Owner's Manual

Model CDT1 K

CD TRANSPORT

audio research
HIGH DEFINITION®

5740 GREEN CIRCLE DRIVE / MINNETONKA, MINNESOTA 55343-4424 / PHONE 612/939-0600 FAX 612/939-0604

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Model CDT1

Preface

Please take the time to carefully read this instruction manual prior to installation or use of your CDT1 compact disc transport. Because it is a highly advanced electronic instrument, there are several facts and procedures you should know before you place it in operation.

Introduction

We believe the CDT1 breaks new ground in the retrieval and transmission of digital data from the CD format. In fact, that's a large part of the fun: just as in the past, when a new cartridge and tonearm combination brought music to life with startlingly improved resolution, subtlety and dynamics, so too you will discover layers of musical information you never knew were there in the mirrored surface of the compact disc.

What's the reason for this superior performance? Well, a look inside the CDT1 reveals a wealth of proven Audio Research design philosophy. Circuit boards are Audio Research engineered, with beefy construction, careful hand soldering and layouts optimized for lowest digital noise. Sophisticated electronic "jitter stripping" techniques help minimize jitter in the overall circuit. Advanced power supply design, with two transformers and extensive regulation, has proved crucial even in strictly digital applications like the CDT1. The BNC and XLR outputs are transformer coupled and are driven by a high-current balanced line driver. Mechanical damping theory has also been applied to internal mounting of key components and to critical aspects of the heavy duty chassis structure (including tuned polymer feet), to minimize vibration-induced noise.

The CD drive mechanism itself represents the latest thinking from digital engineers, and offers performance clearly superior to older drives. In part, this is because even the servos of the CDT1 drive operate fully in the digital domain, whereas older transport models were actually hybrid designs using analog servos, which placed greater demands on power supply reserves. The CDT1 drive also has a superior eye pattern for more effective resolution of CD data and, again, lower jitter.

In appearance, the CDT1 is pure Audio Research: heavy bevelled front panel, with the new-style handles flanking the readout display on the right and the front-load drawer on the left. Both drawer and display readout are recessed within bevelled openings for a more sculptured appearance. Power and function switches are arrayed below in another bevelled opening; a convenient handheld remote control of main front-panel functions and additional functions is also included.

On the rear chassis panel you will find all the digital output options you need: St-standard optical, Toslink optical, BNC coaxial and XLR. (An RCA/BNC adapator is included with each unit.) This gives the CDT1 easy compatibility with any digital converter on the market, although you will experience the best sonic performance with an Audio Research converter like the DAC3.

Warnings

1. To prevent fire, or shock hazard, do not expose your CDT1 to rain or moisture.
2. This unit contains voltages which can cause serious injury or death. Do not operate with cover removed. Refer servicing to your authorized Audio Research dealer or other qualified personnel.
3. The detachable power cord on your CDT1 is equipped with a heavy gauge, 3-conductor cable and a standard three-prong grounding plug. For absolute protection, ***do not defeat the ground power plug.*** This provides powerline grounding of the CDT1 chassis to provide absolute protection from electrical shock.
4. For continued protection against fire hazard, replace the fuse only with the same type and rating as specified at the fuse holder.

Packaging

Save all packaging in a dry place away from fire hazard. Your CDT1 CD transport is a precision electronic instrument and should be properly cartoned any time shipment is made. You may not have occasion to return your unit to the factory for service, but if that should prove necessary, or other occasion requiring shipment occurs, the original packaging will protect your CDT1 from unnecessary damage or delay.

NOTE: The CDT1 does not have a screw-type drawer locking mechanism for shipment. Instead, it has a flexible plastic retainer wedge in place across the drawer front. Remove this retainer by gentling pulling outward at either side before attempting operation.

Model CDT1

Front Panel Controls

POWER: Switches unit on and off.

PEAK SEARCH: Locates the loudest (peak) volume level on the disc to facilitate setting proper recording levels.

