PIONEER®

*The Art of Entertainment™*

# AUDIO/VIDEO COMPONENTS

Imagine yourself surrounded by "Aliens" or among thousands of fans at a Bryan Adams concert. How about changing your living room into a jazz club or concert hall? Now you can actually experience all this with Pioneer's Laser Home Theatre. To step into the incredible Laser Digital Dimension, simply add a component or two from Pioneer's extensive line of world-renowned audio/video components.

Your Laser Home Theatre begins with Pioneer A/V receivers, featuring Dolby Pro-Logic surround sound and DSP (Digital Signal Processor). A Pioneer VSX-series receiver is your integrated A/V control center to connect all of your audio (CD, tape, etc.) and video (VCR, LD, camcorders, etc.) components. A remote control gives you the ease and comfort of arm-chair operation of your entire audio/video system.

Pioneer's decades of research and development in laser digital technology have made available to the world the most advanced and innovative designs in CD and LD players — such as the Alpha-Turn Mechanism, Multi Memory and "Talk-back" input. With the catalogue of more than 5,000 titles that keeps expanding every month, Pioneer LD is simply the best of A/V enjoyment you can find.

In 1986, Pioneer introduced the world's best projection TV, the SD-P40. Since then, Pioneer has been considered the benchmark for all projection TVs. Now in their seventh generation, Pioneer's newest projection TVs feature award-winning designs and quality. They come in 40, 45, 50 and 55 inch models — all featuring incredible clarity and colour purity.

Other Pioneer components for Laser Home Theatre include 6-pak CD players. They are innovative user-friendly products that provide you with the widest possible range of convenient features. One 6-pak CD advantage is that you can store your CDs in magazines and catalogue your Compact Discs by artist, type of music, etc. Another is that the 6-pak magazines are compatible with Pioneer 6-pak CD players for the car and with the new mini systems.

And Pioneer's Laser Home Theatre is now complete with a line of "Home Theatre Experience" series speaker systems for front, center and rear, and subwoofers. They are inconspicuous by design to fit any home decor.

Pioneer offers you the best in Laser Home Theatre and the widest range of A/V equipment to choose from.

When it comes to Home Entertainment, only Pioneer brings you the Laser Digital Dimension. Pioneer — the Art of Entertainment.

# Pioneer Hi-Fi Highlights — Leading-Edge Technologies That Keep Us the Leader

## RECEIVERS

If you've seen videos with full surround sound, you know how hard it is to go back to plain "stereo" sound, especially after you've heard the sound encoded by **Dolby Pro-Logic** and Digital Signal Processor (DSP). That's why we've incorporated **Dolby Pro-Logic** decoders' DSP and five separate amps into our top-of-the-line audio/video receivers — so you can immediately enjoy movie-theatre sound at home. And that's not all: while in most A/V receivers the rated power for the center is much less than the one for the left and right channels, ours make available the same high power to all three front channels — including the center. This **"Accurate Imaging System"** makes the dialog sound more distinct and real, and makes the sense of left-right, front-back and diagonal motion smoother.

# LASER DISC PLAYERS

Only Pioneer offers you three options when it comes to the choice of Laser Disc/CD entertainment. The ultimate is our combination multi-CD/Laser Disc player. This extra-convenient format not only lets you enjoy every available disc format — from CD to LD — but also offers you **5-disc multi-play CD playback**, giving you hours of a sheer sonic pleasure. The Pioneer combination CD/CDV/LD player with the **Alpha-Turn Mechanism** is the choice of movie buffs. This Pioneer innovation guarantees you see your favorite film straight through, with virtually no intermission, by automatically playing both sides of an LD. And if you're simply looking for a "standard" laser player, there's the combination CD/CDV/LD player with a **separate CD tray**. So whatever your laser entertainment needs — music or Laser Home Theatre — Pioneer meets them all.


5 CD + 1 LD Play Model


Both-Side LD Play Model


Independent CD Tray Model

# CD PLAYERS

Our 6-pak multi-play CD players take full advantage of the "subcode" contained in CDs, allowing you to enjoy versatile operating modes. Multi memory remembers programmed tracks for many different programmed magazines, identifying each magazine and disc and even recalling the preset DSP (Digital Signal Processor) settings. The **ADLC** (Automatic Digital Level Controller) automatically sets the playback level to a uniform output for play or editing. The command ID display and **"talk-back" input** permit friendly interactive operation. And our 6-pak magazine format for the home system is compatible with that for the car audio system, so you can take your favorite music back and forth. Add to these the additional edit features (like CD-Deck Synchro) and you'll find our CD players to be the only digital multi-play choice.

But of course we design our CD players for better sonic performance as well as for ease of use. With the **Stable Platter Mechanism**, we literally have turned the tables: it uses a solid platter on which you mount a disc with the music side up (not down as is the norm). A turntable supports the disc from below and runs with it, with the pickup and spindle motor located above. Benefits include: a drastic reduction of disc vibrations, more stable disc rotation, and higher readout accuracy.

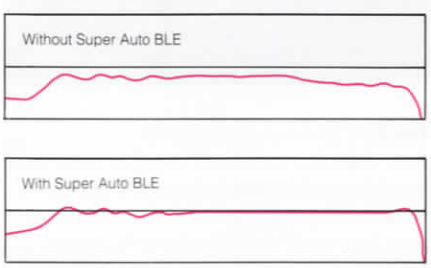
And with our **Legato Link Conversion System**, we have extended the frequency response of our CD players smoothly to beyond 20kHz, to give you a sound that's real and natural.

Stable Platter Mechanism

# CASSETTE DECKS

If you really want to make the most of every recording, you have to match the deck with the tape you use. Unfortunately, that's been close to impossible — until now. Pioneer's exclusive **Auto BLE** and **Super Auto BLE (Bias, Level and Equalization)** are a sophisticated, computerized way to tune deck electronics (bias, level and equalization) to any brand of tape you care to use. Auto BLE uses two test tones for high and low frequencies, and Super Auto BLE three tones for high, mid and low frequencies, to ensure flat frequency response, low distortion and correct Dolby-processed sound. The use of an additional midrange frequency with Super Auto BLE guarantees ruler-flat response. Our deck calibration systems not only make mediocre tapes sound better, they make quality tapes sound absolutely incredible! And both Super Auto BLE and Auto BLE are also at work when you use **Sound EQ**: response is customized for car stereo or portable stereo after it is made completely flat.

**Comparison of Record/Play Frequency Response**




# SPEAKER SYSTEMS

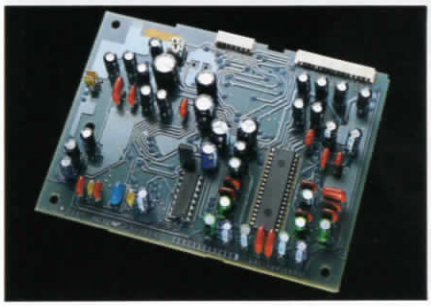
Pioneer has made building a surround sound system for audio and video less a burden than you might think — first with an A/V receiver featuring **Dolby Pro-Logic** and five amps, and now a "Home Theatre Experience" series speaker system designed on a modular concept. Comprised of a two-way satellite speaker, a two-way surround speaker, and a subwoofer, our "Home Theatre Experience" speaker series lets you mix and match modular units according to your needs and specifications. If, for example, you are ready for the ultra-realistic sound of Dolby Pro-Logic Surround, then use three satellite speakers for front left, center and right with two surround speakers and a subwoofer. The "Accurate Imaging System" in our A/V receivers provides equal high power to all three front speakers to provide the ultimate in surround sound. Extremely compact, our satellite speakers may be placed anywhere; non-directional in sound radiation, our subwoofer can conveniently be set under a couch or any other out-of-the-way location.

## Designs for quality surround sound

DSP, Dolby* Pro-Logic, Pro-Logic Theater, amps for surround as well as for front channels, and the Accurate Imaging System — with these and more built-in features, Pioneer receivers are more ready than ever to bring you the ultimate experience in entertainment: the home movie theater.

### DSP (Digital Signal Processor)

Versatile high-performance DSPs (Digital Signal Processors) are featured in our top receivers. The processing the DSP provides is varied and effective: it digitally controls the steering logic of Dolby Pro-Logic Surround for precise localization; simulates sound fields of halls (e.g. THEATER, DANCE, JAZZ, HALL and CHURCH) by creating reverberations and reflections; and digitally controls delay time for Dolby Pro-Logic. Since all the processing is performed in the digital domain, it does not degrade sound quality: phase and response aberrations, for instance, are impossible. In the VSX-D1SII and VSX-D90IS, moreover, the DSP is also responsible for digitally adjusting tone-control response and simulating stereo from mono soundtracks (Digital Simulated Stereo System).



### Dolby Pro-Logic Surround

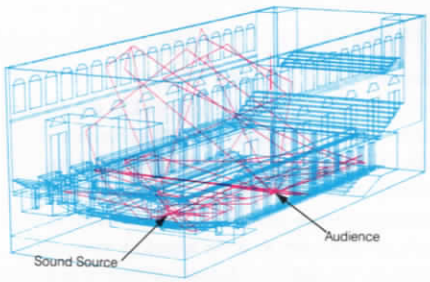
Ever wished for that theater sound at home when you view videos? Now you can have just that because many video tapes and discs transferred from films made since the mid-1970s contain Dolby Surround information in the soundtrack.

Dolby Pro-Logic Surround operates in the same way as the processors used by most first-run movie theaters, decoding encoded sound information contained in Dolby Surround video software and producing four distinct outputs (front left/right, rear and front center), to put you in the middle of the action. It features an adaptive matrix (steering logic) to reduce cross-talk and improve separation between adjacent channels to better than 25dB, thus making stable imaging possible. Moreover, steering logic enhances the sense of direction by emphasizing the dominant channel and suppressing other less dominant channels. The movie-theater sound it recreates in your room is simply stunning.

Three center channel output modes — NORMAL, WIDE and PHANTOM — are available for you to choose from, depending on the setup of the speakers. The Dolby 3-Channel Logic option allows you to enjoy superb soundstage without using rear speakers.

Glad news is that all it takes to enjoy this realistic movie-theatre sound is to turn to our A/V receivers with sophisticated Dolby Pro-Logic and five-channel amps to drive front and surround speakers; no additional amp is required.

**Computer-Simulated Concert Hall Ambience**




### Pro-Logic Theater

Pro-Logic Theater is a Pioneer-exclusive mode providing the surround sound that is first decoded by Dolby Pro-Logic and then modified by DSP sound field control. It gives you an enhanced sense of power and being there when you watch movie videos — the effect is engrossing.

### Dolby Time-Link digital delay

For receivers that feature Dolby Pro-Logic but lack a DSP (VSX-511S/VSX-501/VSX-451), we developed the Time-Link digital delay for rear (surround) channels. It's a circuit that combines expanded dynamic range and the improved signal-to-noise ratio in the low-frequency range.

### Accurate Imaging System

In Dolby Pro-Logic, the center channel provides as much information as do the left and right channels. Our Accurate Imaging System sees to it that the same high power (65 watts per channel, min., at 8 ohms, 1kHz, 0.8% THD) is available to each of three front channels (left, right and center). The advantages? For one, it makes the dialog more distinct and real. For another, the sense of left-right or front-back motion is greatly improved, making video viewing all the more exciting and involving.

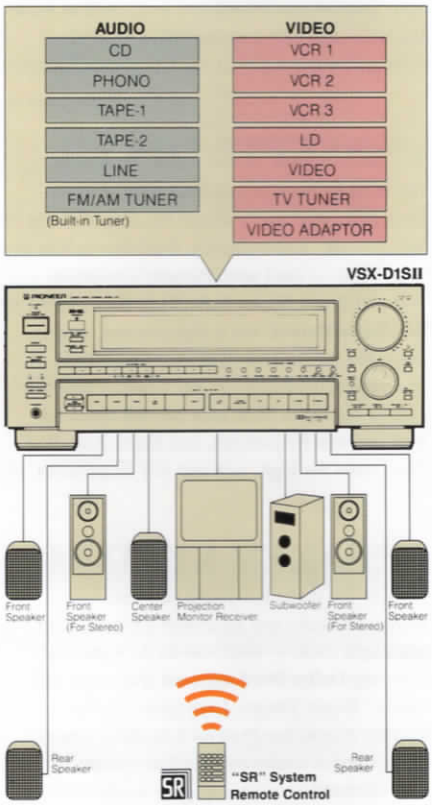
## Flexible remote-access conveniences

Pioneer SR (System Remote) is a basic convenience that allows you to have remote access to audio and video equipment made by Pioneer using a single remote control.

### Multi-Room/Multi-Source Remote Control System

All our VSX receivers are ready for Multi-Room Remote Control. Just team one of these receivers with our Multi-Room Remote Control Adaptor (MR-100, or MR-100 with MR-101), and you can turn it into a remote-control home entertainment center. With our SR or Smart Remote™ in hand, you can operate our SR audio and video components, or even those from other makers, wherever you are in and around your home. The "multi-source" facilities in the VSX-D1SII and VSX-D90IS even let you enjoy two different audio and video program sources in two rooms at the same time. You can, for instance, view a videotape in the bedroom, while another person enjoys a LaserDisc in the living room. In individual rooms, program sources may be selected and level adjusted independently.

**SR (System Remote) Control**



## Programmable A/V "Smart Remotes"

The "Smart Remotes™" that come with the VSX-S receivers (like the VSX-D1SII) dramatically improve ease of use. They not only come preprogrammed to control our SR (System Remote) audio and video components, they even have the ability to learn functions of most other infrared remotes. So our Smart Remote will be the only remote you should keep handy to control every component in your integrated A/V system. The remote for the VSX-D901S and VSX-D701S is further distinguished in three other ways. One, it comes pre-programmed with codes to control TVs and VCRs from ten major manufacturers. Two, with the press of its mode check button, main input keys are illuminated to indicate the chosen input. And three, you can assign multiple commands to a single key.

**Note: With infrared remote control units of other makes that use special signal types, programming functions may not be possible.*


Smart Remote (VSX-D901S)

## SR (System Remote) control

Our full-function SR (System Remote) control, featured in most of our receivers, lets you operate not only the unit it comes with, but other Pioneer audio components as well — and video equipment that features our SR logomark.

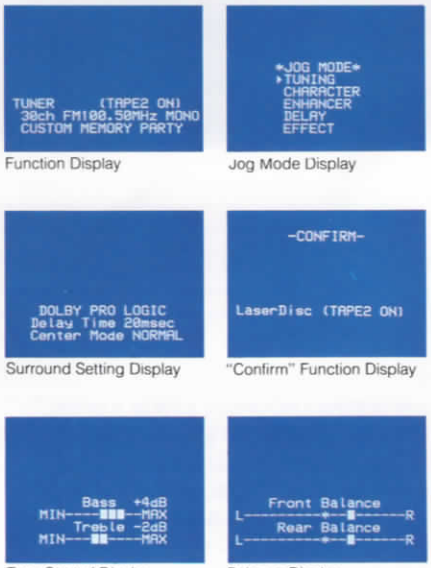
# Convenient features

While our receivers become more sophisticated and complex in function, we've made it sure that you can use them to the fullest with confidence. Ease of use and versatility are the basic features of any Pioneer receiver.

## On-screen display

On-screen display lets you control your receiver from a distance, with its operating status shown on the monitor or TV screen in text, numbers and graphics against blue background.

**On-Screen Display (VSX-D901S)**




Function Display | Jog Mode Display

Surround Setting Display | "Confirm" Function Display

Tone Control Display | Balance Display

## Multi-function jog dial

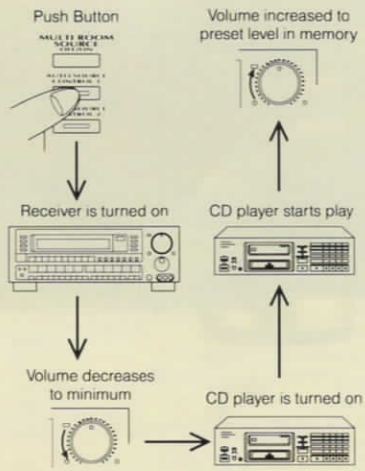
The jog dial greatly improves ease of use. At the twist of a knob, you can change delay time for surround, control the total sound field effect, tune a station by scanning the tuning band, and scan the "character table" to give names to preset stations. The jog also adjusts video enhancer level (VSX-D1SII and VSX-D901S) and the AM beat noise-reduction frequency (VSX-D1SII) too.


Jog Dial (VSX-D1SII)

## Auto Source Control

Auto Source Control lets you put in memory two operating statuses (input, level, etc.) of the receiver. At a touch, the receiver and SR equipment connected are readied for instant playback according to the status stored in the memory. So, all it takes to start CD playback at a favorite level, for example, is a touch of the Automatic Source Control button.

**Auto Source Control**




Commit the settings above to memory. Then, at the mere touch of the Auto Source Control button, you can instantly enjoy CD playback. (All equipment must be SR components to enjoy this convenience.)

## "Confirm" function

At the touch of the CONFIRM button on the remote, the fluorescent display shows chosen modes sequentially in the order of importance.

## Station ID display

As you preset a station, you can also assign it a four-character ID (using alphanumerics and some punctuation marks) and commit it to the memory. Use this convenience to give stations names like "JAZZ" and "NEWS," or identify stations with their call letters.

## "Custom Memory" tuning

"Custom Memory" tuning lets you divide preset stations into five groups (ROCK, POP, JAZZ, NEWS and PARTY) or three (POP, ROCK, OTHER) and conveniently scan stations within a given group.

**"Dolby," "Dolby Surround," "Pro-Logic" and "Time-Link Digital Delay" are trademarks of Dolby Laboratories Licensing Corporation.*

# VSX-D1SII Audio/Video Quartz-Synthesizer Receiver with Dolby Pro-Logic Surround and Digital Signal Processor

MULTI-ROOM REMOTE

NON SWITCHING AMP™

DOLBY SURROUND PRO · LOGIC ™



- **Two high-performance DSP (Digital Signal Processor) LSIs:**
  - **Dolby Pro-Logic Surround with digital processing:** Precise localization and high performance are ensured. Pro-Logic Surround by digital signal processing brings about amazing aural results. Auto input balance permits compensation for differences in level between left and right channels. Dolby 3-Channel Logic is also possible.
  - **Digitally simulated sound fields:** JAZZ, DANCE, CHURCH, HALL and THEATER.
  - **Digital tone controls:** BASS/MIDRANGE/TREBLE for front and center, BASS/TREBLE for rear. Five customized responses can be stored in the acoustic memory for instant recall.
  - **Digitally adjusted delay time:** Adjustable from 15ms to 30ms in 1ms steps.
  - **Digital Simulated Stereo System:** Enjoy stereo sound from videos with mono soundtracks.
  - **Jog dial:** Adjust the effects of simulated sound fields continuously for best results.
  - **2-mode (1/2) operation:** Mode 2 distributes high power equally to the front and center — a mode useful for clear center localization during playback in Dolby Pro-Logic Surround.
- **Mode 1:** Continuous average power output: 130W + 130W at 8 ohms, 20Hz—20,000Hz, with 0.005% THD (front); 55W at 8 ohms, 1kHz, with 0.08% THD (center); 50W + 50W at 8 ohms, 1kHz, with 0.08% THD (rear).
- **Mode 2:** 70W + 70W at 8 ohms, 20Hz—20,000Hz, with 0.005% THD (front); 70W at 8 ohms, 20Hz—20,000Hz, with 0.005% THD (center); 55W + 55W at 8 ohms, 1kHz, with 0.08% THD (rear).
- **Ready for Multi-Room/Multi-Source Remote Control System with optional MR-100 adaptor:** The VSX-D1S permits simultaneous enjoyment of two different program sources — LaserDisc in the living room and VCR in the bedroom, for instance. It's possible to select program sources and adjust level in individual rooms.
- **Center woofer output:** With a built-in 18dB/oct. LPF (Low-Pass Filter), connects a self-powered subwoofer.
- **2 center speaker outputs:** For clear localization and enhanced directional sense of dialog and vocals; also to prevent void between left and right speakers in modes other than Dolby Pro-Logic Surround.
- **Full-mode recording selector.**
- **SOURCE DIRECT switch.**
- **Sound field memory.**
- **Programmable A/V Smart Remote™.**
- **6 video inputs:** VCR-1/2/3, VDP, TV, VIDEO.
- **Video adaptor loop.**
- **5 audio inputs:** CD, PHONO, TAPE-1/DAT, TAPE-2, LINE.
- **Video signal selector.**
- **Split-screen video enhancer, with five preset levels in memory.**
- **S-video terminals.**
- **Random preset of 30 FM/AM stations.**
- **HITS (Hyper Intelligent Tuning System) with IDs for 30 stations.**
- **"Custom Memory" tuning:** Divide radio stations into five groups (ROCK, POP, JAZZ, NEWS and PARTY) and scan stations within a group you choose.
- **AM beat reduction:** For clear AM sound.
- **Exclusive Non-Switching Circuit Type II (front and center).**
- **Anti-resonance designs:** Honeycomb chassis and large insulators.
- **Low-noise, remote-controlled motor-driven volume control.**
- **RETURN key.**
- **120/90/60/30-minute sleep timer.**
- **Auto Dimmer**
- **Preamp-output/power-amp-input terminals for front, rear and center.**
- **A/V inputs for VCR-3 on front.**
- **Large fluorescent display with 5-channel level meters.**
- **Hinged panel.**
- **Complementary capacitor pair:** For improved sound quality, especially in transient response.

