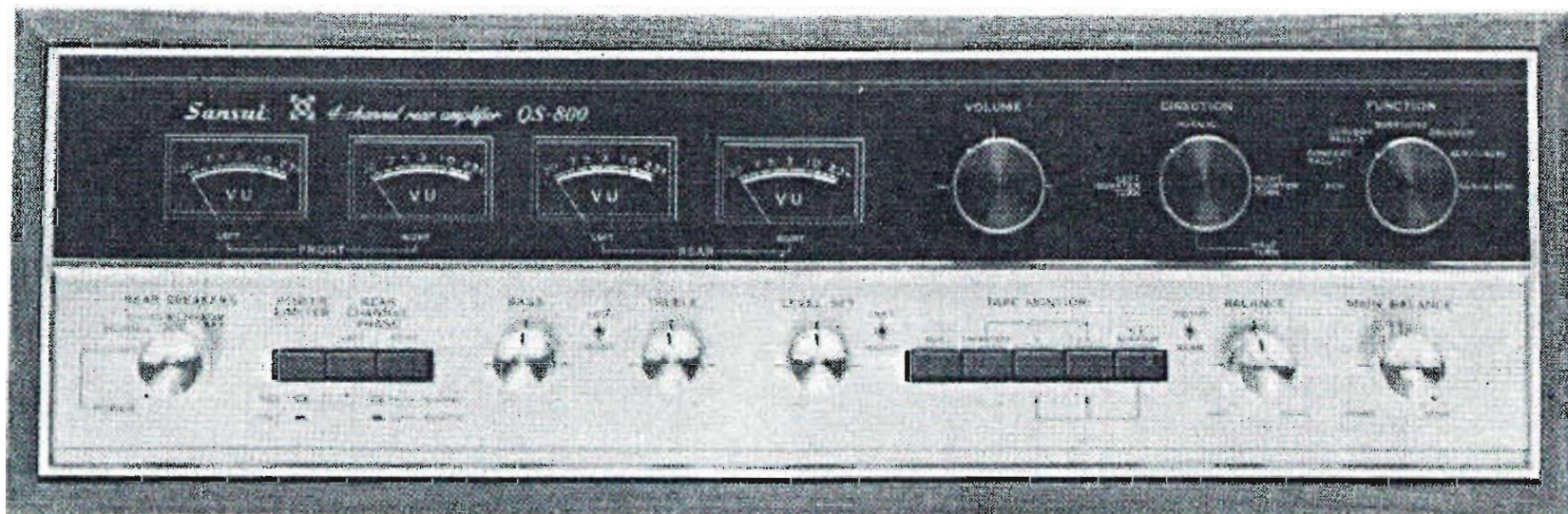




OPERATING INSTRUCTIONS & SERVICE MANUAL

4-CHANNEL REAR AMPLIFIER

SANSUI QS-800



Sansui

SANSUI ELECTRIC CO., LTD.

Congratulations on joining the thousands of proud, satisfied owners of quality stereo components from Sansui. The QS-800 is a marvelous combination of Sansui's revolutionary 4-Channel Synthesizer Decoder (patents pending) and a quality 200 watt stereo power amplifier to amplify the rear channels of your 4-channel stereo system.

An instrument that heralds the new age of 4-channel stereo sound, the QS-800 converts your present collection of 2-channel stereo records and tapes, as well as FM stereo broadcasts, into 4-channels. In addition, working in the capacity of a 4-channel decoder, it restores any encoded 4-channel material to its original full-fledged 4-channel status.

Simply add the QS-800 to your present 2-channel stereo system along with a second pair of speaker systems, and you'll instantly have a 4-channel stereo system to fill your room with the vibrant atmosphere of live performances with all their delicate nuances. It comes complete with all the popular refinements of the best-selling 120-watt QS-500, and then some of its own that Sansui has added for still greater convenience and versatility. Such as rear-channel Bass and Treble Tone Controls, separate Phase Switches for the rear left and right channels, Direction Switch, Power Limiter and so forth.

Before you rush to audition the new mind-blowing sound effect, however, may we suggest that you read through this booklet once to acquire basic knowledge about its operation.

Then you'll be better prepared to enjoy 4-channel stereo sound at its very best for years to come.

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SWITCHES AND CONTROLS

VU Meters

Indicate the signal strength in each channel. From left to right, they represent the front left, front right, rear left and rear right channels.

Power Limiter Switch

Changes the maximum output of the stereo power amplifier in the QS-800. Leave it at 'FULL' (■), and it delivers a continuous output of 65 watts per channel into 8 ohms. Push it in for 'HALF' (■) and the output is cut down to half that figure.

Set the switch to 'HALF' if you are connecting speaker systems with small input capacities or if your front-channel amplifier has a considerably smaller power output.

Caution: When switching from the 'HALF' position to the 'FULL,' be sure to turn down the unit's volume control beforehand.

Power/Rear Speakers Switch

A double-function switch to control the power supply and the selection of rear-channel speaker systems.

POWER OFF: Cuts off the power supply for the entire unit.

SYSTEM A: Turns on the power supply and energizes the speaker systems connected to the SYSTEM A terminals on the unit's rear panel.

SYSTEM B: Turns on the power supply and energizes the speaker systems connected to the SYSTEM B terminals.

SYSTEM A+B: Turns on the power supply and energizes both pairs of speaker systems.

Rear Channel Phase Switches

Reverse the phases of the rear left and right channels.

Leave them untouched in their normal 'up' position, and the phases in the two rear channels remain normal. Push both or either switch in to the 'REVERSE' position, however, and the phase of that channel is reversed.

Adjust the switches while actually listening to reproduced sound, so that you will hear most natural sound. (Refer to 'About the Speaker Polarities' on page 8.)

Rear Bass Control

Turn clockwise to emphasize the unit's low-end response in the rear channel sounds. The smaller knob (controlling the rear left channel) and the larger ring (controlling the rear right channel) are friction-coupled and permit separate or simultaneous adjustment of the two rear channels.

Level Set Control

Use to adjust the level of input signals. The smaller knob and the larger ring are friction-coupled and permit adjusting the input signal level in the left and right channels either independently or simultaneously. The inner knob controls the left channel, and the outer one the right.

Adjust them so that the front left and right channel VU Meter pointers will swing between the red 0 (zero) and 2 marks at the loudest passages of the program source to be played.

Rear Treble Control

Use in the same manner as the Rear Bass Control to adjust the strength of the highs in the rear channel sounds.

N.R. Adaptor Switch

If you connect a noise reduction adaptor to the QS-800 and want to record or reproduce on a 2-channel tape deck via such adaptor, push this switch.

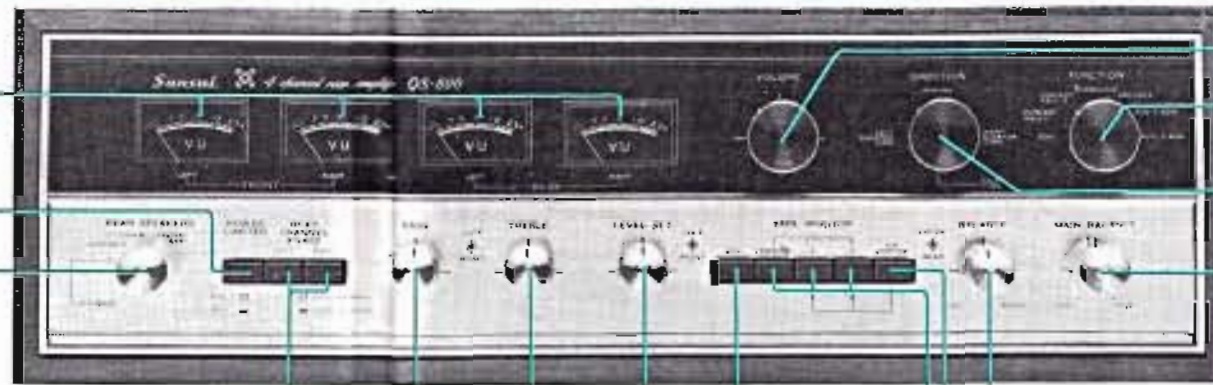
2-Channel Tape Monitor Switches

These switches control the QS-800's all three 2-channel tape monitor circuits. See pp. 9, 10 for detailed instructions on the operation of 2-channel tape decks.

4-Channel Tape Monitor Switch

Push this switch to monitor a tape being recorded by a 4-channel tape deck connected to the 4-channel tape monitor inputs on the QS-800's rear panel, or to reproduce a tape so recorded. Monitoring is possible only if the 4-channel tape deck is equipped with separate heads for recording and playback.

At all other times, push the switch once more to restore it to the original position.



Volume Control

Use to control the overall sound volume. Turn it clockwise to raise it, counterclockwise to lower.

Direction Switch

Lets you turn the 4-channel sound field around by 90 degrees at a time.

NORMAL: For a normal 4-channel sound field.

RIGHT QUARTER TURN: To turn the sound field around by 90 degrees clockwise. Use this position to obtain a normal 4-channel stereo effect when hearing vocal or other types of program source where sound is loud only on the left-hand side.

HALF TURN: To turn the sound field around by a full 180 degrees. Used with vocal or other types of program source, this position will make you feel as if you were right in the middle of the stage.

LEFT QUARTER TURN: To turn the sound field around by 90 degrees counterclockwise.

Function Selector

2-CH: To hear the front left and right channel sounds only.

CONCERT HALL-1: For orchestras, big band jazz, etc. Suitable for most purposes. The 'Front 2-2 System' of speaker position (see page 12) is more effective.

CONCERT HALL-2: For solo performances, vocal numbers and other small band selections. The 'Front 2-2 System' of speaker position produces best results.

SURROUND: Suitable for programs which sound most effective with the musical instruments scattered around the room, such as popular music, mood music, Moog sound, rock-'n'-roll, rhythm and blues, etc. The '2-2 System' of speaker position (see page 12) produces best results.

DECODER: To hear a four-channel record, tape or FM broadcast encoded into two channels by the Sansui 4-Channel Encoder. Distinct sound images of the musical instruments and singers will be formed in the room giving you a 4-channel stereo effect equal to or even better than that obtainable from a discrete 4-channel stereo system. The '2-2 System' of speaker position is recommended.

AUX-1 (4CH): To hear whatever 4-channel program source is connected to the AUX-1 (4-CHANNEL) inputs on the unit's rear panel.

AUX-2 (4CH): To hear whatever 4-channel program source is connected to the AUX-2 (4-CHANNEL) inputs.

Main Balance Control

Use to balance the front and rear channels. Turn it clockwise to increase the sound volume in the rear channels, counterclockwise to increase that in the front channels.

Balance Control

Use to adjust the left-right balance in the front and rear channels. Turn it clockwise toward RIGHT to emphasize the right channel sound, counterclockwise toward LEFT to accent the left channel sound.

The smaller knob part (controlling the front channels) and the larger ring part (controlling the rear channels) are friction-coupled, and permit either simultaneous or separate adjustment of the front and rear channels.

CONNECTIONS

Your QS-800 permits you to continue to use your present 2-channel stereo receiver, amplifier or music system and speaker systems for the front channels of a 4-channel stereo system. Instructions will be given below on making the necessary connections, but before you set out to make such connections, examine the connections among the various pieces of equipment in your present stereo set-up once more. If a tape deck is connected, disconnect it once. (Refer to the instructions on connecting a 2-channel tape deck on page 8).

However, if you have bought the amplifier and speaker systems for the front channels for the first time, connect them for regular 2-channel reproduction, as instructed by their manufacturers. When the above preparations are finished, proceed to make the connections, referring to both the instructions below and the diagram at right. Be sure to make them firm and secure.

Connecting the QS-800 to the Front-Channel Amplifier

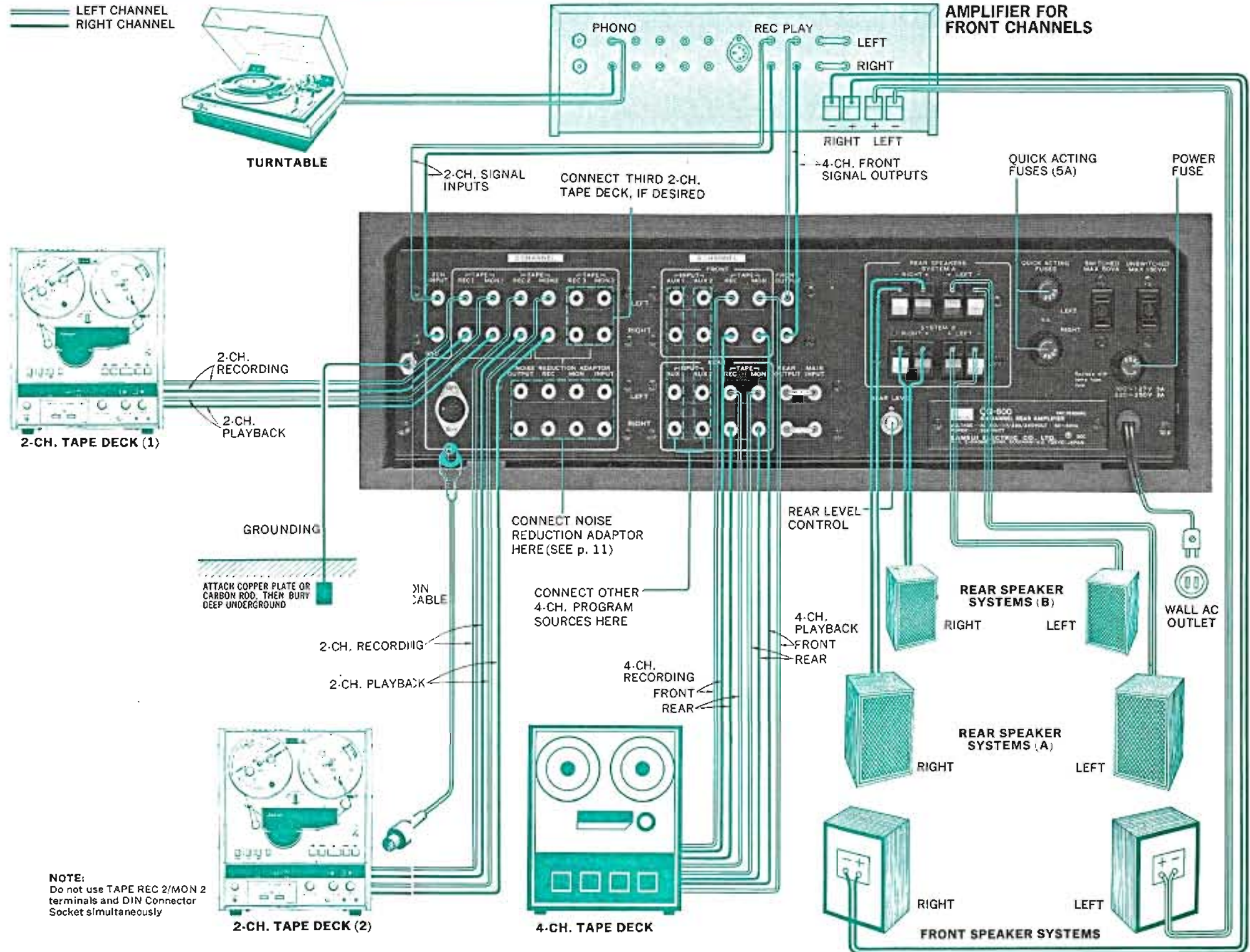
Take out four shielded cables from the accessory kit supplied with your QS-800. Then:

1. Connect a pair of them between the jacks marked '2CH INPUT' on the unit's rear panel and the tape recording jacks of the amplifier you are using to amplify the front channels.

2. Connect another pair between the jacks marked 'FRONT OUTPUT' and the amplifier's tape playback or monitor jacks.

Be sure that the left and right channels are kept in the same order at both terminals. The accessory shielded cables are painted blue and yellow to facilitate this.