PRG (PROGRAM): Use to open and close the memory when compiling a program.

CLR (CLEAR): Use to erase a program, or to erase track numbers from a program.

REVIEW: Use to check a program.

EDIT: Use to activate the EDIT function when making a tape recording.

TIME: Selects time information you want to see.

STOP: Stops play.

PAUSE: Interrupts play.

|◄◄ ►►|: Combines track selection and track search functions in forward and reverse directions. Use to select another track during play or to select a track to start play with. Use to fast search to a particular passage during play. Also use to select the recording mode and recording time when making a tape recording.

PLAY: Starts play.

OPEN/CLOSE: Opens and closes the CD compartment. The compartment also closes when the front of the CD drawer is pressed briefly.

Remote Control

NOTE: – The buttons on the remote control have the same functions as the corresponding ones on the CDT1 transport.

– Some of the functions on the remote control are not duplicated on the front panel of the CDT1 and vice versa.

– The life of the batteries of the remote control is around one year. For replacement only use batteries of the type RO3, UM4 or AAA.

1–0 DIGIT KEYS: Use to select another track during play or to select a track to start play with. Use to select tracks when compiling a program. Also use to enter the recording time when making a tape recording.

SCAN: Automatically plays the beginning of each track.

PAUSE: Interrupts play.

REPEAT: Repeats play.

- VOLUME +: Use to adjust the sound level *only* when the CDT1 is connected to a preamplifier or Hi Fi system *without* its own volume control.

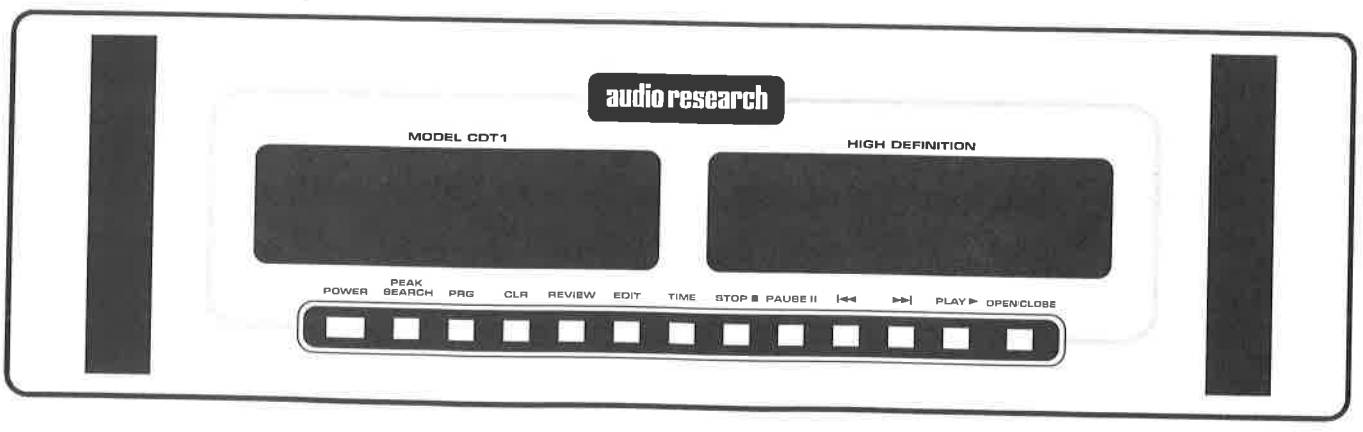
Note: Read "ADJUSTING THE SOUND LEVEL (- VOLUME +)" under Playback section of this manual before turning on the CDT1 in your system and using the remote control unit.

STOP: Stops play.

PLAY: Starts play.

SHUFFLE: Plays in random order.

|◄◄ ►►|: Combines track selection and track search functions in forward and reverse directions. Use to select another track during play or to select a track to start play with. Use to fast search to a particular passage during play. Also use to select the recording mode and the recording time when making a tape recording.



