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OPERATING INSTRUCTIONS

MC-723BK

AUDIO COMPONENT SYSTEM

THE FIRST NAME IN HIGH FIDELITY

NOTE: Locate serial number (shown on rear panel of unit) and record it here  _____



FISHER

MC-723BK

WARNING:

UNAUTHORIZED RECORDING OF COPYRIGHTED MATERIAL MAY VIOLATE APPLICABLE COPYRIGHT LAWS. FISHER CORPORATION ASSUMES NO RESPONSIBILITY FOR THE UNAUTHORIZED DUPLICATION, USE OR OTHER ACTS WHICH INFRINGE UPON THE RIGHTS OF COPYRIGHT OWNERS.



CAUTION
RISK OF ELECTRIC
SHOCK. DO NOT OPEN!



WARNING: TO PREVENT THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR OTHER MOISTURE.
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



: This symbol indicates that a dangerous voltage constituting a risk of electric shock is present within this unit.



: This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

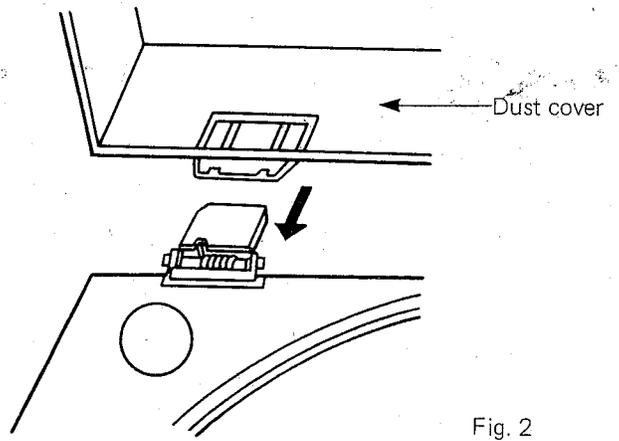
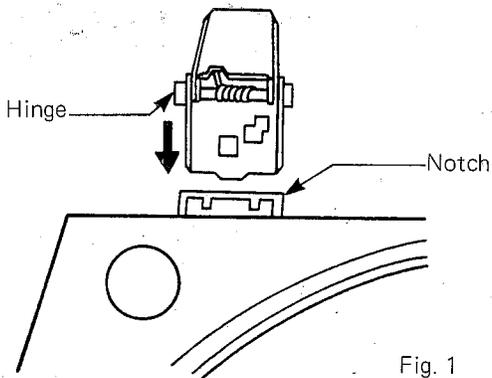
IMPORTANT . . . This Audio Component System was developed by FISHER to give you many years of enjoyment. Please read the following instructions carefully. They have been prepared to assist you during the initial set-up procedure, and to assure you of optimum performance at all times.

THE WARRANTY ON THIS UNIT DOES NOT COVER DAMAGE CAUSED BY MISHANDLING OR MISUSE.

ASSEMBLING THE UNIT

CAUTION: Do not plug the power cord into an AC outlet until the unit is fully assembled.

1. Carefully unpack and check to be sure that you have all the parts for your audio system (a center unit, dust cover, FM T-antenna, 45 rpm adaptor and a pair of hinges). It is advisable to retain the carton and paddings in case reshipment is necessary.
2. Put the hinges in the notches on the left and right rear edge of the center unit, then push them down. See Fig. 1.
3. Attach the dust cover to the hinges. See Fig. 2.



CONNECTING THE UNIT

CAUTION:

- Do not plug the power cord into an AC outlet until after all connections have been made.
- Be sure to make the correct connections, paying attention to the L (left channel) and R (right channel), + and - marks. Loose connections will cause unsatisfactory sound reproduction, noise problems, or poor radio reception. Refer to Figures 3 through 5.

1 FM (300Ω) ANTENNA terminals

Choose an appropriate FM antenna, taking into consideration the strength of the signals to be received and the prevailing conditions for FM reception. See FM ANTENNA INFORMATION in this manual.

- Indoor antenna
Connect the supplied FM indoor antenna to the antenna terminals marked FM (300Ω). See Fig. 3.
- Outdoor antenna with a 300Ω feeder-line
Connect the lead-in to the antenna terminals marked FM (300Ω) the same way as an FM indoor antenna. See Fig. 4.

2 Auxiliary (AUX) device connections

The AUX jacks are spare input terminals for connecting a digital audio disc player, stereo TV set, Hi-Fi video cassette recorder, multi-band radio tuner, or any other similar unit.

Connect the signal output cables of your auxiliary unit to the AUX jacks. Be sure to make the correct connections, observing the L (left channel) and R (right channel) marks.

3 SPEAKER connections

A pair of speakers should be connected to this audio system. Connect the cable from the left speaker to the terminal marked L (left channel), and the cable from the right speaker to the terminal marked R (right channel).

NOTE:

Use 8-ohm speakers with this unit.

4 AC power connection

After completing all the connections, make sure that the POWER switch on the control panel is in the out (OFF) position. Plug the power cord into an AC outlet.