## VSX-D901S Audio/Video Quartz-Synthesizer Receiver with Dolby Pro-Logic Surround and Digital Signal Processor

MULTI-ROOM REMOTE

NON SWITCHING AMP™

DOLBY SURROUND™ PRO · LOGIC

SR


- High-performance DSP (Digital Signal Processor) LSI:
  - Dolby Pro-Logic Surround with digital processing.
  - Digitally simulated sound fields: JAZZ, DANCE, CHURCH, HALL and THEATER.
  - Digital tone controls: BASS/TREBLE for front, with five customized responses in the acoustic memory.
  - Digitally adjusted delay time: Adjustable from 15ms to 30ms in 1ms steps.
  - Digital Simulated Stereo System.
  - Jog dial.
  - Once set, parameters for surround sound (tone balance, front/rear balance, center/rear level, center mode, effect level, and delay time) are stored in memory for one-touch recall.
- Continuous average power output: 125W + 125W at 8 ohms, 20Hz—20,000Hz, with 0.005% THD (front); 55W at 8 ohms, 1kHz, with 0.05% THD (center); 45W + 45W at 8 ohms, 1kHz, with 0.05% THD (rear).
- Ready for Multi-Room/Multi-Source Remote Control System with optional MR-100 adaptor.
- "Confirm" function.
- Auto Source Control.
- Subwoofer output.
- Programmable A/V Smart Remote™ with self-illuminated keys.
- 6 video inputs: VCR-1/2/3, LD, TV, VIDEO.
- 5 audio inputs: CD, PHONO, TAPE-1/DAT, TAPE-2/MONITOR, LINE.
- Video signal selector.
- On-screen display.
- Split-screen video enhancer, with five preset levels in memory.
- S-video terminals.
- Random preset of 30 FM/AM stations.
- HITS (Hyper Intelligent Tuning System) with IDs for 30 stations.
- "Custom Memory" tuning.
- "Direct access" tuning.
- Non-Switching Circuit Type II (front).
- Anti-resonance designs: Honeycomb chassis and large insulators.
- Low-noise, remote-controlled motor-driven volume control.
- RETURN key.
- 120/90/60/30-minute sleep timer.
- Auto Dimmer.
- Preamp-output/power-amp-input terminals for front, rear and center.
- A/V inputs for VCR-3 on front.
- Complementary capacitor pair.
- 5 speaker outputs: A, B SUBROOM, REAR, CENTER.

## MR-100/MR-101/CU-MR100

Multi-Room Remote Control Adaptors

MULTI-ROOM REMOTE

Now, with a single hand-held remote control — our SR (System Remote) control or Smart Remote™ — you can operate Pioneer SR audio and video components, or even those from other manufacturers (with the Smart Remote only), wherever you are in or around your home — in the bedroom, kitchen, or den. Simply add the MR-100 (or MR-100 and MR-101) to your audio/video home entertainment system and an extra pair of speakers. You can access your system from two locations by placing your main remote control in a "main" room and the CU-MR100 remote control in a "remote" room.

The MR-100 is a kit consisting of an infrared beam sensor, a 20m connection cable and an AC adaptor, and is designed to make Pioneer SR audio and video components receptive to commands from an SR remote. The MR-101 emitter is also required if your system includes A/V components from other manufacturers that come with an infrared remote sensor.

SR

**MR-101**
Multi-Room Remote Emitter

SR

**MR-100**
Multi-Room Remote Sensor Unit

**CU-MR100**
24-Key SR (System Remote) Control Unit

## CU-AV200/CU-AV70

Smart Remotes™

SR

Our Smart Remotes™ are what their name implies — smart. They do more than operate audio and video components with Pioneer SR (System Remote) logo: you can program functions as you like. They have the capacity to learn functions from other remote controls for most audio or video components so long as they are of the infrared type.

The CU-AV200 is highly capable. It has 61 keys for 427 functions (max.) — all programmable — as well as a convenient LCD display. (Programmable functions total 40 with the CU-AV70.)

**CU-AV200**

**CU-AV70**

## VSX-D701S Audio/Video Quartz-Synthesizer Receiver with Dolby Pro-Logic Surround and Digital Signal Processor

MULTI-ROOM REMOTE

DOLBY SURROUND PRO · LOGIC

- **High-performance DSP (Digital Signal Processor) LSI:** Dolby Pro-Logic Surround with digital processing; Digitally simulated sound fields (PRO-LOGIC THEATER, JAZZ, DANCE, CHURCH, HALL, THEATER and SIMULATED SURROUND); Digitally adjusted delay time (16ms to 30ms in 2ms steps). Once set, parameters for surround sound are stored in memory for one-touch recall.
- **Stereo:** Continuous average power output: 110W + 110W at 8 ohms, 20Hz—20,000Hz, with 0.05% THD.
- **Surround:** Continuous average power output: 65W + 65W (8 ohms, 1kHz, 0.8% THD) (front); 65W (8 ohms, 1kHz, 0.8% THD) (center); 40W + 40W (8 ohms, 1kHz, 0.8% THD) (rear).
- Ready for Multi-Room Remote Control System with optional MR-100 adaptor.
- Accurate Imaging System.
- Auto Source Control.
- Acoustic memory.
- Simulated stereo.
- Programmable A/V Smart Remote™ with self-illuminated keys.
- **5 video inputs:** VCR-1/2, LD, TV, VIDEO.
- **4 audio inputs:** CD, PHONO, TAPE-1/DAT, TAPE-2/MONITOR.
- Video signal selector.
- On-screen display.
- Random preset of 30 FM/AM stations.
- HITS (Hyper Intelligent Tuning System).
- "Custom Memory" tuning.
- "Direct access" tuning.
- **Anti-resonance design:** Large insulators.
- Low-noise, remote-controlled motor-driven volume control.
- RETURN key.
- 90/60/30-minute sleep timer and Auto Dimmer.
- Preamp-output terminals for front, rear and center.
- A/V inputs for VIDEO on front.
- Speaker A/B selector.

## VSX-D601 Audio/Video Quartz-Synthesizer Receiver with Dolby Pro-Logic Surround and Digital Signal Processor

MULTI-ROOM REMOTE

DOLBY SURROUND PRO · LOGIC

- **High-performance DSP (Digital Signal Processor) LSI:** Dolby Pro-Logic Surround with digital processing; Digitally simulated sound fields (PRO-LOGIC THEATER, DANCE, HALL, THEATER and SIMULATED SURROUND); Digitally adjusted delay time (16ms to 30ms in 2ms steps). Once set, parameters for surround sound are stored in memory for one-touch recall.
- **Stereo:** Continuous average power output: 110W + 110W at 8 ohms, 20Hz—20,000Hz, with 0.05% THD.
- **Surround:** Continuous average power output: 65W + 65W (8 ohms, 1kHz, 0.8% THD) (front); 65W (8 ohms, 1kHz, 0.8% THD) (center); 40W + 40W (8 ohms, 1kHz, 0.8% THD) (rear).
- Ready for Multi-Room Remote Control System with optional MR-100 adaptor.
- Accurate Imaging System.
- Auto Source Control.
- Acoustic memory.
- Simulated stereo.
- Programmable A/V Smart Remote™ with self-illuminated keys.
- **4 video inputs:** VCR-1/2, LD, TV.
- **4 audio inputs:** CD, PHONO, TAPE-1/DAT, TAPE-2/MONITOR.
- Video signal selector.
- Random preset of 30 FM/AM stations.
- HITS (Hyper Intelligent Tuning System).
- "Custom Memory" tuning.
- "Direct access" tuning.
- **Anti-resonance design:** Large insulators.
- Low-noise, remote-controlled motor-driven volume control.
- RETURN key.
- 90/60/30-minute sleep timer and Auto Dimmer.
- Preamp-output terminals for front, rear and center.
- Speaker A/B selector.

## VSX-511S Audio/Video Quartz-Synthesizer Receiver with Dolby Pro-Logic Surround

MULTI-ROOM REMOTE

DOLBY SURROUND PRO · LOGIC

SR


- Dolby Pro-Logic Surround with Dolby Time-Link digital delay (adjustable in 2ms steps from 16 to 30ms).
- Stereo: Continuous average power output: 100W + 100W at 8 ohms, 20Hz—20,000Hz, with 0.05% THD.
- Surround: Continuous average power output: 65W + 65W (8 ohms, 1kHz, 0.8% THD) (front); 65W (8 ohms, 1kHz, 0.8% THD) (center); 20W + 20W (8 ohms, 1kHz, 0.8% THD) (rear).
- Ready for Multi-Room Remote Control System with optional MR-100 adaptor.
- Accurate Imaging System: To fully enjoy Pro-Logic surround and smoother sense of motion.
- Studio and Simulated Surround.
- Auto Source Control.
- Acoustic memory: Offers five customized bass/treble responses.
- Simulated stereo.
- Programmable Smart Remote™
- 4 video inputs: VCR-1/2, LD, TV.
- 4 audio inputs: CD, PHONO, TAPE-1/DAT, TAPE-2/MONITOR.
- Video signal selector.
- Random preset of 30 FM/AM stations.
- HITS (Hyper Intelligent Tuning System).
- "Custom Memory" tuning.
- "Direct access" tuning.
- Anti-resonance design: Large insulators.
- Low-noise, remote-controlled motor-driven volume control.
- RETURN key.
- 90/60/30-minute sleep timer and Auto Dimmer.
- Speaker A/B selector.

## VSX-451 Audio/Video Quartz-Synthesizer Receiver with Dolby Pro-Logic Surround

MULTI-ROOM REMOTE

DOLBY SURROUND PRO · LOGIC

SR


- Dolby Pro-Logic Surround with Dolby Time-Link digital delay (adjustable in 2ms steps from 16 to 30ms).
- Continuous average power output: 80W + 80W at 8 ohms, 20Hz—20,000Hz, with 0.5% THD (front); 25W at 8 ohms, 1kHz (center); 20W + 20W at 8 ohms, 1kHz (rear).
- Ready for Multi-Room Remote Control System with optional MR-100 adaptor.
- Simulated Surround and Studio Surround.
- Acoustic memory: Offers five customized bass/treble responses.
- Simulated stereo.
- Full-function A/V SR (System Remote) control.
- 3 video inputs: VCR-1/2, LD.
- Monitor output.
- 4 audio inputs: CD, PHONO, TAPE-1/DAT, TAPE-2/MONITOR.
- Video signal selector.
- Random preset for 30 FM/AM radio stations.
- HITS (Hyper Intelligent Tuning System).
- "Custom Memory" tuning.
- Memory scan/auto tuning
- "Direct access" tuning.
- Anti-resonance design: Large insulators.
- Low-noise, remote-controlled motor-driven volume control.
- RETURN key.
- 90/60/30-minute sleep timer and Auto Dimmer.
- Speaker A, B selector.

## VSX-411S/VSX-401 Audio/Video Quartz-Synthesizer Receiver with Dolby Surround

MULTI-ROOM REMOTE

DOLBY SURROUND™

SR

- Dolby Surround with digital delay (15/20/25/30ms switchable).
- Continuous average power output: 100W + 100W at 8 ohms, 20Hz—20,000Hz, with 0.05% THD (front); 20W + 20W at 8 ohms, 1kHz (rear).
- Ready for Multi-Room Remote Control System with optional MR-100 adaptor.
- Studio and simulated surround.
- Simulated stereo.
- Programmable Smart Remote™ (VSX-411S).
- Full-function A/V SR (System Remote) control (VSX-401).
- 2 video inputs: VCR/TAPE-1, VDP/CDV.
- 3 audio inputs: CD, PHONO, TAPE-2/MONITOR.
- Video signal selector.
- Random preset for 30 FM/AM stations.
- HITS (Hyper Intelligent Tuning System).
- "Custom Memory" tuning.
- Memory scan/auto tuning.
- "Direct access" tuning.
- Large insulators.
- Low-noise, remote-controlled motor-driven volume control.
- 7-band graphic equalizer with LEDs.
- RETURN key.
- 60/30-minute sleep timer and Auto Dimmer.
- Speaker A, B selector.

## SX-311R SR Quartz-Synthesizer Receiver

- Continuous average power: 70W + 70W 8 ohms, 20Hz—20,000Hz, with 0.8% THD.
- Full-function SR (System Remote) control (SX-311R).
- 5 audio inputs: CD, PHONO, TAPE-1/DAT, TAPE-2/MONITOR, VCR/LD.
- Random preset for 30 FM/AM stations.
- "Custom Memory" tuning.
- Memory scan/auto tuning.
- "Direct access" tuning.
- Large insulators (SX-311R).
- Low-noise, remote-controlled motor-driven volume control (SX-311R).
- 5-band graphic equalizer.
- HITS (Hyper Intelligent Tuning System).
- RETURN key.
- 60/30-minute sleep timer (accessible from remote only). (SX-311R)
- Large fluorescent display.
- Speaker A/B selector.

## SX-251R SR /SX-201 Quartz-Synthesizer Receiver

- Continuous average power output: 50W + 50W at 8 ohms, 40Hz—20,000Hz, with 0.8% THD.
- 5 audio inputs: CD, PHONO, TAPE-1/DAT, TAPE-2/MONITOR, VCR/LD.
- Full-function SR (System Remote) control (SX-251R).
- Random preset for 30 FM/AM stations.
- "Direct access" tuning.
- Memory scan/auto tuning.
- "Custom Memory" tuning.
- Low-noise, remote-controlled motor-driven volume control (SX-251R).
- 5-band graphic equalizer.
- HITS (Hyper Intelligent Tuning System).
- RETURN key.
- 60/30-minute sleep timer (accessible from remote only). (SX-251R)
- Large fluorescent display.
- Speaker A,B selector.

## VSA-7500 A/V Surround Amplifier with Dolby Pro-Logic and Sound Field Processor

DOLBY SURROUND™ PRO · LOGIC

SR


- **DSP (Digital Signal Processor):** For digitally synthesized sound fields including SIMULATED SURROUND, DISCO, CHURCH, HALL, JAZZ and THEATER.
- **Dolby Pro-Logic Surround with digital processing (16ms to 30ms in 2ms steps):** Dolby 3-Channel Logic is also available.
- **Built-in A/D and D/A converters.**
- **Stereo:** Continuous average power output: 75W + 75W at 8 ohms, 20Hz—20,000Hz, with 0.008% THD.
- **Surround:** 70W + 70W at 8 ohms, 1kHz, with 0.3% THD (front and center); 23W at 8 ohms, 1kHz, with 5% THD (rear).
- **Five built-in amps, with discrete configuration for front and center.**
- **Direct Connection.**
- **Subwoofer output:** Connects a self-powered subwoofer.
- **2 center speaker outputs.**
- **On-screen display.**
- **Video recording selector (VCR-1).**
- **ALL SOURCE DIRECT switch.**
- **Programmable A/V Smart Remote™.**
- **6 video inputs and 6 audio inputs.**
- **Bass synthesizer (variable).**
- **Video signal selector.**
- **S-video terminals.**
- **Honeycomb frame and honeycomb heat sink.**
- **Preamp-output terminals for front, rear and center.**
- **A/V inputs for VIDEO on front.**
- **Outsize speaker terminals.**
- **Last-function memory backup.**

## A-401 Integrated Amplifier


- **Continuous average power output:** 60W + 60W at 8 ohms, 20Hz—20,000Hz, with 0.009% THD (80W + 80W at 4 ohms with 0.02% THD).
- **Pioneer Super Linear Circuit:** By cancelling non-linearity of one device with the complementary non-linearity of another, low distortion, higher stability, and flat response are achieved. Its excellent "open-loop" response leads to better overall reproduction.
- **Direct Connection II:** Input signal goes through the technically shortest path to retain purity and integrity.
- **Clean Ground System:** Ensures clean and pure sound by electrically insulating the power transformer from the chassis ground.
- **Channel separation enhancer circuit:** Reduces crosstalk for wide channel separation.
- **6 inputs:** PHONO, CD, TUNER, LINE, DAT/TAPE-1, TAPE-2.
- **Anti-resonance and vibration designs:** Honeycomb chassis, honeycomb heat sink, and large insulators, to damp resonance and ensure clear reproduction.
- **Complementary capacitor pair:** For better transient response.
- **"DIRECT" switch:** For bypassing the tone and loudness circuits — highest purity results.
- **Low-impedance driving capability:** To capably drive speakers with low impedance for better digital sound.
- **Record selector:** Record CD and TUNER, or dub between TAPE-1 and TAPE-2, independent of what you hear.
- **Connections for two pairs of speaker systems.**

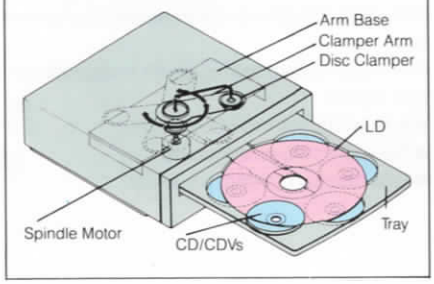
## Combination multi-CD/LD player technologies

A combination multi-CD/LD player is the most convenient format of all. It loads up to five discs and one LD at the same time, and lets you play the LD without disturbing the CDs.

### Versatile play with 5 CDs and one LD

Pioneer has come up with another novel ideal to further improve convenience — combination multi-CD/LD players. They each accept a single LD and five CDs (or CDV discs) at the same time; it's even possible to enjoy the LD without removing CDs or CDVs! Inside are a tray that loads both CDs and LDs and a precision disc clamping system to move the CDs and CDVs in sequence to the play position.

**Pioneer Multi-Play Mechanism — 5 CDs and 1 LD**




### "Talk-back" input

The "talk-back" input feature makes programming simpler. When you program tracks from CDs/CDVs or chapters from LDs, the display prompts you to input the necessary "data" through commands shown on display.


