

**DT-10**

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**OWNER'S REFERENCE**

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## INTRODUCTION

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Thank you for your purchase of the KRELL DT-10 CD Transport and welcome to the KRELL family of audio components. KRELL is dedicated to the development of technologically advanced components for the reproduction of digitally recorded music. The DT-10 redefines excellence in the KRELL tradition of uncompromising performance through leading-edge technology.

The DT-10 is the most flexible KRELL transport to date. All of the keypad processing software that controls the operation of the transport and laser assembly has been written by KRELL. Because of this the DT-10 delivers unsurpassed sonic performance and interface possibilities. KRELL is one of very few companies in the world that writes transport software. The DT-10 utilizes the Philips CDM-4 Pro transport mounted on a KRELL linear bearing based platform. In order for a drawer loading transport to perform to KRELL's expectations, this type of rigid assembly was necessary. When fully closed, the transport is mechanically rigid and isolated, free from external stimuli. The disc is secured by a custom magnetic clamp. The clamp is very light weight and will not effect critical disc speed. The magnetic structure of the clamp is designed so it will not disturb the swing arm and laser assembly as do many popular clamp designs.

The DT-10 has several features new to KRELL transports. This Owner's Reference describes them in detail. All of these features and functions can be controlled from the DT-10's multi-function remote control. Along with the transport functions, basic KRELL preamplifier and amplifier functions are now provided on the remote control.

This Owner's Reference is designed to ensure the clear, trouble free installation of your DT-10. Basic Installation, Operation and Question and Answer sections are provided. Should you have any questions or comments, please feel free to contact your authorized dealer or the KRELL staff for assistance.

In the unlikely event that your DT-10 should require service, you will be pleased to know that it is backed by a comprehensive Customer Satisfaction policy and one of the most advanced service facilities in the industry. For detailed information on the terms and conditions of service, please consult the Warranty and Service section of this Reference, Warranty Registration Card, or an authorized KRELL Dealer/Distributor.

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1. Once the box has been open and top layer of foam removed, the following items will be visible:

- 1 DT-10 CD TRANSPORT
- 1 DT-10 Remote Control
- 1 AC power cord
- 1 AT&T cable (1 mtr)
- 1 Packet containing the Owner's Reference and Warranty Registration Card

NOTE: If any of these items are not included, please contact your authorized dealer immediately for assistance.

2. Carefully remove the Transport and accessories from the box. Remove the protective plastic wrap from the Transport.

NOTE: Save all packing materials. If you must ship your DT-10 in the future, repack the unit in its original packaging to prevent transit damage.

# **PLACEMENT**

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## **PLACEMENT**

Before you install the DT-10 into your system, we recommend that you follow these guidelines in choosing the location. This will facilitate a clean, trouble-free installation.

1. Place the unit on a firm level surface away from excessive heat or running water. Make sure there is enough room for the drawer to open completely.
2. Although well shielded, the DT-10 should not be placed in close proximity to hum-sensitive components such as preamps, turntables, and tuners. CD transports can create interference and induce hum.
3. The DT-10 does not require additional mass coupling or isolation. You may experiment with feet or cones as long as they do not permanently affix to the chassis. Any unauthorized modifications to the electronics or chassis will void the warranty.

## **AC POWER CONSIDERATIONS**

NOTE: While the DT-10 has superb regulation and does not require a dedicated AC circuit, we strongly advise against connections through extension cords or multiple AC adapters. High quality 15 amp grounded AC strips are acceptable. High quality AC line conditioners or filters can be utilized if they are grounded and meet or exceed the unit's Power Supply rating of 60VA.

CAUTION: Do not remove or bypass the ground pin on the end of the AC cord. This may cause RFI (radio frequency interference) to be induced into your playback system.

## OUTPUT CONNECTIONS

**CAUTION:** When making connections to this component or any other, make sure the power amplifier is OFF and the preamplifier is in the MUTE or STANDBY mode.

