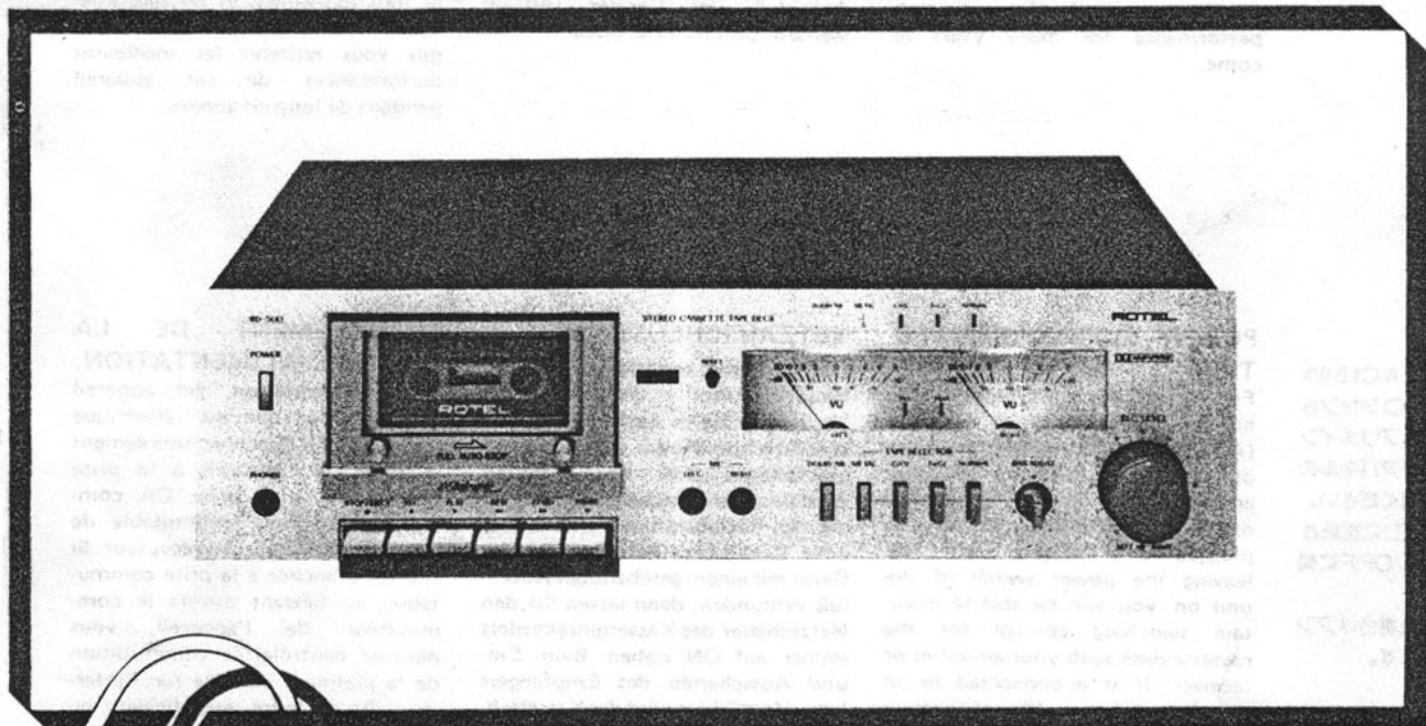


# OWNER'S MANUAL

Quality. Uncompromised.

# ROTEL®



METAL CAPABILITY  
STEREO CASSETTE DECK

# RD-500

**WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE**

Write your SERIAL NUMBER here.  
The number is located near the name plate on the unit's rear panel.

## INTRODUCTION

We at Rotel want to thank you for purchasing our audio product. Rotel audio products are designed to use the latest electronic technology, and they incorporate our long experience as a specialist manufacturer of audio equipment. We are confident that you will find satisfaction in the high quality sound and top performance, and that you will find pleasure in the functional beauty achieved through human-engineering concept.

Before starting operation, please read this instruction manual thoroughly and acquaint yourself with the proper mode of using the unit and all its connections.

We hope you will enjoy top-notch performance for many years to come.

## POWER SUPPLY CONNECTION

For power the unit requires the normal house electrical current (AC). You may simply plug the unit to a wall outlet, or to your amplifier's (or receiver's) switched or unswitched AC outlet. If it is plugged to a switched outlet, by leaving the power switch of the unit on you will be able to maintain switching control for the cassette deck with your amplifier or receiver. If it is connected to an unswitched outlet, like connecting to a wall outlet you must use the cassette's own power switch for switching control.

