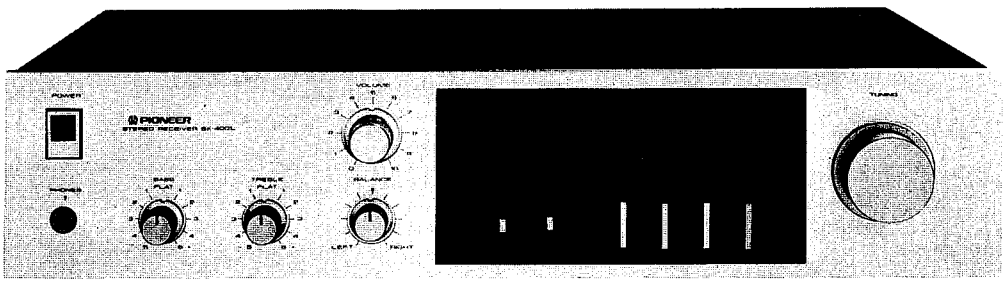
Operating Instructions

FM/MW/LW STEREO RECEIVER

SX-400L

HB



PIONEER®

IMPORTANT

To prevent electric shock, do not remove cover. No user serviceable parts inside, refer servicing to qualified service personnel.
Always disconnect all the equipment from the mains supply when disconnecting the signal leads. The power cord should be connected last, make sure that the power switch is off.
Unplug the set from the wall socket when it is not to be used for an extended period of time.

FOR USE IN UNITED KINGDOM AND AUSTRALIA

CAUTION 240V: Mains supply voltage is factory adjusted at 240V.

FOR USE IN UNITED KINGDOM

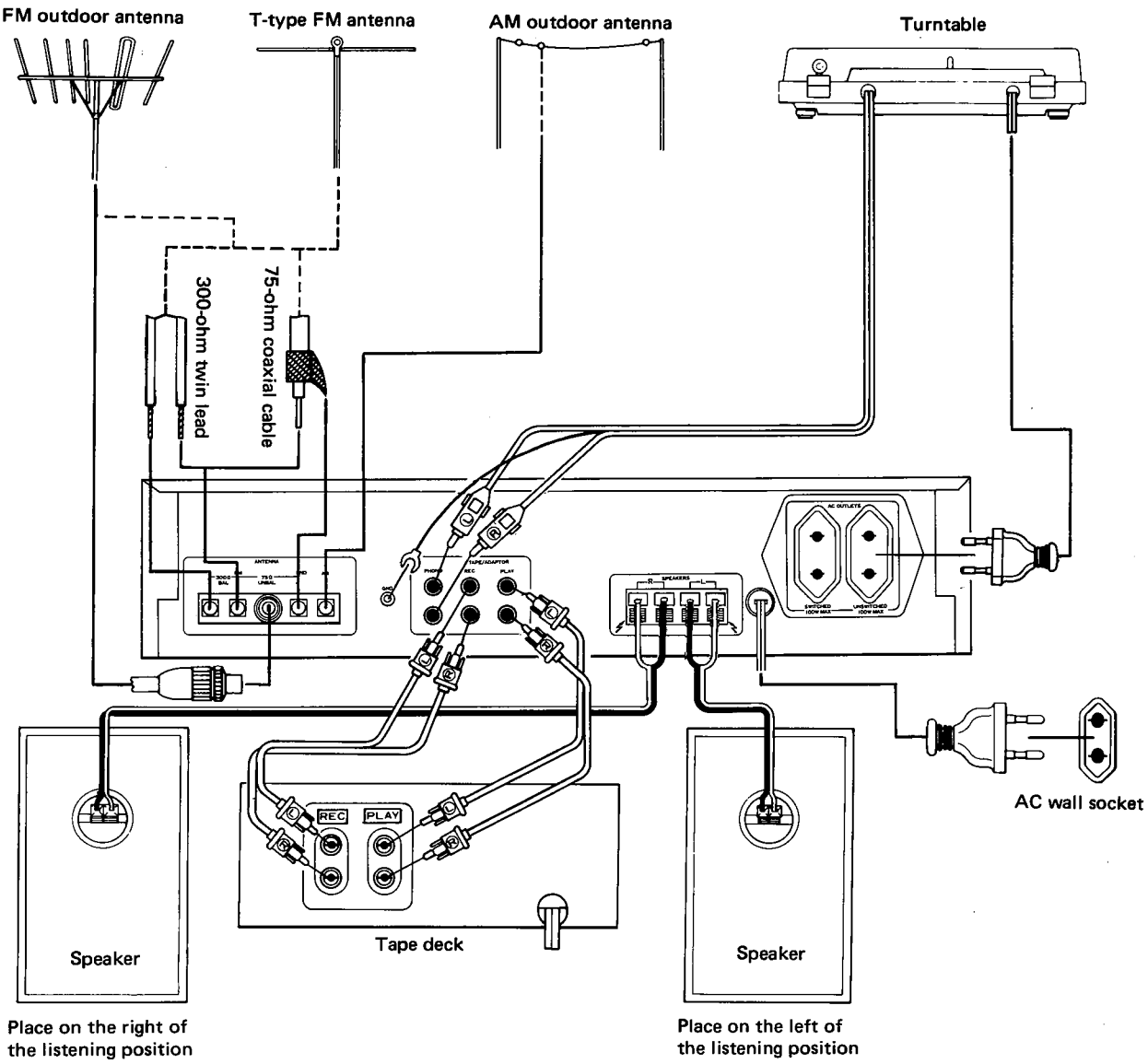
The wires in this mains lead are coloured in accordance with the following cord:

Blue:	*Neutral*
Brown:	*Live*

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug proceed as follows.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

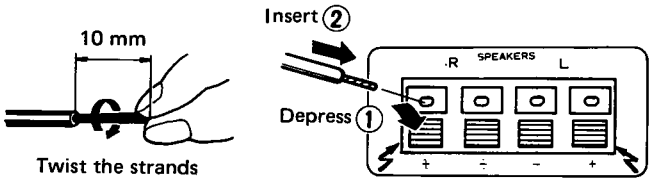
CONTENTS

CONNECTION DIAGRAM



Processing and connecting the speaker cords

1. Cut off the covering of the speaker cords as shown in figure below.
2. If the strands at the tip of the cord are pointing in all directions, twist them with your thumb and forefinger.
3. Depress the button on the speaker terminal and slip the tip of the cord into the hole in the center of the terminal, and release the button.
4. Check that the cord is securely connected. You may not hear any sound if the cords are not connected properly.



Cautions when connecting the speakers

1. Make sure that the polarities of the SPEAKERS terminals and the input jacks on the speaker system are aligned: plus to plus and minus to minus.
2. Use speakers with a nominal impedance ranging from 6 ohms to 16Ω.

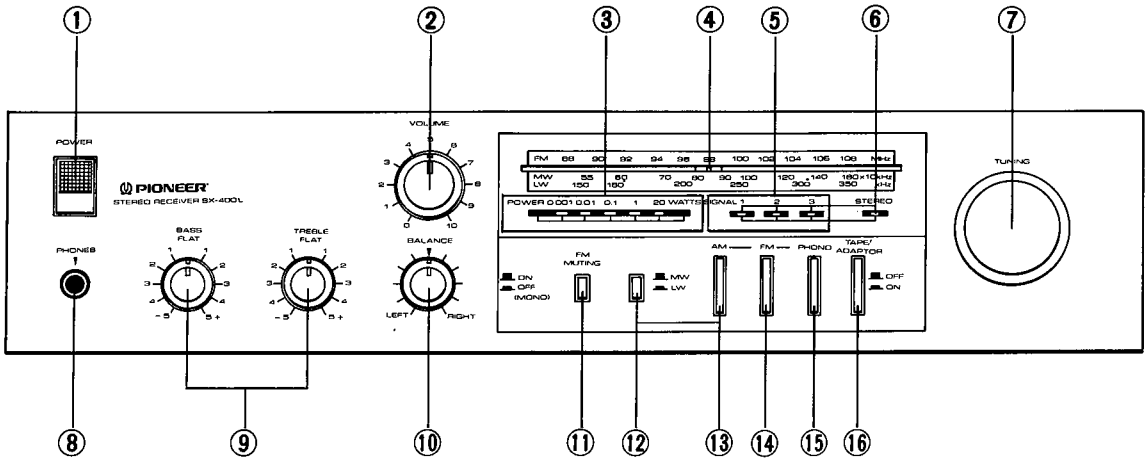
AC outlets

SWITCHED: (100W) — The power supplied through this outlet is coupled to the operation of the receiver's power switch.

