
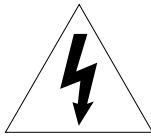
	<b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL</p>		



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK,  
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

---

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE  
BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION: POUR ÉVITER LES CHOC ÉLECTRIQUES,  
INTRODUIRE LA LAME LA PLUS LARGE DE LA  
FICHE DANS LA BORNE CORRESPONDANTE DE LA  
PRISE ET POUSSER JUSQU'AU FOND.

# SAFETY INSTRUCTIONS

READ BEFORE OPERATING EQUIPMENT

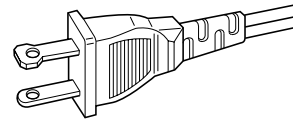
This product was designed and manufactured to meet strict quality and safety standards. There are, however, some installation and operation precautions which you should be particularly aware of.

1. Read Instructions — All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions — The safety and operating instructions should be retained for future reference.
3. Heed Warnings — All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions — All operating and use instructions should be followed.
5. Water and Moisture — The appliance should not be used near water—for example, near a bathtub, wash-bowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
6. Carts and Stands — The appliance should be used only with a cart or stand that is recommended by the manufacturer.
7. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



8. Wall or Ceiling Mounting — The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
9. Ventilation — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
10. Heat — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
11. Power Sources — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

12. Grounding or Polarization — Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

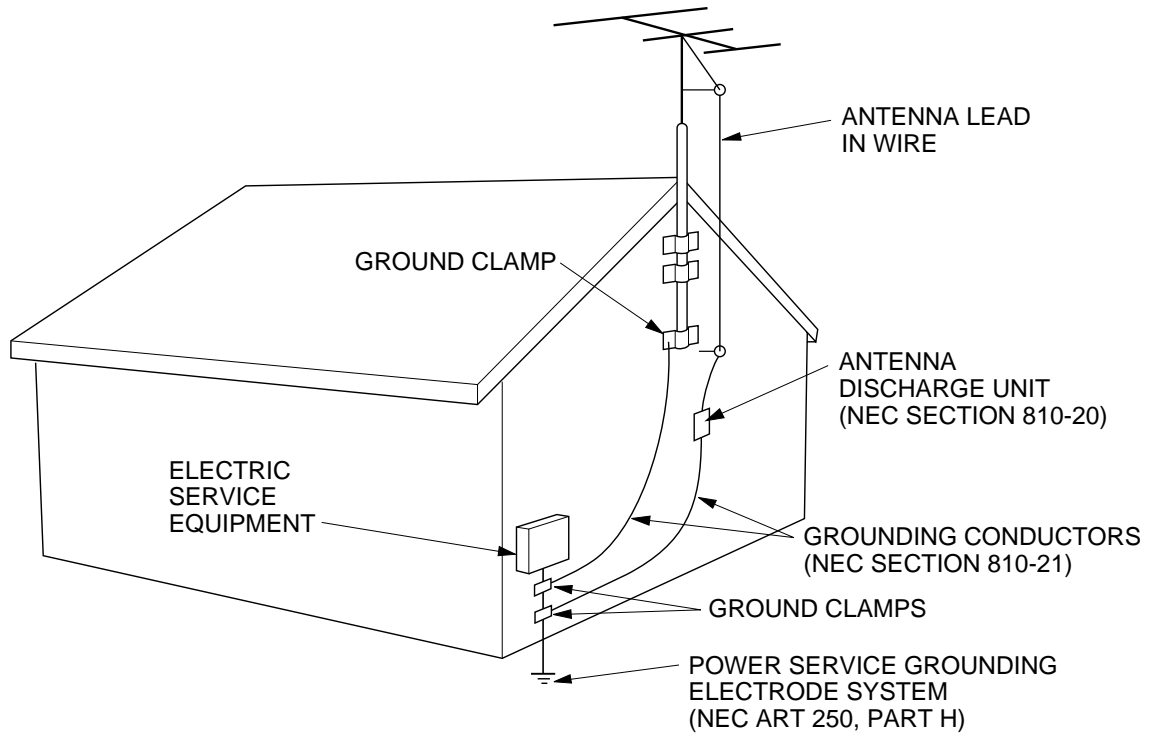


AC POLARIZED PLUG

13. Power-Cord Protection — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
14. Cleaning — The appliance should be cleaned only as recommended by the manufacturer.
15. Power Lines — An outdoor antenna should be located away from power lines.
16. Outdoor Antenna Grounding — If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70 — 1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. 1.
17. Nonuse Periods — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
18. Object and Liquid Entry — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
19. Damage Requiring Service — The appliance should be serviced by qualified service personnel when:
  - A. The power-supply cord or the plug has been damaged; or
  - B. Objects have fallen, or liquid has spilled into the appliance; or
  - C. The appliance has been exposed to rain; or
  - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
  - E. The appliance has been dropped, or the enclosure damaged.
20. Servicing — The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

**FIGURE 1**

**EXAMPLE OF ANTENNA GROUNDING ACCORDING TO  
NATIONAL ELECTRICAL CODE INSTRUCTIONS  
CONTAINED IN ARTICLE 810 -"RADIO AND TELEVISION EQUIPMENT"**



NEC - NATIONAL ELECTRICAL CODE

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**NOTE TO CATV SYSTEM INSTALLER:**

This reminder is provided to call the CATV (Cable-TV) system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specified that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

