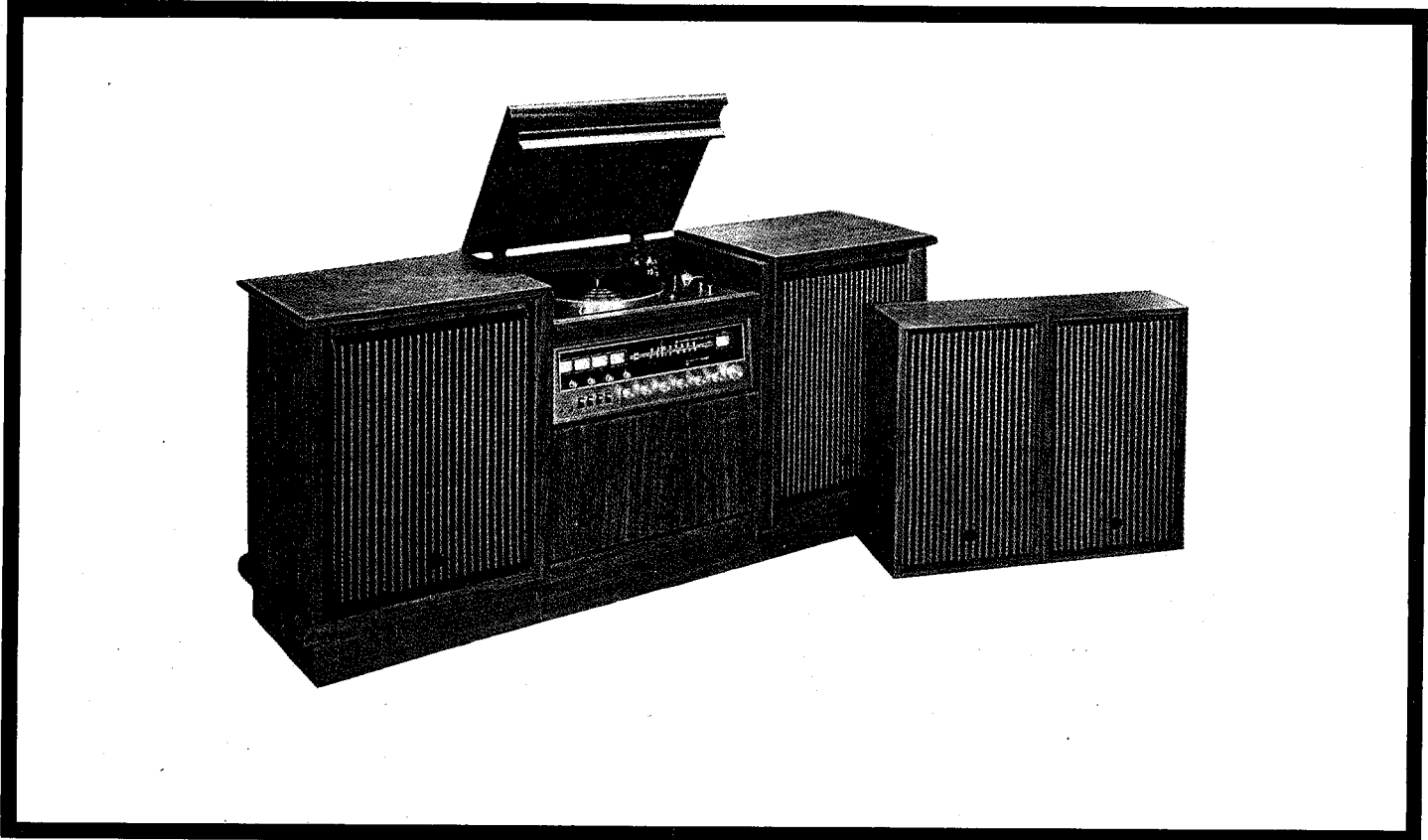




DC 8500K



# SANYO 4 CHANNEL STEREO SYSTEM OWNER'S MANUAL

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## CAUTION

This model is already set for a fixed voltage level. If it is used in a different voltage area from that indicated on the power cord label, the setting should be changed. To alter the voltage, pull out the chassis from the center unit and pull out voltage selector plug and insert it to the right position in the socket which corresponds to your local power.

This 4 CHANNEL STEREO SYSTEM was developed and engineered by Sanyo to be a source of entertainment and listening pleasure for many years to come.

Before you install and start operating your set, please read the instructions in this booklet carefully. This will prevent errors in operation and will assure faultless performance of your set and listening enjoyment.

### PREPARATIONS

1. Unpack the unit and remove the two screws which hold down the motor during transportation. (Fig. 1)
2. Remove the two fixing screws which hold down the board.
3. Take out the turntable from the package and attach it to the unit.

### ATTACHING THE TURNTABLE

- a. Turn the drive gear so that non-serrate section faces the turntable shaft. (Fig. 2)
- b. Attach the turntable to the turntable shaft. Then hold the belt and put it on the motor pulley. Make sure not to twist the belt. (Fig. 3)
4. Unfasten the string that hold the tonearm.
5. Remove the rubber band from the anti-skate arm.

### CARTRIDGE INSTALLATION (When using other cartridge)

- a. Take out the shell.
- b. Connect the four cords of the shell to the terminals of the cartridge. Be sure to make correct connections as shown in Fig. 4.
- c. Fasten the cartridge to the shell using the two screws and nuts.
- d. Plug the shell to the tone arm and tighten the nut by turning it counterclockwise.

### NOTE:

If the cartridge weights less than 12 grams, insert the lead weight between shell and cartridge. Otherwise, proper balancing of the tone arm cannot be obtained. Then plug the shell into the tone arm and secure it by tightening the tone arm nut. (Fig. 4)

Balancing the tone arm and tracking force must be re-adjusted every time a different cartridge is mounted. Refer to paragraph "TRACKING FORCE ADJUSTMENT"

