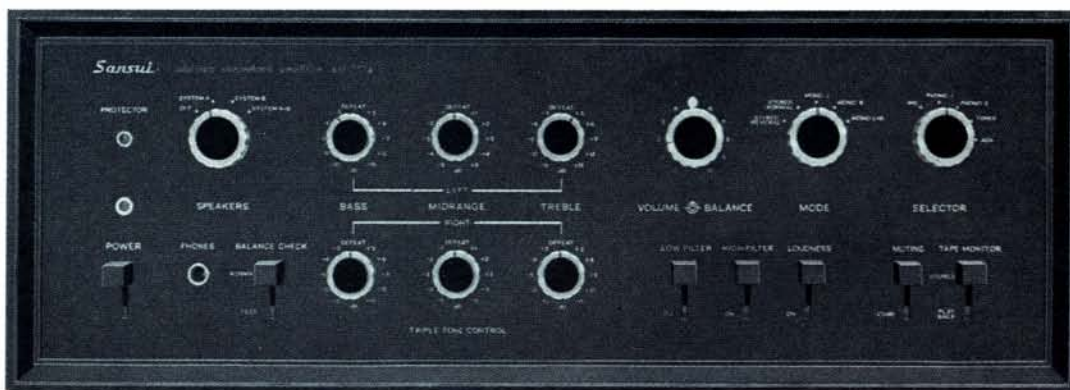


# OPERATING INSTRUCTIONS & SERVICE MANUAL

SOLID-STATE STEREO AMPLIFIER

## SANSUI AU-777A



**Sansui**

SANSUI ELECTRIC COMPANY LIMITED

Thank you for selecting the Sansui AU-777A Solid State Stereophonic Amplifier, an excellent choice that will become more apparent after years of rich stereo listening.

Sansui is known throughout the world for the unsurpassed quality of its audio equipment line, be it a pre-main amplifier, a multiplex stereo receiver, a speaker system, a turntable or a stereo headphone set, and takes the greatest efforts to merit and maintain this reputation.

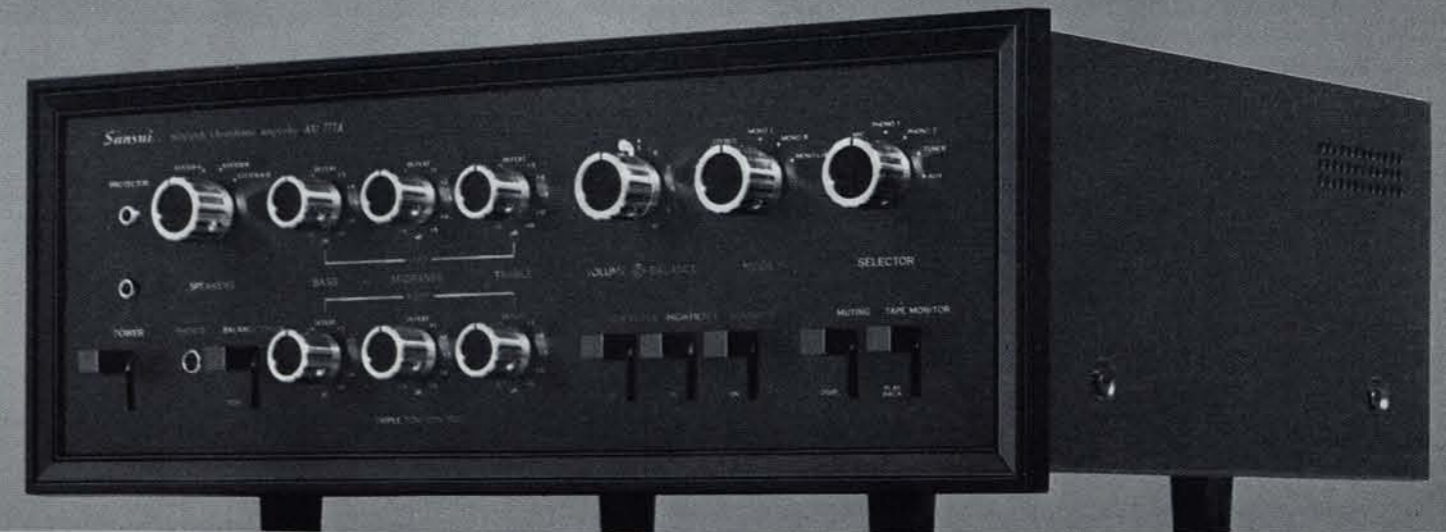
The AU-777A is no exception. Not a single detail has been overlooked in bringing this unit to you in perfect operating condition.

This manual has been prepared to aid you in keeping the AU-777A working perfectly. *Please read the contents of this manual carefully before installing or operating the amplifier.*

You will then be able to enjoy the world's highest standards of sound reproduction to the fullest.

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# SWITCHES AND CONTROLS

## Balance Control

This control adjusts for equal sound from both left and right channels to compensate for slight imperfections in program material, variations in speaker output, and the vagaries of room acoustics.

## Speakers Switch

This switch is used to choose between one set of speakers A and another set B, which may be installed in the same room or remotely in another part of your home. It also has a position for running all speakers at once (A+B), and another that cuts them all out for private listening with headphones (OFF).

## Protector Indicator

The protector circuit prevents damage to power transistors. As soon as the circuit is activated, the indicator lamp lights up to indicate trouble. In this case, immediately turn the POWER switch off and remedy.

## Power Indicator

The POWER indicator is lit when the POWER switch is turned ON. It remains lit while the unit is on.

## Power Switch

The amplifier is on when the POWER switch lever is moved to the ON position. On the rear panel of the amplifier there are two A.C. outlets. The power to the left outlet marked SWITCHED is controlled by the POWER switch.

## Headphones Jack

Plug in a headset for private listening or monitoring. The PHONES jack will accept any standard stereo phono plug but a dynamic headset is recommended.

## Balance Check Switch

This switch is used to check whether the sound levels from both right and left speakers are equal. Set the MODE switch to any MONO position; turn the BALANCE CHECK switch to the TEST position; and adjust the BALANCE control so that the sound levels from both speakers are minimized. When not in use, make sure the switch is in the NORMAL position.

## Low Filter

Turntable rumble and other low-frequency noises are reduced by setting the LOW FILTER switch to the ON position.

## High Filter

Surface noise from old or worn records, tape hiss and other high-frequency noises are reduced by setting the HIGH FILTER switch to the ON position.

## Loudness Control

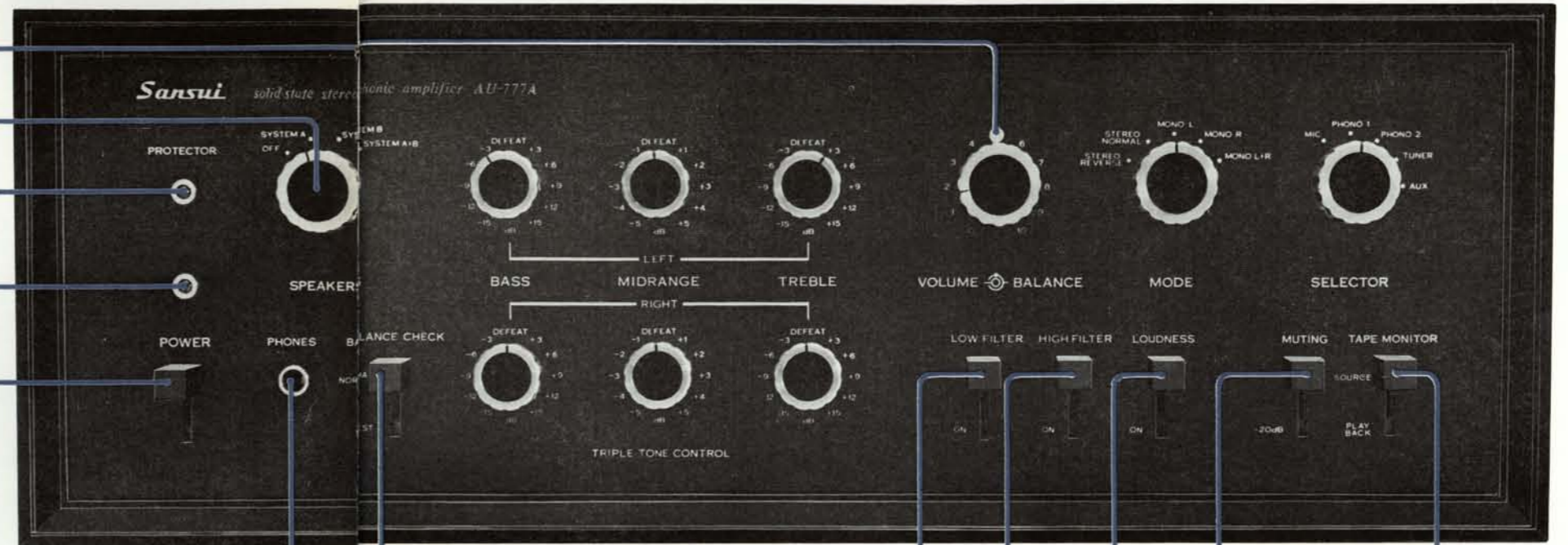
Whenever the volume is decreased to a low listening level, the music will seem to lose much of its bass and some of its treble. This effect is due to the sensitivity of human hearing. When the LOUDNESS switch is on, it provides the correct amount of bass and treble boost required to compensate for this change.

## Muting Switch

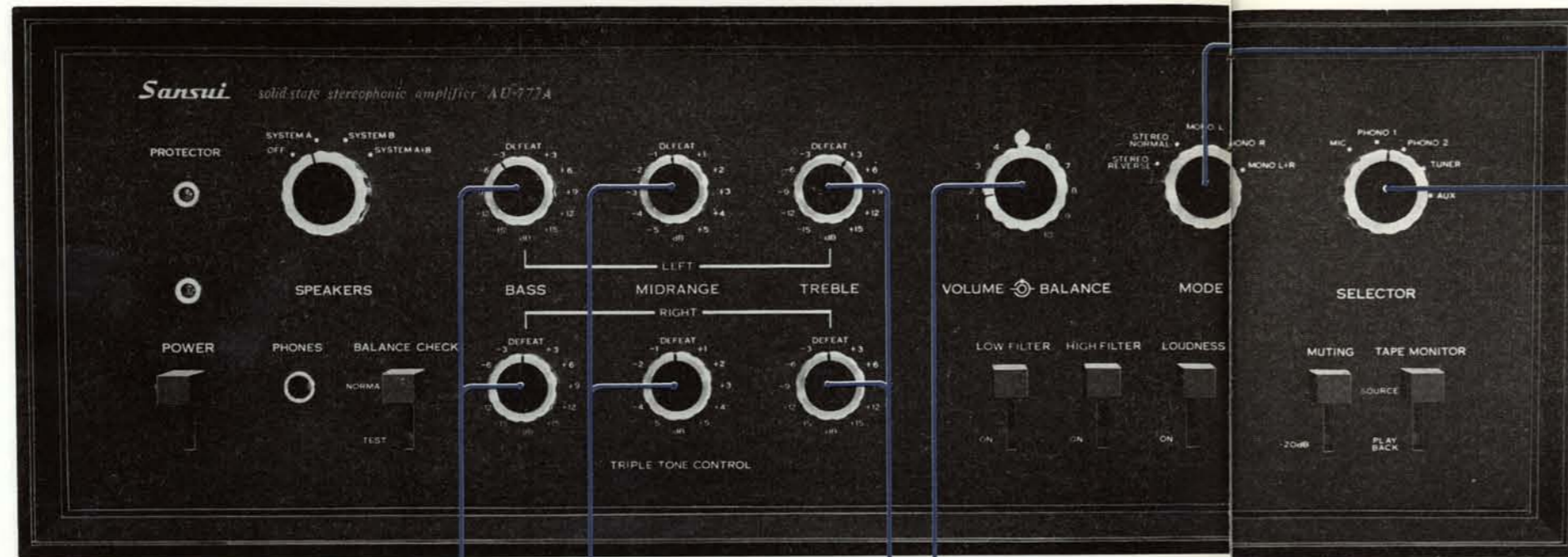
The MUTING switch attenuates music by 20 dB over the whole frequency range. It is used to eliminate interstation tuning noise, to suppress the background noise heard when changing a record, and to reduce the over-all sound level temporarily while playing a record and other program sources.

## Tape Monitor Switch

This switch enables you to compare a recorded tape with the original program. When this switch is in the PLAY BACK position, the recorded tape is heard from the speakers. Monitoring is only possible with a 3-head tape recorder. **Note:** When you play back through the amplifier, the TAPE MONITOR switch should be in the PLAY BACK position as well. When not in use, make sure the switch is in the SOURCE position.



# SWITCHES AND CONTROLS



## Bass Controls

The LEFT and RIGHT BASS controls determine the amount of bass tones in the left and right channels respectively. With the BASS controls in mid-position marked DEFEAT, the bass tones will sound exactly as recorded or broadcast. If you wish to emphasize the bass, simply turn the BASS controls clockwise. To decrease the bass loudness, turn the BASS controls counterclockwise. The BASS controls are graduated by 3 dB per step.

## Midrange Controls

The LEFT and RIGHT MIDRANGE controls determine the amount of midrange tones in the left and right channels respectively. With the MIDRANGE controls in mid-position marked DEFEAT, the midrange tones will sound exactly as they appear in the program source. If you wish to emphasize the midrange, simply turn the MIDRANGE controls clockwise. To decrease the midrange loudness, turn the MIDRANGE controls counterclockwise. The MIDRANGE controls are graduated by 1 dB per step.

## Volume Control

This control adjusts the over-all sound level of both channels. Turn it clockwise, and the volume is increased; turn it counterclockwise, and the volume is decreased.

## Treble Controls

The LEFT and RIGHT TREBLE controls determine the amount of treble tones in the left and right channels respectively. With the TREBLE controls in mid-position marked DEFEAT, the treble tones will sound exactly as they appear in the program source. If you wish to emphasize the treble, simply turn the TREBLE controls clockwise. To decrease the treble loudness, turn the TREBLE controls counterclockwise. The TREBLE controls are graduated by 3 dB per step.

## Mode Switch

1. **STEREO REVERSE**—The MODE switch in the STEREO REVERSE position connects the left input to the right speaker and the right input to the left speaker.
2. **STEREO NORMAL**—The MODE switch in the STEREO NORMAL position connects the left input to the left speaker and the right input to the right speaker. This is the normal stereo position.
3. **MONO L**—The MODE switch in the MONO L position connects the left input to both speakers.
4. **MONO R**—The MODE switch in the MONO R position connects the right input to both speakers.
5. **MONO L+R**—The MODE switch in the MONO L+R position connects the L+R input to both speakers.

## Input Selector Switch

This switch selects from among the various program sources connected to the input jacks on the rear panel of the amplifier.

1. **MIC**—Selects a microphone connected to the MIC inputs.
2. **PHONO 1**—Selects a record player connected to the PHONO 1 inputs on the rear panel.
3. **PHONO 2**—Selects a record player connected to the PHONO 2 inputs.
4. **TUNER**—Selects a tuner, FM-MPX adaptor or other sources connected to the TUNER inputs.
5. **AUX**—Selects a tuner, FM-MPX adaptor or other sources connected to the AUX inputs.

# OPERATIONS

## SPEAKER CONNECTION RECORD PLAYING MICROPHONE

### Connecting Loudspeakers

Any speakers of 4- to 16-ohm impedance can be used with this amplifier. If you wish to connect a remote stereo speaker system in addition to the main set of speakers in your listening room, you can connect the set to the SYSTEM-B terminals on the rear panel of the amplifier. The speaker selector switch on the front panel of the amplifier enables you to choose between A and B speaker systems. It also has a position for running all speakers at once, and another that cuts them all out for private listening with headphones.

### One Speaker System

To connect the main set of speakers to the amplifier:

1. Connect the positive terminal of the speaker on your right (as viewed from the listening area) to the right channel SYSTEM-A (+) terminal on the rear of the amplifier.
2. Connect the lead from the negative speaker terminal (marked -) to the right channel SYSTEM-A (-) terminal on the rear of the amplifier.
3. The left speaker connections are made at the left channel SYSTEM-A terminals on the rear of the amplifier in the manner described above.
4. Set the SPEAKERS selector to SYSTEM-A.

In connecting speakers to the amplifier, no more than 1/4-inch of insulation should be removed from the end of a speaker cable, since any greater length of exposed wire is likely to cause shorts at the terminals. All wire strands should be tightly twisted. To connect, depress the terminal button with one hand, push the stripped end of lead wire in the hole with the other hand, and release the button.

### Two Speaker systems

If you wish to connect another set of speakers in the same room or remotely, you can connect such speakers to the SYSTEM-B terminals of each channel as indicated in the preceding section. When the SPEAKERS selector is in the SYSTEM B position, you will hear sound from the speakers con-

nected to the SYSTEM B terminals. With the selector in the (A+B) position, the sound comes from all the speakers connected to the amplifier.

### RECORD PLAYERS

#### Connecting Record Players

The AU-777A has two sets of PHONO inputs to accommodate a pair of players or pickup arms. The PHONO 1 input impedance is 50 kΩ. The PHONO 2 can be switched between 30, 50 and 100 kΩ by means of the PICK UP LOAD switch on the rear panel.

To connect a record player to the amplifier, proceed as follows:

1. Connect the left channel output of the record player to the LEFT PHONO 1 (or PHONO 2) input jack on the rear of the amplifier.
2. Connect the right channel output of the record player to the RIGHT PHONO 1 (or PHONO 2) input jack.
3. If a monophonic player or turntable is used, it may be connected to either LEFT or RIGHT PHONO input jack.

#### Listening to a Stereo or Monophonic Record

1. Set the SELECTOR switch to PHONO 1 or PHONO 2 depending on which input is being used.
2. Set the MODE switch to STEREO. If a monophonic record player is used, set the MODE switch to MONO.
3. Make appropriate settings of controls on the record player.
4. Place the needle on the record.
5. Adjust the BALANCE control for equal sound from both right and left speakers.
6. Use all other controls and switches according to your personal taste and room acoustics.

**Note:** When monophonic records are played on a stereo player, follow the same procedures as for stereophonic records for better results.

Insert the power-cord plug of the player into the A.C. outlet marked SWITCHED on the rear of the

amplifier. The power supply will then be controlled by the POWER switch on the front panel of the amplifier.

