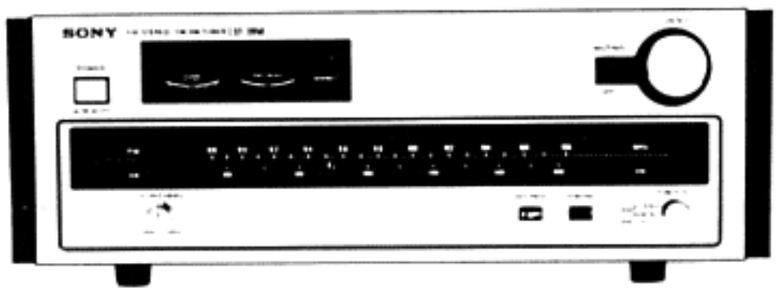
FM STEREO/FM-AM TUNER

ST-3950



Owner's Instruction Manual

Mode d'emploi

Bedienungsanleitung

English

Before operating your new Sony tuner, please read this manual completely to become familiar with all the features and capabilities. Keep this manual handy for future reference.

TABLE OF CONTENTS

WARNING

●To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.
●To prevent fire or shock hazard, do not expose the unit to rain or moisture.

UNPACKING

Do not throw away the carton and the associated material; they will come in handy if you ever have to transport or ship the unit. Inspect your unit immediately after unpacking. If any sign of damage is found, consult your local Sony dealer.

When shipping the unit for repair work or to another location, it should be repacked in the original carton and packing material just as it was originally.

Français

Avant de faire fonctionner votre nouvelle unité sonore Sony, lisez attentivement en détail ce manuel pour devenir familier avec toutes les particularités et possibilités de l'appareil.
Conservez ce manuel à portée de main pour toute référence ultérieure.

TABLE DES MATIERES

AVERTISSEMENT

●Pour éviter toute électrocution, ne pas ouvrir le coffret. Confier l'entretien uniquement à un personnel qualifié.
●Pour éviter tout danger d'incendie ou d'électrocution, ne pas exposer l'appareil à la pluie ou à l'humidité.

DEBALLAGE

Ne pas se débarrasser du carton d'emballage, ni des matériaux qu'il contient. Ils seront très utiles lors de l'expédition ou du transport de l'appareil. Inspecter l'appareil aussitôt après le déballage. Si la moindre anomalie est décelée, consulter le concessionnaire Sony le plus proche.

Pour tout déménagement ou réexpédition de l'appareil pour une réparation, utiliser le carton d'emballage original et replacer le matériel de la même façon qu'il se trouvait à la livraison, ceci pour assurer une meilleure protection possible.

Bevor Sie Ihren neuen Sony-Tuner in Betrieb nehmen, lesen Sie bitte diese Bedienungsanleitung vollständig durch, damit Sie mit seinen besonderen Einrichtungen und Möglichkeiten vertraut werden.
Bewahren Sie diese Anleitung gut auf, um später jederzeit darin nachschlagen zu können.