### Front Surround mode

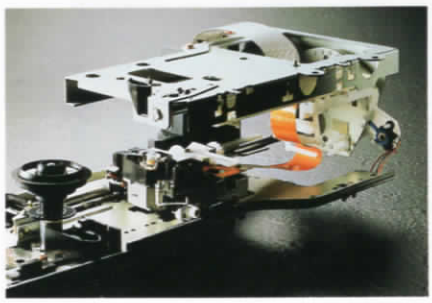
The front surround mode lets you enjoy widespread surround sound without the need of an additional amplifier or speakers for surround. You'll get wrap-around sound from audio system or even from your TV's stereo speakers.


## CD/CDV/LD player technologies

If you are a video buff, the CD/CDV/LD player with the Alpha-Turn Mechanism is for you. It lets you view both sides of an LD without flipping the disc. That's up to two solid hours of visual entertainment.

### High-speed Alpha-Turn Mechanism for two-sided LD play

Pioneer's high-speed "Alpha-Turn" Mechanism, featured in the CLD-D701 and CLD-D501, allows you to enjoy both sides of an LD — for up to two hours of video from a 30cm CLV disc — without getting up to flip the disc. It uses a single pickup carriage assembly that rotates from one side of the disc to the other to play both sides continuously and automatically. With the CLD-D701, during the transition from Side A to Side B, the last picture frame on Side A, stored in the digital memory, remains frozen on-screen until the first frame on Side B is played back. This ensures smooth transitions from side to side.



### Three-line digital comb filter

By clearly separating signals into luminance (Y) and chrominance (C), the 3-line digital comb filter practically eliminates annoying dot crawl and color bleeding where two colors meet. For highest picture quality, an S-video output produces Y and C signals separately.

### Eight-bit digital field memory

An 8-bit digital field memory provides a variety of memory play and effects, as adjusted by the jog and shuttle. These include: Still with Sound, Strobe Motion, and high-speed, noise-free picture scanning of even CLV LDs.

## Extra Pioneer technologies and conveniences

In whatever format, our compatible disc players are easy to use. You can load discs and play them with incomparable ease of use.

### Separate CD tray

A Pioneer exclusive! When you play CDs with the CLD-S201, not only is the power to video circuitry switched off to avoid interference, CDs will have a separate tray all to their own. Push the "DIRECT CD" button, and the small-sized CD tray extends; when you want to play LaserDiscs, the large LD-sized tray extends. It's like having two players in one!

2-Way Disc Tray Opening: Full-Size Tray for LDs and Small-Sized Tray for CD

### Direct CD

Featured in the CLD-D701 and CLD-D501, the "DIRECT CD" button, when turned on, causes the disc tray to come out of partway, not fully, so you can load discs and enjoy music more quickly. In addition, while the switch is turned on, the power to video circuitry is turned off to prevent possible interference of video signals with audio.

### Intro Scan (LD) and Hi-Lite Scan (CD/CDV)

During LD playback, Intro Scan helps you find a desired chapter by scanning the first 8 seconds of each chapter in sequence. With CDs and CDVs, Hi-Lite Scan lets you find desired tracks by sampling a section most recognizable of each track — one minute into the music — for eight seconds in sequence.

# CLD-M401 Combination Multi-CD/Laser Disc Player


- **Multi-play CD mechanism for playback of 5 CDs and CDVs.**
- **LD playback without removing CDs.**
- **3-optical-disc compatibility:** LD, CDV and CD.
- **High-quality video:** Horizontal resolution of 425 lines and video signal-to-noise ratio of 49dB.
- **Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.**
- **High-quality digital sound:** 4—20,000Hz frequency response, 112dB signal-to-noise ratio, 98dB dynamic range and 0.0025% distortion.
- **S-video output:** For crisper pictures and truer colors with two-line comb filter.
- **Front surround mode.**
- **"Talk-back" input:** During programming of CD tracks or LD chapters, display prompts you to input necessary "data."
- **Shuttle play:** For precise picture speed.
- **Last memory.**
- **ADLC (Automatic Digital Level Controller):** For uniform sound level from every Compact Disc.
- **Program play:** 24-chapter programming on LD, 24-track programming on CD and CDV.
- **Compu-PGM Edit and Auto program editing:** For simplified CD-to-tape or LD-to-tape transcription, with unused tape space kept to a minimum.
- **CD-Deck Synchro:** For easy CD-to-tape or LD-to-tape (audio only) editing in combination with Pioneer cassette decks featuring the matching convenience.
- **Intro Scan for chapters on LD and CDV (video portion); Hi-Lite Scan for tracks on CD and CDV (audio portion).**
- **5-CD Hi-Lite Scan:** Scan "highlights" of the first track in each disc.
- **Dual-Mode Scan:** CLV Clear Scan with audible sound, and Color-Lock Scan at high or low speed without sound. Full color is retained during scanning.
- **Multispeed play (forward and reverse in 9 steps) on CAV LDs.**
- **Random play:** Tracks from 5 CDs and CDVs, chapters from LDs with TOC (Table of Contents).
- **5-mode repeat:** Chapter/track, one-side, all discs, program, and random repeat.
- **10-key direct search and play of tracks (CD/CDV) and chapters (LD).**
- **Frame number search (CAV LD) and time number search (CLV LD).**
- **Track and time search (CD/CDV).**
- **Optical digital output.**
- **2 audio/video outputs for connection with an A/V component and TV monitor.**
- **RF adaptor output.**
- **"Contents Calendars" for CD, CDV, and LD.**
- **On-screen display — 24 characters by 10 lines.**
- **On-screen level meter display (CD/CDV).**
- **Disc select keys (1—5) for CD/CDV multiplay.**
- **Remote control with shuttle, power on/off, numeric keypad and "+10" key.**
- **Pioneer SR (System Remote) ready.**
- **Demo mode.**

## CLD-M301 Combination Multi-CD/Laser Disc Player

- Multi-play CD mechanism for playback of 5 CDs and CDVs.
- LD playback without removing CDs.
- 3-optical-disc compatibility: LD, CDV and CD.
- High-quality video: Horizontal resolution of 425 lines and video signal-to-noise ratio of 48dB.
- Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.
- High-quality digital sound: 4—20,000Hz frequency response, 102dB signal-to-noise ratio, 96dB dynamic range and 0.003% distortion.
- Front surround mode.
- "Talk-back" input.
- ADLC (Automatic Digital Level Controller).
- Program play: 24-chapter programming on LD, 24-track programming on CD and CDV.
- Compu-PGM Edit and Auto program editing.
- CD-Deck Synchro.
- Intro Scan for chapters on LD and CDV (video portion); Hi-Lite Scan for tracks on CD and CDV (audio portion).
- 5-CD Hi-Lite Scan: Scan "highlights" of the first track in each disc.
- Dual-Mode Scan: CLV Clear Scan with audible sound, and Color-Lock Scan at high or low speed without sound. Full color is retained during scanning.
- Random play.
- Still/step play on CAV discs.
- 5-mode repeat: Chapter/track, one-side, all discs, and random repeat.
- 10-key direct search and play of tracks (CD/CDV) and chapters (LD).
- Frame number search (CAV LD) and time number search (CLV LD).
- Track and time search (CD/CDV).
- Audio/video output for connection with an A/V component or TV monitor.
- RF adaptor output.
- On-screen display — 24 characters by 10 lines.
- On-screen level meter display (CD/CDV).
- Remote control with power on/off.
- Pioneer SR (System Remote) ready.
- Demo mode.

## CLD-S201 CD/CDV/LD Player

- Separate CD tray.
- 3-optical-disc compatibility: LD, CDV and CD.
- High-quality video: Horizontal resolution of 425 lines and video signal-to-noise ratio of 48dB.
- Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.
- High-quality digital sound: 4—20,000Hz frequency response, 102dB signal-to-noise ratio, 96dB dynamic range and 0.003% distortion.
- Dual-Mode Scan.
- Shuttle play.
- Program play.
- Compu-PGM Edit and Auto program editing.
- CD-Deck Synchro.
- Digital level control.
- Intro Scan (LD) and Hi-Lite Scan (CD/CDV).
- Last memory.
- Multispeed play (CAV LD).
- Random play.
- 7-mode repeat.
- Audio/video output.
- RF adaptor output.
- Numeric keypad with "+10" key.
- "Contents Calendar."
- On-screen display — 24 characters by 10 lines.
- On-screen level meter display (CD and CDV).
- Remote control with power on/off switch.
- Pioneer SR (System Remote) ready.

## CLD-D701 CD/CDV/LD Player

- High-speed Alpha-Turn Mechanism.
- 3-optical-disc compatibility: LD, CDV and CD.
- High-quality video: Horizontal resolution of 425 lines and video signal-to-noise ratio of 50dB.
- High-quality digital sound, with twin 1-bit D/A converters.
- Film mode.
- Separate audio and video circuitry.
- 2 S-video outputs with 3-line digital comb filter.
- Digital TBC (Time Base Corrector).
- 8-bit digital field memory.
- Jog & shuttle play.
- Program play of 24 chapters on both sides of an LD and 24 tracks on CD or CDV.
- Compu-PGM Edit and Auto program editing.
- CD-Deck Synchro.
- Direct CD.
- Soft picture.
- Optical digital output.
- Digital level control.
- Intro Scan (LD) and Hi-Lite Scan (CD/CDV).
- Last memory.
- Multispeed play (CAV/CLV LD).
- Still/step play on CAV or CLV discs.
- Random play.
- 8-mode repeat.
- 10-key direct search and play of tracks (CD/CDV) and chapters (LD).
- Frame number search with CAV LDs and time number search with CLV LDs.
- 2 audio/video outputs.
- "Single play" setting.
- Two "Contents Calendars."
- On-screen display — 24 characters by 10 lines.
- On-screen level meter display (CD and CDV).
- Remote control with jog/shuttle, power on/off switch self-illuminated key.
- Display off switch.
- Pioneer SR (System Remote) ready.

## CLD-D501 CD/CDV/LD Player

- High-speed Alpha-Turn Mechanism.
- 3-optical-disc compatibility: LD, CDV and CD.
- High-quality video: Horizontal resolution of 425 lines and video signal-to-noise ratio of 49dB.
- High-quality digital sound, with twin 1-bit D/A converters.
- Film mode.
- Separate audio and video circuitry.
- S-video output with 3-line digital comb filter.
- Dual-Mode Scan.
- Shuttle play.
- Program play of 24 chapters on both sides of LD and 24 tracks on CD or CDV.
- Compu-PGM Edit and Auto program editing.
- CD-Deck Synchro.
- Direct CD.
- Soft picture.
- Optical digital output.
- Digital level control.
- Intro Scan (LD) and Hi-Lite Scan (CD/CDV).
- Last memory.
- Multispeed play (CAV LD).
- Still/step play on CAV
- Random play.
- 8-mode repeat.
- 10-key direct search and play of tracks (CD/CDV) and chapters (LD).
- Frame number search with CAV LDs and time number search with CLV LDs.
- 2 audio/video outputs.
- "Single play" setting.
- Two "Contents Calendars."
- On-screen display — 24 characters by 10 lines.
- On-screen level meter display (CD and CDV).
- Remote control with shuttle and power on/off switch.
- Display off switch.
- Pioneer SR (System Remote) ready.

## For the best digital sound

Transparency and clarity must be jealously protected for the full enjoyment of digital sound. So for our CD players, we developed three remarkable technologies — two electronic and one mechanical — to make it possible.

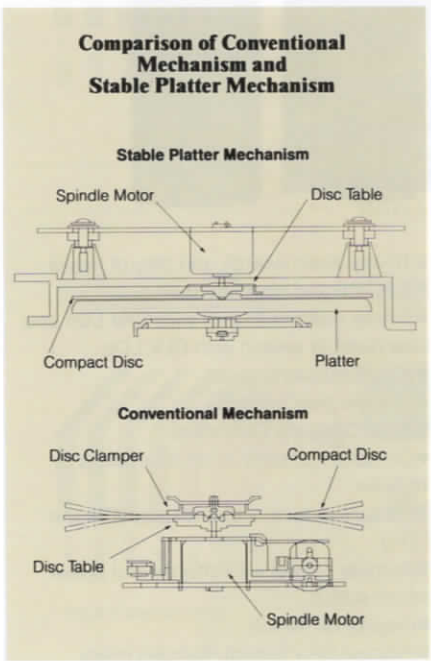
### Legato Link Conversion

Compact Discs contain signals representing frequencies up to 20kHz; frequency signals above this are removed in the digitizing process. As a matter of fact, the digital filter used in D/A conversion systems of conventional CD players is designed to produce an output with flat frequency response up to 20kHz, with frequencies above that cut sharply. But music actually contains frequencies above 20kHz.

Enter the Legato Link Conversion, another Pioneer digital innovation. It features a unique processing method for smoothly extending the frequency response to beyond 20kHz as the digital signal is converted to analog. This has resulted in a transfer waveform that contains no unwanted "ringing," with a shape closer to that of the original music. Enjoy the subtle nuances made possible by the added high frequencies — frequencies that bring out the feel of the original music.

### Stable platter mechanism

With our innovative stable platter mechanism, a disc is set on a platter, with the "music side" facing upward, read by a pickup and rotated by a spindle motor mounted above it. By the moment of inertia added by the platter, the resonance and vibration of the disc are suppressed, and the disc is driven by a more constant torque. The result is a more substantial bass and a higher sense of transparency.





Stable Platter Mechanism (PD-S501)

### Pioneer's new 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter

Conventional D/A converters are "multi-bit" types, with which zero-crossing distortion and glitches inevitably occur during the D/A conversion process. A new alternative, a format gaining growing popularity, is the "1-bit" D/A converter, but they are not without faults, such as jitter due to high clock frequency and the effect of noise shaping. Pioneer successfully developed an exclusive 1-bit D/A converter that takes advantage of single-bit conversion and yet is devoid of its disadvantages — the High-Speed & High-Density Pulseflow D/A Converter based on our 1-bit DLC (Direct Linear Conversion) concept.

**High sampling frequency and low-order noise shaping:** Noise shaping is a technique to change the frequency distribution of re-quantization noise that occurs in the process of compressing bits in digital data, and to reduce noise distributed in the audible range. True, the higher the order of noise shaping, the less noise in the audible range, nevertheless the noise still affects the sound quality. Therefore, our true 1-bit D/A converter operates at the optimal 384-times oversampling frequency to lower the "noise floor" that would be raised by re-quantization, in combination with low 2nd-order noise shaping. All this keeps the noise beyond the audible range from degrading audible sound or altering audio characteristics.

**Lower master clock frequency:** While our D/A converter uses a high-speed 384-times oversampling frequency, it runs at a relatively low clock frequency of 16.9344MHz. This minimizes the effect of jitter on sound quality and ensures better, clearer sound.

**High-density true 1-bit operation:** With our D/A converter, output has a 100% duty cycle — twice the normal. This practically doubles the output level, improving the signal-to-noise ratio and lowering distortion for improved sound quality.

## 6-pak Multi-play CD playback conveniences

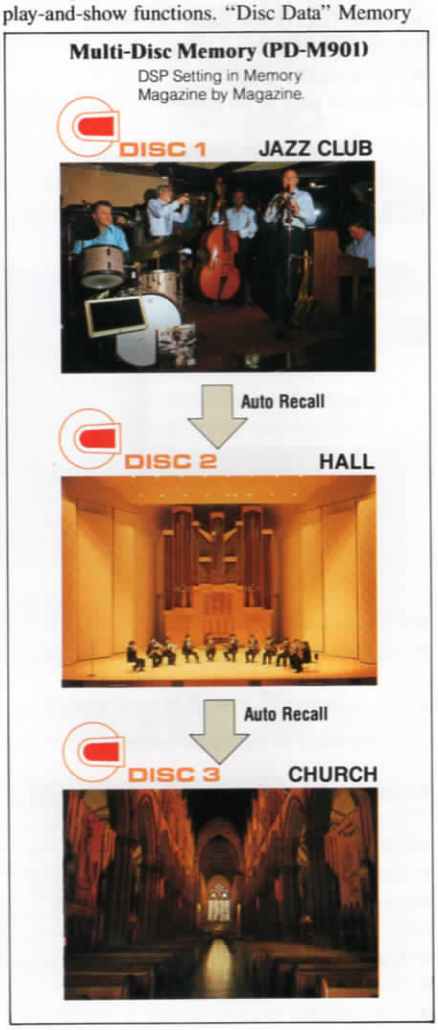
The Pioneer 6-pak magazine is the most convenient way to play and catalog CDs in your disc library.

### DSP (Digital Signal Processor)

Rare for a CD player, the PD-M901 is equipped with a DSP (Digital Signal Processor) for sound field control. Positions for FLAT, JAZZ CLUB, CHURCH, DANCE, HALL and STADIUM are provided. This means when playing back a CD, you can enjoy it in the sound field (ambience) of your choice. Conveniently, the sound field you choose for each magazine or each disc is automatically stored in the multi memory and recalled on playback. Moreover, you can program a desired sound field disc by disc during Magazine Hi-Lite Scan.

### Multi memory

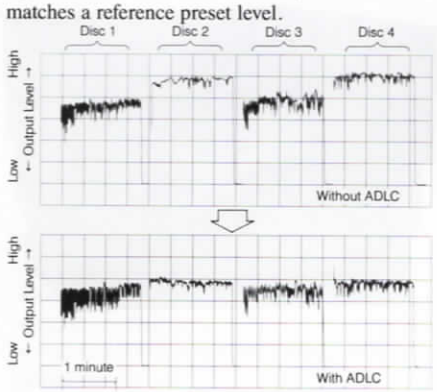
The "multi memory" in the PD-M901, PD-M801 and PD-M750 offers three convenient program-play-and-show functions. "Disc Data" Memory



keeps in memory information for the six discs (number of tracks, total time, etc.) in each of up to 20 magazines (120 discs in all). "Multi Program/Delete" Memory keeps in memory 40 programmed or 32 deleted steps (discs and tracks) for each of 20 magazines — 800 programmed steps in all. With "Music Type" Memory, you can classify each of 20 magazines according to type (ROCK 1-9, CLASSIC 1-9, etc.). And the PD-M901 offers a fourth function: its multi memory also remembers the DSP (sound field) setting, magazine by magazine or disc by disc.

### ADLC (Automatic Digital Level Controller)

The ADLC automatically equalizes the differences in output level from discs in a magazine for a uniform preset value. Therefore, all discs are heard at the same loudness, adding to listening comfort. Also when you program tracks from six discs for recording on tape, there's no need to adjust level disc by disc for a uniform output. A built-in microcomputer samples digital data and adjusts the attenuator until the output level matches a reference preset level.




### "Talk-back" input

The "talk-back" input feature makes programming simpler. When programming or deleting tracks for playback or edit, the display prompts you to input the necessary "data" (DISC, TRACK, or TIME) by commands shown on display.

### Command ID display

The command ID display visually acknowledges your command, as when you program or delete tracks or use the ADLC — a feature especially handy when you are away from the unit with the remote in hand.

Command ID Display Mode (PD-M901)

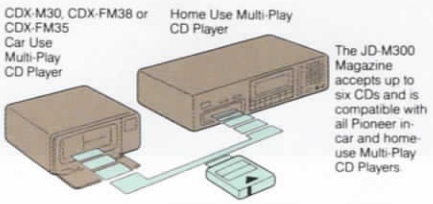
"Talk-back" Input Mode (PD-M601)

### Memory hold

Programmed (deleted) tracks and level are kept in memory even during power-off as long as the magazine stays loaded. When you turn the player on again, you'll hear programmed tracks (or all except for deleted tracks) at the level you've set.

