





# FISHER

# CA-273

## SPECIFICATIONS

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

	This symbol indicates that 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.

### POWER AMPLIFIER SECTION

Minimum RMS sine wave power per channel within stated bandwidth at no more than stated distortion and with 8 ohm load **100 Watts**

Power Bandwidth **20 Hz – 20 kHz**

Total Harmonic Distortion **0.09 %**

I.M. Distortion **0.09 %**

Speaker Damping **> 20**

### PREAMPLIFIER SECTION

Frequency Response  
Phono (RIAA) **±0.5 dB**  
Aux (20 Hz – 20 kHz) **±0.5 dB**

Input Sensitivity and Impedance  
Phono **2.5 mV/50 kΩ**  
Tape Monitor **150 mV/50 kΩ**  
Tuner/Aux **150 mV/50 kΩ**

Phono Max. Input Capability **125 mV**

Tone Control  
100 Hz **±10 dB**  
1 kHz **±10 dB**  
10 kHz **±10 dB**

Subsonic Filter (Below 20 Hz) **12 dB/Oct.**

Loudness Contour (100 Hz/10 kHz) **+8 dB/+4 dB**

Hum and Noise (IHF Short Circuit, A Network)  
Phono **70 dB**  
Tape Monitor **90 dB**  
Tuner/Aux **95 dB**

### GENERAL

Power Requirements **120 V AC ±10%**  
**(50/60 Hz) 470 Watts**

AC Outlets **3**

Dimensions (WxHxD) **17-1/3" x4-1/8" x10-1/2"**

Weight (approx.) **17.4 lbs.**

Because its products are subject to continuous improvement, Fisher Corporation reserves the right to modify product designs and specifications without notice and without incurring any obligation.

**WARNING:** TO AVOID THE HAZARDS OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR OTHER MOISTURE.

**IMPORTANT . . .** This Stereo Amplifier 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.*

## CONNECTING THE AMPLIFIER

**CAUTION:**

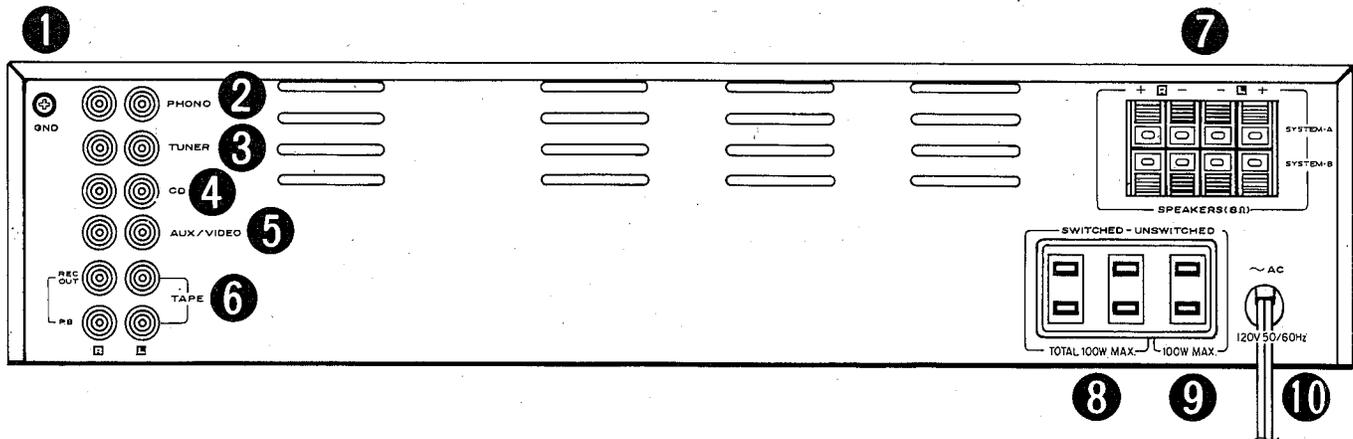
- Do not plug the power cord into an AC wall outlet until after all connections have been made.
- Be sure to make the correct connections, paying attention to the L (left channel) and R (right channel), and (+) and (-) marks. Plug in the cables and connect the lead wires securely. Loose connections will result in unsatisfactory sound reproduction or cause noise problems. Refer to Fig. 2 on Page 5.
- Do not place other component on top of the amplifier.