### MICROPHONES

One or two microphones can be connected to the MIC inputs on the rear of the amplifier. Use high-impedance 50-kΩ dynamic or velocity microphones for optimum performance.

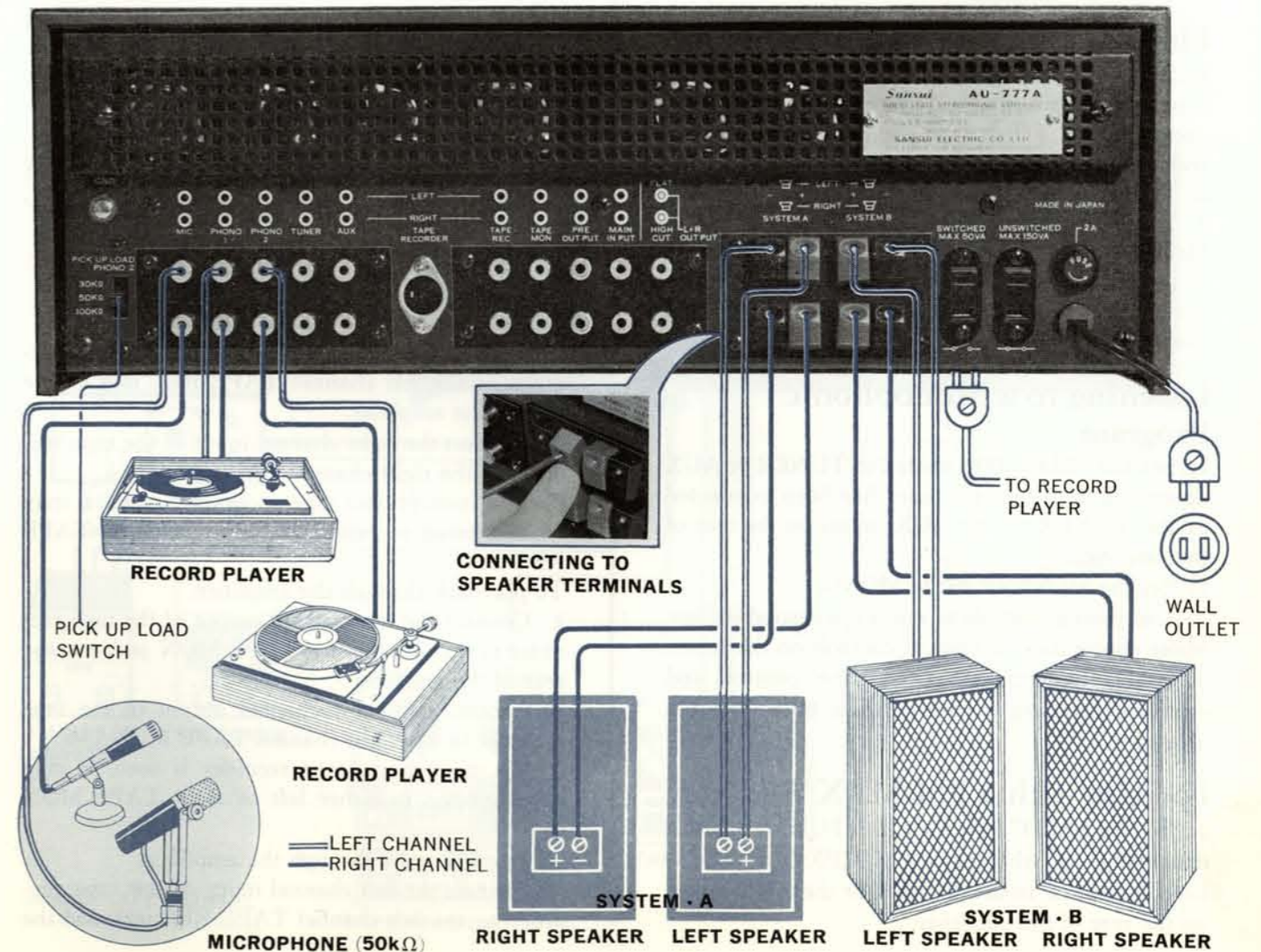
### Connections

If two microphones are used, connect one to the RIGHT MIC input and the other to the LEFT. If

only one microphone is used, connect it to either RIGHT or LEFT MIC input.

### Operation

1. Turn the SELECTOR switch to MIC.
2. If two microphones are used, set the MODE switch to MONO (L+R) for mixing the two input signals. If only one microphone is used, set the MODE switch to MONO L or MONO R depending on which input is being used.
3. Use all other controls and switches according to taste and listening conditions.



# OPERATIONS

- RADIO RECEPTION
- TAPE PLAYBACK
- TAPE RECORDING

## TUNERS

### Connecting Tuners

For a stereo tuner, connect its left channel output to the left channel TUNER (or AUX) input jack, and its right channel output to the right channel TUNER (or AUX) input jack. For a monophonic tuner, connect its output to either left or right jack. For use with an FM-MPX adaptor, connect the tuner output to the adaptor input; then connect the left channel output of the adaptor to the left channel TUNER (or AUX) jack, and the right channel output of the adaptor to the right channel TUNER (or AUX) jack.

### Listening to a Stereo FM Program

1. Set the SELECTOR switch to TUNER or AUX depending on whether a stereo tuner has been connected to the TUNER or the AUX inputs on the rear of the amplifier.
2. Set the MODE switch to STEREO.
3. Use tuning controls to reach the desired station. Make appropriate settings of controls on the tuner.
4. Adjust the amplifier's front panel controls and switches according to your personal taste and room acoustics.

### Listening to a Monophonic Program

1. Set the SELECTOR switch to TUNER or AUX depending on whether a tuner has been connected to the TUNER or the AUX inputs on the rear of the amplifier.
2. Set the MODE switch to MONO.
3. Use tuning controls to reach the desired station. Make appropriate settings of controls on the tuner.
4. Adjust the amplifier's front panel controls and switches according to your personal taste and room acoustics.

### For Use with a FM-MPX Adaptor

1. Set the SELECTOR switch to TUNER or AUX depending on whether a FM-MPX adaptor has been connected to the TUNER or the AUX inputs on the rear of the amplifier.

2. Set the MODE switch to STEREO.
3. Use tuning controls to reach the desired station.
4. Make appropriate settings of controls on the FM-MPX adaptor.
5. Adjust the amplifier's front panel controls and switches according to your personal taste and room acoustics.

## TAPE RECORDERS

### Connecting Tape Recorders

Tape recorders can be connected to record from, and playback through, the AU-777A. Tape monitoring is possible with a tape recorder having a built-in pre-amplifier as well as separate recording and playback heads.

### DIN Plug Tape Recorder

If your tape recorder has a DIN (German Industrial Standard) 5-pin plug, plug it into the TAPE RECORDER socket on the rear panel of the amplifier.

### Pin Jack Tape Recorder

To record on tapes from the amplifier:

1. Connect the left channel input of the tape recorder to the left channel TAPE REC jack on the rear of the amplifier.
2. Connect the right channel input of the tape recorder to the right channel TAPE REC jack.
3. If a monophonic tape recorder is used, it may be connected to either LEFT or RIGHT TAPE REC jack.

To playback through the amplifier:

1. Connect the left channel output of the tape recorder to the left channel TAPE MON jack on the rear of the amplifier.
2. Connect the right channel output of the tape recorder to the right channel TAPE MON jack.
3. If a monophonic tape recorder is used, it may be connected to either left or right TAPE MON jack.

To monitor tapes through the amplifier:

1. Connect the left channel input of the tape recorder to the left channel TAPE REC jack and the

right channel input of the tape recorder to the right channel TAPE REC jack.

2. Connect the left channel output of the tape recorder to the left channel TAPE MON jack and the right channel output of the tape recorder to the right channel TAPE MON jack.

### Recording on Tapes

1. Set the SELECTOR switch to the program to be recorded.
2. Set the MODE switch to STEREO. If a monophonic tape recorder is used, set the switch to MONO.
3. Make appropriate settings of controls on the tape recorder.

### Listening to Tapes

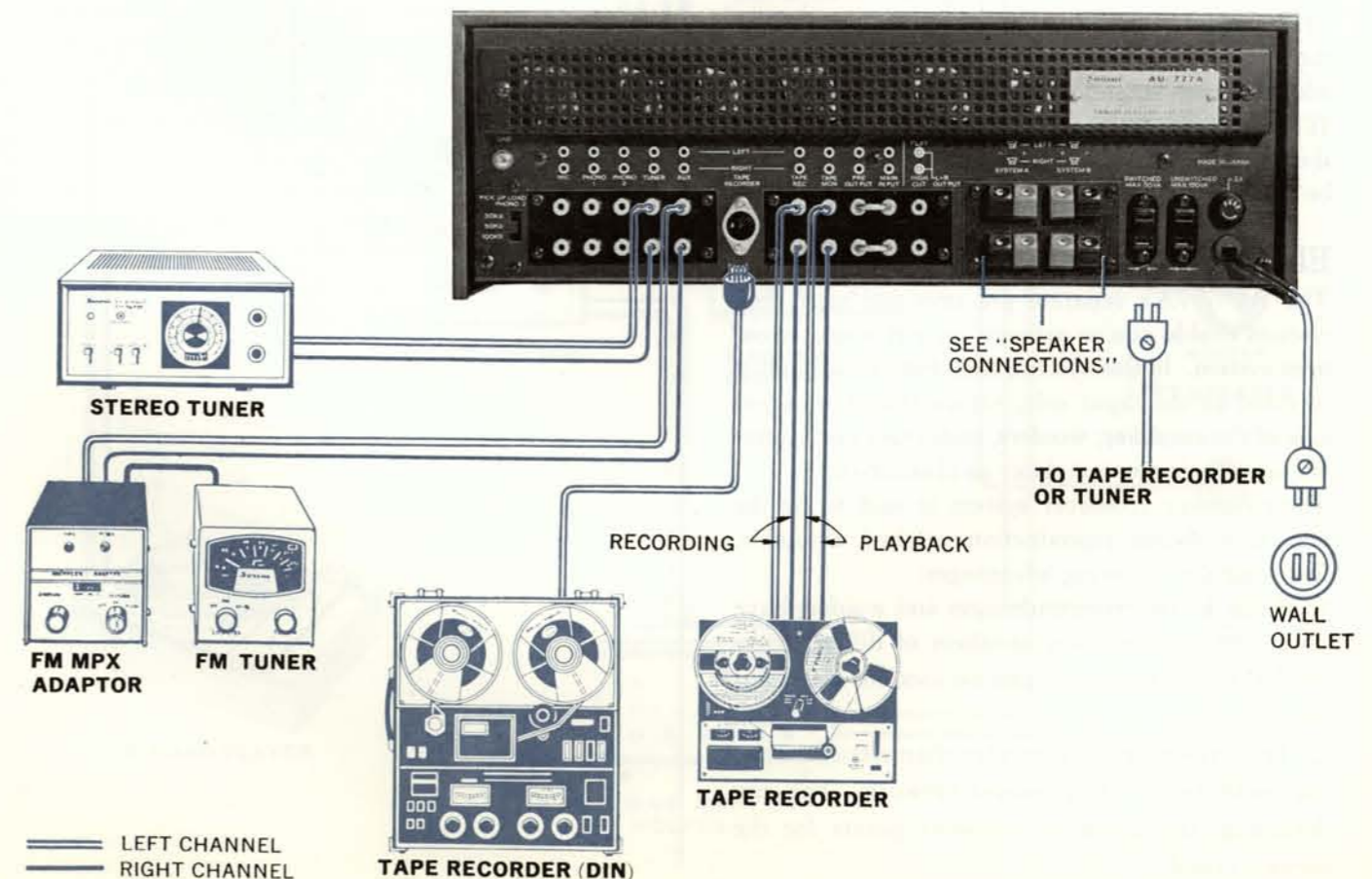
1. Turn the TAPE MONITOR switch to PLAY

BACK.

2. Set the MODE switch to STEREO. If a monophonic tape recorder is used, set the switch to MONO.
3. Make appropriate settings of controls on the tape recorder.
4. Use the amplifier's front panel controls and switches according to your personal taste and listening conditions.

### Tape Monitoring

Monitoring is possible only with a tape recorder which has its own playback preamplifier as well as separate recording and playback heads. Set the TAPE MONITOR switch to PLAY BACK and use all other controls and switches according to your personal taste and listening conditions.



# ELECTRONIC CROSSOVER SYSTEM

## Separate Pre-amp and Main-amp Circuits

The AU-777A is provided with a pre-amp output circuit which picks up the output of the pre-amplifier alone, and with a main-amp input circuit which drives the main amplifier alone.

To connect additional pre- and main-amplifiers:

1. Remove the PM connectors from the jacks marked PRE OUTPUT and MAIN INPUT on the rear of the amplifier.

2. The input of an additional main amplifier should be connected to the PRE OUTPUT jacks. The output of an additional pre-amplifier should be connected to the MAIN INPUT jacks.

**Note:** The connection of the additional pre-amplifier to the MAIN INPUT jacks cuts off all front panel switches and controls except the BALANCE CHECK and SPEAKERS switches. Thus, to adjust the tone and volume, operate the controls of the additional pre-amplifier connected to the AU-777A. When the additional main amplifier is connected to the PRE OUTPUT jacks, the tone and volume can be adjusted by the controls of the AU-777A.

## Electronic Crossover System

The AU-777A's separate pre-amp and main-amp circuits enable you to arrange an electronic crossover system. In this system, each frequency band is divided on the input side, rather than the output side of the amplifier; woofers, midranges and tweeters have their own amplifier as illustrated.

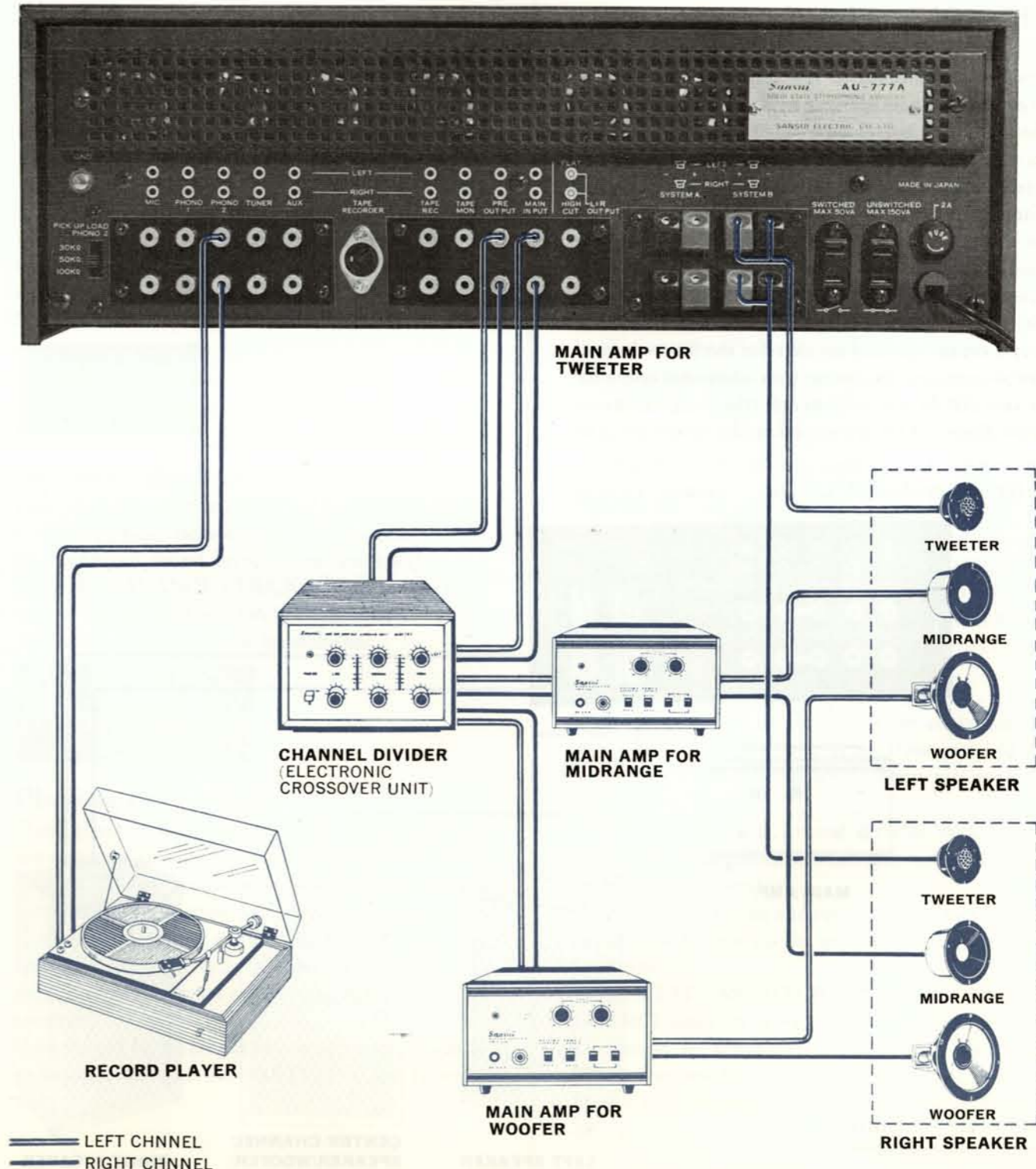
The electronic crossover system is said to be the best hi-fi sound reproduction method available, featuring the following advantages:

1. Since the tweeters, midranges and woofers have their own amplifier, any speakers of different impedance and efficiency can be used for stereo arrangement.

2. This system has better filter characteristics than the conventional LC crossover network. You can determine the optimum crossover points for the speakers used.

3. Since there is no component between the amplifier and speaker, the damping factor of the amplifier is not affected and it is directly coupled to the speaker.

4. This system allows use of the power amplifiers effectively and efficiently. For instance, a big-power amplifier can be used for woofers, and ones with good characteristics for midranges and tweeters. You can select the amplifiers suitable for each of the woofers, midranges and tweeters.



