

Marantz®



DIGITAL

**MONITORING CASSETTE DECK
AUTO REVERSE**

Model SD-64

Handbook of Instruction

ENGLISH

Warranty

For warranty information, contact your local Marantz distributor.

Retain your purchase receipt

Your purchase receipt is your permanent record of a valuable purchase. It should be kept in a safe place to be referred to as necessary for insurance purposes or when corresponding with Marantz.

Important

When seeking warranty service, it is the responsibility of the consumer to establish proof and date of purchase. (Your purchase receipt or invoice is adequate for such proof).

For UK only: This undertaking is in addition to a consumer's statutory rights and does not affect those rights in any way.

FRANÇAIS

Garantie

Pour les conditions de garantie, veuillez vous adresser à votre distributeur local.

Gardez votre bordereau d'achat.

Votre reçu d'achat est la preuve permanente de votre achat. Il doit être conservé soigneusement pour servir de référence ultérieure dans les cas nécessitant l'intervention de l'assurance, ou en cas de correspondance avec la société Marantz.

Important

Si le recours à la garantie est nécessaire, le consommateur doit fournir la preuve de l'achat et la date. Dans ce cas, le bordereau ou la facture servent de preuve.

DEUTSCH

Garantie

Bewahren sie Ihren Kassenzettel stets gut auf. Bei Inanspruchnahme der Gewährleistung kommt ihm eine wichtige Bedeutung, der Beweis des Kaufdatums zu.

NEDERLANDS

Garantie

Voor garantie kunt U zich tot uw lokale Marantz dealer wenden.

Bewaar uw kassabon

De kassabon is uw bewijs van een waardevolle aankoop. Deze dient op een veilige plaats bewaard te worden, zodat U ernaar kunt verwijzen bij verzekeringskwesties of correspondentie met Marantz.

Belangrijk

Het overleggen van de aankoopbon kan belangrijk zijn wanneer U gebruik moet maken van de garantie - of service dienst.

ESPAÑOL

Garantía

Para información sobre la garantía consulte a su distribuidor Marantz.

SVENSK

Garanti

För upplysningar angående garanti, vänd dig till din lokala Marantz-distributör.

Behåll ditt inköpskvitto

Inköpskvittot är ditt bevis på ett värdefullt inköp. Det bör förvaras säkert för att kunna användas som referens vid garantiservice är det konsumentens ansvar att uppvisa på inköp och inköpsdatum. (Inköpskvitto eller faktura gäller som sådant bevis).

ITALIANO

Garanzia

Se desiderate informazioni relative alle econdizioni di garanzia contattate la Marantz Italiana S.p.A.—Via Monte Napoleone 10-20121 Milano.

ENGLISH : This unit meets the requirements of EEC Recommendation 82/499.

FRENCH : Cet appareil est conforme à la recommandation CEE 82/499.

SPANISH : Este aparato esta conforme a los requerimientos de la norma 82/499 de la CEE.

GERMAN : Dieses Gerät entspricht den Anforderungen der EWG Richtlinien 82/499.

DUTCH : Dit apparaat voldoet aan de in EEG publikatie 82/499 gestelde eisen.

ITALIAN : Questo apparecchio è conforme alla direttiva CEE 82/499.

SWEDISH : Enheten möter kraven av EG rekommendation 82/499.

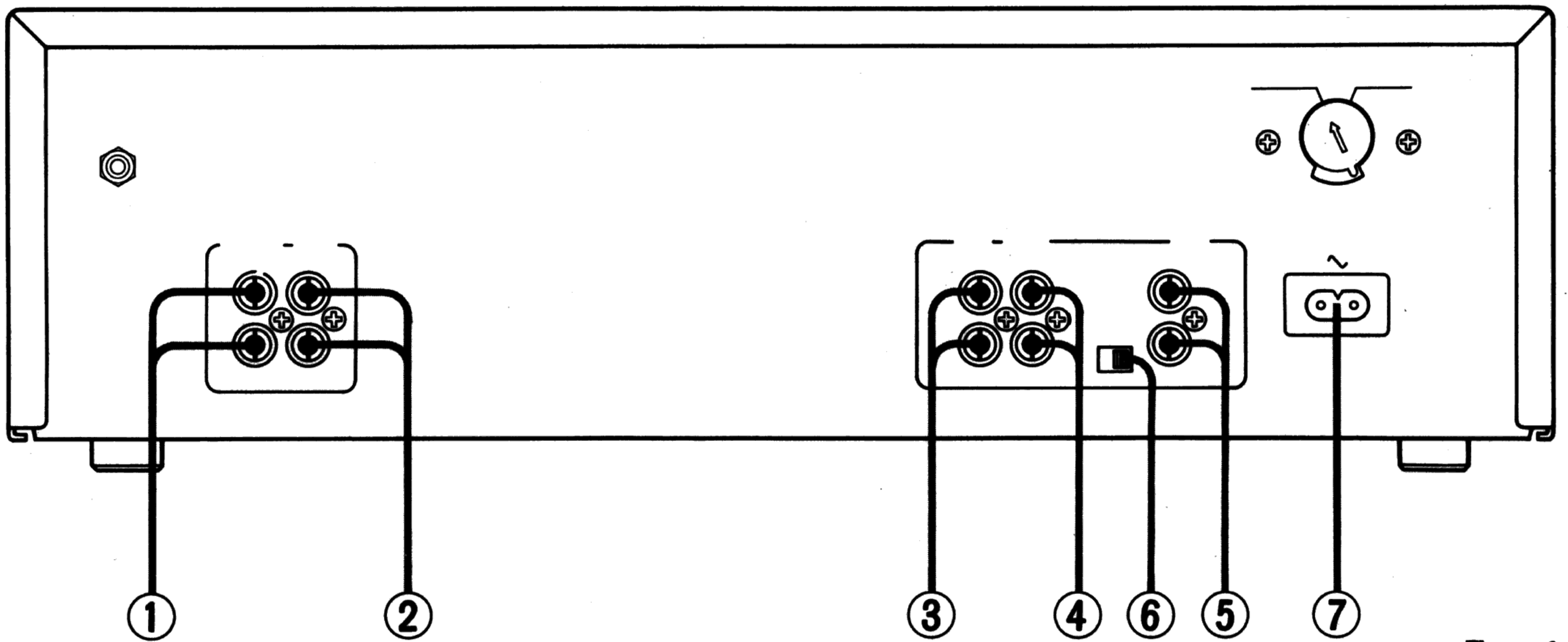


Figure 1.

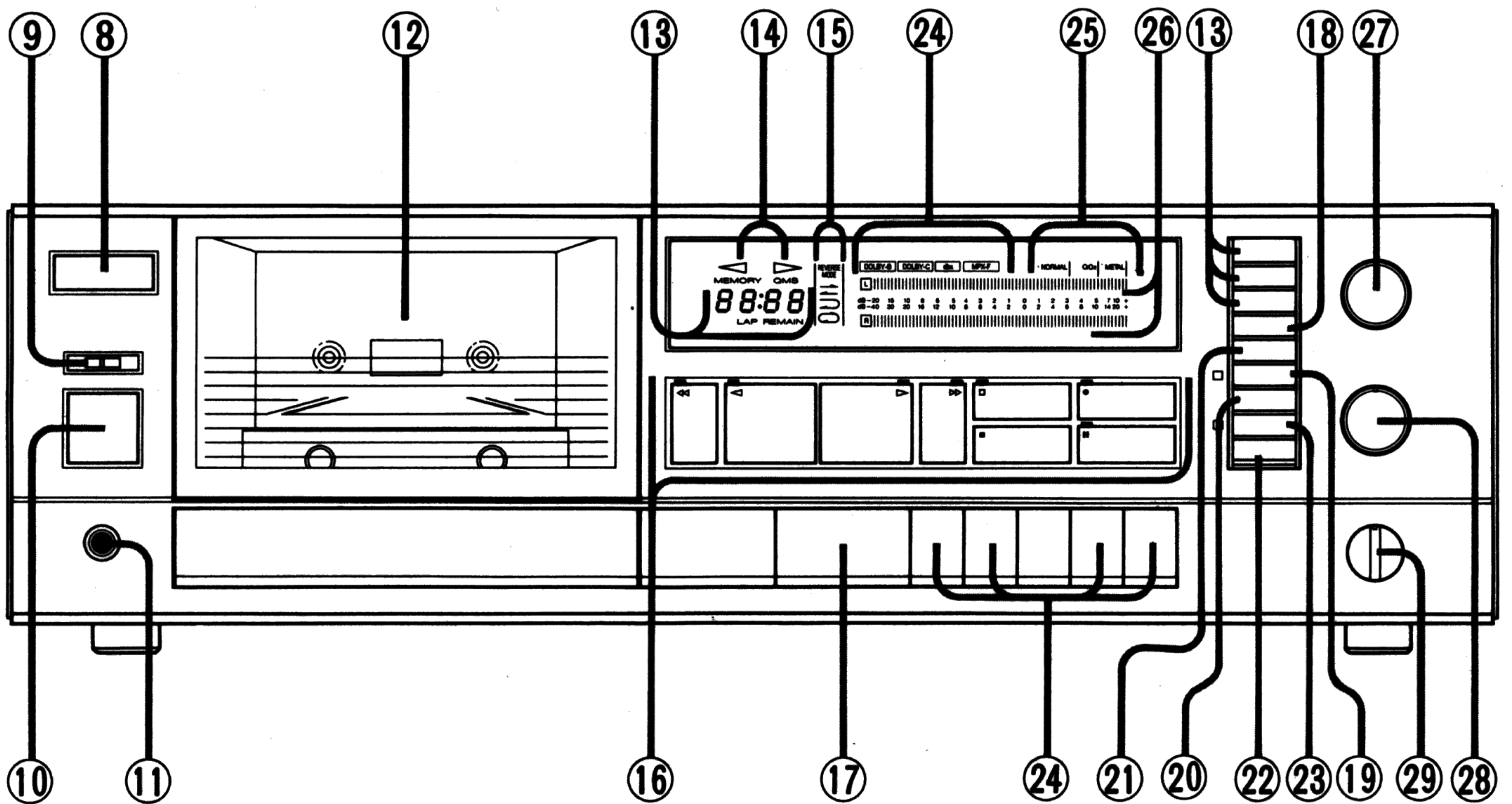


Figure 2.