- 1** GND (Ground) Terminal . . .  
This terminal is provided for connecting the ground wire from the turntable.
- 2** PHONO Jacks (Connecting a Turntable) . . .  
Connect the output cables of the turntable (with a magnetic cartridge) to the jacks marked PHONO, matching the L (left) and R (right) marks. Be sure to make the correct connections. The ground wire of the turntable should be connected to the terminal marked GND next to the PHONO jacks on the amplifier. Connect the power cord of the turntable to the UNSWITCHED AC outlet on the amplifier.

**NOTE:**

- In some rare instances involving particular types of turntables and cartridges, the use of a ground wire may cause a hum problem. Should this be the case, do not make this ground connection.
- There are various types of cartridges for turntables. They may differ in output voltage and impedance.

- 3** TUNER Jacks (Connecting a Tuner) . . .  
Connect the output cables of the tuner to the jacks marked TUNER, matching the L (left) and R (right) marks, and the power cord of the tuner to one of the SWITCHED AC outlets on the amplifier. Then, depress the POWER switch of the tuner to ON. Now the power to the tuner is controlled by the POWER switch on the amplifier.
- 4** CD Jacks (Connecting a Compact Disc Player) . . .  
Connect the output cables of the CD player to the jacks marked CD, matching the L (left) and R (right) marks.
- 5** AUX/VIDEO Jacks (Connecting an External Unit) . . .  
These are spare input jacks for use when connecting a tape player, a second tuner or a video cassette recorder.



**Fig. 1**

**CAUTION:** If you are not sure whether your speakers can safely handle the maximum audio power output of your amplifier, do not turn the amplifier's VOLUME control up too high. FAILURE TO OBSERVE THIS PRECAUTION MAY PERMANENTLY DAMAGE YOUR SPEAKERS!

## 6 TAPE Jacks . . .

Be sure to make the correct connections, taking note of the REC OUT, PB, L and R marks.

### a) For Connection to Cassette Deck

- **REC OUT** Jacks (tape recording jacks):  
Make the connections between REC OUT on the amplifier and LINE IN of the cassette deck.
- **PB** Jacks (playback jacks):  
Make the connections between PB on the amplifier and LINE OUT of the cassette deck.

Connect the power cord of the cassette deck to one of the SWITCHED AC outlets on the amplifier. Then, set the POWER switch of the cassette deck to ON. Now the power to the cassette deck is controlled by the POWER switch on the amplifier.

### b) For Connection to Graphic Equalizer

- **REC OUT** Jacks:  
Make the connections between REC OUT on the amplifier and LINE IN of the graphic equalizer.
- **PB** Jacks:  
Make the connections between PB on the amplifier and LINE OUT of the graphic equalizer.

Connect the power cord of the graphic equalizer to one of the SWITCHED AC outlets on the amplifier. Then, set the POWER switch of the graphic equalizer to ON. Now the power to the graphic equalizer is controlled by the POWER switch on the amplifier.

#### **NOTE:**

When using with graphic equalizer, refer to the OPERATING INSTRUCTIONS manual supplied with your graphic equalizer.

## 7 SPEAKERS Terminals (Connecting Speakers) . . .

Eight terminals are provided for two pairs of speakers; SYSTEM-A and SYSTEM-B. If only one pair of speakers is used, use the SYSTEM-A speaker terminals.

Connect the left channel speaker to the speaker terminals marked L (left) and place it to the left of the amplifier as seen from the listening position. Connect the right channel speaker to the terminals marked R (right). Be careful to observe the correct polarity of the speaker connections. The (+) and (–) terminals of speakers must match the (+) and (–) terminals of the amplifier. (Use two-color speaker leads for easier identification.) If the polarity is not indicated on the speakers, connect them anyhow. If the sound does not come from a point between the two speakers, and if the bass response appears insufficient, the speaker connections are out of phase. Reverse the (+) and (–) connections on either one of the speakers.

#### **CAUTION:**

- Be careful not to cause a short circuit between the speaker terminals.
- This unit is designed for speakers with an impedance of 8 ohms.

#### **IMPORTANT:**

Before connecting the speaker cords to the speaker terminals, strip about half an inch of insulation from the end of each conductor and twist the exposed strands of wire tightly so that the wire ends become easy to handle and good contact can be maintained. Then push down on the terminal lever with your finger. Insert the speaker wire into the hole and release the lever.

## 8 SWITCHED AC Outlets . . .

These outlets are switched on and off by the POWER switch on the front panel of the amplifier. They are intended to be used as power sources for the tuner and cassette deck.

## 9 UNSWITCHED AC Outlet . . .

Remains "live" irrespective of the ON/OFF setting of the POWER switch. Use this as a power source for the turntable.

