

CLASSÉ AUDIO

CDP-1.5

CD PLAYER

CDP-1.5

OWNER'S MANUAL

CLASSÉ DESIGN PHILOSOPHY

1. REPEATED LISTENING DESIGN SESSIONS:

Fine tuning the sound by exchanging and mixing different parts (transistors, capacitors, wiring, PCB boards etc.), and adjusting many specific operating voltages within proper engineering ranges, has allowed us to produce an overall sonic recipe giving the most natural harmonic realism of music typical of instruments in a live performance.

2. UPGRADABLE SINGLE CIRCUIT DESIGNS:

All Classé products share exactly the same circuit design philosophy. This means all amplifiers and all high level circuits benefit from the same design goals. Similar circuits are then tailored to different power levels etc. Differences between less expensive models and more expensive models are parts quality and compliment, power supply extravagance and the amount of filtering etc., as well as features and packaging.

This means that for years Classé has been constantly sonically fine tuning and technically upgrading this circuit design and its application, thus reaching a very high level of natural musical enjoyment as well as excellent reliability which benefits all models.

3. EXTREME LONG LIFE IN REAL WORLD CONDITIONS:

Choosing the best attainable quality parts and materials combined with the advantages of the two above-mentioned areas provides Classé owners with years of proven trouble-free reliability and musical enjoyment.

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UNPACKING & SET-UP

WARNING

THE CDP-1.5 IS NOT TO BE OPERATED WITH THE COVER OPENED.

THERE IS INVISIBLE LASER RADIATION WHEN THE COVER IS OPENED.

AVOID DIRECT EXPOSURE TO THE LASER BEAM.

SAFETY INSTRUCTIONS

- 1. WATER AND MOISTURE:** This product should not be used near water. To prevent fire or shock hazard, do not expose this product to rain or moisture.
- 2. HEAT:** This product should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances which produces heat.
- 3. POWER SOURCES:** This product should be connected to an AC power source of the proper rated voltage. The original shipping container and the serial number tag at the back of the unit will stipulate the AC voltage from which this unit can operate correctly.
- 4. SERVICING:** Do not open this unit for any reason. No user serviceable parts inside. Refer servicing to an authorized service technician.
- 5. NON-USE PERIODS:** The power cord of this unit should be unplugged from the AC outlet when left unused for an extended period of time.
- 6. DO NOT REMOVE THE TOP COVER** while the unit is 'on' or connected to an AC outlet, there is a **SHOCK HAZARD**, also, foreign objects could fall in the unit and cause severe damage to internal components, the player may also leak invisible laser radiation. **AVOID DIRECT EXPOSURE TO THE BEAM.**

1. UNPACKING AND ACCESSORIES:

The Classé CDP-1.5 has been carefully wrapped in heavy gauge plastic, packed in semi-rigid foam and contained in a special box. To remove the unit, open and spread the top flaps of the box. By its sides, lift the CDP-1.5 out along with its attached foam packing. Remove each foam side by pulling them straight out. Remove the plastic wrap and inspect the unit for any concealed damage. Report any concealed damage to your dealer promptly.

Apart from this owner's manual, please ensure the following is also included:

- 1) Detachable A.C. power cord.
- 2) Remote control handset (along with two (2) type "AAA" batteries).

Please report any missing parts to your dealer promptly.

2. SETUP:

The CDP-1.5 CD player must be operated on a horizontal platform (see specifications for details) such as a table or, preferably, specialized audio furniture to extract the best performance. Like fine turntables and interconnect cables, the final location of the CDP-1.5 should be free of any hum-inducing magnetic fields, such as those caused by power amplifiers, AC line filters and other regulation devices. Such locations can introduce noise into an audio system, which inevitably degrades sound quality. Ideally, a few feet should separate the CDP-1.5 from the power amplifier. As well, keep low-level interconnect cables away from the power amp and separate from A.C. power cords. The CDP-1.5 generates negligible amounts of heat. Therefore, air space around the CDP-1.5 for ventilation need not be a concern.

Important! Check the Serial Number sticker on the back of the unit for the correct operating voltage. Regardless of the voltage, the fuse rating should be a 3/8 AMP SLO-BLO type.

