

MD-20 OWNER'S REFERENCE

A. INTRODUCTION

Congratulations on your purchase of the MD-20 CD turntable and welcome to the KRELL family of audio components. You have joined a select group of listeners who enjoy only the finest in music reproduction.

We are dedicated to the development of technologically advanced components for the reproduction of digitally recorded music and continuing the Krell tradition of uncompromised performance through leading-edge technology.

This Owner's Reference is divided into several sections, each designed to perform a different function. Basic installation, operation and a Question and Answer section are included, where answers to common questions are provided. Should you have any questions or suggestions, please feel free to contact your authorized dealer or the KRELL staff for assistance.

In the unlikely event that your MD-20 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 your warranty registration card or your authorized KRELL Distributor.

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C. UNPACKING AND ASSEMBLY

1. Open the box and remove the top layer of protective foam. The following items will now be visible:

- 1 CD Stabilizer
- 1 AC power cord
- 1 MD-20RC Remote Control
- 1 Packet containing the Owner's Reference and warranty card

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

2. Remove the layer of foam containing these items and set it aside for later use. Carefully remove the MD-20 from its box and remove the protective plastic wrap.

NOTE: Save all packing materials. If you must ship your MD-20 in the future, repack the unit in its original packaging to prevent transit damage. If the unit is returned to KRELL for service, please send the cover and the remote control unit.

CAUTION: If your MD-20 has the Custom cover do not remove the acrylic dust cover from its protective sleeve at this time! This cover is extremely delicate and can be permanently scarred if mishandled. Please follow the instructions provided in this Reference after safe installation.

D. CUSTOM DUST COVER

INSTALLATION

1. Standard Version Smoked Top Cover:

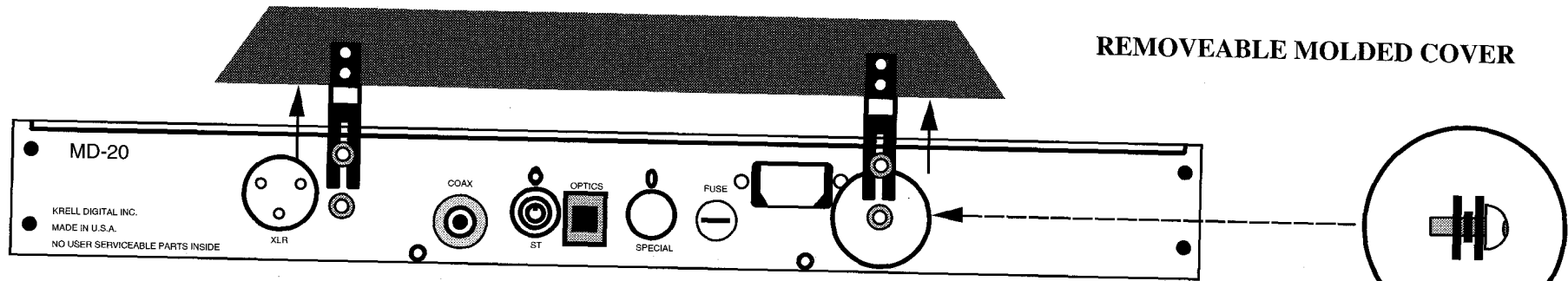
Remove the top cover, in its protective sleeve, from the shipping foam. To prevent scratching, leave the protective sleeve on the top cover until the cover mounting is complete. There are two pairs of screws with washer-type receptacles attached to the back panel of the unit for mounting the top cover. Center the hinge pins on the top cover over the two pairs of screws. Carefully slide the hinges into the slots formed by the washers. Push the cover down evenly on both sides until it is fully seated. Finally, remove the protective sleeve.