#### **NOTE:**

The SWITCHED AC outlets have a power rating of 100W maximum total and the UNSWITCHED AC outlet has a power rating of 100W maximum. They should be used for supplying power to audio equipment only. NEVER use them as AC outlets for other electrical appliances.

## 10 AC (Power Cord) . . .

After completing all the connections, make sure that the POWER switch on the front panel of the amplifier is set to OFF. Then plug the power cord into an AC wall outlet.

#### **NOTE:**

Grasp the power cord by the plug when disconnecting it from the power source. Do not pull on the cord itself.

# SYSTEM 4100B CONNECTING DIAGRAM

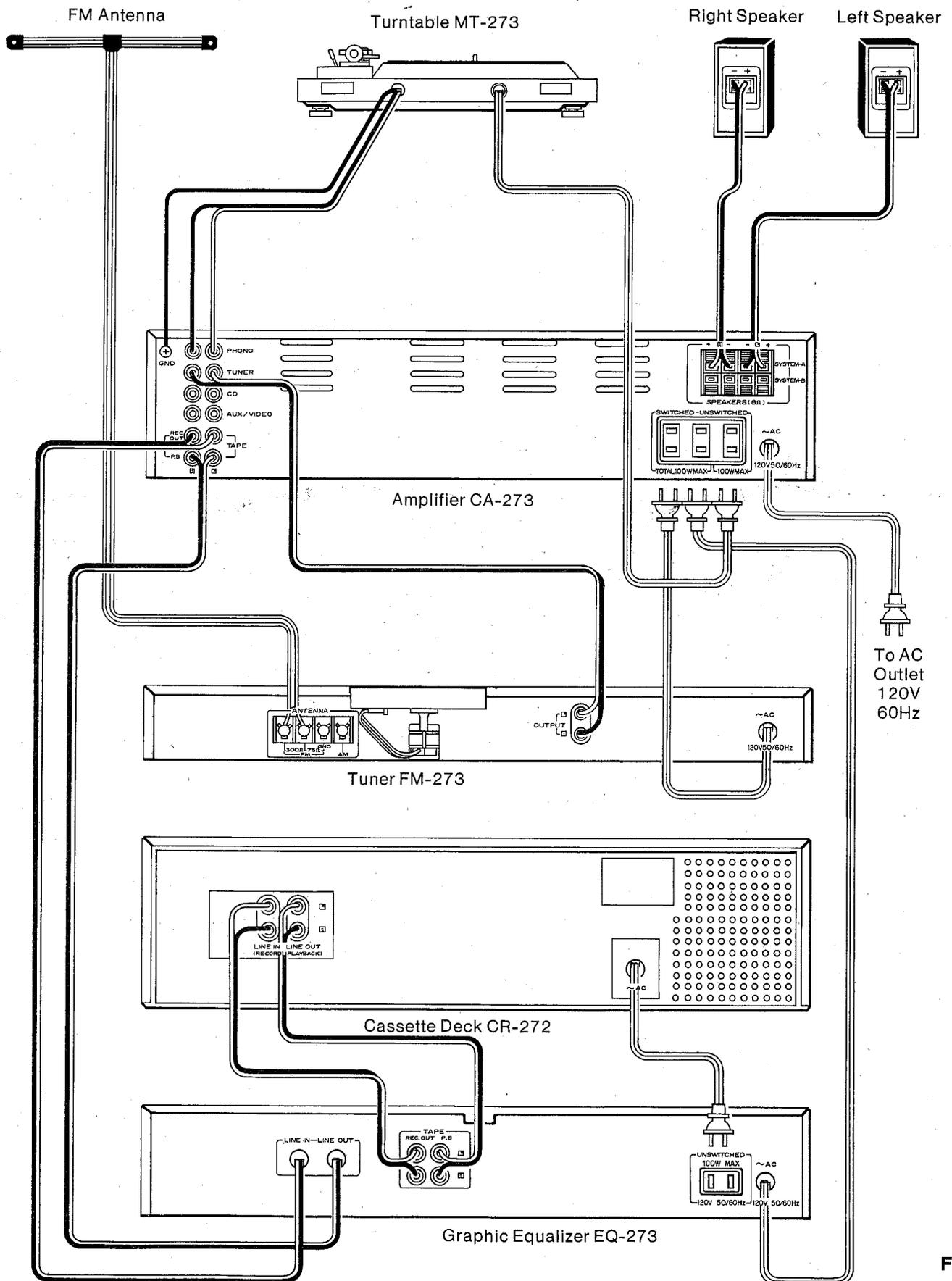


Fig. 2

# CONTROLS AND OPERATION

This section describes the amplifier'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.

