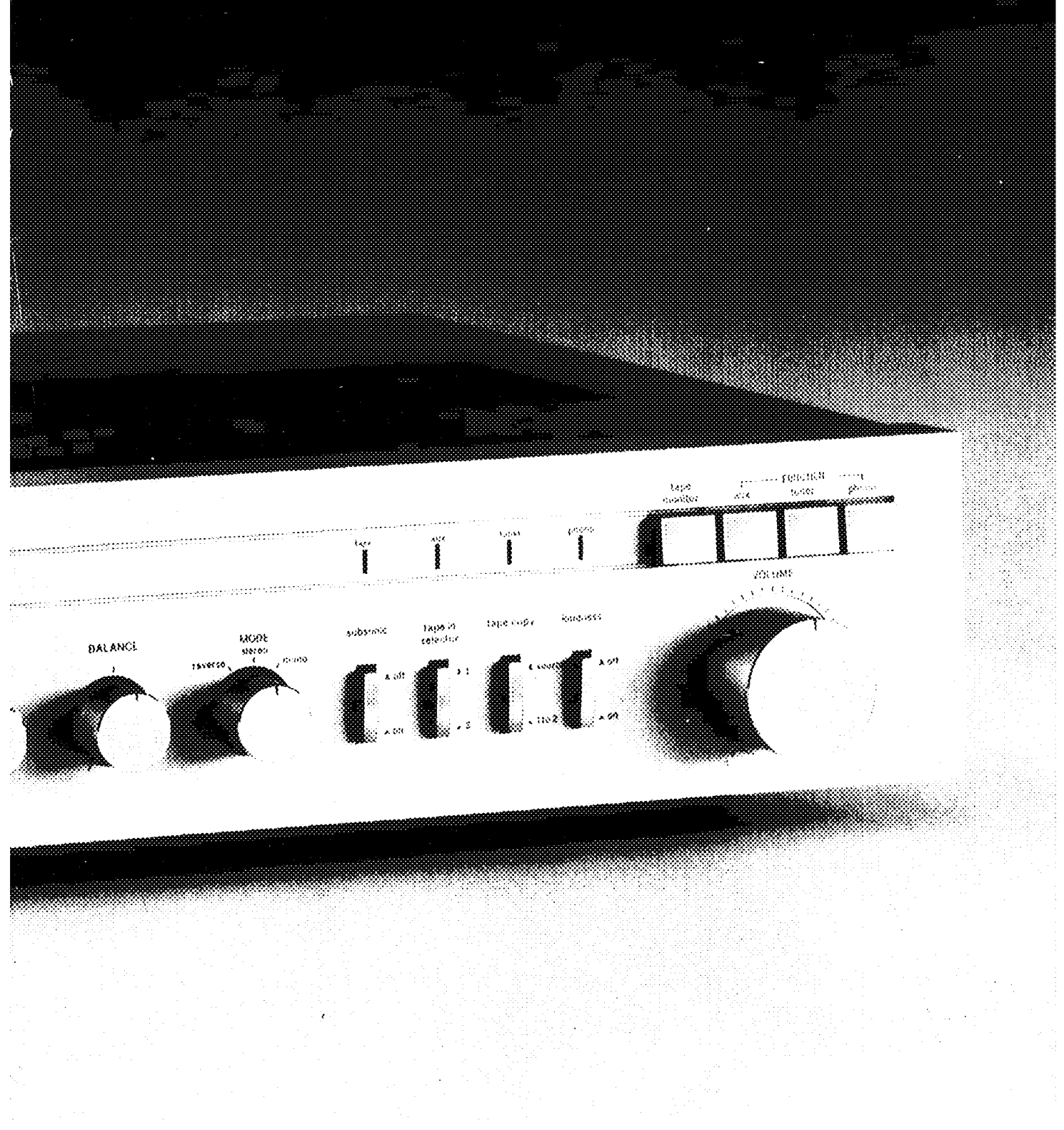


harman/kardon

HI-CURRENT CAPABILITY INTEGRATED AMPLIFIER

PM640

owner's manual



Your investment in a component
high fidelity system indicates
you have a more than average interest in music.
The fact that your investment includes a Harman Kardon PM640
Hi-current Capability Integrated Amplifier shows us your appreciation
of uncompromised reproduction of the music you enjoy.
Throughout the design and manufacture of this unit,
we made every effort to assure it will meet
all your expectations.
To ensure continuing high performance,
read this manual carefully before
you connect and operate your PM640.

