

INTEGRATED AMPLIFIER

KA-9X

INSTRUCTION MANUAL



 **KENWOOD**

IN CASE OF DIFFICULTY

If your unit should not perform as expected, consult the table below to see if the problem can be corrected before seeking help from your Kenwood dealer or service representative.

AM, FM, PHONO or Tape playback	CAUSE	REMEDY
Power on but no sound.	a) Power cord not plugged in. b) Poor connection at wall outlet. Power outlet inactive. c) VOLUME control set fully counterclockwise.	a) Check plug contact. b) Check outlet using a lamp or other appliance (outlet may be controlled by a wall switch). c) Set the control to your preference.
No sound from left or right.	a) Speaker cords disconnected. b) Speakers switched off. c) No input selector switch is in use.	a) Check speaker connections. b) Check speaker switch. c) Push one of the selector switches to select the desired program.
Sound from left or right, but not both.	a) Poor speaker connections. b) Defective speaker. c) BALANCE set to one extreme or the other.	a) Check connections at both ends of speaker cord. b) Reverse speakers, if problem stays with speaker have speaker checked. c) Check setting of BALANCE control.
PHONO playback only	CAUSE	REMEDY
No sound from both or one speaker.	Turntable output disconnected.	Check phono cables.
Loud hum drowns out sound.	Poor ground connection at phono cable connections.	Check phono plugs, particularly outershell connections.
Low background hum.	Hum Picked up in turntable or turntable cables.	Keep cables away from power cords. Twist left and right cables together. Reverse AC plug of turntable. Connect ground wire between turntable and GND connector.
Background buzz.	TV signal picked up by phono cable (especially near transmitter).	Route phono cables to minimize buzz.
Howling noise at maximum volume settings.	Acoustic pickup from speaker.	Increase distance between speaker and turntable. Choose speaker locations carefully. Check turntable suspension.

120 watts per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.008% total harmonic distortion.

Both Channel Driven into 8 ohms at 1 kHz.....130 watts

Both Channel Driven into 4 ohms at 1 kHz.....170 watts

Dynamic Power Output into 4 ohms.....600 watts

Total Harmonic Distortion

(20 Hz to 20,000 Hz)

AUX input to SPEAKER output0.008% at rated power into 8 ohms

0.008% at 1/2 rated power into 8 ohms

Intermodulation Distortion0.008% at rated power into 8 ohms

(60 Hz:7 kHz = 4:1)

Damping Factor1,000 at 100 Hz

Transient Response

Rise Time1.7 μ s

Slew Rate..... $\pm$ 100 V/ μ s

Frequency ResponseDC to 200 kHz, -3 dB

Speaker ImpedanceAccept 4 ohms to 16 ohms

Input Sensitivity/Impedance

Phono (MM)2.5 mV/47 kohms

Phono (MC)0.2 mV/100 ohms

Tuner, AUX, Tape A, B.....150 mV/47 kohms

Signal-to-Noise Ratio (IHF, A)

Phono (MM)87 dB for 2.5 mV input

93 dB for 5.0 mV input

99 dB for 10 mV input

Phono (MC)70 dB for 0.25 mV input

76 dB for 0.5 mV input

Tuner, AUX, Tape A, B.....107 dB for 150 mV input

Maximum Input Level

Phono (MM)250 mV (RMS), T.H.D. 0.008% at 1,000 Hz

Phono (MC)20 mV (RMS), T.H.D. 0.008% at 1,000 Hz

Output Level/Impedance

Tape REC (Pin)150 mV/330 ohms

(DIN).....30 mV/80 kohms

Phono Frequency ResponseRIAA standard curve $\pm$ 0.3 dB

(20 Hz to 20,000 Hz)

Tone Control

Bass Turnover Freq, 200 Hz $\pm$ 10 dB at 50 Hz

400 Hz $\pm$ 10 dB at 100 Hz

Treble Turnover Freq, 3 kHz $\pm$ 10 dB at 10 kHz

6 kHz $\pm$ 10 dB at 20 kHz

Loudness Control+ 10 dB at 100 Hz (at -30 dB VOLUME Level)

Subsonic Filter18 Hz, 6 dB/oct

Power Requirements60 Hz 120 V U.S.A. & Canada Model^{*}

Model sold else where incorporates switches to accommodate 50/60 Hz 110-120 V/220-240 V

Power Consumption700 W (Rated power at 8 ohms)

A.C. Outlets.....Switched 2, Unswitched 1

Dimensions.....W 440 mm (17-5/16")

H 109 mm (4-19/64")

D 340 mm (13-25/64")

Net Weight10.2 kg (22.4 lb)

* Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier in U.S.A.