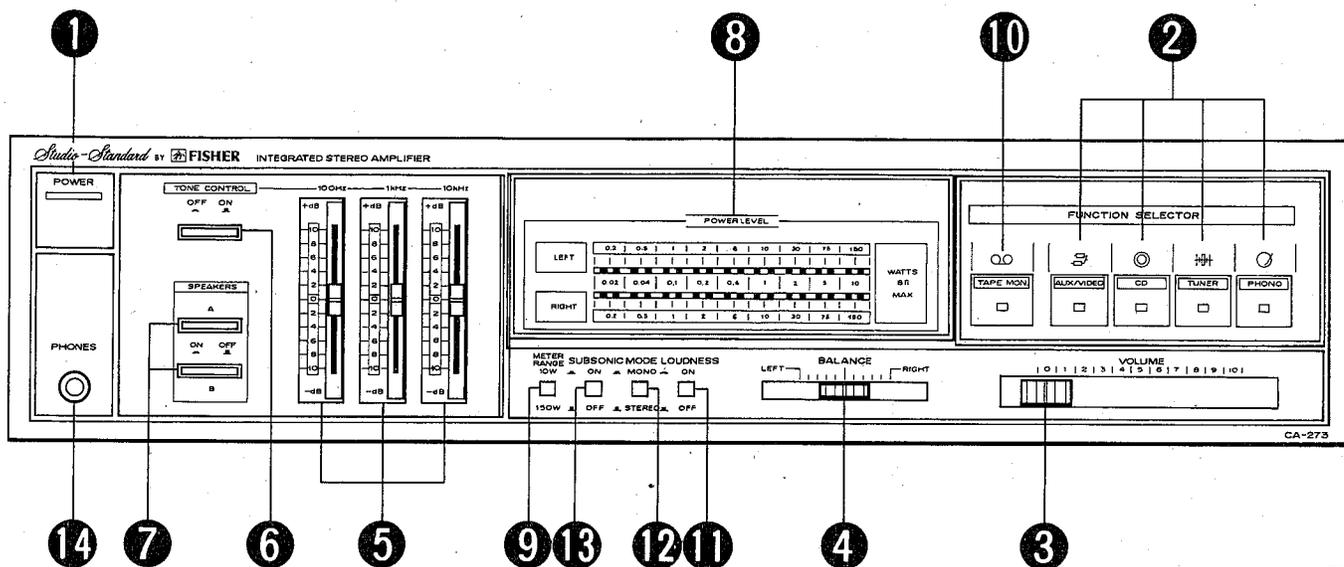


Fig. 3

- 1** **POWER Switch** . . .  
 Set the **VOLUME** control to the position marked "0" (minimum) before switching on the power. Gently depress the **POWER** switch to switch the unit on. Simultaneously, one of the **FUNCTION** indicators will light up. The unit is ready for operation approximately 4 to 5 seconds after switching on the power. To switch the power off, release the switch by depressing it again.
- 2** **FUNCTION SELECTOR Buttons and Indicators** . . .  
 Provided for the selection of program sources. Each button will operate when gentle pressure is applied to the center of the button. When a button is pressed, the corresponding indicator will light up.

  - **PHONO**: For playing records on your turntable (with a magnetic cartridge) connected to the **PHONO** jacks on the rear panel.
  - **TUNER**: For listening to radio broadcasts with your tuner connected to the **TUNER** jacks on the rear panel.
  - **CD**: For listening to the sound signals from a CD player connected to the **CD** jacks on the rear panel.
  - **AUX/VIDEO**: For listening to the sound signals from an external unit connected to the **AUX/VIDEO** jacks on the rear panel.
- 3** **VOLUME Control** . . .  
 Initially, adjust the **VOLUME** control for a low listening level. After selecting a program source, adjust the control for the desired volume level.
- 4** **BALANCE Control** . . .  
 Normally kept in its mid-position. If the volume levels of the left and right channels sound unequal at your listening position, slide the control to **LEFT** or **RIGHT** to restore balance.
- 5** **TONE CONTROL** . . .  
 This unit is equipped with a 3-band **TONE-CONTROL**. It places at your fingertips three controls, each controlling a separate section of the audio frequency range.

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

  - **100 Hz**: This control will allow you to vary the upper bass frequencies.
  - **1 kHz**: This control is the presence control and can be used very effectively to emphasize, bring out front, or to de-emphasize vocalists.
  - **10 kHz**: This control can be used to make up for missing high frequencies absorbed by the environment and to add a natural crispness to music.
- 6** **TONE CONTROL Switch** . . .  
 In the **OFF** position, the **TONE** controls are disconnected and a perfectly flat frequency response is obtained. Set it to the **ON** position to bring **TONE** controls into operation.