A.C. LINE POWER

The ON/OFF (POWER) switch on the CDP-1.5 is located on the front panel of the unit, at the left, besides the CD drawer. While thoroughly musical shortly after turn-on, the CDP-1.5 will exhibit "sonic growth" for the first 300 hours of use.

For optimum sonic performance, you should consider use of the optional CLASSÉ REFERENCE A.C. LINE CORD. Consult your dealer regarding this accessory.

CAUTION: "FLOATING THE GROUND" OR DEFEATING THE GROUND ON A 3-PRONG LINE CORD MAY CREATE A SHOCK HAZARD. CONNECT ALL INTERCONNECT CABLES BETWEEN THE ELECTRONICS BEFORE CONNECTING THE A.C. LINE CORDS TO THE WALL OUTLETS. THIS WILL REDUCE THE POTENTIAL SHOCK HAZARD. IN ADDITION PLEASE READ THE WARRANTY SECTION OF THIS OWNER'S MANUAL.

REAR PANEL CONNECTIONS AND FUNCTIONS

The CDP-1.5 compact disk player is equipped with both BALANCED and REGULAR RCA (single ended) analog outputs. Connecting the CDP-1.5 to your audio system requires a pair of BALANCED or REGULAR RCA type interconnects and the supplied AC power cord. The CDP-1.5 is also equipped with a SINGLE ENDED (S/PDIF) and BALANCED (AES/EBU) data output connector. To use these outputs, you require a SINGLE-ENDED (REGULAR) DIGITAL or a BALANCED digital cable as well as an S/PDIF input connector or an AES/EBU input on your digital processor.

A NOTE ABOUT THE CONNECTING CABLES:

The overall performance of the CD PLAYER will vary dramatically with the quality and type of cables chosen. Selection of the highest quality digital output cables combined with proper output interconnects is recommended for maximum performance of the Classé CDP-1.5.

AC LINE INPUT

In addition to the analog and digital outputs, the remaining connection on the rear panel of the CDP-1.5 is the AC input connector. Connect the supplied AC power cord to this input. As the CAUTION section on the previous page indicates, it is always a wise PRECAUTION to connect all interconnect cables before attaching the AC power cords.

DISPLAY, FUNCTIONS AND OPERATIONS

1. FUNCTIONS:

The front panel of the CDP-1.5 has eight buttons that perform all the basic necessary functions. The remote control contains all the basic functions found on the front panel (except the LOAD and POWER buttons) as well as all advanced programming features.

POWER: Press this button to turn the unit ON or OFF.

LOAD: Press this button once to open the disk tray. Pressing it again will close the tray.

PREVIOUS (◀): Pressed once during playback, the CDP-1.5 will start playing the previous track.

Pressing it sequentially will cause the CDP-1.5 to go back one track each time it is pressed. This button is also used to select tracks to play and program into memory.

NEXT (▶): Each time this button is pressed, the CDP-1.5 will advance one track i.e. press it twice to advance two tracks, three for three tracks, etc. If pressed during playback, the CDP-1.5 resumes playing from the desired track. If pressed while stopped, the CDP-1.5 will await further commands.

PLAY/PAUSE: Press this button to start playback. Pressing it again will pause the music until it is pressed once more.

FORWARD (») AND REVERSE («) SEARCH: The CDP-1.5 employs a convenient 2-speed search. These buttons allow you to quickly search through the disk in both directions. Press and hold down the desired SEARCH button. The time counter will approximately double in speed, and the track heard will be reduced in volume. Once the desired point is reached, release the SEARCH button, playback will resume.

If the SEARCH button is held for more than 4 seconds, the CDP-1.5 goes into a high-speed search mode, and the time counter advances very rapidly. During high-speed search, the volume is completely muted.

In addition to all the above functions, the remote handset of the CDP-1.5 contains the following additional functions.

NUMERIC KEYPAD (digits 0 through 9): This is a convenient alternative to the PREVIOUS and NEXT buttons. Pressing the desired track number on the numeric keypad is usually faster than the PREVIOUS and NEXT buttons. For example, if you just inserted a disk and wish to play track 8, pressing 8 followed by PLAY is easier than pressing the NEXT button eight times, and then PLAY.

REPEAT: Repeats the whole disk, the programmed tracks or just the single track being heard.

STORE: Stores selected tracks into memory for playback.

CLEAR: Will clear the last track entered into memory.

