bracket has been installed. Two people may carefully lift the CVPD50 screen and lower it onto the bracket so that the two hooks on either side of the bracket engage in the openings on the underside of the CVPD50.

Installing the CVPD50 Plasma Display On the Included Credenza Stand

If wall-mounting the CVPD50 plasma screen is not convenient or practical, you may prefer to install the CVPD50 on a credenza or other sturdy piece of furniture using the included credenza stand. In addition to offering an elegant appear-

ance that matches that of the optional CVTS50 speaker stands, the stand includes a cradle for placement of the center speaker.

IMPORTANT SAFETY NOTES:

- *The credenza stand consists of three main parts: two metal columns and a glass base. Be extremely careful in handling the fragile glass base to avoid breakage that might result in personal injury.*
- *The credenza stand is only intended for use with the CVPD50 plasma screen. Attempting to use the stand with any other model plasma screen or any other device is unsafe and may result in personal injury and damage to the equipment.*
- *The stand must be placed in a safe location, protected from young children and pets who might topple the stand, possibly resulting in serious injury. Never place the stand so that any part of it is sticking out over the edge of the credenza, table, shelf or other surface underneath it.*
- *Make certain that your credenza or other furniture is capable of supporting the weight of the CVPD50 in a stable fashion.*
- *If it becomes necessary to move the CVPD50 to another location, two people should carry it by holding the plasma screen. Do not attempt to carry the CVPD50 while holding it by the stand.*

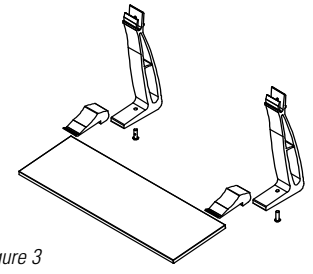


Figure 3

Each column is made up of two parts: the main column and the top foot. Using the supplied bolts, attach each foot to its column, but do not fully tighten the bolts. Use a 5mm hex key (not supplied).

Carefully insert the glass base into the slot in the column, making sure to line up each column flush with the edge of the base. This will insure that the base is installed evenly for maximum stability and so that the columns will line up properly with the openings on the underside of the CVPD50.

To ensure a proper fit, GENTLY place the plasma display on a carpeted floor with one end up. Make sure that the screen itself is at all times perpendicular to the floor. While one person holds the unit steady, the other person should check the fit of each column in the two openings on the underside of the unit. Loosen, move and retighten the column feet until a proper and secure fit is achieved. Then secure the columns in their openings using the two supplied hex bolts and the same 5mm hex wrench you used to attach the feet to the columns.

This method is preferable to placing the stand on the credenza and lowering the plasma display onto it, which may cause the installers to place the display's weight unevenly on the columns for a moment, causing the glass base to snap, which may result in personal injury.

It is the responsibility of the person installing the display to properly and securely mount the credenza stand to the plasma display.

Two people may now right the CVPD50 and carefully place it in the desired location. *Do not lean the CVPD50 on the stand while righting it, as this will cause the glass to snap, possibly resulting in personal injury.* Carry the assembly by holding the bottom and sides of the CVPD50 plasma display itself, *not* by holding the stand.

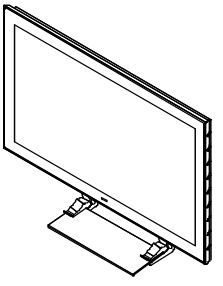


Figure 4

After the video cable has been connected to the CVPD50 as described below, and after the speaker wire has been connected to the CVCEN50 speaker as described in its owner's manual, you may carefully place the CVCEN50 speaker in the cradle below the screen formed by the two top feet of the credenza stand. The bottom of the grille will fit snugly behind the two stops at the front of the top feet.

Important Information About the CVPD50 Plasma Display

Your new JBL Cinema Vision CVPD50 high-definition plasma display is capable of opening a new world of video enjoyment with sharpness and beauty far beyond any television you have ever owned. As this may be the first plasma display device you have ever owned, it is important to be aware of some unique properties of this technology.

A plasma display works by using a grid containing millions of "cells", each filled with phosphorous that glows in red, green or blue when it receives an electrical charge. The charge is supplied by a wired grid that allows the video processing logic to pinpoint each individual cell to determine whether or not to turn it "on". The cells are sandwiched by glass plates that seal the phosphorous in place. The combination of cells, known as pixels in video display terminology, when properly functioning can present a color picture with incredibly high resolution.

Given its construction, the CVPD50 is very fragile, and requires extreme care in handling. Once installed, it's easy to use, although there are a few points for you to be aware of.

1. It is possible for a phenomenon known as "burn-in" to occur when the phosphorous cells remain turned on for too long a stretch of time. This is liable to occur when a still image, such as a menu screen or even the CVPD50's own start-up screen, remains on screen for more than a few minutes. In order to protect against burn-in, the CVPD50's screen saver will be activated after it detects 2 minutes of no movement on screen. It is not possible to disable the screen saver.

   However, the screen saver does not function for the DVI source. Therefore, it is crucial that you set your source device to activate its screen saver after 2 minutes of inactivity on screen, particularly if you are using the CVPD50 with your computer, where an image such as a spreadsheet may remain on screen for a long period of time.

   Burn-in is also of concern when you are listening to audio CDs, which have no visual information so that the CVPD50's start-up screen remains on. You may wish to activate the Screen Standby function, which places the screen in standby mode, by pressing the **Screen Selector** ❺ followed by the **Screen Standby Button** ㉟. Press the button again to restore the video display.

The following tips can help you avoid burn-in:

- Be particularly careful during the first 100 hours of use to display mainly moving images or frequently changing still images.
- Use your display in full-screen (16:9) format, rather than letterbox (black bars at top and bottom of screen) or 4:3 (black bars to left and right of screen).
- Remember to activate your computer's own screen saver when using it with the CVPD50. This also holds for a DVD player or other device connected to the DVI input.
- Even after the first 100 hours of use, try to display moving images as much of the time as possible.
- Switch off the display when it is not being used by pressing the **Screen Standby Button** as described above.
- Avoid increasing the contrast and brightness settings.
- Whenever possible, choose to display images containing a variety of colors and color shades.

2. Although extreme care is taken during the manufacturing process, it is possible that your CVPD50 plasma display will at some point develop some minor pixel dropouts. It is extremely unlikely that this will occur or be noticeable and, as such, in most cases it will not be considered a sufficient defect for warranty replacement (repair of individual pixels is not possible). Should you have any concerns, kindly contact your custom installer for further guidance.
3. Over a long period of time, the natural consumption of the phosphorous layer may result in a slight loss of brightness or contrast. This is normal, and should not be noticeable.
4. There are ergonomic concerns that apply generally to reduce viewer fatigue and eyestrain.
   - The optimal viewing distance for the 50-inch CVPD50 plasma display is 12 to 16 feet.
   - The background lighting in the room should be sufficient to read by, as too much light reduces the contrast, and too little light is difficult for your eyes to adjust to.
   - When using the CVPD50 plasma display with your computer, select fonts and backgrounds that are rich in contrast, such as a black font on a white background, to avoid eye fatigue that can result from using red or blue fonts on a dark background.

Basic Installation

The JBL Cinema Vision system offers a variety of entertainment options, including playback of DVDs and CDs, and radio listening, and it may be enjoyed with no additional equipment. However, it is also compatible with most available audio/video devices.

IMPORTANT NOTE: For your personal safety and to avoid possible damage to your equipment and speakers, it is always a good practice to turn off and unplug the CVR700, CVPD50 and ALL source equipment from AC power before making any audio or video system connections.

Step One: Connect the **Front, Center, Surround** and **Surround Back Speaker Outputs ❶❷❸❹** to the respective speakers.

To ensure that all the audio signals are carried to your speakers without loss of clarity or resolution, we suggest that you use high-quality speaker cable. Many brands of cable are available and the choice of cable may be influenced by the distance between your speakers and the receiver, the type of speakers you use, personal preferences and other factors. Your dealer or installer is a valuable resource to consult in selecting the proper cable. Regardless of the brand of cable selected, we recommend that you use a cable constructed of multistrand copper with a gauge of 14 or smaller. Remember that in specifying cable, the lower the number, the thicker the cable. Cable with a gauge of 16 may be used for short runs of less than 3 meters (10 feet). We do not recommend that you use cables with an AWG equivalent of 18 or higher, due to the power loss and degradation in performance that will occur. Cables that are run inside walls should have the appropriate markings to indicate listing with UL, CSA or other appropriate testing agency standards. Questions about running cables inside walls should be referred to your installer or a licensed electrician who is familiar with the NEC and/or the applicable local building codes in your area.

When connecting wires to the speakers, be certain to observe proper polarity. Note that the positive (+) terminal of each speaker connection now carries a specific color code, as noted on page 20. However, most speakers still use a red terminal for the positive (+) connection. Connect the "negative" or "black" wire to the same terminal on both the receiver and the speaker.

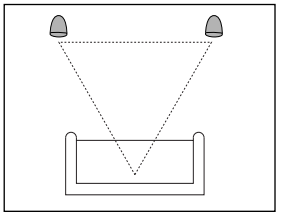
NOTE: While most speaker manufacturers adhere to an industry convention of using black terminals for negative and red ones for positive, some may vary from this configuration. To ensure proper phase and optimal performance, consult the identification plate on your speaker or the speaker's manual to verify polarity. If you do not know the polarity of your speaker, ask your dealer for advice before proceeding, or consult the manufacturer. We also recommend that the length of cable used to connect speaker pairs be identical. For example, use the same length piece of cable to connect the front-left and front-right or surround-left and surround-right speakers, even if the speakers are a different distance from the CVR700.

It is appropriate to configure the CVR700 for either 5.1- or 7.1-channel operation, but not for 6.1 channels. When 6.1-channel program material or a 6.1-channel processing mode is in use, material for the surround back channel will be outputted simultaneously through both the **Back Surround Left** and **Right Speaker Outputs ❶**. Connecting only one loudspeaker to these speaker terminals will not only deprive you of the benefits of 7.1-channel surround modes, such as Logic 7, but will also interfere with the functioning of EzSet speaker calibration, as described on page 51. It may also put undesirable strain on the surround back amplifier circuits and power supplies.

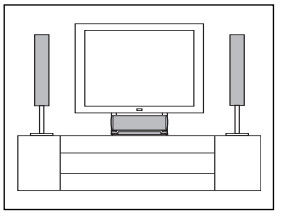
Connections to a subwoofer are normally made via a line-level audio connection from the **Subwoofer Output ❻** to the line-level input of a subwoofer with a built-in amplifier.

Speaker Placement

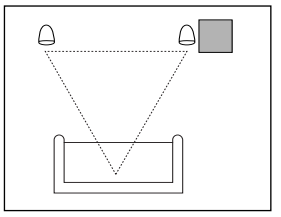
Front Speakers



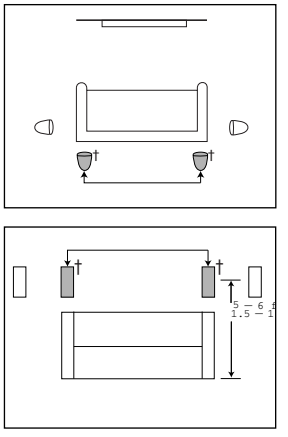
Center Channel Speaker



Subwoofer



Surround Speakers



†*Alternate placement for surround speakers when only 5.1 channels are used; required placement for back surround speakers in 7.1-channel systems.*

The front speakers should be placed the same distance from each other as they are from the listening position. They should be placed at about the same height from the floor as the listeners' ears will be, or they may be angled toward the listeners.

The center channel speaker should be placed slightly behind the front left and right speakers, and no more than 2 feet above or below the tweeters of the left and right speakers. It may be convenient to place the center speaker in the cradle of the CVPD50 credenza stand, as shown in the drawing.

The JBL Cinema Vision system may be used in 5.1- or 7.1-channel applications. In 5.1-channel applications, two of the surround speakers should be placed slightly behind the listening position and, ideally, should face each other and be at a level higher than the listeners' ears. If that is not possible, they may be placed on a wall behind the listening position, facing forward.

NOTE: In 5.1-channel systems, the two rear speakers are called simply the surround speakers, whether they are placed to the sides of or behind the listening position. In 7.1-channel systems, there are four surround speakers, two of which are referred to as side surround speakers, due to their placement to the

sides of the listening position. The two remaining speakers are referred to as back surround speakers, as they are placed in back of (behind) the listening position. In 7.1-channel applications, place two of the surround speakers in the side positions, and place the two back surround speakers on the rear wall.

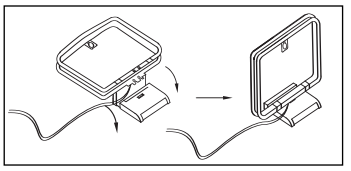
In Dolby Digital and DTS systems, such as JBL Cinema Vision, it is best to aim all of the speakers (except the subwoofer) toward the listening position at about ear-level height.

The low-frequency material reproduced by the subwoofer is mostly omnidirectional, and this speaker may be placed in a convenient location in the room. However, bass reproduction will be maximized when the subwoofer is placed in a corner, along the same wall as the front speakers. Experiment with subwoofer placement by temporarily placing the subwoofer in the listening position and moving around the room until the bass reproduction is best. Place the subwoofer in that location.

Step Two: Thanks to its sophisticated video processor, the CVR700 is able to upconvert composite, S-video and component video source signals for a single-cable connection to the screen. Connect the included proprietary JBL Digital Link™ cable to the **Output to JBL Cinema Vision CVPD50 Screen** ㉝ on the back of the CVR700, and to the digital input on the underside of the CVPD50. The connector is located on the right side of the screen when facing it. You may wish to use a mirror to assist you in orienting the cable connector correctly. Note that this cable uses a proprietary system, and should not be connected to any display device other than the CVPD50.

The jack for the AC power cord is located on the left side of the CVPD50. Make sure the master power switch next to the jack is in the "0" position before plugging in the AC power cord. Again, a mirror may be helpful in locating the jack and switch. Do not turn the master power switch to the "1" or on position until after all components have been connected.

Step Three: Assemble the supplied AM Loop Antenna so that the tabs at the bottom of the antenna loop snap into the holes in the base. Connect it to the AM Antenna Terminals ㉜.



Connect the supplied FM antenna to the FM (75-ohm) Connection ㉛. The FM antenna may be an external roof antenna, an inside powered or wire-lead antenna or a connection from a cable TV system. If the antenna or connection uses 300-ohm twin-lead cable, you must use an optional 300-ohm-to-75-ohm adaptor to make the connection.

If you would like to install any external source devices in your system, proceed to Step Four below. Otherwise, you are almost ready to begin enjoying your JBL Cinema Vision home theater system.

Step Four: You may wish to install additional components to your system. We recommend installing devices to the source input jacks labeled for the corresponding device type to benefit from both the pre-assignment of digital audio inputs, and the programming of the two remote controls.

Audio/video components require that both an audio and a video connection be made. The type of connection will depend on the capabilities of your component.

Audio connections may be analog or digital. We recommend using digital audio connections whenever possible for superior sound reproduction. You may also wish to make analog audio connections as a backup.

Video connections for most devices may be composite video (yellow jacks), S-video (four-pin connector) or component (Y/Pr/Pb – green, red and blue jacks) video. Choose only one type of video connection for each source component. Whenever possible, we recommend using component video connections for the best quality. S-video provides an excellent alternative, and composite video may be used when neither S-video or component video signals are available. As mentioned above, the CVR700 will upconvert each video format to the proper digital video format for the CVPD50. However, if you are using another display device, you will need to make a video monitor output connection to the display corresponding to each type of video format used by your source components.

NOTES:

- The input source selectors and their associated control codes on each of the two remotes are preprogrammed to operate only certain types of devices, as listed below, although you may connect any compatible audio/video device to any of the inputs. Although you may reprogram an input selector on the main remote control so that its device type matches the device you wish to connect, the secondary remote's input selectors may not be reprogrammed. Therefore, we recommend that you connect compatible devices to each source.

Input Source	Device Types Preprogrammed In Main Remote
AUX	TV, HD Tuner, VCR/Combo, DVD, CD, CABLE, SAT
VCR	VCR/Combo
CBL/SAT	CABLE, SAT, HD Tuner
GAME/ CAM	GAME, CAMCORDER
DR	DVDR, CDR, DVHS, TIVO, PVR
DVI/ COMP	DVI/DVD, DVI/CABLE, DVI/SAT, HD Tuner

- The analog and digital audio connections, as well as the composite, S-video and component video connections, are dedicated to each source input as labeled and may not be reassigned to another source. Be certain to make all of the connections for each source device to the correct jacks.

Cable/Satellite Source Input

Since the JBL Cinema Vision system does not include a TV tuner, you may wish to connect a cable TV box, satellite TV receiver, HDTV set-top tuner or another device capable of receiving TV broadcasts to the CVR700. This device should be connected to the Cable/Sat source input jacks. Select either the **Cable/ Satellite Coaxial Digital Audio Input** ㉓ or the **Cable/Satellite Optical Digital Audio Input** ㉘ for your digital audio connection. If desired, connect the analog audio outputs of the component to the **Cable/Satellite Analog Audio Inputs** ⑬. If available, connect the component video outputs of your device to the **Cable/Satellite Component Video Inputs** ⑱. Otherwise, connect either an S-video or composite video output from the component to the **Cable/Satellite Analog Video Inputs** ⑬.

NOTE: When using a source connected via the **Cable/Satellite Component Video Inputs** ⑱, due to limitations in the CVR700's audio section, it is necessary to also connect the corresponding

Cable/Satellite Analog S-Video Input ⓭ in order to view the CVR700's audio on-screen menu system.

Digital Recorder Source Input

If you have a personal video recorder (PVR), such as a TiVo, we recommend that you connect it to the Digital Recorder (DR) source input and output jacks. Alternatively, use the Digital Recorder source for a DVD Recorder, a CD recorder, a MiniDisc recorder, a tape deck or any other audio or A/V recording device. Select either the **Digital Recorder Coaxial Digital Audio Input** ㉕ or the **Digital Recorder Optical Digital Audio Input** ㉙ for your digital audio connection (but not both), and connect the appropriate digital audio output on the recorder to the corresponding digital audio input. If desired, connect the analog audio outputs of the recorder to the **Digital Recorder Analog Inputs** ❾.

For PVRs and DVD recorders, connect the component video outputs to the **Digital Recorder Component Video Inputs** ⓱. Note that there are no corresponding component video outputs, as copy-protection measures incorporated in most devices prohibit recording component video signals due to their high quality. Alternatively, you may connect the composite or S-video outputs of your recorder to the **Digital Recorder Analog S-Video Input** ❾, but note that a separate source is available for analog VCRs.

Connect either the **Coaxial Digital Audio Output** ㉑ or the **Optical Digital Audio Output** ㉖ to the corresponding record input on your recording device. If you also connect the **Digital Recorder Analog Audio Outputs** ❿ to the analog record inputs on your device, remember to select the correct input on your recorder.

Connect either the composite video or S-video **Digital Recorder Analog Video Output** ❿ to the corresponding record input on your recording device.

VCR Source Input

If you have an analog VCR or other analog recording device, we recommend that you connect it to the VCR source input and output jacks.

Connect the analog audio outputs of the recorder to the **VCR Analog Audio Inputs** ⓫. If available, connect the S-video output of your recorder to the **VCR Analog Video Input** ⓫. Otherwise, use the composite video jacks.

Next, connect the **VCR Analog Audio Outputs** ❶ to the analog audio record inputs on your recorder. Connect the same type of **VCR Analog Video Output** ❶ (composite or S-video) that you used for the input to the CVR700 to the record input of your device.

DVI/Computer Source Input

Due to its advanced video processing and reproduction capabilities, the JBL Cinema Vision system may be used with your personal computer (PC) for no-compromise video displays. A dedicated DVI (digital video interface) may be used with compatible computers to enjoy activities from video games to surfing the Internet. The large screen is perfect for displaying presentations to a group, or simply for providing a better view of an intricate spreadsheet. This source input may also be used with the latest compatible DVD players or other devices with high-quality DVI video outputs.

Select either the **DVI/Computer Coaxial Digital Audio Input** ㉕ or the **DVI/Computer Optical Digital Audio Input** ㉚ for connecting the corresponding digital audio output on your PC. Alternatively, or as a backup, connect the analog audio outputs on your PC to the **DVI/Computer Analog Audio Inputs** ❼. If your PC's analog audio output is a stereo 1/8-inch mini-jack, you will need to supply a Y-cable with a stereo 1/8-inch mini-plug at one end and conventional left and right analog audio interconnect plugs at the other.

Connect the video output port on your PC to the **DVI (HDCP)/Computer Video Input** ❻.

If your computer has an analog VGA video output instead of a DVI output, you may use the included VGA-to-DVI adaptor cable to connect the computer's video output to the **DVI (HDCP)/Computer Video Input** ❻.

NOTE: When using a source connected via the **DVI (HDCP)/Computer Video Input** ㉟, it is not possible to view the CVR700's video on-screen menu system. In addition, although you may access the audio menus, if you attempt to do so, you will temporarily lose the video signal at the DVI input. If the last previous source used provided an S-video signal, such as an external VCR, then that signal will appear when you attempt to access the on-screen menus while using the DVI/Computer source.

IMPORTANT: The Screen Saver function does not operate when using the DVI video input. Therefore, to prevent an image from burning into your CVPD50 screen, it is extremely important that you activate the Screen Saver function on your PC or other DVI device. If none is available, we recommend you place the CVPD50 screen in Sleep mode by pressing the **Screen Standby/Sleep Button** ㉟ ⚠19 on either remote when you anticipate that a still image will remain on screen for more than a few minutes.

A/V Auxiliary Source Input

An auxiliary audio/video source input is provided in case you have an additional component you'd like to connect to your JBL Cinema Vision system, such as an additional cable television box, satellite receiver, HDTV tuner, laserdisc player, or any other audio/video device. Do not connect a turntable to this input unless you are using it with a phono preamp with conventional analog audio outputs.

Connect the coaxial or optical digital audio output of the device to the **Auxiliary Coaxial Digital Audio Input** ㉒ or the **Auxiliary Optical Digital Audio Input** ㉗. As a backup, you may wish to connect the device's analog audio outputs to the **Auxiliary Analog Audio Inputs** ❽. If the device has composite or S-video outputs, connect one or the other to the corresponding **Auxiliary Analog Video Input** ❽.

Main Room Remote Control Extension

An infrared receiver located on the front of the CVPD50 is capable of receiving control commands for both the CVPD50 and the CVR700, enabling you to place the CVR700 inside a cabinet. If you wish to control an external source component that is also hidden from view, simply connect the CVR700's **Remote IR Output Jack** ⓯ to the Remote IR input jack on compatible equipment. Now you may simply point the remote control at the plasma screen to send commands to any device in your JBL Cinema Vision system.

If the CVR700 is used without the CVPD50 and is placed inside a cabinet or other location that prevents the remote sensor from receiving commands, an optional remote IR sensor may be connected to the **Remote IR Input Jack** ⓰.

NOTE: All remotely controlled components must be linked together in a "daisy chain." Connect the IR OUT jack of one unit to the IR IN of the next to establish this chain.

You are now ready to power up the system, make minor configuration settings, and then begin enjoying your JBL Cinema Vision system.

1. Plug the AC power cords for the CVPD50, CVR700 and any source devices into unswitched AC outlets. Make sure the master power switch on the underside of the CVPD50 (next to the power cord jack) is in the "1" position. Use a small mirror to locate the switch. The LED inside the **Main Power On/Off Switch** 1 on the CVR700 will turn red, indicating that the unit is in Standby mode. The LED on the front of the CVPD50 will turn amber, indicating that it, too, is in Standby mode.

NOTE: It is possible to see the LED on the front panel of the CVPD50 flashing red and yellow alternately even though you have unplugged the CVPD50's power cord. This is because the CVPD50 also receives power through its connection to the CVR700 in order to trigger turn-on when the CVR700 is powered on for seamless operation; this is normal. However, the CVPD50's power cord must be plugged in for proper operation; the LED will flash when the CVR700 is turned on to alert you that the power cord is unplugged. If the CVPD50 does not turn on when the CVR700 is powered up and the LED on the CVPD50 is not flashing red and yellow, then turn off both units, unplug them both from AC power, unplug the JBL Digital Link cable that connects them and then reconnect everything. If this does not resynchronize the components, contact your authorized JBL custom installer or dealer for assistance.

2. Remove the protective plastic film from the front-panel lens. If left in place, the film will affect the performance of your remote control.
3. Install the four supplied AAA batteries in the main remote as shown in Figure 5. Be certain to follow the (+) and (–) polarity indicators that are on the top of the battery compartment.

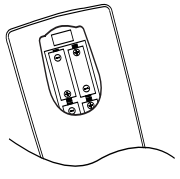


Figure 5

4. Press the **Main Power On/Off Switch** 1 2 ▲1 to turn on the CVR700 and the CVPD50.
5. The remote control contains several preprogrammed special functions that may be activated by pressing and holding particular buttons rather than pressing and releasing. One such function is the "All On/Off" power function. To turn on the CVR700, CVPD50 display screen, and other devices programmed into the remote, press and hold the **Power All On Button** 2 until all units turn on. The LED inside the CVR700's **Main Power On/Off Button** 1 will turn orange to confirm that the unit is on, and the **Information Display** 21 will also light. The CVPD50 will turn on and display the JBL logo screen.

Using the On-Screen Display

When making the following adjustments, you may find it easier to use the on-screen display system. These easy-to-read displays give you a clear picture of the current status of the unit and make it easy to see which selection you are making. To view the on-screen menus, make certain that you have made a connection to the CVPD50 from the **Output to JBL Cinema Vision CVPD50 Screen Port** 33 on the rear panel of the CVR700. The CVR700's on-screen menus are not available when a component video source device is in use unless the corresponding S-video connection has been made to the CVR700. The on-screen menus are not available at all when the **DVI (HDCP)/Computer Video Input** 35 is in use. If you attempt to use the on-screen menus, the DVI video input will be temporarily lost.

IMPORTANT NOTES:

- In order to access the on-screen menus for the CVR700's audio section, make sure the remote control is in System mode (NOT set to control an external source device or even the CVPD50 screen). To set the remote to System mode, press the **System Selector** 46 ▲3.
- Both the CVPD50 and CVR700 contain separate IR sensors that are capable of receiving commands from either remote control. JBL recommends that you point the remote at the CVPD50 screen for all commands, as the JBL Digital Link cable is able to pass remote commands to the CVR700 for system and DVD control, as well as to any other devices you have connected to the **Remote IR Output Jack** 15. However, video control commands received by the CVR700 cannot be passed to the screen.
- When viewing the on-screen menus, it is important that they not be left on the screen for an extended period of time. The constant display of a static image such as these menus or video game images is likely to cause the image to be permanently "burned into" the plasma screen. This type of damage is not covered by the JBL Cinema Vision warranty.

Making Configuration Adjustments

The on-screen menu system for the audio section is available by pressing the **OSD Button** 14 ▲6. When this button is pressed, the MAIN MENU (Figure 6) will appear, and adjustments are made from the individual menus. To use the on-screen menu system in the audio section of the CVR700, press the ▲/▼ **Navigation Controls** 17 ▲4 until the on-screen ▶ cursor is next to the item you wish to adjust, and then press the **Set Button** 19 ▲7 to select that item. In some cases, the selection will cause a new submenu to appear, and when the lowest level submenu has been reached, pressing the **Set Button** 19 ▲7 will select the item that the on-screen ▶ cursor is pointing to. Some settings in the ADVANCED submenu will require you to press the. ◀/▶ **Navigation Controls** 17 ▲5 to scroll through the available settings. Throughout this manual, when you are asked to "scroll" to a certain item, that means to use the ▲/▼ **Navigation Controls** 17 ▲4 until the on-screen ▶ cursor is next to the item.

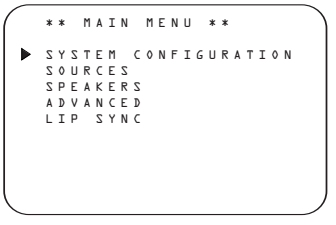


Figure 6

The menus will remain on the screen for 20 seconds, and then they will "time-out" and disappear from the screen. The time-out may be increased to as much as 50 seconds by going to the ADVANCED SETTINGS menu, and changing the item titled OSD TIME OUT.

Selections will also be shown in the **Upper Display Line** H or the **Lower Display Line** E, depending on which parameter is being adjusted. In general, the **Upper Display Line** H will indicate the name of the current menu and the **Lower Display Line** E, will indicate

the menu line or option that the on-screen ▶ cursor is currently pointing to. However, the ADVANCED submenu functions differently, in that the settings are adjusted directly on screen rather than by using submenus. At that time both the setting name and the currently selected setting will be displayed in the **Lower Display Line** E.

System Configuration

With the MAIN MENU on screen, make sure that the ▶ cursor is pointing to the SYSTEM CONFIGURATION line and press the **Set Button** 19 ▲. The SYSTEM menu (Fig. 7) will appear on screen, with the ▶ cursor pointing to the 5.1 CHANNEL line (the default setting). If your system consists of only front left, center and right speakers, two surround speakers and a subwoofer, scroll down to the BACK TO MAIN MENU line and press the **Set Button** 19 ▲. Otherwise, use the ▲/▼ **Navigation Controls** 17 ▲ to move the ▶ cursor to point to the desired system configuration; then press the **Set Button** 19 ▲. A confirmation screen (Fig. 8) will appear, giving you the opportunity to retain the previous setting. Select NO if you wish to retain the previous setting, or YES to update the setting.

```
     ** SYSTEM **

  SYSTEM

▶ 5.1 CHANNEL
  7.1 CHANNEL

  BACK TO MAIN MENU
```

Figure 7

```
      ** SYSTEM **

  ARE YOU SURE YOU
  WANT TO CHANGE
  SYSTEM CONFIGURATION
  TO 5.1?

▶ NO
  YES
```

Figure 8

Source Configuration

The SOURCES submenu enables you to configure both the internal DVD/CD changer and any external sources for digital audio inputs, audio surround mode, video input (for external sources only) and video screen aspect ratio (for external sources only).

With the MAIN MENU on screen, scroll down to the SOURCES line and press the **Set Button** 19 ▲. A confirmation screen (Figure 9) will appear, giving you the opportunity to opt out of source configuration. To continue, scroll to the YES line and press the **Set Button** 19 ▲ again. Note that you may reset all sources to their factory default settings from this screen by scrolling to the RESET ALL SOURCES line and selecting it.

```
      **  SYSTEM  **

  ARE YOU SURE YOU
  WANT TO CHANGE
  SOURCE SETTINGS?

▶ NO
  YES
  RESET ALL SOURCES
  TO FACTORY SETTINGS?
```

Figure 9

Once you have confirmed that you wish to change source settings, the SOURCES menu (Figure 10) will appear. The first line indicates the currently selected source.

```
      *  SOURCES  *
▶ SOURCE : DVD/CD CHNGR
  AUDIO MODE:
   DVD-V:LOGIC 7 7.1 MOV
   DVD-A:BASS MANAGEMENT
   CD-V:LOGIC 7 7.1 MOV
   CD-A:LOGIC 7 7.1 MUS
   MP3 WMA:LOGIC 7 7.1 MU
  SOURCE A.R.:AUTO 16:9
  RESET TO FACTORY SETTNG
  BACK TO MAIN MENU
```

Figure 10

If you wish to change the current source, or make adjustments to a different source, then make sure that the ▶ cursor is next to the SOURCE line, and select it by pressing the **Set Button** 19 ▲. A list of available sources will appear (Figure 11). Scroll to the desired source and select it, or to retain the previous source, scroll to the BACK TO SOURCES MENU line and select it.

```
      *  SOURCES  *
▶ CABLE/SAT
  DVD/CD CHANGER
  A/V AUX
  VCR
  DIGITAL RECORDER
  DVI INPUT/COMPUTER
  GAME/CAMERA
  TUNER

   BACK TO SOURCES MENU
```

Figure 11

For external sources, you may assign a digital audio input by scrolling to the AUDIO INPUT line and selecting from the analog audio input, or the coaxial or optical digital audio input assigned to that source (see Figures 12 and 13). This selection is not available for the internal DVD/CD changer, which internally passes its digital audio signal directly to the audio section of the CVR700.

```
      *  SOURCES  *
▶ SOURCE: GAME/CAMERA
  AUDIO INPUT:ANALOG
  AUDIO MODE:LOGIC 7
        TYPE:MOVIE 7.1
  NIGHT MODE:N/A
  VIDEO INPUT: COMPOSITE
  SOURCE A.R.: 16:9
  RESET TO FACTORY SETTING
  BACK TO MAIN MENU
```

Figure 12

```
     *AUDIO INPUT*

  ANALOG
  OPTICAL DIGITAL
  COAXIAL DIGITAL

   BACK TO SOURCES MENU
```

Figure 13

For most sources, you will want to assign a default surround audio mode. Refer to the chart on page 62 for descriptions of each available surround mode. You may temporarily change the audio mode assignments at any time during playback using the remote control. It is recommended that for initial setup you select Dolby Digital for digital audio sources, and Logic 7 for analog sources.

The internal DVD/CD changer enables you to program an audio mode for each type of disc, thus empowering you to choose two-channel stereo reproduction for older two-channel CD recordings, Dolby Digital for video DVDs, and Logic 7 matrix surround processing for analog Video CD programs.

With the SOURCES menu on screen and the DVD/CD changer source selected, scroll down to the AUDIO MODE menu (Figure 14).

```
     * AUDIO MODE *

▶ DVD AUDIO
  CD VIDEO
  CD AUDIO
  MP3 WMA

  BACK TO AUDIO MODE MENU
```

Figure 14

The options available for the DVD-Audio disc audio modes differ from the other disc types because the DVD-Audio format outputs 5.1-channel audio that is not subject to further surround processing. However, as indicated by the available options shown in Fig. 15, you may select whether to pass the audio output directly to the speakers without any bass management processing (DIRECT), or you may select the BASS MANAGEMENT

mode, which passes the digital audio to the CVR700's processor so that low-frequency portions of the audio may be steered to the appropriate speakers depending on the capabilities of your specific speakers. If you are using the JBL Cinema Vision speaker system, you may leave the DVD-Audio disc audio mode at the default **BASS MANAGEMENT** setting. If you are using other speakers, you should select **DIRECT**, and make sure to configure your speakers using the **SPEAKERS** submenu as described on page 48.

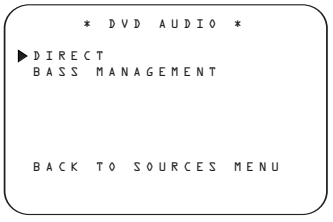


Figure 15

The available audio modes for DVD - Video, audio CD, Video CD and compressed audio discs are reflected in Figure 16. Note, however, that the options shown each encompass a suite of surround modes. Although a more complete explanation of the available surround modes may be found on page 62, the **DOLBY** surround mode submenu serves as a good example (Figure 17). Note that some modes may not be available, depending on how you set your system configuration in the **SYSTEM** submenu above (Figure 7). For example, the **DIGITAL EX**, **PL IIx MOVIE 7.1** and **PL IIx MUSIC 7.1** modes are only available for 7.1-channel systems. In addition, the **DIGITAL 5.1** and **DIGITAL EX** modes are only available when source materials that are encoded in the Dolby Digital 5.1 or Dolby Digital EX format are actually playing.

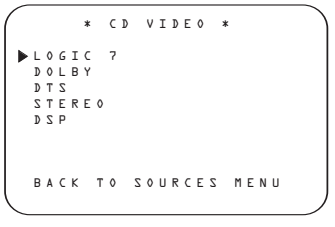


Figure 16

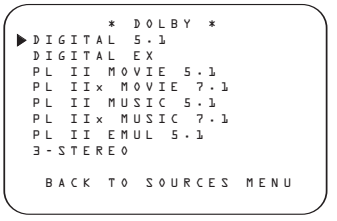


Figure 17

Although you are encouraged to experiment with the various audio surround modes as you become more familiar with your system, at this time it is recommended that you select Logic 7 Cinema (Movie) for DVD-Video and VCD discs, and for video sources such as cable television, and Logic 7 Music for audio CDs, MP3s, WMAs, the AM/FM tuner and other audio-only sources to complete the setup process. Select the 7.1 version if your system is in 7.1-channel operation, or the 5.1 version if you are using 5.1-channel operation.