1. Connect the AC Mains cord to the back of the DT-10 and plug the power cord into the AC Mains.
2. Connect the digital output of your DT-10 CD transport to the inputs of the D/A Processor. The DT-10 is equipped with the following outputs: one coaxial, one AT&T wide-bandwidth fiber optic, one TOSH fiber optic, and one AES/EBU balanced output.

The DT-10 is also equipped with Time Sync, which is used to lock the clocks of the transport and D/A processor. For a complete description of Time Sync, see page nine. If the Time Sync option is not being utilized, its ST connector output can be used for a second AT&T format fiber optic output. To convert the Time Sync Output to a standard output, follow the instructions below.

- a. Remove the center top-plate from the DT-10 with a T-15 torx head wrench.
- b. Locate the red slider switch labeled one on the rear right side of the exposed channel.
- c. Move the switch up towards the back to the one position.
- d. Reinstall the center top plate.
- e. The Time Sync output can now be used for connection to any device with an AT&T/ ST format input.

Set-up is complete.

3. Once you have completed the necessary output connections, select the corresponding input of your D/A processor. When the DT-10 is selected, if its a KRELL or has this function, the 44.1 KHz indicator on the D/A processor will be engaged. On some D/A processors the sampling frequency needs to be selected.

## CONNECTIONS

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**NOTE:** If the DT-10 is on and the 44.1 KHz frequency indicator does not engage, check to make sure the digital interconnect cable is secure at both ends or is not in need of repair.

### DIGITAL SOURCE TO D/A CONVERTER INTERLINK CONSIDERATIONS

Care should be taken in selecting the type of cable used to link the DT-10 to your processor. We suggest using the AT&T wide-band width fiber optic cable. The AT&T format has a bandwidth of approximately 50 MegaBit. This allows accurate transmission of the digital bit stream without data corruption and proves to be sonically superior. If the AT&T format is not available, a high quality quartz fiber optic (Toshiba format) link can work well. Using a fiber optic interconnect reduces ground loop problems often associated with quality audio systems.

If coaxial cable is used, it should be non-capacitive and have a bandwidth in excess of 10MHz to prevent drop-out errors. For best results with coaxial cable we recommend the AES/EBU balanced format. The AES/EBU format is a  $\pm 5$  volt balanced digital transmission. Because of the high voltage balanced format, this system allows for accurate data transmission and has great sonic advantages over standard single-ended coaxial or Tosh fiber optic terminations. The AES/EBU coaxial cable must have two conductors and a shield for balanced termination.



### TIME SYNC

Time Sync is a proprietary interlink system that enables the DT-10 to link with a KRELL D/A processor and serve as the master clock. This interconnection virtually eliminates the possibility of jitter between the two components. The Time Sync system is solely available on specific KRELL D/A processors.

The use of the TIME SYNC interlink requires that the D/A processor used be a KRELL and equipped with the Time Sync/ Special AT&T/ ST input receiver. It also requires that the Time Sync output of the DT-10 Transport be connected to the Time Sync input of the D/A processor using an AT&T/ ST optics cable. The Time Sync is in addition to the connections used to carry CD disc data.

NOTE: The use of the Time Sync feature does eliminate the jitter normally encountered in the decoding of the digital data stream; however, the proprietary KRELL DATA RECOVERY AND JITTER REJECTION MODULE reduces jitter to an almost immeasurable level. Time Sync provides an additional level of jitter reduction. Because the transport and D/A processor clocks are physically locked, there is no deviation in the data stream, thus eliminating jitter.

Refer to the KRELL D/A Processor's Owner's Reference for Time Sync operating instructions.

