

CD/CDV/LD and LD Players

CLD-3070 • CLD-2070 • CLD-1070 • LD-870



Full Laser Compatibility

The growing worldwide popularity of the **LaserVision format (LD)** surprises no one who knows why the audio and video contents of these videodiscs sound and look so good. The secret lies in the fact that the original information is encoded on the disc in the form of billions of little pits and "read" by an ultra-tight, highly focused beam of light.

The use of a laser pickup is the key to the success of the **Compact Disc (CD)** and **Compact Disc with Video (CDV)** formats, too.

Pioneer was the first in the world to perfect a player able to reproduce all three of these laser-read disc formats, CD, CDV and LD. The CLD models in these pages are direct descendants of that first combination laser player and, as such, guarantee **full laser compatibility** in both sound and vision.

Elsewhere in these pages we spell out exactly what kinds and sizes of laser-read discs you can enjoy, as well as the up-to-date digital and analog technologies and convenience features that make these extraordinary players and the LaserVision-only LD-870 model worthy of the central place in your home entertainment system.



TV picture simulated.



LaserVision discs are available in two sizes (**12"** and **8"**) and in either the **CAV** (constant angular velocity) mode for standard play, or the **CLV** (constant linear velocity) mode for extended play.

Playing time for both sides of the 12" LD can be as much as **two hours** in the CLV mode (**one hour** for the CAV) while for the 8" size it is **40 minutes** (**28 minutes** for the CAV).

What is lost in playing time in the CAV mode is gained in such conveniences as Multispeed play and being able to access any of the tens of thousands of individual frames one at a time via a specific frame number.

Also, LDs have the capacity for **digitized sound**—identical to that heard from CDs. On non-digitized LDs, the **analog soundtrack** has fidelity equal or superior to that of other ordinary analog sources.

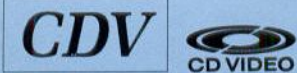
12-inch LD



8-inch LD

Play Any LD, CD or CDV on Any Pioneer CLD Player

5-inch CDV



This **5"** disc can be considered a crossbreed of CD and laser-read videodisc formats. CDVs can provide up to **five minutes of color video** programming with **digital sound**, as well as another **20 minutes** of **audio-only** digital enjoyment. Although it's the latest type of laser-read disc to appear, CDV already offers many exciting titles to choose from.

5-inch CD



3-inch CD



Compact Discs take advantage of the wide frequency and dynamic range, the ultra-low distortion and virtually noise-free characteristics of **digital sound**. Standard CDs (**5"**) can contain up to about **74 minutes** of programming, while the new "**CD Single**" (**3"**) type can hold up to about **20 minutes**.

Play Any CD, CDV or LD

Featuring Family Fun

- All-Disc Talents
Compatible for 12" and 8" LaserVision (LD) discs (CAV/CLV), any CD including 3" "singles" and any 5" CDV
- High-Quality Picture
High resolution (425 lines horizontal) and low video noise (46 dB video S/N)
- High-Quality Digital Sound
4—20,000 Hz frequency response, 100 dB S/N ratio and 95 dB dynamic range
- 4-Times Oversampling 18-Bit Emulating Digital Filter
- Twin D/A Converters



CLD-1070 CD/CDV/LD Player with High-Fidelity Digital Sound



Hi-Fi for the Eyes & Ears

Besides delivering all the basics of home-entertainment pleasure from the thousands of LaserVision (LD) titles now on the market, this compact player has a bonus: it plays Compact Discs and CDVs, too!

TRUE HI-FI PICTURE

No ordinary video source delivers such a deep and dynamic picture. LaserVision's amazing visual fidelity comes from its high resolution (425 lines horizontal) and its low video-noise capabilities (46dB video S/N). These technical specifications translate into picture reproduction that has noticeably less grain and "snow," and far better color rendition and resolution, than conventional VCRs. What's more, the annoying "jitter" common to videocassettes in normal, slow or "freeze" modes is gone forever.

GENUINE HI-FI SOUND

Pioneer's "Pure & Simple" design policy grows out of long experience in hi-fi, and is adopted in the audio as well as the video sections here. The sound quality is truly dynamic because it is digital—on CDs, CDVs and even on LaserVision discs (LDs) with digitized capability. Technically speaking, the frequency response is a wide 4—20,000Hz, the signal-to-noise ratio is an excellent 100dB and the dynamic range is 95dB.