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Display

REPEAT: Lights up when you repeat a CD or a program.

REPEAT 1: Lights up when you repeat a track.

(((O: Lights up when the player receives a command from the remote control.

SHUFFLE: Lights up when the tracks are played in random order.

PROGRAM: Flashes when a program is being compiled. Lights up when a program is being played.

TRACK: Indicates what track is being played. Indicates the number of tracks on the CD or in a program.

TRACK TIME: Indicates the elapsed playing time of the track being played.

REM (Remaining) **TRACK TIME:** Indicates the remaining playing time of the track being played.

TOTAL REM (Remaining) **TIME:** indicates the remaining playing time of the CD or a program.

TOTAL TIME: Indicates the total playing time of the CD or a program. Total time only displayed upon loading a disc.

PAUSE: Lights up when play is interrupted.

EDIT: Lights up when player is put into the EDIT mode.

1–15 Track number indicator: Shows the number of tracks on the CD.

+15: Lights up when there are more than 15 tracks on the CD.

Playback

- Press POWER to switch the player on.
- Open the CD compartment by pressing OPEN/CLOSE.
- INSERT an *audio-only CD, printed side up,* and close the compartment. CLOSE lights up followed by READ; the number of tracks and the playing time of the CD are shown on the display.
- Press PLAY to start play. You can also press PLAY immediately after inserting the CD; the compartment then closes automatically.

– The number indicator shows how many tracks are on the CD; when a track has been played its number disappears.

– The track being played is always shown under TRACK and its elapsed playing time is shown under TRACK TIME.

– Play will stop after the last track.

- Press POWER to switch the player off.

You can interrupt playback by pressing PAUSE; PAUSE then lights up. Press PLAY to restart; if you *first press* PAUSE again and *then* PLAY, the current track starts again from the beginning.

- You can also restart play by pressing SCAN, SHUFFLE or the 1–0 digit keys.

If you press PLAY *during play,* the current track starts again from the beginning.

You can stop playback by pressing STOP or OPEN/CLOSE.

SELECTING ANOTHER TRACK DURING PLAY (1-0)

- Key in the desired track number (numbers consisting of two figures must be keyed in *within 2 seconds*).

– The music stops and a moment later the selected track begins to play.

You can also select the track number by using |◄◄ or ►►| (press less than 0.5 seconds).

SEARCHING FOR A PASSAGE DURING PLAY (|◄◄ ►►|)

- Hold |◄◄ down to search backwards to the beginning.
- Hold ►►| down to search forward to the end.

The searching speed is determined by how long a key is pressed:

– the first 2 seconds fairly slowly, with sound;

– then at the maximum speed, with no sound.

If you reach the end of the last track and release ►►|, play will resume a few seconds before the end of the CD.

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STARTING WITH A PARTICULAR TRACK (1-0)

- Key in the desired track number (numbers consisting of two figures must be keyed in *within 2 seconds*).

– Play starts from the selected track.

You can also select the number by using ►►| or |◄◄ (press less than 0.5 seconds) and then pressing PLAY.

SCANNING A CD (SCAN)

- Press SCAN before or during play.

– If the CD compartment was open, it will now close.

– SCAN lights up for 2 seconds and the first 10 seconds of each track are played in turn.

–10 seconds are counted down each time under REM (Remaining) TRACK TIME.

- When the player reaches a track which you wish to hear in full, press SCAN again or PLAY.

PLAYING THE CD IN RANDOM ORDER (SHUFFLE)

- Press SHUFFLE before or during play.

– If the CD compartment was open, it will now close.

– SHUFFLE lights up and all the tracks are now played in a random order.

- Press SHUFFLE again if you wish to return to normal play.

If you press |◄◄, you will return to a track which has already been played.

If you press ►►|, you will select any one of the following tracks.

If you press REPEAT, *twice* the tracks will be repeated in a different order each time, although the first track played will always be the same.