# CONNECTIONS

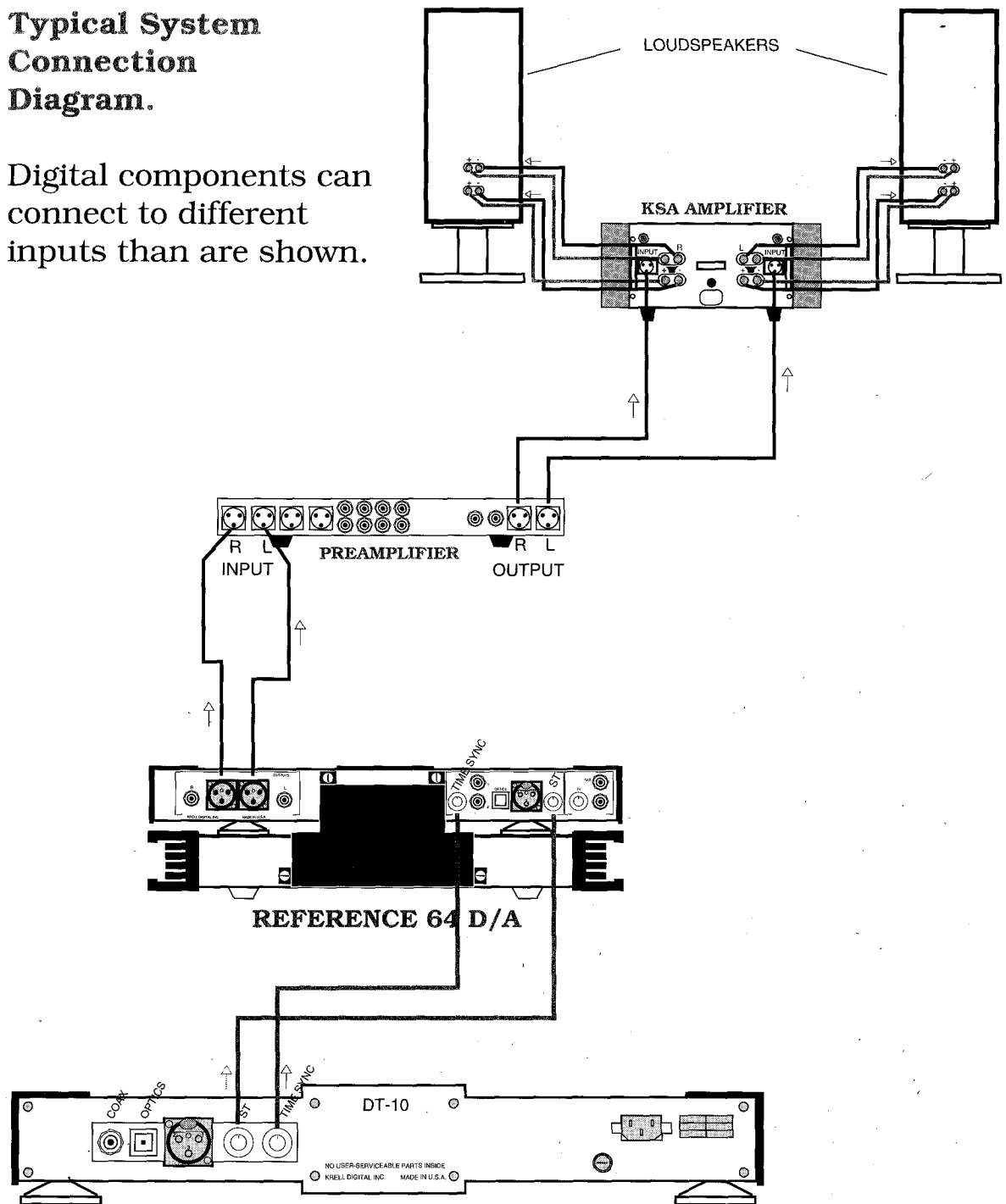
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## HOW TO CONNECT AT&T CABLES:

- a. Remove the plastic cover from the outside of the AT&T transmitter (located on Transport) and receiver (located on Processor).
- b. Locate the slot on the top of the AT&T receptacle.
- c. Locate the key on the top of the AT&T cable.
- d. Remove the plastic cap from both ends of the AT&T cable.
- e. Slide the cable connector into the AT&T receptacle, with the key guided into the designated slot.
- f. Gently push the connector into place, depress the internal spring, and twist the outer collar clockwise to secure the outer ring to the posts on the chassis connector.
- g. Use the same procedure for the transport and D/A Processor

## Typical System Connection Diagram.

Digital components can connect to different inputs than are shown.



