



**Showcase DVD
Player**

Instructions for Use

Owner's Reference

Showcase DVD
Instructions for Use
v 03.0

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INFORMATION**

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This product complies with the EMC directive (89/336/EEC) and the low-voltage directive (73/23/EEC).

WARNINGS

Do not place the Showcase DVD where it could be exposed to dripping or splashing.

Do not remove or bypass the ground pin on the end of the AC cord. This may cause radio frequency interference (RFI) to be introduced into your playback system.

The ventilation grids on the top and bottom of the Showcase DVD must be unobstructed at all times during operation. Do not place flammable material on top of or beneath the component.

Turn off all systems' power before connecting the Showcase DVD to any component. Make sure all cable terminations are of the highest quality, free from frayed ends, short circuits, or cold solder joints.

Caution: Visible and invisible laser radiation. When the cover is open, avoid exposure to beam.

This unit employs a laser. To prevent possible eye injury, only a qualified service person should remove the cover or attempt to service this device. Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

THERE ARE NO USER-SERVICEABLE PARTS INSIDE ANY KRELL PRODUCT.

Please contact your authorized dealer, distributor, or Krell if you have any questions not addressed in this reference manual.

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Introduction

Thank you for your purchase of the Krell Showcase DVD.

The Showcase DVD produces a brilliant video image through the use of the high bandwidth circuit architecture, pioneered by Krell in the DVD Standard, and is at the forefront of DVD video technology with HDMI, an optional scalable output stage.

A carefully regulated power supply results in picture stability, even during line fluctuations while the proprietary Krell Digital Video Filter enhances DAC performance. The Krell Current Mode output stage delivers outstanding bass weight, midrange articulation, and high frequency extension.

The wireless infrared remote control, and RS-232 and 12 VDC remote connection options on the back panel allow you to integrate the Showcase DVD into advanced control systems. The user-friendly setup menu provides a variety of audio, video, and access control options for optimum configuration and enjoyment of your Showcase DVD and home theater system.

This owner's reference manual contains important information on placement, connection, and operation of your Showcase DVD. Please read this information carefully. A thorough understanding of these details will help ensure satisfactory operation and long life for your Showcase DVD and related system components.

Definition of Terms

Following are the definitions of key terms used in your owner's reference manual.

Hardware

Button

Front panel selection device on the Showcase DVD.

Key

Remote control selection device on the Showcase DVD.

Video Monitor

Video screen without a receiver.

Television

Video screen with a receiver. The term "television" in this document stands for a video screen with or without a receiver.

Input and Output Connections

Balanced

A symmetrical input or output circuit that has equal impedance from both input terminals to a common ground reference point. The industry standard for professional and sound recording installations, balanced connections have 6 dB more gain than single-ended connections and allow the use of long interconnect cables. Balanced connections are more immune to induced noise from the system or the environment.

Single-ended

A two-wire input or output circuit. Use care when using single-ended connections. Turn the system off prior to making or breaking single-ended connections. Single-ended connections are not recommended for connections requiring long cable runs.

Operation

Off

When the AC power cord is unplugged from the AC power source, the component is off.

Stand-by Mode

When the Showcase DVD is connected to AC power, the red stand-by LED illuminates. This indicates that the component is in stand-by mode, a low power consumption status that keeps the audio and regulator circuits at idle. Krell recommends leaving the component in the stand-by mode when not playing a disc.

Operational Mode

When the power button on the front panel or power key on the remote control is pressed and the blue power LED illuminates, the component is in the operational mode and ready to play a disc.

Video Technology

Video Signal

A signal which includes all the information present in the video picture. There are three basic elements in a video picture: color, brightness, and synchronization data.

Chrominance (C or Chroma). The color portion of a video signal.

Luminance (Y, Brightness, or Luma). The monochrome portion of a video signal.

VIDEO SIGNAL OPTIONS

Component Video Signal (3 Signals)

Three separate signals transmit: luma (Y), blue minus luma (B-Y), and red minus luma (R-Y), resulting in a high quality, film-like picture.

YPbPr (or PrPbY). One way to designate the three signals used in component video. Y = the luma signal, Pb = the blue minus luma (B-Y) chroma signal, and Pr = the red minus luma (R-Y) chroma signal.

S-Video Signal (2 Signals)

Two separate signals transmit the luma (Y) and chroma (C). S-video signals bypass television circuitry required by composite video, and reduces video noise as well as cross-contamination of luma and chroma signals.

Composite Video Signal (1 Signal)

One signal transmits luma (Y) chroma (color), and synchronization data.

BUILDING THE VIDEO PICTURE

Interlaced (standard) signals build the video picture in two passes.

Progressive signals build the video picture in one pass. This technology eliminates motion artifacts and produces film-quality pictures. Both the video source and television must be equipped with progressive video connections.

Unpacking

Follow these steps to safely unpack your Showcase DVD:

1. Open the shipping box and remove the top layer of foam. You see these items:
 - 1 Krell Showcase DVD
 - 1 AC power cord
 - 1 12 VDC (12 V trigger) cable
 - 1 remote control
 - 1 CR2025 lithium battery
 - 1 Quick Setup Guide
2. Grasp the underside of the foam end-caps that encase the Showcase DVD and lift it straight out of the shipping box.
3. Place the Showcase DVD in a safe location and remove the end-caps and protective plastic wrapping.

Only one person needed.

Notes

If any of these items are not included in the shipping box, please contact your authorized Krell dealer, distributor, or Krell for assistance.

*Save all packing materials. If you ship your Showcase DVD in the future, repack the unit in its original packaging to prevent transit damage. See **Return Authorization Procedure**, on page 56, for more information.*

Placement

Before you install the Showcase DVD into your system, review the following guidelines to choose the location for the component. This will facilitate a clean, trouble-free installation. The Showcase DVD does not require any type of special rack or cabinet for installation.

Place the Showcase DVD on a firm, level surface, away from excessive heat, humidity, or moisture. The Showcase DVD requires at least one inch (2.5 cm) of clearance on each side and at least one inch (2.5 cm) of clearance above and below the component to provide adequate ventilation. Installations inside cabinetry may need extra ventilation.

Note

The Showcase DVD incorporates an advanced suspension system and does not require additional mass coupling or isolation. You may experiment with feet or cones as long as they are not permanently affixed to the unit. Any unauthorized modifications to the unit or electronics will void the warranty.

IMPORTANT

Do not attach enhancement accessories such as rings, mats, or dampers to individual discs. These accessories may interfere with the disc transport, resulting in erratic playback and/or poor performance.

AC Power Guidelines

The Showcase DVD has superb regulation and does not require a dedicated AC circuit. Operate the Showcase DVD only with the power cord supplied.

Avoid connections through extension cords or multiple AC adapters. High quality 15 amp grounded AC strips are acceptable. High quality AC line conditioners or filters may be used if they are grounded and meet or exceed the unit's power supply rating of 100 VA.

Quick Start

READ THIS FIRST

The Showcase DVD is shipped ready to play from the factory. The player automatically switches to NTSC or PAL, depending on the disc format. The default standard is preset, and not selectable by the user.

To get started, Krell recommends the following routine:

Step 1

Connect the Showcase DVD to AC Power

Plug the AC cord into the wall outlet. The red stand-by LED (3) illuminates.

Step 2

Choose and Connect the Video Outputs to Your Television

Choose the output that matches your television input. The Showcase DVD supports composite, S-Video, interlaced, and progressive scan (480p) component video signals. See **Definition of Terms**, on page 3, for a detailed description of video signals.

PROGRESSIVE SCAN VIDEO

The progressive PrPbY outputs will provide the best quality picture, because they build video screen content in one pass. To achieve this picture quality, the progressive PrPb Y outputs need to be connected to a television with a 31.5 kHz horizontal scan rate, capable of accepting a progressive signal of 480p or better. Most plasma, D-ILA, DLP, and HDTV televisions have this feature.

Note

Connect the Showcase DVD directly to the television. Set the TV to the correct video input channel.

HDMI CONNECTOR (Optional)

An optional HDMI connector is available for the Showcase DVD. The connector produces the following digital component signals: 480p, 720p, and 1080i.

Step 3

Connect the Showcase DVD Audio Outputs to Your Home Theater System

Connect the left and right balanced or single-ended analog audio outputs to the left and right audio inputs of your amplifier or receiver.

Step 4 (Optional)

Configure the Showcase DVD to Match Your Television

Use this section if you want to change the picture view on the video screen, and you already have a good working knowledge of the Showcase DVD setup menu. For greater detail on how to access and navigate the setup menu, see pages 31-45.

1. Press the power button or key (1) to place the Showcase DVD in the operational mode. The blue power LED (2) illuminates. The video screen displays the Krell logo, followed by the appearance of a status window, which indicates the playing condition of the Showcase DVD.
2. If a disc is in the transport (12), pause (6) or stop (7) disc playback.
3. Press the setup button or key (17) to access the setup menu. The setup menu multiple-toolbar appears on the video screen.
4. Use directional buttons or keys (14) to navigate to the OSD icon on the multiple-toolbar. When an item on the menu is selected, it is highlighted in black and surrounded by cursor arrows.
5. Press the down directional button or key to navigate to the main menu options for OSD.
6. Press the right directional button or key to select TV SHAPE.
7. Press the right button or key again to access the TV shape options in the OSD first sub-menu:
8. Select the TV shape you want: 4:3 LETTERBOX, 4:3 PANSCAN, OR 16:9.
9. Press the setup button or key again to exit the setup menu.

Front Panel Description

See Figure 1 on page 8

Power

1 Power Button or Key

Use this button or key to switch the Showcase DVD from the stand-by to the operational mode.

2 Power LED

The blue power LED illuminates when the Showcase DVD is in the operational mode.

3 Stand-by LED

The red stand-by LED illuminates when the Showcase DVD is plugged into AC power and is in the stand-by mode.

4 Front Infrared Sensor

The infrared sensor receives commands from the Showcase DVD remote control when the IR select switch (37) is in the up position. For proper remote control operation, make sure the infrared sensor is not covered or obstructed.

Disc Functions

5 Repeat Button or Key

Use this button or key to activate and deactivate disc repeat options. See also: **To Play a DVD or VCD**, page 20; **To Play an Audio CD**, page 24; **To Play an MP3 Disc**, page 27.

6 Pause Button or Key

Use this button or key to pause disc playback. The phrase PAUSE appears briefly in the status window in the upper left corner of the television. To resume playback, press the pause button or key again, or press the play button or key (8).

7 Stop Button or Key

Use this button or key to stop disc playback. A status window appears in the upper left corner of the television screen, followed by a RESUME temporary feedback field icon. If you are playing a DVD or VCD, press play (8) when the RESUME icon appears, to resume playback from the stop point. If you do not press play while RESUME icon is on the screen, the DVD starts playing from the first title and chapter.

8 Play Button or Key

Use this button or key to begin or resume disc playback.

9 Track Forward Button or Key

Track Forward. Use this button or key to move forward one chapter or track. The mode selected appears in a status window in the upper left corner of the television screen. The front panel display (13) shows the currently playing chapter or track number.

DISC FUNCTIONS, continued

9 Track Forward Button or Key, continued

Track Back. Use this button or key to move back one title, chapter, or track. The mode selected appears in a status window in the upper left corner of the television screen. The front panel display shows the currently playing title and chapter, or track number. See also: *To Play a DVD or VCD*, page 20; *To Play an Audio CD*, page 24; *To Play an MP3 Disc*, page 27.

10 Search Forward and Back Buttons or Keys

Search Forward. Use this button or key to access the two fast-forward playback modes. Use the search forward button or key to switch between the slower and faster modes. On DVD, VCD, or Audio CD playback, the mode selected appears in the status box in the upper left corner of the television screen. Press the play button or key to resume normal playback.

Search Back. Use this button or key to access the two fast-reverse playback modes when in the play mode. On DVD, VCD, or Audio CD playback, the mode selected appears in the status box in the upper left corner of the television screen. Use the search back button or key to switch between the slower and faster modes. Press the play button or key to resume normal playback. See also: *To Play a DVD or VCD*, page 20; *To Play an Audio CD*, page 24.

Menu Access and Setup Functions

11 Open/Close Button or Key

Use this button or key to open and close the disc transport.

12 Disc Transport

The disc transport holds the disc.

13 Front Panel Display

The front panel display shows currently playing title and chapter or track numbers, elapsed time, repeat mode, and disc status.

14 Directional Buttons or Keys

Use these buttons or keys to navigate the Showcase DVD setup menu, a DVD disc menu, an audio CD, or an MP3 disc menu. Also, use these buttons to view a DVD disc as frame by frame stills.

15 Enter Button or Key

Use this button or key to set select disc menu functions or exit the setup menu.

DISC FUNCTIONS, continued

16 Menu Button or Key

Use this button or key to access the DVD disc menu. Disc playback pauses automatically when you enter the menu. Use the directional buttons or keys (14) to move through the menu. Press enter to select the desired menu item.

17 Setup Button or Key

Use this button or key to access the Showcase DVD setup menu. The setup menu allows you to customize your Showcase DVD on screen display (OSD), audio soundtrack, and select special features such as access control. Press the setup button again to reveal sub menus, or press the enter key to exit the setup menu. See **Showcase DVD Setup Menu**, pp. 31-54, for information on configuring the Showcase DVD.

18 HDMI Button (Optional)

Use this button to scroll through three output signal choices: 480p, 720p and 1080i.

19 HDMI LEDs (Optional)

The illuminated LED indicates the component video scan resolution in use: 480p, 720p, or 1080i.

Remote Control Description

See Figure 2 on page 8

Battery Installation and Removal

The Showcase DVD remote control uses one CR2025 lithium battery, which is included with the shipment.

To open the battery compartment on the back of the remote control:

1. Place the remote face down on the table.
2. Use your thumbnail or a small jeweler's or eyeglass screwdriver to move the small tab toward the center of the remote, while using your index fingernail or screwdriver to pull down gently on the slot to the right of the tab. The battery compartment will slide out.
3. Place the battery, positive (+) side up, in the battery tray.
4. Slide battery compartment back into the remote until you hear a click.

The remote control is ready for operation.

Notes

Do not use a knife or other sharp object to open the battery compartment; they will scratch the remote control finish.

Replace batteries when remote control function becomes intermittent.

Remove batteries if the remote control is not used for a long time. Battery leakage can damage the remote control.

Remote Control-Only Functions

The Showcase DVD remote control provides all the power, standard disc functions, menu access, and menu setup functions available on the front panel. Additional advanced disc and programming functions are accessed only from the remote control. A description of the remote control-only keys for the Showcase DVD follows.

ADVANCED DISC FUNCTIONS

20 Audio Key

Press this key to access the audio icon on the multiple-toolbar menu. Use the down directional button or key (14) to cycle between OFF or the languages available on the disc soundtrack. The last language scrolled to is automatically selected, and becomes active after the transport (12) is opened and closed. Navigate to the audio sound category of the OSD menu for an expanded view of the languages available.

**ADVANCED DISC
FUNCTIONS, continued**

21 Subtitle Key

Press this key to access the subtitle icon in the multiple-toolbar menu. Use the down directional button or key (14) to cycle between OFF or the subtitle languages available on the disc soundtrack. The last subtitle language scrolled to is automatically selected, and becomes active after the transport (12) is opened and closed. Navigate to the audio mode category of the OSD menu for an expanded view of the subtitle languages available.