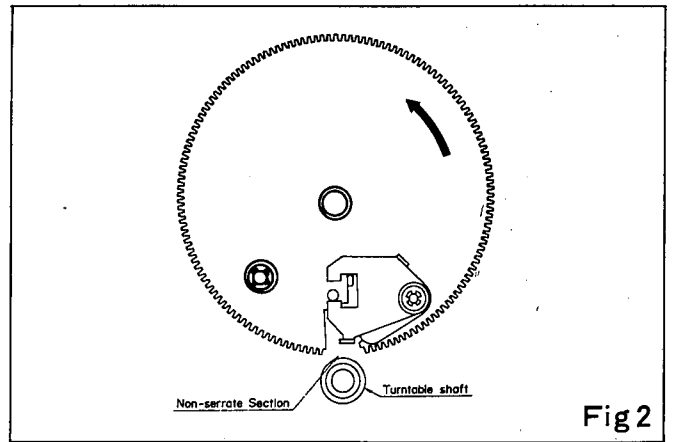


Fig 2

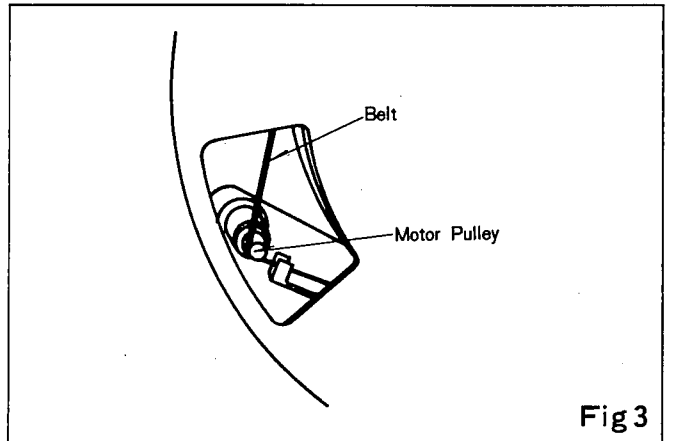


Fig 3

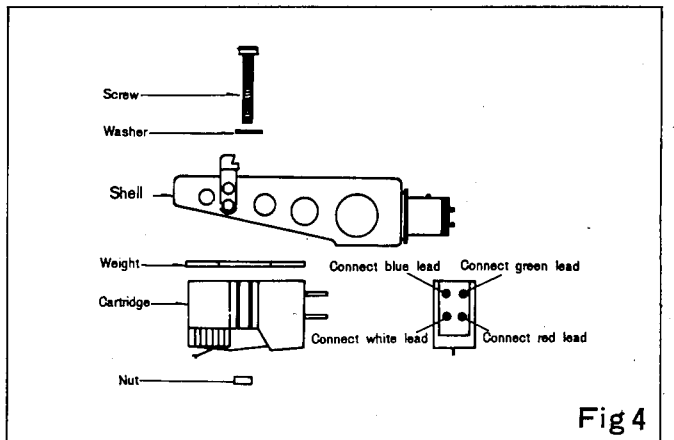


Fig 4

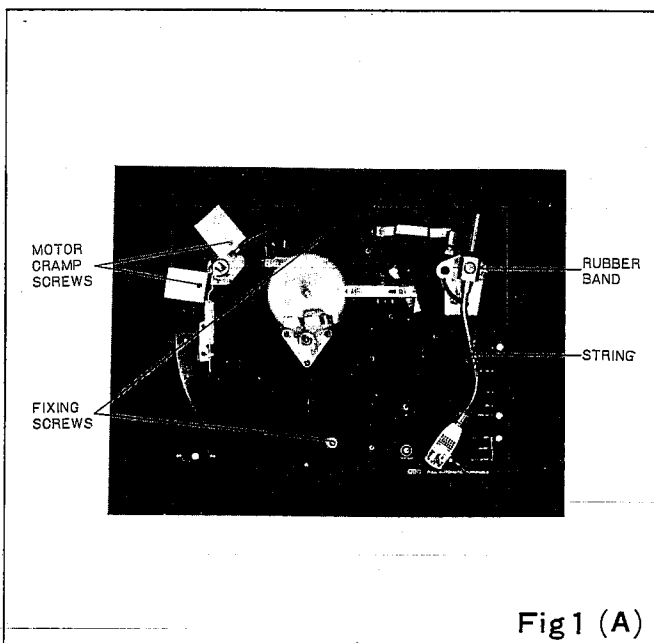


Fig1 (A)

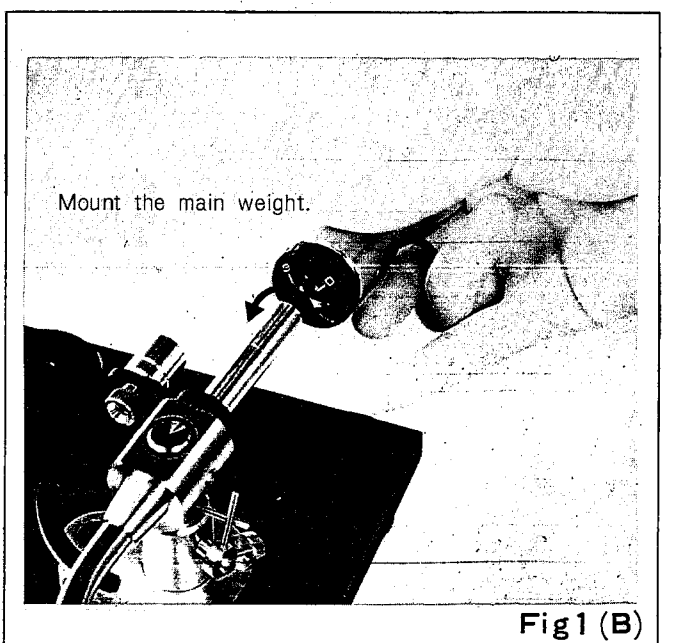


Fig1 (B)

7. Connect all 4 speakers before supplying power if the unit is to be used for 4 channel stereo.

8. Installation of AM antenna.

a. Short Distance

This unit has a built-in high quality ferrite bar antenna. No external antenna is needed under normal conditions.

b. Long Distance

Install an indoor antenna. (Fig. 5) Use an outdoor antenna (Fig. 6) when using the unit in a location far away from the broadcasting station, in a noisy place, or in a concrete building.

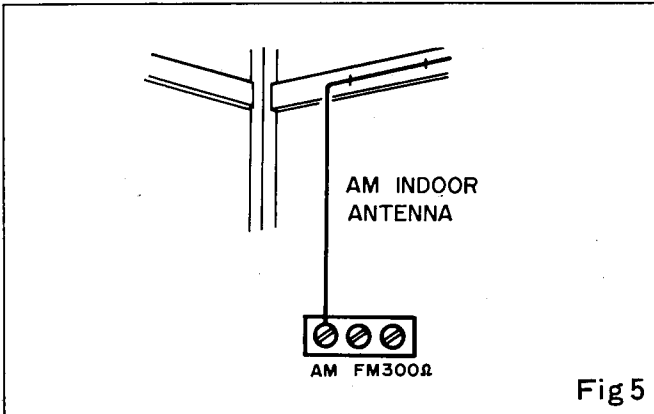


Fig 5

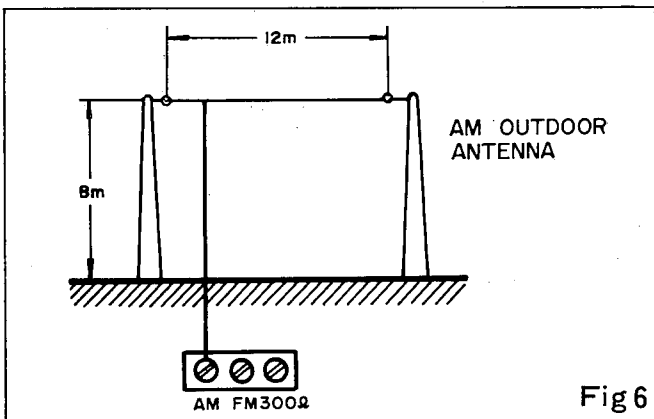


Fig 6

4. Installation of FM antenna

In areas relatively near a broadcasting station, connect an indoor dipole antenna (Fig. 7). Install it as high up as possible. The dipole antenna is directional. Install it in a position that gives the best performance. In areas near a broadcasting station, an outdoor antenna (Fig. 8) must be installed if the location is surrounded by many buildings.

In a location far away from a broadcasting station, install an outdoor antenna. This antenna must be installed in a proper direction and at an optimum height that gives the best performance.