# OPERATION

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## OPERATING INSTRUCTIONS

The operating instructions for the DT-10 are split into three different categories: Basic operation, Remote control operation, and complete DT-10 feature and function operation. These divisions insure a thorough understanding of DT-10 operation

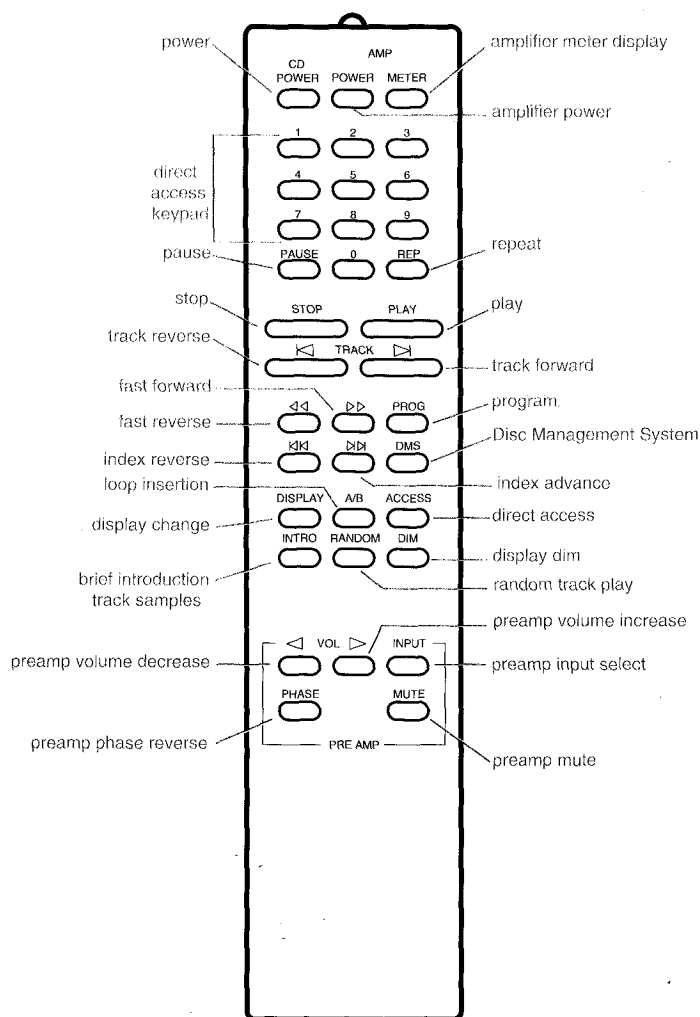
### BASIC OPERATION

1. Press the Power button on the front panel or on the remote control. The display section will now illuminate.
2. Press the Open/Close button on the front panel and the drawer will come out. Place the compact disc, label side up, onto the drive spindle. Press the Open/Close button again and the drawer will close.
3. Press the Play button on the front panel or remote control. The disc will start playing from track 1. To select a different track you can press the track forward {>|} or reverse {|<} button until you reach the desired track number or punch the number of the desired track into the keypad on the front panel or remote control, and then press Play.
4. To stop the disc press the Stop button. This button will also clear the program memory.

NOTE: The functions of the DT-10 are described in detail on page 14 in the Features and Functions section.