Note that the audio mode setup for DVD-Video discs is slightly different than for the other disc types. With the **SOURCES** menu (Figure 10) on screen, instead of scrolling to the **AUDIO MODE** line as for the other disc types, continue scrolling until the ▶ cursor is next to the **DVD-V** line and select it. The **DVD VIDEO** submenu (Figure 18) will appear. Although audio mode selection is similar to the other disc types, the sub mode (e.g., Music 7.1 for Logic 7) is displayed separately on the **TYPE** line.

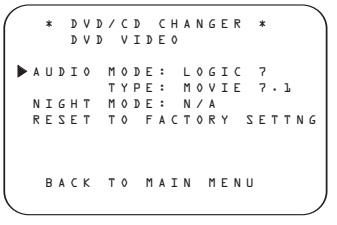


Figure 18

The **DVD VIDEO** submenu (Fig. 18) also enables you to adjust the Night Mode setting. The Night Mode setting may be accessed directly from the **SOURCES** menu (Figure 12) for other source inputs. The Night mode is a feature of Dolby Digital that preserves the dynamic range and full intelligibility of a movie soundtrack while reducing the peak level. This prevents abruptly loud transitions from disturbing others, without reducing the sonic impact of a digital source. The Night mode is only available when specially encoded Dolby Digital signals are played, which are only found on DVD-Video (or DVD-Audio) discs. To adjust the Night mode setting, make certain that the ▶ cursor is on the **NIGHT** line. Next, press the ◀/▶ **Navigation Controls** (17) (6) to choose between the following settings, as they appear in the **Lower Display Line** (E):

OFF: When OFF is highlighted, the Night mode will not function.

MEDIUM COMPRESSION: A mild compression will be applied, when **MEDIUM COMPRESSION** is highlighted.

MAXIMUM COMPRESSION: When **MAXIMUM COMPRESSION** is highlighted, a more severe compression algorithm will be applied.

We recommend that you select the **MEDIUM** setting as a starting point and change to the **MAXIMUM** setting later, if desired. The Night mode may also be adjusted directly any time a Dolby Digital source is playing by pressing the **Night Mode Button** (36) (14). When the button is pressed, **D-RANGE** will appear in the lower third of the video screen and in the **Lower Display Line** (E). Press the ▲▼ **Navigation Controls** (17) within 3 seconds to select the desired setting.

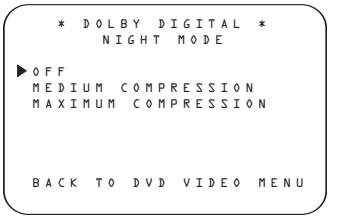


Figure 18a

No additional adjustments are available for the internal DVD/CD changer, as the **SOURCE A.R.** line of Figure 10 is automatically set to **16:9** and may not be adjusted.

However, the video input and aspect ratio (video screen) for external sources may be adjusted. Scroll to the **VIDEO INPUT** line to select a composite video, S-video, or for the CABLE/SAT, DIGITAL RECORDER and GAME/CAMERA sources only, a component video input for each external source. In addition, scroll to the **SOURCE A.R.** line to specify whether the source uses a 16:9 or 4:3 aspect ratio, or select auto detection.

The **SOURCES** menu also contains a **RESET TO FACTORY SETTINGS** line that allows you to

reset that source to the factory default settings.

Speaker Configuration

It is important to make sure that the CVR700 is correctly configured for your speakers so that low frequency portions of the audio program will be steered to the appropriate loudspeakers (this is called bass management). Speaker configuration also ensures that there are no time delay artifacts caused by the speakers being placed at varying distances from the listening position. And it is in this section that the output levels are adjusted to ensure that all speaker channels are balanced, preserving the directionality and dynamism of the original recording.

If you are using JBL Cinema Vision loudspeakers, you will be able to skip some of these settings, as the CVR700 has been preprogrammed at the factory to accommodate your speakers. However, you will need to program the distances and speaker output levels to conform to your specific listening room.

With the MAIN MENU (Figure 6) on screen, scroll to the SPEAKERS line and select it, and the confirmation screen (Figure 19) will appear, allowing you an opportunity to retain the previous settings. Note that the RESET line indicates that all sources will have their speaker settings reset if you choose the reset option. Speaker settings are global, and only need to be set once, unless you change the BASS MGR line in the SPEAKER CONFIGURATION submenu (Fig. 21) to INDEPENDENT. Select YES to change the speaker settings and continue to the SPEAKERS submenu (Figure 20).

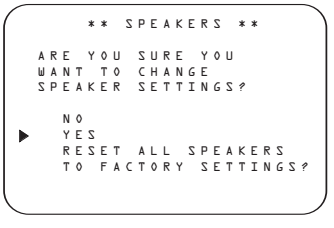


Figure 19

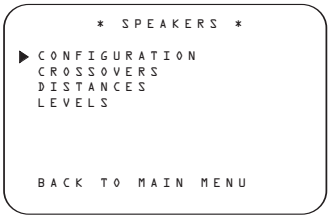


Figure 20

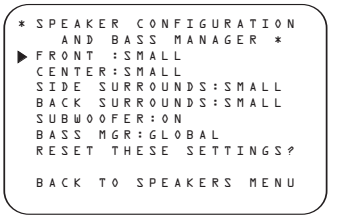


Figure 21

Configuring Speaker Sizes

The first step is to configure speaker sizes. You may skip this step if you are using JBL Cinema Vision speakers at all positions. If you are using other model or brand loudspeakers, you should NOT skip this menu. Scroll to the CONFIGURATION line and select it to display the SPEAKER CONFIGURATION AND BASS MANAGER submenu (Figure 21). For each of these settings, use the LARGE setting if the speakers for a particular position are traditional full-range loudspeakers. Use the SMALL setting for smaller, frequency-limited satellite speakers that do not reproduce sounds below 200Hz. Note that when "small" speakers are used, a subwoofer is required to reproduce low-frequency sounds. Remember that the "large" and "small" descriptions do not refer to the actual physical size of the speakers, but to their ability to reproduce low-frequency sounds. If you are in doubt as to which category describes your speakers, consult the specifications in the speakers' owner's manual, or ask your dealer.

The factory default sets all channels to SMALL, except for the BACK SURROUNDS, which are set to NONE, as the factory default system configuration is for a 5.1-channel system.

NOTE: This setting is not affected by changing the System Configuration setting (see Figure 7). In order to benefit from full 7.1-channel operation, you must change both the System Configuration setting and you must enable the Back Surround speakers in the SPEAKER CONFIGURATION AND BASS MANAGER submenu (Figure 21).

Begin the speaker setup process by making certain that the cursor is pointing at the FRONT line, which sets the configuration for the front left and right speakers. If you wish to make a change to the front speakers' configuration, press the ◀/▶ **Navigation Controls** ⑰ ⑥ so that either LARGE or SMALL appears, matching the appropriate description from these definitions:

When SMALL is selected, low-frequency sounds will be sent only to the subwoofer output. If you choose this option and there is no subwoofer connected, you will not hear any low-frequency sounds from the front channels.

When LARGE is selected, a full-range output will be sent to the front left and front right outputs. Only LFE-channel information will be directed to the subwoofer.

When you have completed your selection for the front channel, press the ▲/▼ **Navigation Controls** ⑰ ④ to move the cursor to CENTER. Press the ◀/▶ **Navigation Controls** ⑰ ⑥ to select the option that best describes your system, based on these speaker definitions:

When SMALL is selected, low-frequency center channel sounds will be sent only to the subwoofer output. If you choose this option and there is no subwoofer connected, you will not hear low-frequency sounds from the center channel.

When LARGE is selected, a full-range output will be sent to the center speaker output, and NO center channel signal will be sent to the subwoofer output.

NOTE: If you choose Logic 7 as the surround mode for the particular input source for which you are configuring your speakers, the CVR700 will not make the LARGE option available for the center speaker. This is due to the requirements of Logic 7 processing, and does not indicate a problem with your receiver.

When NONE is selected, no signals will be sent to the center channel output. The receiver will operate in a "phantom" center channel mode and center channel information will be sent to the left and right front channel outputs.

When you have completed your selection for the center channel, press the ▲/▼ **Navigation Controls** ⑰ ④ to move the cursor to SIDE SURROUNDS. Press the ◀/▶ **Navigation Controls** ⑰ ⑥ to select the option that best describes the surround speakers in your system based on these speaker definitions:

When SMALL is selected, low-frequency surround channel sounds will be sent to the subwoofer output only. If you choose this option and there is no subwoofer connected, you will not hear any low-frequency sounds from the side surround channels.

When LARGE is selected, a full-range output will be sent to the side surround channel outputs, and NO surround channel

signals will be sent to the subwoofer output.

When NONE is selected, surround sound information will be split between the front left and front right outputs. For optimal performance when no surround speakers are in use, the Dolby 3 Stereo mode should be used.

When you have completed your selections for the side surround channels, press the ▲/▼ **Navigation Controls** ⑰ ④ to move the cursor to BACK SURROUNDS. Press the ◀/▶ **Navigation Controls** ⑰ ⑥ to select the option that best describes the speakers in use at the left and right back surround positions based on these definitions:

When NONE is selected, the system will adjust so that only 5.1-channel surround processing/decoding modes are available and the surround back amplifier channels will not be used. This setting will override any setting made previously in the SYSTEM CONFIGURATION submenu (Figure 7).

When SMALL is selected, the system will adjust so that the full complement of 6.1/7.1 surround processing/ decoding modes are available, and low-frequency information below the crossover point will be sent to the subwoofer output. If you choose this option and there is no subwoofer connected, you will not hear any low-frequency sounds from the surround back channels.

When LARGE is selected, the system will adjust so that the full complement of 6.1/7.1 surround processing/decoding modes are available, and a full-range signal will be sent to the surround back channels, with no low-frequency information sent to the subwoofer output.

When you have completed your selection for the back surround channels, press the ▲/▼ **Navigation Controls** ⑰ ④ to move the cursor to SUBWOOFER. Press the ◀/▶ **Navigation Controls** ⑰ ⑥ to select the option that best describes your system. The choices available for the subwoofer position will depend on the settings for the other speakers, particularly the front left/right positions. If the front left/right speakers are set to SMALL, the subwoofer will automatically be set to ON. If the front left/right speakers are set to LARGE, two options are available:

- If no subwoofer is connected to the CVR700, press the ◀/▶ **Navigation Controls** ⑰ ⑥ so that OFF appears in the on-screen menu. When this option is selected, all bass information will be routed to the front left/right "main" speakers.
- If a subwoofer is connected to the CVR700, you have the option to have the front left/right "main" speakers reproduce bass frequencies at all times, and have the subwoofer operate only when the CVR700 is being used with a digital source that contains a dedicated low-frequency effects, or LFE soundtrack. This allows you to use both your main and subwoofer speakers to take advantage of the special bass sounds created for some movies. Note, however, that the subwoofer will only play the LFE information. Press the ◀/▶ **Navigation Controls** ⑰ ⑥ so that ON appears in the on-screen menu.

The BASS MGR setting allows you to use the same speaker configuration settings for all inputs, or to have different settings for each input. In most cases, the factory default setting of GLOBAL will be appropriate, as most listeners do not need to have individualized speaker settings. However, some listeners, particularly those with full-range front speakers that are used for both movies and music, may prefer that different bass management settings be used when listening to music through a CD player as opposed to a movie from a DVD player, VCR or cable/satellite set-top.

Use the ◀/▶ **Navigation Controls** ⑰ ⑥ to change this setting to INDEPENDENT. You may now change the source input and return to the SPEAKER CONFIGURATION menu and adjust the speaker sizes to suit the source.

Speaker Crossover Configuration

When all initial speaker "size" settings have been made, you now have the option to take advantage of the CVR700's Quadruple Crossover system, which allows individual crossover settings to be made for each speaker grouping. Again, if you are using JBL Cinema Vision loudspeakers, you may skip this submenu, as the factory default settings are appropriate for your speakers.

The low-frequency crossover point is set by the design of your speakers. Depending on the design and driver complement of your speakers, it is usually the lowest possible frequency the speaker is capable of reproducing, but it may be different for speakers that include a powered woofer section intended to reproduce the LFE channel. Before making any changes to the settings for the crossover point, we suggest that you find the crossover point for the speakers in each of the four groupings, front left/right, center front, side surround and back surround, by looking at the specifications page of each speaker's owner's manual, by getting that information from the manufacturer's Web site, or by contacting your dealer or the manufacturer's customer service department. You will need this figure to accurately configure the next group of settings.

Note that when any speaker group other than the front left/right speakers is set to LARGE, the crossover may not be adjusted, as the feed will be full-range, with no sound being derived for the subwoofer at that position. The factory default setting for all speaker positions is 90Hz. To change one of the settings, return to the SPEAKERS submenu (Figure 20), and then scroll to the CROSSOVERS line and select it. The SPEAKER CROSSOVERS submenu (Figure 22) will be displayed. To change the setting for any of the four speaker groups, press the ▲/▼ **Navigation Controls** ⑰ ④ until the cursor is next to the speaker group where you wish to make a change and then press the ◀/▶ **Navigation Controls** ⑰ ⑥ until the desired setting appears. The available choices for low-frequency information to be sent to the subwoofer, rather than to the main speaker channel, are 40Hz, 60Hz, 80Hz, 90Hz, 100Hz, 120Hz and 200Hz. Pick the choice that is identical to the information for your speakers, or if an exact match is not possible, pick the closest choice that is ABOVE the speaker's low-frequency limit or crossover point to avoid the creation of a low-frequency "hole" where your system will have no bass information. The setting for the crossover point for the LFE channel, which is created to provide specific low-frequency information in many movies with digital soundtracks, may be set to match the crossover for any of the four speaker groups. Since the crossover point commonly used in the creation of the LFE channel SUBWOOFER is 120Hz, we recommend that you select the speaker group whose crossover point is closest to 120Hz. To do this, press the ▲/▼ **Navigation Controls** ⑰ ④ until the

cursor is next to the SUBWOOFER line, and then press the ◀/▶ **Navigation Controls** ⑰ 6 until the name of the speaker group with the desired crossover frequency appears. Of course, you may also experiment with different settings to find the one that provides the smoothest and most complete bass response in your particular listening environment.

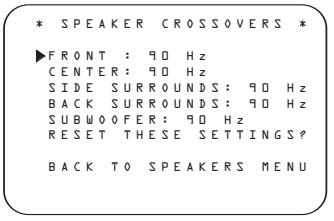


Figure 22

Speaker Distances

Due to the different distances between the listening position and each speaker position, the amount of time it takes for sound to reach your ears from each channel is different. You may compensate for this difference through the use of the distance settings to adjust the timing for the speaker placement and acoustic conditions in your listening room or home theater. The CVR700's advanced software enables you to quickly and easily set delay times without the need to calculate them using a complex formula. Instead, all you need to do is measure the approximate distance between your listening position and each of the speakers in your system. When you enter those distances into the CVR700's memory as shown below, the CVR700's microprocessor does the rest of the work, calculating the proper delay time. The measurements need not be accurate to the inch, as the system is designed to accommodate a typical listening area rather than require the precise measurement to one "sweet spot" position.

Due to the differences between the way surround modes operate, some modes allow for a greater range of delay times than others. To avoid problems, we recommend that delay times be adjusted using the Dolby Digital mode. It may be necessary to play a Dolby Digital disc so that the CVR700 can process the signal and make the DISTANCES submenu accessible. If a different mode is selected at a later time, the CVR700 will automatically select the closest delay settings available for the surround mode in use.

Delay times are adjustable only for the Dolby and DTS modes, so you will notice that the DISTANCES menu may not be accessed for other modes, such as Logic 7. In addition, when a non-Dolby Digital mode such as Dolby 3 Stereo or Dolby Pro Logic II is selected, adjustments may be made to the Surround speakers only. To set the delay time for a specific input, you will need to access the SPEAKER DISTANCES submenu (Figure 23). With the SPEAKERS submenu (Figure 20) on screen, scroll down to the DISTANCES line and select it. Note that this line will not be available if the audio surround mode for the current source was not set to a Dolby mode. You may need to return to the SOURCES submenu (Figure 10) and select a Dolby audio mode before adjusting the distance settings.

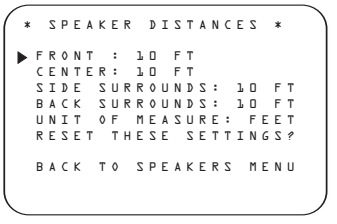


Figure 23

Once the SPEAKER DISTANCES submenu (Figure 23) is on your screen, note that the default unit of measure for distance settings is feet. If your measurements are in feet, proceed to the next step; if your measurements are made in meters, press the ▲/▼ **Navigation Controls** ⑰ 4 until the on-screen ▶ cursor is at the UNIT OF MEASURE line on the menu. Then, press the ◀/▶ **Navigation Controls** ⑰ 6 so that METER is highlighted. When the change in measurement units is made, press the ▲/▼ **Navigation Controls** ⑰ 4 to return the ▶ cursor to the FRONT position. With the on-screen ▶ cursor pointing to FRONT, press the ◀/▶ **Navigation Controls** ⑰ 6 until the distance from the front left and right speakers to the preferred listening position is entered. Next, scroll down to the CENTER line and enter the distance from the main listening position to the center speaker. Repeat the procedure for all active speaker positions. Note that only the speaker positions that have been set to LARGE or SMALL in the SPEAKER CONFIGURATION submenu (Figure 21) may be adjusted. The appearance of five dashes next to a speaker position in place of a distance setting indicates that you have not configured an active speaker for that location.

When the delay time for all speaker positions has been set you may return to the master menu by scrolling to BACK TO MASTER MENU and then pressing the **Set Button** ⑲ 7 . However, if you have a digital video source or a digital video display that causes lack of lip sync you may use the Lip Sync adjust feature to delay the audio signal as it is sent to all channels (as opposed to the individual settings) so that the picture and sound are brought back together. That adjustment is available in the LIP SYNC submenu of the MAIN MENU, and will be described on page 53.

Output Level Adjustment

Output level adjustment is a key part of the configuration of any surround sound product. It is particularly important for a digital system such as JBL Cinema Vision, as correct outputs ensure that you hear soundtracks with the proper directionality and intensity.

IMPORTANT NOTE: Listeners are often confused about the operation of the surround channels. While some assume that sound should always be coming from each speaker, most of the time there will be little or no sound in the surround channels. This is because they are only used when a movie director or sound mixer specifically places sound there to create ambience, a special effect or to continue action from the front of the room to the rear. When the output levels are properly set, it is normal for surround speakers to operate only occasionally. Artificially increasing the volume to the rear speakers may destroy the illusion of an enveloping sound field that duplicates the way you hear sound in a movie theater or concert hall.

Before beginning the output level adjustment process, make certain that all speaker connections have been properly made. The system volume should be set to the level that you will use during a typical listening session. While the CVR700 allows you to set output levels manually, we recommend that the EzSet system be used when the CVR700 is first installed to establish the initial level settings.

Using EzSet

The JBL Cinema Vision EzSet (main) remote makes it possible to quickly and accurately set the output levels without the use of a sound-pressure meter, although manual adjustment is also available. However, for the easiest setup, follow these steps while seated in the listening position that will be used most often:

1. Make certain that all speaker positions have been properly configured for their "large" or "small" settings and turn off the OSD system if it is in use.
2. Adjust the volume so that it is at –2dB, as shown in the on-screen display or **Lower Display Line** E.
3. Press and hold the **SPL Button** 10 until the red LED under the **SPL Button** 10 lights and the LCD screen in the remote changes to the display shown in Figure 24. (You may also navigate to the screen shown in Figure 24 by pressing and holding the **Remote Menu Button** 38 for 3 seconds until the main remote menu appears; then scroll to the SET SPKR LEVELS option and press the **Set Button** 19.)

```
SET SPKR LEVELS
EzSet                    ▲
```

Figure 24

4. Press the **Set Button** 10 within 5 seconds so that the screen shown in Figure 25 appears. Press the ▲/▼ **Navigation Controls** 17 until the lower line of the remote's LCD display shows the number of speakers in your system. (Don't count the subwoofer.) For example, if you have left, center, right, side surround left and right, and back surround left and right speakers for a full 7.1 system, press the button twice so that the bottom line reads 7 CHANNELS, as shown in Fig. 25.

```
SELECT # SPKRS
7 CHANNELS               ▲
```

Figure 25

5. Hold the remote in front of you at arm's length, being sure not to cover the EzSet Microphone Sensor at the top of the remote, and press the **Set Button** 10 within 5 seconds to begin the EzSet calibration process. At this point, EzSet will take control of your system, starting the test tone at the front left speaker, and automatically adjusting the output level so that it is correct. During the adjustment, the **Lower Display Line** E will display the speaker position on the left side of the display and the offset from reference level on the right side of the display. As the levels are adjusted, the speaker position and a level indication will appear in the bottom line of the remote's LCD display (Figure 26).

```
EzSet CHANNELS: 7
SPEAKER:1  68dB
```

Figure 26

- The channel position being adjusted will flash in the **Speaker/Channel Input Indicators** F. If the test noise is heard from a channel other than the one shown in the indicator, there is an error in the speaker connections. If this is the case, press the **Remote Menu Button** 38 to stop the adjustment. Then turn the unit off and verify that all speakers are connected to the proper **Speaker Outputs** 1234.
- During the adjustment process for each channel, you will see indications of LOW, HIGH and a level readout in dB. This is normal, and it confirms that EzSet is doing its job of changing the levels to match the desired reference.
- If a channel cannot be adjusted to the proper reference level, you will see FAIL displayed in the remote's bottom LCD line before the test tone moves to the next channel. This is usually an indication that the volume control was set too low. When EzSet stops circulating the tone through all channels and returns to normal, adjust the volume level and repeat the procedure from Step 3.

6. After the test noise has circulated once through each channel, it will send the tone to each channel once again, to verify the settings.
7. After two complete circulations of the tone, the levels are set. Upon completion of the second circulation, the **LCD Information Display** 3 will flash COMPLETE four times and then go out. The tone will stop and the CVR700 will return to normal operation.

   If you find that the output levels chosen by EzSet are either uncomfortably low or high, you may repeat the procedure. Return to Step 2 and adjust the master volume either slightly higher or lower to accommodate your particular room layout and your tastes. You may repeat this procedure as many times as necessary to achieve a desired result. In order to prevent possible damage to your hearing or your equipment, it is important to avoid setting the master volume above 0dB.

NOTE: The subwoofer output is not adjusted when the test tone is in use. To adjust the subwoofer output, you must use an external source, following the instructions on page 64.

Manual Output Level Adjustment

Output levels may also be adjusted manually, either to set them to a specific level with an SPL meter, or to make fine tuning adjustments to the levels obtained using the EzSet remote. In order to adjust the subwoofer's output level, you must use the manual adjustment method.

Manual output level adjustment may be performed using either the on-screen SPEAKER LEVELS submenu, or using the main remote control.

Using the On-Screen Menu System

With the SPEAKERS submenu on screen, scroll down to the LEVELS line and press the **Set Button** 19 ▲7. The SPEAKER LEVELS submenu (Figure 27) will appear. All of the values should be set at 0 dB. If not, you may wish to scroll down to the RESET THESE SETTINGS line and press the **Set Button** 19 ▲7 effect the reset.

```
  * SPEAKER LEVELS *
▶ FRONT LEFT      : 0 dB
  CENTER          : 0 dB
  FRONT RIGHT     : 0 dB
  SIDE SURR RIGHT: 0 dB
  BACK SURR RIGHT: 0 dB
  BACK SURR LEFT  : 0 dB
  SIDE SURR LEFT  : 0 dB
  SUBWOOFER       : 0 dB
  RESET THESE SETTINGS?
  TEST TONE       : OFF
  BACK TO SPEAKERS MENU
```

Figure 27

Scroll down to the TEST TONE line and use the ◀/▶ **Navigation Controls** 17 ▲6 so that ON appears. The internal test tone will begin to circulate from speaker to speaker in a clockwise direction and will be heard from all speakers in turn, playing for two seconds in each speaker before continuing, and a blinking on-screen cursor will appear next to the name of each speaker location when the sound is at that speaker.

Alternatively, you may leave the test tone turned off and play a favorite piece of program material, such as a CD music selection or a DVD movie. With the SPEAKER LEVELS submenu on screen you will be able to adjust the output levels using the source material as a reference.

NOTE: Remember to verify that the speakers have been properly connected. As the test noise circulates, listen to make certain that the sound comes from the speaker position shown in the **Lower Display Line E**. If the sound from a speaker location does NOT match the position indicated in the display, stop the test tone by pressing the **Test Tone Button 8** twice, then turn the CVR700 off using the **Main Power Switch 1** and check the speaker wiring to make certain that each speaker is connected to the correct output terminal.

After checking for speaker placement, let the test noise circulate again, and listen to see which channels sound louder than the others. Using the front left speaker as a reference, press the ◀/▶ **Navigation Controls 17** to bring all speakers to the same volume level. When the ◀/▶ **Navigation Controls 17** are pressed, the test noise circulation will pause on the channel being adjusted to give you time to make the adjustment. When you release the button, the circulation will resume after 5 seconds. Continue to adjust individual channels until the volume level sounds the same from each speaker. Adjustments should be made with only the ◀/▶ **Navigation Controls 17**, NOT the main volume controls.

If you are using a sound-pressure level (SPL) meter for precise level adjustment, set the volume so that the meter reads 75dB on the C-Weighting, Slow scale.

Using the Remote as an SPL Meter

The EzSet feature on the main remote may also be used as an SPL meter to assist in accurate setting of the output levels, when either the internal test tone or favorite source material, such as a test disc, is used. To use the remote as an SPL meter, follow these steps:

1. Press and hold the **SPL Select Button 10** until the red LED under the **Set Button 19** lights and the LCD screen in the remote changes to the display shown in Figure 24. (You may also navigate to the screen shown in Figure 24 by pressing and holding the **Remote Menu Button 38** for 3 seconds until the main remote menu appears; then scroll to the SET SPKR LEVELS option and press the **Set Button 19**.)
2. Press the ▲/▼ **Navigation Controls 17** to change the bottom line of the remote's LCD display to read MANUAL SPL as shown in Figure 28.

```
SET SPKR LEVELS
MANUAL SPL                ▲
```

Figure 28

3. Press the **Set Button 19** within 5 seconds to activate the remote's manual mode, so that it functions as an SPL meter. The right corner of the bottom line of the remote's display will show the output level of the speakers as the test tone circulates. The level will show as a direct SPL indication between 66dB and 79dB. Below 66dB the remote will read LOW and above 79dB it will read HIGH.
4. When all channels have an equal volume level, the adjustment is complete. When you are finished with all adjustments, press the **Test Tone Button 8** to return the remote to normal operation. The word EXITING will blink four times, and the remote will switch to the DVD/MAIN mode.

NOTE: The subwoofer level is not adjustable when the normal test tone is in use. The subwoofer output level may be adjusted when the channel levels are being trimmed to a program source rather than the test tone.

The output levels may also be adjusted at any time using the remote control and front-panel display. To adjust the output levels in this fashion, press the **Test Tone Button 8**. As soon as the button is pressed, the test tone will begin to circulate as indicated earlier. The correct channel from which the test noise should be heard will be shown in the **Lower Display Line E**. While the test noise is circulating, the proper channel position will also be indicated in the **Speaker/ Channel Input Indicators F** by a blinking letter within the correct channel. To adjust the output level, press the ▲/▼ **Navigation Controls 17** until the desired level is shown in the display. Once the buttons are released, the test noise will begin to circulate again in 5 seconds. When all channels have the same output level, press the **Test Tone Button 8** again to complete the process.

NOTE: Output level adjustment is not available for the Surround Off mode.

Advanced Settings

The ADVANCED SETTINGS submenu (Figure 29) may be accessed from the MAIN MENU (Figure 6). It contains some additional settings that will enhance the convenience of the CVR700. It is not necessary to make these adjustments during the initial setup, and you may skip this section, returning to it later when you have more experience with the system.

```
   * ADVANCED SETTINGS *
▶ FRNT PNL BRGHTNESS:FULL
  VOLUME DEFAULT     :ON
  VOL DEFAULT LEVEL  :-25
  MAIN MENU TIMEOUT  : 20
  FAN: MINIMUM NOISE
  RESET ALL OF THE ABOVE
  TO FACTORY SETTINGS?
  BACK TO MAIN MENU
```

Figure 29

Front-Panel Brightness

The CVR700's front-panel displays and indicators are set at a default brightness level that is sufficient for viewing in a normally lit room. However, you may wish to occasionally lower the brightness of the display, or turn it off completely. The FRNT PNL BRGHTNESS setting defaults to full brightness, but you may adjust it to dim the display to half brightness, or turn the display off altogether. The LED inside the **Main Power On/Off Button 1** will always remain lit to remind you that the unit is turned on. The setting is temporary, and will only remain in effect until the unit is turned off.

Volume Default

As is the case with most audio/video receivers, when the CVR700 is turned on, it will always return to the volume setting in effect when the unit was turned off. However, you may prefer to always have the CVR700 turn on at a specific setting, regardless of what was last in use when the unit was turned off. The VOLUME DEFAULT feature may be turned on or off. The factory default setting is OFF. To set the feature, first turn the OSD system off and adjust the system volume to the desired default turn-on level. This level will be displayed on the front panel as a negative offset from the reference volume of 0dB, which is the system maximum. For example, you may find a level of –25dB to be a comfortable default turn-on volume. Make a note of this number, as you will not be able to adjust the volume from within the ADVANCED SETTINGS submenu.

Next, press the **OSD Button 14** to display the MAIN MENU, and then scroll to the ADVANCED line and select it to display the ADVANCED SETTINGS submenu (Figure 29). Scroll down to the VOLUME DEFAULT line and set it to ON.

Scroll down one more line to the VOL DEFAULT LEVEL line, and use the **Navigation Controls** 17 ▲4 ◀6 to select the setting you chose above as a comfortable default turn-on volume. Press the **Set Button** 19 ▲7 to enter your selection into memory. Your setting will be retained, even after the unit is powered off.

Main Menu Time-Out

The OSD menu system is used to simplify the setup and adjustment of the CVR700 by using a series of on-screen menus. The factory default setting for these menus leaves them on the screen for 20 seconds after a period of inactivity before they disappear from the screen (Time-Out). Time-Out is a safety measure to prevent image retention of the menu text in your video display, which might happen if it were left on indefinitely. This is of particular concern for plasma displays such as the CVPD50. However, some viewers may prefer a slightly longer or shorter period before the on-screen display disappears.

With the ADVANCED SETTINGS submenu on screen, scroll down to the OSD TIMEOUT line. Use the ◀/▶ **Navigation Controls** 17 ◀6 to select a timeout period of 20, 30, 40 or 50 seconds. Your selection will be retained even after the unit is powered off.

NOTE: The CVR700 and CVPD50 also use a screen saver function as an additional safety measure to prevent burnout, which may even occur if the CVPD50's own start-up display is left on screen for too long a period of time. After 2 minutes during which no on-screen movement is detected, the screen saver will appear. Simply press any key on either remote or on the CVR700's front panel to wake the system and return it to normal operation. The screen saver time-out is not adjustable. **Important:** The screen saver is not available for devices connected to the DVI/Computer source input, due to the nature of the digital video interface. It is essential that you program your computer or other DVI source device to enter the screen saver mode to prevent burnout of the CVPD50 screen.

Fan Speed

The CVR700's 700 watts of amplification generate a significant amount of heat that must be dissipated in order to prevent damage to delicate electrical components that could shorten the unit's useful life, or even lead to failure. For this reason, it is extremely important to place the CVR700 in a location with adequate ventilation, and several inches clearance on the top and sides.

The CVR700 is equipped with a fan to provide cooling. The fan is always turning at one of three speeds, depending upon the setting you choose for the FAN line of the ADVANCED SETTINGS submenu.

The default setting is MINIMUM NOISE. At this setting, the fan will turn at its slowest speed when the volume is set below –20dB, and slightly faster at a medium speed whenever the volume is –20dB or higher. This intelligent cooling scheme minimizes distracting fan noise while maintaining proper operating temperatures.

You may choose the MAXIMUM COOLING setting instead. At this setting, the fan runs at full speed at all times. This setting is recommended when the CVR700 is placed inside a cabinet.

ADVANCED SETTINGS submenu settings may be reset to their factory defaults by scrolling to the RESET ALL OF THE ABOVE TO FACTORY SETTINGS? line and pressing the **Set Button** 19 ▲7 .

Lip Sync

In addition to adjusting the delay time for each individual speaker position, the CVR700 allows you to adjust the delay for the combined output of all speakers as a group. This feature is called Lip Sync Delay; it allows you to compensate for delays to the video image that may be caused by the processing in products such as digital video displays, video scalars, digital cable or satellite systems, or personal video recorders. With proper adjustment of the setting for Lip Sync Delay, you can eliminate the loss of lip sync that may be caused by digital video applications.

When the CVR700 is used with the CVPD50 plasma display, the delay due to video processing is a known factor, and the default Lip Sync delay time of 50ms should be retained. However, if you are using the CVR700 with another display, or if you are experiencing lip sync problems with an external source, you may wish to adjust the delay time.

With the MAIN MENU (Figure 6) on screen, scroll down to the LIP SYNC line and select it by pressing the **Set Button** 19 ▲7 . The AUDIO TIME DELAY submenu (Figure 30) will appear. Use the ▲/▼ **Navigation Controls** 17 ▲4 to scroll to the desired delay setting and press the **Set Button** 19 ▲7 to select that setting. To retain the current setting without making any changes, scroll to the BACK TO MAIN MENU line and press the **Set Button** 19 ▲7 .

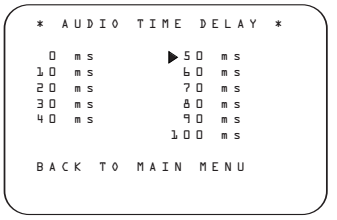


Figure 30

This completes the setup of the CVR700 audio section. There remain a few minor adjustments to be made, if desired, to the setup menu for the internal DVD/CD changer, and you may wish to make some advanced settings to the Screen menus, then you will be able to enjoy the finest in home theater entertainment.

DVD Setup

The DVD Setup menus are accessed by first making sure that the CVR700 and CVPD50 are properly installed and connected, and then pressing the **Power On (All) Button** 2 ▲1 to turn on both units. Press the **DVD Setup Button** 39 ▲5 to display the SETUP MENU (Figure 31) for the DVD/CD changer.

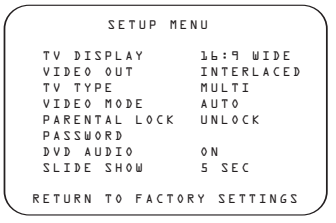


Figure 31

Important Note: The DVD Setup menu functions differently from the CVR700 audio menu system. Although you will still use the ▲/▼ **Navigation Controls** 17 ▲4 to scroll from one line to the next, in order to scroll through the options available for each setting, you must repeatedly press the **Set Button** 19 ▲7 .

If you are using the CVR700 with the CVPD50 display screen, then you should leave the first four lines at their factory default settings. These settings should only be adjusted if you are using the CVR700 with a different video display device.

The first line of the SETUP MENU is the TV DISPLAY setting, which should be set to match the aspect ratio of your video display device. For the CVPD50, this setting should be left at its factory default of 16:9 WIDE. If you are using a different video display monitor that has a 4:3 aspect ratio screen and is capable of displaying a progressive scan image, you may select the 4:3PS setting, or if your display monitor has a 4:3 aspect ratio screen but does not have progressive scan capability, you should select the 4:3LB setting, which will display widescreen (16:9) images with black bars above and below the image.

The second line sets the CVR700's **Component Video Monitor Outputs** ⑲ to progressive scan or interlaced. There is no need to adjust this setting if you are using the CVPD50, but if you are using these outputs with another video display device, you must select the INTERLACED setting if the display monitor is not capable of displaying a progressive scan signal, or you may choose the PROGRESSIVE setting if your display monitor is capable of displaying that type of video signal.