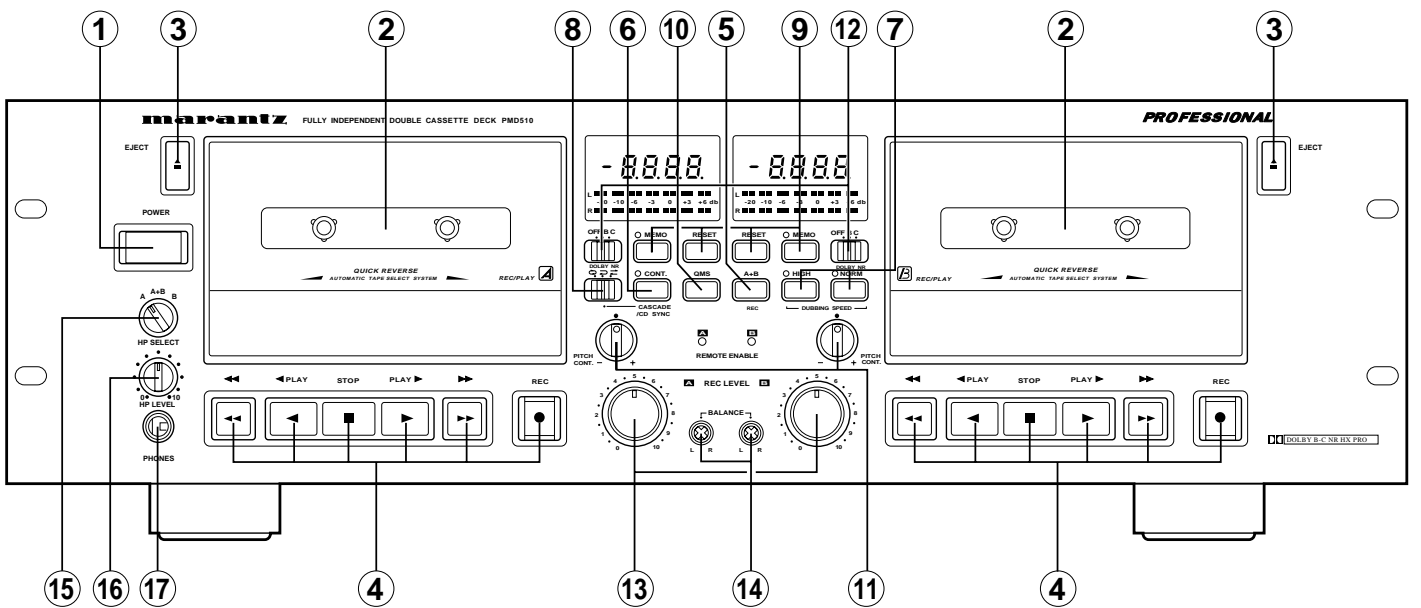
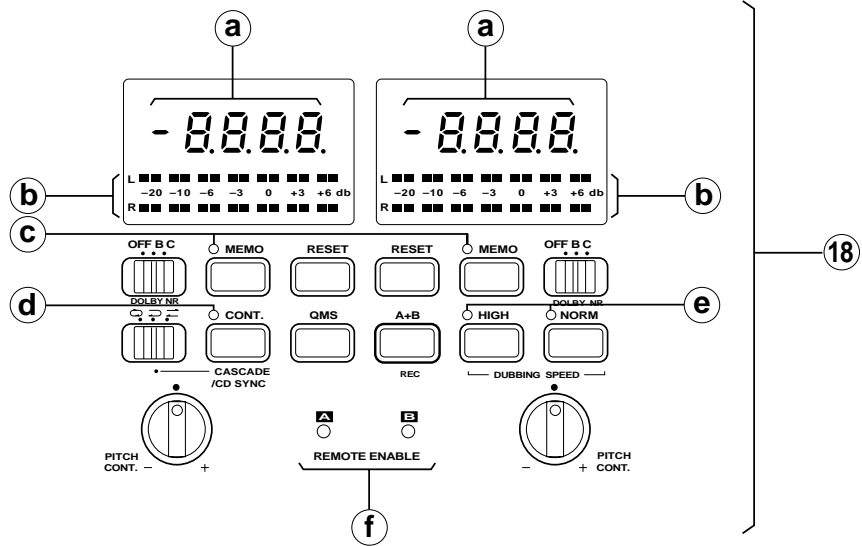
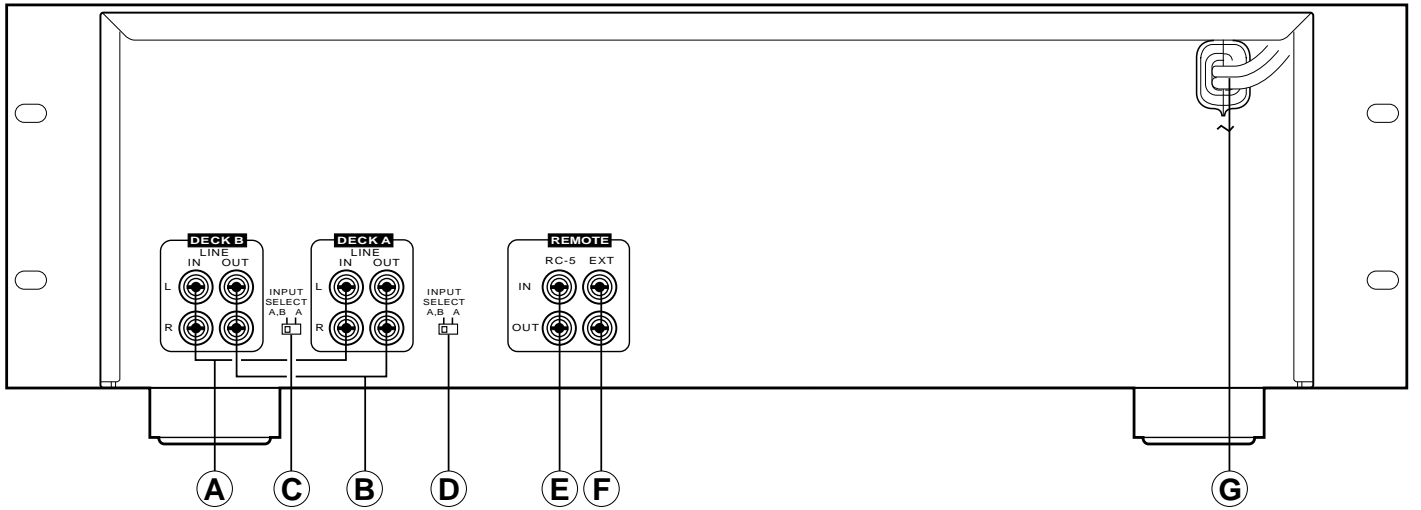


Figure 1

## INTRODUCTION

Thank you for selecting the Marantz Model PMD510 Independent Double Cassette Deck for your audio system.

Please read these operating instructions carefully. We recommend that you read the entire user guide before you connect or operate the unit.

After you have reviewed the contents of this manual, we suggest that you make all system connections before you attempt to operate the unit.

Refer to the Figures on pages 4 and 12 of this user guide.

The callout numbers on the Figures correspond to those found in the text. All references to connections and controls are printed in **BOLD** type, as they appear on the unit.

## PRECAUTIONS

The following precautions should be taken when operating the equipment.

### GENERAL PRECAUTIONS

When setting the equipment ensure that:

- the ventilation holes are not covered
- air is allowed to circulate freely around the equipment
- the equipment is on a vibration free surface
- the equipment will not be exposed to interference from an external source
- the equipment will not be exposed to excessive heat, cold, moisture or dust
- the equipment will not be exposed to direct sunlight
- the equipment will not be exposed to electrostatic discharges
- In addition, never place heavy objects on the equipment.
- If a foreign body or water does enter the equipment, contact your nearest dealer or service center.
- Do not pull out the plug by pulling on the mains lead. Hold the plug.

Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

“DOLBY” the double-D symbol **DD** and “HX PRO” are trademarks of Dolby Laboratories Licensing Corporation.

## FEATURES

### • COMPLETELY INDIVIDUAL DUAL SYSTEM

Well A and Well B can be used completely independently for both recording and playback. There are two sets of inputs and outputs which allow for many modes of recording and playback. Two separate input sources can be recorded simultaneously and independently on the two decks; two different tapes can be played back simultaneously and independently on the two decks; and lastly, it is possible to play a cassette on one well, and record a different source (such as a mixer) on the other well simultaneously.