**CAUTION** — Do not apply power without first making sure the proper connections are completed. If you live in U.K. and your unit comes with 2-core cord without a plug be sure to read the exclusive caution for U.K.

## INSTALLATION

Be sure to place the unit in a level and flat place where it is free from humidity, vibration, high temperature and not exposed to direct sunlight.

Be careful not to place the unit in a highly enclosed place such as near a wall or on a bookshelf. A poor ventilation will cause undesirable effects to the unit

## CONNECTION TO RECEIVER OR AMPLIFIER

Connect the unit's rear panel terminals to the TAPE MONITOR terminals of your amplifier, using the RCA cords.

The unit's LINE IN terminals should be connected to the TAPE MONITOR OUT terminals of the amplifier, and the LINE OUT terminals to the TAPE MONITOR IN terminals of the amplifier. Be certain to properly match right and left terminals between components.

## MICROPHONE AND HEADPHONE CONNECTION

Microphone and headphones may be connected to the unit using the respective jacks on the front panel. When using stereo microphones, be sure connections are made properly to the left and right jacks.

**Note:** Microphones must not be connected except when carrying out microphone recording.

## EXCLUSIVE NOTE FOR U.K.

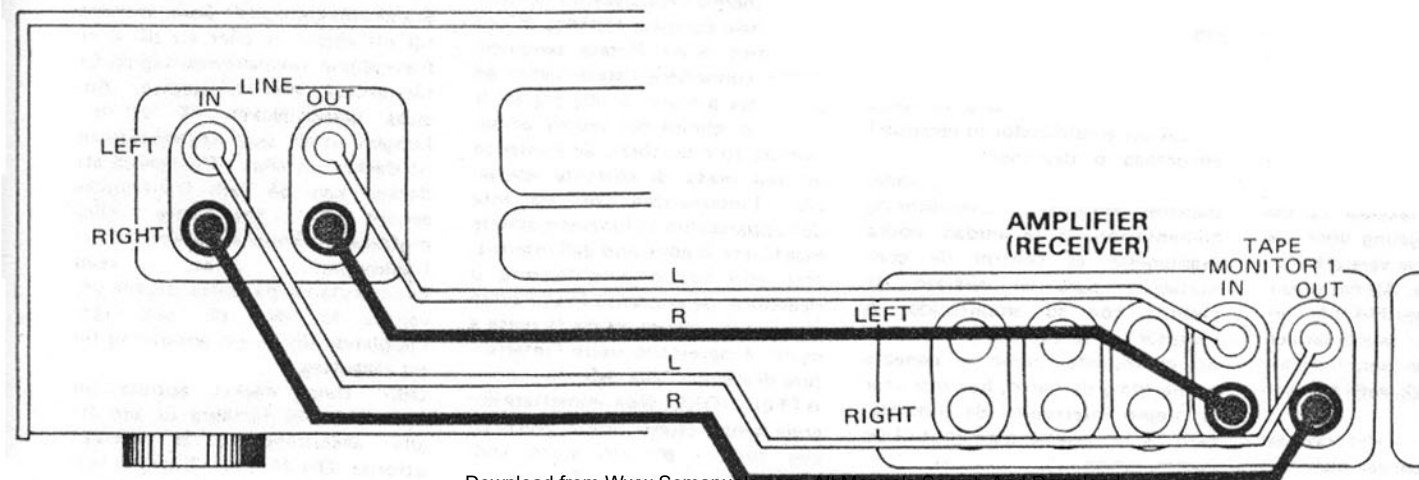
If your unit comes with a 2-core cable without a plug, make certain live and neutral leads are connected to the proper terminals. Check that the terminals are screwed down firmly and no loose strands of wire are present.

