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INTRODUCTION

You are the owner of one of the most sophisticated and versatile audio instruments on the market. Your Sylvania Four Channel Receiver will reproduce discrete tape and disc sources and decode two channel sources into four channel matrix.

Separate tuning and signal strength meters make possible outstanding tuning accuracy.

The easy-to-read control panel has push button controls and lighted function indicators.

Your receiver features a switched main and remote speaker system so you can operate all your speakers from the control panel. Separate bass and treble controls for the front and rear speakers enable you to tailor the sound output to suit many seating arrangements.

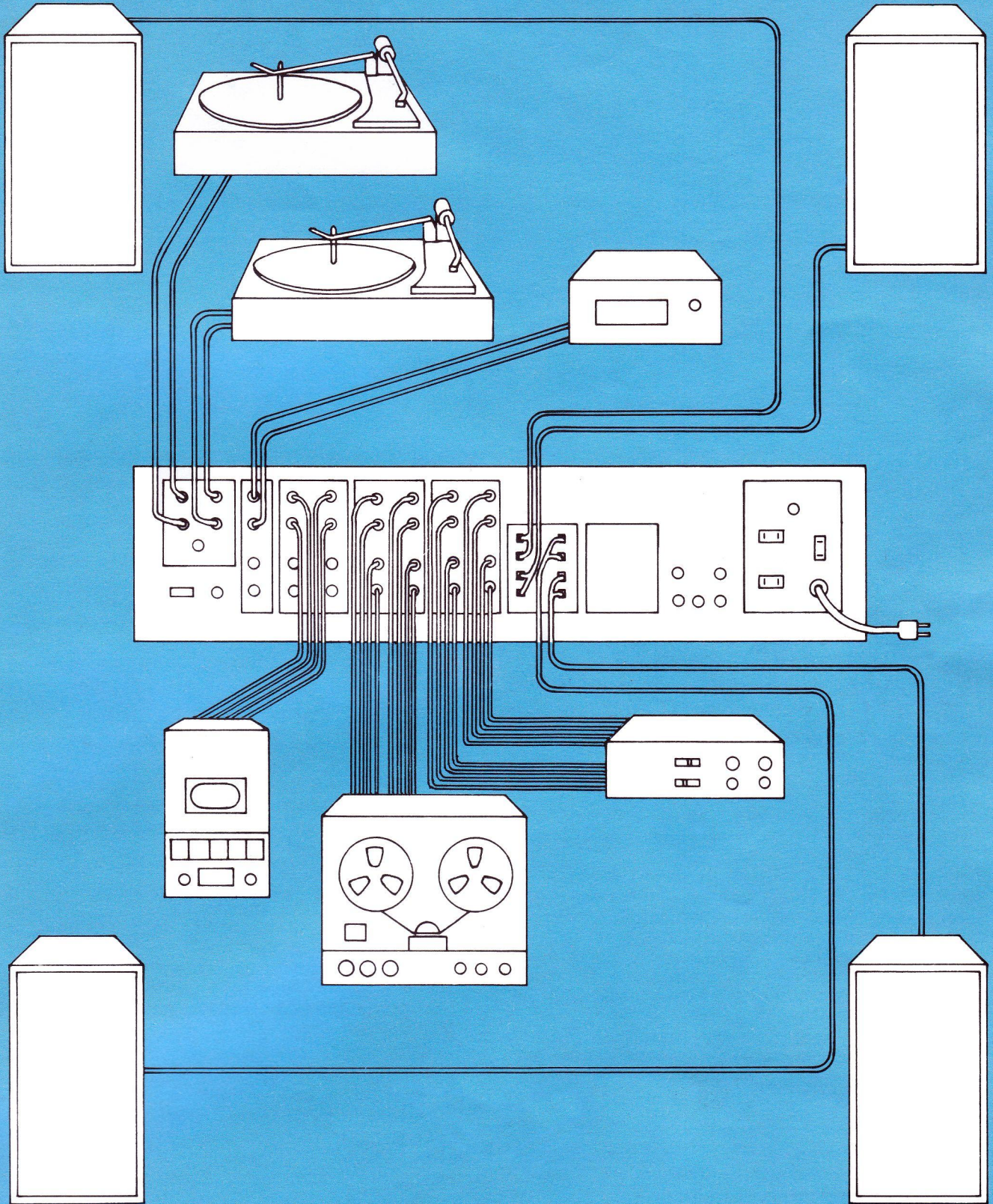
You can change the position of your speakers electronically using the Image Orientation Control. You will find this especially useful when playing special effects recordings or when the seating arrangement in a room precludes the most desirable speaker positioning.

