True to their name, Pioneer Elite components are designed for a very select group of users — those who settle for nothing less than the best in audio and video. A state-of-the-art performance and specifications of the high-end products are the results of uncompromising standards of engineering and manufacturing, painstaking selection of parts and devices, and careful testing of each and every component. Pioneer Elite is the single brand solution for the discriminating home theater enthusiasts.

This year, Pioneer has introduced a comprehensive range of components for creating a 1080p home theater system — the first time in the world that this has been done under a single brand. The latest lineup of Elite plasma display panels (PDPs) includes the PRO-FHD1, a 50-inch PDP with 1920 x 1080p resolution. The higher resolution and larger number of pixels are due to Pioneer’s superior panel driving and display panel technologies. These ensure higher light emission efficiency, higher contrast and brightness, and a wider color space. These technologies are also applied to the other latest PDPs. In addition, Pioneer has introduced its first Blu-ray Disc player, the BDP-HD1. Blu-ray is a next-generation optical disc format expected to replace DVD. Featuring a much larger capacity than DVD, Blu-ray allows far higher picture and sound quality. Enjoy Blu-ray movies displayed on the PRO-FHD1 with 1080p resolution — and all the smooth touch of the original 24fps film. You can combine the PRO-FHD1 and BDP-HD1 via one of the latest Elite AV receivers. These can receive and send 1080p signals via HDMI terminals, while delivering superb sound.

The new Elite components also feature an even closer link with PCs. The PDPs and the Blu-ray Disc player come with Home Media Gallery, which allows LAN connection with PCs for playing stored video, photo, and music files while sitting in your living room.

In this Product Reference Guide to the Pioneer Elite Series, you’ll find details about these and other technologies incorporated in the Elite products. We hope you will find this guide useful.

2006/2007
ELITE AUDIO/VIDEO COMPONENTS
PRODUCT REFERENCE GUIDE
Pioneer Innovations in Panel-Driving Technologies

New PureDrive™ II — Fully-Digitalized Video Signal Processing for Even Higher Picture Quality

With conventional plasma display panels (PDP), input signals are converted back and forth between analog and digital before being sent to the display panels. This tends to cause noise, degrading the quality of displayed pictures. As a leading manufacturer of PDPs, Pioneer developed PureDrive™ technology, featuring all-digital video signal processing. The latest PDPs come with its latest version — New PureDrive™ II.

The New PureDrive™ II features custom circuitry which ensure a wide range of picture-quality benefits, including lower noise, finer gradation, and more natural color reproduction. (See the figure below.)

ACE IV

ACE IV (Advanced Continuous Emission Technology IV) — newly built into the latest Elite PDPs — is one of the biggest benefits of The New PureDrive™ II. This technology delivers the following advantages:

1. Smoother Gradation

The new technology allows even smoother gradation — with more steps than the previous version — letting you reproduce even more colors.

2. Finer Details in Low Brightness Ranges

ACE IV automatically analyzes the overall picture to optimize gradation and brightness levels. When a scene has only dark areas, such as night views and low-lit rooms, ACE IV detects this and concentrates on gradation in the low-brightness ranges, to reproduce details much finer than usual for dark colors.

3. Elimination of False Contours

It is a Pioneer-exclusive benefit that eliminates sharp edges where there should be smooth gradation.

Intelligent Active DRE

The New PureDrive™ II also provides Active DRE (Dynamic Range Expander). This offers wider picture control options than the previous version (which only offers High, Mid, Low, and Off).

The latest Pioneer Elite PDPs come with an even more advanced version of Active DRE — Intelligent Active DRE. This technology constantly detects variations in picture information, including low-brightness signals, and scattered peak and bottom luminance levels (like a lawn reflecting sunlight). The Intelligent Active DRE automatically optimizes the parameter settings for the displayed picture. For example, when a scene has a large shaded area, the gamma setting is automatically adjusted for finer gradations.

Intelligent Active Dynamic Range Expander

Intelligent Active DRE

Parameter | Function
--- | ---
Dynamic Contrast | Emphasizes the contrast between dark and bright images, so that (for example) a white line will appear much brighter and edges of human faces become more defined.
Black Level | Emphasizes dark areas for greater distinction from bright areas.
Automatic Contrast Limiter | Automatically compensates to create the optimum contrast characteristic.
Gamma Control | Controls gradation characteristics.

Intelligent Color Management

The latest Pioneer Elite PDPs come with Intelligent Color Management. This analyzes the color information of pictures, and automatically optimizes four color elements — red, green, blue, and skin — without losing the natural color balance of the whole picture. Gardens will have more vibrant greens, people will have more natural skin color, and much more.

Intelligent Stripe Coating for Vivid Images

The additional black stripes help reduce the amount of external light reflected off the screen surface, which greatly improves contrast. Viewers can enjoy sharp, vivid pictures, even under bright ambient lighting, with no washed-out colors or poor contrast.

Display Panel Technologies

PDP Technology

The PDP screen is actually two panels of glass with nearly a million pixels sandwiched between them. The pixels consist of tiny cells that hold gas, with electrodes on the top and bottom. Electrical discharges cause the gas to emit ultraviolet light that excites red, green and blue phosphors, which in turn radiate visible light to produce bold, color images.

Black Stripe Coating for Vivid Images

The additional black stripes help reduce the amount of external light reflected off the screen surface, which greatly improves contrast. Viewers can enjoy sharp, vivid pictures, even under bright ambient lighting, with no washed-out colors or poor contrast.
Deep Encased Cell Structure With Crystal Emissive Layer and New Materials

The new Elite Plasma Display Panels have higher brightness and blacker black for increased realism, while also consuming less power. The Crystal Emissive Layer (part of the Deep Encased Cell Structure) is a layer of crystal with an especially well-aligned structure. It is applied to the surface of the front glass substrate. The following display panel technologies also improve light emission efficiency, in synergy with the video signal processing of New PureDrive II.

New Dielectric Layer

A new material for the dielectric layer ensures 20% higher light emission efficiency over previous models, for brighter pictures with lower voltage.

New Red and Blue Phosphors

The new Elite PDPs also boast new red and blue phosphors. The new red phosphors improve the realism of blue shades, and are more durable than conventional materials.

First Surface PRO Color Filter — A New Elite-Exclusive Panel Technology

The latest Elite PDPs feature the new First Surface PRO Color filter — an Elite-exclusive feature. This is an upgraded version of the Pioneer-developed First Surface Pure Color Filter. It allows superior contrast to be maintained even in bright environments. This is due to a layer of film affixed to the glass panel covering the plasma cells. Unlike conventional glass filters, this panel technology eliminates the space between the film and the glass. This allows ambient light reflection to be reduced, improving the contrast ratio in bright environments by 20%.

The First Surface PRO Color Filter uses a new special film, which better balances the colors of passing light with 15% lower transmittance compared to the previous filter. This further improves the contrast ratio in bright environments — by 20% compared to the previous filter.

Wider Color Space — Surpassing the NTSC Color Standard

The combination of the above panel technologies allows the new Elite PDPs to faithfully reproduce all red, green, and blue colors over a wider color space, which surpasses the NTSC color standard by 7% with the PRO-FHD1, and by 9% with the PRO-1540HD, PRO-1140HD, and PRO-940HD.

Energy-Saving Technologies for the “Single Drive” Display

These energy-saving display panel technologies allow the use of a “single panel drive” while conventional panels use “dual drive”. In addition to lower power consumption, the new Elite PDPs also conserve material — another environmentally-friendly solution from Pioneer.

Features for Higher-Level Entertainment

Home Media Gallery With DLNA Certification and Windows Media Connect Compatibility

Digital devices for home use are increasingly popular, and people are consuming and creating digital content at a much higher rate than ever. Not only has the variety of content increased, but also the variety of audio and video formats. Pioneer’s Home Media Gallery function brings all of this into your living room. This Elite-exclusive function lets you play digital videos, digital still photos, and compressed music files stored in your PC — or multiple PCs — even when the PC is located in another room.

The Home Media Gallery even allows playback of content from your PC with up to 1920 x 1080p resolution. In addition, the Home Media Gallery is designed to connect to DLNA (Digital Living Network Alliance) guidelines. This means the Elite PDPs can play networked music, videos, and photo files from other DLNA 1.0-compliant devices, regardless of the brand.

Microsoft Windows Media Connect is a new technology that lets you deliver music, photos, and videos stored on a PC to devices in your living room or other places. Download this freeware and enjoy access to all your PC’s archives at your fingertips.

The Elite PDPs also allow playback of Microsoft PlaysForSure-protected content from a wide range of popular online movie and music service providers. Just look for the PlaysForSure logo.

TV Guide On Screen™ System

The new Elite PDPs are compatible with the TV Guide On Screen™ — a free, interactive on-screen TV program guide that you can easily browse with the remote control. It shows you a list of programs broadcast now, or in the coming week, by channel or category. The system provides a wide range of convenient features, including:

(1) User-Friendly GUI

The system guides you through programs with user-friendly GUI. Easy-to-understand icons and a broad array of displayed information make it simple to use.

Screen Comparison for TV Guide On Screen™

<table>
<thead>
<tr>
<th>Feature</th>
<th>TV Guide On Screen™</th>
<th>Other Media Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. TV GUIDE logo</td>
<td>Eagle</td>
<td>Smaller</td>
</tr>
<tr>
<td>2. Clock</td>
<td>Time — Shows the current time.</td>
<td>Time — Shows the current time.</td>
</tr>
<tr>
<td>3. Time slot</td>
<td>Time slot — Indicates the currently selected time slot.</td>
<td>Time slot — Indicates the currently selected time slot.</td>
</tr>
<tr>
<td>4. Service bar</td>
<td>Shows available services.</td>
<td>Shows available services.</td>
</tr>
<tr>
<td>5. Current service label</td>
<td>Indicates the currently selected service.</td>
<td>Indicates the currently selected service.</td>
</tr>
<tr>
<td>6. Time bar</td>
<td>Shows current time.</td>
<td>Shows current time.</td>
</tr>
<tr>
<td>7. Info bar</td>
<td>Various tabs for getting information or the status of an item.</td>
<td>Various tabs for getting information or the status of an item.</td>
</tr>
<tr>
<td>8. Video window</td>
<td>Shows video information.</td>
<td>Shows video information.</td>
</tr>
<tr>
<td>9. Guide On Screen™</td>
<td>Guides you through channels.</td>
<td>Guides you through channels.</td>
</tr>
</tbody>
</table>

Digital device requirements:
- For DLNA, a home network is required.
- For Windows Media Connect, a home network, Microsoft Windows XP, and the Windows Media Connect Software (free for licensed users of Microsoft Windows operating system) are required. Windows Update services (through Windows update) are required for all home network and Home Media Gallery features.

*PRO-1540HD, PRO-1140HD, and PRO-940HD are recommended models.*

*DLNA (Digital Living Network Alliance) is a registered trademark of the Digital Living Network Alliance, LLC in the United States and other countries.

**“Home Media Gallery” — Shows brief information about a selected program.

### Wider Color Space — Surpassing the NTSC Color Standard

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**Easy Recording Operations**

Just choose a program from the list and press the REC button on the remote control — the program will automatically be recorded to a selected recorder. You can set recording frequency independently for RGB (red, green, and blue) with nine different options to choose from. The units also permit calibration via RS-232C interface, and make ISF C information more legible, with 4-line 24-character display in both capital and small letters.

**Program Reminders**

If you set a program reminder, the PDP alerts you when the program is about to be aired on another channel. Reminders can be set for individual episodes or every time a program airs. The “auto tune” function automatically changes the current channel to show the program you have selected. This function also provides an on-screen alert when the chosen program overlaps another that you previously selected for auto tuning or scheduled recording.

**Program Search Functions**

Program search is possible by category, such as Movies, Sports, or Children, or by keyword(s). Alphabetic search is also available, showing you all the programs whose titles start with a certain letter. When search results are displayed, scheduling a recording is as easy as pressing the REC button on the remote control. These functions are also available for HDTV programs.