DISPLAY: When pressed once, the display will count backwards giving the total remaining time on the disc or the programmed tracks. If pressed once more, the display will count upwards the total time on the disc or the programmed tracks. If pressed once again, the display will return to its normal function.

NOTE: There is no variable output on the CDP-1.5.

2. DISPLAY INFORMATION AND VARIOUS MODES OF OPERATION:

To insert a disk, press LOAD to open the CD tray. Gently place the disk with the label side up on the tray, and press LOAD again, the tray will close, and several seconds later the display will indicate the total number of tracks on the disk with the total playing time. If the disk has not been properly inserted, or is inserted upside down, ZERO's (0 0 00) will appear on the display. Disks with bad scratches, pinholes, or other severe manufacturing defects might also not be useable.

Once the display confirms the number of tracks and playing time, the CDP-1.5 is in STOP mode. At this point, you can carry out several different playback modes. Each is described in detail below.

Playback from the beginning or from a selected track

To play an entire disk from the beginning, press PLAY. The CDP-1.5 will start playing in a few seconds, and will play the entire disk. To play from a desired track onwards, select the desired

2. DISPLAY INFORMATION AND VARIOUS MODES OF OPERATION: (Continued)

track using the NEXT (➤) and/or PREVIOUS (➤) buttons, or with the numeric keypad on the remote control. Then press PLAY. The disk will play from that point on until the end of the disk. While playing, the display will show each track currently playing along with the elapsed time from the beginning of that track. Once the disk is over, the CDP-1.5 will return to STOP mode.

Playback of only selected tracks

You can program the CDP-1.5 to play any combination of tracks on a disk, up to a maximum of 20. Using the NEXT (➤) and PREVIOUS (➤) buttons, or the numeric keypad, find the first desired track on the display. Then press the STORE button. Repeat this procedure until all desired tracks have been stored. As each track is being stored, the display indicates the total playing time of all tracks currently programmed. Press PLAY. Playback will commence from the first programmed track, and all programmed tracks will play in the order they were stored. Please note that:

- If you try to program more than 20 tracks, no more tracks will be entered into memory.
- During programmed playback, the numeric keypad is disabled; use NEXT and PREVIOUS to change tracks.
- The programmed tracks don't have to be in ascending numerical order; i.e. you can program track 2 to play after track 6.
- If you programmed a track by accident, simply press CLEAR, that track will be deleted from memory.
- To clear all the tracks programmed in memory, press the STOP button twice if the CDP-1.5 is already playing, or once if it is not. If you intend on changing the disk, simply opening the disk tray automatically erases all programmed tracks from memory.

Playback using REPEAT

Pressing the REPEAT button will have the unit repeating the entire disk. Once the REPEAT mode is chosen, press PLAY.

The REPEAT feature can also be used with tracks programmed in memory in the same way as above.