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

Features

- Adoption of TAPE COPY switch and FUNCTION selector to enable listening to another source during dubbing
- 33A HICC (high instantaneous current capability) to enable ample driving against fluctuation in dynamic impedance of speakers for clear controlled sound reproduction
- Capability of recording and listening through equalizer or noise reduction system
- Adoption of power output transistor with sufficient margin even during high power operation
- SUBSONIC FILTER for elimination of sound distortion caused by extremely low frequency component because of wide-band design laying stress on sound quality
- TONE DEFEAT switch to obtain flat frequency characteristic by single touch
- Functional face layout allowing easy operation by mainly adopting push-button switches

General Instructions

Always use at 120V AC

This unit is designed for use at 120V AC. Do not connect the unit to an outlet supplying a highly voltage to prevent fire.

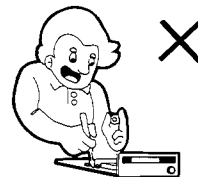
Handle the AC cord carefully

- Always hold the plug when disconnecting the AC cord from the outlet. Pulling at the cord may cause discontinuity.
- If the unit is not used for a prolonged period, disconnect the plug from the outlet.
- Do not place or drop a heavy material such as furniture on the cord. Otherwise the cord may be damaged to cause fire or shock hazard.



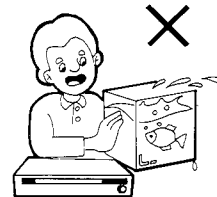
Do not open the cabinet

To prevent shock hazard or unexpected trouble, do not tamper with internal components for inspection or maintenance. Harman Kardon does not guarantee performance degradation resulting from any modification.



When water or a metal piece enters the unit

When water, a hair pin or wire accidentally enters the unit, immediately extract the AC plug from the outlet to prevent shock or trouble.



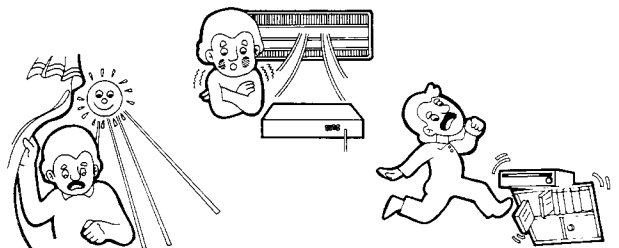
★ Always disconnect the plug from the outlet before making connections with other components.

Locations for Installation

Select a firm level base.

Avoid the following locations:

- Place exposed to excessive moisture
- Place exposed to direct sunlight or near a heat source
- Cold place such as near a cooling air outlet
- Dusty place
- Place exposed to excessive vibration
- Poorly ventilated place



When piling with other components, carefully plan so as to obtain good heat radiation from this unit. Use of a Harman Kardon audio rack is recommended.

Components and Their Functions

Front Panel

③ TONE DEFEAT SWITCH (tone defeat)

For defeating tone control by TONE CONTROL knobs (BASS, TREBLE).

At the depressed position, flat frequency characteristic is obtained irrespective of TONE CONTROL knob positions.

② POWER INDICATOR

For indication of power supply to the unit. This indicator illuminates when the POWER switch is pressed to turn on the power.

① POWER SWITCH (POWER)

For power on and off.

When this switch is pressed after AC cord connection to an outlet, the POWER indicator illuminates. Press this switch again to turn the power off.

⑥ BASS CONTROL KNOB (BASS)

For emphasis or attenuation of low-pitched tone. Turn it clockwise for emphasis, or counterclockwise for attenuation.