The TV TYPE line should be set to MULTI if you will be viewing both NTSC and PAL DVDs, or you may set it to either NTSC, which is the video standard used for most discs available in the United States, or PAL, which is the video standard used for most discs available in other parts of the world.

The VIDEO MODE setting affects the CVPD50 plasma display and the **Component Video Monitor Outputs** ⑲ (but not the other video outputs). This setting allows you to compensate for errors in the disc authoring where proper maintenance of frame rate was not carried out in the film-to-video conversion process.

The CVR700's advanced adaptive interlacer will handle most of these types of problems, and it is therefore recommended that you leave this line at the factory default setting of AUTO. However, if you observe problems with vertical resolution on a specific disc, experiment by selecting the FILM mode for programs originally created on film, or the VIDEO mode for programs originating on video.

Parental Control

The CVR700's Password System is used to control viewing of restricted programs and offers the capability to change the password itself and the rating. The CVR700 is shipped with "1234" as the default password and with the parental control settings off. The following instructions will show how to change the password and lock the settings.

NOTE: The DVD disc must be specifically encoded with rating information for Parental Control to work.

Password

If you change the password from the factory default setting, please remember to write the new password in a safe place. You cannot access rated discs or rating/password menus or change or clear the password (see below) without entering the correct password. If you forget your password, you can reset the CVR700 to the factory default password (1234) by scrolling to the RETURN TO FACTORY SETTINGS line and pressing the **Set Button** ⑲ 7▲ .

NOTE: This will restore all DVD menu settings to the factory default settings. Any changes you have made will be lost.

We recommend that if you wish to restrict access to DVDs for younger viewers, that you change the password as part of the setup process. Scroll to the PASSWORD line and select it by pressing the **Set Button** ⑲ 7▲ . The display shown in Figure 32 will appear, prompting you to enter the old password, and then the new. Enter "1234" for the old password, and then enter a new password of your choice. Type carefully, as a mistyped entry will be retained as the new password, and it is not possible to correct a mistyped digit without creating an entirely new password.

```
          SETUP MENU

  TV DISPLAY        16:9 WIDE
  VIDEO OUT         INTERLACED
  TV TYPE           NTSC
  VIDEO MODE        AUTO
  PARENTAL LOCK
  PASSWORD          OLD: ----
  DVD AUDIO         NEW: ----
  SLIDE SHOW        5 SEC

  RETURN TO FACTORY SETTINGS
```

Figure 32

If for some reason you forget your password, you may override the password control by entering "2580" as the password, and then program a new password.

The Rating Levels

The five MPAA rating symbols are "G" (General, Level 1), "PG" (Parental Guidance, Level 3), "PG13" (Parental Guidance and 13 years old, Level 4), "R" (Restricted, Level 6) and "NC 17" (from 17 years old, Level 7). The CVR700 will accommodate a total of eight rating steps, as set by the DVD creators. These additional steps allow for more critical control of program playback for all audiences.

Level 8: All DVDs, including adult materials, can be played.

Levels 7 to 2: DVDs for general audiences/children can be played.

Level 1: DVDs for children can be played; DVDs for adults/general audiences are prohibited.

After you have entered or changed the password, you may set the level of access (see Figure 31). The lowest setting, "1G" refers to materials targeted for a general audience and considered to be appropriate for all. Higher ratings are given to materials targeted toward older, more mature audiences; those materials may not be appropriate for younger viewers, as described above. More information about ratings is available at www.mpaa.org/movieratings/. Press the **Set Button** ⑲ 7▲ repeatedly to scroll through the rating levels. When the desired level appears, simply use the ▲/▼ **Navigation Controls** ⑰ 4▲ to scroll to another line, and the setting will be retained.

The DVD AUDIO line may be set to enable playback of DVD-Audio discs or disable playback of those types of discs. Some DVD-Audio discs contain different materials, including menus and audio tracks, that are only available depending on the capabilities of the player. For example, when such a DVD-Audio disc is played in a DVD-Video player that doesn't have DVD-Audio capability, a special DVD-Video menu may be accessed, and conventional audio tracks, such as Dolby Digital 5.1 and 2-channel PCM, will be available. However, when that same disc is played in a DVD-Audio player, only the DVD-Audio menu may be accessed, and the only available audio tracks will be in the high-resolution DVD-Audio formats.

JBL recognizes that there may be reasons why you would wish to have access to all of the materials on a DVD-Audio disc. To access the DVD-Video materials on your

DVD-Audio disc, change the DVD AUDIO line to OFF. You may switch back and forth between the ON and OFF settings at any time to access either set of materials.

The SLIDE SHOW line allows you to set the amount of time a JPEG still image will remain on screen before the CVR700 automatically advances to the next image on the disc. You may set this time to 2, 3, 4 or 5 seconds.

This completes the setup of the internal DVD/CD changer.

Screen Setup

The CVPD50 plasma display screen utilizes state-of-the-art digital video processing that is contained within the CVR700, and it is not possible to use the CVPD50 without the CVR700 processor. Although the video processor is extremely flexible, making adjustments to video display devices requires knowledge and experience to avoid making mistakes that could require professional assistance to correct. Although you will not do any damage to the CVPD50 by making these adjustments, you could set the picture in such a way that it is not possible to view your favorite materials.

To access the screen setup menus, first make sure the remote control is set to Screen mode by pressing the **Screen Selector** ❺ 24 . If this is not done, the remote will execute the commands programmed for the current source device, or for the CVR700 audio section.

Press the **Screen Setup Button** ㊻ 38 to display the SCREEN MENU (Figure 33). If the current source is an external device that you are using with component video, or if the source has no video output, the background will be black. If your source uses component video, unless you have also made an S-video connection from the source to the CVR700, the menus will not be displayed. Also, if the current source is the DVI/Computer source, the menus will not be displayed. Otherwise, the menus will be transparent, with the program material visible behind them. As described below, you may adjust the transparency of the menus from a setting in the ADVANCED menu.

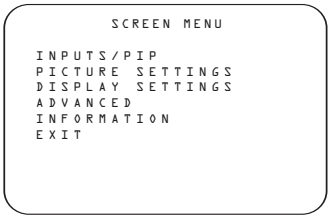


Figure 33

IMPORTANT NOTE: The Screen Setup menus function differently from the CVR700 audio menu system. Although you will still use the ▲/▼ **Navigation Controls** ⑰ 4 to scroll from one line to the next, in order to scroll through the options available for each setting, you must repeatedly press the **Set Button** ⑲ 7 .

It is recommended that for initial setup, you avoid changing any of the video settings and allow the CVPD50 and CVR700 to automatically display your materials using the factory default settings. As you become more familiar with the system and desire to tweak it, you may wish to explore some of these settings.

Inputs and Picture-in-Picture Settings

Scroll to the INPUTS/PIP menu and select it. The INPUTS/PIP menu (Figure 34) will be displayed.

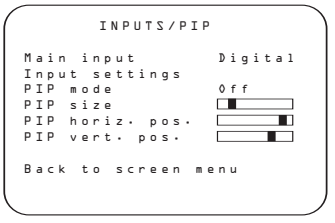


Figure 34

Main Input: The Main Input line is informational only and you should not attempt to change it. The setting will reflect the video format of the current source. For the internal DVD/CD changer, this setting will read Digital. For external sources, this setting will indicate which video input is in use: i.e., component video, composite video or S-video.

Input Settings: The Input Settings line will not be accessible when the internal DVD/CD changer is in use. The available settings will vary depending upon the video format of the current source.

For DVI sources, selecting Input Settings takes you to either the HD&PC SETTINGS menu (Figure 35a), or the DVI SETTINGS menu (Figure 35b), depending on the type of source device you have connected to the DVI/Computer input. Scroll down to the Connected device line and select the appropriate source type: DVD HDCP, HD tuner or PC for a personal computer. Any of these devices must be equipped with either a DVI video output or a VGA video output that you have connected to the CVR700's **DVI (HDCP)/ Computer Video Input** ㉟ using the supplied VGA-to-DVI adaptor cable. This menu affects the size and position of the DVI/Computer source picture on the screen, and it is set by the CVPD50 automatically the first time you connect your computer or other device to the DVI video input. After the first use, these menu settings are no longer user-adjustable for the DVI/Computer input.

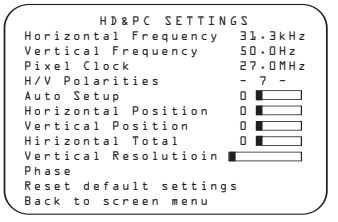


Figure 35a

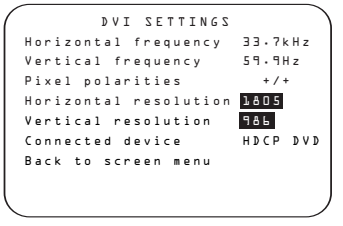


Figure 35b

This menu is also used to align an HDTV picture if necessary. Great caution should be used to avoid ending up with a video image that is too small in size to be viewable. You may select the reset function if you adjust these settings incorrectly.

The first four lines contain information only and are not adjustable. The Phase line simply reflects the settings of the incoming signal and is not adjustable.

- Auto Setup: This initiates the process of detecting the incoming video signal and adjusting the horizontal and vertical position and size of the display.
- Horizontal Position: This temperature bar reflects the horizontal positioning of the image on screen. When the dark square is completely to the left, the image is moved as far to the left side of the screen as

possible, and the numerical value is 0. Use the ◀/▶ **Navigation Controls** ⑰ ⑥ to adjust the position of the image if it is not initially centered on the screen.

- Vertical Position: This temperature bar reflects the vertical positioning of the image on screen. When the dark square is completely to the left, the image is moved as far to the bottom of the screen as possible, and the numerical value is 0. Use the ◀/▶ **Navigation Controls** ⑰ ⑥ to adjust the position of the image if it is not initially centered on the screen.
- Horizontal Total: This temperature bar reflects the horizontal size of the displayed image. When the gray square is completely to the left and the numerical value is 0, the image is at maximum width. Use the ◀/▶ **Navigation Controls** ⑰ ⑥ to adjust the width of the image until it fills the screen.
- Vertical Resolution: This temperature bar reflects the vertical size of the displayed image in terms of the number of pixels used. When the gray square is completely to the left and the numerical value is 0, the image is at maximum height. Use the ◀/▶ **Navigation Controls** ⑰ ⑥ to adjust the vertical height of the image until it fills the screen.

When a composite or S-video source is in use, selecting the Input Settings will take you to the VIDEO SETTINGS menu (Fig. 36). The Video Standard line is informational only, and will reflect the video standard for your country. The VCR Stability feature may be set to either On or Off. Turning it on improves the display of VCR materials.

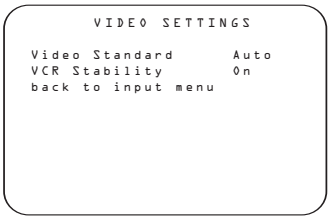


Figure 36

PIP Mode: This line of the INPUTS/PIP menu turns the picture-in-picture feature on or off. In order to use this feature, you must connect the composite video output of a source that you desire to monitor to the **Picture-in-Picture (PIP) Composite Video Input** ⑳. PIP mode is only available when the current source input is using composite video (not component or S-video). PIP mode enables you to monitor the source connected to the PIP input while watching another video source. When desired, you may swap the images by pressing and holding the **PIP Swap Button** ㊴ ⑰ for several seconds. This will display the main source in the PIP window and the PIP source in the main viewing area.

There are two available PIP modes: in one mode a small inset window will appear on the CVPD50 screen, and it will display the source connected to the PIP input. The second mode splits the screen into two equal halves, displaying the main video signal on the left side and the PIP source on the right. Press the **Set Button** ⑲ ⑦ repeatedly while at the PIP Mode line to cycle through these modes and the Off setting. The remaining settings in the INPUTS/PIP menu enable you to adjust the size and position of the PIP window.

PIP Size: The temperature bar at this line reflects the size of the PIP window. When the dark square is towards the right side of the bar, the window is increased in size, and when the square is towards the left side of the bar, the window is decreased in size. Use the ◀/▶ **Navigation Controls** ⑰ ⑥ to adjust this setting. Pressing the **Set Button** ⑲ ⑦ repeatedly will only increase the size of the window, but not decrease it.

PIP Horiz. Pos.: The temperature bar at this line reflects the relative horizontal position of the PIP window on the CVPD50 screen. When the dark square is towards the right side of the bar, the window is positioned toward the right side of the screen, and when the square is towards the left side of the bar, the window is positioned toward the left side of the screen. Use the ◀/▶ **Navigation Controls** ⑰ ⑥ to adjust this setting. Pressing the **Set Button** ⑲ ⑦ repeatedly will only move the window towards the right, but not towards the left.

PIP Vert. Pos.: The temperature bar at this line reflects the relative vertical position of the PIP window on the CVPD50 screen. When the dark square is towards the right side of the bar, the window is positioned toward the top of the screen, and when the square is towards the left side of the bar, the window is positioned toward the bottom of the screen. Use the ◀/▶ **Navigation Controls** ⑰ ⑥ to adjust this setting. Pressing the **Set Button** ⑲ ⑦ repeatedly will only move the window upwards, but not downwards.

Picture Settings

With the SCREEN MENU (Fig. 33) on screen, scroll down to the PICTURE SETTINGS line and select it by pressing the **Set Button** ⑲ ⑦ . The PICTURE SETTINGS submenu (Figure 37) will be displayed.

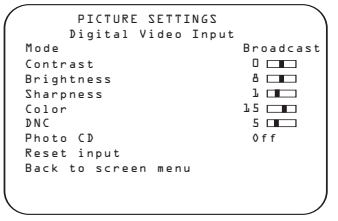


Figure 37

You may wish to use a test disc to guide you through the adjustment process. Several are available from Internet retailers.

Alternatively, we recommend that you select one of the three factory preset modes designed for optimal display of various types of programs. These modes are also directly accessible from both remote controls. The Sports mode is designed for the types of images normally used in sporting events; the Movies mode displays the images found in many movies, which are often darker than normal; and the Broadcast mode offers the best display of broadcast television programs.

Contrast: This setting is also known as "white level", and is most easily set using a test pattern containing a grayscale – monochrome bars in different shades of black, gray and white. Adjust this setting between –64 and 63 to the point just before the brightest bars of your test pattern start to bleed into the surrounding black background. If you do not have a test pattern, adjust it to the lowest level where all shades of a given color remain visible.

Brightness: This setting is also known as "black level", and it should be adjusted using a PLUGE pattern found on a test disc. Adjust this setting between –64 and 63 to the lowest point where one of the moving lines in the black field remains visible, but before both disappear. If you do not have a test pattern,

adjust it so that a typical video picture has about the same appearance as the surroundings in the room. That way the eye is relaxed when watching the TV picture. This setting may be reduced when the surrounding light is dimmed, thereby usually improving the sharpness significantly.

Sharpness: This temperature bar and numerical value (ranging from 0 to 4) reflect the sharpness of the picture. Due to the pixel structure of video images, lowering the sharpness setting will tend to improve the quality of the picture.

Color: This temperature bar and numerical value (ranging from 0 to 31) reflect the saturation of the color. Decreasing this setting to 0 will remove all color and make the picture appear monochrome (black and white). Increasing it will brighten the intensity of the colors. It may be adjusted using a blue filter and color bars. If you do not have access to a test pattern, you may adjust this setting so that red objects are not too bright and fuzzy around the edges.

DNC: This temperature bar and numerical value (ranging from 0 to 15) is used to adjust dynamic noise control. Leave this setting at its factory default, unless you have a video image with interference that is causing video "noise". This setting may be used to reduce the amount of noise displayed.

The reset line may be used to reset all of the settings in this menu for the current video input.

Display Settings

With the SCREEN MENU (Fig. 33) on screen, scroll down to the DISPLAY SETTINGS line and select it by pressing the **Set Button** 19 7 . The DISPLAY SETTINGS submenu (Figure 38) will be displayed.

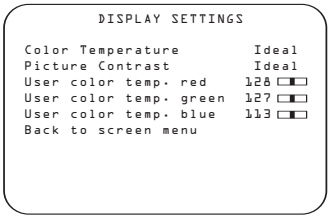


Figure 38

This menu enables you to precisely adjust the color display.

Color Temperature: This setting has four options: Ideal, Cold, Warm and User. The factory default setting is named Ideal, and is what we recommend for most installations. However, you may prefer the colors to appear more blue overall, or more red overall. Select the Cold setting for more blue content, or the Warm setting for more red content. Alternatively, if you prefer to adjust the degree of red, green and blue more precisely, select the USER setting, which will activate user color temperature settings for each color.

Picture Contrast: This setting has three options: Ideal, Light and Dark. The factory default setting is named Ideal, and is what we recommend for most installations. However, you may prefer images to appear either lighter or darker.

User Color Temp. red: This setting is only active when the User settings has been selected at the Color Temperature line above. The temperature bar and numerical value (ranging between 0 and 255) reflect the intensity of the red pixels.

User Color Temp. green: This setting is only active when the User settings has been selected at the Color Temperature line above. The temperature bar and numerical value (ranging between 0 and 255) reflect the intensity of the green pixels.

User Color Temp. blue: This setting is only active when the User settings has been selected at the Color Temperature line above. The temperature bar and numerical value (ranging between 0 and 255) reflect the intensity of the blue pixels.

Advanced Settings Menu

With the SCREEN MENU (Fig. 33) on screen, scroll down to the ADVANCED line and select it by pressing the **Set Button** 19 7 . The ADVANCED submenu (Figure 39) will be displayed.

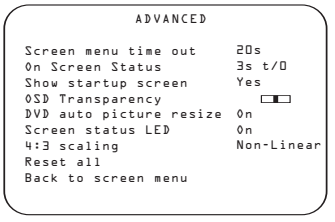


Figure 39

This menu is used to adjust the appearance of the on-screen menus.

Screen menu time out: This setting allows you to adjust the amount of time the Screen menus remain on screen, with options of 20, 40 or 60 seconds available. It is particularly important with plasma displays to avoid leaving a still image, such as a menu, on screen for an extended period of time, as the image may be "burned" into the screen permanently. Therefore, it is not possible to set the menus to remain on screen indefinitely.

On Screen Status time out: This setting allows you to adjust the amount of time the various system status banners remain on screen, or to disable them altogether. These banners appear when a source is selected and a new audio or video signal is detected. The aspect ratio banner will first display the aspect ratio of the source, and then the aspect ratio in which it will be displayed, depending on how you have configured the system. The source banner will display the name of the source, the audio input, and the video input or other information as appropriate. This setting does not affect the status bar displayed by the CVR700's internal DVD/CD changer when a disc is being played. You may choose to remove the status banners from view after 2, 3, 4, or 5 seconds, or you may choose the Off setting, in which they are not displayed at all.

Show Startup Screen: This setting may be set to On or Off, and it determines whether the JBL logo screen appears when the CVPD50 is powered up.

OSD Transparency: This temperature bar reflects whether the Screen menus appear transparent, so that the current video image may be seen behind them (dark square to the left), or opaque, so that they have a black background that blocks any view of the video image (dark square to the right). There is a reset line that may be used to reset the settings in this menu only.

DVD auto picture resize: JBL recommends that you leave this setting in the default "On" position so that images (video and still) on DVDs, VCDs and JPEG discs will be automatically resized by the CVR700 to fill the CVPD50 screen. This setting only applies to the CVR700's internal disc changer; for external video sources, you will still need to use the **Frame Button** 27 24 or the **Letterbox Button** 26 16 to select a display mode for each source that fills the screen. Also, note that some DVDs include a letterboxed version in which black bars above and below the picture are part of the

movie frame. For this reason, it is not possible to remove those black bars, and you may prefer to watch a non-letterboxed version of the movie if provided on the disc.

You may notice that the picture jumps as it is resized, and this is normal. If the picture has large dark areas, particularly near the frame edges, the picture may be resized frequently. In that case, you may prefer to turn off the Auto Resize function while watching that disc and use the **Frame Button** 27 24 or the **Letterbox Button** 26 16 to select a display.

Screen status LED: Some people may find the status LED on the front panel of the CVPD50 to be distracting while watching movies, and this setting allows you to turn the LED off. If possible, it is recommended that you leave the LED turned on to alert you to its status, such as flashing red and yellow to indicate that it has come unplugged.

4:3 Scaling

The 4:3 SCALING setting is only needed for sources where the original program material is in the 4:3 aspect ratio. The default setting is NORMAL, where 4:3 materials are displayed in their original aspect ratio, with black bars appearing on the left and right sides of the image. If you wish to have the image stretched to fill the CVPD50's 16:9 screen, select LINEAR scaling to have the picture stretched at the same rate throughout the frame, or NON-LINEAR to leave the center of the frame virtually untouched, with the degree of scaling increasing towards the edges. You may override this setting manually for a specific disc by using the **Frame Button** 27 24 .

NOTE: Leaving the black bars on screen for long periods of time, especially during the first 1,000 hours of operation, may cause burnout of the CVPD50 plasma display, which is not covered under warranty. JBL recommends using the **Frame Button** 27 24 or the **Letterbox Button** 26 16 to select a display mode for each source that fills the screen.

Information Menu

The last submenu in the Screen menu system is the INFORMATION menu. It does not contain any user-adjustable settings. In the unlikely event that you have a problem with your CVPD50 screen, a customer service representative may ask you to access this screen and report the information it contains.

With the SCREEN MENU (Fig. 33) on screen, scroll to the INFORMATION line and select it by pressing the **Set Button** 19 7 . The INFORMATION submenu (Figure 40) will be displayed.

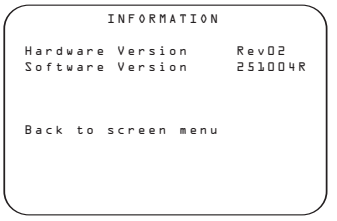


Figure 40

This menu displays the version numbers of your screen and its software drivers.

Your JBL Cinema Vision system is now completely configured, and you are ready to begin enjoying the finest in home theater entertainment.

Once you have completed the initial setup and configuration of the JBL Cinema Vision system, it is simple to operate and enjoy. The following instructions will help you maximize the enjoyment of your new home theater system:

Turning the CVR700 and CVPD50 On or Off

Plug the CVPD50 and CVR700 power cords into unswitched AC wall outlets. When using the system for the first time, you must make sure that the power switch on the underside of the CVPD50 next to the AC power cord is switched on to the "1" position. Use a mirror to assist you in locating the switch and ascertaining whether it is on or off. This places the CVPD50 in a Standby mode, as indicated by the amber color of the LED located on the front of the screen, below the picture. In addition, the LED in the middle of the **Main Power On/Off Switch** 1 on the CVR700 will turn red.

Once the units are in Standby, you may begin a listening session by pressing the **Main Power On/Off Switch** 1, which will turn on both the CVR700 and the CVPD50, or press the **Power On (All) Button** 2 A1. If you hold it for 3 seconds, all devices programmed into the remote will also turn on. The LED in the center of the **Main Power On/Off Switch** 1 will turn orange, and the LED on the front of the CVPD50 will turn green. This will turn the CVR700 on and return it to the input source that was last used.

The system may also be turned on from Standby by pressing and holding any of the **Input Selector Buttons** 4 A2 A10. This will not only power on the CVR700, CVPD50 and any source unit associated with that button, it will also begin play of the currently loaded disc if the internal DVD/CD changer was selected as the source.

NOTE: After pressing one of the **Input Selector Buttons** 4 A2 A10 to turn the unit on, press the **System Selector** 6 A33 to set the remote control to the CVR700 functions. Press the **DVD Input Selector** 4 A2 to control the internal DVD/CD changer.

To turn the unit off at the end of a listening session, simply press the **Main Power On/Off Control** 1 on the front panel or the **Power Off Button** 1 A49 on the remote. You may also press and hold the **Power Off (All) Button** 1 A49 to turn off any external source units. The LED indicator in the center of the **Main Power On/Off Control** 1 will turn red, and the LED on the front of the CVPD50 will turn amber. When the remote is used to turn the unit "off" it is actually placing the system in a Standby mode, as indicated by the red color of the LED on the CVR700 and the amber color of the LED on the CVPD50.

To program the CVR700 for automatic turn-off, press the **Sleep Button** 35 A14 on the remote. Each press of the button will decrease the time before shut-down in the following sequence: 90 minutes, 80 minutes, 70 minutes, 60 minutes, 50 minutes, 40 minutes, 30 minutes, 20 minutes, 10 minutes, Sleep Timer Off. The sleep time will be displayed in the **Lower Display Line** E, and it will count down until the time has elapsed.

When the programmed sleep time has elapsed, the system will automatically turn off. The CVR700's front-panel display will dim to one-half brightness when the Sleep function is programmed. To cancel the Sleep function, press and hold the **Sleep Button** 35 A14 until the information display returns to normal brightness; the Sleep indicator numbers will disappear and the words SLEEP OFF will appear in the **Lower Display Line** E.

When you will be away from home for an extended period of time it is always a good idea to completely turn the unit off by unplugging the CVR700, and switching off the master power switch located on the underside of the CVPD50 next to the power plug. **NOTE:** Preset memories should be retained indefinitely.

Source Selection

- To select a source, press any of the **Input Selector Buttons** 4 A2 A10.
- The input source may also be changed by slowly rotating the front-panel **Input Source Selector** 17. Each step, which you may feel as a tactile detent or click, will move the input selection through the available inputs.
- As the input is changed, the CVR700 will automatically switch to the digital input (if selected), surround mode, speaker configuration, and night mode status that were entered during the configuration process for that source.
- The **Front-Panel Audio/Video Inputs** 14 may be used to temporarily connect a device such as a video game or camcorder to your home entertainment system. This source is called the Game/Cam input source on the remote controls and in the CVR700's menu system.
- As the input source is changed, the new input name will appear momentarily as an on-screen banner display along with the audio input and video screen format. The input name will also appear in the **Main Information Display** 21
- When an audio source is selected, the last video input used remains routed to the **VCR Video Outputs** 1, the **Digital Recorder Video Ouptuts** 10 and the **Video Monitor Outputs** 14. This permits you to simultaneously view and listen to different sources.
- When a video source is selected, the video signal for that input will be routed to the CVPD50 for viewing, and if it is a composite or S-video source, the video signal will be routed to the **Video Monitor Output** 1 and may be viewed on an external TV monitor connected to the CVR700.

Volume Control

- Adjust the volume to a comfortable level using the front-panel **Volume Control** 20 or remote **Volume Up/ Down Buttons** 21 A12.
- To temporarily silence all speaker outputs, press the **Mute Button** 53 A11. This will interrupt the output to all speakers and the headphone jack, but it will not affect any recording or dubbing that may be in progress. When the system is muted, the word MUTE will flash in the **Main Information Display** 21. Press the **Mute Button** 53 A11 again, or adjust the volume to return to normal operation.
- The unit's tone controls may be taken out of the signal path by pressing the **Tone Mode Button** 13 A35. The first press will show a message in the **Lower Display Line** E with the current status of the tone controls. The system default is TONE IN, which indicates that the bass and treble controls are active. Press the ▲/▼ **Navigation Control** 17 A4 to change the setting to TONE OUT, which is "flat" response without the tone controls being active.
- When the tone controls are active, the bass and treble boost/cut may be adjusted by first pressing the **Tone Mode Button** 13 A35 until the desired setting (BASS MODE or TREBLE MODE) appears in the

Lower Display Line E. Next, use the ▲/▼ **Navigation Control** 17 4 to change the setting as desired. The unit will return to normal operation within 5 seconds after the setting is changed.

- For private listening, plug the 1/4" stereo phone plug from a pair of stereo headphones into the front-panel **Headphone Jack** 15. When the headphone's plug is connected, the word HEADPHONE will scroll once across the **Lower Display Line** E and all speakers will be silenced. When the headphone plug is removed, the audio feed to the speakers will be restored.

Surround Mode Selection

One of the most important features of the CVR700 is its ability to reproduce a full multichannel sound field from digital sources, analog matrix surround-encoded programs and standard stereo programs.

Selection of a surround mode is based on personal taste, as well as the type of program source material being used. For example, motion pictures or TV programs bearing the logo of one of the major surround-encoding processes, such as Dolby Surround or DTS Stereo may be played in either the Dolby Digital, Dolby Pro Logic II Movie, Dolby Pro Logic IIx Movie, DTS Neo:6 Cinema, or Logic 7 Cinema surround modes, depending on the source material.

NOTE: Once a program has been encoded with matrix surround information, it retains the surround information as long as the program is available in stereo. Thus, movies with surround sound may be decoded via any of the analog surround modes such as Dolby Pro Logic II or IIx Movie, Logic 7 Cinema or DTS Neo:6 Cinema, when they are broadcast via conventional TV stations, cable, pay-TV and satellite transmission. Also, a number of TV programs, sports broadcasts and radio dramas are recorded in surround sound.

Even when a program is not listed as carrying intentional surround information, you may find that the Dolby Pro Logic II, Logic 7, DTS Neo:6 and the Hall or Theater modes often deliver enveloping surround presentations through the use of the natural information present in all stereo recordings.

Surround modes may be changed at any time by using either the front panel or remote control. To select a new surround mode from the front panel, press the **Surround Mode Selector** 18 repeatedly until the desired surround mode is selected.

To select a surround mode using the remote, press the button for the surround mode group that includes the mode you wish to choose: **Dolby** 52 4, **DTS Digital** 51 4, **DTS Neo:6** 41 4, **Logic 7** 9 4, **Stereo** 52 4 or **DSP Surround** 7 4. The first press of the button will show the current mode from that group if it is already in use, or the first available mode if you are currently using another mode. To cycle through the available modes in that group, press the button again until the desired mode appears in the **Lower Display Line** E and in the front-panel **Surround Mode Indicators** G.

The Dolby Digital, Dolby Digital EX, DTS 5.1, DTS-ES Matrix and DTS-ES Discrete modes may only be selected when a digital input is in use. In addition, when a digital source is present, the CVR700 will automatically select and switch to the correct mode, regardless of the mode that has been previously selected. For more information on selecting digital sources, see the Digital Audio Playback section below.

When a DVD-Audio disc is in use, there is no surround processing, as the analog output signal from a DVD-Audio disc is carried straight through to the preamp section.

To listen to a program in traditional two-channel stereo, using the front left and right speakers only (plus the subwoofer, if installed and configured), press the **Stereo Mode Select Button** 49 4 until SURROUND OFF appears in the **Lower Display Line** E. From the front panel, press the **Surround Mode Selector** 18 until SURROUND OFF appears in the **Lower Display Line** E.

Digital Audio Playback

Digital audio is a major advancement over analog surround processing systems. It delivers up to six discrete channels, and each channel reproduces full frequency range (20Hz to 20kHz) and offers dramatically improved dynamic range and significant improvements to signal-to-noise ratios. In addition, digital systems have the capability to deliver an additional channel that is specifically devoted to low-frequency information. This is the ".1" channel referred to when you see these systems described as "5.1," "6.1" or "7.1." The bass channel is separate from the other channels, but since it is intentionally bandwidth-limited, sound designers have given it that unique designation.

Dolby Digital
Dolby Digital is a standard part of DVD, available on specially encoded LD discs and satellite broadcasts, and is a part of the high-definition television (HDTV) system.

An optional, external RF demodulator is required to use the CVR700 to listen to the Dolby Digital soundtracks available on laser discs. Connect the RF output of the LD player to the demodulator and then connect the digital output of the demodulator to the **Optical** or **Coaxial Inputs** 22 24 25 27 28 29 9 10 of the CVR700 corresponding to the source (e.g., AUX) you wish to use for your LD player. No demodulator is required for use with DVD players or DTS-encoded laser discs. The CVR700's internal DVD/CD changer will automatically detect and play any Dolby DVD loaded into it, and no external connections need to be made. However, the CVR700 is not capable of playing a laser disc, and an external LD player must be connected to the CVR700.

DTS
DTS is a digital audio system capable of delivering 5.1 or 6.1 discrete or matrix sound field reproduction. Although both DTS and Dolby Digital are digital, they use different methods of encoding the signals, and thus they require different decoding circuits to convert the digital signals back to analog.

DTS-encoded soundtracks are available on select DVD and LD discs, as well as on audio-only DTS discs. The CVR700's internal DVD/CD changer will automatically detect and play any DTS-encoded DVD loaded into it, and no external connections need to be made. If you are connecting an external device to the CVR700, be aware that you may use any LD or CD player equipped with a digital output to play DTS-encoded discs with the CVR700. All that is required is to connect the player's output to either an **Optical** or **Coaxial Input** on the rear panel 22 24 25 27 28 29 or front panel 9 10.

In order to listen to DVDs encoded with DTS soundtracks, the DVD player must be compatible with the DTS signal, which is indicated by the "DTS Digital Out" logo on the player's front panel. Some early DVD players were not able to play DTS-encoded DVDs. This does not indicate a problem with the CVR700, as those play-

ers cannot pass through the DTS signal. If you're in doubt as to the capability of your DVD player to handle DTS discs, consult the player's owner's manual.

NOTE: Many DVD players have a default setting that does not pass through the DTS data, even though the machine is capable of doing so. If your external DVD player has the "DTS Digital Out" logo but does not trigger DTS playback in the CVR700, change the player's settings in the "Audio" or "Bitstream" configuration menu so that DTS playback is enabled. The method for doing this will vary with each player. In some cases, the proper menu choice will be "Original," while in others it will be "DTS." Consult the owner's manual for your player to find the specific information to find the proper setting.

Selecting a Digital Source

To use either digital mode, you must have properly connected a digital source to the CVR700. Connect the digital outputs from external DVD players, HDTV receivers, satellite systems or CD players to the **Optical** or **Coaxial Inputs** 22 24 25 27 28 29 9 10. In order to provide a backup signal and a source for analog stereo recording, the analog outputs provided on digital source equipment should also be connected to the corresponding inputs on the CVR700 rear panel (e.g., connect the analog stereo audio output from a digital recorder to the **Digital Recorder Inputs** 9 on the rear panel when you connect the source's digital outputs).

If you have not already configured an input for a digital source using the on-screen menus as shown on page 46, first select the desired input using the remote or front-panel controls, as outlined in this manual. Next, press the **Audio Input Button** 11 and then using the **▲/▼ Navigation Control** 17, choose the OPTICAL, COAXIAL or ANALOG input you wish to assign to that source, as it appears in the **Upper Display Line** H. When the digital source is playing, the CVR700 will automatically detect which type of digital data stream is being decoded and display that information in the **Upper Display Line** H. However, the CVR700 will not automatically detect which digital or analog audio connection you have made.

Digital Bitstream and Surround Mode Indicators

When a digital source is playing, the CVR700 senses the type of bitstream data that is present. Using this information, the correct surround mode will automatically be selected. For example, DTS bitstreams will cause the unit to switch to DTS decoding, and Dolby Digital bitstreams will enable Dolby Digital decoding.

When the unit senses PCM data from CDs or LDs, you may select any of the standard surround modes, such as Dolby Pro Logic II or Logic 7. Since the range of available surround modes is dependent on the type of digital data that is present, the CVR700 shows you what type of signal is present. This will help you to understand the choice of modes.

When a digital source is first detected, the CVR700 will indicate the type of bitstream being received by switching to the appropriate surround mode, depending on the bitstream and how you have configured your system. The **Speaker/Channel Input Indicators** F will light to indicate which channels are contained in the digital bitstream. For example, for a Dolby Digital EX bitstream, the L, C, R, SL, SR, SBL, SBR and LFE indicators will light with a line between the SBL and SBR boxes to indicate that those two channels are in mono. This is the only indication of the number of channels present in the signal. The **Surround Mode Indicator** G that identifies the bitstream will also light. The **Lower Display Line** E will indicate the surround mode you have assigned to that source using the AUDIO MODE submenu system or the remote.

When Dolby Digital 5.1 or DTS or DTS-ES signals are being played, the CVR700 will automatically switch to the proper surround mode, and no other processing may be selected. When a Dolby Digital signal with 4.0 or 2.0 channels is detected, you may select any Dolby surround mode.