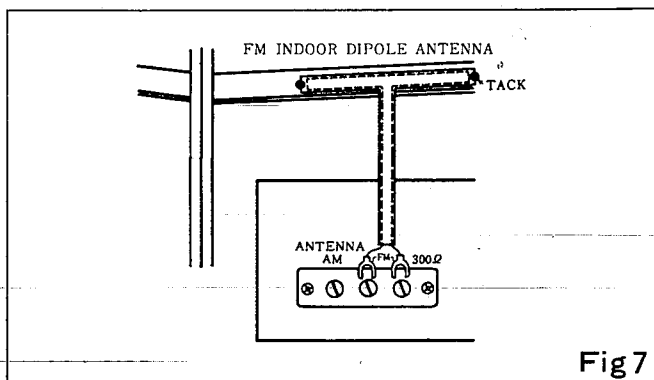


Fig 7

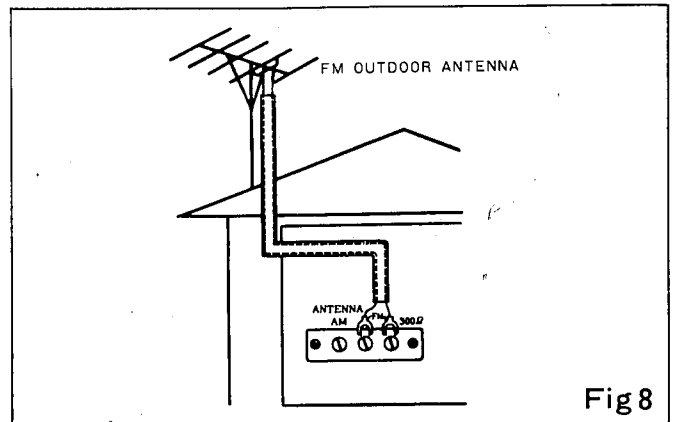


Fig 8

WHERE TO PLACE THE UNIT

1. Select a well-ventilated place that is not exposed to direct sunlight.
2. Avoid humid or dusty locations.
3. The unit should not be placed near electric appliances that cause interference, such as motors, strong magnets, etc.  
Locations near electric heating systems should also be avoided.
4. In concrete buildings radio reception is improved if the unit is placed near a window.

WHAT THE CONTROLS DO AND HOW TO USE THEM (Fig. 9)

1. POWER SWITCH

The power switch controls the AC input power. It turns the DC 8500K on and off.

NOTE: At the NIGHT-OFF position which is linked to the NIGHT mechanism of the turntable, the set is automatically turned off at the end of record playing.

2. FUNCTION SELECTOR

AUX ..... For using the AUX input terminals.

AM ..... For listening to AM broadcasts.

FM AUTO ..... For listening to FM stereo/monaural broadcasts.

PHONO ..... For playing 2 channel or 4 channel records on the turntable connected to the PHONO terminals.

3. MASTER VOLUME

The MASTER VOLUME control adjusts the output level for all four channels.

4. 2/4 CHANNEL SELECTOR

2 CHL..... For 2 channel reproduction operating 2 amplifiers and front-speakers.

2-2-4 ..... In this position the 4 channel information already contained in 2 channel tapes or discs, is decoded by the matrix circuit and processed through the rear amplifiers and speakers for natural lifeline of 4 channel sound.

RM ..... In this position the decoded 4 channel information is fed through all for amplifiers and speakers, mixed with regular front channel stereo sound. Its result is somewhat different depending on the musical selection.

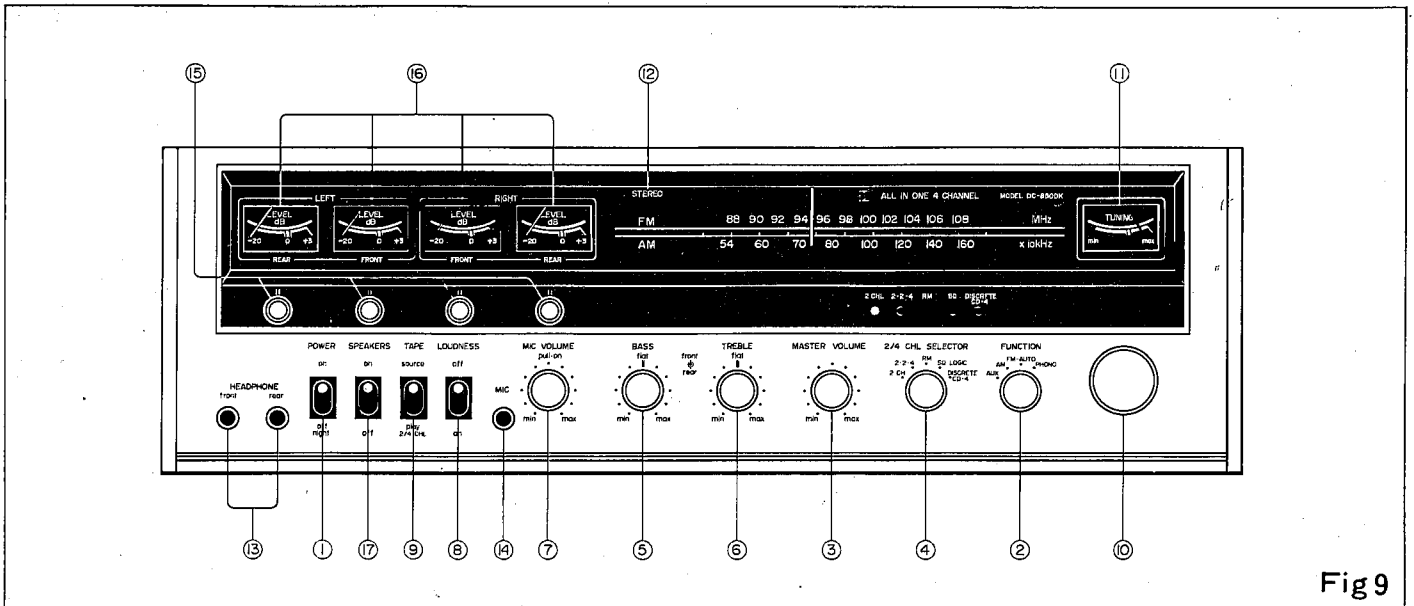


Fig 9

**SQ LOGIC...** For 4 channel reproduction of CBS, Capital, or other SQ 4 channel records, and FM 4 channel broadcasts of the SQ system.

**DISCRETE/.** For 4 channel reproduction of 8 track or reel-to-reel 4 channel discrete tapes or 4 channel discrete records. (CD-4)

**5. BASS**

The **BASS** control is a concentric control. The knob closes to the panel controls the bass frequency response in the rear channel. Outer knob controls the bass frequency response in the front channel. The two knobs are not friction coupled.

This permits them to be adjusted together or independently. Clockwise rotation increases bass and counterclockwise decreases it. Set control at the center position for flat response.

**6. TREBLE**

The **TREBLE** control is also a concentric control. The knob closes to the panel controls the high frequency response in the rear channel. Outer knob selection controls the high frequency response in the front channel. The two knobs are not friction coupled.