There are also several modes in which the two decks work together.

### • CONTINUOUS RECORDING AND PLAYBACK

In the continuous mode, Well A will play (or record) side one, autoreverse, play (or record) side two, and then automatically switch to Well B, which will play (or record) side one, autoreverse, and then play (or record) side two. In this way three hours of uninterrupted playback or recording is possible using C-90 cassettes.

### • CASCADE CONNECTION FOR SERIAL CONNECTION OF MULTIPLE UNITS

By connecting several PMD510s in serial via the cascade connection, multiple units can play or record continuously for logging and other long-time recording applications. In this case, Wells A and B of unit #1 will play (or record) as in the example above, then they will trigger the start of continuous playback (or record) of unit #2, and so on.

### • PARALLEL RECORDING

When multiple copies of the same source are required, it is possible to record both Well A and Well B simultaneously, in parallel, from a single source.

### • ALL-OPTICAL AUTOREVERSE AND WELL/UNIT SWITCHING

All autoreverse, well switching, and unit switching circuits are optically sensing “quick autoreverse” circuits, to minimize lost signal while reversing tape, or switching wells or units. This applies in all playback and record modes, including autoreverse, continuous, and serial cascade modes.

### • PITCH CONTROL

Each well features –15% pitch control on playback.

### • METERS AND LINEAR TIME TAPE COUNTERS

Each well features independent LED bargraph meters, and linear time (minutes and seconds) counters. The display on these counters is only an approximate indication of minutes and seconds. It is most accurate when using 60 minute tapes.

### DOLBY B/C NR SYSTEMS

The Dolby NR (Noise Reduction) systems compress and amplify signals during recording in order to raise the signal to noise ratio on the tape. During playback, these signals are expanded and attenuated by the same amount, in order to regain the original dynamic range of the music. An additional result of this expansion and attenuation is that the noise floor of the recording is reduced significantly. Dolby B typically reduces noise by 10 dB, while Dolby C typically reduces noise by 20 dB.

### DOLBY HX PRO HEADROOM EXTENSION

The Dolby HX PRO system monitors the total amount of effective bias during recording and instantaneously compensates for any excess bias by reducing the deck’s bias signal level accordingly. The system operates independently on each channel. HX PRO is unlike a noise reduction system because it functions only during recording and no decoding is required. Therefore, a tape recorded with the HX PRO system can be played back on any other cassette deck while retaining the benefits of HX PRO.

## REAR PANEL CONNECTIONS

### Ⓐ LINE INPUT

These jacks should be connected to the LINE OUTPUT of your source.

### Ⓑ LINE OUTPUT

These jacks should be connected to the LINE INPUT of your PA or monitoring system.

### Ⓒ INPUT SELECT SWITCH

This switch selects the input mode for the LINE INPUT jacks.

- Position A, B ..... Deck A receives its input from LINE INPUT A  
Deck B receives its input from LINE INPUT B
- Position A ..... Both decks receive the same input from LINE INPUT A

### Ⓓ MPX FILTER SWITCH

When recording FM broadcasts with Dolby NR, set this switch to ON.

### Ⓔ RC-5 REMOTE CONTROL JACKS

These jacks are for use with the Marantz RC5PMD serial remote control accessory. Connect the output of the remote control to the RC-5 input of the PMD510. The RC-5 output of the PMD510 may be connected to the RC-5 input of other machines for multiple-machine control from the same RC5PMD remote control accessory.

### Ⓕ EXT (EXTENSION) REMOTE CONTROL JACKS

This jack is used to cascade several PMD510s for continuous serial recording and playback. Connect the EXT OUT jack to the EXT IN jack of the next unit in the chain.

### Ⓖ AC POWER CONNECTION

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

## FRONT PANEL FEATURES

### ① POWER SWITCH

For switching the unit on and off.

### ② CASSETTE HOLDERS

Insert cassettes into these holders with the exposed tape facing downward.

### ③ EJECT BUTTONS

For opening the cassette doors.

### ④ CONTROL BUTTONS

#### STOP

Press this button to cancel any operation modes and to stop tape travel.

#### ⑤ PLAY (forward)

Press this button to start playback in the forward direction.

#### ④ PLAY (reverse)

Press this button to start playback in the reverse direction.

### ⏪ ⏩ FAST WIND

Press these buttons to fast wind in the direction of the arrows. If the well is already in play mode, this button will place the well in CUE/REVIEW Mode.

### REC

Press this button to enter REC-PAUSE mode. Press PLAY to initiate recording. Press this button again to re-enter REC-PAUSE mode.

### ⑤ A+B REC BUTTON

Check to insure that both wells are in STOP mode and the proper tape direction has been selected, prior to pressing the A+B REC button. Pressing the A+B REC button once will cause both wells to enter a REC PAUSE mode to adjust recording levels. Pressing the A+B REC button a second time, will cause both wells to enter a REC mode simultaneously. Pressing the A+B REC button a third time, will cause both wells to enter a REC PAUSE mode again and pressing the A+B REC button a fourth time, will resume the REC mode. This operation will continue until the STOP button has been pressed for either one or both of the wells.

### ⑥ CONT (CONTINUOUS) BUTTON

When the CONT button is pressed, the CONT indicator Ⓑ will light. Now press PLAY or REC to start continuous recording or playback. Only use this button when both decks are in the STOP mode. When the CONT button is pressed again, the indicator will go out, and continuous mode is cancelled.

### ⑦ DUBBING BUTTONS

These buttons enable you to sync-start dubbing from WELL A to WELL B copies the tape. Check to insure that both wells are STOP mode and the proper tape direction has been selected prior to press the DUBBING button.

#### NORMAL SPEED DUBBING buttons

Pressing the NORM DUBB button once will cause well A to enter a STOP/PAUSE mode and well B to enter a REC PAUSE mode. Pressing the NORM DUBB button a second time, will cause normal speed dubbing to begin.

#### HIGH SPEED DUBBING buttons

Pressing the HIGH SPEED button will high speed dubbing being.

### ⑧ REVERSE MODE SWITCH

With this switch, you can select the autoreverse mode for recording and playback.

➡ : Select this mode to play or record in one direction (no autoreverse).

↔ : Select this mode to play or record in two directions. When the end of side B is reached, that Well will enter stop mode.

↻ : Select this mode to continuously play both sides of a tape. When the end of side B is reached, the tape will autoreverse, and begin playing side A again, and so on, until the STOP button is pressed. In REC mode, this mode works just like the ↔ mode above.

### ⑨ COUNTER BUTTONS

#### MEMO buttons

When this button is pressed, MEMO indicator Ⓒ will light up, and the position of the tape counter will be stored in memory. When the tape passes that location during fast winding, the transport will STOP. When the MEMO button is pressed again, the indicator will go out, and the memory will be cleared.