When the digital audio data stream has been interrupted or is no longer present, such as when a DVD disc is paused or stopped, the **Speaker/Channel Input Indicators** F will flash to indicate that no signal is present. This is normal and does not indicate any problem with your system.

PCM Playback

PCM is the abbreviation for Pulse Code Modulation, which is the type of digital signal used for standard CD playback, and other non-Dolby Digital and non-DTS digital sources such as Mini-Disc. When a PCM signal is detected, the **Lower Display Line** E will briefly show a message with the letters PCM, in addition to a readout of the sampling frequency of the digital signal.

In most cases, this will be PCM 44.1kHz or PCM 48kHz, though in the case of specially mastered, high-resolution audio discs, you will see a PCM 96kHz indication.

During PCM playback, you may select any surround mode except one of the Dolby Digital or DTS/DTS-ES modes.

Speaker/Channel Indicators

In addition to the bitstream indicators, the CVR700 features channel-input indicators that show how many channels of digital information are being received and/or whether the digital signal is interrupted (see Figure 41).

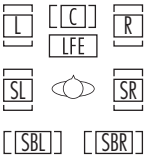


Figure 41

These indicators are the L/C/R/LFE/SL/SR/SBL/SBR letters that are inside the center boxes of the **Speaker/Channel Input Indicators** F on the front panel. When a standard analog signal is in use, only the "L" and "R" indicators will light, as analog signals have only left and right channels.

Digital signals may have two, five, six or seven channels, depending on the program material, its method of transmission and the way in which it was encoded. When a digital signal is playing, the letters in these indicators will light in response to the signal being received. It is important to note that although Dolby Digital, for example, is referred to as a "5.1" system, not all Dolby Digital DVDs or programs are encoded for 5.1. Thus, it is sometimes normal for a DVD with a Dolby Digital soundtrack to trigger only the "L" and "R" indicators.

NOTE: Many DVD discs are recorded with both "5.1" and "2.0", and Dolby Digital and DTS versions of the same soundtrack. When playing a DVD, always be certain to check the type of material on the disc. Most discs show this information using icons on the back of the disc jacket. When a disc offers multiple soundtrack choices, you may have to make some adjustments (usually with the "Audio Select" button or in a menu screen on the disc) to access the full 5.1

Continued on page 63

AUDIO SURROUND MODE CHART

MODE	FEATURES
Dolby Digital	Available only with digital input sources encoded with Dolby Digital data. It provides up to five separate main audio channels and a special dedicated low-frequency effects channel.
Dolby Digital EX	Available when the receiver is configured for 6.1/7.1 channel operation, Dolby Digital EX is the latest version of Dolby Digital. When used with movies or other programs that have special encoding, Dolby Digital EX reproduces specially encoded soundtracks so that a full 6.1/7.1 sound field is available. When the receiver is set for 6.1/7.1 operation and a Dolby Digital signal is present, the EX mode is automatically selected. Even if specific EX encoding is not available to provide the additional channel, the special algorithms will derive a 6.1/7.1 output.
DTS 5.1	When the speaker configuration is set for 5.1-channel operation, the DTS 5.1 mode is available when DVD, audio-only music or laser discs encoded with DTS data are played. DTS 5.1 provides up to five separate main audio channels and a special dedicated low-frequency channel.
DTS-ES 6.1 Matrix Discrete	When the speaker configuration is set for 6.1/7.1 operation, playback of a DTS-encoded program source will automatically trigger the selection of one of the two DTS-ES 6.1 Discrete DTS-ES modes. Newer discs with special DTS-ES discrete encoding will be decoded to provide six discrete, full-bandwidth channels plus a separate low-frequency channel. All other DTS discs will be decoded using the DTS-ES Matrix mode, which creates a 6.1-channel sound field from the original 5.1-channel soundtrack.
Dolby Pro Logic II Music Movie Pro Logic	Dolby Pro Logic II decodes full-range, discrete, left, center right, right surround and left surround channels from either matrix surround-encoded programs or conventional stereo sources when an analog input is in use. The Dolby Pro Logic II Movie mode is optimized for movie soundtracks, while the Pro Logic II Music mode should be used with musical selections. The Pro Logic mode re-creates original Pro Logic processing for those who prefer that presentation.
Dolby Pro Logic IIx Music Movie	Dolby Pro Logic IIx is the latest extension of Dolby Pro Logic II technology that creates a discrete 6.1 and 7.1 sound field from matrix surround or two-channel stereo sources in systems configured for surround back speakers. Both Movie and Music versions of Pro Logic IIx are available.
Logic 7 Cinema Logic 7 Music Logic 7 Enhance	Logic 7 is an advanced mode that extracts the maximum surround information from either surround-encoded programs or conventional stereo material. When the system speaker configuration has been set for 6.1/7.1 operation, you may choose between either 7.1 or 5.1 versions of the Logic 7 modes, while only the 5.1 versions are available for 5.1-channel systems. The Logic 7 C (or Cinema) mode should be used with any source that contains Dolby Surround or similar matrix encoding. Logic 7 C delivers increased center channel intelligibility, and more accurate placement of sounds with fades and pans that are much smoother and more realistic than with other decoding techniques. The Logic 7 M or Music mode should be used with analog or PCM stereo sources. Logic 7 M enhances the listening experience by presenting a wider front soundstage and greater rear ambience. Both Logic 7 modes also direct low-frequency information to the subwoofer (if installed and configured) to deliver maximum bass impact. The Logic 7 E (or Enhance) mode, available only when the 5.1 option is chosen, is an extension of the Logic 7 modes that is primarily used with musical programs. Logic 7 adds additional bass enhancement which circulates low frequencies in the 40Hz to 120Hz range to the front and surround speakers to deliver a less localized soundstage that appears broader and wider than when the subwoofer is the sole source of bass energy. The CVR700 features 96kHz-capable Logic 7 processing, for improved imaging and accuracy when used with 96kHz source materials.
DTS Neo:6 Cinema DTS Neo:6 Music	These two modes are available with analog sources playing to create a three-channel, five-channel or six-channel surround presentation from matrix-encoded or stereo sources. Select the Cinema version of Neo:6 when a program with matrix surround encoding is present. Select the Music version of Neo:6 for optimal processing when a nonencoded, two-channel stereo program is being played.
Theater	The Theater mode creates a sound field that resembles the acoustic feeling of a standard live-performance theater.
Hall 1, Hall 2	The two Hall modes create sound fields that resemble a small- (Hall 1) or medium-sized (Hall 2) concert hall.
5-Channel Stereo 7-Channel Stereo	These modes take advantage of multiple speakers to place a stereo signal at both the front and back of a room. They place the same signal at the front-left and surround-left, and front-right and surround-right speakers. The center channel is fed a summed mono mix of the in-phase material of the left and right channels.
Surround Off (Stereo)	This mode turns off all surround processing and presents the pure left- and right-channel presentation of two-channel stereo programs.

feed to the CVR700 or to select between Dolby Digital or DTS. It is also possible for the type of signal feed to change durinh the course of a DVD's playback. In some cases, the previews or special material will be recorded in 2.0 audio, while the main feature is available in 5.1 audio. The CVR700 will automatically sense changes to the bitstream and channel count and reflect them in these indicators.

The letters used by the **Speaker/ Channel Input Indicators** F also flash to indicate when a bitstream has been interrupted. This will happen when a digital input source is selected before the playback starts, or when a digital source such as a DVD is paused. The flashing indicators remind you that the playback has stopped due to the absence of a digital signal and not through any fault of the CVR700. This is normal, and the digital playback will resume once the playback is started again.

When a 6.1-channel mode, such as Dolby Digital EX, is detected, a line will appear connecting the SBL and SBR channels to reflect that the same signal is being outputted through both back surround channels. The line will disappear when a 7.1-channel mode, such as Logic 7, is in use. At this time, there are no 7.1-channel digital formats available.

Night Mode

A special feature of Dolby Digital is the Night mode, which enables specially encoded Dolby Digital input sources to be played back with full digital intelligibility while reducing the minimum peak level by 1/4 to 1/3. This prevents abruptly loud transitions from disturbing others, without reducing the impact of the digital source. The Night mode is available only when Dolby Digital signals with special data are being played.

The Night mode may be engaged when a Dolby Digital DVD is playing by pressing the **Night Mode Button** 36 18 on the remote. Next, press the ▲/▼ **Navigation Button** 17 4 to select either the middle range or full compression versions of the Night mode. To turn the Night mode off, press the ▲/▼ **Navigation Button** 17 4 until the message in the lower third of the video display and in the **Lower Display Line** E reads NIGHT MODE OFF.

The Night mode may also be selected to always be on at either level of compression using the options in the DOLBY SURROUND menu. See page 47 for information on using the menus to set this option.

MP3 and WMA Compressed Audio Playback

The CVR700 is one of the few audio/ video components equipped with onboard decoding of the MP3 and WMA audio formats used by computers and portable audio devices. By offering MP3 and WMA decoding, the CVR700 is able to deliver precise conversion of the digital signals to an analog output, along with the benefits of listening to the MP3 or WMA audio through the CVR700's high-power amplifier and the speakers from your surround system, rather than the smaller speakers and low-powered amplifiers typically used with computers.

To take advantage of the CVR700's MP3 and WMA capabilities, simply insert a disc containing MP3 or WMA audio files into the changer drawer. When the digital signal is available, the **Lower Display Line** E will indicate that an MP3 or WMA bitstream is present, and the audio will begin playing.

NOTES:

- The CVR700 is only capable of playing signals in the MP3 (MPEG 1/Layer 3) format, or in the Windows Media Audio (WMA) format compatible with Windows Media player version 9 or greater. It is not compatible with other computer audio codecs.
- Due to the wide variation in MP3 and WMA formats and encoding speeds, it is possible that the CVR700 may not be compatible with all MP3 or WMA files. Some may produce unacceptable results or may not be decoded. This is not a fault of either the computer or the CVR700, but rather a by-product of the unpredictable nature of compressed-audio playback.
- Even when your computer does not have a digital output that is compatible with the CVR700, you may connect the analog audio output available on virtually all computers to one of the analog audio inputs using an optional adaptor cable that converts the stereo mini plug commonly used for computer audio connections to the left/right RCA jacks used on the CVR700. Connecting your computer to the CVR700 will enable you to take advantage of the high-quality audio reproduction possible with a home theater system, as well as enable the use of surround processing modes such as Logic 7, to greatly enhance downloaded or streaming audio playback.

IMPORTANT NOTES ON DIGITAL PLAYBACK:

- When the digital playback source is stopped, or in a pause, fast forward or search mode, digital audio data will momentarily stop, and the channel position letters inside the **Speaker/ Channel Input Indicators** F will flash. This is normal and does not indicate a problem with either the CVR700 or the source machine. The CVR700 will return to digital playback as soon as the data is available.
- Some source devices, particularly cable set-top boxes, will switch back and forth between digital and analog audio outputs, depending on the channel being watched. To avoid losing sound with this type of product, it is recommended that you connect both the digital and analog audio outputs of the source to the CVR700, with the digital audio input set as the default following the steps shown on page 46. If the digital data stream is interrupted and the sound mutes, you will need to manually switch to the analog audio input by pressing the **Audio Input Button** 11 38 and using the ▲/▼ **Navigation Buttons** 17 4 to select the analog audio input for the current source. Press the **Set Button** 19 7 to enter your selection and return to normal operation. When switching to a digital channel, follow the same procedure, except select the appropriate digital audio input for the source. This switching is not a fault of either the CVR700 or the cable box, as it is caused by the use of different audio technologies on different channels by the cable company or program supplier.
- Although the CVR700 will decode virtually all current DVD movies, CDs and HDTV sources, it may not be compatible with future digital sources.
- When a digital source is playing, you may not be able to select some of the analog surround modes such as Dolby Pro Logic II, Dolby Pro Logic IIx, Hall, Theater or Logic 7.
- When a Dolby Digital or DTS source is playing, it is not possible to make an analog recording using the **Digital Recorder Analog Audio/Video Outputs** 10 or the

VCR Analog Audio/Video Outputs ❶. However, the digital signals will be passed through to the **Digital Audio Outputs** ❼❷❻.

Tuner Operation

The CVR700's tuner is capable of tuning AM, FM and FM Stereo broadcast stations. Stations may be tuned manually, or they may be stored as favorite station presets and recalled from a 30-position memory.

Station Selection

1. Press the **Tuner Button** ❹ ▲2 on the remote to select the tuner as an input. The tuner may be selected from the front panel by turning the **Source Selector** ⓱ until the tuner is active.
2. Press the **Tuner Button** ❹ ▲2 or **Tuner Band Selector** 11 to switch between AM and FM so that the desired frequency band is selected.
3. When using the front-panel controls, the **Tuning Mode Button** 6 is used to select the function of the **Tuning/Preset Up/Down Buttons** 8. Press the **Tuning Mode Button** 6 to toggle between TUNING and PRESET. Press the **Tuning Mode Selector** ⓯ ▲15 on the remotes to select manual or automatic tuning.

   In either mode, each press of the **Tuning Selectors** 8❷❹ ▲7 ▲29 will increase or decrease the frequency by one increment. When the **Tuning Mode Selector** ⓯ ▲15 has been pressed so that AUTO TUNE appears in the **Lower Display Line** E, pressing and holding the **Tuning Selectors** 8❷❹ ▲7 ▲29 will cause the tuner to scan for the next higher or lower frequency with an acceptable signal. Release the button, and AUTO TUNED will appear in the **Lower Display Line** E to indicate that a station has been tuned. AUTO ST TUNED will appear in the **Lower Display Line** E for FM stereo stations.

   When the **Tuning Mode Selector** ⓯ ▲15 has been pressed so that MANUAL TUNE appears in the **Lower Display Line** E, pressing and holding the **Tuning Selectors** 8❷❹ ▲7 ▲29 will cause the tuner to scan up or down through all frequencies, stopping when you release the button, even if no acceptable signal is present. The message MANUAL TUNED will nevertheless appear in the **Lower Display Line** E.
4. Stations may also be tuned directly in either the automatic or manual mode. To enter a station's frequency directly, first select the AM or FM band as desired be pressing the **Tuner Button** ❹ ▲2. Next, press the **Direct Button** ⓬ ▲9. Within 5 seconds of when DIRECT IN scrolls in the **Lower Display Line** E, enter the station frequency by pressing the **Numeric Keys** ❹❽ ▲14. If you press an incorrect button while entering a direct frequency, press the **Exit/ Cancel Button** ⓲ ▲8 to start over.

Preset Tuning

Using the remote, up to 30 stations may be stored in the CVR700's memory for easy recall using the front-panel controls or the remote.

To enter a station into the memory, first tune the station using the steps outlined above. Then:

1. Press the **Memory Button** 12❹❼ ▲28; two underlines will flash in the **Upper Display Line** H.
2. Within 5 seconds, press the **Numeric Keys** ❹❽ ▲14 corresponding to the memory location where you wish to store this station's frequency. The preset number will appear in the **Upper Display Line** H.
3. Press the **Memory Button** 12❹❼ ▲28 again to store the preset station.
4. Repeat the process after tuning any additional stations to be preset.

NOTE: By its nature, plasma display devices tend to interfere with AM radio reception. In any event, as mentioned elsewhere in this manual, it is preferable to leave the screen off to avoid burn-in when no video signal is present and the startup screen may be displayed for a long time. Therefore, when the AM tuner band is selected as the source, the CVPD50 will automatically enter the standby mode. To wake it, simply select any other source (including the FM tuner band).

Recalling Preset Stations

- To manually select a station previously entered in the preset memory, press the **Numeric Keys** ❹❽ ▲14 for the desired station's memory location.
- To manually scroll through the list of preset stations, press the **Preset Stations Selector Button** 8⓴ ❹❹ ▲30 on the front panel or remote. When using the front-panel controls, remember to first press the **Tuning Mode Selector** 6 to select Preset as the function of the **Tuning/Preset Buttons** 8.

Recording

In normal operation, the audio or video source selected for listening through the CVR700 is sent to the record outputs. This means that any program you are watching or listening to may be recorded simply by placing machines connected to the **Digital Recorder Analog Audio/ Video Outputs** ⓾ or **VCR Analog Audio/Video Outputs** ❶ in the record mode.

When a digital audio recorder is connected to the **Digital Audio Outputs** ❷❻7, you are able to record the digital signal using a CD-R, MiniDisc or other digital recording system.

NOTES:

- The digital outputs are active only when a digital signal is present, and they do not convert an analog input to a digital signal, or change the format of the digital signal. In addition, the digital recorder must be compatible with the output signal. For example, the PCM digital input from a CD player may be recorded on a CD-R or MiniDisc, but Dolby Digital or DTS signals may not.
- Please obey the copyright restrictions on any material you copy. Unauthorized duplication of copyrighted materials is prohibited by law.

Output Level Trim Adjustment

Normal output level adjustment for the CVR700 is established using the test tone, as outlined on pages 50–52. In some cases, however, it may be desirable to adjust the output levels using program material such as a test disc, or a selection you are familiar with. Additionally, the output level for the subwoofer can only be adjusted using this procedure.

To adjust the output levels using program material, first set the reference volume for the front left and front right channels using the **Volume Control** 20❷❶ ▲12.

If you are using a disc with test signals or an external signal generator as the source used when the output levels are being trimmed, you may use the remote

as an SPL meter to guide you to the correct level settings. To use the EzSet remote as an SPL meter, follow the instructions on page 51.

Once the reference level has been set, press the **Level Button** 16 5 and SP LEVEL FL 0 will appear in the **Lower Display Line** E with FL 0 flashing. To change the level, first press the **Set Button** 19 7 to select the front left (FL) channel, and then use the ▲/▼ **Navigation Controls** 17 4 to raise or lower the level. DO NOT use the volume control, as this will alter the reference setting.

Once the change has been made, press the **Set Button** 11 7 and then press the ▲/▼ **Navigation Control** 17 4 to select the next output-channel location that you wish to adjust. To adjust the subwoofer level, press the ▲/▼ **Navigation Control** 17 4 until SP LEVEL SUB 0 appears in the **Lower Display Line** E.

Repeat the procedure as needed until all channels requiring adjustment have been set. When all adjustments have been made and no further adjustments are made for 5 seconds, the CVR700 will return to normal operation.

The channel output for any input may also be adjusted using the on-screen menu system. First, set the volume to a comfortable listening level using the **Volume Control** 20 21 17 4. Then, press the **OSD Button** 14 36 to bring up the MASTER MENU (Fig. 1). Use the ▲/▼ **Navigation Controls** 17 4 to scroll down to the SPEAKERS line, and press the **Set Button** 19 7 to select it. The confirmation menu (Figure 18) will appear, and you should scroll down to the YES line and select it. This will cause the SPEAKERS menu (Figure 19) to be displayed. Scroll down to the LEVELS line and select it, which will bring up the SPEAKER LEVELS submenu (Figure 27).

Once the SPEAKER LEVELS submenu appears on your video screen, use the ▲/▼ **Navigation Controls** 17 4 to move the on-screen ▶ cursor so that it is next to the TEST TONE line. Press the ◀/▶ **Navigation Controls** 17 6 so that OFF is highlighted. This will turn off the test tone and allow you to use your external test disc or other source material as the reference. Then, use the ▲/▼ **Navigation Controls** 17 4 to select the channels to be adjusted. At each channel position, use the ◀/▶ **Navigation Controls** 17 6 to change the output level. Remember, the goal is to have the output level at each channel be equal when heard at the listening position.

If you wish to reset all the levels to their original factory default of 0dB offset, press the ▲/▼ **Navigation Controls** 17 4 so that the on-screen cursor is next to the RESET line and press the **Set Button** 19 7. After the levels are reset, resume the procedure outlined above to reset the levels to the desired settings. When all adjustments are done, scroll BACK TO MASTER MENU and then press the **Set Button** 19 7 if you wish to go back to the main menu to make other adjustments. If you have no other adjustments to make, press the **OSD Button** 14 36 to exit the menu system.

NOTE: Output levels may be separately trimmed for each surround mode. If you wish to have different trim levels for a specific mode, select that mode and then follow the instructions shown above.

Memory Backup

This product is equipped with a memory backup system that preserves the system configuration information and tuner presets if the unit is accidentally unplugged or subjected to a power outage. This memory will last virtually indefinitely.

Loading Discs

To load discs in the CVR700, first turn the CVR700 on by pressing the **Main Power On/Off Switch 1**.

Set the CVR700 to the DVD source input either by slowly rotating the **Source Selector 17** until it engages in the notch and DVD appears in the **Information Display 21**, or by pressing the **DVD Input Selector 4**.

Press the **Eject Button 6**, and you will be prompted to select a disc number by a message in the **Lower Display Line E**. You must enter a number, either by pressing one of the front-panel **Disc Selectors 5**, or by entering a number between 1 and 5 using the **Numeric Keys 48**. If you don't enter a number, the CVR700 will cancel the command. The **Disc Indicator D** corresponding to the tray number you selected will flash. The door will drop forward and the magazine tray corresponding to the disc position you have selected will slide forward. Note that the door will open only enough to allow the correct tray to slide forward, so that the door opens wider for the higher numbered trays located further down. This is perfectly normal.

Hold the disc by the edge, and gently place it into the disc drawer, making sure the disc is properly seated in the tray's insert. If the disc is not correctly centered, you may damage both the disc and the player when the drawer closes. When loading discs, please note the following:

- The CVR700 will play discs with the following logos, as well as most WMA and JPEG discs. It will play Kodak Picture CDs, but not Photo CDs. DO NOT attempt to play another type of disc.

- The CVR700 will play discs in the NTSC and PAL video formats.
- Playback capability for CD-RW, DVD-RW or DVD+RW discs will vary according to the quality of the disc. On some occasions, it is possible that these discs may not play on the CVR700. This does not indicate any problem with the CVR700.
- The CVR700 will only play discs that are coded for Region 1 or discs that are open to being played in all regions. Discs that contain any other Region Code will not play.
- Both 5-inch (12cm) and 3-inch (8cm) discs may be used.
- When loading CD audio discs, load the discs with the label side up.
- When loading DVD discs with printed labels, load them label side up.
- Some DVD discs are double-sided. The title information for these will be printed on the inner ring of the disc, very close to the center hole. The title for the side you wish to play should be facing up.

Once a disc is properly loaded, press the **Eject Button 6** to close the disc drawer. After the drawer closes, you will need to instruct the CVR700 to play the disc by pressing the **Play Button 11 41**. The **Lower Display Line E** will prompt you for a disc number. You may enter the number of any loaded disc either by pressing its corresponding **Disc Selector 5** or by using the **Numeric Keys 48**. If you don't select a disc, the CVR700 will load the last disc played.

However, if no other discs are loaded and you press the **Play Button 11 41** instead of the **Eject Button 6** to close the disc drawer, the CVR700 will close the door and begin play of the disc you just loaded.

You will briefly see LOADING in the **Information Display 21** to alert you to the fact that the unit is determining the type of disc (DVD, DVD-Audio, CD, VCD, JPEG, WMA or MP3) and is reading the data for track, chapter, title and other information about the disc.

Status Bar

Once the disc's data has been read, the type of disc will be displayed by the **Disc-Type Indicator A** and the disc will begin playing. The disc's track timing information and other relevant data will appear in the **Upper Display Line H**.

While a disc is playing, you may access the Status Bar by pressing the **Status Button 29** to view information on the current title and chapter, to change the current title or chapter, or to view time elapsed or remaining for a title or chapter (see Figure 41).

Figure 41

A Title Number: The first item in the Status Bar is the current Title Number. When this number is highlighted, you may use the **Numeric Keys 48** to enter the number of the desired title, and press the **Set Button 19** to switch to that title. Some discs may prohibit this action during certain titles, such as the warnings against copying the disc. Note that when the DVD Audio setting in the DVD SETUP menu (Figure 31) has been set to ON, this item will be the Group number. When the DVD Audio setting has been set to OFF, the disc will be recognized as a DVD-Video disc, and this item will be the title number.

B Chapter Number: The second item is the current Chapter Number. When this number is highlighted, you may use the **Numeric Keys 48** to enter the number of the desired chapter, and press the **Set Button 19** to switch to that chapter. Some discs may prohibit this action during certain titles, such as the warnings against copying the disc. Note that when the DVD Audio setting in the DVD SETUP menu (Figure 31) has been set to ON, this item will be the Track number. When the DVD Audio setting has been set to OFF, the disc will be recognized as a DVD-Video disc, and this item will be the chapter number.

C Elapsed Time: The third item is the Elapsed Time of the current chapter. It is not possible to display other time variables. When this item is highlighted, you may take advantage of the Time Search feature, which allows you to begin playback from a specified point on the disc. Use the **Numeric Keys 48** to enter the hour/minute/second indication of the time at which you wish play to begin, followed by the **Set Button 19**. Playback from that point will begin immediately. (See Figure 42).

Figure 42

D Audio: The fourth item is the Audio track currently in use. The audio track is

denoted by a number preceding it to indicate its order of availability. Next, the language is displayed, such as ENG for English or SPA for Spanish. Following this is the bitstream type, which may be PCM for a two-channel format; or DTS or the Dolby logo for one of those formats. Next to the format is an icon that reflects the number and location of the channels in the bitstream. The icon is in the shape of a square that represents a listening room, with the front channels at the top. A small block will appear at the location of each channel encoded in the bitstream, with only one block at each top corner for a 2-channel format. Figure 41 depicts that a Dolby Digital 5.1-channel bitstream has been detected. Note that while the disc is playing, a 0 or 1 may also appear to the right of the icon to indicate whether an LFE channel is present (0 if no LFE channel is present or "1" if the LFE channel is detected). If the disc has more than one audio track; such as 2.0-channel PCM, 5.1-channel Dolby Digital or a director's commentary; you may cycle through these tracks while the disc is playing by repeatedly pressing the **Audio Button** 31 7 .

E Subtitle: The fifth item is the current Subtitle status. If the disc contains subtitles, you may cycle through the available languages while the disc is playing by repeatedly pressing the **Subtitle Button** 32 7 . In addition to displaying the available languages, the Subtitle feature may be set to Off by continuing to press the button.

F Angle: The sixth item is the current camera angle. This feature is only available on certain DVD discs; check the DVD jacket to determine whether this feature is available on the disc. You may change the angle setting at any time by repeatedly pressing the **Angle Button** 15 15 . However, the on-screen view will only change during portions of the disc where the multi-angle feature has been activated. At the beginning of a passage where multiple camera angles are available, a Status Banner will appear indicating "Angle Area In". At any time after this message appears, press the **Angle Button** 15 15 to view the program using a different camera angle. Another Status Banner with the message "Angle Area Out" will appear at the end of the passage. After this second banner appears, pressing the **Angle Button** 15 15 will change the setting, but the on-screen image will not change.

NOTES:

- The full Status Bar is only available while a disc is playing. If you press the Status Bar in Stop mode, an abbreviated Status Bar will appear (see Figure 43) that only indicates the current title, and does not permit you to change the title number.

Figure 43

- If you press the **Audio Button** 31 7 , the **Subtitle Button** 32 7 or the **Angle Button** 15 15 without the Status Bar being on screen, the segment of the Status Bar relating to the function you selected will appear on screen by itself, and you will be able to change the setting for that function by continuing to press the corresponding button. (See examples of the Subtitle segment in Figures 44 and 45.)

Figure 44

Figure 45

A different Status Bar is displayed on screen when a CD is playing (see Fig. 46). This Status Bar only contains two items: the current Track number followed by the total number of tracks on the disc and the elapsed time. When the Track number is highlighted, you may use the **Numeric Keys** 48 14 to enter the number of a track you wish to skip to. The Time Search function is also available for CDs. Use the **Numeric Keys** 48 14 to enter the hour/minute/second indication of the time at which you wish play to begin, followed by the **Set Button** 19 7 . Playback from that point will begin immediately.

Figure 46

Status banners may also appear on screen briefly to display messages such as "Disc Loading", "Play", "Stop", "Pause", "Feature Not Available" or other status messages. These messages are generated by the DVD changer section of the CVR700, and are separate from banner messages generated by the CVPD50 screen.

Selecting a Disc For Playback

There are several methods for playing a loaded disc in the CVR700:

- Turn on the CVR700 by pressing the **Main Power On/Off Button** 1 .
- Any discs already loaded in the changer will be indicated by the **Disc Indicators** D . The indicator for the last disc played will be flashing. Note that the **Upper Display Line** H will indicate that the unit is in Stop mode, even when no discs are loaded. Check for lit **Disc Indicators** D to determine whether any discs are available for play. Play will not begin automatically. If you press the **Play Button** 11 41 45 ; you will be prompted on the **Lower Display Line** E to enter the number of the disc you wish to play. If you enter a disc number using the **Numeric Keys** 48 14 or the **Disc Selectors** S , the CVR700 will play that disc. If you do nothing, the CVR700 will play the last selected disc, whose **Disc Indicator** D will be flashing.
- If you wish to play a different disc, you may skip to the next numbered disc by pressing the **Disc Skip Button** 30 31 . If you wish to skip to a different disc, press the **Disc Direct Button** 37 13 , and then enter the desired disc number using the **Numeric Keys** 48 14 . If there is no disc in that location, the CVR700 will do nothing.

JBL On Screen Library

With five disc positions available, it is easy to forget the location of a desired disc. Rather than having to scan through all five positions, the CVR700 offers the

JBL On Screen Library, which conveniently displays the loaded discs without your having to look at each disc individually. When play is stopped, you may use the JBL On Screen Library feature. Press the **OSL Button** 40 37, and the CVR700 will read and identify all loaded discs, a process which may take several minutes, but which only needs to be performed once. A thumbnail for each disc position will appear on screen, including a thumbnail image representative of the disc materials, if one exists on the disc, or a logo indicating the disc type; the disc's title, if it is on the disc; and the disc type (see Figure 47). Both MP3 and WMA discs will cause an icon called COMPRESSED to appear. When the disc is selected, its compressed-audio type will be displayed in the usual on-screen information display for the disc contents. Use the ▲/▼/◀/▶ **Navigation Controls** 17 4 6 to highlight the desired disc, and press the **Set Button** 19 7 to select it for immediate playback. Select the Exit Library icon if you wish to leave the library display without selecting a disc.

Figure 47

Transport Controls – Playing a Disc

Basic playback using the CVR700 involves functions similar to those you may be familiar with for conventional CD players or changers:

- Press the **Play Button** 11 41 25. You will be prompted to select a disc number; use the **Disc Selectors** 5 or the **Numeric Keys** 48 14.
- To momentarily pause playback (and freeze the current picture frame on a DVD), press the **Pause Button** 12 23 23. To resume playback, press the **Play Button** 11 41 25.
- The CVR700 also provides a Resume mode that pauses playback, but does not freeze a DVD's current picture frame. Resume mode is not available for CDs or VCDs. To enter Resume mode for any other disc type, press the **Stop Button** 13 23 24 once. If you press the **Play Button** 11 41 25, the disc will resume playing from the point at which it was stopped. Resume mode is not preserved if you turn off the CVR700, change to another disc, or select another source.
- Press the **Stop Button** 13 23 24 twice (once for CDs and VCDs) to stop playback and enter Stop mode. If you press the **Play Button** 11 41 25 with the disc in Stop mode, play will begin from the beginning of the disc, and you will also be prompted to select another disc by entering its number.
- To move forward or backward through the tracks on a CD, VCD or DVD-Audio disc, or through the chapters on a DVD-Video disc, or through the still images on a JPEG disc, press the **Track Skip Forward/Reverse Buttons** 8 20 44 30. This will not work on MP3 and WMA discs, which are navigated using a special screen described on page 72.
- To scan quickly forward or backward within a track or chapter on a CD, DVD, VCD, WMA or MP3 disc, press the **Forward/Reverse Search Buttons** 20 44 30. Each press will increase the scan speed by one step, cycling through the available scan speeds for each disc type (see below). If you press the opposite-direction search button while in Search mode, the CVR700 will begin to scan in the opposite direction. Press the **Play Button** 11 41 25 to stop scanning.

For DVD-Audio and DVD-Video playback, there are four forward and reverse search speeds. Each press of the **Forward/Reverse Search Buttons** 8 22 42 27 28 will cycle to the next speed in the following order: 2x, 16x, 64x, 200x.

For CD and VCD playback, there are three forward and reverse search speeds: 2x, 4x, 8x.

For MP3 and WMA compressed-audio-file playback, there are four forward and reverse search speeds: 2x, 4x, 8x, 16x.

- For DVD-Video discs only, you may play the program material in forward or reverse slow motion. Press the **Slow Play Forward/Reverse Controls** 43 32 to cycle through the three available speeds: 1/2x, 1/4x, 1/8x.

NOTE: There will be no audio playback during forward or reverse fast- or slow-play of DVDs, as it isn't possible to decode and process the digital audio streams during these modes. However, audio will be heard during fast-play of audio CDs (slow-play is not available for CDs).

- The front-panel **Skip/Search Buttons** 8 function slightly differently than the remote buttons. When the disc changer is the source, press and release these buttons to move (skip) either backward (left button) or forward (right button) through the tracks on a DVD-Audio, CD or VCD disc or the chapters on a DVD-Video disc. Press and hold either button for at least 1 second to search either backward (left button) or forward (right button) the current track or chapter at 2x speed. Press and hold again and release to increase the scan speed to 4x. Repeat this procedure while in scan mode to cycle through these scan speeds: 2x, 4x, 16x, 100x, 2x and so forth. Press and release the button while scanning to skip tracks or chapters. To stop searching, you must press the **Play Button** 11, the **Stop Button** 13 or the other **Search Button** 8.
- To advance frame by frame while a DVD-Video disc is playing, press the **Pause Button** 12 23 23 once, and then each subsequent press of the **Pause Button** 12 23 23 will step one frame forward through the program. Reverse step is not available. Press the **Play Button** 11 41 25 to resume normal play.
- While a disc is stopped, a Stop icon (■) will appear on the left side of the **Upper Display Line** H. During playback, a Play icon (▶) will appear, and when the disc is paused, a Pause icon (❙❙) will appear. During Search modes, the Play icon will remain in the display, and the **Lower Display Line** E will indicate that the disc is being scanned either forward or in reverse.
- During normal play, the **Upper Display Line** H will indicate the track number and elapsed time for CDs; the group and track numbers and elapsed time of the track for DVD-Audio discs; the title and chapter numbers and elapsed time of the chapter for DVD-Video discs; and the WMA, MP3 or JPG file number (and elapsed time for audio files).

Random Play

The CVR700 allows you to randomly play the tracks on an audio CD or a VCD, or MP3 or WMA compressed audio files. Random playback is not available for

DVD-Audio, DVD-Video or JPEG discs. When available, Simply press the **Random Button** 26 to enter Random mode (a banner will appear on screen), and again to exit Random mode.

Audio CDs: You may enter or exit Random mode either while the disc is playing, or after play has been stopped by pressing the **Stop Button** 13 23 twice.

VCDs: Random mode is only available in Stop mode, after play has been stopped by pressing the **Stop Button** 13 23 twice.

MP3 and WMA discs: You may enter or exit Random mode either while the disc is playing, or after play has been stopped by pressing the **Stop Button** 13 23 twice.

The **Random Indicator** C will light when the CVR700 is in Random mode.

Repeat Play

The CVR700 offers several repeat options that allow for unattended playback, even on a continuous basis. There are two basic types of Repeat modes: conventional Repeat, which allows you to repeat discs and their existing subdivisions; and Repeat A-B, in which a passage you select is repeated. The available Repeat modes will vary depending on the type of disc.

The conventional Repeat modes are accessed by repeatedly pressing the **Repeat Button** 27 to cycle through the available modes or exit Repeat mode.

DVDs: The conventional Repeat modes are only available while the disc is playing. Each press of the **Repeat Button** 27 will cycle through the Chapter Repeat On, Title Repeat On and Repeat Off modes.

Audio CDs: The available conventional Repeat modes vary depending on whether the disc is in Play mode or Stop mode.

While a disc is playing, each press of the **Repeat Button** 27 will cycle through the Repeat One Track, Repeat All Tracks, Repeat All Discs and Repeat Off settings, as displayed on screen in a banner and on the front panel. The selected Track or disc will be repeatedly played until play is stopped, or the Repeat mode is exited. In Repeat All Discs mode, if the CVR700 detects a DVD in a succeeding tray, it will play it, but it will automatically end Repeat mode.