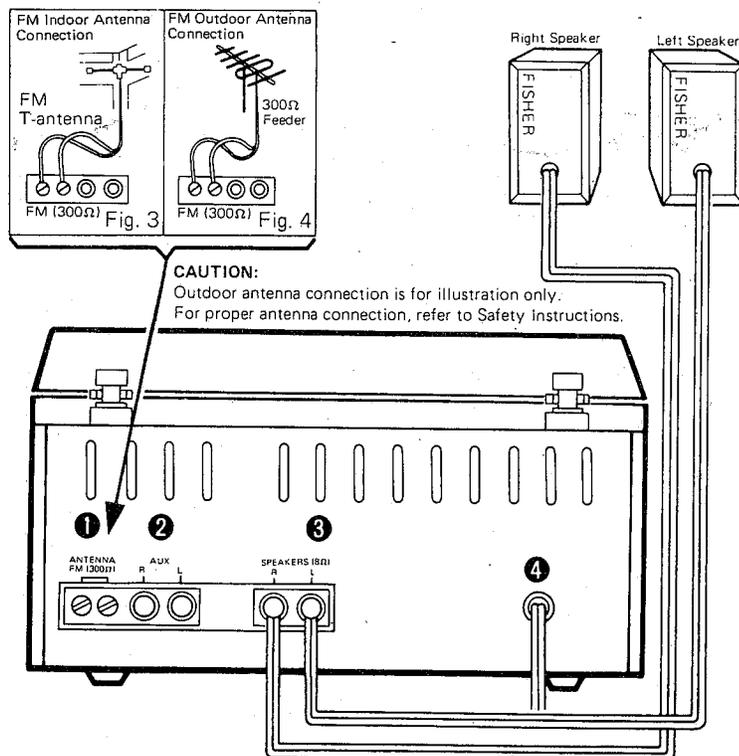


Fig. 5

Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

CONTROLS & OPERATION

This section describes the unit's controls in the order in which you would normally use them. Follow the instructions in a step-by-step sequence and in a very short time you will master complete operation of the unit.

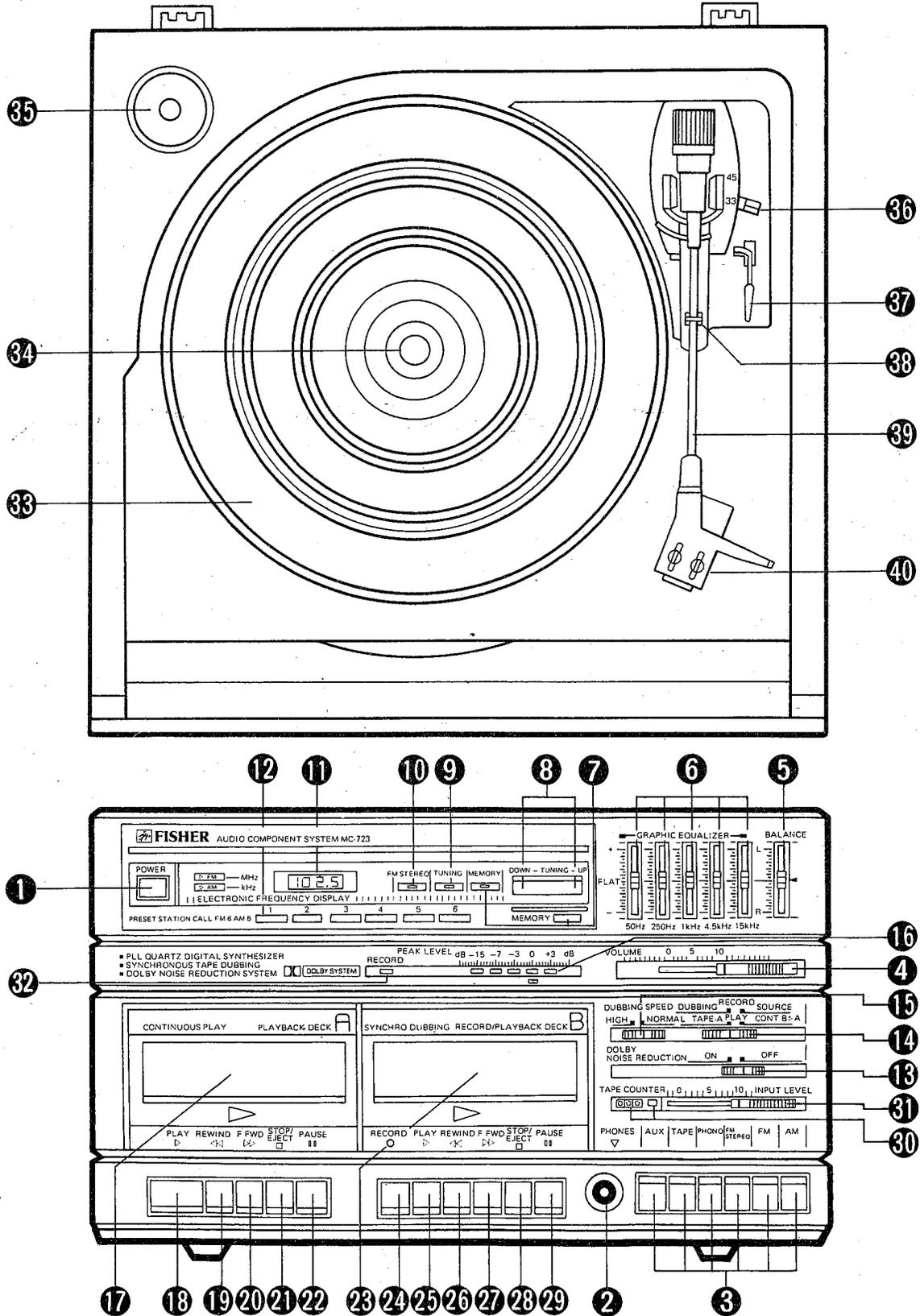


Fig. 6

RECEIVER SECTION

- 1 POWER button . . .**

Press the POWER button to switch on the unit. The FREQUENCY DISPLAY and the LED's in the GRAPHIC EQUALIZER controls will illuminate. Release the button to switch off the unit.
- 2 PHONES jack . . .**

Connect a pair of stereo headphones for private listening.
- 3 FUNCTION switches . . .**

Selection of the following program sources can be made with these switches.