- 7** **SPEAKERS Selector Switch** . . .  
Set the A or B switch to the ON position, depending on the rear terminals to which your speaker system is connected. The A and B switches should be set to the ON position if two pairs of speakers are connected. When the A and B switches are set to the ON position with one pair of speakers connected, no sound will be heard. For private listening with headphones, the A and B switches should be set to the OFF position.
- 8** **POWER LEVEL Indicators** . . .  
Indicate the approximate music program power output levels delivered to the speakers. They may also be used for continuous system monitoring to provide an instantaneous indication of left and right channel power distribution and channel balance.
- 9** **METER RANGE Switch** . . .  
When depressed to the 10W position, the POWER LEVEL indicators will flash. Normally kept in the 150W position.
- 10** **TAPE MONITOR Button and Indicator** . . .  
This button operates when gentle pressure is applied to the center of the button.  
Press to play back tapes. The TAPE MONITOR indicator will light up simultaneously.  
Press again for normal listening to any program selected by the function buttons. The TAPE MONITOR indicator will go out.
- NOTE:**  
When using with graphic equalizer, keep the TAPE MONITOR button in the depressed position (indicator is lit).

- 11** **LOUDNESS Switch** . . .  
Set to the ON or OFF position as desired. Depressing it to the ON position will restore tonal balance and brilliance at normal and lower volume levels.
- 12** **MODE Switch** . . .  
Provided primarily for the selection of operating modes, this switch is also used when balancing the volumes from the left and right speakers or checking speaker connections for correct phasing.
- **STEREO:** The position for sound reproduction in stereo. The MODE switch should normally be released to this position.
  - **MONO:** The position for monaural sound reproduction. In this mode, sound from the left and right channels will be blended.
- 13** **SUBSONIC Filter Switch** . . .  
Depress to the ON position when playing warped records, or when using a record player which produces subsonic signals.
- 14** **PHONES Jack** . . .  
Plug headphones (not supplied) into this jack for personal listening.

## AMPLIFIER OPERATION

### BASIC ADJUSTMENTS

Before switching on the power to the amplifier, strict observance of the following steps will protect your speakers from damage.

- (1) Set the VOLUME control to "0" (minimum).
- (2) Release the TAPE MONITOR button (indicator is not lit).
- (3) Set the BALANCE control to center.
- (4) Set the TONE controls to center.
- (5) Release the TONE CONTROL switch to ON.
- (6) Release the MODE switch to STEREO.
- (7) Release the METER RANGE switch to 150W.
- (8) Depress the A and/or B switches of SPEAKERS selector, depending on the rear terminals to which your speakers are connected.

After the steps described above are completed, depress the POWER switch to ON.

**NOTE:**

When using with graphic equalizer, keep the TAPE MONITOR button in the depressed position (indicator is lit). Refer to the OPERATING INSTRUCTIONS manual supplied with your graphic equalizer.

### LISTENING TO RADIO BROADCASTS

First, make sure that the output cables supplied with the tuner are connected to the TUNER jacks on the rear panel.

1. Press the TUNER function button. Simultaneously, the TUNER indicator will light up.
2. Depress the POWER switch of the tuner to switch on the power.
3. Press a station preset button which has been programmed.
4. Adjust the VOLUME, BALANCE and TONE controls for the most pleasing sound.

**NOTE:**

Refer to the OPERATING INSTRUCTIONS manual supplied with your tuner.

## LISTENING TO RECORDS

First, make sure that the output cables from the turntable (with a magnetic cartridge) are connected to the PHONO jacks, and the ground wire from the turntable is connected to the GND terminal on the rear panel.

1. Press the PHONO function button. Simultaneously, the PHONO indicator will light up.
2. Place a record on your turntable.
3. Adjust the VOLUME, BALANCE and TONE controls for the most pleasing sound.

### NOTE:

Refer to the OPERATING INSTRUCTIONS manual supplied with your turntable.

### CAUTION:

- (1) Set the VOLUME control to "0" (minimum) before placing the tonearm on the record.
- (2) A howling sound may occur while a record is being played when the sound volume is increased. This is caused by feedback of sound between the turntable and the speakers and should not be mistaken for a problem with the amplifier. To correct this problem, place the speakers as far away from turntable as is practical. It is also better if the speakers are placed on rigid individual supports.