FOREWORD

Your Marantz product has been specially prepared to comply with the household power and safety requirements that exist in your region. This product has a 2-position voltage selector (220/240 V) on the rear panel (A, N and T versions). Since the voltage has been adjusted as shown below upon shipment from the factory, please check the third alphabetical letter of the serial number and refer to the following table to note the characteristics of the model in your possession:

Suffix	Voltage
A	240 V AC, 50/60 Hz
C	120 V AC, 60 Hz
U	120 V AC, 60 Hz
N	220 V AC, 50/60 Hz
T	240 V AC, 50/60 Hz

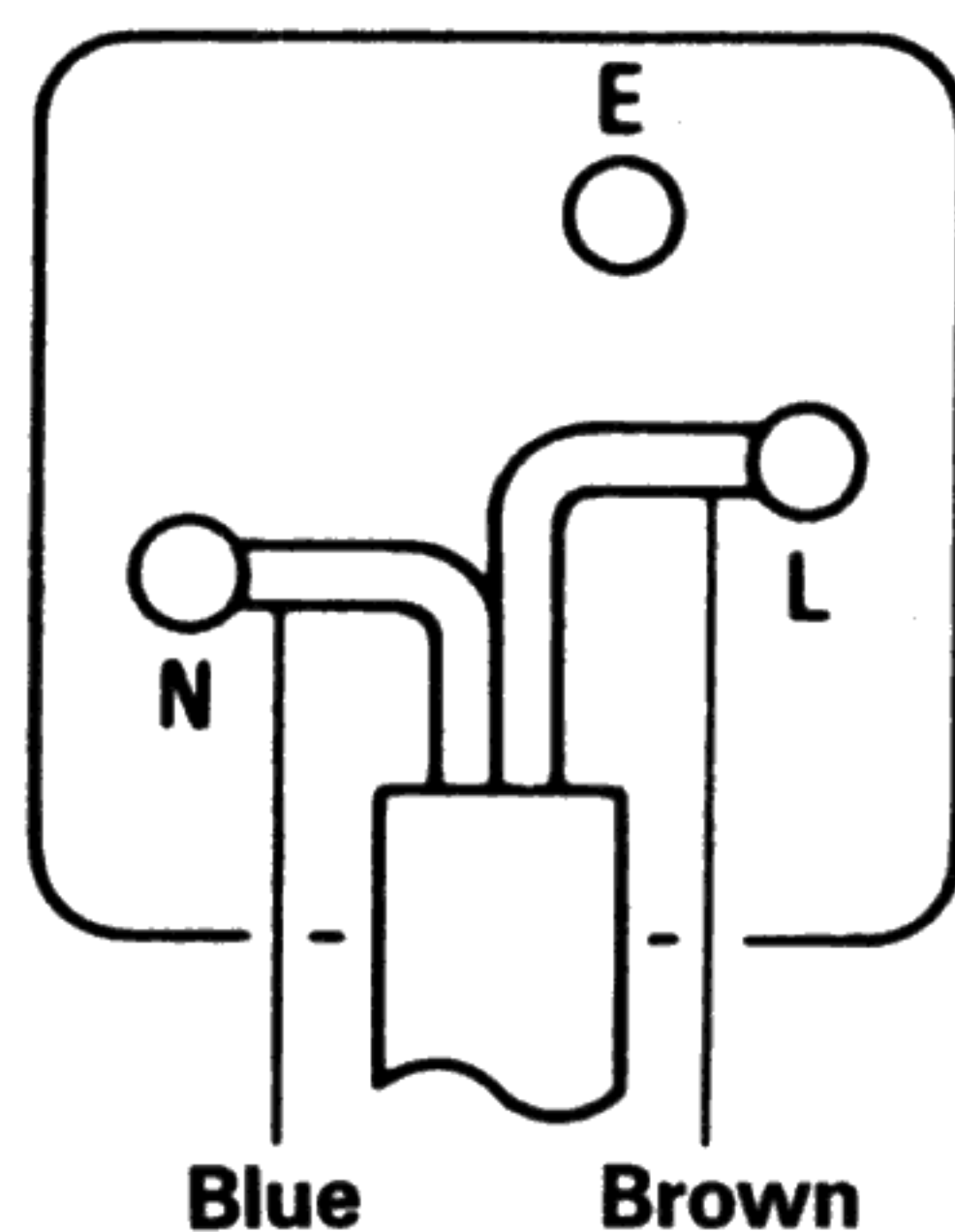
NOTE FOR U.K.

Recording and playback of any material may require consent. For information, please refer to the:—

Copyright Act 1956
Dramatic & Musical Performers Act 1958
Performers Protection Acts 1963 & 1972

and to any subsequent statutory enactments and orders.

FOR UNITS SOLD IN THE UNITED KINGDOM



IMPORTANT

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

Blue – Neutral
Brown – Live

As the colors of the wires may not correspond with the terminal identification in your plug, proceed as follows:

- Connect the brown wire to the terminal marked "L" or colored brown or red.
- Connect the blue wire to the terminal marked "N" or colored blue or black.

For 13A plugs, confirming to BS1363, use a 3A fuse.

For other plugs, use a 5A or lower fuse in the plug or adaptor or at the distribution board.

ABOUT THIS MANUAL

Refer to the figures given on Page 2.

The callout numbers correspond to those found in this manual. All references to the connections and controls are printed in **BOLDFACE**, hold type as they appear on the unit.

REAR PANEL CONNECTIONS

All connections to the rear panel should be made with the power to the entire system turned off. To avoid confusion, connect one cable at a time between the different components of your system. This is the safest way to avoid cross-connecting channels or confusing signal inputs with outputs.

① LINE OUTPUT

Should be connected to the Tape Monitor inputs of your amplifier.

② LINE INPUT

Should be connected to the Tape output jacks of your amplifier.

③ EASY OPERATION (E.O.) BUS TERMINAL

Connect Marantz stereo components equipped with E.O. bus terminals to this terminal using the green bus cable. Pay attention to the color of the terminals when connecting the E.O. bus cable. Connecting it to terminals other than the specified may result in trouble.

The easy operation bus acts as a remote source selector for the amplifier. Therefore, you need not operate the source selector of the amplifier when you change and use source programs such as the tape and tuner. (See Figure 5.)

④ REMOTE CONTROL (R.C.) BUS TERMINAL

Connect the R.C. terminal of the tape deck to the R.C. terminal of the amplifier, tuner or audio timer using the orange bus cable. Pay attention to the color of the terminals when connecting the R.C. cable. Connecting it to terminals other than the specified may result in trouble.

The R.C. bus allows basic functions of the tape deck such as record, pause, generation of unrecorded section, rewind and fastforward to be remotely controlled with the RMC-12 remote control. It also allows the REPEAT, MEMORY, QMS and INDEX SCAN operations to be remotely controlled. (The RMC-12 emits an infrared pulse signal and the audio timer receives and decodes it to control the R.C. bus system.) (See Figure 5.)

When you use the RMC 12 remote control emitter to control the SD-64, set the **TAPE 1/TAPE 2** switch of the RMC 12 in the **TAPE 2** position.

⑤ SYNC REC TERMINAL

If your turntable is equipped with synchronous recording jacks, they can be connected to these jacks on the tape deck to allow synchronous recording. With synchronous recording, the needle on the tonearm comes in contact with the surface of the record, then stops automatically when the tonearm is lifted. The **SYNC REC** button on the tape deck must be set to ON for this purpose.

6 REMOTE SELECT SWITCH

This switch is normally set to "1". In this case, the tape deck can be controlled remotely with the RMC-12 remote controller when the **TAPE 1/TAPE 2** switch of the RMC-12 is set to **TAPE 1**. If you have a second tape deck, you can also remotely control it by setting the remote select switch of the second tape deck to "2" and setting the **TAPE 1/TAPE 2** switch of the RMC-12 to **TAPE 2**.

To prevent confusion, it is recommended that the first tape deck is connected to the **TAPE 1** terminals of the pre-main amplifier and the second tape deck to the **TAPE 2** terminals.

7 AC POWER SOURCE CONNECTION

With the **POWER** switch set to the **OFF** position, plug the AC line cord into an AC outlet providing the proper voltage.

FRONT PANEL FEATURES

8 EJECT BUTTON

To open the cassette compartment.

9 TIMER STANDBY SWITCH

This feature requires the use of an outside timer (optional). Please refer to figure 24 for connection of the timer and refer to page 9 for timer operation.

10 POWER SWITCH

When depressed, supplies AC power to the unit.

11 PHONES JACK

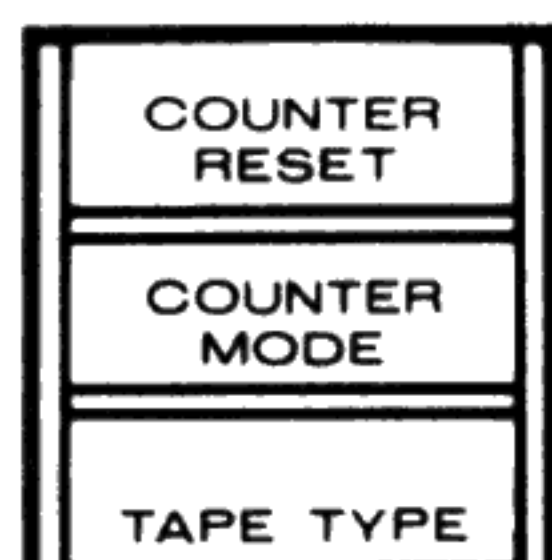
Accepts headphones (optional) utilizing a standard stereo phone plug.

12 CASSETTE COMPARTMENT

13 DIGITAL TAPE COUNTER

Can be used for easy reference and indexing of selections. The counter display has the following functions.

- 4-digit increase/decrease display
- Tape remaining time display
- Lap time display
- QMS selection number display



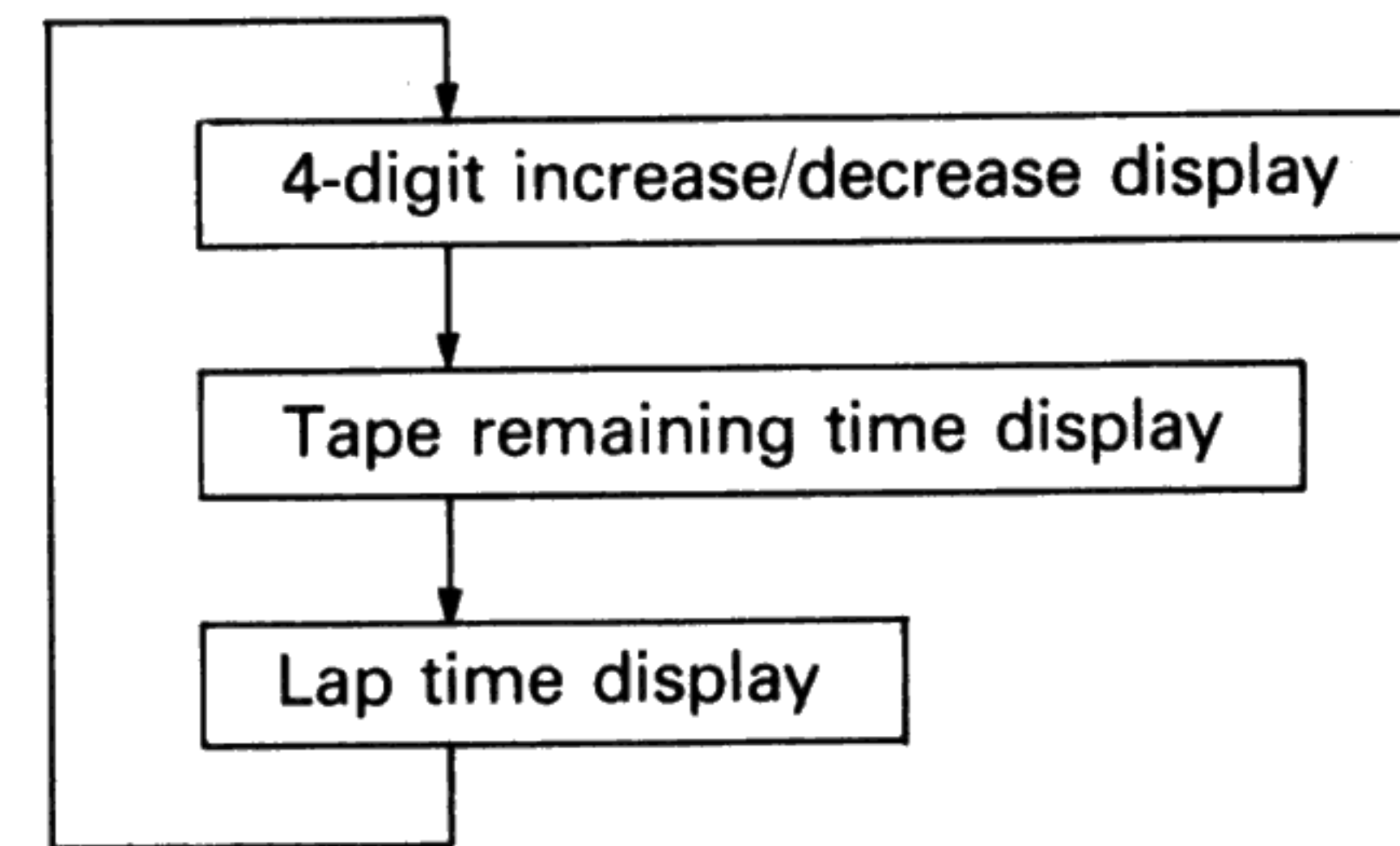
Used to reset the 4-digit increase/decrease on lap time display to "0000" or "00:00".