### Home/car magazine compatibility

Our multi-play CD player systems can be used with both your home and car stereo systems, so you can enjoy your favorite music wherever you go. The key to home and car compatibility is Pioneer's ingenious 6-pak magazines which work in all Pioneer home and car multi-play CD players.




**CDX-M30**
Multi-Play Compact Disc Player

## Versatile edit features

Pioneer offers a number of versatile features for editing (dubbing) from CD to tape, so you can enjoy clean, dynamic sound on headphone stereos, portables or car audio systems.

### Auto program editing and Compu-PGM Edit

Auto program editing is a handy feature when dubbing from disc to tape. When you specify the length of a tape you're going to record on, the player automatically counts the number of tracks that can be recorded within the specified time.

The Compu-PGM Edit (Computer-Allocated Program Editing) is an upgrade to the auto program edit: when you specify the length of a tape you're going to record on, the built-in computer shuffles the order of tracks on a CD and automatically puts them in a programmed order in which unused space on each side of the tape is minimized.

The Compu-PGM Edit function for our single-CD players is also enhanced, making it unnecessary to specify the tape's length: the length is automatically determined by the computer when you load a disc, and set for C-46, C-60 or C-90 according to the play time of the disc.

### CD-Deck Synchro

We have developed an innovative way to make CD-to-tape track transfer a simple task for most of our CD players — CD-Deck Synchro. Just use our CD players with cassette decks having matching facilities, and you can enjoy tremendous taping convenience.

### Peak search

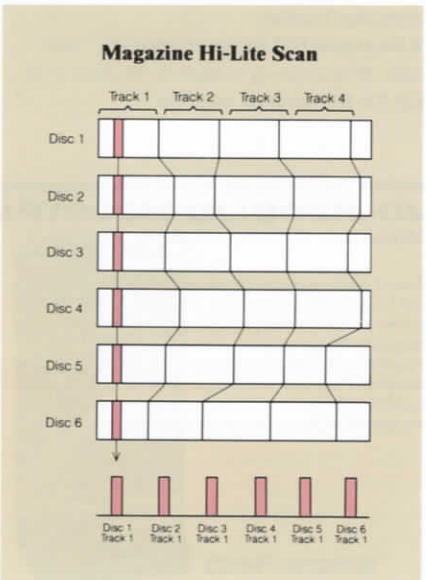
"Peak search" allows you to enjoy the widest dynamic range possible from music you record off of CDs. At a touch, it automatically scans the entire disc (or programmed tracks) at 60 times normal speed to find the highest peak. When the search is through and the peak is found, the 6-seconds-worth segment before and after the peak is repeated over and over. This gives you a chance to optimize the recording level on your cassette deck before actually you start to record.

### Hi-Lite Scan

When you try to find tracks to dub from CD to tape, sometimes you may find the first few seconds of a song are not always the best clue to identifying that song or the artist who plays it. Our Hi-Lite Scan lets you sample a portion of each track on a disc, say, one minute (time adjustable) into each song, where the best clues to a song are mostly likely found. As you check the "highlight" of each song, you can "edit" it for later recording (or of course for playback).

### Magazine Hi-Lite Scan

Magazine Hi-Lite Scan, found on our multi-play CD players, scans the highlight of each track on each disc or the highlight of the first track in each disc, helping you find the song you want to record (or the music type of discs in the magazine).



## PD-TM2 3-Magazine Multi-Play Compact Disc Player


- Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.
- 3-magazine CD player for continuous play of 18 discs: Supplied with the PD-TM2 are a single-disc loader and three multi-disc magazines to help library building.
- ADLC (Automatic Digital Level Controller).
- Anti-resonance and vibration designs: Honeycomb chassis and large insulators.
- CD-Deck Synchro: For easy CD-to-tape editing.
- Full-function SR remote control, with power on/off and volume.
- Compu-PGM Edit and Time fade editing.
- Digital level control (on remote) and one-touch digital fader.
- Memory hold: Programmed tracks and level are kept in memory as long as magazines stay loaded.
- Magazine Hi-Lite Scan: Hear the "best part" of each song in each of 18 discs or of just the first song on each disc.
- Last address play: Start playback with fade-in from where you left off — from the section of a track you heard last.
- Last address memory: Upon power-on, replay starts with the section of a track you heard last before power-off.
- Last disc memory: Start replay with the disc you chose last before power-off.
- Auto power-on and power-down eject.
- 2-mode random play (NORMAL/DELETE): Prevents you from hearing tracks from the same disc in sequence. "Continue Random Play" remembers which tracks were played when power was turned off last or when the player stops play.
- Random programmed play of 48 steps (discs and tracks) from 18 discs.
- "Delete" play.
- 7-mode repeat: 1 TRACK, ALL DISCS, PROGRAMMED TRACKS, MAGAZINE HI-LITE SCAN, DELETE, DELETE CONTINUE RANDOM, CONTINUE RANDOM.
- Direct track access by 10 numeric keys.

- Magazine and disc search keys.
- Headphone output with volume control.
- Timer play (timer optional).
- 3 multi-disc magazines and single disc loader (included).

*The magazine-type Multi-Play CD players with the mark and the magazines with the same mark, are compatible for 12cm discs.*

## JD-M300/JD-M300TP/JD-M300KP/JD-S100

**Magazines for multi-play CD players**

Every Pioneer multi-play CD player comes with a magazine that holds up to six 12cm discs. This saves you from having to load discs each time you want to play them, and the magazine doubles as a convenient storage box. Spare magazines are available as options: the JD-M300, JD-M300TP* (3-color multi-magazine set) and JD-M300KP (3 black multi-magazine set) — are available as options, as is a special single-disc loader (JD-S100).

### JD-M300

### JD-M300TP

*Color-coded magazines come three to a set (red, white and blue) and are not available separately.

### JD-S100

## PD-M750 Multi-Play Compact Disc Player



- Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.
- ADLC (Automatic Digital Level Controller).
- Command ID display.
- "Talk-back" input.
- Anti-resonance and vibration designs: Honeycomb chassis and large insulators.
- Optical digital output.
- Twin transformers for analog and digital circuitry.
- Direct Connection.
- CD-Deck Synchro.
- Full-function SR remote control, with power on/off.
- Compu-PGM Edit and Time fade editing.
- Digital level control (on remote).
- Multi memory.
- Memory hold.
- Magazine Hi-Lite Scan.
- Last address play/memory.
- Last disc memory.
- Auto power-on and power-down eject.
- 2-mode random play (NORMAL/DELETE).
- Random programmed play of 40 steps (discs and tracks) from six discs.
- 15-track music calendar with DISC display.
- "Delete" play.
- 7-mode repeat: 1 TRACK, ALL DISCS, PROGRAMMED TRACKS, MAGAZINE HI-LITE SCAN, DELETE, DELETE RANDOM, RANDOM.
- Direct track access by 10 numeric keys.
- Power status backup.
- Headphone output with volume control.
- Timer play (timer optional).
- Multi-disc magazine and single disc loader (included).


## CDF-100M/CDF-200D

**Stackable Storage Systems for Magazines and Discs**

The CDF-100M is a "CD File" that lets you store up to nine 6-disc magazines, while the CDF-200D has the capacity to house up to three magazines and twelve CDs.


**CDF-100M**


**CDF-200D**

## PD-M901 Multi-Play Compact Disc Player

- Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.
- Digital Signal Processor (DSP) with memory: Sound field control, by disc or by magazine, with positions for FLAT, JAZZ CLUB, CHURCH, DANCE, HALL and STADIUM.
- ADLC (Automatic Digital Level Controller).
- Command ID display.
- "Talk-back" input.
- Anti-resonance and vibration designs: Honeycomb chassis and large insulators.
- CD-Deck Synchro.
- Full-function SR remote control, with 10-key numeric keypad, power on/off and volume.
- Compu-PGM Edit and Time fade editing.
- Digital level control (on remote) and one-touch digital fader.
- Multi memory.
- Memory hold.
- Magazine Hi-Lite Scan.
- Last address play/memory.
- Last disc memory.
- Auto power-on and power-down eject.
- 2-mode random play (NORMAL/DELETE).
- Random programmed play of 40 steps (discs and tracks) from six discs.
- 15-track music calendar with DISC display.
- "Delete" play.
- 7-mode repeat: 1 TRACK, ALL DISCS, PROGRAMMED TRACKS, MAGAZINE HI-LITE SCAN, DELETE, DELETE RANDOM, RANDOM.
- Direct track access by 10 numeric keys (on remote).
- Power status backup.
- Headphone output with volume control.
- Timer play (timer optional).
- Multi-disc magazine and single disc loader (included).

## PD-M801 Multi-Play Compact Disc Player

- Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.
- ADLC (Automatic Digital Level Controller).
- Command ID display.
- "Talk-back" input.
- Anti-resonance and vibration designs: Honeycomb chassis and large insulators.
- CD-Deck Synchro.
- Full-function SR remote control, with 10-key numeric keypad, power on/off and volume.
- Compu-PGM Edit and Time fade editing.
- Digital level control (on remote) and one-touch digital fader.
- Multi memory.
- Memory hold.
- Magazine Hi-Lite Scan.
- Last address play/memory.
- Last disc memory.
- Auto power-on and power-down eject.
- 2-mode random play (NORMAL/DELETE).
- Random programmed play of 40 steps (discs and tracks) from six discs.
- 15-track music calendar with DISC display.
- "Delete" play.
- 7-mode repeat: 1 TRACK, ALL DISCS, PROGRAMMED TRACKS, MAGAZINE HI-LITE SCAN, DELETE, DELETE RANDOM, RANDOM.
- Direct track access by 10 numeric keys.
- Power status backup.
- Headphone output with volume control.
- Timer play (timer optional).
- Multi-disc magazine (included).

## PD-M701 Multi-Play Compact Disc Player

- Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.
- ADLC (Automatic Digital Level Controller).
- "Talk-back" input.
- Anti-resonance and vibration designs: Honeycomb chassis and large insulators.
- CD-Deck Synchro.
- Full-function SR remote control, with 10-key numeric keypad, power on/off and volume.
- Compu-PGM Edit and Time fade editing.
- Digital level control (on remote) and one-touch digital fader.
- Memory hold.
- Magazine Hi-Lite Scan.
- Last disc memory.
- Auto power-on and power-down eject.
- 2-mode random play (NORMAL/DELETE).
- "Delete" play.
- 7-mode repeat: 1 TRACK, ALL DISCS, PROGRAMMED TRACKS, MAGAZINE HI-LITE SCAN, DELETE, DELETE RANDOM, RANDOM.
- Direct track access by 10 numeric keys.
- 6 DISC keys.
- Headphone output with volume control.
- Timer play (timer optional).
- Multi-disc magazine (included).

## PD-M601 Multi-Play Compact Disc Player

- Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.
- ADLC (Automatic Digital Level Controller).
- "Talk-back" input.
- Anti-resonance and vibration designs: Honeycomb chassis and large insulators.
- CD-Deck Synchro.
- Full-function SR remote control, with power on/off and volume.
- Compu-PGM Edit and Time fade editing.
- Digital level control (on remote) and one-touch digital fader.
- Memory hold.
- Magazine Hi-Lite Scan.
- Last disc memory.
- Auto power-on and power-down eject.
- 2-mode random play (NORMAL/DELETE).
- Random programmed play of 32 steps (discs and tracks) from six discs.
- "Delete" play.
- 7-mode repeat: 1 TRACK, ALL DISCS, PROGRAMMED TRACKS, MAGAZINE HI-LITE SCAN, DELETE, DELETE RANDOM, RANDOM.
- Headphone output with volume control.
- Timer play (timer optional).
- Multi-disc magazine (included).

## PD-M501 Multi-Play Compact Disc Player

- Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.
- ADLC (Automatic Digital Level Controller).
- "Talk-back" input.
- Anti-resonance and vibration honeycomb chassis.
- CD-Deck Synchro.
- Compu-PGM Edit and Time fade editing.
- One-touch digital fader.
- Memory hold.
- Magazine Hi-Lite Scan.
- Last disc memory.
- Auto power-on and power-down eject.
- 2-mode random play (NORMAL/DELETE).
- Random programmed play of 32 steps (discs and tracks) from six discs.
- "Delete" play.
- 7-mode repeat: 1 TRACK, ALL DISCS, PROGRAMMED TRACKS, MAGAZINE HI-LITE SCAN, DELETE, DELETE RANDOM, RANDOM.
- Timer play (timer optional).
- Multi-disc magazine (included).
- Pioneer SR (System Remote) ready.

## PD-T510 Twin-Tray Compact Disc Player

- Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.
- Twin-tray convenience: Swap discs without causing a break in the music.
- "Talk-back" input.
- Anti-resonance and anti-vibration designs: Honeycomb chassis and large insulators.
- Auto eject play: The loaded disc is automatically ejected at the end of play.
- Relay play of two discs.
- CD-Deck Synchro.
- Full-function SR remote control, with 10-key numeric keypad, power on/off and volume.
- Compu-PGM Edit and Auto program editing.
- Digital level control (on remote).
- Hi-Lite Scan.
- Peak search.
- Memory hold (programmed tracks and level).
- Random play of tracks from two discs.
- 4-mode repeat: 1 TRACK, ALL, PROGRAM and RANDOM.
- Direct track access by 10 numeric keys.
- Programmed play of 24 steps from two discs.
- Two 16-track music calendars.
- Headphone output with volume control.
- Timer play (timer optional).

## PD-T310 Twin-Tray Compact Disc Player

- Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.
- Twin-tray convenience: Swap discs without causing a break in the music.
- "Talk-back" input.
- Auto eject play: The loaded disc is automatically ejected at the end of play.
- Relay play of two discs.
- CD-Deck Synchro.
- Low-loss laser pickup.
- Compu-PGM Edit and Auto program editing.
- Hi-Lite Scan.
- Peak search.
- Memory hold (programmed tracks).
- Random play of tracks from two discs.
- 4-mode repeat: 1 TRACK, ALL, PROGRAM and RANDOM.
- Programmed play of 24 steps from two discs.
- Two 16-track music calendars.
- Timer play (timer optional).

## PD-S801 Compact Disc Player

- Pioneer's 1-bit DLC (Direct Linear Conversion) with twin High-Speed & High-Density Pulseflow D/A Converters.
- Legato Link Conversion: Most natural musical reproduction with frequencies extending beyond 20kHz.
- Stable platter mechanism: An innovative disc driving system for effective suppression of resonance and vibration.
- Twin transformers for analog and digital circuitry.
- Anti-resonance and vibration designs: Panel stabilizer, honeycomb chassis and large insulators.
- Optical digital output with output select switch.
- Direct Connection: Audio and digital circuit boards are completely separated, and wiring trimmed, for interference-free transmission and pure sound reproduction.
- Design for low noise: Display off switch.
- CD-Deck Synchro.
- Full-function SR remote control, with 16-key numeric keypad and power on/off.
- Low-loss laser pickup.
- Compu-PGM Edit, Auto program editing and Time fade editing (on remote).
- Peak search (on remote).
- Memory hold (programmed tracks and level).
- 5-mode repeat: 1 TRACK, ALL, PROGRAM, RANDOM, and PROGRAM RANDOM.
- Direct track access by 16 numeric keys (on remote).
- Random programmed play of 24 tracks.
- Time location: Start playback from the specified time within a track.
- Index search (on remote).
- 2-mode random play (NORMAL/PROGRAM).
- 20-track music calendar.
- Timer play (timer optional).

## PD-S701 Compact Disc Player

- Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.
- Stable platter mechanism.
- Anti-resonance and vibration designs: Honeycomb chassis and large insulators.
- Optical digital output.
- Direct Connection: Audio and digital circuit boards are completely separated, and wiring trimmed, for interference-free transmission and pure sound reproduction.
- Design for low noise: Display off switch.
- CD-Deck Synchro.
- Full-function SR remote control, with 20-key numeric keypad and power on/off.
- Low-loss laser pickup.
- Compu-PGM Edit, Auto program editing and Time fade editing.
- Digital level control.
- Hi-Lite Scan.
- Peak search.
- Memory hold (programmed tracks and level).
- Reserve operation: For pre-programmed play at a touch.
- "Delete" play.
- 7-mode repeat: 1 TRACK, ALL, PROGRAM, RANDOM, PROGRAM RANDOM, DELETE and HI-LITE SCAN.
- Direct track access by 20 numeric keys.
- Random programmed play of 24 tracks.
- Time location.
- 3-mode random play (NORMAL/PROGRAM/DELETE).
- 20-track music calendar.
- Headphone output with motor-driven volume control.
- Two analog outputs with variable and fixed level.
- Timer play (timer optional).

## PD-S501 Compact Disc Player

- Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.
- Stable platter mechanism: An innovative disc driving system for effective suppression of resonance and vibration.
- "Talk-back" input.
- Anti-resonance and vibration designs: Honeycomb chassis and large insulators.
- CD-Deck Synchro.
- Full-function SR remote control, with 10-key numeric keypad, power on/off and volume.
- Compu-PGM Edit and Auto program editing.
- Digital level control (on remote).
- Hi-Lite Scan.
- Peak search.
- Memory hold (programmed tracks and level).
- 5-mode repeat: 1 TRACK, ALL, PROGRAM, RANDOM, and HI-LITE SCAN.
- Direct track access by 10 numeric keys.
- Random programmed play of 24 tracks.
- Random play.
- 20-track music calendar.
- Headphone output with volume control.
- Timer play (timer optional).

## PD-201 Compact Disc Player

- Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.
- "Talk-back" input.
- Anti-resonance and vibration designs: Honeycomb chassis and large insulators.
- CD-Deck Synchro.
- Full-function SR remote control, with 10-key numeric keypad, power on/off and volume.
- Compu-PGM Edit and Auto program editing.
- Digital level control (on remote).
- Hi-Lite Scan.
- Peak search.
- Memory hold (programmed tracks and level).
- 5-mode repeat: 1 TRACK, ALL, PROGRAM, RANDOM, and HI-LITE SCAN.
- Direct track access by 10 numeric keys.
- Random programmed play of 24 tracks.
- Random play.
- 20-track music calendar.
- Headphone output with volume control.
- Timer play (timer optional).

## PD-101 Compact Disc Player

- Pioneer's 1-bit DLC (Direct Linear Conversion) with High-Speed & High-Density Pulseflow D/A Converter.
- "Talk-back" input.
- Anti-resonance and vibration designs: Honeycomb chassis and large insulators.
- CD-Deck Synchro.
- Compu-PGM Edit and Auto program editing.
- Hi-Lite Scan.
- Peak search.
- Memory hold (programmed tracks).
- 5-mode repeat: 1 TRACK, ALL, PROGRAM, RANDOM, and HI-LITE SCAN.
- Direct track access by 10 numeric keys.
- Random programmed play of 24 tracks.
- Random play.
- 20-track music calendar.
- Headphone output with volume control.
- Timer play (timer optional).
- Pioneer SR (System Remote) ready.