## RESET buttons

Pressing this button will reset the counter time to 00.00 (0 minutes, 0 seconds)

## ⑩ QMS (QUICK MUSIC SEARCH) BUTTON

The QMS feature allows you to search in either direction for a specific program selection. The QMS feature can skip up to 15 selections in either direction. Press the QMS button once for each selection you wish to skip. You will see that number on the display. Next, press the fast wind button in the direction you wish to search. You will see the number on the display counting down as you skip selections. The deck will automatically stop upon reaching the desired selection.

## ⑪ PITCH CONTROL

This control allows -15% variation in playback speed. A center detente allows you to locate the standard speed by feeling for the center "click".

## ⑫ DOLBY B/C NR SELECTOR

This switch is used to select Dolby B or C noise reduction for recording or playback. Most commercially available cassettes which display the Double-D Logo are encoded with Dolby B noise reduction. If recording FM broadcasts with Dolby NR, switch the MPX filter on the rear panel ⑤ to ON.

## ⑬ REC LEVEL CONTROL

For adjusting the record input level.

## ⑭ REC BALANCE CONTROL

Used to adjust the left-right balance of channels while recording.

## ⑮ PHONES SELECTOR SWITCH

This switch allows you to select Well A, Well B, or a mix of both wells (A+B) in the phones.

## ⑯ PHONES LEVEL CONTROL

This control adjusts the volume of the headphone output.

## ⑰ PHONES JACK

Use this jack to connect a pair of headphones with a stereo 1/4" connector.

## ⑱ DISPLAY

### a TAPE TIME COUNTERS

These counters display the tape position for each well in Minutes and Seconds.

Note: The display on these counters is only an approximate indication of minutes and seconds. It is most accurate when using 60 minute tapes.

### b BARGRAPH LEVEL METERS

These meters display the signal levels for each well in stereo.

### c MEMO INDICATORS

These indicators light when the MEMO button ⑨ is pressed.

### d CONT. (CONTINUOUS) INDICATOR

This indicator will light up when the CONT. mode button ⑥ is pressed.

## e DUBBING SPEED INDICATORS

One of these indicators will light when the NORM or HIGH speed dubbing buttons ⑦ are pressed.

## f REMOTE ENABLE INDICATOR

When using an RC-5 remote control system such as the RC5PMD accessory, this indicator will light to show which well is selected by the system.

Note: These indicators will light **A** at power on.


# OPERATION

## PLAYBACK

PLAYBACK ON ONE WELL (Same procedure for Well A or Well B)

1. Set the POWER ① button to ON.
2. Press the EJECT button ③ to open the cassette door ②.
3. Insert the Cassette into the Cassette Holder ② with the exposed tape facing down, and side "A" facing you.
4. Reset the tape counter by pressing the RESET button ⑨.
5. If the tape has been encoded with Dolby NR, set the Dolby NR switches ⑫ accordingly.
6. Press the PLAY ► button to play side "A" of the cassette.
7. Press the STOP button ④ to stop playback.

## CONTINUOUS PLAYBACK

1. Insert recorded cassettes into both wells.
2. Set both REVERSE MODE switches ⑧ to  mode.
3. Set the Dolby NR switches ⑫ according to the tapes you are playing back.
4. Press the CONT. button ⑥. The CONT. Indicator ④ will light.
5. Press one of the PLAY buttons ④. Playback will start. When that well finishes playing side B, the second well will begin playing side A.
6. Press STOP to stop playback.
7. Press CONT. to cancel CONT. mode.

Note: During continuous playback, the signal from both wells goes to Line Output A.

QMS (QUICK MUSIC SEARCH) (Same procedure for Well A or Well B)

1. When the Well is in the play or stop mode, press the QMS button ⑩ once for each program you wish to skip. The tape counter will display this number. (Max 15)
2. Press the fast wind key (◀◀ or ▶▶) in the direction in which you wish to search.
3. When the beginning of the correct selection is reached, the unit will automatically enter stop mode.

Note: Wells will not auto-reverse or switch to other Wells while searching.

## RECORDING

### SINGLE WELL RECORDING (Same procedure for Well A or Well B)

1. Press the EJECT button ③ to open the cassette door.
2. Insert the cassette into the Cassette Holder ② with the exposed tape facing down.
3. Reset the tape counter by pressing the RESET button ⑨.
4. If you wish to use Dolby NR, set the Dolby NR switches ⑫ accordingly.
5. Press the REC button ④ to enter REC-PAUSE mode.
6. Adjust the record level using the REC LEVEL ⑬ control, so that the red LEDs light only at peaks in the music.
7. Press the PLAY ► or ◀ PLAY button ④ to initiate RECORD.
8. Press the STOP button ④ to end recording, or press REC again to re-enter REC-PAUSE mode.

Note: Be aware of the setting of the input select switch on the rear panel.

- A, B position : Well A receives input from input A, Well B receives input from input B.
- A position : Both wells receive input from input A.

### Quick Rewind

If the tape is rewound immediately after recording (do not press STOP first), it will automatically enter stop mode at the point in the tape where recording was started. This is very useful for listening to a recording you have just completed, or for starting recording over again.

### Tape Types and Length

Any type of tape (Normal, Chrome, or Metal) can be used with the PMD510. Chrome or Metal tapes have superior performance compared to Normal Tapes. The PMD510 can sense which kind of tape is being used, and will automatically adjust bias, EQ, etc.

C-60 or C-90 length tapes are recommended, as C-120 tapes are often too thin, and can become entangled in the transport mechanism.

The counters are only approximate measurements of minutes and seconds. They are most accurate with 60 minute tapes.

### CONTINUOUS RECORDING

1. Insert blank cassettes into both wells. Be sure that both decks are rewound.
2. Set the REVERSE MODE switch ⑧ to ↷ mode.
3. If you wish to use noise reduction, set the Dolby NR switches ⑫ accordingly.
4. Check that both decks are in STOP mode, and press the CONT. button ⑥. The CONT. Indicator ⑬ will light.
5. Reset the tape counters to "00.00" by pressing the RESET buttons ⑨.
6. Press the REC buttons ④ of both wells to enter REC-PAUSE mode.
7. Adjust the record level using the REC LEVEL control ⑬, so that the red LEDs light only at peaks in the music.
8. Press the PLAY ► button ④ on Well A to initiate RECORD.
9. When Well A finishes recording both sides of the tape, it will automatically start recording both sides of Well B.
10. Press STOP ④ button to end the Recording.
11. Press the CONT. button ⑥ to cancel continuous mode.

Note: All input for continuous recording will come from Line Input A.

## PARALLEL RECORDING

1. Insert cassettes into both wells, and rewind them.
2. Set Dolby NR and reset the tape counter for both wells.
3. Press the A+B REC button ⑤. This will prime both wells for record, and the REC lights will blink.
4. Set the record level so that the meter enters the red area only at peaks in the music.
5. Press the A+B REC button ⑤ again to start the recording.
6. The tapes may or may not autoreverse, depending on the position of the autoreverse mode switch.
7. Press both STOP buttons ④ to stop recording, or press the A+B REC button ⑤ to re-enter record-pause mode.