 - AM AM broadcasts.
 - FM FM mono broadcasts.
 - FM STEREO . . . FM stereo broadcasts.
 - PHONO For playing phonograph records.
 - TAPE For playing cassette tapes, or for making tape copies.
 - AUX For listening to an auxiliary unit that is connected to the AUX jacks on the rear panel.
- 4 VOLUME control . . .**

Initially, adjust the VOLUME control for a low listening level. After choosing the desired program source, adjust it to the desired volume level.
- 5 BALANCE control . . .**

Keep this control at the center detented position unless the volume levels in the left and right channels do not sound equal at your listening position. In that case, move the BALANCE control up or down to restore balance.
- 6 GRAPHIC EQUALIZER controls . . .**

Adjust the five controls to provide the sound that you prefer.
- 7 MEMORY switch and indicator . . .**

Press this switch to get ready for the memory entry. Up to 6 AM and 6 FM (a total of 12) frequencies can be stored. The MEMORY indicator will illuminate for about 10 seconds and then go off. While the indicator illuminates, the memory is ready for the entry of a frequency.
- 8 TUNING UP/DOWN switch . . .**

Press either side of the TUNING switch (UP or DOWN) to change the frequency. When the right side of the switch (UP) is pressed, the tuned frequency will ascend. When the left side of the switch (DOWN) is pressed, the tuned frequency will descend.
- 9 AM/FM TUNING indicator . . .**

This indicator will light when an AM or FM signal is tuned in.
- 10 FM STEREO indicator . . .**

This indicator will light automatically when the FM STEREO button is depressed and a stereo broadcast is received. The indicator will not illuminate when the FM button is depressed, or when a mono broadcast is received.
- 11 FREQUENCY DISPLAY . . .**

This display indicates the frequency to which the unit is tuned.
- 12 PRESET switches (1 - 6) . . .**

Press one of these switches to store a frequency or to recall a previously stored frequency.

DUAL CASSETTE DECK SECTION

DECK A	PLAYBACK ONLY
DECK B	RECORD/PLAYBACK

- 13 DOLBY* NR (B-type) switch . . .**

Set this switch to ON to activate the Dolby B-type Noise Reduction circuit during recording or playback. Be sure to set the switch to ON (left) if you are playing tapes that have been recorded with the Dolby B-type NR system. When using tapes that have been recorded without the Dolby NR system, set the switch to OFF (right).
- 14 RECORD/PLAY switch . . .**

Set this switch to select the following tape playback and recording modes:
Left position (TAPE A/DUBBING):
For tape playback on DECK A or for tape dubbing from DECK A to DECK B.
Right position (CONT. B ▷ A/SOURCE):
For tape playback on DECK B, for continuous playback from DECK B to DECK A, or for recording from the desired program source: AM, FM, FM STEREO, PHONO or AUX.
- 15 DUBBING SPEED switch . . .**

To make a copy of tape, first set the PLAY/RECORD source switch to DUBBING. Set the DUBBING SPEED switch to HIGH (left) for high-speed dubbing. Set it to NORMAL (right) for normal speed dubbing.
- 16 PEAK LEVEL meter . . .**

This LED meter shows the mixed peak level of both channels (left and right channels) and aids in adjusting for the optimum recording level. It also indicates the mixed playback sound level of both channels.

DECK A

- 17 Cassette compartment . . .**
- 18 PLAY button . . .**

Press this button to start tape transport. Refer to TAPE DECK OPERATION.
- 19 REWIND button . . .**

Press this button to rewind the tape.
- 20 FAST FORWARD (F FWD) button . . .**

Press this button to rapidly advance the tape.
- 21 STOP/EJECT button . . .**

Press this button to stop tape transport (cancels any cassette button except PAUSE). Press this button a second time to open the cassette compartment.
- 22 PAUSE button . . .**

Press this button to stop the tape transport temporarily during playback. To resume operation, press it again.

NOTE:
The PAUSE button is automatically released when DECK B is placed in the recording, playback, or stop mode (for synchronous tape dubbing or continuous playback).

DECK B

23 Cassette compartment . . .

24 RECORD button . . .

Press this button to set DECK B to the recording mode. The RECORD button is automatically blocked if there is no cassette in the cassette compartment, or if the erase guard tabs on the cassette have been removed.

25 PLAY button . . .

Press this button to start the tape transport. Refer to TAPE DECK OPERATION.

26 REWIND button . . .

Press this button to rewind the tape.

27 FAST FORWARD (F FWD) button . . .

Press this button to rapidly advance the tape.

28 STOP/EJECT button . . .

Press this button to stop the tape transport (cancels any cassette button except PAUSE).

Press this button a second time to open the cassette compartment.

29 PAUSE button . . .

Press this button to stop the tape transport temporarily during recording or playback. To resume operation, press it again.