# TUNERS

## F-449 Digital Direct Decoder FM/AM Tuner

SR


- **Pioneer's Digital Direct Decoder:** Digital processing is combined with direct conversion from FM to left/right audio outputs to improve every major tuner specification.
- **Selectable FM IF bandwidth:** NORMAL and SUPER NARROW positions are provided for optimum reception anywhere.
- **RF attenuator:** To prevent overpowerful signals from causing distortion.
- **Three-speed search:** One touch tunes each and every station, a sustained push causes the tuner to search for only powerful stations, and a more sustained touch quickens the search speed.
- **Random presets for 36 FM/AM stations:** Favorite stations can be preset and recalled at a touch.
- **8-point signal indicator.**
- **Large, consolidated fluorescent display.**
- **Honeycomb chassis and large insulators:** To damp resonance and vibration for improved clarity and purity.
- **Pioneer SR (System Remote) ready.**

## F-229 Quartz-PLL Synthesizer Tuner


- **Random presets for 30 FM/AM stations:** Favorite stations can be preset and recalled at a touch.
- **Auto tuning:** The next station can be tuned at the touch of a button.
- **Stereo/mono switch:** Stereo noise can be noticeable when receiving weak signals — with this switch left and right signals are combined to provide a stronger, less noisy mono signal.
- **Large fluorescent display.**

# TURNTABLE

## PL-600 Fully Automatic Turntable

- **Fully automatic operation:** For easy, hands-off use.
- **Low-mass straight tone arm:** Ensures accurate, low-distortion disc playback.
- **High-performance DC-servo motor with Stable Hanging Rotor:** Platter rotation is precise and stable with the Stable Hanging Rotor improving dynamic stability.
- **Universal-type cartridge connector:** A mounted MM cartridge.
- **Front operation.**
- **Cueing control.**

## The world of multi-cassette conveniences

Pioneer has created an all-new world of music enjoyment, the world of the multi-cassette format. It gives you all the convenience you get with our multi-play CD changers, like hours-long continuous playback.

### Multi-cassette changer

The CT-WM70R, CT-WM60R and CT-M50R are no ordinary auto-reverse cassette decks: They each come with a tray that holds up to six cassette tapes (plus an auto-reverse deck with the CT-WM70R and CT-WM60R). This brings with it tremendous flexibility, plus recording and playback options that simply no other cassette deck can provide.

**Relay play:** You can play all six tapes (both sides of each) in order — that's up to nine solid hours of music using six C-90 cassettes.

**Relay record:** It's possible to continuously record on all six tapes. Again this means up to nine hours of continuous recording.

**All rewind:** Rewinds all the six tapes automatically, in order.

**Cassette scan:** Plays back 10 seconds of each cassette, one after another.

**Cassette random play:** Songs from randomly chosen cassettes are played back one after another.

### 6+1 cassette changer double reverse decks

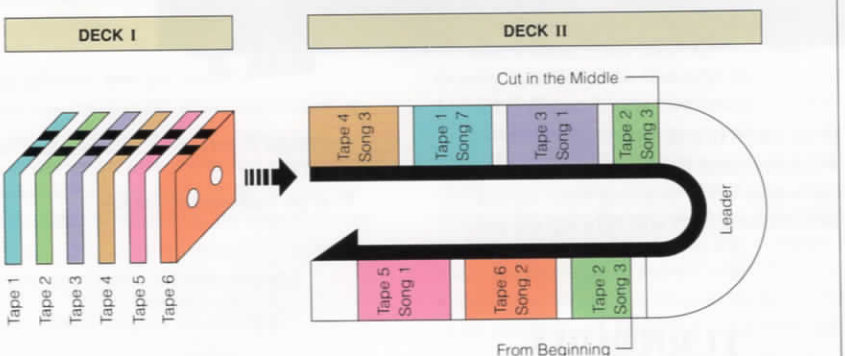
Pioneer has even gone further and wedded the 6-cassette multi-cassette changer to an additional single-cassette auto-reverse deck with record and play (CT-WM70R) or playback (CT-WM60R) capabilities. This configuration offers special conveniences such as:

**Tape dubbing:** Record songs from single deck to changer at normal or double speed at the touch of a button thanks to the Synchro feature. (CT-WM70R/CT-WM60R)

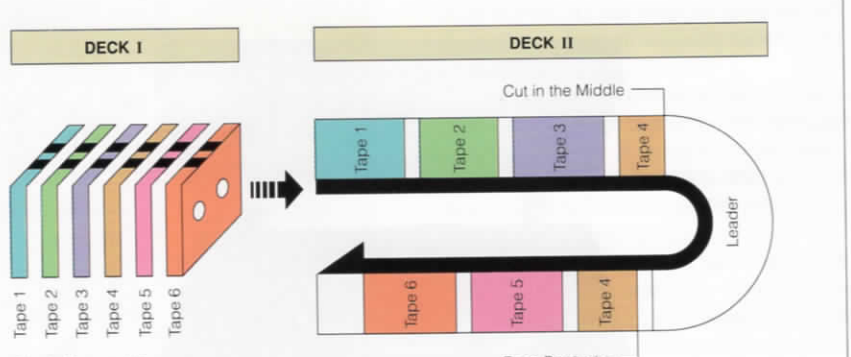
**Edit copy:** Transfer songs you choose from six tapes in the changer to a tape in the single deck. (CT-WM70R)

**Relay edit copy:** You can transfer all songs on "single cassette" tapes — music clip tapes with several songs each — in the changer to the single-cassette deck, with about 4 seconds' silences added between recorded songs. (CT-WM70R)

**Edit Copy**




**Relay Edit Copy**



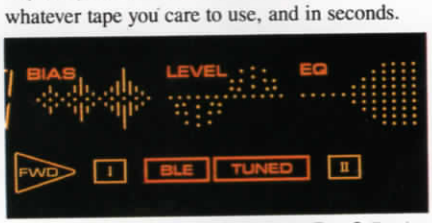

## For better sound quality

Our Auto BLE and Super Auto BLE ensure flat frequency response, low noise and distortion, while the Sound EQ lets you enjoy balanced sound on portable stereos and on car audio systems. These features give you the choice of flat frequency response or "unflat" frequency response customized to practical situations.

### Auto BLE and Super Auto BLE (Bias, Level, Equalization)

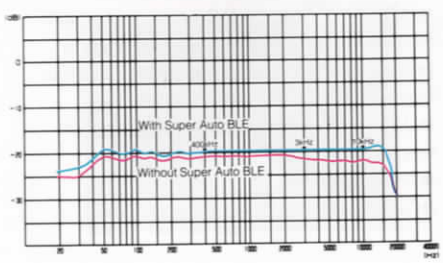
During recording, bias — a high-frequency signal — is applied to the tape to improve its linearity, thereby lowering distortion. Equalization is also applied during recording to match the deck/tape combination to the standard playback curve: this ensures flat response on any playback deck. Moreover, recording level is matched to the tape's characteristics, to ensure correct "Dolby tracking": matched level results in accurate playback of tapes processed by Dolby noise reduction.

For best recording results, bias, level and equalization — electronics — of a deck should be adjusted to match the characteristics of a particular brand of tape. This is because mismatched adjustments result in peaked or rolled-off frequency response, increased noise and distortion. Therefore, nearly every recording you make is compromised to a degree by the mismatch between hardware (deck) and software (tape). The best, if unpractical, solution would be to have a technician calibrate your deck to match it to the specification of your favorite tape. Pioneer gives you a practical alternative — Auto BLE and Super Auto BLE. It's a computerized way to optimize bias, level and equalization for whatever tape you care to use, and in seconds.




The Fluorescent Display Shows Progress of Tape Calibration (CT-W901R)

**Comparison of Record/Playback Frequency Response — Before and After Use of Super Auto BLE (CT-W801R)**



**Auto BLE** uses two test tones to match the deck (electronics) with the tape — one with high frequency and one with low. The CT-W601R, for instance, adjusts the bias for 10kHz, level (sensitivity) for 400Hz, and recording equalization for 10kHz.

**Super Auto BLE** uses three test tones — high, mid and low. With the CT-W801R and CT-W701R, for instance, bias is adjusted for 10kHz, and level (sensitivity) for 400Hz. For precision, recording equalizer adjustment is performed at two frequencies: 3kHz for mid-highs and 10kHz for highs. The use of three test frequencies, including one in midrange, ensures an extremely flat frequency response from almost any tape you care to use.

## Sound EQ

When listening to tapes on portable stereos or on car audio systems, it's often necessary to touch up highs and lows to get rich and balanced sound. But boosting extreme frequencies during playback can degrade the signal-to-noise ratio, since it increases noise as well as music. Our Sound EQ is the solution to this problem: it changes the frequency response (equalization) for a tape during recording so that it produces a response that sounds just right when played back on a portable stereo or in a car.

The Sound EQ in the CT-S410 offers three equalized curves — TREBLE, BASS and TREBLE+BASS — plus FLAT. This lets you boost highs, lows, or both highs and lows during recording. The version in our double cassette decks (CT-W801R, CT-W701R and CT-W601R) offers two equalized curves: CAR and PORTABLE.

With these decks, Auto BLE or Super Auto BLE first ensures a flat frequency response before Sound EQ touches up the frequency response. Therefore, the amount of boost does not vary depending on the tape or whether Dolby noise reduction is used or not; it stays constant for the best results.

# CD-Deck Synchro

The Pioneer CD-Deck Synchro mates our cassette decks (single, double and multi) and our CD players (single, multi-play and 3-magazine multi-play) to offer a variety of convenient dubbing options.

## CD-Deck Synchro

With our CD-Deck Synchro for our multi-cassette changers, at the start of a tape, silence is automatically recorded for the first 10 seconds to skip the leader tape before the first song is transferred from CD to tape. Four seconds of silence are also inserted during periods when discs are changed.

With the CD-Deck Synchro for our single- and double-cassette decks, pressing the SYNCHRO button automatically starts recording and CD play begins when the button is released, so you can easily skip the leader at the start of a tape. The deck also is automatically set for REC PAUSE while you change discs.

Furthermore, if a song will not fit on the A side of the tape, then that song will be re-recorded on the B side — right from the start (remember all but one Pioneer deck — the CT-S410 — have at least one auto-reverse record/play drive). You can avoid this inconvenience, however, when you use the computerized editing features on our CD players — Compu-PGM Edit, auto program edit or time-fade edit (detailed on page 17).

## Multi-disc/cassette CD-Deck Synchro

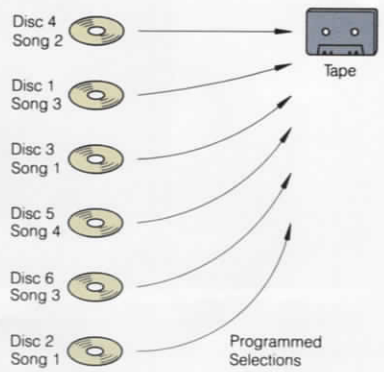
With the combination of our multi-play CD changers and multi-cassette changers, our CD-Deck Synchro offers additional conveniences.

**Normal Synchro:** You can transfer programmed tracks on a number of CDs to a single tape.

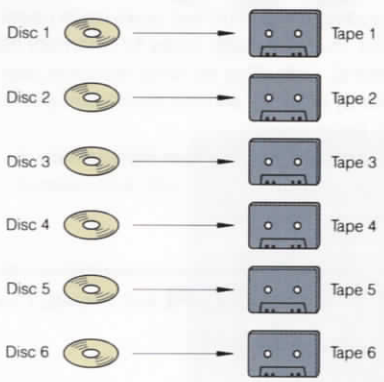
**Relay Synchro:** You can transfer tracks on disc 1 to tape 1, disc 2 to tape 2, . . . disc 6 to tape 6. So, you can transfer all tracks on all six discs to six different tapes, all automatically.

### CD-Deck Synchro Functions

**Normal Synchro with Multi-Play CD Players**

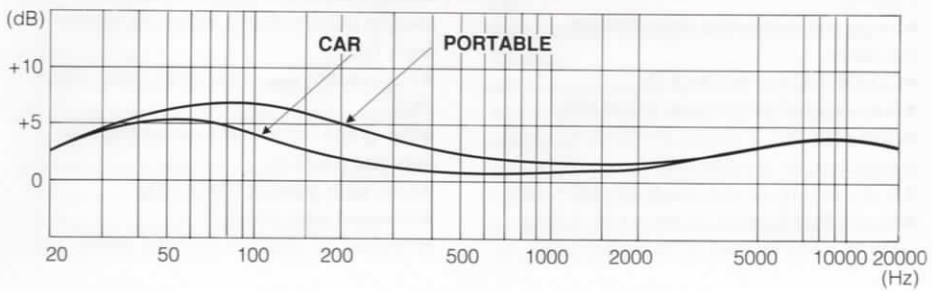



**Relay Synchro with Multi-Play CD Players**




Tracks on disc 1 are recorded on tape 1, those on disc 2 are recorded on tape 2, and so on.

**Sound EQ Frequency Response (CT-W801R)**




6-Cassette Changer Mechanism (CT-WM70R)

## CT-WM70R 6+1 Cassette Changer Double Reverse Deck

- 6-cassette changer convenience (Deck I): Relay play; Relay record; All rewind; Cassette scan; Cassette random play; Timer function [Timer play (automatic playback of six tapes in order upon power-on), Timer rec, and Timer relay rec (automatic recording on six mounted tapes upon power-on). (Timer optional)]; Dolby NR memory (Set Dolby B, Dolby C or no noise reduction, cassette by cassette, and put the chosen position into the memory).
- Extra convenience from combination of multi-cassette changer with auto-reverse single-play deck (Deck I with Deck II): Tape dubbing; Edit copy; Relay edit copy.
- Large anti-resonance and vibration insulators.
- CD-Deck Synchro (Deck I).
- Auto-reverse mechanism (Deck I/II).
- Dolby HX Pro: Expands the dynamic range at high frequencies (Deck I/II).
- Dolby B/C noise reduction with MPX filter.
- Full-function SR remote control.
- Music/Skip Search: To zero in on a song up to 15 away, forward or back (Deck I/II).
- Blank Skip (Deck I/II).
- Auto space rec mute (Deck I/II).
- 4-digit electronic tape/elapsed time counter (automatically switching between Deck I/II).
- Fluorescent peak-hold level meter (Deck I/II).
- Bar-graph record/play remaining time indicator (Deck I).
- Auto tape selector (Deck I/II).
- Headphone output.
- Powered eject (Deck I).
- Pioneer SR (System Remote) ready.

## CT-WM60R 6+1 Cassette Changer Double Reverse Deck

- 6-cassette changer convenience (Deck I): Relay play; Relay record; All rewind; Cassette scan; Cassette random play; Timer function [Timer play (automatic playback of six tapes in order upon power-on), Time rec, and Timer relay rec (automatic recording on six mounted tapes upon power-on). (Timer optional)]; Dolby NR memory (Set Dolby B, Dolby C or no noise reduction, cassette by cassette, and put the chosen position into the memory).
- Extra convenience from combination of multi-cassette changer with auto-reverse single-play deck (Deck I with Deck II): Tape dubbing.
- Large anti-resonance and vibration insulators.
- CD-Deck Synchro (Deck I).
- Auto-reverse mechanism (Deck I/II).
- Dolby HX Pro: Expands the dynamic range at high frequencies (Deck I).
- Dolby B/C noise reduction with MPX filter.
- Music/Skip Search: To zero in on a song up to 15 away, forward or back (Deck I/II).
- Blank Skip (Deck I/II).
- Auto space rec mute (Deck I).
- 4-digit electronic tape/elapsed time counter (automatically switching between Deck I/II).
- Fluorescent peak-hold level meter (Deck I/II).
- Bar-graph record/play remaining time indicator (Deck I).
- Auto tape selector (Deck I/II).
- Powered eject (Deck I).
- Pioneer SR (System Remote) ready.

## CT-M50R
**Multi-Cassette Changer**

●6-cassette changer convenience: Relay play; Relay record; All rewind; Cassette scan; Cassette random play; Timer function [Timer play (automatic playback of six tapes in order upon power-on), Timer rec, and Timer relay rec (automatic recording on six mounted tapes upon power-on). (Timer optional)]
●CD-Deck Synchro.
●Auto-reverse mechanism.
●Dolby B/C noise reduction with MPX filter.
●Music/Skip Search.
●Blank skip.
●Auto space rec mute.
●4-digit electronic tape/elapsed time counter.
●Fluorescent peak-hold level meter.
●Auto tape selector.
●Powered eject.
●Pioneer SR (System Remote) ready.

## CT-W901R
**Double Auto-Reverse Cassette Deck**

AUTO BLE

●Two auto-reverse cassette transports: Both record and play in both directions.
●Cassette stabilizer, honeycomb chassis, and large insulators.
●CD-Deck Synchro.
●Twin Auto BLE.
●Tape dubbing: At normal or double speed at the touch of a button thanks to the Synchro feature. During normal-speed dubbing, you can choose Dolby B, C or no NR, deck by deck, and adjust dubbing level.
●Relay record/play.
●Parallel recording: You can preselect Dolby B or C independently for the two decks before recording.
●Dolby HX Pro (Deck I/II).
●Dolby B/C noise reduction with MPX filter switch (rear panel).
●Music/Skip Search.
●Blank Skip.
●Auto space rec mute.
●Independent 4-digit electronic tape/elapsed time counters for Deck I and II.
●Fluorescent peak-hold level meters.
●Auto tape selector.
●Timer record/play (timer optional).
●Headphone output.
●Pioneer SR (System Remote) ready.

## CT-W801R
**Double Auto-Reverse Cassette Deck**

SUPER AUTO BLE

●Two auto-reverse cassette transports: Both record and play in both directions.
●Large insulators.
●CD-Deck Synchro.
●Twin Super Auto BLE.
●Sound EQ.
●Tape dubbing: At normal or double speed at the touch of a button thanks to the Synchro feature.
●Relay record/play.
●Parallel recording.
●Dolby HX Pro (Deck I/II).
●Dolby B/C noise reduction with MPX filter.
●Music/Skip Search.
●Blank Skip.
●Auto space rec mute.
●Independent 4-digit electronic tape/elapsed time counters for Deck I and II.
●Fluorescent peak-hold level meters.
●Auto tape selector.
●Timer record/play (timer optional).
●Headphone output.
●Microphone inputs (left/right).
●Pioneer SR (System Remote) ready.