Note: All input for parallel recording will come from Line Input A.

### SYNCHRONOUS DUBBING (From Well A to Well B)

1. Insert the SOURCE tape into Well A, and the BLANK tape into Well B.
2. Check to be sure that both tapes are rewound.
3. Press the DUBBING NORM button ⑦ for normal speed dubbing, or the DUBBING HIGH button ⑦ for high speed (2x) dubbing.
4. Well A will enter PLAY mode, and Well B will enter RECORD mode. The DUBBING ⑥ indicator will light.
5. When dubbing in normal speed, set the record level for the copy by adjusting the RECORD LEVEL ⑬ control for well B. Be sure that the Dolby NR selector ⑫ on Well A is properly set for playing back the tape in Well A. You may set the Dolby NR selector for Well B any way you like. It is NOT necessary to have the same Dolby NR settings on both the original and the copy. When dubbing in high speed, the record level and Dolby NR settings on the copy will be the same as on the original.
6. Press STOP button ④ to cancel dubbing. Both wells will enter the Stop mode.

Note: Dubbing starts immediately when a Dubbing button is pressed. Be sure you have the correct tape in Well B to avoid erasing important recordings.

## QUICK REVERSE

During recording or playback, the Quick Reverse function reverses the tape travel direction quickly by means of an infrared tape sensor.

- The cassette tapes used with this unit should have a transparent or near-transparent leader tape. When using leaderless tape, or a cassette with opaque leader, quick reverse will not operate, and autoreverse will occur on a tension basis.
- When a previously recorded tape is used for two way recording, the beginning of the reverse direction will not be erased for about 0.3 seconds. Therefore, when using a previously recorded tape, the beginning of side B should be erased manually prior to recording.
- Quick Reverse will not occur if the transport has been moving for less than 15 seconds. In other words, if playback/recording is started less than 15 seconds before the end of a side, autoreverse will operate on a tension basis.
- The input signal is interrupted for about 1 second at the time of Quick Reverse. The sound cannot be recorded during this time.
- Well switching and Cascade-Unit switching is also operated by this optically sensing infrared method. All of these notes and cautions apply to Well and Unit switching, in addition to Autoreverse.



## CASCADE OPERATION

Cascade Operation is the ability to automatically and continuously play or record both sides of a tape in Well A, both sides of a tape in Well B, and then to automatically trigger a second machine, and continuously play or record on both sides of both tapes in machine number two. In fact, many machines can be wired in cascade mode for virtually limitless continuous recording/playback capability.

Cascade mode connections consist of a signal RCA cable which runs from the EXTENSION REMOTE 5 output jack on the rear panel of the first machine, to the EXTENSION REMOTE 5 input jack on the rear panel of the next machine. See figure 3 for details.

### CASCADE CONTINUOUS PLAYBACK

1. Insert all cassettes (rewind), set Dolby NR, and set all reverse mode switches to  $\curvearrowright$  modes.
2. Press the CONT. 6 buttons on all units.
3. Press the PLAY 4 button of Well A, of Unit #1.
4. When Well A of Unit #1 finishes, Well B of Unit #1 will start automatically.
5. When Well B of Unit #1 finishes, Well A of Unit #2 will start automatically.
6. To stop playback, press the CONT. 6 button, and STOP buttons on all units.

Note: Output from both wells of each unit will be sent to LINE Output A on each unit. Line Output B is not used on any unit.

### CASCADE CONTINUOUS RECORDING

1. Insert all cassettes (rewind), set Dolby NR, and set all reverse mode switches to  $\curvearrowright$  mode.
2. Press the CONT. 6 buttons of all units.
3. Press the REC 4 buttons on both wells of each unit. Check to see that every well indicates REC-PAUSE mode.
4. Adjust the recording level of each well.
5. Press the PLAY 4 button on Well A of Unit #1.
6. When well A of Unit #1 finishes, Well B of Unit #1 will start automatically.
7. When well B of Unit #1 finishes, Well A of Unit #2 will start automatically.
8. To stop recording, press the CONT. 6 button and STOP buttons on all units.

Note: Input to both wells of each unit will be received from Line Input A on each unit. Line Input B is not used on any unit.

## CD SYNCHRO RECORDING

(When connected to a Marantz Professional CD player.)

The CD Synchro Recording is possible only when this unit is connected with a Marantz Professional CD player equipped with the Sync Recording function.

The CD Synchro Recording connection consists of a single RCA cable which runs to the RC-5 REMOTE 4 input jack on the rear panel of the PMD510, from the REMOTE output jack on the rear panel of the Marantz CD player.

1. Insert all cassettes (rewind), set Dolby NR, and set reverse mode switch to either  $\curvearrowright$  or  $\curvearrowleft$  mode (not  $\curvearrowright$  mode).
2. Press the REC 4 button on Well of the unit. Check to see that REC-PAUSE mode is indicated.
3. Adjust the recording level with CD playing.
4. Set reverse mode switch to  $\curvearrowright$  mode.
5. Press the play button of the CD player.
6. The tape recording will When the CD starts playing, and stop when the CD player stops playback.
7. When recording two tapes in parallel, press the A+B REC 5 button insted of the REC button.

## OTHER OPERATIONS

Caution:

- If you must stop playback or recording in the middle of a tape, be sure to press the STOP button first, then turn the power off. If the power is turned off in the middle of an operation, the cassette tape remains loaded, and it may be impossible to eject. In such a case, turn the power on, enter PLAY mode, then press STOP, and then eject the tape.
- The same caution as above also applies in cases of power failure. To prevent damage, never attempt to force the removal of a cassette while the power is off.

### ERASURE OF TAPE

When a program source is recorded onto a tape, the previously recorded sound is erased automatically, and replaced with the new recording. If you wish to erase a tape without recording, set the REC LEVEL control to the minimum (0) position, and let the tape travel in the REC mode.

### AUTO TAPE SELECTOR

This unit is equipped with an auto tape selector which automatically sets the bias and equalizer level using the detection holes provided in the cassette shell. The bias and equalizer levels are automatically set according to the type of cassette as follows. (See Figure 4)

- Normal tapes EQ; 120mS, Bias; Low
- CrO2 tapes EQ; 70mS, Bias; High
- Metal tapes EQ; 70mS, Bias; Metal

## 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 5). It is possible to restore the recording capability of either side of the cassette by covering the opening with clear adhesive tape (See Figure 6).

## ENHANCED REMOTE CONTROL OPERATIONS

### Remark

To use a remote controller, either an infra Red remote control and receiver or a wired remote control must be connected to the RC 5 Remote IN jack on the back of the unit.