VERY EASY OPERATION

Full Auto Disc Selection is a feature the whole family will appreciate. When you press PLAY, the player automatically detects disc size and type before play begins. Other features include:

- Intro-Scan Function
- Program Play for 24 Chapters or Tracks
- Multi-Speed Play (forward/reverse, 9 steps)
- CD Auto Program Edit
- CD/CDV Random Play
- 5-Mode Repeat: 2-point, chapter/track, one-side, memory, program
- 10-Key Direct Chapter/Track Search and Play
- Frame Number Search with CAV LDs and Time/Number Search with CLV LDs
- Track and Time Search for CD/CDVs
- In/Out Terminal for SR Remote Control
- Convenient Front-Panel Operation/Display with "Contents Calendar" for CD/CDV/LD*
- 24 chrs. x 10 lines On-Screen Display
- Absolute Time Display for accurate programming
- Remote Control with 10 keys, +10 key, etc.

*Contents Calendar for LDs with TOC (Table of Contents) codes only.

CD/CDV Purity and Both-Side LD Play



CLD-2070

CD/CDV/LD Player with Both-Side LD Play

Entertainment Treasurehouse

BOTH SIDES, NOW!

The question asked whenever a family gathered around the screen to watch a movie on LD used to be "Who's going to flip the disc over?" Now, thanks to Pioneer, the answer is, "Let the player do it!"

That's right. Automatic Both-Side LD Play makes Laser-Vision viewing even easier. You can enjoy an entire movie or music programming without troubling to flip the disc over (2 hours on 12" CLV LDs, 40 minutes on 8" CLV LDs). Maximum access time from the end of one side to the beginning of the next is only 15 seconds.

CD AUTO PROGRAM EDIT

Making audio dubs of CDs is made as easy as pushing a button. Thanks to this useful feature, you no longer have to guess how many tracks on a given CD can be recorded on one side of a given audio cassette tape. Instead, the CLD-2070 automatically calculates the playing-time totals for the tracks and compares them with the time factor you have entered for your tape.

OTHER FEATURES

• Intro-Scan Function • Side A/B Continuous Program Play • Program Play for 20 Chapters or Tracks • Multi-Speed Play (forward/reverse, 9 steps) • CD/CDV Random Play (of all tracks) • 6-Mode Repeat: 2-point, chapter/track, one-side, both-side, memory, program • 10-Key Direct Chapter/Track Search and Play • Frame Number Search with CAV LDs

Unique Abilities

- **Both-Side LD Play**
Automatic play of both sides of any LD (max. 2 hours per CLV disc)
- **All-Disc Talents**
Play any CD, CDV and LD
- **High-Quality Picture**
425-line horizontal resolution, 47 dB video S/N
- **High-Quality Digital Sound**
4—20,000 Hz frequency response, 100 dB S/N ratio, 95 dB dynamic range
- **4-Times Oversampling 18-Bit Emulating Digital Filter**
- **Twin D/A Converters**
- **Optical Digital Output**
- **File Function (up to 60 files)**

and Time-Number Search with CLV LDs • Track and Time Search for CD/CDVs • In/Out Terminal for SR remote control • Convenient Front-Panel Operation/Display with "Contents Calendar" for CD/CDV/LD* • Remote Control with 10 keys, +10 key and player power switch.

*Contents Calendar for LDs with TOC (Table of Contents) codes only.

**Fabulous Features
Including
Jog & Shuttle**



CLD-3070

CD/CDV/LD Player with Both-Side LD Play

**Puts You In
Total Control**

BOTH-SIDE PLAY AND ALL-DISC TALENTS

Automatic, consecutive play of both sides of any LD is provided. For accurate tracking and focusing, a Dual Centering Mechanism adjusts centering errors on both sides of an LD. Also, the CLD-3070 is compatible for laser-read discs of the LD, CD and CDV types.

STRICTLY "HI-FI" PICTURE & SOUND

High video resolution (425 lines horizontal), low video noise (47dB video S/N) and noiseless picture scan on CAV/CLV discs are among the reasons this player can be called truly "hi-fi" in its video performance. The sound, too, more than satisfies the most critical audiophile expectations, with the clean, crisp stereo separation associated with the finest CD players, with a wide frequency response (4—20,000Hz), low noise (100dB S/N) and wide dynamic range (95dB).

JOG & SHUTTLE FOR CONVENIENCE

One of the unique advantages of LaserVision is its ability to access individual video "frames" and display them with perfect clarity for as long as you like. Naturally, all Pioneer LD-capable players give you access to those frames on CAV discs only, but the Pioneer CLD-3070 has a JOG dial (for "fine-tuning") and SHUTTLE ring (for high-speed search) to make access even easier on both CAV and CLV discs.