## CT-W701R

Double Auto-Reverse Cassette Deck

SUPER AUTO BLE

CD-DECK SYNCHRO

SR

- **Two auto-reverse cassette transports:** Both record and play in both directions for the ultimate in taping ease.
- **CD-Deck Synchro.**
- **Super Auto BLE:** To extract the very best from each and every tape you use.
- **Sound EQ:** One-touch equalization for listening on car stereo systems and portables.
- **Tape dubbing:** At normal or double speed at the touch of a button thanks to the Synchro feature.
- **Relay record/play.**
- **Dolby HX Pro:** Expands the dynamic range at high frequencies (Deck I/II).
- **Dolby B/C noise reduction with MPX filter.**
- **Music/Skip Search:** To zero in on a song up to 15 away, forward or back.
- **Blank Skip.**
- **Auto space rec mute.**
- **Independent 4-digit electronic tape/elapsed time counters for Deck I and II.**
- **Fluorescent peak-hold level meters.**
- **Auto tape selector.**
- **Timer record/play (timer optional).**
- **Headphone output.**
- **Pioneer SR (System Remote) ready.**

## CT-W601R

Double Auto-Reverse Cassette Deck

AUTO BLE

CD-DECK SYNCHRO

SR

- **Two auto-reverse cassette transports:** One plays and the other plays and records in both directions.
- **CD-Deck Synchro.**
- **Auto BLE:** To extract the best from each and every tape you use.
- **Sound EQ:** One-touch equalization for listening on car stereo systems and portables.
- **Tape dubbing:** At normal or double speed at the touch of a button thanks to the Synchro feature.
- **Relay play.**
- **Dolby HX Pro:** Expands the dynamic range at high frequencies (Deck II).
- **Dolby B/C noise reduction with MPX filter.**
- **Music/Skip Search:** To zero in on a song up to 15 away, forward or back.
- **Blank Skip.**
- **Auto space rec mute.**
- **Independent 4-digit electronic tape/elapsed time counters for Deck I and II.**
- **Fluorescent peak-hold level meters.**
- **Auto tape selector.**
- **Timer record/play (timer optional).**
- **Headphone output.**
- **Pioneer SR (System Remote) ready.**

## CT-W501R

Double Auto-Reverse Cassette Deck

CD-DECK SYNCHRO

SR

- **Two auto-reverse cassette transports:** One plays and the other plays and records in both directions.
- **CD-Deck Synchro.**
- **Tape dubbing:** At normal or double speed at the touch of a button thanks to the Synchro feature.
- **Relay play:** For long, uninterrupted musical sessions.
- **Dolby HX Pro:** Expands the dynamic range at high frequencies (Deck II).
- **Dolby B/C noise reduction with MPX filter.**
- **Music/Skip Search:** To zero in on a song up to 15 away, forward or back.
- **Blank Skip.**
- **Auto space rec mute.**
- **LED peak level indicator.**
- **Auto tape selector.**
- **Headphone output.**
- **Timer record/play (timer optional).**
- **Pioneer SR (System Remote) ready.**

## CT-W351R
Double Cassette Deck

- **Two full-logic cassette transports:** One plays and records in both directions, and one plays in one direction.
- **CD-Deck Synchro.**
- **Tape dubbing:** At normal or double speed at the touch of a button thanks to the Synchro feature.
- **Relay play:** For long, uninterrupted musical sessions.
- **Dolby B/C noise reduction with MPX filter.**
- **Music/Skip Search:** To zero in on a song up to 15 away, forward or back.
- **Blank Skip.**
- **Auto space rec mute.**
- **Repeat play (Deck I).**
- **LED peak level indicator.**
- **Auto tape selector.**
- **Timer record/play (timer optional).**
- **Pioneer SR (System Remote) ready.**

## CT-S601R
Quick Auto-Reverse Cassette Deck

AUTO BLE

- **Quick auto-reverse mechanism:** The tape reverses itself the moment a leader tape is detected, to provide continuous music.
- **Anti-resonance and vibration designs:** Honeycomb chassis and large insulators.
- **Auto BLE:** To extract the best from each and every tape you use.
- **CD-Deck Synchro.**
- **Dolby HX Pro:** Expands the dynamic range at high frequencies.
- **Dolby B/C noise reduction with MPX filter.**
- **Music/Skip Search:** To zero in on a song up to 15 away, forward or back.
- **4-digit electronic tape/elapsed time counter.**
- **Fluorescent peak-hold level meters.**
- **Auto space rec mute.**
- **Auto tape selector.**
- **Headphone output.**
- **Timer record/play (timer optional).**
- **Pioneer SR (System Remote) ready.**

## CT-S410
3-Head Cassette Deck

SUPER AUTO BLE

- **3-head design with auto monitor:** PC-OCC (single-crystal oxygen-free copper) wire provides highest purity.
- **Sound EQ:** One-touch equalization with positions for BASS, TREBLE, BASS+TREBLE and FLAT.
- **Super Auto BLE:** To extract the very best from each and every tape you use.
- **Anti-resonance and vibration designs:** Cassette stabilizer, honeycomb chassis, and large insulators.
- **CD-Deck Synchro.**
- **Dolby HX Pro:** Expands the dynamic range at high frequencies.
- **Dolby B/C noise reduction with MPX filter switch (front panel).**
- **Music/Skip Search:** To zero in on a song up to 15 away, forward or back.
- **3-mode electronic tape/time counter, with remaining-time indication.**
- **Fluorescent peak-hold level meters.**
- **Repeat play.**
- **Auto space rec mute.**
- **Auto tape selector.**
- **Headphone output.**
- **Timer record/play (timer optional).**
- **Pioneer SR (System Remote) ready.**

HOME THEATER EXPERIENCE

## Pioneer eases the way to upgrade to surround

If you want to enjoy movies and music more fully, it's time to consider surround sound. And if you listen to surround sound processed by the latest Dolby Pro-Logic decoder — like the one built into our A/V receivers and amps — you will be overwhelmed by the 3-dimensional sound that just engulfs you in sheer dynamism and realism. For a full surround sound system, you would need as many as five speakers — two for the front channels, one for center and two for rear. So we developed a space-efficient solution — a subwoofer/satellite surround system consisting of three modular units that you mix and match to your specifications.

### Subwoofer/satellite speaker system

Our subwoofer/satellite speaker system consists of three units: a satellite with a 10cm midrange and 6.6cm tweeter, a surround (rear) speaker with a 10cm midrange and 5cm tweeter, and a 12cm subwoofer with dual inputs. All units are finished in black to blend with any decor, but the satellite and surround speakers are also available in white so that you can paint them the color you like.

### High quality satellite

The satellite features a tweeter and midrange whose sound sources are physically aligned with respect to each other. This eliminates time lag in output of one relative to the other. Moreover, a "phase-tuned" crossover network is used to smoothly cross the tweeter over to the midrange; this improves sound definition and reduces on-axis aberration in frequency response. As a team, therefore, our satellites provide precise sound localization, consistent sound quality over a large listening area, and added depth.

### The subwoofer module

The subwoofer module features the DDC (Dynamic Distortion Canceller). The design cancels out the geometric distortion in suspension systems, as well as current distortion in woofer units, thereby removing "muddiness" in the reproduced sound. As a result, crisp, natural and powerful bass response is possible. The subwoofer is of the bass-reflex design that makes use of the sound pressure not only from the ducts but also from the front of the woofer units, to enrich bass response. The ducts are tuned by what we call the "maximally flat response" method to optimize design parameters.

**S-V401-K/S-V401-H**
Satellite × 3, Subwoofer × 1, Surround × 2

**S-V301-K/S-V301-H**
Satellite × 2, Subwoofer × 1, Surround × 2

**S-4D-K/S-4D-H**
Satellite × 3, Subwoofer × 1

**S-3D-K/S-3D-H**
Satellite × 2, Subwoofer × 1

**S-SR55-K/S-SR55-H**
Surround × 2

The satellite and surround speaker in the "Home Theater Experience" series are available in black (K) and white (H) finish.

## CS-C300
Center-Channel Speaker

- 18cm cone woofer.
- 6.6cm cone tweeter.
- Magnetically shielded for video use.
- High-temperature voice coil wire for high maximum power of 65W.

## S-W1000
Powered Subwoofer

- 30cm cone woofer.
- **Subwoofer only (bridged BTL):** Continuous average power output of 70W at 6 ohms, 20Hz—140Hz, with 5% THD; Subwoofer and center-channel output: 30W at 6 ohms, 70Hz, with 5% THD (subwoofer); 25W at 6 ohms, 20Hz—20,000Hz, with 1% THD (center channel).
- Built-in amp (switchable) for Dolby Pro-Logic center channel (CS-C300 speaker).
- Independent level controls for subwoofer and center channel.
- Turnover frequencies of 60/90/140Hz.
- Magnetically shielded for video use.
- Low-resonance honeycomb insulators.
- Black vinyl finish with black resin finish top board.


## CS-C250-Q/K
Center-Channel Speaker

### CS-C250-K

- 15cm cone woofer.
- 6.6cm cone tweeter.
- Magnetically shielded for video use.
- High-temperature voice coil wire for high maximum power of 65 watts.
- Oak finish (CS-C250-Q) or black finish (CS-C250-K).

## S-X7
Surround Speaker System

- Compact and lightweight (1.5kg).
- **Wide installation versatility:** Can be hung on the wall or suspended from the ceiling for stereo or surround sound.
- Sensitivity selector switch.
- 8.7cm full-range speaker.
- Maximum music power of 30W.

## CS-X500-Q/K
Surround Speaker System

### CS-X500-K

- Compact and lightweight (1.4kg).
- **Wide installation versatility:** Can be hung on the wall or suspended from the ceiling for surround sound.
- 10cm full-range speaker.
- Maximum power of 30 watts.
- Oak finish (CS-X500-Q) or black finish (CS-X500-K).

## SP-700D Dolby Pro-Logic and Sound Field Processor

DOLBY SURROUND PRO · LOGIC ™ SR

- DSP (Digital Signal Processor) sound field re-creation: Featuring adjustable parameters, with 16 preset and 16 programmable sound field patterns.
- 50-bit digital signal processor, 16-bit linear quantization for A/D conversion, 4-times oversampling digital filter, and 16-bit D/A converter.
- Dolby Pro-Logic Surround.
- Selectable surround modes.
- 7-band digital graphic equalizer.
- 51-key wireless remote control.

## GR-777 Electronic 10-Band Graphic Equalizer

SR

- 10-band equalization: ±10dB at 10 frequency bands — 32Hz, 63Hz, 125Hz, 250Hz, 500Hz, 1kHz, 2kHz, 4kHz, 8kHz and 16kHz — channel by channel.
- 10-band spectrum analyzer.
- 5 programmable equalization patterns.
- 5 resident equalization patterns.
- Pioneer SR (System Remote) control supplied.

## GR-555 7-Band Graphic Equalizer

- 7-band equalization: ±10dB at 7 frequency bands — 60Hz, 150Hz, 400Hz, 1kHz, 2.4kHz, 6kHz and 15kHz — channel by channel.
- 7-band spectrum analyzer.
- Tape monitor.
- Equalization on/off.

## HEADPHONES


## JA-RF3L FM Modulator

Even if yours is a conventional TV with no video inputs, don't worry: you can connect it to our Laser Disc players. We make available the JA-RF3L — an FM modulator for exclusive use with the CLD-M401, CLD-M301 and CLD-S201 — so you can enjoy pictures from our Laser Disc players on any ordinary TV. It converts baseband video signals into RF signals for the antenna input of a TV.

# SPECIFICATIONS

## Laser Disc Players

| | CLD-M401 | CLD-M301 | CLD-S201 | CLD-D701 | CLD-D501 |
|---|---|---|---|---|---|
| Type of discs: | 30cm and 20cm CAV/CLV Laser Discs, 12cm and 8cm Compact Discs, 12cm CDV | 30cm and 20cm CAV/CLV Laser Discs, 12cm and 8cm Compac Discs, 12cm CDV | 30cm and 20cm CAV/CLV Laser Discs, 12cm and 8cm Compact Discs, 12cm CDV | 30cm and 20cm CAV/CLV Laser Discs, 12cm and 8cm Compact Discs, 12cm CDV | 30cm and 20cm CAV/CLV Laser Discs, 12cm and 8cm Compact Discs, 12cm CDV |
| **VIDEO CHARACTERISTICS** | | | | | |
| Horizontal Resolution: | 425 lines | 425 lines | 425 lines | 425 lines | 425 lines |
| Video Signal-to-Noise Ratio: | 49dB | 48dB | 48dB | 50dB | 49dB |
| **DIGITAL AUDIO CHARACTERISTICS (EIAJ)** | | | | | |
| Frequency Response: | 4—20,000Hz | 4—20,000Hz | 4—20,000Hz | 4—20,000Hz | 4—20,000Hz |
| Signal-to-Noise Ratio: | 112dB | 102dB | 102dB | 115dB | 114dB |
| Dynamic Range: | 98dB | 96dB | 96dB | 99dB | 99dB |
| Total Harmonic Distortion: | 0.00025% | 0.003% | 0.003% | 0.0018% | 0.0018% |
| Wow and Flutter: | Unmeasurable (±0.001% weighted peak or less) | Unmeasurable (±0.001% weighted peak or less) | Unmeasurable (±0.001% weighted peak or less) | Unmeasurable (±0.001% weighted peak or less) | Unmeasurable (±0.001% weighted peak or less) |
| **MISCELLANEOUS** | | | | | |
| Power Requirements: | 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz |
| Power Consumption: | 39W | 39W | 39W | 41W | 39W |
| Dimensions (W × H × D): (without package) | 420 × 142 × 453 mm | 420 × 142 × 444 mm | 420 × 122 × 390 mm | 420 × 137 × 434 mm | 420 × 135 × 434 mm |
| Weight (without package): | 9.6kg | 9.5kg | 7.2kg | 9.2kg | 9.0kg |

## Compact Disc Players

| | PD-TM2 | PD-M750 | PD-M901 | PD-M801 | PD-M701 | PD-M601 |
|---|---|---|---|---|---|---|
| System: | Compact Disc digital audio system | Compact Disc digital audio system | Compact Disc digital audio system | Compact Disc digital audio system | Compact Disc digital audio system | Compact Disc digital audio system |
| Frequency Response: | 2—20,000Hz | 2—20,000Hz | 2—20,000Hz | 2—20,000Hz | 2—20,000Hz | 2—20,000Hz |
| Signal-to-Noise Ratio (EIAJ): | 102dB | 110dB | 105dB | 105dB | 102dB | 102dB |
| Dynamic Range (EIAJ): | 96dB | 98dB | 96dB | 96dB | 96dB | 96dB |
| Channel Separation (EIAJ): | 96dB | 105dB | 100dB | 100dB | — | — |
| Distortion (EIAJ): | 0.003% | 0.002% | 0.0028% | 0.0028% | 0.003% | 0.003% |
| Output Voltage: | 2V | 2V | 2V | 2V | 2V | 2V |
| Power Requirements: | 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz |
| Power Consumption: | 16W | 19W | 15W | 13W | 12W | 12W |
| Dimensions (W × H × D): (without package) | 420 × 176 × 328 mm | 420 × 130 × 328 mm | 420 × 130 × 328 mm | 420 × 130 × 330 mm | 420 × 130 × 295 mm | 420 × 105 × 291 mm |
| Weight (without package): | 6.8kg | 6.3kg | 4.9kg | 4.8kg | 4.0kg | 3.8kg |

| | PD-M501 | PD-T510 | PD-T310 | PD-S801 | PD-S701 | PD-S501 |
|---|---|---|---|---|---|---|
| System: | Compact Disc digital audio system | Compact Disc digital audio system | Compact Disc digital audio system | Compact Disc digital audio system | Compact Disc digital audio system | Compact Disc digital audio system |
| Frequency Response: | 2—20,000Hz | 2—20,000Hz | 2—20,000Hz | 2—20,000Hz | 2—20,000Hz | 2—20,000Hz |
| Signal-to-Noise Ratio (EIAJ): | 102dB | 102dB | 102dB | 110dB | 108dB | 104dB |
| Dynamic Range (EIAJ): | 96dB | 96dB | 96dB | 98dB | 96dB | 96dB |
| Channel Separation (EIAJ): | — | — | — | 106dB | 100dB | |
| Distortion (EIAJ): | 0.003% | 0.003% | 0.003% | 0.0021% | 0.0026% | 0.003% |
| Output Voltage: | 2V | 2V | 2V | 2V | 2V | 2V |
| Power Requirements: | 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz |
| Power Consumption: | 12W | 12W | 12W | 18W | 15W | 14W |
| Dimensions (W × H × D): (without package) | 420 × 100 × 291 mm | 420 × 101 × 276 mm | 420 × 101 × 276 mm | 420 × 135 × 274 mm | 420 × 130 × 274 mm | 420 × 110 × 276 mm |
| Weight (without package): | 3.8kg | 3.6kg | 3.6kg | 5.0kg | 4.2kg | 3.8kg |

| | PD-201 | PD-101 |
|---|---|---|
| System: | Compact Disc digital audio system | Compact Disc digital audio system |
| Frequency Response: | 2—20,000Hz | 2—20,000Hz |
| Signal-to-Noise Ratio (EIAJ): | 102dB | 98dB |
| Dynamic Range (EIAJ): | 96dB | 96dB |
| Channel Separation (EIAJ): | | |
| Distortion (EIAJ): | 0.003% | 0.003% |
| Output Voltage: | 2V | 2V |
| Power Requirements: | 120V 60Hz | 120V 60Hz |
| Power Consumption: | 12W | 12W |
| Dimensions (W × H × D): (without package) | 420 × 101 × 276 mm | 420 × 101 × 276 mm |
| Weight (without package): | 3.5kg | 3.5kg |

## Turntable

| | PL-600 |
|---|---|
| **MOTOR** | |
| Drive System: | Belt-drive |
| Motor: | DC-servo motor |
| Speeds: | 33-1/3 and 45 rpm |
| Wow and Flutter (WRMS): | 0.06% |
| Signal-to-Noise Ratio (DIN B): | 68dB |
| **TONE ARM** | |
| Type: | Statically balanced, straight tone arm with DRA |
| Effective Arm Length: | 221mm |
| Overhang: | 15.5mm |
| Usable Cartridge Weight: | 4—8g |
| **CARTRIDGE** | |
| Type: | MM type |
| Frequency Response: | 10—30,000Hz |
| Output Voltage: | 2.5mV |
| Stylus: | 0.6 mil diamond (PN-240) |
| Tracking Force: | 2.0—3.0g |
| **MISCELLANEOUS** | |
| Power Requirements: | 120V 60Hz |
| Power Consumption: | 2W |
| Dimensions (W × H × D) (without package): | 420 × 95 × 356 mm |
| Weight (without package): | 2.8kg |