In Stop mode, only the Repeat All Tracks and Repeat All Discs modes are available.

VCDs: The conventional Repeat modes are only available in Stop mode. As with audio CDs, only the Repeat All Tracks and Repeat All Discs modes are available.

MP3 and WMA discs: The conventional Repeat modes are available in both Play and Stop modes. Unlike other disc types, the folders and files on a compressed-audio disc are displayed on screen and may be navigated (see page 72). Thus, it is possible to program Repeat One File mode while the disc is stopped. The other available repeat modes are Repeat All Files (in a folder), Repeat Disc and Repeat Off.

The **Repeat Indicators** C will light to indicate the current Repeat mode.

Repeat A-B

The Repeat A-B function allows you to select any portion of a disc (except for VCD, MP3 and WMA discs) and have it repeat until play is stopped.

While the disc is playing, when the beginning of the desired passage is reached, press the **Repeat A-B Button** 28 once. A banner with the message "A to B Repeat Set A" will appear on screen momentarily. When the end of the desired passage is reached, press the **Repeat A-B Button** 28 once more. The message "A to B Repeat On" will appear briefly. The passage will continue to play repeatedly until you manually stop play, or press the **Repeat A-B Button** 28 once again so that the message "A to B Repeat Off" is displayed on screen.

NOTE: The A-B Repeat range may cover several titles or chapters on a DVD, as long as the DVD disc's control program does not force the CVR700 to return to a DVD menu in between.

Using a DVD's Menu

One of the unique features of the DVD system is that it offers a producer the opportunity to include a wide range of features on a disc, including multiple-language tracks; subtitles in a variety of languages; special information such as movie trailers and cast information; as well as other customized information. In addition, producers may divide a movie or program into chapters that allow for quick access to specific parts of the program. These chapters may be accompanied by thumbnail pictures of a scene from the specific chapter to help you select the desired spot on the disc.

When a disc is playing, press the **Disc Menu Button** 46 38 to pause the playback and display the disc's menu. As there are no hard rules about style and content for DVD menus, the way they appear on the screen and the information they contain will vary from one disc to another. However, the following general rules apply to most menus:

- The first menu that appears is the Main Menu, and you may move through the options with the **Navigation ▲▼◀▶ Buttons** 17 4 6, as the disc's programming allows. The option selected will typically be highlighted in a certain color or inside an outline box.
- To select a highlighted option, which may either play a portion of the disc or move to a submenu, press the **Set Button** 19 7 or **Play Button** 11 41 26.
- On some discs, when you select the DVD menu during the playback of a movie, the disc will return to the point in the program where the menu was selected by offering a "Play Movie" option. Press the **Set Button** 19 7 or **Play Button** 11 41 26 to resume play. However, not all discs offer this feature, and selecting the menu while playing a movie may mean that you will either have to go back to the beginning of the program or the start of a chapter. This feature is out of the control of the CVR700, as it is set by the disc's internal programming.

Important Notes on DVD Playback

The sensitive CVPD50 plasma display screen is vulnerable to "burn-in" if any still image remains on screen for any length of time. It doesn't take very long for an image to burn in, and it is important to avoid leaving certain displays on screen for more than a few minutes, as "burn-in" cannot be repaired, and will not be covered by your warranty. Therefore, DO NOT leave DVD menu screens on display for more than a brief period of time unless they contain movement. Either begin play of the movie, or turn off the system (especially the screen) after 5 minutes.

The CVR700 is capable of all the features and options covered by the DVD standards. However, it is up to the producer of a DVD disc to decide which of those features and functions are available on any given disc. For that reason, not all discs will function identically, and some discs will not have many of the features of the DVD system. For example, most current DVD discs do not take advantage of the multiple-angle feature. When you press a button and the player displays the "Feature Not Available" message, this is an indication that the disc has not been programmed for that feature, or that the CVR700 is not capable of executing that command on that disc in the current mode.

In addition, it is common for the producers of DVD discs to block the use of certain functions during only some parts of a disc. For example, many discs prohibit the use of fast-play buttons or prohibit access to the Chapter Menu display during the playback of copyright notices, studio logos, movie credits or trailers. The appearance of the "Feature Not Available" message, or the inability of certain features to operate when the disc itself has prohibited them, does not indicate a problem with the CVR700, as these features are outside of the unit's control.

- Some DTS discs contain incorrect digital flags that may initially cause the CVR700 to display incorrect information on the available surround modes or other features. This is the fault of the disc author and not the CVR700, which will correctly process the disc's bitstream once it has been detected and identified.

NOTES ON DVD-AUDIO DISCS:

- Some DVD-Audio discs contain two menus, one used when the disc is played on a DVD-Audio player, and a DVD-Video menu used on older players that do not recognize the DVD-Audio format. You may view the DVD-Video menu by turning off the CVR700's DVD-Audio capability temporarily, using the DVD Setup menu (see Figure 31). You may wish to do this in order to access certain audio surround tracks, such as Dolby Digital 5.1 or PCM on the disc. When you have finished exploring the DVD-Video capabilities of the disc, remember to restore the CVR700's DVD-Audio capability.
- Some DVD-Audio discs do not permit you to access the disc menu using the **Menu Button** 46 38. However, pressing the **Title Button** 25 or the **Audio Button** 31 may provide menu access. In addition, you may simply place the disc in Stop mode and play the tracks in order.

Zoom Feature

The CVR700's advanced digital video processing circuits include a Zoom feature that allows you to enlarge the image for closer examination of a particular part of the picture. Four steps of enlargement are available.

- To use the Zoom feature, press the **Zoom Button** 47 28 while a disc is playing or paused. Each press of the button will increase the zoom-in effect. When you have zoomed through all four steps, the picture will return to normal size.
- When in any of the Zoom modes, you may use the **Navigation ▲▼◀▶ Buttons** 17 4 6 to navigate around the frame.
- Some discs are created in a way that prevents the Zoom feature from operating. In addition, the Zoom feature will not operate on disc menus and may not operate on subtitles.
- The Zoom function is not available for VCD or JPEG discs.

Audio CD Playback Features

When playing audio CDs, your DVD player has the same features as a CD player, including track skip, repeat play and programmed playback, as described on pages 68–69. You may also access these functions directly using the remote control.

Selecting a Track

During Stop, Resume or Play mode, enter the track number directly with the **Numeric Keys** 48 17 on the remote. The track selected will be played at once.

You can skip through tracks forward or backward by pressing the **Forward/ Reverse Skip Buttons** 8 20 44 30 .

In Stop mode, the **Upper Display Line** H will show the number of tracks recorded on a CD and the total time on the disc.

During normal play the **Upper Display Line** H will indicate the track number and elapsed time. The **Lower Display Line** E will indicate the currently selected audio surround mode.

CD Status Bar

While a CD is loaded, you may view its Status Bar by pressing the **Status Button** 24 26 . If the CD is in Stop mode, the Status Bar will display the total number of tracks on the disc, and the total time of the disc. If the CD is playing, the first item shown will be the current track number, followed by a slash, and then the total number of tracks on the disc. The second item shown will be the elapsed track time (see Figure 46).

To skip directly to a specific track, make sure the remote control is in DVD mode by pressing the **DVD Input Selector** 4 2 , then enter the number of the track you wish to play using the **Numeric Keys** 48 17 . If the Status Bar is on screen, you must press the **Set Button** 19 7 after the track number to enter it. If the Status Bar is not on screen, the CD will immediately skip to the track you entered.

The Time Search function enables you to begin play at a specific time point on the disc. Press the **Status Button** 24 26 to display the Status Bar. Use the ◀/▶ **Navigation Controls** 17 6 to highlight the elapsed track time, then simply enter the time from which you wish play to begin using the **Numeric Keys** 48 17 , and then press the **Set Button** 19 7 to enter it. Play will begin immediately from that point in the current track.

Video Off Feature

During CD playback, the JBL logo screen will remain on display. After a few minutes, the screen saver image should begin automatically, as a moving image is necessary to avoid "burn-in" of an image on the sensitive CVPD50 plasma display. Some users may wish to turn the video display off if they find the visual display distracting or unnecessary during audio playback.

The CVPD50 screen may be placed in Screen Standby mode by first making sure the remote control is in Screen mode by pressing the **Screen Selector** 5 34 . Then press the **Screen Standby Button** 35 19 to place the screen in Standby mode. Press it again to return the screen to normal viewing mode. The front-panel displays on the CVR700 will remain lit to remind you that the system is on.

The CVR700 is among those DVD players that are able to play back discs recorded with MP3 or WMA files. This means that you may enjoy the latest music using discs created in your computer through the high-quality audio components in your home theater system. As the way that MP3 and WMA files are recorded on discs differs from the way conventional CD audio discs are structured, MP3/WMA playback is slightly different from that of standard CDs.

Important Note on MP3 Playback: MP3 and WMA discs may contain 200 tracks or even more. To get the best overview about all tracks on the disc and their names and to select or program them comfortably, use the on-screen display rather than the front-panel display. The front-panel display will only show the number and the elapsed time of the track being played.

Important Note on WMA Playback: The supported bit-rate is between 32k bits and 192k bits.

MP3 or WMA Disc Playback

After the disc is loaded and the tray closed, the CVR700 will read the disc's table of contents (TOC). A listing of all the directories on the disc will be displayed if the disc was made with several directories (see Figure 48).

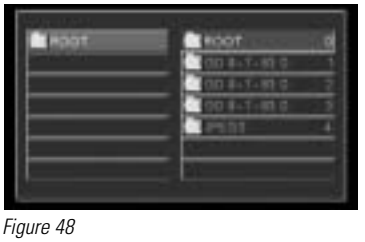


Figure 48

To select a directory (if any), press the ▲/▼ **Navigation Controls** 17 4 6 until the desired directory name is highlighted, then press the **Set Button** 19 7 .

The folder will expand, listing all of the tracks within the directory, each preceded by a logo to identify it as an MP3 file or WMA file. (See Figures 49 and 50.)

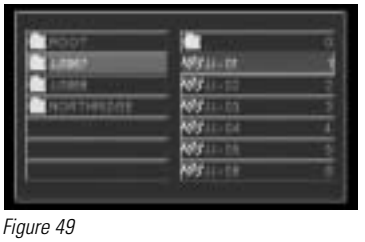


Figure 49

Figure 50

To select a track, press the ▲/▼ **Navigation Controls** 17 4 until the desired track name is highlighted. If the list of tracks is longer than will fit on the screen, press the **Page Down/Up Buttons** 20 44 30 to jump through a list of the track numbers forward or backward through the list.

To start play of the track selected on the list, press the **Set Button** 19 7 or **Play Button** 11 41 25 .

During MP3/WMA playback, some of the standard CD/DVD playback controls operate in their normal fashion:

- You may skip forward to the next track on the disc by pressing the **Skip Forward Button** 8 44 30 .
- You may skip back to the current or previous track on the disc by pressing the **Skip Reverse Button** 8 20 30 once or twice.
- Press the **Pause Button** 12 23 23 to momentarily stop playback. Press the **Play Button** 11 41 25 to resume play. Press the **Stop Button** 13 23 24 twice to enter stop mode.
- You may search through tracks forward or in reverse by pressing the appropriate **Search Buttons** 22 42 7 29 .
- You may play an MP3 or WMA disc in random mode like a normal CD (see page 68).
- The Repeat function may be accessed during playback of an MP3 or WMA disc.

NOTES ON MP3 AND WMA PLAYBACK

- During playback, the front-panel display and the time indicator on the screen above the list will show the elapsed time of the track being played. Other time display options are not available with MP3/WMA playback.
- The CVR700 is only compatible with standard MP3- and WMA-encoded discs. Other compressed audio formats used for Internet audio downloads will not play on the CVR700.
- Due to the differences in various versions of the MP3 and WMA formats, and the many differences between the CD-R machines used to record discs on a computer, it is possible that some discs may not play on the CVR700 even though they will work on a computer. This is normal and does not indicate a fault with the unit.
- When a multisession disc with both standard CD audio and MP3 or WMA content is in use, the CVR700 will play only the CD audio sections of the disc. Track numbers will be visible in the display, but the files will not be decoded.
- When a disc with multiple directories is playing, only tracks from one directory can be displayed and played at a time. Select the desired directory and press the **Play Button** 11 41 25 to start the first track. To see and play tracks from other directories, first you must select that directory, then select the track and press the **Play Button** 11 41 25 .
- Only stereo audio playback is available for MP3 and WMA discs.

Programmed Playback With MP3 or WMA Discs

The CVR700 is capable of creating playlists of the files on a properly recorded disc. To create a playback list for MP3 or WMA titles, follow the same steps as for programming a playlist for any other format disc as described on page 75.

JPEG Playback

The CVR700 is one of the few available DVD players that is capable of recognizing JPEG still-image files and displaying them. When a disc containing JPEG files is loaded, the **CD ROM Disc-Type Indicator A** will light. The list of directories on the disc will appear, and may be navigated in the same way as for a compressed-audio disc. Use the ▲/▼ **Navigation Controls** 17 4 6 to select a folder, and press the **Set Button** 19 7 to expand the folder and display the tracks. JPEG files are listed with an appropriate icon preceding the file name (see Figure 51). Press the **Play Button** 11 41 25 to begin displaying the images in the expanded folder. You may set the amount of time each image remains visible on screen using the DVD Setup menu (see Figure 31).

Figure 51

VCD, a format that predates DVD, is based on a different compression format than DVD and a recording method that is similar to CD. Although the DVD has, for the most part, replaced VCD as a format, the CVR700 offers VCD playback so that you may play your existing library of VCD discs.

There are two versions of the VCD format: an early version which is simply called "VCD" and a later version with Playback Control which is called "Version 2.0" or "PBC." The CVR700 is compatible with both forms of VCD, although playback will vary according to which version is used and the specific way in which the disc was created.

Even though VCD discs provide video, because the format is based on CD technology, the playback functions for a VCD disc are similar to CD. To play a VCD disc, place it in the CVR700 as you would do with any other CD or DVD disc. The unit takes a few seconds to read the disc's contents. The **VCD Disc Type Indicator A** will light in the front panel. If the disc has playback control, a PBC ON banner will appear on screen briefly.

NOTE: Some VCDs are created without playback control, so that only a VCD file exists on the disc. The CVR700 may identify this disc with a **CDROM Disc Type Indicator A**, similar to a compressed audio disc. In that case, the disc is navigated the same way as an MP3 or WMA disc. A screen similar to the one in Figure 52 will appear, and you will need to select the VCD file and play it manually.

Figure 52

Keep in mind that the exact level of functionality for any VCD will vary widely and it is ultimately determined by the way the disc was created, not by the CVR700, particularly if the disc has been created under VCD Version 2.0 with Playback Control (see "Playback Control").

When playing VCD discs, most standard DVD/CD playback controls are used, including Play, Stop, Pause, Track Skip Forward and Reverse and Fast Forward or Reverse Search. The functions Slow Play and Step and the Zoom function are not available with VCDs.

You may select the track number and change it to skip to another track.

Using the Status Bar for VCD Playback

When playing VCD discs it is possible to view the Status Bar. Press the **Status Button** 24 ▲26 to see the Status Bar. Note, however, that when the PBC is on, some features may not be available with that VCD.

You will be able to see the current track number, followed by a slash and the total number of tracks on the disc. You will also be able to see the elapsed time for the current track. However, you may not be able to change the track number or utilize the Time Search function as with an audio CD.

Use of functions when the PBC is on will vary according to the disc type. Note that if the disc was created with Playback Control (PBC – see below), it is not possible to change track numbers directly.

Playback Control

VCD discs made under the Revision 2.0 specification will usually offer PBC playback control.

The PBC ON banner will appear when the disc is played.

With PBC, you can select titles and navigate the disc as with DVDs. However, the access to some functions may be prohibited by the PBC playback control; in that case, the FEATURE NOT AVAILABLE banner will appear on screen.

When the VCD is made without PBC, the disc can be controlled the same as an audio CD, but direct track access by entering a number is not possible without opening the Status Bar.

With PBC, many discs include chapter selection menus that are similar to those found on DVDs. However, on VCD discs the disc menu (if any) is accessed and controlled differently than on DVDs.

- Play will start with the first track (which may be an intro), then leading to the VCD menu (if any) automatically.
- NEXT (Skip Forward) will skip to the VCD menu from the intro (Track 1) directly.
- Once the menu options appear on the screen, make your selection by pressing the **Numeric Keys** 48 ▲14 that correspond to your desired choice. The desired selection will begin playing automatically.
- Direct number entry without any VCD menu shown on screen has no effect – even when the Status Banner is on.
- When PBC is on, the **Disc Menu Button** 46 ▲38 will have the same function as with DVDs, making the player return to the latest disc menu. When PBC is off, pressing the **Disc Menu Button** 46 ▲38 will turn the PBC on and the disc will be played from the beginning.

PROGRAMMED PLAY

Programmed play allows you to select any track from an audio CD for playback in a specific order. This type of programming is particularly useful for parties or other situations in which you desire continuous playback of specific selections for a long period of time.

Begin by stopping play and pressing the **Program Button** ㉙ 21 and a list of loaded discs with their disc types will appear on screen (see Figure 53). However, you may only program tracks on the current disc.

The **Upper Display Line** [H] will display **T–** followed by the disc number. This represents the track number on the disc, which will appear in the order programmed. Use the **Numeric Keys** ㊽ 14 to enter the number of the first track you wish to program into your playlist, and press the **Set Button** ⑲ 7 to enter it. Continue entering tracks in this fashion to create your list, and press the **Play Button** ㊶ 25 to play the list.

To edit the list, press the **Program Button** ㉙ 21 followed by the ▲ **Navigation Button** ⑰ 4 to view the next track in the list or to add a track to the end of the list, or the ▼ **Navigation Button** ⑰ 4 to view the previous track in the list.

Once you have programmed a list, you may repeatedly press the **Program Button** ㉙ 21 to toggle in and out of programmed play mode. However, to cancel the program, you must remove the disc from the CVR700.

Figure 53

The CVR700R2 remote is factory-programmed for all functions needed to operate the unit. In addition, it is also preprogrammed to operate most recent JBL DVD players and changers, CD players and changers, CD recorders and cassette decks. The codes for other brand devices may be programmed into the CVR700R2 remote using its extensive library of remote codes or a head-to-head learning process for codes not in the internal library.

Important Notes on Using the CVR700R2 Remote: The CVR700R2 remote control is capable of operating up to nine devices, including the CVR700. In order to segregate the control commands for each device, the remote's logic contains a separate "page" of commands for each device that is called up when that device's selector has been pressed. For example, in order to access the commands that control the CVPD50 screen, such as Letterbox or PIP, you must first press the **Screen Selector** ❺, so that the word SCREEN appears in the upper line of the **LCD Information Display** ❸.

Most of the programming functions in this section begin by using the remote control's own menu system, which is accessed by pressing and holding the **Remote Menu Button** ㊳ until the Main Menu appears. In order to access this function, you must first press the **System Selector** ❻.

Programming Product Codes

Thanks to the remote's advanced technology and two-line LCD display, it is no longer necessary to look up cumbersome codes when programming the remote; following the steps outlined below, you simply search for the brand name from the remote's memory. We recommend that you first try the preprogrammed code entry method. If that procedure is not successful, then try the code-learning method.

Preprogrammed Code Entry

The easiest way to program the remote for operation with a source device from another brand is to follow these steps:

1. Turn on the power to the device you wish to program into the remote. This is important, as in a later step you will need to see whether the device turns off to determine whether the remote has been programmed for the proper remote codes. In order to program codes for a game console or camcorder, which do not have remote-controlled power on/off codes, you must insert a disc or tape and begin play.
2. Press and hold the **Remote Menu Button** ㊳ for about 3 seconds while the message shown in Figure 54 appears in the remote's **LCD Information Display** ❸. Release the button when the red light under the **Set Button** ⓳ appears.

Figure 54

3. The remote's MAIN MENU message (Figure 55), will appear in the LCD display and the **Set Button** ⓳ will remain illuminated in red. Press the **Set Button** ⓳ to begin the process of selecting a device and locating the proper remote codes.

Figure 55

4. PROGRAM CODE will appear in the LCD display (Figure 56). Press the ▲/▼ **Navigation Button** ⓱ to scroll through the list of source inputs and press the **Set Button** ⓱ when the source you wish to set the codes for appears. For this example, we will select "AUX" to enter the codes needed to operate your HDTV tuner. As a shortcut, once the screen shown in Figure 56 appears, you may jump to the desired source by pressing its **Input Selector** ❹.

Figure 56

NOTE: Each source may be programmed with certain device types:

- **AUX:** Used to program a TV, HDTV tuner, VCR, TV/VCR combination device, external DVD or CD player, cable box or satellite receiver.
- **VCR:** Used to program a videocassette recorder or TV/VCR combination device.
- **CBL/SAT:** Used to program a cable television box, satellite television receiver or HDTV tuner.
- **GAME/CAM:** Used to program a video game console or camcorder.
- **DR:** Used to program a digital recorder, such as a DVD recorder, CD recorder, D-VHS recorder, TiVo, or personal video device (digital video recorder) containing a hard disc drive.
- **DVI/COMPUTER:** Used to program an external device equipped with a digital video interface (DVI) video output, such as an external DVD player, cable television box, satellite television receiver or HDTV tuner.

5. SELECT A DEVICE will appear in the LCD display (Figure 57). Press the ▲/▼ **Navigation Controls** ⓱ to scroll through the list of device types available for the source you have selected, and press the **Set Button** ⓳ when the device you wish to set the codes for appears. For this example, we will select "HDTV-Tuner" to enter the codes needed to operate your HDTV set-top tuner.

Figure 57

If you make a mistake at any time, press the **Exit/Cancel Button** ⓲ to return to the previous menu screen, or press the **Remote Menu Button** ㊳ to exit the remote menu system.

6. At the next menu screen on the remote (Figure 58), press the **Set Button** ⓳ to enter the Manual mode, which means that you will select the brand name of the device from the list programmed into the remote's memory.

Figure 58

7. The next menu screen on the remote (Figure 59) will show the start of the list of available brands. Press the ▲/▼ **Navigation Buttons** ⓱ until the brand name of the device you are programming into the remote appears on the lower line of the display and then press the **Set Button** ⓳. As a shortcut, once the screen shown in Figure 57 appears, you may jump to the first letter of the desired brand name by pressing the corresponding **Alphanumeric Key** ㊽ repeatedly until the brands beginning with the desired letter appear. For example, to jump to the brand "RCA", simply press the "7" key three times, until the first brand beginning with an "R" appears, and then scroll to the desired name.

Figure 59

NOTE: If the brand name for the product you wish to program does not appear in the list, the codes may still be available, as some manufacturers share codes. If the desired brand is not listed, press the **Exit/Cancel Button** ⑱ to exit the programming process, and skip to the instructions shown at right for the "Automatic" method of programming the remote. If desired, or if the codes for your brand are not part of the remote's library at all, you may still use the remote to program most infrared-controlled products by "learning" the commands from the product's original remote into the remote. The instructions for Learning Commands are on page 78.

8. The next step is important, as it determines which codes will operate the source device or display. Point the remote at the device being programmed and, following the instructions shown in the remote's **LCD Information Display** ③ (Figure 60), press and release the **Numeric Keys** ⑪ shown on the menu screen one at a time, starting with the "1" button. After you press the **"1" Button** ⑪, the remote's LCD screen will briefly go blank as the code is being transmitted, but you will see the "transmit" icon in the upper right corner of the display to serve as confirmation that the remote is sending out commands.

Figure 60

9. After you press and release the number key, watch the device being programmed to see whether it turns off. As shown in the instructions that will appear on the next menu screen (Figure 61), if your device has turned off, press the **Set Button** ⑲, and then skip to Step 11. If the unit does *not* turn off, proceed to Step 10.

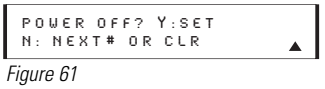


Figure 61

NOTE: Since game consoles and camcorders have no remote control power on/off codes, the test command used to program a remote code will be different. In order to program codes for a game console or camcorder, which do not have remote-controlled power on/off codes, you must insert a disc or tape and begin play. For a game console, the remote will ask whether the game has stopped. For a camcorder, the remote will ask whether the camera has zoomed in.

10. If the device being programmed into the remote does *not* turn off after you have pressed the **"1" Button** ㊽, repeat Steps 8 and 9 by pressing the available numeric keys shown until the device turns off. If the device still does not turn off after all choices have been tried, or if there is only one number key shown as available to try, the code for this specific device is not in the remote library under that brand name. If that is the case, press the **Exit/Cancel Button** ⑱ to exit the manual programming mode.

    Remember that the codes may still be stored in the remote's library under another brand, and you can have the remote control search for them by following the instructions below for automatic programming. You may also manually "learn" the codes for most devices into the remote by following the Learning Commands instructions on page 78.

11. When the device being programmed *does* turn off after a numeric key has been pressed, you must press the **Set Button** ⑲ within five seconds to enter the setting into the remote's memory. After you press the **Set Button** ⑲, the top line of the LCD display will read SAVING... and then the word SAVED will flash four times in the center of the bottom line.

12. When the codes are saved, the remote will return to normal operation, and whenever you press the **Input Selector Button** ④ that was just programmed, the codes for the new device will be used.

NOTE: Some brands share a common remote control code for "Power Off" for many models. For that reason it is possible that even though the remote appears to be properly programmed, you may find that some buttons do not appear to issue the correct command. If this is the case, repeat the procedure outlined above, but if more than one numeric key selection is suggested in Step 8, try a different number to see whether the remote operates correctly. Although the remote is preprogrammed with an extensive library of codes for many major brands, it is also possible that you may have attempted to program a product that is too new or too old, and thus not all of its commands will be in the code library. You may fill in the codes for any button that does not operate properly by using the learning technique shown on this page.

Automatic Code Entry

In addition to manual code selection using the brand name list, it is also possible to automatically search through all the codes that are stored in the remote's library to see whether a device will respond even if it is not listed among the brands that appear when you program the remote manually. To automatically search through the codes that are available for a specific device type (e.g., DVD, VCR), follow these steps:

1. Turn on the power to the device you wish to program into the remote. This is important because in a later step you will need to see whether the device turns off to determine whether the remote has been programmed for the proper remote codes. In order to program codes for a game console or camcorder, which do not have remote-controlled power on/off codes, you must insert a disc or tape and begin play.

2. Press and hold the **Remote Menu Button** ㉝ for about three seconds while the message shown in Figure 54 appears in the remote's **LCD Information Display** ③. Release the button when the red light under the **Set Button** ⑲ appears.

3. The remote's MAIN MENU message (Figure 55) will appear in the LCD display and the **Set Button** ⑲ will remain illuminated in red. Press the **Set Button** ⑲ to begin the process of selecting a device and locating the proper remote codes.

4. PROGRAM CODE will appear in the LCD display (Figure 56). Press the ▲/▼ **Navigation Controls** ⑰ to scroll through the list of sources and press the **Set Button** ⑲ when the source you wish to set the codes for appears. For this example, we will select "AUX" to enter the codes needed to operate your HDTV set-top tuner.

5. SELECT A DEVICE will appear in the LCD display (Figure 57). Press the ▲/▼ **Navigation Button** ⑰ to scroll through the list of device categories and press the **Set Button** ⑲ when the device for which you wish to set the codes appears. For this

example, we will select "HDTV-Tuner" to enter the codes needed to operate your HDTV set-top box.

6. At the next menu screen on the remote, press the ▲ **Navigation Button** ⑰ so that the bottom line of the LCD display reads AUTO (Fig. 62) and then press the **Set Button** ⑲ to enter the Automatic programming mode.

Figure 62

7. As instructed on the next menu screen, press the ▲ **Navigation Button** ⑰ to begin the automatic code search process. Your confirmation that the remote is sending out commands is the movement of a square block across the top line of the LCD display screen while the bottom line reads PLEASE WAIT…. You will also see the transmit icon in the upper right corner of the LCD display's top line to remind you that the remote is working even though you may not see anything happening to the device being programmed.

8. It will take a few seconds for the remote to send out the first group of commands, after which you will see a new display in the LCD screen, as shown in Figure 63. Following the instructions, if the device being programmed has *not* turned off, press the ▲ **Navigation Button** ⑰ again to send another group of codes (see Step 9). If the device being programmed *has* turned off, press either the "1" or "0" key and skip to Step 10.

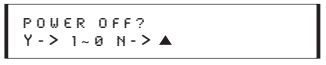


Figure 63

9. By pressing the ▲ **Navigation Button** ⑰ again, the remote will send out a new set of commands. When it pauses, follow the instructions shown in Step 8. Depending on how many codes are stored for a specific device type, you may have to repeat this process as many as 15 times. Remember, if the device turns off, skip to Step 10. When all the codes for the device being programmed have been tried, the instruction shown in Figure 64 will appear. This means that the codes for the product you are trying to program are not in the remote library and you will have to "learn" them into the remote following the instructions shown in the next section. Press the **Remote Menu Button** ㊳ as instructed to exit the programming process.

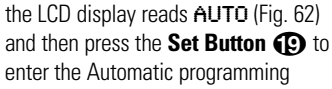


Figure 64

10. If the device being programmed *does* turn off after following the instructions in Step 7, you will need to verify the code set by pressing the **Numeric Keys** ㊽ in sequence, as instructed in Figure 60. Point the remote at the device being programmed, and press the **"1" Button** ㊽ to see whether the device turns back on.

11. After pressing and releasing the **"1" Button** ㊽, check to see whether the device has turned back on. If it has, skip to Step 12. If it does not turn off, press the **"2" Button** ㊽, or the next button in the numeric sequence if you are repeating the procedure, as instructed by the LCD screen in Figure 65.

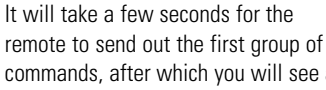


Figure 65

12. When pressing the "1" button does not turn the device being programmed back on, repeat the procedure by trying the remainder of the **Numeric Keys** ㊽ in sequence, each time pressing and then releasing the button to see whether the new device turns back on. When it does, skip to the next step. However, if you try all 10 numeric keys and find that the unit will not turn on, you won't be able to use this method to program the device. Press the **Remote Menu Button** ㊳ to exit the programming process. You'll need to follow the Learning Commands instructions below to enter the codes for this device into the remote.

13. When pressing one of the numeric keys in Step 11 or 12 causes the device being programmed to turn back on, follow the instructions shown in Figure 65 and press the **Set Button** ⑲ within five seconds of the device turning on. After you press the Set button, the top line of the LCD display will read SAVING… and then the word SAVED will flash four times in the center of the bottom line.

14. When the codes are saved, the remote will return to normal operation, and whenever you press the **Input Selector Button** ❹ that was just programmed, the codes for the new device will be used.

Learning Commands

On occasions when the remote does not contain the codes for a particular product's remote in its built-in library, or when you wish to program a missing or special function into one button of a device, the remote's learning capability allows you to do that. To teach commands from one product's remote into the remote, follow the steps below:

The process requires that both the device's original remote and the CVR700R2 remote be available. Before pressing any buttons on either remote, place them so that the IR transmitter on the remote from the device to be programmed is facing the **Infrared Lens** ㊺ on the CVR700R2 remote, pointing to the area next to the slots over the **EzSet Microphone Sensor** ㊹. The two remotes should be no more than an inch apart, and there should not be any direct sunlight or other bright light source near the remotes.

1. Press and hold the **Remote Menu Button** ㊳ for about 3 seconds while the message shown in Figure 54 appears in the remote's **LCD Information Display** ❸. Release the button when the red light under the **Set Button** ⑲ appears.

2. The remote's MAIN MENU message (Figure 55), will appear in the LCD display and the **Set Button** ⑲ will remain illuminated in red. Press the ▲ **Navigation Button** ⑰ until LEARN appears on the bottom line of the LCD screen, as shown in Figure 66. Press the **Set Button** ⑲ to begin the process of learning commands from another device's remote into the remote.

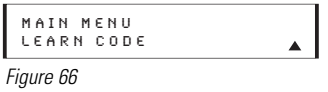


Figure 66

3. LEARN CODE will appear in the LCD display (Figure 67). Press the ▲/▼ **Navigation Controls** ⑰ to scroll through the list of sources and press the **Set Button** ⑲ when the source you wish to set the codes for

appears. The available options are DVD/MAIN, SYSTEM, SCREEN, DVI/DVD, TIVO, GAME, CABLE, VCR, TV and FM/AM [TUNER]. We recommend that you learn new codes only for devices that are external to the JBL Cinema Vision system. For this example, we will select "DVI/DVD" to enter the codes needed to operate an external DVD player with a DVI output.

Figure 67

4. The next menu screen (Figure 68) will prompt you to select the button on the remote that you wish to program. Press that button on the remote.

Figure 68

5. Once you press the button to be programmed on the remote, press and hold the button on the remote control for the device to be programmed within five seconds, as instructed on the next menu screen (Figure 69).

Figure 69

6. Continue to hold the button on the original remote until the menu on the CVR700R2 remote's LCD screen changes. If the code is successfully learned, you will see the display shown in Figure 70.

Figure 70

If you see that menu, proceed to Step 9. If the code is *not* successfully learned, you will see the display shown in Figure 71. If that menu appears, proceed to Steps 7 and 8.

Figure 71

If you don't attempt to "teach" a remote code to the CVR700R2 remote within 5 seconds, the words "TIME OUT" will appear briefly on the second line of the LCD display, and you will be prompted to start over by pressing a button on the CVR700R2 remote (see Figure 68).

You may exit the process at any time by pressing the **Remote Menu Button** ㊳.

7. If the message shown in Figure 71 appears in the display, press the **Set Button** ⑲ to try programming the button again. When the remote prompts you to press and hold the key on the original remote again by showing the display shown in Figure 69, immediately press the button on the source remote again. To avoid another failed attempt, make certain that the windows on the two remotes are facing one another.
8. Continue to hold the button on the original remote until the LCD display changes again. If the code was successfully learned, you will see the display shown in Figure 70. In that case, go to Step 9.

   If the CODE FAILED display (Fig. 71) appears again, you may either try to program the key again, or press the ▲ **Navigation Button** ⑰ to stop the process. It is possible that some remotes may use code sequences or infrared frequencies that are not compatible with the CVR700R2 remote, and those codes cannot be learned. When the display shown in Figure 72 appears, press the **Set Button** ⑲ to exit the Learning system.

Figure 72

9. When a code has been learned successfully, you have three options. When the display shown in Figure 70 is on the LCD screen on the remote, you may press the **Set Button** ⑲ to learn additional codes from the buttons on a original source remote into the CVR700R2 remote. Follow Steps 4 through 6 as often as needed to complete the code-learning process.
10. If you wish to change the name that appears in the LCD display when the button that has just had a new code learned is pressed, press the ▲ **Navigation Button** ⑰ until the display shown in Figure 73 appears in the LCD display. Press the **Set Button** ⑲ to be taken to a EDIT BUTTON display. Enter the new name for the key following the instructions shown in the Renaming Individual Keys section of this manual on page 86. If you find it more convenient to rename the buttons at a later time, you may do that separately by following the instructions on page 85.

Figure 73

11. When you have programmed all keys for the desired device, press the ▲ **Navigation Button** ⑰ repeatedly when the LEARN MENU (Figure 70) appears until you see the display shown in Figure 74. Press the **Set Button** ⑲ to return the remote to normal operation.

Figure 74

12. If you wish to program the codes for another device, repeat the procedure outline above, but select a different device in Step 3.

Note on Learning Function: Remote control signals can vary from one controller to the next due to different standard formats adopted by each manufacturer. For example, some manufacturers repeat the code sequence in the initial transmission, and others insert a special code to identify the brand or model. Due to the variety of formats, occasionally an error may occur in the learning process even though the CVR700R2 remote has indicated that the code was learned correctly. Therefore, it is recommended that you test the newly learned codes with the source component. If the code was not learned correctly, try relearning it. Usually, after several tries, the code can be learned correctly.