2. Custom Version Clear Lucite Top Cover:

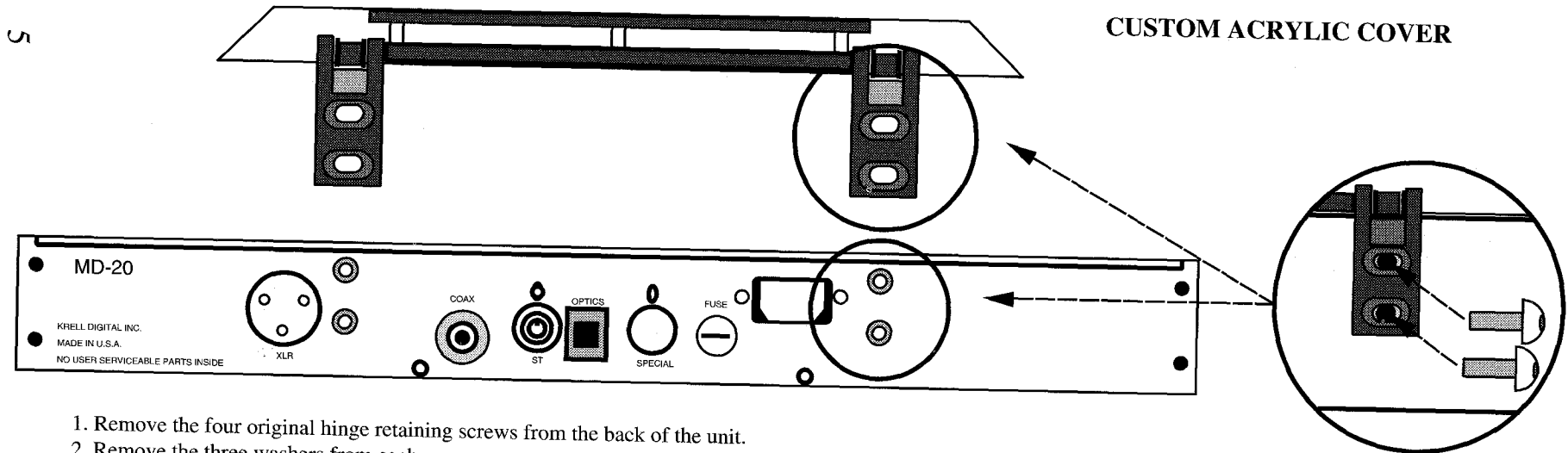
Remove the top cover from the protective foam and its protective sleeve. There are two pairs of screws with washer-type hinge receptacles on the back of the unit. Remove the four screws from the unit and take off the black hinge receptacles. Carefully place the lucite top cover such that the circular milled-out portion is centered over the transport. Align the slots in the cover's hinge blocks with the holes in the back of the chassis. Thread the four screws into the chassis through the hinge blocks. Tighten down lightly and adjust the cover so it is centered on the unit. Once the cover is aligned, tighten down the supporting screws.

NOTE: The clear lucite cover must be lowered manually, as it is very heavy and does not have a damping mechanism.

INSTALLATION OF THE CUSTOM ACRYLIC DUSTCOVER FOR MD-20



1. To remove molded cover, slide the cover assembly upward until the hinges are cleared from both sets of screws and washers.
2. Be sure to save all the screws and washers after disassembly.



1. Remove the four original hinge retaining screws from the back of the unit.
2. Remove the three washers from each screw.
3. Gently place acrylic cover on the chassis top, center the hinges to match the holes in the chassis.
4. Insert the four screws without washers into the hinge and fasten loosely.
5. Center the cover with the chassis and secure hinge block screws.

E. BASIC INSTALLATION AND CONNECTIONS

1. Place the unit on a clean, level surface away from excessive heat, moisture or light. Ideally, the MD-20 should be placed on the top of an audio component cabinet or other "open air" rigid platform.
2. The MD-20 may be placed in a cabinet. It will require 17.0 inches of vertical clearance between the bottom and top shelves for proper operation of the cover.
3. If space is limited, the MD-20 can be operated without its dust cover. Six inches vertical clearance is adequate to allow convenient access to the disc transport area.
4. The location of the unit should be within 2 meters of the digital signal processor. If longer distance is required, we recommend using an AT&T fibre optic data link or an AES/EBU balanced data link, as they are more suited to long distance runs.
5. Connect the AC power cord to the back of the unit. Once the power cord is secured, plug the cord into an AC outlet.
6. Press the POWER button on the front panel. The display will illuminate and the transport will now be active.

NOTE: While the MD-20 has superb regulation and does not require a dedicated AC circuit, we strongly advise against any connections through extension cords or multiple AC adaptors. High quality 15 amp grounded AC strips are acceptable.

7. Connect the Digital Output from the MD-20 to a Krell Digital Processor or other compatible digital-to-analog audio processor.

The MD-20 is compatible with industry standard Fibre Optic, Coaxial RCA, AT&T wide bandwidth Fibre Optic ST type and AES/EBU XLR output connectors.

NOTE: Care should be taken in selecting the type of cable used to link the MD-20 to your processor. We recommend both the AT&T Fibre Optic due to its superior bandwidth and signal isolation properties, and the AES/EBU format due to its higher voltage transmission and noise rejection due to balanced format.

CAUTION: The MD-20 is a CD Transport only. It is not designed to connect directly to any preamp or analog signal processor.