REPEATING A TRACK (REPEAT)

- Press REPEAT before or during playback.

– REPEAT 1 lights up; the track will now be repeated continuously.

- Press REPEAT *twice* to stop track being repeated.

REPEATING THE CD (REPEAT)

- Press REPEAT *twice* before or during playback.

– REPEAT lights up; the CD will now be repeated continuously.

- Press REPEAT again to stop the CD being repeated.

CALLING UP OTHER TIME INFORMATION (TIME)

- Press TIME whenever you want to know the remaining playing time of the track being played (REM TRACK TIME).
- Press TIME again if you wish to know the remaining playing time of the entire CD (TOTAL REM TIME).
- Press TIME again if you wish to return to the elapsed playing time indication of the current track (TRACK TIME).

SEARCHING THE LOUDEST PASSAGE (PEAK SEARCH)

- In STOP mode, press PEAK SEARCH.

– The CD or the program will now be scanned for the loudest passage (the peak).

– The display shows the track being scanned and its elapsed playing time.

– When the loudest passage has been found it will be repeated continuously (from 2 seconds before the peak until 2 seconds after the peak).

- You can now adjust your recording device for the proper recording level .
- You can stop the scan by pressing STOP or OPEN/CLOSE; if you press PLAY, the CD or the program will be played from the beginning.

ADJUSTING THE SOUND LEVEL (-VOLUME+)

– Use the -VOLUME+ keys (on the remote control) only if the CDT1 is connected to a preamplifier or HiFi system without its own remote control.

– The setting chosen with the -VOLUME+ keys will be cancelled when the player is switched off.

NOTE: • ***The -Volume+ control on the remote is in the digital domain and adjusts the digital output level of the CDT1.***

- ***Whenever restarting a disc or starting a new disc or turning off the CDT1, the digital remote - VOLUME+ control cancels its volume setting and goes to full volume output level. Therefore you should maintain proper volume level at your preamplifier/line stage unit at all times.***
- ***For highest sonic resolution adjust volume level using gain control on your preamplifier/linestage unit only–not with the remote control unit. Use of remote - VOLUME+ keys will yield a reduction in sound quality.***

• To use remote control to reduce sound level hold - VOLUME key pressed down.

– VOLUME lights up; the output signal from the CDT1 will now decrease gradually.

– The successive steps are shown on the display.

• Release the key as soon as the required sound level is obtained.

• To use remote control to increase sound level hold VOLUME + key pressed down.

– VOLUME lights up; the output signal from the CDT1 will now increase gradually to the maximum level.

– The successive steps are shown on the display.

• Release the key as soon as the required sound level is obtained.

Programming

STORING A PROGRAM (PRG AND 1–0)

You can store 30 tracks from each CD in any required sequence in a program.

NOTE: – FULL lights up if you exceed the maximum of 30 tracks.

– NOT POSSIBLE will light up if you select a non-existent number.

– USE 0–9 lights up if you press |◄◄ or ►►| while programming.

• In STOP mode, press PRG (program) to open the memory.

– PROG lights up and PROGRAM starts flashing.

• Key in the required numbers; every number you key in will be directly included in the program.

– Each time you key in (= store) a track number, the number of tracks and the playing time of your program will be shown under TRACK and TOTAL TIME.

– The track number indicator always shows which numbers have been stored.

• Press PRG (program) to quit the PROGRAM mode.

• Press PLAY to play the program.

CHECKING THE PROGRAM (REVIEW)

• Press REVIEW prior to, during or after programmed play.

– All the numbers appear in the programmed sequence under TRACK; under TRACK TIME you will see the playing time of each track.

NO PROG lights up if no track numbers have yet been stored.

With REVIEW you can proceed more rapidly to the next block of information.

PLAYING THE PROGRAM (PLAY)

• Press PLAY.

– Playback starts with the first number of the program.

All keys (except PRG (program), CLR (clear), EDIT and PEAK SEARCH) can be used during programmed play.