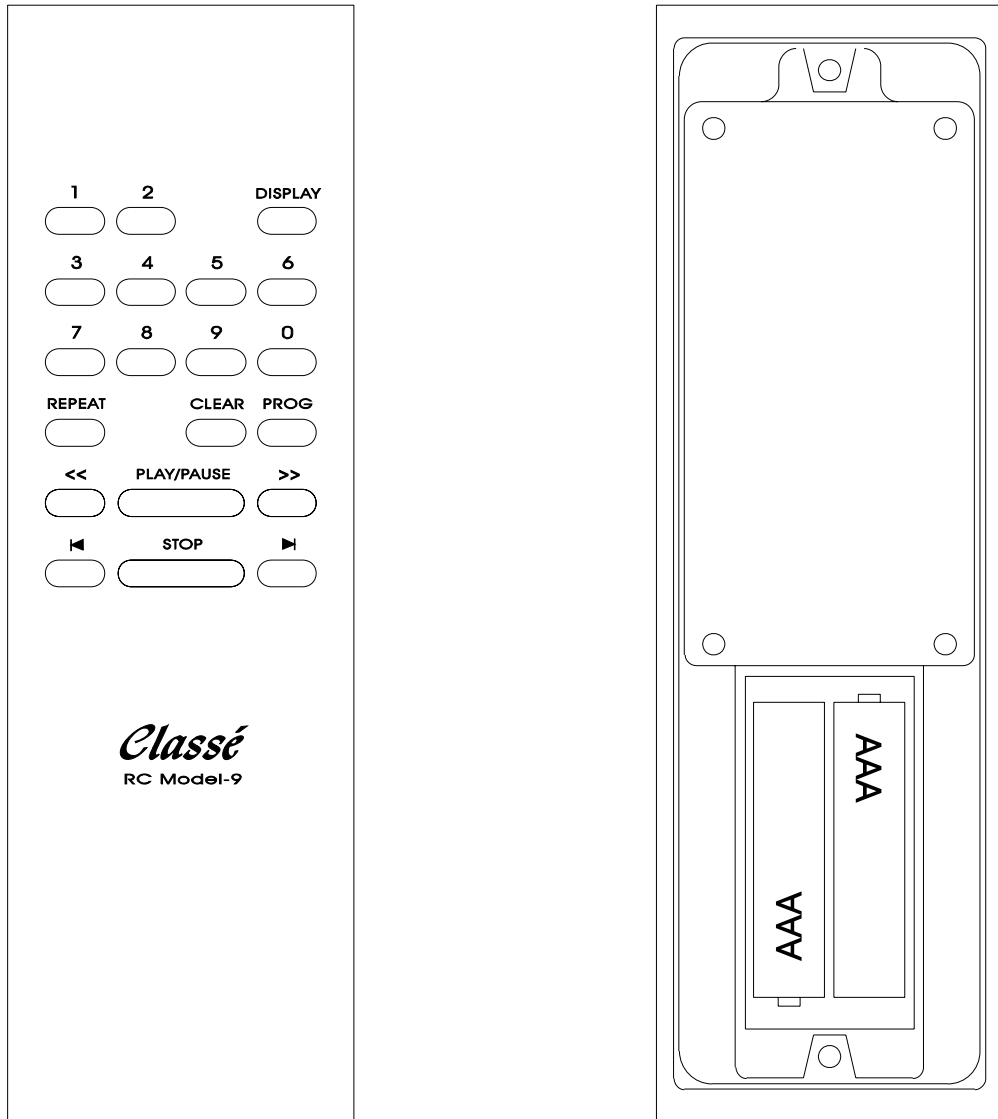


Fig 2: CDP-1.5 remote control

TECHNICAL DESCRIPTION

The Classé CDP-1.5 compact disk player is high quality unit utilizing the latest innovations in digital audio reproduction. The philosophy behind the CDP-1.5 is advanced technology for extracting the maximum musical performance, but also embraces the time proven idea of simplicity, in accordance with the saying "simpler is better."

No effort has been spared in the development of the CDP-1.5. The chassis is of exceptionally thick gauge metal, and has been designed to resist vibration through solid construction and proper isolation from sources of vibration. The 3/8 inch thick faceplate is a tribute to its construction and aesthetics.

Inside, main power is provided by a custom high-current toroidal transformer. The power supply of the CDP-1.5 is generously oversized to assure that regardless how much current is drawn, the circuitry will remain unaffected by any fluctuations. Numerous power supplies are used, to assure the elimination of interference caused by fluctuations often induced by heavy current draw on shared supplies. The CDP-1.5 inherently has a low power consumption, but micro-information is easily contaminated when traditional power supplies clip due to their inadequate output. This is the general idea behind the high current, stable supply that powers the CDP-1.5.

The disk transport itself is the Sanyo CD91F7. This mechanism employs a newly-developed linear tracking laser pickup which is fast, quiet, and long lasting. The CD91F7 is of very high quality, and its outstanding construction using highly efficient, long life motors assures excellent long-term reliability. In addition, this compact disk player is designed not to require periodic calibration, assuring that long-term alignment will always be right on specification.

Jitter, also known as errors in the time domain, is the prime factor in performance degradation, and Classé has addressed this problem from every perspective. One aspect is the outstanding power supply described above; another is the exceptional re-clocking circuitry. Using a 16.9344 MHz crystal oscillator to generate the digital output, the final jitter measured at the output is typically so low it can barely be detected.

There is a single SPDIF single-ended digital output on an RCA connector. A final technical highlight of the CDP-1.5 is the custom remote handset. It features an exceptionally wide transmission angle to the IR receiver on the CDP-1.5, and is engineered to last an extremely long time.