## Receivers

| | VSX-D1SII | VSX-D901S | VSX-D701S | VSX-D601 | VSX-511S | VSX-451 |
|---|---|---|---|---|---|---|
| **AMPLIFIER SECTION** | | | | | | |
| Continuous Power Output | (Mode 1) | | | | | |
| Front Channels (8 ohms): | 130W + 130W (20—20,000Hz, THD 0.005%) | 125W + 125W (20—20,000Hz, THD 0.005%) | 110W + 110W (20—20,000Hz, THD 0.05%) | 110W + 110W (20—20,000Hz, THD 0.05%) | 100W + 100W (20—20,000Hz, THD 0.05%) | 80W + 80W (20—20,000Hz, THD 0.5%) |
| Rear Channels (8 ohms, 1kHz): | 50W + 50W (0.08% THD) | 45W + 45W (0.05% THD) | | | | 20W + 20W |
| Center Channel (8 ohms, 1kHz): | 55W (0.08% THD) | 55W (0.05% THD) | | | | 25W |
| Accurate Imaging System (Dolby Pro-Logic) | | | | | | |
| Front Channels (8 ohms, 1kHz): | | | 65W + 65W (0.8% THD) | 65W + 65W (0.8% THD) | 65W + 65W (0.8% THD) | |
| Center Channel (8 ohms, 1kHz): | | | 65W (0.8% THD) | 65W (0.8% THD) | 65W (0.8% THD) | |
| Rear Channels (8 ohms, 1kHz): | | | 40W + 40W (0.8% THD) | 40W + 40W (0.8% THD) | 20W + 20W (0.8% THD) | |
| | (Mode 2) Front; 70W + 70W (8 ohms, 20—20,000Hz, 0.005% THD) Center; 70W (8 ohms, 20—20,000Hz, 0.005% THD) Rear; 55W + 55W (8 ohms, 1kHz, 0.08% THD) | | | | | |
| Dynamic Power (2/4/8 ohms**): | 280W/260W/— | 280W/260W/— | 240W/220W/— | 240W/220W/— | 230W/220W/— | 165W/150W/— |
| Total Harmonic Distortion (8 ohms): | 0.005% (20—20,000Hz, continuous rated power output) | 0.005% (20—20,000Hz, continuous rated power output) | 0.05% (20—20,000Hz, continuous rated power output) | 0.05% (20—20,000Hz, continuous rated power output) | 0.05% (20—20,000Hz, continuous rated power output) | 0.5% (20—20,000Hz, continuous rated power output) |
| Input Sensitivity/Impedance | | | | | | |
| PHONO (MM): | 2.5mV/47k ohms | 2.5mV/47k ohms | 2.5mV/47k ohms | 2.5mV/47k ohms | 2.5mV/47k ohms | 2.5mV/47k ohms |
| CD, LINE, TAPE, VCR, LD: | 150mV/47k ohms | 150mV/47k ohms | 150mV/47k ohms | 150mV/47k ohms | 150mV/47k ohms | 150mV/47k ohms |
| POWER IN: | 1V/47k ohms | 1V/47k ohms | — | — | — | — |
| PHONO Overload Level (1kHz, MM): | 150mV (0.08% THD) | 150mV (0.08% THD) | 130mV (0.08% THD) | 130mV (0.08% THD) | 130mV (0.08% THD) | 130mV (0.1% THD) |
| Output Level/Impedance | | | | | | |
| TAPE REC, VCR REC: | 150mV/2.2k ohms | 150mV/2.2k ohms | 150mV/2.2k ohms | 150mV/2.2k ohms | 150mV/2.2k ohms | 150mV/2.2k ohms |
| PRE OUT: | 1V/220 ohms | 1V/220 ohms | 1V/2.2k ohms | 1V/2.2k ohms | — | — |
| Frequency Response | | | | | | |
| PHONO (RIAA Equalization): | 20—20,000Hz ±0.3dB | 20—20,000Hz ±0.3dB | 20—20,000Hz ±0.3dB | 20—20,000Hz ±0.3dB | 20—20,000Hz ±0.3dB | 20—20,000Hz ±0.3dB |
| CD, LINE, TAPE, VCR, LD: | 5—100,000Hz 0dB, −3dB | 5—100,000Hz 0dB, −3dB | 5—100,000Hz 0dB, −3dB | 5—100,000Hz 0dB, −3dB | 5—70,000Hz +0.5dB, −3dB | 5—70,000Hz +0dB, −3dB |
| Tone Control | | | | | | |
| BASS: | ±8dB (100Hz) | ±8dB (100Hz) | ±8dB (100Hz) | ±8dB (100Hz) | ±8dB (100Hz) | ±8dB (100Hz) |
| MID: | ±8dB (1kHz) | — | — | — | — | — |
| TREBLE: | ±8dB (10kHz) | ±8dB (10kHz) | ±8dB (10kHz) | ±8dB (10kHz) | ±8dB (10kHz) | ±8dB (10kHz) |
| Graphic Equalizer | | | | | | |
| Equalizer Range: | — | — | — | — | — | — |
| Center Frequencies: | — | — | — | — | — | — |
| Loudness Contour (volume= −40dB): | +6dB (100Hz), +3dB (10kHz) | +6dB (100Hz), +3dB (10kHz) | +6dB (100Hz), +3dB (10kHz) | +6dB (100Hz), +3dB (10kHz) | +6dB (100Hz), +3dB (10kHz) | +6dB (100Hz), +3dB (10kHz) |
| Signal-to-Noise Ratio (IHF '66/EIA) | | | | | | |
| PHONO (MM): | 82dB/77dB | 82dB/77dB | 75dB/77dB | 75dB/77dB | 75dB/77dB | 75dB/77dB |
| CD, LINE, TAPE, VCR, LD: | 98dB/80dB | 98dB/80dB | 97dB/80dB | 97dB/80dB | 97dB/80dB | 97dB/80dB |
| **FM TUNER SECTION** | | | | | | |
| Usable Sensitivity (mono): | 10.8dBf (0.95μV, 75 ohms) | 10.8dBf (0.95μV, 75 ohms) | 10.8dBf (0.95μV, 75 ohms) | 10.8dBf (0.95μV, 75 ohms) | 10.8dBf (0.95μV, 75 ohms) | 10.8dBf (0.95μV, 75 ohms) |
| 50dB Quieting Sensitivity | | | | | | |
| Mono: | 15.3dBf (1.6μV, 75 ohms) | 15.3dBf (1.6μV, 75 ohms) | 15.3dBf (1.6μV, 75 ohms) | 15.3dBf (1.6μV, 75 ohms) | 15.3dBf (1.6μV, 75 ohms) | 15.3dBf (1.6μV, 75 ohms) |
| Stereo: | 37dBf (19.5μV, 75 ohms) | 37dBf (19.5μV, 75 ohms) | 37dBf (19.5μV, 75 ohms) | 37dBf (19.5μV, 75 ohms) | 37dBf (19.5μV, 75 ohms) | 37dBf (19.5μV, 75 ohms) |
| Signal-to-Noise Ratio (mono/stereo): | 80dB (at 65dBf)/76dB (at 85dBf) | 80dB (at 65dBf)/76dB (at 85dBf) | 80dB (at 65dBf)/76dB (at 85dBf) | 80dB (at 65dBf)/76dB (at 85dBf) | 80dB (at 65dBf)/76dB (at 85dBf) | 80dB (at 65dBf)/76dB (at 85dBf) |
| Distortion (at 65dBf) | | | | | | |
| 100Hz (mono/stereo): | 0.08%/0.2% | 0.08%/0.2% | — | — | — | — |
| 1kHz (mono/stereo): | 0.08%/0.15% | 0.08%/0.15% | 0.2%/0.3% | 0.2%/0.3% | 0.2%/0.3% | 0.2%/0.3% |
| 6kHz (mono/stereo): | 0.2%/0.3% | 0.2%/0.3% | — | — | — | — |
| Frequency Response: | 30—15,000Hz +0.5dB, −2dB | 30—15,000Hz +0.5dB, −2dB | 30—15,000Hz +0.5dB, −2dB | 30—15,000Hz +0.5dB, −2dB | 30—15,000Hz +0.5dB, −2dB | 30—15,000Hz +0.5dB, −2dB |
| Capture Ratio: | 1.0dB | 1.0dB | 1.0dB | 1.0dB | 1.0dB | 1.0dB |
| Alternate Channel Selectivity: | 65dB (400kHz) | 65dB (400kHz) | 65dB (400kHz) | 65dB (400kHz) | 65dB (400kHz) | 65dB (400kHz) |
| Stereo Separation | | | | | | |
| 1kHz/30—15,000Hz: | 50dB/35dB | 50dB/35dB | 45dB/— | 45dB/— | 45dB/— | 45dB/— |
| Antenna Input: | 300 ohms balanced 75 ohms unbalanced | 300 ohms balanced 75 ohms unbalanced | 300 ohms balanced 75 ohms unbalanced | 300 ohms balanced 75 ohms unbalanced | 300 ohms balanced 75 ohms unbalanced | 300 ohms balanced 75 ohms unbalanced |
| **AM TUNER SECTION** | | | | | | |
| Sensitivity (IHF, Loop Antenna): | 300μV/m | 300μV/m | 300μV/m | 300μV/m | 300μV/m | 300μV/m |
| Selectivity: | 30dB | 30dB | 25dB | 25dB | 25dB | 25dB |
| Signal-to-Noise Ratio: | 50dB | 50dB | 50dB | 50dB | 50dB | 50dB |
| Antenna: | Loop antenna | Loop antenna | Loop antenna | Loop antenna | Loop antenna | Loop antenna |
| **VIDEO SECTION** | | | | | | |
| Input (Sensitivity/Impedance): | 1Vp-p/75 ohms | 1Vp-p/75 ohms | 1Vp-p/75 ohms | 1Vp-p/75 ohms | 1Vp-p/75 ohms | 1Vp-p/75 ohms |
| Output (Level/Impedance): | 1Vp-p/75 ohms | 1Vp-p/75 ohms | 1Vp-p/75 ohms | 1Vp-p/75 ohms | 1Vp-p/75 ohms | 1Vp-p/75 ohms |
| Frequency Response: | 5Hz—10MHz +0dB, −3dB | 5Hz—10MHz +0dB, −3dB | 5Hz—10MHz +0dB,-3dB | 5Hz—10MHz +0dB, −3dB | 5Hz—10MHz +0dB, −3dB | 5Hz—10MHz +0dB, −3dB |
| Crosstalk: | 55dB (3.58MHz) | 55dB (3.58MHz) | 55dB (3.58MHz) | 55dB (3.58MHz) | 55dB (3.58MHz) | 55dB (3.58MHz) |
| Enhancer: | ±3dB (2MHz) | ±3dB (2MHz) | — | — | — | — |
| Signal-to-Noise Ratio: | 55dB | 55dB | 55dB | 55dB | 55dB | 55dB |
| **MISCELLANEOUS** | | | | | | |
| Power Requirements: | 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz |
| Power Consumption: | 680W (UL), 5W (standby), 750VA | 600W (UL), 5W (standby), 790VA | 260W (UL), 3W (standby), 340VA | 260W (UL), 3W (standby), 340VA | 240W (UL), 3W (standby), 320VA | 350W (UL), 3W (standby), 430VA |
| Dimensions (W × H × D): (without package) | 420 × 162 × 457 mm | 420 × 162 × 421 mm | 420 × 162 × 406 mm | 420 × 162 × 406 mm | 420 × 162 × 406 mm | 420 × 125 × 334 mm |
| Weight (without package): | 15kg | 14.6kg | 10.2kg | 10.1kg | 9.7kg | 9kg |

*Note: The impedances indicated in the specifications are actual values than speakers can present to an amplifier while playing back music. They do not refer to the nominal rated impedances of speakers you use.

| VSX-411S/VSX-401 | SX-311R/ | SX-251R/SX-201 |
|---|---|---|
| 100W + 100W (20—20,000Hz, THD 0.05%) 20W + 20W | 70W + 70W (20—20,000Hz, THD 0.8%) | 50W + 50W (40—20,000Hz THD 0.8%) |
| 230W/200W/150W | 145W/130W/90W | —/85W/65W |
| 0.05% (20—20,000Hz, continuous rated power output) | 0.8% (20—20,000Hz, continuous rated power output) | 0.8% (40—20,000Hz, continuous rated power output) |
| 2.5mV/47k ohms<br>150mV/47k ohms<br>— | 2.5mV/47k ohms<br>150mV/22k ohms<br>— | 2.5mV/47k ohms<br>150mV/22k ohms<br>— |
| 130mV (0.08% THD) | 130mV (0.1% THD) | 130mV (0.1% THD) |
| 150mV/2.2k ohms<br>— | 150mV/2.2k ohms<br>— | 150mV/2.2k ohms<br>— |
| 20—20,000Hz ±0.5dB<br>10—70,000Hz +0.5dB, −3dB | 20—20,000Hz ±0.5dB<br>10—70,000Hz +0.5dB, −3dB | 20—20,000Hz ±0.5dB<br>10—70,000Hz +0.5dB, −3dB |
| —<br>—<br>— | —<br>—<br>— | —<br>—<br>— |
| ±8dB<br>60, 150, 400, 1k, 2.4k, 6k, 15kHz | ±8dB<br>100, 330, 1k, 3.3k, 10kHz | ±8dB<br>100, 330, 1k, 3.3k, 10kHz |
| — | — | — |
| 72dB/75dB<br>97dB/80dB | 72dB/75dB<br>96dB/79dB | 72dB/75dB<br>96dB/79dB |
| 10.8dBf (0.95μV, 75 ohms) | 12.3dBf (1.1μV, 75 ohms) | 12.3dBf (1.1μV, 75 ohms) |
| 15.3dBf (1.6μV, 75 ohms)<br>37.1dBf (19.5μV, 75 ohms) | 16.8dBf (1.6μV, 75 ohms)<br>38.6dBf (19.5μV, 75 ohms) | 16.8dBf (1.6μV, 75 ohms)<br>38.6dBf (19.5μV, 75 ohms) |
| 80dB (at 85dBf)/76dB (at 85dBf) | 73dB (at 85dBf)/70dB (at 85dBf) | 73dB (at 85dBf)/70dB (at 85dBf) |
| —<br>—/0.3%<br>— | —<br>—/0.3%<br>— | —<br>—/0.3%<br>— |
| 30—15,000Hz ±1dB | 30—15,000Hz ±1dB | 30—15,000Hz ±1dB |
| 55dB (400kHz) | 50dB (400kHz) | 50dB (400kHz) |
| 35dB/— | 35dB/— | 35dB/— |
| 300 ohms balanced<br>75 ohms unbalanced | 300 ohms balanced<br>75 ohms unbalanced | 300 ohms balanced<br>75 ohms unbalanced |
| 300μV/m | 350μV/m | 350μV/m |
| 20dB | 20dB | 20dB |
| 50dB | 50dB | 50dB |
| Loop antenna | Loop antenna | Loop antenna |
| 1Vp-p/75 ohms | — | — |
| 1Vp-p/75 ohms | — | — |
| 5Hz—10MHz +0dB, −3dB | — | — |
| 55dB (3.58MHz) | — | — |
| — | — | — |
| 55dB | — | — |
| 120V 60Hz | 120V 60Hz | 120V 60Hz |
| 390W (UL), 3W (standby), 500VA | 250W (UL), 355VA<br>3W (standby) (SX-311R) | 190W (UL), 240VA<br>3W (standby) (SX-251R) |
| 420 × 125 × 330 mm | 420 × 140 × 289 mm | 420 × 135 × 289 mm |
| 8.5kg | 7kg | 5.3kg |

†Height: SX-311R=140mm / SX-301=135mm

## Amplifiers

| | VSA-7500 | A-401 |
|---|---|---|
| **AMPLIFIER SECTION** | | |
| Continuous Power Output: | | |
| Stereo: | 75W + 75W (8 ohms, 20—20,000Hz, THD 0.008%) | 60W + 60W (8 ohms, 20—20,000Hz, THD 0.009%)<br>80W + 80W (4 ohms, 20—20,000Hz, THD 0.02%) |
| Surround (8 ohms, 1kHz) | | |
| Front Channels: | 70W + 70W (0.3% THD) | |
| Center Channel: | 70W (0.3% THD) | |
| Rear Channels: | 23W + 23W (5% THD) | |
| Dynamic Power (2/4/8 ohms**): | —/140W/100W | 150W/110W/75W |
| Total Harmonic Distortion: | 0.008% (20—20,000Hz, 8 ohms, continuous rated power output) | 0.009% (20—20,000Hz, 8 ohms, continuous rated power output)<br>0.02% (20—20,000Hz, 4 ohms, continuous rated power output) |
| Input Sensitivity/Impedance | | |
| PHONO (MM): | 2.5mV/50k ohms | 2.5mV/50k ohms |
| CD, TUNER, AUX, TAPE: | 150mV/30k ohms | 150mV/40k ohms |
| VCR, LD: | 150mV/30k ohms | — |
| PHONO Overload Level (1kHz) | | |
| MM: | 110mV (THD 0.1%) | 150mV (THD 0.008%) |
| Output Level/Impedance | | |
| TAPE REC: | 150mV/2.2k ohms | 150mV/1k ohms |
| VCR, VDP: | 150mV/2.2k ohms | — |
| PRE OUT: | 1V/2.2k ohms | — |
| SPEAKERS: | FRONT, REAR, CENTER | A, B, A+B, OFF |
| HEADPHONES: | Low impedance | Low impedance |
| Frequency Response | | |
| PHONO (RIAA Equalization) | | |
| MM: | 20—20,000Hz ±0.3dB | 20—20,000Hz ±0.3dB |
| CD, TUNER, AUX, TAPE: | 5—100,000Hz 0dB, −3dB | 5—100,000Hz 0dB, −3dB |
| VCR, LD: | 5—100,000Hz 0dB, −3dB | — |
| Tone Control | | |
| BASS: | ±8dB (100Hz) | ±8dB (100Hz) |
| TREBLE: | ±8dB (10kHz) | ±8dB (10kHz) |
| Filter (Subsonic): | — | 17Hz (−12dB/oct.) |
| Signal-to-Noise Ratio (IHF, short-circuited A-network) | | |
| PHONO (MM): | 72dB† | 93dB (5mV) |
| CD, AUX, TAPE: | 96dB† | 108dB |
| VCR, VDP: | 96dB† | — |
| **VIDEO SECTION** | | |
| Input (Sensitivity/Impedance) | | |
| VCR, LD: | 1Vp-p/75 ohms unbalanced | — |
| Output (Level/Impedance) | | |
| VCR, Monitor TV: | 1Vp-p/75 ohms unbalanced | — |
| Frequency Response: | 10Hz—10MHz 0dB, −3dB | — |
| **MISCELLANEOUS** | | |
| Power Requirements: | 120V 60Hz | 120V 60Hz |
| Power Consumption: | 250W (UL), 530VA | 550W, 430VA |
| Dimensions (W × H × D): (without package) | 420 × 162 × 427 mm | 420 × 126 × 347 mm |
| Weight (without package): | 13.8kg | 8.1kg |

*Note: The impedances indicated in the specifications are actual values that speakers can present to an amplifier while playing back music. They do not refer to the nominal rated impedances of speaker you use.