22 Angle Key

Use this key to select alternate camera angles, when they are available on the disc.

23 Title Key

Press this key to access the title which is playing.

Note

Many discs have only one title.

24 Numeric Keys

Press a numeric key to select a disc chapter, title, or track during playback. The setup menu opens with the cursor at the title and chapter number or track number that is playing. Press the numeric key for the next chapter, title, or track number you want to play. Playback resumes at the selected title, chapter, or track.

Note

If a title, chapter, or track is not available on the disc, the number you select is not displayed on the menu.

**PROGRAMMING
FUNCTIONS**

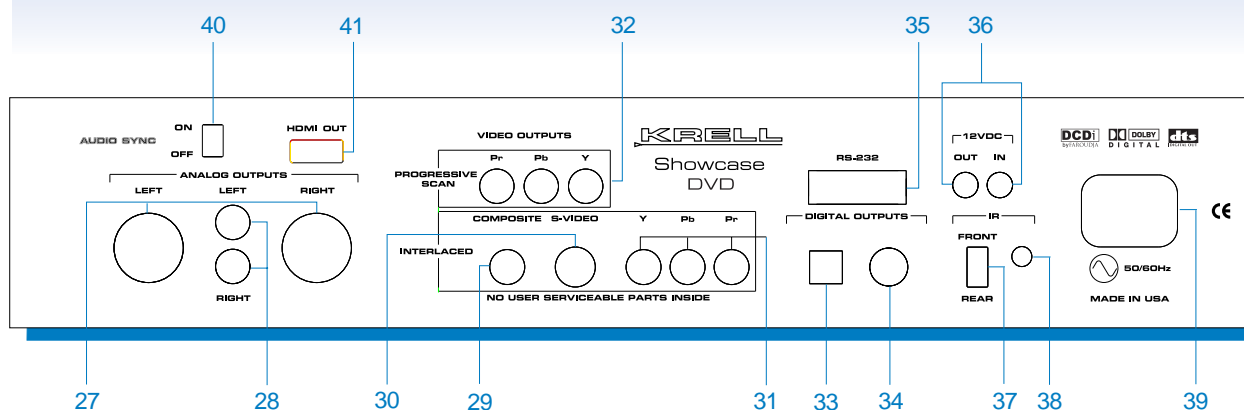
25 A-B Key

Press this key to define the start of a continuous loop. Press again to define the end of a continuous loop. Playback begins immediately and continues until you press the A-B key a third time, to clear the loop. See **How to Create an A-B Loop**, on page 49.

26 Prog(ram) Key

Press this key to access the favorite track selection (FTS) icon in the multiple-toolbar menu. Select and playback chapters, titles, or tracks in a particular sequence. See also: **How to Write a Title/Chapter Program**, for a DVD or VCD, on page 46; **How to Write a Track Program for an Audio CD**, on page 48.

Figure 1 The Showcase DVD Back Panel



Analog Audio Outputs

- 27 Left and Right Balanced Audio Outputs
- 28 Left and Right Single-ended Audio Outputs

Interlaced Video Outputs

- 29 Composite Video Output
- 30 S-Video Video Output
- 31 Component Video Output (Y, Pb, Pr)

Progressive Scan Video Output

- 32 Progressive Scan Video Output, (Pr, Pb, Y)

Digital Audio Outputs

- 33 Optics Digital Output
- 34 Coaxial Digital Output

Remote Back Panel Connections

- 35 RS-232 Communication Port
- 36 12 VDC In/Out (12 V Trigger)
- 37 IR Select Switch
- 38 Back Infrared Sensor

Power

- 39 IEC Connector

HDMI Connection (Optional)

- 40 Audio Sync Switch
- 41 HDMI Out

Back Panel Description

See Figure 3 on page 14

Analog Audio Outputs

27 Left and Right Balanced Audio Outputs

The Showcase DVD is equipped with one pair of left and right balanced analog audio outputs via XLR connectors.

28 Left and Right Single-ended Audio Outputs

The Showcase DVD is equipped with one pair of left and right single-ended analog audio outputs via RCA connectors.

Interlaced Video Outputs

29 Composite Video Output

The Showcase DVD is equipped with a composite video output via an RCA connector. Composite video uses one wire to convey the video signal.

30 S-Video Video Output

The Showcase DVD is equipped with an S-video output via a 4 pin mini-DIN connector. Composite video uses two wires to convey the video signal.

31 Component Video Output (Y, Pb, Pr)

The Showcase DVD is equipped with a component video output via RCA connectors. Component video uses three wires to convey the video signal.

Progressive Scan Video Outputs

32 Progressive Scan Video Outputs (Pr, Pb, Y)

The Showcase DVD is equipped with a progressive video output via RCA connectors. Progressive video uses three wires to convey the video signal.

Notes

The Showcase DVD automatically switches to NTSC or PAL, depending on the disc format. The default standard is preset, and not selectable by the user.

Digital Audio Outputs

33 Optics Digital Output

The Showcase DVD is equipped with one EIAJ optics digital audio output via a TosLink connector.

34 Coaxial Digital Output

The Showcase DVD is equipped with one S/PDIF coaxial digital audio output via an RCA connector.

Back Panel Remote Connections

35 RS-232 Communication Port

The Showcase DVD is equipped with an RS-232 communication port, which receives messages from a computer-based control system, providing more intelligent control of the Showcase DVD. For more information, see **RS-232 Port: Sending Commands and Interpreting Data**, the developer's reference on the Krell website at www.krellonline.com.

36 12 VDC Out and In

The 12 VDC out and in connections allows you to control the operational and stand-by modes of components with 12 V triggers, to easily coordinate allowing whole systems or parts of systems.

Output. The 12 VDC output sends a 12 Volt power on/off signal to other Krell components via a 12 V cable, as well as to other devices that incorporate a 12 V power on/off trigger input.

Input. The 12 VDC input receives 12 Volt power on/off signals from other Krell components and devices that incorporate a 12 V trigger.

Notes

When the Showcase DVD is in the operational mode, 12 VDC output provides 12 V of DC output. When the Showcase DVD is in the stand-by mode or off, DC output is 0 V.

12 VDC Out (12 V trigger) current is limited to 30 mA.

Consult the owner's manual of each component used in a custom installation to take full advantage of the Showcase DVD's remote capability.

37 IR Select Switch

Use this switch to activate the front or Back Infrared Sensor (38).

Front. The switch in the up position indicates that the front infrared sensor is active.

Rear. The switch in the down position indicates that the back infrared sensor is active.

**BACK PANEL
REMOTE CONNECTIONS,**
continued

38 Back Infrared Sensor

This sensor receives commands from the Showcase DVD remote control when the IR select switch (37) is in the down position.

Power

39 IEC Connector

The Showcase DVD is equipped with a standard female IEC power connector, for use with the AC power cord.

HDMI Connection
(Optional)

40 AUDIO SYNC SWITCH

Use this switch to synchronize audio and video when using the HDMI output (41). Turn this function off, if you are not using the HDMI output.

41 HDMI OUT

Digital video output that interfaces with an A/V receiver or a video monitor equipped with an HDMI input.

Showcase DVD Connections to Your System

Using Balanced Connections

Krell recommends using balanced interconnect cables. Balanced interconnect cables not only can minimize sonic loss but are also less sensitive to induced noise, especially with installations using long cables. Balanced connections have 6 dB more gain than single-ended connections. When level matching is critical, keep this gain value in mind.

Connection Steps

This section provides information about connecting your Showcase DVD to other components in your system. The Showcase DVD is equipped with a variety of connection options, for easy integration into your home theater system.

Follow these steps to connect the Showcase DVD to your system.

1. Make sure all power sources and components are off before connecting inputs and outputs.
2. Neatly organize the wiring between the Showcase DVD and all system components. Separate AC wires from audio cables to prevent hum or other unwanted noises from being introduced into the system.
3. Match and connect the video outputs from Showcase DVD to the video inputs of the television. The Showcase DVD supports composite, S-Video, and component interlaced video signals and progressive (480p) component video signals. See **Definition of Terms**, on page 3, for more information on video signals.

PROGRESSIVE SCAN VIDEO

The progressive PrPbY outputs will provide the best quality picture, when they are connected to a television capable of accepting a progressive signal of 480p or better. This includes most plasma, D-ILA, DLP, and HDTV televisions.

Note

To use the progressive scan video outputs on the Showcase DVD, the television must have a 31.5 kHz horizontal scan rate and a progressive (480p) video input.

HDMI CONNECTOR (Optional)

An optional HDMI connector is available for the Showcase DVD. The connector uses a single cable to support multiple audio and multiple-video cables, and produces the following digital component signals: 480p, 720p, and 1080i.

Showcase DVD Connections to Your System, continued

4. Connect the balanced (27) or single-ended (28) analog audio outputs to your loudspeakers.
5. Connect the optics digital audio (33) or coaxial audio (34) digital output to your loudspeakers.

Note

DTS audio playback is available only from the digital outputs.

6. Plug the AC power cord into the IEC connector (39) on the back panel, then plug the AC power cord into the wall socket. The red stand-by LED (3) on the front panel illuminates.

Note

When powering up any system, always turn amplifiers on last. When powering down, always turn amplifiers off first.

Showcase DVD Operation

This section provides information about operating the Showcase DVD. The Showcase DVD is shipped ready to play. After the player is connected to the television and other system components, and plugged into AC power, it is ready for operation.

Compatible Discs

The Showcase DVD is a Region 2 player which plays the following disc formats: DVD, DVD-R, CDDA, CD-R, CD-RW, DVD+RW, MP3, and VCD.

Notes

Krell recommends leaving the Showcase DVD in the stand-by mode when not playing a disc.

Do not attach enhancement accessories such as rings, mats, or dampers to individual discs. These accessories may interfere with the disc transport, resulting in erratic playback and/or poor performance.

Adjust the volume level through your system volume control.

To Play a DVD or VCD

All functions outlined on pages 8-11 are available when you play a DVD or VCD.

1. Press the power button on the front panel or the power key (1) on the remote. The blue power LED (2) illuminates, and the red stand-by LED (3) turns off. The Krell logo and a status window appear on the television screen. The Showcase DVD is in the operational mode, and the disc transport (12) is active.

Screen in Operational Mode

Status window



To Play a DVD or VCD,
continued

2. Press the open/close button or key (11) to open the disc transport.
3. Place the disc on the transport.
4. Press the open/close button or key again to close the disc transport. Playback begins from the first title or track. The front panel window displays **READING** and **INFO**.
5. The phrase **INFO** remains on the front panel display window until you press the enter (15) or play button or key.
6. The Showcase DVD starts playing the movie and the front panel window displays the time, the title and chapter, or the track.
7. Press the stop button or key (7) to end disc playback.
8. To turn the Showcase DVD off, press the power button on the front panel or the power key on the remote. The red stand-by LED illuminates and the Showcase DVD is in the stand-by mode.

See **Front Panel Description**, on page 9, and **Special Operations**, on page 46, for more information on disc playback options.

STATUS WINDOW

The status window icon reports the current operating condition of the Showcase DVD, and appears in the upper left portion of the television screen. If a disc is playing, the function, title, chapter, or track as well as time elapsing is displayed in the icon.

To suppress the status window, see page 38.

DVD AND VCD FUNCTIONS

All functions listed under **Front Panel Description**, on pages 9-11 and under Remote-only, on pages 12-13 are available when you play a DVD or VCD.

5 Repeat Button or Key

Press this button or key to repeat a title or chapter, or an entire disk:

CHAPTER REPEAT	Press once to repeat the currently playing chapter.
TITLE REPEAT	Press twice to repeat all chapters in current title.
REPEAT	Press three times to repeat the entire disc.
REPEAT OFF	Press four times to clear the repeat function.

The selected repeat option appears briefly in the temporary feedback field icon, in the upper left corner of the television screen. The phrase REPEAT appears in the front panel display (13).

When repeat is off, there is no temporary feedback field icon in the upper left corner of the television screen, and the phrase REPEAT disappears from the front panel display.

9 Track Forward and Track Back Buttons or Keys

Press this button or key to move to another title or chapter, or move to the beginning of the current title or chapter. Direction and title or chapter number are displayed on the front panel display window (13), or in a status window on the television screen.

Track Forward. Press the track forward button or key firmly during playback, to move to the next title or chapter. Press track forward button or key briefly during playback, to return to the beginning of the current title or chapter.

Track Back. Press the track back button or key firmly during playback, to move to the last title or chapter. Press the track back button or key briefly during playback to return to the beginning of the current title or chapter.

To move to any title or chapter, enter the title or chapter number using the numeric keys (24) on the remote control.

DVD AND VCD
FUNCTIONS, continued

10 Search Forward and Back Buttons or Keys

Press this button or key to search forward or backward through the disc at an advanced speed. There are two fast-forward playback modes: x 4 and x 32.

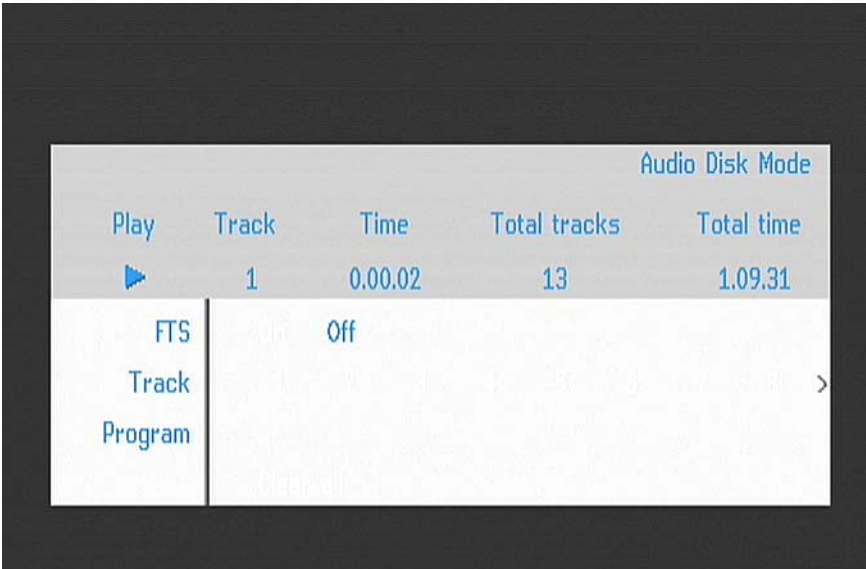
Press once and the phrase X4 appears in the status window in the upper left corner of the television screen. Press again and the phrase X32 appears in the status window in the upper left corner of the television screen.

Press the play button or key (8) to resume normal playback.

To Play
an Audio CD

Audio Mode Menu
on Screen

- 1-3. Follow the first three steps under **To Play a DVD or VCD** on pages 20-21.
- 4. Press the open/close button or key again to close the disc transport. The front panel window displays **READING** and the television screen displays the audio CD menu. Playback begins from the first track.



- 5. As the Showcase DVD plays the audio CD tracks, the television screen and the front panel display window continually report the current track and time elapsed on the track.
- 6. Playback stops at the end of the disc. To stop playback at any other time, press the stop button or key (7).