30 TAPE COUNTER and Reset button . . .

The 3-digit tape counter enables you to locate any point on the cassette. When you start recording or playback on DECK B, set the counter to 000 by pressing the RESET button.

31 INPUT LEVEL control . . .

Use this control to simultaneously adjust the left and right channel recording levels.

32 RECORD indicator

This indicator will light when DECK B is placed in the RECORD mode.

* Noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

TURNTABLE SECTION

33 Turntable platter . . .

34 Turntable spindle . . .

35 45 rpm adaptor . . .

Place this adaptor onto the turntable spindle to play a 45 rpm record with a large spindle hole.

36 SPEED SELECT switch . . .

Use this switch to select the speed of the turntable platter.

33 for 33-1/3 rpm LP records.

45 for 45 rpm records.

37 CUEING Lever . . .

Raise this lever to lift the tonearm. Move the lever forward to lower the tonearm gently onto the record.

38 TONEARM Rest & Lock . . .

39 TONEARM . . .

40 HEADSHELL with cartridge . . .

RECEIVER SECTION OPERATION

POWER:

Before you switch on the power, always set the VOLUME control to 0 (minimum) to protect your speakers.

TONE CONTROLS:

After choosing the desired program source, adjust the VOLUME, BALANCE and the GRAPHIC EQUALIZER controls as follows:

1. Adjust the VOLUME control for the desired listening level.
2. Move the BALANCE control up or down to obtain the best stereo effect in your listening area.
3. Use the five GRAPHIC EQUALIZER controls to adjust the frequency response of your stereo system to match the acoustic characteristics of the listening room.

With each of the five controls of the GRAPHIC EQUALIZER, it is possible to control a narrow, distinct section of the audio band by up to ± 10 dB. This corresponds to a power increase of 10 times or a power decrease to 1/10.

The frequency bands, controlled by the five slide controls, have been chosen to yield the maximum possible control action within the audio spectrum.

50 Hz

The 50 Hz control is very useful for enhancing low bass notes (as in organ music), or making corrections when a deficiency in bass exists, caused either by a listening room with poor acoustic properties, or by a component of your system (like a speaker, cartridge or record) with a poor bass response.

250 Hz

The 250 Hz control varies the upper bass frequencies.

1 kHz

The 1 kHz control is the presence control and can be used to emphasize (bring out to the front), or de-emphasize vocalists.

4.5 kHz

The 4.5 kHz control adds brilliance and clarity to brass instruments and violins.

15 kHz

The 15 kHz control can be used to make up for missing high frequencies absorbed by the environment and to add a natural crispness to music.

ANTENNA

The built-in high quality ferrite AM antenna and the supplied FM indoor antenna can be used for the reception of local stations. For reception within a steel-frame building, or if better reception of weak stations is desired, place the unit near a window and use a good FM outdoor antenna. For other information, see the FM ANTENNA INFORMATION section in this manual.

STATION TUNING

Stations are tuned in by pressing the TUNING switch. When the FM STEREO FUNCTION switch is depressed, the FM interstation noise is suppressed.

When receiving a weak-signal station, the station sometimes fades away along with the noise. In this case, press the FM FUNCTION switch.

1. Press the POWER button to switch on the unit.
2. Press the appropriate function switch to select the desired band (AM, FM or FM STEREO).
3. Increase the VOLUME slightly to facilitate tuning.
4. Press and hold either side of the TUNING switch (UP or DOWN). The frequency on the display will ascend or descend.

When the desired station is received, release the TUNING switch. Press it again momentarily to obtain clear sound from your speakers. The TUNING indicator will light when a station is properly tuned in.

5. To tune in another station, repeat steps 1 through 4.

When the upper or lower limit of a band is reached, the program search will stop. In this case, press other side of the TUNING switch (UP or DOWN) to reverse the program search direction.

MEMORY (PRESETTING) TUNING

A total of 12 station frequencies (6 FM, 6 AM) can be preset in the tuning memory. To preset a station, proceed as follows:

1. Switch on the unit's power.
2. Press the appropriate function switch to select the desired band (AM, FM or FM STEREO).
3. Increase the VOLUME slightly to facilitate tuning.
4. Tune in the desired station by pressing the TUNING switch. Refer to STATION TUNING.
5. Press the MEMORY switch. The MEMORY indicator will light. The memory is now ready for presetting a station.
6. Press one of the station PRESET switches (1 – 6) while the MEMORY indicator is ON. The frequency being displayed is now stored in the tuning memory.
If no station PRESET switch is pressed, the MEMORY indicator will go OFF after approximately 10 seconds.
7. To enter additional frequencies into the memory, repeat the above steps.
8. To tune the unit to one of the preset frequencies in the memory, press the station PRESET switch (1 – 6) that corresponds to the desired memorized station.

NOTE:

When a station preset switch is used to store a new frequency, the previously stored frequency is automatically erased. (It is not possible to erase the previously stored frequency without presetting another station frequency.)

IMPORTANT:

To retain the previously stored station frequencies in the memory, this unit should have its power switched ON for at least a few minutes at a time, more than once a week.

HEADPHONES

PRIVATE LISTENING THROUGH HEADPHONES

For private listening to all program sources, plug a pair of stereo headphones into the PHONES jack on the control panel. When a headphone set is plugged in, the speakers are automatically disconnected. Readjust the VOLUME control for a comfortable headphone listening level.

NOTE:

The VOLUME control should be set to 0 before plugging in or unplugging the headphones. This is necessary to protect your ears and the headphone from shock noise.