These controls are provided on the front panel of the CLD-3070 as well as on its Remote Control unit. For CD play, special LOW & HIGH SCAN modes are added. (Audio muting of -12dB is automatic during search.)

Deluxe Features

- **Both-Side LD Play with Dual Centering Mechanism**
Automatic play of both sides of any LD (max. 2 hours per CLV disc)
- **All-Disc Talents**
Play any CD, CDV and LD
- **S-Video Output** *LaserDisc*
Direct and separate Y/C signal output to "S"-capable monitors
- **High-Quality Picture**
425-line horizontal resolution, 47dB video S/N
- **Jog & Shuttle**
Quick access and precision play for individual frames and segments
- **4-Times Oversampling 18-Bit Emulating Digital Filter**
- **Twin D/A Converters**
- **8-Bit Digital Field Memory**
- **Optical Digital Output**
- **File Function (up to 60 files)**

OTHER FEATURES

- Intro-Scan Function
- Side A/B Continuous Program Play
- Program Play for 20 Chapters or Tracks
- Multi-Speed Play (forward/reverse, 9 steps)
- CD/CDV Random Play (of all tracks)
- 6-Mode Repeat: 2-point, chapter/track, one-side, both-side, memory, program
- 10-Key Direct Chapter/Track Search and Play
- Frame Number Search with CAV LDs and Time-Number Search with CLV LDs
- Track and Time Search for CD/CDVs
- In/Out Terminal for SR remote control
- Convenient Front-Panel Operation/Display with "Contents Calendar" for CD/CDV/LD*
- Remote Control with Jog & Shuttle, 10 keys, +10 key and player power on/off switch.

*Contents Calendar for LDs with TOC (Table of Contents) codes only.

**All the Basics—
Plus a Bonus!**



LD-870 LD Player

Quality without Compromise

ENJOY ALL LD FORMATS

This affordable Pioneer player is the ideal choice for those who want to enjoy the exciting programming now available on the thousands of titles in the growing LD catalog. The player provides all the basic functions you'll need *plus* the superb audio and video quality on 12" and 8" LaserVision discs of either the CAV or CLV type.

SUPERB PICTURE

Because LaserVision programs are represented on the discs in the form of billions of microscopic pits, they cannot be damaged by repeated use. The laser pickup never touches the disc surface but instead glides along "reading" the reflections of light to derive the sight and sound content.

You can enjoy the benefits of this non-contact system, often called the ultimate in video delivery, with the LD-870. The player's high 425-line horizontal resolution and excellent 46dB video S/N translate into a bright, clear picture with virtually the same high quality as from higher-class Pioneer players.

DELIGHTFUL SOUND

Although the LD-870 is not digital capable, it does deliver hi-fi sound in analog, with 20—20,000 Hz (+1 dB, -3 dB) frequency response, 70dB S/N ratio (CX on), and 70dB dynamic range. Naturally, because even the "digital" LaserVision discs have an analog soundtrack (stereo when applicable), you can enjoy the full audio program from them all with quality approaching that of digital.

Top-Notch Features

- All LD Formats
Compatible for 12" and 8" LaserVision (LD) discs (CAV/CLV)
- High-Quality Picture
High resolution (425 lines horizontal) and low video noise (46 dB video S/N)
- High-Quality Analog Sound
20—20,000 Hz (+1 dB, -3 dB) frequency response, 70 dB S/N ratio (CX noise reduction on), 70 dB Dynamic Range
- Compact Laser Pickup
- One-Chip Video IC
- Constant-Distance Tilt Servo

SIMPLE OPERATION

Features such as Auto-Disc Selection mean that even children can operate this player without confusion or damage. Other features include:

- Intro-Scan Function
- Program Play for 24 Chapters
- Multi-Speed Play (forward/reverse, 9 steps)
- 5-Mode Repeat: 2-point, chapter, one-side, memory, program
- 10-Key Direct Chapter Search and Play on remote control
- Frame Number Search with CAV LDs and Time-Number Search with CLV LDs
- In/Out Terminal for SR remote control
- Improved Front-Panel Operation/Display
- 24 chrs. x 10 lines On-Screen Display
- Full-Function Remote Control with 10 keys, etc.