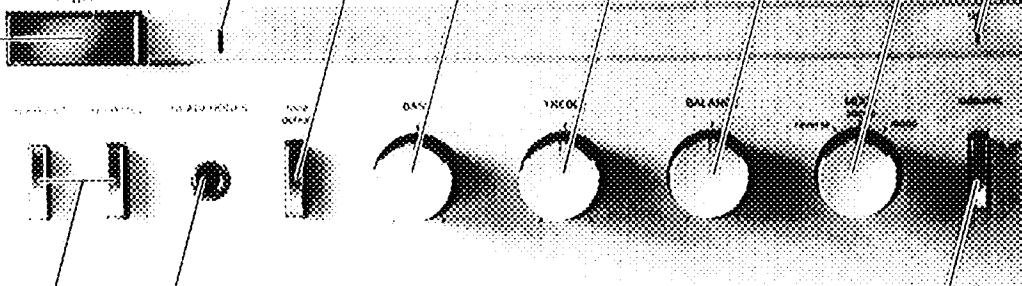
⑦ TREBLE CONTROL KNOB (TREBLE)

For emphasis or attenuation of high-pitched tone. Turn it clockwise for emphasis, or counterclockwise for attenuation.

⑧ BALANCE CONTROL KNOB (BALANCE)

For balance adjustment between left and right channels. Normally place it at the center position.

harman-kardon PM640



⑤ STEREO HEADPHONES JACK (headphones)

For connection of stereo headphones. Output signal is always supplied to this jack.

④ SPEAKER SELECTORS (speakers 1, speakers 2)

For selection of speakers to be sounded. 2 speaker systems can be connected to this unit. When listening to speaker sound, depress the corresponding selector. To sound both speaker systems, depress both switches. Release the switch for listening with headphones only.

9 MODE SELECTOR (MODE)

MONO position:
Select this position for a monaural source program.

STEREO position:
Select this position for stereo playback, reception or recording.

REVERSE position:
Select this position to reverse the right and left channel signals.

10 TAPE MONITOR INDICATOR (tape)

For indication of tape monitoring. This indicator illuminates when the TAPE MONITOR switch is pressed to monitor the tape sound.

11 FUNCTION INDICATORS (aux/tuner/phono)

For indication of the source selected by any of the FUNCTION selector (AUX, TUNER or PHONO).

12 TAPE MONITOR SWITCH (tape monitor)

For monitoring the tape deck selected by the TAPE IN SELECTOR switch. When this switch is pressed, the MONITOR indicator illuminates. Press this switch again to stop monitoring.

13 FUNCTION SELECTORS (FUNCTION)

AUX switch:
Press this switch to listen to the program source connected to the AUX INPUT jacks.

TUNER switch:
Press this switch to listen to an AM or FM broadcasting program.

PHONO switch:
Press this switch to listen to the record played on the turntable.

14 VOLUME CONTROL KNOB (VOLUME)

For increase/decrease of the sound volume. Clockwise turn increases the sound volume, and counterclockwise turn decreases it. Set this knob at a minimum level before turning the power on to prevent speaker from being damaged by a sudden booming sound.

15 LOUDNESS SWITCH (loudness)

For emphasis of the low and high frequency ranges to enable impressive reproduction when listening at a low sound volume.

16 TAPE COPY SWITCH (tape copy)

SOURCE position:
Use this position to record the source selected by the FUNCTION selector (AUX, TUNER or PHONO).

1 TO 2 position:
For tape copying between two tape decks connected to this unit. This position also enables equalized recording if an equalizer is connected to TAPE 1 INPUT/OUTPUT jacks. See Special Operation for details.

17 TAPE IN SELECTOR SWITCH (tape in selector)

1 position:
Select this position to monitor the tape deck connected to TAPE 1 INPUT jacks.

