

Sansui



OPERATING
INSTRUCTIONS

*© beim Hersteller
Archiv Michael-Otto*

SANSUI FM MULTIPLEX STEREO AMPLIFIER

MODEL
SAX-200

SANSUI ELECTRIC CO., LTD.

RECEPTION OF RADIO BROADCASTS

It is recommended that the antenna system and their connections should be checked before listening.

Medium Wave (AM)

1. Set the SELECTOR to AM and MODE switch to CHAN-1.
2. Tune in the desired stations with TUNING knob, observing the right of the tuning indicator.
3. Adjust the volume to a suitable output with the VOLUME knob.
4. Bass and TREBLE with individual volume in both channel should be operated to suit the listener's preference in production.

FM Reception

1. Set the SELECTOR to FM and MODE Switch to CHAN-1.
2. The FM station is tuned with the TUNING knob.
3. Set the FM-AFC Switch to ON or OFF.

FM-MPX Reception

For multiplex reception of stereo FM, the operation is as follows:

1. Set SELECTOR to MPX.
 2. Set MODE to STEREO NOR. or REV.
 3. TUNING knob observing dial marked FM.
 4. The panel controls for tone and volume are used in the same manner as for other radio program.
- The various controls are used in the same manner as for

stereo reception.

5. Set FM-AFC Switch to ON or OFF.

PLAYING RECORDS

Insert the plug in PHONO (CHAN-1, CHAN-2) and select by switch either magnetic or crystal cartridge.

Stereo

1. Set SELECTOR to PHONO, and MODE to STEREO NOR or REV.
2. Adjust output power to desired level of sound by VOLUME control.
3. Controls for BASS, TREBLE, LOUDNESS, SCRATCH and RUMBLE FILTERS are adjusted for desired tonal qualities.
4. STEREO NOR-REV. switch can be used to interchange the sound source as required.
5. BALANCE is achieved by setting this control for equal amounts of speaker output during a medium passage.

Monaural

1. When a MONO. (single track) record is played, only one input to CHAN-1 or CHAN-2 PHONO jack is required.
2. Set SELECTOR to MONO. CHAN-1 or CHAN-2 and both channel speakers will operate. Controls effective for stereo will function.
3. The output is adjusted by VOLUME to the desired level.
4. The tone controls, the individual BASS and TREBLE should be suit the listener's preference in reproduction.

POWER
Power PUSH-button switch for AC input.

SCRATCH FILTER
For cutting out annoying noises produced by record scratch, radio "static", whistles, etc.

BALANCE
Balances the output from both channels during stereo operation.

MAGIC EYE
A one-element tube is used for indicating the proper tuning for radio stations.

LOUDNESS
When enjoying broadcasts or records at low volume, both low and high notes will be enhanced by switching this knob on.

VOLUME
Output power from the amplifier is adjusted with this control.

FM STEREO
For listening to FM-STEREO, set SELECTOR to MPX. MPX lamp lights continuously only when MPX broadcasts are received. (Set AC switch to ON, MPX lamp lights temporarily by working of a relay).

FM A.F.C.
At the very high frequencies used for FM broadcasting, there is an effect known as "drift" in the tuners. Reception becomes bad and to eliminate this, an AFC circuit, or Automatic Frequency Control, is employed in the SAX-200. This Adjustment is done by the AFC OFF-ON switch at the front of the set. When tuning in a station, the switch is set to OFF, and the station is selected for the best quality of signals. Once set, the AFC is switched to ON. It is advisable to have the switch set to OFF whenever the controls are being tuned in the prevent pulling-in effects especially when many stations are on the air.

TUNING
For tuning FM and AM broadcasts, rotate tuning knob to select desired station on FM or AM dial-scale while observing the tuning indicator for the point of best reception.

MODE
STEREO: NOR Signals from CHAN-1 are reproduced by CHAN-1 and CHAN-2 speakers respectively. Maximum (peak) power output is 20 watts per channel 40 watts total.
STEREO: REV Reverses speakers. Signals from CHAN-1 are reproduced by CHAN-2 speaker, and vice versa.
MONO: CHAN-1 (For receiving FM, AM and Monaural phono or Tape.) Signals from CHAN-1 will be reproduced by CHAN-1 and CHAN-2 speakers at the same time. (CHAN-2 input not operative). Maximum output is 40W.
MONO: CHAN-2 (For Monaural phono or Tape.) Signals from CHAN-2 will be reproduced by CHAN-1 and CHAN-2 speakers at the same time. (CHAN-1 input not operative).