Changing Devices

In the factory default settings, the remote is programmed so that the commands transmitted correspond to the device selected by pressing one of the **Input Selectors** ④. This is logical, as you want the remote to control the device you have selected. However, in some circumstances you may have configured your system so that the devices connected to the CVR700 do not correspond to the default device settings and the legends printed on the remote. For example, if your system has two VCRs you may connect the second VCR to the digital recorder input. There is no problem in doing that, but in normal operation the commands issued after selecting the digital recorder input are not for a VCR.

The remote allows you to correct that situation through the "Changing Devices" process. This enables you to assign the codes from one type of device to a differ-

ent button. For example, in the steps below, we will explain how to program the digital recorder buttons to provide the commands to operate a VCR. Of course, you may program the remote to have any of the devices take on the code set of any other device, as your system requires. And, with the remote's "Edit" function, you can even change the way the name of the device appears on the remote's LCD display so that you see exactly which commands are being sent.

NOTE: You may not change the device types for the DVD/MAIN device (CVR700's internal DVD/CD changer), the FM/AM (TUNER) device, the SCREEN device (controls CVPD50 functions) or the SYSTEM device (controls CVR700's receiver functions).

To program the buttons normally assigned to one device for the commands of another, follow these steps:

1. Press and hold the **Remote Menu Button** ㊳ for about 3 seconds while the message shown in Figure 54 appears in the remote's **LCD Information Display** ❸. Release the button when the red light under the **Set Button** ⑲ appears.
2. The remote's MAIN MENU message (Figure 55), will appear in the LCD display and the **Set Button** ⑲ will remain illuminated in red. Press the ▲ **Navigation Button** ⑰ until CHANGE DEVICE appears on the bottom line of the LCD screen, as shown in Figure 75. Press the **Set Button** ⑲ to begin the process of reassigning the commands used for a particular device.

Figure 75

3. Next, you will select the **Input Selector** ❹ for the device that you wish to change. When the display shown in Figure 76 appears, press the ▲/▼ **Navigation Button** ⑰ to scroll through the list to find the device you wish to use for another function. In this case, we will select "TIVO," and show how to change it to take on the codes for operating a VCR. When that device's name appears, press the **Set Button** ⑲.

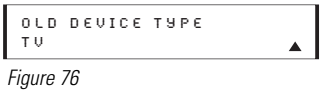


Figure 76

4. Once the "old" device type has been selected, you need to tell the remote which set of remote codes to use as a replacement for the device just selected. When the instructions shown in Figure 77 appear, press the ▲/▼ **Navigation Button** ⑰ to scroll through the list of device categories to find the name of the device that you wish to use. The old device name will remain on the left side of the LCD screen, while the replacement device list will scroll to its right. For example, press the ▲ **Navigation Button** ⑰ until the display screen reads TIVO<-VCR to have the digital recorder Button transmit the commands used to control a VCR. Press the **Set Button** ⑲ when the desired device combination appears.

Figure 77

5. Once the new device is selected, the remainder of the process will select the codes for the specific brand to be used, and for that reason they are identical to the way a device is programmed using manual entry. Continue the process as outlined in the next few steps, remembering that if the codes for your specific device are not found, you may select any brand and then "learn" the proper codes into the remote using the process outlined on page 78. To begin the process, start by selecting the brand of device, as shown in Figure 57. Press the ▲/▼ **Navigation Button** ⑰ until the brand name of the device you are programming into the remote appears on the lower line of the display and then press the **Set Button** ⑲.
6. The next step is important, as it determines which codes will operate the source device or display. Point the remote at the device being programmed and, following the instructions shown on the remote's **LCD Information Display** ❸, press and release the **Numeric Keys** ㊽ one at a time, starting with the **"1" Button** ㊽. After you press the **"1" Button** ㊽, the remote's LCD screen will briefly go blank as the code is being transmitted, but you will see the "transmit" icon in the upper right corner of the display to serve as confirmation that the remote is sending out commands.
7. After you press and release the number key, watch the device being programmed to see whether it turns off. As shown in the instructions that will appear on the next menu screen (Figure 61), press the **Set Button** ⑲, and then skip to Step 9. If the unit does *not* turn off, proceed to the next step.
8. If the device being programmed into the remote does *not* turn off after you have pressed the **"1" Button** ㊽, continue Steps 6 and 7 by pressing the available numeric keys shown until the device turns off. If the device still does not turn off after all choices have been tried, the code for this specific device is not in the remote library under that brand name. If that is the case, we suggest that you press the **Set Button** ⑲ to accept the codes from another brand so that the programming is completed, but remember that you will then have to program the remote manually by following the Learning Commands instructions on page 78.
9. When the device being programmed *does* turn off after a numeric key has been pressed, you must press the **Set Button** ⑲ within five seconds to enter the setting into the remote's memory. After you press the Set button, the top line of the LCD display will read SAVING... and then the word SAVED will flash four times in the center of the bottom line.
10. When the codes are saved the remote will return to normal operation, and whenever you press the **Input Selector Button** ❹ that was just programmed, the display will show the original device type code at the far left side of the display, with the name of the new code set type in brackets. For example, the display will read TIVO<-VCR in our example of replacing the TiVo codes with those for a VCR.

Macro Programming

Macros enable you to easily repeat frequently used combinations of multiple remote control commands with the touch of a single button. Once a macro is programmed, you may send up to 20 commands with one press of the Power On or Macro buttons. This will greatly simplify the process of turning on your system, changing devices or other common tasks. Thanks to the remote's two-line display, it

is easier than ever for you to take advantage of the power of macro commands.

Recording a Macro

To record a macro into the remote's memory, follow these steps:

1. Press and hold the **Remote Menu Button** ㉘ for about three seconds while the message shown in Figure 54 appears in the remote's **LCD Information Display** ❸. Release the button when the red light under the **Set Button** ⑲ appears.
2. The remote's MAIN MENU message (Figure 55), will appear in the LCD display and the **Set Button** ⑲ will remain illuminated in red. Press the ▲ **Navigation Button** ⑰ until MACRO appears on the bottom line of the LCD screen, as shown in Figure 78. Press the **Set Button** ⑲ to enter the main macro menu branch.

Figure 78

3. At the next menu screen (Figure 79) press the **Set Button** ⑲ to begin recording a macro.

Figure 79

4. The next display screen (Figure 80) is where you select the button that will be used to recall the macro. The choices are one of the discrete **Macro Buttons** ㉞. Press the ▲/▼ **Navigation Button** ⑰ until the name of the button you wish to program the macro into is shown. For this example we will show how to program a series of commands that will automatically be sent out every time the M1 button is pressed.

Figure 80

5. The next screen that appears (Fig. 81) is where you select the device for the first command that will be sent out as part of the macro. Press the ▲/▼ **Navigation Button** ⑰ until the name of the device appears on the left side of the lower line in the LCD display. For this example, the first button we want to have the macro "press" is the Power On button, so the DVD/MAIN is selected. Press the **Set Button** ⑲ when the desired device name appears to move to the next programming step.

Figure 81

Begin entering the individual commands for the macro, in the order you wish them to be transmitted. Remember that when you want to change devices, you must first press the **Input Selectors** ❹ for that button, and then press the Command or Function key.

6. The next display (Figure 82) and the subsequent screens are where the actual macro programming takes place. The words at the left side of the top line of the display show the button that is being programmed (e.g., one of the **Macro Buttons** ㉘) and the indication at the right side of the top line shows the number of macro steps available of 20 possible steps. Following the instructions on the remote's LCD screen, press the first key you wish to be transmitted in the macro. In our example, we first want the CVR700 to turn on, so the **Power Button** ❷ should be pressed.

Figure 82

7. Once the first command button for the macro has been pressed, continue to press the buttons you wish to be part of the macro, in the order they will be used. Press each button within 5 seconds of the last button, remembering to press the **Input Selector** ❹ when you are changing device functions. As the buttons on the remote are pressed, the remote's display screen will show the steps in the macro as they are programmed (Figure 83).

Figure 83

8. For our example, we first want the CVR700 Power On button pressed, followed by the Cable Box On, followed by the selection of the Logic 7 mode. To do that, press the buttons in this order:
   - **Power On** ❷
   - **Cable/Sat** ❹
   - **Power On** ❷
   - **System** ❻
   - **Logic 7** ㊷

   As each button is pressed to enter it into the macro, you will see the button names appear and then scroll up on the LCD display as your confirmation of the key entry (Figure 83).
9. When all commands for the macro have been entered, press the **Set Button** ⑲ to save the macro. The display screen will show the button to which the macro has been programmed and the number of steps used, and the word SAVED will blink four times in the lower line of the LCD display. When the display returns to normal, the macro has been entered and the remote is ready for operation.
10. As the macro plays, you will see the steps appear in the remote's LCD display. Macros programmed into one of the four discrete Macro buttons may be activated at any time by pressing the appropriate button.

Preprogrammed Macros

Several macro-type commands have been preprogrammed into the remote, and they may be activated not by pressing one of the **Macro Buttons** ㉞, but rather by pressing and holding certain other buttons as described below:

1. Pressing and holding the **Power On** ❷ or **Power Off** ❶ buttons will execute the Power On (All) or Power Off (All) commands to either turn on or turn off all devices whose product codes have been programmed into the remote. Note that if you are not using any external devices, you may simply power on the CVR700, and the CVPD50 screen will automatically be triggered to turn on as well.
2. Pressing and holding certain **Input Selectors** ❹ will cause the CVR700 to switch to the selected source input device, and the device will begin playing:
   a. Press and hold the **DVD Selector** ❹, and the CVR700 will switch to the internal DVD/CD changer source. If you do not enter the number for a disc you desire to play, the last played disc will begin playing.
   b. Press and hold the **CBL/SAT Selector** ❹, and the CVR700 will switch to the source device connected

to the cable/satellite inputs. If you have programmed the cable or satellite set-top box's remote control codes, the device will be turned on.

c. Press and hold the **VCR Selector** ❹, and the CVR700 will switch to the source device connected to the VCR inputs. If you have programmed the VCR's remote control codes, the device will be turned on, and the play command will be transmitted to it.

d. Press and hold the **DR (Digital Recorder) Selector** ❹, and the CVR700 will switch to the source device connected to the DR inputs. If you have programmed the DR's remote control codes, the device will be turned on, and the play command will be transmitted to it.

e. Press and hold the **AUX Selector** ❹, and the CVR700 will switch to the source device connected to the AUX inputs. If you have programmed the device's remote control codes, the device will be turned on, and the play command will be transmitted to it.

f. Press and hold the **Game/Cam Selector** ❹, and the CVR700 will switch to the source device connected to the Game/Cam inputs. If you have programmed the device's remote control codes, the play command will be transmitted to it. Note that for video game consoles and camcorders, there are no power on or off commands. Therefore, only the Play command (or start/stop command for camcorders) will be transmitted.

g. Press and hold the **DVI Selector** ❹, and the CVR700 will switch to the source device connected to the DVI inputs. If you have programmed the device's remote control codes, the device will be turned on, and the play command will be transmitted to it.

3. The **PIP Swap Button** ㉙ is activated while in screen mode by pressing and holding that button until the video source in the picture-in-picture frame swaps position with the main video source.

Erasing a Macro

Once a macro has been created and stored in the remote's memory, you have the option of erasing it (except the pre-programmed macros). You may do this at any time by following these steps:

1. Press and hold the **Remote Menu Button** ㉘ for about 3 seconds while the message shown in Figure 54 appears in the remote's **LCD Information Display** ❸. Release the button when the red light under the **Set Button** ⓳ appears.
2. The remote's MAIN MENU message (Figure 55), will appear in the LCD display and the **Set Button** ⓳ will remain illuminated in red. Press the ▲ **Navigation Button** ⓱ so that MACRO appears on the bottom line of the LCD screen, as shown in Figure 78. Press the **Set Button** ⓳ to enter the main macro menu branch.
3. At the next menu screen (Figure 84), press the ▲/▼ **Navigation Button** ⓯ until the bottom line in the remote's LCD display reads ERASE A MACRO. Press the **Set Button** ⓱ to begin the process of erasing a macro.

Figure 84

4. The next display screen (Figure 85) is where you select which macro will be erased. Press the ▲/▼ **Navigation Button** ⓱ until the number of the macro you wish to erase appears. For this example we will erase the Power On macro created in the previous section. When the name of the macro to be erased appears, press the **Set Button** ⓳.

Figure 85

5. The word ERASED will flash four times in the bottom line of the remote's LCD display, and then the display will return to its normal condition. When that happens, the macro is erased and the remote is returned to normal operation.

Read a Macro

To check the commands stored in the remote's memory for one of the macro buttons, follow these steps:

1. Press and hold the **Remote Menu Button** ㉘ for about three seconds while the message shown in Figure 54 appears in the remote's **LCD Information Display** ❸. Release the button when the red light under the **Set Button** ⓳ appears.
2. The remote's MAIN MENU message (Figure 55), will appear in the LCD display and the **Set Button** ⓳ will remain illuminated in red. Press the ▲ **Navigation Button** ⓱ until MACRO appears on the bottom line of the LCD screen, as shown in Figure 78. Press the **Set Button** ⓳ to enter the main macro menu branch.
3. At the next menu screen, press the ▲/▼ **Navigation Button** ⓱ until the bottom line in the remote's LCD display shows READ A MACRO (Figure 86). Press the **Set Button** ⓳ to begin the process of reading a macro.

Figure 86

4. The next display screen (Figure 87) is where you select the macro to be read. Press the ▲/▼ **Navigation Button** ⓱ until the name of the macro you wish to read appears. For this example, we will read back the Micro 1 macro created in a previous section. When the name of the macro to be read appears, press the **Set Button** ⓳.

Figure 87

5. As soon as the Set button is pressed, the first two steps in the macro will be appear in the remote's LCD screen. You may then use the ▲/▼ **Navigation Button** ⓱ to step up or down through the list of commands stored as the macro. As you read the display, you will see **Input Selector Buttons** ❹ appear in brackets, (e.g., [M/DVD]). When the step in the macro is a function, navigation or any other button, it will appear next to the bracketed read-out of the underlying device (e.g., [M/DVD] POWER ON).
6. When you are finished reviewing the macro's contents, press the **Set Button** ⓳ to return the remote to normal operation.

NOTE: It is not possible to edit the steps in a macro. If you notice an error, you will need to erase the macro as described above, and reprogram all of the steps.

Punch-Through Configuration

Punch-through is a capability of the remote that allows the Volume controls, Channel Up/Down buttons or Transport keys (Play, Stop, Record, Pause, Fast Forward and Reverse, and Skip Up/Down) to link to a different device. For example, if your TV, cable box or satellite receiver is connected through the CVR700, you will most likely want to use the CVR700's volume control commands even when the remote has been set to issue all other commands for the video device. "Punch-through" enables you to easily program the remote to do this.

Volume Punch-Through

Follow these steps to enable the Volume Up/Down and Mute controls from one device to be used when the remote is otherwise programmed for a different device.

NOTE FOR VOLUME PUNCH-THROUGH: The remote's default settings are for the CVR700's volume controls, to be used when any input or device is selected, with the exception of the Game/Cam button. There is no need to program the remote for volume punch-through for the CVR700's controls with other sources, such as DVD. To have the CVR700's volume commands used when the Game/Cam device is selected, follow these steps:

1. Press and hold the **Remote Menu Button** ㊳ for about three seconds while the message shown in Figure 54 appears in the remote's **LCD Information Display** ❸. Release the button when the red light under the **Set Button** ⓳ appears.
2. The remote's MAIN MENU message (Figure 55), will appear in the LCD display and the **Set Button** ⓳ will remain illuminated in red. Press the ▲/▼ **Navigation Button** ⓱ until PUNCH-THROUGH appears on the bottom line of the LCD screen, as shown in Figure 88. Press the **Set Button** ⓳ to enter the main punch-through menu branch.

Figure 88

3. At the next menu screen (Figure 89), press the **Set Button** ⓳ to begin programming the remote for Volume punch-through.

Figure 89

4. The next display screen (Figure 90) is where you select the device that will receive the punch-through commands. In our example, that is the Game/Cam button, as that is where we want the CVR700's volume controls to be active. Press the ▲/▼ **Navigation Button** ⓱ until the name of the base device appears and then press the **Set Button** ⓳.

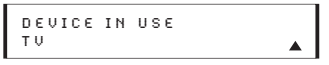


Figure 90

5. At the next display screen (Fig. 91), you will select the device whose Volume Up/Down and Mute commands will be used. Press the ▲/▼ **Navigation Button** ⓱ until the desired device's name appears to the right of the device in use. In our example, that is the CVR700 (indicated by M/DVD). When the desired combination of devices appears, press the **Set Button** ⓳.

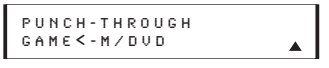


Figure 91

6. When the Set button is pressed, the display will change to show you that the new combination of control commands is being saved to the unit's memory, as shown in Figure 92. The word SAVED will flash four times and then the remote will return to normal operation.

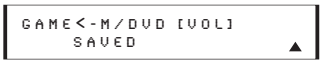


Figure 92

7. Once the punch-through is programmed, the Volume Up/Down and Mute buttons of the second device named will be used when those controls ㉑ are pressed while the master device is in use.

Returning the Volume Control Settings to Default Operation

If you wish to remove the Volume punch-through so that the commands for Volume and Mute are returned to the factory default setting, follow the steps shown above, except that in Steps 4 and 5, select the same device for both the DEVICE IN USE on the left side of the bottom line and the PUNCH-THROUGH device. In the example used, the display to return the remote to default settings will appear as shown in Figure 93.

Figure 93

Channel Control Punch-Through

Channel punch-through allows the Channel Up/Down buttons to send commands to a different device than the one that has been selected for other commands. For example, you may wish to use a cable box or satellite receiver as the source for a VCR, so you would want the **Channel Up/Down Controls** ㊸ to transmit commands to the cable box even though the other button commands are programmed to operate the VCR.

To program the remote for channel punch-through, follow these steps. This example will show how to program channel punch-through so that the commands programmed for Channel Up/Down for the Cable device will be transmitted when the VCR device has been selected as the current device.

1. Press and hold the **Remote Menu Button** ㊳ for about 3 seconds while the message shown in Figure 54 appears in the remote's **LCD Information Display** ❸. Release the button when the red light under the **Set Button** ⓳ appears.
2. The remote's MAIN MENU message (Figure 55), will appear in the LCD display and the **Set Button** ⓳ will remain illuminated in red. Press the ▲/▼ **Navigation Button** ⓱ until PUNCH-THROUGH appears on the bottom line of the LCD screen, as shown in Figure 88. Press the **Set Button** ⓳ to enter the main punch-through menu branch.
3. At the next menu screen, press the ▲/▼ **Navigation Button** ⓱ until CHANNEL appears on the bottom line of the LCD screen, as shown in Figure 94. Press the **Set Button** ⓳ to begin programming the remote for channel punch-through.

Figure 94

4. The next display screen (Figure 95) is where you select the device that will receive the punch-through commands. In our example, that is the VCR button, as that is where we want the cable

box's channel controls to be active. Press the ▲/▼ **Navigation Button** ⑰ until the name of the base device appears and then press the **Set Button** ⑲.

Figure 95

5. At the next display screen (Fig. 96), you will select the device whose Channel Up/Down commands will be used. Press the ▲/▼ **Navigation Button** ⑰ until the desired device name appears to the right of the device in use. In our example, that is the cable box. When the desired combination of devices appears, press the **Set Button** ⑲.

Figure 96

6. When the Set button is pressed, the display will change to show you that the new combination of control commands is being saved to the unit's memory, as shown in Figure 97. The word SAVED will flash four times and then the remote will return to normal operation.

Figure 97

7. Once the punch-through is programmed, the **Channel Up/Down Buttons** of the second device named will be used when those controls ㊸ are pressed while the master device is in use.

Returning the Channel Control Settings to Default Operation

If you wish to remove the Channel Punch-Through so that the commands for Channel Up/Down are returned to the factory default setting, follow the steps shown above, except that in Steps 4 and 5, select the same device for both the DEVICE IN USE on the left side of the bottom line and the PUNCH-THROUGH device. In the example used, the display to return the remote to default settings will appear as shown in Figure 98.

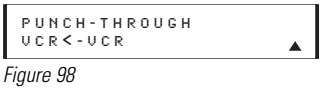


Figure 98

Transport Control Punch-Through

The **Play ㊶, Stop ㉓, Fast Forward/ Reverse ㉒㊷, Pause ㉓, Record ㉓** and **Skip Up/Down ⑳㊹** Transport Controls are set at the factory to operate your DVD player, or the controls of a specific device such as a VCR or CD player when they are selected. However, by using the Transport Punch-Through feature you may program these controls to transmit the commands for a different device. For example, you may wish to operate the transport of a VCR connected to the VCR input as the default, rather than the button for the internal DVD player, as shown in the following example.

1. Press and hold the **Remote Menu Button** ㊳ for about three seconds while the message shown in Figure 54 appears in the remote's **LCD Information Display** ③. Release the button when the red light under the **Set Button** ⑲ appears.
2. The remote's MAIN MENU message (Figure 55) will appear in the LCD display and the **Set Button** ⑲ will remain illuminated in red. Press the ▲/▼ **Navigation Button** ⑰ until PUNCH-THROUGH appears on the bottom line of the LCD screen, as shown in Figure 88. Press the **Set Button** ⑲ to enter the main punch-through menu branch.
3. At the next menu screen, press the ▲/▼ **Navigation Button** ⑰ until TRANSPORT appears on the bottom line of the LCD screen, as shown in Figure 99. Press the **Set Button** ⑲ to begin programming the remote for transport punch-through.

Figure 99

4. The next display screen (Figure 100) is where you select the device that will receive the punch-through commands. In our example, that is the System button, as that is where we want the VCR's transport controls to be active. Press the ▲/▼ **Navigation Button** ⑰ until the name of the base device appears, and then press the **Set Button** ⑲.

Figure 100

5. At the next display screen (Figure 101), you will select the device whose transport commands will be used. Press the ▲/▼ **Navigation Button** ⑰ until the desired device name appears to the right of the device in use. In our example, that is the VCR. When the desired combination of devices appears, press the **Set Button** ⑲.

Figure 101

6. When the Set button is pressed, the display will change to show you that the new combination of control commands is being saved to the unit's memory, as shown in Figure 102. The word SAVED will flash four times and then the remote will return to normal operation.

Figure 102

7. Once the punch-through is programmed, the transport buttons of the second device named will be used when those buttons are pressed while the master device is in use.

Returning the Transport Control Settings to Default Operation

If you wish to remove the Transport Punch-Through so that the transport commands are returned to the factory default setting, follow the steps shown above, except that in Steps 4 and 5, select the same device for both the DEVICE IN USE on the left side of the bottom line and the PUNCH-THROUGH device. In the example used, the display to return the remote to default settings will appear as shown in Figure 103.

Figure 103

EzSet Configuration

JBL's patented EzSet feature makes it easier than ever to calibrate the output levels on your new home theater system for maximum playback accuracy. In addition to automatically setting the levels, the remote's LCD display allows the unit to be used as a direct readout SPL meter. Complete instructions for using the EzSet features of the remote are found on page 51 of this owner's manual.

In most cases, you will find it easier to access the EzSet capabilities directly by pressing the **SPL Select Button** ⑩ and following the menu prompts as detailed on page 51. However, there is one function of the remote that is avail-

able only through the remote's menu system being described in this section.

To avoid having the calibration settings created with EzSet changed accidentally, the remote allows you to disable the **SPL Select Button ⑩** on the remote. To de-activate the button, follow these steps:

1. Press and hold the **Remote Menu Button ㊳** for about 3 seconds while the message shown in Figure 54 appears in the remote's **LCD Information Display ③**. Release the button when the red light under the **Set Button ⑲** appears.
2. The remote's MAIN MENU message (Figure 55), will appear in the LCD display and the **Set Button ⑲** will remain illuminated in red. Press the ▲/▼ **Navigation Button ⑰** until SET SPKR LEVELS appears on the bottom line of the LCD screen, as shown in Figure 104. Press the **Set Button ⑲** to enter the main EzSet menu branch.

Figure 104

3. At the next menu screen (Figure 105) press the ▲/▼ **Navigation Buttons ⑰** once so that EzSet DISABLE appears in the lower line of the LCD display.

Figure 105

4. Within 5 seconds, press the **Set Button ⑲** to disable the **SPL Select Button ⑩**. Once the **Set Button ⑲** is pressed, the word EXITING will flash four times in the lower line of the LCD display and then it will return to normal operation.

Once these steps are completed, when the **SPL Select Button ⑩** is pressed, the remote will show EzSet DISABLE and it will not be activated.

To restore the EzSet feature to normal operation, repeat the procedure outlined above, except that in Step 3 you should press the ▲/▼ **Navigation Button ⑰** so that EzSet ENABLE appears in the lower line of the LCD display. When that display appears, press the **Set Button ⑲** and the EzSet feature will be reactivated. You may then press the **Remote Menu Button ㊳** to exit the remote's menu system and return to normal operation or press the **Set Button ⑲** again to immediately use the EzSet feature to calibrate the system as shown on page 51.

Renaming

While the names given to the buttons and inputs on the remote represent recognizable categories of audio/video products, system operation may be easier if the displays shown in the remote's LCD screen are customized to reflect the specific characteristics of a playback source's brand name or the new function given to a specific button when one remote's controls are programmed into the remote. The CVR700R2 remote allows you to change the name of either a master device or any button on the remote using the following steps.

Renaming a Device

To rename a specific device/input source button, follow these steps. For this example, we will show you how to rename the Device/Input Selector normally shown as "TV" to "HDTV TUNER."

1. Press and hold the **Remote Menu Button ㊳** for about 3 seconds while the message shown in Figure 54 appears in the remote's **LCD Information Display ③**. Release the button when the red light under the **Set Button ⑲** appears.
2. The remote's MAIN MENU message (Figure 55), will appear in the LCD display and the **Set Button ⑲** will remain illuminated in red. Press the ▲/▼ **Navigation Button ⑰** until RENAME appears on the bottom line of the LCD screen, as shown in Figure 106.

Figure 106

3. Press the **Set Button ⑲** and RENAME DEVICE will appear on the bottom line of the LCD screen, as shown in Figure 107. Press the **Set Button ⑰** to begin renaming a device.

Figure 107

4. The next display screen (Figure 108) is where you select the device that will be renamed. In our example, that is the TV button. Press the ▲/▼ **Navigation Button ⑰** until the name of the base device appears and then press the **Set Button ⑲**.

Figure 108

5. At the next menu screen, you will see the device name on the bottom line of the display with a blinking cursor box to the right of the device name. Press the ◀ **Navigation Button ⑰** to return the blinking cursor to the far left side of the display line. You may then retitle the device name as shown in the next step.
6. To enter the new name, press the **Alpha Numeric Keys ㊽**. The letters above the numbered buttons indicate which letter or symbol will appear when the button is pressed during the renaming process. The first press of the button will enter the first letter shown, subsequent presses of the same button will change the display to the other letters above that numbered key. For example, since the first letter we need to rename the input to HDTV Tuner is an "H," you would locate the "H" above the "4" button, and press the button twice. The first press shows a "G," the second press changes it to an "H." Consult the table at the end of this section to see which characters pressing a particular button generates.
7. After you enter the first letter of the new device name, there are three options for entering the next character:
   a. To enter a letter that requires a different numeric key to be pressed, simply press that button. The cursor will automatically move to the next position and the first letter accessed by the new button will appear. Following our example, the next letter needed is a "D," so you would press the "3" button once.
   b. To enter a letter that uses the same numeric key, you must first press the ▶ **Navigation Button ⑰** to move the blinking cursor block to the next position. Then press the **Numeric Key ㊽** as required to enter the desired letter.
   c. To enter a blank space, press the ▶ **Navigation Button ⑰** twice. The first press will move the cursor to the right, and the second press

will move the cursor one more space to the right, leaving a blank space between the last letter and the next one.

8. Repeat Step 7 as needed to enter all the needed letters, numbers, characters and spaces.
9. When the text entry is complete, press the **Set Button** (19). The LCD display will blink DEVICE RENAMED three times and then return to normal operation.

Once a device is renamed you will see the new name on the top line of the remote's LCD display whenever the **Input//Device Selector** (4) is pressed, or when any other command/function button on the remote is pressed after the main Device Selector is pressed. Note that renaming a device in the remote will *not* change the name of the input used by the on-screen menu system of the CVR700.

NOTES ON RENAMING DEVICES:

- To move the cursor to the right or left of the display during the renaming process, press the ◀/▶ **Navigation Buttons** (17) as required.
- The table below shows the letters, numbers and characters that may be accessed by pressing the Numeric Keys:

Key	Characters	Key	Characters
1	[,],/,1	6	M,N,O,6
2	A,B,C,2	7	P,Q,R,S,7
3	D,E,F,3	8	T,U,V,8
4	G,H,I,4	9	W,X,Y,Z,9
5	J,K,L,5	0	-,.,#,0

There is a limit of nine characters (including spaces) for any new device or button name.

- Renaming a device changes the name of the device only, not any of the individual key functions within that device memory. To change the name of an individual device, follow the instructions in the next section.

Renaming Individual Buttons

Thanks to the programming flexibility of the CVR700R2 remote, an individual button on the remote may be assigned a feature or function that is different from the name that appears as the factory default when the button is pressed. With the Rename Button function, it is possible to rename almost any button on the remote so that when the button is pressed you will see a more descriptive or appropriate name displayed.

To rename a specific button on the remote, follow these steps. For instance, this example will show you how to program the remote so that FULL SCREEN appears in the remote's LCD display when you press the **Tone Button** (18) while in CABLE mode to match the original cable remote. Of course, remember that you will first have to learn the codes for that function into the Exit button, following the instructions shown on page 78.

1. Press and hold the **Remote Menu Button** (38) for about 3 seconds while the message shown in Figure 54 appears in the remote's **LCD Information Display** (3). Release the button when the red light under the **Set Button** (19) appears.
2. The remote's MAIN MENU message (Figure 55), will appear in the LCD display and the **Set Button** (19) will remain illuminated in red. Press the ▲/▼ **Navigation Button** (17) until RENAME appears on the bottom line of the LCD screen, as shown in Figure 106.
3. At the next menu screen, press the ▲/▼ **Navigation Button** (17) until RENAME BUTTON appears on the bottom line of the LCD screen, as shown in Figure 109. Press the **Set Button** (19) to continue.

Figure 109

4. The next display screen (Figure 110) is where you select the device within which the button to be renamed exists. Press the ▲/▼ **Navigation Buttons** (Q) until the name of the base device appears. In our example, since we want to rename a button within the DVD device memory, DVD/MAIN should appear in the lower line of the LCD. When the desired device name appears, press the **Set Button** (S).

Figure 110

5. At the next menu screen you will select the first button within the device to be renamed, as instructed in the display shown in Figure 111. Select the button (in this case, the **Exit/Cancel Button** (18)) by simply pressing it on the remote.

Figure 111

6. Depending on whether or not the button pressed already has a named function within the device selected, one of two things will happen.
   a. If the button to be renamed already has a pre-programmed, or previously renamed title in the remote's memory, you will see that name on the top line of the LCD display, and a blinking block cursor will appear on the far left side of the bottom line of the display, as shown in Figure 112.
   b. If the button to be renamed does not have a function in the device selected, the top line of the LCD screen will be blank, and a blinking block cursor will appear on the far left side of the bottom line of the display.

Figure 112

7. To enter the new name for the button, press the **Alphanumeric Keys** (48). The letters above the numbered buttons indicate which letters or symbols will appear when the button is pressed during the renaming process. The first press of the button will enter the first character shown, subsequent presses of the same button will change the display to the other letters above that numbered key. For example, since the first letter we need to rename the Exit button to Full screen is an "F," you would locate the "F" above the "9" button, and press the button four times. The first press shows a "D," and subsequent presses step through the other letters available until the "F" appears. Consult the table at left to see which characters are available by pressing a particular button.
8. After you enter the first letter of the new device name, there are three options for entering the next character:
   a. To enter a letter that requires a different numeric key to be pressed, simply press that button. The cursor will automatically move to the next position and the first letter accessed by the new button will appear. Following our example, the

next letter needed is a "U," so you would press the "8" button twice.

b. To enter a letter that uses the same numeric key, you must first press the ▶ **Navigation Button** ⑰ to move the blinking cursor block to the next position. Then press the **Alphanumeric Key** ㊽ as required to enter the desired letter. This is the way you would enter the second "L" in the word "FULL".

c. To enter a blank space, press the ▶ **Navigation Button** ⑰ twice. The first press will move the cursor to the right, and the second press will move the cursor one more space to the right, leaving a blank space between the last letter and the next one.

9. Repeat Steps 7 and 8 as needed to complete entering the needed letters, numbers, characters and spaces.
10. When the text entry is complete, press the **Set Button** ⑲. The new name will be entered into the remote's memory, replacing the default name.
11. At this point, you have two options:

a. The screen shown in Figure 113 will appear, prompting you to continue renaming. Press the **Set Button** ⑲ to select CONTINUE.

Figure 113

The remote will return to the PRESS A BUTTON menu option (Fig. 111) as shown in Step 6. Repeat the instructions in Steps 6 though 11 to rename the next button.

b. If you have no additional buttons to rename, press the ▲ **Navigation Button** ⑮ until the menu screen displays EXIT on the bottom line of the display. Press the **Set Button** ⑲ to return the remote to normal operation.

NOTES ON RENAMING KEYS:

- Renaming a button does not change its function. You may change the function of an individual button by "learning" a new code into the remote. See page 78 for more information.
- When a button is renamed, it will only apply to the specific device selected in Step 4. The same button may be renamed as needed for each individual device with which it is used. There is a limit of nine characters (including spaces) for any new device or button name.

Resetting the Remote

Depending on the way in which the remote has been programmed, there may be a situation where you wish to totally erase all changes that have been made to the remote and return it to the factory defaults. You may do that by following the steps shown below, but remember that once the remote is reset, ALL changes that have been made, including programming for use with other devices, learned buttons, macros, punch-through settings and button names, will be erased and any settings you had previously made will have to be reentered.

To erase all settings and reset the remote to the original factory default settings and displays, follow these steps:

1. Press and hold the **Remote Menu Button** ㊳ for about three seconds while the message shown in Figure 54 appears in the remote's **LCD Information Display** ③. Release the button when the red light under the **Set Button** ⑲ appears.
2. The remote's MAIN MENU message (Figure 55), will appear in the LCD display and the **Set Button** ⑲ will remain illuminated in red. Press the ▲/▼ **Navigation Button** ⑰ until USER RESET appears on the bottom line of the LCD screen, as shown in Figure 114.

Figure 114

3. Press the **Set Button** ⑲ to reset the remote. Note that once the Set button is pressed, the process may not be stopped. A RESETTING... message will appear in the upper line of the remote's LCD screen, as shown in Figure 115, while the remote's memory is being cleared. It may take a few minutes for the reset process to take place, and the length of time will vary depending on how much customization and programming has taken place. Please be patient; as long as the message appears in the display the remote is functioning properly.

Figure 115

4. When the remote has been totally reset and returned to the factory default condition, a REMOTE RESET COMPLETE message will appear (Figure 116) briefly, and then the remote will return to normal operation.

Figure 116

If the remote locks up for some reason and you wish to reset it without losing any programming or removing and replacing the batteries, you may perform a soft reset by removing the cover from the battery compartment and gently pressing the small black rectangular button labeled "RESET". This should return the remote to normal operation.

Additional Notes on Configuring and Operating the Remote

- In normal operation, the last selected device will appear in the upper line of the **LCD Information Display** ③. After one minute with no activity, the remote will go into standby mode and the display will go blank to conserve power. Simply press any button to return the remote to normal operation.
- When the remote is being programmed, it will automatically time-out if no button is pressed within a 30-second period. The message shown in Fig. 117 will appear briefly, and the remote will then exit the feature being programmed and any data entered will be lost.

Figure 117

- The programming or configuration process may also be stopped at any time by pressing the **Remote Menu Button** ㊳. The message shown in Figure 117 will appear, the data entered in the current process will be lost and the remote will return to normal operation. Any process that was underway when the button will be pressed must be restarted.
- In most situations, you may press the **Exit/Cancel Button** ⑱ to simply exit the current function and return to the previous menu screen. The Cancel function is not always available, in which case you may need to exit the remote's menu system altogether by pressing the **Remote Menu Button** ⑫.