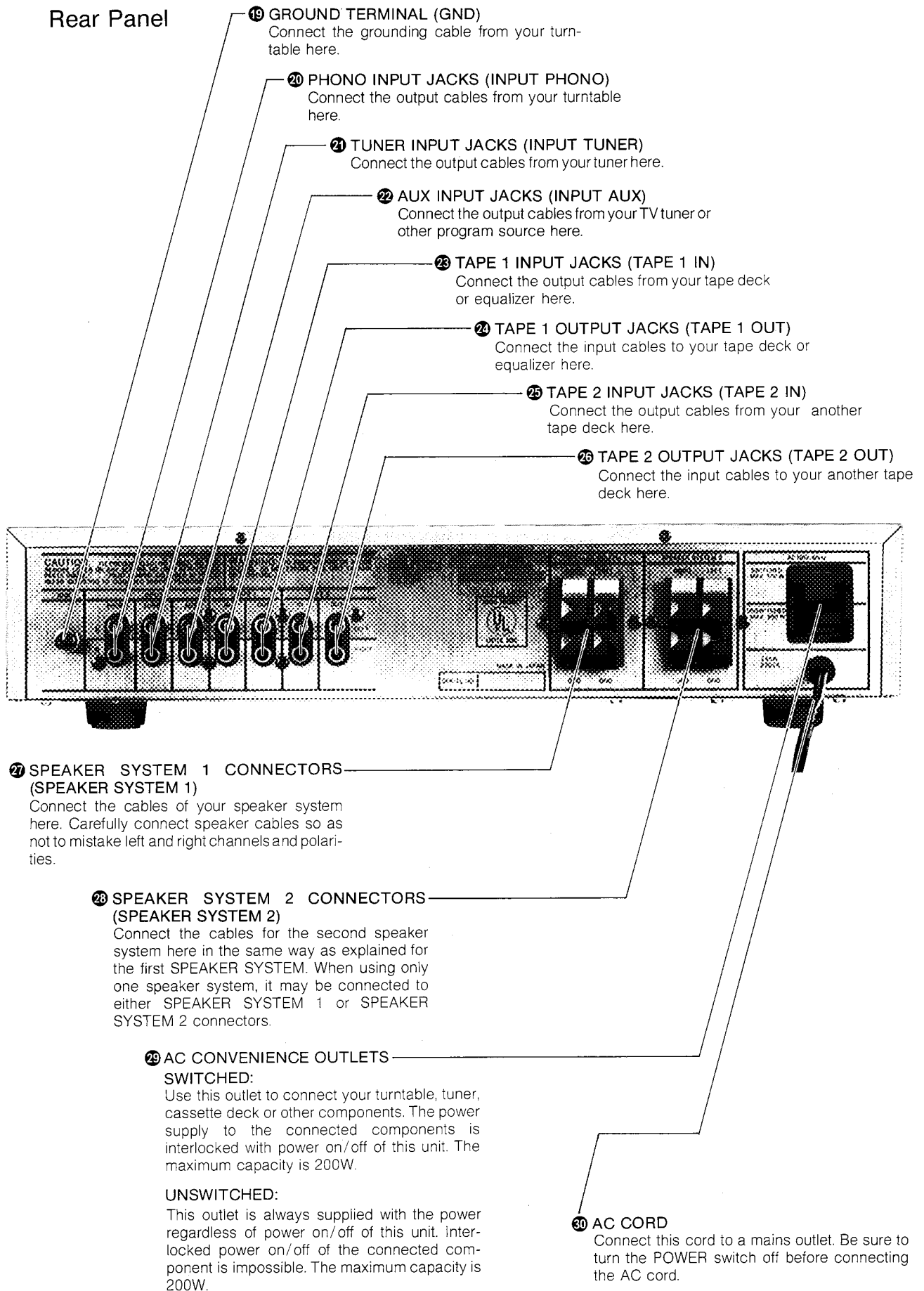
2 position:
Select this position to monitor the tape deck connected to TAPE 2 INPUT jacks.

18 SUBSONIC FILTER SWITCH (subsonic)

When depressed, the subsonic filter is validated to prevent distortion resulting from turntable rumble and speaker damage caused by super-low tones.