Used to select the following 3 counter modes.

- 4-digit increase/decrease display
- Tape remaining time display
- Lap time display

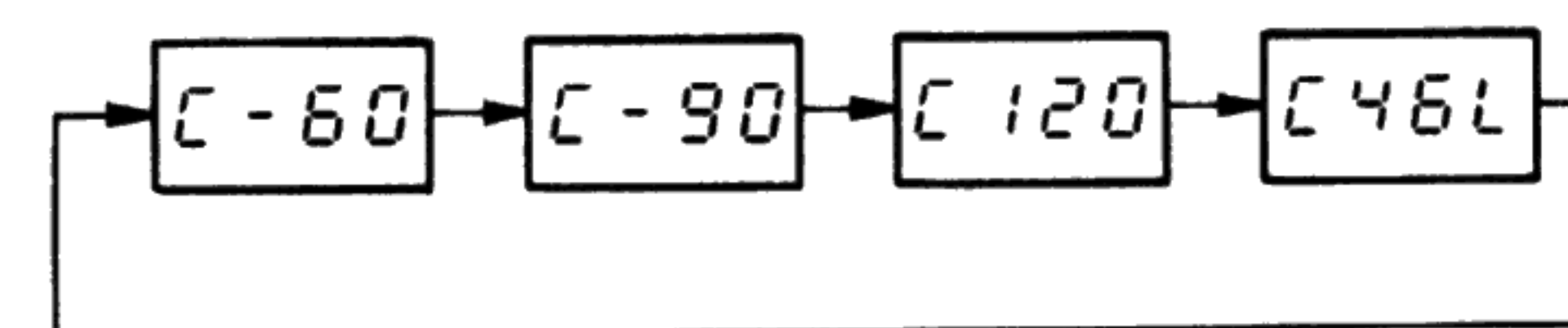
Each time this button is pressed, the counter display mode changes as follows.



The QMS selection number is displayed when the **QMS** button is pressed in any counter mode.



Each time this button is pressed in tape remaining time display, the display changes as follows.



Select the tape type according to the length of tape as follows.

TAPE TYPE	Tape length
C-60	C-30, C-46, C-50, C-52, C-54, C-60
C-90	C-80, C-90
C-120	C-120
C-46L	Thick hub C-46

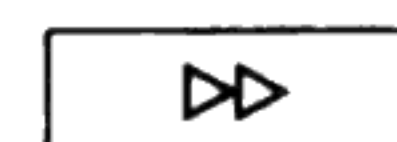
14 DIRECTION INDICATORS

Show the tape transport direction.

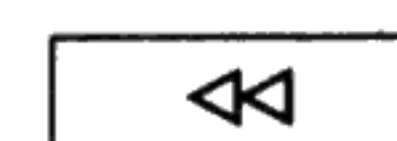
15 REVERSE MODE INDICATORS

Show the reverse mode of the unit.

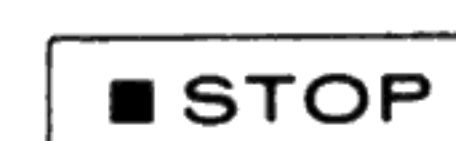
16 MECHANISM CONTROL BUTTONS



Pushing this button fast-forwards the tape; the LED above the button lights while the tape is being advanced



Pushing this button rewinds the tape; the LED above the button lights while the tape is being rewound



Pushing this button clears all mode settings and stops the tape deck.



Pushing this button starts playback; the LED above the button lights at this time.



As this unit employs a reverse mechanism, the reverse side of the tape can be played back directly.

Pressing the **PLAY** button during playback causes the selection currently being played to be repeated. The play indicator blinks on and off at this time. Pressing the **PLAY** button a second time causes the entire tape to be repeated from beginning to end with the play indicator blinking on and off.

Press this button three times in succession.



To start recording, press this button together with one of the **PLAY** buttons.



Pressing this button during playback or recording stops the tape deck without clearing the mode setting, and pressing it again causes playback or recording to be resumed. The LED above this button blinks while the deck is in the rec pause or play pause state.



Pressing this button while the deck is in the record mode causes a 4 second blank space to be recorded, after which the deck enters the rec pause state. The pause indicator lights while the blank space is being recorded, then starts blinking when the rec pause state is entered.

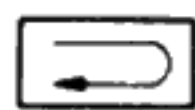
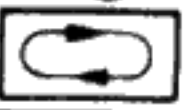




NOTE:

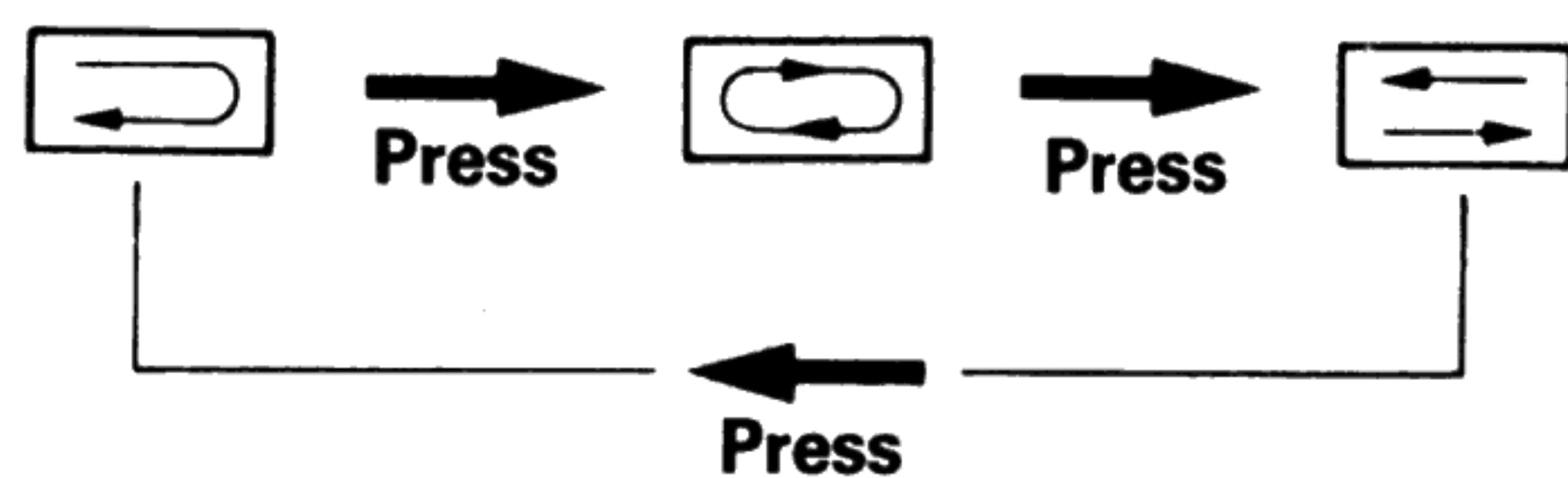
Pressing and holding the REC MUTE button for more than four seconds causes a blank space to be recorded until the button is released; in this case, the deck enters the rec pause state immediately when the button is released.

The pause indicator stays on as long as the button is held, then starts blinking when it is released. To start recording again, press the **PAUSE** button.

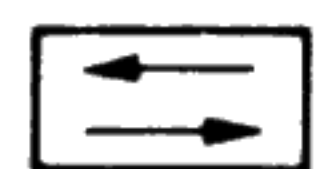
17 REVERSE MODE SWITCH

The tape transport mode can be selected with the **REVERSE MODE** switch.

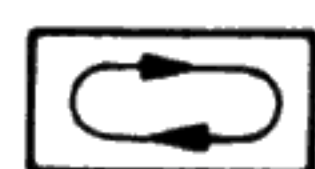
After the power is turned on and a cassette tape is loaded, the  mode is automatically entered and the indicator lights. Pressing the **REVERSE MODE** button once in the mode enters the  mode. Pressing it once in the  mode enters the  mode. Pressing it once in the  mode enters the  mode again. The indicator corresponding the selected mode lights each time the **REVERSE MODE** button is pressed.

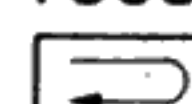


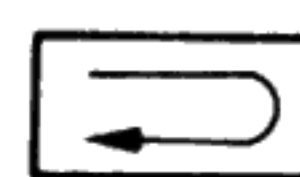
Model Indicators:



The tape stops when the end of the tape is reached in both play and record modes.



Both sides of the tape are played repeatedly. In the recording mode, the operation is the same as the  mode.



In both play and recording modes, the direction of the tape travel is automatically reversed when the end of the tape is reached in the forward operation. The tape is automatically stopped when the end of the tape is reached in the reverse operation.

- If the cassette tape has no transparent leader tape at the end, the direction of the tape travel will be reversed 4 seconds after the tape end has been reached.

Even if a cassette with transparent leader tape is used it may reverse 4 seconds after completion of rewinding, depending upon the type of magnetic tape used.

When a recorded tape is used for another recording, an amount of about 1 second before and after auto reverse is not erased if the unit is operated in the **QUICK AUTO REVERSE** mode. Start recording after erasing a tape at the end of rewinding under the **NORMAL** mode.

18 MEMO BUTTON

When this button is pressed in stop, play or record mode, the **MEMORY** indicator lights and the current tape position can be memorized.

MEMORY STOP

In play, record, fast forward or rewind mode, the tape stops at the memorized position.

(The memorized position is not erased even when the unit is set to stop or pause mode.)

MEMORY PLAY

When the **PLAY** button is pressed, the tape returns to the memorized position and play starts automatically.

(The memorized position is not erased even when the unit is set to stop or pause mode.)

MEMORY CLEAR

When the **MEMO** button is pressed again, the **MEMORY** indicator goes off and the memorized position is erased.

The memorized position is also erased when the tape playback direction is changed from forward to reverse or vice versa.

MEMORY CHANGE

To change the memorized position, the previous memorized position should be erased.

Press the **MEMO** button to erase the previous memorized position and press the button again to memorize the new position.

19 SYNC REC BUTTON

Used to synchronize start of recording when the unit is connected to a CD player or to a turntable equipped with a synchro recording jack.