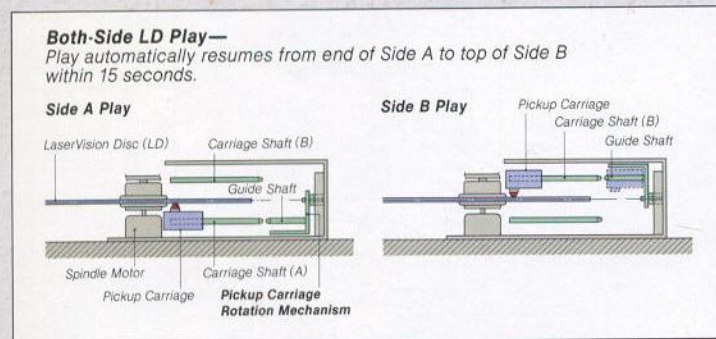
Keys to Performance Quality

THE LASER REVOLUTION IN AV

The Precision of Laser: You know the advantages of laser-read discs like LDs and CDs—they don't wear out, they contain nearly perfect pictures and digital sound, and they are very easy to play. Pioneer CLD combination players take maximum advantage of all these benefits in audio-only CDs (including the 3-inch singles), CDs with video content ("CDVs") and, of course, 12" and 8" Laser-Vision (LD) videodiscs. **Full Auto Disc Selection:** A single, high-performance spindle motor drives the disc you choose to play. When the tray opens fully, you load the disc, press PLAY on the front panel or the remote control and it's all automatic from then on. The tray closes, the disc size and type is detected and play begins.

NONSTOP PLEASURE

Both-Side LD Play: A 12-inch LD of the CLV type can hold up to two hours of program (60 minutes per side). With Pioneer's innovative α -turn mechanism and Both-Side Play, you can enjoy an entire 2-hour movie without troubling to flip the disc over. **Hold-Frame Memory (CLD-3070):** Maximum access time from the end of one side to the beginning of the next is only 15 seconds. During that time, a frame from the end of the first side is held on the screen until play begins on the next side.



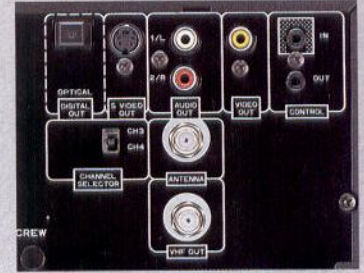
TRUE HI-FI PICTURE

Precision Laser Pickup: This is one of the secrets of the high resolution and low video noise achieved in all the models in this brochure. The pickup's compact size and highly sensitive actuator greatly improve responses in tracking and slider operation. **Opto-electronic IC:** This OEIC chip incorporates both a pin-photodiode to convert optical signals to radio frequencies and the wideband RF amplifier to which they are routed. Because the signal paths are as short and well shielded as possible, no outside interference can spoil picture quality. **One-Chip Video IC:** Again, Pioneer ultra-miniaturization techniques have packed several complicated circuits into one tiny IC; fewer parts, smaller size, less power consumption and higher reliability are the benefits. **S-Video Output (CLD-3070):** A Y/C separation circuit is built in using a high-performance comb filter. Y/C signals can be output direct to TVs with Y/C input for cleaner picture and color reproduction. **Tilt & Height Servo (CLD-3070/2070):** The Tilt and Height Servo mechanisms adjust focusing so that laser beams hit precisely on target to deflect the correct information back to the pickup. Independently servo-adjusted for angle and distance, they provide finer "tuning" of the pickup for a sharper picture. **Dual Centering Design (CLD-3070/2070):** The two sides

of a given LD may not have identical centering spots. Independent and accurate centering of the side in play—accomplished by our new Dual Centering Design—is necessary to prevent time-base errors and jitters.

S-Video Output—

All Pioneer LD and CLD players can show their pictures on ordinary TVs and monitors via RF or Video connections. Those players with the special "S" Terminal can also send separate color and luminance (Y/C) signals to any connected S-capable video deck, monitor, etc. for a still more outstanding picture.