INHALTSVERZEICHNIS

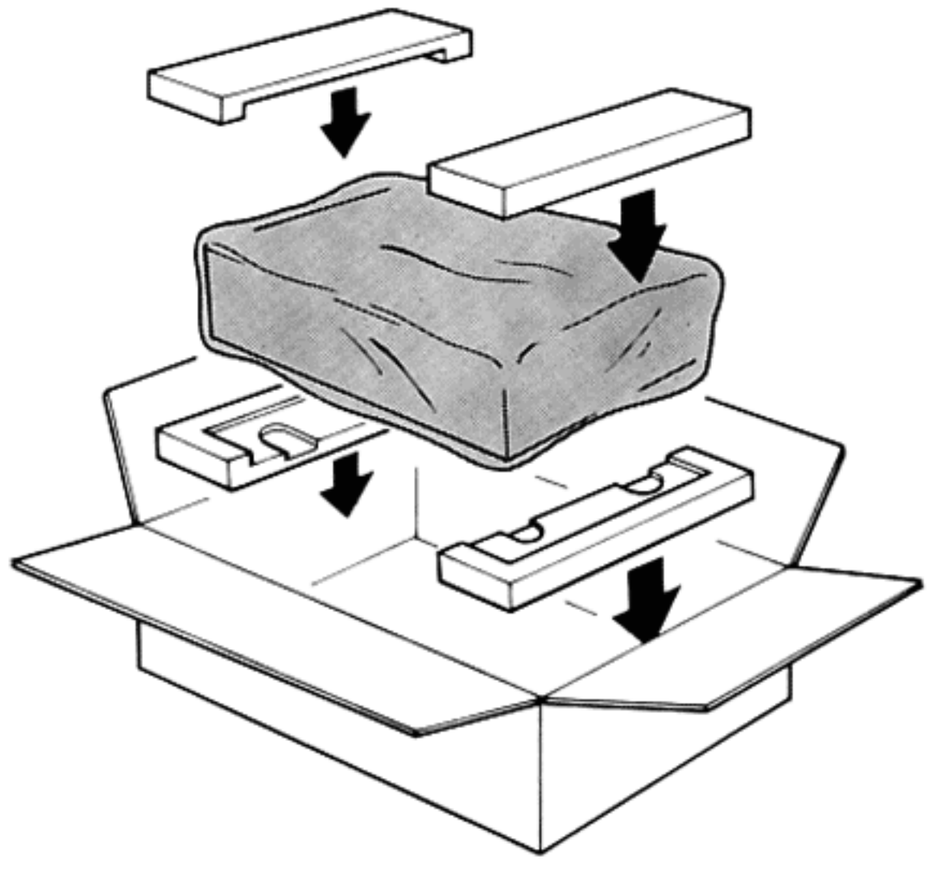
VORSICHT

● Um einen elektrischen Schlag zu vermeiden, öffnen Sie nicht das Gehäuse. Überlassen Sie jegliche Reparatur und Wartung nur qualifiziertem Personal.
● Um die Gefahr eines elektrischen Schlags oder eines Brandes auszuschalten, setzen Sie das Gerät weder Regen noch extremer Feuchtigkeit aus.

AUSPACKEN

Werfen Sie den Versandkarton und anderes Verpackungsmaterial nicht weg; sie erweisen sich als praktisch, wenn Sie Ihr Gerät transportieren oder verschiffen müssen. Überprüfen Sie Ihr neues Gerät gleich nach dem Auspacken.
Falls die Anlage beschädigt sein sollte, wenden Sie sich bitte an Ihren Sony-Händler.

Bei Versand zu Reparaturzwecken oder sonstigem Transport sollten Sie es im Originalkarton mit dem ursprünglichen Verpackungsmaterial in gleicher Weise wieder verpacken.



VOLTAGE SELECTION

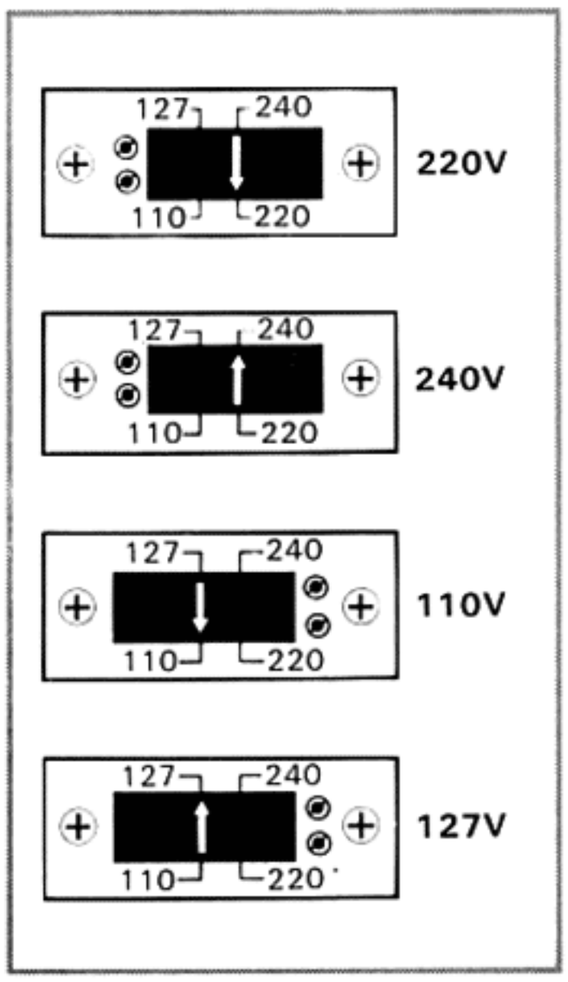
Before connecting the unit to the power source, check that the voltage selector setting is correct for your power supply. If the selector must be reset, change the setting as follows.
WARNING : Check that the ac power cord is disconnected.
❶ Loosen the arrow-marked screw on the selector cover, and remove the other screw.
❷ Unplug the selector and reinsert it firmly with the arrow mark pointing to the proper voltage figure.
❸ Replace the selector cover.