This permits them to be adjusted together or independently. Clockwise rotation increases highs and counterclockwise decreases it. Set control at the center position for flat response

**7. MIC LEVEL (Fig. 10)**

When using a microphone, pull this knob toward you to switch the microphone ON. Turn the knob clockwise to increase the microphone input level, and counterclockwise to decrease it.

**NOTE:**

When using the microphone, keep it away from the speakers or cut the total output level down to prevent acoustic

feedback that causes howling.

**8. LOUDNESS**

When the **MASTER VOLUME** is reduced, the music may seem to lose some of its bass and some of its treble. This effect is due to the sensitivity characteristic of human hearing. The response of the human ear to bass tones decreases more rapidly than its response to frequencies centered in the mid range. The **LOUDNESS** control automatically provides the correct amount of bass and treble required to compensate for this change in response of the human ear at low listening levels. In the **ON** position the volume control is converted to a loudness compensated control. Use this position to listen at low volume and still hear full response.

**9. TAPE MONITOR**

**SOURCE .....** For listening to a radio broadcast, or a record player connected to **PHONO**, or a tape deck connected to **AUX** inputs.

**PLAY .....** For playing back of a tape deck connected to the **TAPE PLAY BACK** jacks, or for simultaneously monitoring of the recorded sound while a recording is being made with a three-head tape deck.

**10. TUNING**

For selecting a desired broadcasting station.

**11. TUNING METER**

Maximum deflection of the pointer indicates that the station is tuned in exactly.

**12. FM STEREO INDICATOR**

With the function selector in the **FM AUTO** position, the indicator lamp will light when an FM stereo broadcast is received. If the indicator lamp does not light during the reception of an FM stereo program. This indicates insufficient signal strength. Flashing of the indicator is due to spurious interference. Neither phenomenon indicates any disorder of the unit.

**13. HEADPHONE ( PHONES)**

For connecting a 2 channel or 4 channel headphone. The left jack is for the front channels and the right is for the rear channels. A 4 channel stereo headphone may be used by plugging it into both jacks.

**14. MIC**

Microphone input jack.

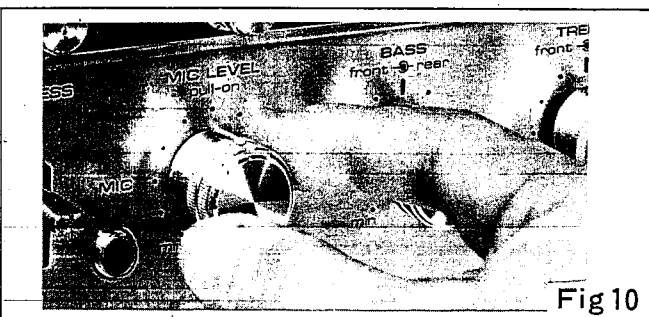


Fig 10

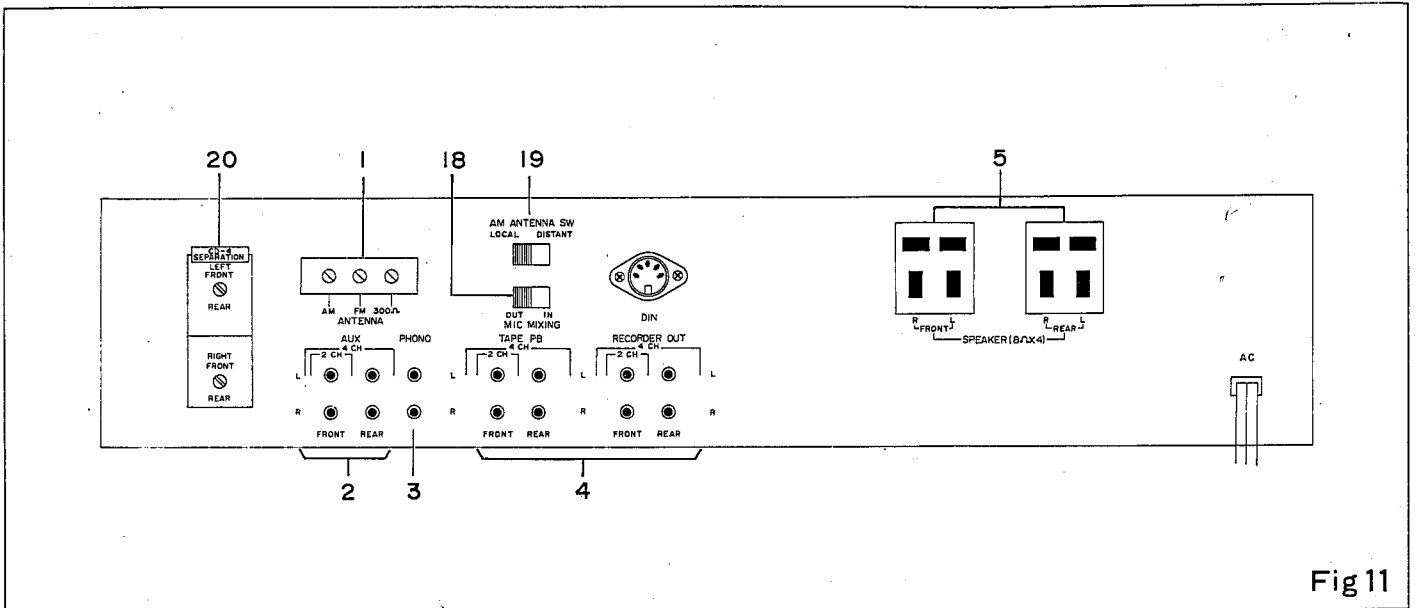


Fig 11

15. DIMENSION CONTROL

Adjust the FRONT LEFT, FRONT RIGHT, REAR LEFT, and REAR RIGHT output for desired listening level. This permits you to adjust each of the 4 amplifier outputs individually to compensate for room acoustics or listening position.

NOTE:

When adjusting output, set the MASTER VOLUME at the 10~12 o'clock position.

16. OUTPUT LEVEL METERS

These meters are used for adjusting the FRONT-REAR and RIGHT-LEFT balance for the best 4 channel listening.

17. SPEAKER SWITCH

By turning this switch ON, the sound can be heard from all speakers and headphones. When the switch is turned OFF, speakers are disconnected so that you may enjoy a program privately through the headphones. This switch function is equally effective for both 2 channel and 4 channel stereo headphones.

18. MIC MIXING

When recording simultaneously from either the built-in radio or phonograph and microphone, or from the microphone and another sound source. Set this mic mixing switch to IN. Otherwise keep it to the OUT position.

19. AM ANTENNA SWITCH

In areas near the broadcast station extremely, set this switch to "LOCAL". Otherwise, set this switch to "DISTANT".

20. CD-4 SEPARATION CONTROL

Refer to "ADJUSTMENT OF CD-4 PLAYBACK UNIT".

INPUT AND OUTPUT TERMINALS (Fig. 11)

1. ANTENNA

- AM ..... The left terminal is used for connecting an AM external antenna.
- FM 300Ω ..... These terminals are used for connecting FM antenna leads.

2. AUX

- 2 CHL ..... For connecting the output from any high

level program source requiring flat amplification to the high level input stage. Such a source could be a record player with ceramic or crystal cartridge or a tape recorder.