To turn the Showcase DVD off, see **To Play a DVD or VCD**, Step 8, on page 21.

AUDIO CD FUNCTIONS

The following functions are available when you play an audio CD:

5 Repeat Button or Key

Press this button or key to repeat a track selection, or an entire disc.

REPEAT TRACK Press once to repeat the currently playing track. REPEAT TRACK appears in the audio CD menu on the television screen.

REPEAT DISC Press twice to repeat an entire disc. REPEAT DISC appears in the audio CD menu on the video screen.

To deactivate REPEAT, press the repeat button or key a third time. When repeat is off, there is no repeat phrase on the television screen.

6 Pause Button or Key, 7 Stop, 8 Play Button or Keys

*For descriptions of these functions, see **Front Panel Description**, on page 10.*

9 Track Forward and Track Back Button or Key

Press this button or key to move to another track or move to the beginning of the current track. Direction and track number are displayed on the front panel display window (13), or in a status window on the television screen.

Track Forward. Press the track forward button or key firmly during playback to move to the next track. Press track forward button or key briefly during playback return to the beginning of the current track.

Track Back. Press the track back button or key firmly during playback to move to the last track. Press track back button or key briefly during playback to return to the beginning of the current track.

To move to any track, enter the track number using the numeric keys (24) on the remote control.

AUDIO CD FUNCTIONS,
continued

10 Search Forward and Search Back Button or Key

Press this button or key to search forward or backward through the disc at an advanced speed. Speed and direction are displayed on the front panel display window (13), or in a status window on the television screen. When the search begins, the sound is partially muted. To end a search, press play (8) to resume playback or press stop (7) to stop playback.

- Hold down this button or key for approximately 1 second during playback, to search the disc at X4 the normal speed
- Hold down the button or key again, to search at X8 speed.
- Hold down the button or key a third time, to return to the normal speed.

14 Directional Buttons or Keys

For descriptions of this function, see *Front Panel Description*, on page 10.

25 A-B Key

See *How to Create an A-B Loop*, on page 49.

26 Program Key

See *How to Write a Track Program for an Audio CD*, on page 48.

MP3 Disc Formats

The Showcase DVD supports the following MP3-CD formats (ISO 9660 format):

- A maximum of 30 characters
- Nested director up to eight levels
- A maximum ALB number of 32
- VBR bit-rate supported
- Sampling frequencies supported: 32 , 44.1 , and 48 k Hz.
- Supported bit rates: 32, 64, 96, 128, 192, and 256 (kbps).

The Showcase DVD does not support the following formats:

- Files including *.WMA, *.AAC, *.DLF, *M3U, *PLS
- Chinese file names
- Non-session closed discs
- Discs recorded under UDF format

Notes

It is normal to experience an occasional "skip" while listening to MP3 files. Digital-out is not active during MP3 disc playback, in compliance with SDMI.

Showcase DVD Operation, continued

MP3 Disc Formats, continued

Only digital audio music will play, due to the recording nature of Digital Audio MP3 (DAM).

Disc reading time may exceed ten seconds, if there are a large number of songs compiled on one disc.

Only the first session of multi-session discs is supported.

To Play MP3 Discs

- 1-3. Follow the first three steps under **To Play a DVD or VCD** above, on pages 20-21.
4. Press the open/close button or key again to close the disc transport. Playback begins from the first title or track. The front panel window displays **READING** and the video screen displays the MP3 menu.

MP3 Menu on Screen



5. The Showcase DVD starts playing the MP3 tracks, and the front panel window displays the current track and time elapsed on the track
6. Press the stop button or key (7) to end disc playback.

To turn the Showcase DVD off, see Step 8 on page 21.

MP3 DISC FUNCTIONS

The following functions are available when you play an MP3 disc:

5 Repeat Button or Key

Press this button or key to repeat a track or an album.

REPEAT TRACK	Press once to repeat the current track. REPEAT TRACK appears on the television screen.
REPEAT ALBUM	Press the repeat button or key again to repeat an album. REPEAT ALBUM appears in the MP3 menu on the television screen.
REPEAT DISC	Press the repeat button or key a third time to repeat an entire disc, REPEAT DISC appears in the MP3 menu on the television screen.

To deactivate REPEAT, press the repeat button or key a fourth time. When repeat is off, there is no repeat phrase on the television screen.

6 Pause Button or Key, 7 Stop, 8 Play Button or Keys

*For descriptions of these functions, see **Front Panel Description**, on page 10.*

9 Track Forward and Track Back Buttons or Keys

This function allows you to move to the next or previous disc album or track. Both the front panel window and the MP3 menu display the current track information.

1. Press the up or down directional button or key (14) to scroll through available albums.
2. Press the forward or backward track button or key (9) to scroll through available tracks.

You can also select an album or track using the numeric keys:

In the stop mode, use the numeric keys to select the ALBUM.

In the play mode, use the numeric keys to select the TRACK.

14 Directional Buttons or Keys

*For descriptions of this function, see **Front Panel Description**, on page 10.*












Temporary Feedback Field Icon on Screen

Temporary feedback field icon



Interpreting Temporary Feedback Field Icons

The temporary feedback field icon appears in the upper left portion of the television screen, displaying information about the status of the disc. If the setup menu multiple-toolbar is displayed, the icon is integrated in the toolbar (*not shown*). Icons describe the following Showcase DVD functions:

	ACTION PROHIBITED		REPEAT ALL
	ANGLE		REPEAT CHAPTER
	CHILD LOCK ON		REPEAT TITLE
	CHILD SAFE		REPEAT TRACK
	REPEAT A-B		RESUME
	REPEAT A TO END		

*Interpreting Temporary
Feedback Field Icons,
continued*

ACTION PROHIBITED

A box containing an X appears on the television screen, when a selected command is not permitted by the player or the disc. The gray area in the action prohibited box displays the specific action requested.

Some discs only allow limited function operation during playback.

RESUME

The resume feature applies to the disc currently in the transport well as the last four discs played. To start playback of a disc from the point where it was last stopped, press play (8) when the resume icon appears on the screen.

Setup Menu Overview

This section explains how to access and navigate the setup menu and how to select functions. The setup menu is comprised of:

- a multiple-toolbar at the top of the screen
- toolbar icons, each with a unique set of functions, accessed through a main menu
- a series of sub menus for each function
- a help-text bar at the bottom of the screen

Although all functions in the setup menu are optional and may be set up at your convenience, Krell encourages you to use the setup menu to optimize the performance of the Showcase DVD within your system in this sequence:

1. Access the setup menu by pressing the setup button or key (17). See *pages 32–33*.
2. Familiarize yourself with the navigation conventions. See *page 34*.
3. Select the OSD icon on the toolbar. See *page 35*.
4. Configure the OSD functions. See *pages 36–38*.
Initially, you may wish to change the picture view on your video screen, before playing your Showcase DVD. See **Example: To Change the TV Shape**, on *page 40*.
5. Access other toolbar icons and their functions. See *page 42*.
For detailed information on limiting child access and designating authorized discs for viewing, see page 50.
6. Exit the setup menu by pressing the enter button or key (15).

Disc playback pauses automatically, when you access the OSD menu.

Note

A temporary feedback field icon containing an X is displayed on the video screen, either alone or within the toolbar menu, if the disc chapter or track you are playing prohibits access to the setup menu. For more information, see **Interpreting Temporary Feedback Field Icons**, on *page 29*.

Showcase DVD Setup Menu

To Access the Setup Menu

Follow these steps to access the setup menu, after the Showcase DVD is connected to your system, and in the operational mode. See ***Connecting the Showcase DVD to Your System***, on page 18.

1. Pause (6) or stop (7) the disc, or make sure that it is not in the transport (12). A status window appears on the television screen.

Status Window on Screen

Status window shows disc status

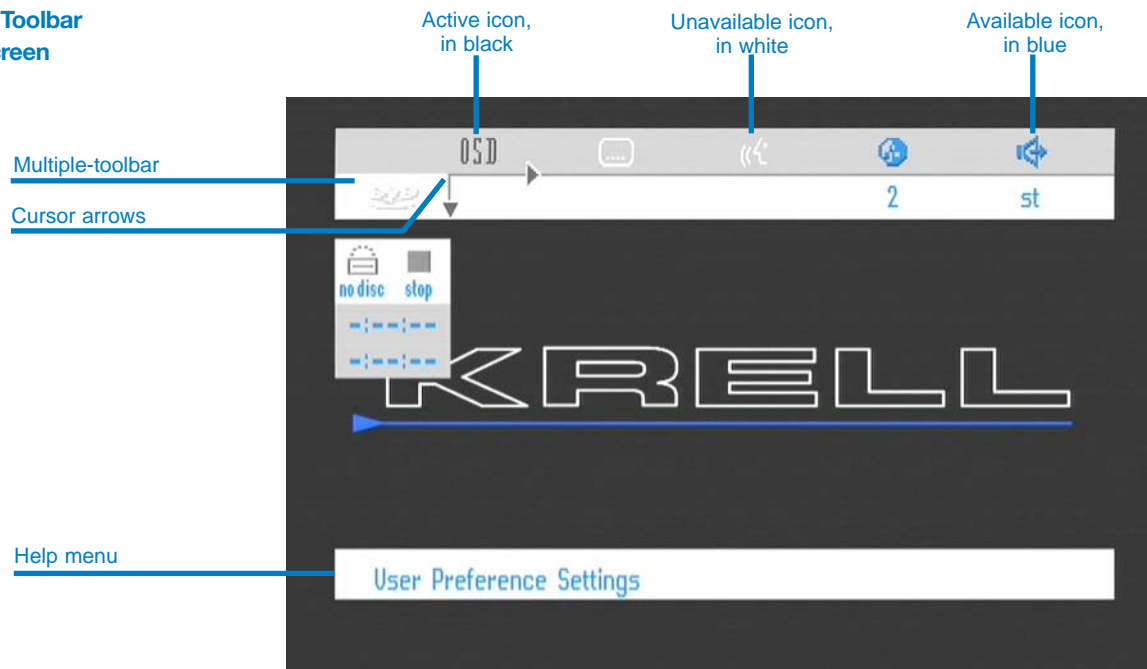


Showcase DVD Setup Menu, continued

To Access the Setup Menu,
continued

2. Press the setup button or key (17). The setup menu appears, including the multiple-toolbar, the cursor arrows, and the help-text bar. The status window continues to be displayed.

Multiple-Toolbar Menu Screen



Navigation Conventions

MENU COLOR

Color indicates selection status in the setup menu. An active menu item is highlighted in black and available items are blue. Unavailable items are either white or do not appear on the screen.

HELP-TEXT BAR

The help-text bar describes the active toolbar icon. The factory default is ON. To turn the help-text bar off, see *page 39*.

CURSOR ARROWS

On screen cursor arrows select all functions and their options. When the cursor arrows are at a menu item, that item is active and highlighted in black.



Use the directional buttons or keys (14) to move the cursor arrows to the menu item you want. The cursor will skip over unavailable (white in color) menu items. Once the cursor arrows are at a menu item, the menu item is selected. There is no need to press the enter button or key to set a selection.

The cursor arrows move left and right, along the multiple-toolbar. When the cursor arrows are on the toolbar icon at the far right, press the right directional arrow button or key to display more toolbar icons. If the cursor arrows do not travel, there are no more toolbar icons to display.

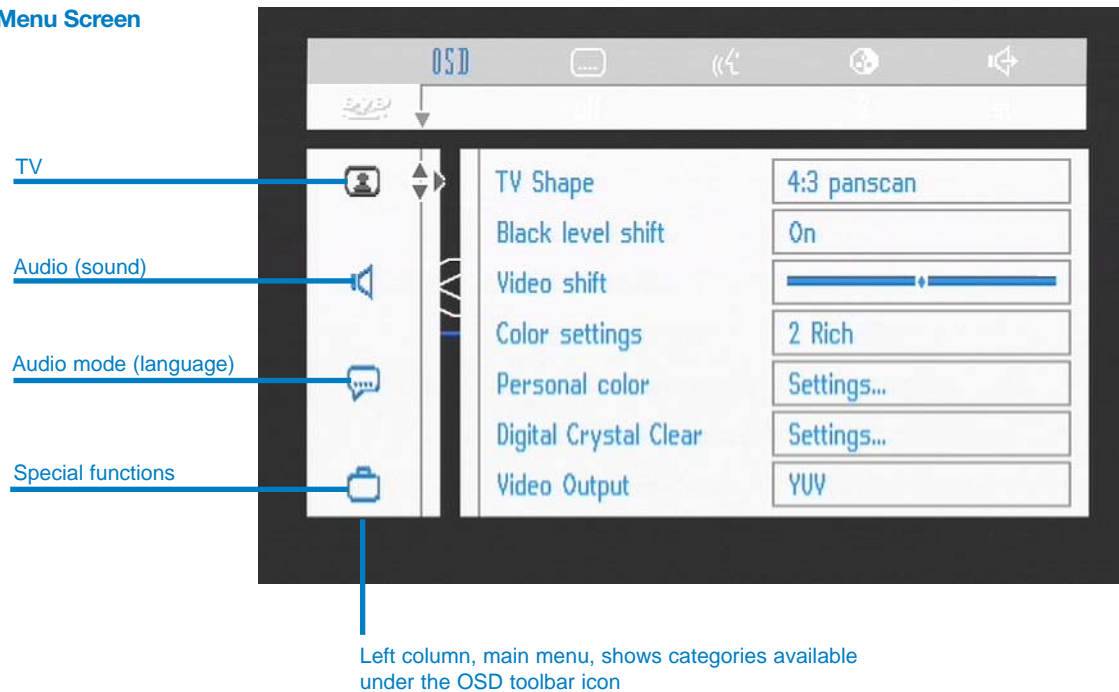
The cursor arrows move up and down between the multiple-tool bar menu and the main menu. Within the main menu, the cursor arrows move left, right, up, or down.

Within the main menu, when the cursor arrows move to the right, they open sub menus with options. Some sub menus access additional sub menus.

On Screen Display (OSD) Menus

After you access the setup menu, navigate to the OSD multiple-toolbar icon. Press the down directional button or key (14) and the OSD main menu appears.

OSD Main Menu Screen



OSD MAIN MENU

The on screen display (OSD) main menu is comprised of 3 sections: a left column, a middle column, and a right column. Function categories are displayed in the left column, and include:

- TV
- Audio (sound)
- Audio mode (language selection)
- Special features

The center column contains a list of functions for each category. The right column displays the function selected, and links to one or more sub menus that optimize each function.

On Screen Display (OSD)
Menus, continued

TV Category:
Adjusts the picture view

A description of the OSD menu functions follows:

TV SHAPE

Change the aspect ratio of the video output to match your monitor. The choices are:

LETTERBOX

A widescreen picture with black bars at the top and bottom of the screen. Use with a 4:3 TV.

PAN SCAN

A full-height picture with the sides trimmed. Use with a 4:3 TV.

16:9

A widescreen picture. Use with a 16.9 TV.

BLACK LEVEL SHIFT (NTSC ONLY)

Select ON to enrich the contrast of the video signal, with a NTSC format television only. The PAL format does not have a pedestal or setup for black level shift. The choices are: ON and OFF.

