

LAFAYETTE
LAFAYETTE
LAFAYETTE
LAFAYETTE
LAFAYETTE
LAFAYETTE
LAFAYETTE
LAFAYETTE
LAFAYETTE
LAFAYETTE
LAFAYETTE
LAFAYETTE
LAFAYETTE
LAFAYETTE
LAFAYETTE
LAFAYETTE

LA-975

4-Channel
SQ
Decoder/Rear Amplifier



LAFAYETTE®

OWNERS' MANUAL



**4-CHANNEL
SQ DECODER
AND
REAR CHANNEL AMPLIFIER
Model LA-975**

99-02859



Trademark of Columbia Broadcasting System, Inc.

ENTIRE CONTENTS COPYRIGHTED © 1972 BY LAFAYETTE RADIO ELECTRONICS CORPORATION • SYOSSET, L.I., N.Y. 11791 • ALL RIGHTS RESERVED

1M-514 8/72 5M/G

CONTENTS

GENERAL SECTION

SQ - STEREO QUADRAPHONIC SOUND	4
GENERAL DESCRIPTION	5
GENERAL INSTALLATION	5

4-CHANNEL SQ DECODER/AMPLIFIER OPERATION

CONNECTIONS FOR 4-CHANNEL DISCRETE/SQ OPERATION	7
PLACEMENT OF THE FOUR SPEAKERS	8
CONNECTING REAR SPEAKERS	12
SQ DECODER/AMPLIFIER CONTROL FUNCTIONS	15
OPERATING PROCEDURES FOR 4-CHANNEL STEREO	20
Initial Control Settings	20
4-CHANNEL SQ OPERATION	21
DISCRETE 4-CHANNEL STEREO TAPE OPERATION	22
DERIVED 4-CHANNEL STEREO OPERATION	23
SELECTION OF DECODER CIRCUITS	24
SPEAKER PHASING	26
DECODER/AMPLIFIER MAINTENANCE	30

STEREO OPERATION

INSTRUCTIONS FOR STEREO OPERATION	31
Speaker Connections	31
Connecting a Stereo Record Player	34
Connecting a AM/FM Stereo Tuner	34
Connecting a Stereo Tape Record/Playback Deck	35
STEREO AMPLIFIER CONTROL FUNCTIONS	35
OPERATING PROCEDURES FOR STEREO	39
Operating In The 4-Dimensional Stereo Mode	40
Speaker Phasing	42
STEREO AMPLIFIER MAINTENANCE	45

RETURNING THE UNIT FOR SERVICE	46
------------------------------------------	----

SPECIFICATIONS	47
--------------------------	----

INSERTS	1. Operating Charts [4-Channel and Stereo].
	2. Main Circuit Dia- gram, Internal View, and Functional Block Diagram.

SQ*

STEREO QUADRAPHONIC SOUND

A new world of recorded sound on records has been created -- a world of sound in its natural environment. It is called Stereo Quadraphonic [SQ] because it is reproduced by playing four different channels through four separate speakers.

With four sound sources, and four speakers placed so as to surround the listening area, the listener will be provided with a startling listening experience. For example, concert music lovers will be placed right into the concert hall where the performance took place, instead of attempting to translate the performance into a living room environment. More than this, though, the SQ recording system also makes it possible to place the listener on the conductor's podium, on stage, in the middle of the orchestra, or at the back of the concert hall. And for pop music lovers, totally new experiences are possible. Sound swirling all around -- sound that can be placed at the front of, to either side of, or behind the listener.

This total realism and flexibility has been the goal of recording engineers the world over since sound reproduction was invented. It is now available to you on the new Columbia SQ disc.

The SQ disc is fully compatible with all existing home, broadcast or studio equipment. An SQ record will play like a regular 2-channel stereo record on any standard stereo unit. To play it in 4-channel stereo, you need an SQ decoding unit and 4-channels of amplification [plus four speakers]. No special record player is required. SQ records can also be played over the air on FM in the same manner as standard stereo and received through conventional FM tuners. If you have a decoding unit and 4-amplifying channels, plus four speakers, you can receive 4-channel stereo right over the air.

The Lafayette LA-975 includes the necessary SQ decoder circuitry and two "rear" channels of amplification. When used in conjunction with your existing stereo unit [which will provide the "front" channels], you will enjoy the startling realism of Stereo Quadraphonic sound. All you need is a standard stereo record player and one of the many SQ records now available [plus two additional speakers, of course]. And if SQ records are being broadcast over FM in your area, you can readily tune to these broadcasts if your existing unit is a receiver, and enjoy the same superb stereo Quadraphonic sound.

*Developed by CBS Labs
A Division of Columbia Broadcasting System, Inc.

GENERAL DESCRIPTION

The Lafayette LA-975 is a combined 4-channel SQ decoder with front-to-back logic circuits and a two-channel auxiliary [rear] stereo amplifier. It will provide discrete [tape] or "SQ" four-channel stereo operation when used in conjunction with an existing two-channel stereo amplifier or receiver. This operation is possible only when the existing stereo unit has Tape Monitor switching facilities. The LA-975 will provide the two "rear" channels of sound through its two amplifiers, with the existing stereo unit providing the two "front" channels.

One of the unique features of this amplifier is its ability to be used as a conventional stereo amplifier, if desired. All necessary controls and inputs are provided for such use. When operated alone as a 2-channel stereo amplifier, the unit can be used with just two speakers to provide conventional stereo, or with four speakers to provide 4-Dimensional Stereo. This is made possible through the inclusion of a simple adapter circuit in the outputs of the stereo amplifier. You should remember, however, that the SQ and Composer decoder circuits in the amplifier cannot be utilized when the unit is operated in this manner. True four-channel operation is only possible when the LA-975 is used in conjunction with another stereo amplifier or receiver, so that four channels of amplification are available.

Finally, proper performance will be realized only if you connect all associated equipment properly and if you operate the new 4-channel stereo system in the correct manner.

Even if you have had previous experience with high fidelity equipment, we strongly urge you to read all the instructions before attempting to install and operate the unit.

Remember, the extra time spent in reading the instructions will ensure the best possible results from your complete system and avoid any needless disappointment.

GENERAL INSTALLATION

AMPLIFIER LOCATION

The decoder/amplifier may be used in any convenient location such as an equipment cabinet shelf, table or bookcase. It is recommended that the unit be installed as close as possible to the existing amplifier or receiver to facilitate connections [if used as an "add-on"].

The amount of heat generated by the unit is small compared to vacuum-tube amplifiers. Even so, provision must be made for some ventilation in order to disperse the small amount of heat generated. Leave at least two inches above and behind all units. Do not install the units near radiators, hot air vents, or other sources of heat.

AC POWER

The unit operates from a power source of 105–120 volts AC, 50 or 60 Hz. Do not attempt to use the unit on any other power source, or damage will result.