RECORD PLAYER OPERATION

TO PLAY A RECORD

Before you use the record player, remove the wire that secures the tonearm, disengage the tonearm lock, and carefully remove the protective cap covering the cartridge stylus.

1. Switch on the unit's power.
2. Press the PHONO FUNCTION switch.
3. Place a record on the turntable platter. If necessary, use the supplied 45 rpm record adaptor.
4. Raise the CUEING lever to lift the tonearm from its rest.
5. Gently move the tonearm over the desired position on the record. The turntable platter will begin turning.
6. Set the SPEED select switch for the applicable record speed (33-1/3 or 45 rpm).

7. Lower the CUEING lever. The tonearm will descend onto the record.
8. Adjust the VOLUME, BALANCE and GRAPHIC EQUALIZER controls for the most pleasant listening level and tone balance.
9. At the end of the record, the tonearm will automatically return to its rest and the turntable platter will stop.

NOTE:

- Do not touch the tonearm or the headshell while the tonearm is returning to its rest.
- Engage the tonearm lock after use to avoid accidental damage to the tonearm, cartridge, or a record.

AUXILIARY PROGRAM SOURCE

You may increase the versatility of the audio system by playing an additional program source through the AUX jacks. The auxiliary source may be a compact disc player, stereo TV set, Hi-Fi video cassette recorder, multi-band tuner, or any other similar unit.

Connect your auxiliary unit as shown in CONNECTING THE UNIT.

1. After completing all the connections, switch on the audio system and your auxiliary unit.
2. Press the AUX FUNCTION switch.
3. Operate your auxiliary unit, according to its Owner's Manual.
4. Adjust the VOLUME, BALANCE and GRAPHIC EQUALIZER controls for the most pleasant listening level and tone balance.

TAPE DECK OPERATION

RECOMMENDED CASSETTE TAPES

In order to obtain optimum performance with the built-in cassette tape deck, it is essential to use only high quality cassette tapes. The bias and equalization of your tape deck is adjusted to yield excellent results, if used with brand name tapes such as TDK, BASF, MAXELL, SCOTCH, MEMOREX, AMPEX and FUJI. Use C-30, C-60 and C-90 cassettes only. We do not recommend the C-120 cassettes because they are subject to mechanical instability. Proper and constant tape tension cannot be controlled.

DOLBY NR SWITCH

This unit is equipped with the Dolby B-type Noise Reduction circuit to reduce tape hiss and increase the signal-to-noise ratio.

The Dolby B-type NR system consists of switchable recording and playback Dolby NR circuits. If the switch is set incorrectly, optimum performance will not be obtained.

To use the Dolby B-type NR circuit, set the DOLBY NR switch to ON (left) during recording or playback. Be sure to use this feature if you are playing back tapes that have been recorded with the Dolby B-type NR system.

When using tapes that have been recorded without the Dolby B-type NR system, or when you wish to record without the Dolby NR system, set the DOLBY NR switch to OFF (right).

CHECKING THE CASSETTE

Make sure that the cassette tape is not slack prior to inserting the cassette into the recorder. If the tape is slack, it may wind around the head mechanism and trouble may result. Use a pencil as shown in the picture to take up the slack on one of the reels.

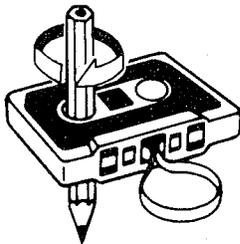


Fig. 7

SAFEGUARD AGAINST ACCIDENTAL ERASURE

Whenever a recording is made, any sound already on the tape is erased. To protect recordings from being erased, break out the tabs on the rear of the cassette. Use a screwdriver.

Remove tab A at the right to protect the recording on SIDE 1 and tab B to protect SIDE 2. To record on a cassette without a guard tab, cover the hole with adhesive tape. See Fig. 8.

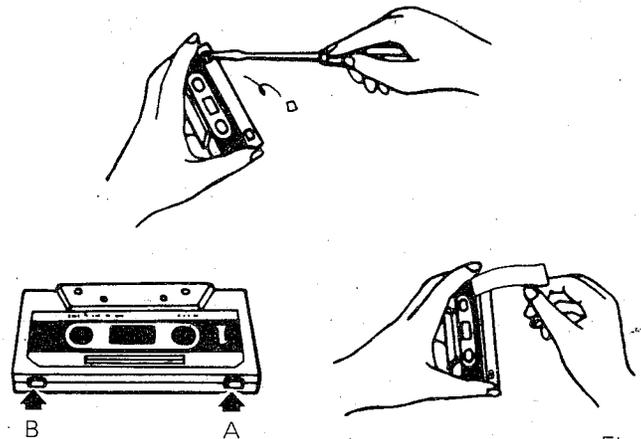


Fig. 8

TO INSERT THE CASSETTE (Decks A and B)

Press the STOP/EJECT button to open the cassette compartment. Press the STOP/EJECT button twice if any of the other buttons (except PAUSE) have been pressed.

Insert a cassette with the tape on the left (as seen through the window) and with the tape slot at the bottom.

The cassette will fit only in the correct position. Close the cassette compartment by gently pushing in on the top center of the cassette compartment lid. DO NOT USE FORCE.

TO REMOVE THE CASSETTE (Decks A and B)

To open the cassette compartment, press the STOP/EJECT button. Press the STOP/EJECT button twice if any of the other buttons (except PAUSE) have been pressed.