Note: Once you have made the above connections, turn on the tape monitor switch of the front-channel amplifier (or set it to PLAYBACK).



Connecting the Rear-Channel Speaker Systems

Up to two pairs of speaker systems can be connected to the QS-800 to reproduce rear-channel sound, and may be driven either independently or simultaneously as selected by the unit's Power/Rear Speakers Switch.

If you are connecting only one pair, connect it to either SYSTEM A or SYSTEM B terminals. Keep the left and right channels, plus and minus polarities in the correct order, referring to the diagram at left. Should you want to add another pair at a later date, connect it to the other set of terminals. If you connect two pairs of speaker systems to the QS-800, however, it is suggested that you place one pair to form the '2-2 System' and the other to form the 'Front 2-2 System' of speaker position (see page 12).

Note:

The speaker systems connected to your QS-800 must possess an impedance of 4 to 16 ohms. If you want to connect two pairs and drive them simultaneously (by turning the unit's Power/Rear Speakers Switch to the 'SYSTEM A+B' position), they should each have an impedance of 8 ohms or more.

About the Speaker Polarities

Whether or not the four speaker systems in your 4-channel stereo system are in phase with one another is a very important consideration for maximum enjoyment of 4-channel stereo sound.

When connecting the speaker systems, therefore, it is important that you pay special attention to their polarities. Even then, the front and rear channels might not be in phase if the front-channel amplifier should have a different circuit system from the QS-800.

The Rear Channel Phase Switches on the QS-800 let you correct such condition very simply. Use them as instructed on page 3 to reverse the phase of the rear left or right channel and obtain the most natural sound.

Connecting Tape Decks

2-Channel Tape Decks

Since you connect your QS-800 to the tape recording and monitor jacks of your front-channel amplifier, you cannot connect a 2-channel tape deck to it. To solve this, your QS-800 is provided with connection

jacks for three 2-channel tape decks on the rear panel.

If Using Pin Jacks

1. Connect one pair of shielded cables between the '2 CHANNEL TAPE REC 1 (or 2 or 3)' jacks of the QS-800 and the recording input jacks of your tape deck.

2. Connect another pair of such cables between the '2 CHANNEL TAPE MON 1 (or 2 or 3)' jacks and the playback output jacks of your tape deck.

Be sure to keep the left and right channels in the same order at both ends in each case.

If Using the DIN Socket

If your tape deck is equipped only with a DIN connector socket, plug the DIN connector cable extending from it into the 5-pin DIN connector socket on the QS-800's rear panel.

The tape deck will then operate in the same manner as if it were connected to the second set of pin jacks (2 CHANNEL TAPE REC 2 and TAPE MON 2).

Caution: Never use the DIN socket and the 2 CHANNEL TAPE REC 2 and TAPE MON 2 jacks simultaneously.

4-Channel Tape Deck

1. Connect the FRONT and REAR 4-CHANNEL TAPE REC jacks on the QS-800's rear panel with the input jacks of your 4-channel tape deck by means of shielded cables.

2. Then connect the FRONT and REAR TAPE MON jacks on the unit's rear panel with the output jacks of the tape deck, also by means of shielded cables.

Be sure not to confuse the front and rear, left and right channels. On many tape decks, the four channels are indicated as follows:

Front Left	Channel 1 or Track 1
Front Right	Channel 3 or Track 3
Rear Left	Channel 2 or Track 2
Rear Right.....	Channel 4 or Track 4

AUX (4-CHANNEL) Jacks

Your QS-800 is equipped with two sets of 4-channel AUX input jacks (AUX 1, AUX 2).

If necessary, use them to connect another 4-channel tape deck (to copy a recorded tape from one tape deck to another, for example) or a 4-channel disc adaptor required to play discrete 4-channel discs.

Preliminary Balancing of Front & Rear Sound Volumes

The sound volume balance between the front and rear channels is adjusted with the Main Balance Control. It can be made easier, however, by matching the front and rear channel sound volumes beforehand. This is accomplished as follows:

1. Turn down the volume control of your front-channel amplifier completely, then set its balance control in its neutral position.
2. Turn up the QS-800's Volume Control completely, then set its three Balance Controls in their center, neutral positions. At the same time, fully turn down the Rear Level Control (turn it fully counterclockwise) on the unit's rear panel.
3. Operate the QS-800 and other equipment to play a record or receive an FM stereo broadcast. (See the right-hand column for instructions on record playing and FM reception.)
4. Adjust the Level Set Control so that the front-channel VU meter pointers will swing between the red 0 (zero) and 2 marks at the loudest passages of the program source played.
5. Turn up the volume control of the front-channel amplifier until you obtain the loudest sound volume you will normally require.
6. Turn down the QS-800's Volume Control gradually to your usual listening level.
7. Turn the Rear Level Control on the unit's rear panel slowly clockwise until the sound volume from the rear speaker systems is properly balanced with that of the front speaker systems.

Once the above adjustment is finished, the overall sound volume and front-rear, left-right balances can all be adjusted with the controls on the QS-800, without touching anything on your front-channel amplifier.

Reception of FM Stereo Broadcasts/Playing Records, etc.

Operating your QS-800 to receive FM stereo broadcasts or to play records is very simple. Just turn on the tape monitor switch of your front-channel amplifier (or set it to 'PLAYBACK'), and the rest is the same as 2-channel reproduction. Make any volume and/or balance adjustments with the appropriate controls on the QS-800. Use other controls on the unit for the best 4-channel stereo effect possible, following instructions on pp. 3~5.

Recording and Playback on 2-Channel Tape Decks

If you couple a 2-channel tape deck to your QS-800, you'll be able to record and play back a 2-channel stereo tape. Of course, the playback sound can be converted, if desired, into four channels by the 4-channel synthesizer decoder in your QS-800 and reproduced out of the four speaker systems. If the tape deck is of a 3-head type (with separate record and playback heads), you'll be able to monitor the sound as it is recorded.

If you connect two (or three) tape decks to your QS-800, you'll be able to record into both (or all) of them simultaneously or copy a recorded tape from one to another.

In addition, your QS-800 is equipped to connect a noise reduction adaptor, so you can record and reproduce with reduced tape hiss with the aid of such adaptor. (See '**NOISE REDUCTION SYSTEM**' on page 11.)

To Record into a 2-Channel Tape Deck

1. Set the function selector control of your front-channel amplifier to the program source you want to record (such as phono, FM, microphone, auxiliary input, etc.).
2. Start the tape deck in the recording mode.
3. To monitor the sound being recorded, push down the 2CH-1, -2 or -3 Tape Monitor Switch on your QS-800's front panel, depending on which of the three 2-channel tape monitor circuits is accommodating the tape deck at the moment.

To Reproduce a 2-Channel Recorded Tape

- 1.** Push down the 2CH-1, -2, or -3 Tape Monitor Switch, depending on which of the three 2-channel tape monitor circuits is accommodating the tape deck at the moment.
- 2.** Start the tape deck in the playback mode.
- 3.** Use the various controls and switches on the unit to obtain the best 4-channel stereo effect possible.

Recording into Two (or Three) 2-Channel Tape Decks Simultaneously

- 1.** Set the function selector control of your front-channel amplifier to the program source you want to record.
- 2.** Start both (or all three) tape decks in the recording mode.

Recording from One Tape Deck to Another

The necessary procedure slightly varies depending on which 2-channel tape monitor circuits are being employed to connect the tape decks. Take, for example, the procedure required to record from tape deck 1 (connected to the TAPE REC 1 and TAPE MON 1 jacks) to tape deck 2 (connected to the TAPE REC 1 and TAPE MON 2 jacks).

- 1.** Push down the 2CH-1 Tape Monitor Switch.
- 2.** Start tape deck 2 in the recording mode.
- 3.** Start tape deck 1 in the playback mode.

Other possible variations include recording from tape deck 1 to tape deck 3, from tape deck 2 to tape deck 3, and from tape deck 1 to tape decks 2 and 3. But it is not possible to reverse the order of these tape decks.

Recording and Playback on a 4-Channel Tape Deck

If you connect a 4-channel tape deck to your QS-800, you'll be able to record and reproduce a 4-channel stereo tape. You may either record the 4-channel stereo sound converted from 2-channel program sources by the unit's built-in 4-channel synthesizer decoder, or if you connect two 4-channel tape decks, you'll even be able to record from a discrete 4-channel stereo tape. Of course, if the tape deck is of a 3-head type, it is possible to monitor the sound being recorded.

To Record into a 4-Channel Tape Deck

To record the 4-channel sound converted from 2-channel program sources by the unit's built-in 4-channel synthesizer decoder, follow the simple steps described below:

- 1.** Set the function selector control of your front-channel amplifier to the program source you want to record. However, if the program source is a 2-channel stereo tape, operate both the 2-channel tape deck and your QS-800 to reproduce the tape.
- 2.** Turn the unit's Function Selector to a position that gives you the sound effect best suited to the type of music you are about to record.
- 3.** Adjust the Level Set Control so that the front channel VU meter pointers on the QS-800 will swing between the red 0 (zero) and 2 marks at the loudest passages of the music being reproduced.
- 4.** Start the 4-channel tape deck in the recording mode.
- 5.** To monitor, push down the 4 CH Tape Monitor Switch.

Recording from One Tape Deck to Another

If you want to copy a 4-channel stereo tape, you need another 4-channel tape deck. This second tape deck should be connected to the unit's 4-channel AUX-1 (or -2) input jacks.

- 1.** Set the unit's Function Selector to AUX-1 (4CH) or AUX-2 (4CH), whichever input circuit is being employed.
- 2.** Start the first 4-channel tape deck (connected to the FRONT and REAR 4-CHANNEL TAPE REC and MON jacks) in the recording mode.
- 3.** Start the other 4-channel tape deck (connected to the FRONT and REAR 4-CHANNEL AUX-1 or -2 INPUT jacks) in the playback mode.

To Reproduce a 4-Channel Recorded Tape

- 1.** Push down the 4CH Tape Monitor Switch.
- 2.** Start the 4-channel tape deck in the playback mode.
- 3.** Use the various control on both the QS-800 and your front-channel amplifier to obtain the best 4-channel stereo effect possible.

NOISE REDUCTION SYSTEM

About Noise Reduction Systems

Tape hiss is the single greatest annoyance to tape recording enthusiasts. To eliminate this noise, several noise reduction systems have been developed.

The latest innovation in this area is called the Dolby system, which reduces tape hiss most effectively without affecting the tonal quality of the program source sound. It involves compressing low-level signals (where tape hiss is most annoying) during recording and then expanding them during playback in exactly the opposite manner.

The Dolby system often more than doubles the stereo listening enjoyment. To take maximum advantage of it, you only need couple a commercially available Dolby Noise Reduction Adaptor to your QS-800.

Connecting the N.R. Adaptor

Connect the Dolby Noise Reduction Adaptor to the NOISE REDUCTION ADAPTOR jacks on your QS-800.

Such adaptor usually has four pairs of jacks—two for connecting a tape deck, and two more for connecting an amplifier (in this case the QS-800).

As your QS-800 is equipped with provisions for connecting and selecting up to three tape decks, it is better to connect your tape deck(s) to the QS-800 (refer to 'CONNECTING TAPE DECKS, 2-Channel Tape Decks' on page 8).

With your tape deck (s) so connected, regard the NOISE REDUCTION ADAPTOR—OUTPUT, INPUT, REC and MON jacks on your QS-800's rear panel as equivalent to these terminals:

OUTPUT...Tape recording output jacks of an amplifier

INPUT.....Tape playback input jacks of an amplifier

RECRecording input jacks of a tape deck

MON.....Playback output jacks of a tape deck.

With this in mind, make these connections between the QS-800 and the noise reduction adaptor:

QS-800 N.R. Adaptor

OUTPUT.....Input jacks of its recording circuit

RECOutput jacks of its recording circuit

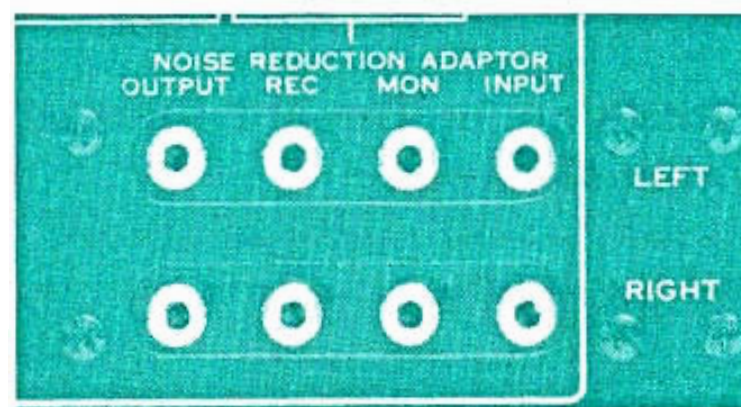
MON.....Input jacks of its playback circuit

INPUTOutput jacks of its playback circuit

Note:

1. The QS-800 is equipped with three 2-channel tape monitor circuits, but if you want to use a noise reduction adaptor, be sure to connect your 2-channel tape deck to either TAPE 2 or 3 jacks.

2. Any noise reduction adaptor connected to the QS-800 acts only on a 2-channel tape deck.



Operating a Noise Reduction Adaptor

Operate the noise reduction adaptor correctly according to instructions supplied by its manufacturer. Then it is simply a matter of operating your tape deck correctly for recording and playback and pushing the N.R. ADAPTOR Switch on the QS-800's front panel.

Note:

When you are recording via a two-circuit tape Dolby Noise Reduction Adaptor, changing its Mode Switch from record to playback by mistake is likely to result in an oscillating phenomenon. Be careful to avoid such mistake.

TO ENJOY 4-CHANNEL STEREO AT ITS BEST

The 4-channel stereo system far excels the conventional 2-channel system in its capability to faithfully reproduce the sound field normally present at live performances. Your QS-800 incorporates a QS synthesizing/decoding matrix to re-organize ordinary 2-channel stereo signals to four channels and establish distinct sound images of the musical instruments and singers, as well as Sansui's exclusive phase modulator circuit to lend the reproduced sound the liveliness or presence of the original sound field.

The end effect of such treatments is so exciting and enthralling that many audio experts the world over have termed it purely revolutionary. It is particularly outstanding when you feed, as inputs, 4-channel programs encoded into a 2-channel from by a 4-channel encoder.

So that you may enjoy 4-channel stereo music at its very best, it is important that you know all about the switches and controls of your QS-800.

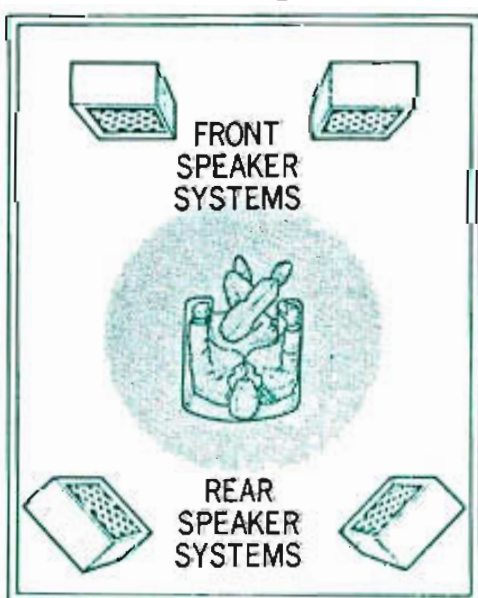
But a few other useful hints are also certain to help you hear the music more effectively, and these will be outlined below.

Speaker System Positions

The positions of the four speaker systems in a 4-channel stereo system is an essential consideration if you are to enjoy 4-channel stereo sound at its best. It is important that you place them appropriately to suit the type of program source you wish to hear. Two basic positions will be discussed below, but you are free to adapt them to the particular conditions—both acoustic and physical—of your room for optimum 4-channel stereo effects.