UNSWITCHED: (100W) — The power is always supplied through this outlet regardless of the position of the power switch.

NOTE:
NEVER connect the power plug of the electric appliances whose power consumption exceeds the power capacity of the AC OUTLETS indication.

FRONT PANEL FACILITIES



① POWER SWITCH

Depress this switch to supply power to the receiver.

② VOLUME CONTROL

Use this control to adjust the output level to the speakers and headphones. Turn it clockwise to increase the output level.

③ OUTPUT METER

This indicates the output level during sound reproduction by means of light.

④ DIAL POINTER

This pointer indicates the broadcasting stations.

⑤ SIGNAL INDICATOR

Indicators 1 through 3 light in accordance with the strength of the signals received.

⑥ FM STEREO INDICATOR

This indicator lights up when receiving an FM stereo program if the FM MUTING switch is released.

⑦ TUNING KNOB

This knob is used to select the station. When selecting station, observe the SIGNAL indicator.

⑧ HEADPHONES JACK

Connect the headphones plug to this jack for use. When the headphones are connected, no sound is heard from the speakers.

⑨ TONE CONTROLS

These are used to adjust the tone. The BASS control is for the low end of the sound; the TREBLE control is for the high end of the sound.

When the BASS or TREBLE control is rotated clockwise, the low end or high end of the sound is emphasized; when it is rotated counter-clockwise, the low or high end of the sound is attenuated.

⑩ BALANCE CONTROL

Use this control to balance the volume of the left and right channels.

⑪ FM MUTING SWITCH

This is normally set to the ON position when stations are tuned in and the interstation noise is cut out as a result.

Set the switch to OFF when reception is poor or when tuning in stations which are distant (with weak signals), and then proceed with tuning.

⑫ MW/LW SELECTOR

Use this to select the MW and LW broadcasting bands. When the switch is at the out position, MW stations can be tuned in; when at the in position, LW stations can be tuned in.

NOTE:
This switch can be operated only when the AM switch is depressed.

⑬ AM SWITCH

Depress this switch for AM broadcasts.

⑭ FM SWITCH

Depress this switch for FM broadcasts.

⑮ PHONO SWITCH

Depress this switch when playing a record on the turntable connected to the PHONO jacks.

⑯ TAPE/ADAPTOR SWITCH

This is normally set to the released (■ OFF) position.

Depress this switch only when using a tape deck or adaptor unit connected to the rear panel's TAPE/ADAPTOR jacks.

For details, refer to "Using the TAPE/ADAPTOR Jacks."

OPERATIONS

PRIOR TO SWITCHING POWER ON

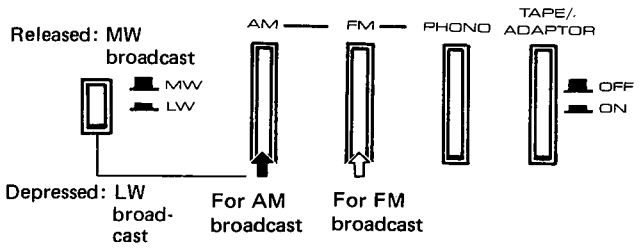
Before switching the power on, set the various controls as follows.

- Set the BASS and TREBLE controls to the center positions.
- Set the BALANCE control to the center position.
- Release the FM MUTING switch (ON).
- Release the TAPE/ADAPTOR switch (OFF).

LISTENING TO THE BROADCAST

1. Select the switches in accordance to the broadcasting band with the station whose program you want to listen to.

- Depress the FM switch for FM reception.
- Depress the AM switch and then the MW/LW selector for MW reception.
- Depress the AM switch and then the MW/LW selector for LW reception.



2. Tune in the station using the TUNING knob.
   Set the knob so that the maximum number of SIGNAL indicators lights.

NOTE:
When the SIGNAL indicator does not light at all despite the fact that an antenna has been connected to the antenna terminals, refer to "Antenna and Ground Connections" on page 6.

3. Adjust the volume with the VOLUME control and the tone with the BASS and TREBLE controls.

NOTE:
Multipath distortion may be the cause of distortion in the sound despite the fact that the SIGNAL indicators have lighted. Consult your dealer and then, if required, inspect the installation of the antenna.