The possibility of attaching a number of accessory components is a feature you will certainly want to take advantage of.

We have mentioned just a few of the many exciting features. As you read these instructions, you will discover that you have chosen a receiver capable of being the heart of a truly professional audio system.

Read carefully so you can enjoy the full potential of your Sylvania Four Channel Receiver.

ADD TO YOUR MUSICAL ENJOYMENT BY ATTACHING ALL THESE ACCESSORY COMPONENTS



INITIAL HOOK-UP

1. Connect speakers to appropriate main (PP) and/or remote (QQ) terminals on rear of receiver. Always be sure positive and negative speaker leads are connected to the corresponding positive and negative speaker terminals.
2. Slide high sensitivity ferrite rod AM antenna assembly (contained in separate bag) into holder (LL) and plug in connector.
3. Connect the leads from the 300 ohm FM dipole antenna under the 300 ohm terminals (RR).
4. Place the bridge switch (KK) in the 4 channel position.
5. Plug in AC line cord (UU) to a 120 volt, 60 Hz outlet.

CONNECTING ACCESSORY COMPONENTS

Phono Jacks (FF)

There are two phono inputs on the jackplate to provide for the possible use of two turntables.

1. Select either phono one or two jacks and plug turntable cables into the appropriate left and right jacks. Connect ground wire under phono ground terminal.
2. Move phono selection switch (NN) to corresponding position one or two.

NOTE: A turntable with a magnetic cartridge must be used.

Aux Jacks (GG)

Plug the output of any accessory equipment with a preamplifier into the appropriate left, right, front and rear jacks. Typical accessories are:

1. 4 ch. CD4 turntable or separate disc demodulator.
2. 4 ch. 8-track discrete tape play deck.

3. Microphone or musical instruments with pre-amplifier, up to a combined total of four sources.
4. 2 ch. tape player (front jacks preferred).

Tape One Jacks (HH)

There are two types of jacks, record and play. When you record on accessory tape unit use "record" jacks. When playing tapes use the "play" jacks. For four channel operation use both front and rear jacks, for two channel operation it is best to use the "front" jacks. Connect the accessory to the appropriate L, R, front and rear jacks. Typical accessories are:

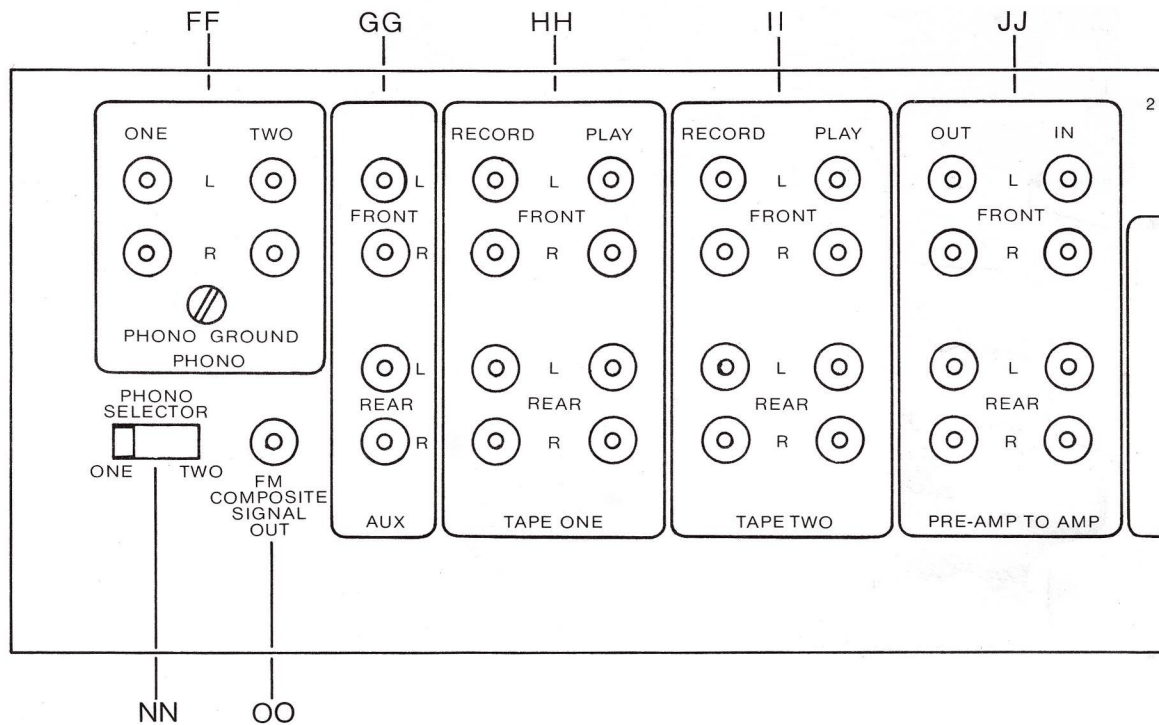
1. A two channel reel-to-reel or cassette tape play/record deck can be plugged into the front play and record jacks.
2. A four channel eight track discrete tape play/record deck can be plugged into the front and rear play and record jacks.
3. A four channel reel-to-reel discrete tape play/record deck can be plugged into the front and rear play and record jacks.
4. A four channel discrete FM decoding unit can be plugged into the tape play jacks and into the FM composite signal jack (OO). This will enable you to receive 4 channel FM discrete programming when it is available.