### Simultaneous (Parallel) Recording

Check to insure that both wells are in REC PAUSE mode after pressing the A+B REC button on the front of the unit. The unit will start recording when a PLAY command from the remote controller has been received. During the REC mode, the unit can be placed into a REC PAUSE mode by sending a PAUSE command from the remote controller and started again by a PLAY command from the remote controller. Pressing the STOP button on the front of the unit or sending a STOP command from the remote controller will cancel this operation.

### Normal Speed Dubbing

Check to insure that well B is in REC PAUSE mode after pressing the NORM DUBB button on the front of the unit. The unit will start normal speed dubbing when a PLAY command from the remote controller has been received. Pressing the STOP button on the front of the unit or sending a STOP command from the remote controller will cancel this operation

Note: The addition of this feature will allow the use of multiple units for duplication when connected as follows: Unit 1, well A is the source and Unit 1, well B as the duplication well #1 (in other words Normal Speed Dubbing mode.). Additional units can be connected to act as additional duplication wells (See "Functions of Connecting Several Units").

### Functions of Connecting Several Units

Several units can be controlled via the REMOTE terminal. Connect all the units to be controlled by connecting the remote controller output to the REMOTE IN of the first unit and the REMOTE output of the first unit to the REMOTE IN of the second unit and so on. Under this condition it is possible to control all of the units whether they are set for simultaneous (parallel) recording and/ or normal speed dubbing modes: assuming that the audio signals are directly connected to each unit.

## CARE AND MAINTENANCE

This section describes the care and maintenance tasks that must be performed to optimize the operation of your Marantz equipment.

## MAINTENANCE

### Head Cleaning

If the heads are not cleaned for a long period, dirt or dust may be deposited on the heads and capstans, causing degraded high-frequency characteristics, volume drop, or degraded recording and erasure performances.

To prevent this, clean the heads, etc., periodically as follows.

1. Turn the power off.
2. Open the cassette holder by pressing the EJECT button. Remove the cassette holder door by sliding it upward.
3. As shown in Figure 7, clean the parts which come in contact with tape, including the heads, capstans, tape guides, pinch wheels, etc., with a cotton swab soaked in head cleaning solution.

### Head Demagnetization

When a magnetized metallic object (such as a screwdriver tip, etc.) comes in contact with a head or capstan, or when the deck has been used for a long period of time, the head may be magnetized and noise may be generated. If the head is extremely magnetized, the high frequencies in recorded tapes could even be erased. To prevent this, demagnetize the heads and capstans periodically (every 20 hours of use) using a commercially-available head demagnetizer. (For the operation, please refer to the instruction manual supplied with your head demagnetizer.)

### Caution:

Be sure to turn the power of the cassette deck off before using a head demagnetizer.

## CLEANING OF EQUIPMENT EXTERNAL SURFACES

The exterior finish of your unit will last indefinitely with proper care and cleaning. Never use scouring pads, steel wool, scouring powders or harsh chemical agents (e.g., lye solution), alcohol, thinners, benzene, insecticide or other volatile substances, as these will mar the finish of the equipment. Likewise, never use cloths containing chemical substances. If the equipment gets dirty, wipe the external surfaces with a soft, lint-free cloth.

If the equipment becomes heavily soiled:

- dilute some liquid soap in water, in a ratio of one part detergent to six parts water
- dip a soft, lint free cloth in the solution and wring the cloth out until it is damp
- wipe the equipment with the damp cloth
- dry the equipment by wiping it with a dry cloth.

## REPAIRS

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

In the event of difficulty, call the toll-free telephone number listed on the face of the warranty to obtain the name address of the Marantz Authorized Service Center nearest you. In many cases, the dealer where you purchased your Marantz unit may be equipped to provide service. Please include the model and serial number of your unit together with a copy of your purchase receipt and a full description of what you feel is abnormal in its behavior.

## TROUBLESHOOTING

Should faults occur, it is in many cases not necessary to consult your dealer or technical service department. On the basis of the following checks you will be able to rectify a number of faults yourself without difficulty.

If the fault cannot be remedied after the following check, please consult your dealer or nearest MARANTZ service agent.

The tape does not travel.

1. Check that the power cord is plugged properly.
2. Check that the POWER switch is set to ON.
3. Check that the tape is rewound.

The tape travels, but no sound is output.

1. Check that the cassette tape is recorded.
2. Check that the mixer, amplifiers and speakers are connected and functioning properly.

Tape will not record.

1. Check that the protection tabs of cassette tape are not broken.
2. Check that the recording level is set properly.

Sound is distorted.

1. Check that the recording level is not too high.
2. Check that the head is not dirty.

Sound is unstable.

1. Check that the head is not dirty.
2. Check that the pinch wheels (capstans) are not dirty.
3. Check that the tape is wound regularly.

Noise is noticeable.

1. Check that the head is not dirty.
2. Check that the head is not magnetized.
3. Check that the DOLBY NR switch is set properly according to the tape.

Hum interferes with the sound.

1. Check that cords are connected properly.
2. Check that there is not any source of magnetism (TV, motor, transformer, etc.) placed near the unit ?
3. When this unit and amplifier are stacked, hum noise is sometimes generated depending on the amplifier model. In such a case, place the components in positions where interference does not occur.

### NOTICE

- Quick reverse operation will only occur after the transport has been moving for 15 seconds. Before that time, it takes approximately 4 seconds to reverse.
- One second of audio is lost during quick reverse.
- Automatic search operations can only operate on one well at a time.
- Eject buttons will not function unless the deck is in the stop mode. Thus, if the power is turned off without hitting the stop button, the door may not open.
- The tape counters are only approximate measurements of minutes and seconds and are not intended for timing-critical applications. They are most accurate with 60 minute tapes.

## TECHNICAL SPECIFICATIONS

Track System ..... 4 Track, 2 Channel

Head System

Rec / Play Head ..... Hard Metal Alloy (Rotary)  
Erase Head ..... Dual Gap Ferrite

Recording / Erasure System ..... AC 105 kHz Bias

Motor System

Capstan ..... DC Servo Control  
Reel ..... DC

Overall S / N, no NR, "A" weighted

Normal ..... 52 dB  
Chrome ..... 53 dB  
Metal ..... 53 dB

S/N (Overall), Dolby C NR, "A" Wtd.

Normal ..... 67 dB  
Chrome ..... 68 dB  
Metal ..... 69 dB

Frequency Response, Rec / Play, no NR

Normal ..... 20 Hz – 16 kHz –3 dB  
Chrome ..... 20 Hz – 17 kHz –3 dB  
Metal ..... 20 Hz – 18 kHz –3 dB

Dolby NR effect, B / C, S / N improvement,

CCIR / ARM Wtd. .... 9 dB / 18 dB

Output

Line ..... 500 mV  
Phone (8 ohm) ..... 50 mV

Output Impedance

line ..... 1 kW  
Phone ..... 120 W

Input Sensitivity

Line/Impedance ..... 100 mV / 47 kW

Pitch Control ..... – 15 %

Wow & Flutter

W RMS ..... 0.14 %

Power supply

Power Requirement ..... 120 V AC 60 Hz  
Power consumption ..... 0.25 A

Dimensions

Width ..... 19-1 / 8 inches (485 mm)  
Height ..... 5-1 / 4 inches (133 mm)  
Depth ..... 12-1 / 2 inches (340 mm)

Net Weight ..... 15 lbs. (6.8 kg)

Specifications subject to change without prior notice.