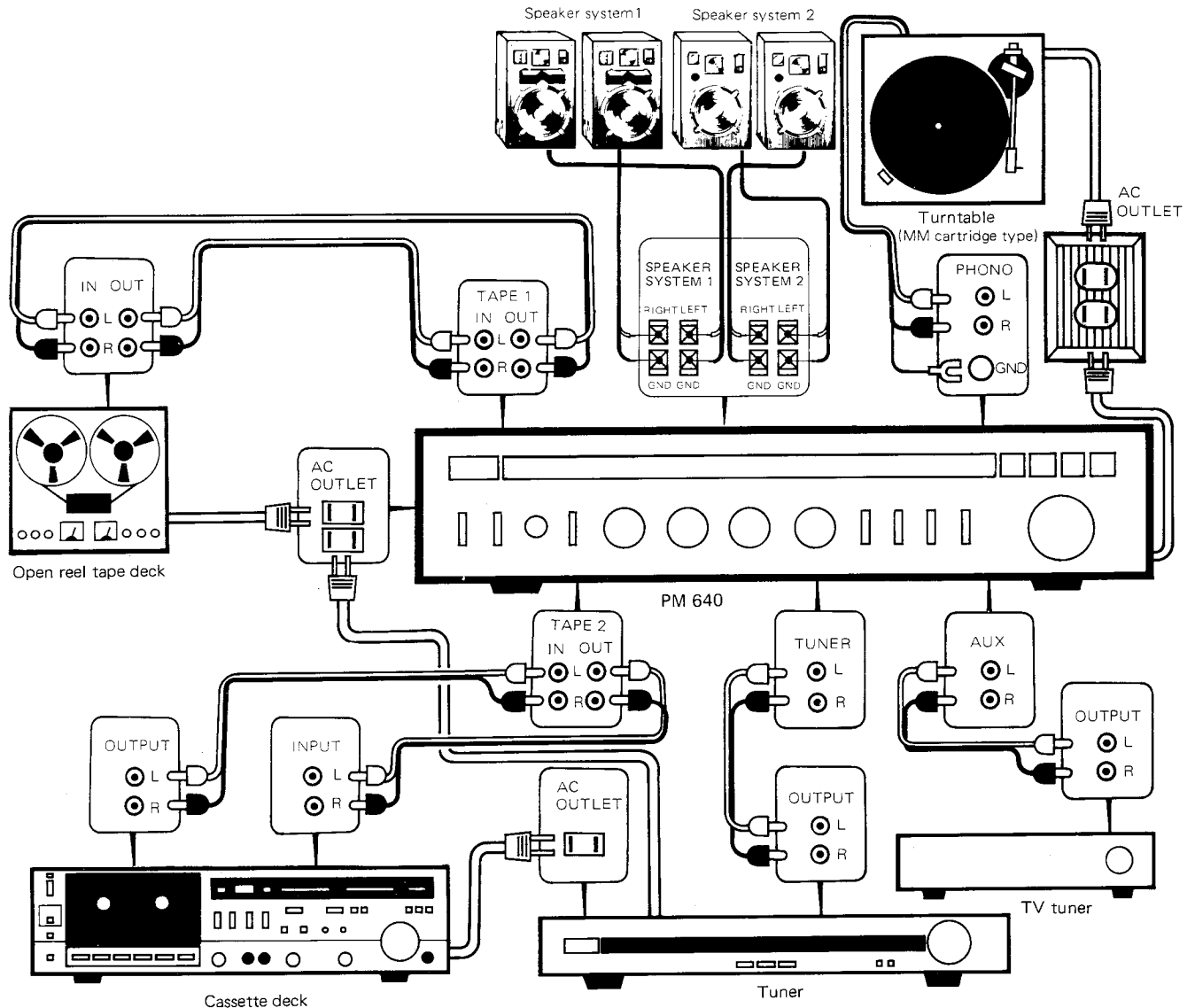
Components and Their Functions

Rear Panel



Connections

- Always disconnect the AC cord before making connections with speakers and other components.
- When connecting plugs, correctly connect right and left channels.
- Fully insert the plugs. Incomplete insertion may cause noise generation or reproduction failure.

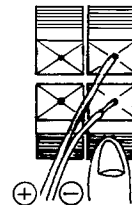


Speaker connection

When connecting speakers, carefully connect the cords so as not to mistake left and right channels and speaker polarities.

1. Use sufficiently thick cords (for example 20- to 30-strand cords) with small electric resistance. It is recommended to use color-coded cords for easy confirmation of polarities. Speaker cords shall be as short as possible, and the left and right channel cords shall have the same length.
2. Remove about half inch (12.5 mm) of insulation from the end of each speaker cord, and twist the strands of each conductor.

3. Push the plastic head of the connector. Insert the bare end of the cord into the center opening. As the head is released, the end of the cord is automatically held in place.



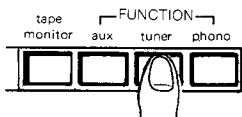
Caution

2 speaker systems can be connected to this unit. The minimum speaker impedance shall be 4Ω when only one speaker system is connected, or 8Ω when two speaker systems are connected.