Plug the AC power cord from the decoder/amplifier into the nearest outlet supplying the required AC power.

If the decoder/amplifier is being used as an "add-on" unit with an existing stereo system we suggest you plug the AC line cord into the "switched" AC outlet on the existing stereo unit, and leave the decoder/amplifier power switch permanently "on". Switching on the existing stereo unit will then automatically switch both units on.

AC CONVENIENCE OUTLETS

There are two AC outlets provided at the rear of the decoder/amplifier. One of these is a "switched" outlet which supplies AC power only when the unit is switched on. The other is an "unswitched" outlet which supplies AC power at all times, even when the unit is switched off.

If the decoder/amplifier is being used alone as a stereo amplifier, the "unswitched" AC outlet should be used to supply AC power to a stereo record player or stereo tape recorder [units of this type should never be connected to a "switched" AC outlet]. The "Switched" AC outlet should be used to supply AC power to an FM stereo tuner [if used].

If the decoder/amplifier is being used as an "add-on" unit, and its AC power cord is connected to the switched AC outlet on the existing stereo unit, do not use either of the AC convenience outlets for any equipment, since this might cause too much total power to be drawn from the "switched" AC outlet on the existing stereo unit. If you are using a 4-channel tape recorder or player, we recommend that you plug its AC line cord directly into an AC wall outlet.

GROUND CONNECTION

A ground screw at the rear of the decoder/amplifier provides for optional connection between the unit and other Hi-Fi components that may be used in a system.

If you are using the decoder/amplifier alone as a stereo amplifier, the ground screw should be used for the ground wire from a record player.

CONNECTIONS FOR 4-CHANNEL DISCRETE AND SQ OPERATION

This section provides detailed instructions for the connection of the decoder/amplifier to an existing stereo amplifier or receiver. This will convert the existing stereo system to a full 4-channel system capable of discrete or SQ 4-channel operation. If the decoder/amplifier is going to be used alone as a stereo amplifier, disregard this section and proceed to "Instructions For Stereo Operation" which may be found at the end of this manual.

CONNECTIONS TO THE EXISTING STEREO UNIT

IMPORTANT: The existing stereo amplifier or receiver must have the following:

1. Stereo Tape Output Jacks.
2. Tape Monitor switching facilities. Such a unit will have a switch with the designation "Tape Monitor" and there will also be a set of input jacks on the unit marked "Tape In", "Tape Play", "Tape Monitor In", etc., which will be selected when the Tape Monitor switch is placed in the "on" position.

Figure 1 illustrates the required connections to an existing stereo unit [the unit shown is the Lafayette LR-1000B, but may be taken as being representative of many other stereo receivers].

1. Connect the left and right TAPE OUT, TAPE REC., etc., output jacks on the existing stereo unit to the left and right jacks on the decoder/amplifier marked "SOURCE". Use shielded audio cables with RCA-type phono plugs at each end.
2. Connect the left and right output jacks on the decoder/amplifier marked "FRONT" to the left and right input jacks on the existing stereo unit marked TAPE IN, TAPE PLAY, TAPE MONITOR, etc.

EXISTING TAPE RECORDER

If a stereo tape recorder was previously connected to the "Tape Record" output jacks on the existing stereo unit, you can now connect the two cables to the TAPE REC output jacks on the decoder/amplifier. The outputs of the tape recorder should be connected to the AUX inputs on the existing stereo unit [see Figure 4].

CONNECTING A DISCRETE 4-CHANNEL SOURCE

Discrete 4-channel program sources [such as the Lafayette RK-48A 4-channel tape player] are connected directly to the decoder/amplifier. This also applies to any other type of 4-channel source such as an open reel tape recorder.

The four output cables from the discrete 4-channel source are connected to the four input jacks on the decoder/amplifier marked "DISCRETE" [see Figures 1 and 3].

If the discrete 4-channel source [such as 4-channel tape player] is capable of playing 2 and 4-channel program material, you can use the type of connections shown in Figures 1 and 3. You will note that the "front" output cables from the 4-channel tape unit are connected to the DISCRETE input jacks on the decoder/amplifier and also to the AUX inputs on the existing stereo unit. To do this, you will need two "Y" connectors. Suitable "Y" connectors, with a phono plug at one end and two phono jacks at the other end, are available under Lafayette stock no. 99-00937. You will also need two extra audio cables with a phono plug at each end [to connect to the AUX input jacks on the existing stereo unit].

By making this type of connection, you will be able to enjoy derived 4-channel sound when playing 2-channel program material on the discrete 4-channel tape unit.

If the 4-channel tape unit has monitoring provisions, connect the four output cables to the four input jacks on the decoder/amplifier marked TAPE MON. To select these inputs, you must depress the front panel push-button marked MON.

Recording signals for a 4-channel tape recorder are obtained from the 4 CH REC OUT jacks on the decoder/amplifier. The output at these jacks is dependent on the position of the MODE switch which will determine the type of signals available. For example, if you are playing an SQ record and the Mode switch is set to "SQ", the output at the 4 CH REC OUT jacks will consist of four decoded signals.

EXISTING 2-CHANNEL STEREO SOURCES

All existing 2-channel stereo program sources such as stereo record players, or stereo tuners, etc., should be connected to the appropriate inputs on the existing stereo unit. Do not connect them directly to the 2-channel inputs on the decoder/amplifier. The exception to this is the arrangement shown in Figure 4.

PLACEMENT OF THE FOUR SPEAKERS

Figure 5 illustrates the suggested speaker placement in the listening room. The left and right "Front" speakers should be spaced six to eight feet apart, but this may be extended to as much as ten feet provided the speakers are angled in toward the listening area.

The "Rear" speakers should be placed at the rear of the listening area, one on each side as shown. Spacing between these speakers can be greater than that of the front speakers if necessary. For example, if the front speakers are eight feet apart, the spacing between rear speakers could be ten to twelve feet. In all cases, rear speakers must be angled in toward the listening area. Also, placing them slightly behind the listening position will prove beneficial.

A certain amount of experimentation after the entire system is operating will be helpful in arriving at the most effective-sounding arrangement.