Tape Two Jacks (II)

These jacks may be used with the same accessory units as the tape one jacks. However, it is recommended that they be used for a four channel reel-to-reel record/playback deck to enable you to record from another accessory unit that has been plugged into the tape one or aux jacks.

Pre-Amp to Amp Jacks (JJ)

The pre-amplifier signals are relayed from the output jacks through jumpers back into the main



amplifier input jacks. The signal path can be interrupted to insert accessory equipment such as an environmental equalizer, to shape frequency response to suit room acoustics, or high and low pass electronic crossover filters for connecting the amplifier to operate in a bi-amp configuration. The pre-amplifier output can also be used to drive separate slave power amplifiers. **In all cases, turn power off before removing jumpers.** To attach an environmental equalizer; or slave power amplifiers with-or-without its own pre-amplifier outputs:

1. Turn power off.
2. Remove the jumpers.
3. Plug cables from the receiver pre-amplifier output jacks to the input jacks on the accessory unit.
4. Plug the cables from the output of the accessory to the "amp-in" jacks of the receiver.

NOTE: Some slave amplifiers do not have low level output jacks for this use. DO NOT use the main high level output, rather use a commercially available "Y" connector at the preamp-out jacks of the receiver. One side of the "Y" goes to the accessory input, the other goes to the amp-in jacks of the receiver.

5. Be sure right, left, front and rear cables are connected to appropriate jacks.

When using electronic crossover filters for bi-amp operation, you will not be able to utilize the unit for four channel reproduction. Two of the amplifiers will be used for high frequency information and two for low frequency.

1. Turn power off.
2. Remove the jumpers.
3. Plug cable from the left front pre-amplifier output to the electronic crossover filter input.
4. Plug cable from the low pass section of the filter to the left front amplifier input.

5. Plug cable from the high pass section of the filter to the left rear amplifier input.
6. Repeat the same procedure for the right channel output and input.
7. Connect the left low frequency speaker leads to the left front positive and negative speaker terminals on the jackplate.
8. Connect the left high frequency speaker leads to the left rear positive and negative speaker terminals.
9. Repeat the same procedure to connect the right low and high frequency speaker leads to the right speaker terminals.
10. Push the stereo button (X) on your receiver in.

Two Channel Bridge Operation (KK)