Search for a particular passage is only possible within the track being played.

ERASING A PROGRAM
(STOP, CLR or OPEN/CLOSE)

In PLAY mode:
• Press OPEN/CLOSE or STOP (twice).

In STOP mode:
• Press OPEN/CLOSE, CLR (clear) or STOP.

– The program has now been erased.

ERASING A TRACK FROM THE PROGRAM (CLR)

- Press REVIEW before or after programmed play (STOP mode).

– All the numbers appear in the programmed sequence under TRACK.

- Press CLR (clear) as soon as the number you wish to erase appears.

– The number disappears from the number indicator; it has now been erased.

– The display shows the remaining tracks and program time for a few seconds.

NO PROG lights up if no track numbers have yet been stored.

Edit

The EDIT function has two recording modes in which you can store the recording time of the tape in the player memory.

EDIT NORMAL

The player will determine which tracks fit on each side of the tape and will stop after the last track. The tracks will be recorded in the order in which they appear on the CD.

EDIT OPTIMAL

The player now calculates the combination of tracks that will optimize the use of available recording time.

NOTE: – The EDIT function ***cannot*** be used for CDs containing more than 30 tracks.

– The -VOLUME+ keys (on the remote control) may not be used during recording as they affect the strength of the signal from the player.

RECORDING IN THE EDIT MODE

- If required you can *first* search the loudest passage on the CD or in the program and adjust your recording device. This can also be done *after* selecting the recording mode and the recording time.

For this see "SEARCHING THE LOUDEST PASSAGE (PEAK SEARCH)" under Playback section.

- In STOP mode, press EDIT to activate the EDIT mode.

– EDIT lights up.

– The display shows EDIT (=EDIT NORMAL which is the default setting).

- With |◄◄ ►►| you can now select OPT (optimal), CANCEL or EDIT (NORMAL) again.

– The display shows OPT (optimal), CANCEL, or EDIT again.

- Press EDIT to store the required recording mode (NORMAL or OPTIMAL).

If you select CANCEL, the EDIT mode will be cancelled and the player will go back to STOP mode.

– As soon as you have stored the recording mode the display shows **C90** (default setting).

- With |◄◄ ►►| you can now select the required recording time: **C100, C105, C120, C30, C45, C60, C75 or C90.**

- Other recording times can be selected using the 1–0 digit keys; in EDIT NORMAL mode the recording time must be at least equal to the playing time of the first track on the CD or in the program.

In EDIT OPTIMAL mode the recording time must be at least equal to the playing time of the shortest track on the CD or in the program.

– NOT POSSIBLE lights up if you select a "wrong" time.

- Press EDIT to store the required recording time.

– The CD player will now go back to STOP mode.

– The track number indicator shows which tracks fit onto side A of the tape.

– The number of tracks and their playing time will be shown under TRACK and TOTAL TIME.

- You can now record the entire CD or a program from it.

- Press PLAY.

– The numbers for side A of the tape will be played one after the other.

– After the last track that fits on side A of the tape, the CD player will go into PAUSE mode ; PAUSE lights up.

– The track number indicator shows which tracks fit onto side B of the tape. Under TRACK you will see the number of the first track to be recorded.

• Turn the tape over or select the tape travel direction for side B.

• Press PLAY.

– The remaining tracks will now be played.

– After the last track play will stop; EDIT CANCELLED lights up.

NOTE: – As soon as you press PLAY the other player functions will temporarily be switched off to prevent the recording being interfered with; EDIT ACTIVE lights up if you press one of the other buttons during recording.

– You can quit the EDIT mode by pressing STOP or OPEN/CLOSE; EDIT CANCELLED then lights up.

– EDIT NOT POSSIBLE lights up if you try to record a CD containing more than 30 tracks.

Maintenance

THE CDs

• Never write on the printed side of a CD.

• Do not attach any stickers to the CD.