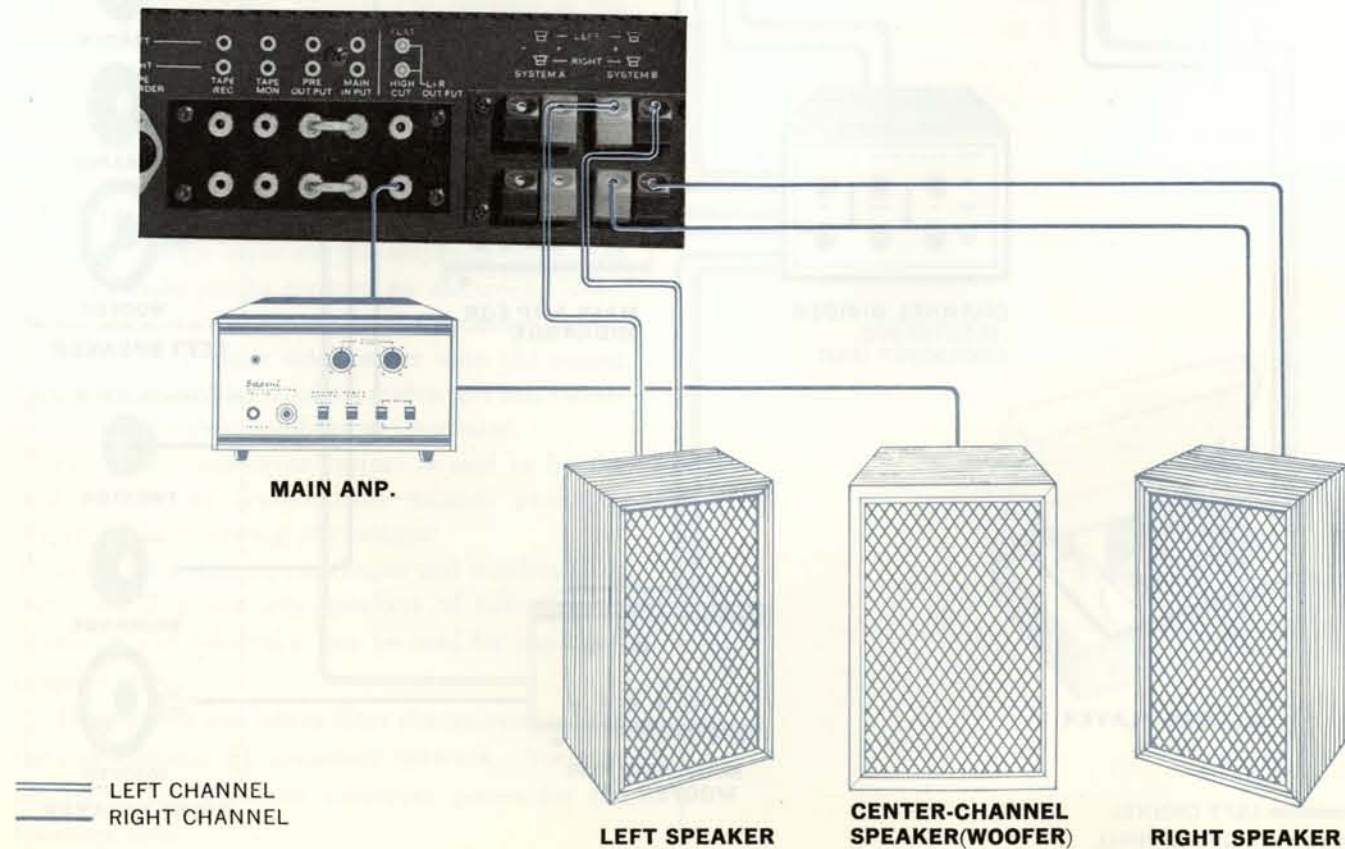
# THREE-CHANNEL STEREO

## Three-Channel Stereo

In the three-channel stereo arrangement, one woofer is connected to the center channel and a tweeter/midrange speaker system is connected to the right and left channels. This concept is based on the fact human ears are not sensitive to the direction of bass tones of less than 200~300 Hz. The advantage is that only one woofer is enough for this stereo arrangement and that lows are reproduced more effectively.

The AU-777A is provided with output terminals for a center-channel amplifier. If you wish to connect a center-channel speaker for the three-channel stereo arrangement, connect an additional amplifier to the HIGH CUT terminal (the frequencies of more than 159 Hz are cut off in the filter circuit of the AU-777A); and then connect the third speaker to the center-channel amplifier. Another method

is to connect a monophonic power amplifier to the FLAT terminal and the third speaker to the amplifier. In this case, mixed sound from the right and left channels does not pass through the filter circuit.



# MAINTENANCE

## PM Connectors

**Warning:** Be sure to push the POWER switch OFF before removing the PM connectors.

The PM connectors hook up the PRE OUTPUT and MAIN INPUT terminals on the rear panel of the amplifier so that the pre and main amplifiers can be used individually and separately. When the PM connectors are removed, the pre and main amplifier circuits are opened. They should not be removed except when connecting additional pre-and/or main amplifiers. Refer to the section titled Separate Pre-amp and Main-amp Circuits.



## Balance Check

Headphones cannot be controlled by the BALANCE CHECK switch. Before using the headphones, balance unequal sound levels from the speakers by using the BALANCE CHECK switch as described in the section titled SWITCHES AND CONTROLS, and then use the headphones.



## Phasing of Speakers

Stand about 10 feet in front of and midway between the speakers and listen to any monophonic reproduction. If the speakers are correctly phased, the sound will seem to come from between the speakers. If the sound is not directly in front of you, the speakers are incorrectly phased. To correct this, switch the amplifier off and reverse the leads to one speaker.

Care should be taken not to connect a single speaker system between the SYSTEM A and B terminals.

## Hum and Howling

If, when using a tape recorder or record player, unpleasant humming or howling is heard, it is usually a result of the following.

The record player is placed on or near the speaker box causing sound waves to be transmitted from the speaker to the player (howling). To prevent this, place the record player away from the speaker box or put a thick cushion between the two components.

A low buzzing sound will also be produced if adequately thick shieldwire is not used for connections, or if connections have not been properly made. Be sure that the shieldwire is properly soldered to the pin-plugs as illustrated in "Connecting Wire", and that the motor and pickup arm or the record player are properly grounded.

## Speaker Impedance

Combined impedance of speakers in each channel should not be less than 4 ohms. Too low impedance may activate the PROTECTOR circuit or may cause damage to the amplifier after use over a long period.

## Tape Recorder

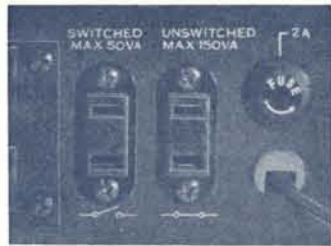
1. Tape recorded sound cannot be controlled by the controls and switches on the front panel of the amplifier. They control sound from the speakers only.
2. For better results, record directly through the AU-777A, rather than through microphones placed in front of the speakers.
3. Before connecting and operating the tape recorder, be sure to look up the manufacturer's operating instructions.
4. The TAPE MONITOR switch should be in the SOURCE position except when the tapes are being monitored or played back by the tape recorder. When the switch is in the PLAY BACK position, signals from any other source will not be heard from the speakers.



## Power Fuse

If the unit remains completely dead when the power is switched on (POWER indicator fails to light), the power fuse is probably blown. In this case, remove the power plug from its AC outlet and replace the fuse after finding and eliminating the trouble that caused the fuse to blow. (Consult the Troubleshooting Section in your Service Manual)

Use only a glass-tubed 2-ampere fuse. Never attempt to use a piece of wire or a fuse of a different capacity as a substitute.



## A.C. Outlets

The AU-777A is provided with two A.C. outlets on its rear panel. One outlet (marked  $\text{--}\text{O}\text{--}\text{O}\text{--}$ ) is switched on and off by the POWER switch on the front panel.

**Caution:** The maximum capacity of this outlet is 50 VA, and the other (marked  $\text{--}\text{O}\text{--}\text{O}\text{--}$ ) is 150 VA. Never use either beyond their rated capacity.

## Microphones

1. The amplifier can accept high-impedance microphones only.
2. Don't use excessively long cable.
3. Since the tone controls can be used separately for each channel, the microphones can be used in the best way even when one is for music and the other for voice. The amplifier will have increasing uses if programs from the microphones are to be recorded on tapes.

## Quick-Acting Fuses

If the power indicator lights up but the set does not play, it may be the result of a blown quick-acting fuse in the power circuit of the power amplifier.

To replace, remove the power plug from its AC outlet. Then remove the bonnet from the AU-777A and check for the blown fuse. Before replacing, check for the source of trouble that has caused the fuse to blow. (See your Service Manual)

*Never use a fuse with a different capacity. The correct capacity is 2 amperes.*

If the new fuse blows as soon as the POWER switch is pushed on, check for the defective power circuit. If the trouble source cannot be located, contact the nearest Sansui dealer or Service Center.



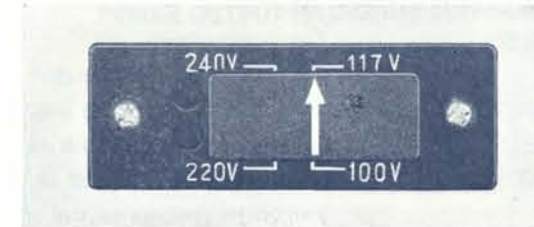
## If the Protector Circuit Lights up...

It means that the AU-777A's circuit has been activated to cut incoming current as soon as it exceeds the allowable limit to prevent the power transistors from becoming damaged. When this happens, the PROTECTOR circuit is closed and no sound comes from the speakers. As soon as this happens, turn off the amplifier's power supply for about 5 seconds, then turn it back on. If all the speakers are still silent, immediately turn the power off, locate and eliminate the source of trouble. Probable cause: a shorted output circuit or excessive input.



## Voltage Selecting Plug

This plug is located inside the bonnet of the amplifier and has been set to the voltage of your area prior to shipment. If the amplifier is ever moved to an area with another voltage requirement, this plug must be changed to the proper voltage of the new area. To change, remove the bonnet from the amplifier, remove the plug from the voltage socket you have been using, and plug the arrow head into the appropriate voltage requirement of 100V, 117V, 220V or 240V.



## Grounding

Connect one end of vinyl or enameled wire to the terminal screw marked GND on the rear of the amplifier, attach a copper plate to the other end, and bury it underground. Whenever an outdoor AM antenna is used, grounding becomes necessary. In all cases, grounding is desirable since it allows a better SN ratio to be obtained. To ground an entire audio system, connect the grounding wire of each component used to this terminal.



## Where to Place

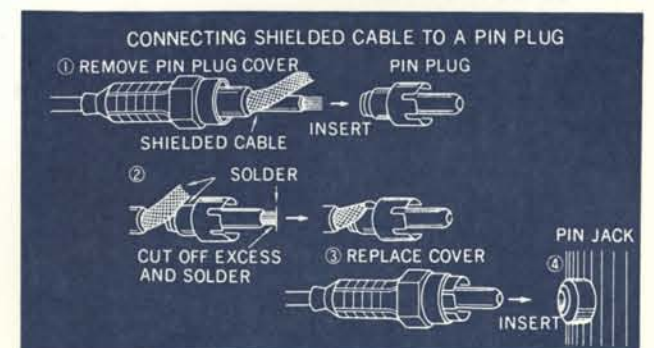
Since transistors are extremely susceptible to heat, the AU-777A has been designed to diffuse heat through the top and rear of its case. Therefore, special consideration should be given to where it will be used before installing the amplifier. It should not be operated in a place where it is exposed directly to the sun, near radiators or other heat-generating sources, and it should never be mounted in an air-tight cabinet. Finally, nothing should be placed on top of it.

## Connecting Wire

Be sure to use adequately thick shieldwire when connecting a tape recorder, record player or other components to the AU-777A. The use of an ordinary twin leadwire may cause hum or noise. Don't use shieldwire longer than 7 feet (2 meters). The use of a longer wire leads to greater attenuation at high frequencies.

## Connections

Always check to see that leads are connected firmly and properly to their corresponding output or input terminals. If the connections are loose or in touch with other parts, the AU-777A will not perform normally, and may produce undesirable noise. If used in such a way for a long time, it will eventually break down. Always read the manufacturer's instructions for tape recorder, record player, etc. before connecting.



# SPECIFICATIONS

## BASIC AMPLIFIER SECTION

### POWER OUTPUT

MUSIC POWER (IHF): 70 Watts at 8 ohms load  
CONTINUOUS POWER (each channel): 30W/30W at 8 ohms load

TOTAL HARMONIC DISTORTION: less than 0.5% at rated output

INTERMODULATION DISTORTION: less than 0.8% (60Hz : 7,000Hz = 4 : 1 SMPTE)

POWER BANDWIDTH (IHF): 20 to 50,000Hz at 8 ohms load

FREQUENCY RESPONSE: 20 to 100,000Hz  $\pm 1$ dB (at normal listening level)

CHANNEL SEPARATION: better than 50dB at rated output

HUM AND NOISE (IHF): better than 100dB

INPUT SENSITIVITY: 1V for rated output at 1kHz

LOAD IMPEDANCE: 4 to 16 ohms

DAMPING FACTOR: 15 at 8 ohms

INPUT IMPEDANCE: 300k ohms

### CENTER CHANNEL OUTPUT

FLAT: 10V at 1,000Hz

LOW PASS ( $f_c=159$ Hz): 10V at 50Hz

### SWITCHES

SPEAKER SELECTOR: OFF, SYSTEM-A, SYSTEM-B, SYSTEM-A + B

BALANCE CHECK: NORMAL, TEST

## PRE AMPLIFIER SECTION

### OUTPUT VOLTAGE

MAXIMUM OUTPUT VOLTAGE: 4V

RATED OUTPUT VOLTAGE: 1V

TOTAL HARMONIC DISTORTION: less than 0.1% at rated output voltage

FREQUENCY RESPONSE: 20 to 70,000Hz  $+0.5 - 1.5$ dB

### HUM AND NOISE (IHF)

PHONO-1 AND 2: better than 80dB at maximum output voltage

MIC.: better than 85dB at maximum output voltage

TUNER: better than 85dB at maximum output voltage

AUX.: better than 85dB at maximum output voltage

INPUT SENSITIVITY (for rated output voltage at 1,000Hz)

PHONO-1: 2mV (50k ohms)  
PHONO-2: 2mV (30k, 50k, 100k ohms)  
MIC: 3.5mV (50k ohms)  
TUNER: 140mV (100k ohms)  
AUX: 140mV (100k ohms)  
TAPE MON. (PIN): 140mV (100k ohms)  
(DIN): 140mV (100k ohms)

### RECORDING OUTPUT

TAPE REC. (PIN): 150mV

TAPE RECORDER (DIN): 30mV

### CONTROLS

BASS:  $\pm 15$ dB at 20Hz (3dB step)  
MIDRANGE:  $\pm 5$ dB at 1,500Hz (1dB step)  
TREBLE:  $\pm 15$ dB at 20,000Hz (3dB step)  
LOUDNESS:  $+8$ dB at 50Hz,  $+2.5$ dB at 10,000Hz (volume control at  $-30$ dB)

### SWITCHES

LOW FILTER:  $-26$ dB at 20Hz (12dB/oct)  
HIGH FILTER:  $-18$ dB at 20,000Hz (12dB/oct)  
MUTING SWITCH:  $-20$ dB  
MODE SWITCH: STEREO-REVERSE, STEREO-NORMAL, MONO-L, MONO-R, MONO-L + R

TAPE MONITOR: SOURCE, PLAY BACK  
SELECTOR: MIC, PHONO-1, PHONO-2, TUNER, AUX

### EQUALIZER

PHONO: RIAA, NF type

MIC.: flat NF type

### OTHER SPECIAL FEATURES

5-pin DIN Socket for Tape Recorder

Head Phone Jack

Protector Circuit and Indicator

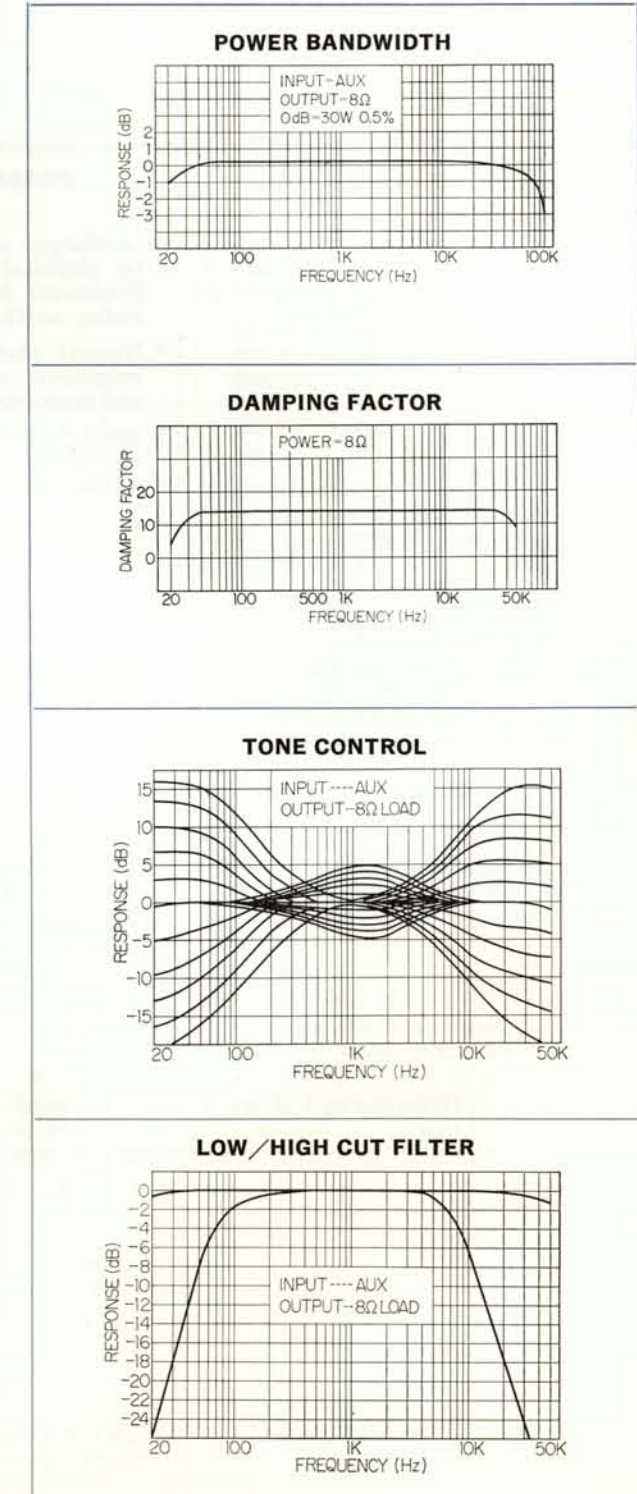
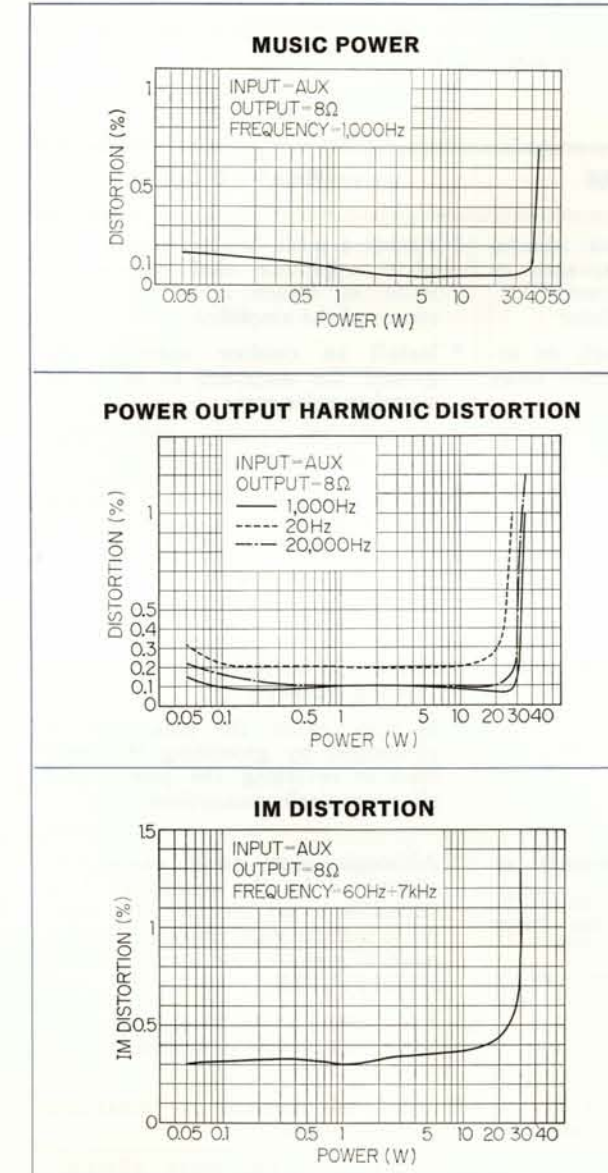
POWER REQUIREMENTS: 100, 117, 220, 240, 50/60Hz

POWER CONSUMPTION: 165VA max.