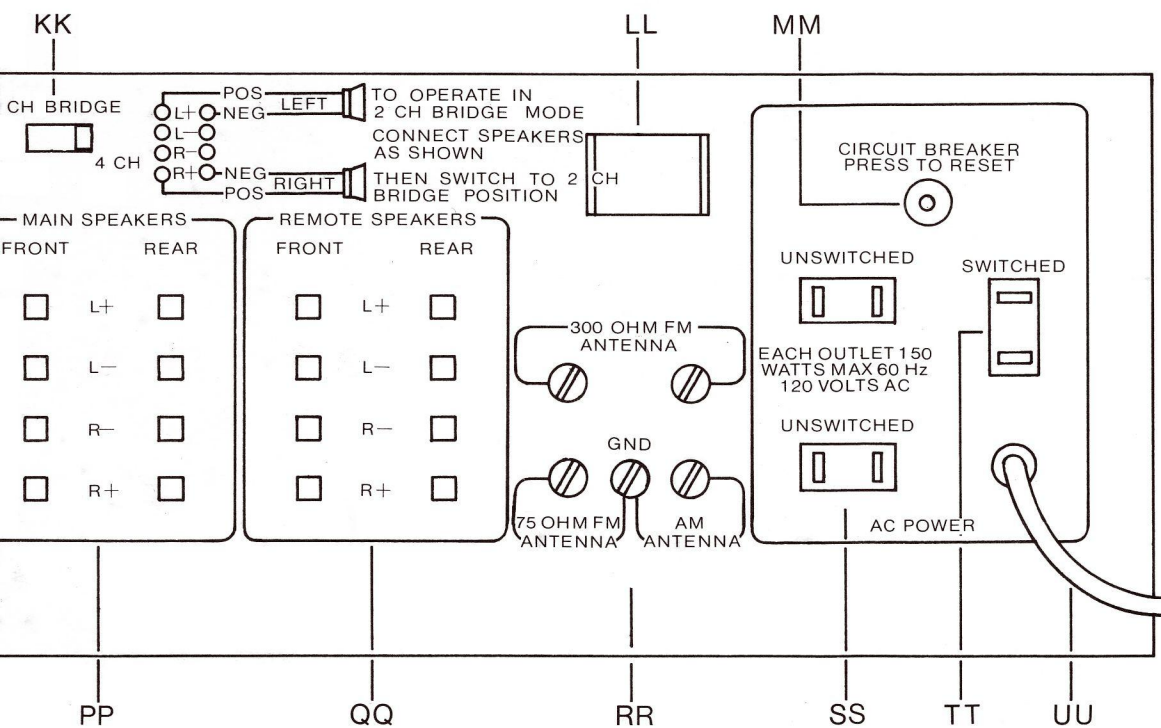
This procedure will enable you to convert from four channel operation at 50 watts per channel to two channel operation at 125 watts per channel.

1. Turn power off and refer to diagram on the jackplate.
2. Connect positive lead from left speaker to left front positive speaker terminal.
3. Connect negative lead from left speaker to left rear positive speaker terminal.
4. Connect negative lead from right speaker to right rear positive terminal.
5. Connect positive lead from right speaker to right front positive terminal.
6. Move switch (KK) to 2 channel bridge position.
7. Push the stereo button (X) on your receiver in.

NOTE: Be sure your speakers have a high enough rating to dissipate the increased power.

Antenna Connections (RR)

The jackplate has provisions for attaching high gain external antennas for reception of distant stations.



External Long Line AM Antenna

1. Connect the lead in wire from antenna to AM terminal.
2. Connect the ground terminal (RR) to a good earth ground, such as a water pipe.

NOTE: The AM ferrite rod must remain attached for proper operation.

External FM Antenna 300 Ohm

1. Disconnect all FM antennas attached to receiver.
2. Connect the leads from a 300 ohm external FM antenna, or less efficient TV antenna, under the two 300 ohm FM antenna terminals.

External FM Antenna 75 Ohm

1. Disconnect all FM antennas attached to receiver.
2. Attach the center conductor of coaxial lead-in to the 75 ohm FM antenna terminal.
3. Attach the outer shield of 75 ohm lead-in to the ground terminal.

Unswitched Outlets (SS)

Plug accessory components such as turntables or tape decks into these outlets. The outlets remain live when the receiver power switch is turned off.

Switched Outlet (TT)

Plug associated electronic components such as an environmental equalizer into this outlet. The outlet will go dead when the receiver power is turned off.
NOTE: Do not use this outlet for turntables or tape decks.

Protective Circuits

Your receiver incorporates four protective systems against abnormal operating conditions that could cause damage to the receiver or accessory equipment.

Electronic Current Limiting

Protects the output devices from improperly applied external loads. There is no visual or audio indication of this in operation.