The MD-20 is equipped with a special termination system called TimeSync. TimeSync is a system that locks the clock between the MD-20 and specific Krell digital-to-analog processors. This connection is labeled SPECIAL on the back of the MD-20. The termination is via an AT&T fibre optic cable only and is used in conjunction with any of the other digital links like the AT&T or AES/EBU.

The TimeSync option can be ordered with the MD-20 or installed at a later time by an authorized Krell dealer or distributor.

NOTE: The TimeSync system can only be utilized with certain Krell digital-to-analog converters and will not work with any other make or model. Please consult your dealer or the Krell staff for specific information.

NOTE: The TimeSync output can not be used as an additional digital output.

TIMESYNC CONNECTION

The TimeSync system is terminated via an AT&T ST fibre optic cable.

1. Connect the AT&T fibre optic cable to the termination labeled SPECIAL on the MD-20. Make sure the small key at the top of the fibre optic cable is upright and fits smoothly into the AT&T receptacle, twist the collar clockwise to lock the cable in place.
2. Connect the free end of the fibre optic cable to the termination labeled TimeSync/Ext clock on the back of your Krell digital-to-analog converter.
3. Connect your digital interlink between the transport and digital-to-analog converter, if not already connected.
4. Select a digital source and press the TimeSync button on the front of your digital-to-analog converter. The corresponding led will illuminate indicating the TimeSync is locked. Should the TimeSync LED flash, this means the TimeSync clock has not locked and requires resetting. Select any other digital input on the digital-to-analog converter and then reselect the input you wish to use. The TimeSync LED will now be steady and the clock will be locked.

F. OPERATION OF THE CD TRANSPORT

1. Turn the CD transport ON by pressing the Power button. The display will illuminate. Select a disc and place it on the spindle, label side up. Put the disc stabilizer on the center of the CD so it fits securely on the drive spindle.

CAUTIONS: Never operate the CD transport without the disc stabilizer. This can result in damage to the transport or your valuable compact discs.

b. Never place the disc stabilizer where the cover may accidentally close on it and damage the cover.

c. Do not use any disc stabilizing tool besides the Krell CD Stabilizer. This device has been specially machined to precisely match the CD transport. Failure to heed this warning may cause damage to the laser transport.

2. The functions of the front panel buttons that control the transport are described below.

POWER	Turns unit ON or OFF
STOP	Stops the disc from playing
PLAY	Starts the disc playing at track 1; will also restart play of the current track
PAUSE	Temporarily stops play of current track
TRACK < TRACK > 	Reverse track select Forward track select
INDEX < INDEX > 	Reverse index select Forward index select
SEARCH < SEARCH > 	Fast reverse search Fast forward search
FTS	Programs FTS memory; will also play FTS encoded discs
PROGRAM	Stores selected tracks in memory
REPEAT	Starts play from the beginning once disc has finished

3. Select a track on the CD to play with the remote control or via the front panel and press the Play button. The music will now begin.

G. REMOTE CONTROL

1. The operating functions of the Remote Control are described below:

POWER	Turns unit ON or OFF
STOP	Stops the disc from playing
PLAY	Starts the disc playing at track 1; will also restart play of the current track
PAUSE	Temporarily stops play of current track
TRACK <	Reverse track select
TRACK >	Forward track select
INDEX <	Reverse index select
INDEX >	Forward index select
SEARCH <	Fast reverse search
SEARCH >	Fast forward search
FTS	Programs FTS memory; will also play FTS encoded discs
PROGRAM	Stores selected tracks in memory
RPT	Starts play from the beginning once disc has finished

2. The MD-20 remote control has a 10 digit keypad. The keypad allows for direct access to specific tracks. Punch in the track number you want and press Play, the track you selected will begin playing. The direct access keypad is convenient for track and FTS programming.

H. TRACK PROGRAMMING

The remote control or the front panel of the MD-20 can be used to program specific tracks on a disc to be played in the order you choose. The MD-20 can store up to 20 selections per program.

1. Select the track number which will start the sequence into the keypad, then push the PROGRAM or PROGR button. A "P" will appear next to the track number.
2. Enter the rest of the track selections in your program in the same manner remembering to push the program button after each track selected.
3. Once you have finished your programming, push the PROGRAM or PROGR button again ending the program sequence. The machine will then review the tracks you have selected.
4. Press the PLAY button and the program will begin. While the program is running you can Pause, Search and select tracks within the program. You can start a track playing from the beginning by pressing the Play button. Press STOP only to defeat, or erase, the program function.
5. Press the REPEAT button and the machine will play your selected tracks over again in the same order they were programmed.
6. To cancel your program push the STOP button.