Kenwood follows a policy of continuous advancements in developments. For this reason specifications may be changed without notice.

DEAR AUDIO FAN

The purpose of this manual is to acquaint you with the operating features of your new amplifier. You will notice that in every detail of planning, engineering, styling, operating convenience, and adaptability, we have sought to anticipate your needs and desires.

We suggest that you read this manual carefully. Knowing how to set up your amplifier to the best advantage will enhance your listening pleasure right from the start. You will also become aware of the ease with which you can adjust your amplifier to meet your special requirements.

CONTENTS

BEFORE OPERATION	3
SYSTEM CONNECTIONS.....	4
CONTROLS, INDICATORS AND CONNECTORS	6
OPERATING INSTRUCTIONS.....	8
IN CASE OF DIFFICULTY	10
SPECIFICATIONS.....	11

FOR YOUR RECORDS

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your Kenwood dealer for information or service on this product.

Model KA-9X Serial number _____

UNPACKING

Unpack the unit carefully and make sure that all accessories and cables are put aside so they will not be lost.

Examine the unit for any possibility of shipping damage. If your unit is damaged or fails to operate, notify your dealer immediately. If your unit was shipped to you directly, notify the shipping company without delay. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage.

We recommend that you retain the original carton and packing materials for use should you transport or ship the unit in the future.

WARNING:

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

IMPORTANT!

U.S.A. AND CANADA

Units shipped to the U.S.A. and Canada are designed for operation on 120 volts AC only. These units are not equipped with AC Voltage Selector switch and the discussion of such a switch that follows should be disregarded.

ALL OTHER COUNTRIES

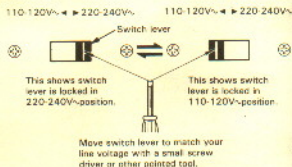
Units shipped to countries other than the U.S.A. and Canada are equipped with an AC Voltage Selector switch on the rear panel. Refer to the following paragraph for the proper setting of this switch.

AC VOLTAGE SELECTION

This unit operates on 110-120 volts or 220-240 volts AC. The AC Voltage Selector Switch on the rear panel is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following direction.

Note:

Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC Voltage Selector Switch.



AC VOLTAGE SELECTOR SWITCH

NOTES ON INSTALLATION

Do not place the unit in a place which is exposed to direct sunlight, near a heating appliance, etc.



Do not place a vase containing water, makeup, etc. on the unit. Do not use in a humid place.



To maintain good ventilation, do not put records or a table-cloth on the unit. Place the unit at least 10 cm away from the walls.



Choose a location that is relatively free from vibration or excessive dust.



SAFETY PRECAUTIONS

Never remove the case. If the internal parts are touched, accidentally, a serious electric shock might occur.



Never touch internal parts.

If a metal object, such as a hair pin or a needle, comes into contact with the power socket on the rear panel, a dangerous electric shock may result. For families with children, never permit children to put anything, especially metal, inside this unit.



Do not connect other audio equipment with a power consumption larger than that specified to the AC outlet on the rear panel. Never connect other electrical appliances, such as an iron or toaster.



Never connect other electrical appliances.

Touching the power plug when your hands are wet may result in a serious electric shock.



Never touch with wet hands.

Never pull, bend or extend the power cord. This could damage the power cord, resulting in a broken cord or short-circuit.



Always grasp the plug.

IN CASE OF ABNORMAL SMELL

If an abnormal smell or smoke is detected, immediately turn the power OFF and pull out the power cord. Contact your dealer or nearest Kenwood Service Station.