Thermal Switch

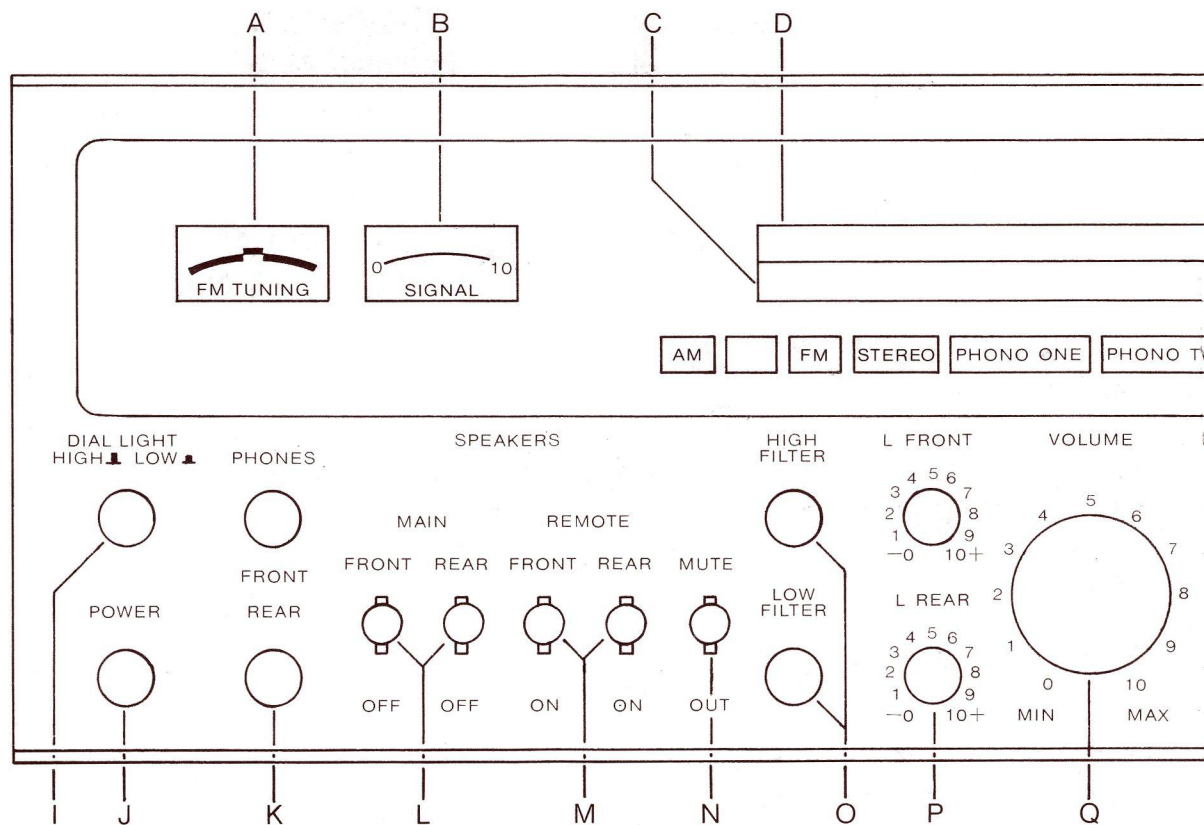
Will shut the entire unit off automatically if the internal temperature becomes excessive. The unit will automatically come back on when it has cooled. Check for obstructions over the vent screen area.

Circuit Breaker-Main

Provides protection against certain electrical overloads. If your unit suddenly goes off, wait for a short period of time to determine whether the thermal switch or the main circuit breaker has activated. If the unit does not automatically come back on, push the button (MM) in to re-set the breaker. Do not hold the button depressed for an extended length of time. If frequent resetting is required consult your authorized Sylvania service dealer.

Circuit Breaker-Speakers

There are four temperature compensated circuit breakers inside the unit, one for each major speaker circuit (left, right, front and rear). These breakers will turn your speakers off automatically if they are receiving too much current. After a short interval of time the speakers will automatically reset. If they continue to cycle off, check speaker wiring for shorts, damaged speakers or overload due to improper speaker load impedance.