FTS MEMORY

FTS, or Favorite Track Selection, is a feature that enables you to store desired tracks on a CD, in a specific order, into the memory of the MD-20. Once you have programmed a disc with FTS, the machine will give that specific CD a reference number. The machine remembers this information and will play the tracks you have selected for that CD with a simple command. The machine can also play the entire disc should you choose.

FTS PROGRAMMING

To program tracks in the FTS memory:

NOTE: Before you begin, place disc to be programmed on the unit and press **PLAY**. Once the unit reads the table of contents and displays the disc's playing time, press **STOP**. You can now begin programming the FTS memory.

1. Program the selections in the standard form described above.
2. After you have programmed the tracks, press the FTS button on the front panel or on the remote control. The FTS indicator in the display will flash.
3. While the indicator is flashing press the **PROGRAM** button. The machine will then display a number on the screen briefly. This is the FTS designation number. When this number appears the FTS programming is complete.

NOTE: You may want to label the disc you programmed with the FTS designation number so it can easily be erased or changed in the future.

4. You can now start playing your FTS programmed disc.

TO PLAY AN FTS DISC

1. Press the FTS button on the remote or front panel before you press **PLAY**.
2. The FTS indicator on the display will flash.
3. While it is flashing, press the **PLAY** button and the MD-10 will play only the tracks in FTS memory. If you do not wish to play only the FTS selected tracks on a disc, press Play with out pressing the FTS button first. The entire disc will now play.

TO ERASE FTS PROGRAM MEMORY

NOTE: FTS memory can only be erased via the front panel controls. The remote control cannot erase FTS memory.

NOTE: The disc does not have to be on the MD-20 to erase FTS memory. Erasure can be completed with no disc on the drive spindle.

1. Press the FTS button on the front panel. Hold the button in while pressing the forward or backward track select. You will notice the machine is scrolling through FTS designation numbers. Once you have found the FTS designation number you want to erase, press the STOP button and the program will be erased.

I. MAINTENANCE

Because of its superb build quality the MD-20 requires little maintenance. Should the unit become excessively dirty, clean the lens assembly with a camera lens brush made of a soft material like camel hair. The acrylic top plate and dust cover should be cleaned with the polishing kit provided. Read the directions on the containers for best polishing results.

REMOTE CONTROL BATTERY INSTALLATION AND REMOVAL

The batteries in the remote control should be changed when the transport is no longer understanding or correctly responding to the commands sent from the unit.

Remove the four socketcap screws from the back portion of the remote control. Remove the back plate to expose the battery storage compartment. Refer to the polarity drawing while inserting the batteries. Replace the back plate and insert the four socketcap screws.

FUSE INSTALLATION AND REMOVAL

If the MD-20 does not seem to power-up, unplug the unit from the AC wall socket and check the fuse.

1. Locate the fuse holder on the back of the unit labeled FUSE. Turn the fuse holder counterclockwise and gently pull the fuse free from the chassis.
2. Check to make sure the foil in the center of the fuse is still connected. If you are still unsure, measure the fuse with an ohm meter to determine if it is intact. The MD-20 uses a 1 amp fast-blow fuse. Should the fuse need replacing, use only the fuse specified.
3. Place the fuse into the receptacle and push and turn gently clockwise until the fuse holder is fully seated. Plug the unit into the AC wall socket and press the Power button.

CAUTION: Should the MD-20 not power-up and continuously blow fuses, unplug the unit from the AC wall outlet and contact your Krell dealer or distributor.

J. QUESTIONS AND ANSWERS

Q. My Digital to Analog processor will accommodate either fibre optic or coaxial digital inputs. Which output should I use on the MD-20?

A. While a high quality coaxial will perform quite well, we recommend glass fibre optic cable due to its ability to completely isolate the grounding planes between the transport and processor, and its resistance to RF interference. If an AT&T or AES/EBU input is available, we recommend one of these interfaces be utilized.

Q. When listening to certain discs I hear skipping noises. Is there something wrong with the MD-20?

A. Due to the accuracy of the laser reading system in the MD-20, discs must be kept reasonably clean. If the disc is mistracking, it could be because of excessive dirt or fingerprints. Clean the disc and retry. If the disc still skips, try several others. If it is only the first disc that is skipping, the disc may need to be replaced. If the unit mistracks on several discs, contact your Krell dealer or distributor.