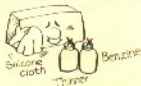
THERMAL PROTECTOR

This unit employs a thermal protector which automatically shuts off the power if the temperature inside the amplifier becomes unusually high. The protector automatically restores the power when the temperature drops to the normal level and the cause of the unusual temperature rise must be removed before the power is restored.

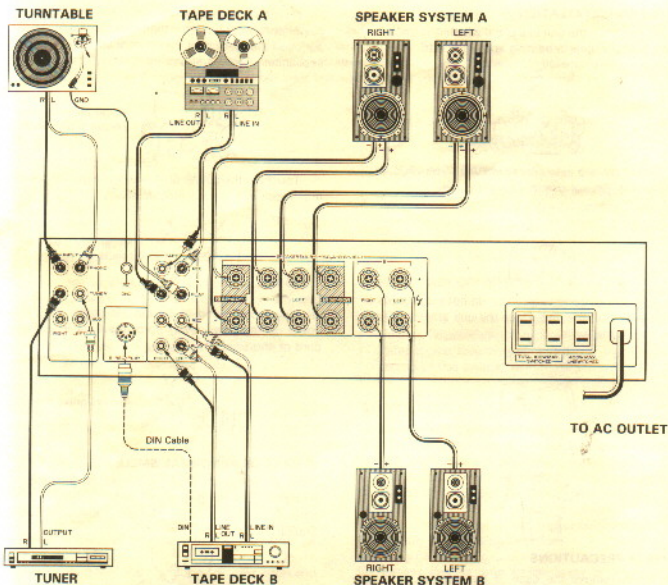
Unusually high temperatures may be caused by continuous driving of low-impedance speaker systems at high power or shorted output circuit.

CLEANING

Do not use volatile solvents such as alcohol, paint thinner, gasoline, benzine, etc. to clean the cabinet. Use a silicone cloth or a clean dry cloth.



CONNECTIONS



SPEAKERS

This amplifier has two pairs of speaker terminals, SPEAKERS A and SPEAKERS B.

Connecting One Speaker System

Connect speakers rated at 4 ohms or more to the SPEAKERS A terminals.

Although ordinary speaker cords can be connected to the SPEAKERS A terminals, the Σ drive system will reproduce better sound with the Σ cables (supplied) connected to the SPEAKERS A terminals.

Connecting Two Speaker Systems

To connect an additional pair of speakers, use the B terminals. In this case, each speaker must be rated at 8 ohms or more.

Connection with Σ Cables (Σ drive system)

Each Σ cable has two red wires and two black wires. Connect as follows; refer to Fig. 1:

1. The cable to be connected to the left speaker is connected to the LEFT SPEAKERS A terminals and that to be connected to the right speaker is connected to the RIGHT SPEAKERS A terminals.
2. At the speaker end of the cable the thick and thin red wires are twisted together and soldered. This red pair is then connected to the (+) terminal of the speaker. Similarly the thick and thin black wires are

twisted together and soldered. This pair connects to the (-) terminal.

3. At the amplifier end of the cable the wires are separated. The thick red and black wires connect to the (+) and (-) SPEAKERS A terminals, respectively. The thin red and black wires connect to the (+) and (-) Σ SENSOR terminals, respectively.
4. Connect the right and left speakers as in Step 3.

Notes:

1. The SPEAKERS B terminals use ordinary speaker cords.
2. If the cables (supplied) are too short for your system, commercially available cables as shown in Fig. 2 can be used. Pay attention to polarities when using such cables. Keep the speaker cables as short as possible.

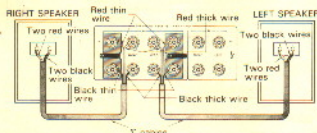


Fig. 1 Connection with Σ Cables

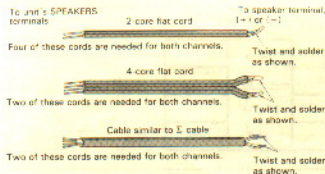


Fig. 2 Substitute Cords for Σ Cables

Connection with Ordinary Speaker Cords

1. Connect the left speaker to the LEFT SPEAKERS terminals and the right speaker to the RIGHT SPEAKERS terminals; refer to Fig. 3.
2. Be careful that wires do not contact adjacent terminals.
3. Be sure to connect the (+) terminal of the speaker to the (+) terminal of the amplifier.