- 4 CHL ..... For connecting a second 4 channel tape deck.

3. PHONO

For connecting a record player with magnetic cartridge.

4. TAPE DECK CONNECTIONS

PLAY BACK

- 2 CHL ..... For 2 channel playback in the 2 channel mode.
- 4 CHL ..... Discrete 4 channel tapes are played back through the unit by connecting the tape deck's front LINE OUT terminals to the unit's PLAY BACK 2 CHL terminals, and the tape deck's rear LINE OUT terminals to the unit's PLAY BACK 4 CHL terminals.

RECORDER OUT

- 2 CHL ..... For 2 channel tape recording.
- 4 CHL ..... For 4 channel tape recording.

Connect the tape deck front LINE IN terminals to the unit's RECORDER OUT 2 CHL terminals and the tape deck rear LINE IN terminals to the unit's RECORDER OUT 4 CHL terminals.

NOTE:

You can record discrete 4 channel stereo only from discrete 4 channel source.

DIN

For 2 channel recording and playback using a DIN connection cord.

5. SPEAKER SYSTEMS

Connect the FRONT LEFT speaker to the FRONT LEFT speaker terminals, the FRONT RIGHT speaker to the FRONT RIGHT speaker terminals, the REAR LEFT speaker to the REAR LEFT speaker terminals, and the REAR RIGHT speaker to the REAR RIGHT speaker terminals.

IMPORTANT:

Power must be OFF when connecting speakers. Be careful not to cause a short circuit between the speaker terminals.

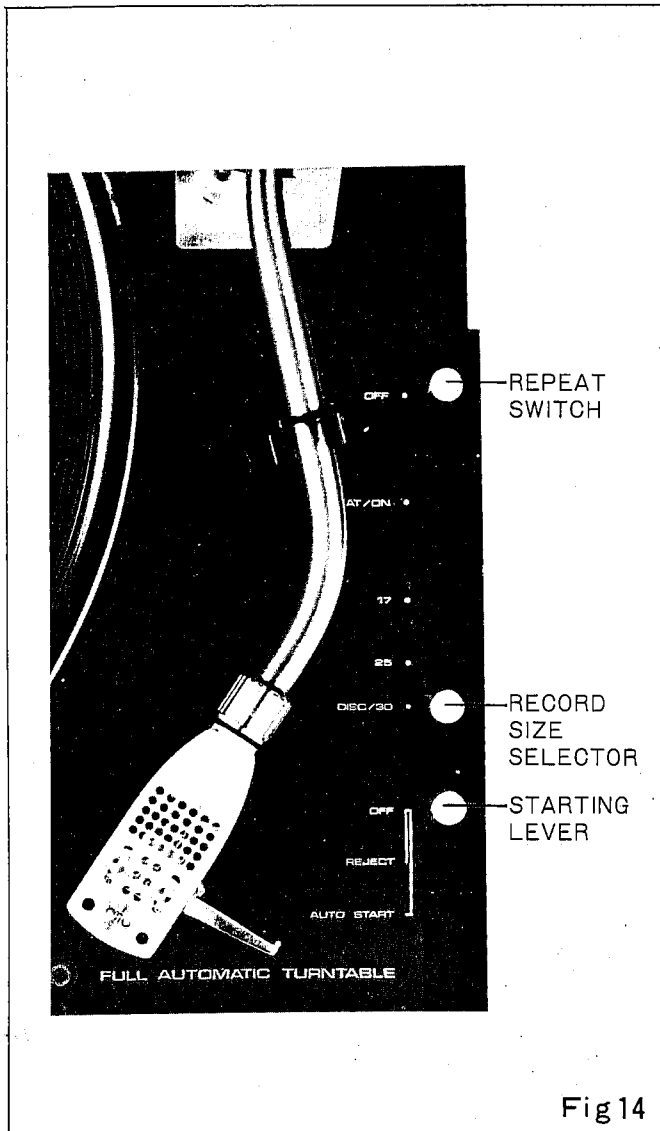


Fig 14

### IMPORTANT

1. Never force the pickup arm. This unit is robust but due to the featherweight action of the pickup and the delicate balance required, any force will upset the adjustment.
2. When playing new records a certain amount of fluff will gather on the stylus point. This should be carefully removed from time to time.
3. Do not leave records on the unit when not in use; store as recommended by the manufactures.
4. If the unit is to be moved, the transit screws should be fastened to secure the unit to the board.
5. **OVER HANG ADJUSTMENT**  
When you use other cartridge, the over hang adjustment must be done before the tracking force adjustment. Move the cartridge so that the stylus point becomes just above the over hang indicator.

### THE PICKUP SYSTEM

1. A diamond stylus should be replaced after 500 to 1,000 hours of operation, depending on the quality of records.
2. To remove the old stylus, pull out the stylus assembly holding the cartridge with your other hand. (Fig. 15)

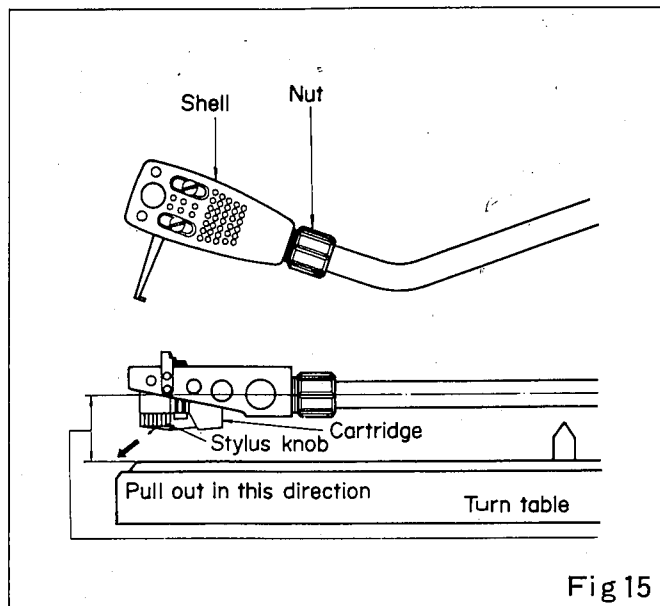


Fig 15

### TO PLAY A RECORD

#### LISTENING TO A 2 CHANNEL RECORD IN 2 CHANNEL STEREO

This 4 channel system can be used as a 2 channel stereo system using its front amplifiers through the front speakers.

1. Set the FUNCTION SELECTOR to PHONO or AUX, whichever is connected to the record player.

#### NOTE:

Be sure to connect a record player with magnetic cartridge to the "PHONO" terminals, a record player with ceramic or crystal cartridge to the AUX terminals.

2. Set the 2/4 CHANNEL SELECTOR to 2 CHL.
3. Adjust other controls as necessary.

#### LISTENING TO A 2 CHANNEL RECORD IN 4 CHANNEL STEREO

The built-in Sanyo matrix circuit and all 4 amplifiers are used for 4 channel playback from 2 channel sources.

1. Set the FUNCTION SELECTOR to PHONO.
2. Set the 2/4 CHANNEL SELECTOR to 2-2-4.
3. Adjust other controls as necessary.

#### LISTENING TO A 4 CHANNEL SQ RECORD

This unit includes the CBS SQ matrix circuit for optimum 4 channel playback of SQ records.