**ISF Certified Calibration Configuration (C)**

ISF C is an Elite-exclusive feature that enables the PDP to be optimized for the specific room where it is placed. As an optional service available through Elite dealers, a specially-trained ISF professional can inspect the conditions of the viewing room and calibrate contrast, tint, sharpness, color levels, and other parameters to best fit the environment. Room layout and size, ambient light (for both day and night viewing), and other conditions that affect picture quality are measured and factored in. The result is unparalleled picture accuracy.

**ATSC Digital Broadcast Compatibility**

The new Elite PDPs come with a built-in ATSC (Advanced Television Systems Committee) compatible tuner. In addition to regular TV (NTSC), the units show three types of ATSC digital broadcasts — Standard-Definition, Enhanced-Definition, and High-Definition — with a Pioneer technology that up-converts video signals for the highest-possible picture quality.

**Digital Noise Reduction Circuit and MPEG Noise Reduction Circuit**

Special high-luminance cyclic Digital Noise Reduction circuitry reduces random digital noise, including color noise and inconsistency (especially seen in dark image areas) that arise in the signal reproduction process of terrestrial broadcasts, DVDs, and others. The Elite PDPs also come equipped with MPEG Digital Noise Reduction, which cuts “mosquito noise” caused by MPEG video compression used in DVD.

**10-bit 3D Digital V/C Separation Circuit**

NTSC (analog) video images consist of two signals, luminance (Y) signals for brightness information and chrominance (C) signals which contain color information. When analog video is played back, the Y and C signals must be kept separate or they will interfere with each other, which results in annoying video noise such as “cross color”, or rainbow patterns in picture areas with fine detail, and “dot crawl” — distracting, visible dot moving along the edges of images. To combat these, Pioneer has developed the 10-bit 3D Digital V/C Separation Circuit exclusively for use in plasma display panels. Powered by New PureDrive II, the circuit effectively keeps Y and C signals separate, reducing the annoying noise and improving the rendering of contoured objects and integrity of images.

**Advanced Technologies for a Wide Array of Benefits**

**Block Noise Reduction**

Block noise is caused by insufficient image compression. Instead of a smooth image, objects appear to be made of squares (blocks) — especially with fast-moving objects like waves. Block Noise Reduction helps minimize this problem.

**“PURE” Mode for AV Selection**

The Elite PDPs feature the “PURE” mode for AV Selection. This mode delivers pictures without any enhancement (Gamma, Color, Tint, Sharpness, etc.), minimizing the artifacts of extra video processing.

**Resolution at a Glance**

<table>
<thead>
<tr>
<th>Digital Transmission</th>
<th>Analog Transmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>HD: Standard Definition</td>
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</tr>
<tr>
<td>ED: Enhanced Definition</td>
<td>ED: Enhanced Definition</td>
</tr>
<tr>
<td>HD: High Definition</td>
<td>HD: High Definition</td>
</tr>
</tbody>
</table>

**HDR Tuner**

The new Elite PDPs feature a built-in unidirectional digital cable tuner, which provides easy “plug and play” of basic cable channels without an external cable box.

**HDMI Input**

HDMI (High-Definition Multimedia Interface) is an uncompressed, all-digital interface for both audio and video signals — the first industry-supported interface of its kind. With a single-cable connection, it allows transmission of a huge amount of high-quality data — such as uncompressed HDTV signals — to be input at speeds up to 5GBps. In addition, the latest Elite PDPs are compatible with 10-bit signals, for faithful reproduction of delicate signal details. This lets you combine the PDPs with an DV-79AVi Elite DVD player, for example, to enjoy superb picture quality.

Another benefit of HDMI is its simplicity. It provides a straight digital path from point A to point B without affecting the signal in any way. Additionally, it doesn’t perform unnecessary compression and re-compression steps, so the signal remains in a pure, digital state. This lossless process maintains a higher level of image quality than other connection systems.

HDMI provides plug and play capability and accommodates all of the current ATSC digital television formats. It also supports up to eight channels of audio. And despite its huge bandwidth and power to accommodate both audio and video, the plug itself is much smaller than a DVI plug.

The latest Elite PDPs come with two HDMI inputs. You can keep the PDP connected with both a Blu-ray Disc player and an ST, for example.

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Natural Re-Size

Many plasma display panels allow the user to select a screen mode best suited to the material being viewed — for example, when watching a regular 4:3 TV show on a 16:9 widescreen monitor, the image can be stretched to fill the entire screen. But with conventional plasma displays, that stretching process causes problems such as blocky, fuzzy, or over-stretched images. The Pioneer Elite plasma display panels have an exclusive Natural Re-Size function that re-shapes the picture and allows it to maintain a natural appearance without adding the artifacts that deteriorate picture quality.

Digital Chroma Decoder

Color noise is another form of analog video interference — noticeable speckled imperfections seen within solid colors on your screen. The new Elite plasma display panels feature a 10-bit Digital Chroma Decoder to reduce noise and provide better frequency response, for pure, clean colors.

Dynamic HD Converter for Sharper Images

Interlaced signals of terrestrial broadcasts and DVD and PC video sources are up-converted into progressive signals for optimal viewing on the PRO-1140HD (1280 x 768-dot high-resolution) and the PRO-940HD (1024 x 768-dot high-resolution). With the number of on-screen detection points significantly increased to 84, HD converter offers sharper, more natural images free of jagged edges and distortion seen on displays with conventional converters.

Digital CTI

Conventional plasma display panels have difficulty accurately rendering a colored image laid over another — a man in a black blue jacket standing in front of a red wall, for example. The result is a dithered pattern and a muddy combination of colors where the two images intersect. With the Pioneer Elite PDPs, however, Digital Color Transient Improvement (CTI) smooths out edges of colored images so that they are more distinct, offering true color fidelity and color resolution.

Selectable Screen Sizes

Whether you are watching conventional TV broadcast, wide-screen DVDs, or wide-screen movies, the Pioneer Elite PDPs have five (eight for PRO-FHD1) selectable screen modes that can handle any format. You can watch conventional broadcasts in traditional 4:3 mode, or fill in the entire screen with ZOOM mode. When viewing DVDs and Digital TV, use the FULL mode to perfectly match these wide screen (16:9) images to your screen. When watching widescreen movies, you can use CINEMA mode.

The PRO-FHD1 additionally features a new "DOT by DOT" mode, which delivers high-resolution pictures with dot-by-dot precision from 1920 x 1080 pixels sources. The unit also comes with variations of CINEMA mode (CINEMA 14:9) and FULL mode (FULL 14:9), respectively.

All the Elite PDPs also come with a PC mode, which provides three selectable screen sizes for non-XGA signals. The PRO-1540HD and PRO-1140HD come with a PC mode for XGA signals, too.

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<th>Item</th>
<th>Description</th>
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</tr>
<tr>
<td>FULL 14:9</td>
<td>For 14:9 aspect ratio pictures. A thin side mask appears on each side.</td>
</tr>
<tr>
<td>CINEMA 14:9</td>
<td>For 14:9 resolution pictures. A thin side mask appears on each side, and you may also see bars on the top and bottom with some programs.</td>
</tr>
<tr>
<td>WIDE</td>
<td>In this mode the picture is progressively stretched toward each side of the screen.</td>
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* Available with the PRO-FHD1 only.

Natural Enhancer

Conventional contour image correction technologies effectively sharpen contours, but also affect picture qualities, causing annoying noises such as jagged edges. The Natural Enhancer takes contour image correction to the next level. On any source, analog or digital, the Natural Enhancer cleans up the jagged edges and wary "moire" patterns, and enhances the contrast at the edges of images to reproduce clean, detailed pictures.

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* Available with the PRO-FHD1 only.

Closed Caption Compatibility

The Closed Caption works with television programs and home videos displaying the CC logo for closed captions. Closed captions allow the hearing-impaired to enjoy TV and videos on the PDPs through the use of subtitles displayed on screen.

The units also offer the "On If Mute" function. Choose "On If Mute" on the closed captions setup screen, and subtitles will automatically appear on the screen whenever the sound is muted. You can conveniently follow a program's story, for example, while talking on the phone.

The units deliver closed captioning from digital TV programs, too.
**Specifications (Display Panels)**

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>720 × 480</td>
<td>70 Hz</td>
</tr>
<tr>
<td>840 × 480</td>
<td>72 Hz</td>
</tr>
<tr>
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</tr>
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<td>60 Hz</td>
</tr>
<tr>
<td>1280 × 768</td>
<td>60 Hz</td>
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**Signal Assignment of PC Input (15-pin Mini D-sub connector)**

**Resolution**

- **Display Panel**
  - 720 × 480
  - 840 × 480
  - 850 × 480
  - 1024 × 768
  - 1280 × 768

**Audio**

- Analog/Audio System
  - 720 × 480
  - 840 × 480
  - 850 × 480
  - 1024 × 768
  - 1280 × 768

**Audio Output**

- Analog Audio output: Stereo (L/R)

**Supported DVI**

- DVI 1.0

**Color System and Terminals (PRO-FHD1)**

- **Terminals**
  - Rear ANTENNA/CABLE A IN 75 ohms UNBAL, F type for DTV/VHF/UHF/CATV in loop out
  - FRONT ANTENNA/CABLE A IN 75 ohms UNBAL, F type for DTV/VHF/UHF/CATV in loop out

**Side INPUT 4 Component Video input, Video input, Audio input**

- **PC Signal Compatibility Table (PRO-FHD1)**

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**Digital Audio Output**

- Optical Audio Output

- **Built-in Media Receiver**

- **SPEAKER (except PRO-940HD) 8 ohms to 16 ohms**

**Specifications (Display Panels)**

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**Note:** Design and specifications are subject to change for improvements without notice.

**Accessories (PRO-FHD1)**

- **Accessories (PRO-1540HD/PRO-1140HD/PRO-940HD)**

**RS-232C Supplementary Command List (PRO-FHD1)**

**RS-232C Command List (PRO-1540HD/PRO-1140HD/PRO-940HD)**

**Power Specifications**

- **Input Power**
  - 120 V AC, 60 Hz

**Specifications (Display Panels)**

- **Input Power**
  - 120 V AC, 60 Hz

**Note:** Design and specifications are subject to change for improvements without notice.

**Accessories (PRO-1540HD/PRO-1140HD/PRO-940HD)**

- **Accessories (PRO-1540HD/PRO-1140HD/PRO-940HD)**

**RS-232C Command List (PRO-FHD1)**

**RS-232C Supplementary Command List (PRO-1540HD/PRO-1140HD/PRO-940HD)**

**Power Specifications**

- **Input Power**
  - 120 V AC, 60 Hz
Functions of the Remote Control Buttons

1 STANDBY/ON: Press to put the unit in operation or standby mode.
2 SCREEN SIZE: Press to select a screen size.
3 PC AUTO SET UP: When using PC signal input, press this button and the unit automatically sets the “Position”, “Clock” and “Phase” to optimum values.
4 INPUT 1 to 6: Press to select the input.
5 VOLUME (+ / – ): For adjusting the volume.
6 MUTING: Press this to mute the sound.
7 RETURN: Restores the previous menu screen.
8 AV SELECTION: Use this to select the AV function.
9 DISPLAY: Press this to view the unit’s current input and setup mode.
10 SPLIT: Press to switch to multi-screen display.
11 SUB INPUT: During multi-screen display, use this button to change inputs to subscreens.
12 SWAP: During multi-screen display, use this button to switch between main screen and subscreens.
13 HOME MENU: Press this button to open and close the on-screen menu.
14 ADJUST (↑↓←→): Use this to navigate menu screens and to adjust various settings on the unit.
15 ENTER: Press this to adjust or enter various settings on the unit.