### REMOTE CONTROL OPERATION

The DT-10 comes equipped with a universal remote control from which basic preamp, amplifier and complete transport functions can be controlled. A brief description of the buttons and their functions is provided. For more detailed instructions on the DT-10 functions, refer to the features and functions section beginning on page 14. These functions for the DT-10 can be controlled only from the remote control: Display, A/B, Access, Dim, Random, and Intro. All other DT-10 functions can be controlled from the front panel. Basic preamp and amplifier functions are listed on page 13.



## Amplifier Functions

**METER:** Turns the Bias Level Meter on or off.

**POWER:** Turns the amplifier On or Off.

## Preamplifier Functions

**VOL < AND > :** Adjusts the volume of the preamplifier. The > button increases the listening level and the < button decreases the listening level.

**INPUT:** Selects preamp inputs. Each time the button is pressed a different input is selected. Press this button until the desired input, displayed on the preamp front panel, is selected.

**PHASE:** When pressed, changes the absolute output phase. When the LED on the front is illuminated the preamp is in 180 degree phase mode.

**MUTE:** When pressed, no input signal can be passed through the preamp. The Mute LED on the preamp will illuminate. When pressed again, signal can be passed.

# OPERATION

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## Battery Installation and Removal

NOTE: Batteries should be replaced when the functions from the remote control become intermittent. The DT-10 universal remote uses two N size 1.5 volt batteries.

1. Remove the four torx screws from the remote control back.
2. Remove the backplate to expose the battery storage compartment
3. Replace batteries (refer to polarity drawing while inserting the batteries)
4. Replace the back plate and insert the four torx screws.

## COMPLETE DT-10 FEATURES AND FUNCTIONS

The DT-10 is an extremely flexible transport. New capabilities have been added to standard functions which enhance the use of the DT-10 as a reference device. Listed below are the functions which can be accessed from both the front panel and remote control.

**STOP:** Stops the disc while playing. Erases all short term program memory. Does not erase DMS data.

**PLAY:** Starts the disc playing from track 1 or from a keypad selected track. Begins DMS or standard track programming. Pressing the Play button during a track will start that track again from the beginning.

**|<:** Track reverse. Selects and begins playing the track previous to the current track. Also scrolls backward through DMS or standard track programming.

**>|:** Track forward. Selects and begins playing the track after the current track. Also scrolls forward through DMS or standard track programming.

**|< |<:** INDEX reverse. Selects the index number previous to the current index number within a specific track

**>| >|:** INDEX forward. Selects the next index number within the current track.

**NOTE:** Some discs do not have index numbers programmed within tracks. When the Index buttons are pressed the display will default to the current track number.

**<<:** Fast Reverse. Fast scroll backward through program.

**>>:** Fast Forward. Fast scroll forward through program.

**PAUSE:** Temporarily stops play of current track. Does not effect DMS or standard track programming. Second press resumes play at the same spot.

**REPEAT:** (REP on Remote) When pressed repeats the entire disc, DMS or standard track program. Press Stop or Repeat to cancel function. If repeat is pressed while playing the disc, play will start from the beginning when all tracks are finished.

**KEYPAD USE:** The direct access keypad makes track selection quick and easy. For numbers 1-9 select the number of your choice directly and press the Play button to start play, or follow the program selection sequence if you are writing a program. For numbers above 9, punch the two digit number into the keypad and press the Play button to start play, or follow the program selection sequence if programming.

### REMOTE ONLY FEATURES

The following functions can be activated only from the DT-10 remote control.

**RANDOM:** Will play tracks in a non-selected order. Press the random button and the disc will begin play in a sequence other than the original. Press a second time or Stop to resume normal play.

**INTRO:** Plays a short sample of each track on the disc. Press the Intro button and it will play the beginning of each track. Press the stop button to resume normal play.

**DISPLAY:** Shows the time remaining in the track playing or, when depressed, shows the amount of total disc time remaining.

# OPERATION

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**DIM:** Shuts off the display and function LEDs. Second press activates the display and function LEDs.

**A/B:** The DT-10 can make a loop between two set times within a track. This is helpful when you need to repeat a specific segment of a track.