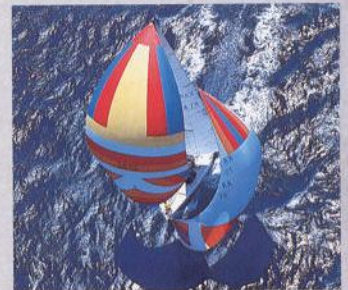


SUPERB HI-FI SOUND

4-Times Oversampling 18-Bit Emulating Digital Filter: Passing on the incredible fidelity of audio content of digitized LDs and CDs to your ears without compromise was the design goal of the audio sections of Pioneer's newest CLD combination players. One of the major contributions is the use of 18-bit emulating "4-times oversampling" to extend the usual 44.1 kHz digital sampling frequency to 176.4 kHz. This makes it unnecessary to use a multistage, analog low-pass filter to remove sampling noise in the harmonics of the sampling frequency, and avoids the high-frequency phase changes and distortion such filters can cause. **Twin Digital-to-Analog Converters:** Two separate D/A converters, one in each channel, reduce phase differences and crosstalk between channels virtually to zero. Also, as a "deglitcher" switch is unnecessary, no switching noise can compromise the high S/N ratio and superb linearity. The result is a deep, clear sound with sharp image localization. **Optical Digital Output (CLD-3070/2070):** Some of these players provide a terminal for use with an optional optical-fiber lead to transfer data to a digital amp or onboard D/A converter. **Anti-Vibration & Other Measures for Audio Purity:** As top-quality high-fidelity components, all players in this brochure incorporate a number of special techniques to defeat unwanted resonances—a Honeycomb Structure in the under-base of the main chassis and the Honeycomb Base of the Both-Side play mechanism (CLD-3070/2070) to increase rigidity and attenuate vibrations, Diecast Aluminum Base for the pickup holder and carriage assembly and BMC (glass-fiber-reinforced compound of unsaturated polyester resin and calcium carbonate), both to give a high-rigid construction, a large internal loss and excellent attenuation characteristics, large Insulator "Feet" to absorb external shocks and remove any threat to clean and rich sound reproduction, and Low-Center-of-Gravity Design for both spindle motor and transformer support structures to suppress vibrations occurring inside the player.

SPECIAL PICTURE EFFECTS

An 8-Bit (256-level) Sampling RAM with a one-megabit storage capacity constitutes the **Digital Memory** in the CLD-3070. As one side of a videodisc ends, the RAM (Random-Access Memory) digitally holds and displays a current frame until the next side begins. The chip's reference-shift TBC (Time-Base Corrector) servo system enables various "Trick Play" functions—all with a clear, stable picture from CAV and CLV discs. In addition to STILL with SOUND for a single, "frozen" frame with ongoing audio, the CLD-3070 provides STROBE MOTION excitement and ONE-SHOT MEMORY convenience.



SPECIAL FEATURES

CD Auto Program Edit: When editing a CD to a cassette tape, input the length (time) of the side of the tape you are using, then start CD play. A microprocessor in these CLD models will let you know how many tracks on that CD can be recorded on that side of the tape.

Comparison: Remote-Control Functions

	CLD-3070				CLD-2070				CLD-1070				LD-870		
	LD		Compact Disc		LD		Compact Disc		LD		Compact Disc		LD		
	Standard-Play (CAV)	Extended-Play (CLV)	CD	CDV	Standard-Play (CAV)	Extended-Play (CLV)	CD	CDV	Standard-Play (CAV)	Extended-Play (CLV)	CD	CDV	Standard-Play (CAV)	Extended-Play (CLV)	
GENERAL FUNCTIONS															
TV/LDP selector	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Play	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Eject	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Pause	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Disc-side selector	yes	yes			yes	yes			yes	yes			yes	yes	
Power on/off	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	
AUDIO FUNCTIONS															
Audio monitor (Stereo, 1/L, 2/R)	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	
Auto digital/analog	yes ¹	yes ¹			yes ¹	yes ¹			yes ¹	yes ¹					
CX system on/off	yes ²	yes ²			yes ²	yes ²			yes ²	yes ²			yes ²	yes ²	
SCAN/SEARCH FUNCTIONS															
Jog & shuttle	yes	yes	yes	yes											
Scan (forward/reverse)	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	
Chapter-number search	yes ³	yes ³			yes ³	yes ³			yes ³	yes ³			yes ³	yes ³	
Chapter-skip search (forward/reverse)	yes ³	yes ³			yes ³	yes ³			yes ³	yes ³			yes ³	yes ³	
Track-number search			yes	yes			yes	yes			yes	yes			
Track-skip search			yes	yes			yes	yes			yes	yes			
Frame-number search	yes				yes				yes				yes		
Time-number search		yes	yes	yes		yes	yes	yes		yes	yes	yes		yes	
REPEAT PLAY FUNCTIONS															
2-point repeat	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	
Memory repeat	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	
Chapter repeat	yes ³	yes ³			yes ³	yes ³			yes ³	yes ³			yes ³	yes ³	
Track repeat			yes	yes			yes	yes			yes	yes			
Programmed-chapter repeat	yes ³	yes ³			yes ³	yes ³			yes ³	yes ³			yes ³	yes ³	
Programmed-track repeat			yes	yes			yes	yes			yes	yes			
One-side repeat	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	
Both-side repeat	yes	yes			yes	yes			yes	yes			yes	yes	
SPECIAL PLAY FUNCTIONS															
Multispeed play (forward/reverse, 9 steps)	yes	yes		yes ⁴	yes				yes					yes	
Chapter program play (up to 20 or 24 chapters)	yes ³	yes ³			yes ³	yes ³			yes ³	yes ³			yes ³	yes ³	
Track program play (up to 20 or 24 tracks)			yes	yes			yes	yes			yes	yes			
Program correction	yes ³	yes ³	yes	yes	yes ³	yes ³			yes ³	yes ³			yes ³	yes ³	
File function	yes	yes	yes	yes											
Still/step play (forward/reverse)	yes	yes		yes ⁴	yes				yes				yes		
Still with sound	yes	yes		yes ⁴											
Stroboscopic motion	yes	yes		yes ⁴											
One-shot memory	yes	yes		yes ⁴											
Random play							yes	yes			yes	yes			
Auto program edit			yes	yes ⁵			yes	yes ⁵			yes	yes ⁵			
ON-SCREEN DISPLAYS															
Disc-side selection	yes	yes			yes	yes									
Multispeed play (forward/reverse, 9 steps)	yes	yes		yes ⁴	yes	yes			yes	yes			yes	yes	
Chapter number	yes ³	yes ³			yes ³	yes ³			yes ³	yes ³			yes ³	yes ³	
Track number			yes	yes			yes	yes			yes	yes			
Frame number	yes				yes				yes				yes		
Time number		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	
Total chapters/play time	yes ⁶	yes ⁶			yes ⁶	yes ⁶			yes ⁶	yes ⁶			yes ⁶	yes ⁶	
Total tracks/play time			yes	yes			yes	yes			yes	yes			
Remaining time	yes	yes	yes	yes ⁵	yes	yes	yes	yes ⁵	yes	yes	yes	yes	yes	yes	
Repeat	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	
Program play	yes ³	yes ³	yes	yes	yes ³	yes ³	yes	yes	yes ³	yes ³	yes	yes	yes ³	yes ³	
Digital/analog sound	yes	yes			yes	yes			yes	yes			yes	yes	