BASS, TREBLE
The outside controls of the dual concentric knobs are the bass controls, and the inside controls are the treble controls. Clockwise rotation increases bass or treble response, and counter-clock rotation provides a reduction. Outside is for CHAN-1 and Inside is for CHAN-2. The bass controls each provide +13 db of attenuation at 50 cps, while the treble controls each provide 10 db of boost to -14 db of attenuation at 10,000 cps.

RUMBLE FILTER
For removing very low frequency noises, such as those produced by phono turntable or tape deck and motors.

SELECTOR
The program material is selected by this switch.
AM: For Medium-wave reception.
FM: For FM reception.
PHONO: For input from recordplayer.
AUX: For input from TAPE-Recorder
TAPE(Mic): For input from Tape deck(Mic)
MPX: For FM-Multiplex reception.

TAPE-MONITOR
When switched on, sound being recorded through a three-head tape recorder can be played back through the amplifier. This switch should be on only when playing back from a tape recorder.

TAPE PLAYBACK AND RECORDING

The Model SAX-200 is equipped with a socket on the rear panel for the standard "DIN" plug for tape recorders. Tape recorder's equipped with the "DIN" standard plug permit simplified operation for powerful output through the Model SAX-200 speaker system for playback, or simultaneous recording and monitoring. Tape recorders not equipped with the "DIN" standard plug can also be connected to Model SAX-200 with a jack or terminal.

1. Playback

• "DIN" PLUG connection

- Insert "DIN" cord in TAPE-REC.
- Set TAPE MONITOR Switch to ON.
- Set MODE to STEREO or CHAN-1 (CHAN-2), depending on the tape recorded.

• PIN JACK connection

- Connect the tape recorder output to TAPEMON jack.
- Set MODE to: STEREO (REV.) for stereo tape.
MONO. CHAN-1 (CHAN-2) for Mono tape.
- Set TAPE MONITOR Switch to ON.

• TAPE-DECK

When the tape recorder output is insufficient for large coverage, this amplifier can be used to full advantage.

When the tape recorder output is insufficient, this amplifier can be used to full advantage.

- Connect the output from the playback head of a tape deck to TAPE (MIC) jacks with shielded cable.
- Set SELECTOR to TAPE (MIC).
- Set MODE to: a. STEREO NOR. (REV.) for stereo tapes

b. MONO. CHAN-1 (CHAN-2), for mono tapes.

2. Recording

• "DIN" PLUG connection

- Insert "DIN" cord in TAPE-REC.
 - Set SELECTOR to program to be recorded.
 - Set MODE to STEREO-NOR. (REV.) or MONO. CHAN-1 (CHAN-2).
- #### • PIN JACK connection
- Connect the tape recorder input to REC jack.
 - Set SELECTOR to program to be recorded.

TAPE MONITOR APPLICATION

The Model SAX-200 can be used as a monitoring amplifier for a three-head tape recorder as follows.

1. a. Insert "DIN" cord in TAPE-REC.
b. Connect the tape recorder output of pre-amplifier plug to TAPE-MON jack, and, input plug of tape recorder to REC jack.
2. Set TAPE MONITOR switch (front panel) to ON.
3. When not recording, set to off.

MICROPHONE

Both dynamic and crystal microphones can be used.

1. Connect the microphone to the Tape.
2. Set the Selector to Tape (MIC).
3. Set the MODE Switch to the Stereo NOR. (REV.), when two microphone jacks are used.
4. Set the MODE Switch to the Mono. CHAN-1 (CHAN-2), when one microphone jack is used.
5. Adjust the BALANCE Control for best listening.
6. Operation of the controls, except BASS and TREBLE, are employed in same manner as for other playing.

ANTENNA Connections

AM ANTENNA The blue vinyl wire will likely improve sensitivity. Connect this wire to the "AM" terminal of antenna terminals.

An outdoor antenna is recommended for concrete buildings or in areas where reception is extremely poor.

FM ANTENNA Connect the accessory FM antenna to the "FM" and "E" antenna terminals. In high-sensitivity areas, for example, near broadcasting stations, set the antenna in a "T" form in order to obtain best reception. In distant areas or in concrete buildings, use of accessory FM antenna is recommended. (Note: FM radio sensitivity cannot be improved merely by lengthening the antenna. Both the height and direction of the antenna should be adjusted to the point of best overall reception).