To create an A/B loop:

Start play of track. Press A/B to insert the start position. Press A/B again to insert finish position. A/B will automatically begin. Press Stop to delete A/B program.

**ACCESS:** The Access function gives you the ability to numerically select a position within a specific track program. This is valuable when exact start positions are critical.

To go to a specific time on a disc:

1. Press access. Two zeros will show on the display.
2. Enter a two digit track number, then press Program.
3. Enter a two digit minute number, then press Program.
4. Enter a two digit second number, then press Program. The track will begin play at the designated time.

EXAMPLE: Here is a program sequence for Access number 02.01.11

1. Press Access
2. Press 02 then Program
3. Press 01 then Program
4. Press 11 then Program

Track 2 will begin play at 1 minute and 11 seconds into the piece.

NOTE: When entering an access number, remember not to exceed the track's playing time while programming. When this occurs the DT-10 will default to the total disc playing time and your access number will not be acknowledged.



**PROGRAM:** (PROG on Remote) Standard track programming gives you the ability to select a group of tracks, or one track, and play only that group or track selected. This method of programming is short term and will be cleared when you press the Stop button. Once a program is written, basic functions like Pause, Repeat, Track forward, and Track reverse work within the program. The program will stop once the last programmed track is played or the Stop button is depressed. The program will continually play if the repeat button is depressed. To temporarily stop play of current track press the Pause button. Remember, Stop will erase the program.

**SPECIAL NOTE:** If while in the middle of standard or DMS programming you get confused with the sequence, press the Stop button. This will clear all programming in temporary memory. Should you have a mistake in a correctly programmed DMS program and want to change it, follow the "How to erase a DMS program" section on page 19. Pressing the Stop button will clear all standard track programming.

**How to write a Program:**

1. Press the Program button on the front panel or remote control. The program LED will be illuminated next to the display. This puts the machine in Program mode.
2. Select the track you want first in the program. You can use the track advance and reverse buttons to select the track numbers or punch the number directly into the keypad.
3. After you select the track, press the Program button again. The track you selected is now in program memory.
4. Repeat this sequence for each track you want in your program.

EXAMPLE: Here is a sample program sequence

1. Press Program
2. Press 2, then Program
3. Press 4, then Program
4. Press 6, then Program
5. Press 8, then Program

Press Play and the program sequence 2, 4, 6, 8, will begin.

NOTE: While playing the program, the Track Advance, Track Reverse, Repeat, and Pause functions work within the program.

5. To clear the program memory press the STOP button.

**DMS:** The Disc Management System (DMS) program allows a track program you have written to be saved indefinitely in the DT-10's memory.

CAUTION: While learning to program DMS, please proceed slowly and follow the sequence carefully. If the sequence is changed the DMS function will appear to be malfunctioning.

### **How to write a DMS program:**

1. Press the Program button on the front panel or remote control. The program LED will be illuminated next to the display. This puts the machine in the program mode.
2. Follow the standard program instructions as described above.
3. Once the Program is written, press the DMS button on the front panel or remote control. Press the Program button and the DMS LED on the front panel will illuminate. The DMS program is now complete.

### **How to play a DMS program:**

1. Insert the disc into the DT-10
2. Close the drawer. The DMS LED will illuminate indicating there is a DMS programmed disc in the machine.
3. Press the DMS button on the front panel or remote control.
4. Press Play, the Program LED on the front panel will illuminate and the DMS program will begin.

NOTE: If the Program LED is not illuminated, the DT-10 will not recognize the DMS program and will play the disc as it normally would.

EXAMPLE: Here is a sample DMS program sequence

1. Press Program
2. Press 1 then press Program
3. Press 3 then press Program
4. Press 5 then press Program
5. Press 7 then press Program
6. Press DMS
7. Press Program

The DMS program is now entered into the DT-10's permanent memory. To play the program, press DMS, then Play. The DMS program sequence 1, 3, 5, 7, will begin.