Notes: 1) Applicable only with discs having digital sound.

2) Applicable only with discs having CX noise reduction codes.

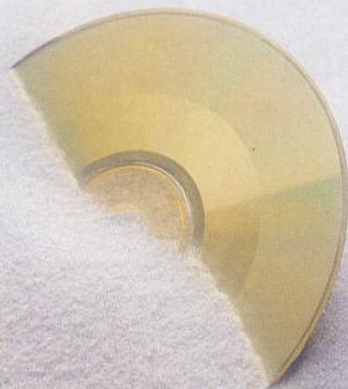
3) Applicable only with discs having chapter number codes.

4) Applicable only with video-part tracks on CDV.

5) Applicable only with audio-part tracks on CDV.

6) Applicable only with discs having TOC (table of contents) codes.

• CX is a trademark of CBS Inc.



Specifications

	CLD-3070	CLD-2070	CLD-1070	LD-870
SYSTEM				
Type:	LaserVision videodisc system, Compact Disc with Video and Compact Disc digital audio system	LaserVision videodisc system, Compact Disc with Video and Compact Disc digital audio system	LaserVision videodisc system, Compact Disc with Video and Compact Disc digital audio system	LaserVision videodisc system
TYPES OF DISCS				
LD	12 in. (30 cm) standard-play (CAV) disc: 60 min./both sides	12 in. (30 cm) standard-play (CAV) disc: 60 min./both sides	12 in. (30 cm) standard-play (CAV) disc: 60 min./both sides	12 in. (30 cm) standard-play (CAV) disc: 60 min./both sides
Maximum playing time:	12 in. (30 cm) extended-play (CLV) disc: 120 min./both sides 8 in. (20 cm) standard-play (CAV) disc: 28 min./both sides 8 in. (20 cm) extended-play (CLV) disc: 40 min./both sides	12 in. (30 cm) extended-play (CLV) disc: 120 min./both sides 8 in. (20 cm) standard-play (CAV) disc: 28 min./both sides 8 in. (20 cm) extended-play (CLV) disc: 40 min./both sides	12 in. (30 cm) extended-play (CLV) disc: 120 min./both sides 8 in. (20 cm) standard-play (CAV) disc: 28 min./both sides 8 in. (20 cm) extended-play (CLV) disc: 40 min./both sides	12 in. (30 cm) extended-play (CLV) disc: 120 min./both sides 8 in. (20 cm) standard-play (CAV) disc: 28 min./both sides 8 in. (20 cm) extended-play (CLV) disc: 40 min./both sides
Spindle-motor speeds:	Standard play (CAV) disc: 1,800 rpm Extended play (CLV) disc: 1,800—600 rpm (12 in./30 cm disc)	Standard play (CAV) disc: 1,800 rpm Extended play (CLV) disc: 1,800—600 rpm (12 in./30 cm disc)	Standard play (CAV) disc: 1,800 rpm Extended play (CLV) disc: 1,800—600 rpm (12 in./30 cm disc)	Standard play (CAV) disc: 1,800 rpm Extended play (CLV) disc: 1,800—600 rpm (12 in./30 cm disc)
5-inch/3-inch Compact Discs				
Maximum playing time:	5 in. (12 cm) disc: Over 60 min. 3 in. (8 cm) disc: Over 20 min.	5 in. (12 cm) disc: Over 60 min. 3 in. (8 cm) disc: Over 20 min.	5 in. (12 cm) disc: Over 60 min. 3 in. (8 cm) disc: Over 20 min.	
Rotation direction:	Counterclockwise (pickup side)	Counterclockwise (pickup side)	Counterclockwise (pickup side)	
Linear speed:	1.2—1.4 m/sec.	1.2—1.4 m/sec.	1.2—1.4 m/sec.	
CDV				
Maximum playing time:	Audio only: 20 min. Audio & video: 5 min.	Audio only: 20 min. Audio & video: 5 min.	Audio only: 20 min. Audio & video: 5 min.	
Rotation direction:	Counterclockwise (pickup side)	Counterclockwise (pickup side)	Counterclockwise (pickup side)	
Linear speed:	Audio only: 1.2—1.4 m/sec. Audio & video: 11—12 m/sec.	Audio only: 1.2—1.4 m/sec. Audio & video: 11—12 m/sec.	Audio only: 1.2—1.4 m/sec. Audio & video: 11—12 m/sec.	
VIDEO CHARACTERISTICS				
Horizontal resolution:	425 lines	425 lines	425 lines	425 lines
Video signal-to-noise ratio:	47 dB	47 dB	46 dB	46 dB