VIDEO SHIFT

Use the sliders to scroll the picture to the left or right on the screen. The factory default centers the picture on the screen.

COLOR SETTINGS

Choose one of five color settings, numbered 1 through 5. Choices 2 through 5 are preset options. Choice 1 is user-adjustable using the personal color feature under toolbar icon OSD, function name TV SHAPE:

Setting	Description
1	Personal
2	Rich
3	Natural
4	Soft
5	Animation

PERSONAL COLOR

Fine tune selected color settings to your taste. Navigate to COLOR SETTINGS to adjust the saturation, brightness, and contrast of the picture.

**On Screen Display (OSD)
Menus, continued**

**TV Category:
Adjusts the picture view,
continued**

DIGITAL CRYSTAL CLEAR

Adjust the appearance of the picture. Navigate to **SETTINGS** and adjust:

CHROMA DELAY

Adjusts the difference between signals, affecting hue and saturation.

GAMMA

Adjusts the brightness, changing the contrast between light and dark.

SHARPNESS

Values rang from +3 (very sharp) to -3 (soft).

DCDi

Directional Correlation Deinterlacing (DCDi) eliminates jagged diagonal edges in a video picture.

VIDEO OUTPUT (INTERLACED ONLY)

Adjust the video output standard. The choices are **RGB** or **YUV**. The European version of YPbPr is YUV. The selection takes effect when you exit the menu.

**Audio Category:
Adjusts the Sound**

DIGITAL OUTPUT

Adjust the digital audio output. The choices are: **OFF**, **PCM ONLY**, and **ALL**. The factory default is **ALL**, which means that the coaxial output is on. If you are not connecting to a device with a digital input, change the setting to **OFF**. If you are not connecting to a digital multi-channel decoder, set the digital output to **PCM ONLY**.

PCM

The abbreviation for pulse code modulation, a digital representation of an audio signal.

ANALOG OUTPUT

Adjust the analog audio output to match your system's playback capability. The choices are **STEREO**, **DOLBY SURR-COMPAT**, or **3D SOUND**.

NIGHT MODE

This function compresses peaks in the audio playback, and optimizes the dynamics of the sound for low volume playback. The choices are **ON** and **OFF**.

KARAOKE VOCAL

Use the DVD player to downmix a multi-channel Karaoke sound track to the audio outputs (2-channel sound). Use **ON** only when a multi-channel karaoke DVD is being played, otherwise turn this function **OFF**. The choices are: **ON** and **OFF**.

Showcase DVD Setup Menu, *continued*

On Screen Display (OSD) *Menus, continued*

Audio Category: *Adjusts the Sound, continued*

Audio Mode Category: *Adjusts the Language*

PCM OUTPUT

Adjust the sampling rate of the PCM (pulse code modulation) output. The choices are: 48 kHz and 98 kHz.

AUDIO LANGUAGE

Select a language from the list provided. If available on the disc, audio will play in the selected language. If the selected language is unavailable, audio will be in the first spoken language on the disc. The languages can be selected from the toolbar audio icon, where the languages show up as abbreviations.

SUBTITLE

Select a subtitle language from the list provided. If the subtitle function is available on the disc, subtitles:

- appear on the television screen in the language selected
- are identified in the help-text box, if it is active
- show up as abbreviations on the toolbar under the subtitle icon after you resume disc playback. If the selected subtitle language is unavailable, subtitles will appear in the first subtitle language on the disc. The subtitles can be selected from the toolbar audio icon, where the subtitles show up as abbreviations.

The Showcase DVD resets the subtitle icon in the multiple-menu toolbar to OFF when it is in the stand-by mode.

MENU

Displays the setup menu in English, Spanish, or French.

Special Functions Category:

ACCESS CONTROL

Create, confirm, or change a 4-digit access code. The designated 4-digit code must be entered in order to playback discs. The access control system will only operate a DVD disc which is programmed with access code software.

STATUS WINDOW

Displays the current status of the Showcase DVD. When this feature is enabled, the temporary feedback icon and the toolbar menu appear if the disc is stopped. The factory default is ON. Select OFF to suppress the icon and toolbar.

Showcase DVD Setup Menu, *continued*

On Screen Display (OSD) *Menus, continued*

Special Functions Category: *continued*

LOW POWER STANDBY

Dims the television screen when the pause selection is active. The function starts automatically after the Showcase DVD is in the pause mode for 15 minutes.

BIT RATE INDICATOR

Displays bit rate information for video and audio during playback of DVD and SVCD discs. The choices are ON and OFF.

PLAYBACK CONTROL (PBC)

Access the menu on a VCD, gives navigation information about MP3 files, or allows the viewing of computer discs. If a VCD is programmed for PBC, this function must be ON in order to access the PBC menu. The choices are: ON and OFF.

HELP TEXT

View a description of a toolbar icon, when the icon is selected. The description appears in a help menu along the bottom of the screen. The choices are: ON and OFF. The factory default is ON.

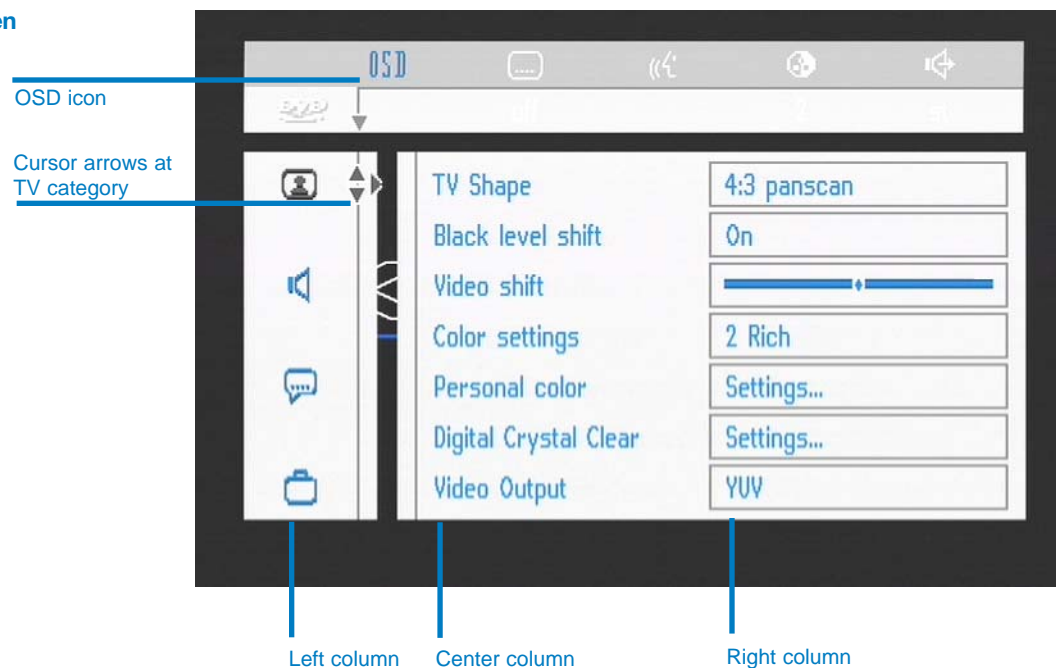
Example: To Change the TV Shape

The example below describes how to access a function and change it, using the the OSD main menu and TV SHAPE function and sub menus as an example.

After accessing the setup menu:

1. Select the toolbar menu icon OSD.
2. Press the down directional button or key (14). The OSD main menu appears. The main menu has three columns: left, center, and right. The cursor arrows are in the left column, highlighting the TV category.

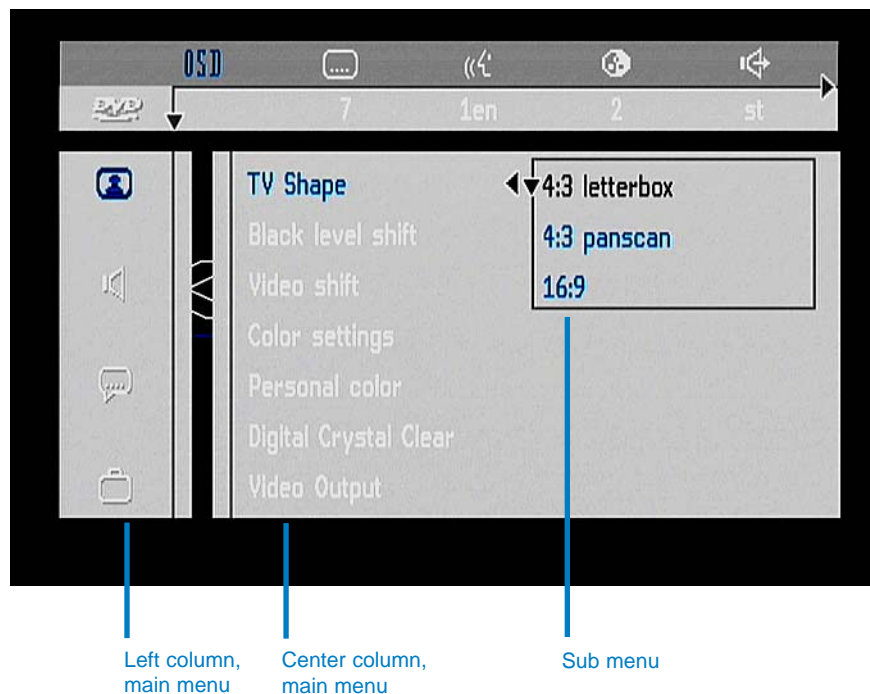
Main Menu Screen



3. Press the right directional button or key to access the function TV SHAPE.
4. Press the right directional button or key a second time to access the picture view function in the right hand column. A sub menu appears, displaying the following options: 4:3 LETTERBOX, 4:3 PANSKAN, and 16:9.

*Example: To Change
the TV Shape, continued*

Sub Menu Screen



5. Choose a picture view. The video screen will show the picture you select, if the television supports the format.
6. After selecting the picture view, you may wish to navigate through the main menu to select other OSD functions.
7. Exit the setup menu by pressing the setup button or key.

Multiple-toolbar Icons

Located near the top of the video screen, the multiple-tool bar in the setup menu uses a set of icons to quickly access and change functions the Showcase DVD performs, if the disc you are playing has been programmed to allow access.

TOOLBAR ICON LIST

There are three toolbar menus:

Toolbar 1	On screen display (OSD) Subtitle Audio language Color Sound
Toolbar 2	Step (frame by frame) Slow motion Fast motion Camera angle Zoom
Toolbar 3	Title Chapter Time search FTS (favorite track selection)

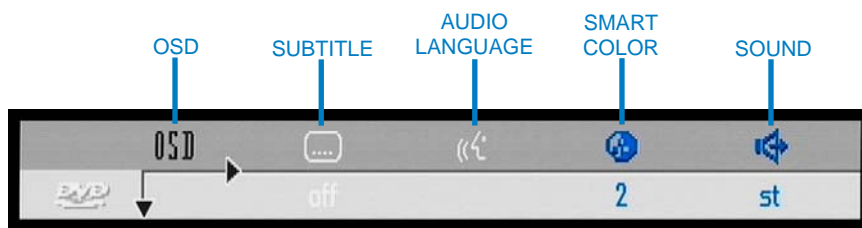
Press the setup key (17) once to scroll through Toolbar 1, Toolbar 2, and Toolbar 3. When there is no disc in the transport, only Toolbar 1 is accessible.

There is an abbreviated phrase below each toolbar icon. This phrase is the function that is active when the toolbar icon is selected. Scroll through the list of abbreviated phrases using the down directional button or key (14). The last function scrolled to is automatically selected. Some functions do not take effect until the transport (12) is opened and closed (11).

A description of each icon follows:

Multiple-toolbar Icons,
continued

Toolbar 1 on Screen



TOOLBAR 1

ON SCREEN DISPLAY (OSD)

The user preferences settings in the setup menu. The on screen display (OSD) enables you to adjust picture, sound, language and access control functions. *See page 35 for more information.*

SUBTITLE

The current subtitle language. Scroll through the list of available subtitles. The Showcase DVD resets the subtitle icon in the multiple-menu toolbar to OFF when it is in the stand-by mode. *See page 38 for more information.*

AUDIO LANGUAGE

The current audio language. Scroll through the list of languages available on the disc and audio will play in the selected language. *See page 38 for more information.*

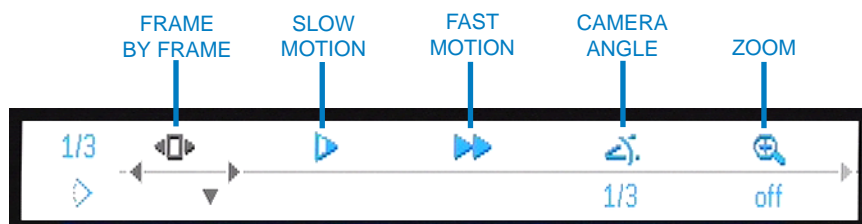
SMART COLOR

Scroll through one of five color settings, numbered 1 through 5. Choice 1 is user-adjustable. *See page 36 for more information.*

SOUND MODE

Adjust the analog audio output. *See page 37 for more information.*

Toolbar 2 on Screen



TOOLBAR 2

FRAME BY FRAME

View a DVD OR VCD frame by frame, either forward or backward. Press the down directional button or key (14) to access the frame by frame box. Press the right directional button or key to move forward in the disc, frame by frame. Press the left directional button or key to move backward on the disc, frame by frame.

Multiple-Tool bar Icons,
continued

TOOLBAR 2, continued

SLOW MOTION

View a DVD OR VCD in slow motion, either forward or backward on the disc. Press the down directional button or key (14) to access the slow motion settings selection box: -1/8, -1/2, -1/4, 0, 1/4, 1/2, 1/8. The selected speed is highlighted in black. When you exit the selection box, the disc plays at the speed you selected.

FAST MOTION

View a DVD or VCD in fast motion, either forward or backward on the disc. Press the down directional button or key (14) to access the fast motion settings selection box: -32, -8, -4, < 1 > 4, 8, 32. The selected speed is highlighted in black, and starts to play immediately upon selection. The selected speed continues to play when you exit the selection box. To return to normal playback speed, access the fast motion settings selection box again, and highlight the number 1.

CAMERA ANGLE

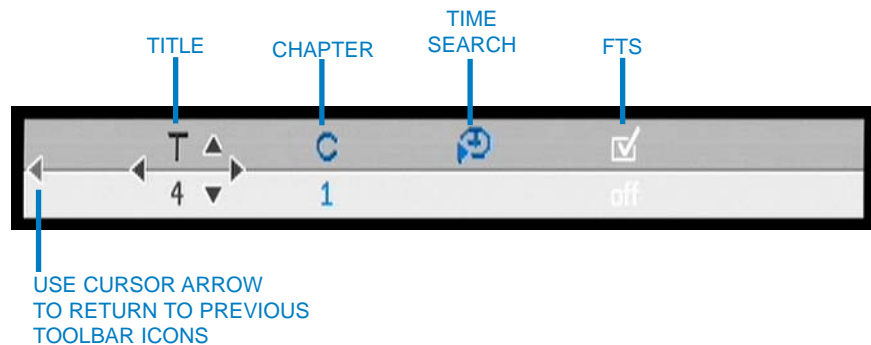
If the disc currently playing contains scenes recorded from different camera angles, the angle icon displays the angle being shown and displays the number and kind of angles you can select. This icon is inactive if there are no alternate camera angles recorded on disc.