DIMENSIONS:  $17\frac{1}{8}$ "W,  $6\frac{1}{8}$ "H,  $13\frac{1}{8}$ "D

WEIGHT: 27.1 lbs

# CHARACTERISTICS



\* All rights reserve specifications subject to change without notice.

# TROUBLESHOOTING CHART

If the amplifier is otherwise operating satisfactorily, the more common causes of trouble may generally be attributed to the following:

1. Incorrect connections or loose terminal contacts. Check the speakers, record player, tape recorder, antenna and line cord.
2. Improper operation. Before operating any audio components, be sure to read the manufacturer's instruc-

tions.

3. Improper location of audio components. The proper positioning of components, such as speakers and turntable, is vital to stereo.

4. Defective audio components.

The following are some other common causes of malfunction and what to do about them.

| PROGRAM SOURCE | SYMPTOM   | PROBABLE CAUSE   | WHAT TO DO   |
|----------------|---|--|--|
| Tuner          | Constant or intermittent noise heard at certain times or in a certain area                                | <ul style="list-style-type: none"> <li>* Discharge or oscillation caused by electrical appliances, such as fluorescent lamp, TV set, D.C. motor, rectifier and oscillator</li> <li>* Natural phenomena, such as atmospheric conditions, static, stray and thunderbolts</li> <li>* Insufficient antenna input due to reinforced concrete walls or long distance from the station</li> <li>* Wave interference from other electrical appliances</li> </ul> | <ul style="list-style-type: none"> <li>* Attach a noise limiter to the electrical appliance that causes the noise, or attach it to the power source of the amplifier.</li> <li>* Install an outdoor antenna and ground the amplifier to raise the signal-to-noise ratio.</li> <li>* Reverse the power cord plug-receptacle connections.</li> <li>* If the noise occurs at a certain frequency, attach a wave trap to the ANT. input.</li> <li>* Keep the set at a proper distance from other electrical appliances.</li> </ul> |
|                | Noise heard at a particular time of a day, in a certain area or over part of the dial during AM reception | <ul style="list-style-type: none"> <li>* This results from the nature of AM broadcast</li> </ul>   | <ul style="list-style-type: none"> <li>* Install the antenna for maximum antenna efficiency.</li> <li>* In some cases, the noise can be eliminated by grounding the amplifier or reversing the power cord plug-receptacle connections.</li> </ul>  |
|                | High-frequency noise during AM reception  | <ul style="list-style-type: none"> <li>* Adjacent-channel interference or beat interference</li> <li>* TV set too close to the audio system</li> </ul>   | <ul style="list-style-type: none"> <li>* Although such noise cannot be eliminated by the amplifier, it is advisable to set the TREBLE control to the minimum counterclockwise position possible and switch on the HIGH FILTER.</li> <li>* Keep the TV set at a proper distance from the audio system.</li> </ul>   |
|                | Noise during FM reception   | <ul style="list-style-type: none"> <li>* Poor noise limiter effect or too low S/N ratio due to insufficient antenna input</li> </ul> <p>Note: FM reception is affected considerably by the broadcasting station's power and antenna efficiency. As a result, you may receive one station quite well while having difficulty in receiving another station.</p>  | <ul style="list-style-type: none"> <li>* Install the antenna for maximum signal strength.</li> <li>* If this does not prove effective, use an outdoor antenna designed exclusively for FM. When you use a TV antenna for both TV and FM with the help of a divider, make sure the TV reception is not affected.</li> <li>* An excessive long antenna may cause noise.</li> </ul>   |
|                | A series of pops  | <ul style="list-style-type: none"> <li>* Ignition noise caused by an auto, motorcycle or the like</li> </ul>   | <ul style="list-style-type: none"> <li>* Keep the antenna and its lead-in wire away from heavy traveled roads or raise the antenna input.</li> </ul>   |

| PROGRAM SOURCE                            | SYMPTOM  | PROBABLE CAUSE   | WHAT TO DO   |
|---|--|--|--|
| (continued)                               | Noise heard during FM stereo, but not heard during FM mono reception                                     | <ul style="list-style-type: none"> <li>* The service area of the FM stereo broadcast is only half that of the FM mono broadcast</li> </ul>   | <ul style="list-style-type: none"> <li>* Install the antenna for maximum antenna input.</li> <li>* Switch on the HIGH FILTER and/or set the TREBLE control to the minimum counterclockwise position possible.</li> </ul>   |
| Record player, tape recorder or tape deck | Hum or howling   | <ul style="list-style-type: none"> <li>* Record player placed directly on the speaker box</li> <li>* Use of wire other than shielded wire</li> <li>* Loose terminal contact</li> <li>* Shielded wire too close to the line cord, fluorescent lamp or other electrical appliances</li> <li>* Nearby amateur radio station or TV transmission antenna</li> </ul> | <ul style="list-style-type: none"> <li>* Put a cushion under the record player.</li> <li>* Experiment with several different arrangements before deciding on the final positions of the speaker and record player.</li> <li>* Use a shielded cord for connections.</li> <li>* Switch on the LOW FILTER.</li> <li>* The connecting cord should be as short as possible.</li> <li>* Don't raise the BASS loudness too much.</li> <li>* Consult the nearest Radio Regulatory Bureau.</li> </ul> |
|   | Surface noise  | <ul style="list-style-type: none"> <li>* Worn or old record</li> <li>* Worn pick-up needle</li> <li>* Needle covered with dust</li> <li>* Improper needle pressure</li> </ul>  | <ul style="list-style-type: none"> <li>* Set the TREBLE control to the minimum counterclockwise position possible and/or switch on the HIGH FILTER.</li> <li>* Clean or replace the needle.</li> </ul>   |
| Common to all program sources             | The BALANCE control is not in the mid-position when equal sound comes from both left and right channels. | <ul style="list-style-type: none"> <li>* Due to imperfections in program material, variations in speaker output or asymmetry in room acoustics, the BALANCE control is not always set to the mid-position.</li> </ul>  | <ul style="list-style-type: none"> <li>* Set the MODE switches to MONO and adjust the BALANCE control so that the sound is heard from a point midway between the two speakers.</li> </ul>  |

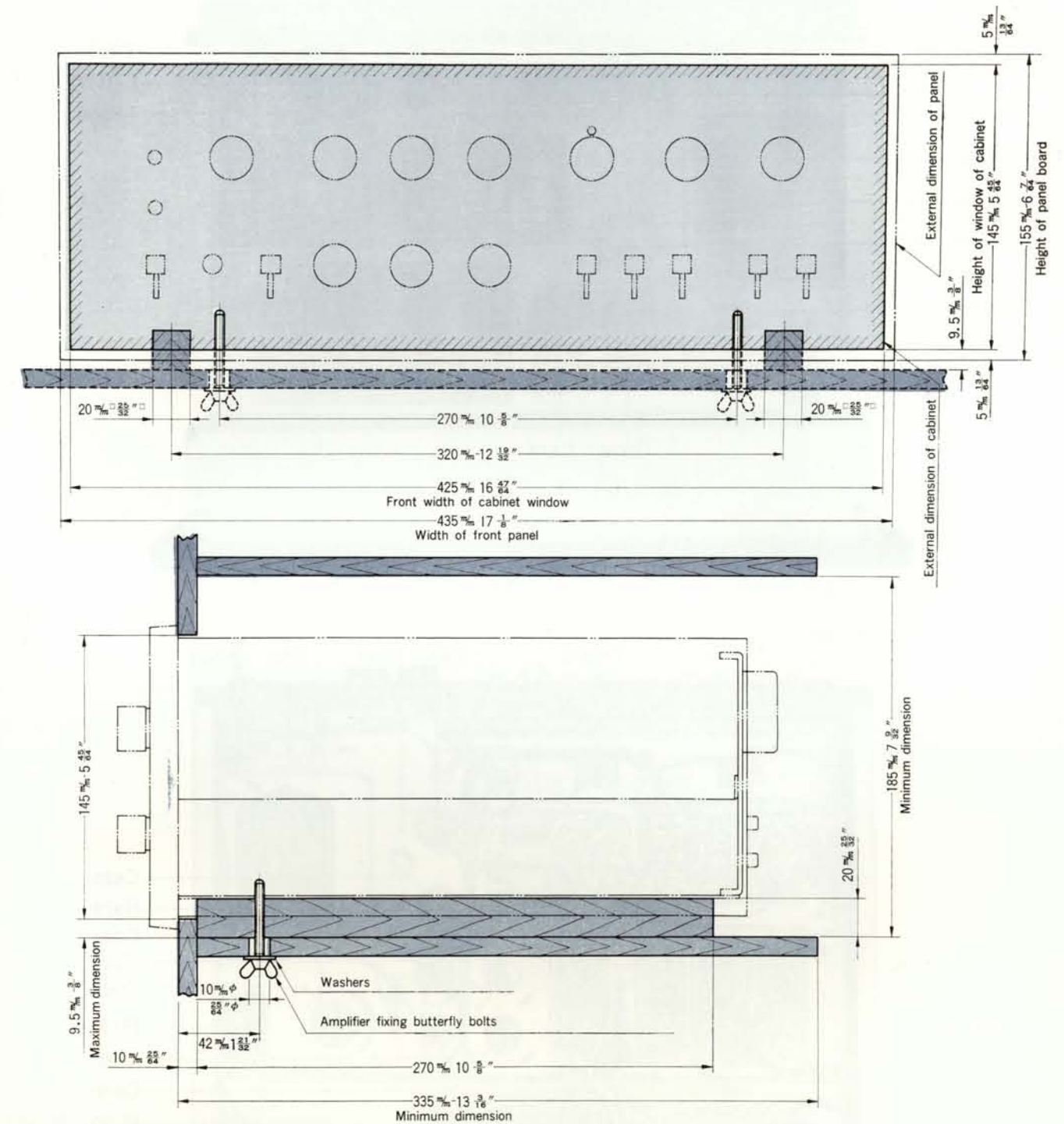
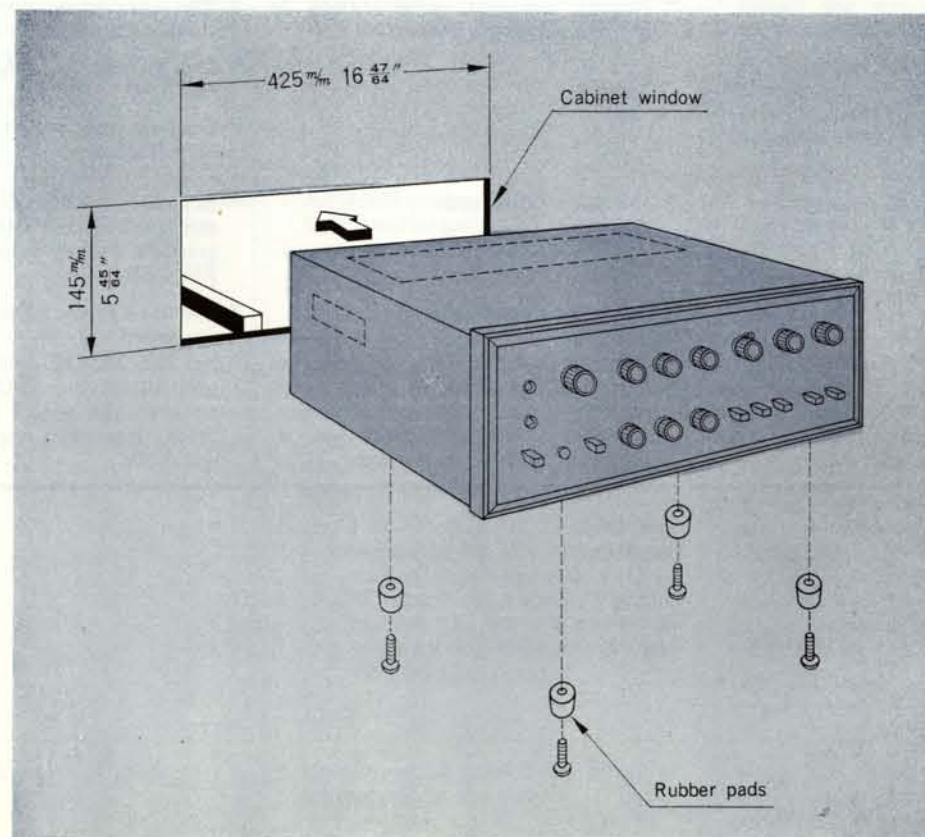
# CUSTOM MOUNTING