DIGITAL AUDIO CHARACTERISTICS (EIAJ)				
Frequency response:	4—20,000 Hz (+0.5/—1.0 dB)	4—20,000 Hz (+0.5/—1.0 dB)	4—20,000 Hz (+0.5/—1.0 dB)	
Signal-to-noise ratio:	100 dB	100 dB	100 dB	
Dynamic range:	95 dB	95 dB	95 dB	
Channel separation:	92 dB	92 dB	92 dB	
Wow and flutter:	Unmeasurable (±0.001% weighted peak or less)	Unmeasurable (±0.001% weighted peak or less)	Unmeasurable (±0.001% weighted peak or less)	
ANALOG AUDIO CHARACTERISTICS				
Frequency response:	20—20,000 Hz	20—20,000 Hz	20—20,000 Hz	20—20,000 Hz
Signal-to-noise ratio:	More than 70 dB (CX on)	More than 70 dB (CX on)	More than 70 dB (CX on)	More than 70 dB (CX on)
Dynamic range:	More than 70 dB (CX on)	More than 70 dB (CX on)	More than 70 dB (CX on)	More than 70 dB (CX on)
OUTPUTS				
VHF output (NTSC)				
Channel:	Channel 3 or 4 (switchable)	Channel 3 or 4 (switchable)	Channel 3 or 4 (switchable)	Channel 3 or 4 (switchable)
Terminal:	F-type jack (75 ohms, unbalanced)	F-type jack (75 ohms, unbalanced)	F-type jack (75 ohms, unbalanced)	F-type jack (75 ohms, unbalanced)
Video output				
Output level:	1 Vp-p (75 ohms, synch. negative) S-Video terminal: Y-output level: 1 Vp-p (75 ohms) C-output level: 286 mVp-p (75 ohms)	1 Vp-p (75 ohms, synch. negative)	1 Vp-p (75 ohms, synch. negative)	1 Vp-p (75 ohms, synch. negative)
Output terminals:	RCA jack (75 ohms, unbalanced) S-Video terminal (75 ohms)	RCA jack (75 ohms, unbalanced)	RCA jack (75 ohms, unbalanced)	RCA jack (75 ohms, unbalanced)
Audio output				
Output level:	Digital/analog terminals: 200 mV rms (1 kHz, 40%) [analog] 200 mV rms (1 kHz, —20 dB) [digital]	Digital/analog terminals: 200 mV rms (1 kHz, 40%) [analog] 200 mV rms (1 kHz, —20 dB) [digital]	Digital/analog terminals: 200 mV rms (1 kHz, 40%) [analog] 200 mV rms (1 kHz, —20 dB) [digital]	Analog terminal: 200 mV rms (1 kHz, 40%) [analog]
Output terminals:	RCA jacks Digital output (optical)	RCA jacks Digital output (optical)	RCA jacks	RCA jacks
Channels				
LD:	Discrete 2 channels (1/L, 2/R, 1/L+2/R, switchable)	Discrete 2 channels (1/L, 2/R, 1/L+2/R, switchable)	Discrete 2 channels (1/L, 2/R, 1/L+2/R, switchable)	Discrete 2 channels (1/L, 2/R, 1/L+2/R, switchable)
CD/CDV:	2 channels (stereo)	2 channels (stereo)	2 channels (stereo)	
OTHER TERMINAL				
Control input/output:	Mini-jack (for SR remote control)	Mini-jack (for SR remote control)	Mini-jack (for SR remote control)	Mini-jack (for SR remote control)
GENERAL				
Power requirements:	AC 120 V, 50/60 Hz	AC 120 V, 50/60 Hz	AC 120 V, 50/60 Hz	AC 120 V, 50/60 Hz
Power consumption:	50 W	45 W	37 W	35 W
Dimensions (W × H × D):	16-9/16 × 5-1/8 × 19 in. (420 × 130 × 482 mm)	16-9/16 × 5-1/8 × 18-5/8 in. (420 × 130 × 473 mm)	16-9/16 × 4-13/16 × 16-3/8 in. (420 × 122 × 416 mm)	16-9/16 × 4-13/16 × 16-3/8 in. (420 × 122 × 416 mm)
Weight:	24 lbs. 8 ozs. (11.1 kg)	23 lbs. 12 ozs. (10.8 kg)	16 lbs. 8 ozs. (7.5 kg)	16 lbs. 5 ozs. (7.4 kg)
Allowable temperatures for accurate operation:	+41°F—+95°F (+5°C—+35°C)	+41°F—+95°F (+5°C—+35°C)	+41°F—+95°F (+5°C—+35°C)	+41°F—+95°F (+5°C—+35°C)
Allowable humidity for accurate operation:	5%—90% (w/o dew condensation)	5%—90% (w/o dew condensation)	5%—90% (w/o dew condensation)	5%—90% (w/o dew condensation)