- Extensive use of the programming, learning and configuration functions of the remote may consume significantly more battery power than normal remote operation. While the batteries should last for four to six months in normal operation, you may find that they need to be changed sooner after the remote is programmed for the first time.
- When the batteries approach a level below which the remote will not function, the remote's LCD screen will display a LOW BATTERY warning as shown in Figure 118. We strongly recommend replacing the batteries as soon as this message appears to avoid the loss of programming and configuration settings. These settings are *not* lost when the batteries are changed quickly.

Figure 118

- The remote has a built-in backlight that may be activated by pressing the **Light Button 33**. This button is made from a special "glow" material so that it is easier to find in dark rooms. This glow feature does not consume any electricity, but the glow will fade when the remote is kept in a dark location for an extended period of time. The "glow" feature may be restored by placing the remote in normal room light for a few hours.
- The remote's backlight will remain lit for approximately 5 seconds after the **Light Button 33** is pressed, and it will stay lit for another 5 seconds if any key is pressed while the backlight is on. You may keep the backlight lit by holding the Light button, but extensive use of the backlight will reduce battery life.
- The LCD display will remain on for 10 seconds after a key is pressed and then turn off to conserve battery life.
- When any button is held for more than 30 seconds, the LCD will turn off and the remote will stop transmitting the codes to conserve battery life.

Programmed Device Functions

Once the CVR700R2 remote has been programmed for the codes of other devices, press the appropriate **Input Selector 4 5 6** to switch the remote to control the audio section of the CVR700 (**System Selector 6**), the CVPD50 screen (**Screen Selector 5**), the internal DVD/CD changer of the CVR700 (**DVD Selector 4**) or to control additional products. When you press any one of the selectors, its name will appear on the upper line of the **LCD Information Display 3** to indicate that you have changed the device being controlled.

When operating a device other than the CVR700 or CVPD50, the controls may not correspond exactly to the function printed on the remote or button. Some commands, such as the volume control, are the same as they are with the CVR700. Other buttons will change their function so that they correspond to a secondary label on the remote. For example, the Slow Play controls also function as the Channel Up and Channel Down controls when operating most TV sets, VCRs or cable boxes. The Channel Up/Down indication is printed directly on the remote. For many standard CD players, cassette decks, VCRs and DVD functions, the standard function icons are printed on top of the buttons. For some products, however, the function of a particular button does not follow the command printed on the remote. Even though the name of the function will appear on the lower line of the **LCD Information Display 3** when the button is pressed, in order to conveniently see which function a button controls before you press it, consult the Function List tables on pages 89–91.

To use those tables, first check the type of device being controlled (e.g., TV, VCR). Next, look at the remote control diagram in Figure 119. Note that each button has a number on it. To find out what function a particular button has for a specific device, find the button number on the Function List and then look in the column for the device you are controlling. For example, button number 37 is the Zoom button for the CVR700's internal DVD changer, but it is the Memory button for the tuner; the +100 button for many TVs, VCRs, HDTV tuners and PVRs, and the Enter button for many video game consoles and D-VHS players.

NOTE: The numbers used to describe the button functions in Figure 119 for the purposes of describing how a button operates are a different set of numbers than those used in the rest of this manual to describe the button functions for the main remote.

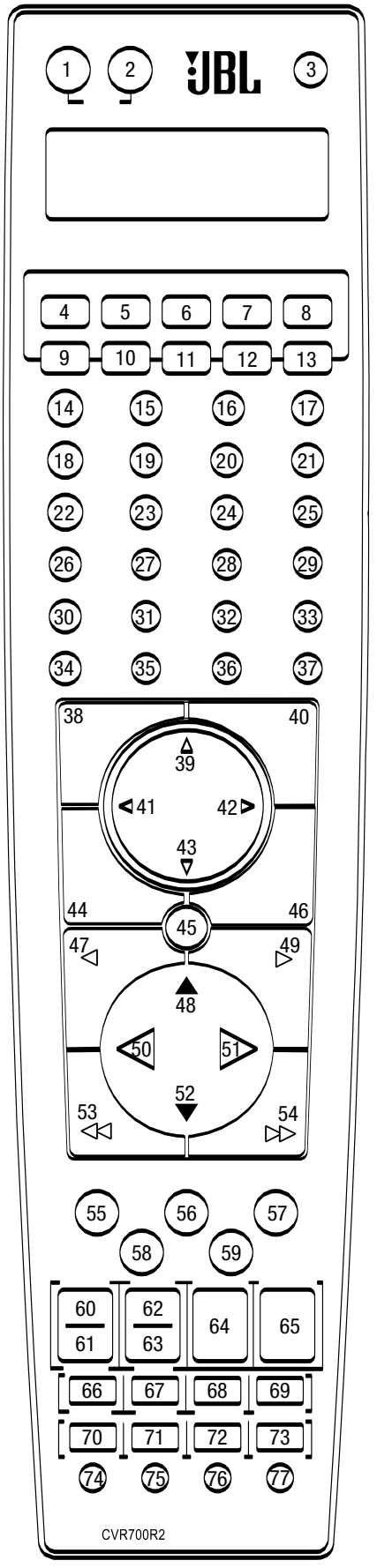


Figure 119

CVR700R2 Remote Function List Table

NO.	BUTTON NAME	DVD (MAIN)	FM/AM (TUNER)	TV	VCR	CD(R)	DVD(R)	DVHS	GAME	CAM	TIVO	PVR	CBL	SAT	SCREEN	SYSTEM	HDTV
01	All On	Power On	Power On	Power On	Power On	Power On	Power On	Power On	Play	Start/Stop	Power On	Power On	Power On	Power On		Powerr On	Power On
02	All Off	Power Off	Power Off	Power Off	Power Off	Power Off	Power Off	Power Off	Stop	Start/Stop	Power Off	Power Off	Power Off	Power Off		Power Off	Power Off
03	Mute	Mute	Mute	Mute	Mute	Mute	Mute	Mute			Mute	Mute	Mute	Mute		Mute	Mute
04	System	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel
05	Screen	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel
06	DVD	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel
07	FM/AM(Tuner)	Tuner Sel	Tuner Sel	Tuner Sel	Tuner Sel	Tuner Sel	Tuner Sel	Tuner Sel	Tuner Sel	Tuner Sel	Tuner Sel	Tuner Sel	Tuner Sel	Tuner Sel	Tuner Sel	Tuner Sel	Tuner Sel
08	Aux	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel
09	VCR	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel
10	CBL/SAT	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel
11	Game/Cam	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/ CamSel	Game/Cam Sel	Game/ Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel
12	DR	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel
13	DVI/Comp	DVI/Comp Sel	DVI/Comp Sel	DVI/Comp Sel	DVI/Comp Sel	DVI/Comp Sel	DVI/Comp Sel	DVI/Comp Sel	DVI/ Comp Sel	DVI/Comp Sel	DVI/Comp Sel	DVI/Comp Sel	DVI/Comp Sel	DVI/Comp Sel	DVI/Comp Sel	DVI/Comp Sel	DVI/Comp Sel
14	Test	Test Tone	Test Tone				TV/DVD	IEEE1349 Input	L1	Next	Hope	Clear	Info			Test Tone	Dash
15	Surr	Surround	Surround		Thumb Up	CDP Select	Audio	Start Up	L2	Audio	Thumb Up	Thumb Up	Clear			Surround	Caller ID
16	Dolby	Dolby	Dolby		Thumb Down	CDR Select	Action	Stop Up	Start	Effect On	Thumb Down	Thumb Down	Bypass			Dolby	Quick
17	DTS Surr	DTS Surround	DTS Surround	Back			Return	Date Up	Repeat	Memory/ Card Up	Back	Window	Back			DTS Surround	Back
18	SPL	SPL	SPL														
19	Logic 7/Sports	Logic 7	Logic 7					Start Down	Next	Index	AOL TV	Mark	Caption		Sports	Logic 7	Caption
20	DTS Neo:6/B'Cast	DTS Neo:6	DTS Neo:6					Stop Down		Effect Off	Live TV	CM Skip	PPV	Alt	Broadcast	DTS Neo:6	Aspect
21	Stereo/Movies	Stereo	Stereo		Clear	Track Inc	Display	Date Down	Audio	Memory/ Card Down	Slow	Return	Music	Next	Movies	Stereo	MTS
22	Audio Input	Audio Input	Audio Input													Audio Input	
23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
25	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
26	Direct/Brigh/Win	Direct	Direct			Track Direct		>			Windows	Jump Up			Brightness	Direct	Program
27	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
28	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
29	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
30	Tone/Color/List	Tone Mode	Tone Mode		List		Next Chapter	Display		R.A Edit	Return	Jump Down	100		Color Temp	Tone Mode	Help
31	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
32	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
33	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

NO.	BUTTON NAME	DVD (MAIN)	FM/AM (TUNER)	TV	VCR	CD(R)	DVD(R)	DVHS	GAME	CAM	TIVO	PVR	CBL	SAT	SCREEN	SYSTEM	HDTV
34	OSD/Contrast	OSD	OSD	OSD/Display	OSD		Prev Chapter	OSD	Display	Display	Info	Info	OSD	OSD	Contrast	OSD	OSD/Display
35	Angle/Tune(*)	Angle	Tuning Mode		Select		Angle	Rec Link	Angle	Photo	Angle	AV	*				Ratio
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	Zoom/Mem(#)	Zoom	Memory	100	+100	(+10)	Zoom	Enter	Enter	Zoom/Search Mode	100	100	#				100
38	Guide/Level	Level/Guide	Level/Guide	Guide	Guide/Display	Intro Scan	Chapter	Rec Speed		Data Code	Guide	Guide	Guide	Guide	Info	Level	Guide
39	Up	Up	Up	Up	Up	Up	Up	Up	Up	Up	Up	Up	Up	Up	Up	Up	Up
40	Menu/Info	Menu/Info	Menu/Info	Menu	Menu/Program	Menu	Disc Menu	Menu	Menu, DVD Menu	Menu	Menu/List	Menu	Menu/Info	Menu	Menu		Menu
41	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left
42	Right	Right	Right	Right	Right	Right	Right	Right	Right	Right	Right	Right	Right	Right	Right	Right	Right
43	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down
44	Exit/Cancel	Exit/Cancel	Exit/Cancel	Exit/Cancel	Cancel	Clear	Clear	</Cancel	Exit/ Cancel/Next	Cancel	Exit	Exit	Exit	Exit/Cancel	Exit/Cancel	Exit/Cancel	Exit/Cancel
45	Set	Set/Enter	Set/Enter	Set/Enter	Set/Enter	Set/Enter	Set/Enter	Enter	Select	Set/Enter	Select	Select	Select/OK	Enter	Set/Enter	Set/Enter	Set/Enter
46	Distance/Last Ch	Distance/Last Ch	Distance/Last Ch	Last Ch	Prev Ch/Last Ch			Last Ch/Prev Ch	Info		Enter/Last	Enter/Last	Prev Ch/Last Ch	Last Ch		Distance	Last Ch
47	Preset/Page Down	Skip Backward/ Pic–	Preset Down		Scan Down	Skip Backward	Skip Backward	Index Down	Skip Backward	Skip Backward	Last Clip	Last Clip	Page Down	Page Down			
48	Vol Up	Vol Up	Vol Up	Vol Up	Vol Up	Vol Up	Vol Up	Vol Up	Scan Up	T (Zoom In)	Vol Up	Vol Up	Vol Up	Vol Up		Vol Up	Vol Up
49	Preset/Page Up	Skip Forward/ Pic+	Preset Up		Scan Up	Skip Forward	Skip Forward	Index Up	Skip Forward /Prev	Skip Forward	Next Clip	Next Clip	Page Up	Page Up			
50	Ch/Pic/Slow Down	Slow Down	Slow Down	Ch Down	Ch Down		Slow Down	Ch Down	Slow Down	Scan/Slow Down	Ch Down	Ch Down	Ch Down	Ch Down			Ch Down
51	Ch/Pic/Slow Up	Slow Up	Slow Up	Ch Up	Ch Up		Slow Up	Ch Up	Slow Up	Scan/Slow Up	Ch Up	Ch Up	Ch Up	Ch Up			Ch Up
52	Vol Down	Vol Down	Vol Down	Vol Down	Vol Down	Vol Down	Vol Down	Vol Down	Scan Down	W (Zoom Out)	Vol Down	Vol Down	Vol Down	Vol Down		Vol Down	Vol Down
53	Rew/Tune Down	Scan Backward	Tune Down		Rew	Rew	Rew	Rew	Rew	Rew	Rew	Rew	Rew	Rew			Rew
54	FF/Tune Up	Scan Forward	Tune Up		FF	FF	FF	FF	FF	FF	FF	FF	FF	FF			FF
55	Rec				Record	Record	Record	Record		Record, In/Out	Record	Record	Record	Record			Record
56	Stop	Stop	Stop		Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop			Stop
57	Pause	Pause	Pause		Pause	Pause	Pause	Pause	Pause	Pause	Pause	Pause	Pause	Pause			Pause
58	Status/Settings/-/–	Settings	Settings	Info	Action	Continuous Play	Status	Back	Return/ Back	Memory Play	Instant Replay	Instant Replay	Settings	Info		Status	Info
59	Play	Play	Play		Play	Play	Play	Play	Play	Play	Play	Play	Play	Play	Play		Play
60	Random/LtrBox	Random	Random												LetterBox		
61	Repeat/Frame	Repeat	Repeat												Frame		
62	Title/Freeze	Title	Title				Title/Info	VCR/TV	Title	Title	Top Menu	Top Menu			Freeze		Freeze
63	A-B/Auto	A-B	A-B			Repeat	Repeat	Navi	A-B	After Record	VCR Plus	Audio			Auto		Search
64	OSL/Favorite	OSL	OSL	Favorite	Favorite	Random Play	OSL	Video	X	Zero Set Memory	DVD	TIVO	Favorite	Favorite			Favorite
65	DVD Setup/PIP /Swap	DVD Setup	DVD Setup	PIP/ PIP Swap	PIP/ PIP Swap		Setup	Input	Shuffle	Change Screen	PIP	Setup/ Timer Record	PIP On/Off/ PIP Swap		PIP		PIP/ PIP Swap

NO.	BUTTON NAME	DVD (MAIN)	FM/AM (TUNER)	TV	VCR	CD(R)	DVD(R)	DVHS	GAME	CAM	TIVO	PVR	CBL	SAT	SCREEN	SYSTEM	HDTV
66	PVR Replay/Prog	Program	Program			Program	Disc/Top Menu	Program	Program	Edit	TIVO	Repeat	PVR Replay				Replay
67	PVR List/D.Skip	Disc Skip	Disc Skip			Disc Skip	Disc Skip	Skip Search	R1	X2	Skip	Skip	PVR List				List
68	PVR Live/D.Direct	Disc Direct	Disc Direct				Disc Direct	Q.V	R2	Display Date	CM SKIP	Live TV	PVR Live				CC/Date
69	PIP Ch+/Rem Menu			PIP Ch Up	PIP Ch/Prog Up			Rec Length			Quick Rec	DVD	PIP Ch Up				PIP Ch Up
70	Audio/Screen Saver	Audio	Audio												Screen Saver	Audio	
71	Subtitle/TV-Video	Subtitle	Subtitle	TV/VCR	TV/VCR	Input Select	Subtitle On/Off	TV/Video	Subtitle		TV/Input	TV/Input	TV/Cable	TV/SAT	Input Select		TV/VCR
72	PIP Move/Sleep	Sleep	Sleep	Sleep	Slow	Time	Subtitle On/Off	Timer		Slow/Natural Rec	Clear	Slow	PIP Move		Screen Standby	Sleep	Sleep
73	PIP Ch-/Night	Night	Night	PIP Ch Down	PIP Ch/ Prog Down				Time			Quick Record	PIP Ch Down			Night	PIP Ch Down
74	Light																
75	M1/A								▲			VCR Plus	A/Yes				
76	M2/B								■			Dual	B				
77	M3/C								●			CATV	C/NO				

In addition to its powerful CVR700R2 remote control, the JBL Cinema Vision system also includes a smaller CVR700R1 remote intended for everyday use. This remote features many of the same functions as the main remote, including the capability of controlling most popular brands of audio and video equipment, such as CD players, cable boxes, digital recording devices, VCRs, satellite receivers and HDTV set-top tuners, but in a more compact design.

The CVR700R1 remote control is capable of operating up to nine devices, including the CVR700. In order to segregate the control commands for each device, the remote's logic contains a separate "page" of commands for each device called up when that device's selector has been pressed. For example, in order to access the commands that control the CVPD50 screen, such as Letterbox or PIP, you must first press the **Screen Selector** 34, and an orange light underneath that button will light. When you press another button on the remote that is used to control the screen, the light underneath the **Screen Selector** 34 will blink to confirm the current mode.

Programming Product Codes

The remote is factory-programmed for all CVR700 functions, as well as those of JBL DVD players. In addition, by following one of the methods below, you may program the remote to operate a wide range of devices from other manufacturers.

The **Input Selectors** 2 10 each may be programmed with one of several device types, as listed in the table below. Unlike the main remote control, the device types on the secondary remote control may not be reassigned. It is important to program your external devices into the correct corresponding source buttons so that the desired remote control commands will be available for use with your device.

Source Button	Device Types
AUX	TV, HDTV, VCR, DVD, CD, Cable, Satellite
VCR	VCR
CBL/SAT	Cable, Satellite, HDTV
Game/ Cam	Game, Camcorder
DR	DVD-R, CDR, DVHS, TIVO, PVD (DVR/PVR – Personal Video Recorder)
DVI/ COMP	DVI/DVD, DVI/CBL, DVI/SAT, HDTV

The DVD, Tuner, Screen and System selectors may not be reprogrammed.

Direct Code Entry
This method is the easiest way to program your remote to work with different products.

1. Use the tables in the following pages to determine the three-digit code or codes that match both the product type (e.g., VCR, TV) and the specific brand name. If there is more than one number for a brand, make note of the different choices.
2. Turn on the unit you wish to program into the secondary remote.
3. Press and hold both the **Input Selector** 2 10 for the product you wish to control (e.g., VCR, TV) and the **Program Button** 21 at the same time. When the light under the **Input Selector** 2 10 stays lit, release the buttons. It is important that you begin the next step within 20 seconds.
4. Point the remote toward the unit to be programmed, and enter the first three-digit code using the **Numeric Keys** 14. If the unit turns off, the correct code has been entered. Press the **Input Selector** 2 10 again, and note that the red light will flash three times before going dark to confirm the entry. If the **Input Selector** 2 10 flashes nine times instead of three times, it means that the code was not accepted. Check the code table to verify the code, and reenter it. If you wish to exit the program mode, press and hold any **Input Selector** 2 10 for 2 seconds.

NOTE: Since video game consoles and camcorders do not have Power Off codes, look for your game device to execute the "Stop" function, and your camcorder to execute the "Zoom In" function.

5. If the device to be programmed in does NOT turn off, continue to enter three-digit codes until the equipment turns off. At this point, the correct code has been entered. Press the **Input Selector** 2 10 again and note that the light under the **Input Selector** 2 10 will flash three times before going dark to confirm the entry.
6. Try all of the functions on the remote to make certain that the product operates properly. Keep in mind that many manufacturers use a number of different combinations of codes, so it is a good idea to make certain that not only the power control, but the volume, channel and transport controls work as they should. If functions do not work properly, you may need to use a different remote code.
7. If a code cannot be entered to turn the unit off, if the code for your product does not appear in the tables in this manual, or if not all functions operate properly, try programming the remote with the Auto Search Method.

Auto Search Method
If the unit you wish to include in the remote is not listed in the code tables in this manual or if the code does not seem to operate properly, you may wish to program the correct code using the Auto Search method that follows:

1. Turn on the unit that you wish to include in the remote.
2. Press the **Input Selector** 2 10 for the type of product to be entered and the **Program Button** 21 at the same time. Hold both buttons until the red light under the **Input Selector** 2 10 stays lit. The next step must take place while the light is on, and it must begin within 20 seconds after the light appears.
3. Point the remote toward the unit to be programmed, and press either the ▲ or ▼ **Button** 4. Each press will send out a series of codes from the remote's built-in database. When the unit being programmed turns off, release the ▲/▼ **Button** 4, as that is your indication that the correct code is in use.
4. Press the **Input Selector** 2 10; the light under it will flash three times before going dark to confirm the entry.
5. Try all of the functions on the remote to make certain that the product operates. Keep in mind that many manufacturers use a number of different combinations of codes, and it is a good idea to make certain that not only the power control works, but also the volume, channel and transport controls, as appropriate. If all functions do not work properly, you may need to Auto-Search for a different code, or enter a code via the Direct Code Entry method.

For future reference, enter the setup codes for the equipment in your system here:

Source Button	Device Type	Product Code
AUX		
VCR		
CBL/SAT		
GAME/CAM		
DR		
DVI/COMP		

Learning Codes

In addition to using codes from the remote's internal code library, the remote is able to "learn" codes from remotes that may not be in the code library. Also, you may use this function to "learn over" the codes from a preprogrammed device to add functions not included in the preprogrammed codes. To learn or transfer codes from an original remote to the secondary remote, follow these steps:

1. Place the front of the original remote with the code being sent so that it is facing the **IR Transmitter** 40 on the secondary remote "head to head." The remotes should be between 1 and 3 inches apart.
2. Select the button on the remote that you wish to use as the device selector for the codes about to be entered. This may be any of the **Input Selectors** 2 10 .
3. Press the chosen **Input Selector** 2 10 and the **Learn Button** 19 at the same time. Hold these buttons until the light under the device selector button turns on. Release the buttons.
4. Press the button on the secondary remote that you wish to program.
5. Within 5 seconds, press and hold the button on the original remote that you wish to "teach" into the secondary remote. When the light under the **Input Selector** 2 10 blinks.

   NOTE: If the **Input Selector** 2 10 flashes nine times during Step 5, the programming was not successful. Repeat the steps to see whether the code will "take."
6. Repeat Steps 4 through 6 for each button on the source remote that you wish to transfer to the remote.
7. Once all codes have been transferred from the original source remote to the secondary remote, press the **Input Selector** 2 10 you pressed in Step 2. It will blink three times and go dark, exiting learning mode.
8. Repeat Steps 1 through 7 for any additional remotes you wish to "teach" into the secondary remote.

Note on Learning Function: Remote control signals can vary from one controller to the next, due to different standard formats adopted by each manufacturer. For example, some manufacturers repeat the code sequence in the initial transmission, and others insert a special code to identify the brand or model. Due to the variety of formats, occasionally an error may occur in the learning process, even though the CVR700R1 remote has indicated that the code was learned correctly. Therefore, it is recommended that you test the newly learned codes with the source component. If the code was not learned correctly, try relearning it. Usually, after several tries, the code can be learned correctly.

Erasing Learned Codes

The remote allows you to remove or erase the code set for all the codes that have been programmed into specific device buttons.

To erase all codes within a single device, follow these steps:

1. Press and hold both the **Input Selector** 2 10 within which the individual button to be erased has been programmed and the **Learn Button** 19 .
2. When the LED under the **Input Selector** turns on, release the buttons.
3. Press and release the **Input Selector** 2 10 for 3 seconds.
4. The light under the **Input Selector** 2 10 will blink three times and go dark, and all of the learned codes for that device will have been erased.

Macros

Several macro-type commands have been preprogrammed into the remote, and they may be activated by pressing and holding certain other buttons as described below. (The secondary remote does not allow you to program new macro functions.)

1. Pressing and holding the **Power On** 1 or **Power Off** 39 buttons will execute the Power On (All) or Power Off (All) commands to either turn on or turn off all devices whose product codes have been programmed into the remote. Note that if you are not using any external devices, you may simply power on the CVR700, and the CVPD50 screen will automatically be triggered to turn on as well.
2. Pressing and holding certain **Input Selectors** 2 10 will cause the CVR700 to switch to the selected source input device, and the device will begin playing.
   a. Press and hold the **DVD Selector** 2 , and the CVR700 will switch to the internal DVD/CD changer source. If you do not enter the number for a disc you desire to play, the last played disc will begin playing.
   b. Press and hold the **CBL/SAT Selector** 2 , and the CVR700 will switch to the source device connected to the cable/satellite inputs. If you have programmed the cable or satellite set-top box's remote control codes, the device will be turned on.
   c. Press and hold the **VCR Selector** 2 and the CVR700 will switch to the source device connected to the VCR inputs. If you have programmed the VCR's remote control codes, the device will be turned on, and the play command will be transmitted to it.
   d. Press and hold the **DR (Digital Recorder) Selector** 10 , and the CVR700 will switch to the source device connected to the DR inputs. If you have programmed the DR's remote control codes, the device will be turned on, and the play command will be transmitted to it.
   e. Press and hold the **AUX Selector** 2 , and the CVR700 will switch to the source device connected to the AUX inputs. If you have programmed the device's remote control codes, the device will be turned on, and the play command will be transmitted to it.
   f. Press and hold the **Game/Cam Selector** 10 , and the CVR700 will switch to the source device connected to the Game/Cam inputs. If you have programmed the device's remote control codes, the play command will be transmitted to it. Note that for video game consoles and camcorders, there are no power on or off commands. Therefore, only the Play command (or start/stop command for camcorders) will be transmitted.

g. Press and hold the **DVI/Comp Selector** 10, and the CVR700 will switch to the source device connected to the DVI inputs. If you have programmed the device's remote control codes, the device will be turned on, and the play command will be transmitted to it.

3. The **Screen Saver Button** 16 is activated while in screen mode by pressing and holding that button until the screen saver image appears on the CVPD50 screen.
4. The **PIP Swap Button** 17 is activated while in screen mode by pressing and holding that button until the video source in the picture-in-picture frame swaps position with the main video source.

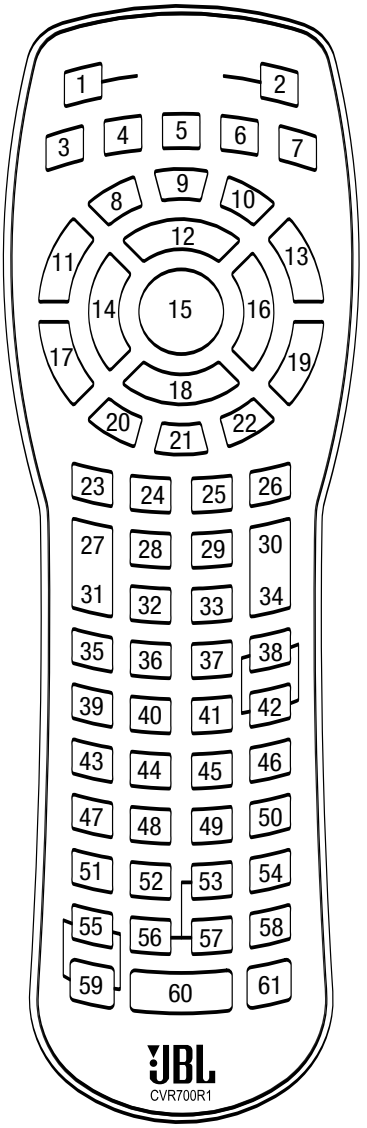


Figure 120

Programmed Device Functions

Once the secondary remote has been programmed for the codes of other devices, press the appropriate **Input Selector** 2 10 to switch the remote to control the audio section of the **CVR700** (**System Selector** 33), the CVPD50 screen (**Screen Selector** 34), the internal DVD/CD changer of the **CVR700** (**DVD Selector** 2) or to control additional products. When you press any one of the selectors, it will briefly flash in red to indicate that you have changed the device being controlled.

When operating a device other than the CVR700, the controls may not correspond exactly to the function printed on the remote or button. Some commands, such as the volume control, are the same as they are with the CVR700. Other buttons will change their function so that they correspond to a secondary label on the remote. For example, the **Numeric Keys** 14 are used to access various functions of the CVR700's audio section, such as selecting surround modes, or setting the sleep timer. However, in DVD mode these buttons are used as numbers to access various items such as track numbers and time search.

For some products, however, the function of a particular button does not follow the command printed on the remote. In order to see which function a button controls, consult the Function List tables on pages 96–97. To use those tables, first check the type of device being controlled (e.g., TV, VCR). Next, look at the remote control diagram in Figure 120. Note that each button has a number on it.

To find out what function a particular button has for a specific device, find the button number on the Function List and then look in the column for the device you are controlling. For example, button number 45 is the Night Mode button for the CVR700's audio sectioin, but it is the "Number 9" button for most other products. Button number 31 is the Volume Down button for the CVR700 and most products, the Scan Down button for video games and the Zoom Out button for camcorders.

NOTE: The numbers used to describe the button functions in Figure 120 for the purposes of describing how a button operates are a different set of numbers than those used in the rest of this manual to describe the button functions for the CVR700.

Notes on Using the Secondary Remote With Other Devices

- Manufacturers may use different code sets for the same product category. For that reason, it is important that you check to see whether the code set you have entered operates as many controls as possible. If it appears that only a few functions operate, check to see whether another code set will work with more buttons.
- When a button is pressed on the secondary remote, the red light under the **Input Selector** 2 10 for the product being operated should flash briefly. If the Device Control Selector flashes for some but not all buttons for a particular product, it does NOT indicate a problem with the remote but rather that no function is programmed for the button being pushed.

Volume Punch-Through

The secondary remote may be programmed to operate the **Volume Control** 12 and **Mute** 11 functions of the CVR700 in conjunction with any of the devices controlled by the remote. For example, since the CVR700 will likely be used as the sound system for TV viewing, you may wish to have the CVR700's volume activated, although the remote is set to run the TV. The CVR700 or TV volume control may be associated with any of the remote's devices. To program the remote for Volume Punch-Through, follow these steps:

1. Press the **Input Selector** 2 10 for the unit you wish to have associated with the volume control and the **Volume Button** 12 at the same time until the red light appears under the **Input Selector** 2 10.
2. Press either the **System Selector** 33 or the **Input Selector** 2 10, depending on which system's volume control you wish to have active for the punch-through mode. The **Input Selector** 2 10 you pressed in Step 1 will blink three times and then go out to confirm the data entry.

   Example: To have the CVR700's volume control activated even though the remote is set to control the TV, first press the **Aux Input Selector** 5 and the **Volume Up Button** 12 at the same time. Next, press the **System Selector** 33.

NOTE: Should you wish to return the remote to the original configuration after

programming a Volume Punch-Through, you will need to repeat the steps shown above. However, press the same Input Selector in Steps 1 and 2.

Channel Control Punch-Through

The secondary remote may be programmed to operate so that the channel control function for either the TV, cable or satellite receiver used in your system may be used in conjunction with one of the other devices controlled by the remote. For example, while using and controlling the VCR, you may wish to change channels on a cable box or satellite receiver without having to change the device selected by the CVR700 or the remote. To program the remote for Channel Control Punch-Through, follow these steps:

1. Press the **Input Selector Button** 2 10 for the device you wish to have the channel control associated with and the **Volume Up Button** 12 at the same time until the red light appears under the **Input Selector** 2 10.
2. Press and release the **Input Selector Button** 2 10 for the device that will be used to change the channels. The **Input Selector** 2 10 you pressed in Step 1 will blink three times and then go out to confirm the data entry.

   Example: To control the channels using your cable box or satellite receiver while the remote is set to control the VCR, first press the **VCR Input Selector Button** 4 and the **Channel Up Button** 34 at the same time. Next, release them and press the **AUX Input Selector Button** 7.

NOTE: To remove the Channel Control Punch-Through and return the remote to its original configuration, repeat the steps shown in the example above. However, press the same Input Selector in Steps 1 and 2.

Transport Control Punch-Through

The secondary remote may be programmed to operate so that the **Transport Control Functions** 21 23 25 27 28 30 (Play, Stop, Fast Forward, Rewind, Pause, Skip Up/Down and Record) for a VCR, DVD or CD will operate in conjunction with one of the other devices controlled by the remote. For example, while using and controlling the TV, you may wish to start or stop your VCR or DVD without having to change the device selected by the CVR700 or the remote. To program the remote for Transport Control Punch-Through, follow these steps:

1. Press the **Input Selector** 2 10 for the device you wish to have the channel control associated with and the **Play Button** 25 at the same time until the light appears under the **Input Selector** 2 10.
2. Press and release the **Input Selector Button** 2 10 for the device that requires the transport control. The **Input Selector Button** 2 10 you pressed in Step 1 will blink three times and then go out to confirm the data entry.

   Example: To control the transport of a DVD player while the remote is set to control an external TV, first press the **Aux Input Selector Button** 7 and the **Play Button** 25 at the same time. Next, release them and press the **DVD Input Selector Button** 3.

NOTES:

- To remove the Channel Control Punch-Through and return the remote to its original configuration, repeat the steps in the example above. However, press the same Input Selector in Steps 1 and 2.
- Before programming the remote for Volume, Channel or Transport Punch-Through, make certain that any programming needed for the specific TV, CD, DVD, cable or satellite receivers has been completed.

Resetting the Remote Memory

As you add components to your home theater system, occasionally you may wish to totally reprogram the remote control without the confusion of any commands, macros or "Punch-Through" programming that you may have done. To do this, it is possible to reset the secondary remote to the original factory defaults and command codes by following these steps. However, once the remote is reset, all commands or codes that you have entered will be erased and will need to be reentered:

1. Press any of the **Input Selector Buttons** 2 10 and the **"0" Button** 1 at the same time until the **Input Selector Buttons** 2 10 you pressed lights.
2. Press the **"0" Button** 14 three times.
3. The LED under the **Input Selector** 2 10 will blink three times.

Note that this may take a few minutes, depending on how many commands are in the memory that need to be erased.

If the remote locks up for some reason and you wish to reset it without losing any programming or removing and replacing the batteries, you may perform a soft reset by removing the cover from the battery compartment and gently pressing the small black rectangular button visible through the opening where the battery cover normally latches. This should return the remote to normal operation.