Remove the cassette. To use the other side of the tape, turn the cassette over and reinsert it.

TAPE PLAYBACK (Decks A and B)

1. Switch on the unit's power.
2. Press the TAPE FUNCTION switch.
3. Set the RECORD/PLAY switch as follows:
To play back on DECK A, set the switch to the left (TAPE A).
To play back on DECK B, set the switch to the right (CONT. B▷A).
4. Press the STOP/EJECT button and put a cassette in the compartment, with the side to be played toward you and the tape slot at the bottom.
5. Set the DOLBY NR switch to the desired position.
To play back tapes with Dolby B-type NR, set the switch to ON (left).
To play back other tapes (recorded without the Dolby NR system), set it to OFF (right).

6. Press the appropriate PLAY button (Deck A or B). Tape playback will begin.
7. Adjust the VOLUME, BALANCE and GRAPHIC EQUALIZER controls for the most pleasant listening level and tone balance.
8. To stop playback temporarily, press the PAUSE button. To restart, release the PAUSE button by pressing it again.
9. When playback is finished, press the STOP/EJECT button. If the end of the tape is reached (while playing back), your tape deck will stop automatically.
10. To switch off the unit, release the POWER button.

CONTINUOUS PLAYBACK

This unit allows the use of both tape decks to play back tapes successively. In the continuous playback mode, the unit plays a tape on DECK B, then automatically switches to DECK A to play back a second tape.

1. Switch on the unit's power.
2. Press the TAPE FUNCTION switch.
3. Set the RECORD/PLAY switch to CONT. B▷A (right).
4. Press both STOP/EJECT buttons and insert recorded cassettes into both decks.
5. Set the DOLBY NR switch for the cassette tape in DECK B.

NOTE:

When the unit switches from DECK B to DECK A, the previous condition of the DOLBY NR system (DOLBY NR ON or OFF) will come into effect for DECK A.

To play back tapes successively, we recommend the use of tapes that have been recorded under the same conditions (recorded with the Dolby NR system, or without the Dolby NR system).

6. First, press the PLAY button on DECK B, press the PAUSE button on DECK A, then press the PLAY button on DECK A. The unit will begin to play using DECK B.
7. Adjust the VOLUME, BALANCE and GRAPHIC EQUALIZER controls for the most pleasant listening level and tone balance.
8. When the end of the tape in DECK B is reached, the PAUSE button on DECK A will automatically release and DECK A will start playing.
Reset the DOLBY NR switch if necessary.
9. When the end of the tape in DECK A is reached, DECK A will stop automatically.
If you wish to resume the continuous playback, replace the cassettes (if desired), reset DECK B to the playback mode, press the PAUSE button on DECK A, then press the PLAY button on DECK A.

FAST FORWARD/REWIND (Decks A and B)

To play any desired portion in the middle of a tape, press the Fast Forward button. Press the STOP/EJECT button when the desired playback section is reached.

To return the tape to the beginning, press the Rewind button. Press the STOP/EJECT button to stop the tape.

TAPE RECORDING (Deck B Only)

1. Switch on the unit's power.
2. Select the desired sound source with the FUNCTION switches (AM, FM, FM STEREO, PHONO, or AUX).
3. Press the STOP/EJECT button and put a cassette into the compartment, with the side to be recorded toward you and the tape slot at the bottom.
4. Set the RECORD/PLAY switch to SOURCE (right).
5. Set the DOLBY NR switch as desired.
To record with the Dolby B-type NR system, set the switch to ON (left).
To record without the Dolby NR system, set it to OFF (right).
6. Set the TAPE COUNTER to 000 by pressing the TAPE COUNTER Reset button.
7. First, press the PAUSE button, then press the RECORD button.
8. Adjust the INPUT LEVEL control, so that the lights in the PEAK level meter do not light beyond 0, even at the highest input level.

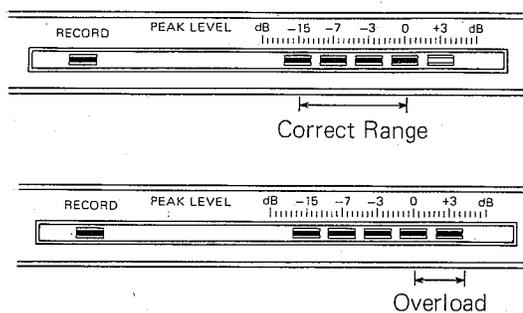


Fig. 9

NOTE:

Be sure that your recording level is set correctly. Recording with the level set too high will give you distorted recordings.

Recording with the level too low (the lights in the meter illuminate only slightly, or not at all) will give you low volume and too much noise during playback.

9. After setting the proper recording levels, start recording by pressing the PAUSE button again. During recording, the RECORD indicator will light. If you wish to stop the tape briefly without resetting the RECORD button, press the PAUSE button. To restart, press the PAUSE button again.
10. To stop recording completely, press the STOP/EJECT button. If the tape winds completely onto the right-hand reel while recording, the tape deck will stop automatically.
11. To switch off the unit, release the POWER button.

DUBBING FROM DECK A TO DECK B

This unit has two synchronized cassette decks and a high-speed dubbing function to facilitate tape dubbing, using DECK A for playback and DECK B for recording.