1. Connect the unit to a CD player or turntable equipped with a synchro recording jack, with a pin cord.
2. Set the unit to rec pause mode.
3. Press the **SYNC REC** button. The indicator lights.
4. When the CD player or turntable is operated, the unit is automatically set to record mode.

Applicable units:

Compact Disc player	CD-84
Turntables	TT530, TT330 TT433, TT333

- This operation is possible only in rec pause mode.

To stop synchro recording
Press the **SYNC REC** Button again, or press the **STOP** or **PAUSE** button. The indicator goes off.

20 BLANK SEARCH BUTTON

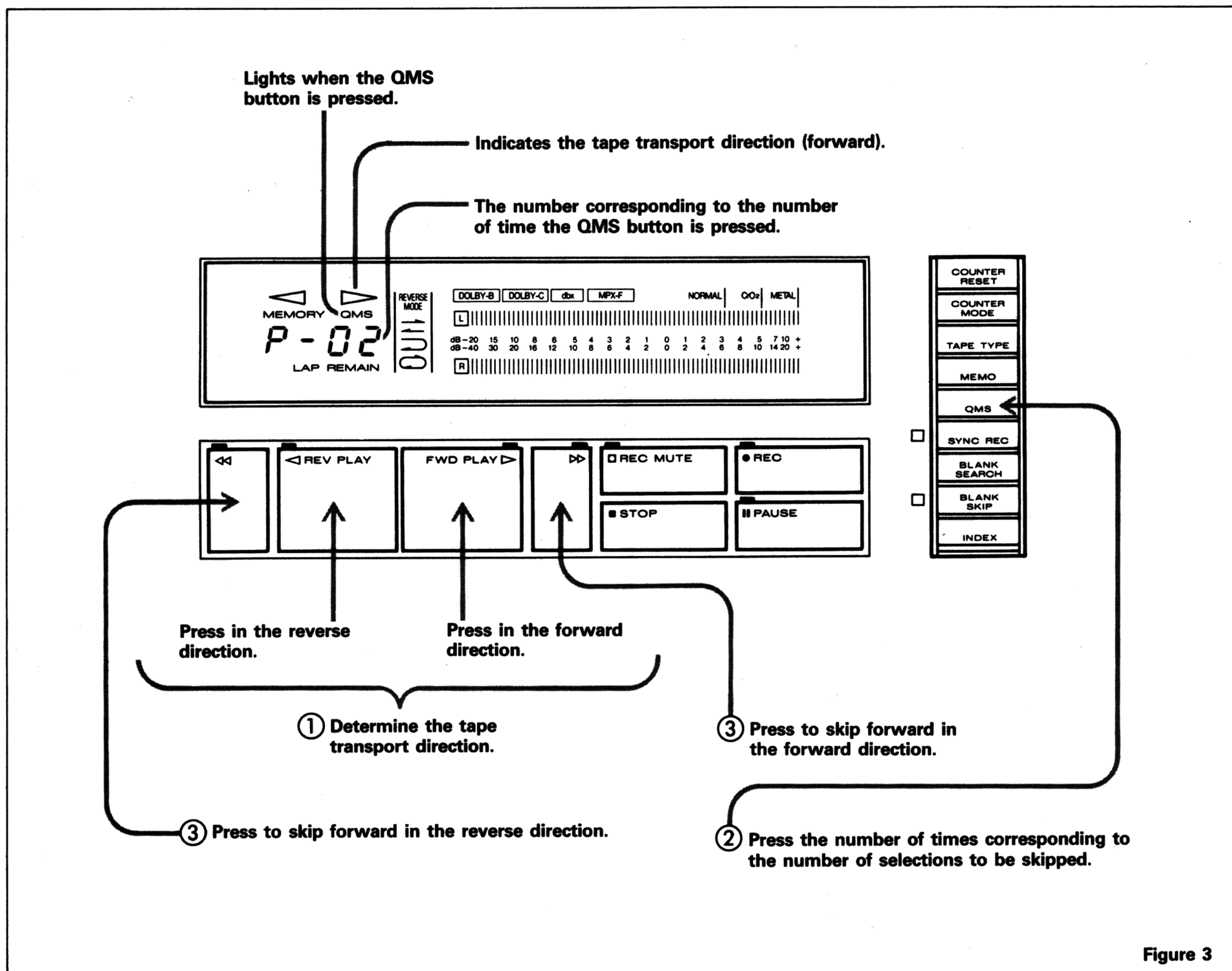
Used to find the blank section of the tape. This feature is useful for starting recording just after the previously recorded section.

- Load a cassette and press the **BLANK SEARCH** button. The unit automatically searches the blank section and enters rec pause mode.
- When the **BLANK SEARCH** button is pressed in the recorded section, the unit searches the end of the recorded section, enters play mode for 3 minutes to confirm that the section is not recorded, returns to the end of the recorded section leaving a blank section of about 4 seconds, then enters rec pause mode.
- When the **BLANK SEARCH** button is pressed in the non-recorded section, the unit enters play mode for 3 minutes to confirm that the section is not recorded, returns to the position at which the **BLANK SEARCH** button was pressed leaving a blank section of about 4 seconds, then enters rec pause mode.
- When the tape reaches the end during search operation, the unit enters stop mode regardless of the reverse mode and blank search operation is released.
- When the safety tab is removed from the cassette, this operation is not possible.

21 QMS BUTTON

Used to select a selection recorded on the cassette. In stop, play or pause mode, press this button the number of times corresponding to the number of selections to be skipped. The **DIGITAL COUNTER** indicates the number of the selections to be skipped. When this button is pressed in stop mode, determine the tape playback direction. To skip backward in the forward direction, press the << button. To skip forward, press the >> button. In the reverse direction, press the opposite button. The maximum number of selections that can be skipped is 20. To skip forward in the forward direction, the current selection should be counted.

This operation is possible on one side only. When QMS operation is started in stop or play mode, the unit enters play mode after searching the selection. In pause mode, the unit enters play pause mode. (See Figure 3.)



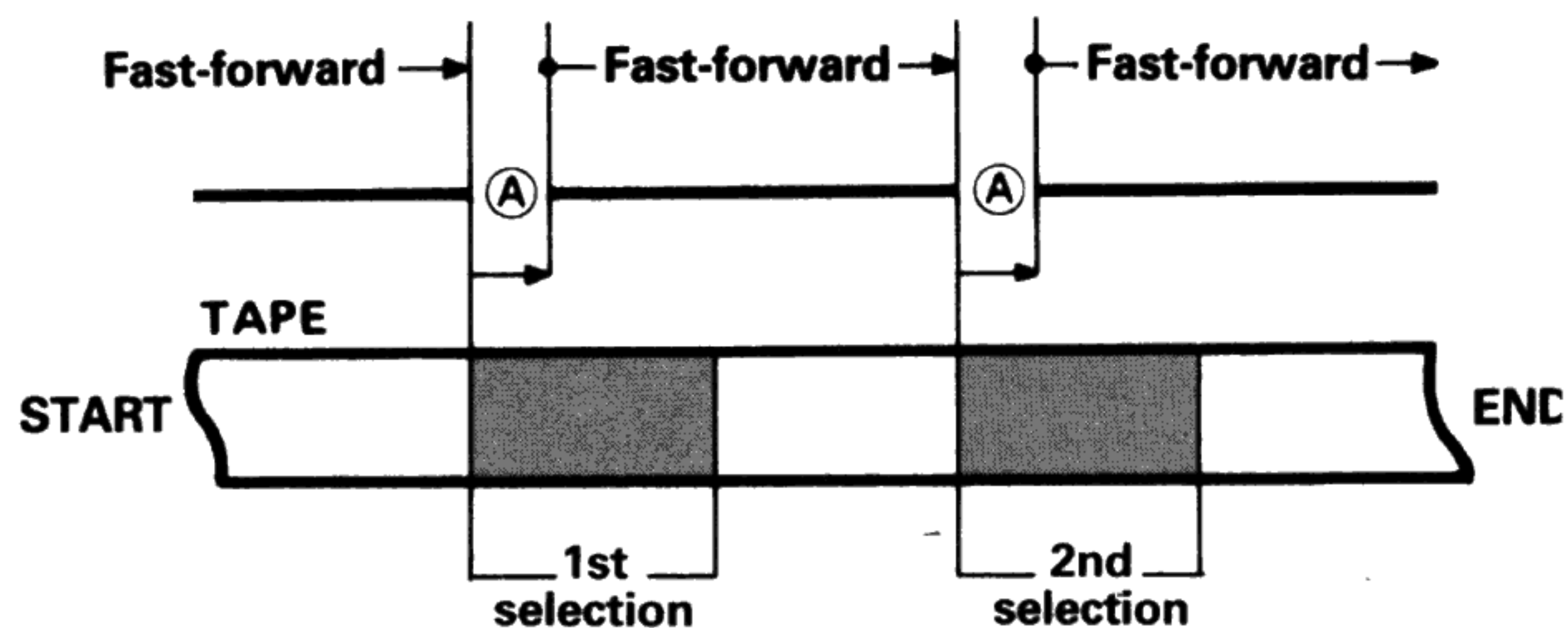
22 INDEX SCAN BUTTON

When this button is pressed in play or stop mode, the indicator lights and the beginning of the selections is played back for about 10 seconds. When the required selection is found, press the **FWD PLAY** or **REV PLAY** button.

The unit enters normal playback mode.

When the **▷▷** button is pressed during index scan operation, the unit rapidly advances to the beginning of the next selection and index scan operation starts. When the **◁◁** button is pressed during index scan operation, the unit returns to the beginning of the current selection and index scan operation restarts.

When the **PAUSE** button is pressed during fast forward or rewind operation, the unit enters pause mode at the beginning of the selected selection. Press the **PAUSE** button again to start index scan operation.

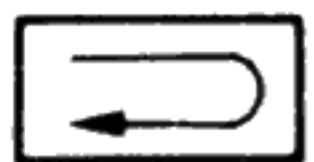


(A) ... Play for 10 seconds

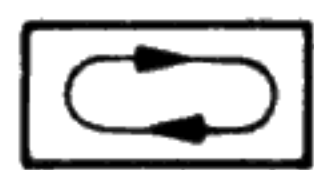
- This feature functions in each reverse mode as follows.



Index scan operation stops at the end of the side.



Index scan operation continues to the reverse side and stops at the end of the reverse side.



Index scan operation continues until the **PLAY** or **STOP** button is pressed.

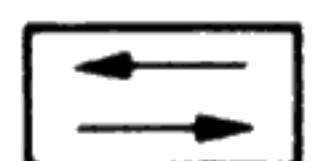
23 BLANK SKIP BUTTON

Used to skip the non-recorded sections.

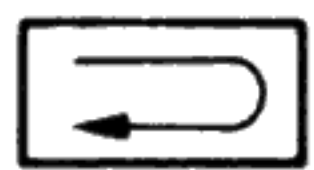
When this button is pressed, the indicator lights, the unit automatically skips the blank section of more than 10 seconds and play starts at the beginning of the next selection.

When the **BLANK SKIP** button is pressed during blank skip operation, the unit enters stop mode at the beginning of the next selection.

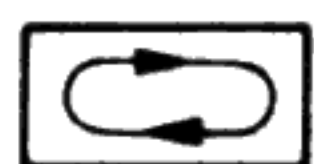
- This feature functions in each reverse mode as follows.



Blank skip operation stops at the end of the side. Blank skip mode is not released.