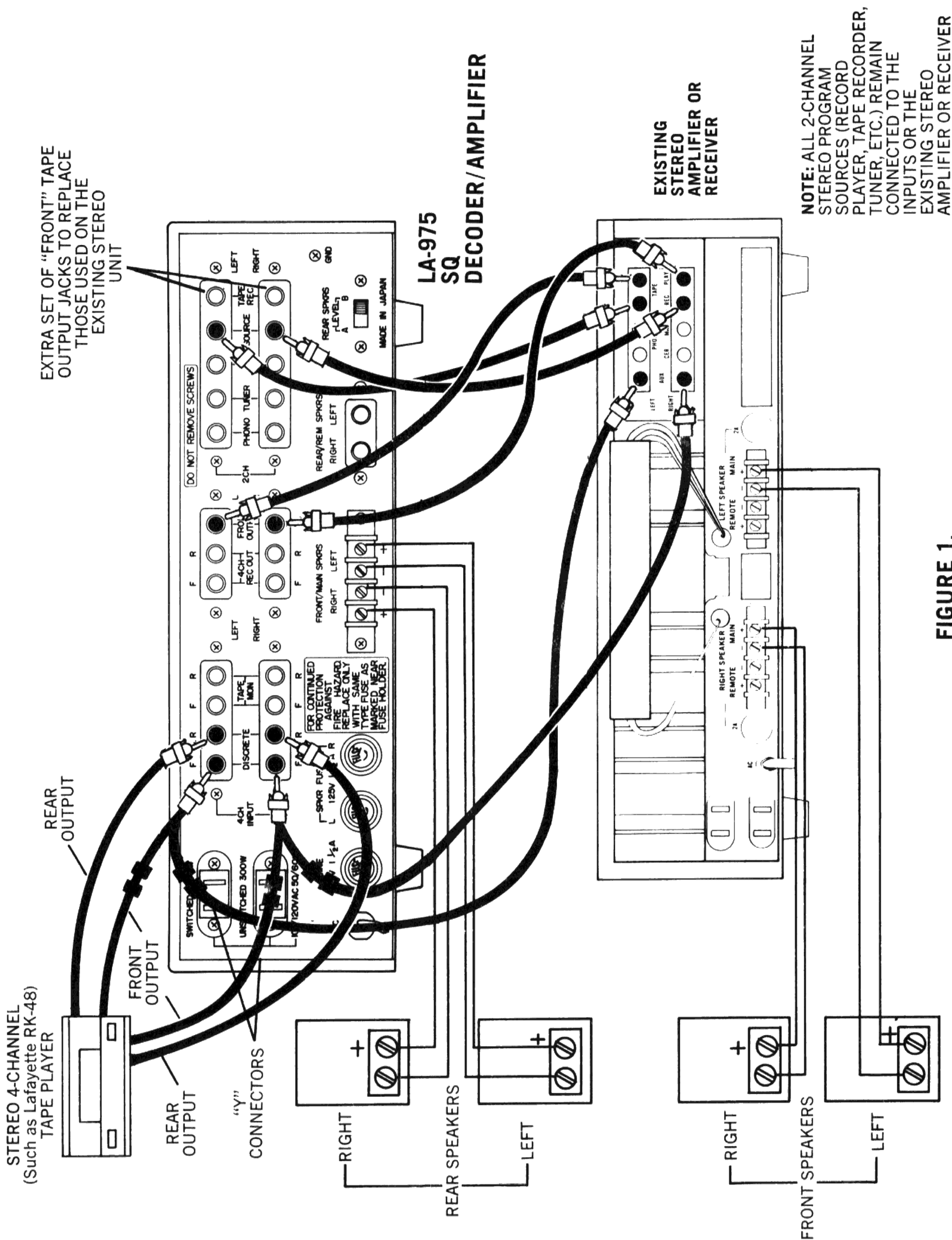
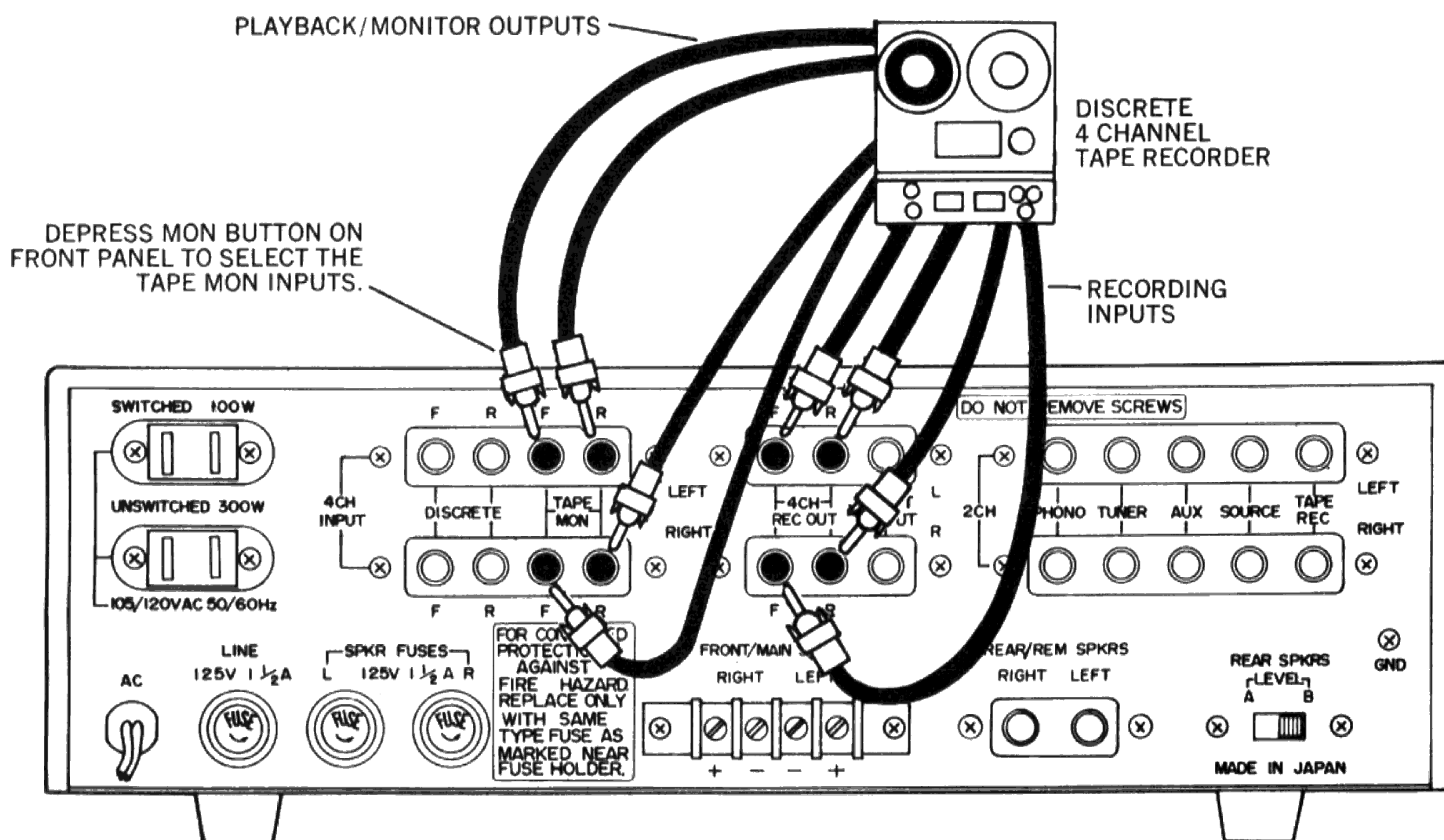
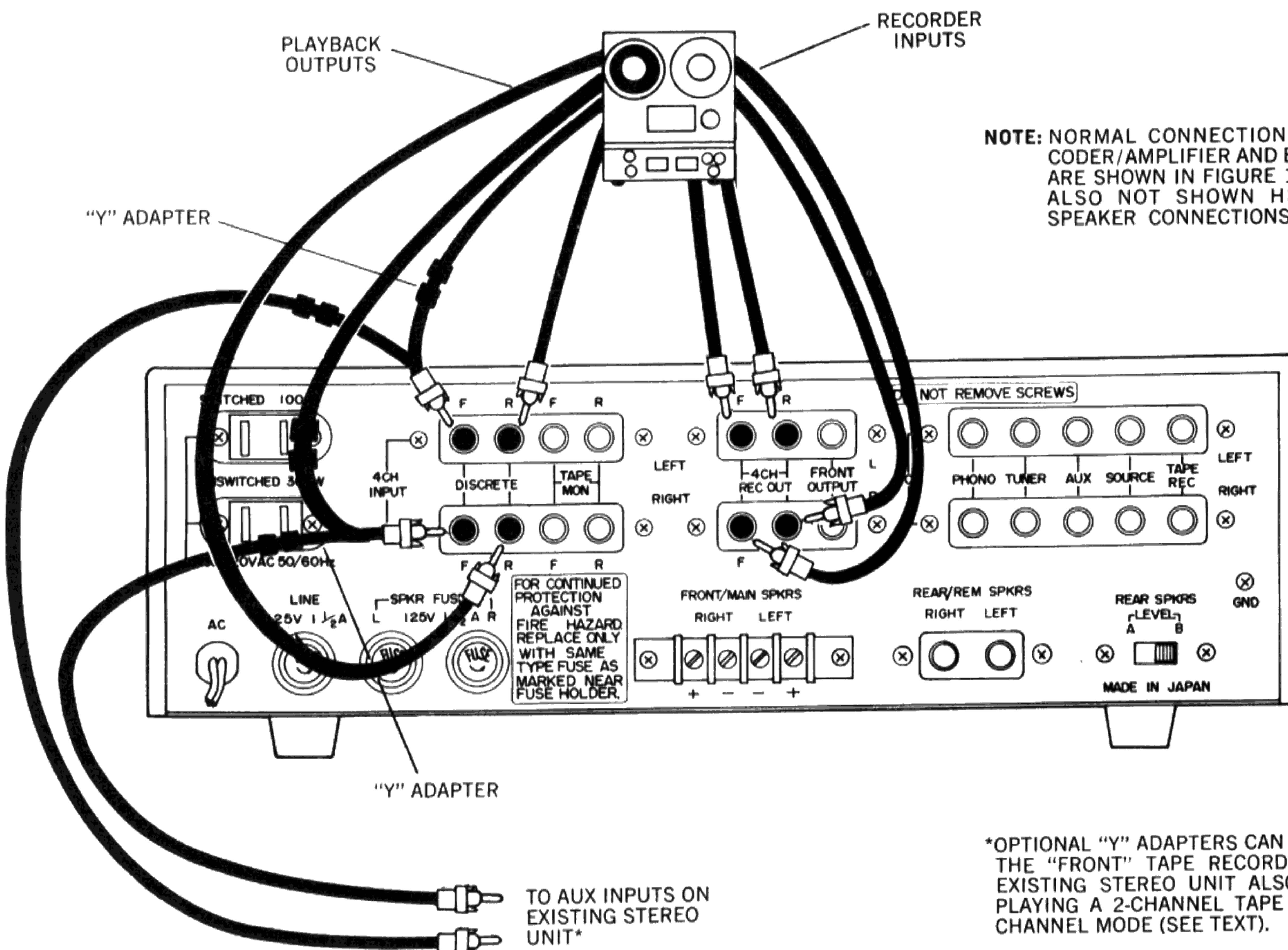