SPEAKER Connections

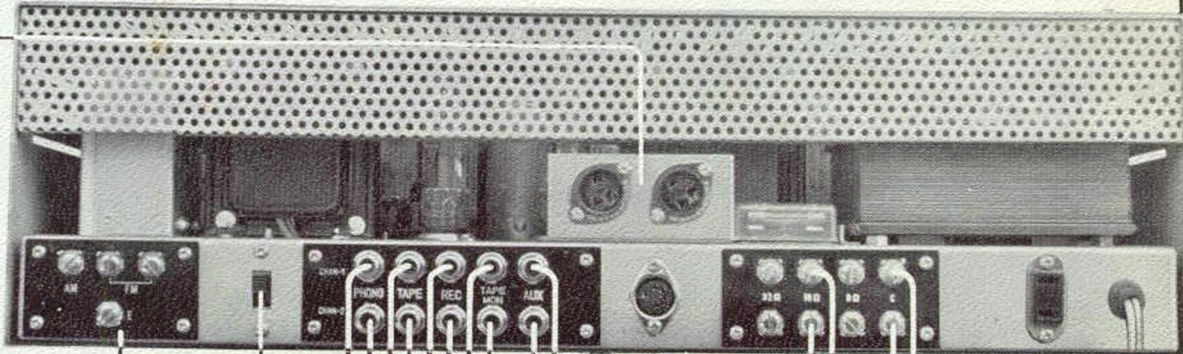
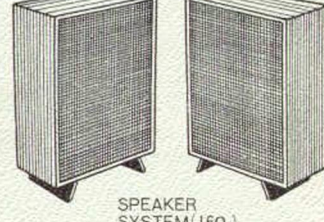
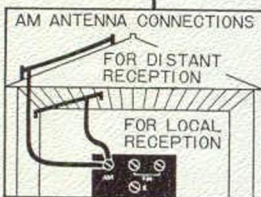
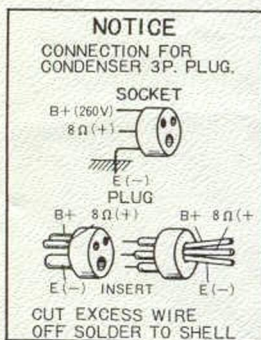
After the speaker systems have been selected, they are connected to the amplifier output terminals at the rear of the set. There are two output impedances, 8, 16 and 32 ohms, to match the speaker voice coils. The upper and lower rows of terminals are for CHAN-1 and CHAN-2 speakers respectively. The connections are made as per following table.

Another Thing:

This Amplifier can be use condenser Tweeter. If you want to use condenser tweeter, just plug in 3P. Socket.

Direction:

1. Bias condenser Tweeter (250~260V) connection with ordinary Speaker Terminal.
 2. Higher speaker impedance (16Ω) plug in 3P. Socket. (See Left Notice...)
 3. Higher speaker impedance (16Ω) condenser Tweeter are plug in 3P. Socket B(+) E(-).
- And, 16Ω line connect with ordinary speaker Terminal.



SPECIFICATIONS

◇ Tubes and Semicon Complement :

3-6AQ8(ECC85), 1-6BE6(EK90),
3-6BA6(EF93), 4-6BM8(ECL82),
1-6BL8(ECF80), 1-6DA5(EM81),
1-12AT7(ECC81), 1-12AU7(ECC82),
9-OA81(Ge-Diodes), 2-SE-0.5A(Si-Diodes), 1-TC-0.2P(Se Rectifier),
4-2SB-381(Transistors)
IS-352 (variable capacitor)

◇ Power Amplifier

Output Maximum : 40W Total, 20W each channel
Frequency Response : 20 to 80,000 cps —2db
Harmonic Distortion : Less than 1% at 13 Watts each channel
Output Impedances : 8, 16 and 32 ohms each channel

◇ Pre Amplifier

Gain : Phono : MAG : 77db 12 Watts at 2mV Input
X-TAL : 49db 12 Watts at 50mV Input
Tape : MIC : 82db 12 Watts at 1.1mV Input
Aux : TAPE MON-OUT 46db 12 Watts at 70mV Input
Equalizer : NF type : PHONO(RIAA), TAPE(NAB)
Tone Control : CR type

at 50 c/s : +13db to —15db
at 10K c/s : +10db to —14db

◇ FM Tuner

Frequency Range : 80 to 108 MC
Band Width : 200K c/s (—3db)
De-Emphasis Characteristics : 75μs
Sensitivity : 1.8μV IHFM

◇ Built-in Multiplex

Frequency Response : 50 c/s—15K c/s —2db
Channel Separation : 35db at 1V input (at 1K c/s)
Distortion : Less than 1% at 0.3V input

◇ AM tuner

Frequency Range : 535 to 1605K c/s
Band Width : 6K c/s (—3db)
IF : 455Kc
Sensitivity : 60μV IHFM

◇ Power Consumption :

120VA

◇ Power Supply :