Blank skip operation continues to the reverse side and stops at the end of the reverse side. Blank skip mode is not released.



Blank skip operation continues until the **PLAY** or **STOP** button is pressed.

24 DOLBY NR AND MPX FILTER SWITCHES AND INDICATORS



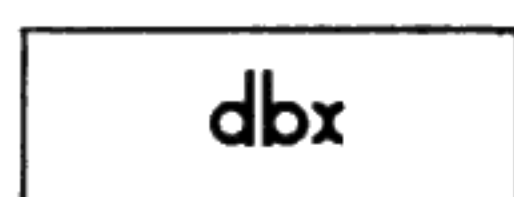
Used to perform normal recording or play.



Used to perform recording or play with the Dolby B NR system on.



Used to perform recording or play with the Dolby C NR system on.



Used to perform recording or play with the dbx NR system on.



Used to record FM broadcasting with Dolby NR ON.

The selected mode is displayed in the display.

25 TAPE SELECTOR INDICATORS

Light when the cassette is loaded.

With the built-in auto tape selector, the recording bias and equalizer and playback equalizer are automatically set according to the type of cassette loaded.

NORMAL For normal ferric oxide tapes.

CrO₂ For chromium dioxide and other tapes requiring 70 μ S equalization and high bias.

METAL For metal tapes.

26 PEAK LEVEL DISPLAYS

The left and right peak level displays accurately follow the strength of music signals. Set the **REC LEVEL** control so that the peak level displays do not travel into red in the scale. Occasional flashes are acceptable, but if the signal is allowed to consistently illuminate the red zone of the displays, audible distortion will occur.

27 RECORD LEVEL CONTROL

To increase the recording levels, move the knob Right.

28 RECORD BALANCE CONTROL

Used to balance the right and left channels of the recording sound.

29 OUTPUT LEVEL CONTROL

Used to adjust the output level at the **LINE OUT** jacks and **PHONES** jack.

OPERATING INSTRUCTIONS

First set the controls and switches on the deck as follows:

POWER switch	OFF
Operation buttons	Stopped
NR switch	OFF
RECORD LEVEL control	Minimum
RECORD BALANCE control	Center
OUTPUT LEVEL control	Maximum

After setting the controls and switches, record on a blank cassette as follows:

1. Depress the **POWER** switch.
2. Insert a blank cassette into the cassette compartment with the desired side facing forward.
3. Play the audio signal source (tuner, turntable ...).
4. Press the **COUNTER RESET** button on the digital counter to reference the beginning of the recording.
5. Press the **REC** button on while holding down the **PAUSE** button. Then, the record and play indicators light and the pause indicator blinks.
6. Adjust the recording level with the **REC LEVEL** control so that the red segment of the peak level meter lights occasionally.
7. Press the **PAUSE** button to start recording.

MICROCOMPUTER

The unit uses two 2KB microcomputers. One is used for mechanism control and the other for digital counter control. With these microcomputers and motors, all operations can be performed with feather touch control buttons.

OPERATIONS USING MICROCOMPUTERS

TAPE MECHANISM CONTROL

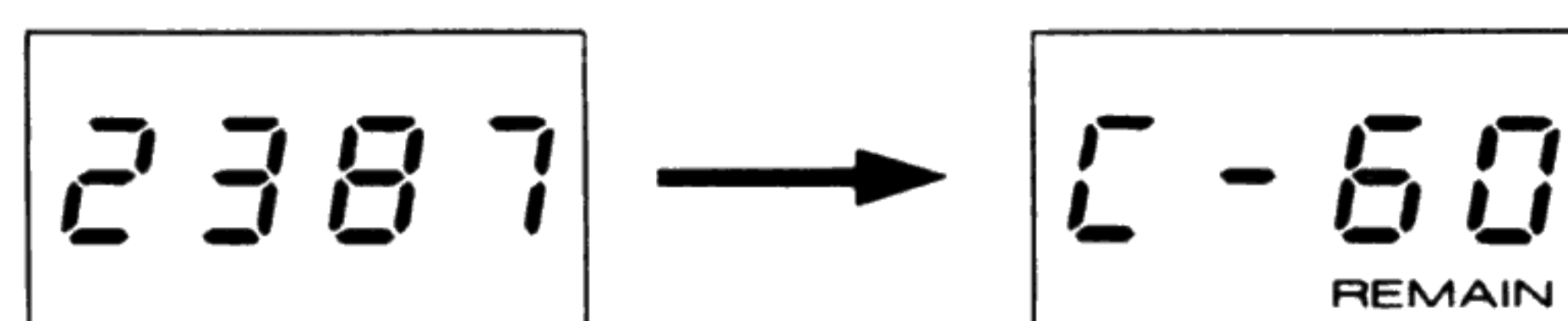
- **Quick reverse**
Quick reverse record/playback to quickly change the tape transport direction is made possible by use of the infrared ray tape sensor.
- **Microprocessor and feather touch mechanism using 3 motors**
The mechanism can be manipulated by one touch operation due to the employment of the 3-motor mechanism in the capstan, reel and head movement and originally developed 2-K byte microprocessor.
- **Index scan**
With this feature, the beginnings of the selections are searched and played back for about 10 seconds. This feature is useful to locate a required selection.
- **One selection repeat**
This feature enables repeat play of the required selection.
- **Timer record/play**
With an audio timer, timer recording/playback is possible by setting the built-in timer switch.
- **QMS (Quick Music Sensor)**
The beginning of up to 20 selections can be searched forward or backward from the current selection. The selected selection number is displayed in the digital counter.
- **Quick rewind**
When the rewind button is pressed at the end of the recording, the tape is rewound to the beginning of the recorded section and the unit automatically enters play pause mode.
This feature is useful for re-playing or re-recording the recorded selection.

- **Auto rec mute**
When recording an FM broadcast or dubbing the tape, this feature makes a 4-second blank section to cut out unwanted material such as commercials and narration, and sets the unit to rec pause mode for the next recording.
- **Tape slack prevention mechanism**
When a cassette is loaded, the tape slack is rewound automatically so that the tape is not entangled round the capstan.
- **Blank search**
The blank search feature automatically searches the end of the recorded section, confirms the 3-minute nonrecorded section, rewinds the tape at the beginning of the blank section, and then the unit enters rec pause mode for successive recording.
- **Blank skip**
When the blank section between the selections is more than 10 seconds in play mode, the unit skips the blank section and playback starts from the beginning of the next selection.
- **Synchro recording**
By connecting a CD player or turntable provided with synchro recording jack, this unit automatically starts recording at the same time the CD player or turntable is played.

4-WAY 4-DIGIT DIGITAL COUNTER CONTROL

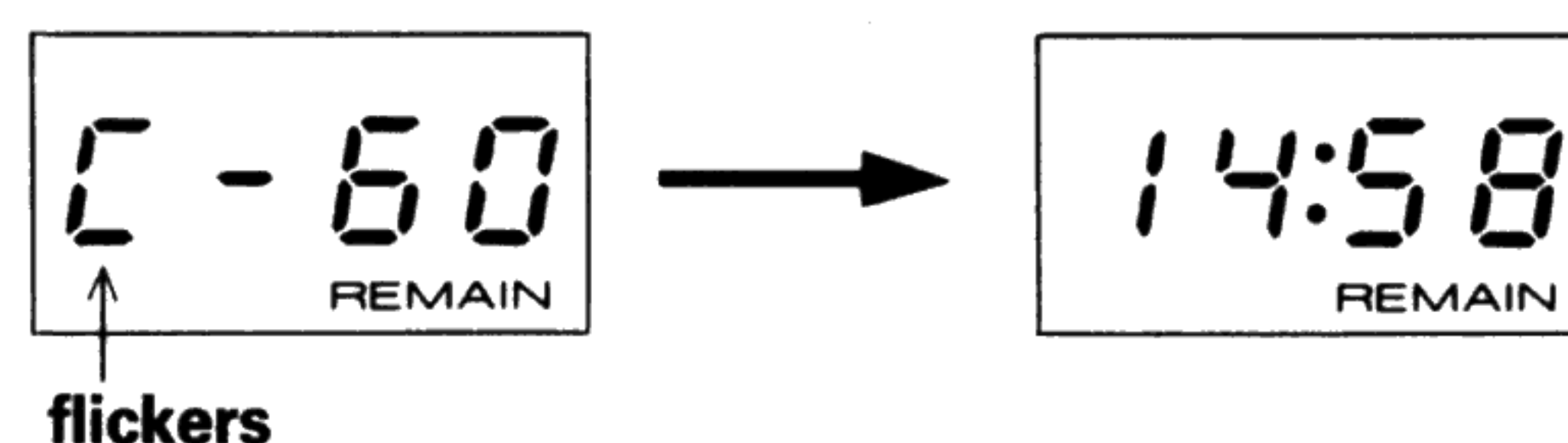
- **4-digit increase/decrease tape counter display**
When the power is supplied, the digital counter shows the tape counter of "0000"
In the forward direction, the tape counter increases.
In the reverse direction, the tape counter decreases.
Press the **COUNTER RESET** button to reset the counter to "0000".
- **Tape remaining time display**
In this mode, the **REMAIN** indicator lights and the tape remaining time is displayed according to the length of the tape loaded.

Example



Press the **TAPE TYPE** button according to the length of the cassette. When the button is pressed in stop or pause mode, the tape type is displayed in the counter until the unit is set to play or rec mode. When the unit is set to rec or play mode, the unit starts calculation and the tape remaining time is displayed after 5–7 seconds. During calculation, the "C" flickers.

Example



- **Check and changing the tape remaining time setting**

When the **TAPE TYPE** button is pressed once, the digital counter shows the specified tape type for about 5 seconds, then returns to the tape remaining time display.

To change the tape type, press the **TAPE TYPE** button when the tape type is displayed. In rec or play mode, the tape remaining time of the newly set tape type is displayed after 5 – 7 seconds.

When the tape remaining time becomes zero, the "00:00" flickers.

- **Accuracy of the tape remaining time display**

The accuracy of the tape remaining time depends on the tape thickness and size of the hub.

- **Lap time display**

When the **COUNTER MODE** button is pressed in the tape remaining time display, the **LAP** indicator lights, and the counter shows the lap time of the recording or playback. Once the lap time counter is activated, the time is increased in play or record mode even when the digital counter shows another mode.