1) 2-2 System

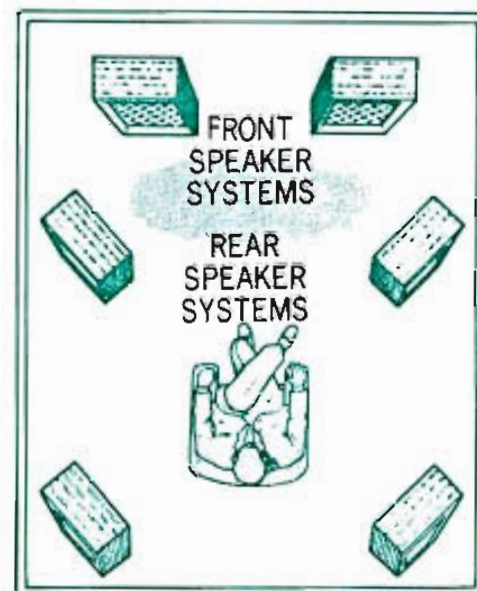
This is the 4-corner position widely accepted as the 'standard' for 4-channel stereo. While it is particularly good for hearing program sources encoded by a 4-channel encoder, it is also effective for these types of program source: mood music, popular music, contemporary music, Moog sound, rhythm and blues, musi-



cal, and live recordings.

2) Front 2-2 System

This system moves the rear speaker systems up front as shown below and creates a sound field—the equivalent of a concert hall stage—in front of you. It is suitable for those types of program source which more or less require an objective attitude of the audience, such as: symphonies, operas, chamber music, modern jazz and big band jazz.



3) Others

Variations of the above two systems are possible, and you are absolutely free to devise one to suit the particular conditions of your room.

Selecting Rear Speaker Systems

Needless to say, the best 4-channel stereo effect is realized by employing four identical speaker systems. If this is impossible, choose speaker systems whose tonal quality is similar to that of the front speaker systems.

If the Program Source is Monophonic

The QS synthesizing/decoding matrix incorporated in your QS-800, by principle, is unable to produce a 4-channel stereo effect from a monophonic program source. When you listen to such monophonic program sources as AM broadcasts, FM mono broadcasts and mono records, it is usually advisable to set the Function Selector to '2CH' and hear them in mono, bypassing the QS matrix.

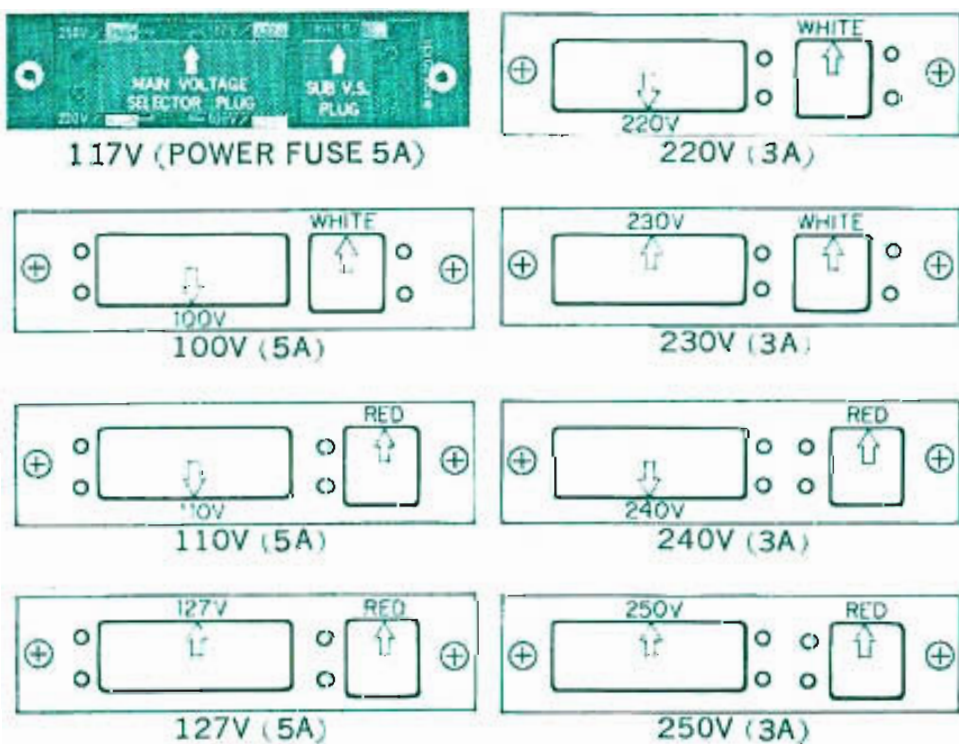
Some mono sources, however, acquire depth when processed through that matrix, so it may be worth your while to experiment for yourself.

SIMPLE MAINTENANCE HINTS

Voltage Adjustment

Your QS-800 is adjusted in our factory to operate at the power supply voltage of your area. That voltage is indicated both on the carton box and by a round label on the bonnet of the amplifier. Should you, after purchasing the unit, move to an area where the power supply voltage is different from the one indicated, adjust the unit's voltage selector plugs as follows:

1. Remove the two screws securing the name plate on the unit's rear panel, then remove the name plate.
2. Set the arrow mark on the Main Voltage Selector Plug to the new voltage: 100, 110, 117, 127, 220, 230, 240 or 250 volts.
3. If the new voltage is indicated in red, set the arrow mark on the adjacent Sub Voltage Selector Plug to "RED." If it is indicated in white, however, set that arrow to "WHITE."
4. Change the power fuse as well whenever the power supply voltage has changed. For 100–127 volt operation, use a 5-ampere glass-tubed fuse. For 220–250 volt operation, use a 3-ampere one.
5. Where the power supply voltage considerably fluctuates, the Main Voltage Selector Plug may be reset to avoid unpleasant side effects of such fluctuation. Reset it to the voltage immediately higher than the peak of the fluctuation.



About the Place of Installation

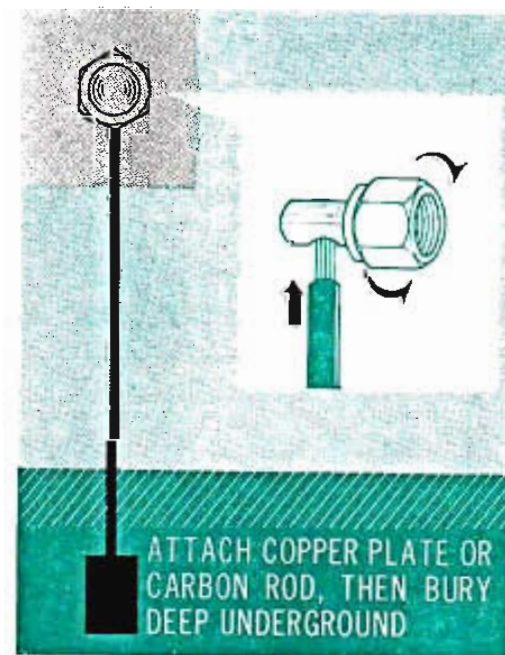
The bonnet of the QS-800 is designed so that any heat radiated inside will escape through it. Due care should be taken of the dissipation of such heat if you wish to place something on top of the QS-800 or put the unit inside a closed cabinet, etc. Above all, avoid placing it where it may be exposed to the direct sunlight.

To Connect the Front-Channel Amplifier, etc.

Use the pin plug-equipped shielded cables supplied with your QS-800 to connect your front-channel amplifier and QS-800. If you should use other cables for some reason, they should be relatively thick and have minimal distributed capacitance. Try to keep them as short as possible. Observe the same cautions when connecting tape decks.

Grounding

Any noise picked up by the connecting cables may be effectively grounded by connecting a piece of PVC (polyvinyl chloride) or enameled wire to the grounding terminal on the QS-800's rear-panel, attaching a small copper plate or carbon rod to the other end and burying it deep underground. The grounding leads of other equipment in the system may be connected to the same terminal to ground the entire system at once.

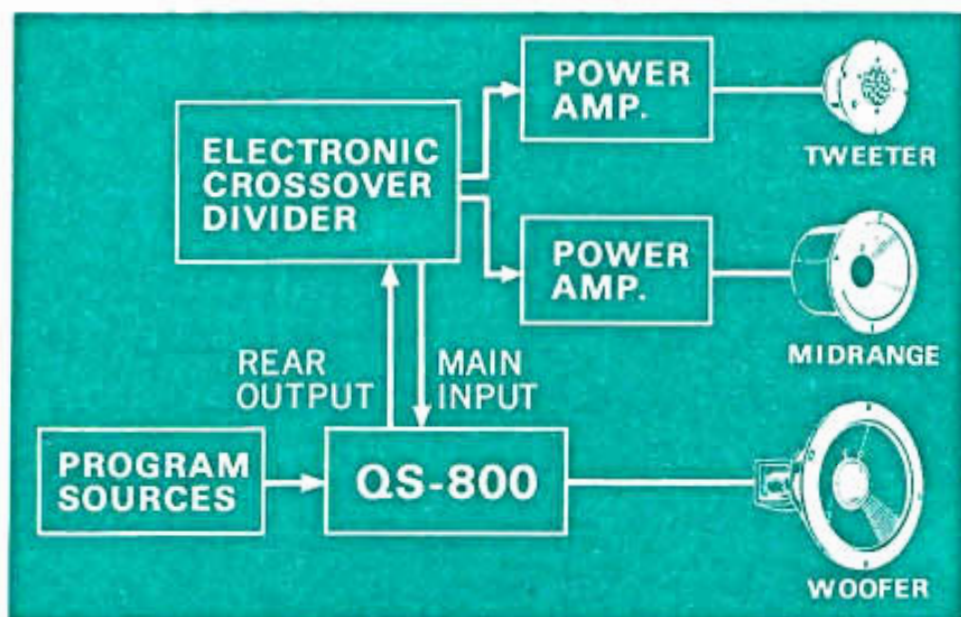
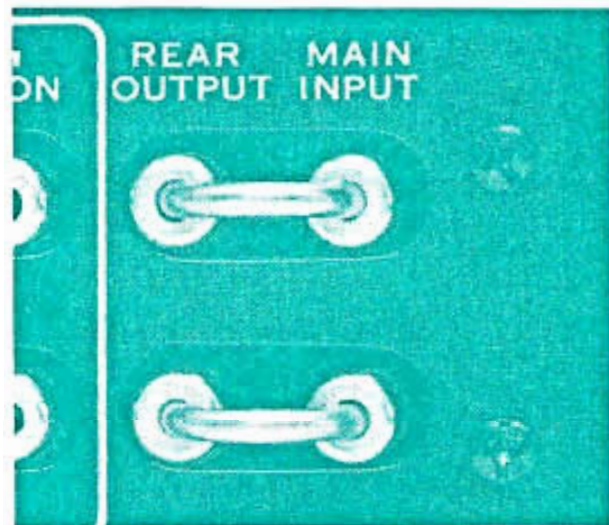


PM Connectors

These are the U-shaped jumper connectors connecting the 'REAR OUTPUT' (rear-channel preamplifier output) jacks and the 'MAIN INPUT' (rear-channel power amplifier input) jacks on the unit's rear panel, and can be easily pulled out. With these connectors unplugged, the rear-channel preamplifier and power amplifiers are separated and may be independently used. For example, other power amplifiers may be coupled to the 'REAR OUTPUT' jacks. This would make it possible to upgrade your 4-channel stereo system further by adopting the 'electronic crossover system,' among other things.

Note:

1. Be sure to leave the PM connectors firmly plugged in unless you wish to connect other components.
2. Cut off the Power/Rear Speakers Switch without failure before you plug in or out the PM connectors.



Rear-Panel AC Outlets

Of the two AC outlets provided on the rear-panel, the one marked 'SWITCHED' is controlled by the front-panel Power/Rear Speakers Switch. The other, marked 'UNSWITCHED,' is always 'live' and independent of the Power/Rear Speakers Switch. The voltage delivered at these outlets is the same as the power supply voltage used.

The 'SWITCHED' and 'UNSWITCHED' outlets have a power capacity of 50 VA and 150 VA, respectively. Before you connect any appliance to them, be sure that it is adjusted for use at the same power supply voltage, and that its power consumption is not beyond these figures.



Should the Power Fuse Blow

If the VU meters fail to glow and your QS-800 remains dead when you turn on the Power/Rear Speakers Switch, it is possible that its power fuse has blown.

Should this happen, disconnect the power cord from the AC outlet and examine the power fuse on the unit's rear panel. If you find it blown, find out the cause of the blowout and eliminate it, then replace the blown fuse with a new glass-tubed fuse of the rated capacity (5-ampere for 100 to 127 volts, 3-ampere for 220 to 250 volts).

Never use a fuse of a different capacity or a piece of wire, even as a stopgap measure, or serious danger could result.



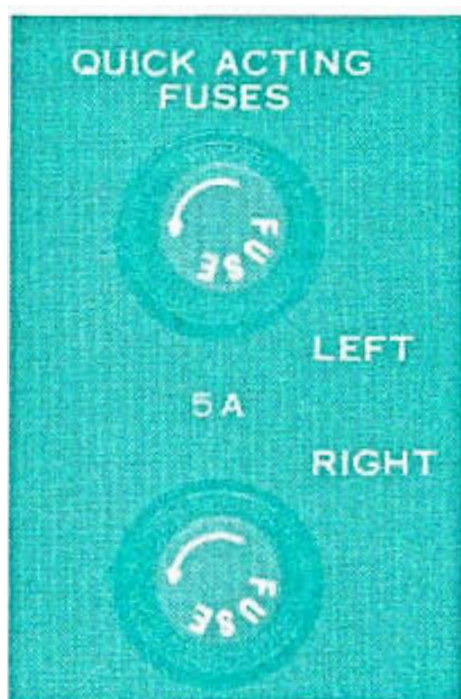
SIMPLE MAINTENANCE HINTS/ACCESSORIES

Quick-Acting Fuses

If the VU meters of your QS-800 illuminate but no sound is heard from both or either of the rear speaker systems, examine their connections and your operating procedure once. If nothing is wrong with them, it is possible that both or either of the quick-acting fuses protecting the power transistors has blown.

Should this happen, disconnect the power cord from the wall AC outlet and check the two quick-acting fuses on the unit's rear panel. If you find both or either of them blown, discover and eliminate the cause of the blowout, and replace it with a new 5-ampere quick-acting fuse supplied.

Probable causes of the blowout include excessively large input signals and a short-circuit at the speaker terminals.



If the Rear-Channel Sound Is Shaky

You may sometimes notice the sound from the rear speaker systems is shaky when that from the front speaker systems is not. Probable causes of this condition include the following:

1. The record is damaged or worn out.
2. The cartridge stylus is damaged or has dust on it.
3. The stylus pressure of the cartridge is either too light or heavy.
4. The cartridge itself is faulty.
5. The level of the input signals fed to the QS-800 is too high.
6. The sound in the record or tape is distorted to begin with.
7. The stereo separation of the FM tuner is poor, or the FM antenna input is insufficient and the broadcast signal contains considerable noise.

If the Separation of the Front/Rear, Left/Right Channels Is Poor

While your QS-800 is designed so that the sounds from the four speaker systems blend with one another to form an integrated sound field, the separation of the front and rear channels, and the left and right channels, may sometimes, be disturbingly poor for one of the following reasons:

1. The program source itself is poor in stereo separation.
2. The left and right channels of the program source are not in phase.
3. The left and right channels of the program source differ in output voltage.

About Servicing

Should anything ever go wrong with your QS-800, or if you have any question about it, please contact the Sansui dealer from whom you purchased it or your nearest Authorized Sansui Service Station.