# REAR PANEL CONNECTIONS

PMD510

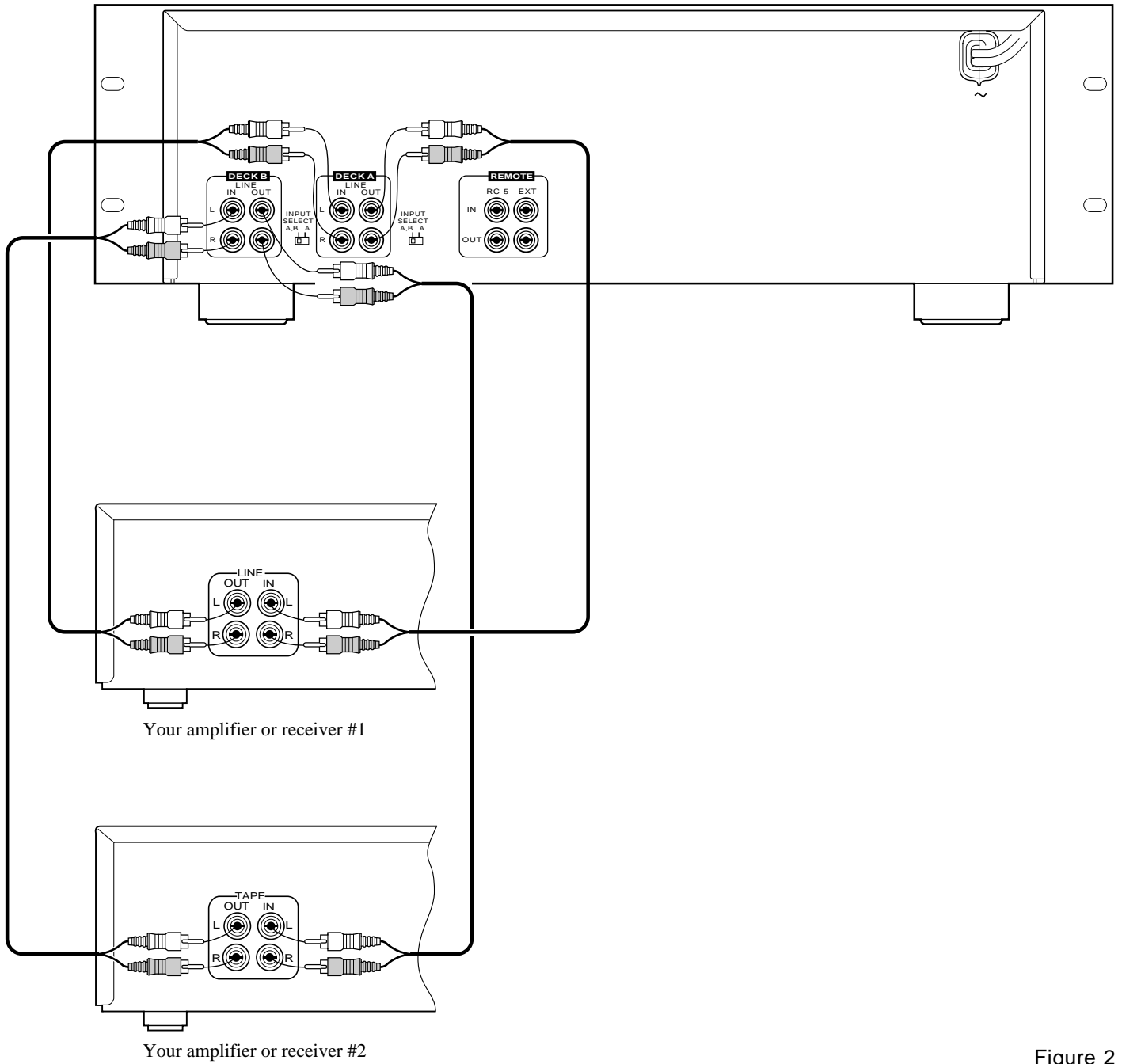


Figure 2

# CASCADE OPERATION

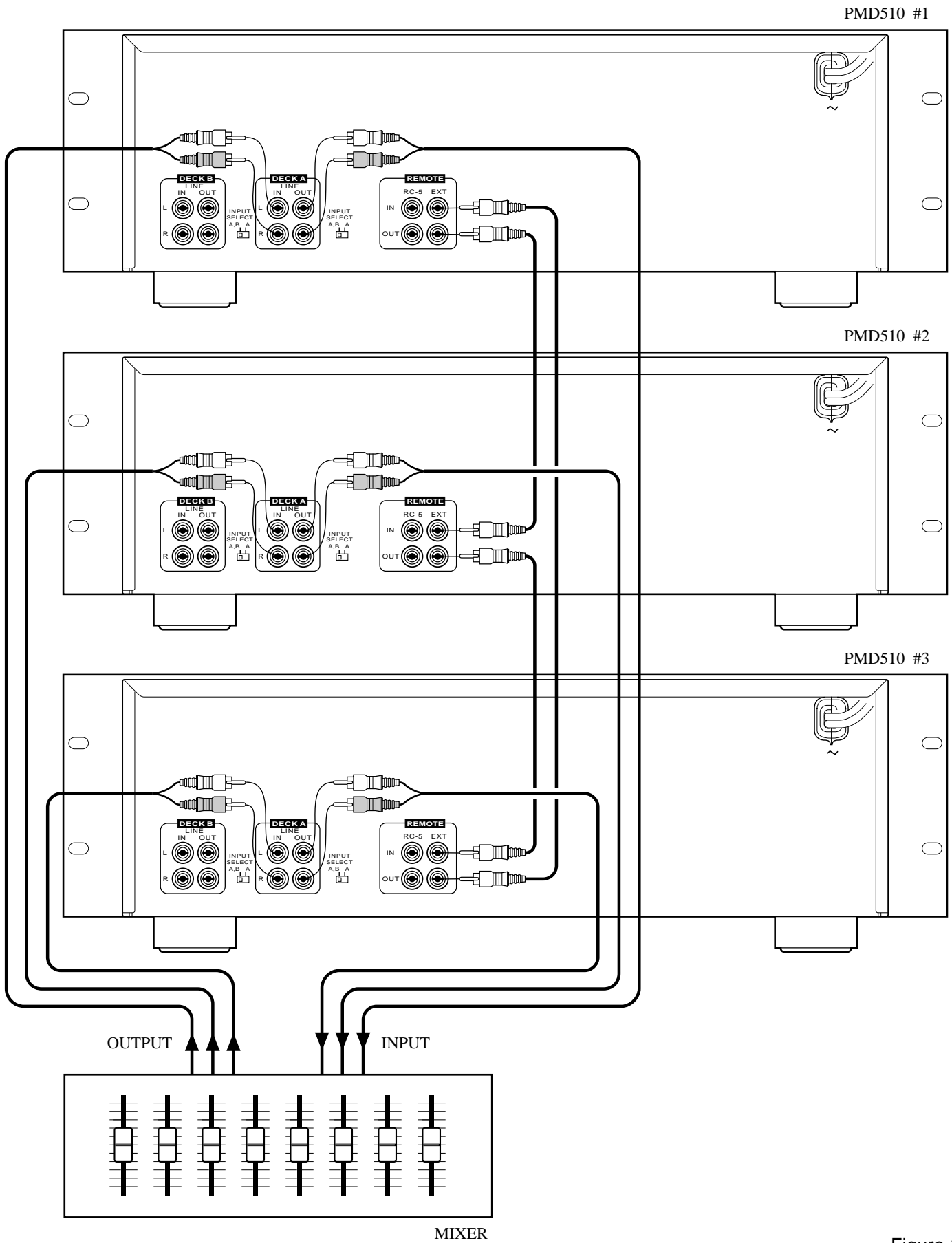


Figure 3

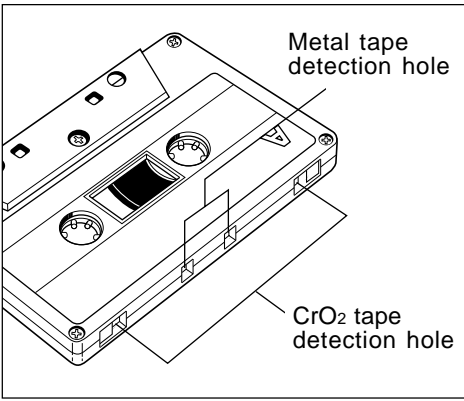


Figure 4

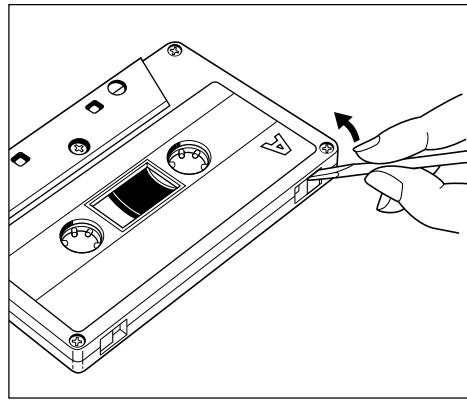


Figure 5