Q. I can not seem to get the FTS programming feature to program my discs, is there something wrong?

A. Make sure the disc you wish to program is indexed, or read, by the machine before you start your program. Refer to the FTS programming instructions in this reference. Make sure when you are playing FTS encoded discs that the FTS button is pressed and the display reads FTS. If the sequence is altered the MD-20 can not correctly correlate the FTS information.

Q. Do you recommend I leave the MD-20 ON at all times?

A. Yes, These circuits are most accurate and stable when left to idle when not in use. In fact, discrete parts age faster when cycled ON and OFF. The MD-20 will sound better and last longer if left ON.

NOTE: You should disconnect the AC cord from the wall outlet before any electrical storms or if you plan to be away from your home for prolonged periods of time.

Q. Will the MD-20 play if the dust cover is fully raised?

A. Certainly. The unit will function perfectly even with the dust cover removed.

Q. Due to the exposed nature of the laser assembly is there a possibility of damage through laser radiation?

A. No. There is an optical sensor under the CD when it is positioned on the transport hub. This allows the MD-20 to prohibit the laser from turning on when it is not covered with a CD.

Q. I own many CDs that have CD Rings on them. Am I able to use these discs with the MD-20?

A. Yes, The MD-20 will accept discs with "CD Rings". Due to their very low mass, they will not damage the MD-20's transport. While we can neither affirm nor deny the benefits derived from the use of CD Rings, we do not feel that any type of disc equilibrium device is required with the MD-20 when properly used with our CD Stabilizer.

CAUTION: We strongly advise against the use of any type of additional disc stabilizer. These items add too much mass to the laser servo system and may burn out the drive.

Q. Do you recommend the use of Cones or other damping feet with the MD-20?

A. Due to the extraordinary rigidity of our machining and internal damping, we do not feel that the MD-20 requires additional mass coupling or isolation. If you wish to use an after-market isolation device you may do so without fear of damaging the MD-20. Any device which affixes permanently to the chassis or requires a breach of the external chassis will void the warranty.

NOTE: Before any type of after market device is to be utilized in conjunction with the MD-20, please consult your dealer or the Krell staff for assistance.

Q. Can I use more than one digital output at the same time?

A. Yes, The MD-20 can drive up to four different digital to analog converters.

Q. Will the MD-20 play CD singles?

A. Yes, the MD-20 will play CD singles.

K. SPECIFICATIONS

TRANSPORT

Modified Philips CDM-1 MK11 with Hall effect motor, swing-arm design in a unicast frame.

LASER

Single Beam with glass lens

OUTPUT

Digital only in industry standard SPDIF format.

1 FIBRE OPTIC via standard interface

1 COAXIAL via RCA connector

1 AT&T via ST connector

1 AES/EBU via XLR connector

REMOTE CONTROL

Wireless infrared

DIMENSIONS

19.0" wide,

12.5" deep

6.0" high, cover closed

15.0" high with cover open

WEIGHT

20 pounds unit only

33 pounds in box

L. WARRANTY AND SERVICE

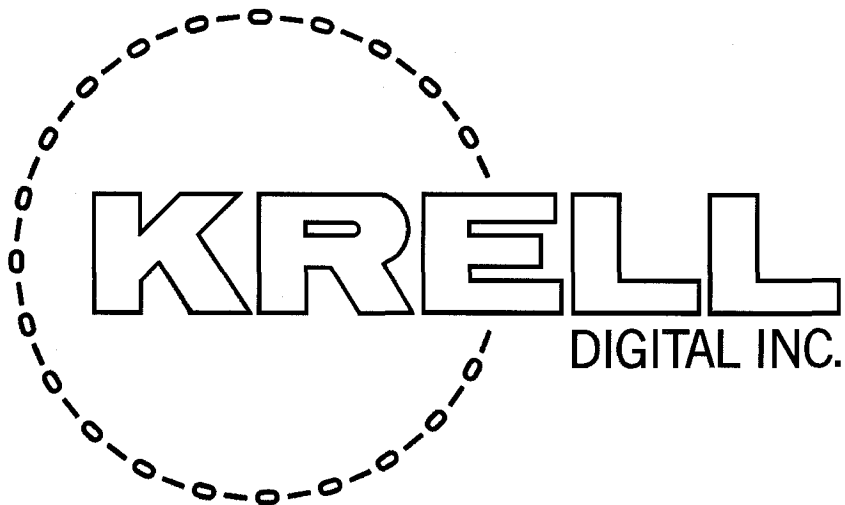
INFORMATION

There are no user-serviceable parts inside the MD-20. The MD-20 has a limited warranty of three years parts and labor on transport-related parts; five years parts and labor on electronic 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 MD-20 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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