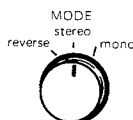
Operation Procedures

Listening to a tuner

1. Turn the VOLUME CONTROL knob to the minimum level and press the POWER switch. The POWER indicator illuminates.
2. Press the TUNER FUNCTION selector and check that the TUNER indicator illuminates.



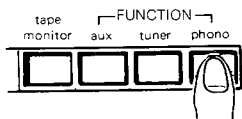
3. Be sure that the TAPE MONITOR switch is off.
4. Depress the SPEAKER selector for the speakers to be sounded.
5. Place the MODE selector at its MONO or STEREO position according to the desired broadcasting station to be tuned.



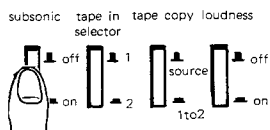
6. Tune the tuner to the desired station according to its owner's manual.
7. After perfect tuning, adjust the VOLUME, BASS, TREBLE and BALANCE CONTROL knobs to obtain the desired tone.

Listening to a turntable

1. Turn the VOLUME CONTROL knob to the minimum level and press the POWER switch. The POWER indicator illuminates.
2. Press the PHONO FUNCTION selector and check that the PHONO indicator illuminates.



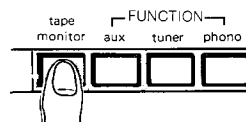
3. Be sure that the TAPE MONITOR switch is off.
4. Depress the SPEAKER selector for the speakers to be sounded.
5. Place the MODE selector at its MONO or STEREO position according to the type of the record to be played.
6. Start the turntable according to its owner's manual and lower the tonearm.
7. Gradually turn the VOLUME CONTROL knob to increase the sound volume to the desired level.
8. If the record is warped, depress the SUBSONIC FILTER switch.



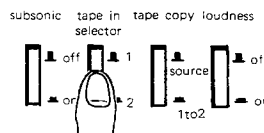
9. Adjust the BASS, TREBLE and BALANCE CONTROL knobs to obtain the desired tone.

Tape playback

1. Turn the VOLUME CONTROL knob to the minimum level and press the POWER switch. The POWER indicator illuminates.
2. Press the TAPE MONITOR switch and check that the MONITOR indicator illuminates.



3. Place the TAPE IN SELECTOR switch at its 1 or 2 position corresponding to the TAPE INPUT jacks to which the playing tape deck is connected.

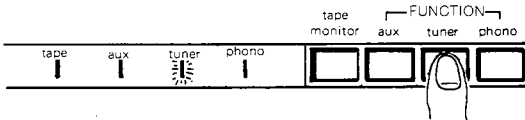


4. Depress the SPEAKER selector for the speakers to be sounded.
5. Place the MODE selector at its MONO or STEREO position according to the type of the tape to be played back.
6. Mount a recorded tape on the selected tape deck and set the tape deck to playback mode according to the owner's manual of the tape deck.
7. Gradually turn the VOLUME CONTROL knob until the desired sound volume is obtained.
8. Adjust the BASS, TREBLE and BALANCE CONTROL knobs until the desired tone is obtained.

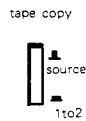
Tape recording

Recording from a music source (turntable, tuner or a component connected to AUX INPUT jacks) to a tape deck is possible.

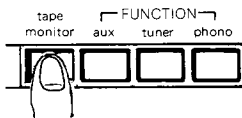
1. Turn the VOLUME CONTROL knob to the minimum level and press the POWER switch. The POWER indicator illuminates.
2. Press the FUNCTION SELECTOR (AUX, TUNER or PHONO) for the desired source, and check that the corresponding indicator illuminates.



3. Place the TAPE COPY switch at its SOURCE position.



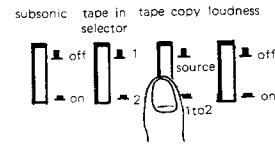
4. Depress the SPEAKER selector for the speakers to be sounded.
5. Place the MODE selector at its MONO or STEREO position according to the source program.
6. Operate the source connected to the TUNER, PHONO or AUX input jacks.
7. Gradually turn the VOLUME CONTROL knob to check the recording source.
8. Set the destination tape deck ready for recording according to its owner's manual.
9. Start the tape deck for recording.
10. To monitor the sound, press the TAPE MONITOR switch and then place the TAPE IN SELECTOR switch at its 1 or 2 position according to the desired monitoring side.