## How to install the amplifier in a wooden cabinet

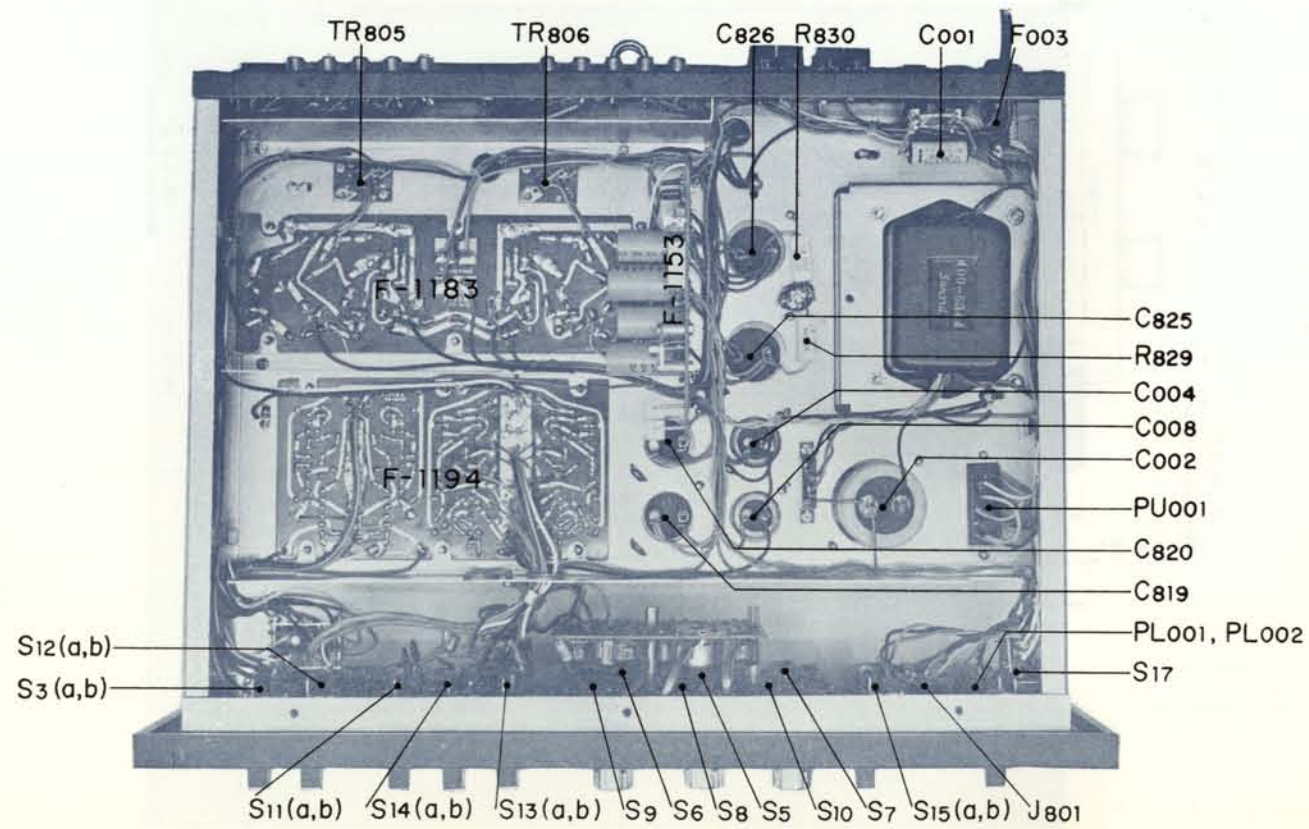
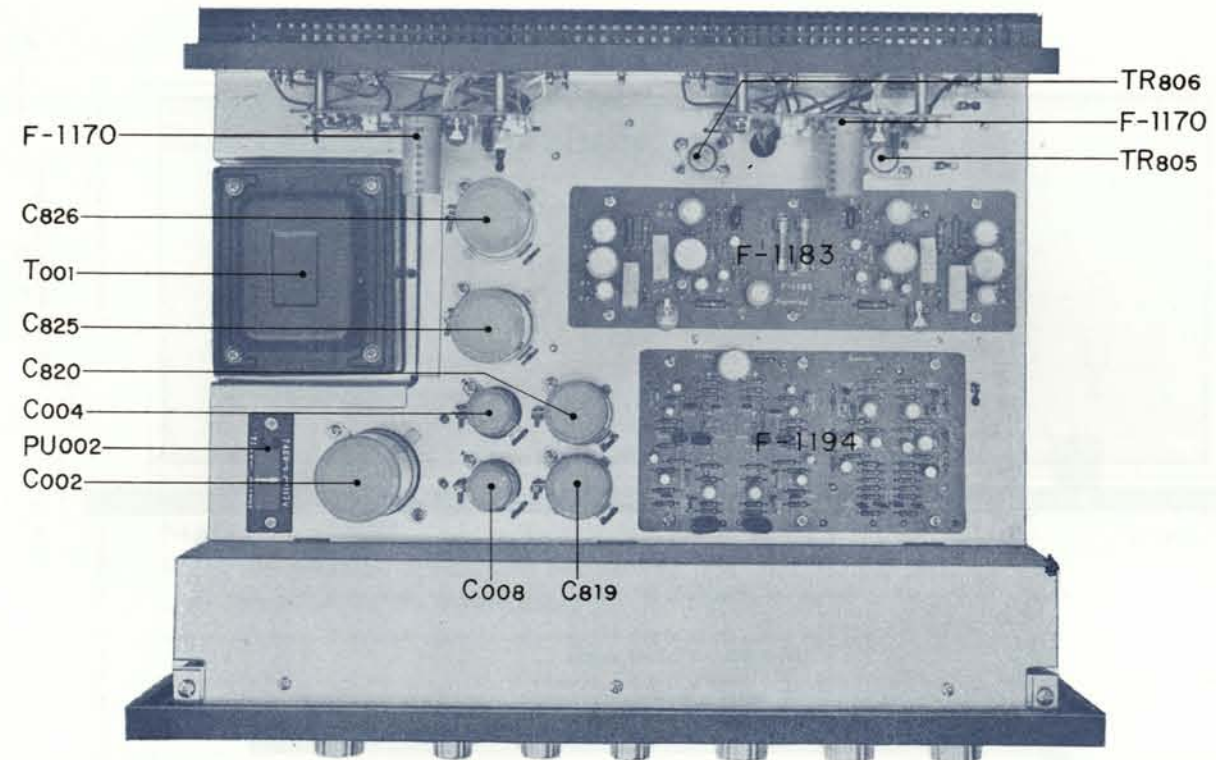
1. As illustrated right, make a cabinet window of 425mm or  $16\frac{47}{64}$ " in width and 145mm or  $5\frac{45}{64}$ " in height.
2. Place two square pieces of wood ( $20 \times 20 \times 270$ mm or  $\frac{25}{32} \times \frac{25}{32} \times \frac{32}{32} \times 10\frac{5}{8}$ "") for supporting the amplifier in the bottom board of the cabinet.
3. Cut two holes for attachment bolts in the bottom board of the cabinet.
4. Remove the four rubber feet from the amplifier.
5. Slide the amplifier into position through the cabinet window.
6. Make sure the amplifier is in position, then put the washers in the butterfly bolts (supplied) and fix the amplifier to the cabinet with the butterfly bolts.

### NOTE:

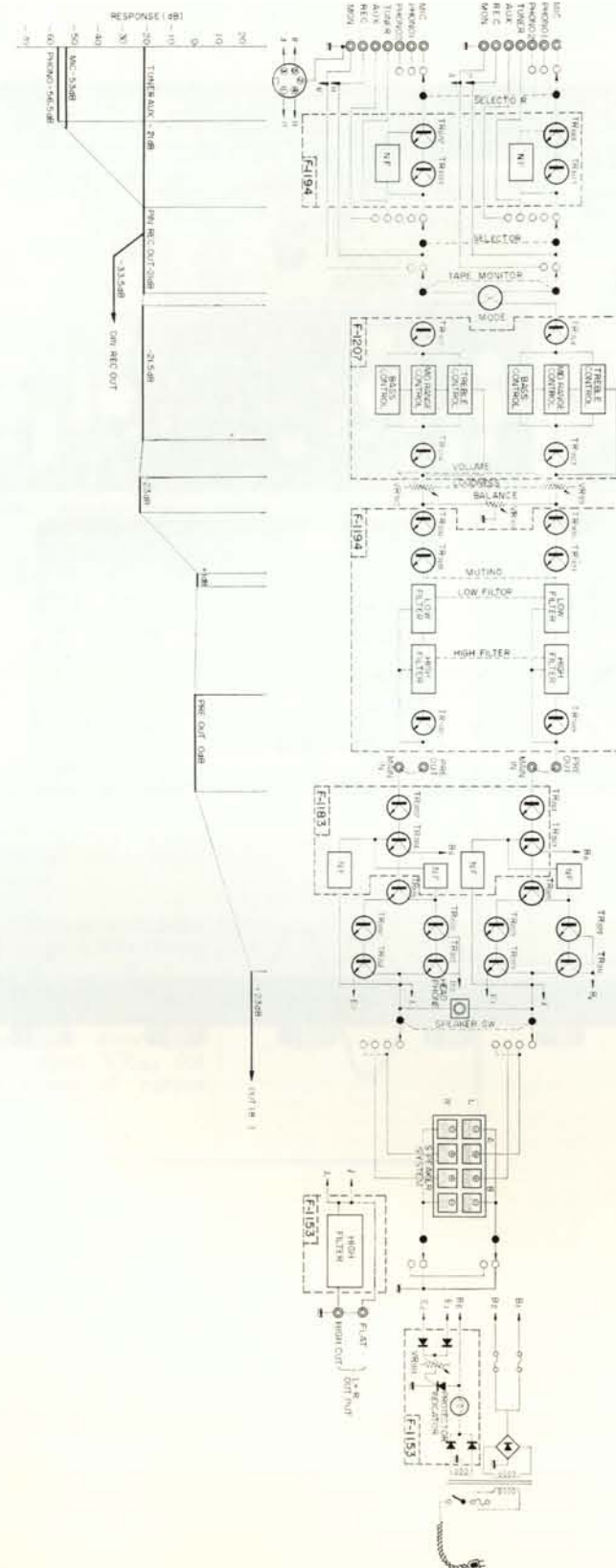
When the amplifier is built into the cabinet, the four rubber feet are not used. Retain them for future use.



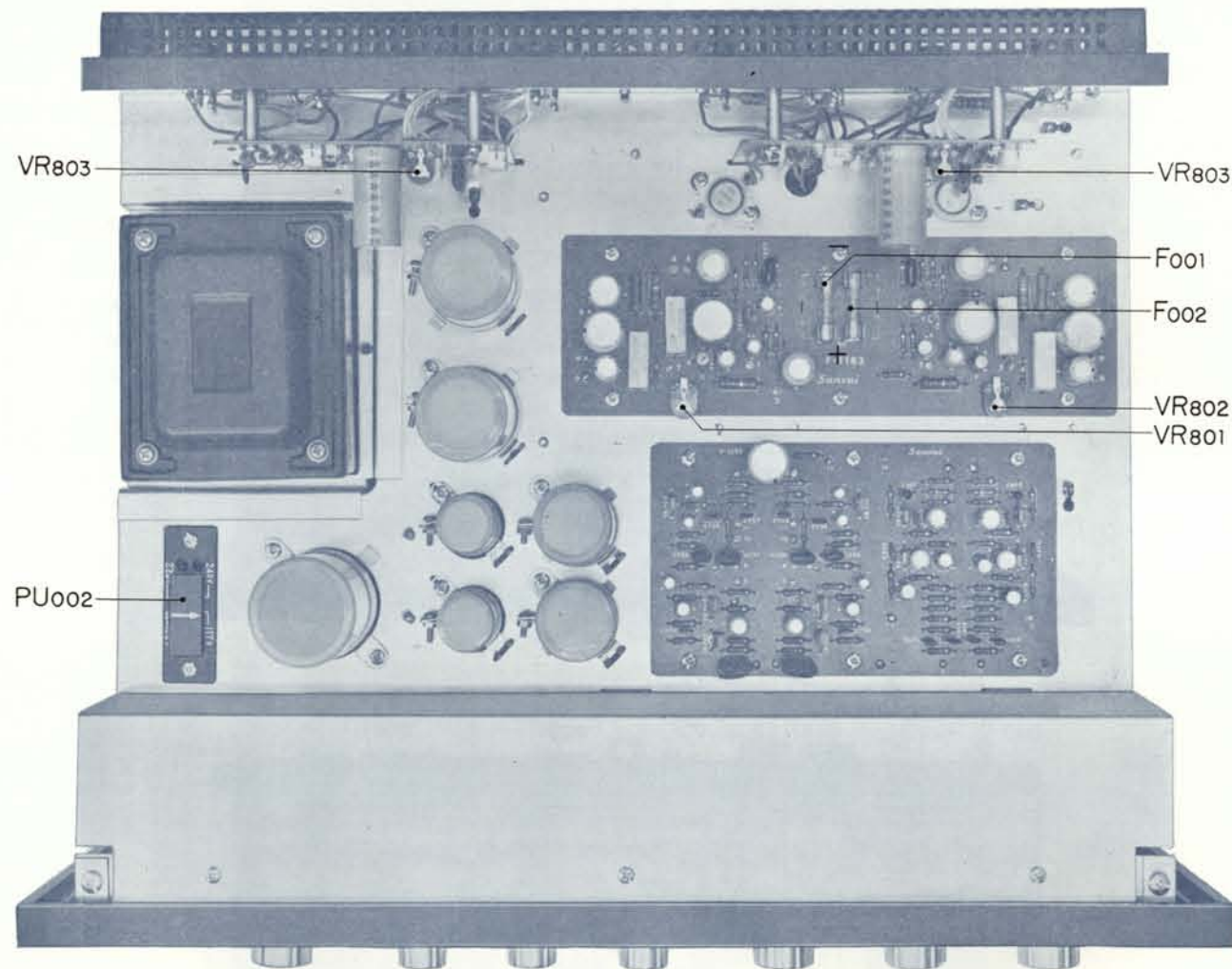
# PARTS LAYOUT



# BLOCK AND LEVEL DIAGRAMS

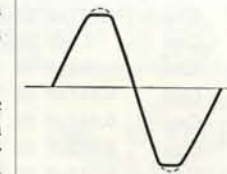


## TEST POINT



## MAIN-AMP SECTION OUTPUT ADJUSTMENT

| STEP | WHAT TO DO  | REMARKS  |
|------|---|--|
| 1.   | Set VOLUME control to minimum.  | Oscilloscope required: oscillation frequency of 20 to 20,000Hz and output voltage of more than 200mV.  |
| 2.   | Set oscillator to 1,000Hz and connect it to AUX 2 of channel L.   |  |
| 3.   | Set SELECTOR switch to AUX 2  | When measuring, BALANCE control to mid-position, TAPE MONITOR switch to SOURCE, MODE switches to STEREO, TONE controls to DEFEAT and other accessory switches to OFF position. |
| 4.   | Connect a 8-ohm (or 16-ohm) load resistor (minimum rating of 50 watts) to SYSTEM A LEFT speaker terminal.                         |  |
| 5.   | Set SPEAKER selector switch to SYSTEM A.  |  |
| 6.   | Connect oscilloscope to speaker terminal.   |  |
| 7.   | Turn POWER switch ON; turn VOLUME control clockwise little by little; and check output at speaker terminal by using oscilloscope. |  |
| 8.   | Adjust VR <sub>801</sub> so that both crests of output wave form are clipped.   |  |
|      | For channel R, follow same procedure as above. In Step 8, adjust VR <sub>802</sub> for clipped crests of output wave.             |  |



## MAIN-AMP SECTION CURRENT ADJUSTMENT

| STEP | AMMETER (TESTER)    | WHAT TO DO  | REMARKS   |
|------|---------------------|---|---|
| 1.   |                     | Remove F <sub>001</sub> and F <sub>002</sub> .  | Ammeter required: 100mA or 50mA range                     |
| 2.   |                     | Set VR <sub>803</sub> to minimum clockwise position.  |   |
| 3.   |                     | Turn POWER switch ON.   |   |
| 4.   | Set to 100mA range. | Set ammeter in place of F <sub>001</sub> . Connect its ⊕ terminal to B <sub>0</sub> , and its ⊖ terminal to B <sub>1</sub> in schematic diagram.      | Be sure to turn POWER switch on and then connect ammeter. |
| 5.   |                     | Turn VR <sub>803</sub> and adjust current to 28~32mA.   |   |
| 6.   |                     | Turn POWER switch OFF and reset F <sub>001</sub> to its original position.  |   |
| 7.   | Set to 100mA range. | Turn POWER switch ON and set ammeter in place of F <sub>002</sub> . Connect its ⊕ terminal to B <sub>0</sub> , and its ⊖ terminal to B <sub>2</sub> . |   |
| 8.   |                     | Turn VR <sub>804</sub> and adjust current to 28~32mA.   |   |

# PRINTED CIRCUIT SHEETS AND PARTS LIST

X: Parts No Y: Parts Name Z: Position of Parts

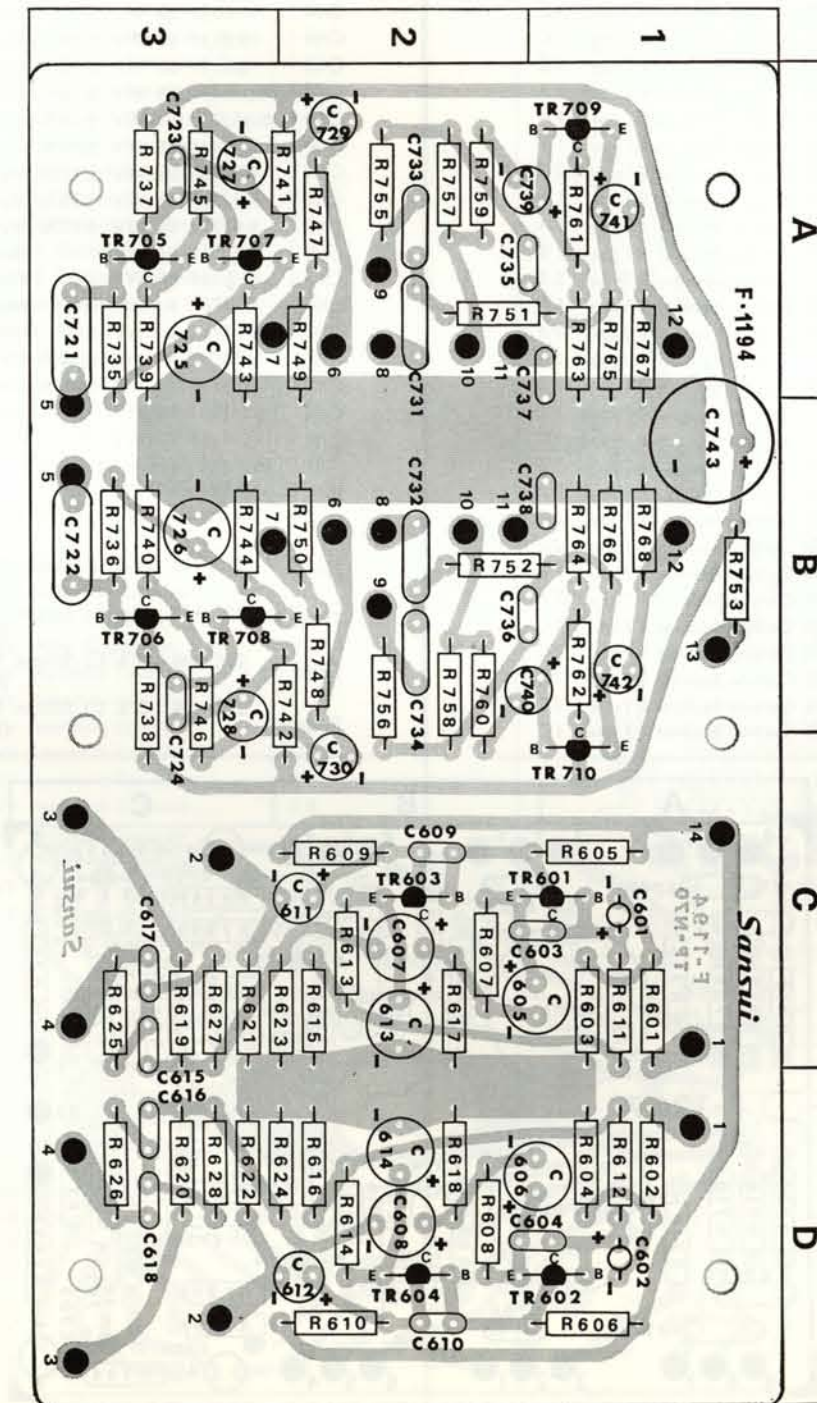
## HEAD PRE-AMP. BLOCK (F-1194)