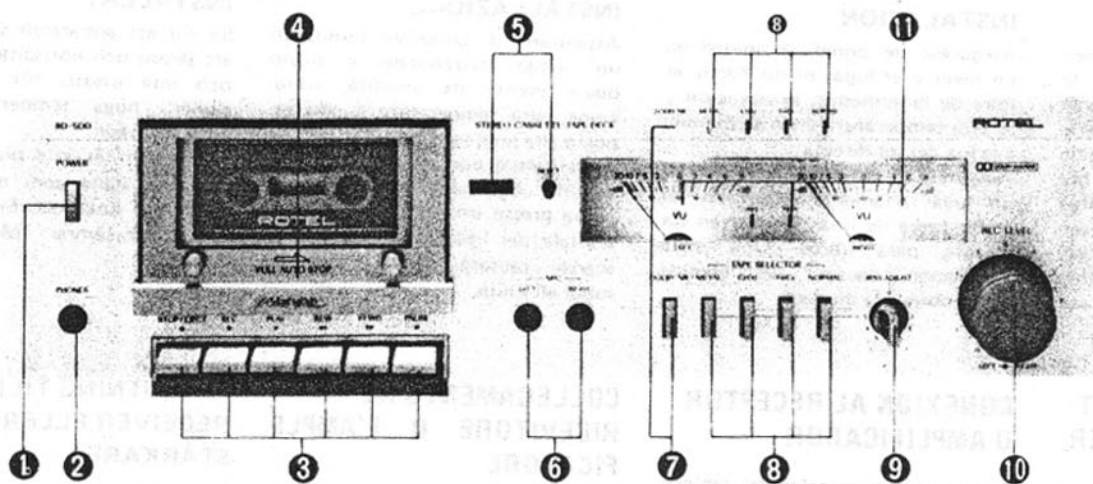
**IMPORTANT:** The wires in this mains lead are coloured in accordance with the following code:

BLUE: NEUTRAL  
BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLUE or BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured BROWN or RED.





## SWITCH AND CONTROLS

### (1) Power Button

Depress this button to turn on the tape deck. When the tape deck is turned on, the cassette compartment will be illuminated and the meter scale will light up. Press the button again to turn off the tape deck.

### (2) Headphones Jack

To enjoy headphone listening from the deck, plug your headset into this jack. Before commencing play, make sure that the volume control on the amplifier is set to the minimum position.

### (3) Cassette Mechanism Controls

#### STOP/EJECT Button

This button functions in two ways: Press lightly on it to stop the tape. Press all the way down to open the cassette door for removal or insertion of cassette tape.

#### REC Button

Used to put the deck in the recording mode. To record, simultaneously depress this button and the PLAY button. The REC indicator LED will light up to tell you that recording is taking place.

#### PLAY Button

Depress this button to play back prerecorded tape. Also, depress it simultaneously with the REC button when going into the recording mode.

#### REW Button

Depress this button to rapidly rewind the tape.

#### F.FWD Button

Depress this button to rapidly advance the tape.

#### PAUSE Button

Depress this button to temporarily stop the tape when in the recording

or playback mode. This button will not disengage the REC or PLAY button. The tape can be restarted by simply pressing the button again.

#### Notes:

- This unit incorporates a full autostop function. The transport mechanism will stop automatically and disengage all locked buttons when either end of the tape is reached during recording, playback, fast-forward or rewind. (This function will not cut off the power supply.)
- To stop recording, playback, or fast wind, press the STOP/EJECT button to the first stop. The tape will stop and the locked buttons will disengage automatically.
- The PAUSE button should be used only to temporarily stop the tape. Avoid remaining in the PAUSE mode for a prolonged time. Do not use the button as a substitute for the STOP button.

### (4) Cassette Door

This door will open when the STOP/EJECT button is pressed all the way down. To close it, push it lightly with fingers.

### (5) Tape Counter And Reset Button

The three-digit tape counter indicates the amount of tape travel. Push the reset button to set the counter to 000. The beginning of a specific section of the tape can be easily found by logging the counter reading beforehand. This counter is also convenient for checking the amount of tape remaining on a cassette.

### (6) Microphone Jacks

To make a live recording using stereo microphones, insert the microphone plugs into MIC jacks. Ensure that the right-hand microphone plug is inserted into the right chan-

nel jack, and vice versa. Be sure to disconnect the microphones when recording from other sources.

### (7) Dolby NR Switch And Dolby Indicator

Depress this button to switch in the built-in Dolby NR circuit provided for high-frequency range noise reduction when you wish to record or play back through the Dolby circuit. The Dolby indicator will glow when the Dolby circuit is operating. Press the button again to switch it out of circuit. Any tape recorded through the Dolby circuit should also be played back through the Dolby circuit for optimum results.

### (8) Tape Selector And Tape Indicator

Depress a button appropriate to the type of tape being used for optimum recording and playback performance. The associated LED will tell you which button has been selected. Use the METAL button for metal tape, the CrO<sub>2</sub> button for chromium dioxide tape, the FeCr button for ferrichrome tape, and the NORMAL button for normal tape. Refer to the TAPE SELECTOR SETTING GUIDE for details of various brands of cassette tapes and their proper selector positions.