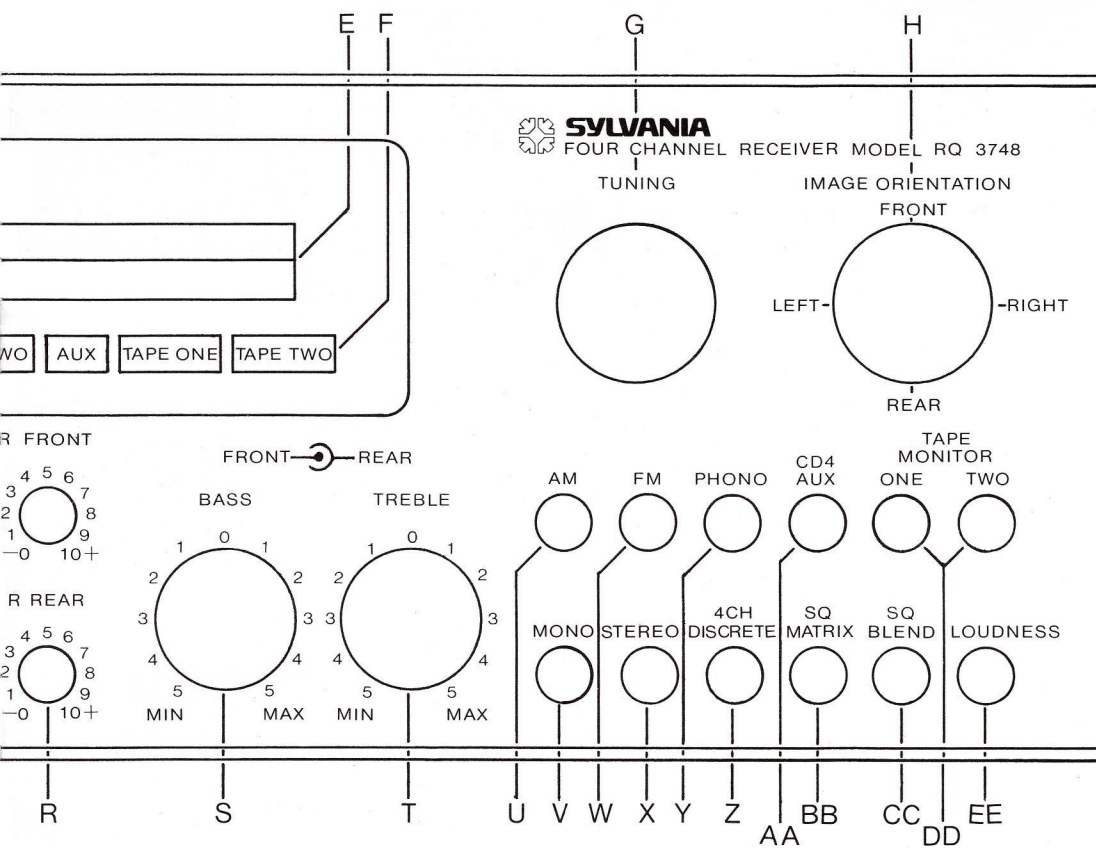
SOUND SYSTEM INDICATORS

- A—FM Center Tune Meter—indicates best FM reception when needle is centered.
- B—Signal Strength Meter—AM signal is strongest and FM signal has highest signal to noise ratio when needle is as far to right as possible.
- C—AM Dial—indicates AM stations. 540 to 1600 kHz.
- D—FM Dial—indicates FM stations. 88 to 108 MHz.
- E—Log Scale—quick reference tuning guide, in addition to the frequency dials, log scale reference numbers can be used to relocate favorite stations.
- F—Function Indicators—indicates the program source i.e., AM, FM, FM stereo, etc.

SOUND SYSTEM CONTROLS

- G—Tuning—to select AM & FM stations.
- H—Image Orientation—to electronically change speaker position.
- I—Dial Light—to adjust dial light intensity. Push button in to dim light.
- J—Power—to turn unit on and off.
- K—4 Channel Stereophone Jacks—receptacles into which stereo or 4 channel headphones are plugged.
- L—Main Speaker Switches—to control main speaker system.
- M—Remote Speaker Switches—to control remote speaker system.
- N—FM Mute—eliminates interstation noise and weak signal stations with excessive noise when tuning.
- O—High and Low Filters—High filter reduces high frequency noise. Low filter reduces subsonic noise and rumble.

- P—Left Front and Rear Level—to adjust audio output levels on left front and rear speakers.
- Q—Master Volume—to adjust audio volume on all speakers simultaneously.
- R—Right Front and Rear Level—to adjust audio output levels on right front and rear speakers.
- S—Bass—to adjust low frequency sounds. Front knob controls front speakers. Rear knob controls rear speakers.
- T—Treble—to adjust high frequency sounds. Front knob controls front speakers. Rear knob controls rear speakers.
- U—AM—to select AM Band.
- V—Mono—to engage system to convert two or four channel sources to monaural to balance the system and to reproduce a monaural source on all four speakers.
- W—FM—to select FM Band.
- X—Stereo—to engage system to receive FM stereo broadcasts and to play stereo records and tapes.
- Y—Phono—to engage system for record play.
- Z—4 Channel Discrete—to engage system to receive four channel discrete programming.
- AA—CD4 Aux—to engage system for CD4 demodulator system or additional components and musical instruments equipped with pre-amplifiers.
- BB—SQ Matrix—to decode four channel matrix FM broadcast or records or, to derive four channel ambient sound from any two channel stereo source.
- CC—SQ Blend—to provide more front to rear separation when listening to solo performances with the SQ matrix button depressed.
- DD—Tape Monitor—to engage system for accessory tape play and tape record monitoring.
- EE—Loudness—to boost low frequencies for proper tonal balance at low listening levels.