| X    | Y                                    | Z   |
|------|--------------------------------------|-----|
| R601 | 2.2kΩ ¼W ±10% Carbon Resistor R Type | 1 C |
| R602 | 2.2kΩ ¼W ±10% Carbon Resistor R Type | 1 D |
| R603 | 680kΩ ¼W ±10% Carbon Resistor R Type | 1 C |
| R604 | 680kΩ ¼W ±10% Carbon Resistor R Type | 1 D |
| R605 | 100kΩ ¼W ±10% Carbon Resistor R Type | 1 C |
| R606 | 100kΩ ¼W ±10% Carbon Resistor R Type | 1 D |
| R607 | 1.8kΩ ¼W ±10% Carbon Resistor R Type | 2 C |
| R608 | 1.8kΩ ¼W ±10% Carbon Resistor R Type | 2 D |
| R609 | 6.8kΩ ¼W ±10% Carbon Resistor R Type | 2 C |
| R610 | 6.8kΩ ¼W ±10% Carbon Resistor R Type | 2 D |
| R611 | 390kΩ ¼W ±10% Carbon Resistor R Type | 1 C |
| R612 | 390kΩ ¼W ±10% Carbon Resistor R Type | 1 D |
| R613 | 220Ω ¼W ±10% Carbon Resistor R Type  | 2 C |
| R614 | 220Ω ¼W ±10% Carbon Resistor R Type  | 2 D |
| R615 | 680Ω ¼W ±10% Carbon Resistor R Type  | 2 C |
| R616 | 680Ω ¼W ±10% Carbon Resistor R Type  | 2 D |
| R617 | 470Ω ¼W ±10% Carbon Resistor R Type  | 2 C |
| R618 | 470Ω ¼W ±10% Carbon Resistor R Type  | 2 D |
| R619 | 18kΩ ¼W ±10% Carbon Resistor R Type  | 3 C |
| R620 | 18kΩ ¼W ±10% Carbon Resistor R Type  | 3 D |
| R621 | 82kΩ ¼W ±10% Carbon Resistor R Type  | 3 C |
| R622 | 82kΩ ¼W ±10% Carbon Resistor R Type  | 3 D |
| R623 | 4.7kΩ ¼W ±10% Carbon Resistor R Type | 3 C |
| R624 | 4.7kΩ ¼W ±10% Carbon Resistor R Type | 3 D |
| R625 | 22kΩ ¼W ±10% Carbon Resistor R Type  | 3 C |
| R626 | 22kΩ ¼W ±10% Carbon Resistor R Type  | 3 D |
| R627 | 270kΩ ¼W ±10% Carbon Resistor R Type | 3 C |
| R628 | 270kΩ ¼W ±10% Carbon Resistor R Type | 3 D |
| R735 | 470kΩ ¼W ±10% Carbon Resistor R Type | 3 A |
| R736 | 470kΩ ¼W ±10% Carbon Resistor R Type | 3 B |
| R737 | 47kΩ ¼W ±10% Carbon Resistor R Type  | 3 A |
| R738 | 47kΩ ¼W ±10% Carbon Resistor R Type  | 3 B |
| R739 | 1.5kΩ ¼W ±10% Carbon Resistor R Type | 3 A |
| R740 | 1.5kΩ ¼W ±10% Carbon Resistor R Type | 3 B |
| R741 | 5.6kΩ ¼W ±10% Carbon Resistor R Type | 2 A |
| R742 | 5.6kΩ ¼W ±10% Carbon Resistor R Type | 2 B |
| R743 | 1.5kΩ ¼W ±10% Carbon Resistor R Type | 3 A |
| R744 | 1.5kΩ ¼W ±10% Carbon Resistor R Type | 3 B |
| R745 | 27kΩ ¼W ±10% Carbon Resistor R Type  | 3 A |
| R746 | 27kΩ ¼W ±10% Carbon Resistor R Type  | 3 B |
| R747 | 47kΩ ¼W ±10% Carbon Resistor R Type  | 2 A |
| R748 | 47kΩ ¼W ±10% Carbon Resistor R Type  | 2 B |
| R749 | 5.6kΩ ¼W ±10% Carbon Resistor R Type | 2 A |
| R750 | 5.6kΩ ¼W ±10% Carbon Resistor R Type | 2 B |
| R751 | 22kΩ ¼W ±10% Carbon Resistor R Type  | 2 A |
| R752 | 22kΩ ¼W ±10% Carbon Resistor R Type  | 2 B |
| R753 | 4.7kΩ 1 W ±10% Metal Film Resistor   | 1 B |
| R755 | 1.2kΩ ¼W ±10% Carbon Resistor R Type | 2 A |
| R756 | 1.2kΩ ¼W ±10% Carbon Resistor R Type | 2 B |
| R757 | 3.3kΩ ¼W ±10% Carbon Resistor R Type | 2 A |
| R758 | 3.3kΩ ¼W ±10% Carbon Resistor R Type | 2 B |
| R759 | 1kΩ ¼W ±10% Carbon Resistor R Type   | 2 A |
| R760 | 1kΩ ¼W ±10% Carbon Resistor R Type   | 2 B |
| R761 | 100kΩ ¼W ±10% Carbon Resistor R Type | 1 A |
| R762 | 100kΩ ¼W ±10% Carbon Resistor R Type | 1 B |
| R763 | 180kΩ ¼W ±10% Carbon Resistor R Type | 1 A |
| R764 | 180kΩ ¼W ±10% Carbon Resistor R Type | 1 B |

| X     | Y  | Z   |
|-------|--|-----|
| R765  | 3.3kΩ ¼W ±10% Carbon Resistor R Type           | 1 A |
| R766  | 3.3kΩ ¼W ±10% Carbon Resistor R Type           | 1 B |
| R767  | 47kΩ ¼W ±10% Carbon Resistor R Type            | 1 A |
| R768  | 47kΩ ¼W ±10% Carbon Resistor R Type            | 1 B |
| C601  | 1.5μF 16 WV Tantalum Capacitor                 | 1 C |
| C602  | 1.5μF 16 WV Tantalum Capacitor                 | 1 D |
| C603  | 150 pF 50 WV ±10% Ceramic Capacitor            | 1 C |
| C604  | 150 pF 50 WV ±10% Ceramic Capacitor            | 1 D |
| C605  | 33μF 10 WV Electrolytic Capacitor              | 1 C |
| C606  | 33μF 10 WV Electrolytic Capacitor              | 1 D |
| C607  | 33μF 10 WV Electrolytic Capacitor              | 2 C |
| C608  | 33μF 10 WV Electrolytic Capacitor              | 2 D |
| C609  | 150 pF 50 WV ±10% Ceramic Capacitor            | 2 C |
| C610  | 150 pF 50 WV ±10% Ceramic Capacitor            | 2 D |
| C611  | 10μF 25 WV Electrolytic Capacitor              | 2 C |
| C612  | 10μF 25 WV Electrolytic Capacitor              | 2 D |
| C613  | 10μF 10 WV Electrolytic Capacitor              | 2 C |
| C614  | 10μF 10 WV Electrolytic Capacitor              | 2 D |
| C615  | 0.012μF 50 WV ±10% Mylar Capacitor             | 3 C |
| C616  | 0.012μF 50 WV ±10% Mylar Capacitor             | 3 D |
| C617  | 0.0033μF 50 WV ±10% Mylar Capacitor            | 3 C |
| C618  | 0.0033μF 50 WV ±10% Mylar Capacitor            | 3 D |
| C721  | 0.22μF 50 WV ±10% Mylar Capacitor              | 3 A |
| C722  | 0.22μF 50 WV ±10% Mylar Capacitor              | 3 B |
| C723  | 33 pF 50 WV ±10% Ceramic Capacitor             | 3 A |
| C724  | 33 pF 50 WV ±10% Ceramic Capacitor             | 3 B |
| C725  | 47μF 6.3 WV Electrolytic Capacitor             | 3 A |
| C726  | 47μF 6.3 WV Electrolytic Capacitor             | 3 B |
| C727  | 10μF 25 WV Electrolytic Capacitor              | 3 A |
| C728  | 10μF 25 WV Electrolytic Capacitor              | 3 B |
| C729  | 1μF 50 WV Electrolytic Capacitor               | 2 A |
| C730  | 1μF 50 WV Electrolytic Capacitor               | 2 C |
| C731  | 0.1μF 50 WV ±10% Mylar Capacitor               | 2 A |
| C732  | 0.1μF 50 WV ±10% Mylar Capacitor               | 2 B |
| C733  | 0.047μF 50 WV ±10% Mylar Capacitor             | 2 A |
| C734  | 0.047μF 50 WV ±10% Mylar Capacitor             | 2 B |
| C735  | 0.015μF 50 WV ±10% Mylar Capacitor             | 2 A |
| C736  | 0.015μF 50 WV ±10% Mylar Capacitor             | 2 B |
| C737  | 0.006μF 50 WV ±10% Mylar Capacitor             | 1 A |
| C738  | 0.006μF 50 WV ±10% Mylar Capacitor             | 1 B |
| C739  | 1μF 50 WV Electrolytic Capacitor               | 2 A |
| C740  | 1μF 50 WV Electrolytic Capacitor               | 2 B |
| C741  | 3.3μF 25 WV Electrolytic Capacitor             | 1 A |
| C742  | 3.3μF 25 WV Electrolytic Capacitor             | 1 B |
| C743  | 470μF 25 WV Electrolytic Capacitor             | 1 B |
| TR601 | 2SC-458LG(B,C) Silicon Transistor (030531-0,1) | 1 C |
| TR602 | 2SC-458LG(B,C) Silicon Transistor (030531-0,1) | 1 D |
| TR603 | 2SC-458LGⓄ Silicon Transistor (030531-1)       | 2 C |
| TR604 | 2SC-458LGⓄ Silicon Transistor (030531-1)       | 2 D |
| TR705 | 2SC-458LG(B,C) Silicon Transistor (030531-0,1) | 3 A |
| TR706 | 2SC-458LG(B,C) Silicon Transistor (030531-0,1) | 3 B |

| X     | Y  | Z   |
|-------|--|-----|
| TR707 | 2SC-458LG(B,C) Silicon Transistor (030531-0,1) | 3 A |
| TR708 | 2SC-458LG(B,C) Silicon Transistor (030531-0,1) | 3 B |

| X     | Y  | Z   |
|-------|--|-----|
| TR709 | 2SC-458LG(B,C) Silicon Transistor (030531-0,1) | 1 A |
| TR710 | 2SC-458LG(B,C) Silicon Transistor (030531-0,1) | 1 C |



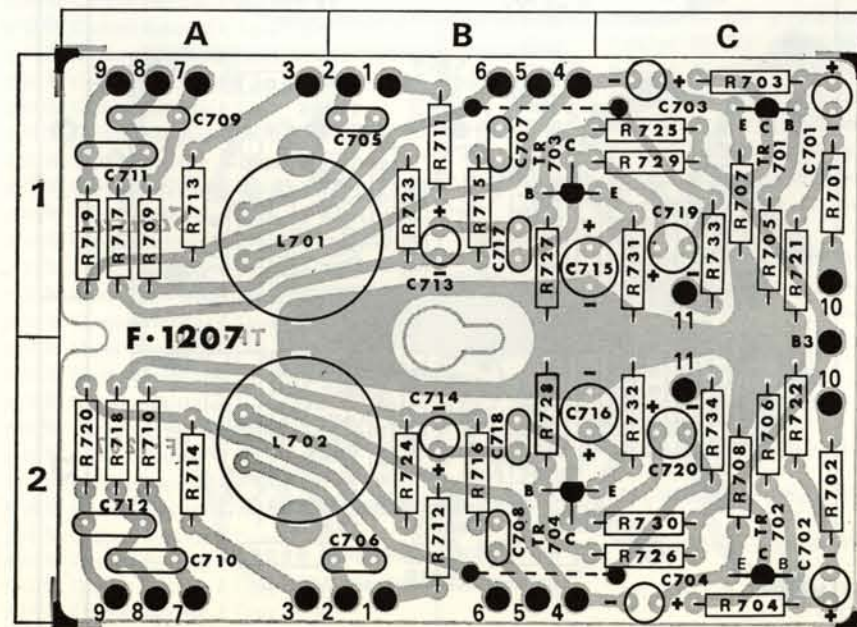
# PRINTED CIRCUIT SHEETS AND PARTS LIST

X: Parts No Y: Parts Name Z: Position of Parts

## TONE CONTROL AMP. BLOCK (F-1207)

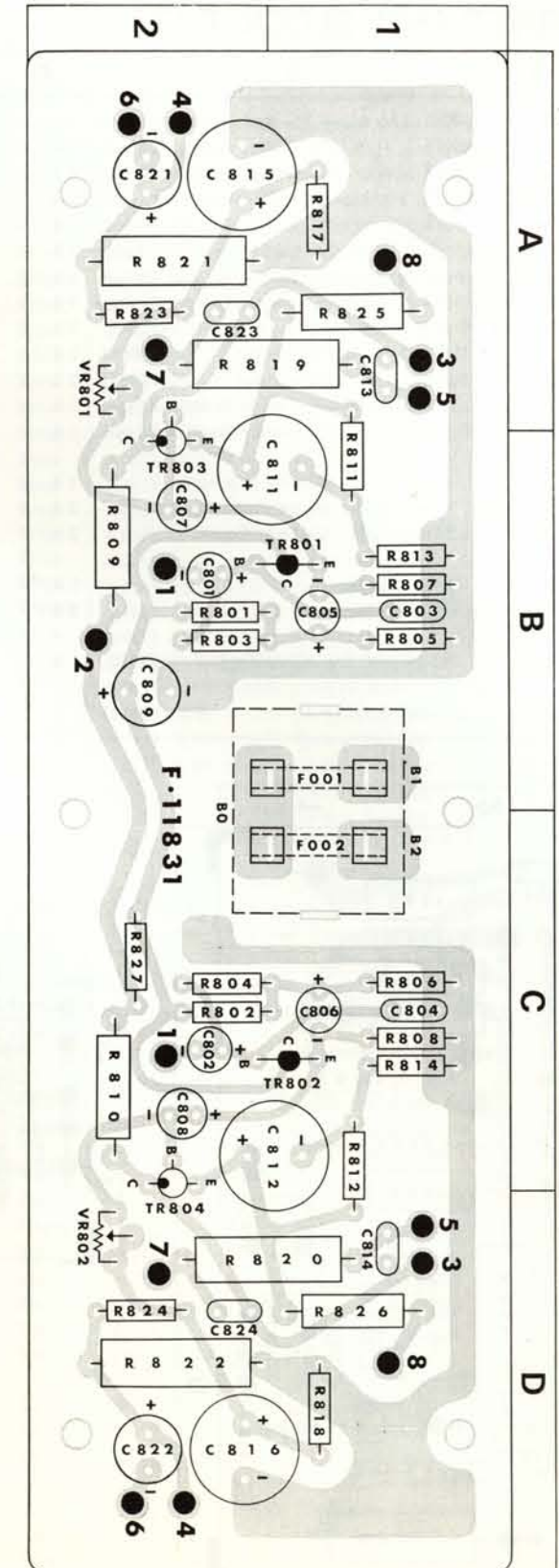
| X    | Y                                    | Z   |
|------|--------------------------------------|-----|
| R701 | 2.2kΩ ¼W ±10% Carbon Resistor R Type | 1 C |
| R702 | 2.2kΩ ¼W ±10% Carbon Resistor R Type | 2 C |
| R703 | 220kΩ ¼W ±10% Carbon Resistor R Type | 1 C |
| R704 | 220kΩ ¼W ±10% Carbon Resistor R Type | 2 C |
| R705 | 680kΩ ¼W ±10% Carbon Resistor R Type | 1 C |
| R706 | 680kΩ ¼W ±10% Carbon Resistor R Type | 2 C |
| R707 | 8.2kΩ ¼W ±10% Carbon Resistor R Type | 1 C |
| R708 | 8.2kΩ ¼W ±10% Carbon Resistor R Type | 2 C |
| R709 | 4.7kΩ ¼W ±10% Carbon Resistor R Type | 1 A |
| R710 | 4.7kΩ ¼W ±10% Carbon Resistor R Type | 2 A |
| R711 | 10kΩ ¼W ±10% Carbon Resistor R Type  | 1 B |
| R712 | 10kΩ ¼W ±10% Carbon Resistor R Type  | 2 B |
| R713 | 10kΩ ¼W ±10% Carbon Resistor R Type  | 1 A |
| R714 | 10kΩ ¼W ±10% Carbon Resistor R Type  | 2 A |
| R715 | 3.3kΩ ¼W ±10% Carbon Resistor R Type | 1 B |
| R716 | 3.3kΩ ¼W ±10% Carbon Resistor R Type | 2 B |
| R717 | 10kΩ ¼W ±10% Carbon Resistor R Type  | 1 A |
| R718 | 10kΩ ¼W ±10% Carbon Resistor R Type  | 2 A |
| R719 | 4.7kΩ ¼W ±10% Carbon Resistor R Type | 1 A |
| R720 | 4.7kΩ ¼W ±10% Carbon Resistor R Type | 2 A |
| R721 | 470kΩ ¼W ±10% Carbon Resistor R Type | 1 C |
| R722 | 470kΩ ¼W ±10% Carbon Resistor R Type | 2 C |
| R723 | 10kΩ ¼W ±10% Carbon Resistor R Type  | 1 B |
| R724 | 10kΩ ¼W ±10% Carbon Resistor R Type  | 2 B |
| R725 | 560kΩ ¼W ±10% Carbon Resistor R Type | 1 C |
| R726 | 560kΩ ¼W ±10% Carbon Resistor R Type | 2 C |
| R727 | 330kΩ ¼W ±10% Carbon Resistor R Type | 1 B |
| R728 | 330kΩ ¼W ±10% Carbon Resistor R Type | 2 B |
| R729 | 5.6kΩ ¼W ±10% Carbon Resistor R Type | 1 C |
| R730 | 5.6kΩ ¼W ±10% Carbon Resistor R Type | 2 C |
| R731 | 3.3kΩ ¼W ±10% Carbon Resistor R Type | 1 C |
| R732 | 3.3kΩ ¼W ±10% Carbon Resistor R Type | 2 C |
| R733 | 5.6kΩ ¼W ±10% Carbon Resistor R Type | 1 C |

| X     | Y  | Z   |
|-------|--|-----|
| R734  | 5.6kΩ ¼W ±10% Carbon Resistor R Type             | 2 C |
| C701  | 1μF 50 WV Electrolytic Capacitor                 | 1 C |
| C702  | 1μF 50 WV Electrolytic Capacitor                 | 2 C |
| C703  | 10μF 25 WV Electrolytic Capacitor                | 1 C |
| C704  | 10μF 25 WV Electrolytic Capacitor                | 2 C |
| C705  | 0.01μF 50 WV ±10% Mylar Capacitor                | 1 B |
| C706  | 0.01μF 50 WV ±10% Mylar Capacitor                | 2 B |
| C707  | 0.0022μF 50 WV ±10% Mylar Capacitor              | 1 B |
| C708  | 0.0022μF 50 WV ±10% Mylar Capacitor              | 2 B |
| C709  | 0.068μF 50 WV ±10% Mylar Capacitor               | 1 A |
| C710  | 0.068μF 50 WV ±10% Mylar Capacitor               | 2 A |
| C711  | 0.068μF 50 WV ±10% Mylar Capacitor               | 1 A |
| C712  | 0.068μF 50 WV ±10% Mylar Capacitor               | 2 A |
| C713  | 3.3μF 25 WV Electrolytic Capacitor               | 1 B |
| C714  | 3.3μF 25 WV Electrolytic Capacitor               | 2 B |
| C715  | 47μF 6.3 WV Electrolytic Capacitor               | 1 B |
| C716  | 47μF 6.3 WV Electrolytic Capacitor               | 2 B |
| C717  | 47pF 50 WV ±10% Ceramic Capacitor                | 1 B |
| C718  | 47pF 50 WV ±10% Ceramic Capacitor                | 2 B |
| C719  | 10μF 25 WV Electrolytic Capacitor                | 1 C |
| C720  | 10μF 25 WV Electrolytic Capacitor                | 2 C |
| L701  | 0.8H Choke Coil (401003)                         | 1 A |
| L702  | 0.8H Choke Coil (401003)                         | 2 A |
| TR701 | 2SC-458 LG(B, C) Silicon Transistor (030531-0,1) | 1 C |
| TR702 | 2SC-458 LG(B, C) Silicon Transistor (030531-0,1) | 2 C |
| TR703 | 2SC-458 LG(B, C) Silicon Transistor (030531-0,1) | 1 B |
| TR704 | 2SC-458 LG(B, C) Silicon Transistor (030531-0,1) | 2 B |