1. Switch on the unit's power.
2. Set the RECORD/PLAY switch to DUBBING (left).
3. Place a recorded cassette into DECK A, and a blank cassette into DECK B.
4. If you wish to monitor the recording during dubbing, press the TAPE FUNCTION switch.
5. Set the TAPE COUNTER to 000.
6. To make a rapid copy of the tape in DECK A, set the DUBBING SPEED switch to HIGH (left).
For normal speed dubbing, set it to NORMAL (right).
7. First, set DECK A to the PLAY-PAUSE mode by pressing the PAUSE and PLAY buttons, then press the RECORD button on DECK B.

The PAUSE button on DECK A will automatically release and the unit start dubbing from DECK A to DECK B.

NOTE:

- The recording level for dubbing is preset and cannot be controlled. Therefore, there is no need to adjust the INPUT LEVEL control for dubbing.
- During high-speed dubbing, you will not hear normal sound. Adjust the VOLUME control to a suitable low level.

8. When you have finished dubbing, press the STOP/EJECT buttons on both decks.

NOTE:

Playback and recording time may vary with each tape, even if the same length tape is used in both decks (C-30, C-60, or C-90). Therefore, both decks may not stop at the same time.

9. Release the POWER switch to switch off the unit.

NOTE:

In the dubbing function, the Dolby NR system is automatically set to OFF, even if the DOLBY NR switch is set to ON.

When you dub a Dolby encoded tape (recorded with the Dolby NR system), the copy tape will also be Dolby encoded.

When you dub a tape recorded without the Dolby NR system, the copy tape will also be recorded without the Dolby NR system.

MAINTENANCE

CAUTION: FOR YOUR SAFETY, UNPLUG THE AC POWER CORD BEFORE CLEANING.

CLEANING THE HEADS, PINCH ROLLER AND CAPSTAN

Clean the heads, pinch roller and capstan on a regular basis before dust and red-brown oxide can build up. These items may be cleaned with a cotton swab moistened in isopropyl alcohol (available at drug stores) or special head cleaning fluid.

1. Press the STOP/EJECT button. The cassette compartment will open.
2. Carefully rub the face of the head with the cotton swab moistened with alcohol until it is clean. Even though pre-recorded tapes seem to play properly, recording may be prevented on one or both channels if even a slight amount of dust or oxide is left on the heads.
3. Carefully clean the pinch roller and capstan. If the pinch roller and capstan become dirty, the tape will slip and the tape speed will not be steady (producing a wavering sound).

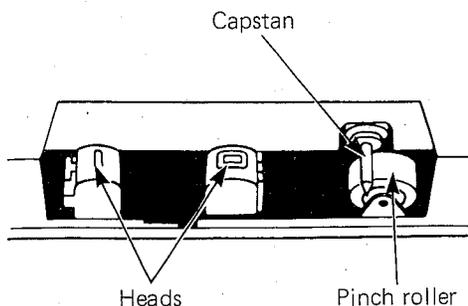


Fig. 10

CLEANING THE CABINET AND VISIBLE METAL PARTS

Use a clean soft cloth moistened with plain lukewarm water. Never use benzol, benzine or other strong chemical cleaners since they could damage the finish of your unit.

It is important that no liquid reaches the inside of the unit.

CARTRIDGE & STYLUS

This stylus should have a long life if you take care of it. Always clean records before use and remove any dust or fluff from the stylus tip with a small brush. Never allow the cartridge stylus to crash down onto the record or onto the turntable platter.

Reduced sound quality from a good record means that the stylus may need replacing. A replacement stylus assembly can be bought at your Fisher Service Center.

To remove the old stylus, pull out the stylus assembly in the direction shown (arrow), while holding the head-shell with the other hand (Fig. 11). Then, reverse the procedure to install the new stylus as shown in.

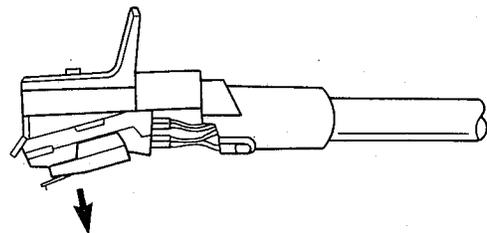


Fig. 11

FM ANTENNA INFORMATION

For the best FM sound quality, it is necessary to install an appropriate type of antenna, taking into consideration the signal strength of the broadcasting station and the surrounding conditions.

SELECTION OF AN FM ANTENNA

1. In areas near FM stations:

When FM programs are to be received from nearby broadcasting stations, or when there is no significant noise interference from motor vehicles, use the supplied indoor FM T-antenna.

NOTE:

Every antenna has a directional characteristic (its sensitivity varies according to its position).

Spread the T-section of the FM antenna.

Move it around in order to determine the best signal-receiving position and then install it.

2. In areas relatively near FM stations:

If the indoor FM T-antenna fails to eliminate noise completely or if you wish to pick up signals from distant stations, install an outdoor antenna.

NOTE:

Generally, the sensitivity of an FM outdoor antenna corresponds to the number of its elements. This should be the criterion for the selection of an FM antenna.

3. Directional characteristics of FM outdoor antennas:

An increase in the number of elements not only improves the sensitivity of the FM outdoor antenna but also enhances its directional characteristics. This means that such an antenna has to be positioned accurately for the best reception of a particular FM broadcast station.

MULTIPATH PHENOMENON

A nearby mountain or a high-rise building reflects FM radio waves, which interfere with the waves coming in directly.

Noise and sound distortion caused by this is known as multipath interference.