Never short the (+) and (-) terminals.

Erroneous connection of speakers may result in poor imaging or unnatural sound.

Note:

If the SPEAKERS A terminals are connected with ordinary cords, connect only inner terminals but not Σ SENSOR (shaded) terminals.

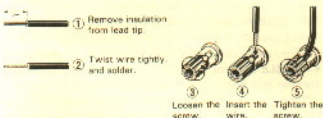


Fig. 3 Connecting Speaker Cords

TURNTABLE

The PHONO jacks of the amplifier can accept a turntable with either an MM or MC type phono-cartridge.

Your stereo turntable has a pair of audio cables that is terminated with phono plugs. Plug the left channel plug into the LEFT and the right channel plug into the RIGHT PHONO jacks.

If the turntable has a ground wire, connect it to the unit's GND terminal to avoid hum.

TUNER

Use the TUNER terminals for connection to an FM stereo or AM-FM stereo tuner.

Connect the left channel of the tuner to the LEFT TUNER input jack and the right channel of the tuner to the RIGHT TUNER input jack.

AUX

The AUX jacks are used to connect other high-level signal sources, such as tuners, extra tape decks (equipped with preamps), TV, VTR or VCR sound outputs, mic preamps, etc.

GROUND

For maximum safety and minimum interference connect the GND terminal to a good earth ground if practicable. A good earth ground is a cold water pipe or a metal stake driven into moist earth. However, never use a gas pipe for this purpose.

TAPE DECKS

If only one tape deck is to be connected to the system it is recommended that it be connected to the jacks marked TAPE A.

Tape deck input and output cables are normally terminated with phono plugs.

Playback

Plug the left and right output cables of the tape deck into the "LEFT" and "RIGHT" TAPE A PLAY jacks.

Record

Plug the left and right input cables of the tape deck into the "LEFT" and "RIGHT" TAPE A REC jacks.

REC/PLAY (DIN) Connector

If your tape deck is equipped with a DIN connector, connect it to the TAPE B REC/PLAY connector with the DIN connecting cord. The DIN connection makes both input and output connections with a single cord, and the signal must be controlled with the REC OUT switch and TAPE B switch on the front panel.

Note:

If connections are made with a DIN connecting cord, the TAPE B PLAY and REC jacks should not be used.

Second Tape Deck

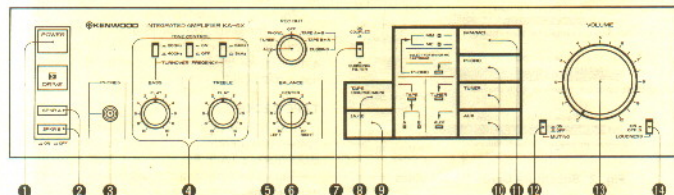
Plug the input and output cables from the second tape deck into the REC and PLAY jacks marked TAPE B.

AC OUTLETS

The AC outlets on the rear panel of the power supply unit may be used to supply power to other components in the system, such as turntables, tape decks, etc. Never connect equipment whose power consumption exceeds the maximum value shown at each outlet.

1. SWITCHED outlets: These outlets supply power only when the unit is turned on. The maximum total capacity (both outlets) is 100 watts.
2. UNSWITCHED outlet: The outlet provides power when the unit is plugged into an active AC wall outlet, regardless of the setting of the POWER switch. The maximum capacity is 400 watts.

CONTROLS, INDICATORS AND CONNECTORS



● **POWER switch**

Press the power switch to turn on the power. To turn the power off, press the switch again to set it to the out position.

② SPKR A/B pushswitches

SPKR A — Depressing this switch to the ON (In) position will connect the output circuits of the amplifier to the speaker systems connected to the SPEAKERS A terminals on the rear of the unit.

SPKR B — Depressing this switch to the ON (In) position will connect the output circuits of the amplifier to the speaker systems connected to the SPEAKERS B terminals on the rear of the unit.