ENLARGE PICTURE

Zoom the picture up or down, and pan through the image. The available zoom settings are: OFF, x 1.33, x 2.4. Press the down directional button or key (14) to access the pan box and press the enter button or key (15) to pan. An OK box appears on the screen. Use the directional arrows to pan around the image. Press enter to exit the setup menu. The disc plays with the image at the enlarged size in the pan position. To return the picture image to the regular size and position, enter the setup menu, navigate to the enlarge picture icon, and select OFF.

Multiple-Tool bar Icons,
continued

Toolbar 3 on Screen



TOOLBAR 3

TITLE

Select a title on a DVD or VCD, and the disc plays the title selected. Discs containing only one title will restart from the beginning of TITLE 1 when you activate this function.

CHAPTER

Select a chapter on a DVD. The chapter number appears at the top of the screen, and the disc plays the chapter selected.

TIME SEARCH

Use the time search function to begin playing from a desired time on the DVD. Enter the time in the time edit box using the numeric keypad (24), and the disc plays at the time selected.

FTS (FAVORITE TRACK SELECTION)

Store up to 20 of your favorite DVD or VCD titles and chapters, or Audio CD tracks. If this function is off, you can program a loop. If this function is on, you can play a loop that you have programmed. See *page 46 for more information*.

Special Operations

How to Write a Title/Chapter Program for a DVD or VCD

When you play a DVD or VCD, you can write a program, if the disc allows this function:

Navigate to the favorite track selection (FTS) check box at the far right of the third toolbar. ON or OFF is displayed below the icon:

ON

Titles or chapters are programmed.

OFF

Titles or chapters are not programmed.

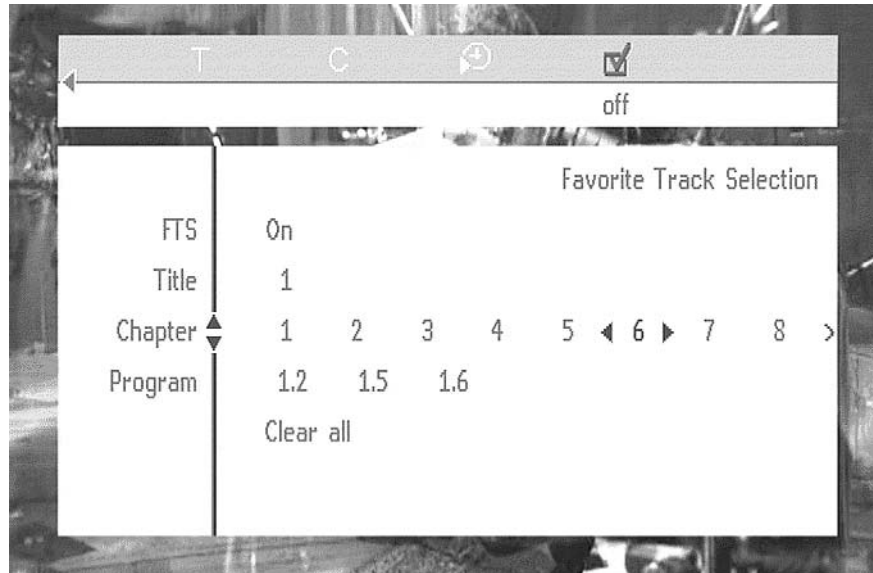
Notes

When a disc does not offer the FTS feature, there is no FTS check box icon in the toolbar and you cannot write a program.

To select a program:

1. The phrase below the FTS icon in the FTS toolbar icon is OFF. Press the down directional button (14) on the front panel or the down directional key on the remote control to move the cursor arrows to the FTS main menu. The FTS selection in the main menu is OFF.
2. Press the down directional buttons or keys to move the cursor arrows to TITLE OR CHAPTER on the left FTS screen. Notice the disc title and chapter number(s), on the right program screen. The cursor arrow is at the selected number, highlighted in black.
3. Use the right and left directional arrow button or key to select the title(s) and chapter(s) for your program.
4. Press the enter button or key (15) to set each selection. The FTS selection in the main menu changes to ON, and each selection appears after PROGRAM.

**Favorite Track Selection (FTS)
Setup Menu on Screen**



5. Exit the FTS program screen by pressing the up directional arrow. The phrase in the FTS toolbar icon changes to ON.
6. When you have finished selecting program titles and chapters, press the play button or key (8) to begin playback of the program sequence.

To clear a program:

1. The phrase in the FTS toolbar icon is ON, and the box in the toolbar menu is checked. Press the down directional arrow which is located to the right of the word ON. The FTS screens appear. The FTS selection in the right program screen is ON.
2. Press the down directional button or key (14) and scroll to the bottom of the program box, to select CLEAR ALL, which changes from blue to black. Press enter. The selected program tracks disappear and the FTS selection on the right hand program screen changes to OFF.
3. Exit the FTS program screens by pressing the up directional arrow. The phrase in the FTS toolbar icon changes to OFF.

How to Write a Track Program for an Audio CD

FAVORITE TRACK SELECTION FTS

The FTS program allows you to store your favorite tracks for a particular disc in the Showcase DVD memory. Each FTS program contains up to 20 tracks.

1. Place an audio disc in the disc transport (12) and press the stop button or key (7). The audio mode menu appears on the video screen.
2. Use the down directional button or key (14) to navigate to the list of available tracks.
3. Use the left and right directional button or key to select tracks from the list, or enter the track number using the numeric keys.
4. Store each track by pressing enter (15). The track numbers are added to the program list. The number of tracks and the playing time of the program are displayed in the front panel window and in the audio mode menu on the video screen. The Showcase DVD automatically memorizes the FTS program.
5. Use the right or left directional buttons or keys to select ON or OFF.
6. When the FTS program is complete, press play (8) to start playback or press stop to return to the stop mode.

To erase a track from an FTS program:

1. Use the directional buttons or keys to select the track number you want to erase.
 2. Press enter. The track number will be erased from the list of selected tracks.
- or
1. To erase the complete FTS program, use the down directional arrow to select CLEAR ALL.
 2. Press enter. The complete FTS program will be erased.

How to Create an A-B Loop for a DVD, VCD, or Audio CD

1. When you see or hear the selection that you want as the beginning of the loop, press the A-B key (25) to insert the start position. REPEAT A appears on the video screen.
2. When you see or hear the selection you want as the end of the loop, press the A-B key again to insert the finish position. REPEAT A-B appears on the television screen.
3. Playback of the loop begins automatically and continues until you press the A-B key a third time. REPEAT disappears on the video screen.

Note

Pause and resume play functions are active within an A-B loop.

Child Lock/Unlock

When child lock is inactive, the CHILD SAFE temporary feedback field icon appears in the upper left hand corner of the television screen, at the start of playback. When child lock is active, the CHILD LOCK ON temporary feedback field icon appears instead, at the start of playback.

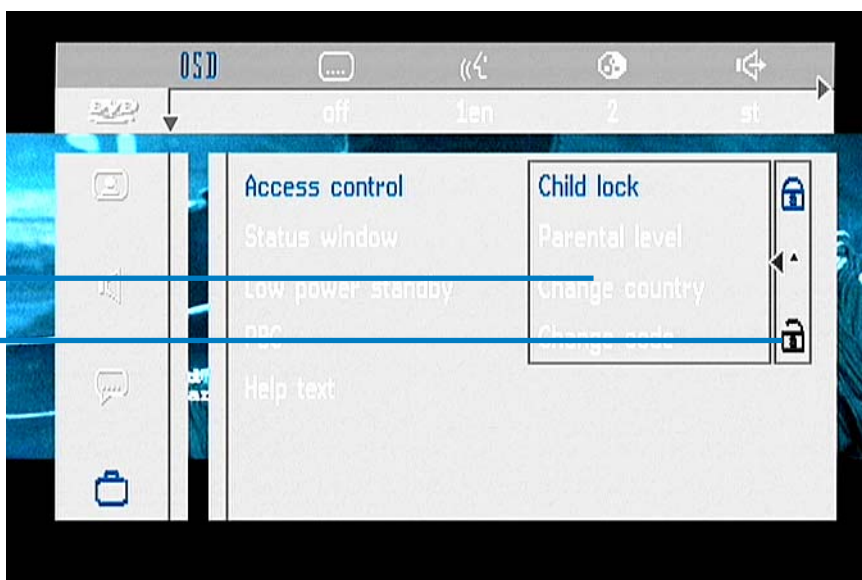
To activate or deactivate CHILD LOCK:

1. If a disc is playing, stop disc playback (7).
2. Navigate to the OSD icon on the toolbar and press the down directional arrow or key (14). The main menu appears on the screen with the cursor arrows at the TV category.
3. Navigate to the ACCESS CONTROL function in the main menu.
4. Select ENTER CODE from the main menu. The enter code dialog box appears.
5. Enter the code of your choice. The confirm code dialog box appears.
6. Confirm the code. The access control dialog box appears.
7. Navigate to CHILD LOCK using the directional buttons or keys.
8. Select the LOCK icon using the directional buttons or keys. The lock icon is selected when it is highlighted in black or
or
select the UNLOCK icon to deactivate child lock.
8. Press the enter button or key (15) to exit the setup menu.

Access Control Menu on Screen

Access control
Dialog box

Child lock is inactivated



To Authorize a Disc

When child lock is active, the child protection dialog box appears on screen each time a new DVD or VCD is played.

Child Protection Dialog Box on Screen



1. Enter your secret code and select **PLAYBACK ONCE**. The disc can be played as long as it is in the Showcase DVD transport, and the player is **ON**.

or

Enter your secret code and select **PLAYBACK ALWAYS**. The disc is authorized for play and the child safe temporary field icon is displayed, even if the child lock function in the setup menu is **ON**. If you select **PLAY ALWAYS**, the player will remember the disc for future use.

LIST OF AUTHORIZED DISCS

The Showcase DVD keeps a list of 80 child safe disc titles in memory. A disc is placed at the top of the list when you select **PLAYBACK ALWAYS** in the child protection dialog box. When the list is full and a new disc is added, the last disc on the list is deleted from memory. Double sided DVDs may have a different ID for each side. To make the disc child safe, each side needs to be authorized.

To Unauthorized a Disc

1. Place the disc in the transport (12). Playback starts immediately.
2. Press the stop button or key (7) when the CHILD SAFE temporary field feedback icon is visible.
3. The CHILD LOCK ON temporary field feedback icon replaces the child safe icon. The disc is now unauthorized.

To Activate/ Deactivate Parental Control (DVD Only)

PARENTAL CONTROL DISCLAIMER

The Showcase DVD player features a parental control system which activates when playing DVDs programmed with parental control coding. This parental control system will not be active on a DVD which does not have parental control coding. Please make sure that the disc plays according to your parental control settings, before you allow children to play the disc.

The PARENTAL LEVEL function allows you to prevent discs from being played by children, or allows you to play certain discs with alternative scenes. A disc may be programmed to contain parental control information, on the entire disc or on certain scenes. These scenes are rated from 1 to 8, and alternative scenes more suitable to viewing by children, are available on the disc. These ratings are country dependent.

1. Open the setup menu (17).
2. Navigate to the OSD main menu.
3. Select ACCESS CONTROL. The access control dialog box appears.
4. Enter your 4-digit code.
5. Navigate to PARENTAL LEVEL.
6. Navigate to the value adjustment bar (1-8).
7. Use the up and down directional buttons or keys (14) to select a rating for the disc that is on the transport.

RATING 0

Rating is not active. The disc plays in full.

RATINGS 1-8.

The disc contains scenes not suitable for children. If you set a rating for the player, all scenes with the same rating or lower playback. Higher rated scenes do not playback unless an alternative is available on the disc.

8. Press enter (15), or press the left directional button or key to exit the menu.

To Change the Country

1. Open the setup menu (17).
2. Navigate to the OSD main menu.
3. Select the SPECIAL FEATURES category.
4. Select ACCESS CONTROL.
5. Select ENTER CODE. The enter code dialog box appears.
6. Enter your 4-digit code. The access control dialog box appears.
7. Navigate to CHANGE COUNTRY.
8. Press the right directional button or key (14). The country sub menu appears.
9. Use the up and down directional buttons or keys to select a country.
10. Press the enter button or key (15), or press the left directional button or key again to exit the menu.

To Change the 4-digit Code

1. Open the setup menu (17).
2. Navigate to the OSD main menu.
3. Select the SPECIAL FEATURES category.
4. Select ACCESS CONTROL.
5. Select ENTER CODE. The enter code dialog box appears.
6. Enter your 4-digit code. The access control dialog box appears.
7. Navigate to CHANGE CODE.
8. Press the right directional button or key (14). The enter code dialog box appears.
9. Enter the new 4-digit code using the numeric keys (24). The confirm code dialog box appears.
10. Enter the new code a second time. The access control dialog box reappears.
11. Press the enter button or key (15), or press the left directional button or key to exit the menu.

Did You Forget the 4-digit Code?

1. Press the stop button or key to exit the child protect screen.
2. Open the setup menu (17).
3. Navigate to the OSD main menu.
4. Select the SPECIAL FEATURES category.
5. Select ACCESS CONTROL.
6. Select ENTER CODE. The enter code dialog box appears.
7. Cancel the 4-digit code by pressing the stop button or key (7) 4 times in the access control dialog box.
8. Enter the new code. The confirm code dialog box appears.
9. Enter the new code a second time. The access control dialog box reappears.
10. Press the enter button or key (15), or press the left directional button or key (14) to exit the menu.

Warranty

To register your product for warranty benefits, please complete and return the Warranty Registration Card enclosed in the shipping box within 15 days of purchase. Thank you.

This Krell product has a limited warranty of five years for parts and labor on circuitry and three years for parts and labor on all mechanical components. Should this product fail to perform at any time during the warranty, Krell will repair it at no cost to the owner, except as set forth in this warranty.

The warranty does not apply to damage caused by acts of God or nature.

The warranty on this page shall be in lieu of any other warranty, expressed or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose. There are no warranties which exceed beyond those described in this document. If this product does not perform as warranted herein, the owner's sole remedy shall be repair. In no event will Krell be liable for incidental or consequential damages arising from purchase, use, or inability to use this product, even if Krell has been advised of the possibility of such damages.

Proof of purchase in the form of a bill of sale or receipted invoice substantiating that the unit is within the warranty period must be presented to obtain warranty service. The warranty begins on the date of the original retail purchase, as noted on the bill of sale or receipted invoice from an authorized Krell dealer or distributor. Previously owned equipment, when re-purchased from an authorized Krell dealer or distributor, has the balance of the original warranty, based on the original date of manufacture.

The warranty for Krell products is valid only in the country to which they were originally shipped, through the authorized Krell distributor for that country, and at the factory. There may be restrictions on or changes to Krell's warranty because of regulations within a specific country. Please check with your distributor for a complete understanding of the warranty in your country.

If a unit is serviced by a distributor who did not import the unit, there may be a charge for service, even if the product is within the warranty period.