†Direct switch on

## Tuners

| | F-449 | F-229 |
|---|---|---|
| **FM TUNER SECTION** | | |
| Usable Sensitivity (mono): | 12.1dBf | 12.7dBf |
| 50dB Quieting Sensitivity Mono/Stereo: | 16.2dBf/36.2dBf | 18dBf/38.3dBf |
| Signal-to-Noise Ratio Mono/Stereo: | 83dB/78dB (at 80dBf) | 77dB/73dB (at 85dBf) |
| Distortion (1kHz, stereo): | 0.3% | 0.3% |
| Frequency Response: | 30—15,000Hz ±1dB | 30—15,000Hz ±1dB |
| Alternate Channel Selectivity: | 70dB (±400kHz) | 65dB (±400kHz) |
| Stereo Separation (1kHz): | 50dB | 49dB |
| Antenna Input: | 75 ohms unbalanced | 300 ohms balanced<br>75 ohms unbalanced |
| **AM TUNER SECTION** | | |
| Sensitivity (IHF, loop antenna): | 300μV/m | 350μV/m |
| Selectivity: | 30dB | 20dB |
| Signal-to-Noise Ratio: | 50dB | 45dB |
| Antenna: | Loop antenna | Loop antenna |
| **AUDIO SECTION** | | |
| Output (Level/Impedance) | | |
| FM (100% Mod, Fixed): | 650mV/0.9k ohms | 650mV/1.5k ohms |
| AM (30% Mod, Fixed): | 150mV/0.9k ohms | 150mV/1.5k ohms |
| **MISCELLANEOUS** | | |
| Power Requirements: | 120V 60Hz | 120V 60Hz |
| Power Consumption: | 10W | 10W |
| Dimensions (W × H × D): (without package) | 420 × 86 × 316 mm | 420 × 60 × 250 mm |
| Weight (without package): | 3.5kg | 2.6kg |

## Cassette Tape Decks

| | CT-WM70R | CT-WM60R | CT-M50R | CT-W901R | CT-W801R |
|---|---|---|---|---|---|
| Type: | 4-track, 2-channel recording and playback stereo cassette tape deck (6-cassette auto changer format and auto-reverse recording/playback) | 4-track, 2-channel recording and playback stereo cassette tape deck (6-cassette auto changer format and auto-reverse playback) | 4-track, 2-channel recording and playback stereo cassette tape deck (6-cassette auto changer format) | 4-track, 2-channel double auto-reverse stereo cassette tape deck (recording and playback × 2) | 4-track, 2-channel double auto-reverse stereo cassette tape deck (recording and playback × 2) |
| Motors: | DC-servo motor for capstan drive × 2, DC motor for door open/close × 1, DC motor for cassette loading × 1 | DC-servo motor for capstan drive × 2, DC motor for door open/close × 1, DC motor for cassette loading × 1 | DC-servo motor for capstan drive × 1, DC motor for reel drive × 1, DC motor for door open/close × 1, DC motor for cassette loading × 1 | 2-speed DC-servo motor for capstan drive × 2, DC motor for reel drive × 2 | DC-servo motor × 2 |
| Heads: | "Hard Permalloy" recording/ playback head × 2, Ferrite erasing head × 2 | "Hard Permalloy" recording/ playback head × 1, "Hard Permalloy" playback head × 1, Ferrite erasing head × 1 | "Hard Permalloy" recording/ playback head × 1, Ferrite erasing head × 1 | "Hard Permalloy" recording/ playback head × 2, Ferrite erasing head × 2 | "Hard Permalloy" recording/ playback head × 2, Ferrite erasing head × 2 |
| Fast Winding Time (C-60 tape): | 120 seconds | 120 seconds | 90 seconds | 90 seconds | 120 seconds |
| Wow and Flutter (WRMS): | 0.09% | 0.09% | 0.055% | 0.055% | 0.09% |
| Frequency Response (−20dB) | | | | | |
| Metal Tape: | 20—19,000Hz | 20—19,000Hz | 20—19,000Hz | 20—20,000Hz | 25—20,000Hz |
| Chrome Tape: | 20—18,000Hz | 20—18,000Hz | 20—18,000Hz | 20—19,000Hz | 25—19,000Hz |
| Normal Tape: | 20—17,000Hz | 20—17,000Hz | 20—17,000Hz | 20—18,000Hz | 25—18,000Hz |
| Signal-to-Noise Ratio (NR off*): | 58dB | 58dB | 58dB | 57dB | 57dB |
| Harmonic Distortion (−4dB): | 0.8% | 0.8% | 1.0% | 0.7% | 0.8% |
| Inputs (Sensitivity/Impedance) | | | | | |
| LINE (pin jack × 2): | 112mV/57k ohms | 112mV/57k ohms | 100mV/50k ohms | 100mV/57k ohms | 100mV/38k ohms |
| MIC: | — | — | — | — | 0.63mV/11k ohms |
| Output (Reference level/Load impedance) | | | | | |
| LINE (pin jack × 2): | 0.5V/5.6k ohms | 0.5V/5.6k ohms | 0.5V/5.8k ohms | 0.5V/3.2k ohms | 0.5V/3.2k ohms |
| HEADPHONES (6mmϕ stereo jack × 1): | 0.63mW/8 ohms | — | — | 0.63mW/8 ohms | 0.63mW/8 ohms |
| Power Requirements: | 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz |
| Power Consumption: | 24W | 24W | 21W | 32W | 26W |
| Dimensions (W × H × D): (without package) | 420 × 136 × 364 mm | 420 × 136 × 364 mm | 420 × 130 × 372 mm | 420 × 135 × 318.5 mm | 420 × 135 × 268.5 mm |
| Weight (without package): | 7.2kg | 7.2kg | 7.4kg | 5.7kg | 4.7kg |

**NOTE:**

(1) Reference tape: Normal and LH tapes are DIN 45513 (Fe). Chrome tape is DIN 45513 (Cr).
(2) Reference recording level is meter 0dB level. (160 nwb/m magnetic level=Philips cassette reference level.)
(3) Reference signal is 315Hz.
(4) Wow and Flutter: at 3kHz, WRMS (JIS).
(5) Frequency Responses are measured at −20dB level respectively for reference recording level, Dolby off. Level deviation is ±6dB (where not indicated).
(6) Signal-to-Noise Ratio: Measured at the third harmonic distortion 3% level, weighted.
(7) Sensitivity: Input level (mV) for reference recording level measured with input (recording) level control set at maximum position.

## "Home Theatre Experience" Series Speaker System

| | S-V401-K/S-V401-H | S-V301-K/S-V301-H | S-4D-K/S-4D-H | S-3D-K/S-3D-H |
|---|---|---|---|---|
| System | | | | |
| Front Satellite: | 3 | 2 | 3 | 2 |
| Rear Satellite: | 2 | 2 | — | — |
| Subwoofer Module: | 1 | 1 | 1 | 1 |
| Enclosure: | Bass-reflex type | Bass-reflex type | Bass-reflex type | Bass-reflex type |
| Speakers | | | | |
| Front Satellite: | 10cm cone midrange and 6.6cm cone tweeter | 10cm cone midrange and 6.6cm cone tweeter | 10cm cone midrange and 6.6cm cone tweeter | 10cm cone midrange and 6.6cm cone tweeter |
| Rear Satellite: | 10cm cone midrange and 5cm cone tweeter | 10cm cone midrange and 5cm cone tweeter | — | — |
| Subwoofer Module: | 12cm cone woofer ×2 | 12cm cone woofer ×2 | 12cm cone woofer ×2 | 12cm cone woofer ×2 |
| Impedance: | 8 ohms | 8 ohms | 8 ohms | 8 ohms |
| Frequency Range: | 40—20,000Hz | 40—20,000Hz | 40—20,000Hz | 40—20,000Hz |
| Sensitivity (1m): | 87dB/W | 87dB/W | 87dB/W | 87dB/W |
| Maximum (Music) Power: | 130W | 130W | 130W | 130W |
| Crossover Frequency: | 150Hz (Low/Mid) 1,300Hz (Mid/High) | 150Hz (Low/Mid) 1,300Hz (Mid/High) | 150Hz (Low/Mid) 1,300Hz (Mid/High) | 150Hz (Low/Mid) 1,300Hz (Mid/High) |
| Dimensions (W × H × D) (without package) | | | | |
| Front Satellite: | 171 × 264 × 121 mm | 171 × 264 × 121 mm | 171 × 264 × 121 mm | 171 × 264 × 121 mm |
| Rear Satellite: | 171 × 264 × 121 mm | 171 × 264 × 121 mm | — | — |
| Subwoofer Module: | 180 × 550 × 420 mm | 180 × 550 × 420 mm | 180 × 550 × 420 mm | 180 × 550 × 420 mm |
| Weight (without package) | | | | |
| Front Satellite: | 1.95kg | 1.95kg | 1.95kg | 1.95kg |
| Rear Satellite: | 1.55kg | 1.55kg | — | — |
| Subwoofer Module: | 12.5kg | 12.5kg | 12.5kg | 12.5kg |

| | |
|---|---|
| Enclosure: | |
| Speakers: | |
| Impedance: | |
| Frequency Range: | |
| Sensitivity (1m): | |
| Maximum Music Power: | |
| Crossover Frequency: | |
| Dimensions (W × H × D) (without package) | |
| Weight (without package): | |

**Speaker Power Handling Capability vs. Amplifier Output Power**

Normally, speakers will not be damaged even if the output power of an amplifier exceeds the speakers' allowable input power, on the condition that the amplifier is kept below its clipping level*. (Use care when increasing the volume level if the amplifier has an extremely high power rating.)

There is, however, a chance that the tweeter may be damaged when the amplifier is pushed beyond its clipping level even if the amplifier's power rating is below the speakers' allowable input power.

It is therefore important to consider the allowable input power of your speakers (maximum music power) when selecting an amplifier, and at the same time, the amplifier must be operated so that its clipping level is not exceeded.

*Clipping level: The power level at which severe distortion suddenly appears due to attempts to drive an amplifier beyond its capacity.

## Subwoofer

| | S-W1000 |
|---|---|
| Enclosure: | Bass-reflex type |
| Speaker: | 30cm cone type |
| **AMPLIFIER SECTION** | |
| Continuous Power Output | |
| Subwoofer: | 70W + 70W (6 ohms, 20—140Hz, THD 5%) |
| Subwoofer & Center Output | |
| Subwoofer: | 30W + 30W (6 ohms, 70Hz, THD 5%) |
| Center Output: | 25W + 25W (6 ohms, 20—20,000Hz, THD 1%) |
| **SPEAKER SECTION** | |
| Subsonic Filter: | 10Hz (−12dB/oct.) |
| Turnover Frequencies: | 60, 90, 140Hz |
| Dimensions (W × H × D) (without package): | 503 × 533 × 436 mm |
| Weight (without package): | 21kg |

| CT-W701R | CT-W601R | CT-W501R | CT-W351R | CT-S601R | CT-S410 |
|---|---|---|---|---|---|
| 4-track, 2-channel double auto-reverse stereo cassette tape deck (recording and playback × 2) | 4-track, 2-channel double auto-reverse stereo cassette tape deck (playback and recording/playback) | 4-track, 2-channel double auto-reverse stereo cassette tape deck (playback and recording/playback) | 4-track, 2-channel double stereo cassette tape deck (playback and auto-reverse recording/playback) | 4-track, 2-channel auto-reverse recording and playback stereo cassette tape deck | 4-track, 2-channel recording and playback stereo cassette tape deck |
| DC-servo motor × 2 | DC-servo motor × 2 | DC-servo motor × 2 | DC-servo motor × 2 | DC-servo motor for capstandrive × 1, DC motor for reel drive × 1 | DC-servo motor for capstan drive × 1, DC motor for reel drive × 1 |
| "Hard Permalloy" recording/playback head × 2, Ferrite erasing head × 2 | "Hard Permalloy" playback head × 1, "Hard Permalloy" recording/playback head × 1, Ferrite erasing head × 1 | "Hard Permalloy" playback head × 1, "Hard Permalloy" recording/playback head × 1, Ferrite erasing head × 1 | "Hard Permalloy" playback head × 1, "Hard Permalloy" recording/playback head × 1, Ferrite erasing head × 1 | "Hard Permalloy" recording/playback head × 1, Ferrite erasing head × 1 | "Hard Permalloy" recording head (×1) and playback head (×1) (combination type), Double-gap ferrite erasing head × 1 |
| 120 seconds | 120 seconds | 120 seconds | 120 seconds | 90 seconds | 90 seconds |
| 0.09% | 0.09% | 0.1% | 0.1% | 0.055% | 0.05% |
| 25—20,000Hz<br>25—19,000Hz<br>25—18,000Hz | 25—16,500Hz<br>25—16,000Hz<br>25—16,000Hz | 30—16,500Hz<br>30—16,000Hz<br>30—16,000Hz | 30—16,500Hz<br>30—16,000Hz<br>30—16,000Hz | 25—20,000Hz<br>25—18,000Hz<br>25—18,000Hz | 20—19,000Hz<br>20—19,000Hz<br>20—19,000Hz |
| 57dB | 57dB | 56dB | 56dB | 57dB | 59dB |
| 0.8% | 0.8% | 0.8% | 0.8% | 0.7% | 0.6% |
| 100mV/38k ohms<br>— | 100mV/38k ohms<br>— | 112mV/56k ohms<br>— | 112mV/56k ohms<br>— | 100mV/52k ohms<br>— | 100mV/50k ohms<br>— |
| 0.5V/3.2k ohms<br>0.63mW/8 ohms | 0.5V/3.2k ohms<br>0.63mW/8 ohms | 0.5V/4.5k ohms<br>0.63mW/8 ohms | 0.5V/4.5k ohms<br>— | 0.5V/3.3k ohms<br>0.63mW/8 ohms | 0.5V/3.8k ohms<br>0.63mW/8 ohms |
| 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz | 120V 60Hz |
| 17W | 17W | 16W | 16W | 19W | 23W |
| 420 × 127 × 268.5 mm | 420 × 127 × 268.5 mm | 420 × 120 × 265 mm | 420 × 120 × 265 mm | 420 × 126 × 272 mm | 420 × 126 × 272 mm |
| 4.6kg | 4.5kg | 3.9kg | 3.9kg | 4.1kg | 4.5kg |

*S/N is improved by 10dB with Dolby B on and by 19dB with Dolby C on, both at 5kHz.

(8) Maximum allowable input level (mV) is measured at the point where the output signal wave is clipped while gradually turning the input level control.
(9) Reference output level is display's 0dB level.
***Specifications quoted for "metal" tapes are approximate. See manufacturers' data for individual tapes.**

| S-SR55-K/S-SR55-H |
|---|
| Bass-reflex type |
| 10cm cone midrange and 5cm cone tweeter |
| 8 ohms |
| 150—20,000Hz |
| 87dB/W |
| 130W |
| 3,000Hz (Mid/High) |
| 171 × 264 × 121 mm |
| 1.55kg |

## Speaker Systems

| | CS-C300 | CS-C250-Q/K | S-X7 | CS-X500-Q/K |
|---|---|---|---|---|
| Enclosure: | Bass-reflex type | Bass-reflex type | Bass-reflex type | Infinite baffle type |
| Speakers<br>Woofer:<br>Tweeter: | <br>18cm cone type<br>6.6cm cone type | <br>15cm cone type<br>6.6cm cone type | <br>8.7cm full range cone type<br>— | <br>10cm full-range cone type<br>— |
| Impedance: | 8 ohms | 8 ohms | 16 ohms | 8 ohms |
| Frequency Range: | 50—20,000Hz | 50—20,000Hz | 100—20,000Hz | 100—20,000Hz |
| Sensitivity (1m): | 88dB/W | 80dB/W | 90dB/W | 88dB/W |
| Maximum Power: | 65W | 65W | 30W | 30W |
| Dimensions (W × H × D): (without package) | 220 × 350 × 187 mm | 170 × 300 × 166 mm | 136 × 190 × 115 mm | 140 × 190 × 127 mm |
| Weight (without package): | 3.5kg | 2.4kg | 1.5kg | 1kg |

## Add-On Equipment

| | GR-777 | GR-555 |
|---|---|---|
| Inputs (Sensitivity/Impedance) | | |
| LINE IN, TAPE PLAY: | 150mV/50k ohms | 150mV/50k ohms |
| Outputs (Level/Impedance) | | |
| LINE OUT: | 150mV/3.3k ohms | 150mV/2.2k ohms |
| **GRAPHIC EQUALIZER SECTION** | | |
| Equalizer Range: | ±10dB | ±10dB |
| Center Frequencies: | 32, 63, 125, 250, 500, 1k, 2k, 4k, 8k, 16kHz | 60, 150, 400, 1k, 2.4k, 6k, 15kHz |
| Frequency Response | | |
| LINE IN, TAPE PLAY: | 5—70,000Hz +0dB, −3dB | 10—50,000Hz +0dB, −3dB |
| Signal-to-Noise Ratio: (IHF, A-network, output 1V) | 110dB | 104dB |
| Total Harmonic Distortion: (20—20,000Hz, output 1V) | 0.02% | 0.03% |
| Gain (controls flat): | 0dB | 0dB |
| **SPECTRUM ANALYZER SECTION** | | |
| Display Resolution: | 2dB (× 13) | 3dB (× 8) |
| Center Frequencies: | 32, 63, 125, 250, 500, 1k, 2k, 4k, 8k, 16kHz | 60, 150, 400, 1k, 2.4k, 6k, 15kHz |
| **MISCELLANEOUS** | | |
| Power Requirements: | 120V 60Hz | 120V 60Hz |
| Power Consumption: | 18W | 15W |
| Dimensions (W × H × D): (without package) | 420 × 85.5 × 311.5 mm | 420 × 105 × 334 mm |
| Weight (without package): | 4.0kg | 4.2kg |

| SP-700D | |
|---|---|
| Input (Sensitivity/Impedance) | |
| LINE IN: | 150mV/41k ohms |
| Output (Level/Impedance) | |
| LINE OUT: | 1V/1k ohms |
| Frequency Response | |
| FRONT: | 5—100,000Hz 0dB, −3dB |
| PROCESSING: | 20—20,000Hz 0dB, −3dB |
| Distortion (1,000Hz) | |
| FRONT: | 0.002% |
| PROCESSING: | 0.008% |
| Signal-to-Noise Ratio | |
| PROCESSING (Front, Rear): | 90dB |
| Power Requirements: | 120V 60Hz |
| Power Consumption: | 32W |
| Dimensions (W × H × D): (without package) | 420 × 85 × 335 mm |
| Weight (without package): | 5.2kg |

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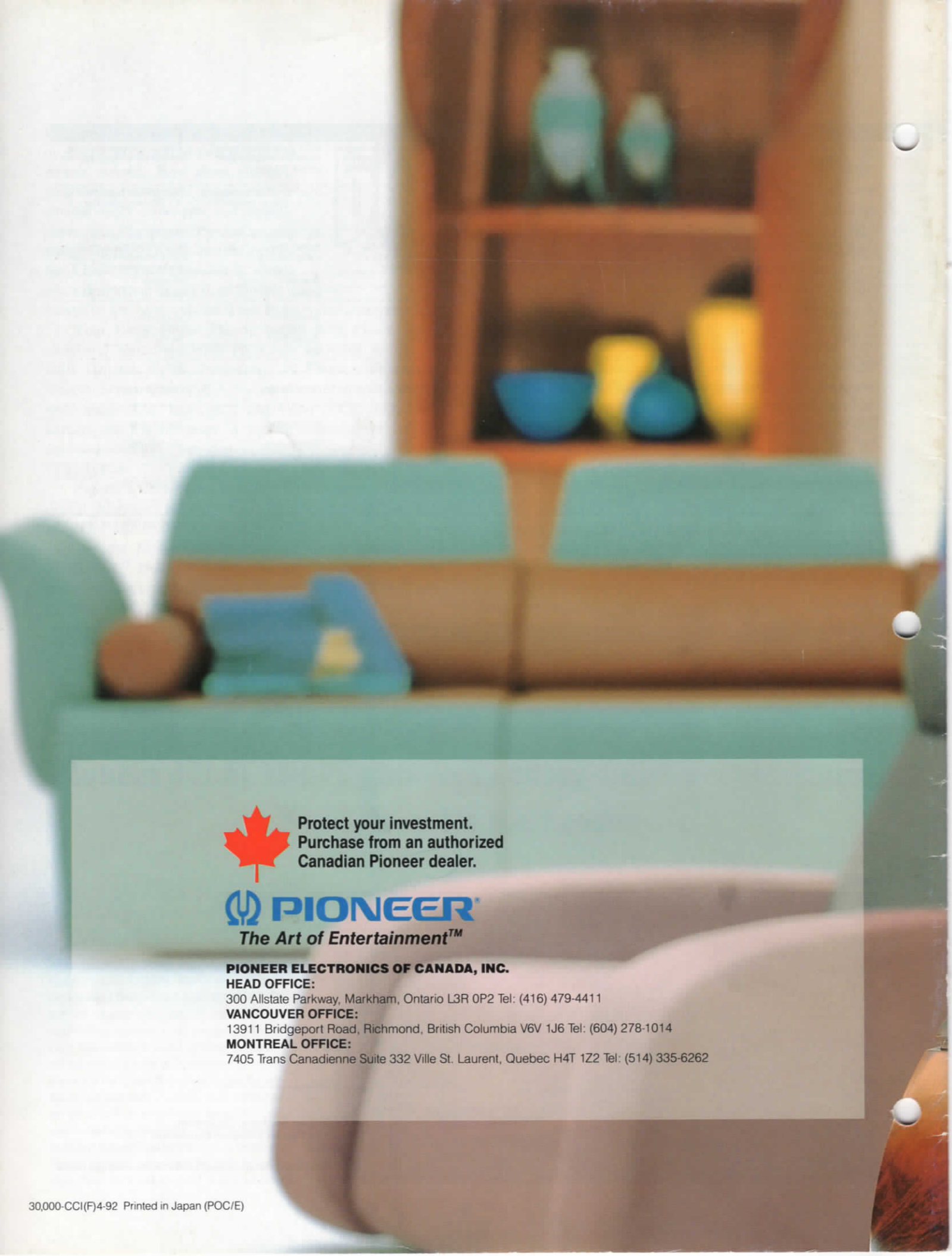
Note: Specifications and design subject to modification without notice.



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