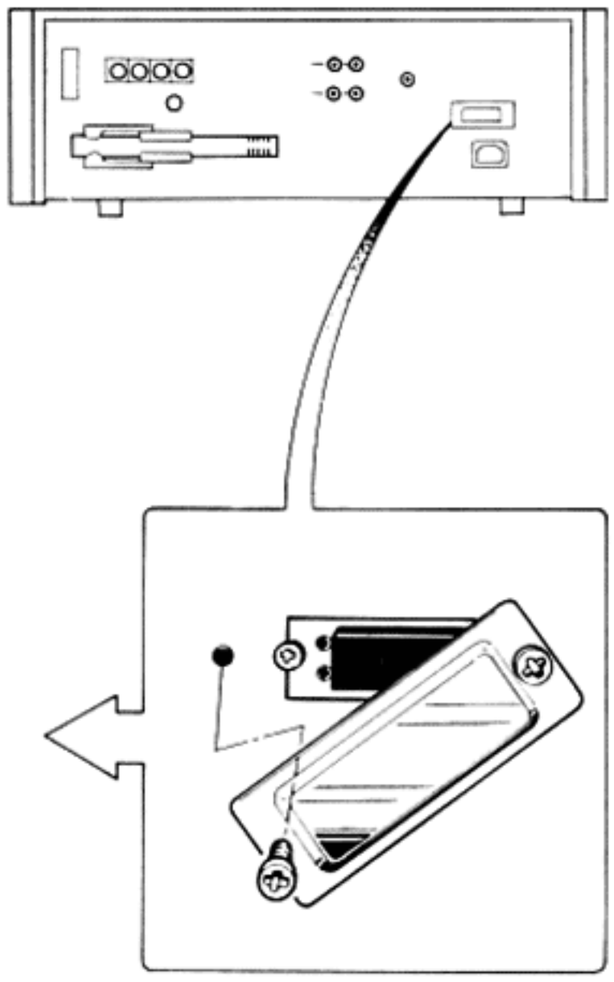
ADAPTATION DE LA TENSION

Avant l'utilisation, vérifier que le sélecteur de tension a bien été ajusté à la tension du secteur local. S'il est nécessaire de régler le sélecteur de tension, procéder comme suit :
ATTENTION : Vérifier que le cordon d'alimentation est débranché.
❶ Desserrer la vis marquée d'une flèche du couvercle du sélecteur et enlever l'autre vis.
❷ Retirer le sélecteur, et le réinsérer fermement, la flèche dirigée sur le nombre correspondant à la tension adéquate.
❸ Remettre en place le couvercle du sélecteur.

SPANNUNGSEINSTELLUNG

Vor dem Netzanschluß vergewissern Sie sich, daß der Spannungswähler richtig auf Ihre örtliche Netzspannung eingestellt ist. Falls eine Umstellung notwendig ist, muß der Wähler wie folgt umgestellt werden.
VORSICHT : Vergewissern Sie sich, daß der Netzstecker abgezogen ist.
❶ Lockern Sie die mit einem Pfeil markierte Schraube der Abdeckung des Spannungswählers und nehmen Sie die anderen Schraube ab.
❷ Ziehen Sie den Spannungswähler heraus und setzen Sie ihn erneut so ein, daß die Pfeilmarkierung auf die entsprechende Voltzahl zeigt.
❸ Befestigen Sie wieder die Abdeckung.