Freight to the factory is your responsibility. Return freight within the United States (U.S.A.) is included in the warranty. If you have purchased your Krell product outside the U.S.A. and wish to have it serviced at the factory, all freight and associated charges to the factory are your responsibility.

Krell will pay return freight to the U.S.A.-based freight forwarder of your choice. Freight and other charges to ship the unit from the freight forwarder to you are also your responsibility.

Krell is not responsible for any damage incurred in transit. Krell will file claims for damages as necessary for units damaged in transit to the factory. You are responsible for filing claims for shipping damages during the return shipment.

Krell does not supply replacement parts and/or products to the owner of the unit. Replacement parts and/or products will be furnished only to the distributor performing service on this unit on an exchange basis only; any parts and/or products returned to Krell for exchange become the property of Krell.

No expressed or implied warranty is made for any Krell product damaged by accident, abuse, misuse, natural or personal disaster, or unauthorized modification.

Any unauthorized voltage conversion, disassembly, component replacement, perforation of chassis, updates, or modifications performed to the unit will void the warranty.

The operating voltage of this unit is determined by the factory and can only be changed by an authorized Krell distributor or at the factory. The voltage for this product in the U.S.A. cannot be changed until six months from the original purchase date.

In the event that Krell receives a product for warranty service that has been modified in any way without Krell authorization, all warranties on that product will be void. The product will be returned to original factory layout specifications at the owner's expense before it is repaired. All repairs required after the product has been returned to original factory specifications will be charged to the customer, at current parts and labor rates.

All operational features, functions, and specifications and policies are subject to change without notification.

Return Authorization Procedure

HOW TO EXPEDITE SERVICE

If you believe there is a problem with your component, please contact your dealer, distributor, or the Krell factory to discuss the problem *before* you return the component for repair. To expedite service, you may wish to complete and e-mail the Service Request Form in the Service section of our website at:

<http://www.krellonline.com>

To contact the Krell Service Department:

TEL	203-799-9954 Monday-Friday, 9:00 AM to 5:00 PM EST
FAX	203-799-9796
E-MAIL	service@krellonline.com
WEB SITE	http://www.krellonline.com

HOW TO RETURN A PRODUCT

To return a product to Krell, please follow this procedure so that we may serve you better:

1. Obtain a Return Authorization Number (R/A number) and shipping address from the Krell Service Department.
2. Insure and accept all liability for loss or damage to the product during shipment to the Krell factory and ensure all freight (shipping) charges are prepaid.

The product may also be hand delivered if arrangements with the Service Department have been made in advance. Proof of purchase will be required for warranty validation at the time of hand delivery.

IMPORTANT

Use the original packaging to ensure the safe transit of the product to the factory, dealer, or distributor. Krell may, at its discretion, return a product in new packaging and bill the owner for such packaging if the product received by Krell was boxed in nonstandard packaging or if the original packaging was so damaged that it was unusable. If Krell determines that new packaging is required, the owner will be notified before the product is returned.

HOW TO PURCHASE ADDITIONAL PACKING

To purchase additional packaging, please contact your authorized Krell dealer, distributor, or the Krell Service Department for assistance.

SERIAL NUMBER

Your Showcase DVD product serial number is: _____

Krell Industries, Inc.
45 Connair Road
Orange, CT 06477-3650 USA

Showcase DVD
v 03.0

TEL 203-799-9954, FAX 203-891-2028
E-MAIL krell@krellonline.com
WEB SITE www.krellonline.com

HDMI Operation for the Showcase DVD

Power on the Showcase DVD and turn on your HDCP compatible display device. In most cases, you see one of the resolution lights illuminate, indicating the default resolution of your monitor. This resolution is detected automatically by the Showcase DVD circuitry. The resolution you prefer may or may not be the same as the detected resolution. Press the HDMI button to cycle through the available resolutions: 480p, 720p, or 1080i. For your convenience, the Showcase DVD remembers the last resolution to which it is set.

When you power on, and no HDMI resolution light illuminates, try pressing the HDMI button anyway. Some video displays do not provide intelligible information to the auto-detect circuitry in the Showcase DVD. Despite this condition, it is likely that you will succeed in adjusting the resolution to your preference by pressing the HDMI button. The lack of initial auto-detection does not compromise the operation of the circuit in any way.

Please contact your authorized dealer, distributor, or Krell should you have any questions or concerns, after completing the routine described above.



Krell Industries, Inc., 45 Connair Road, Orange, CT 06477-3650 USA
TEL 203-799-9954, FAX 203-891-2028, E-MAIL krell@krellonline.com
WEB SITE <http://www.krellonline.com>



HDMI Upgrade Now Available for the Showcase DVD

The HDMI Digital Video Output Stage for the Krell Showcase DVD combines high definition video and multi-channel audio in a single digital interface, and is fully backward compatible with the Digital Visual Interface (DVI) standard. The HDMI Digital Video Output Stage utilizes an on board video scaler that converts standard DVD video from the native 480i resolution to high-definition resolutions, 480p, 720p, or 1080i.

Contact your authorized Krell dealer or distributor for more information on adding HDMI functionality to your Showcase DVD.



KRELL
THE LEADER IN AUDIO ENGINEERING

Krell Industries, Inc., 45 Connair Road, Orange, CT 06477-3650 USA
TEL 203-799-9954, FAX 203-891-2028, E-MAIL krell@krellonline.com
WEB SITE <http://www.krellonline.com>

Placement

Note

The Showcase DVD has an advanced suspension system and does not require additional mass coupling or isolation. Experiment with feet or cones as long as they are not permanently affixed to the unit. Any unauthorized modifications to the unit or electronics void the warranty.

Connecting the Showcase DVD to Your System

Note

When powering up any system, always turn amplifiers on last. When powering down, always turn amplifiers off first.

Operation

Notes

Krell recommends leaving the Showcase DVD in the stand-by mode when not playing a disc.

Do not attach enhancement accessories such as rings, mats, or dampers to individual discs. These accessories may interfere with the disc transport, resulting in erratic playback and/or poor performance.

Showcase DVD Compatible Disc Formats Include: DVD, DVD-R, CDDA, CD-R, CD-RW, DVD+RW, MP3, VCD

Place the Showcase DVD on a firm, level surface, away from excessive heat, humidity, or moisture. The Showcase DVD requires at least two inches (5 cm) of clearance on each side and at least two inches (5 cm) of clearance above and below the component to provide adequate ventilation. Installations inside cabinetry may need extra ventilation.

AC Power Guidelines. The Showcase DVD has superb regulation and does not require a dedicated AC circuit. Operate the Showcase DVD only with the power cord supplied.

Avoid connections through extension cords or multiple AC adapters. High quality 15 amp grounded AC strips are acceptable. High quality AC line conditioners or filters may be used if they are grounded and meet or exceed the unit's power supply rating of 100 VA.

Krell recommends using balanced interconnect cables. Balanced interconnect cables not only can minimize sonic loss but are also immune to induced noise, especially with installations using long cables. Balanced connections have 6 dB more gain than single-ended connections. When level matching is critical, keep this gain value in mind.

Follow these steps to connect the Showcase DVD to your system.

1. Make sure all power sources and components are off before connecting inputs and outputs.
2. Neatly organize the wiring between the Showcase DVD and all system components. Separate AC wires from audio cables to prevent hum or other unwanted noises from being introduced into the system.
3. Connect the input of your video components to the appropriate output of the Showcase DVD.
4. Connect the balanced or single-ended analog outputs.
5. Plug the AC power cord into the IEC connector (39) on the back panel, then plug the AC power cord into the wall socket. The red stand-by LED (3) on the front panel illuminates.

The Showcase DVD is shipped ready to play when it is connected to a home theater system and plugged into AC power.

1. Press the power button on the front panel or the power key (1) on the remote. The blue power LED (2) illuminates, and the red stand-by LED (3) turns off. The Showcase DVD is in the operational mode, and the disc transport (12) is active.
2. Press the open/close button or key (11) to open the disc transport.
3. Place the disc on the transport.
4. Press the open/close button or key again to close the disc transport.
5. Press the play button or key (8) to start playing the disc. Playback begins from the first title or track.
6. Press the stop button or key (7) to end disc playback.
7. To turn the Showcase DVD off, press the power button on the front panel or the power key on the remote. The red stand-by LED illuminates and the Showcase DVD is in the stand-by mode.

Status box. A status box appears briefly in the upper left of the video monitor, when a disc is playing while a feature is selected. If the box contains an X, the feature selected is not available.

Your Showcase DVD product serial number is: _____



Showcase DVD

Digital Video Disc Player

QUICK SETUP GUIDE

Getting Started

Thank you for your purchase of the Krell Showcase DVD. Your new digital video disc player features progressive scan video connections as well as standard component, S-Video, and composite video connections and allows you to seamlessly integrate the Showcase DVD with the highest quality video display devices. A substantive and carefully regulated power supply results in picture stability, even during line fluctuations. Advanced drive mechanisms results in superior disc reading capabilities.

The wireless infrared remote control, the RS-232 and12 VDC back panel remote connections, and the optional HDMI out connection allow you to integrate the Showcase DVD into advanced control systems. The user-friendly setup menu provides a variety of audio, video, and access control options for optimum configuration and enjoyment of your Showcase DVD and home theater system.

This document outlines the basic steps for unpacking, placing, connecting, and operating the Showcase DVD. The owner's reference for this product, including a detailed description of features and the product warranty, is available on the web at:

www.krellonline.com

Please contact your authorized dealer, distributor, or Krell if you have any questions not addressed in the owner's reference.

WARNINGS

THERE ARE NO USER-SERVICE-ABLE PARTS INSIDE ANY KRELL PRODUCT.

Do not place the Showcase DVD where it could be exposed to dripping or splashing.

Do not remove or bypass the ground pin on the end of the AC cord. This may cause radio frequency interference (RFI) to be introduced into your playback system.

The ventilation grids on the top and bottom of the Showcase DVD must be unobstructed at all times during operation. Do not place flammable material on top of or beneath the component.

Turn off all systems' power before connecting the Showcase DVD to any component. Make sure all cable terminations are of the highest quality, free from frayed ends, short circuits, or cold solder joints.

Caution: Visible and invisible laser radiation. When the cover is open, avoid exposure to beam.

This unit employs a laser. To prevent possible eye injury, only a qualified service person should remove the cover or attempt to service this device. Use of controls, adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Unpacking

Note

Save all packing materials. If you need to ship the Showcase DVD in the future, repack the unit in its original packaging to prevent shipping damage.

Follow these steps to safely unpack your Showcase DVD:

1. Open the shipping box and remove the top layer of foam. You see these items:

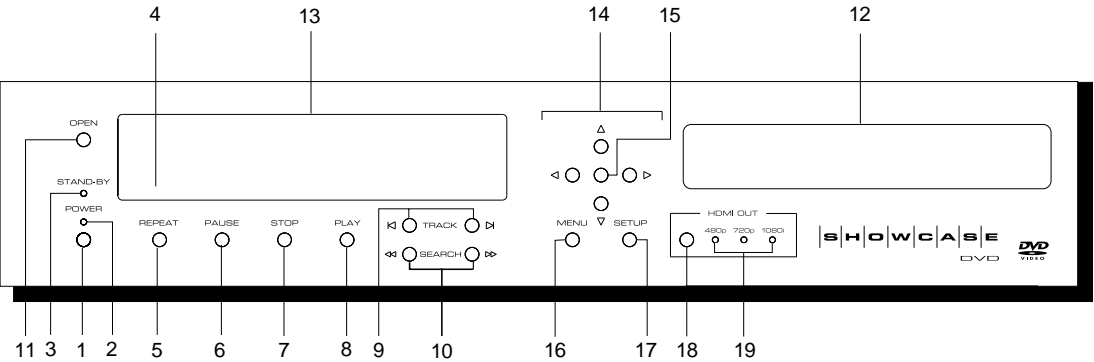
1	Krell Showcase DVD	1	remote control
1	AC power cord	1	CR2025 lithium battery
1	12 VDC (12 V trigger) cable	1	Quick Setup Guide
2. Grasp the underside of the foam end-caps that encase the Showcase DVD and lift it straight out of the shipping box.
3. Place the Showcase DVD in a safe location and remove the end-caps and protective plastic wrapping.

Only one person needed.



This product complies with the EMC directive (89/336/EEC) and the low-voltage directive (73/23/EEC).

Figure 1 The SHOWCASE DVD Front Panel



Front Panel and Remote

POWER

- 1 Power Button and Key**
Switches the Showcase DVD between stand-by and operational modes.
- 2 Power LED**
The blue power LED illuminates when the Showcase DVD is in the operational mode.
- 3 Stand-by LED**
The red stand-by LED illuminates when the Showcase DVD is plugged into a standard AC wall receptacle, indicating that the Showcase DVD is in the stand-by mode and ready to be switched to the operational mode.
- 4 Front Infrared Sensor**
Receives commands from the Showcase DVD remote. When the IR Select Switch (37) is in the up position, the front infrared sensor is active. For proper remote control operation, make sure that nothing is obstructing the infrared sensor.

DISC FUNCTIONS

- 5 Repeat Button or Key**
Repeat the currently playing chapter, repeat chapters in a current title, or repeat the entire disc.

DISC FUNCTIONS, continued

- Repeat, continued**
REPEAT OFF clears the repeat function.
- 6 Pause Button or Key**
Pauses disc playback. The video status box indicates PAUSE in the top right corner. To resume playback as single frame stills, press the pause button again. To resume normal playback, press the play button or key (8).
- 7 Stop Button or Key**
Stops DVD playback.
- 8 Play Button or Key**
Begins or resumes DVD playback.
- 9 Track Forward and Back Button or Key**
Selects the track that follows or precedes the current track.
- 10 Search Forward and Back Button or Key**
Accesses two fast forward or two fast backward playback modes, while in the play mode. Press once to access the first mode. Press again to access the second mode. While in the pause mode, press once to access one fast forward or backward playback mode.
- 11 Open/Close Button or Key**
Opens and closes the disc transport.
- 12 Disc Transport**
Holds the disc.

DISC FUNCTIONS, continued

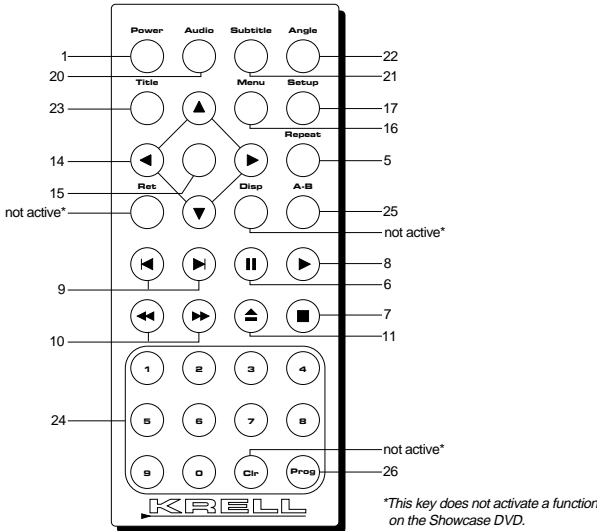
- 13 Front Panel Display**
Shows currently playing title and chapter numbers, elapsed time, and repeat mode.
- 14 Directional Buttons or Keys**
Navigate the disc menu and setup menus.
- 15 Enter Button or Key**
Selects menu items, program items, returns to previous setup menu, and suppresses setup menu.
- 16 Menu Button or Key**
Accesses the disc menu. The directional buttons or keys navigate the menu (14).
- 17 Setup Button or Key**
Accesses the setup menu, to configure display, audio, language, parental control, and other functions. Press the setup button or key again to exit the setup menu.
- 18 HDMI Button (Optional, located on front panel only)**
Scrolls through available resolutions.
- 19 HDMI LEDs (Optional, located on front panel only)**
Illuminated LED indicates component video format and resolution of signal/video display.