FIGURE 1.



NOTE: NORMAL CONNECTIONS BETWEEN THE DECODER/AMPLIFIER AND EXISTING STEREO UNIT ARE SHOWN IN FIGURE 1 AND MUST BE MADE. ALSO NOT SHOWN HERE ARE REQUIRED SPEAKER CONNECTIONS.

FIGURE 2.—CONNECTING A DISCRETE 4-CHANNEL TAPE RECORDER (equipped with Tape Monitoring facilities)



NOTE: NORMAL CONNECTIONS BETWEEN THE DECODER/AMPLIFIER AND EXISTING STEREO UNIT ARE SHOWN IN FIGURE 1 AND MUST BE MADE. ALSO NOT SHOWN HERE ARE REQUIRED SPEAKER CONNECTIONS.

*OPTIONAL "Y" ADAPTERS CAN BE USED TO CONNECT THE "FRONT" TAPE RECORDER OUTPUTS TO THE EXISTING STEREO UNIT ALSO, AND THUS PERMIT PLAYING A 2-CHANNEL TAPE IN THE "DERIVED" 4-CHANNEL MODE (SEE TEXT).

FIGURE 3.—CONNECTING A DISCRETE 4-CHANNEL TAPE RECORDER (not equipped with Tape Monitoring facilities)