### (9) Bias Fine-adjustment Control

This control allows you to obtain the optimum bias setting to match the property of tape being used. Turn the control to the "-" side when you feel that the high frequency range is inadequate, and turn to the "+" side when noise or distortion is high. Refer to the TAPE SELECTOR SETTING GUIDE for details.

### (10) Recording Level Control

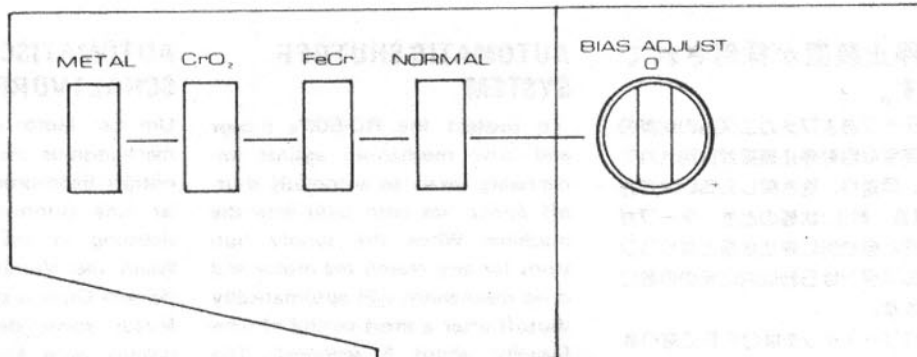
Used to control the recording level

of incoming signals, such as from a turntable, tuner, or microphones. This is a dual concentric type control which permits either separate or combined adjustment of both channels. Use the outer ring for the left channel, and the knob for the right channel.

### (11) VU Meters And Peak Indicator

VU meters are provided for each channel separately. When the unit is in the playback mode, the meters give a visual indication of the input signal strength. In the recording mode, the VU meters monitor the level of the signal being recorded on the tape. They should be used in combination with the REC controls to maintain the proper recording level.

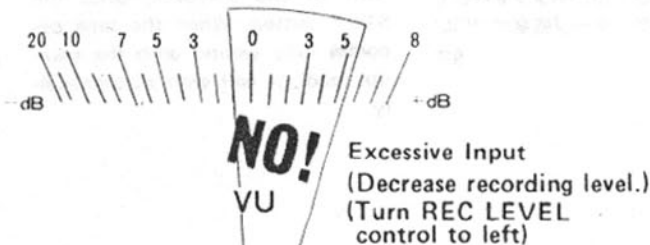
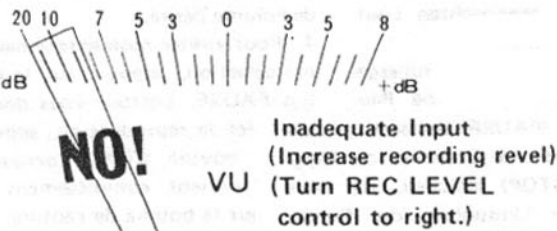
The peak indicator comes on to indicate excessive input during recording. If the indicator flashes frequently, there is an obvious overload condition and the recording level should be reduced. If the indicator lights up only from time to time, the recording level is appropriate.