To activate the speakers systems connected to the SPEAKERS A and B terminals, depress both the SPKR A and B switches to the ON (In) position. At this time, the speakers connected to the SPEAKERS A terminals are driven without E effect.

③ PHONES jack

This jack accepts the standard stereo headphone plug. When you wish to listen through headphones alone, set the SPKR pushswitches (A and B) both at the OFF (OUT) position.

④ TONE CONTROL facilities

The TONE CONTROL facilities may be effectively used to compensate for the acoustic characteristics of your room or the frequency response of your speaker systems.

- ON/OFF switch:

This switch, when depressed to the ON position, switches the internal tone control circuit in-line to allow you flexible frequency response adjustment. When depressed a second time to the OFF position, this switch bypasses the internal tone control circuit to provide a flat frequency response.

- 200 Hz/400 Hz (TURNOVER FREQUENCY) select switch:

This switch selects the turnover frequency for the BASS control between 200 and 400 Hz. In the two positions of this switch, the BASS control will be effective in the frequency range below 200 or 400 Hz.

- **BASS control:**

Turning this control clockwise from the FLAT position will increase bass response below 200 or 400 Hz, depending on the TURNOVER FREQUENCY selector switch setting. Turning it counterclockwise from the FLAT position will decrease the bass response of the selected frequency range. The FLAT setting provides a flat bass response.

- 3 kHz/6 kHz (TURNOVER FREQUENCY) select switch.

This switch selects the turnover frequency for the TREBLE control between 3 and 6 kHz. In the two positions of this switch, the TREBLE control will be effective in the frequency range above 3 or 6 kHz.

- **TREBLE control:**

Turning this control clockwise from the FLAT position will increase the high-frequency response above 3 or 5 kHz, depending on the TURNOVER FREQUENCY switch setting. Turning it counterclockwise from the FLAT position will decrease the high-frequency response of the selected frequency range. The FLAT setting provides a flat high-frequency response.

⑤ REC OUT switch

This switch is designed to record from a source other than that selected by the input selector switches.

OFF — With this setting no signal is output from the REC jacks; the source signal comes out of the speakers without the slight degradation that would take place if a tape deck was connected.

Keep this position when not recording.

PHONO — This setting permits the recording of the record played on the turntable connected to PHONO jacks.

TUNER — This setting makes the tuner the program
* source for recording.

AUX — This setting permits a recording of the program source connected to the AUX jacks.

DUBBING A ▶ B — When dubbing from the tape deck connected to the TAPE A jacks to the tape deck connected to the TAPE B jacks.

DUBBING B►A — When dubbing from the tape deck connected to the TAPE B jacks to the tape deck connected to the TAPE A jacks.

⑥ BALANCE control

This control permits balancing of left and right channels when an imbalance exists from the sound source, or to correct acoustic imbalance due to room conditions. Turn it to the left from the zero position to boost the left channel, turn it to the right of zero to raise the level of the right channel.

⑦ DC COUPLED/SUBSONIC FILTER switch

DC COUPLED — With the switch in this setting, no capacitor is coupled in the signal path from the TUNER, AUX, and TAPE PLAY jacks to the SPEAKERS terminals so that the frequency response is perfectly flat. Use this setting to reproduce program sources containing ultra low frequencies.

SUBSONIC FILTER — With the switch in this setting, signals below 18 Hz are attenuated at the rate of 6 dB per octave. Although such signals are inaudible, they can cause intermodulation distortion components in the audible range. It is recommended that this switch be depressed at all times, even if no turntable rumble is apparent.

⑧ TAPE (SOURCE/MON) switch

When you wish to listen to the tape played back on the tape deck connected to the rear TAPE A or B jacks, or to monitor the playback output of the source deck during tape dubbing, press this switch then the corresponding LED lights up. At this time, the LED (A or B) corresponding to the (A/B) switch lights. Tape deck A or B can be selected with the (A/B) switch provided just below this TAPE (SOURCE/MON) switch.