PIONEER LASER HOME THEATER

Big-screen monitors, surround-sound systems and the incredibly high quality of LaserVision combine to provide amazing audio-video entertainment right in your very own home. There are thousands of LaserVision, CD and CDV titles to choose from, ranging from the very latest hit movies and albums

to classic films and "golden oldie" music collections—all yours to enjoy through the magic of the Laser Home Theater. With a Pioneer CLD or LD player, a Pioneer Projection TV and a Pioneer AV Receiver with Dolby Surround, the sensation is like being in a state-of-the-art cinema or concert hall.

Resolution: The Secret's in the Lines

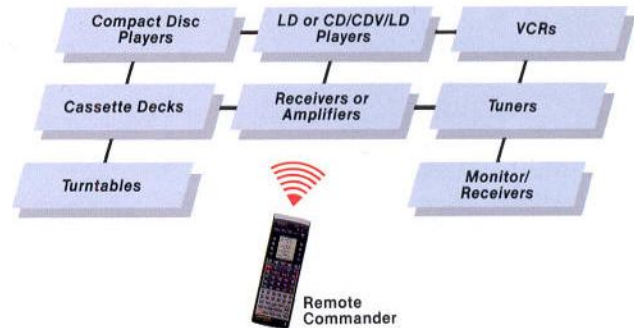
What is the key to superior video reproduction? In technical terms, it lies in the number of pixels in the scanning line that can be generated by a source component or displayed on the

screen of a TV or monitor. Most often, the number of pixels in the horizontal line is the figure quoted. Here are examples of the horizontal resolution of typical video products.



Notice:
The data shown are from various TV and VCR manufacturers, collected a few months before the production of this brochure.

Pioneer SR System



The major functions of our LD and CD/CDV/LD players and other Pioneer audio-video source components bearing the "SR" (System Remote) mark can be controlled from the "SR" unified A/V commander of any Pioneer "SR" A/V receiver or A/V amplifier.

LaserDisc™

LaserDisc is a trademark of Pioneer Electronic Corporation.



The LaserVision mark certifies compatibility with other laser optical video products bearing the mark.



This mark indicates compatibility with Pioneer system remote control.

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PIONEER®

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