FOR THE CUSTOMER IN THE UNITED KINGDOM

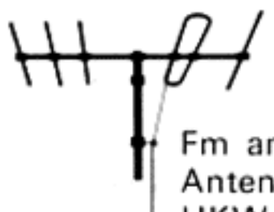
WARNING

This apparatus must be earthed at the terminals in your 3-pin plug as follows :
IMPORTANT
The wires in this mains lead are coloured in accordance with following code.

Green-and-yellow	Earth (safety earth)
Blue	Neutral
Brown	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows :
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
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.

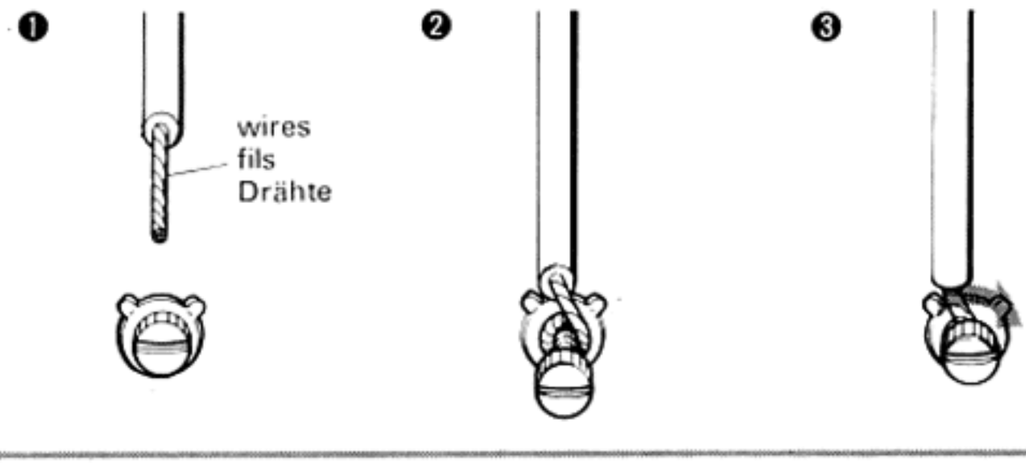
C NECTION DIAGRAM/SCHEMA DE CONNEXION/ANSCHLUSSPLAN



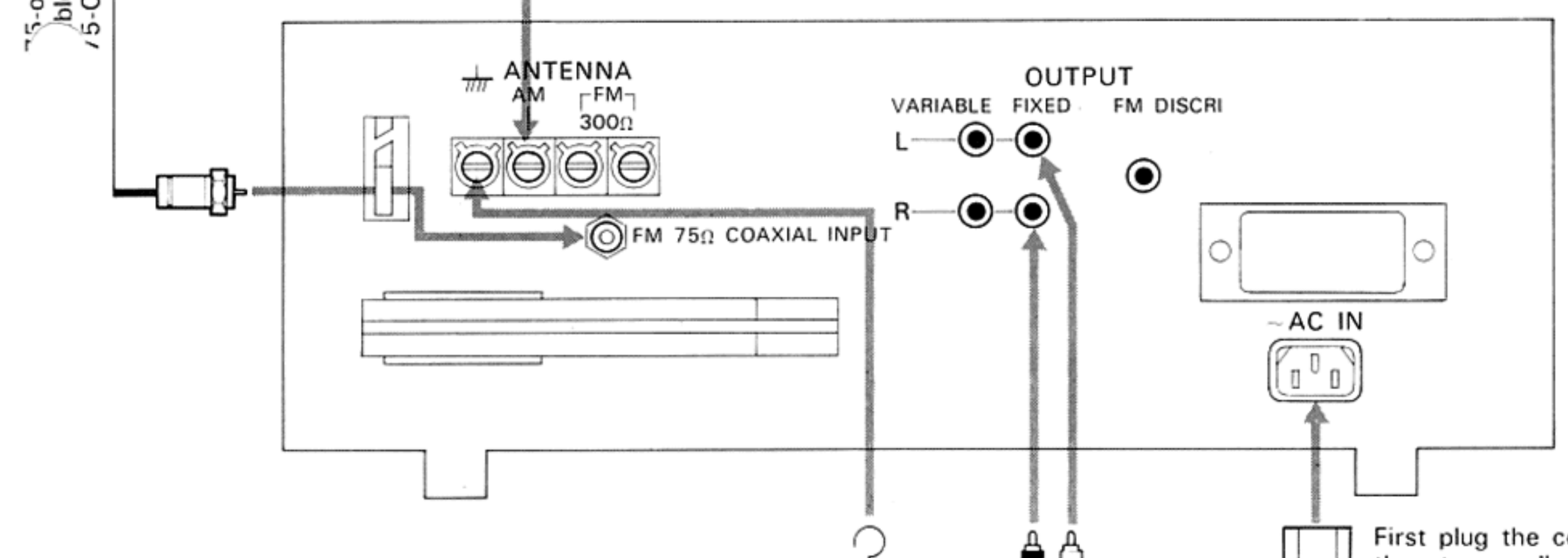
Fm antenna
Antenne FM
UKW-Antenne