The following functions are available when the Mode is set to “TV”.
1 TV : Turns ON the Plasma Display Panel or places it in Standby.
2 Transmission confirmation LED
3 INPUT : Selects an input source for the Plasma Display Panel. (INPUT 1, INPUT 2, INPUT 3, INPUT 4, INPUT 5, INPUT 6 and PC)
4 SCREEN SIZE: Selects the screen size.
5 SLEEP: Sets the sleep timer.
6 INFO: Displays a channel banner when a TV program is being watched. (When the TV Guide On Screen™ system is in operation, information about the currently highlighted channel appears on screen (when available).)
7 HOME MENU: Displays the Home Menu screen
8 DAY + / – : Jumps to the next or previous day of program listings in the TV Guide On Screen™ Listing service.
9 (↑↓←→): Selects a desired item on the menu screen.
10 REC: Triggers recording to a connected VCR when using the TV Guide On Screen™ System.
11 FAVORITE CH (A, B, C, D): Selects any of the four preset channels. While watching, toggle the set channels by pressing A, B, C and D.
12 0 – 9: Selects the channel.
13 . (dot ): Enters a dot. When entering the number of a sub-channel.
14 CH + / – : Selects the channel.
16 FREEZE: Freezes a frame from a moving image. Press again to cancel the function.
17 MTS: Selects MTS/SAP or language depending on the program being watched.
18 .: Lights up all buttons. Lights turn off if no operations are performed within 5 seconds. This is used for remote control use in a dark room.
19 ANT: Selects the antenna (A, B).
20 AV SELECTION: Selects audio and video settings. (AV mode: STANDARD, DYNAMIC, MOVIE, GAME, PURE, USER. PC mode: STANDARD, USER)
21 DISPLAY: Displays the channel information.
22 TV GUIDE: Displays the TV Guide On Screen™ system.
23 ENTER: Executes a command.
24 PAGE + / – : (for the TV Guide On Screen™ system) Scrolls the program listing screen vertically.
25 RETURN: Returns to the previous menu screen.
26 MENU: Displays a panel menu in the TV Guide On Screen™ system.
27 CH ENTER: Executes a channel number.
28 CH RETURN: Returns to the previous channel. This button is disabled while the TV Guide On Screen™ system is displayed.
29 WSL + / – : Sets the volume.
30 WUTING: Mutes the sound.
31 SHIFT: Moves the small screen to a different location when in the picture-in-picture mode.
32 SWAP: Switches between the two screens when in the D-screen or picture-in-picture mode.

Dimensions

Unit: inch (mm)

PRO-FHD1

PRO-1540HD/PRO-1140HD/PRO-940HD
Blu-ray DISC PLAYER

Blu-ray — The Next-Generation Optical Disc Format

Blu-ray Disc® — Same Size, Larger Capacity

Blu-ray Discs are the latest and most advanced optical disc technology. Pioneer is one of the companies that helped create this new disc format, which is expected to replace DVD as a major source of audio-visual content. Despite a similar look and size, Blu-ray Discs boast much larger capacity and higher audio and video quality than CD and even DVD.

As the name “Blu-ray” indicates, the new technology uses a blue-violet laser, while current optical disc technologies — such as DVD, DVD-R, DVD+RW, and DVD-RAM — use a red laser to read and write data. The benefit of using a blue-violet laser (405 nm*) is that it has a shorter wavelength than a red laser (650 nm), which makes it possible to focus the laser with even greater precision. This allows data to be packed more tightly and stored in a smaller space, fitting more data than a CD/DVD, even though they are the same size. A single Blu-ray disc can store 25 GB of data per layer, allowing 50 GB of data on a dual layer Blu-ray Disc. This means a single-layer disc can contain five times more information than a DVD**, enabling movie studios to include more information for superb picture and sound quality. For TV programs, one Blu-ray disc can hold up to two hours of HDTV material (or eleven hours of SDTV material)***.

Storage Capacity

- 1920 x 1080 HD (50i, 60i, and 24p)
- 1280 x 720 HD (50p, 60p, and 24p)
- 720 x 576 / 480 SD (50i or 60i)

HDMI also transmits the signal to the display in a pure digital state — without D/A or A/D conversion — and interactivity. This is made possible by Java® technology, which permits the following features:
- Picture-in-picture display
- Changing the point of view — You can watch a game from different angles
different areas of the screen in real time.

Audio Codecs

- Linear PCM
- Dolby Digital
- DTS Digital Surround

Audio Circuit Block

- Burr-Brown 192 kHz/24-bit Audio D/A Converter

HDMI: (High-Definition Multimedia Interface)

The BDP-HD1 uses a high-performance 192 kHz/24-bit audio D/A converter (Burr-Brown PCM1738) for each of the 6 channels. This ensures superior-quality multi-channel sound. For more accurate sound, the symmetrically-placed circuits of the front L/R channels work in synergy with this superb performance. In addition, the converter uses an exclusive power supply for the DAC to reduce interference from other circuits. The output from the DAC is a differential-current configuration to suppress common-mode noise.

HDMI (High-Definition Multimedia Interface)

The BDP-HD1 features a dual-layered chassis. The 1.0 mm-thick* chassis base is reinforced with a 1.6 mm-thick plate. This improves strength and stability, to eliminate spurious vibrations. The new Elite Plasma Display Panels — PRO-1540HD, PRO-1140HD, and PRO-940HD — also come with HDMI terminals.

Create a 1080p Home Theater System with Pioneer Elite Components

For the first time in the world, a comprehensive range of components for creating a 1080p home theater system is now available — thanks to Pioneer. These innovative products are composed of the latest audio-video components, one of which is the BDP-HD1 Blu-ray Disc Player.

Connect the system directly with the PRO-FHD1 Elite Plasma Display Panel (PDP) or Elite A/V receiver, via an HDMI terminal. With its ability to play HD content from Blu-ray Discs, and precise all-digital signal transmission, the BDP-HD1 lets you take full advantage of the PDP’s 1080p resolution. In addition, the Elite player can even upscale the resolution of your standard DVD collection, so that all your movies look better than ever.

The BDP-HD1 Blu-ray Disc Player also delivers 1080p movie sources without changing their original 24 frames per second (fps) to an unprocessed 60fps. Then the PRO-FHD1 changes them to 72fps (Advanced PureCinema 3-3 Pull Down) — creating three copies for every frame. This means that output pictures perfectly synchronize with the original film. You can enjoy movies with real-theater quality while sitting in your living room.

Audio specifications include DTS (core format), Dolby Digital, and Linear PCM (up to 96/24). As options, the format is expected to support Linear PCM 192/24 6.

Superb Audio

In addition to excellent pictures, the large capacity and data transfer rate of Blu-ray Discs permit extremely high-quality audio (up to 8 channels) to accompany HD video. Final audio specifications include DTS (core format), Dolby Digital, and Linear PCM (up to 96/24). As options, the format is expected to support Linear PCM 192/24 6.

Multi-Faceted Internal Construction

Connect the BDP-HD1 directly to a PRO-FHD1 Elite Plasma Display Panel or to our new Elite A/V receivers — VSX-84TXs, VSX-82TXs, VSX-81TXv, or VSX-80TXv — via HDMI, without all those messy cables. Other new Elite Plasma Display Panels — PRO-1540HD, PRO-1140HD, and PRO-940HD — also come with HDMI terminals.

The BDP-HD1 also features a dual-layered chassis. The 1.0 mm-thick* chassis base is reinforced with a 1.6 mm-thick plate. This improves strength and stability, to eliminate spurious vibrations. The new Elite Plasma Display Panels — PRO-1540HD, PRO-1140HD, and PRO-940HD — also come with HDMI terminals.

Advanced Devices and Constructions

Burr-Brown 192 kHz/24-bit Audio D/A Converter

Connect the BDP-HD1 uses a high-performance 192 kHz/24-bit audio D/A converter (Burr-Brown PCM1738) for each of the 6 channels. This ensures superior-quality multi-channel sound. For more accurate sound, the symmetrically-placed circuits of the front L/R channels work in synergy with this superb performance. In addition, the converter uses an exclusive power supply for the DAC to reduce interference from other circuits. The output from the DAC is a differential-current configuration to suppress common-mode noise.

Advanced Construction

The internal construction of the BDP-HD1 features a unique layout of blocks and wiring that ensures mechanical strength and better heat radiation efficiency. This improves video and sound quality.

Specifications: Blu-ray vs. DVD

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Blu-ray</th>
<th>DVD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Capacity</td>
<td>25 GB (single-layer)</td>
<td>7 GB (single-layer)</td>
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<tr>
<td></td>
<td>50 GB (dual-layer)</td>
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<td>Laser Wavelength</td>
<td>405 nm (blue laser)</td>
<td>650 nm (red laser)</td>
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<td>Optical Properties</td>
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<td>0.6 mm (NA: 0.85)</td>
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<td>Disc Diameter</td>
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<td>4.34&quot; (109.5 mm)</td>
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<tr>
<td></td>
<td>4.34&quot; (109.5 mm)</td>
<td>4.34&quot; (109.5 mm)</td>
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<tr>
<td>Disc Thickness</td>
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<td>1.59&quot; (3.91 mm)</td>
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<td></td>
<td>1.15&quot; (2.92 mm)</td>
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<td>Protection Layer</td>
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<td></td>
<td>1.19&quot; (3.01 mm)</td>
<td>1.32&quot; (3.35 mm)</td>
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<td>Hard Coating</td>
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</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Track Pitch</td>
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<tr>
<td></td>
<td>0.32 µm</td>
<td>0.54 µm</td>
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<tr>
<td>Data Transfer Rate (Data)</td>
<td>54 MHz (1x)</td>
<td>54 MHz (1x)</td>
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<tr>
<td>Data Transfer Rate (Video/Audio)</td>
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<td>1006 Mbps (1x)</td>
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<td>Max. Video Resolution</td>
<td>1020 x1080 (1080p)</td>
<td>720 x 480 (576)</td>
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<td></td>
<td>1020 x1080 (1080p)</td>
<td>720 x 480 (576)</td>
</tr>
<tr>
<td>Max Video Bit Rate</td>
<td>60 Mbps</td>
<td>Mpeg 2</td>
</tr>
<tr>
<td></td>
<td>60 Mbps</td>
<td>Mpeg 2</td>
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<tr>
<td>Audio Codecs</td>
<td>Linear PCM</td>
<td>Linear PCM</td>
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<tr>
<td></td>
<td>Dolby Digital</td>
<td>Dolby Digital</td>
</tr>
<tr>
<td>Interactivity</td>
<td>DTS Digital Surround</td>
<td>DTS Digital Surround</td>
</tr>
</tbody>
</table>
**Enhanced Convenience**

**Expanded Range ofPlayable Formats**

The BDP-HD1 plays pre-recorded titles from BD-ROM. And because Blu-ray Discs are the same size as DVD, DVD-R, and DVD-RW, the unit is backward-compatible with up-scaled resolution.

For the latest product specifications, please visit: http://www.pioneer-electronics.com

*Some discs will not play content in HD through a component video output. See Blu-ray Disc packaging for details.*

**Home Media Gallery With DLNA Certification and Windows Media Connect Compatibility**

Digital devices for home use are increasingly popular, and people are consuming and creating digital content at a much higher rate than ever. Not only has the variety of content increased, but also the variety of audio and video formats. Pioneer’s Home Media Gallery function brings all of this into your living room.

This Elite-exclusive function lets you play digital videos, digital still photos, and compressed music files stored in your PC — or multiple PCs — even when the PC is located in another room. Connect the BDP-HD1 to your home network, and the system automatically seeks out (for example) your WMV or MPEG2 BD-P-HD1 to your home network, and the system even when the PC is located in another room. Connect the compressed music files stored in your PC — or multiple PCs — digital videos, digital still photos, and

High-Grade Power Cable

A thicker, high-grade power cable is used with the BDP-HD1. This provides a steadier power supply, bringing out the maximum potential of the unit.