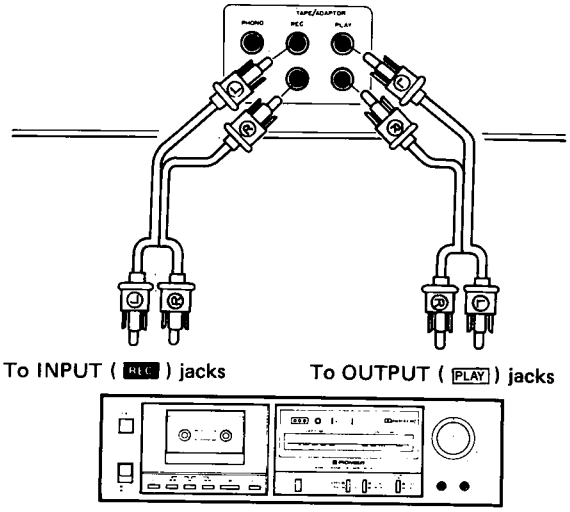
PLAYING RECORDS

1. Depress the PHONO switch.
2. Operate the turntable to play the record.
3. Adjust the volume with the VOLUME control and the tone with the BASS and TREBLE controls.

USING THE TAPE/ ADAPTOR JACKS

CONNECTING A TAPE DECK

Connections



PLAYING BACK TAPES

1. Depress the TAPE/ADAPTOR switch.
2. Set the tape deck to the playback mode.
3. Adjust the volume with the VOLUME control and the tone with the BASS and TREBLE controls.

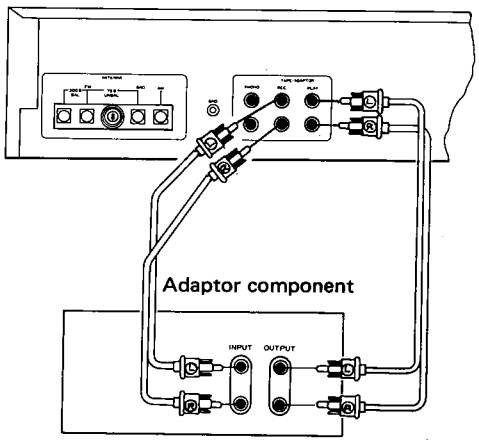
RECORDING ON A TAPE

1. Release the TAPE/ADAPTOR switch.
2. Play the source which is to be recorded (broadcast, record, etc.)
3. Set the tape deck to the recording mode.

The recording can be monitored when the TAPE/ADAPTOR switch is depressed if a 3-head tape deck is being used.

Connecting adaptor units

Connect the Graphic Equalizer or other adaptor unit to the TAPE/ADAPTOR jacks.



ANTENNA AND GROUND CONNECTIONS

If the reception is poor even with the accessory T-type antenna, the signals reaching the area where you live are too weak. Install an outdoor antenna.

FM ANTENNA CONNECTIONS

There are two methods you can use when connecting the FM antenna to the antenna input terminals: you can use a 300-ohm twinlead feeder or a 75-ohm coaxial cable.
Pioneer recommends the 75-ohm coaxial cable (RG59U, etc.) if you want your receiver to display its capabilities to the full. The coaxial cable is more effective than the twin-lead feeder in safeguarding against external interference noise from impairing the sound quality. In other words, twinlead feeders are liable to pick up external noise, and this is why they are not recommended.

Connections using a 75-ohm coaxial cable

Refer to Fig. 1 and follow the procedure. Prepare the tip of the coaxial cable and connect it to the antenna input terminals (75Ω-UNBAL).

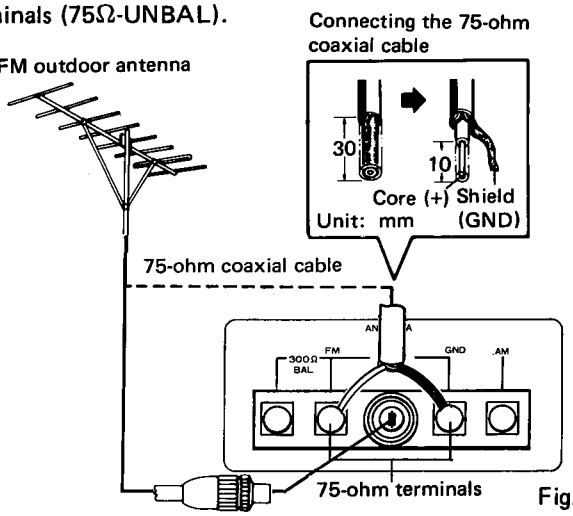


Fig. 1

Connections using a 300-ohm twinlead feeder

In cases where it is only possible to use a twinlead feeder with a community receiving system antenna, refer to Fig. 2 and follow the procedure. Prepare the ends of the twinlead feeder and attach them to the 300Ω-BAL antenna input terminals. Then make the twinlead feeder as short as possible but do not bundle the wires or run them loose on the floor.