Remote Only

ADVANCED DISC FUNCTIONS

- 20 Audio Key**
Cycles between languages on the disc soundtrack.
- 21 Subtitle Key**
Activates subtitles on the currently playing disc.
- 22 Angle Key**
Selects alternate camera angles, when they are available on the disc.
- 23 Title Key**
Access the title number.

Figure 2 The Showcase DVD Remote



24 Numeric Keys

Press a numeric key to select a disc track during playback. The toolbar menu opens with the cursor at the title and chapter number that is playing. Press the numeric key for the title and chapter number you want to play. Playback resumes at the selected title and chapter.

PROGRAMMING FUNCTIONS

25 A-B Key

Press this key to define the start of a continuous loop. Press again to define the end of a continuous loop. Playback begins immediately and continues until you press the A-B key a third time, to clear the loop.

26 Prog(ram) Key

Programs tracks to playback in sequence. Press this key to access the FTS configuration menu. Select a track, and press enter. Use the directional buttons or keys (14) to add tracks. Press the play button or key (8) to begin playback of the sequence.

Setup Menu

Although the Showcase DVD is shipped as an easy to use, "plug and play" component, the setup menu allows you to access and modify video, audio, and playback functions. After your DVD player is connected to your system:

- 1. Access the setup menu by pressing the setup button on the front panel or the setup key (17) on the remote.

The setup menu appears, including a toolbar with the configuration menus at the top, and a help screen at the bottom.

When you press the down directional arrow (14), a left hand column including the categories within each configuration menu appears, along with a right hand column displaying the items in each category.

When you press the right directional arrow in the item list, selections appear for each item.

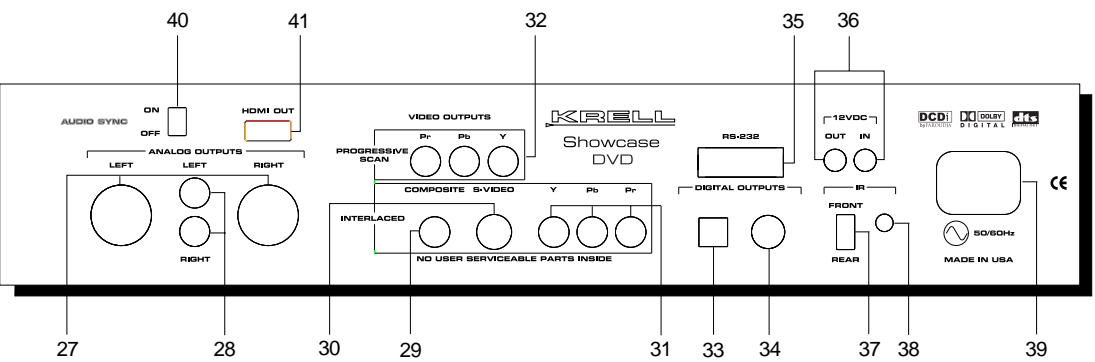
- 2. Modify the on screen display (OSD) while the disc is stopped.
- 3. Modify other functions while the disc is playing.

You can configure the following menus on the toolbar, if the disc you are playing allows access to them:

On screen display (OSD), Subtitle, Language, Color, Sound, Frame by Frame, Slow Motion, Scan Speeds, Camera Angle, Enlarge Picture, Title, Chapter, Time Search, and Favorite Track Selection.

For an expanded list of functions and details on how to use them, see the Showcase DVD Owner's Reference **Setup Menu** on the Krell website at: www.krellonline.com

Figure 3 The Showcase DVD Back Panel



Back Panel

ANALOG AUDIO OUTPUTS

- 27 Left and Right Balanced Audio Outputs**
One pair via XLR connectors.
- 28 Left and Right Single-ended Audio Outputs**
One pair via RCA connectors.

STANDARD VIDEO OUTPUTS

- 29 Composite Standard Video Output**
One composite standard video output via an RCA connector.
- 30 S-Video Standard Video Output**
One S-video output via a 4 pin mini-DIN connector.
- 31 Component Standard Video Output**
One component standard video output via RCA connectors. Component video uses three wires (labeled Y, Pb, and Pr on the back panel) to convey the video signal.

Note
The Showcase DVD automatically switches to NTSC or PAL, depending on the disc format. The default standard is preset, and not selectable by the user.

PROGRESSIVE SCAN VIDEO OUTPUT

- 32 Progressive Video Output Pr, Pb, Y.**
One progressive video output via RCA connectors.

DIGITAL AUDIO OUTPUTS

- 33 Optics Digital Output**
One EIAJ optics digital audio output via a TosLink connector.
- 34 Coaxial Digital Output**
One S/PDIF coaxial digital audio output via an RCA connector.

BACK PANEL REMOTE CONNECTIONS

- 35 RS-232 Communication Port**
For application developers who want to control the Showcase DVD using an external computer-based device. For more information, see **RS-232 Port: Sending Commands and Interpreting Data**, the developer's reference shipped with the Showcase DVD.
- 36 12 VDC In/Out (12 V Trigger)**
Allows you to turn the Showcase DVD on, or off, or to and from stand-by from other components.

REMOTE BACK PANEL CONNECTIONS, 12 VDC In/Out, continued

Out. The output sends 12 VDC power on/off signals to other components and devices that incorporate a 12 V trigger.

In. The input receives 12 VDC power on/off signals from other components and devices that incorporate a 12 V trigger.

Notes
When the Showcase DVD is in the operational mode, 12 VDC output provides 12 V of DC output. When the Showcase DVD is in the stand-by mode or off, DC output is 0 V.

12 VDC Out (12 V trigger) current is limited to 30 mA.

- 37 IR Select Switch**
Front. The switch in the up position indicates that the front infrared sensor is active.
Rear. The switch in the down position indicates that the back infrared sensor is active.

- 38 Back Infrared Sensor**
Receives commands from the Showcase DVD remote control.

POWER

- 39 IEC Connector**
Use the provided IEC standard 15 amp power cord.

HDMI CONNECTION (Optional)

- 40 AUDIO SYNC**
Synchronizes audio and video when using the standard 15 amp power cord.

- 41 HDMI OUT**
Interfaces with an A/V receiver or a video monitor.

Navigating the Setup Menu
Black menu items are the current selection. Blue menu items are available selections. White menu items are not selectable. Use the directional arrows on the front panel or remote control (14) to navigate the menu. The last item selected is active.

INSTALLATION AND SETUP GUIDE

Getting Started

THERE ARE NO USER-SERVICEABLE PARTS INSIDE ANY KRELL PRODUCT.

Krell authorizes this HDMI upgrade to the Showcase DVD to be performed only by Krell authorized dealers, Krell authorized distributors, or the Krell factory.

Thank you for your purchase of the HDMI Digital Video Output Stage for the Krell Showcase DVD. HDMI combines high definition video and multi-channel audio in a single digital interface, and is fully backward compatible with the Digital Visual Interface (DVI) standard. The HDMI Digital Video Output Stage utilizes an on board video scaler that converts standard DVD video from the native 480i resolution to high-definition resolutions, 480p, 720p, or 1080i.

This document outlines the basic steps for unpacking the HDMI boards and accessories that comprise the HDMI Digital Video Output Stage and describes the procedure for installing them into the Showcase DVD. The owner's reference for the Showcase DVD, including a detailed description of features and the product warranty, is available on the web at:

www.krellonline.com

Please contact your authorized dealer, distributor, or Krell if you have any questions not addressed in this installation guide.

Unpacking

Follow these steps to safely unpack the shipping box. *Only one person needed:*

1. Open the shipping box and remove the top layer of foam. You see these items:

IMPORTANT

The HDMI MAIN PCB contains static sensitive components. Take proper static precautions during the HDMI upgrade procedure.

Note

Save all packing materials. If you need to ship the HDMI upgrade kit in the future, repack the unit in its original packaging to prevent shipping damage.

Quantity	Description	Part Number
1	SC DVD 5V P/S PCB (HDMI power PCB)	307221-TK
1	HDMI adapter PCB	307124-TK
1	6-pin, 12-inch JST cable	307294
1	8-pin, 12-inch JST cable	307295
1	22-pin, 4-inch flat FFC cable	307297
1	22-pin, 2-inch flat FFC cable	307296
4	4-40 x 1/2-inch SHSC	301413
3	4-40 x 1/4-inch SHSC	301416
1	4-40 x 3/4-inch SHSC	302600
1	4-40 x 3/8-inch FHTS	304972
1	1/4 hex 4-40 x 1-1/2-inch standoff	307291
1	4-40 Kepnut	302660
4	Ty-Wraps	302816
1	Installation and Setup Guide	308022
1	HDMI Owner's Reference	307463

2. Remove the HDMI boards and place them in a safe location, in your working area. Remove the protective plastic wrapping.
3. Remove the accessories and place them in a safe location, in your working area, in preparation for the installation process.

Placement

Place the Showcase DVD on a firm, level surface in your working area, away from excessive heat, humidity, or moisture. Follow the installation procedure for the HDMI upgrade described on pages 2-7.

HDMI Upgrade Procedure

Follow steps A – Z to install the HDMI board and related components into the Krell Showcase DVD. You will need the following tools, not provided in the installation kit:

- | | |
|-------------------------|----------------------|
| one 3/32 Allen wrench | one T-15 Torx wrench |
| one 1/4-inch nut driver | one T-10 Torx wrench |

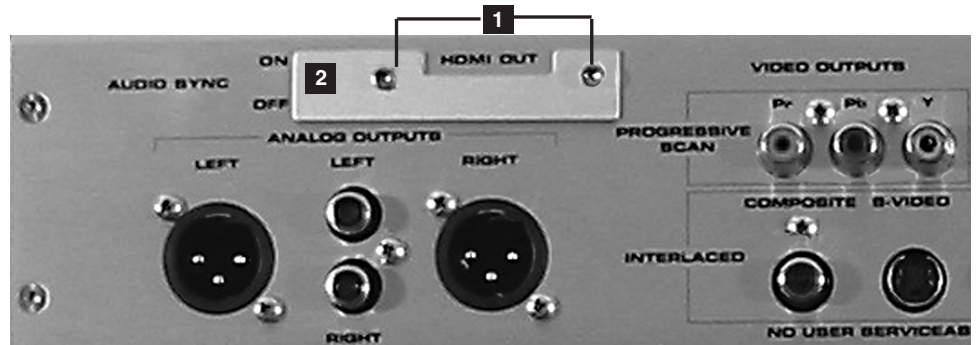
Make sure that the Showcase DVD is unplugged from AC power.

Steps A–D. Prepare the Showcase DVD For Installation

- Remove the 12 T-15 Torx screws from the top cover of the Showcase DVD.
- Set the cover aside.
- Remove the two 440 7/16-inch hex screws (1) and nuts that secure the access plate (2) on the back panel of the Showcase DVD (*see Figure 1*).
- Set the hex screws, nuts, and access plate aside.

Figure 1
Showcase DVD
Back Panel

- Hex screw
- Access plate



Steps E–I. Prepare the Progressive Output PCB and Analog Output PCB For HDMI Upgrade.

- Release the 22-pin, 7-inch flat digital video cable (3) from the locking socket (4) on the progressive output PCB (*see Figure 2*).

To release a cable from a locking socket, pull the two tabs back, away from the cable, at either end of the locking socket. To reset the locking socket, push the tabs on the locking socket toward the cable.
- Unscrew the 4-40 x 7/16-inch hex screw (5) from the pin standoff at MT1, on the front left corner of the analog output PCB (*see Figure 2 inset*), and remove the screw and its washer. Notice the MT1 through hole and the pin standoff below the through hole (*not illustrated*). The pin standoff is attached to the chassis.
- Turn the DVD Standard on its side to perform Steps H and I.
- Insert and thread the supplied 4-40 x 3/4-inch screw through the bottom of the chassis into the pin standoff. Notice that the screw protrudes up from the pin standoff (*not illustrated*).
- Thread the supplied 1-1/2-inch standoff onto the screw protruding through the MT1 hole. (*not illustrated*).

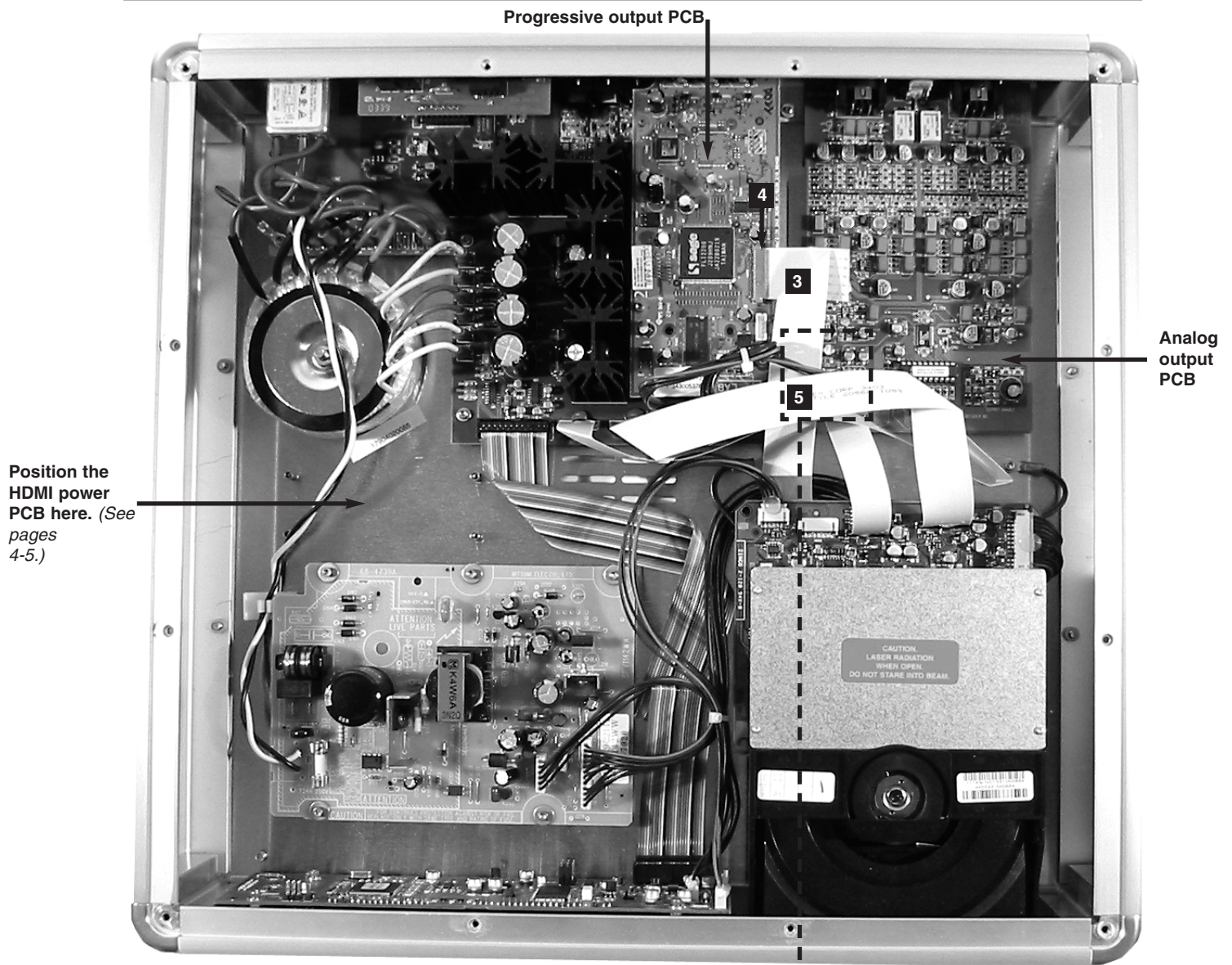
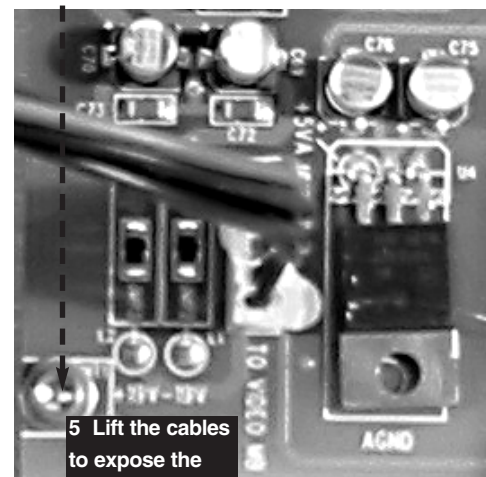