## LISTENING THROUGH HEADPHONES (not supplied)

Plug the headphones into the PHONES jack for private listening. When the A and B switches of SPEAKERS selector are released, the sound will be heard through the headphones only. Adjust the VOLUME, BALANCE and TONE controls in the same way as when listening through the speakers.

### NOTE:

Be sure to set the VOLUME control to "0" (minimum) before plugging in or unplugging the headphones. This precaution is necessary to protect the headphones and your ears against shock noise.

## LISTENING TO CD PLAYER CONNECTED TO CD JACKS

First, make sure that the output cables supplied with the CD player are connected to the CD jacks on the rear panel.

1. Press the CD function button. Simultaneously, the CD indicator will light up.
2. Depress the POWER switch of the CD player to switch on the power.
3. Play a compact disc on your CD player.
4. Adjust the VOLUME, BALANCE and TONE controls for the most pleasing sound.

### NOTE:

Refer to the OPERATING INSTRUCTIONS manual supplied with your CD player.

## TAPE PLAYBACK

First, make sure that the output cables supplied with the cassette deck are connected to the TAPE PB jacks on the rear panel.

1. Press the TAPE MONITOR button. Simultaneously, the TAPE MONITOR indicator will light up.
2. Depress the POWER switch of the cassette deck to switch on the power.
3. Operate the cassette deck in the playback mode.
4. Adjust the VOLUME, BALANCE and TONE controls for the most pleasing sound.

### NOTE:

- With the TAPE MONITOR button depressed, playback is possible without pressing the function buttons.
- Refer to the OPERATING INSTRUCTIONS manual supplied with your cassette deck.

## SOUND RECORDING

First, make sure that the input cables supplied with the cassette deck are connected to the TAPE REC OUT jacks on the rear panel.

1. Select the desired sound source with the function buttons. Make sure that the TAPE MONITOR indicator is not lit.
2. Tune in a radio program, or play a record, or operate an external unit.
3. Adjust the VOLUME, BALANCE and TONE controls for the most pleasing sound.
4. Place the cassette deck in the recording mode.
5. If you wish to hear the sound level that is being recorded press the TAPE MONITOR button. The TAPE MONITOR indicator will light up. Be sure to release the TAPE MONITOR button after the recording is over.

### NOTE:

Signals to be recorded are kept at a constant level at the TAPE REC OUT jacks irrespective of the VOLUME, BALANCE and TONE control settings. The level of sound being recorded is regulated by the recording level control on the cassette deck.

## LISTENING TO AN EXTERNAL UNIT CONNECTED TO AUX/VIDEO JACKS

First, make sure that the external unit's output cables are connected to the AUX/VIDEO jacks on the rear panel.

If the external unit is mono, connect its single output jack to AUX/VIDEO jacks. (Use a shielded "Y"-connector audio cable with the appropriate plug on each of its three legs.)

1. Press the AUX/VIDEO button. Simultaneously, the AUX/VIDEO indicator will light up.
2. Turn on the external unit connected to the AUX/VIDEO jacks.
3. Operate the external unit.
4. Adjust the VOLUME, BALANCE and TONE controls for the most pleasing sound.

### NOTE:

Refer to the OPERATING INSTRUCTIONS manual supplied with your external unit.

# TIPS FOR SAFE OPERATION...

1. **Location:**  
For safe operation and satisfactory performance of the amplifier, keep the following in mind when selecting a place for its installation.
  - Shelter it from direct sunlight and keep it away from sources of intense heat.
  - Avoid dusty or humid locations.
  - Avoid places with insufficient ventilation for heat dissipation.
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 the AC wall outlet. Grasp the plug.
3. **Built-in AC outlets:**  
The SWITCHED (rating: total 100W maximum) and UNSWITCHED (rating: 100W maximum) AC outlets on the rear panel are designed for connection to other system units only. They should not be used as power sources for household electrical appliances such as irons and percolators.
4. **Avoiding the hazards of electrical shock or fire:**  
If, by accident, water is spilled on the amplifier, unplug the power cord immediately and have the unit serviced by FISHER-authorized personnel. See Item 9.
5. **Do not drop pieces of metal into the amplifier:**  
Needles, coins and other electrically conductive materials may cause problems if they get into the amplifier.
6. **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, which may be damaged by a sudden increase in input.
7. **Do not place anything directly on top of the amplifier:**  
After operating the amplifier for a prolonged period of time at a large power output, the temperature inside the amplifier will rise. Heat dissipation should not be obstructed. Attention should also be paid to good ventilation when selecting the location for installation.
8. **Cleaning:**  
Wipe the front panel and other exterior surfaces of the amplifier 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 amplifier. Such chemicals may cause surface discoloration and cracking.
9. **Servicing:**  
Should this amplifier require service, refer to the Fisher service station list supplied 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.