• Keep the shiny surface of the disc clean. Use a soft lint-free cloth and always wipe the disc in a straight line from center to edge.

• Never use cleaning agents for conventional records.

• Detergents or abrasive cleaning agents should not be used either.

PROBLEMS AND THEIR LIKELY CAUSES

If a problem occurs, run through the points listed below before taking your player in for repair.

Check whether:

– condensation has formed on the lens of the laser due to a dramatic change in temperature; this will disappear automatically after some time;

– the CD has been inserted correctly with the printed side up and that there is a CD in the compartment;

– the CD is dirty, badly scratched or warped;

– the player has been connected to the PHONO jack of the preamplifier.

If the problem remains, try to clear it by switching the player off and on again. If this also fails to help, consult your Audio Research dealer.

Under no circumstances should you repair the player yourself as this will invalidate the warranty!

Connections

The CDT1 offers several standard digital output options. Which option is best for your system will depend on your personal listening preference, the nature of your system installation requirements, and the options allowed by your digital processor.

WARNING: These outputs supply only a digital signal and can therefore only be connected to an input which is suitable for this signal. Never connect any of these outputs to a non-digital input of a preamplifier or power amplifier (labeled CD, AUX, PHONO, TAPE, etc.). To do so is to risk damage to your system and may void any or all warranties involved.

ST-STANDARD OPTICAL: Allows connection to digital processors with an ST-Standard receiver with high-resolution glass fiber optical interconnect cable.

TOSLINK OPTICAL: For connection to digital processors with plastic fiber interconnect cable.

BNC COAXIAL: Uses 75-ohm impedance coaxial cable with locking BNC-type connectors. Audio Research DigitalLink Coaxial Cable is strongly recommended for best performance.

BALANCED XLR: For connection to digital processors having the AES/EBU-Standard interface. A high-quality XLR interconnect such as Audio Research DigitalLink XLR is strongly recommended for best performance.

Installation Instructions

While the CDT1 does not dissipate an unusual amount of heat, it is important that it be provided with reasonable airflow to assure long, trouble-free operation. In addition, the following installation guidelines will help insure maximum sonic performance as well as reliable service.

1. Upright and level horizontal mounting is mandatory.
2. Do not "stack" the CDT1 on top of another component: not only could this cause overheating, but "hum" may be introduced into the system.
3. Do not place or operate your CDT1 on a soft or irregular surface such as a rug. This will prevent proper levelling.
4. Do not operate your CDT1 without the top and bottom covers installed. These are required both for safety as well as shielding from interference (except in service operations).
5. If rack mounting is employed, use Audio Research Rack Mount Ventilators (RMV-3) below and above your CDT1.
6. If side-by-side mounting with other equipment is employed, place the CDT1 to the left of the other chassis, so as to provide maximum spacing between the transformer of the CDT1 and the other component.

Operating Procedure

Start-Up:

1. Make sure Power switch is set to "Off" position.
2. Secure all rear-panel connections between CDT1 and digital converter.
3. Plug 3-prong powerline cord into rear of CDT1, then plug into grounded AC wall receptacle.
4. Turn Power switch to "On". Green LED readout display will glow.
5. Activate other system components.
6. See instructions for specific functions.

Shut-Down

1. Set preamplifier "Mute" switch to "Mute" position.
2. Set CDT1 panel switch to "Off".

Servicing

Because of its careful design and exacting standards of manufacture, your CDT1 should normally require only minimal routine service to maintain its high level of performance.

CAUTION: Your CDT1 contains sufficient levels of voltage and current to be lethal. Do not tamper with a component or part inside the unit. Refer any needed service to your authorized Audio Research dealer or other qualified technician.

Should service be necessary, please contact your Audio Research dealer, or Audio Research Customer Service (612) 939-0600.