Figure 2
Showcase DVD Interior,
Before HDMI Upgrade
Installation

- 3 22-pin, 7-inch flat digital video cable
- 4 Locking socket
- 5 4-40 x 7/16-inch hex screw.
 The pin standoff is below this screw.

Figure 2 Inset
Analog Output PCB,
Left Front Corner

- 5 4-40 x 7/16-inch hex screw.
 The pin standoff is below this screw.



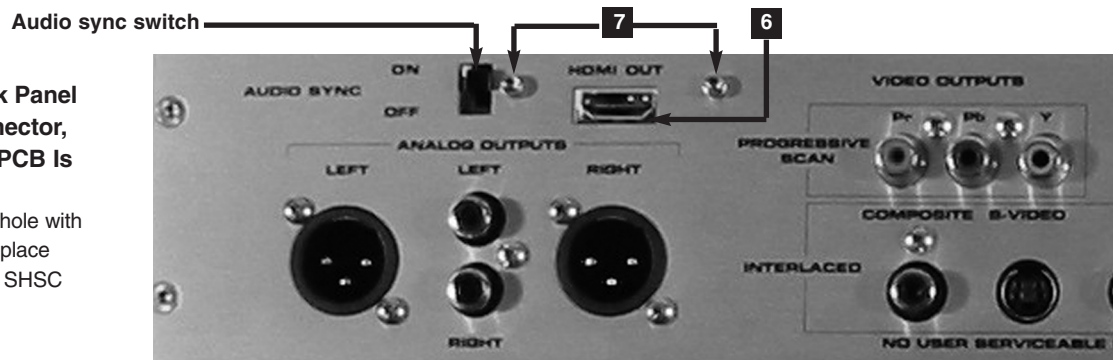
- 5 Lift the cables to expose the through hole at MT1 on the analog output PCB.

Steps J–M. Install the HDMI Adapter PCB

- J. Locate the HDMI connector on the back edge of the supplied HDMI adapter PCB (*not illustrated*) and slide it into the HDMI connector through hole (6) on the back panel (*see Figure 3*) of the Showcase DVD.
- K. Secure the HDMI adapter PCB to the back panel using two supplied 4-40 x 1/4-inch SHSC (7) (*see Figure 3*).
- L. Position the left front through hole on the HDMI adapter PCB over the standoff protruding up from the analog output board (*not illustrated*).
- M. Thread one supplied 4-40 x 1/4-inch SHSC (28) onto the standoff to support the front left corner of the HDMI adapter PCB (*see Figure 4*).

Figure 3
Showcase DVD Back Panel
Showing HDMI Connector,
After HDMI Adapter PCB Is
Installed

- 6 Connector through hole with HDMI connector in place
- 7 two 4-40 x 1/4-inch SHSC



Steps N–P. Install the HDMI Power PCB

- N. Mount the supplied HDMI power PCB onto the Showcase DVD chassis using the four supplied 4-40 x 1/2-inch SHCS (8); one in each corner of the board. (*see Figure 4*).
- O. Secure the regulator to the chassis with the supplied 4-40 x 3/8-inch FHTS (9) and cap it with the supplied 4-40 Kepnut (10) (*see Figure 4*).
- P. Tighten until “just snug”. The torque spec is 5-8 in lbs.



Figure 4
Showcase DVD Interior,
With HDMI Adapter PCB and
HDMI Power PCB Installed

- 8 4-40 x 1/2-inch SHCS
- 9 4-40 x 3/8-inch FHTS (below
Kepnut)
- 10 4-40 Kepnut
- 28 4-40 x 1/4-inch SHSC

HDMI Upgrade

Procedure, continued

Note

Remove the plastic tags from the supplied cables and wires, before continuing the installation. Add the Ty-Wrap plastic tags to cables, if needed, to keep them neatly positioned inside the chassis.

IMPORTANT

To unplug a transformer wire, pull the female fast-on connector at the end of the wire. If you pull the wire itself, instead of the connector, the wire may detach from the connector.

Steps Q–Y. Connect the Cables

- Q. Release the 22-pin, 10-inch flat cable (22) from J1603 (23) on the drive PCB
(This cable is affixed to the main power supply PCB. Not illustrated).
- R. Connect the 22-pin, 10-inch flat cable (22) to connector J29 (24) on the HDMI adapter PCB. Orient the contacts to face the front of the Showcase DVD.
- S. Connect the supplied 22-pin, 2-inch flat cable (11), with the contacts facing up, from J1002 (4) on the progressive output PCB to connector J4 (12) on the HDMI adapter PCB. Reset the tabs to lock the socket on J1002 (see Figure 5).
- T. Connect the supplied 6-pin JST cable (13) from connector J7 (14) on the HDMI adapter PCB to connector J3 (15) on the HDMI power PCB (see Figure 5).
- U. Unplug the two white transformer wires (16) from the main power PCB (see Figure 5 inset) and connect them to connectors J1 (17) and J2 (18) on the HDMI power PCB (see Figure 5). Polarity is not an issue.
- V. Connect the supplied 8-pin JST cable (19) from connector J12 (20) on the HDMI adapter PCB to connector J6 (21) on the front panel PCB (see Figure 5).
- W. Connect the 22-pin, 4-inch flat cable (25) from connector J1603 (26), on the HDMI adapter PCB to connector J1603 (23) on the drive PCB. Orient the contacts from J1603 (26) to face the front of the Showcase DVD.
- X. Connect the 22-pin, 7-inch, flat digital video cable (3) (previously disconnected in Step E) to connector J1506 (27) on the HDMI adapter PCB. Orient the contacts so that they are facing toward the back of the unit.
- Y. Position jumper JMP2 on the faceplate board so that it is across pins 1-2, the middle and right-hand pins as you face the front of the unit. (not illustrated)

Step Z. Replace the Top Cover Of the Showcase DVD

- Z. Replace the top cover using the 12 T-15 Torx screws (set aside in Step B above).

The Showcase DVD is ready for operation with the HDMI Digital Video Output Stage installed.

Figure 5 Inset
2 White Transformer Wires,
Main Power PCB

- 16 2 white transformer wires connected to the main power PCB



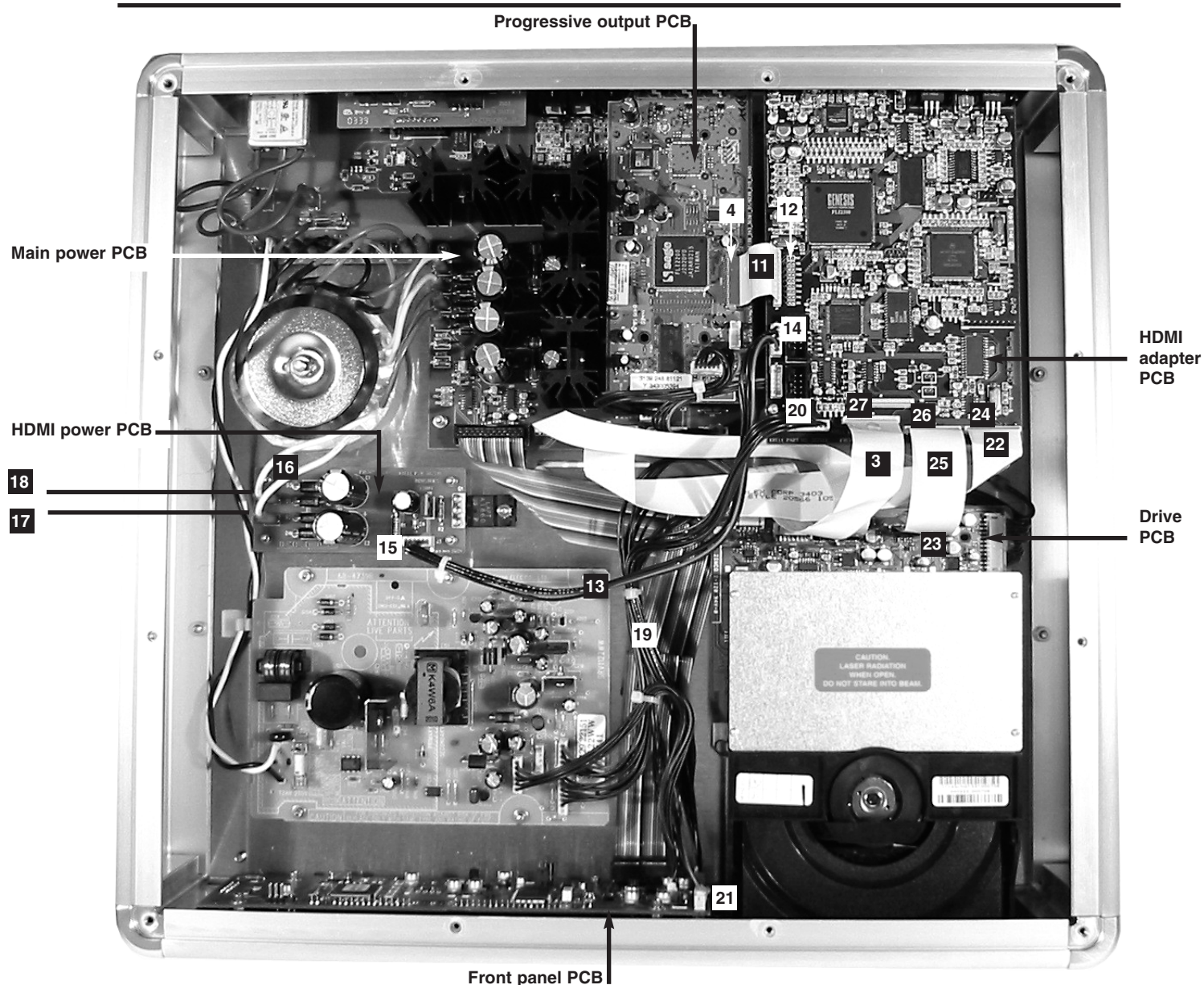


Figure 5
Showcase DVD Interior,
With HDMI Upgrade
Completed

- | | |
|------------------------------|--|
| 3 22-pin, 7-inch flat cable | 21 Connector J6 |
| 4 Connector J1002 | 22 22-pin, 10-inch flat cable |
| 11 22-pin, 2-inch flat cable | 23 Connector J1603 on the drive PCB |
| 12 Connector J4 | 24 Connector J29 |
| 13 6-pin JST cable | 25 22-pin, 4-inch flat cable |
| 14 Connector J7 | 26 Connector J1603 on the HDMI adapter PCB |
| 15 Connector J3 | 27 Connector J1506 |
| 16 2 white transformer wires | |
| 17 Connector J1 | |
| 18 Connector J2 | |
| 19 8-pin JST cable | |
| 20 Connector J12 | |

Connections

Follow these steps to connect the Showcase DVD with HDMI to your system.

1. Make sure all power sources and components are off before connecting inputs and outputs.
2. Neatly organize the wiring between the Showcase DVD and all system components. Separate AC wires from audio cables to prevent hum or other unwanted noises from being introduced into the system.
3. Connect the desired Showcase DVD video output to the appropriate video input of your video component, for example to the video input of a preamp/processor.

HDMI CONNECTIONS

Connect the output of the HDMI Digital Video Output Stage to a HDMI or DVI compatible display device using a HDMI-to-HDMI or HDMI-to-DVI cable. For HDMI-to-HDMI and HDMI-to-DVI connections, set the Audio Sync switch (see *Figure 3*) located on the rear panel to "on". Audio Sync synchronizes audio and video signals to align precisely. Set the Audio Sync switch located on the rear panel to "off" whenever you are using component, S-video, or composite video outputs and coax or optical audio outputs.

4. Connect a digital audio output to an appropriate digital audio input.
5. Connect balanced or single-ended analog outputs if desired.
6. Plug the AC power cord into the IEC connector (39) on the back panel, then plug the AC power cord into the wall socket. The red stand-by LED (3) on the front panel illuminates.

HDMI Operation

Power on the Showcase DVD and turn on your HDCP-compatible display device. The HDMI Digital Video Output Stage detects the HDMI or DVI compatible circuitry in the display device, and one of the three HDMI LED's on the front panel illuminates. Push the HDMI button to cycle through available resolutions: 480p, 720p, and 1080i.

Notes

When powering up any system, always turn amplifiers on last. When powering down, always turn amplifiers off first.

For further information on how to operate the Showcase DVD, please refer to the Showcase DVD Owner's Reference on the website at www.krellonline.com.

Questions and Answers

Q. Where do I obtain a HDMI-to-HDMI or HDMI-to-DVI cable?

A. HDMI-to-HDMI or HDMI-to-DVI cables are available from most major cable manufacturers. Consult your local Krell dealer or distributor.

Q. Are component, S-video, and composite video outputs active while the HDMI Digital Video Output Stage is in use?

A. Yes.

Q. Are the analog and digital audio outputs active while the HDMI Digital Video Output Stage is in use?

A. Yes.

Q. What is HDCP?

A. HDCP stands for High-bandwidth Digital Content Protection. HDCP is a form of copyright protection designed for digital entertainment content. The HDMI Digital Video Output Stage is a HDCP compliant device, and will only work with other HDCP compliant devices.