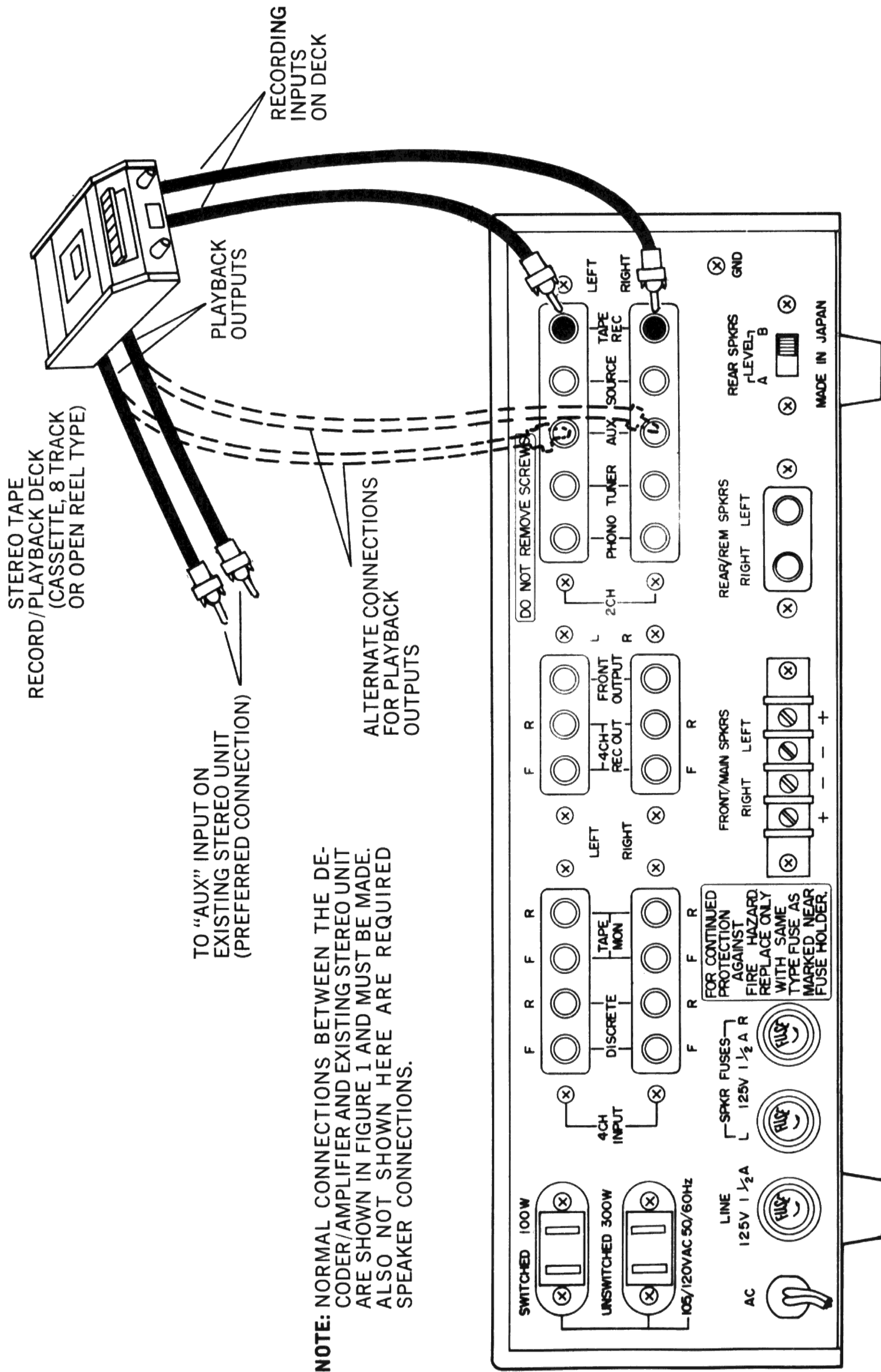


FIGURE 4—CONNECTING A STANDARD STEREO TAPE RECORDER

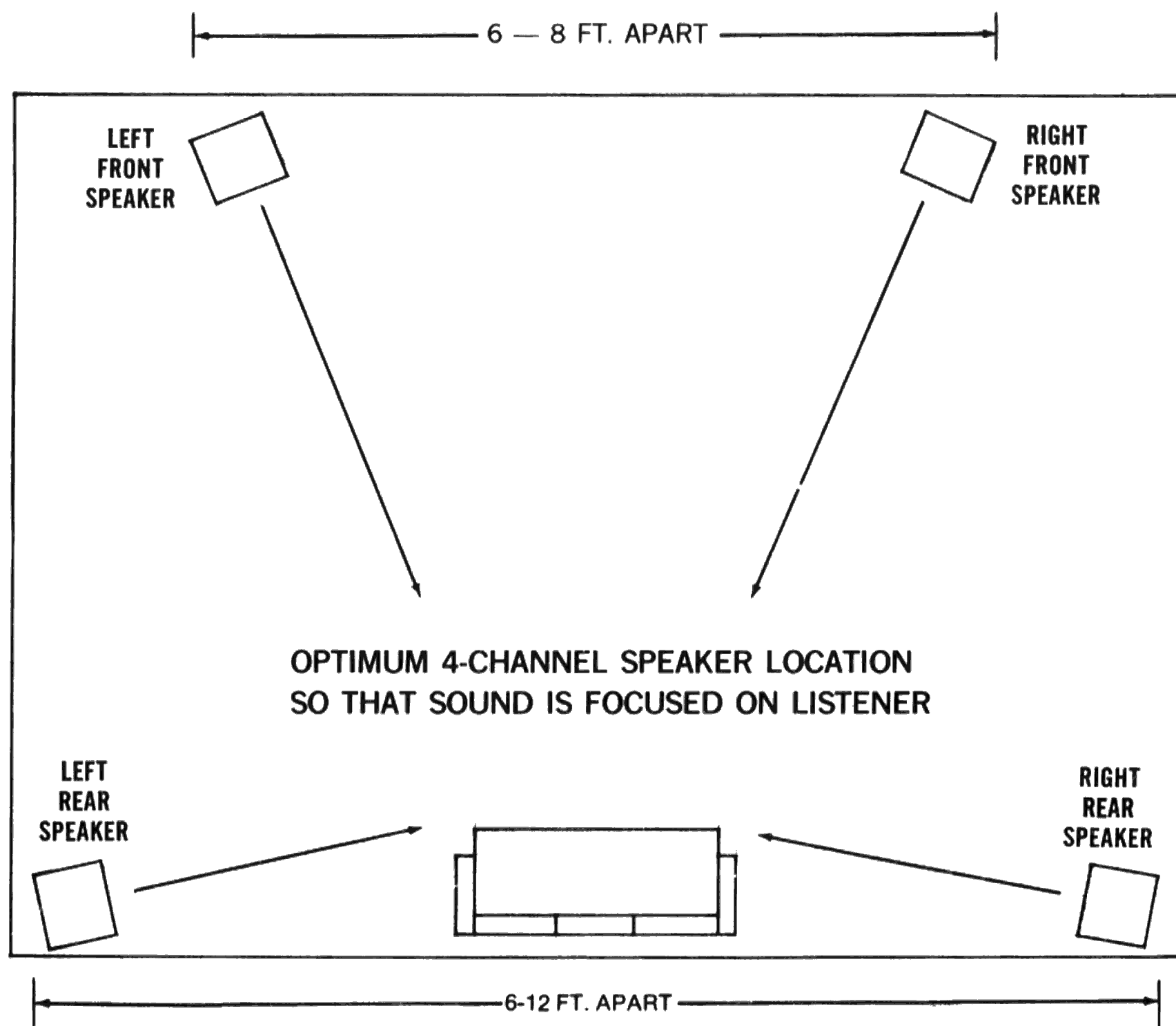


FIGURE 5

CONNECTING REAR SPEAKERS

This section deals only with the connection of "rear" speakers to the decoder/amplifier, since it is assumed that two speakers [which will serve as "front" speakers] are already connected to the existing stereo unit in the correct manner, as indicated in the instruction book accompanying it.

The decoder/amplifier may be used with speakers having an impedance rating of 4 or 8 ohms, and having a music power rating of 25 watts or more. Ideally, all four speakers in a 4-channel system should be identical. However, speakers of a different model or even of a lesser quality can be used for rear speakers, without any serious compromise in the quadrasonic performance. Where possible though, we suggest that the rear speakers be matched to each other.