List of Accessories

- | | |
|---|---|
| 1. CONNECTION CABLES WITH PIN PLUGS .. | 4 |
| 2. THREE-PLUG CORDS..... | 2 |
| 3. QUICK-ACTING FUSES (5A)..... | 2 |
| 4. POLISHING CLOTH..... | 1 |
| 5. BUTTERFLY BOLTS | 2 |
| 6. WASHERS | 2 |
| 7. OPERATING INSTRUCTIONS AND
SERVICE MANUAL | 1 |
| 8. OPERATING INSTRUCTIONS SHEET | 1 |

SPECIFICATIONS

POWER OUTPUT

IHF MUSIC POWER:	200 Watts (4Ω) at 1,000Hz 160 Watts (8Ω) at 1,000Hz
CONTINUOUS RMS POWER (each channel driven):	85/85 Watts (4Ω) at 1,000Hz 65/65 Watts (8Ω) at 1,000Hz
CONTINUOUS RMS POWER (both channel driven):	67 + 67 Watts (4Ω) at 1,000Hz 56 + 56 Watts (8Ω) at 1,000Hz
CONTINUOUS RMS POWER (both channel driven at rated distortion):	45 Watts × 2 (8Ω) at 20,000Hz

TOTAL HARMONIC DISTORTION

CONTROL AMPLIFIER ONLY:	less than 0.1% (FUNCTION: 2-CH)
POWER AMPLIFIER ONLY:	less than 0.5% at rated output

INTERMODULATION DISTORTION (60Hz: 7,000Hz = 4:1 SMPTE method): less than 0.5% at rated output

IHF POWER BANDWIDTH (each channel driven at 8Ω): 15 to 30,000Hz

FREQUENCY RESPONSE (at 1 Watt power output)

OVER ALL:	20 to 20,000Hz +0.5dB, -2dB
POWER AMPLIFIER ONLY:	15 to 50,000Hz +1dB, -1dB
CONTROL AMPLIFIER ONLY:	20 to 40,000Hz +1dB, -1dB

LOAD IMPEDANCE: 4 to 16 ohms

DAMPING FACTOR: approximately 100 at 8 ohms load

INPUT SENSITIVITY AND IMPEDANCE (at 1,000Hz)

AUX (2-CH):	150mV (50k ohms)
AUX (4-CH):	300mV (50k ohms)
TAPE MONITOR (PIN) (2-CH, 1, 2, 3):	150mV (50k ohms)
TAPE MONITOR (PIN) (4-CH):	300mV (50k ohms)
N.R. ADAPTOR:	150mV (50k ohms)
POWER AMPLIFIER INPUT:	800mV (50k ohms)

OUTPUT VOLTAGE

TAPE REC (PIN) (2-CH):	150mV
TAPE REC (PIN) (4-CH):	300mV
TAPE REC (DIN) (2-CH):	35mV
N.R. ADAPTOR:	150mV
CONTROL AMPLIFIER:	800mV (Max.) 4V (THD: less than 0.5%)

CHANNEL SEPARATION (at rated output, 1,000Hz)

CONTROL AMPLIFIER OUTPUT:	better than 45dB (FUNCTION: 2-CH, AUX 4-CH)
POWER AMPLIFIER:	better than 50dB

IHF HUM AND NOISE

CONTROL AMPLIFIER OUTPUT:	better than 80dB
POWER AMPLIFIER ONLY:	better than 90dB

REAR CHANNEL PHASE-SHIFT FREQUENCY

LEFT:	-90 degrees at 250Hz
RIGHT:	±90 degrees at 450Hz

TONE CONTROLS

BASS:	+11.0dB, -11.5dB at 50Hz (NF type)
TREBLE:	+12.5dB, -12.5dB at 10,000Hz (NF type)

SEMICONDUCTORS:

Transistors: 64, Diodes: 18, Zener Diodes: 2, SCR: 1

POWER REQUIREMENTS

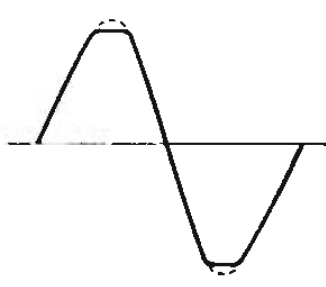
POWER VOLTAGE:	100, 110, 117, 127, 220, 230, 240, 250V 50/60Hz
POWER CONSUMPTION:	430VA (MAX consumption), 130W (rated consumption)

DIMENSIONS: 462mm (18 1/4")W, 147mm (5 13/16")H, 335mm (13 1/4")D

WEIGHT: 15.1kg (33.2 lbs.)

ALIGNMENT

OUTPUT ALIGNMENT OF REAR-CHANNEL POWER AMPLIFIER

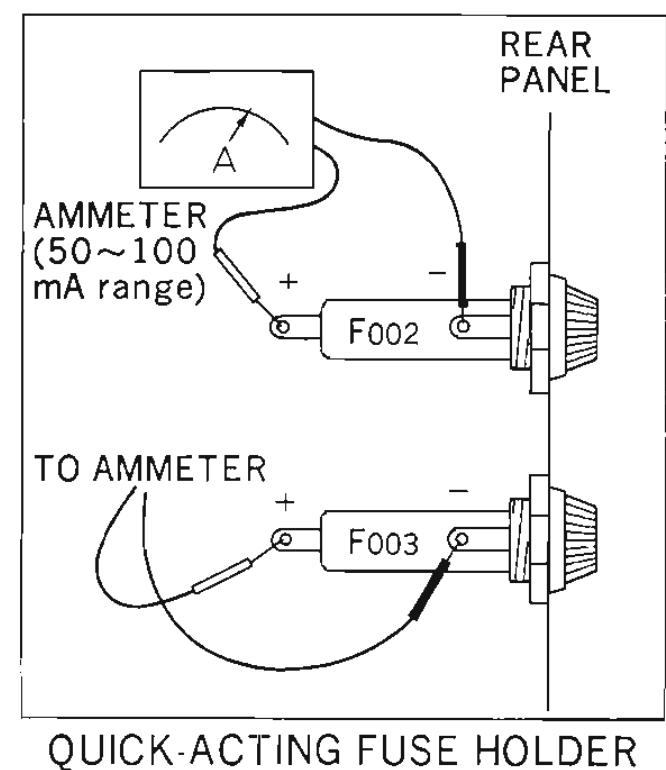
STEP	CONNECT/ADJUST	REMARKS
1.	Turn Rear Level Control fully counterclockwise.	
2.	Pull out PM connectors.	
3.	Set oscillator to 1kHz, then connect it to MAIN INPUT rear left-channel input jack.	Use oscillator with output capacity greater than 1V.
4.	Connect 8-ohm (or 16-ohm) resistor (minimum rating of 80 watts) to SYSTEM A rear left-channel speaker terminal.	
5.	Connect oscilloscope to same speaker terminal.	
6.	Set Power/Rear Speakers Switch to 'SYSTEM A' position.	
7.	Turn Rear Level Control clockwise slowly.	
8.	Adjust VR ₈₀₁ (left channel) so that both peaks of output wave form are clipped simultaneously.	
9.	For rear right-channel, repeat above procedure, but adjust VR ₈₀₁ (right channel) in step 8.	
10.	Plug in PM connectors.	

CURRENT ALIGNMENT OF REAR-CHANNEL POWER AMPLIFIER

STEP	CONNECT/ADJUST	REMARKS
1.	Remove F ₀₀₂ and F ₀₀₃ .	
2.	Turn Rear Level Control fully counterclockwise.	
3.	Turn VR ₈₀₂ (left and right channels) fully counterclockwise.	
4.	Turn on Power/Rear Speakers Switch.	
5.	Connect ammeter (or tester) where F ₀₀₂ was (refer to illustration below.)	Be sure power is turned on before connecting ammeter. Set ammeter to 50~100 mA range.
6.	Turn VR ₈₀₂ (left channel) slowly clockwise until ammeter shows 30 ± 3 mA.	
7.	Turn off power, then replace F ₀₀₂ .	
8.	Turn on power again.	
9.	Now, connect ammeter (tester) where F ₀₀₃ was (refer to illustration below.)	Same as step 5.
10.	Turn VR ₈₀₂ (right channel) slowly clockwise until ammeter shows 30 ± 3 mA.	
11.	Turn off power, then replace F ₀₀₃ .	

ALIGNMENT OF VU METERS

STEP	CONNECT/ADJUST
1.	Set your QS-800's three Balance Controls at respective center positions.
2.	Turn Direction Switch to NORMAL.
3.	Push down 4-Channel Tape Monitor Switch.
4.	Connect oscillator (1kHz, 775mV) to 4-CHANNEL TAPE MON front left-channel input jack.
5.	Adjust VR ₃₁₃ so that front left-channel VU meter swings to '0'.
6.	Make same adjustments with VR ₃₁₄ , VR ₃₁₅ , VR ₃₁₆ for front right, rear left and rear right channel VU meters, respectively.



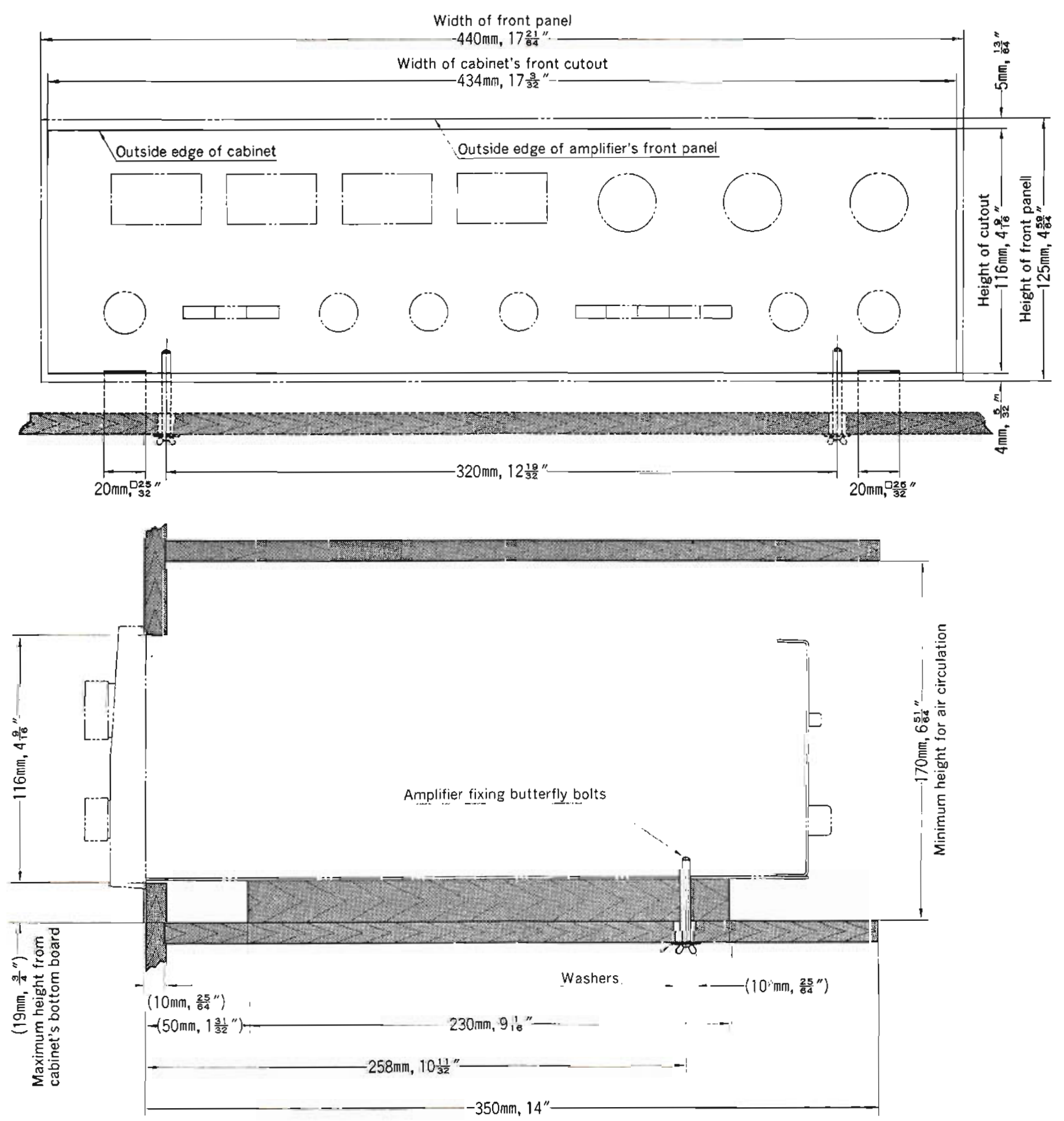
CUSTOM MOUNTING

The diagrams below show the dimensions required for mounting the QS-800 into a custommade cabinet. Note that ample space is provided for complete air circulation above and below the unit.

1. Be sure the cabinet cutout measures $17\frac{3}{32}'' \times 4\frac{9}{16}''$ as indicated in the diagram.
2. Place two bars on the floor of the cabinet as illustrated. Each bar should measure $2\frac{5}{32}'' \times 2\frac{5}{32}'' \times 9\frac{1}{16}''$.
3. Drill two holes in the bottom of the cabinet at points corresponding to holes in the bottom of the

receiver.

4. Remove the receiver from the wood case (refer to "DISASSEMBLY PROCEDURE" on page 19).
5. Remove the two screws on the front panel side of the receiver's bottom board.
6. Insert the QS-800 into the cabinet through the cutout until the edges of its front panel are flush with the cabinet, and secure both receiver and cabinet with the two butterfly bolts and washers (supplied).