**A Wide Range of Terminals**

The BDP-HD1 comes with the following terminals:

<table>
<thead>
<tr>
<th>INPUT</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAN (Ethernet 10/100BASE-T) for connection with your home network in order to use the Home Media Gallery function</td>
<td>1</td>
</tr>
<tr>
<td>Component Video Output</td>
<td>1 (Gold Plated)</td>
</tr>
<tr>
<td>S-Video Output</td>
<td>1 (Gold Plated)</td>
</tr>
<tr>
<td>Video Output</td>
<td>1 (Gold Plated)</td>
</tr>
<tr>
<td>5.1-Channel Audio Output</td>
<td>1 (Gold Plated)</td>
</tr>
<tr>
<td>2-Channel Audio Output</td>
<td>1 (Gold Plated)</td>
</tr>
<tr>
<td>Composite Digital Output</td>
<td>1 (Gold Plated)</td>
</tr>
<tr>
<td>Pioneer System Remote input</td>
<td>1</td>
</tr>
<tr>
<td>IR input</td>
<td>1</td>
</tr>
</tbody>
</table>

**BD-ROM Regions**

Like DVDs, BD discs (BD-ROM) carry a mark corresponding to a specific region(s) of the world. The BDP-HD1 also has a region mark on the rear panel. Discs from incompatible regions will not play on this player. Discs marked ALL can be played with any player. The diagram below shows the BD-ROM regions of the world.

**Remote Control**

**DIMENSIONS**

**Front Panel**

**Rear Panel**
**Pioneer Innovations for Stunning Picture Quality**

Advanced Digital Direct Pixel Drive™ with VQE9 — All-Digital 10-bit Signal Processing and Transmission with HDMI (DV-79AV)

The DV-79AV is an Elite DVD player featuring an upgraded version of the Pioneer trademark Digital Direct Pixel Drive®. If you connect the player with a compatible AV receiver or plasma display panel via the HDMI terminal, the advanced technology allows all digital signal processing and transmission — with high 10-bit precision thanks to the "VQE9" video-encoding LSI. Because the signals remain digital, they are free from conversion loss, delivering pictures with less noise and finer details than those with analog conversion. The player also converts up pixels for HDMI output. (See the figure at the bottom of the page.)

**VQE9 Video-Encoding LSI**

The Advanced Digital Direct Pixel Drive™ features VQE9 video-encoding LSI. This state-of-the-art device allows expansion to 10 bits, and all the processes for improving picture quality are performed on a single chip, including:

- Effective noise reduction with Component Frame DNR Pro (see page 23 for details)
- Highly-precise motion detection for more natural textures and smoother edges of moving images from video sources
- A wide variety of picture adjustment options
- High-resolution progressive pictures (PureCinema Progressive Scan)

"Two-Dimensional Resolution Expander": Pixel Conversion IC for HDMI

The Advanced Digital Direct Pixel Drive™ also features the "Two-Dimensional Resolution Expander" pixel conversion IC, which up-converts traditional DVD video signals to high-definition resolution in the most appropriate way for the connected monitor or TV. When the Elite DVD player is connected to a DLP projector with 1280 x 720 pixels, for example, the pixel conversion IC up-converts the progressive 720 x 480 signals to progressive 1280 x 720 signals with exactly the right pixel count of the projector. The signals generated by the MPEG decoder pass through the Two-Dimensional Resolution Expander, and then are output via HDMI to an HDMI-compatible monitor or TV.

**108 MHz/14-bit Video D/A Converter (DV-79AV)**

When video signals are output to non-HDMI devices, the Elite DVD player uses the high-grade 108 MHz/14-bit video D/A converter. Combining 8x oversampling with high 14-bit precision, this premium device ensures superior linearity by preventing phase fluctuations. The converter also controls overshoot and undershoot without affecting the original signals, even when the picture has high contrast.

**2-3 Pull-down PureCinema Progressive Scan Technology (DV-79AV/DV-46AV)**

**Interlaced vs. Progressive Scanning**

- **Interlaced scan system — NTSC TV Standard**
  When you look at your TV screen close up, you will notice an image is made up of many horizontal lines. These are called scan lines: an image is painted on the screen by the scan lines that sweep from left to right, and top to bottom, in sequence. One frame of a TV picture is equivalent to a frame; by current NTSC TV standards there are 480 scan lines in each frame (480i).
  All 480 scan lines that form an image are not sent to your TV at the same time; every other line is transmitted alternately every 1/60 second. In other words, in the first 1/60 of a second, odd-numbered lines (1st, 3rd, 5th, and so on), which total 240 and collectively form an odd-numbered field, are sent. In the next 1/60 of a second, even-numbered lines (2nd, 4th, 6th, and so on), which collectively form an even-number field, are transmitted to fill in the remaining space. In this way, a complete image, that is, a frame, is formed.
  Such is NTSC interlaced scanning. With this system, lines are scanned for odd- and even-numbered fields alternately every 1/60 second, to build one frame every 1/150 second.

- **Progressive scanning for double resolution of interlaced scanning**
  With interlaced scanning used by NTSC TV standards, the larger the display, the more noticeable the picture flicker. Progressive scanning was developed to solve this problem. With progressive scanning, all 480 lines are scanned from top to bottom in 1/150 of a second to build an entire frame (480p). With a progressive scan TV, the data for the odd- and even-numbered fields is stored in memory and undergoes field interpolation to convert from 30fps (frames-per-second) format to 60fps simulated format. Therefore, progressive scanning can provide double resolution of interlaced scanning, to present high-quality images with less flickering.

**Component Frame DNR (DVI/VCD) PRO (DV-79AV)**

DVD boasts a horizontal video resolution of more than 500 lines. Unfortunately, high resolution brings about a drawback of its own: minute noise is more visible. So Pioneer developed component frame cycling DNR (Digital Noise Reduction). It discriminates noise in each of the three components that comprise video signals — Y (luminance), Pb and Pr. Since it compares consecutive frames rather than consecutive fields, and processes individual components rather than composite signals, DNR provides superb noise reduction capability while retaining high resolution.
To further ensure higher video quality, Pioneer developed the advanced Component Frame DNR. With the new version an optimum parameter is set for each of Y, Pb and Pr components to detect noise with higher precision. It’s another reason the new Pioneer Elite DVD player delivers the quality that’s much closer to the 35 mm film than ever.

**Chroma Upsampling Error Reduction (DV-79AVi/DV-46AVi)**

To record an entire movie or similar content on DVD, data must be compressed to fit the disc’s 4.7 GB capacity. This process reduces the color information (chroma signals) to half that of the original, causing Chroma Upsampling Error — which translates into poor color resolution, or “color blur” of the reproduced pictures. With the Pioneer Elite DVD players, an MPEG decoder effectively reduces the Chroma Upsampling Error**, improving color fidelity and delivering much truer-to-original pictures than is possible with conventional DVD players.

***Only with pre-programmed output.

**Super Fine Focus Digital Filter (DV-79AVi)**

The Super Fine Focus Digital Filter sharply attenuates unwanted high frequencies without removing necessary video frequencies. This dramatically cuts video noise and boosts the horizontal resolution to over 540 lines to provide detailed, sharp pictures.

***DV-46AVi: Applies to interlace signals only.

**Viterbi Decoder (DV) (DV-79AVi/DV-F07)**

Pioneer Elite DVD players feature two processors for accurate conversion. The Viterbi decoder functions to suppress errors using Viterbi Decoding: high-quality signals are sent from the disc to the AV-1 MPEG decoder with superb reliability.

* • Viterbi RF Decoding Process
  The Viterbi Decoder boasts the ability to read data recorded on discs with exceptional precision. The Viterbi Decoder makes statistical calculations based on current, past and future data, predicts probable transition points, and performs waveform reshaping. Data is reproduced with high stability and accuracy.

* • Accurate Digital Servo
  This system detects the degree of disc warpage from the readout signal and automatically optimizes the focus and tracking servo gains, disc by disc, to reduce jitter and improve disc tracking ability.

**Technologies for Versatile Image Control**

**Versatile Parameters for Video Control**

Designed to deliver the best possible performance, the Video Adjust function features versatile image control for customized picture quality.

**Progressive Motion:** SLOW for static pictures, FAST for fast-moving pictures.

**NR:** Included are YNR and CNR, which reduce brightness and chroma noise, respectively. Frame DNR allows accurate noise reduction and elimination.

**Sharpness:** Allows well-focused, crisp images.

**Detail:** Sharpens the edges between high-contrast portions.

**Black/White level:** You can independently adjust the black level and white level for best contrast.

**Hue:** Adjusts the overall color of a picture.

**Chroma level:** Choose washed-out color or exaggerated, oversaturated color, or anything in between.

**Chroma delay:** Adjusts the timing between brightness and color to produce clarity of detail, removing blurriness and color smears. (DV-79AVi: Progressive sources only)

**Gamma correction:** Adjusts gradations by increasing or reducing the black level.

**Black setup:** Dark areas don’t look muddy. You can see detail in dark scenes from progressive as well as interlace images.

**Fine Focus:** Sharpens or unsharpens the image.

**Contrast:** Sets the peak white level of the picture to stress or mute the difference between black level and white level.

**Brightness:** Adjusts the black level to provide an accurate image.

**HDMI Detail:** Adjusts the sharpness of edges in the HDMI video signal.

Moreover, you can adjust picture images to your liking — (TV (CRT), PDP and PROFESSIONAL with the DV-79AVi (analog video output) — DIRECT, NATURAL and ENHANCED with the DV-79AVi (HDMI output); NORMAL, SPORTS and ART with the DV-F07) — and store three sets of combined parameters in memory.

**Technologies for Astounding Sound Realism**

**Solid Audio Circuit Block for Superior Sound (DV-79AVi)**

- All the decoding functions for DVD-Audio, DVD-Video and DTS are integrated in a single AV decoder chip. This allows simple and straightforward layout of signal paths.
- A DSP is used for configuring speaker systems, with Bass Management, gain control, and the distance in 0.5-foot increments adjusted accurately for DVD-Audio. All these parameters are available for SACD except for distance. It’s also possible to choose “SMALL” for front speakers.
- Signals of 2-channel Linear PCM sources (CD, for instance) may be set in bypass the DSP by the CD DIRECT switch to ensure high-quality signal transfer.
- Each of the six channels features a 192 kHz/24-bit D/A converter that accepts 192 kHz PCM data and DSD (Direct Stream Digital) data directly. High-performance Super DAC ( Burr-Brown PCM1788EG) is used for the front channels with DV-46AVi, and for all the six channels with the DV-79AVi. Moreover, the output from the DAC is a differential-current configuration to suppress common-mode noise.
- Low-impedance capacitors are used in the power supply to reduce noise.

**Pure Audio On/Off (DV-79AVi)**

Pure Audio provides the optimal conditions for reproducing analog audio. Turn the Pure Audio on, and the Elite DVD player automatically stops the signal transmission through analog audio. Turn the Pure Audio on, and the Elite DVD player automatically stops the signal transmission through analog audio. Turn the Pure Audio on, and the Elite DVD player automatically stops the signal transmission through analog audio. Turn the Pure Audio on, and the Elite DVD player automatically stops the signal transmission through analog audio. Turn the Pure Audio on, and the Elite DVD player automatically stops the signal transmission through analog audio. Turn the Pure Audio on, and the Elite DVD player automatically stops the signal transmission through analog audio. Turn the Pure Audio on, and the Elite DVD player automatically stops the signal transmission through analog audio. Turn the Pure Audio on, and the Elite DVD player automatically stops the signal transmission through analog audio. Turn the Pure Audio on, and the Elite DVD player automatically stops the signal transmission through analog audio. Turn the Pure Audio on, and the Elite DVD player automatically stops the signal transmission through analog audio. Turn the Pure Audio on, and the Elite DVD player automatically stops the signal transmission through analog audio.