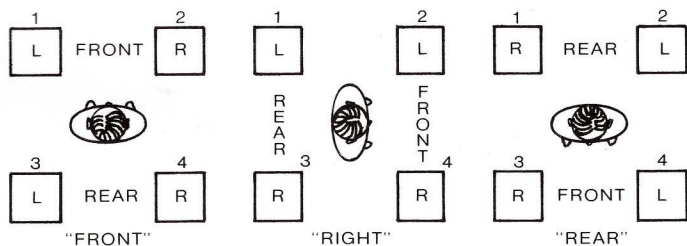


SOUND SYSTEM OPERATION

Speaker System Selection

Each of the four main or remote speaker switches (L or M) controls two speakers. You may at any time use all eight speakers in any combination of two at a time.

The image orientation control (H) enables you to electronically change the positions of your speakers. Assume that in the diagram:



speakers 1 and 2 are your main front speakers and 3 and 4 your main rear speakers. If you move the image orientation control $\frac{1}{4}$ turn to the "RIGHT" position, 2 and 4 become your main front speakers; 1 and 3 your main rear speakers. A full $\frac{1}{2}$ turn to the "REAR" position makes 3 and 4 your main front speakers; 1 and 2 your main rear speakers. By continuing the turn, you continue to rotate your speakers. The volume and tone controls will operate on whatever speakers are designated front, rear, left, right. The main and remote speaker switches will however control the speakers originally connected in the "FRONT" position.

The placement of furniture in your room will determine the desired position.

AM Tuning

1. Set individual level controls (P) and (R) to "5" position and master volume control (Q) to "4" position.
2. Push power button (J) in.
3. Push AM button (U) in.
4. Rotate tuning control (G) to select desired station as indicated on AM dial (C). Reception is optimum when needle on signal strength meter (B) is as far to right as possible.
5. Select desired speaker systems.
6. To operate all four speakers, depress mono button (V).

FM Tuning

1. Push power button (J) in.
2. Push FM button (W) in.
3. Rotate tuning control (G) to select desired station as indicated on FM dial (D). Reception is optimum when needle on FM tuning meter (A) is centered.
4. If you have an external antenna, rotate until needle on signal strength meter (B) is as far right as possible.
5. If program is being broadcast in monaural, push mono button (V) in.
6. If program is being broadcast in 2 channel stereo, push stereo button (X) in or to obtain a four channel effect, push SQ matrix button (BB) in. Some stations broadcast matrix programming. In that case, push SQ matrix button in.
7. To listen to a distant station with a weak signal or listen in stereo to a station with a poor quality stereo signal it will be necessary to switch the FM mute switch (N) to the out position.
8. Select desired speaker system.

Phono

1. Push power button (J) in.
2. Push phono button (Y) and select phono one or two with switch (NN) on jackplate.
3. When playing monaural records, push mono button (V) in.
4. When playing stereo records, push stereo button (X) in or, to obtain a four channel effect, push SQ matrix button (BB) in. Some recordings have been matrixed for four channel. Push SQ matrix button in.
5. Select desired speaker system.
6. Additional instructions under "Connecting Accessory Components" section. Also refer to instructions contained with your turntable.

CD4 Aux

1. Connect accessory to aux input jacks on jackplate. Typical examples are described under "Connecting Accessory Components" section.
2. Push power button (J) in.
3. Push aux button (AA) in.
4. Push in appropriate mode button; mono, stereo, 4 ch. discrete or SQ matrix for source selected.
5. Select desired speaker system.

Two Channel Tape Play

1. Connect accessory tape equipment to rear of unit. See "Connecting Accessory Components" section for preferred jacks for type of equipment being used.
2. Push power button (J) in.
3. Push in aux (AA) or tape monitor button (DD) one or two depending on which jacks on rear of unit you have plugged into.
4. Push in stereo button (X), or to obtain a 4 channel effect, push in SQ matrix button (BB).
5. Select desired speaker system and adjust all tone and volume controls as previously described.
6. For additional information consult the instructions contained with your accessory equipment.

Four Channel Discrete Tape Play

1. Repeat all steps under two channel tape play except step number 4.
2. Push 4 ch. discrete button (Z) in.

Recording Two Channel Source

1. Connect accessory tape equipment to rear of unit. See "Connecting Accessory Components" section preferred jacks for type of equipment being used.
2. Push power button (J) in.
3. Push 2 ch. stereo program source (FM, phono or aux) button in. If equipment being used:
 - A. Has a tape monitor head
 1. Push in tape monitor button (DD) one or two depending on which jacks are being used.
 2. Push stereo button (X) in, or to obtain a 4 ch. effect, push SQ matrix button (BB) in.
 - B. Does not have a tape monitor head
 1. Push stereo button (X) in.
4. Select desired speaker system and adjust tone and volume controls as previously described.
5. For additional information consult the instructions contained with your accessory equipment.