1. Set the FUNCTION SELECTOR to PHONO.
2. Set the 2/4 CHANNEL SELECTOR to SQ.
3. Adjust other controls as necessary.

#### LISTENING TO A CD-4 4 CHANNEL RECORD

This unit has a built-in CD-4 demodulator for playback of CD-4 4 channel records.

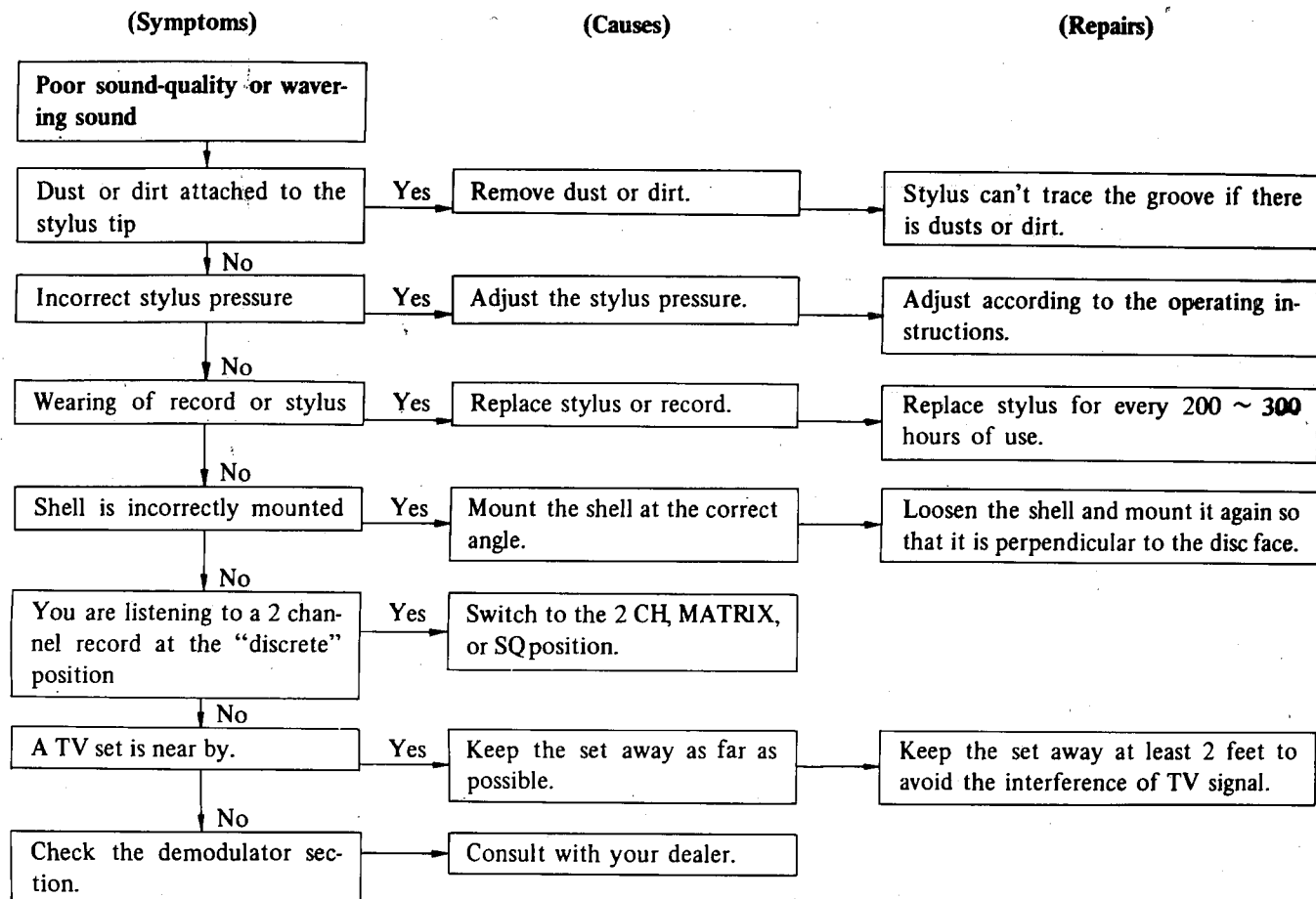
1. Set the FUNCTION SELECTOR to PHONO.
2. Set the 2/4 CHANNEL SELECTOR to DISCRETE.
3. Adjust other controls as necessary.

## SUGGESTIONS ON PLAYING CD-4 RECORDS

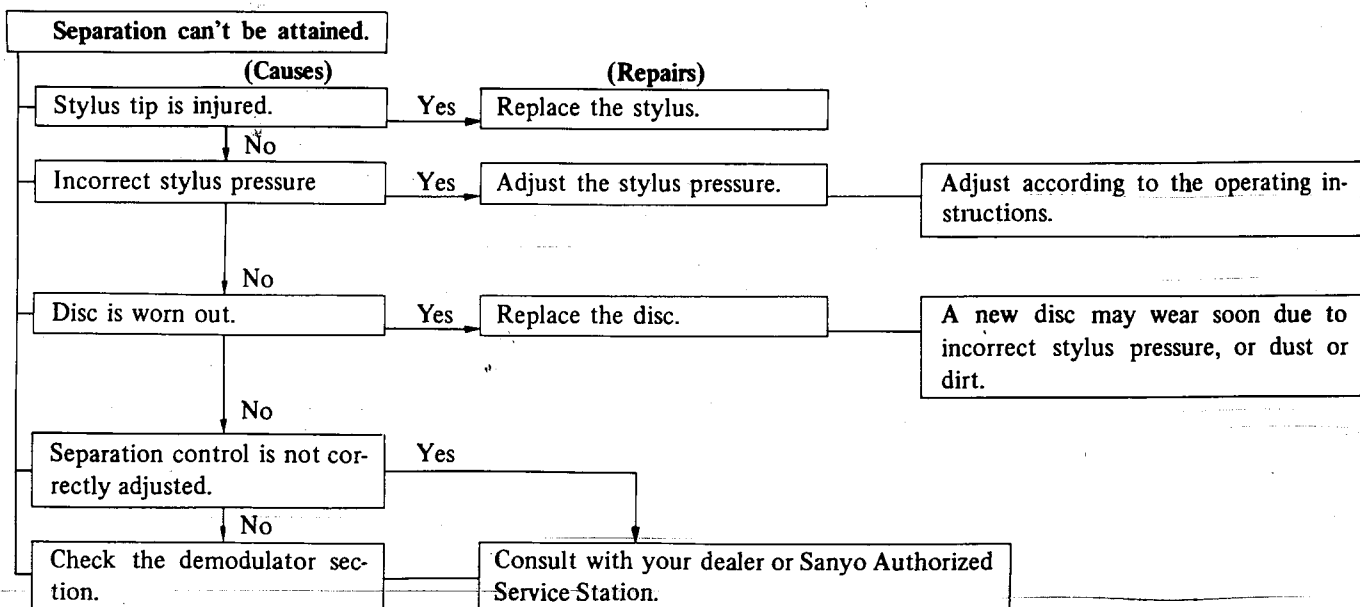
The CD-4 4 channel records must be carefully connected and operated for good results.

The following chart may be useful.