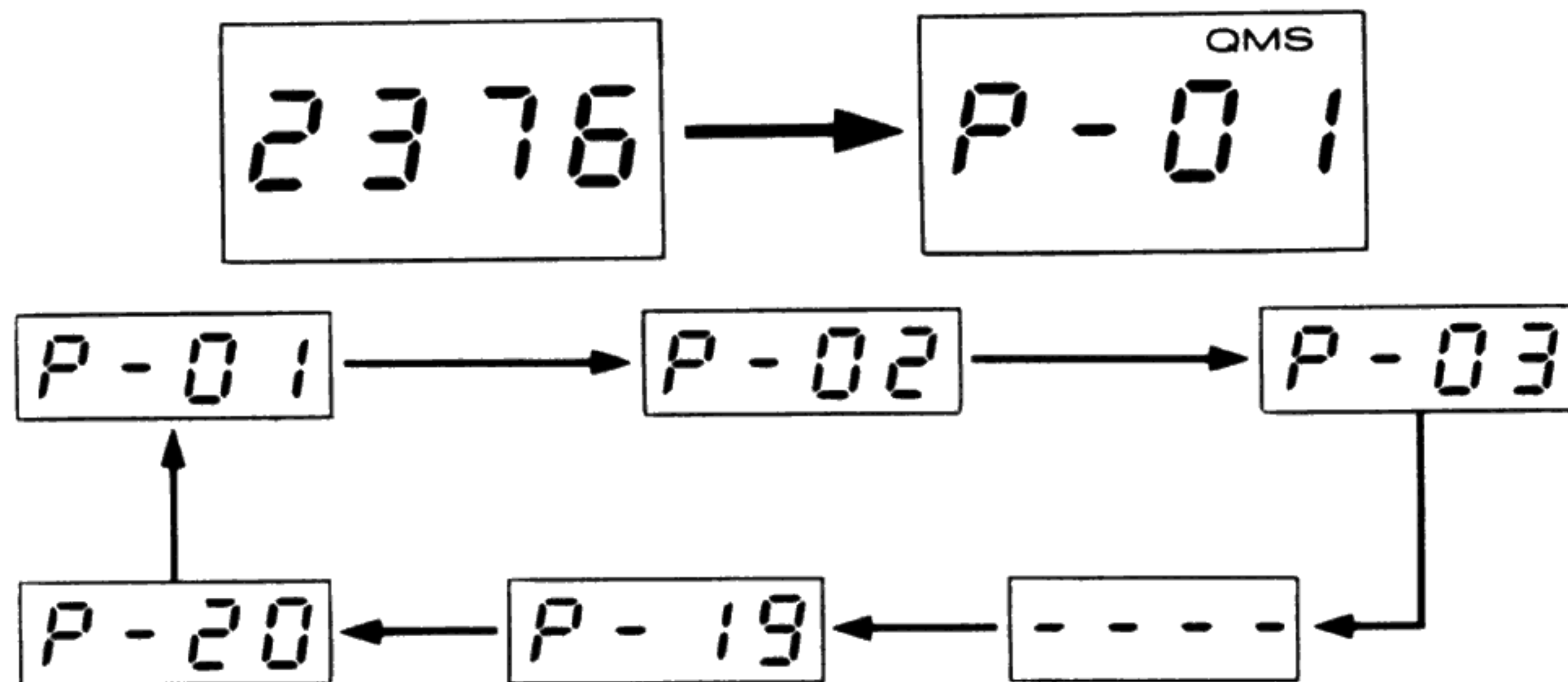
When the **COUNTER RESET** button is pressed, the indication returns to "00:00". The tape counter is also reset. (The accuracy of the lap time display is $\pm 0.5\%$.)

- **QMS selection number display**

When the **QMS** button is pressed in any counter display mode, the **QMS** indicator lights and the specified QMS number is displayed.

With the QMS feature, up to 20 selections can be skipped. When the **QMS** button is pressed more than 20 times, the display returns to " : ".

Display example



QMS

When QMS mode is released, the digital counter display returns to the mode obtaining just before QMS mode was selected.

TIMER OPERATION

TIMER RECORDING

1. With the timer set to **OFF** place the **TIMER** switch on your unit to the **OFF** position.
2. Turn the power of your amplifier and tuner On. Tune on the station to be recorded.
3. Turn your cassette deck on, load a tape and set the recording levels.
4. Place the **TIMER** switch of the cassette deck to the **REC** position and simultaneously press the **REC** and **PLAY** transport buttons.
5. Set the external timer to **ON** and set the timer start and stop times. Your cassette deck is now set to begin recording at the preset time.

TIMER PLAYBACK

1. With the external timer set to **OFF**, place the **TIMER** switch on the cassette deck to the **OFF** position.
2. Turn the cassette deck and the amplifier on and set the playback level while listening to a portion of the tape to be played back at the preset time.
3. Place the **TIMER** switch of the deck to the **PLAT** position the press the **PLAY** transport button.
4. Set the external timer to **ON** and set the timer start and stop times. Playback will begin at the preset time.

NOTE:

When the timer feature is not to be used, be sure to place both the **TIMER** switch on the unit and the external timer to the **OFF** position.

DOLBY NR/dbx NOISE REDUCTION SYSTEMS

DOLBY B AND DOLBY C NOISE REDUCTION SYSTEMS

DOLBY B NR

The Dolby B Noise Reduction system increases the level of low volume mid and high frequency signals during recording and reduces the level of these signals by an identical amount during playback. As a result the playback signal is identical to the original source signal but the level of background noise generated by the tape and tape recorder is reduced.

DOLBY C NR

The Dolby C Noise Reduction system is similar to the B type. In the C system however, as the ranges to be increase and decreased during recording and playback are considerably extended, the level of background noise is greatly reduced.

dbx NOISE REDUCTION SYSTEM

The dbx NR system gives a large noise reduction effect resulting in wide dynamic recording. The dbx NR system has the following features:

1. The noise reduction effect is about 30 dB
2. The dbx works linearly on the whole audio band to obtain wide band noise reduction effect.
3. The sound is not liable to distortion even at high recording levels.
4. The maximum recording level at high frequency is increased.
5. Low distortion recording is possible, resulting in Hi-Fi sound.
6. Level matching is not necessary, resulting in small tracking error between recording and playback.

PROPER RECORDING LEVEL

One of the beauties of music is its dynamic range, in other words, the contrast between very soft and very loud passages. To capture this contrast on tape requires that the recording levels be set so that the loudest passages do not saturate the tape and cause distortion. Yet the recording levels should not be set too low or the soft passages would simply disappear in the residual noise.

If for example, you are recording from a record, you should at the outset find the loudest section of the record. Insert a cassette in your tape deck and press the **PAUSE** and **REC** buttons simultaneously. You can thus adjust the recording level without actually recording on the tape.

Start the record over at the beginning and depress the **PAUSE** button to commence recording. If after setting the recording levels as explained above the record begins with a soft musical passage, you might suspect from the peak level display readings that you set the levels too low. Do not give into the temptation of changing them. Keep in mind that the level readings, when placed in proper perspective with actual relative loudness levels will fall into the following areas:

Broadcast human voice:	from -10 dB to -5 dB
Loud music (fortissimo):	Approximately +1 dB
Soft music (pianissimo):	Approximately -15 dB
Average music level:	from -10 dB to -5 dB

MAKING OPTIMUM CASSETTE RECORDINGS

TYPE AND BRAND OF TAPES TO USE

In cassette recording the type and brand of cassette you use has a great influence on the quality of your recordings. Therefore, it is advantageous to purchase the highest quality cassettes available. Chromium dioxide (CrO₂) and metal tapes generally provide better fidelity than normal ferric oxide tapes.

We recommend the use of cassettes with a recording capacity of 90 minutes or less. In production the performance of our cassette decks is tested using the following tapes:

Type of Tape	Ref. Tape	Market Name
Normal	TDK AC212 (C-60)	TDK D
Special/CrO ₂	TDK AC512 (C-60)	TDK SA
Metal	TDK AC712 (C-60)	TDK MA TDK MA R

TO PROTECT VALUABLE RECORDINGS

In the RECORD mode information previously recorded on the tape will automatically be erased. To prevent this from happening use a small screwdriver to break out one or both safety tabs (see figure 25 for side A). It is possible to restore the recording capability of either side of the cassette by covering the opening with cellophane tape (see figure 26 for side A).

NOTES ON INSTALLATION

When the deck is installed on or near other audio equipment hum sometimes occurs. Position the equipment so that the hum ceases. Always install the unit horizontally.

TO CLEAN HEADS

The RECORD/PLAYBACK and ERASE heads are the most important parts of the cassette deck. As the tape rubs against the heads during record and playback brown oxide deposits from the tape accumulate on the heads, guides and pinch roller. Even the best cassette tapes will shed some particles of oxide. The accumulation of this oxide will cause loss of high frequency response, loss of sound volume, intermittent sound dropout and unsatisfactory results when recording or erasing the heads. If the oxide is allowed to build up it may cause the heads to wear out prematurely, causing permanent damage.

Open the cassette compartment by pressing the **EJECT** button. Clean the heads using a cotton stick as shown in the figure hereunder.

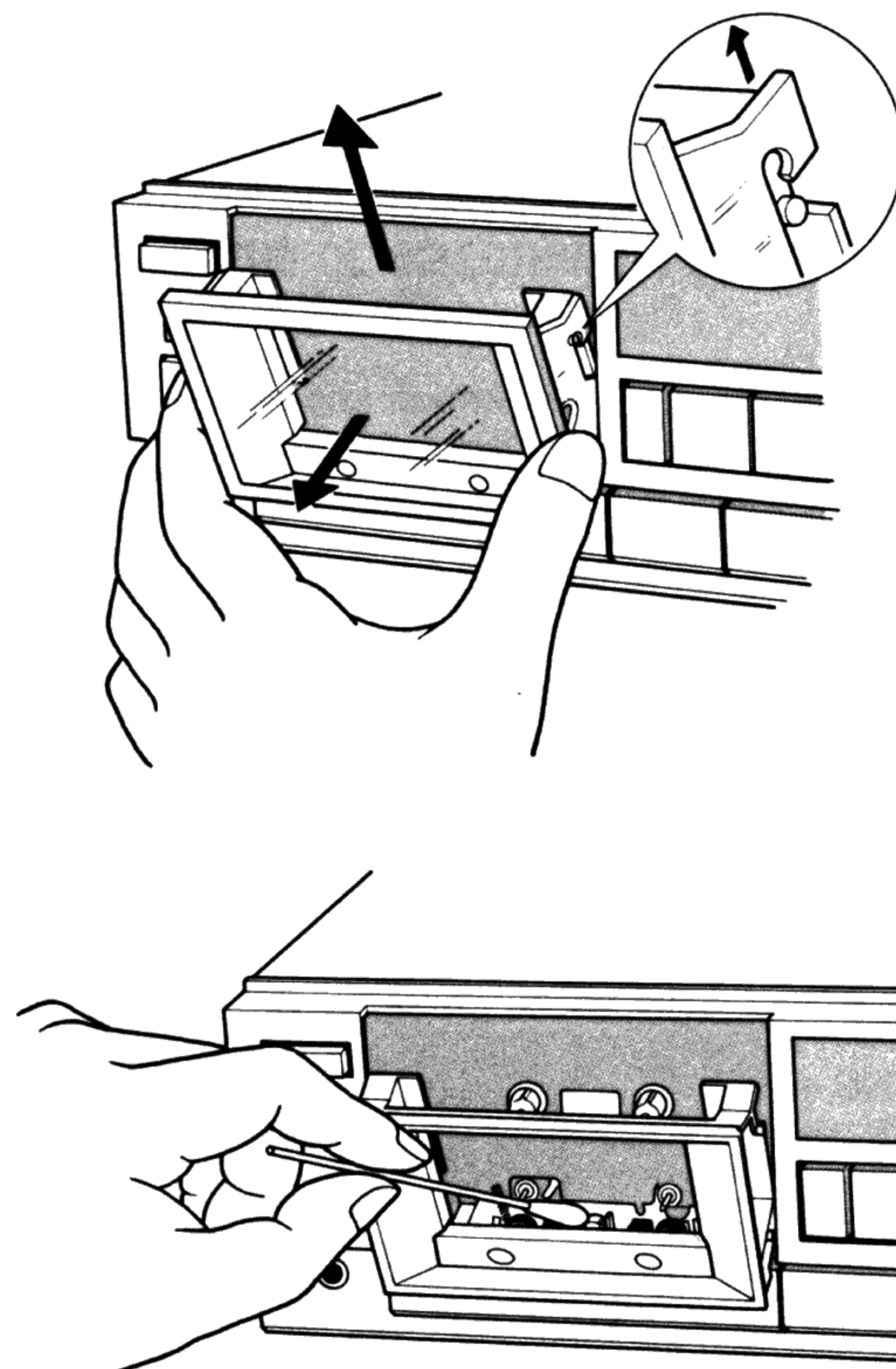


Figure 4

To clean the tape path, use cotton swabs and methylated spirit (available at any pharmacy). Please note that common "rubbing alcohol" should not be used because of its water content.