PRINTED CIRCUIT BOARDS AND PARTS LIST

W: Parts No. X: Parts Name Y: Stock No. Z: Position of Parts

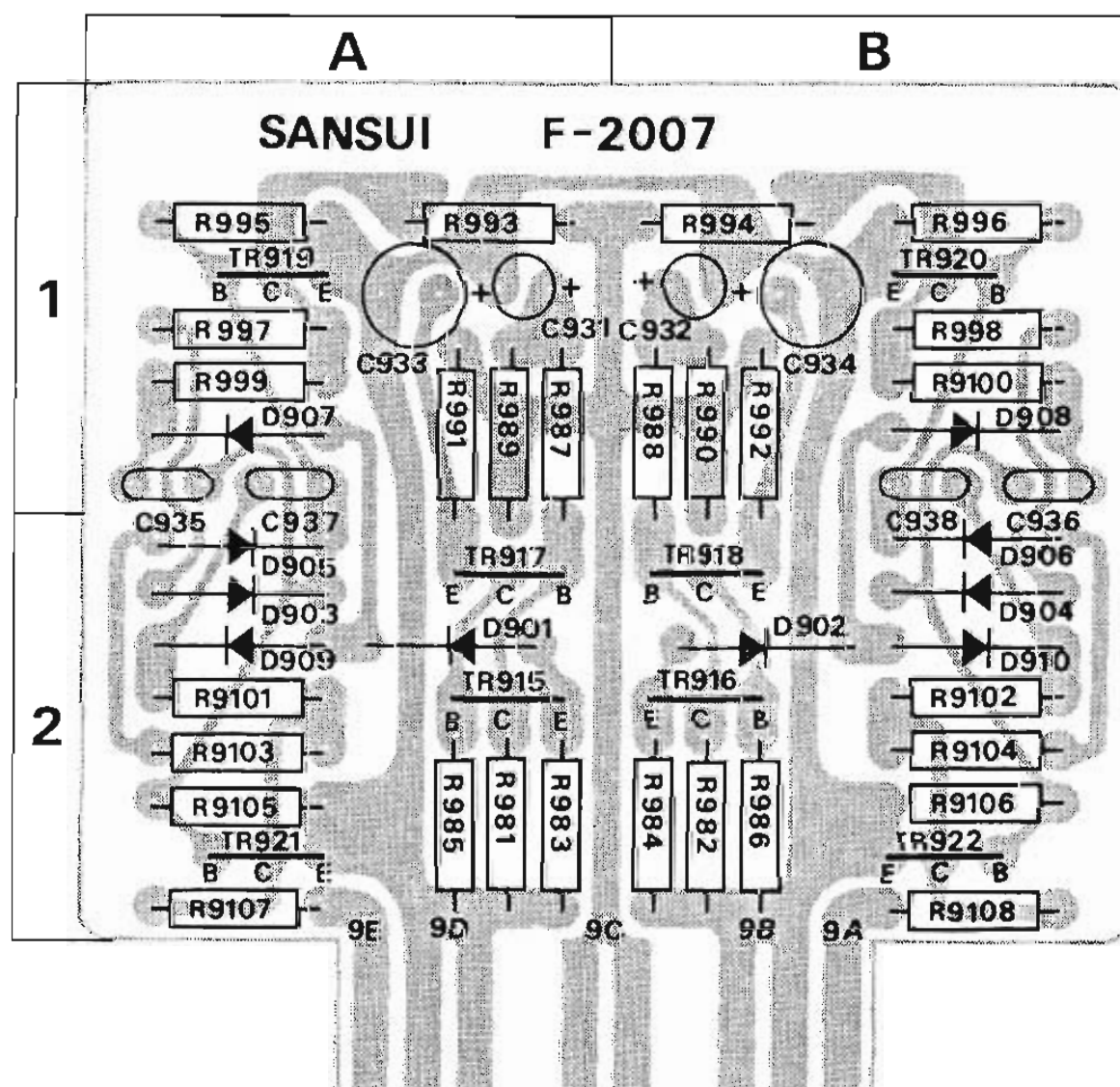
OSCILLATOR BLOCK <F-2007>

Stock No. 7591070

W	X	Y	Z
R981	1.5kΩ	0101152	2 A
R982	1.5kΩ	0101152	2 B
R983	47Ω	0101470	2 A
R984	47Ω	0101470	2 B
R985	47kΩ	0101473	2 A
R986	47kΩ	0101473	2 B
R987	2.2kΩ	0101222	1 A
R988	2.2kΩ	0101222	1 B
R989	470Ω	0101471	1 A
R990	470Ω	0101471	1 B
R991	150kΩ	0101154	1 A
R992	150kΩ	0101154	1 B
R993	470Ω	0101471	1 A
R994	470Ω	0101471	1 B
R995	12kΩ	0101123	1 A
R996	12kΩ	0101123	1 B
R997	6.8kΩ	0101682	1 A
R998	6.8kΩ	0101682	1 B
R999	22kΩ	0101223	1 A
R9100	22kΩ	0101223	1 B
R9101	22kΩ	0101223	2 A
R9102	22kΩ	0101223	2 B
R9103	6.8kΩ	0101682	2 A
R9104	6.8kΩ	0101682	2 B
R9105	12kΩ	0101123	2 A
R9106	12kΩ	0101123	2 B
R9107	330Ω	0101331	2 A
R9108	390Ω	0101391	2 B

±10% ¼W CR.

W	X	Y	Z
C931	10μF	16 V EC.	0512100 1 A
C932	10μF		0512100 1 B
C933	1μF	25 V TC.	0573109 1 A
C934	2.2μF		0573229 1 B
C935	0.033μF	±10% 50 V MC.	0601337 1 A
C936	0.033μF		0601337 1 B
C937	0.033μF		0601337 1 A
C938	0.033μF		0601337 1 B
TR915	2SC815 (L, M)	0305430, 1	2 A
TR916		0305430, 1	2 B
TR917	2SA539 (L, M)	0300110, 1	2 A
TR918		0300110, 1	2 B
TR919	2SC815 (L, M)	0305430, 1	1 A
TR920		0305430, 1	1 B
TR921		0305430, 1	2 A
TR922		0305430, 1	2 B
D901	1N34A	0310400	2 A
D902		0310400	2 B
D903	1S1555	0311040	2 A
D904		0311040	2 B
D905	1N34A	0311040	2 A
D906		0311040	2 B
D907	1N34A	0310400	1 A
D908		0310400	1 B
D909		0310400	2 A
D910		0310400	2 B
	Printed Circuit Board F-2007	2591070	



PRINTED CIRCUIT BOARDS AND PARTS LIST

W: Parts No. X: Parts Name Y: Stock No. Z: Position of Parts

SYNTHESIZER BLOCK <F-2000>

Stock No. 7650080

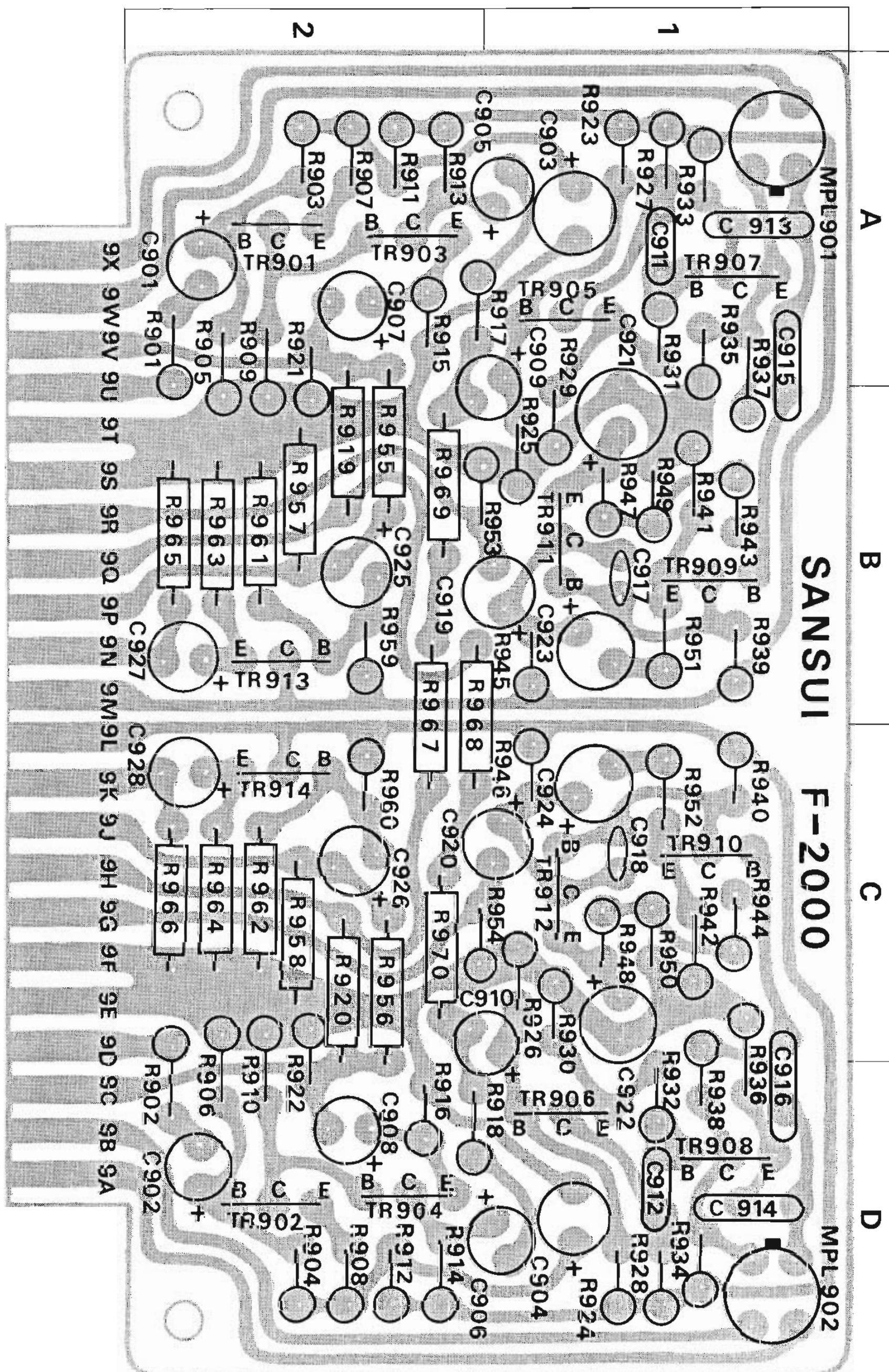
W	X	Y	Z
R901	15kΩ	0100153	2 A, B
R902	15kΩ	0100153	2 C, D
R903	100kΩ	0100104	2 A
R904	100kΩ	0100104	2 D
R905	820kΩ	0100824	2 A, B
R906	820kΩ	0100824	2 C, D
R907	8.2kΩ	0100822	2 A
R908	8.2kΩ	0100822	2 D
R909	33kΩ	0100333	2 A, B
R910	33kΩ	0100333	2 C, D
R911	18kΩ	0100183	2 A
R912	18kΩ	0100183	2 D
R913	3.3kΩ	0100332	2 A
R914	3.3kΩ	0100332	2 D
R915	3.3kΩ	0100332	2 A
R916	3.3kΩ	0100332	2 D
R917	56kΩ	0100563	2 A
R918	56kΩ	0100563	2 D
R919	68kΩ	0101683	2 A, B
R920	68kΩ	0101683	2 C, D
R921	220kΩ	0100224	2 B
R922	220kΩ	0100224	2 D
R923	120kΩ	0100124	1 A
R924	120kΩ	0100124	1 D
R925	56kΩ	0100563	1 B
R926	56kΩ	0100563	1 C
R927	3.3kΩ	0100332	1 A
R928	3.3kΩ	0100332	1 D
R929	3.3kΩ	0100332	1 A, B
R930	3.3kΩ	0100332	1 C
R931	12kΩ	0100123	1 A
R932	12kΩ	0100123	1 D
R933	3.9kΩ	0100392	1 A
R934	3.9kΩ	0100392	1 D
R935	3.9kΩ	0100392	1 A, B
R936	3.9kΩ	0100392	1 C, D
R937	18kΩ	0100183	1 A, B
R938	18kΩ	0100183	1 C, D
R939	100kΩ	0100104	1 B
R940	100kΩ	0100104	1 C
R941	3.9kΩ	0100392	1 B
R942	3.9kΩ	0100392	1 C
R943	1MΩ	0100105	1 B
R944	1MΩ	0100105	1 C
R945	6.8kΩ	0100682	1 B
R946	6.8kΩ	0100682	1 C
R947	2.2kΩ	0100222	1 B
R948	2.2kΩ	0100222	1 C
R949	1kΩ	0100102	1 B
R950	1kΩ	0100102	1 C
R951	3.3kΩ	0100332	1 B
R952	3.3kΩ	0100332	1 C
R953	100kΩ	0100104	1, 2 B
R954	100kΩ	0100104	1, 2 C
R955	15kΩ	0101153	2 A, B
R956	15kΩ	0101153	2 C, D
R957	470kΩ	0101474	2 B
R958	470kΩ	0101474	2 C

W	X	Y	Z	
R959	330kΩ	0100334	2 B	
R960	330kΩ	0100334	2 C	
R961	330kΩ	0101334	2 B	
R962	330kΩ	0101334	2 C	
R963	6.8kΩ	0101682	2 B	
R964	6.8kΩ	0101682	2 C	
R965	100kΩ	0101104	2 B	
R966	100kΩ	0101104	2 C	
R967	82kΩ	0101823	2 B, C	
R968	82kΩ	0101823	2 B, C	
R969	10Ω	0101100	2 B	
R970	10Ω	0101100	2 C	
C901	1μF	0515109	2 A	
C902	1μF	0515109	2 D	
C903	10μF	0513100	1 A	
C904	10μF	0513100	1 D	
C905	1μF	0515109	1, 2 A	
C906	1μF	0515109	1, 2 D	
C907	4.7μF	0513479	2 A	
C908	4.7μF	0513479	2 D	
C909	1μF	0515109	1, 2 A, B	
C910	1μF	0515109	1, 2 C, D	
C911	0.047μF	0601477	1 A	
C912	0.022μF	0601277	1 D	
C913	0.04μF	0601407	1 A	
C914	0.0022μF	0601226	1 D	
C915	0.047μF	0601477	1 A, B	
C916	0.047μF	0601477	1 C, D	
C917	100pF	0660101	1 B	
C918	100pF	0660101	1 C	
C919	10μF	0513100	1, 2 B	
C920	10μF	0513100	1, 2 C	
C921	47μF	0511470	1 A, B	
C922	47μF	0511470	1 C	
C923	33μF	0513330	1 B	
C924	33μF	0513330	1 C	
C925	1μF	0515109	2 B	
C926	1μF	0515109	2 C	
C927	10μF	0515100	2 B	
C928	10μF	0515100	2 C	
TR901	2SA640 (M, L)	0300301, 2	2 A	
TR902		0300301, 2	2 D	
TR903	2SC1000 (GR)	0305880	2 A	
TR904		0305880	2 D	
TR905		0305880	1 A	
TR906		0305880	1 D	
TR907		0305880	1 A	
TR908		0305880	1 D	
TR909		0305880	1 B	
TR910		0305880	1 C	
TR911		0305880	1 B	
TR912		0305880	1 C	
TR913		0305880	2 B	
TR914		0305880	2 C	
MPL901		MCL-1028	0920040	1 A
MPL902			0920040	1 D
	Printed Circuit Board F-2000	2650080		

Abbreviations

CR : Carbon Resistor
 SR : Solid Resistor
 CeR: Cement Resistor
 MC : Mylar Capacitor

EC : Electrolytic Capacitor
 CC : Ceramic Capacitor
 TC : Tantalum Capacitor



PRINTED CIRCUIT BOARDS AND PARTS LIST

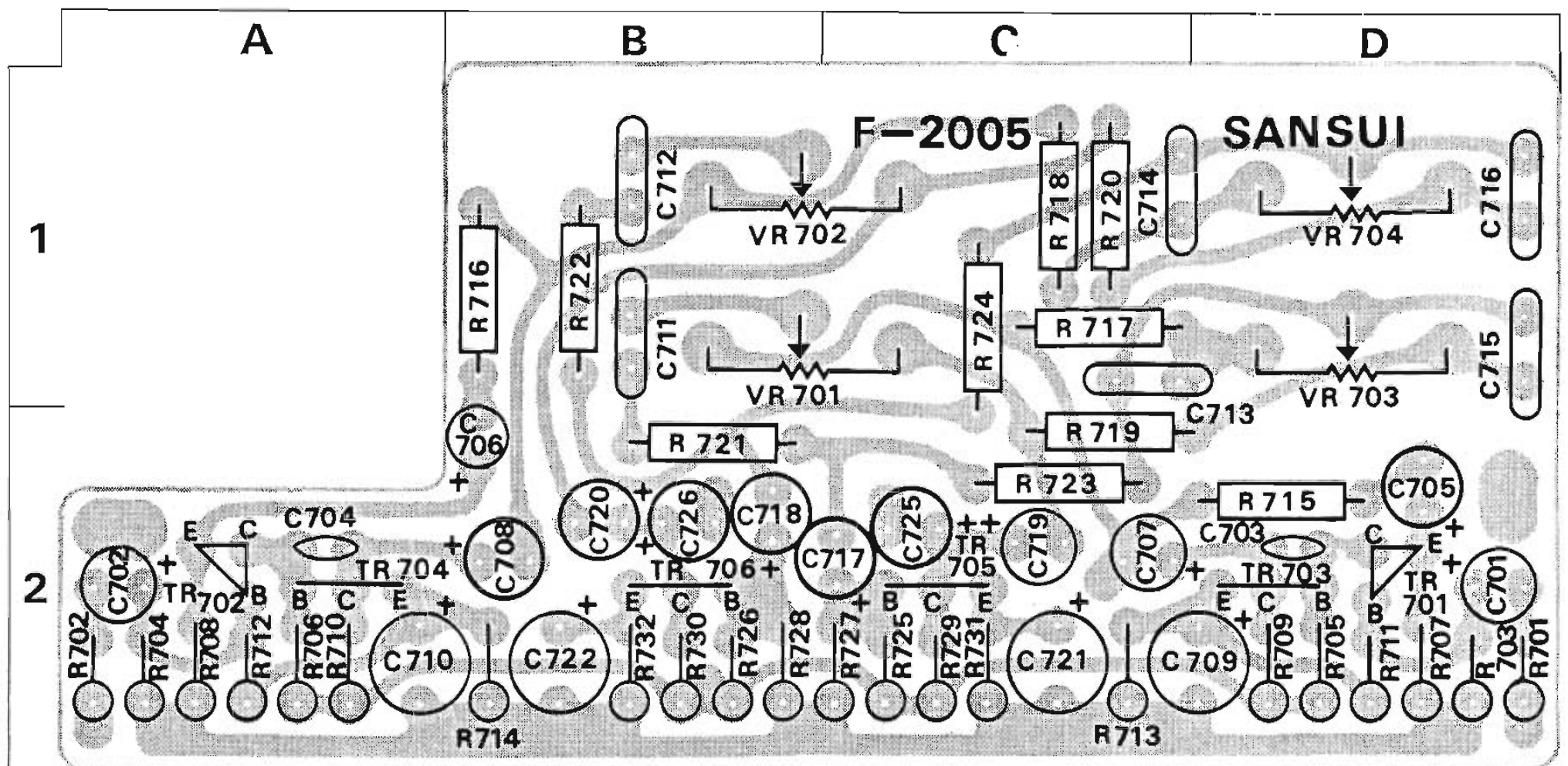
W: Parts No. X: Parts Name Y: Stock No. Z: Position of Parts