### (1) Poor sound-quality or wavering sound

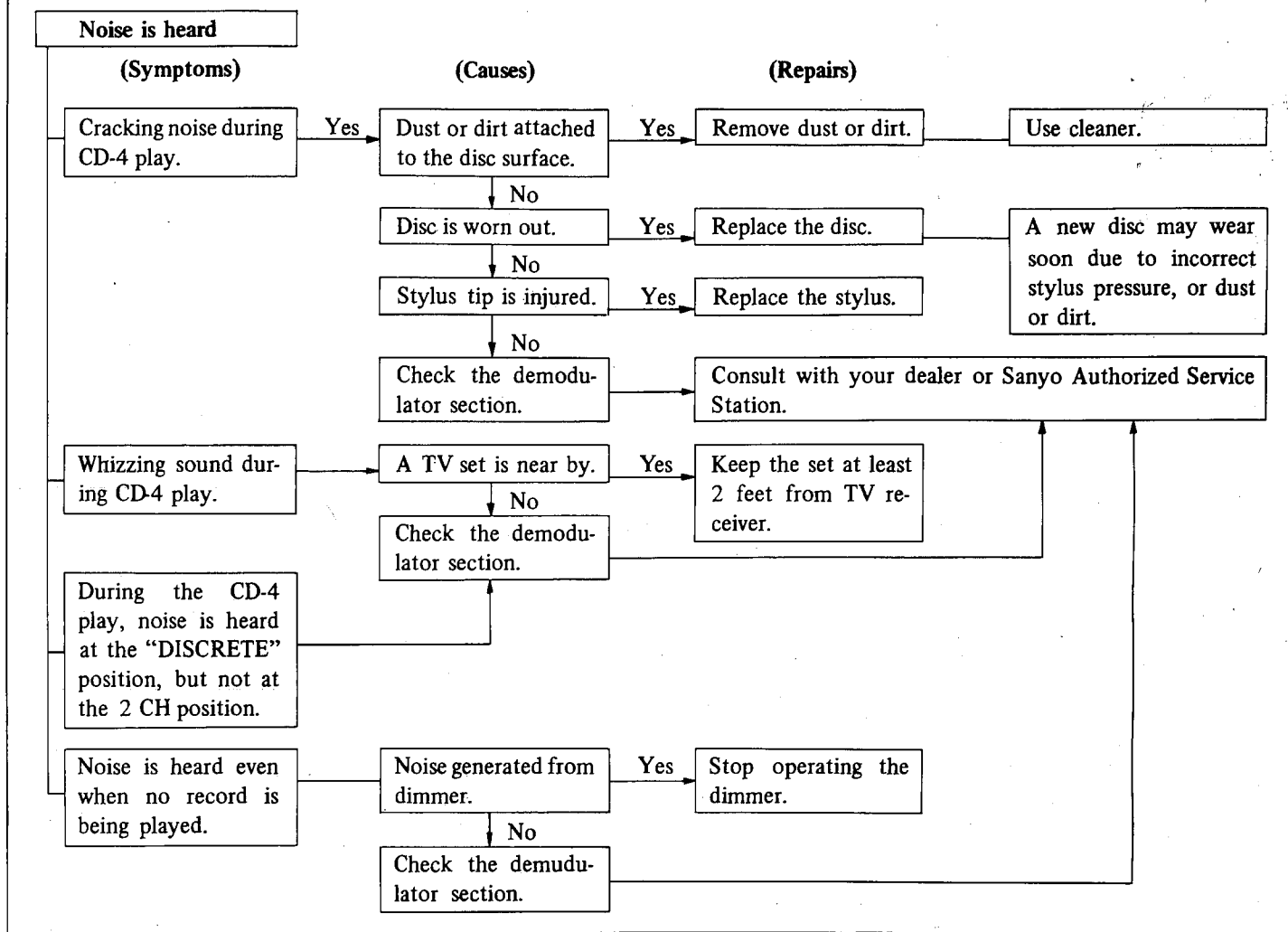


### (2) In case separation can't be attained





### (3) In case noise is heard



### ADJUSTMENT OF CD-4 PLAYBACK UNIT

In order to make the CD-4 system give full play to its wonderful performance, adjust the CD-4 playback unit by the methods described below using the test record.

However, this CD-4 playback unit has been adjusted at the factory and no adjustment is necessary.

This adjustment should be made only when

- (a) you replaced an old one for a new 4 channel cartridge, and
- (b) you accidentally touched the adjustment spots.

#### 1. 30kHz Carrier Level Adjustment

This has been pre-set at the factory and no adjustment is necessary.

#### 2. CD-4 Adjustment . . . . Channel Separation

(A warble tone for adjusting both left and right CD-4 controls to obtain a maximum 4 channel performance.) Turn the left CD-4 control to minimize the sound from the left back speaker, then the right control for right back speaker.

#### 3. Channel Balance Adjustment

Adjust the Spatial Controls with this tone so that the four speakers are of equal loudness.

#### 4. Channel Identification

If all connections and adjustment are properly done in your CD-4 system, chimes will be heard from each speaker in the order of left front, left back, right back, and right front.

The level at which you hear the chimes from each speaker will not necessarily be equal. Listen for the correct location of the chimes, not the level.

NOTE: When playing CD-4 records, 4 channel cartridge and CD-4 stylus must be used.

### LISTENING TO RADIO BROADCASTS

1. Set the function selector to FM AUTO or AM.
2. Select a desired station by turning the tuning knob.
3. Set the 2/4 channel selector to 2 CHL.
4. Adjust other controls as necessary.
5. The FM stereo indicator will light if an FM stereo broadcast is received.
6. For accurate tuning, tune for maximum deflection of the tuning meter.
7. FOUR CHANNEL LISTENING
  - a. 2 channel FM stereo broadcasts  
Set 2/4 channel selector to 2-2-4 or RM position. This circuit decodes 4 channel information already contained in 2 channel broadcasts. The decoded 4 channel information is processed through the system's four amplifiers and the system's four speakers.
  - b. 4 channel SQ broadcasts  
Set function selector to FM AUTO, set 2/4 channel selector to SQ position.

## HOW TO USE THE MICROPHONE EFFECTIVELY

By connecting the microphone, the amplifier-speaker system can be used as a public address system. It is also possible to mix microphone sound with a radio, record, or other program.

1. Before connecting a microphone, set the MIC switch to OFF or turn down the MIC LEVEL control all the way.
2. Connect the microphone to the MIC input jack.
3. Pull the MIC switch to ON.
4. Turn the MIC LEVEL control clockwise to obtain the desired microphone sound level.

### NOTE:

If "howling" (acoustic feedback) occurs, move the microphone far way from the loudspeakers, or turn the MIC LEVEL control down, or turn the MIC switch off.

## TAPE MONITOR SWITCH OPERATION (Fig. 16)

1. When recording using a three-head tape deck connected to the TAPE input jacks, set the tape monitor switch to PLAY, then recorded sounds will be played back through the playback head, amplifier, and speaker while recording.
2. Set the tape monitor switch to SOURCE to hear the sound before it is recorded.

### NOTES:

1. You can check the recording quality when using a three-head tape deck by switching between PLAY and SOURCE with the tape monitor switch.
2. The tape recorder must be connected to the RCA jacks "RECORDER OUT" and "PLAY BACK." Monitoring of the tape while recording is not possible via the DIN connector REC/PB.