Dip the cotton swab in the alcohol and clean the tape heads, capstan, guides, pinch roller until no more oxide can be picked up. If you can see a stripe of brown oxide around the perimeter of the pinch roller it is time to clean the entire tape path.

MAINTENANCE

Only the most competent and qualified technicians should be allowed to service your system. The Marantz company and its factory trained technicians have the knowledge and special equipment needed for repair and calibration of this precision instrument.

In the event of difficulty refer to your dealer or write directly to one of the locations listed at the end of this manual for the name and address of the Marantz services station nearest your home. Please include the model and serial number of your unit together with a description of what you feel is abnormal in its behaviour.

REPACKING FOR SHIPMENT

Should it become necessary to repack your Stereo Cassette Deck for shipment to the factory, to an authorized service station, or elsewhere, please observe the following precautions:

- Pack the unit carefully, using the original material as shown in Figure 27.
- Ship via a reputable carrier (do not use Parcel Post) and obtain a shipping receipt from the carrier.
- Insure the unit for its full value.
- Be sure to include your return address on the shipping label.

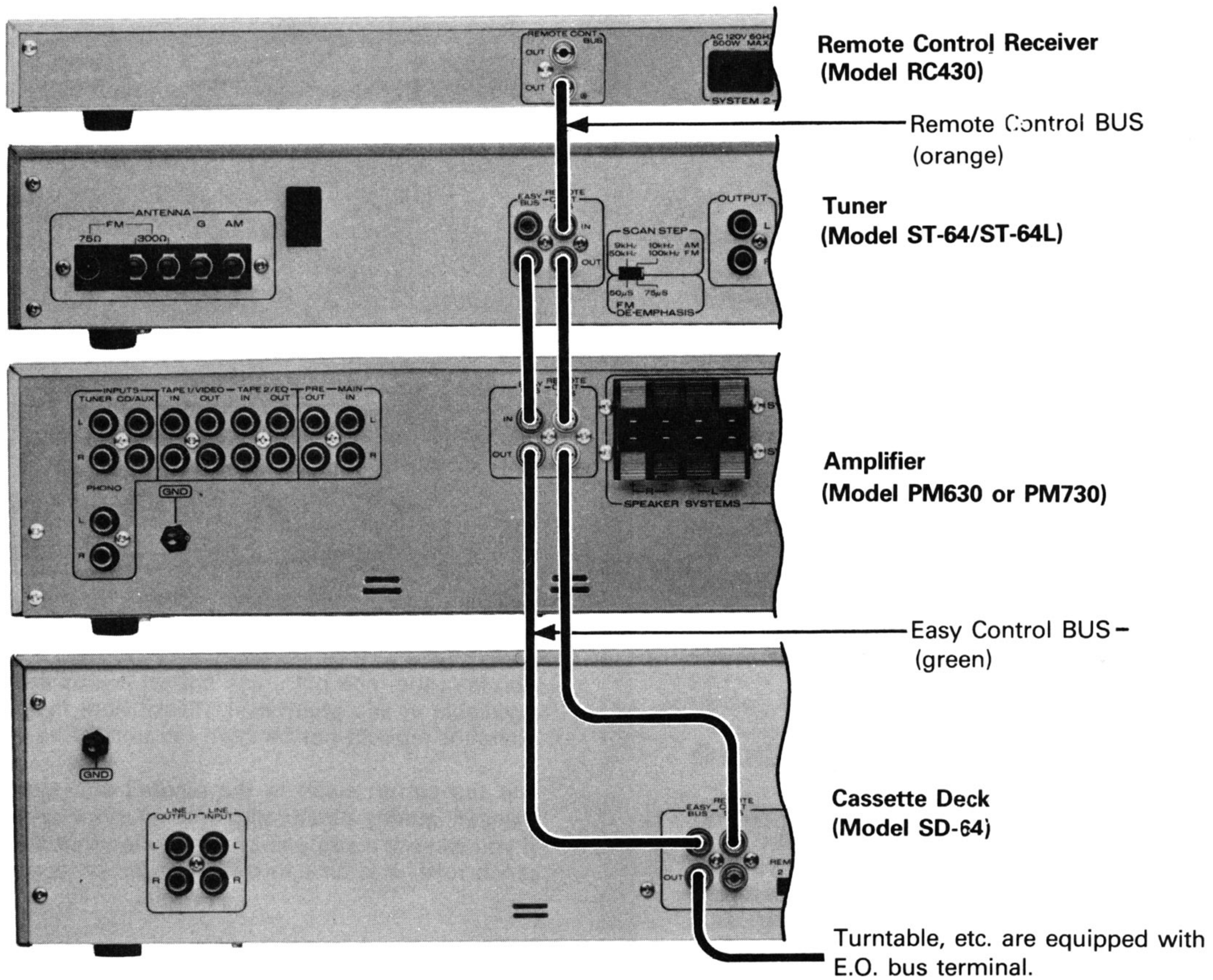


Figure 5

SETUP FOR TIMER RECORDING

UTILISATION ET RACCORDEMENT DU TIMER

VERBINDINGEN VOOR GEBRUIK MET SCHAKELKLOK

DISPOSICIÓN DE LOS APARATOS PARA GRABACIÓN CON EL TEMPORIZADOR.