This problem can be remedied by taking advantage of the directional characteristic of an FM antenna and by using an antenna rotor.

GENERAL REMARKS ON FM ANTENNAS FOR OUTDOOR INSTALLATION

Keep the following in mind when installing an FM antenna outdoors:

1. Install the antenna away from road traffic and place it as high as possible.
2. Determine the antenna position in relation to nearby buildings and trees.
3. Keep the antenna away from high-tension power lines.

TIPS FOR SAFE OPERATION

1. Place for installation:

For safe operation and satisfactory performance of this stereo system, keep the following in mind when selecting a place for its installation:

- Shelter it from direct sunlight and keep it away from any source of intense heat.
- Avoid dusty or humid places.
- Avoid places where there is not enough ventilation for proper heat dissipation.
- Install it on a steady support.

2. When handling the power cord:

- Do not handle the power cord with wet hands.
- Do not pull on the power cord when disconnecting it from an AC wall outlet. Grasp it at the plug.

3. Avoiding electric shocks and fire hazards:

If, by accident, water is spilled on the stereo system, unplug the power cord immediately and take the unit to a FISHER authorized service center for servicing. Wet insulation may cause electric shocks and can be a fire hazard.

4. Do not drop pieces of metal into the stereo system:

Needles, coins and other electrically conductive materials may cause trouble if they get into the stereo system.

5. When changing connections:

Be sure to switch off the power at the source when changing connections to the input terminals. This precaution is necessary to protect the speakers.

6. Cleaning:

Wipe the front panel and other exterior surfaces of the stereo system with a soft, dry cloth.

Stains should be removed by wiping the surfaces with a soft cloth immersed in lukewarm water and wrung dry.

Never use a solvent or alcohol. Do not spray insecticide liquid near the stereo system. Such chemicals may cause surface discoloration and cracking.

TROUBLESHOOTING GUIDE

If you have followed the instructions in the INSTALLATION and OPERATING sections, and have difficulty operating your system, locate the SYMPTOM in the left column below. Check the corresponding POSSIBLE CAUSE and CORRECTIVE ACTION columns to locate and remedy the problem.

OPERATION	SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
AM, FM, PHONO, TAPE, AUX	POWER switch ON but no sound and no light on the frequency display	Faulty AC power plug connection to the wall outlet.	Examine the plug. Old wall outlets sometimes cause a power loss. Plug must fit snugly in the outlet.
	The frequency display light is on but no sound (or very weak sound).	Faulty connection of the speaker cords.	Connect the cords firmly to the speaker terminals.
		VOLUME control is at the minimum position.	Set the VOLUME control to the proper sound level.
	Sound is heard from only one speaker.	Faulty connection of one speaker cord.	Connect the cord firmly to the speaker terminal.
BALANCE control set all the way to one side.		Reset the BALANCE control to center.	
AM	Continuous or intermittent hissing noise, especially at night.	Noises caused by motors, fluorescent lamps, lightning, television, etc.	Keep the unit away from noise sources.
	Mixing in of an amateur radio signal.	Amateur radio station in the neighborhood.	Consult a FISHER Service Station.
FM	Poor FM reception.	Antenna not connected.	Connect an FM T-antenna to the FM ANT. terminals at the rear of the unit. Refer to the CONNECTING THE UNIT and FM ANTENNAS sections.
		Shorted or faulty connection(s) between the FM antenna and unit.	Check connections at the FM antenna terminals at the rear of the unit.
		Antenna not oriented for best reception.	Change the antenna position, or rotate the antenna. Refer to the FM ANTENNAS section.
	Continuous hissing noise, especially when a stereo broadcast is received.	Weak signal.	Install an FM outdoor antenna. Use a 5 to 8 element antenna if the broadcasting station is far away.
	Flickering of the stereo indicator lamp.	Weak signal.	Install an FM outdoor antenna.
PHONO	Howling occurs when the volume is increased or bass is emphasized.	Speaker vibration is fed back to the phonograph.	Keep the speaker away from the unit. Slide the GRAPHIC EQUALIZER controls down.
	Crackling sound occurs, treble is not clear to the ear.	Worn stylus. Broken stylus tip.	Replace the stylus.
		Dust in record grooves, or dust attached to stylus tip.	Clean the record and the stylus tip.
	Excessive treble emphasis.	Slide the GRAPHIC EQUALIZER controls down.	
TAPE	No sound when the play (>) button is pressed.	PAUSE button depressed.	Release the PAUSE button.
	RECORD button will not operate.	No cassette tape in tape compartment.	Insert a cassette tape.
		Cassette guard tab broken out.	Cover the opening with adhesive tape.
	Distorted recording or playback sound.	Dirty heads.	Clean the heads. Refer to the MAINTENANCE section.
		RECORD/PLAY switch is in the wrong position.	Set the switch to the proper position.
	Duplication from DECK A to DECK B cannot be achieved.	Unrecorded tape inserted into TAPE DECK A.	Insert a recorded tape.
RECORD/PLAY switch is in the wrong position.		Set the switch to the proper position.	
Wow sound.	Dirty heads, capstan and pinch roller.	Clean the parts. Refer to the MAINTENANCE section.	

SERVICING: Should this unit require service, refer to the Fisher service station supplied list with the unit.

If you do not have a convenient Fisher service station nearby, write to the Fisher dealer where you purchased the unit. Be sure to give the model number and explain the problem. The dealer will advise you how to obtain service.



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