### **How to erase a DMS program:**

Once the disc is enclosed in the DT-10, press the DMS button and immediately press the Stop Button. The DMS LED will extinguish, indicating the DMS program is erased.

# QUESTIONS AND ANSWERS

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## QUESTIONS AND ANSWERS

Q. My D/A processor has both fiber optic and coaxial outputs. Which one should I use?

A. Given a choice, we prefer the AT&T optical link due to its ability to completely isolate the grounds between the digital source component and the Processor. This minimizes the possibility of ground loops in the digital components. The AT&T format also has the added benefit of substantially higher bandwidth than coax or the standard fiber optic interface. If a coax cable must be used, we suggest the AES/EBU balanced format. This interconnection utilizes a  $\pm 5v$  digital format and has the additional benefit of balanced termination.

Q. Will I damage my DT-10 if I leave the power ON all the time?

A. No it's intended to be on at all times. The circuits perform more consistently once they reach thermal equilibrium. The DT-10 draws less than 50 watts out of the AC mains socket.

NOTE: For the protection of your transport, we recommend disconnecting the AC cord from the wall outlet before any electrical storms or if you plan on being away from home for prolonged periods of time.

Q. I have some very fine audiophile interconnect cable which has superior sonic characteristics. Can I use this for my coaxial digital input?

A. You may experiment with any high quality cable. Note that most audio interconnect cable is not designed to carry the ultra-high frequency information of the digital bit stream.

NOTE: For the DT-10, we recommend non-capacitive coaxial cable which has a bandwidth in excess of 10MHz and excellent shielding properties.

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## QUESTIONS AND ANSWERS

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Q. While listening to my CD's I experience occasional periods of silence through my speakers. Is the transport malfunctioning?

A. You are experiencing drop-outs, for which there are two possible reasons. First, drop-outs can be caused by data corruption. Corruption in the data may be due to a poor input or output connections, damaged or dirty source material, or interconnects which do not have enough bandwidth. Second is the presence of a transient spike on the incoming AC power line. Check your AC power connections. If these are not the cause, speak with your dealer about obtaining different cabling. If you are using fiber optics, and source material and connections are not the problem, speak with your authorized dealer.

Q. When I try to play a certain disc the DT-10 displays an error message and will not play. Is the transport defective?

A. More than likely the disc needs to be cleaned. If the surface of the disc is soiled the laser cannot read the data and will display an error message or skip sections of tracks. Try cleaning the disc with a water damped soft cloth. You may want to experiment with some of the compact disc cleaning products. If after cleaning the disc still refuses to play, the problem may be with the indexing on the CD. If a particular company stretches the parameters of the CD, it may not conform to transport standards. The DT-10 is a very accurate reading device and certain discs may not be acceptable to the transport. If this should be the case consult KRELL for assistance.

Q. Do you recommend the use of cones or other damping feet on the DT-10?

A. The DT-10 doesn't require additional isolation. However, you may experiment with after market feet providing they do not conflict with KRELL's warranty stipulations.

Q. Will the DT-10 play CD singles?

A. Yes, the DT-10 will play CD singles.

# **SPECIFICATIONS**

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TRANSPORT - Modified CDM-4 pro with hall effect motor, swing- arm design in a unicast frame. Automatic disc clamping through opposed field neodymium magnet structure.

LASER - Single beam with a glass lens

DRAWER - Custom, linear bearing- based worm gear driven mechanism.

CONTROL FUNCTIONS - KRELL written keypad processing software

OUTPUTS (Digital only)

- 1 Standard EIAJ(Toslink) optical
- 1 AT&T ST-Type optical
- 1 AES/EBU on XLR jack
- 1 S/PDIF on RCA jack

CLOCK- Custom Time Sync synchronization output

JITTER- Data reclocking prior to output for transmission jitter reduction

REMOTE CONTROL - Multi-function wireless infrared

DIMENSIONS

Wide	19.00"
Deep	14.00"
Tall	3.50"

WEIGHT

21	pounds unit only
35	pounds in box

All operational features, functions, and specifications are subject to change without notification.