Recording Four Channel Source

1. Connect accessory four channel discrete source and tape equipment to rear of unit. See "Connecting Accessory Components" section for preferred jacks for type of equipment being used.
2. Push power button (J) in.
3. Push in aux button (AA) or tape monitor one button (DD) for selecting 4 channel discrete source.
4. Push 4 ch. discrete button (Z) in.
5. If tape unit recording the program has a tape monitor head, push in tape monitor button (DD) one or two depending on which jacks are being used by this unit.
6. Select desired speaker system and adjust tone and volume controls as previously described.
7. For additional information consult the instructions contained with your accessory equipment.

NOTE: When recording, the mono, stereo, 4 ch. discrete and SQ matrix buttons will affect the record signal unless the tape monitor button is depressed, and there is no external short from the tape play to tape record jacks (internal on some machines with a tape out that is not a true monitor).

Record Source One/Playback Source Two

1. Follow previous instructions on recording two or four channel source up to and including the step for "Tape Monitor Head" equipment (depress tape monitor button [DD]).
2. Remove any connections to the "Tape Play" jacks controlled by button (DD) just depressed, and plug "Source Two" into those jacks.
3. Push in mono, stereo, 4 ch. discrete or SQ matrix button depending on what has been added as "Source Two".
4. Select desired speaker system and adjust all tone and volume controls as previously described.

NOTE: This hookup allows you to record pleasurable program material (i.e. copy a "one of a kind" recording on to tape) while playing something of an urgent nature (educational tape for study).

Record "Tape A" onto "Tape B"

1. Connect "Tape A" unit to the aux jacks (GG) or tape one jacks (HH) on rear of receiver. See "Connecting Accessory Components" section for preferred jacks for type of equipment being used.
2. Push power button (J) in.
3. Push in aux button (AA) or tape monitor one button (DD) depending upon which jacks the "Tape A" unit was plugged into.
4. Connect "Tape B" unit to tape one jacks (HH) or tape two jacks (II) on the rear of the receiver (whichever is not in use by "Tape A" unit).
5. If the unit recording the program has a tape monitor head push the tape monitor button (DD) in, one or two depending upon what jacks it is plugged into.
6. If the unit recording the program does not have a tape monitor head you must push in the appropriate mono, stereo or 4 ch. discrete button corresponding to the original program source of "Tape A".
7. Select desired speaker system and adjust tone and volume controls as previously described.
8. For additional information consult the instructions contained with your accessory equipment.

WARRANTY

Receivers

GTE Sylvania presents its warranty to you in question-and-answer form to give you a clear understanding of just how you are protected.

WHO IS PROTECTED?

The original retail purchaser. We suggest the original retail purchaser mail the warranty registration card to GTE Sylvania to facilitate service should it be required.

WHAT IS PROTECTED AND FOR HOW LONG?

The receiver and its parts are covered for two (2) years from date of purchase.

HOW ARE YOU PROTECTED?

The Sylvania dealer from whom you purchased your receiver, or his authorized Sylvania Service Contractor, will repair or replace any part which fails under normal use within the warranty period.

You must deliver your receiver to your Sylvania dealer or his authorized Service Contractor's place of business for service...and pick it up from him when service has been performed.

WHO PAYS THE LABOR CHARGE?

For two(2) years after the date of purchase, the Sylvania Dealer from whom you purchased your receiver, or his authorized Sylvania Service Contractor, will honor this warranty without any labor or service charges. After the two (2) year warranty period, you pay for labor or service charges.

ARE REPLACEMENT PARTS PROTECTED?

Yes, replacement parts are protected for the balance of the original warranty period.

WHAT IF YOU MOVE?

The Sylvania dealer or an authorized Sylvania Service Contractor located in the area to which you move will honor this warranty for the balance of the warranty period. Service will be expedited if you will present your sales slip to the dealer or service contractor in the area to which you move since he will not, initially, have any record of your purchase.

THIS IS THE GTE SYLVANIA WARRANTY

We recommend Sylvania Replacement Parts
SPECIFICATIONS SUBJECT TO CHANGE
WITHOUT NOTICE

Entertainment Products Group, 700 Ellicott Street, Batavia, New York 14020

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