11. While monitoring the sound, adjust the BASS, TREBLE and BALANCE CONTROL knobs as desired. These adjustments do not affect the recording sound.

Tape copying (dubbing)

1. Turn the VOLUME CONTROL knob to the minimum level and press the POWER switch. The POWER indicator illuminates.
2. Place the TAPE COPY switch at its 1 TO 2 position.



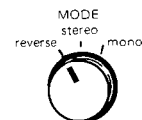
3. Place the MODE selector at its MONO or STEREO position according to the source tape.
4. Set the tape deck connected to TAPE 1 INPUT jacks to the play mode and the tape deck connected to TAPE 2 OUTPUT jacks to the recording mode according to respective owner's manuals. When they are started, dubbing starts.
5. To monitor the source or recording sound while dubbing, press the TAPE MONITOR switch and place the TAPE IN SELECTOR switch to the "1" or "2" position. At the "1" position, the playback sound on the deck connected to the TAPE 1 INPUT jacks can be monitored. At the "2" position, the recording sound at the deck connected to the TAPE 2 OUTPUT jacks can be monitored.
6. Adjust the VOLUME, BASS, TREBLE and BALANCE controls as desired for monitoring. These adjustments does not affect the dubbing sound.
7. To enjoy the sound of another source (tuner, turntable or auxiliary component) during dubbing, press the MONITOR switch to off and press the desired FUNCTION selector. The TAPE COPY switch must be at its 1 TO 2 position.

Channel reversing

When the MODE selector is set at its REVERSE position, the left and right channel signals are reversed to change the sound field.

Select this position to test the possible cause of no sound reproduction in one channel.

When the positions of musical instruments in the reproduced sound are reverse of those printed on jacket, this position also enables correction without changing signal cable connections.



Special Operation

Using audio equalizer or noise reduction system

In addition to tuners, turntables, and tape decks, this unit allows connection with an AUDIO EQUALIZER or NOISE REDUCTION SYSTEM to enable various combinations.

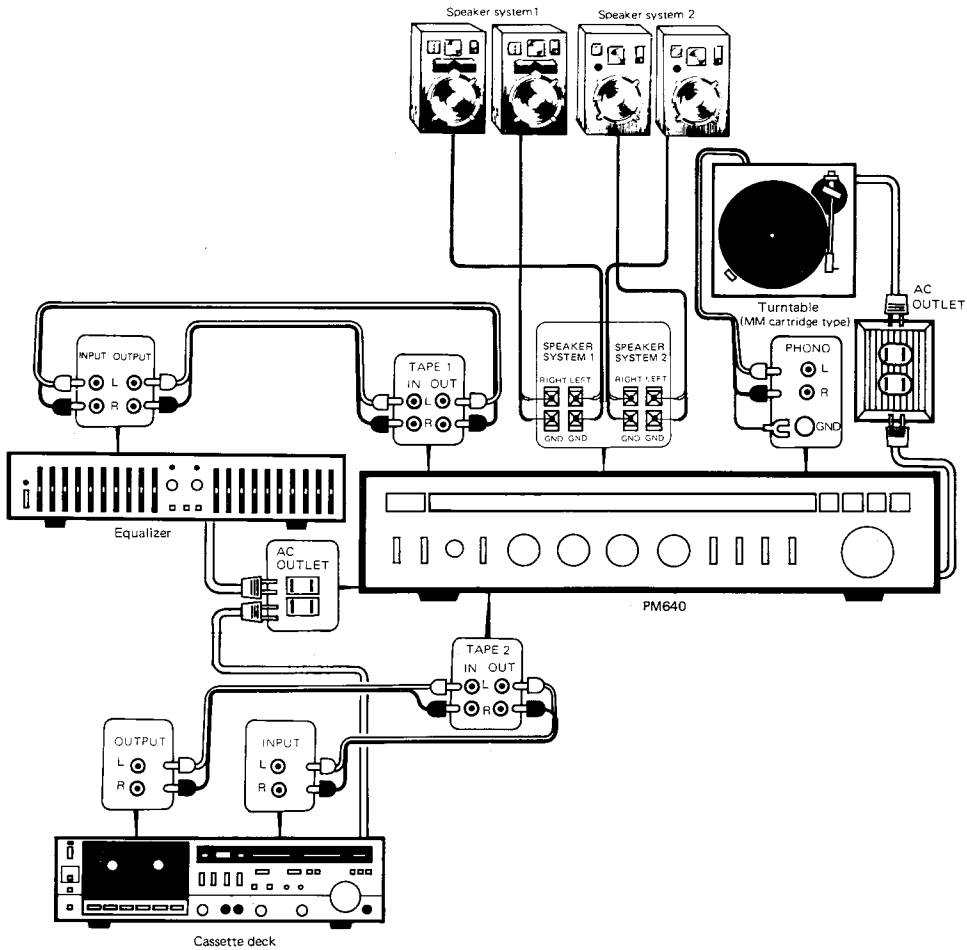
Use of an equalizer as an additional component of your system enables various tone controls such as flattening of the acoustic characteristic in the listening room, equalization to match the system, equalization to obtain desired sound and equalization for emphasis of the sound of a certain musical instrument.