TONE AMP. BLOCK <F-2005>

Stock No. 7560510

W	X	Y	Z
R701	47kΩ	0100473	2 D
R702	47kΩ	0100473	2 A
R703	150kΩ	0100154	2 D
R704	150kΩ	0100154	2 A
R705	100kΩ	0100104	2 D
R706	100kΩ	0100104	2 A
R707	2.2kΩ	0100222	2 D
R708	2.2kΩ	0100222	2 A
R709	6.8kΩ	0100682	2 D
R710	6.8kΩ	0100682	2 A
R711	220kΩ	0100224	2 D
R712	220kΩ	0100224	2 A
R713	1.2kΩ	0100122	2 C
R714	1.2kΩ	0100122	2 B
R715	8.2kΩ	0101822	2 D
R716	8.2kΩ	0101822	1 B
R717	22kΩ	0101223	1 C
R718	22kΩ	0101223	1 C
R719	22kΩ	0101223	2 C
R720	22kΩ	0101223	1 C
R721	15kΩ	0101153	2 B
R722	15kΩ	0101153	1 B
R723	22kΩ	0101223	2 C
R724	22kΩ	0101223	1 C
R725	560kΩ	0100564	2 C
R726	560kΩ	0100564	2 B
R727	68kΩ	0100683	2 C
R728	68kΩ	0100683	2 B
R729	6.8kΩ	0100682	2 C
R730	6.8kΩ	0100682	2 B
R731	1kΩ	0100102	2 C
R732	1kΩ	0100102	2 B
VR701, 702	100kΩ (B) × 2 Treble Control	1020040	1 B, C

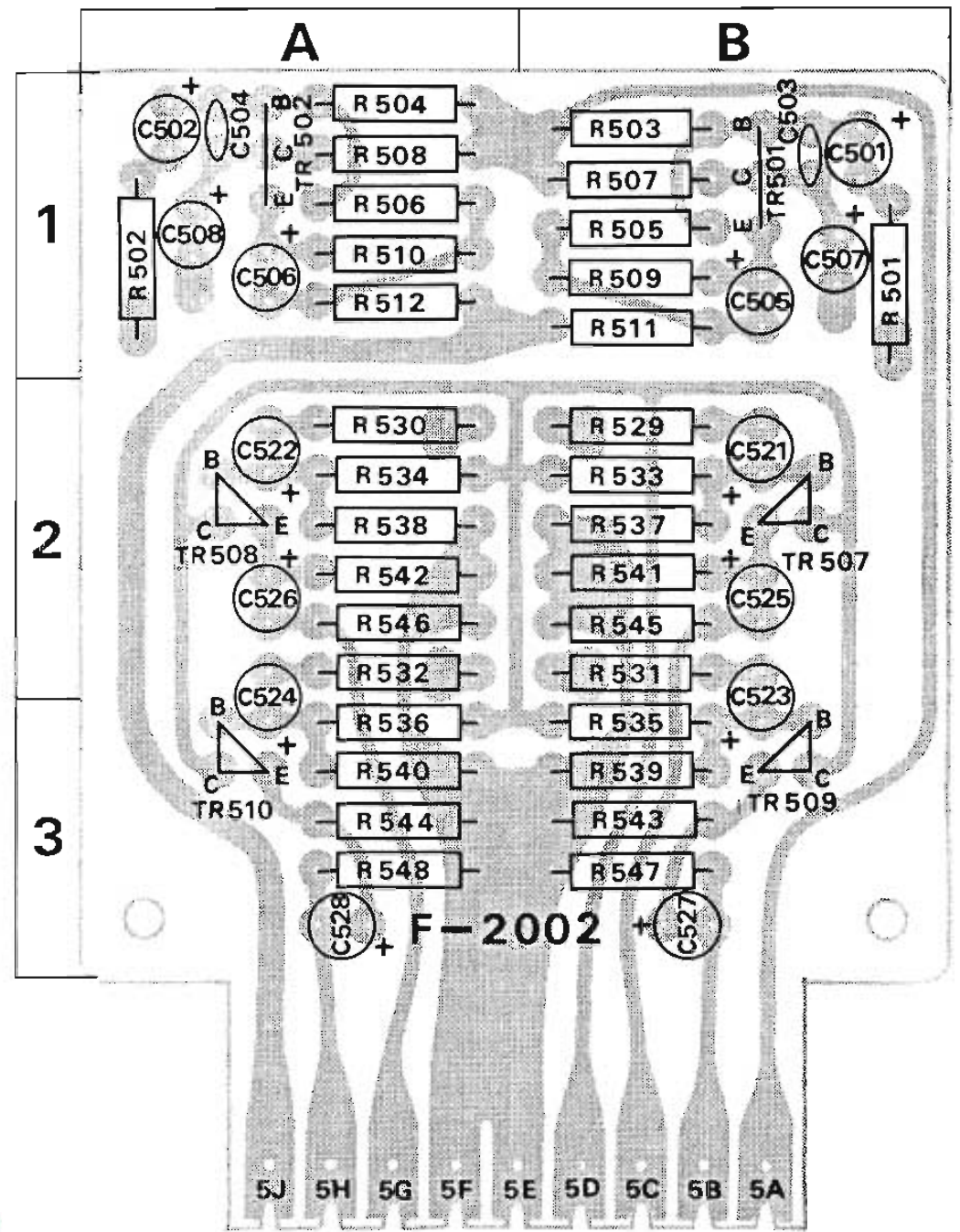
W	X	Y	Z
VR703, 704	100kΩ (B) × 2 Bass Control	1020040	1 D
C701	1 μF	0515109	2 D
C702	1 μF	0515109	2 A
C703	100pF	0660101	2 D
C704	100pF	0660101	2 A
C705	33 μF	0511330	2 D
C706	33 μF	0511330	2 B
C707	10 μF	0513100	2 C
C708	10 μF	0513100	2 B
C709	47 μF	0510470	2 C, D
C710	47 μF	0510470	2 A, B
C711	0.0015 μF	0601156	1 B
C712	0.0015 μF	0601156	1 B
C713	0.033 μF	0601337	1 C, D
C714	0.033 μF	0601337	1 C
C715	0.033 μF	0601337	1 D
C716	0.033 μF	0601337	1 D
C717	1 μF	0515109	2 C
C718	1 μF	0515109	2 B
C719	10 μF	0513100	2 C
C720	10 μF	0513100	2 B
C721	47 μF	0510470	2 C
C722	47 μF	0510470	2 B
C725	1 μF	0515109	2 C
C726	1 μF	0515109	2 B
TR701	2SC1000 (GR)	0305880	2 D
TR702		0305880	2 A
TR703		0305880	2 D
TR704		0305880	2 A
TR705		0305880	2 C
TR706		0305880	2 B
	Printed Circuit Board F-2005	2560490	



BUFFER AMP. BLOCK <F-2002>

Stock No. 7591040

W	X	Y	Z
R501	2.2kΩ	0101222	1 B
R502	2.2kΩ	0101222	1 A
R503	330kΩ	0101334	1 B
R504	330kΩ	0101334	1 A
R505	33kΩ	0101333	1 B
R506	33kΩ	0101333	1 A
R507	6.8kΩ	0101682	1 B
R508	6.8kΩ	0101682	1 A
R509	1kΩ	0101102	1 B
R510	1kΩ	0101102	1 A
R511	2.2kΩ	0101222	1 B
R512	2.2kΩ	0101222	1 A
R529	2.2kΩ	0101222	2 B
R530	2.2kΩ	0101222	2 A
R531	2.2kΩ	0101222	2 B
R532	2.2kΩ	0101222	2 A
R533	180kΩ	0101184	2 B
R534	180kΩ	0101184	2 A
R535	180kΩ	0101184	3 B
R536	180kΩ	0101184	3 A
R537	220kΩ	0101224	2 B
R538	220kΩ	0101224	2 A
R539	220kΩ	0101224	3 B
R540	220kΩ	0101224	3 A
R541	6.8kΩ	0101682	2 B
R542	6.8kΩ	0101682	2 A
R543	6.8kΩ	0101682	3 B
R544	6.8kΩ	0101682	3 A
R545	100kΩ	0101104	2 B
R546	100kΩ	0101104	2 A
R547	100kΩ	0101104	3 B
R548	100kΩ	0101104	3 A
C501	1 μF	0515109	1 B
C502	1 μF	0515109	1 A
C503	47 pF	0660470	1 B
C504	47 pF	0660470	1 A
C505	47 μF	0510470	1 B
C506	47 μF	0510470	1 A
C507	1 μF	0515109	1 B
C508	1 μF	0515109	1 A
C521	1 μF	0515109	2 B
C522	1 μF	0515109	2 A
C523	1 μF	0515109	2, 3 B
C524	1 μF	0515109	2, 3 A
C525	1 μF	0515109	2 B
C526	1 μF	0515109	2 A
C527	1 μF	0515109	3 B
C528	1 μF	0515109	3 A
TR501	2SC1000 (GR)	0305880	1 B
TR502		0305880	1 A
TR507		0305880	2 B
TR508		0305880	2 A
TR509		0305880	3 B
TR510		0305880	3 A
Printed Circuit Board F-2002			2591040



PRINTED CIRCUIT BOARDS AND PARTS LIST

W: Parts No. X: Parts Name Y: Stock No. Z: Position of Parts

PHASE SWITCH BLOCK <F-2011>

Stock No. 7591090

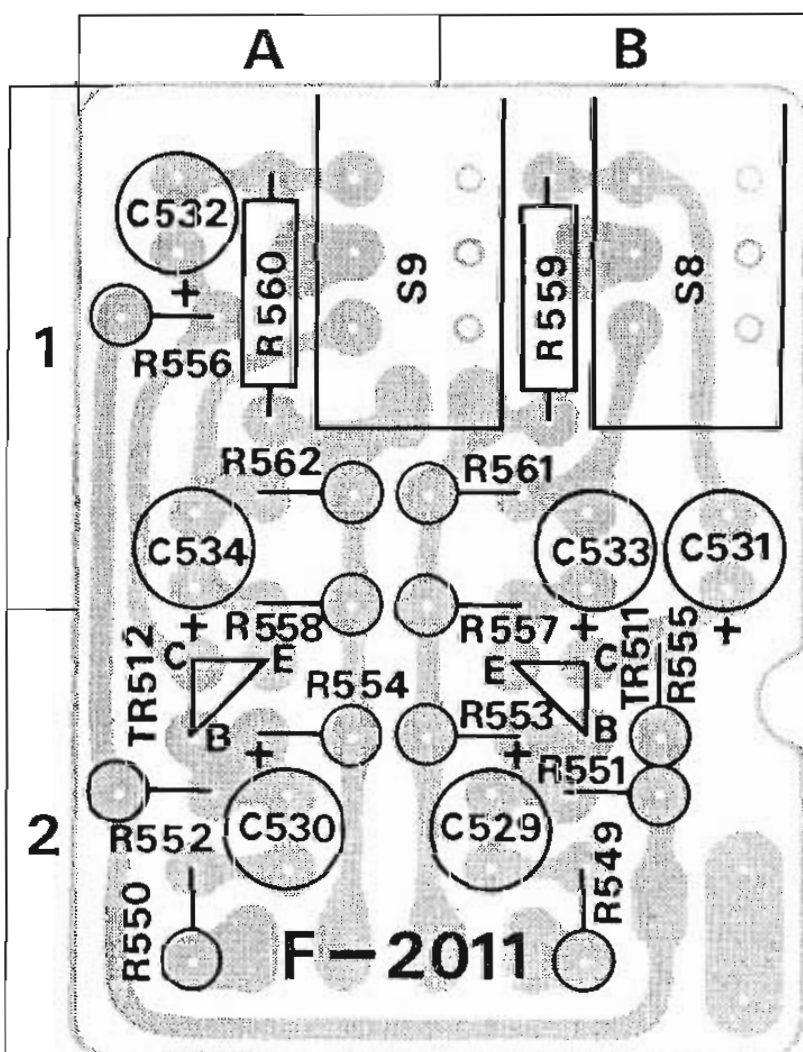
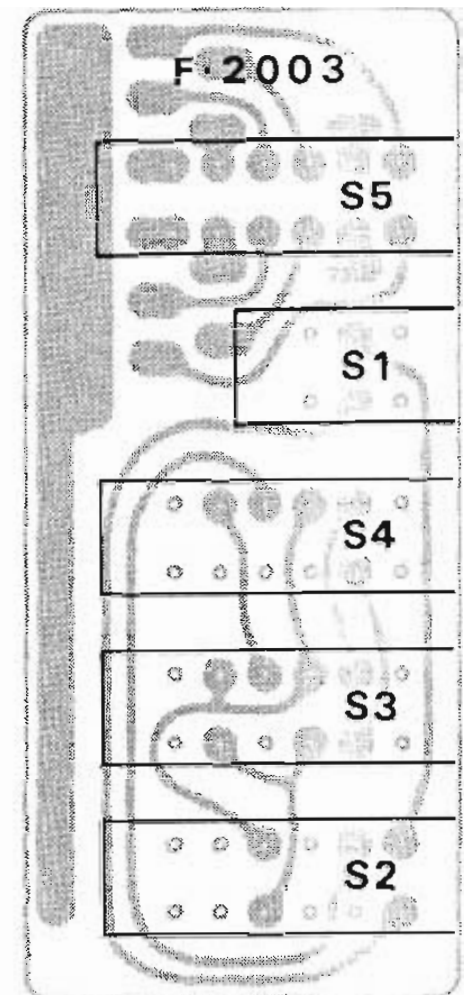
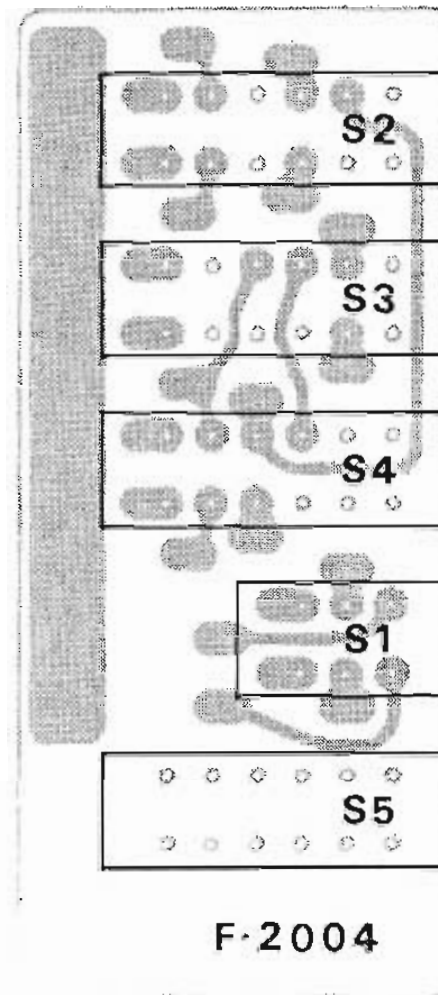
W	X	Y	Z	
R549	2.2kΩ } ±10% ¼W CR.	0100222	2 B	
R550		0100222	2 A	
R551		220kΩ	0100224	2 B
R552		220kΩ	0100224	2 A
R553		100kΩ	0100104	2 B
R554		100kΩ	0100104	2 A
R555		2.2kΩ	0100222	2 B
R556		2.2kΩ	0100222	1 A
R557		2.2kΩ	0100222	1, 2 A, B
R558		2.2kΩ	0100222	1, 2 A
R559		47kΩ	0101473	1 B
R560		47kΩ	0101473	1 A
R561	47kΩ	0100473	1 A, B	
R562	47kΩ	0100473	1 A	
C529	1 μF } 50 V EC.	0515109	2 B	
C530		0515109	2 A	
C531		0515109	1 B	
C532		0515109	1 A	
C533		0515109	1 B	
C534		0515109	1 A	
TR511	2SC1000 (GR)	0305880	2 B	
TR512		0305880	2 A	
S8	Phase Switch (Left) } Phase Switch (Right) } Power Limiter Switch }	1130540	1 A, B	
S9				
S10				
	Printed Circuit Board F-2011	2591090		