Cleaning

To maintain the visual appearance of your CDT1, occasionally wipe the front panel and top cover surfaces with a soft damp (not wet) cloth to remove dust. A mild, non-alkaline soap solution may be used to remove fingerprints or similar smudges. Cleaners containing abrasives should ***not*** be used as they will damage the "brushed" grain of the front panel finish, as well as the LED display window. A dry 2-inch pure bristle paint brush works well to remove dust from bevels, reliefs and switches.

Limited Warranty

Terms and Conditions

1. LIMITED WARRANTY

Audio Research warrants the product designated herein to be free of manufacturing defects in material and workmanship, subject to the conditions hereinafter set forth, for a period of three (3) years from the date of purchase by the original purchaser or no later than five (5) years from the date of shipment to the authorized Audio Research dealer, whichever comes first, excepting vacuum tubes which are warranted for 90 days only (See 6), and CD players or transports, which are warranted for two (2) years from date of purchase (four (4) years from date of shipment).

2. CONDITIONS

This Warranty is subject to the following conditions and limitations. The Warranty is void and inapplicable if the product has been used or handled other than in accordance with the instructions in the owner's manual, abused, or misused, damaged by accident or neglect or in being transported, or the defect is due to the product being repaired or tampered with by anyone other than Audio Research or an authorized Audio Research repair center. The product must be packed and returned to Audio Research or an authorized Audio Research repair center by the customer at his or her sole expense. Audio Research will pay return freight of its choice. A RETURNED PRODUCT MUST BE ACCOMPANIED BY A WRITTEN DESCRIPTION OF THE DEFECT AND A PHOTOCOPY OF THE ORIGINAL PURCHASE RECEIPT. This receipt must clearly list model and serial number, the date of purchase, the name and address of the purchaser and authorized dealer and the price paid by the purchaser. Audio Research reserves the right to modify the design of any product without obligation to purchasers of previously manufactured products and to change the prices or specifications of any product without notice or obligation to any person.

3. REMEDY

In the event the above product fails to meet the above Warranty and the above conditions have been met, the purchaser's sole remedy under this Limited Warranty shall be to return the product to Audio Research or an authorized Audio Research repair center where the defect will be rectified without charge for parts or labor, except vacuum tubes (See 6).

4. LIMITED TO ORIGINAL PURCHASER

This Warranty is for the sole benefit of the original purchaser of the covered product and shall not be transferred to a subsequent purchaser of the product.

5. DURATION OF WARRANTY

This Warranty expires on the third anniversary (second for CD players and transports) of the date of purchase or no later than the fifth anniversary (fourth for CD players and transports) of the date of shipment to the authorized Audio Research dealer, whichever comes first.

6. VACUUM TUBES

Vacuum tubes are warranted for the original 90-day period only.

7. DEMONSTRATION EQUIPMENT

Equipment used by an authorized dealer for demonstration purposes is warranted to be free of manufacturing defects in materials and workmanship for a period of three (3) years from the date of shipment to the dealer,or two (2) years in the case of CD players and transports. Vacuum tubes are warranted for 90 days. After the first year, demo equipment needing warranty service must be packed and returned to Audio Research by the dealer at his sole expense. Audio Research will pay return freight of its choice. A returned product must be accompanied by a written description of the defect on an AUDIO RESEARCH RETURNED GOODS AUTHORIZATION form. Dealer-owned demonstration equipment sold at retail within three (3) years of date of shipment to the dealer is warranted to the first retail customer to be free of manufacturing defects in materials and workmanship for the duration of the 3-Year Limited Warranty remaining (as measured from the date of shipment of the equipment to the dealer); this period of warranty is two (2) years in the case of CD players and transports. Vacuum tubes are not warranted for any period under these conditions of sale. In the event warranty service is needed under these conditions, the owner of the equipment must provide a copy of his purchase receipt, fulfilling the requirements described under "2. Conditions" above. The product must be packed and returned to Audio Research or an authorized Audio Research repair center by the customer at his or her sole expense. Audio Research will pay return freight of its choice.