Use of a noise reduction system will enable clear sound reproduction with minimal noise.

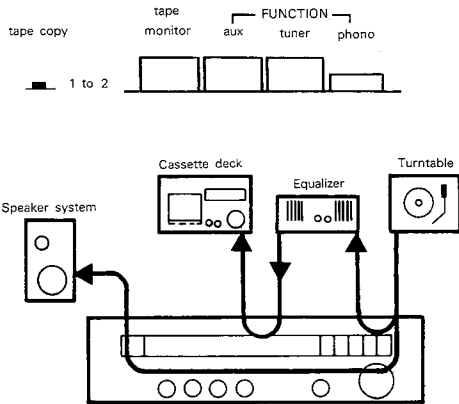
Please enjoy equalized sound according to the illustrations in the next page for use of an equalizer and operation instructions for the TAPE IN SELECTOR switch, TAPE COPY switch and FUNCTION selectors.

To use a noise reduction system, connect it in the same way as and in place of the equalizer and operate it similarly as the equalizer.

Connection

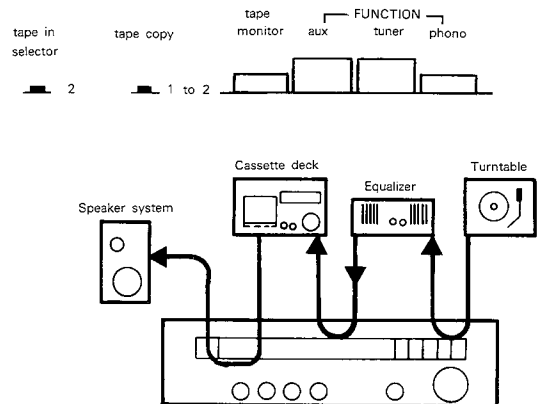


Setting 1



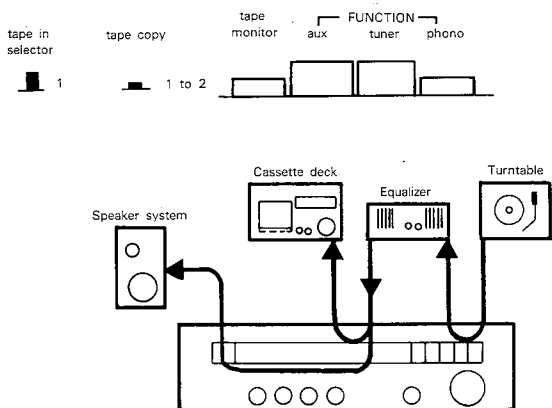
While recording the music played on the turntable to the tape deck through the equalizer, the original source sound is reproduced by speakers through the amplifier.

Setting 3



While recording the music played on the turntable through the equalizer, the equalized sound recorded on the tape is reproduced by speakers through the amplifier.

Setting 2



While recording the music played on the turntable to the tape deck through the equalizer, the equalized sound is reproduced by speakers through the amplifier.

Note: These examples show when the PHONO function is selected. The same applies to AUX or TUNER function.

Maintenance

When the unit gets dirty, wipe it with a soft dry cloth. If heavily contaminated, wipe it with a soft cloth soaked with mild soapy water and then wipe with a dry cloth. Never use alcohol, thinner, benzine or other volatile agent since the painting may be damaged.