SWITCH BLOCK

<F-2003> Stock No. 7591050

<F-2004> Stock No. 7591060

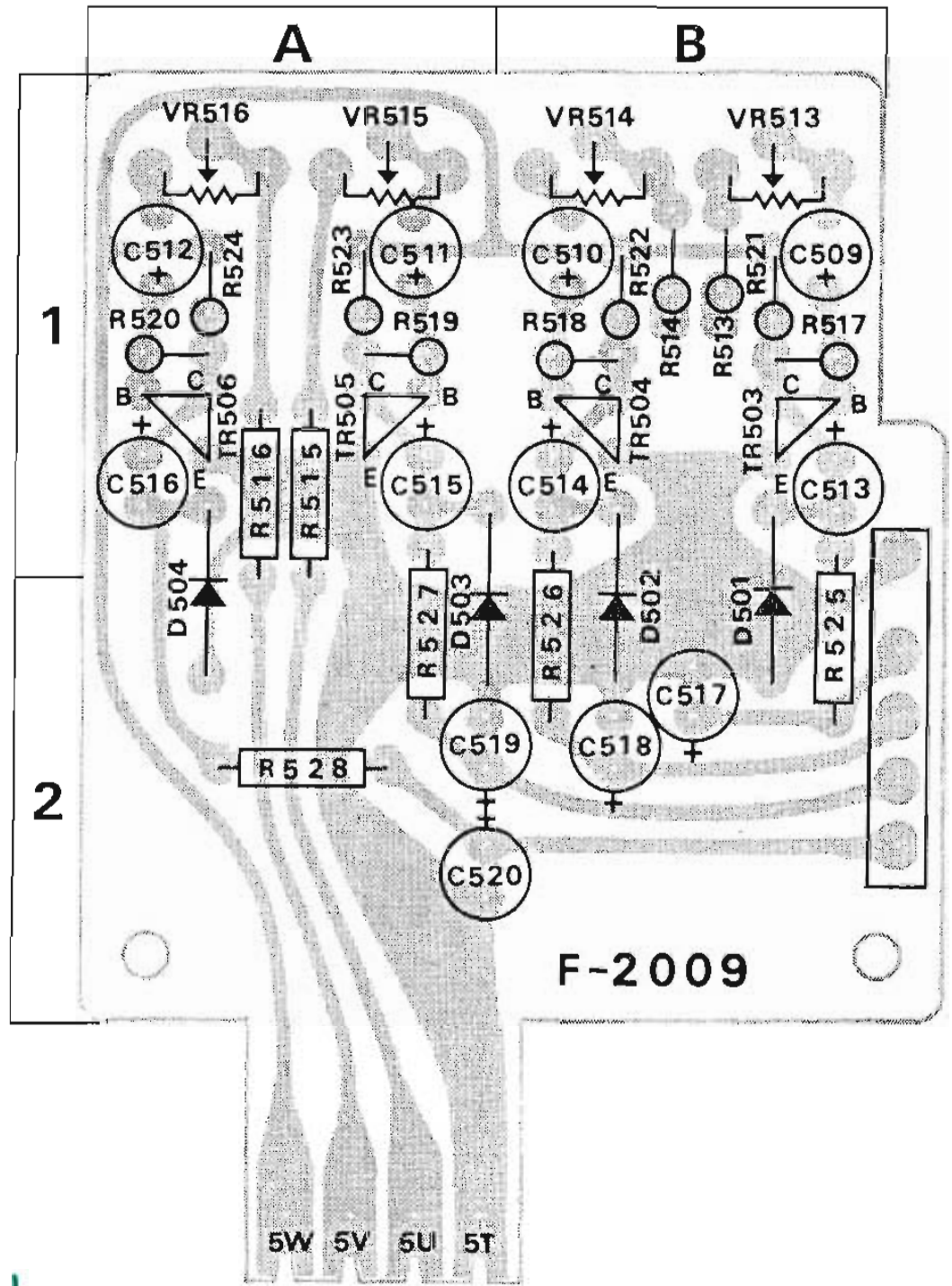
W	X	Y
S1 (a, b)	2-CH-1 Tape Monitor Switch } N.R. Adaptor Switch } 2-CH-2 Tape Monitor Switch } 2-CH-3 Tape Monitor Switch } 4-CH Tape Monitor Switch }	1130530
S2 (a~d)		
S3 (a, b)		
S4 (a, b)		
S5 (a~d)		
	Printed Circuit Board F-2003	2591050
	F-2004	2591060



METER AMP. BLOCK <F-2009>

Stock No. 7591080

W	X	V	Z
R513	100kΩ	0100104	1 B
R514	100kΩ	0100104	1 B
R515	100kΩ	0101104	1, 2 A
R516	100kΩ	0101104	1, 2 A
R517	1MΩ	0100105	1 B
R518	1MΩ	0100105	1 B
R519	1MΩ	0100105	1 A
R520	1MΩ	0100105	1 A
R521	4.7kΩ	0100472	1 B
R522	4.7kΩ	0100472	1 B
R523	4.7kΩ	0100472	1 A
R524	4.7kΩ	0100472	1 A
R525	3.3kΩ	0100332	1, 2 B
R526	3.3kΩ	0100332	1, 2 B
R527	3.3kΩ	0100332	1, 2 A
R528	3.3kΩ	0100332	2 A
VR513	200kΩ (B) Meter Adj.	1031150	1 B
VR514		1031150	1 B
VR515		1031150	1 A
VR516		1031150	1 A
C509	1 μF	0515109	1 B
C510	1 μF	0515109	1 B
C511	1 μF	0515109	1 A
C512	1 μF	0515109	1 A
C513	1 μF	0515109	1 B
C514	1 μF	0515109	1 B
C515	1 μF	0515109	1 A
C516	1 μF	0515109	1 A
C517	1 μF	0515109	2 B
C518	1 μF	0515109	2 B
C519	1 μF	0515109	2 A, B
C520	1 μF	0515109	2 A, B
TR503	2SC711 (E, F)	0305731, 2	1 B
TR504		0305731, 2	1 B
TR505		0305731, 2	1 A
TR506		0305731, 2	1 A
D501	1S1555	0311040	1, 2 B
D502		0311040	1, 2 B
D503		0311040	1, 2 A B
D504		0311040	1, 2 A
Printed Circuit Board F-2009		2591080	



PRINTED CIRCUIT BOARDS AND PARTS LIST

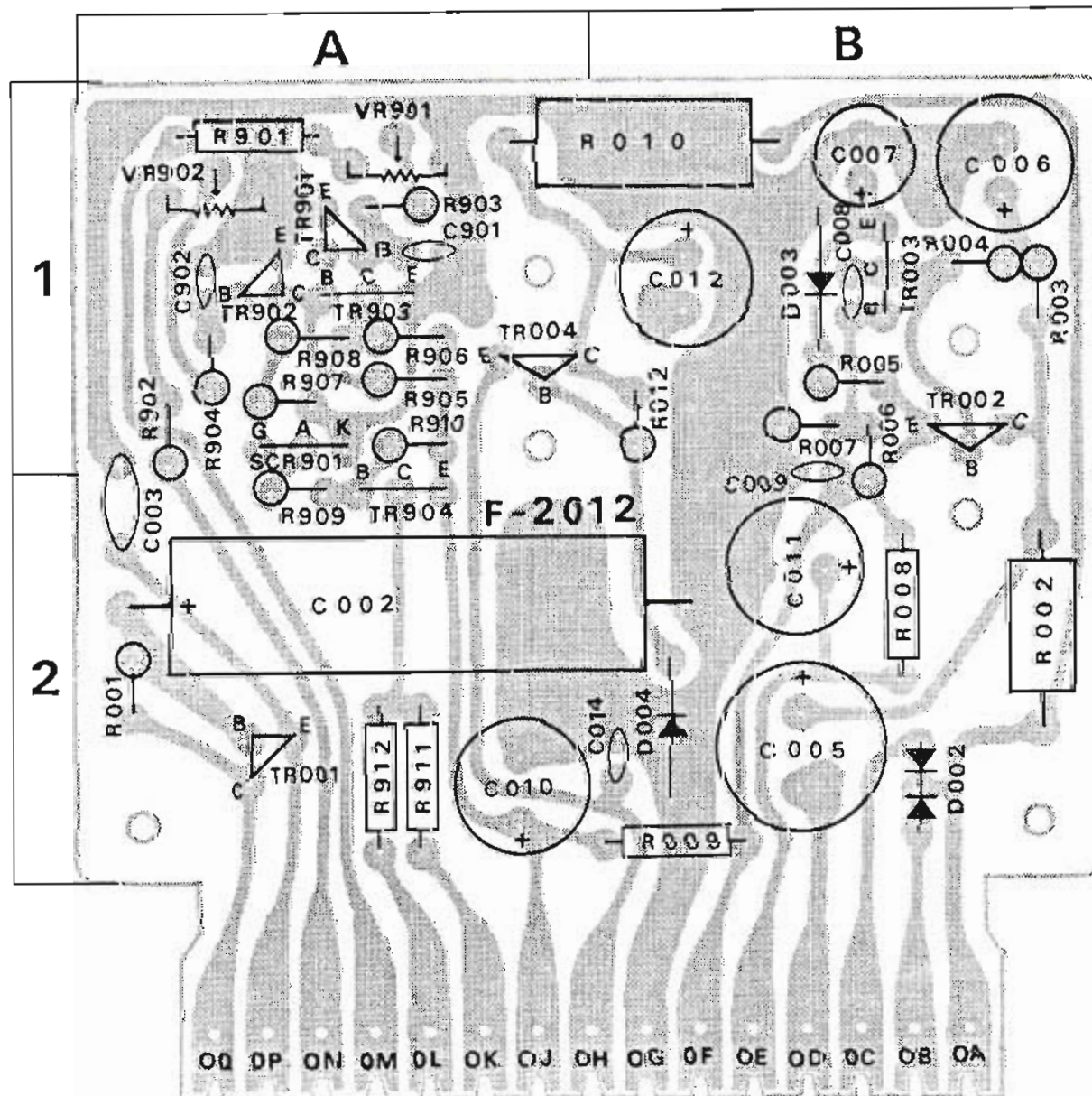
W: Parts No. X: Parts Name Y: Stock No. Z: Position of Parts

POWER & PROTECTOR BLOCK <F-2012>

Stock No. 7598100

W	X	Y	Z
R001	12kΩ ±10% ¼W CR.	0101123	2 A
R002	68Ω ± 5% 1W CR.	0104680	2 B
R003	1.5kΩ	0100152	1 B
R004	1.5kΩ	0100152	1 B
R005	2.2kΩ	0100222	1 B
R006	4.7kΩ	0100472	1, 2 B
R007	4.7kΩ	0100472	1 B
R008	1.2kΩ	0111122	2 B
R009	330Ω	0111331	2 B
R010	270Ω ± 5% 3W CR.	0105221	1 A, B
R012	1.5kΩ ±10% ¼W CR.	0100152	1 B
R901	4.7kΩ	0101472	1 A
R902	4.7kΩ	0100472	1 A
R903	4.7kΩ	0100472	1 A
R904	4.7kΩ	0100472	1 A
R905	47kΩ	0100473	1 A
R906	10kΩ	0100103	1 A
R907	1kΩ	0100102	1 A
R908	12kΩ	0100123	1 A
R909	2.2kΩ	0100222	2 A
R910	4.7kΩ	0100472	1 A
R911	4.7kΩ	0101472	2 A
R912	4.7kΩ	0101472	2 A
VR901	2kΩ (B)	1031070	1 A
VR902	2kΩ (B)	1031070	1 A

W	X	Y	Z
C002	100μF 100V EC.	0507101	2 A
C003	0.01μF +80% -20% 500V CC.	0659101	1, 2 A
C005	220μF	0515221	2 B
C006	100μF 50 V CC.	0515101	1 B
C007			1 B
C008	0.001μF +80% -20% 50 V EC.	0657102	1 B
C009	0.01μF	0657103	2 B
C010	100μF	0515101	2 A
C011	100μF 50 V EC.	0515101	2 B
C012	100μF	0515101	1 B
C014	0.01μF	0657103	2 B
C901	0.01μF +80% -20% 50 V CC.	0657103	1 A
C902	0.01μF	0657103	1 A
TR001	2SC627 (3)	0305582	2 A
TR002	2SD223 (Y, G)	0308231, 2	1 B
TR003	2SC711 (E, F)	0305731, 2	1 B
TR004	2SD223 (Y, G)	0308231, 2	1 A
TR901	2SC711 (E, F)	0305731, 2	1 A
TR902		0305731, 2	1 A
TR903	2SA628 (E, F)	0300282, 3	1 A
TR904	2SC711 (E, F)	0305731, 2	2 A
D002	10DC-1 (Black)	0310680	2 B
D003	RD-13A	0315290, 300	1 B
D004	RD-13A	0315290, 300	2 B
SCR901	CR02AM-2	0350021, 2	1 A
	Printed Circuit Board F-2012	2598100	