## DRIVER AMP. BLOCK (F-1183-1)

| X     | Y  | Z      |
|-------|--|--------|
| R801  | 47kΩ ¼W ±10% Carbon Resistor R Type            | 2 B    |
| R802  | 47kΩ ¼W ±10% Carbon Resistor R Type            | 2 C    |
| R803  | 47kΩ ¼W ±10% Carbon Resistor R Type            | 2 B    |
| R804  | 47kΩ ¼W ±10% Carbon Resistor R Type            | 2 C    |
| R805  | 47kΩ ¼W ±10% Carbon Resistor R Type            | 1 B    |
| R806  | 47kΩ ¼W ±10% Carbon Resistor R Type            | 1 C    |
| R807  | 8.2kΩ ¼W ±10% Carbon Resistor R Type           | 1 B    |
| R808  | 8.2kΩ ¼W ±10% Carbon Resistor R Type           | 1 C    |
| R809  | 2.2kΩ ½W ±10% Carbon Resistor RD Type          | 2 B    |
| R810  | 2.2kΩ ½W ±10% Carbon Resistor RD Type          | 2 C    |
| R811  | 100Ω ¼W ±10% Carbon Resistor R Type            | 1 B    |
| R812  | 100Ω ¼W ±10% Carbon Resistor R Type            | 1 C    |
| R813  | 22Ω ¼W ±10% Carbon Resistor R Type             | 1 B    |
| R814  | 22Ω ¼W ±10% Carbon Resistor R Type             | 1 C    |
| R817  | 10kΩ ¼W ±10% Carbon Resistor R Type            | 2 A    |
| R818  | 10kΩ ¼W ±10% Carbon Resistor R Type            | 2 D    |
| R819  | 100Ω 3 W Cement Resistor (012033)              | 1, 2 A |
| R820  | 100Ω 3 W Cement Resistor (012033)              | 1, 2 D |
| R821  | 100Ω 3 W Cement Resistor (012033)              | 2 A    |
| R822  | 100Ω 3 W Cement Resistor (012033)              | 2 D    |
| R823  | 10kΩ ¼W ±10% Carbon Resistor R Type            | 2 A    |
| R824  | 10kΩ ¼W ±10% Carbon Resistor R Type            | 2 D    |
| R825  | 330Ω ½W ±10% Carbon Resistor RD Type           | 1 A    |
| R826  | 330Ω ½W ±10% Carbon Resistor RD Type           | 1 D    |
| R827  | 6.8kΩ ¼W ±10% Carbon Resistor R Type           | 2 C    |
| C801  | 10μF 10 WV Electrolytic Capacitor              | 2 B    |
| C802  | 10μF 10 WV Electrolytic Capacitor              | 2 C    |
| C803  | 470pF 50 WV Mica Capacitor                     | 1 B    |
| C804  | 470pF 50 WV Mica Capacitor                     | 1 C    |
| C805  | 10μF 25 WV Electrolytic Capacitor              | 1 B    |
| C806  | 10μF 25 WV Electrolytic Capacitor              | 1 C    |
| C807  | 3.3μF 15 WV Electrolytic Capacitor             | 2 B    |
| C808  | 3.3μF 15 WV Electrolytic Capacitor             | 2 C    |
| C809  | 47μF 50 WV Electrolytic Capacitor              | 2 B    |
| C811  | 1000μF 6.3 WV Electrolytic Capacitor           | 1 B    |
| C812  | 1000μF 6.3 WV Electrolytic Capacitor           | 1 C    |
| C815  | 1000μF 6.3 WV Electrolytic Capacitor           | 2 A    |
| C816  | 1000μF 6.3 WV Electrolytic Capacitor           | 2 D    |
| C821  | 100μF 25 WV Electrolytic Capacitor             | 2 A    |
| C822  | 100μF 25 WV Electrolytic Capacitor             | 2 D    |
| VR801 | 50kΩ(B) AC Balance ADJUSTMENT (103020)         | 2 A    |
| VR802 | 50kΩ(B) AC Balance ADJUSTMENT (103020)         | 2 D    |
| TR801 | 2SC-458LG(B,C) Silicon Transistor (030531-0,1) | 1 B    |
| TR802 | 2SC-458LG(B,C) Silicon Transistor (030531-0,1) | 1 C    |
| TR803 | 2SC-283 Silicon Transistor (030513)            | 2 A    |
| TR804 | 2SC-283 Silicon Transistor (030513)            | 2 D    |
| F001  | 2A Quick Acting Fuse (043008)                  | 1 B    |
| F002  | 2A Quick Acting Fuse (043008)                  | 1 C    |



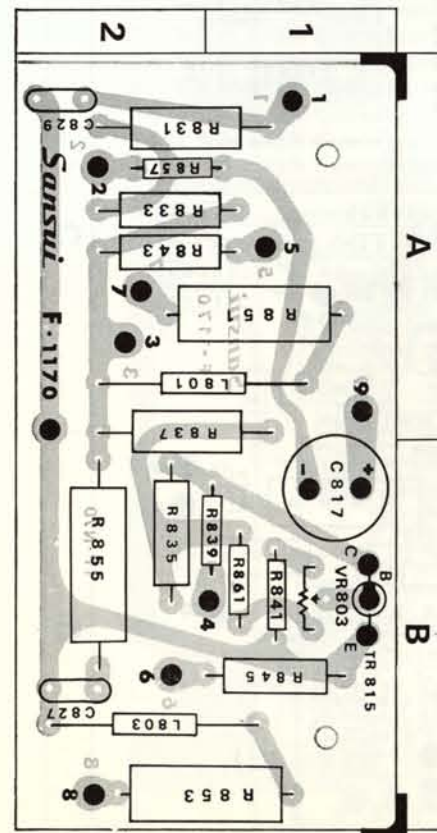


# PRINTED CIRCUIT SHEETS AND PARTS LIST

X: Parts No Y: Parts Name Z: Position of Parts

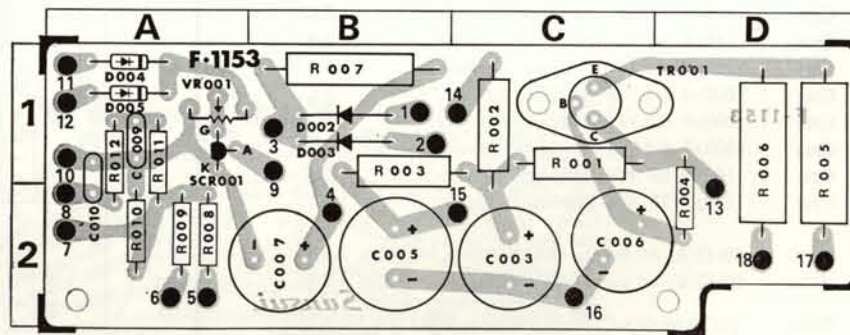
## DRIVER AMP. BLOCK (F-1170)

| X     | Y                                    | Z   |
|-------|--------------------------------------|-----|
| R831  | 3.9kΩ 2 W Metal Film Resistor        | 1 A |
| R833  | 150Ω ½W ±10% Carbon Resistor RD Type | 1 A |
| R835  | 33Ω ½W ±10% Carbon Resistor RD Type  | 2 B |
| R837  | 3.9kΩ 2 W Metal Film Resistor        | 1 A |
| R839  | 150Ω ¼W ±10% Carbon Resistor R Type  | 1 B |
| R841  | 3.3kΩ ¼W ±10% Carbon Resistor R Type | 1 B |
| R843  | 100Ω ½W ±10% Carbon Resistor RD Type | 1 A |
| R845  | 100Ω ½W ±10% Carbon Resistor RD Type | 1 B |
| R851  | 0.5Ω 2 W Cement Resistor (012049)    | 1 A |
| R853  | 0.5Ω 2 W Cement Resistor (012049)    | 1 B |
| R855  | 6.8Ω 3 W Cement Resistor (012031)    | 2 B |
| R857  | 33Ω ¼W ±10% Carbon Resistor R Type   | 1 A |
| R861  | 3.3Ω ¼W ±10% Carbon Resistor R Type  | 1 B |
| C817  | 470μF 35 WV Electrolytic Capacitor   | 1 B |
| C827  | 0.1μF 50 WV Mylar Capacitor          | 2 B |
| C829  | 0.01μF 250WV Ceramic Capacitor       | 2 A |
| L801  | 0.8μH Choke                          | 1 A |
| L803  | 0.8μH Choke                          | 2 B |
| VR803 | 1kΩ(B) DC Bias ADJUSTMENT (103053)   | 1 B |
| TR815 | 2SC-281(B, C) (030512-1,2)           | 1 B |



## POWER & PROTECTOR BLOCK (F-1153)

| X      | Y  | Z   |
|--------|--|-----|
| R001   | 1.5kΩ ½W Carbon Resistor RD Type             | 1 C |
| R002   | 3.9kΩ ½W Carbon Resistor RD Type             | 1 C |
| R003   | 1kΩ ½W Carbon Resistor RD Type               | 1 B |
| R004   | 1kΩ ¼W Carbon Resistor R Type                | 2 D |
| R005   | 220Ω 5 W Cement Resistor                     | 1 D |
| R006   | 220Ω 5 W Cement Resistor                     | 1 D |
| R007   | 330Ω 3 W Cement Resistor                     | 1 B |
| R008   | 2.2kΩ ¼W Carbon Resistor R Type              | 2 A |
| R009   | 2.2kΩ ¼W Carbon Resistor R Type              | 2 A |
| R010   | 4.7kΩ ¼W Carbon Resistor R Type              | 2 A |
| R011   | 10kΩ ¼W Carbon Resistor R Type               | 1 A |
| R012   | 10kΩ ¼W Carbon Resistor R Type               | 1 A |
| C003   | 220μF 50 WV Electrolytic Capacitor           | 2 C |
| C005   | 470μF 35 WV Electrolytic Capacitor           | 2 B |
| C006   | 200μF 75 WV Electrolytic Capacitor           | 2 C |
| C007   | 220μF 50 WV Electrolytic Capacitor           | 2 B |
| C009   | 0.068μF 50 WV Mylar Capacitor                | 1 A |
| C010   | 0.033μF 50 WV Mylar Capacitor                | 1 A |
| VR001  | 2kΩ(B) PROTECTOR Circuit ADJUSTMENT (103039) | 1 A |
| SCR001 | 2SF-656 SCR (035002)                         | 1 A |
| TR001  | 2SD-224 Silicon Transistor (030823)          | 1 C |
| D002   | 10D-1 Silicon Diode (031034)                 | 1 B |
| D003   | 10D-1 Silicon Diode (031034)                 | 1 B |
| D004   | 0A91 Germanium Diode (031011)                | 1 A |
| D005   | 0A91 Germanium Diode (031011)                | 1 A |