8. MISCELLANEOUS

ANY IMPLIED WARRANTIES RELATING TO THE ABOVE PRODUCT SHALL BE LIMITED TO THE DURATION OF THIS WARRANTY. THE WARRANTY DOES NOT EXTEND TO ANY INCIDENTAL OR CONSEQUENTIAL COSTS OR DAMAGES TO THE PURCHASER. Some states do not allow limitations on how long an implied warranty lasts or an exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

9. WARRANTOR

Inquiries regarding the above Limited Warranty may be sent to the following address:

Audio Research
5740 Green Circle Drive, Minnetonka, Minnesota 55343-4424
ATTN: Customer Services.

Warranty Outside the U.S.A.

Audio Research has authorized distribution in many countries of the world. In each country, the authorized importing retailer or distributor has accepted the responsibility for warranty of products sold by that retailer or distributor. Warranty service should normally be obtained from the importing retailer or distributor from whom you purchased your product.

In the unlikely event of service required beyond the capability of the importer, Audio Research will fulfill the conditions of the warranty. Such product must be returned at the owner's expense to the Audio Research factory, together with a photocopy of the bill of sale for that product, a detailed description of the problem, and any information necessary for return shipment.

Specifications

Model CDT1

OUTPUTS, DIGITAL: (to external Digital-to-Analog Converter)

1. XLR Balanced AES/EBU 110-ohm 4V P-P.
2. BNC coax SPDIF 75-ohm 0.7V P-P.
3. TOSLINK fiber optical -19dBm, 660nm.
4. ST-type glass fiber optical -12dBm, 875nm, 62.5/125µm fibers.

SIGNAL FORMAT (disc):

Sampling frequency: 44.1kHz.
Quantization Bit: 16bit linear per channel.
Channel bit rate: 4.3218Mb/sec.
Channel modulation code: EFM (8 –14 modulation).
Error correction: CIRC (cross interleave Reed Solomon Code).

DRIVE MECHANISM:

Wow & Flutter: Unmeasureable (Quartz stability).
Discs: Accepts 5" (12cm) and 3" (8cm) sizes.

OPTICAL PICKUP:

Type: 3-beam LDGU (Laser Diode & Grating Unit), with holographic diffraction light pen.
Laser: GaAlAs semiconductor, 780nm, 0.5mW max output.
Servo: Digitally-controlled low-inertia linear positioning actuator.

DIGITAL MICROPROCESSORS:

1. Servo/Control microprocessor.
2. Signal data microprocessor.

JITTER REDUCTION: High-stabillity crystal-controlled re-clocking for all outputs.

DISPLAY: Six-digit vacuum fluorescent, with optical filter.

FRONT PANEL CONTROL FUNCTIONS:

POWER main switch
PEAK SEARCH
PRG (program)
CLR (clear)
REVIEW
EDIT
TIME elapsed/remaining, track or disc
STOP disc
PAUSE program
|◄◄ track selection/search, REV
►►| track selection/search, FWD
PLAY disc
OPEN/CLOSE disc drawer

INFRARED REMOTE CONTROL FUNCTIONS:
(Standard RC5 code, 35 ft max distance)

1–0 digit entry keys
SCAN ten-seconds each track
PAUSE program
REPEAT track/disc
-VOLUME+ level control
STOP program
PLAY disc
SHUFFLE random sequence play
|◄◄ track selection/search, REV
►►| track selection/search, FWD

POWER REQUIREMENTS (detachable power cord): 100-135VAC 60Hz (200-270VAC 50/60Hz), 15 watts maximum.

DIMENSIONS (standard rack panel): 19" (48 cm) W x 5¼" (13.4 cm) H x 11¾" (29.8 cm) D Handles extend 1½" (3.8 cm) forward of the front panel. Rear connectors extend ¾" (1.9 cm).

WEIGHT: 16 lbs. (7.3 kg) Net; 26 lbs. (11.8 kg) Shipping.

Specifications subject to change without notice.

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NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.