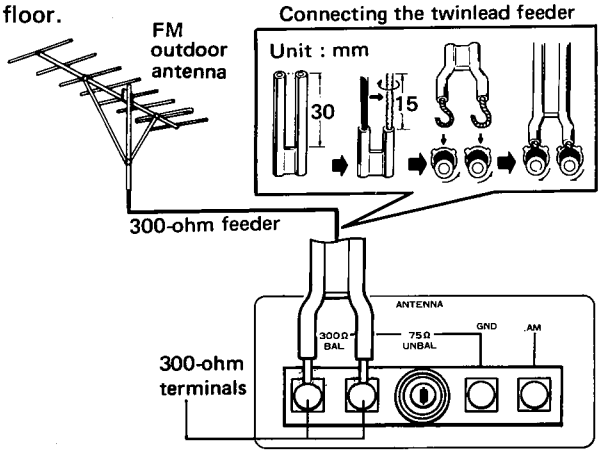


Fig. 2

FM ANTENNA INSTALLATION GROUNDING

It is recommended that the unit be grounded if FM reception is accompanied by a great deal of noise or interference.
To ground, connect a thick vinyl-covered wire to the GND terminal at one end; at the other end, wind the wire around a metal water pipe, grounding rod or copper plate and bury it in the ground.

NOTE:
Never connect the grounding wire to a gas pipe since there may be an explosion if gas leaks.

AM ANTENNA

This receiver is provided with a ferrite bar antenna inside. If reception is not satisfactory when AM programs are received, change the direction of the receiver (and this will change the direction of the inside bar antenna).
To achieve optimum reception, connect an AM antenna as follows.

Indoor AM antenna

Provide yourself with a vinyl-covered wire (5 ~ 6 m), attach one end to the AM terminal and the other end to a wall or other high location.

Outdoor AM antenna

If reception is still poor even when the indoor lead wire is extended, stretch a vinyl-covered wire outdoors as in Fig. 3.

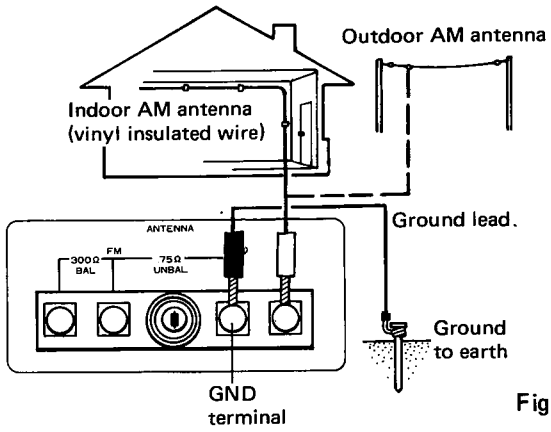


Fig. 3

TROUBLESHOOTING

Check the symptoms below if you think that the unit has broken down. In many cases, incorrect operation is to blame. The cause may also lie outside the unit. Check the other stereo components and electrical appliances being used at the same time. If you cannot remedy the fault even after consulting the list below, get in touch with your dealer or a Pioneer Service Center.

Symptom	Diagnosis check points	Remedy
No sound	• Does power switch turn on? • Check power plug.	• Set power switch to ON. • Plug power cord securely into power outlet.
	• Check volume control. • Isn't headphone plug connected?	• Rotate volume control clockwise. • Disconnect headphone plug.
	• Are speakers, tape deck and other components connected properly?	• Connect properly. (If all components are connected properly, check the components themselves).
	• Is function selector set to correspond to program source?	• Set so that the selector corresponds to the source.
	• Does signal indicator light up?	• In order to increase the antenna input of the radio signals, erect an exclusive FM antenna when listening with T-type antenna.
	• In case of a far away broadcasting station or weak signals, all signals below the internal muting level are cut out. • Isn't TAPE/ADAPTOR switch depressed?	• Set the FM muting switch to OFF (MONO) and retune. • Release TAPE/ADAPTOR switch.
Occasional noise heard.	• Are components connected properly?	• Connect so as to eliminate faulty contacts. (Noise may decrease when ground wire is connected.)
	• Any problem with connected components?	• Correct fault.
Howl caused when volume is raised.	• Turntable and speakers are too close to one another.	• Try changing the installation locations of the turntable and speakers.
	• Installation locations of turntable and speakers are not stable.	• Do not turn up the bass controls excessively.
No stereo with stereo reception	• Isn't FM muting switch set to OFF (MONO)?	• Set to ON.