The CDP-1.5 features an HDCD decoder that, in addition to allowing full HDCD decoding, functions as a state of the art 8X oversampling filter if the input data is not encoded in HDCD format. The CDP-1.5 employs a high performance 24-bit digital-to-analog converter, which serves to decode both left and right channel information. The digital information is oversampled by the HDCD decoder to a rate that is 8 times higher than the original sampling frequency. Oversampling the digital data to such a high rate allows the analog filter following the DAC to have far fewer poles than would be otherwise required. This allows a simpler analog filter to follow the DAC which reduces the errors that are associated with “brick wall” analog filters, and also minimizes the number of components in the signal path. With non-HDCD encoded data, the decoder exhibits performance to common digital filter IC’s. The stop band attenuation is greater than -120dB, and the internal calculations are carried out with 27-bit accuracy. If the data is encoded in HDCD encoded format, the filter will detect it and decode it, extracting all of the additional information available with an HDCD recording. The HDCD indicator on the front panel will come on if the HDCD encoded data is detected. The indicator will be off for a normally encoded CD. The analog gain is increased by 6dB automatically when an HDCD disc is detected, as suggested by Pacific Microsonics, Inc. The HDCD filter also performs de-emphasis filtering for discs encoded with pre-emphasis.

The output of the Burr Brown 24-bit 1704 DAC’s is followed by a 3-pole, linear phase, low pass filter to remove any artifacts beyond the audio frequency range from the analog audio signal. The last stage of the filter is a passive 6dB attenuator to provide the proper HDCD levels. The output stage uses discrete components biased in class A.

The output is followed by relays to protect outside equipment from power-on transients as well as to protect the CDP-1.5 from other equipment when the CDP-1.5 is not powered.

Great care has been used throughout the design and layout of the CDP-1.5 to meet FCC class B requirements. This will ensure that the CDP-1.5 will be insensitive to noisy components in a system, and in turn will not cause harmful interference to other components.

Every CDP-1.5 undergoes rigorous computerized testing that measures each critical performance parameter, and is burned in for several days to ensure the consistency of performance over time. Every unit has to pass more than 100 separate tests before leaving the factory.

CLASSÉ CDP-1.5

COMPACT DISK PLAYER

SPECIFICATIONS:

Wow and Flutter	Below measurement level
Jitter	Below measurement level
Digital outputs:	SINGLE-ENDED on RCA connector and AES/EBU on XLR connector 75 ohms, 0.5 Volt peak to peak output
Frequency response	DC to 20 KHz, + 0.1 dB.
Signal to noise	-108 dB typical
D/A	Burr Brown 1704 24 bit
Dynamic range	16 bit linear
THD+N	Better than -90dB @ 1 KHz
Channel separation	Better than -115 dB @ 1 KHz
Offset voltage	Better than ± 0.005 VDC
Clock Jitter	Less than 50 picoseconds RMS, 20Hz to 40 KHz
Laser semiconductor	GaAIAs, 0.5 mw, continuous, 790 nm
Sampling rate	352.8 KHz
Disc rotation velocity	200-500 rpm (constant linear velocity)
Quantization	16 bits linear
Error correction	CIRC principle
Number of channels	2 channels, stereo

POWER REQUIREMENTS:

Europe/UK	180-260 VAC, 50 Hz, 18 Watts typ.
Canada/USA/Japan	90-130 VAC, 60 Hz, 18 Watts typ.

WEIGHT AND DIMENSIONS:

Dimensions: Gross:	24"x 21 1/4" x 10 1/4"
Net:	19" x 12 7/8" x 3 3/4" (W x D x H)
Weight: Gross:	28 lbs.
Net:	20 lbs.
Operating temperature	0°C to + 40°C
Storage temperature	-20°C to + 60°C
Operating position	Horizontal, up to $\pm 5^\circ$ inclination in any direction.

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Notice to all Class   Product owners:

Thank you for your purchase of a Class   Audio component.

All of us at Class   have taken extreme care to ensure that your purchase will become a prized investment. We are proud to inform you that all Class   Audio components have been officially approved for the European Community CE mark.

This means that your Class   product has been subjected to the most rigorous manufacturing and safety tests in the world, and have proven to meet or exceed all European Community CE requirements for unit to unit consistency and consumer safety.

All of us at Class   Audio wish you many years of musical enjoyment.

As of July 18, 1996, Class   Audio has been granted Certificate No: C401CLA1.MGS, which indicates CE approval for all models of the Class   Audio product line.