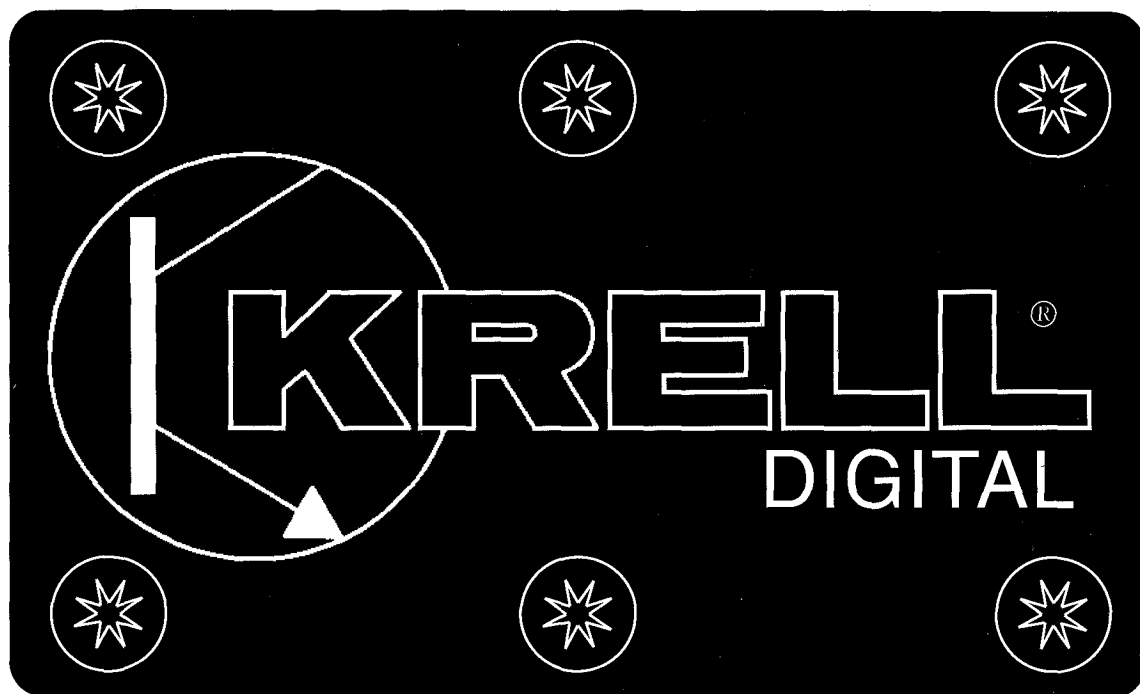
### WARRANTY AND SERVICE INFORMATION

There are no user-serviceable parts inside the DT-10. The DT-10 has a limited warranty of five years for electronic parts and labor and three years for transport-related moving parts. Return freight is included in the warranty. The warranty period begins on the date of purchase and is activated with the return of the enclosed Warranty Card and a copy of the Sales receipt. Please return the Warranty Card immediately after successful installation and operation are completed.

The warranty for KRELL products is valid only in the country to which they were originally shipped and at the factory. If you think there are problems with your unit, please contact your dealer, distributor or the factory immediately.

The operating voltage of this unit is determined by the factory and can only be changed by an authorized KRELL distributor or the KRELL factory. Any unauthorized voltage conversion will void the warranty. Should the operating voltage of your DT-10 require changing, contact KRELL Industries.

Please do not return any unit to KRELL for repair without first calling to discuss the problem and to obtain a Return Authorization number. Freight to the factory or distributor is your responsibility. Return freight to you will be paid by the factory or distributor. Any unauthorized disassembly, updates or modifications performed to the unit will void the warranty.



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