Note:

When the TAPE (SOURCE/MON) switch is pressed (TAPE indicator LED turned on), the source program selected with the PHONO, TUNER, or AUX position of the INPUT SELECTOR switch will not be heard from the speakers. To listen to a source other than tape, be sure to press the TAPE switch so that the TAPE indicator LED goes out.

⑨ TAPE SELECTOR (A/B) switch

To select the tape deck connected to the TAPE A jacks, press this switch so that the LED A lights up. To select the tape deck connected to the TAPE B jacks, press this switch again so that the LED B lights up.

⑩ INPUT SELECTOR switches

PHONO — To listen to a record, press this switch so that the corresponding LED lights up. At this time, the LED (MM or MC) indicator corresponding to the (MM/MC) selector switch lights also.

TUNER — To listen to a source from the tuner connected to the TUNER jacks, press this switch so that the corresponding LED lights up.

AUX — To listen to a source from the equipment connected to the AUX jacks, press this switch so that the corresponding LED lights up.

Note:

With any of the three input selector switches (PHONO, TUNER, AUX) in use, slightly pressing the one of the other switches will release the input setting. This will show that all the input selector indicator LEDs are off with the source signal output cut. To listen to

the desired source, firmly press the corresponding input selector switch to set input again.

⑪ CARTRIDGE TYPE (MM/MC) SELECTOR switch

When listening to a record, press this switch to select the proper setting corresponding to the type of the phono-cartridge used. When using an MC type phono-cartridge, press this switch so that the MC indicator LED goes on. When using an MM type or a high-output MC cartridge, set this switch so that the MM indicator LED goes on.

⑫ MUTING switch

Pushing the MUTING switch decreases the sound level immediately. It is useful for preventing loud clicks or thumps when the stylus is placed on a record or to reduce the volume for same reason, such as answering the telephone. To release muting, push the MUTING switch again.

⑬ VOLUME control

This control adjusts left- and right-channel volume simultaneously. Set it for the desired listening level.

⑭ LOUDNESS switch

ON — Bass notes are boosted at low listening levels.

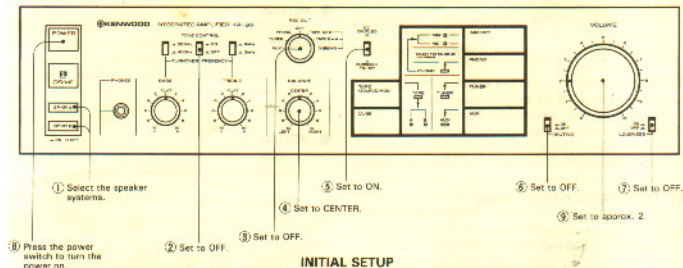
This precisely offsets a characteristics of human hearing whereby we are less sensitive to bass notes at very low listening levels.

OFF — The low-level bass boost is removed.

OPERATING INSTRUCTIONS

PRIOR TO OPERATION

It is recommended that rarely used controls and switches be preset in accordance with your preference in order to simplify operation. Once these controls and switches have been preset, normal operation is simply turning on the POWER switch and selecting the desired program source by depressing one of the input selector switches. Preset procedure should be followed step numbers in order as shown below.



TUNER

1. With your tuner connected to the TUNER jacks, press the TUNER switch (input selector) so that the corresponding indicator LED will go on.
2. Tune to the desired station.
3. Adjust the VOLUME and/or TONE controls on the unit for your preference.

TURNTABLE

1. Depress the MUTING switch to the In position to temporarily reduce the output volume level.
2. With your turntable connected to the PHONO jacks, press the input selector PHONO switch so that the corresponding indicator LED will go on.
3. According to the type of phono-cartridge, set the cartridge type (IMM/MC) selector switch so that the indicator LED corresponding to the desired type of cartridge (IMM or MC) goes on.
4. Press the MUTING switch again to release the muting function.
5. Adjust the VOLUME and/or TONE controls of the unit for your preference.

AUX

1. With your additional program source connected to the AUX jacks, press the AUX switch (input selector) so that the corresponding indicator LED will go on.
2. Operate the equipment connected to the AUX jacks.
3. Adjust the VOLUME and/or TONE controls for your preference.