# TROUBLESHOOTING GUIDE

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

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
No sound. FUNCTION indicator does not light up when POWER switch is depressed.	Faulty contact at power outlet.	Insert the plug firmly into the outlet.
No sound. FUNCTION indicator is lit.	Faulty connection of speaker cables.	Connect cables firmly to speaker terminals.
	VOLUME control is at its minimum position.	Slide VOLUME control to a proper sound level.
	TAPE MONITOR indicator is lit.	Press TAPE MONITOR button again except when playing back a tape with a cassette deck.
	SPEAKERS selector switches have been set incorrectly.	Set them to position corresponding to speakers used.
Sound is heard only from one speaker.	Faulty connection of one speaker cable.	Connect the cable firmly to speaker terminal.
	BALANCE control is slid fully to one side.	Reset BALANCE control to its center position.

# SYSTEM 4750B CONNECTING DIAGRAM

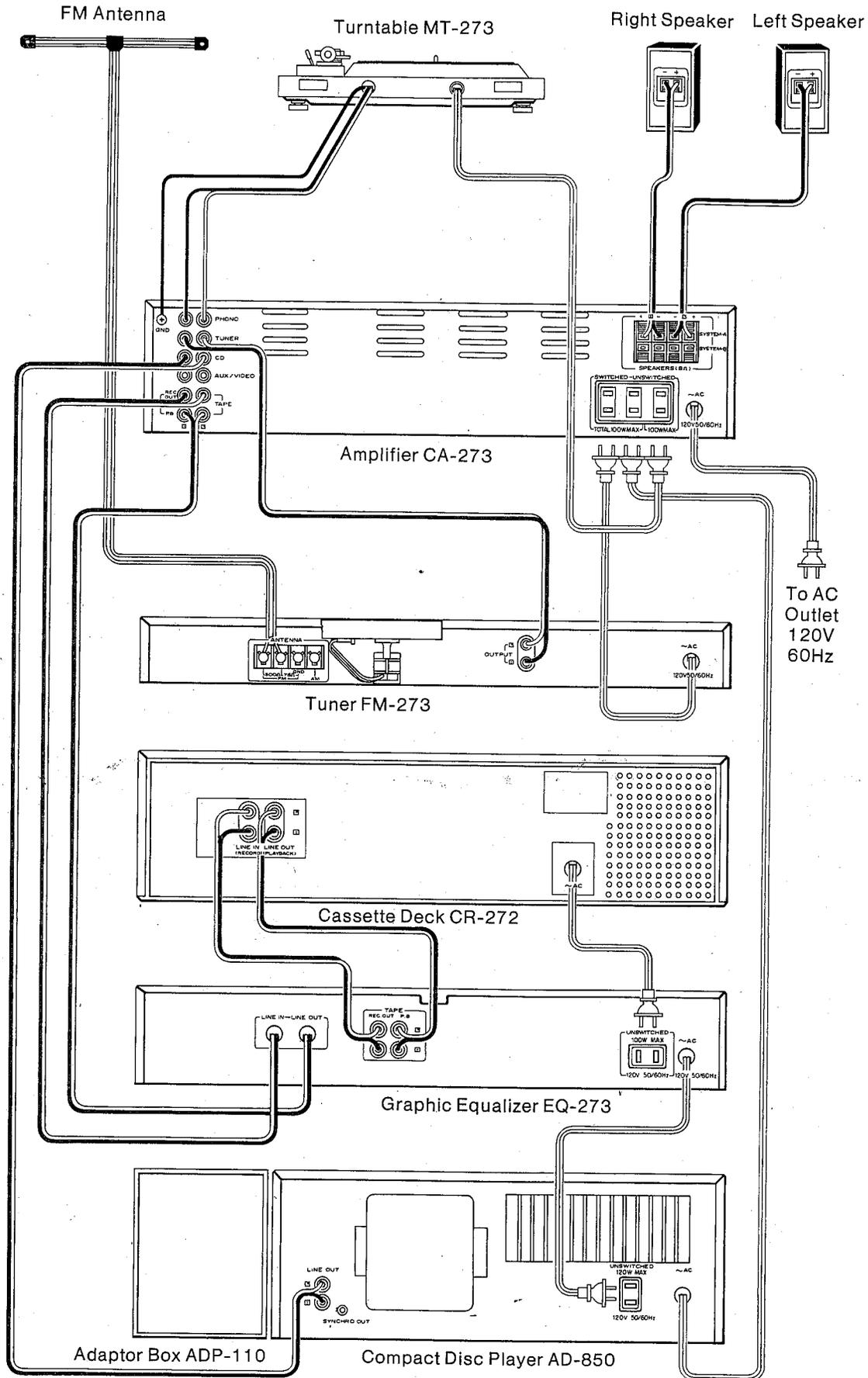


Fig. 4

# SYSTEM 4150B CONNECTING DIAGRAM

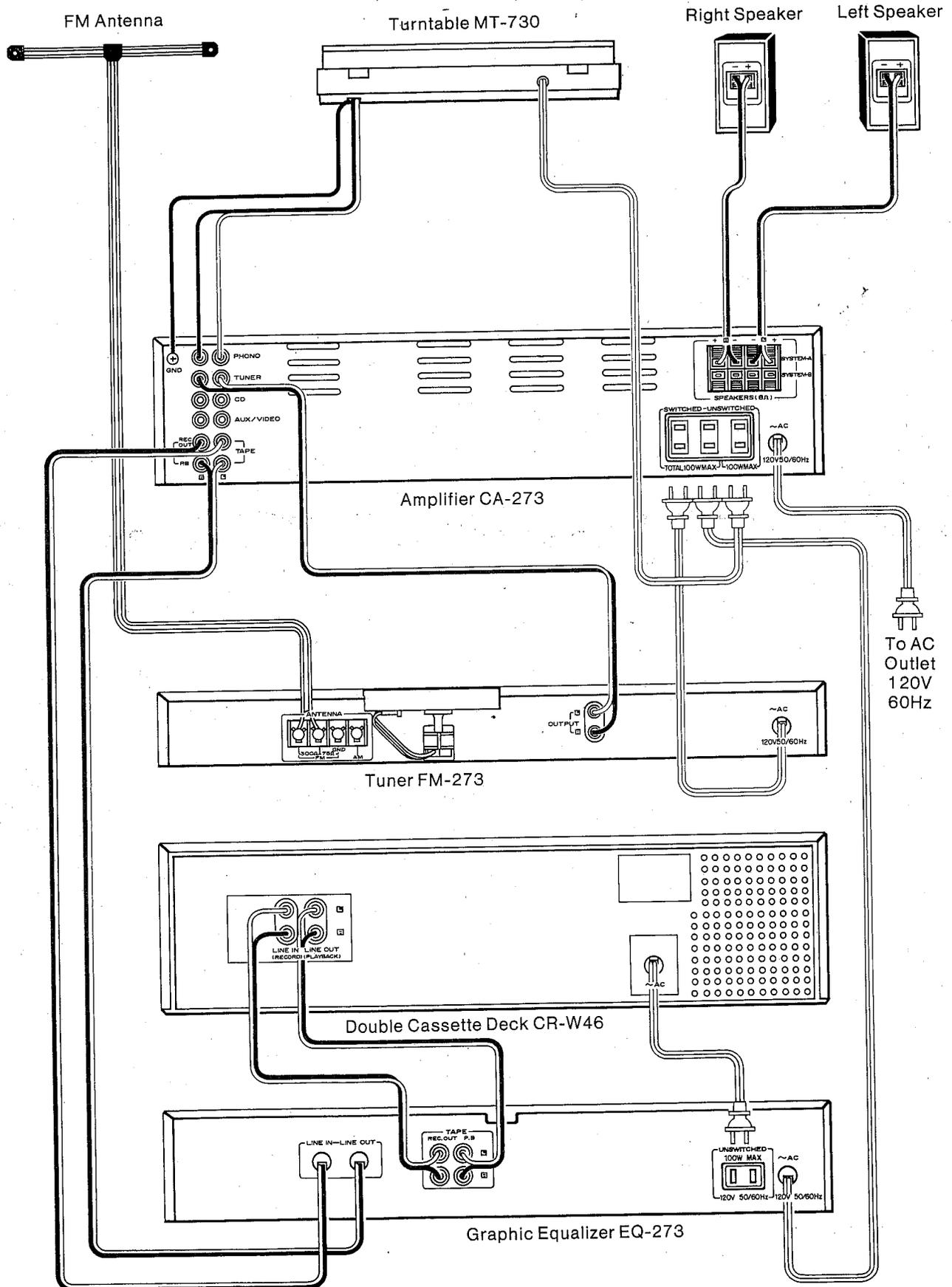


Fig. 5



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