**Hi-Bit Legato Link Conversion (DV-F07)**

Hi-Bit Legato Link Conversion PRO (DV-79AVi)

In the process of recording and mastering a CD, low-level signals — signals lower than LSB (Least Significant Bit) of a CD’s 16-bit system — are removed. But the absence of low-level signals causes quantization noise, resulting in a stepped waveform of converted analog signals — that reproduced sound is quite unlike the original. Hi-Bit Legato Link Conversion combines Pioneer-developed bit expansion technology with Legato Link for still better musical reproduction. This conversion process results in a waveform which is both smoother and closer to the original than conventional technology allows. The DV-79AVi comes with Hi-Bit Legato Link Conversion PRO that upsamples the audio signals of CDs and DVDs to 176.4 kHz (from 44.1 kHz) and 192 kHz (from 48 kHz or 96 kHz, respectively). This process enhances the frequency response and improves transient response for wide-range sound.

**Hi-Bit Legato Link Conversion (DV-79AVi)**

The Hi-Bit Legato Link Conversion PRO that upsamples the audio signals of CDs and DVDs to 176.4 kHz (from 44.1 kHz) and 192 kHz (from 48 kHz or 96 kHz, respectively). This process enhances the frequency response and improves transient response for wide-range sound.

**Easy Operation**

**Dedicated Remote Control Keys for Switching Between Video Output Settings (DV-46AVi)**

The DV-46AVi’s remote control has dedicated keys for easily switching between video output settings. When the player is connected to a TV via a component video output, you can switch between interlaced video and progressive scan video simply by pressing the PROGRESSIVE key on the remote.

With an HDMI connection, pressing the HDMI RESOLUTION +/- keys lets you select from 1920 x 1080, 1280 x 720p, 720 x 480p, and 720 x 480i video resolutions, depending on the pixel count or progressive scan capability of the connected monitor. The remote control also has the HDMI COLOR key. Press this key to switch between:

- Full Range RGB — For brighter colors and blacker black
- RGB — When Full Range RGB gives your monitor overly rich colors

**Component** — Component video format (default setting for HDMI-compatible devices)

**Jog/Joystick Remote Control (DV-79AVi/DV-F07)**

The remote control for Elite DVD players features a jog dial and a joystick — the first for scan and other versatile playback, the second for navigating GUI on-screen menus.

**On-Screen GUI (Graphical User Interface)**

The on-screen display helps you set up the environment properly. Interacting with and assisted by the on-screen display on your TV, you can choose the GUI language, screen aspect ratios, DIVX video parameters, parental lock level, and many other functions. Easy-to-follow GUI menus are logically layered to promote ease of use.

With the DV-46AVi, you can control up to 300 discs through GUI. The DV-79AVi, and DV-46AVi come with advanced on-screen GUI that further simplifies the complicated DVD settings.

**Versatile Playback Functions**

**Playability of DivX® Files (DV-46AVi)**

The DV-46AVi Elite DVD player allows playback of DivX® files burned on a CD-R/RW/RM disc. DivX® is a popular media technology including compressed digital video, which ensures a high compression rate and fast transfer speed without appreciably compromising the picture quality. Create a DivX® movie on your PC, burn it to a disc, and play it on the Pioneer Elite DVD player.

What’s more, the DV-46AVi is an official DivX® Certified product. This means the unit lets you enjoy DivX® movies with interactive features like DVD Video — including menus, selectable subtitle languages/audio tracks, and so on.

* DivX, DivX Ultra Certified, and associated logos are trademarks of DivX, Inc. and are used under license.
The DV-46AV Elite DVD player lets you play back JPEG still photos and MP3/WMA music files from a loaded disc at the same time. This means you can enjoy watching digital still photos enlarged on your TV screen while your favorite tunes play as background music—ideal for parties and more.

**Condition Memory (DV-46AV)**

Load a disc, and the player automatically recalls the set of playback parameters you’ve selected for it—aspect ratio, soundtrack, subtitle, and OSD position. Once you’ve memorized the conditions for a disc, the Elite DVD player will identify the disc each time you play it and start playback in the conditions selected. Conditions for up to 100 discs can be memorized. Setup is as simple as pressing the “CONDITION” button when you’re through viewing a disc. Memory is managed on the LRU (Least Recently Used) basis: the data (condition) for the disc that’s not recalled longest is automatically erased to make room to store the data (condition) of a new disc.

**Continue Play Memory (DV-VD/CD) (DV-F07)**

When you interrupt play of a disc, Continue Play Memory (Last Memory) lets you store in memory the last settings for it—aspect ratio, soundtrack, subtitle, and other parameters—as well as the location where you left off. So, the next time you play the disc, you can resume play from the same point, using the same settings. For additional convenience, the settings in memory are not disturbed even if you have played other DVDs and adjusted settings in the interim; they are kept for instant recall. You can store the last settings for up to five DVDs and one VCD.

* Continue Play Memory will be cleared once a loaded VCD is removed.

**Custom-File 300-DVD/CD Playback (DV-F07)**

The DV-F07 is the world’s first 300+1 DVD/CD changer. Couple two of them, and you can even control an incredible 601 discs — DVDs, CDs and combinations. In addition, it can play back CD-R and CD-RW discs you make on your own. East of use is enhanced with GUI (Graphical User Interface) allowing access and control of up to 300 discs.

• **Auto Upgrade**
  At the touch of a button, all loaded discs are automatically given unique identities (addresses) by type (DVD or CD) and contents (TOC and CD Text). It makes possible a number of conveniences.

• **Disc Identification**
  Each disc — that is, its disc title and the artist’s name — is identified not by a slot number in the rack but its contents stored in memory. So even when you move a disc from one slot to another, its title and artist name remain identified.

• **Title Input by Mouse or PC Keyboard**
  You can conveniently and efficiently enter disc titles, artist names, and custom file names for “data retrieval” using a PC keyboard or computer mouse.

* Neither a PC keyboard nor a mouse is included in the package.

• **On-Screen Disc Management System**
  You can display lists of identified discs and artist names on-screen and select the desired disc using a PC mouse or a joystick. You can sort discs by title or artist name for easy search of a wanted disc.

• **Condition Memory (DVD)**
  When you combine two of the DV-F07, you can set one to output an audio signal and the other to output a video signal. This lets you enjoy video against the music or sound effect of your choice, or listen to music against the image of your choice.

• **Playback Control from External RS-232C Commander**
  The built-in RS-232C communications port allows external control of setup and playback functions using RS-232C commands.

**i.LINK® Interface (DV-79AVi*/DV-46AV)**

The DV-79AVi and DV-46AV feature HDMI™ (High Definition Multimedia Interface), an uncompressed, all-digital audio/video interface, which is the first industry-supported unit of its kind. It benefits over conventional terminals include:

• A high bit rate, up to 2.2 Gbps for HDTV, for processing large amounts of uncompressed, high-quality data for both video and audio signals.

• Ensured flawless transmission for high picture and sound quality, as signals remain in a pure digital state, without D/A or A/D conversion.

• Transmission of both video and audio signals through a single cable, and with much smaller plugs than DVI, which handles video signals only.

HDMI is compatible with the pixel counts of all the current ATSC digital television formats, and supports up to eight channels of audio**. In addition, HDMI for the Elite DVD players also supports DVD Audio, for high-spec sound. Pioneer’s Elite Plasma Display Panels and new Elite A/V receivers — VXS-84TXi, VXS-82TXi, VXS-81TXi, and VXS-80TXi also come with HDMI interfaces.

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An analog audio input and a coaxial digital input (DV-F07) allow you to combine the image from a loaded DVD with the sound from an external source like a CD.

Three types of video output terminals — Component, S-Video and Composite — make it possible to connect a Pioneer Elite DVD player directly with a wide variety of projection monitors, and to supply video signals to five display monitors.

An S-Video input and a composite video input (DV-F07) let you combine the audio from a loaded CD with the image from an external source like a VCR.

**Z-Concept for Higher Musical Signal Transfer Accuracy**

Pioneer developed the Z-Concept as an integral approach to improving the performance of digital conversion in the time domain for higher musical signal transfer accuracy. This approach ensures that data is read out from a disc, signals are transmitted from circuit to circuit, and the digital signals are converted into analog, all with significantly improved accuracy.

In other words, the Z-Concept achieves three objectives:

- Stable signal detection;
- Accurate signal transmission; and
- Jitter-free D/A conversion.

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**Elaborate Mechanical Construction**

**Triple Layered Chassis (DV-79AVi)**

The Steel Stabilizing Plate improves the stability of the disc driving mechanism, while the Triple Layered Chassis better isolates components from vibration. The Triple Layered Chassis features thicker, larger-sized plates than previous models, creating even more stabilization. The result is better signal readout accuracy, for significant improvement of video and audio quality.

**Power-Supply Transformer for the Audio Circuit (DV-79AVi)**

The audio circuit for the DV-79AVi comes with a dedicated power-supply transformer. This means that the power supply for the audio circuit is separate from that of the video circuit, so the electric current for the video will not interfere with that for the audio. The result is a stable, noiseless power supply for the audio circuit, which further enhances the superior sound quality.
1080p Home Theater from Pioneer

Create a 1080p Home Theater System with Pioneer Elite Components

For the first time in the world, a comprehensive range of components for creating a 1080p home theater system is now available — thanks to Pioneer. These components include this year’s Elite A/V receivers. You can connect a new Elite A/V receiver — VSX-84TXSi, VSX-82TXS, VSX-81TXV, or VSX-80TXV — to the PRO-3HD1 Elite Plasma Display Panel (PDP) and BDP-HD1 Elite Blu-ray Disc Player via an HDMI terminal (see page 38 for details). The receiver can send 1080p HD video signals from the Blu-ray player to the PDP with precision all-digital signal transmission — and no D/A or A/D conversion. The A/V receivers also deliver superb multi-channel sound from Blu-ray discs.

Pioneer is one of the leaders in technological development and innovation for superior multi-channel sound reproduction. Now we have taken multi-channel sound a step further with patent-pending Phase Control technologies.

The objective of these technologies is to compensate for "phase lag" among channels, or in other words, the delay of low-frequency signals with respect to main channels. This is the equivalent of a 6.5 to 9 millisecond delay of low-frequency signals when amplifying multi-channel audio signals, receivers use a Low Pass Filter (LPF) for processing low-frequency signals for subwoofer output. It is this extra process that causes phase lag, an approximately 5 millisecond delay of low-frequency signals with respect to main channels. This is the equivalent of a 6.5 to 9 feet (2 to 3 meter) distance gap. The delayed bass affects the quality of main-channel sound, making the overall sound lack synchronization. Pioneer’s Phase Control technologies apply a bass management system that effectively compensates for phase lag, to significantly improve multi-channel sound.

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The phase lag problem occurs during software production processes as well — through improper use of the microphone and Low Pass Filter — so Pioneer has also begun offering these technologies to software makers.

Phase Control Technologies

The latest Elite A/V receivers incorporate Phase Control technologies. These receivers come with Phase Control Function turned on by default, immediately ready to compensate for the phase lag between subwoofer channel and main channels. Combined with the new Advanced MCACC, this function even further optimizes your multi-channel sound.

Advanced Multi-Channel Stereophonic Philosophy

Pioneer is dedicated to making your home theater experience as close as possible to what movie makers and studio engineers intended when they created the original sound tracks. Working closely with AIR Studios sound engineers in the UK and George Lucas’s Skywalker Ranch in the U.S., the Pioneer team employed revolutionary processes in order to take your home sound system to the level of a professional sound studio.

Professional sound engineers always start with three principles to achieve high fidelity recording and replay: quality reproduction, precision reproduction and artistic reproduction. Pioneer adapted this professional procedure to the design process so that the Pioneer Elite A/V receivers would recreate unprecedented audio fidelity in your home. This includes the best available audio components, measuring and calibrating the system with a microphone, and final sound tuning to preserve the original emotional elation of the music. With the professional master reference sound quality of Pioneer Elite A/V receivers, a concert at home has never been so spectacular.