## TAPE SELECTOR SETTING GUIDE

### TAPE BIAS ADJUST LIST

Manufacturer	Brand	Type	EQ	Tape Position	Bias Adjust Setting
AGFA	SFD	LN, LH	120 $\mu$ s	Normal	-2
	SFD 1	LN, LH	120 $\mu$ s	Normal	+1
	CARAT	FeCr	70 $\mu$ s	FeCr	0
AMPEX	PLUS	LN, LH	120 $\mu$ s	Normal	-2
	2020	LN, LH	120 $\mu$ s	Normal	-2
Audio Magnetics	Super	LN, LH	120 $\mu$ s	Normal	-1
	XHE	LN, LH	120 $\mu$ s	Normal	0
BASF	LH	LN, LH	120 $\mu$ s	Normal	-2
	LH Super	LN, LH	120 $\mu$ s	Normal	-1
	Super LH I	LN, LH	120 $\mu$ s	Normal	+1
	FCR Ferrichrome	FeCr	70 $\mu$ s	FeCr	+3
	SCR Superchrome	CrO <sub>2</sub>	70 $\mu$ s	CrO <sub>2</sub>	+3
EMI	Super	LN, LH	120 $\mu$ s	Normal	-1
	High Fidelity	LN, LH	120 $\mu$ s	Normal	0
Fuji Film	FX	LN, LH	120 $\mu$ s	Normal	-1
	FX I	LN, LH	120 $\mu$ s	Normal	-1
	FX II	CrO <sub>2</sub>	70 $\mu$ s	CrO <sub>2</sub>	0
	Range 2	LN, LH	120 $\mu$ s	Normal	-1
	Range 4	LN, LH	120 $\mu$ s	Normal	-1
	Range 4X	CrO <sub>2</sub>	70 $\mu$ s	CrO <sub>2</sub>	-1
	Super Range	Metal	70 $\mu$ s	Metal	0
Maxell	UD	LN, LH	120 $\mu$ s	Normal	+1
	UDXL I	LN, LH	120 $\mu$ s	Normal	0
	UDXL II	CrO <sub>2</sub>	70 $\mu$ s	CrO <sub>2</sub>	0
	XL I	LN, LH	120 $\mu$ s	Normal	0
	XL II	CrO <sub>2</sub>	70 $\mu$ s	CrO <sub>2</sub>	-1
	MX46	Metal	70 $\mu$ s	Metal	0
Philips	Ferrichrome	FeCr	70 $\mu$ s	FeCr	0
Pyral	Maxima	LN, LH	120 $\mu$ s	Normal	-3
	Superferrite	LN, LH	120 $\mu$ s	Normal	0
Scotch	High Energy	LN, LH	120 $\mu$ s	Normal	-3
	Master I	LN, LH	120 $\mu$ s	Normal	+1
	Master II	CrO <sub>2</sub>	70 $\mu$ s	CrO <sub>2</sub>	0
	Master III	FeCr	70 $\mu$ s	FeCr	0
	Metafine	Metal	70 $\mu$ s	Metal	-3
Sony	HF	LN, LH	120 $\mu$ s	Normal	0
	Chrome	CrO <sub>2</sub>	70 $\mu$ s	CrO <sub>2</sub>	0
	Duad	FeCr	70 $\mu$ s	FeCr	0
	Ferrichrome (CS30)	FeCr	70 $\mu$ s	FeCr	0
	AHF	LN, LH	120 $\mu$ s	Normal	0
	JHF	CrO <sub>2</sub>	70 $\mu$ s	CrO <sub>2</sub>	0
	Metallic	Metal	70 $\mu$ s	Metal	0
TDK	D	LN, LH	120 $\mu$ s	Normal	0
	AD	LN, LH	120 $\mu$ s	Normal	+2
	SA	CrO <sub>2</sub>	70 $\mu$ s	CrO <sub>2</sub>	+2
	MA-C46	Metal	70 $\mu$ s	Metal	0



The PAUSE button may be depressed if you wish to momentarily halt recording.

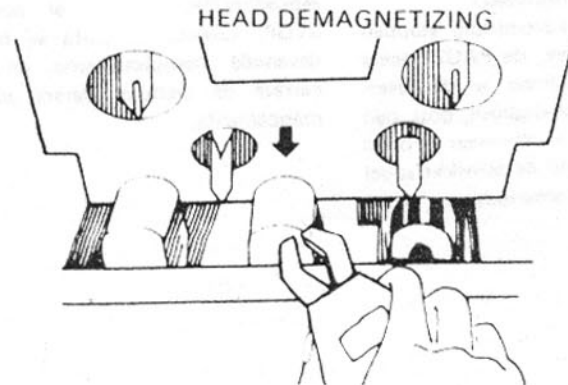
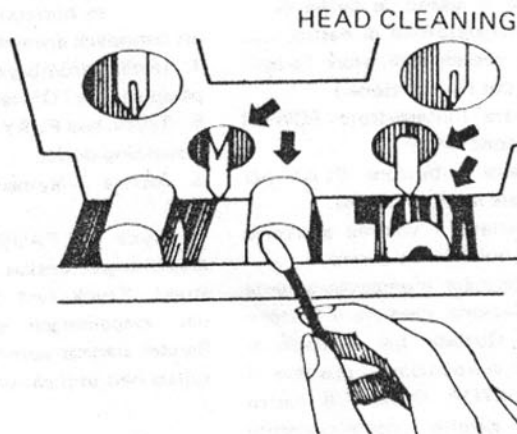
9. When you have completed a recording, press the STOP button. When the tape becomes fully wound onto the take-up spool, it will stop automatically.

**\*Note**

Refer to the table on page 15 for optimum setting of Tape Selector and Bias Adjust control.