Before attempting connection of the rear speakers to the decoder/amplifier, we suggest you read the section which deals with speaker placement in the room. You can then place the rear speakers in their selected positions in the room before actually connecting them to the decoder/amplifier.

You will find that two 30 ft. lengths of 2-conductor speaker cable will be adequate in most rooms, but this can quickly be determined once the speakers are in their selected positions. Always allow excess cable to permit changing of speaker locations if necessary.

NOTE: The speaker cable you intend to use should be checked for some sort of marking which distinguishes one conductor from the other. In some cables, one wire is silver-colored and the other copper-colored. In other cases, the insulation over one wire may have a raised rib or line on it to differentiate this conductor from the adjacent one. By properly identifying the conductors at each end of the cable, you will be able to make sure that the two speakers are connected identically to the output terminals on the decoder/amplifier, and thus ensure that the rear speakers are "in phase".

REAR SPEAKER CONNECTIONS

Figure 1 illustrates the manner in which the rear speakers are connected. Note that the wires are attached to the terminals marked FRONT/MAIN SPKRS. These are the proper terminals to use for rear speakers in this case.

Connect the right rear speaker to the two terminals marked RIGHT, and the left rear speaker to the two terminals marked LEFT. If the speakers have coded terminals [one of the two terminals may be marked with a red dot, red insulator or a "+" sign], connect the wire from this "marked" terminal on each speaker to the "+" terminal in each case. This is shown in Figure 1.

CAUTION: When connecting speakers, make sure that the bare wires at the end of each cable do not touch each other, an adjacent terminal, or the decoder/amplifier chassis. Failure to observe this precaution may produce a short-circuit and cause a speaker fuse to blow.

REMOTE SPEAKER CONNECTIONS [OPTIONAL]

Figure 6 illustrates how remote "rear" speakers are connected to the decoder/amplifier. Remote "front" speakers are connected to the Remote terminals on the existing stereo unit. With front and rear remote speakers located in another room, you can enjoy 4-channel stereo in a second area.

Rear remote speakers must be connected to the decoder/amplifier phono-type jacks marked REAR/REM SPKRS [these jacks are used for "rear" speakers only when the unit is used alone as a stereo amplifier]. Connections from the remote rear speakers to these jacks are made with cables equipped with a phono-type plug at one end and bare wires at the other. Thirty feet prepared cables of this type [in a set of two] are available from Lafayette under the following stock numbers.

99-00515

15 ft. lengths [set of 2]

99-00457

30 ft. lengths [set of 2]

If even the 30 ft. length proves too short, it can be extended by splicing an additional length of regular 2-conductor speaker cord to the bare wire end.

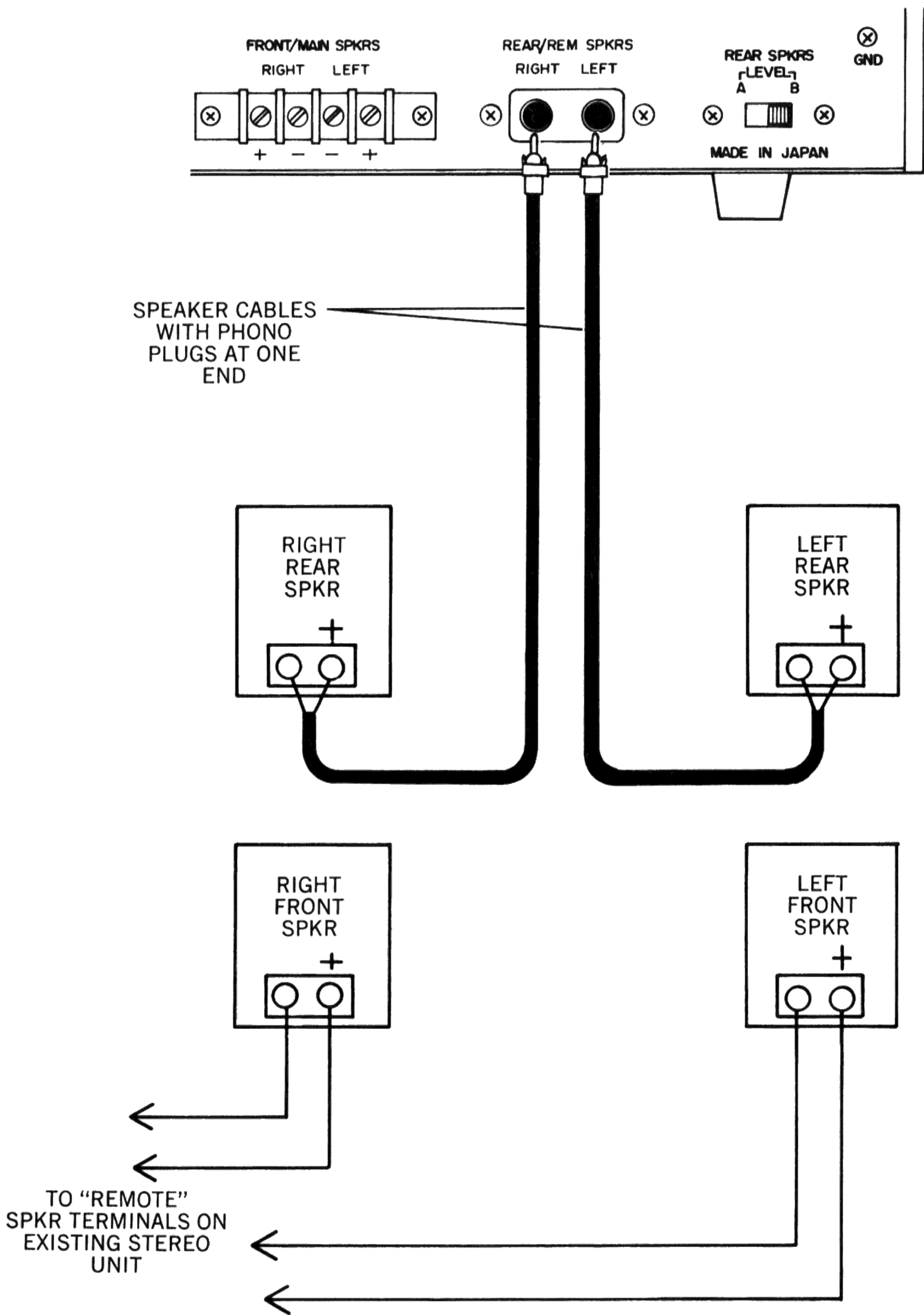


FIGURE 6—REMOTE SPEAKER CONNECTIONS FOR DISCRETE OR SQ 4-CHANNEL OPERATION

SQ DECODER/AMPLIFIER CONTROL FUNCTIONS

PUSH BUTTON OPERATION

Some of the switches on this decoder/amplifier are of the push button type. They are set to the "on" position by simply pushing in to lock them into the depressed [in] position. To release a button from the depressed position, push it in momentarily and release -- the button will go into the "out" [off] position.