SPECIFICATIONS

Continuous Average Power Output is 20 watts* per channel, min., at 8 ohms from 40 Hertz to 20,000 Hertz with no more than 0.3% total harmonic distortion.

Continuous Power Output at 1kHz (both channel driven)
T.H.D. 0.3%, 8ohms ..... 22 watts per channel.
Total Harmonic Distortion (40 Hertz to 20,000 Hertz, 8 ohms, from TAPE)
10 watts per channel power output
.....No more than 0.08%
Intermodulation Distortion (50 Hertz; 7,000 Hertz = 4 : 1, 8 ohms, from TAPE)
continuous rated power output ... No more than 0.3%
10 watts per channel power output
.....No more than 0.08%
Damping Factor (1kHz, 8ohms) 30
Input (Sensitivity/Impedance)
PHONO..... 2.5mV/50kilohms
TAPE/ADAPTOR PLAY 150mV/50kilohms
Phono Overload Level (T.H.D. 0.1%, 1,000Hz)
PHONO..... 140mV
Output Level
TAPE/ADAPTOR REC 150mV
Frequency Response
PHONO (RIAA Equalization)
.....30Hz to 15,000Hz ± 0.5dB
TAPE/ADAPTOR PLAY ... 15Hz to 60,000Hz ± 3dB
Tone Control
BASS ..... ±8dB (100Hz)
TREBLE ..... ±8dB (10kHz)
Hum and Noise (IHF, short circuited A network)
PHONO.....70dB
TAPE/ADAPTOR PLAY 98dB
Hum and Noise (DIN, continuous power/50mW)
PHONO..... 66dB/62dB
TAPE/ADAPTOR PLAY 81dB/65dB

FM Tuner Section

Usable Sensitivity (MONO) 12.5dBf (1.2μV/75Ω)
Sensitivity (DIN)
MONO 1μV/75Ω
STEREO..... 25μV/75Ω
50dB Quieting Sensitivity
MONO 17.2dBf (4μV)
STEREO..... 39.2dBf (50μV)
Signal-to-Noise Ratio
MONO ..... 75dB (at 65dBf)
STEREO..... 70dB (at 65dBf)
Signal-to-Noise Ratio (DIN)
MONO 70dB
STEREO 60dB
Distortion (at 65dBf)
MONO 1kHz 0.5%
STEREO 1kHz..... 0.3%
Capture Ratio..... 2.5dB
Alternate Channel Selectivity (400kHz) 50dB
Stereo Separation (1kHz) 40dB
Spurious Response Ratio 65dB
Image Response Ratio 60dB
IF Response Ratio.....80dB
AM Suppression Ratio 50dB
Antenna Input
..... 300 ohms balanced, 75 ohms unbalanced

LW Tuner Section

Sensitivity
IHF, ferrite antenna.....450μV/m
IHF, external antenna 40μV
Selectivity 25dB
Signal-to-Noise Ratio 50dB
Image Response Ratio 20dB
IF Response Ratio.....40dB
Antenna .....Built-in ferrite loopstick antenna

MW Tuner Section

Sensitivity
IHF, ferrite antenna.....270μV/m
IHF, external antenna 20μV
Selectivity 25dB
Signal-to-Noise Ratio 50dB
Image Response Ratio 32dB
IF Response Ratio.....40dB
Antenna .....Built-in ferrite loopstick antenna

Miscellaneous

Power Requirements ..... AC 240V, 50Hz
Power Consumption 130W
Dimensions ..... 420(W) x 94(H) x 310(D) mm
16-9/16(W) x 3-11/16(H) x 12-3/16(D) in
Weight (without package) 5.5kg (12lb 2oz)

Furnished Parts

FM T-type Antenna.....1
Operating Instructions 1

** Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.*

NOTE:
Specifications and design subject to possible modification without notice.

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