TAPE DECKS

Tape playback

1. Press the TAPE (SOURCE/MON) switch then the corresponding indicator LED will go on.
2. Select the tape deck connected to TAPE A and/or B jacks with the tape selector (A/B) switch so that the indicator LED corresponding to the desired tape deck (A or B) goes on.
3. Operate the tape deck to play back your recorded tape.
4. Adjust the VOLUME and/or TONE controls until the desired listening level and tone are obtained.

Recording (with one tape deck)

1. Set the REC OUT switch to PHONO, TUNER, or AUX in accordance with the desired source.
2. Set up the program source component for operation and set up your tape deck for recording.
3. Set recording levels with the controls on your tape deck. The controls other than the REC OUT switch on the amplifier do not affect the signal output to the tape deck.

Recording (with two tape decks)

1. Connect two tape decks to the TAPE A and TAPE B jacks.
2. Set the REC OUT switch to PHONO, TUNER, or AUX in accordance with the desired source.
3. Set up your two tape decks for recording.
4. Recording levels should be set using controls on the individual tape decks.

Recording Monitoring

If your tape deck has three tape-heads, you can monitor the result of recording immediately after they have been recorded. To do this, press the TAPE (SOURCE/MON) switch so that the corresponding LED will light, and select the tape deck to be monitored with the tape selector (A/B) switch so that the indicator LED corresponding to the desired deck goes on. The SOURCE (LED-out) and MON (LED-on) settings of the TAPE switch allow monitoring of the source and recorded signals respectively, so that you can compare the recording results with the source signal by instantaneously switching the TAPE switch between the SOURCE and MON settings.

Tape-to-Tape Dubbing

When two tape decks are connected to the TAPE A and TAPE B jacks, tape recordings may be duplicated easily using one tape deck to play the prerecorded tape and the other tape deck to record the copy. Set the REC OUT switch as follows:

DUBBING A ► B — To record a copy on tape deck B from a tape played on tape deck A.

DUBBING B ► A — To record a copy on tape deck A from a tape played on tape deck B.

Note:

The settings of the input selector switches do not affect dubbing. Adjust the recording level on the deck that is making the copy using that deck's operating controls. Start both decks (play and record) simultaneously. By using a three-head tape deck for the copy, monitoring is possible by depressing the TAPE A or TAPE B input selector switch. At this time, be sure not to depress both TAPE input selector switches simultaneously.

REC OUT OPERATION

The setting of this switch to PHONO, TUNER, or AUX directly connects the tape deck to the source signals; that is, the desired source signal for the recording is fed to the TAPE REC jacks regardless of the setting of the input selector switches.

By setting this switch to OFF with a tape deck connected, the tape deck REC connection is isolated from the amplifier's signal path; therefore, the source signals are not affected by tape deck's impedance. In this respect, set this switch to OFF when not recording.

Recording of FM/AM Broadcasts while Listening to Records

1. Press the PHONO input selector switch.
2. Operate the turntable.
3. Set the REC OUT switch to TUNER and receive the FM/AM broadcast.
4. Operate the tape deck to record the FM/AM broadcast. Adjust the recording level with the recording level controls of the tape deck.
5. To listen to the FM/AM broadcast, simply press the TUNER input selector switch. The recording of the FM/AM broadcast will continue.

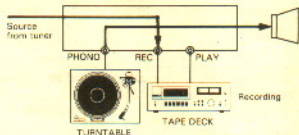


Fig. 5 Recording of a Broadcast while Listening to Records

Recording of Records while Listening to an FM/AM Broadcast

1. Press the TUNER input selector switch.
2. Operate the tuner and receive the FM/AM broadcast.
3. Set the REC OUT switch to PHONO and operate the turntable.
4. Operate the tape deck to record the record. Adjust the recording level with the recording level controls of the tape deck.
5. To listen to the record, simply press the PHONO input selector switch. The recording of the record will continue.

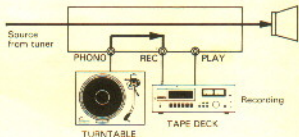


Fig. 6 Recording of Records while Listening to a Broadcast