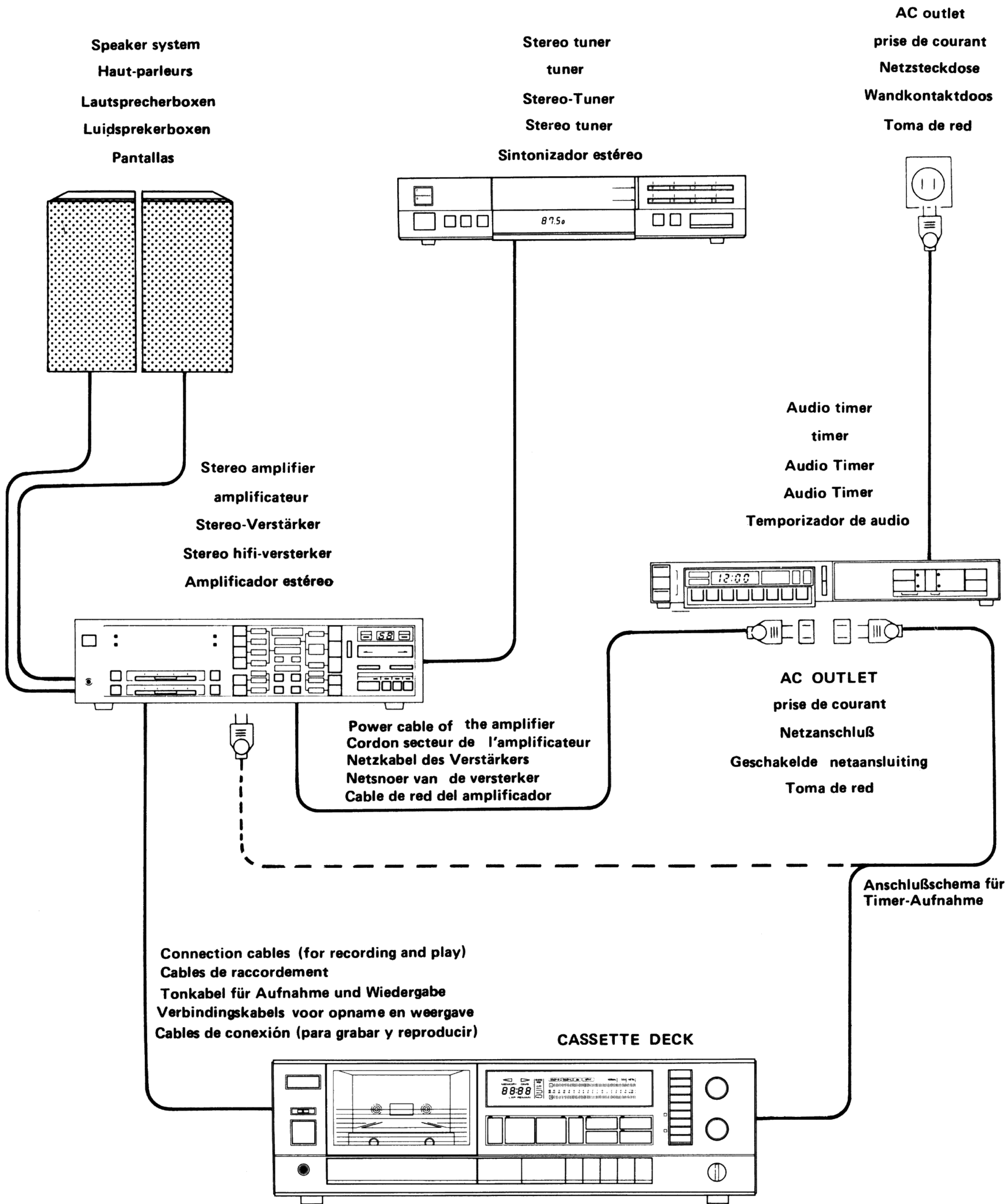


Figure 24

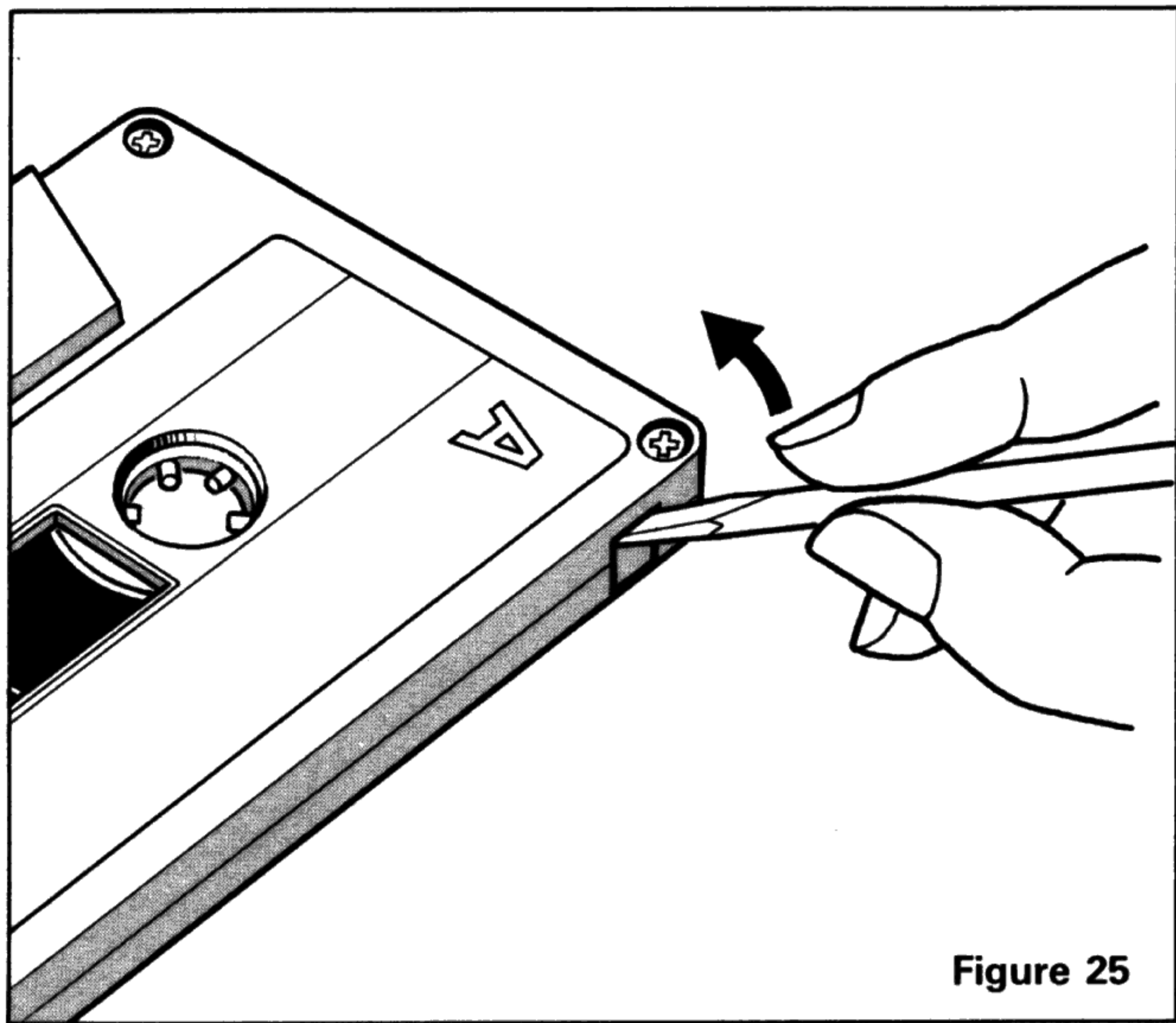


Figure 25

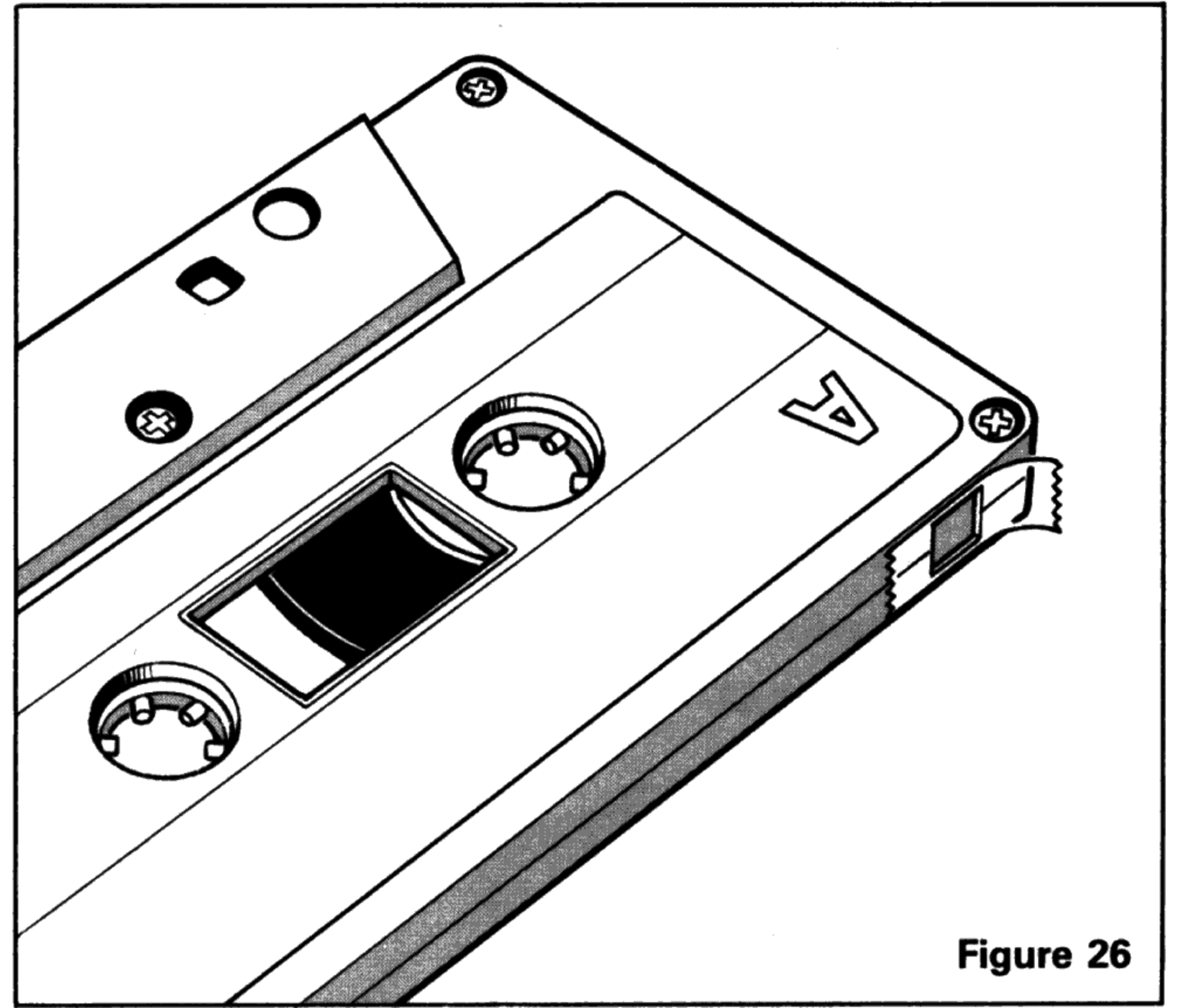


Figure 26

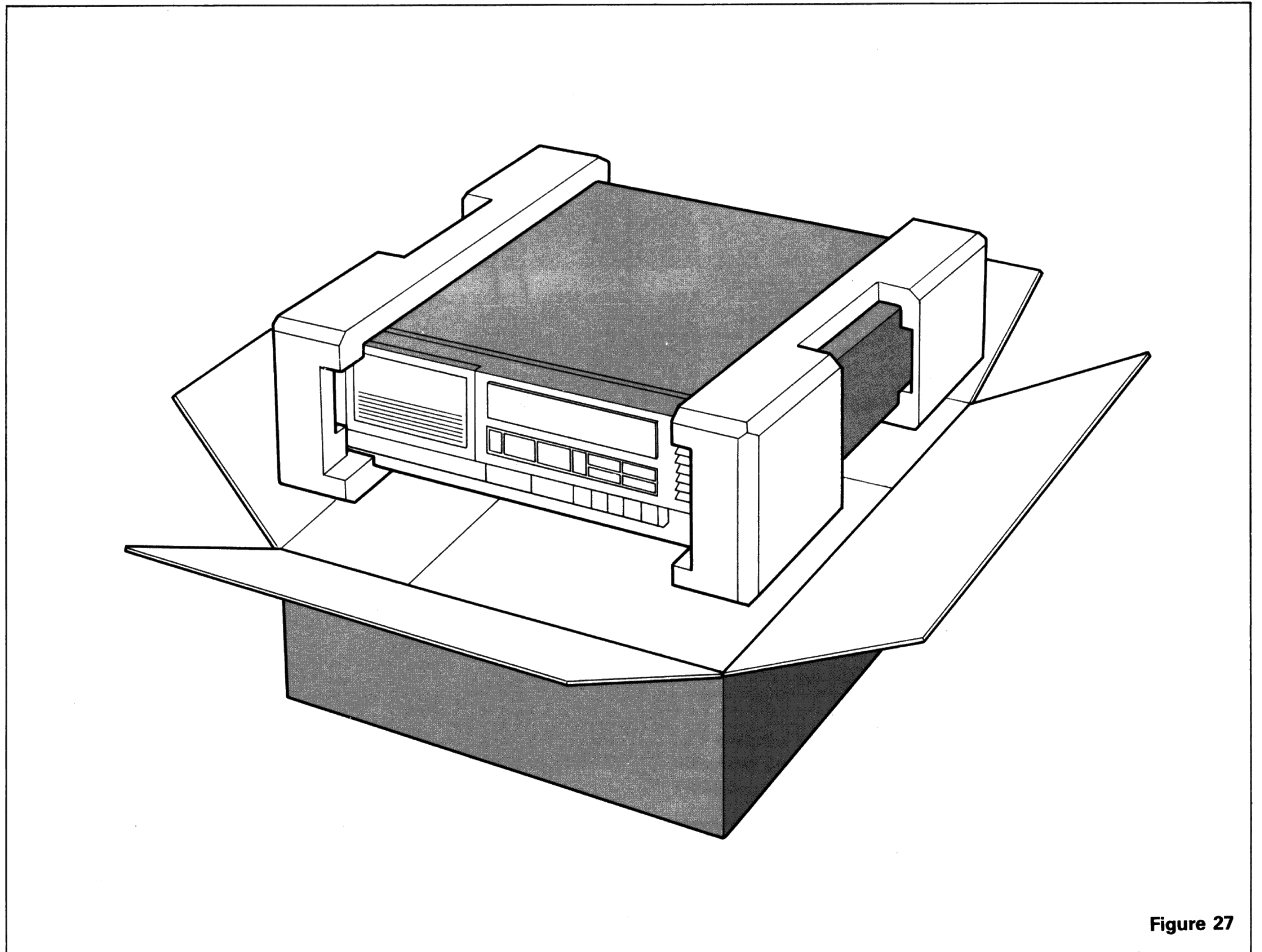


Figure 27

MODEL SD-64 TECHNICAL SPECIFICATIONS (DIN)

Style	Front load
Tape Drive System	Single Capstan Drive
Cartridge	Philips type compact cassette
Track System	Compatible Stereo 4-track 2-channel
Tape Speed	4.75 cm /sec
Heads	2 Head System
Composition	Rec/Play: Super Hard Metal Alloy Erase: Dual Gap Ferrite
Motor	2 Motor System Capstan: DC Servo Motor Mechanism: DC Motor
Overall Frequency Response at -20 dB	
Normal Tape	20 Hz ~ 18 kHz
CrO ₂ Tape	20 Hz ~ 20 kHz
Metal Tape	20 Hz ~ 20 kHz
Signal-to-Noise Ratio:	
Dolby B / C (ON)	70 / 75 dB
Dolby (OFF)	65 dB
dbx (ON)	90 dB
Wow and Flutter	
DIN WTD	0.06 %
Outputs	
Line Level / Impedance	400 mV / 5 k ohms
Headphone Level / Impedance	40 mV / 8 ohms
Input (Level at 0 VU)	
Line Sensitivity / Impedance	70 mV / 50 k ohms
Fast Rewind Time	80 sec. (C-60)
Fast Forward Time	80 sec. (C-60)
Power Requirements	110 / 120 / 220 / 240 V AC, 50 / 60 Hz
Power Consumption	30 W
Dimensions	
Panel Width	416 mm
Panel Height	118 mm
Depth	334 mm
Weight	6.5 kg

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