SELECTOR SWITCH

This switch selects any 2-channel stereo program source connected to the 2-channel inputs on the decoder/amplifier. However, when the unit is used as an add-on SQ decoder/amplifier, the SOURCE position is generally the only position used. This will select the 2-channel stereo program source [regular or "encoded"] supplied by the existing stereo unit [from its Tape Output jacks]. The only exception is when you have connected the output of a stereo tape recorder directly to the Aux inputs on the decoder/amplifier [as shown in Fig. 4]. You must then use the Aux position on the Selector for tape playback.

MODE SWITCH

The only positions used for full 4-channel operation are COMP A, COMP B, SQ and DISCRETE.

Composer A Position

This selects one type of decoder circuit which can be used with 4-channel records, etc., which have been encoded by means of a matrix system other than SQ. It can also be used to produce "derived" 4-channel sound from conventional stereo program sources [see COMPOSER B also].

Composer B Position

This selects another type of decoder circuit which can be used with 4-channel records, etc., which have been encoded by means of a matrix system other than SQ. It can also be used to produce "derived" 4-channel sound from conventional stereo program sources [see COMPOSER A also].

SQ Position

This selects a decoder circuit which provides precise 4-channel decoding of all SQ-encoded program sources. Special electronic logic circuits are included which cause

vocalists or performers to be presented sharply at the center front or at the center back, in accordance with the manner in which the 4-channel recording was made. The overall effect of this action is an increased front-to-back separation of sounds, providing distinctly separate performers in front of, and behind, the listener.

Discrete Position

This selects any discrete 4-channel program source that may be connected to the four DISCRETE input jacks [a 4-channel tape recorder or tape player for example].

MASTER CONTROL

This is a master volume control which is used to adjust the sound level of all four channels simultaneously. [See section titled "Initial Volume Adjustments For SQ /DISCRETE 4-CHANNEL OPERATION].

VOLUME/BALANCE CONTROLS

These are concentrically mounted volume controls for left and right rear channels. The control closest to the front panel adjusts the left rear channel, and the outer control adjusts the right rear channel.

BASS CONTROLS

These consist of two separate but concentrically mounted friction controls that will allow you to increase or decrease the bass [low tones] in the rear channels. Clockwise rotation will increase the bass tones and counter-clockwise rotation will decrease them.

The bass response of right or left rear speakers may be adjusted separately by rotating the appropriate control individually [hold one control firmly while adjusting the other]. The inner control [closest to front panel] adjusts the left channel and the small outer control adjusts the right channel.

TREBLE CONTROLS

These controls operate in the same way as the BASS controls except that they provide adjustment of the treble [high] tones for the rear channels.

HI FIL BUTTON [HI FILTER]

This button, when in the "on" [depressed] position, will switch in a high frequency filter in the rear channels that will remove any of the high frequency noises [hiss and scratch] sometimes encountered in older records. When exceptionally noisy reception is encountered on AM or FM, the switch may be used to provide a reduction in the noise. Unless such noises are disturbing, however, this button should be left in the "off" [out] position to permit the full reproduction of the high frequencies.

MODE SWITCH

For SQ matrix program sources, set to SQ. For other matrix sources and "derived" 4-channel, use COMP A or B. Use DISCRETE position only when operating from a discrete 4-channel source [tape]. 2 CH - STEREO/MONO not used.

SELECTOR SWITCH

Set to "source" position.

MASTER VOLUME CONTROL

Adjusts volume of all four channels simultaneously.

VOLUME-BALANCE CONTROLS

Used to adjust volume of "rear" channels only. Two separate controls provided -- one for left rear, one for right rear.

BASS CONTROLS

Used to provide individual control of each "rear" channel [low frequency tonal adjustment].

TREBLE CONTROLS

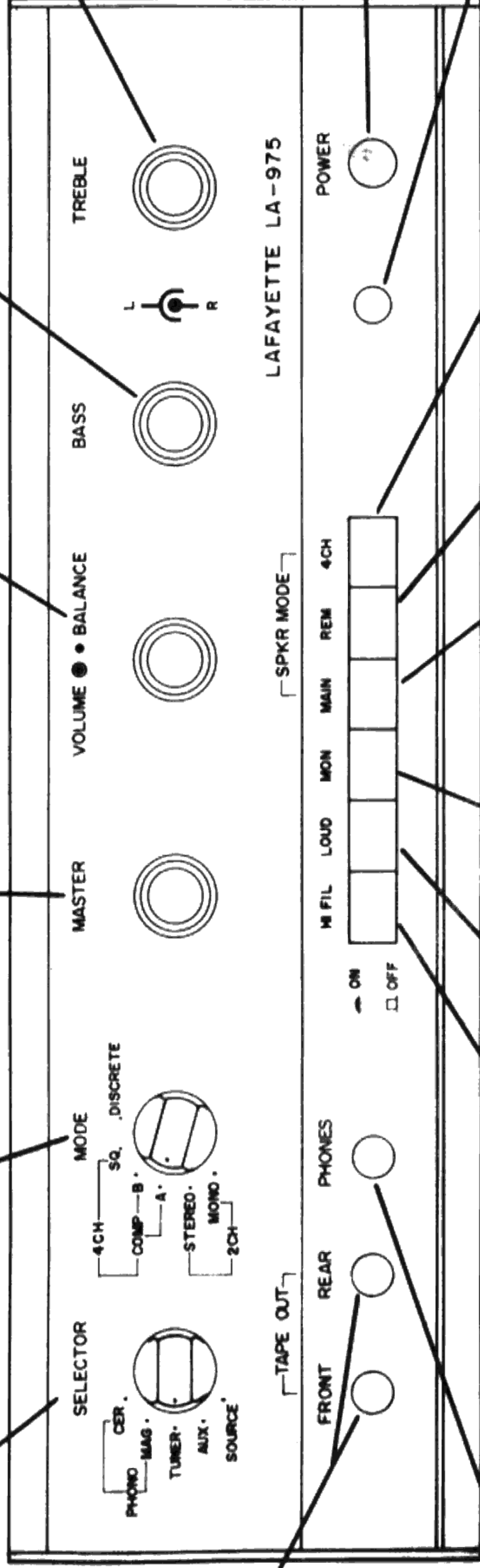
Used to provide individual control of each "rear" channel [high frequency tonal adjustment].

AC POWER SWITCH

Depress to switch unit on.

AC POWER INDICATOR

Lights when unit is switched on.



TAPE OUT JACKS

Front and Rear channel tape outputs for temporary connection of discrete 4-channel tape recorder.

PHONES

Headphone jack for rear channels.

HI FIL BUTTON

Used to reduce any high frequency noise that may be heard in the rear channels [record scratch, FM or AM static, tape hiss, etc.].

MON BUTTON

Selects the monitoring output of a discrete 4 CH tape recorder connected to the TAPE MON inputs [see Fig. 2].