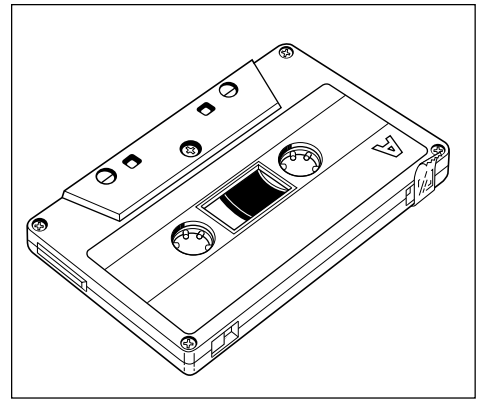


Figure 6

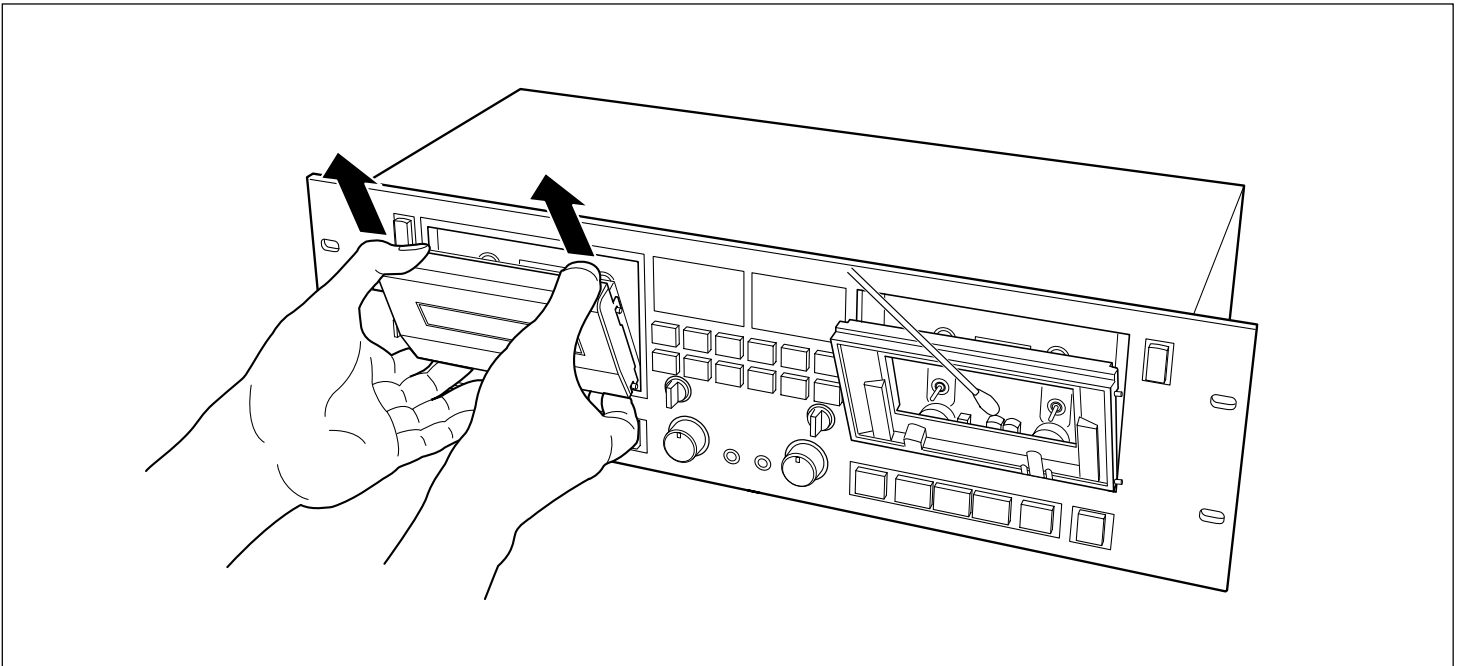


Figure 7

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***PROFESSIONAL***

Model PMD510 User Guide

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Stereo Double Cassette Deck

**marantz®**