The best sound engineers at one of the best recording studios in the world contributed an unquestionable amount of expertise to these revolutionary multi-channel stereophonic receivers. The founder of AIR Studios is Sir George Martin, Academy Award-nominated composer — one of music’s most versatile and imaginative talents. Established in 1969 in London, AIR Studios is now a state-of-the-art recording complex with matchless facilities for film scoring, rock, pop, classical and orchestral work, postproduction and live events. Many of the world’s most popular and renowned musical talents have worked in this unique and inspirational recording environment.

Advanced Multi-Channel Acoustic Calibration System (

The Multi-Channel Acoustic Calibration System (MCACC) is Pioneer’s revolutionary answer to the dreams of stay-at-home movie and music fans. The world’s first fully automated acoustic calibration system, the MCACC provides a studio-quality, multichannel listening environment by making delicate adjustments to neutralize the sound field of the listening space.

The VSX-84TXSi, VSX-82TXS, and VSX-81TXV moreover, come with an upgraded version of this technological wonder — Advanced MCACC with 3-dimensional compensation. In addition to speaker distance, sound pressure level and frequency response, the Advanced MCACC applies “time axis” in measuring the listening environment’s acoustic characteristics and in applying frequency response compensation. This enables the system to distinguish between direct sound and room reverberation, resulting in even more precise, minute adjustment of frequency response for human ear. The Advanced MCACC also features “X-Curve Compensation” of frequency response — a living-room sized version of an international frequency response standard (ISO2396) used for designing movie theaters and dubbing suites.

True Visionaries: Sir George Martin and AIR Studios (VSX-84TXSi/VSX-82TXS)

Advancements in Construction and Materials

3-D Space Frame Construction
Symmetrical Power Train Design

Versatile Video Control

Digital Video Converter
Pioneer Video Converter
Video Up-Scaling with DCDi™ by Faroudja

User-Friendly Operation
On-Screen Display
Versatile Input and Output Connections

HDMI Terminals
• LINK (IEEE1394)
• USB Interface
• USB Memory Audio Ready (USB Host Function)
• iPod® Control
• iPod® Control Docks
• XM Radio and XM HD Surround

Advanced Control
Multi-Room/Multi-Source Remote Control
System Remote Plus (SR+)  
12 Volt Trigger System

*SHARC is a registered trademark of Analog Devices, Inc.
With the aid of a microphone, included in the package, the MCACC measures the response from between 0msec and 80 msec points. Minute adjustment matching with minimum phase variations among channels. The frequency response of each speaker is measured and adjusted for all nine (VSX-84TXSi, VSX-82TXS, and VSX-81TXV) listening area. This technology also prevents inappropriate resonance in your room. The new Pioneer Elite A/V receivers’ Standing Wave Control effectively moderates the resonance in your listening environment. This technology not only calibrates the physical tonal balance, but also corrects for the human brain’s interpretation of sound as it is affected by the room size. The result is perfectly flat frequency response.

With all the Elite A/V receivers, you can manually fine-tune the frequency responses of individual speakers according to taste.

MCACC Functions for the Latest Elite A/V Receivers (VSX-84TXSi/VSX-82TXS/VSX-81TXV)

In addition to the functions described above, these receivers also come with the following:

1. **Standing Wave Control**
   - Acoustic standing waves occur when sound waves from your speaker system resonate with those reflected off the walls. This can give a negative effect to overall sound, especially certain lower frequencies — resulting in an overly resonant, “boomy” sound depending on the speaker positioning, your listening position, and the shape of your room. The new Pioneer Elite A/V receivers’ Standing Wave Control effectively moderates the resonance in your listening area. This technology also prevents inappropriate EQ-setting calibration caused by standing waves.

2. **MCACC Memory (Delays, Levels, and Preset EQ)**
   - MCACC Memory allows receivers to memorize up to six preset combinations of delays, levels, and EQ settings. This allows easy switching among combinations, depending on the listening environment.

3. **Compensating for timbre differences**
   - The frequency response of each speaker is measured and adjusted for all nine (VSX-84TXSi, VSX-82TXS, and VSX-81TXV) or five bands (VSX-80TXV). This is completed with the original “Envelop Compensation” applied technology, which ensures optimum timbre-matching with minimum phase variations among channels.

4. **Envelop Compensation**
   - A revolutionary function integrated into Advanced MCACC. Acoustic treatment can be point-controlled, either manually or automatically — by units of 20 msec between 0msec and 80 msecs points. Minute adjustment allows you to create an ideal sound field according to the acoustic characteristics of various listening environments.

5. **Crossover Tilt**
   - Crossover Tilt is a new technology designed to improve the blend of the sound output between two speakers. It allows for better crossover between drivers, improving sound quality and overall performance.

6. **MCACC Web Setup**
   - MCACC Web Setup allows users to calibrate their home theater system directly from a PC or smartphone. This feature is especially useful for users who want to fine-tune their system setup remotely.

7. **X-Curve Compensation**
   - This technology not only calibrates the physical tonal balance, but also corrects for the human brain’s interpretation of sound as it is affected by the room size. The result is perfectly flat frequency response.

8. **THX Surround EX**
   - THX Surround EX — Dolby Digital Surround EX is a joint development of Dolby Laboratories and the THX division of Lucasfilm Ltd. In a movie theater, film soundtracks encoded with Dolby Digital Surround EX technology are able to reproduce an extra channel — Surround Back — which has been added during the mixing of the program. Because currently available Dolby Digital has 5.1 channels — front left, front center, front right, surround right, surround left and subwoofer channels — Dolby Digital Surround EX offers 7.1 channels.

   Encoded on special DVD movie releases, the Surround Back channel places sounds behind the listener. This additional channel allows more detailed imaging behind the listener and brings more depth, spacious ambience and sound localization than ever before. When released on the home consumer market, movies that were created using the Dolby Digital Surround EX technology bear a Dolby Digital Surround EX logo on the packaging. The Pioneer Elite A/V receivers — all with the THX Surround EX logo — can faithfully reproduce this technology in the home in the THX Surround EX mode.
**Dolby Digital EX**
The Pioneer Elite A/V receivers come with the Dolby Digital EX decoder. This technology features its capability of decoding the latest theater sound sources for a 6.1-channel output — 5.1-channel plus a back surround channel. The additional surround sound from behind the listener gives the extra sense of dimensional detail and intensified involvement.

**DTS 96/24**
DTS 96/24 is the first compressed surround format technology to support high sound resolution of 96 kHz and 24 bits and multichannel capabilities, which was applied for a Pioneer Elite A/V receiver, the VSX-94TXi, for the first time in the world.

**Main Features**
1. Reproduces high-quality sound, exactly as recorded on 96 kHz, 24-bit master tapes at the most advanced recording studios.
2. Full backward compatibility with A/V amplifiers and DVD-Audio players equipped with conventional DTS decoders, allowing playback of existing DTS recordings on these devices with the same high sound quality.
3. High-quality DTS 96/24 sound reproduction using an existing DVD-Audio player (with DTS digital output) connected via digital cable to a DTS 96/24 A/V receiver.
4. The DTS 96/24 format enables high-quality multi-channel sound reproduction at 96 kHz and 24 bits through 5.1 channels, without any degradation in the high picture quality of the DVD-Video format, thanks to its low compression rate of audio signals. DVD-Video movies or music can be enjoyed with a DVD-Video format, thanks to its low compression rate of audio without any degradation in the high picture quality of the sound reproduction at 96 kHz and 24 bits through 5.1 channels.

**DTS NEO:6**
The conventional matrix decoder derives a center channel and a mono surround channel from a matrix-encoded two-channel source. It delivers better sound than a simple matrix, but it includes steering logic to improve separation, but the monaural, band-limited surround can be disappointing to users accustomed to discrete multi-channel surround sound. DTS NEO:6 provides significant improvement over the conventional technology. It conducts matrix decoding to provide output up to six full-range channels from matrix-encoded stereo sources. With 6.1-channel or 5.1-channel systems, DTS NEO:6 will derive six or five separate channels, respectively, corresponding to the standard home-theater speaker layouts. The 0.1 subwoofer channel is generated by bass management in the pre-am or receiver.

**Windows Media® Audio 9 Professional (WMA9 Pro)**
The Pioneer Elite A/V receivers incorporate a WMA9 Pro decoder, the first surround sound coding technology for the Web — developed by Pioneer with technical cooperation from Microsoft. When connected to a multi-channel-equipped PC, you can enjoy high-resolution stereo (96 kHz/24-bit) or multichannel surround sound from non-matrix-encoded stereo sources.

**Dolby Pro Logic II**
Dolby Pro Logic II is an advanced version of the original. Pro Logic matrix decoder does the Dolby Surround signal and creates Front Right, Front Center, Front Left, and monaural Surround, but the Surround channel is limited in separation and frequency response.

**Pro Logic IIx**, created by Dolby Laboratories, is a modified version to improve Dolby Surround and allow it to deliver a performance as realistic as Dolby Digital 5.1 offers. It competes with Circle Surround, DTS NEO:6, Pioneer’s S-D Theater/Expanded Theater, etc., that, the manufacturers claim, can decode Dolby Surround just like Dolby Digital 5.1. Pro Logic IIx has three modes: Movie, Music and Pro Logic.

**Advanced Surround Effects**
Pioneer’s exclusive DSP technology lets you have an expansive and realistic experience of movies and music with a wide variety of customized surround modes. These modes are created for practical applications.

**Dolby Pro Logic**
Dolby Pro Logic is a matrix decoder which can decode Dolby Surround source signals into 5.1-channel output. It is especially effective when playing back conventional stereo sources on CDs and other media. Surround channels enhance the sense of a surrounding ambience, rather than definition and localization.

**Pro Logic II Music**
A mode for music reproduction. This mode is especially effective when playing back conventional stereo sources on CDs and other media. Surround channels enhance the sense of a surrounding ambience, rather than definition and localization.

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*Microsoft, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.*
The units also feature the latest Freescale DSP with about double the precision of conventional DSPs, which permits 48-bit processing. The combination of the high-performance DSPs has enabled true 32-bit processing, permitting optimum sound quality, compatibility with all the latest surround formats, and the highest possible decoding capability.

*“SHARC” and “SHARC Melody” are registered trademarks of Analog Device Inc.

### Ultra Digital Core Engine 2 (VSX-84TXSi/VSX-82TXS/VSX-81TXV)

The VSX-84TXSi, VSX-82TXS, and VSX-81TXV benefit from powerful, state-of-the-art Freescale and Analog Devices processors. Both devices are used for pro audio gear for their exceptional performance.


With optimum processing power and decoding technology enabled by the Pioneer-exclusive “Ultra Digital Core Engine 2” design, the VSX-84TXSi, VSX-82TXS, and VSX-81TXV provide 96 kHz/24-bit superior-quality processing for the THX Select2 specification, DTS 96/24, DTS NEO:6, and Dolby Pro Logic IIx decoding, and multi-channel sound compensation (including Phase Control and Standing Wave Control).

### Advanced Direct Energy Power Amplifier — Designed by Pioneer for Optimum Sound Quality

Power amplification in all seven channels is performed by originally-designed Advanced Direct Energy Power Amplifier, featuring minimum energy loss and minimum interference between circuits. These features combine to deliver high-quality sound that is close to the original.

The device features “low-impedance, high-current” design, which minimizes the impedance at the final output stage. This effectively reduces the loss of the signals.

The advanced amplifier also reduces the electric/magnetic interference from the final output stage which significantly affects the sound quality. This is made possible by the compact design of the circuit which minimizes the size of the loop for the final output stage.

What’s more, the device features a new temperature compensation function for bias circuitry. Temperature of the output circuit is subject to change due to the speaker-driving current. The temperature fluctuations cause bias point deviation, which lowers the sound quality. The power amplifier for the new Elite A/V receivers effectively compensates for the fluctuations to minimize the bias point deviation.

### 3-D Space Frame Construction (VSX-84TXSi/VSX-82TXS)

The 3-D Space Frame Construction is developed to clearly define the mechanical grounding of the chassis and make the structure rigid enough to support heavy weight. Perfected by repeated CAD-strength analyses and auditing, this technology allows each part to deliver in maximum performance.