**PLAYBACK**

1. When using Dolbyized tapes, set the DOLBY NR switch to ON.
2. Set the TAPE SELECTOR switches to match the type of tape used.
3. Turn the power switch on your amplifier to ON, with the volume control set to the minimum position. (When using headphones connected to the tape deck, there is no need to use the amplifier for playback).
4. Turn the POWER switch to ON.
5. Press the PLAY button to begin playback.
6. Adjust the volume to your desired volume level.
7. To momentarily halt playback, press the PAUSE button. When you wish to end playback, press the STOP button. When the tape becomes fully wound onto the take-up spool, it will stop automatically.



**HUM**

In any high fidelity installation, hum may be caused by interconnecting associated equipment. If the addition of the RD-500 to your system is accompanied by previously nonexistent hum, reverse the AC line plug in its socket. If this does not help, you may have defective interconnecting cables or the cables may be located too near a strong AC field, such as a television, power transformer, AC motor, or power lines. Do not attempt changes to plug connections in the U.K. in any attempt to reduce hum in your system.

**HEAD CLEANING**

The most frequent cause of failure to record in one or both channels, or of weak, distorted sound, is dirty tape heads and capstan. So, be sure to clean the heads, capstan, pinch roller and tape guides as often as possible using a "Q" tip dipped in ordinary rubbing alcohol or commercial liquid tape head cleaner. Thoroughly wipe the surface of the heads, capstan, roller and tape guide.

**HEAD DEMAGNETIZING**

The tape heads, capstan and tape guides gradually become magnetized with use, which will eventually affect the sound quality of your tapes. Demagnetizing should follow cleaning, but need not take place as often as cleaning, once after every 20 to 30 hours of use should suffice.

A demagnetizer may be purchased at a moderate cost from any dealer carrying tape recording accessories. Follow the instruction supplied with the demagnetizer.

**CAUTION:** Push the power switch off before you attempt demagnetizing.

**VOLTAGE SELECTION**

**Not available for U.K., Canada and Scandinavia**

The unit is a variable voltage equipment that can run on 120V, 220V or 240V power supply. Your unit should already be preset at the proper voltage for use in your area. However, if you move to an area where the power supply voltage is different, the voltage setting can be manually changed. BE SURE THAT YOUR UNIT IS NOT CONNECTED TO THE POWER SOURCE BEFORE ATTEMPTING TO MAKE THIS CHANGE.

To check the voltage setting, remove the name plate on the rear panel and locate the VOLTAGE SELECTOR. Use a screwdriver to turn the voltage selector to the

## SPECIFICATIONS

Heads . . . . .	High B-Permalloy Laminated (REC/PB) Ferrite Core (ERASE)		
Track . . . . .	4-track/2-channel		
Tape Speed . . . . .	4.8cm/sec.		
Motor . . . . .	Electronic DC Governor		
Wow and Flutter . . . . .	.015% (DIN)		
	0.05% (WRMS)		
Distortion (REC/PB, 400Hz) . . . . .	.06% (METAL)		
Frequency Response . . . . .	Normal, LH	30 to 15,000Hz±3dB	
	Chromium	30 to 15,000Hz±3dB	
	FeCr	30 to 16,000Hz±3dB	
	Metal	30 to 17,000Hz±3dB	
Signal-to-Noise Ratio (Chromium) . . . . .	Dolby NR in: 64dB		
	Dolby NR out: 55dB		
Input Sensitivity/Impedance. . . . .	MIC	0.3mV/10 kohms	
	LINE	25mV/27 kohms	
Output Level . . . . .	410mV/1 kohms		
Fast Wind Time (C-60) . . . . .	90 seconds		
Tape Selector . . . . .	BIAS	EQUALIZER	BIAS ADJUST
	Normal, LH	100%	120µs ±15%
	Chromium	150%	70µs ±15%
	FeCr	110%	70µs ±15%
	Metal	200%	70µs ±15%

## MISCELLANEOUS

Power Requirement. . . . .	120V/60Hz, 220V/50Hz, 240V/50Hz 120, 220, 240V/50 – 60Hz
Power Consumption . . . . .	15 watts
Dimensions (Overall) . . . . .	430 (W) x 120 (H) x 268 (D)mm/ 16-15/16" x 4-23/32" x 10-9/16"
Weight (Net) . . . . .	5.5kg/12.1 lbs.

Specifications and design subject to possible modification without notice.  
Noise reduction system manufactured under license from Dolby Laboratories  
Dolby and the double-D symbol are trade marks of Dolby Laboratories.

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