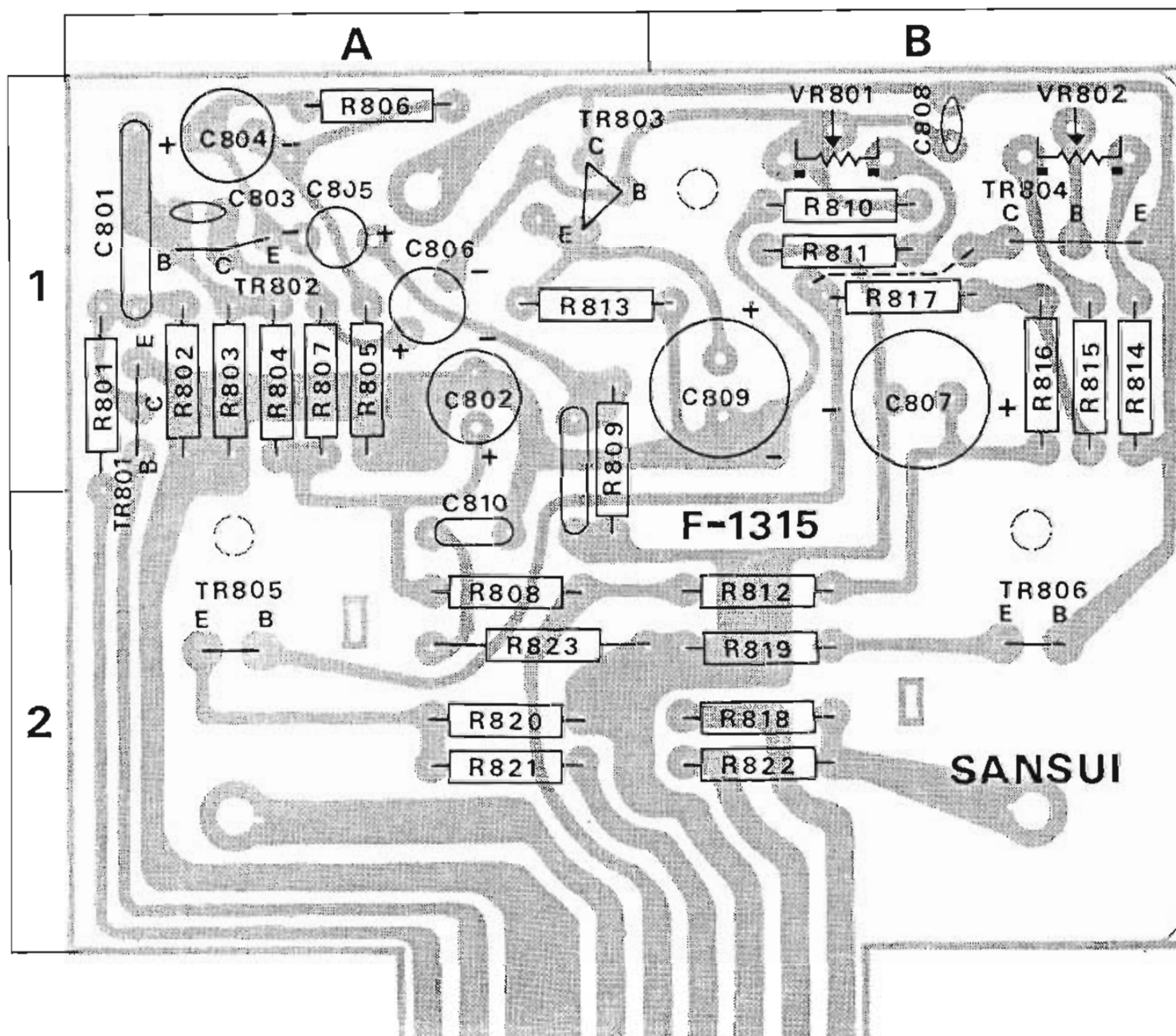


DRIVER BLOCK <F-1315>

Stock No. 7570340

W	X	Y	Z
R801	10kΩ	0101103	1 A
R802	470kΩ	0101474	1 A
R803	270kΩ	0101274	1 A
R804	560kΩ	0101564	1 A
R805	100Ω	0101101	1 A
R806	2.2kΩ	0101222	1 A
R807	3.9kΩ	0101392	1 A
R808	33kΩ	0101333	2 A
R809	3.3kΩ	0101332	1, 2 A
R810	10kΩ	0101103	1 B
R811	100kΩ	0101104	1 B
R812	680Ω	0111681	2 B
R813	220Ω	0101221	1 A, B
R814	1.5kΩ	0101152	1 B
R815	3.3kΩ	0101332	1 B
R816	6.8kΩ	0111682	1 B
R817	39Ω	0101390	1 B
R818	220Ω	0111221	2 B
R819	10Ω	0111100	2 B
R820	220Ω	0111221	2 A
R821	6.8Ω	0111689	2 A
R822	6.8Ω	0111689	2 B
R823	4.7Ω	0152479	2 A

W	X	Y	Z
VR801	100kΩ (B)	1033141	1 B
VR802	1kΩ (B)	1033051	1 B
C801	0.33μF ±10% 50 V MC.	0601338	1 A
C802	100μF 25 V EC.	0513101	1 A
C803	100pF ±10% 50 V CC.	0660101	1 A
C804	220μF 6.3 V EC.	0510221	1 A
C805	4.7μF 50 V EC.	0515479	1 A
C806	3.3μF 25 V EC.	0513339	1 A
C807	100μF 50 V EC.	0515101	1 B
C808	100pF ±10% 50 V CC.	0660101	1 B
C809	470μF 6.3 V EC.	0510471	1 B
C810	0.1μF ±10% 50 V MC.	0601108	2 A
TR801	2SC711 (E, F)	0305731, 2	1 A
TR802	2SC871R(F)	0305475	1 A
TR803	2SC627 (3)	0305582	1 A
TR804	2SC984 (C)	0305872	1 B
TR805	2SC680 Blue (B, C)	0305621, 2	2 A
TR806	2SA566 (B, C)	0300151, 2	2 B
Printed Circuit Board F-1315		2570340	



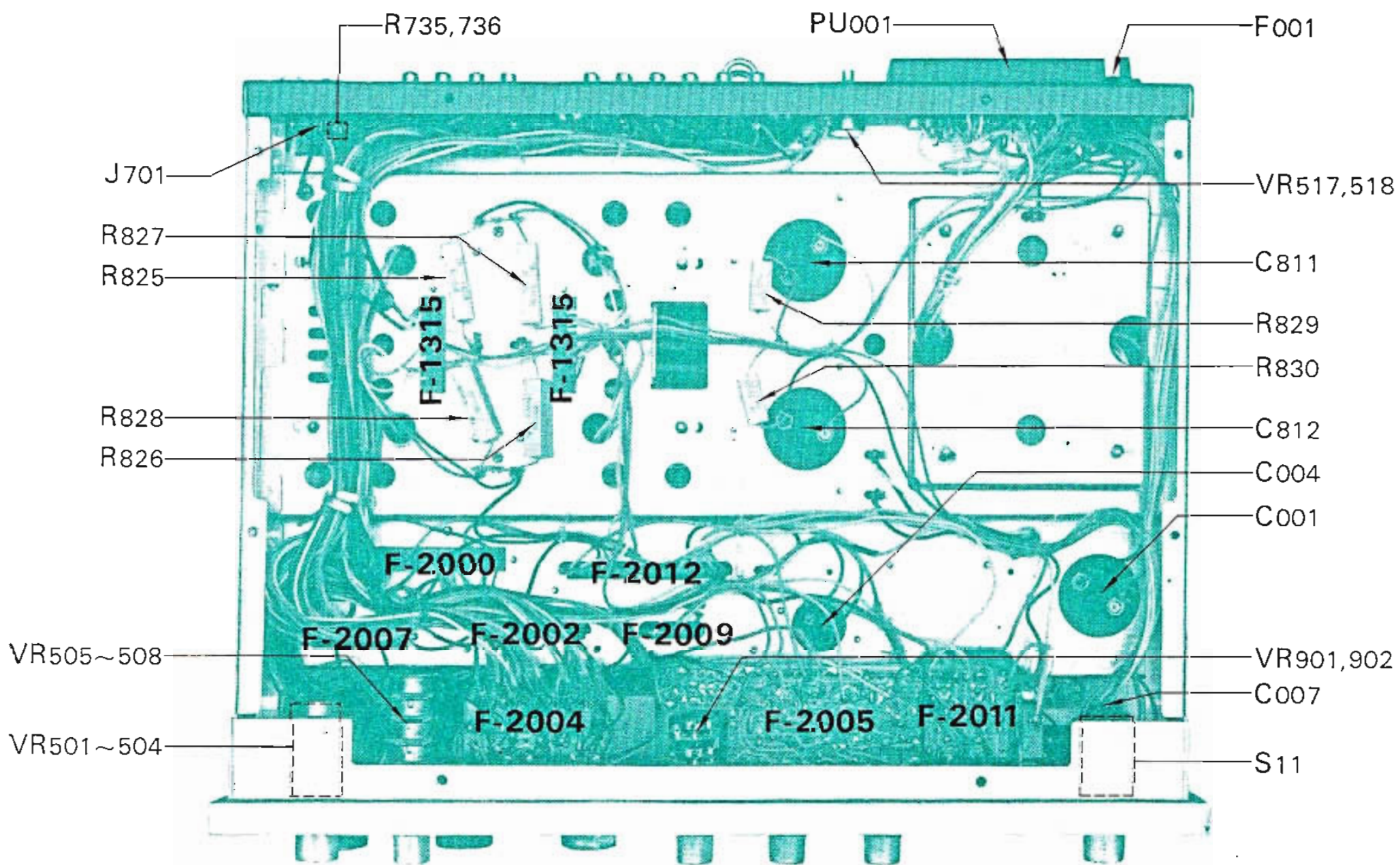
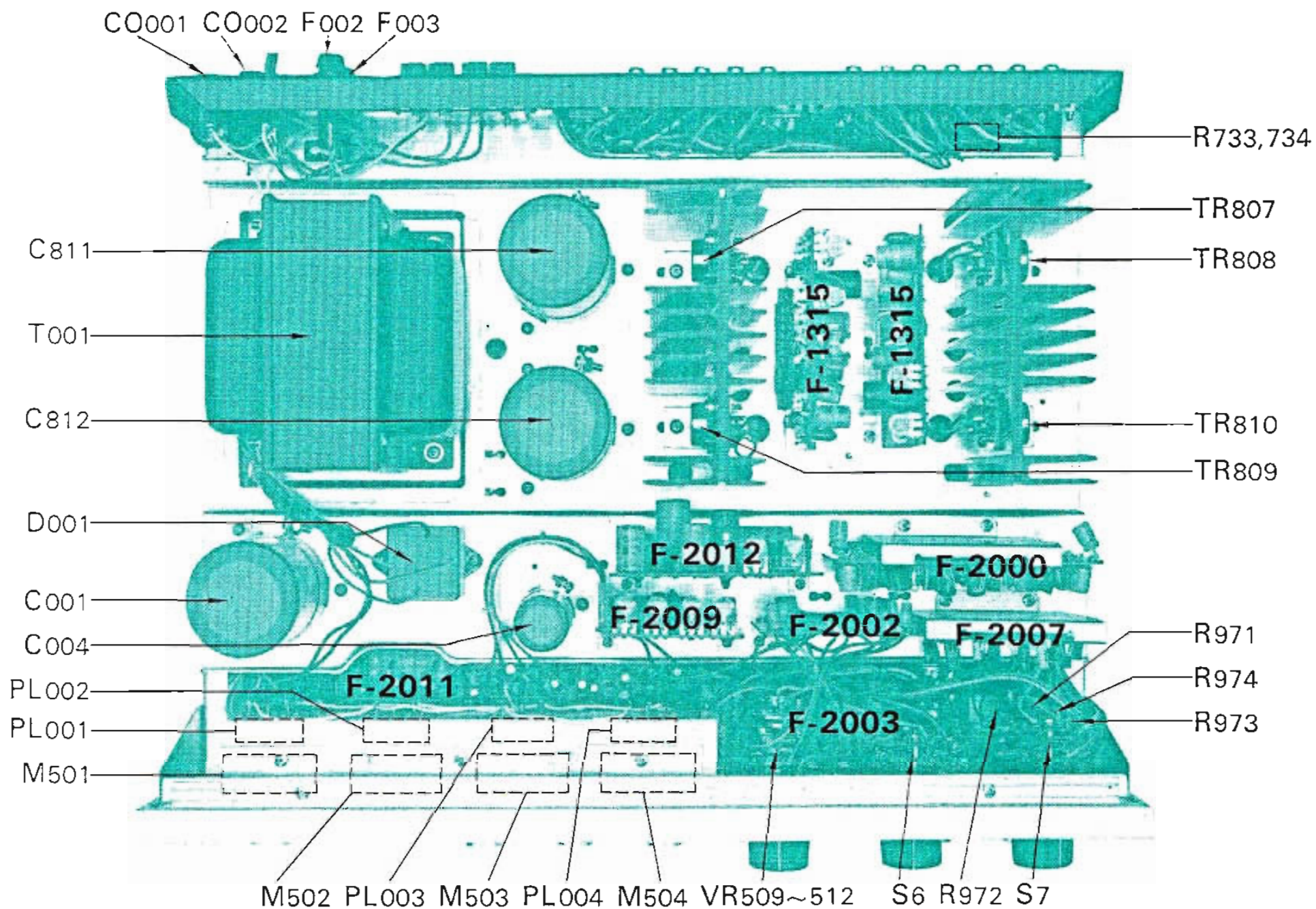
OTHER PARTS AND THEIR POSITIONS ON CHASSIS

W: Parts No. X: Parts Name Y: Stock No.

OTHER PARTS

W	X	Y
R733	220k Ω } $\pm 10\%$ 1/2W CR.	0103224
R734	220k Ω }	0103224
R735	100k Ω } $\pm 10\%$ 1/4W CR.	0101104
R736	100k Ω }	0101104
R825	0.68 Ω } $\pm 10\%$ 7W CeR.	0157688
R826	0.68 Ω }	0157688
R827	0.68 Ω }	0157688
R828	0.68 Ω }	0157688
R829	150 Ω } $\pm 10\%$ 5W CeR.	0155151
R830	150 Ω }	0155151
R971	27k Ω } $\pm 10\%$ 1/4W CR.	0101273
R972	27k Ω }	0101273
R973	56k Ω }	0101563
R974	18k Ω }	0101183
VR501~504	250k Ω (M, N) \times 2 Main Balance Control	1060090, 1
VR505~508	250k Ω (M, N) \times 2 Front & Rear Balance Control	1060100, 1
VR509~512	250k Ω (A) \times 4 Volume Control	1060080, 1
VR517, 518	250k Ω (B) \times 2 Rear Level Control	1015040
VR901, 902	250k Ω (B) \times 2 Level Set Control	1020120
C001	3300 μ F 100V EC.	0559831
C004	1000 μ F 50 V EC.	0559302
C007	0.01 μ F } $\pm 80\%$ 1.4kV CC.	0659801
C015	0.01 μ F } -20% 500V CC.	0659011
C016	0.01 μ F } 500V CC.	0659011
C811	3300 μ F } 100V EC.	0559831
C812	3300 μ F }	0559831
C941	33 μ F } 16 V EC.	0512330
C942	33 μ F }	0512330
TR807	} 2SC1116 (R, O, Y)	0305840,1,2
TR808		0305840,1,2
TR809		0305840,1,2
TR810		0305840,1,2
D001	Power Transistor Socket DS10BN-M	2030020 0310920
S6(a~d)	Direction Switch Y-2-4-4	1102380
S7(a~g)	Function Switch Y-3-10-7	1103470, 1
S11(a~e)	Power/Rear Speakers Switch Y-1-4-4	1101401
T001	Power Transformer	4001090
M501~504	VU Meter	4300500
F001	Power Fuse 5A (100~127V)	0431280
	Power Fuse 3A (220~250V)	0431260
	Power Fuse Holder	2300070
F002, 003	Quick Acting Fuse 5A	0433280
	Quick Acting Fuse Holder	2300070
CO001, 002	AC Outlet	2450040
PU001	Voltage Selector Socket	2410170
	Main Voltage Selector Plug	2410180
	Sub Voltage Selector Plug	2410190

W	X	Y
J701	DIN Connector	2430040
PL001~004	6.3V 250mA Fuse Type Lamp	0420020
	Lamp Holder	2310030
	Power Supply Cord	3800020, 1
	22P Multi-Connector	2420120
	10P Multi-Connector(X3)	2420030
F-2000	Synthesizer Unit	7650080
F-2002	Buffer Amp. Unit	7591040
F-2003	} Switch Unit	7591060
F-2004		
F-2005	Tone Amp. Unit	7560510
F-2007	Oscillator Unit	7591070
F-2009	Meter Amp. Unit	7591080
F-2011	Phase Switch Unit	7591090
F-2012	Power Unit	7598100
F-1315	Driver Unit	7570340





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