CVR700R1 Remote Function List Table

NO.	BUTTON NAME	DVD (MAIN)	FM/AM (TUNER)	TV	VCR	CD(R)	DVD(R)	DVHS	GAME	CAM	TIVO	PVR	CBL	SAT	SCREEN	SYSTEM	HDTV
01	All On	Power On	Power On	Power On	Power On	Power On	Power On	Power On	Play	Start/Stop	Power On	Power On	Power On	Power On		Power On	Power On
02	All Off	Power Off	Power Off	Power Off	Power Off	Power Off	Power Off	Power Off	Stop	Start/Stop	Power Off	Power Off	Power Off	Power Off		Power Off	Power Off
03	DVD	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel	DVD Sel
04	FM/AM (Tuner)	FM/AM (Tuner) Sel	FM/AM (Tuner) Sel	FM/AM (Tuner) Sel	FM/AM (Tuner) Sel	FM/AM (Tuner) Sel	FM/AM (Tuner) Sel	FM/AMI (Tuner) Sel	FM/AM (Tuner) Sel	FM/AM (Tuner) Sel	FM/AM (Tuner) Sel	FM/AM (Tuner) Sel	FM/AM (Tuner) Sel	FM/AM (Tuner) Sel	FM/AM (Tuner) Sel	FM/AM (Tuner) Sel	FM/AM (Tuner) Sel
05	Aux	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel	Aux Sel
06	VCR	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel	VCR Sel
07	CBL/SAT	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel	CBL/SAT Sel
08	Sports														Sports		
09	Broadcast														Broadcast		
10	Movies														Movies		
11	DVD Setup/Level/Guide	DVD Setup	DVD Setup			Repeat	Chapter			Data Code	Guide	Guide	Guide	Guide	Info	Level	
12	Navigation Up	Navigation Up	Navigation Up	Navigation Up	Navigation Up	Navigation Up	Navigation Up	Navigation Up	Navigation Up	Navigation Up	Navigation Up	Navigation Up	Navigation Up	Navigation Up	Navigation Up	Navigation Up	Navigation Up
13	Menu/Info/Audio Input	Menu	Menu	Menu	Menu	Menu	Menu	Menu	Menu/ DVD Menu	Visual Index/ Menu	Menu	Menu	Menu/Info	Menu/Info	Menu	Audio Input	Menu
14	Navigation Left	Navigation Left	Navigation Left	Navigation Left	Navigation Left	Navigation Left	Navigation Left	Navigation Left	Navigation Left	Navigation Left	Navigation Left	Navigation Left	Navigation Left	Navigation Left	Navigation Left	Navigation Left	Navigation Left
15	Set	Set	Set	Enter	Enter	Enter	Enter	Enter	Select	Enter	Select	Select	Select/OK	Enter	Set	Set	Enter
16	Navigation Right	Navigation Right	Navigation Right	Navigation Right	Navigation Right	Navigation Right	Navigation Right	Navigation Right	Navigation Right	Navigation Right	Navigation Right	Navigation Right	Navigation Right	Navigation Right	Navigation Right	Navigation Right	Navigation Right
17	Exit/Cancel	Exit/Cancel	Exit/Cancel	Exit/Cancel	Cancel	Clear	Clear	< / Cancel	Clear	Exit/Cancel	Exit	Cancel	Exit	Exit/Cancel	Exit/Cancel	Exit/Cancel	Exit/Cancel
18	Navigation Down	Navigation Down	Navigation Down	Navigation Down	Navigation Down	Navigation Down	Navigation Down	Navigation Down	Navigation Down	Navigation Down	Navigation Down	Navigation Down	Navigation Down	Navigation Down	Navigation Down	Navigation Down	Navigation Down
19	OSL/Settings/Distance	OSL	OSL	Info	Action		OSL	Video	X	Natural Record	TIVO	TIVO	Settings	Info		Distance	Info
20	Direct/Brigh/A/Yes/Win	Direct	Direct			Track Direct		>	▲		Window	Window	A/Yes	Alt	Brightness		Quick
21	Tone/Color/B/List	Tone	Tone	Sleep	List		Pre Chapter	Display	■	R.A Edit	Return		B/List	Next	Color Temp	Tone	Sleep
22	OSD/Contrast/C/No	OSD	OSD	OSD/Display	OSD		Next Chapter	OSD	●	Display	Info	Info	C/No	OSD	Contrast	OSD	OSD/Display
23	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/ Cam Sel	Game/ Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel	Game/Cam Sel
24	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel	DR Sel
25	DVI/Computer Sel	DVI/Computer Sel	DVI/Computer Sel	DVI/ Computer Sel	DVI/Computer Sel	DVI/ ComputerSel	DVI/Computer Sel	DVI/ Computer Sel	DVI/Computer Sel	DVI/ Computer Sel	DVI/Computer Sel	DVI/ Computer Sel	DVI/Computer Sel	DVI/ Computer Sel	DVI/Computer Sel	DVI/ Computer Sel	DVI/ Computer Sel
26	Screen	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel	Screen Sel
27	Volume Up	Volume Up	Volume Up	Volume Up	Volume Up	Volume Up	Volume Up	Volume Up	Scan Up	T (Zoom In)	Volume Up	Volume Up	Volume Up	Volume Up		Volume Up	Volume Up
28	Mute	Mute	Mute	Mute	Mute	Mute	Mute	Mute			Mute	Mute	Mute	Mute		Mute	Mute
29	System	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel	System Sel
30	Channel Up/Pic+/Slow+	Slow+	Slow+	Channel Up	Channel Up		Slow Up	Channel Up	Slow Up	Scan/Slow Up	Channel Up	Channel Up	Channel Up	Channel Up			Channel Up
31	Volume Down	Volume Down	Volume Down	Scan Down	W (Zoom Out)	Volume Down	Volume Down	Scan Down	W (Zoom Down)	Volume Down	Volume Down	Volume Down	Volume Down	Volume Down		Volume Down	Volume Down

NO.	BUTTON NAME	DVD (MAIN)	FM/AM (TUNER)	TV	VCR	CD(R)	DVD(R)	DVHS	GAME	CAM	TIVO	PVR	CBL	SAT	SCREEN	SYSTEM	HDTV
32	Disc Direct/Favorite	Disc Direct	Disc Direct		Favorite		Disc Direct	Q.V	R1		CM Skip		Favorite	Favorite Ch			Favorite
33	Disc Skip/Last Ch	Disc Skip	Disc Skip	Prev Ch/ Last Ch	Prev Ch/ Last Ch	Disc Skip	Disc Skip	Skip Search	R2	Delay/Last Ch	Skip	Skip	Prev Ch/ Last Ch	Prev Ch/ Last Ch			Prev Ch/Last Ch
34	Ch Down/Pic–/Slow–	Slow–	Slow–	Ch Down	Ch Down		Slow Down	Ch Down	Slow Down	Scan/ Slow Down	Ch Down	Ch Down	Ch Down	Ch Down			Ch Down
35	1/Dolby	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Dolby	1
36	2/DTS Surr	2	2	2	2	2	2	2	2	2	2	2	2	2	2	DTS Surround	2
37	3/DTS NEO:6	3	3	3	3	3	3	3	3	3	3	3	3	3	3	DTS NEO:6	3
38	Skip/Preset Forward/ Page Up	Skip Forward/ Pict	Preset Up		Scan Up	Skip Up	Skip Up	Index Right/>>|	Skip Up	Skip/Step Up	Next Clip	Next Clip	Page Up	Page Up			
39	4/Logic 7	4	4	4	4	4	4	4	4	4	4	4	4	4	4	Logic 7	4
40	5/Surr	5	5	5	5	5	5	5	5	5	5	5	5	5	5	Surround	5
41	6/Stereo	6	6	6	6	6	6	6	6	6	6	6	6	6	6	Stereo	6
42	Skip/Preset Back/ Page Down	Skip Backward/ Pic–	Preset Down		Scan Down	Skip Down	Skip Down	Index Left/ |<<	Skip Down	Skip/ Step Down	Last Clip	Last Clip	Page Down	Page Down			
43	7/Test	7	7	7	7	7	7	7	7	7	7	7	7	7	7	Test Tone	7
44	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8		8
45	9/Night	9	9	9	9	9	9	9	9	9	9	9	9	9	9	Night	9
46	Scan/Tune Forward	Scan Forward	Tune Up		FF	FF	FF	FF	FF	FF	FF	FF	FF	FF			FF
47	*/Angle/Tune-Manual	Angle	Tune-Manual	Back	Select		Angle	Record Link	Angle	Photo	Angle	AV	*				Ratio
48	0/Sleep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Sleep	0
49	#/Zoom/Mem	Zoom/Mem	Memory	100	+100	+10	Zoom	Enter	Enter	Zoom/Search	100	100	#				100
50	Scan/Tune Backward	Scan Backward	Tune Down		Rew	Rew	Rew	Rew	Reverse	Rew	Rew	Rew	Rew	Rew			Rew
51	LetterBox (Press & Release) Screen Saver (Hold for 2 Seconds)														LetterBox Screen Saver		
52	PIP (Press & Release) PIP Swap (Hold for 2 Seconds)			PIP PIP Swap	PIP PIP Swap			Input		Change Screen	PIP		PIP (Press & Release) PIP Swap (Hold for 2 Seconds)		PIP		PIP PIP Swap
53	Status/PVR Play/TV/Vid	Status	Status	TV/Video	TV/Video	Input Select	Status	TV/Video	Subtitle		TV/Input	TV/Input	Pvr Play	TV/Sat			TV/Video
54	Play	Play	Play		Play	Play	Play	Play	Play	Play	Play	Play	Play	Play			Play
55	Auto/PIP Ch Up												PIP Ch Up		Auto		
56	Freeze/Pvr List						Title/Info	VCR/TV	Title	Title	Top Menu	Info	Pvr List		Freeze		Freeze
57	Frame/Pvr Live/Stop	Stop			Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Pvr Live	Stop	Frame		Stop
58	Pause	Pause	Pause		Pause	Pause	Pause	Pause	Pause	Pause	Pause	Pause	Pause	Pause			Pause
59	Screen Standby/ PIP Ch Down/Learn												PIP Ch Down		Screen Standby		
60	Light	Light	Light	Light	Light	Light	Light	Light	Light	Light	Light	Light	Light	Light	Light	Light	Light
61	Record/Program				Record	Record	Record	Record		Record	Record	Record	Record	Record			Record

CVR700R1 TV SETUP CODES

Maker (Brand) Name	Code Number (3-Digit) List
AKAI	001 070 008
AMPRO	001 070 008
AMSTRAD	001 011 103
AOC	001 011 103
ANAM	045 057 103 106 122
AMARK	103 132
ADMIRAL	103 132
CANDLE	001 002 003 011
CAPEHART	059
CENTURION	070
CENTRONIC	045
CITIZEN	001 002 003 011 045 092 094 132
CLASSIC	045
CONCERTO	011
CONTEC	041 045 051 052
CORONADO	132
CRAIG	045
CROWN	045 132
CXC	045 132
CURTIS MATHES	001 011 092 132
DAEWOO	011 022 038 045 046 094 097 105 111 118 132
DAYTRON	011 132
DIGI LINK	073
DYNASTY	045
DYNATECH	063
ELECTROHOME	074 132
EMERSON	001 010 012 033 045 052 132 141
FISHER	013 033 045 058
FUNAI	013 033 045 058
FUTURETECH	045
GE	001 011 014 015 026 057 068 098 141
GRUNDIG	053
HALL MARK	011
HARMAN KARDON	076
HITACHI	001 011 015 016 017 018 029 072 132
INFINITY	148
INKEL	148
JENSEN	019 148
JC PENNEY	001 011 014 015 035 092 132 145
JVC	038 040
KAWASHO	045
KEC	045
KENWOOD	001 010 045 079 132
KTV	001 010 045 079 132
KLOSS	002 060 132
KMC	002 060 132
LG (GOLDSTAR)	011 101 103 104 110 118 128 132
LODGENET	013 021 069 077 145 148
LXI	013 021 069 077 145 148
LUXMAN	011 069
LOGIK	011 069
MAGNAVOX	001 003 011 060 061 065 118 132 145 148
MARANTZ	001 074 148
MATSUI	001 074 148
MEMOREX	011 013 069
METZ	011 013 069
MGA	001 011 033 044 050 068 074
MIDLAND	001 011 033 044 050 068 074
MITSUBISHI	001 006 008 011 033 042 044 095 100 115
MOTOROLA	093
NAD	021 031 045
NIKEI	021 031 045
NATIONAL	036

Maker (Brand) Name	Code Number (3-Digit) List
NEC	001 013 022 025 042 057 121 123 125
ONKING	045
ONWA	045
OPTONICA	025 077 080 081 082 083 084
ORION	025 077 080 081 082 083 084
PANASONIC	036 038 057 087 120 148
PENNEY	068
PHILCO	001 003 011 045 060 061 065 118 132 148
PHILIPS	001 003 011 040 060 067 088 132 145 148
PIONEER	001 011 024 029 031 032 086 089
PORTLAND	011 132
PROSCAN	011 030 059 122 132 133
PROTON	011 030 059 122 132 133
QUASAR	038 057 087
RADIO SHACK	011 025 045 048 056 062 066 118 132
RCA	001 009 011 026 029 057 071 098 133 145
REALISTIC	013 025 045 048 056 062 066
RUNCO	004 005
SAA	011 045
SSS	011 045
SAMPO	001 059 011
SAMSUNG	051 092 096 104 107 011 118 128 132 145
SANYO	013 027 037 041 054 058 078 091
SCOTT	011 033 045 132
SEARS	011 021 026 033 058 132 145 148
SHARP	006 011 020 025 028 033 034 077 099 132
SIGNATURE	069
SONY	043 055 067 075 085 116 117 130 136
SOUNDESIGN	003 011 033 045
SPECTRICON	103
SUPREMACY	002
SYLVANIA	001 003 011 060 061 064 065 145 148
SYMPHONIC	039
TANDY	057 063 077
TATUNG	057 063 077
TECHWOOD	011
TEKNIKA	001 003 011 033 045 069 092 094 132
TELERENT	069
TERA	007 011
TMK	007 011
THOMSON	047 049
TOSHIBA	013 021 035 042 052 063 092 102 108 109 112 113 114 119
TOTEVISION	132
UNIVERSAL	014 015
VIDEO CONCEPTS	008
VIDTECH	011
WARDS	011 014 015 033 061 065 132 148
YAMAHA	001 011
YORK	011 045
YUPITERU	011 045
ZENITH	069 070 090 094 103
ZONDA	069 070 090 094 103

CVR700R1 HDTV SETUP CODES

Maker (Brand) Name	Code Number (3-Digit) List
LG	960
MOTOROLA	961
RCA	957
SAMSUNG	959
ZENITH	958

CVR700R1 VCR SETUP CODES

Maker (Brand) Name	Code Number (3-Digit) List
AIWA	191
AKAI	173 199 201 259 260 277
AMPRO	227 285
ASA	227 285
ANAM	190 221
AUDIO DYNAMICS	169 195 199
CANDLE	285 286 288
CANON	185 190 221 286 291
CITIZEN	285
CRAIG	154 196 267
CURTIS MATHES	190 221
DAEWOO	163 165 168 220 249 253 254
X DUAL	169 195 199
DYNATECH	191 208
ELECTROHOME	214
EMERSON	174 182 186 193 201 238 263
FISHER	154 167 168 191 293
FUNAI	154 167 168 191 293
GE	190 218 221 227 244 275 278
GO VIDEO	264 268
HARMAN KARDON	169 200
HITACHI	162 191 199 218 269 281
INSTANT REPLAY	190 221
JCL	190 199 221
JENSEN	190 199 221
JC PENNEY	169 170 190 196 221 238
JVC	169 190 199 203 205 210 215 262 281 283
KENWOOD	171 195 199 203
LG(GOLDSTAR)	169 170 177 238 243 258
LLOYD	170 171 191 238
LXI	170 171 191 238
MAGIN	196
MAGNAVOX	190 191 221 222 223
MARANTZ	169 190 221 222 224
MARTA	238
MATSUI	238
MEI	190
MEMOREX	154 168 171 190 191 208 227 238 266 271
MGA	200 201 214
MTC	200 201 214
MINOLTA	170 177
MITSUBISHI	170 176 177 200 201 204 206 214 216 282 296
MOTOROLA	172 175
MULTITECH	191
NAD	290 291
NATIONAL	290 291
NEC	169 195 199 203
NORDMENDE	199
OPTIMUS	159
OPTONICA	208 209
PANASONIC	164 187 188 221 265 276
PENTAX	170 177 190 218 221
PHILCO	190 191 221 222
PHILIPS	190 191 209 221 222 226 238
PILOT	238
PIONEER	170 178 203
PROSCAN	180 181
PULSAR	227
QUARTZ	171
QUASAR	190 221 230 276 295
RADIO SHACK	153 158 159 160 161 258 285 288 291
RCA	157 164 170 177 218 244 275 276 278

Maker (Brand) Name	Code Number (3-Digit) List
REALISTIC	153 154 160 168 171 208 209 238 288 293
RUNCO	213 279
RICO	213 279
SALORA	171
SAMSUNG	184 189 196 239 241 244 249 256 257 260
SANSUI	179 199 203 267
SANYO	154 165 168 171 266
SCOTT	174 249 263
SEARS	154 167 168 170 171 177 221 228 238 293
SHARP	156 209 221 280
SONY	154 166 167 207 211 212 213 231 232 233
SOUNDESIGN	191
STS	170
SYLVANIA	190 191 214 221 222
SYMPHONIC	191
TANDY	168 191
TASHICO	285
TATUNG	195 199
TEAC	191 195 199
TECHNICS	190 221
TEKNIKA	190 191 221 238
THOMAS	191
TMK	191
TOSHIBA	155 170 198 202 214 236 249 263 293
TOTEVISION	196 238
UNITECH	196
VECTOR RESEARCH	169
VICTOR	203
VIDEOSONIC	196
VIDEO CONCEPTS	169 191 201
WARDS	154 170 174 190 191 196 208 209 263
YAMAHA	169 191 195 199
ZENITH	183 191 203 211 213 227 234 238

CVR700R1 CD SETUP CODES

Maker (Brand) Name	Code Number (3-Digit) List
ADCOM	804 818 824
AIWA	827 866 873 911 925
AKAI	805 939
AUDIOACCESS	880
AUDIOFILE	776
AUDIO TECHNICA	808
BSR	799
CALIFORNIA AUDIO	770 864
CARVER	812 891 895 896 898 899 900 940 941
CROWN	797
DENON	782 942 943
EMERSON	804 807
FISHER	778 810 812 823
FUNAI	881
HARMAN KARDON	756 780 795 806 809 821 825 831 835 838 842 843 848 850 851 945
HITACHI	804
JENSEN	908
JVC	931 950 951
KENWOOD	769 778 785 817 833 834 903 906 931 933
LG(GOLDSTAR)	771
LUXMAN	773 790 832 857
MAGNAVOX	794 868
MARANTZ	798 813 839 946 947 948
MCINTOSH	949
MGA	787
MITSUBISHI	787
MITSUMI	907
NAD	768 829 952 953
NAKAMICHI	757 954 955
NEC	824
NIKKO	808 810
ONKYO	759 760 792 793 800 801 926 930
OPTIMUS	775 781 791 820 844 845 846 847 859
PANASONIC	761 770 830 864 874 913 938
PHILIPS	767 794 893 904
PIONEER	784 855 867 878 886 915 916 917
PROTON	772
QUASAR	770 864
RADIO SHACK	782 881
RCA	779 804 836 905
REALISTIC	812 813 859 860
SAMSUNG	783
SANSUI	802 836 889 912 927
SANYO	788 812 823 837 923
SHARP	775 813 828 860 869 906 914 922 935 936
SHERWOOD	758 796 813 860 888
SONY	765 781 815 858 870 871 873 887 894 918
SOUNDSTREAM	879
SYMPHONIC	814 865
TEAC	766 803 813 841 861 862 865 876 892 901
THETA DIGITAL	794
TOSHIBA	768 829 852 906 910 928
YAMAHA	774 786 808 816 890

CVR700R1 CDR SETUP CODES

Maker (Brand) Name	Code Number (3-Digit) List
BANG OLUFSEN	257
DENON	261
HARMAN KARDON	262
KENWOOD	260
PHILIPS	259
SONY	258

CVR700R1 DVD SETUP CODES

Maker (Brand) Name	Code Number (3-Digit) List
APEX DIGITAL	715 730
BRAVO	734 735
CALIFORNIA AUDIO	694
DENON	656 673 676 688 705
DVD VIDEO	728
GE	657 658
HARMAN KARDON	655 686 720
JBL	655
JVC	660
KENWOOD	661 704 723
KLH	722
LG(GOLDSTAR)	659 709 718 724 737
MAGNAVOX	687 710
MARANTZ	687 713
MITSUBISHI	677 690
NAD	664 716
ONKYO	663 669 702
OPTIMUS	665 704
PANASONIC	678 679 684 688 689 698 706 732
PHILIPS	687 710
PIONEER	664 666 674 692 695 700 719
PROCEED	714
PROSCAN	657 658 691
RCA	657 658 672 691
RUNCO	681
SAMSUNG	685 707 708 733
SANYO	667 703
SHARP	675 682 704 727
SONY	669 683 697 699 721 729
TECHNICS	680
THOMSON	657 658
TOSHIBA	663 664 687 711 712 731
YAMAHA	670 671 684 717
ZENITH	659 687 693 709 718 736

CVR700R1 DVD-R SETUP CODES

Maker (Brand) Name	Code Number (3-Digit) List
BROKSONIC	017
CYBER HOME	020
GO VIDEO	014
JVC	012
LITE ON	021
MAGNAVOX	016
PANASONIC	005 006 007 008 009
PHILIPS	016
PIONEER	004 015
RCA	019
SAMSUNG	013
SANSUI	017
SONY	001 002 003
TOSHIBA	010 011 018
ZENITH	014

CVR700R1 D-VHS SETUP CODES

Maker (Brand) Name	Code Number (3-Digit) List
JVC	602
MITSUBISHI	601

CVR700R1 GAME SETUP CODES

Maker (Brand) Name	Code Number (3-Digit) List
SONY PLAYSTATION2	002
MICROSOFT X BOX	001

CVR700R1 CAMCORDER SETUP CODES

Maker (Brand) Name	Code Number (3-Digit) List
CANON	265 266
JVC	262
PANASONIC	263
SAMSUNG	257 258
SONY	259 260 261
SHARP	264

CVR700R1 TIVO SETUP CODES

Maker (Brand) Name	Code Number (3-Digit) List
DIRECTV	518
PIONEER	513
SERIES 2 DVR	514 521
TOSHIBA	515
OTHER TIVO	517 519 520

CVR700R1 PVR (DVR) SETUP CODES

Maker (Brand) Name	Code Number (3-Digit) List
DAEWOO	769 772
ECHOSTAR	782 783 784
EXPRESSVU	782
HUGHES	785 795
HYUNDAI	786
KEEN	777
PANASONIC	778 791
PHILIPS	779 785 792 795
PROSCAN	787
RCA	787 795
REPLAY TV	776 778 780 793 794
SONIC BLUE	778 780
SONY	775 781 788 789 790 791 792

CVR700R1 CABLE SETUP CODES

Maker (Brand) Name	Code Number (3-Digit) List
ABC	303 305 313 347 350 354 361 412
ALLEGRO	413
AMERICAST	369
ANTRONIX	323
ARCHER	314 316 323 333 414
BELCOR	415
CABLE STAR	335 415
CENTURION	394
CENTURY	316
CITIZEN	316 413
COLOUR VOICE	371 392
COMBANO	385 386
COMTRONICS	328 339
DIAMOND	332
DIGI	416
EAGLE	329 339 348 488
EASTERN	365 368 372 417
ELECTRICORD	341
EMERSON	414
FOCUS	418
GC ELETRONICS	415
GE	378
GEMINI	317 331 334 362
GENERAL	312
GENERAL INSTRUMENT	470
GOLDEN CHANNEL	339
GOODMIND	414
G I	303 305 313 317 319 394 395 398 399
HAMLIN	309 310 357 358 363 394 401 403 419 477
HITACHI	303 363 490
HOSPITALITY	376 382
JASCO	413
JERROLD	303 304 305 313 318 375 395 397 398 399
LINDSAY	420
MACOM	342 493
MAGNAVOX	319 321 370 384
MEMOREX	360
MOTOROLA	470
MOVIE TIME	337 341
M NET	345
NSC	324 337 346 377 492
OAK	325 340 345 361 396 498 499
PACE	481
PANASONIC	352 355 380 478 479 491
PANTHER	416
PARAGON	360
PHILIPS	315 321 322 329 371 387 392
PIONEER	303 311 343 359 421 473 502
POPULAR MECHANICS	418
POST NEWS WEEK	325
PRELUDE	422
PRIMESTAR	464
PTS	320 356 377 378
PULSAR	360
RADIO SHACK	379 413 414
RCA	355 380
RECOTON	418
REGAL	309 357 358 363 401 402 403
REGENCY	365 417
REMBRANT	334

Maker (Brand) Name	Code Number (3-Digit) List
SAMSUNG	339 374 488
SCIENTIFIC ATLANTA	305 306 307 349 350 351 353 354 381 393 404 405 406 407 408 410 411 428 430 431 432 485 486
SEAM	423
SHERITECH	331
SIGNAL	339
SIGNATURE	303 490
SL MARX	339
SONY	429
SPRUCER	355 383 479 491
STARCOM	304 313 317 318 465
STARGATE	317 339 422
SYLVANIA	373
TADIRAN	339
TANDY	326
TELECAPATION	330
TEXSCAN	338 373
TFC	424
TIMELESS	425
TOCOM	308 347 348 364 472
TOSHIBA	360
UNIKA	316 323 333
UNITED CABLE	313 361
UNIVERSAL	314 316 323 333 335 336 341 344 415
VIDEOWAY	366 426
VIEWSTAR	321 324 327 388 389 390 391 492
ZENITH	360 366 367 400 427
ZENTEK	418

CVR700R1 SATELLITE SETUP CODES

Maker (Brand) Name	Code Number (3-Digit) List
ALPHASTAR	561
ALPHASTAR DBS	653
ALPHASTAR DSR	625 645
AMPLICA	559
BIRDVIEW	617 628
BSR	562
CAPETRONICS	562
CHANNEL MASTER	523 524 525 528 564
CHAPARRAL	508 518 519 522 583
CITOH	563
CURTIS MATHES	559
DRAKE	515 520 521 604 616
DX ANTENNA	534 555 565 582 605
ECHOSTAR	509 510 543 567 598 599 600 601 609 614 630
ELECTRO HOME	595
EUROPLUS	618
FUJITSU	527 531 532 537
GENERAL INSTRUMENT	506 511 514 526 548 568 575 606
HITACHI DBS	512
HOUSTON TRACKER	543
HUGHES	619
HYTEK	562
JANIEL	569
JERROLD	511 545 548 570
KATHREIN	613
LEGEND	510
LG	646
LUXOR	571
MACOM	520 568 572 573 574
MAGNAVOX	540 566
MEMOREX	510
NEXTWAVE	510 627
NORSAT	576 577
OPTIMUS	547
PANASONIC	549 569
PANASONIC DBS	513
PANSAT	623
PERSONAL CABLE	621
PHILIPS	578
PICO	610
PRESIDENT	529 607
PRIMESTAR	511 545 579 615
RCA	504 546 611 624 631 639 642
RCA DSS	516
REALISTIC	552 580 603
SAMSUNG	507 625 645
SATELLITE SERVICE CO	538 544 556 591
SCIENTIFIC ATLANTA	542
SONY	608 620 632
STARCAST	550
STAR CHOICE DBS	517
SUPER GUIDE	530 626 627
TEECOM	533 536 581 593 594 596 612
TOSHIBA	505 539 540 541 560 629
UNIDEN	526 535 539 554 557 584 585 602 604 606
ZENITH	588 589 590 597 622

TROUBLESHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Unit does not turn on	• **Main Power Switch** turned off	• Press in **Main Power Switch** 1.
	• No AC power	• Check AC power plug and make certain any switched outlet is turned on.
	• Standby pressed within 4 seconds after Main Power Switch	• Press the Standby Switch at least 4 seconds after the unit has been turned on by the Main Power Switch 1.
Disc does not play	• Disc loaded improperly	• Load disc label-side up; align the disc with the guides and place it in its proper position.
	• Incorrect disc type	• Check to see that disc is CD, CD-R, CD-RW, VCD, SVCD, MP3, WMA, Photo CD, DVD-R, DVD-RW, DVD+R, DVD+RW (standard conforming), DVD-Video or DVD-Audio; other types will not play.
	• Invalid Region Code	• Make sure disc's Region Code matches code shown on rear panel of unit.
	• Rating is above parental preset	• Enter password to override or change rating settings (see page 54).
No picture	• Intermittent connections	• Check all video connections.
	• Wrong input	• Check input selection of TV or receiver.
	• Progressive Scan output selected	• Use Progressive Scan mode only with compatible TV.
	• Video Off feature active	• Press **Screen Standby Button** 35 to reactivate video circuitry (see page 71).
	• Incompatibility between DVI (HDCP) source unit and CVR700	• Make sure to obtain the most recent software update for the source unit.
	• Port needs to be reset	• Sometimes it helps to simply turn off the CVR700 using the **Main Power On/Off Switch** 1, turn off the master power switch on the CVPD50 (depressed towards rear of unit), unplug the JBL Digital Link cable and unplug the AC power cords from both units. Then follow these steps in reverse order, and often the unit will function normally.
	• LED on CVPD50 flashing yellow and red	• Check AC power cord connections at wall and unit. Check CVPD50 power switch (should be depressed toward rear of unit). See note on page 45.
"Snowy" picture when used with external DVI (HDCP) DVD player	• Copy protection communication between the source unit and the CVR700 was unsuccessful	• Reset the connection by switching sources on the CVR700, or by stopping and restarting the DVD.
No sound	• Intermittent connections	• Check all audio connections.
	• Incorrect digital audio selection	• Check digital audio settings.
	• DVD disc is in fast or slow mode	• There is no audio playback on DVD discs during fast or slow modes.
	• Surround receiver not compatible with 96kHz PCM audio	• Use analog audio outputs.
Picture is distorted or jumps during fast forward or reverse play	• MPEG-2 decoding	• It is a normal artifact of DVD playback for pictures to jump or show some distortion during rapid play.
Some remote buttons do not operate during DVD play; prohibited symbol ⃠ appears (see below)	• Function not permitted at this time	• With most DVDs, some functions are not permitted at certain times (e.g., Track Skip) or at all (e.g., direct audio track selection).

SYMPTOM	POSSIBLE CAUSE	SOLUTION
The Feature Not Available message appears	• Requested function not available at this time	• Certain functions may be disabled by the DVD itself during passages of a disc.
Picture is displayed in the wrong aspect ratio	• Incorrect match of aspect ratio settings disc or video signal	• Change aspect ratio settings (see pages 13 and 27) using the **Frame Button** 27 24 or **Letterbox Button** 26 16 .
Remote control inoperative	• Weak batteries • Sensor is blocked	• Change both batteries. • Clear path to sensor or use optional outboard remote sensor.
Disc will not copy to VCR	• Copy protection	• Many DVDs are encoded to prevent copying to VCR.

System Reset

In the rare case in which the unit's operation or the displays seem abnormal, the cause may involve the erratic operation of the system's memory or microprocessor. To correct this problem, first try turning off the master power switch on the underside of the CVPD50 (depressed toward the front of the unit) and unplugging the JBL Digital Link cable, and the power cords for both the CVR700 and the CVPD50 and wait at least 3 minutes. After the pause, reconnect the AC power cords and the JBL Digital Link, turn the CVPD50's master power switch to the On position (depressed toward the rear of the unit) and check the system's operation. If the system still malfunctions, a system reset may clear the problem.

To clear the CVR700's entire system memory including tuner presets, output level settings, delay times and speaker configuration data, press the **Main Power On/Off Button** 1 to place both units in Standby mode, and then press and hold the **Mute Button** 53 11 for 5 seconds. The unit's software version number will flash in the **Information Display** 21 as an indication that the unit has been successfully reset.

NOTE: Resetting the processor will erase any configuration settings you have made for speakers, output levels, surround modes and digital input assignments, as well as the tuner presets. The unit will be returned to the factory presets, and all settings for these items must be reentered.

If the system is still operating incorrectly, there may have been an electronic discharge or severe AC line interference that has corrupted the memory or microprocessor. If these steps do not solve the problem, consult your custom installer or an authorized JBL service center.

JBL CINEMA VISION TECHNICAL SPECIFICATIONS

CVPD50 Display

Size/Diagonal	50" (1270 mm); 16:9 Widescreen format
Displayable Picture Size (W x H):	43-1/2" x 24-1/2" (932mm x 532mm)
Resolution:	1366 x 768 pixels
Viewing Angle:	<160˚
Contrast Ratio:	3,000:1
Brightness:	1,000 cdl/m^2
Storage Temperature:	–15˚C to +60˚C
Operating Temperature:	+5˚C to 35˚C
Maximum Usable Altitude:	6,560 ft. (2,000 meters)
Power Requirements:	120V AC, 60Hz, 450W maximum, 1W standby
Dimensions (W x H x D):	
Display Screen:	48-3/4" x 29-3/4" x 3-1/2" (4" with wall bracket) (124cm x 76cm x 9cm)
Display Screen With Credenza Stand:	48-3/4" x 37-3/8" x 10" (124cm x 95cm x 25cm)
Net Weight:	
Display Screen:	97 lb (44kg)
Display Screen With Credenza Stand:	110 lb (50kg)

CVR7007.1-Channel A/V Receiver/Optical Disc Changer/Video Processor

Optical Disc Player Section:

Applicable disc sizes:	5" (12cm) or 3" (8cm)
Applicable disc formats:	
Video:	DVD-Video, DVD-R/RW, DVD+R/RW, Video-CD (VCD)
Audio:	DVD-Audio, CD, CD-R, CD-RW, MP3, Windows Media 9, Dolby Digital and DTS Audio Discs
Still Image:	JPEG, Kodak Picture CD
Video Signal System:	NTSC
Composite (CVBS) Video Output:	1V p-p/75 ohms, sync negative polarity
S-Video (Y/C) Output:	
Y/Luminance:	1V p-p/75 ohms, sync negative polarity
C/Chrominance:	0.286V p-p
Component (Y/Pb/Pr or YUV) Video Output:	
Y:	1V p-p/75 ohms, sync negative polarity
Pb (U):	0.7V p-p/75 ohms
Pr (V):	0.7V p-p/75 ohms
Video Digital-to-Analog Converters:	27MHz/10-bit
Audio Signal-to-Noise Ratio:	105dBA
Audio Dynamic Range:	96dB (16-bit), 100dB (18-bit), 105dB (20-bit)
Audio Digital-to-Analog Converters:	192kHz/24-bit

Audio Processing Section:

Surround modes:	Dolby Digital EX, Dolby Digital, Dolby Pro Logic II, Dolby Pro Logic IIx, Dolby Pro Logic, DTS ES 6.1 Matrix and Discrete, DTS 5.1, DTS 96/24, DTS Neo:6, Logic 7 with 96kHz capability, 3 DSP Modes
	Bass management for DVD-Video and DVD-Audio

Inputs:

Composite (CVBS) Video:	Front Panel: 1, Rear Panel: 4
S-Video (Y/C):	Front Panel: 1, Rear Panel: 4
Component (Y/Pb/Pr or YUV):	Front Panel: 1, Rear Panel: 2
DVI (HDCP)/Analog RGB:	Rear Panel: 1
PIP Composite (CVBS):	Rear Panel: 1
Analog Audio L/R:	Front Panel: 1, Rear Panel: 5
Digital Audio Coaxial:	Front Panel: 1, Rear Panel: 4
Digital Audio Optical:	Front Panel: 1, Rear Panel: 4
IR:	Rear Panel: 1

Outputs:

Composite (CVBS) Video:	Rear Panel: 2
S-Video (Y/C):	Rear Panel: 2
Component (Y/Pb/Pr or YUV):	Rear Panel: 1 (Monitor Out)
Analog Audio L/R:	Rear Panel: 2
Digital Audio Coaxial:	Rear Panel: 1
Digital Audio Optical:	Front Panel: 1, Rear Panel: 1
Headphone:	Front Panel: 1
LFE/Subwoofer:	Rear Panel: 1
Speaker Level Outputs:	7 pairs (Rear Panel)
IR:	Rear Panel: 1

Audio Section:

Amplifier Type	Advanced PWM
Two Channel Stereo Mode:	100 Watts per channel continuous RMS power into CVSAT50 speakers, 90Hz to 20kHz, @<0.15%
Five and Seven Channel Cinema Modes:	100 Watts per channel continuous RMS power into CVSAT50 and CVCEN50 speakers, 90Hz to 20kHz, @<0.15%
Input Sensitivity/Impedance:	200mV/47k ohms
Signal-to-Noise Ratio:	97dBA

FM Tuner Section:

Frequency Range:	87.5 – 108MHz
Usable Sensitivity:	IHF 1.3µV/13.2dBf
Signal-to-Noise Ratio (Mono/Stereo):	70/68dB
Distortion (Mono/Stereo):	0.2/0.3%
Stereo Separation:	40dB @ 1kHz
Selectivity:	+/–400kHz, 70dB
Image Rejection:	80dB
IF Rejection:	90dB

AM Tuner Section:

Frequency Range:	520–1720kHz
Signal-to-Noise Ratio:	45dB
Usable Sensitivity:	Loop 500µV
Distortion:	1kHz, 50% modulation, 0.8%
Selectivity:	+/–10kHz, 30dB

Video Section:

Television Format:	NTSC
Input Level/Impedance:	1V p-p/75 ohms
Output Level/Impedance:	1V p-p/75 ohms
Video Frequency Response:	
Composite and S-video:	10Hz – 8MHz (–3dB)
Component video:	10Hz – 100MHz (–3dB)

General:

Power requirement:	120V AC, 60Hz
Power Consumption:	320W maximum, 78W idle, 10W standby
Dimensions (W x H x D):	17-3/8" x 6-3/5" x 17-3/4" (441mm x 168mm x 451mm)
Net Weight:	24 lb (11kg)

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Depth measurement includes knobs and connectors.

Height measurement includes feet and chassis.

All specifications subject to change without notice.

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NOTES

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