100V, 115V, 230V. AC 50—60 c/s

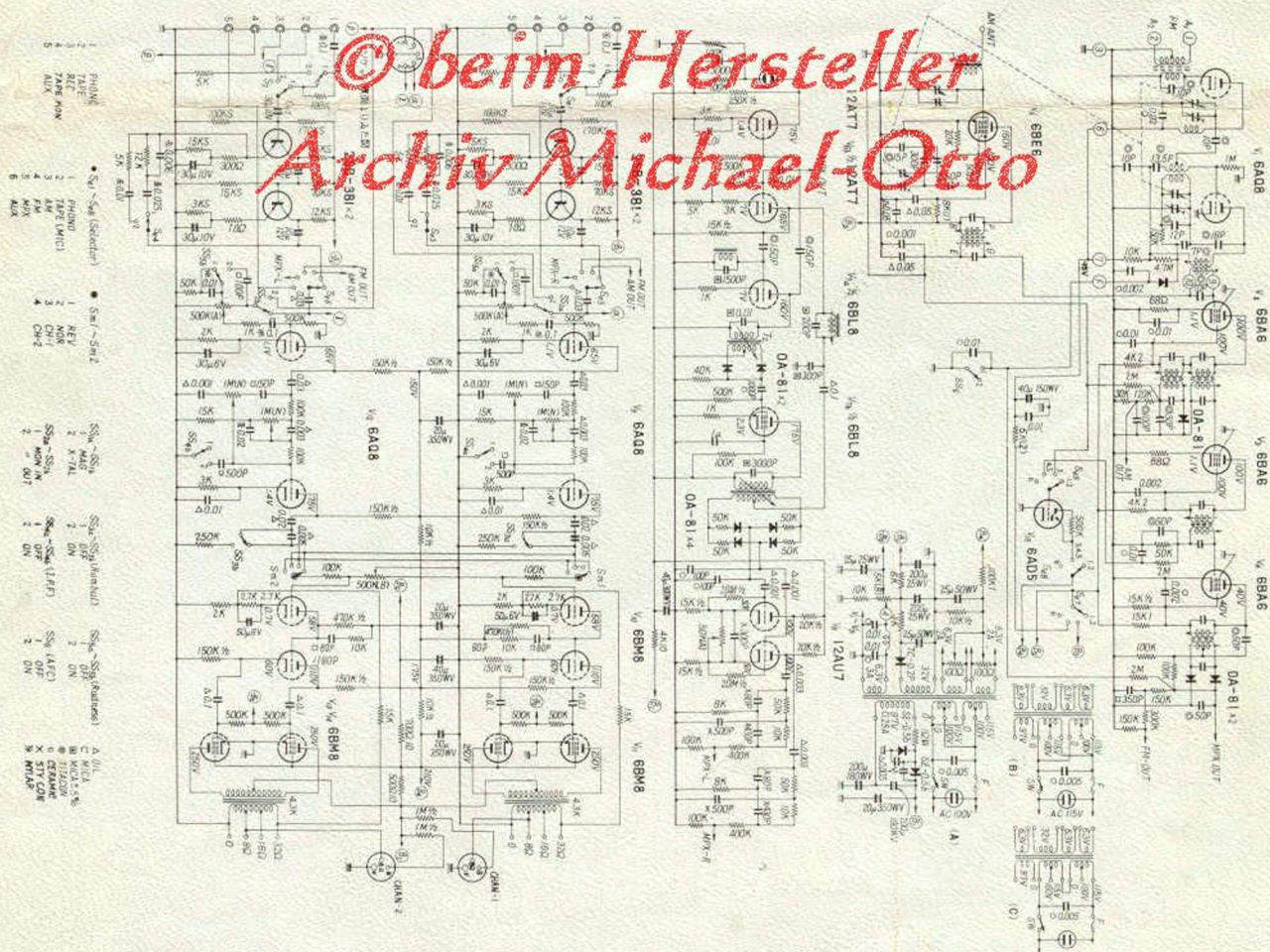
◇ Cabinet Dimensions :

17 3/18" × 13 9/18" × 5 14/18"

◇ Weight :

Net 29.3 lbs

SCHEMATIC DIAGRAM



SANSUI ELECTRIC CO., LTD.

Head Office: 460, Izumi-cho, Suginami-ku, Tokyo, Japan.
Osaka Branch: 4-8, Miyakojima, Minamidori, Miyakojima-ku, Osaka.
Nagoya Branch: 2-11, Hanaomote-cho, Atsuta-ku, Nagoya.
Fukuoka Branch: 2-16, Okamoto, Kasuga-cho, Tsukushi-gun, Fukuoka.
Show Room: 42, Sanko-cho, Shinjuku-ku, Tokyo.

Tel. Tokyo 328 - 0111
Tel. Osaka 928 - 4391
Tel. Nagoya 88 - 8463
Tel. Fukuoka 58 - 1253
Tel. Tokyo 368-4586, 3410

Printed in Japan (25520M5)