Interference is also reduced by separating and insulating the power supply, amp, analog circuit, digital circuit, and video sections from one another.

### Symmetrical Power Train Design

The Pioneer Elite A/V receivers each features powerful amps for seven channels. Accurate multi-channel sound reproduction is possible only when the operating environment of one channel is physically identical to that of others. Therefore, the new Elite A/V receivers, power output devices for the left channels (front, surround and surround back) are mounted on the heat sinks symmetrically with respect to those for the right channels.

### Innovations in Construction and Materials

#### 32-bit Digital Processing by “The 3rd-Generation SHARC® Processor” from Analog Devices, Inc. and 48-bit processing DSP from Freescale, Inc. (VSX-84TXSi/VSX-82TXS/VSX-81TXV)

The VSX-84TXSi, VSX-82TXS, and VSX-81TXV incorporate “The 3rd Generation SHARC® Processor” from Analog Devices, Inc., which is highly integrated to be used for audio equipment. The latest device boasts significantly improved performance over the previous SHARC Melody Ultra®, a high-performance 32-bit DSP boasting dual processing capability. The 3rd-generation DSP delivers twice the performance and half the power consumption of the previous device.

#### 48-bit processing DSP from Freescale, Inc.

The combination of the high-performance DSPs has enabled true 32-bit processing, permitting optimum sound quality, compatibility with all the latest surround formats, and the highest possible decoding capability.

#### Availability of Component-to-S-Video/Composite conversion varies depending on the model.

### Video Up-Scaling with DCDi™ by Faroudja (VSX-84TXSi/VSX-82TXS)

In addition to digital video converter, the VSX-84TXSi and VSX-82TXS can raise the original picture resolution to 480p, 720p, or 1080i. This lets you coordinate with the pixel count of the connected monitor.

Up-scaling from 480i (interlace) to 480p/720p/1080i (progressive) involves interpolation of additional fields. With conventional technology, this interpolation often creates jagged edges along diagonal lines, especially during fast-paced action like football or hockey. The new Pioneer Elite A/V receivers overcome this problem by using DCDi™ (Directional Correlation De-interlacing) technology. DCDi’s special algorithm fills in the information gaps that cause jaggedness, to make edges smoother and more natural.

### On-Screen Display

The Pioneer Elite A/V receivers feature simple, well-organized on-screen menus for the best home theater sound and customized A/V control via all video terminals, including component video. Using a handheld remote to interact with menus on your TV screen, you can assign the digital inputs, set the crossover point, adjust the time alignment, and do a lot more, simply and easily. The on-screen instructions even help you recall preprogrammed codes for your remote control.

### S-Video, or Component terminals — in order to display them on a compatible monitor or PDP. Conversions to other signals is also available — from composite to S-Video or Component, for example.
HDMI Terminals

All of the new Elite A/V receivers come with an HDMI (High Definition Multimedia Interface) terminal. In addition to allowing 1080p signals to be relayed from a Blu-ray player to compatible PDP, HDMI provides the following benefits:

- A high bit rate, up to 4.45 Gbps for HDTV, for processing large amounts of uncompressed, high-quality data for both video (including 1080p) and audio signals.
- Ensures lossless transmission for high picture and sound quality, as signals remain in a pure digital state, without D/A or A/D conversion.
- Compatibility with the pixel counts of all the current ATSC digital television formats (The VSX-84TXSi, VSX-87TXSi, and VSX-81TXV support HDMI Version 1.2).
- Transmission with much smaller plugs than DVI, which handles video signals only.
- Supports up to eight channels of audio.

The units even permit analog-to-digital conversion of video signals for output via HDMI terminal (see "Digital Video Converter" on page 37 for details).

USB Interface (VSX-84TXSi/VSX-87TXSi/VSX-81TXV)
The VSX-84TXSi features a USB input, which lets you treat your PC as a regular music playback source. The audio is transferred in the digital domain, so you get significantly better sound than you usually get from the analog output of PC sound cards.

USB Memory Audio Ready (USB Host Function) (VSX-81TXV/VSX-80TXV)
The above Elite receivers are ready to serve as USB Hosts. They come with a USB input terminal located on the front panel, which allows easy connection with your digital audio player or USB memory, for playing music files via your audio system.

iPod® Control Docks (Optional) (VSX-80TXSi/VSX-82TXSi/VSX-81TXV)
The new Elite A/V receivers come with a dedicated input terminal and an iPod® connection cable. Connect your iPod® to the unit to enjoy music files via your audio systems. You can control the connected player, using the A/V receiver’s remote control with menu screen displayed on your monitor — similar to using an iPod® itself. In addition, this connection provides the following benefits:

- Analog signals from iPods are up-converted to 192 kHz/24-bit resolution.
- A range of audio features of the A/V receivers — including Sound Retriever, MCACC, Phase Control, DSP modes, and more — are applied to sound from iPod®.
- Multi-Room/Multi-Source Remote Control is available.
- You can recharge iPod® batteries via the connected A/V receiver.

In addition to audio, you can also play back your iPod® photos or videos with the VSX-84TXSi and VSX-81TXSi. Music videos, movies, TV shows, and photo slide shows look better on a large TV screen, where they can be shared with your family and friends.

i.LINK (IEEE1394) Advanced Resolution Digital Audio Interface (VSX-84TXSi)

Today, multi-channel sound is critical for enhancing audio of both movies and music. i.LINK connection — the new secured bus standard — allows you to enjoy added convenience coupled with the most technologically advanced method of processing audio through one cable instead of multiple analog cables. Moreover, it helps simplify your system and expand its performance at the same time.

i.LINK is an advanced digital interface that provides an avenue for the transmission of DVD-Audio and SACD music. In addition, i.LINK streamlines connection between the source player and the receiver.

In conjunction with the DV-79AVi, the VSX-84TXSi with i.LINK offers exceptional conveniences, including:

- When you start playback of a DVD on the player, the input is set to DVD on the receiver and the output is configured automatically.
- With DVD-Audio and SACD sources, the MCACC procedure takes place without the necessity of D/A and A/D conversion. This means high sound quality.

In addition, XM has started delivering “XM HD Surround” in cooperation with Neutral Audio Corporation. This is the world’s first radio broadcast in 5.1-channel surround sound delivered twenty-four hours a day. XM HD Surround uses Neutral Surround® technology, which allows superb spectral resolution and channel separation. This lets listeners immerse themselves in the rich subtleties and deep ambience of recorded performances.

Programs in XM HD Surround include Fine Tuning® (XM Channel 76), XM Pops (XM Channel 113) for popular classical music, and a variety of special shows and live music performances at the XM studios.

All of the new Elite A/V receivers let you connect with your XM “Connect-and-Play®” digital antenna for easy control and high-quality sound — including 5.1-channel surround sound — delivered through your audio system. Information is displayed on the monitor screen or on the receiver’s front panel display, allowing the following operations:

- Channel selection — You can search for channels with Channel Guide or narrow down your channel search with Category Guide. You can also enter three-digit channel numbers for direct access to a desired channel.
- Saving song information such as artist name and song title.
- Saving preset channels — the receivers can memorize up to 36 channels, 10 each from three classes (A, B, and C) for easy access.

XM Satellite Radio is a subscription service not affiliated with Pioneer Electronics. Activation required through XM Satellite Radio.

Neutral Surround® is a trademark owned by Neutral Audio Corporation.

Advanced Control
Multi-Room/Multi-Source Remote Control

Wouldn’t it be nice if you could enjoy music or movies in a "remote" room away from the "main" room where your audio or video system is? With Pioneer’s Multi-Room/Multi-Source Remote Control, you can. You can play two different program sources in two rooms independently at the same time.

So now you can watch a program on a VCR in the living room, while the kids are watching their favorite movie on a DVD player in the bedroom.

What’s more, the second program source can be selected from the remote room using a remote control unit and an infrared sensor unit (both available from third parties). It’s an easy way to multiply your family’s entertainment possibilities.

A convenient function is the "sub room" volume control. You can adjust volume level or turn the power of the amplifier installed in the sub room, independent of the main room system’s settings. Moreover, you can choose the Sub Room Volume setting between "VARIABLE" and "FIXED" for connection of a separate power amplifier, and an integrated amplifier or receiver, respectively. There’s an independent MULTI-ROOM & SOURCE button on the front panel to turn on and off the Multi-Room/Source function.
The devices must be connected through SR+ terminals.

through the PDP's sensor window.

MCACC process — is displayed on the TV screen.

including A/V receiver volume, selected surround mode, and host of user-friendly benefits:

The units feature the System Remote Plus (SR+) terminal. The terminal lets you connect the A/V receiver with Pioneer's compatible PDP (or its media terminal. The terminal lets you connect the A/V receiver or keys on the front panel.

The System Remote Plus (SR+) Connection

The units feature the System Remote Plus (SR+) terminal. The terminal lets you connect the A/V receiver with Pioneer's compatible PDP (or its media terminal. The terminal lets you connect the A/V receiver or keys on the front panel.

• Video and audio signals — received by the media receiver and Pioneer A/V receiver, respectively — are kept consistent with each other, switched at the same time and in the same way with a single operation.

• Basic information on your home theater system — including A/V receiver volume, selected surround mode, and MCACC process — is displayed on the TV screen.

• All the connected devices become remote-controllable through the PDP's sensor window.

*The device must be connected through SR+ terminals.

### DIMENSIONS

<table>
<thead>
<tr>
<th>VSX-84TXSi</th>
<th>VSX-82TXSi</th>
<th>VSX-81TXV</th>
<th>VSX-80TXV</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>170 mm</td>
<td>6-1/16&quot;</td>
<td>170 mm</td>
</tr>
<tr>
<td>B</td>
<td>17 mm</td>
<td>11/16&quot;</td>
<td>17 mm</td>
</tr>
<tr>
<td>C</td>
<td>40 mm</td>
<td>1-9/16&quot;</td>
<td>40 mm</td>
</tr>
<tr>
<td>D</td>
<td>340 mm</td>
<td>13-3/8&quot;</td>
<td>340 mm</td>
</tr>
<tr>
<td>E</td>
<td>25 mm</td>
<td>1-3/16&quot;</td>
<td>25 mm</td>
</tr>
<tr>
<td>F</td>
<td>420 mm</td>
<td>16-11/16&quot;</td>
<td>420 mm</td>
</tr>
<tr>
<td>G</td>
<td>50 mm</td>
<td>2-1/16&quot;</td>
<td>50 mm</td>
</tr>
<tr>
<td>H</td>
<td>60 mm</td>
<td>2-3/8&quot;</td>
<td>60 mm</td>
</tr>
<tr>
<td>I</td>
<td>50 mm</td>
<td>2-1/16&quot;</td>
<td>50 mm</td>
</tr>
<tr>
<td>J</td>
<td>420 mm</td>
<td>16-11/16&quot;</td>
<td>420 mm</td>
</tr>
<tr>
<td>K</td>
<td>127 mm</td>
<td>5-3/16&quot;</td>
<td>127 mm</td>
</tr>
<tr>
<td>L</td>
<td>229 mm</td>
<td>8-3/4&quot;</td>
<td>229 mm</td>
</tr>
<tr>
<td>M</td>
<td>18 mm</td>
<td>2-1/8&quot;</td>
<td>18 mm</td>
</tr>
</tbody>
</table>

**12 Volt Trigger System**

The VSX-84TXSi and VSX-82TXSi come with two “12V Trigger” interfaces. You can connect several devices — a DVD player and an external power amplifier, for example — via the interfaces, and specify what type of unit(s) you want to control at the setup screen. This lets you activate/deactivate the devices in synchronization with the A/V receiver. You can opt to disable the 12 Volt Trigger System even when a device(s) is connected. The VSX-81TXV and VSX-80TXV come with one 12V Trigger interface.

The Elite A/V receivers also have an AC outlet, primarily designed for use with source products. This lets you switch on/off the entire system using the receiver remote control or keys on the front panel.