# OTHER PARTS CHART AND LIST

X: Parts No Y: Parts Name

## OTHER PARTS LIST

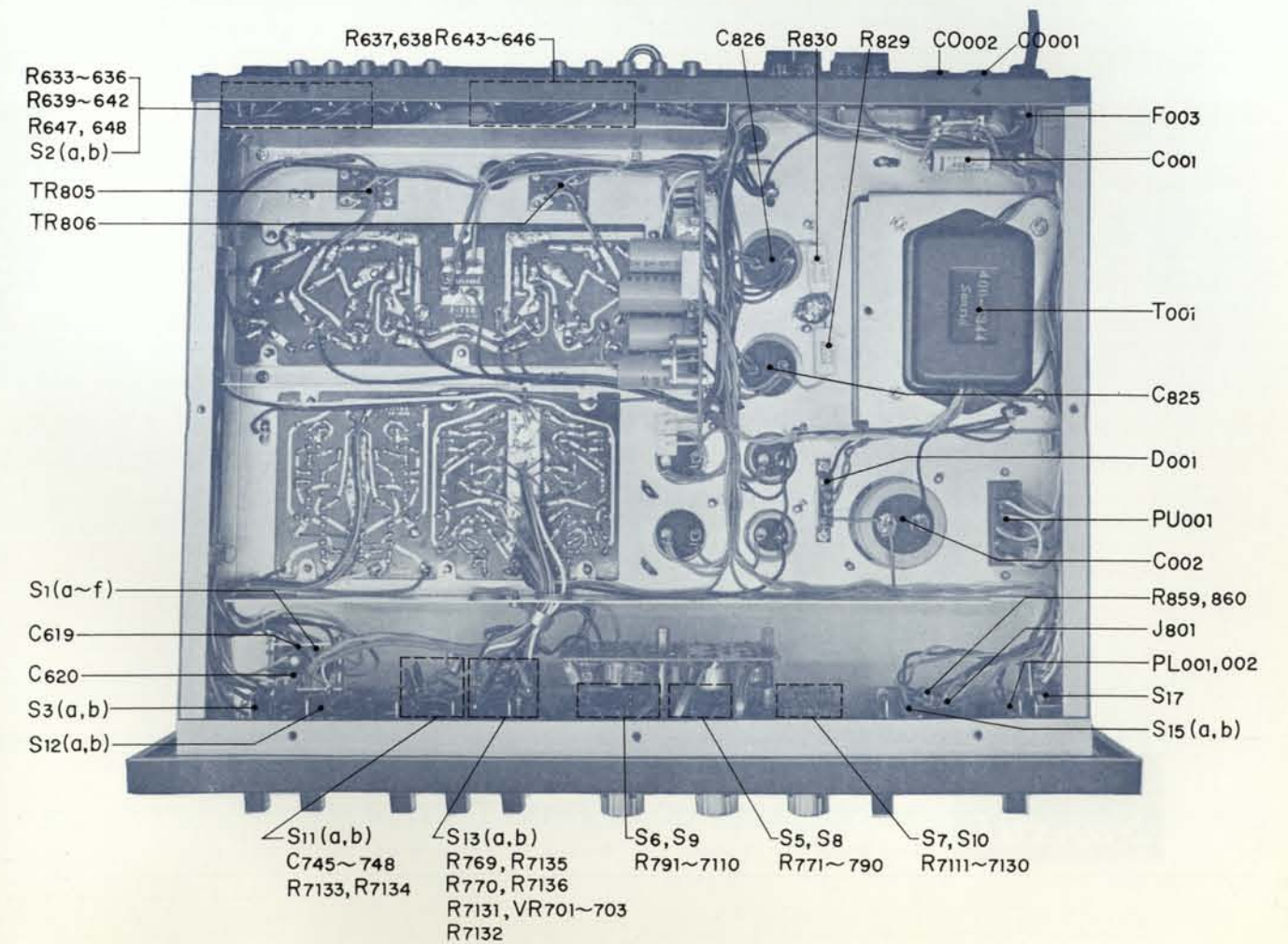
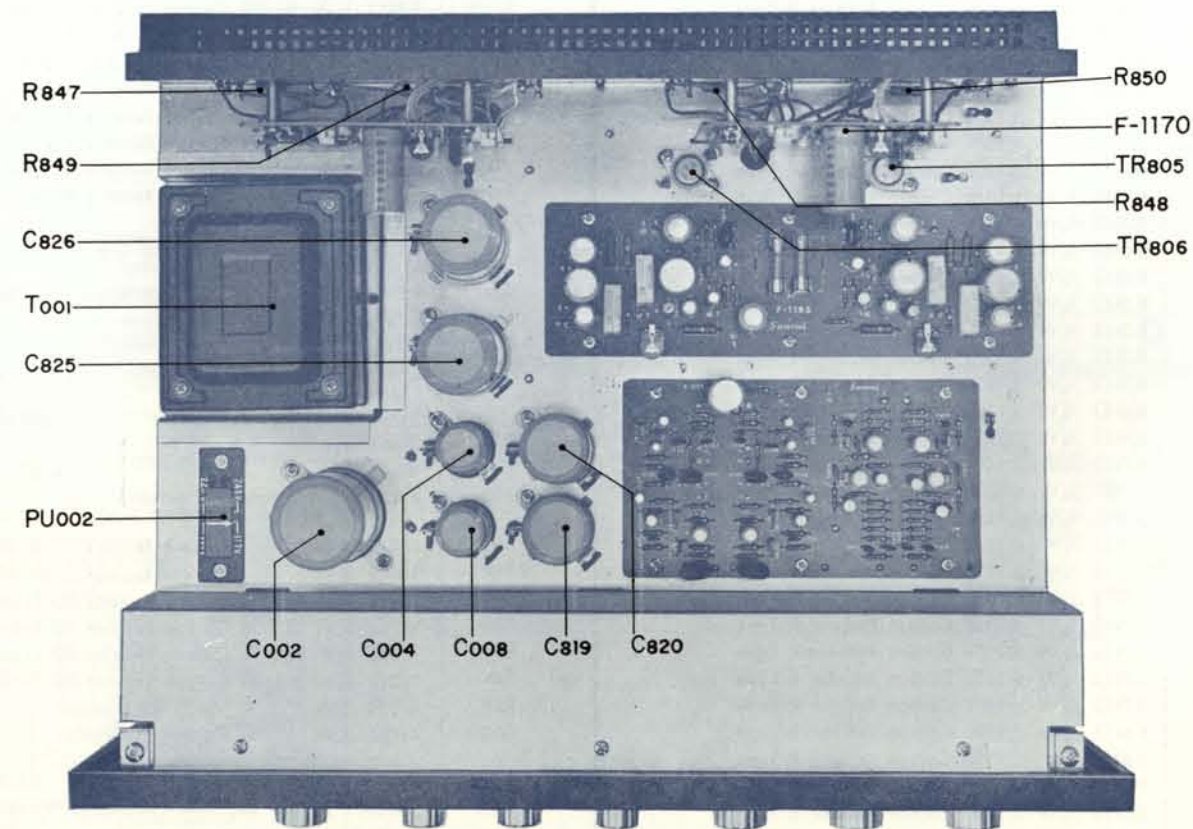
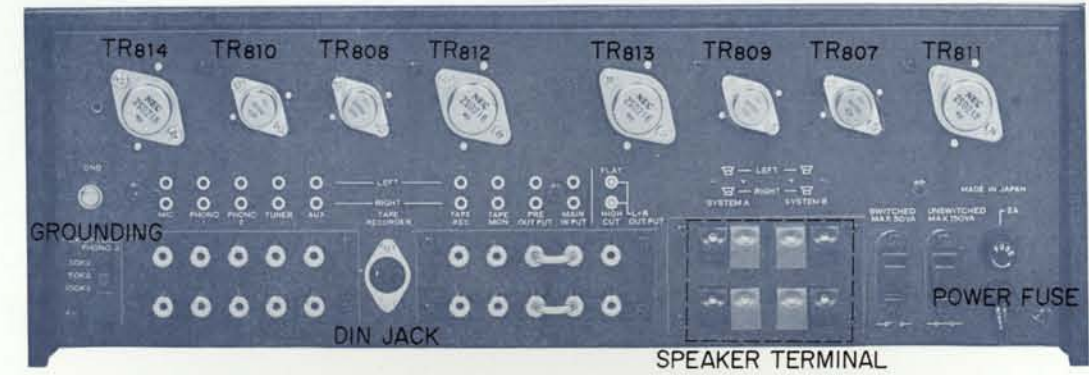
| X     | Y   |
|-------|---|
| R629  | 100Ω ¼W ±10% Carbon Resistor R Type           |
| R630  | 100Ω ¼W ±10% Carbon Resistor R Type           |
| R631  | 8.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R632  | 8.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R633  | 68kΩ ¼W ±10% Carbon Resistor R Type           |
| R634  | 68kΩ ¼W ±10% Carbon Resistor R Type           |
| R635  | 180kΩ ¼W ±10% Carbon Resistor R Type          |
| R636  | 180kΩ ¼W ±10% Carbon Resistor R Type          |
| R637  | 470kΩ ¼W ±10% Carbon Resistor R Type          |
| R638  | 470kΩ ¼W ±10% Carbon Resistor R Type          |
| R639  | 39kΩ ¼W ±10% Carbon Resistor R Type           |
| R640  | 39kΩ ¼W ±10% Carbon Resistor R Type           |
| R641  | 56kΩ ¼W ±10% Carbon Resistor R Type           |
| R642  | 56kΩ ¼W ±10% Carbon Resistor R Type           |
| R643  | 100kΩ ¼W ±10% Carbon Resistor R Type          |
| R644  | 100kΩ ¼W ±10% Carbon Resistor R Type          |
| R645  | 270kΩ ¼W ±10% Carbon Resistor R Type          |
| R646  | 270kΩ ¼W ±10% Carbon Resistor R Type          |
| R647  | 68kΩ ¼W ±10% Carbon Resistor R Type           |
| R648  | 68kΩ ¼W ±10% Carbon Resistor R Type           |
| R769  | 820kΩ ¼W ±10% Carbon Resistor R Type          |
| R770  | 820kΩ ¼W ±10% Carbon Resistor R Type          |
| R771  | 3.3kΩ ¼W ±10% Carbon Resistor R Type          |
| R772  | 3.3kΩ ¼W ±10% Carbon Resistor R Type          |
| R773  | 4.7kΩ ¼W ±10% Carbon Resistor R Type          |
| R774  | 4.7kΩ ¼W ±10% Carbon Resistor R Type          |
| R775  | 5.6kΩ ¼W ±10% Carbon Resistor R Type          |
| R776  | 5.6kΩ ¼W ±10% Carbon Resistor R Type          |
| R777  | 8.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R778  | 8.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R779  | 8.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R780  | 8.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R781  | 8.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R782  | 8.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R783  | 8.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R784  | 8.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R785  | 5.6kΩ ¼W ±10% Carbon Resistor R Type          |
| R786  | 5.6kΩ ¼W ±10% Carbon Resistor R Type          |
| R787  | 4.7kΩ ¼W ±10% Carbon Resistor R Type          |
| R788  | 4.7kΩ ¼W ±10% Carbon Resistor R Type          |
| R789  | 3.3kΩ ¼W ±10% Carbon Resistor R Type          |
| R790  | 3.3kΩ ¼W ±10% Carbon Resistor R Type          |
| R791  | 1.8kΩ ¼W ±10% Carbon Resistor R Type          |
| R792  | 1.8kΩ ¼W ±10% Carbon Resistor R Type          |
| R793  | 2.7kΩ ¼W ±10% Carbon Resistor R Type          |
| R794  | 2.7kΩ ¼W ±10% Carbon Resistor R Type          |
| R795  | 3.9kΩ ¼W ±10% Carbon Resistor R Type          |
| R796  | 3.9kΩ ¼W ±10% Carbon Resistor R Type          |
| R797  | 5.6kΩ ¼W ±10% Carbon Resistor R Type          |
| R798  | 5.6kΩ ¼W ±10% Carbon Resistor R Type          |
| R799  | 8.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R7100 | 8.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R7101 | 8.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R7102 | 8.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R7103 | 5.6kΩ ¼W ±10% Carbon Resistor R Type          |
| R7104 | 5.6kΩ ¼W ±10% Carbon Resistor R Type          |
| R7105 | 3.9kΩ ¼W ±10% Carbon Resistor R Type          |
| R7106 | 3.9kΩ ¼W ±10% Carbon Resistor R Type          |
| R7107 | 2.7kΩ ¼W ±10% Carbon Resistor R Type          |
| R7108 | 2.7kΩ ¼W ±10% Carbon Resistor R Type          |
| R7109 | 1.8kΩ ¼W ±10% Carbon Resistor R Type          |
| R7110 | 1.8kΩ ¼W ±10% Carbon Resistor R Type          |
| R7111 | 2.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R7112 | 2.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R7113 | 3.3kΩ ¼W ±10% Carbon Resistor R Type          |
| R7114 | 3.3kΩ ¼W ±10% Carbon Resistor R Type          |
| R7115 | 3.9kΩ ¼W ±10% Carbon Resistor R Type          |
| R7116 | 3.9kΩ ¼W ±10% Carbon Resistor R Type          |
| R7117 | 6.8kΩ ¼W ±10% Carbon Resistor R Type          |
| R7118 | 6.8kΩ ¼W ±10% Carbon Resistor R Type          |
| R7119 | 6.8kΩ ¼W ±10% Carbon Resistor R Type          |
| R7120 | 6.8kΩ ¼W ±10% Carbon Resistor R Type          |
| R7121 | 6.8kΩ ¼W ±10% Carbon Resistor R Type          |
| R7122 | 6.8kΩ ¼W ±10% Carbon Resistor R Type          |
| R7123 | 5.6kΩ ¼W ±10% Carbon Resistor R Type          |
| R7124 | 5.6kΩ ¼W ±10% Carbon Resistor R Type          |
| R7125 | 3.9kΩ ¼W ±10% Carbon Resistor R Type          |
| R7126 | 3.9kΩ ¼W ±10% Carbon Resistor R Type          |
| R7127 | 3.3kΩ ¼W ±10% Carbon Resistor R Type          |
| R7128 | 3.3kΩ ¼W ±10% Carbon Resistor R Type          |
| R7129 | 2.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R7130 | 2.2kΩ ¼W ±10% Carbon Resistor R Type          |
| R7131 | 820kΩ ¼W ±10% Carbon Resistor R Type          |
| R7132 | 820kΩ ¼W ±10% Carbon Resistor R Type          |
| R7133 | 6.8kΩ ¼W ±10% Carbon Resistor R Type          |
| R7134 | 6.8kΩ ¼W ±10% Carbon Resistor R Type          |
| C619  | 1μF 50WV Electrolytic Capacitor               |
| C620  | 1μF 50WV Electrolytic Capacitor               |
| C745  | 820 pF Styrol Capacitor                       |
| C746  | 820 pF Styrol Capacitor                       |
| C747  | 0.047μF 50WV Mylar Capacitor                  |
| C748  | 0.047μF Mylar Capacitor                       |
| VR701 | Three Gang Variable Resistor (105001)         |
| VR702 | 50kΩ(B) Volume Controls                       |
| VR703 | 50kΩ(W) Balance Control                       |
| R829  | 150Ω 5 W Cement Resistor (012052)             |
| R830  | 150Ω 5 W Cement Resistor (012052)             |
| R847  | 10Ω ½W ±10% Carbon Resistor RD Type           |
| R848  | 10Ω ½W ±10% Carbon Resistor RD Type           |
| R849  | 10Ω ½W ±10% Carbon Resistor RD Type           |
| R850  | 10Ω ½W ±10% Carbon Resistor RD Type           |
| R859  | 470Ω 2 W Metal Film Resistor                  |
| R860  | 470Ω 2 W Metal Film Resistor                  |
| C819  | 2200μF 35 WV Electrolytic Capacitor (020527)  |
| C820  | 2200μF 35 WV Electrolytic Capacitor (020527)  |
| C825  | 1000μF 6.3 WV Electrolytic Capacitor (020518) |
| C826  | 1000μF 6.3 WV Electrolytic Capacitor (020518) |
| C001  | 0.033μF 600 WV Oil Capacitor                  |
| C002  | 4000μF 80 WV Electrolytic Capacitor (020515)  |
| C004  | 1000μF 35 WV Electrolytic Capacitor (020528)  |

# OTHER PARTS CHART AND LIST

X: Parts No Y: Parts Name

| X     | Y  |
|-------|--|
| C008  | 470 $\mu$ F 50WV Electrolytic Capacitor (020525) |
| D001  | 5B-3 Silicon Diode (031066)                      |
| PL001 | 8V 0.15A Pilot Lamp (040005)                     |
| PL002 | 25V 90mA Protector Lamp (040007)                 |
| PU001 | Power Voltage Selector Socket (241008)           |
| PU002 | Power Voltage Selector Plug (241009)             |
| T001  | Power Transformer (400-5378 CSA)                 |
| F003  | 2A Fuse (043003)                                 |
| CO001 | AC Outlet (245001)                               |
| CO002 | AC Outlet (245001)                               |

| X        | Y                               |
|----------|---------------------------------|
| S1(a~f)  | Selector Switch (110319)        |
| S2(a,b)  | Pick-up Load Switch (111011)    |
| S3(a,b)  | Tape Monitor (117007)           |
| S4(a~c)  | Mode Switch (110113)            |
| S5       | Tone Control, Midrange (110115) |
| S6       | Tone Control, Treble (110112)   |
| S7       | Tone Control, Bass (110112)     |
| S8       | Tone Control, Midrange (110115) |
| S9       | Tone Control, Treble (110112)   |
| S10      | Tone Control, Bass (110112)     |
| S11(a,b) | Loudness (117003)               |
| S12(a,b) | Muting (117003)                 |
| S13(a,b) | Low Filter (117003)             |
| S14(a,b) | High Filter (117003)            |
| S15(a,b) | Balance Check (117003)          |
| S16(a~d) | Speaker Selector (110114)       |
| S17      | Power Switch (117005)           |





SANSUI ELECTRIC COMPANY LIMITED

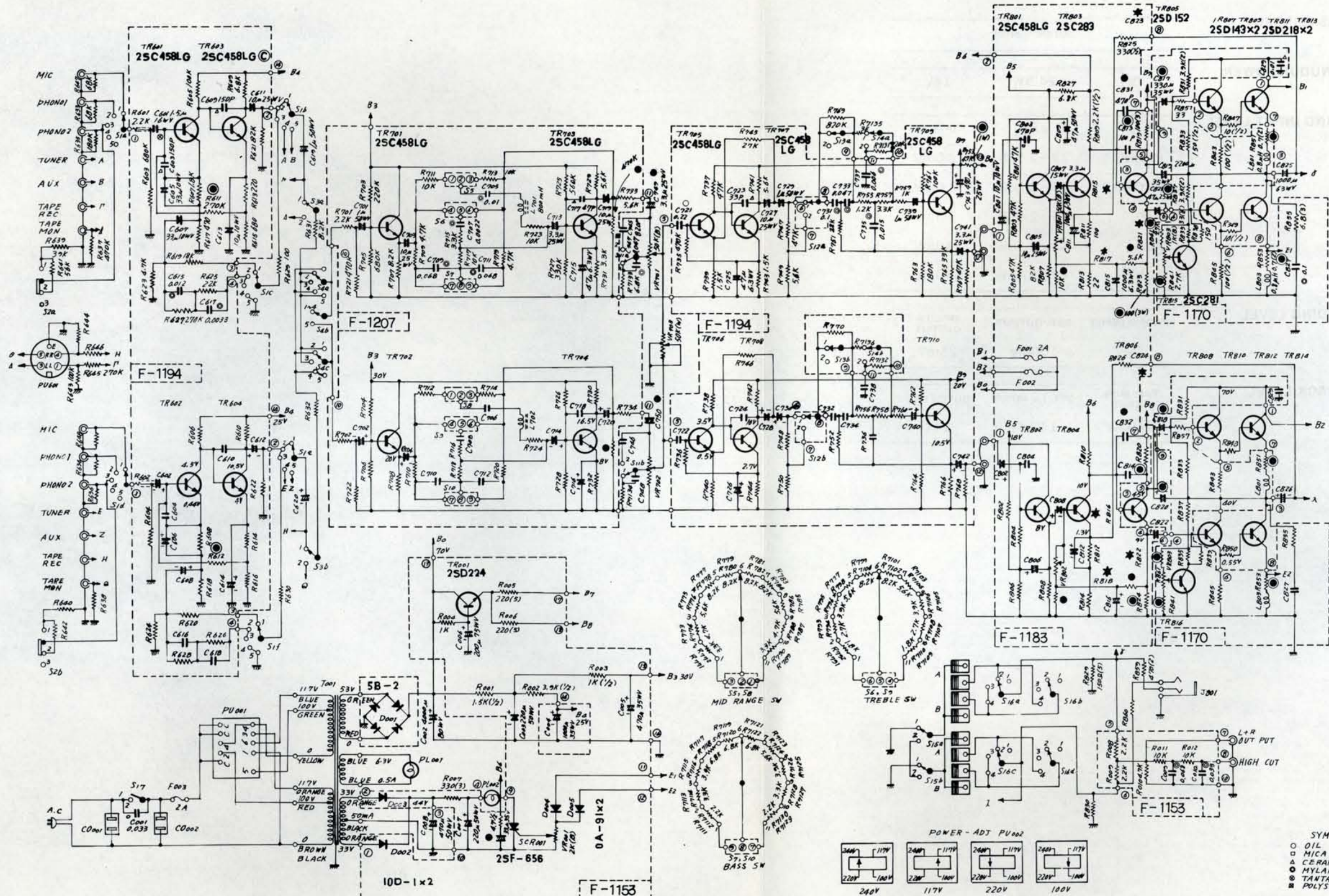
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Printed in Japan (31400M3)

# SANSUI AU-777A SCHEMATIC DIAGRAM

Sansui



VR 701, 702 VOLUME BALANCE  
VR 703

- S5, S8 MID RANGE SW
- 1-5 CUT
- 6 FLAT
- 7-11 BOOST
- S6, S9 TREBLE SW
- 1-5 CUT
- 6 FLAT
- 7-11 BOOST
- S7, S10 BASS SW
- 1-5 CUT
- 6 FLAT
- 7-11 BOOST

- |   |  |  |  |
|---|--|--|--|
| <ul style="list-style-type: none"> <li>S1(a-f) SELECTOR SW</li> <li>1 MIC</li> <li>2 PHONO1</li> <li>3 PHONO2</li> <li>4 TUNER</li> <li>5 AUX</li> <li>S2(a-b) PICK UP LOAD SW</li> <li>1 30 RD</li> <li>2 30 RD</li> <li>3 100 RD</li> </ul> | <ul style="list-style-type: none"> <li>S3(a-b) TAPE MONITOR SW</li> <li>1 SOURCE</li> <li>2 PLAY BACK</li> <li>S4(a-c) MODE SW</li> <li>1 STEREO REVERSE</li> <li>2 STEREO NORMAL</li> <li>3 MONO</li> <li>4 MONO L+R</li> <li>5 MONO L+R</li> </ul> | <ul style="list-style-type: none"> <li>S11(a-b) LOUDNESS SW</li> <li>1 OFF</li> <li>2 0dB</li> <li>S12(a-b) MUTING SW</li> <li>1 OFF</li> <li>2 -20dB</li> <li>S13(a-b) LOW FILTER SW</li> <li>1 OFF</li> <li>2 0dB</li> <li>S14(a-b) HIGH FILTER SW</li> <li>1 OFF</li> <li>2 ON</li> </ul> | <ul style="list-style-type: none"> <li>S15(a-b) BALANCE CHECK SW</li> <li>1 NORMAL</li> <li>2 TEST</li> <li>S16(a-d) SPEAKER SW</li> <li>1 SPEAKER OFF</li> <li>2 SYSTEM A</li> <li>3 SYSTEM B</li> <li>4 SYSTEM A+B</li> <li>S17 POWER SW</li> <li>1 OFF</li> <li>2 ON</li> </ul> |
|---|--|--|--|

- SYMBOL
- OIL
  - △ MICA
  - CERAMIC
  - ◊ NYLON
  - TANTAL
  - ▣ POLYSTYLENE
  - ⊕ CHANGE OF PARTS
  - ★ DISCONTINUED PARTS
  - ADDITIONAL PARTS