REM BUTTON

Selects rear "remote" speakers if used. [See Fig. 6].

MAIN BUTTON

Selects rear speakers in the main listening area. [See Fig. 4].

LOUD BUTTON

Provides a more realistic tonal quality at low listening levels.

4 CH BUTTON

Inoperative in the Discrete or SQ 4-channel mode of operation. Leave in "off" position permanently.

DESCRIPTION OF CONTROLS WHEN USED WITH AN EXISTING STEREO UNIT FOR DISCRETE OR SQ 4-CHANNEL OPERATION

FIGURE 7

LOUD BUTTON [LOUDNESS]

This button, when in the "on" [depressed] position, will switch in special tonal compensation in the rear channels for low volume listening. Such compensation is necessary because a natural peculiarity of the ear causes it to have a reduced sensitivity to low and high tones when music is played at low volume. This switch will emphasize these tones and thus restore full body and brilliance to the music. At normal or high sound levels, set the "LOUD" button to the "OFF" position to prevent an excessive amount of bass or boominess from occurring.

MON BUTTON [MONITOR]

Depressing this button will select any 4-channel monitoring source connected to the TAPE MON input jacks on the decoder/amplifier, and will do this without disturbing the reproduction of the original program source [that may be connected to the SOURCE or DISCRETE input jacks].

This feature is designed for use with tape recorders having monitoring facilities. Such a recorder provides a special output taken from the tape while it is actually being recorded, and thus offers a means of checking the recording process.

By depressing the MON button, you can hear this monitoring output without disturbing the recording source.

SPKR MODE

There are three buttons under the designation of SPKR MODE -- MAIN, REM and 4 CH. The 4 CH button is used only when the decoder/amplifier is operated alone as a stereo amplifier, and should therefore be left permanently in the "off" position.

The MAIN button selects the two "rear" speakers in the main 4-channel listening area [provided they are connected to the Main Speaker terminals on the decoder/amplifier].

The REM button selects two "rear" speakers in a remote 4-channel listening area [if connected to the Remote Speaker jacks].

The MAIN and REM buttons can both be depressed to activate main and remote rear channel speakers simultaneously [main plus remote], or they can be depressed individually to activate only one set of rear speakers [main only or remote only].

NOTE: Always maintain one of these buttons in the depressed position so as to have at least one set of speakers connected to the decoder/amplifier output. The only exception to this is with headphone listening. With headphones connected, both buttons may be released [off] for private listening.

POWER BUTTON

To switch the decoder/amplifier on, push this button into the depressed position. To switch off, push the button in momentarily and release -- this will cause it to move into the released [off] position.

When the decoder/amplifier is switched on, the pilot light on the front panel should come on, indicating that AC power has been applied.

CAUTION: Before depressing the power button, make sure that the Master volume control is set to a low volume position and that speakers are connected and appropriate Speaker Mode button depressed.

PHONES JACK

This jack provides a headphone output for the rear channels. If you have 4-channel headphones, insert the phone plug marked "rear" into this jack, and the phone plug marked "front" into the headphone jack on the existing stereo unit. This will enable you to hear all four channels. For private listening, simply release all speaker mode buttons so that all speakers are silent.

TAPE OUT JACKS [FRONT AND REAR]

In addition to the 4 CH REC OUT jacks provided on the rear of the decoder/amplifier for permanent connections to a 4-channel tape recorder, there are also Front and Rear tape output jacks on the front panel which may be used for temporary connections to the inputs of a tape recorder. Simultaneous connections to the tape output jacks on the front and rear panels of the decoder/amplifier [so that two tape recorders are connected] are not recommended since this may result in a lowering of the signal level at all jacks.

NOTE: The outputs available at the 4 CH REC OUT and TAPE OUT jacks are controlled by the position of the FUNCTION Selector which will determine the type of 4-channel output that will be produced at these jacks.

A special 5 ft. adapter cable, with a 3-conductor stereo phono plug at one end and two RCA phono plugs [L and R] at the other, is available under LAFAYETTE Stock Number 99-63364. Two of these cables will permit connection from the tape output jacks on the front panel to the high level inputs on most 4-channel tape recorders equipped with RCA phono input jacks.

OPERATING PROCEDURES FOR 4-CHANNEL STEREO

INITIAL CONTROL SETTINGS

A chart supplied as an insert provides basic control settings for various 4-channel modes of operation [A Guide To Operating The Entire 4-Channel Stereo System]. By setting controls on the decoder/amplifier and the existing stereo unit as indicated, the entire system will be set to provide the proper mode of operation [assuming installation connections have been made as recommended]. However, this does not necessarily produce the proper balance of volume between front and rear channels -- an important adjustment in 4-channel stereo. What follows, therefore, is a step-by-step procedure for achieving this volume balance initially. Subsequently, a minor re-adjustment of the rear channel levels may be necessary during actual 4-channel operation, but thereafter, no further change should be necessary in any mode of operation, except for the adjustment of the MASTER control.

1. Set SELECTOR on the decoder/amplifier to "Source" [this selects the 2-channel program obtained from the tape output jacks on the existing stereo unit]. For selection of a discrete 4-channel source, see 2-B below.
2. Set the MODE switch to one of the following:
 - [a] 2 CH MONO if you are using a stereo source [encoded or regular]. This position will be used simply to balance volume levels.
 - [b] DISCRETE if you are using a discrete 4-channel source [such as tape].
3. Set the VOLUME/BALANCE controls to the 9 o'clock positions.
4. Depress the MAIN button [to select rear speakers] and then depress POWER button.
5. Set the existing stereo unit for normal stereo operation, selecting the desired stereo program source as necessary [record player, FM, etc.]. This step is not necessary if you are using a discrete 4-channel tape source.
6. Set the Tape Monitor switch on the stereo unit to the "on" position.
7. Set the volume control[s] on the stereo unit to the 12 o'clock position.
8. Sound should be produced by all four speakers. If necessary, adjust the VOLUME/BALANCE controls on the decoder/amplifier so that the volume from the rear speakers is approximately the same as from the front speakers, as heard from the normal listening position in the room.

NOTE: If the two front speakers are unequal in volume output, they should be balanced by means of the volume controls on the stereo unit. If the rear speakers are unequal in volume output, balance their output by increasing or decreasing one of the VOLUME/BALANCE controls on the decoder/amplifier.

9. Use the MASTER control to adjust volume of all speakers simultaneously to the desired level. If you feel that insufficient volume is obtainable even with the MASTER control at a high setting, increase the setting of the volume control[s] on the existing stereo unit to approximately 1 o'clock [but no more than 2 o'clock], and then adjust the VOLUME/BALANCE controls on the decoder/amplifier to raise the rear speaker volume to the same level as the front.
10. This completes the initial set-up procedure, and the entire system can now be operated in the desired 4-channel mode as indicated in the succeeding sections.