**RS-232C Commands List**

Automatic Feedback

When this function is turned on, it reads the status on the front panel or the remote control of an A/V receiver. All messages send new status automatically.

<table>
<thead>
<tr>
<th>Command</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLXX</td>
<td>Power On</td>
</tr>
<tr>
<td>PQRX</td>
<td>Power Off</td>
</tr>
<tr>
<td>MUTX</td>
<td>MUTE Status Request</td>
</tr>
<tr>
<td>FUNXX</td>
<td>Function Mode Request</td>
</tr>
<tr>
<td>RRXX, LMXX, SRXXXX</td>
<td>LISTENING MODE Request</td>
</tr>
<tr>
<td>XEEX</td>
<td>EXTENDED MODE Request</td>
</tr>
<tr>
<td>XXZS</td>
<td>ZONE2 Function Mode Request</td>
</tr>
<tr>
<td>XXFN</td>
<td>FUNCTION MODE Request</td>
</tr>
<tr>
<td>XXM</td>
<td>MCACC POSITION Request</td>
</tr>
<tr>
<td>XXAC</td>
<td>ACOUSTIC CAL Request</td>
</tr>
<tr>
<td>XX??</td>
<td>Function Mode Request</td>
</tr>
<tr>
<td>XX??</td>
<td>Function Mode Request</td>
</tr>
<tr>
<td>XX??</td>
<td>Function Mode Request</td>
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<td>XX??</td>
<td>Function Mode Request</td>
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<td>Function Mode Request</td>
</tr>
<tr>
<td>XX??</td>
<td>Function Mode Request</td>
</tr>
<tr>
<td>XX??</td>
<td>Function Mode Request</td>
</tr>
</tbody>
</table>

---

*The device must be connected through SR+ terminals.*
Example 1

Example 2

Answer FRA00890<CR+LF> FREQ number is set to AM 890 kHz

Answer PRA04<CR+LF> PRESET number is set to class A 4

Command ?PR<CR> Request PRESET number

Answer BA02<CR+LF> BASS is set to +4dB.

FRF08010<CR+LF> FREQ number is set to FM 80.10 MHz

VSX-84TXSi VSX-82TXS VSX-81TXV

* = B  :  class B

the original signal. LM***

ANSWER COMMAND to outside controller to let it know the status of the LISTENING MODE — it replies

*5  LISTENING (DECODE) MODE REQUEST [3byte]

[1-3byte]:data for mode setting.  Indicating below the combination of the modes selected by "LISTENING MODE

*) When LISTENING MODE is changed, the set will dispatch ANSWER command to let the outside controller the

With the "SR" command, you can select whichever mode you wish. Also, you can confirm your selection with the

When you set the "Listening Mode" with the product front panel keys and knobs, you operate "LISTENING MODE

[2-4byte]:data for mode setting.  Indicating below the combination of the modes selected by "LISTENING MODE

ANSWER COMMAND to outside controller to let it know the status of the LISTENING MODE — it replies

Command ?S<CR> now LISTENING mode?

Answer LM130<CR+LF> now 96kHz STEREO play.

Answer SR001<CR+LF> now become STEREO mode.

Command 001SR<CR> set STEREO mode.

ANSWER COMMAND to outside controller to let it know the status of the LISTENING MODE — it replies

Command ?L<CR> now "Listening Mode"?

Answer LM001<CR+LF> now 96kHz STEREO play.

Answer LM002<CR+LF> now 96kHz STEREO play.

Command 002LM<CR> set STEREO mode.

ANSWER COMMAND to outside controller to let it know the status of the LISTENING MODE — it replies

5. LISTENING MODE REQUEST [1byte]

Indicating that the listening mode should be changed.

NOTE: When the LISTENING MODE REQUEST is received, the set will dispatch ANSWER command to let the

Command 003LM<CR> set STEREO mode.

ANSWER COMMAND to outside controller to let it know the status of the LISTENING MODE — it replies

4. LISTENING MODE REQUEST [1byte]

Indicating that the listening mode should be changed.

NOTE: When the LISTENING MODE REQUEST is received, the set will dispatch ANSWER command to let the

Command 004LM<CR> set STEREO mode.

ANSWER COMMAND to outside controller to let it know the status of the LISTENING MODE — it replies

3. LISTENING MODE REQUEST [1byte]

Indicating that the listening mode should be changed.

NOTE: When the LISTENING MODE REQUEST is received, the set will dispatch ANSWER command to let the

Command 005LM<CR> set STEREO mode.

ANSWER COMMAND to outside controller to let it know the status of the LISTENING MODE — it replies

2. LISTENING MODE REQUEST [1byte]

Indicating that the listening mode should be changed.

NOTE: When the LISTENING MODE REQUEST is received, the set will dispatch ANSWER command to let the

Command 006LM<CR> set STEREO mode.

ANSWER COMMAND to outside controller to let it know the status of the LISTENING MODE — it replies

1. LISTENING MODE REQUEST [1byte]

Indicating that the listening mode should be changed.

NOTE: When the LISTENING MODE REQUEST is received, the set will dispatch ANSWER command to let the

Command 007LM<CR> set STEREO mode.

ANSWER COMMAND to outside controller to let it know the status of the LISTENING MODE — it replies
Advanced Direct Energy MOS FET Power Amp

Advanced Direct Energy MOS FETs are simply high-performance devices. Working with Pioneer’s Wide-Range Linear Circuit technology, they feature reduced power consumption without sacrificing power output. Moreover, Pioneer’s MOS FETs help achieve a flat damping factor across a wide audio spectrum, a wide frequency range, and a higher accuracy at ultra high frequencies while improving power linearity.

SB (Surround Back) Mode (M-10X/A-35R) and MR/MS Capability (A-35R)

Pioneer Elite receivers feature 7.1-channel THX Surround EX and Dolby Digital Surround EX. But even if your Pioneer Surround EX receiver comes with amplifiers for 5.1 channels, it’s simple to upgrade it to the full glory of 7.1-channel sound. Just connect the M-10X to your receiver to drive the SBL and SBR (Surround Back Left and Right) channels. You can remotely turn on and off the M-10X as you do so with the receiver by using SR connections.

The A-35R is functionally flexible. It can be used in a Surround EX system to drive SBL and SBR channels, as part of a Multi-Room/Multi-Source Remote Control system, or as the center unit of a secondary hi-fi system that includes a source player such as a CD player.

Wide-Range Linear Circuit Amp

The Wide-Range Linear Circuit features a superior open-loop gain response. This means that, with the use of only a nominal amount of feedback and a simple one-pole filter, the circuit applies NFB (Negative Feedback) at high stability for frequencies over a wide range, in order to minimize distortion. Moreover, since its output impedance is flat and low over an extended range, the circuit’s rejection of external noise is improved.

Transformer Stabilizer

The heavy, high-capacitance power transformer is doubly secured to the chassis — by a stabilizer and an additional frame. This elaborate construction improves the dynamic stability, rigidity and insulation characteristics of the chassis, leading to improved sound quality.

### Dimensions

<table>
<thead>
<tr>
<th></th>
<th>M-10X</th>
<th>A-35R</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>108.8 mm</td>
<td>85 mm</td>
</tr>
<tr>
<td>B</td>
<td>106.6 mm</td>
<td>54 mm</td>
</tr>
<tr>
<td>C</td>
<td>126.6 mm</td>
<td>131/16”</td>
</tr>
<tr>
<td>D</td>
<td>215.4 mm</td>
<td>131/16”</td>
</tr>
<tr>
<td>E</td>
<td>354 mm</td>
<td>7/16”</td>
</tr>
<tr>
<td>F</td>
<td>283.1 mm</td>
<td>111/16”</td>
</tr>
<tr>
<td>G</td>
<td>333.3 mm</td>
<td>21/2”</td>
</tr>
<tr>
<td>H</td>
<td>120.1 mm</td>
<td>131/4”</td>
</tr>
<tr>
<td>I</td>
<td>54.4 mm</td>
<td>21/2”</td>
</tr>
<tr>
<td>J</td>
<td>422 mm</td>
<td>161/4”</td>
</tr>
<tr>
<td>K</td>
<td>127.4 mm</td>
<td>5”</td>
</tr>
<tr>
<td>L</td>
<td>127.4 mm</td>
<td>14 mm</td>
</tr>
<tr>
<td>M</td>
<td>319.1 mm</td>
<td>121/8”</td>
</tr>
<tr>
<td>N</td>
<td>ø54.9 mm</td>
<td>ø2-3/16”</td>
</tr>
<tr>
<td>P</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### Remote Control

A-35R

### Rear Panels

M-10X

A-35R

**Comparison of Linearity: Bipolar Transistor vs. MOS FET**

**Wide-Range Linear Circuit Amp**

The Wide-Range Linear Circuit features a superior open-loop gain response. This means that, with the use of only a nominal amount of feedback and a simple one-pole filter, the circuit applies NFB (Negative Feedback) at high stability for frequencies over a wide range, in order to minimize distortion. Moreover, since its output impedance is flat and low over an extended range, the circuit’s rejection of external noise is improved.

**Transformer Stabilizer**

The heavy, high-capacitance power transformer is doubly secured to the chassis — by a stabilizer and an additional frame. This elaborate construction improves the dynamic stability, rigidity and insulation characteristics of the chassis, leading to improved sound quality.
Random Play of Tracks from 300 Discs

The PD-F27 comes with three random play options. ALL mode plays all tracks from all discs once in random order, play stops when every track on every disc has been played once. BEST mode plays tracks from all the discs that have not been played yet, and plays the tracks randomly. HI-LITE SCAN mode plays one track from each of the discs in random order, then moves on to the next. BEST and HI-LITE SCAN modes can be played in any combination.

Loading Discs Into the Rack

1. Press the UNLOAD button.
2. Choose the number of the disc you want to remove with the jog dial or the DISC (+/-) button on the remote control unit.
3. Press the OPEN/CLOSE button. The remote control must be placed on the unit or the remote control unit.
4. Press the UNLOAD button.

Best Selection Memory

Want to store a track in memory for an encore at a touch! Just press the "BEST" key while it's being played — programming is as simple as that. Press the "STOP" key to end your selection, and up to 50 favorites are played back in order.

Previous Disc Scan

Discs are automatically programmed each time they are played. When you press the "PREVIOUS" key, Previous Disc Scan will play the programmed discs in memory on a last-in, first-out basis — starting with the most recent and moving backward to the first memorized. Press the "PLAY" key when you've found the disc you want. Up to 20 discs are stored in memory.

Connect Two PD-F27s for Direct Access to 602 Discs

By connecting two PD-F27s through the MASTER/SLAVE control terminals, you can instantly access up to 602 discs. This is a "plug and play" function; no resetting or additional controller is required.

CD Text Compatible

CD Text displays disc and track titles of CD-Text-encoded discs. The jog dial lets you conveniently search for a desired track or disc by title or artist name. A dot-matrix fluorescent panel allows high-resolution display of numbers and characters.

Keyboard Title Input

You can name loaded CDs efficiently by entering their titles on an IBM PC-compatible keyboard, as well as through the jog dial and remote control.

Notes:
- Do not attempt to open the hood with your hand.
- Be careful not to get your finger caught in the hood when opening or closing it.
- A play, BEST, HI-LITE SCAN or PREVIOUS DISC SCAN operation may be carried out before the presence of disc detectors is ascertained. In such cases, detectors will be performed after playback. A disc may not be detected correctly because of its color, shape, or other physical property.

Removing Discs

1. Press the UNLOAD button.
2. Choose the number of the disc you want to remove with the jog dial or the DISC (+/-) button on the remote control unit.
3. Press the OPEN/CLOSE button.
4. The hood will close.
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|   | Advanced Construction (Blu-ray Disc Player) | 19 |
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|   | Closed Caption Compatibility | 11 |
|   | Component Frame DNR (DVD/VCID): PRO | 23 |
|   | Condition Memory | 26 |
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|   | Continue Play Memory | 26 |
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