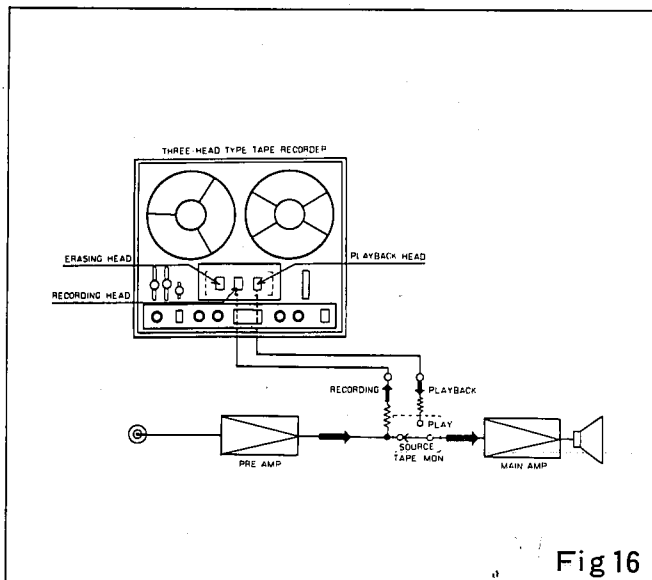


Fig 16

## TAPE RECORDING AND PLAYBACK WITH A TAPE DECK (Fig. 17)

### TAPE RECORDING

Connect a 2-ch or 4-ch tape deck to appropriate RECORDER OUT terminals. In addition to 2-ch recording, this unit is also capable of 4-ch recording from a discrete 4-ch source. Besides, it is also possible to record a 2-ch stereo broadcast in the 2-ch mode, and playback

it in the 4-ch mode through the matrix circuit. When recording with a 3-head 2-ch tape deck, it is possible to monitor the recorded sound while recording is going on. In this case the tape monitor switch must be set to the PLAY position.

When using a cassette tape deck or a 8 track tape deck and it is desired to record while listening to the sound, be sure to set the tape monitor switch to the SOURCE position.

### NOTES:

1. When the set is in the recording mode, all the DIMENSION CONTROL, BASS and TREBLE controls are ineffective.
2. For MIC MIXING recording, set the MIC MIXING switch at the back of the set to "IN". Note that, in this case, the DIMENSION CONTROL, BASS, and TREBLE controls are effective for controlling the sound quality. Be sure to set the tape monitor switch to the SOURCE position.

## TAPE PLAYBACK

- A. 2 channel stereo playback in the 2 channel mode.
  - (1) Connect tape deck outputs to the unit's 2 CH TAPE PB jacks.
  - (2) Set the 2/4 channel selector to the 2 channel position.
- B. Playback of 2 channel stereo tapes in the 4 channel mode through the matrix circuit.
  - (1) Connections are the same as above.
  - (2) Set the 2/4 channel selector to the 2-2-4 or RM position.
- C. Playback of 4 channel 8 track discrete tapes.
  - (1) Connect the tape deck's 4 outputs to the 4 CH TAPE PB jacks on the set.
  - (2) Set the 2/4 channel selector to the DISCRETE position.

### NOTE:

For playback of an external tape deck connected to the unit's "TAPE PB" jacks, the tape monitor switch must be in the PLAY (down) position. If a tape deck is connected to the unit's AUX input jacks (for example, when using two tape decks), the tape monitor switch must be in the SOURCE position with the unit's function selector in the AUX position.

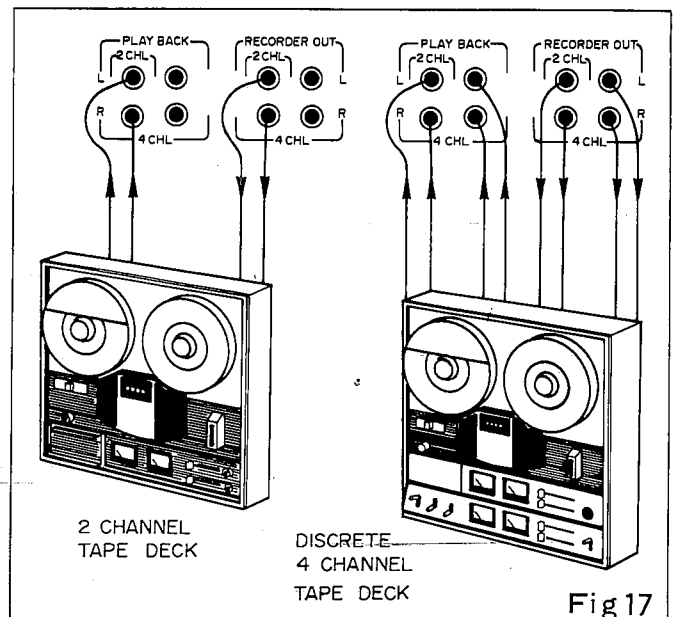


Fig 17

## TYPICAL 4 CHANNEL SPEAKER PLACEMENT

Generally, speakers should be placed in the corners of the room so that the listener is seated within a rectangle drawn by the speakers. However, effective 4 channel sound can be heard with two speakers on one wall and the other two speakers on an adjacent wall. The spatial controls on the unit can be adjusted for the best 4 channel effect.

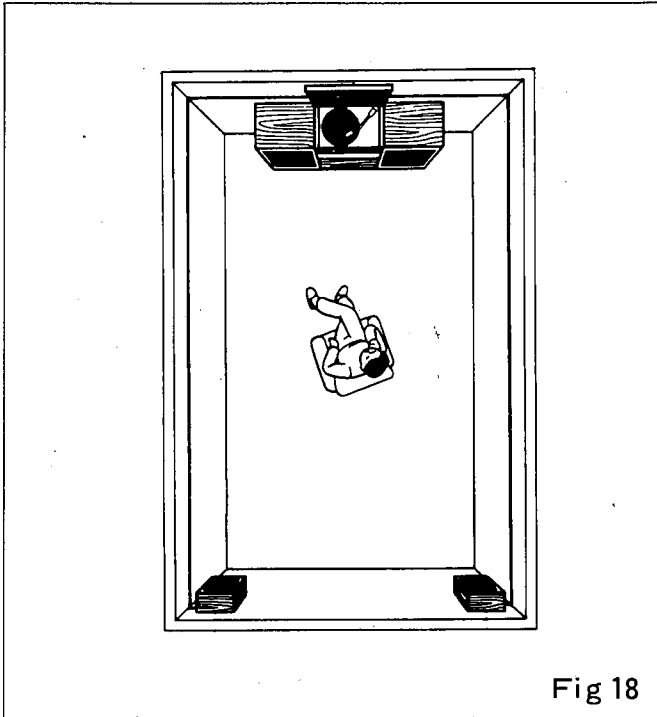


Fig 18

### ABOUT SANYO

Sanyo is one of the world's largest manufacturers of quality electronic equipment. Our products include television receivers, radios, high fidelity audio equipment, stereo equipment, automobile stereo equipment, and tape recorders.





SANYO ELECTRIC CO., LTD.

1316-4119-33103