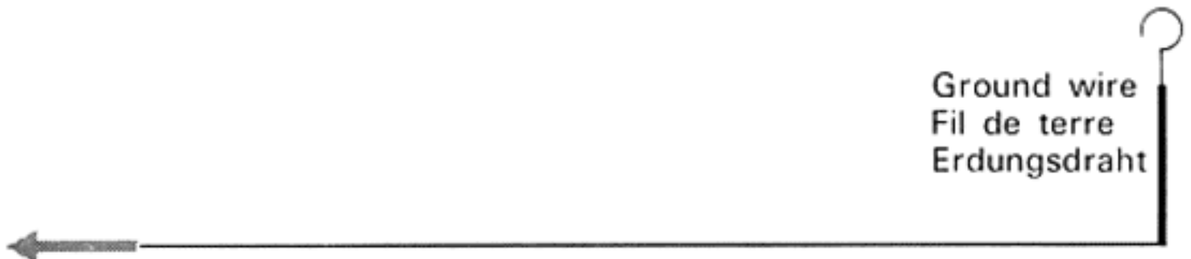
Outdoor a-m antenna
Antenne extérieure AM
MW-Außenantenne

Wind the firmly twisted wires around the terminals tightly and tighten the screw.
Enrouler les fils bien tordés autour des bornes de la façon ferme, et serrer les vis.
Winden Sie die gut verdrillende Drähte fest um die Anschlüsse und ziehen Sie die Schraube an.



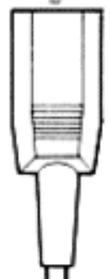
75-ohm coaxial cable
Câble coaxial de 75 ohms
75-Ohm-Koaxialkabels





Ground wire
Fil de terre
Erdungsdraht

to a good ground
à la terre
an geeignete Erde



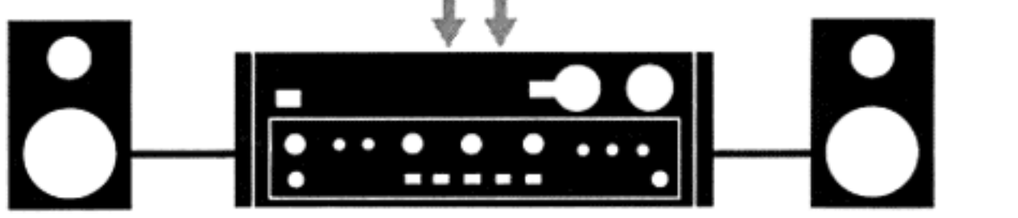
First plug the cord to the ~AC IN then to a wall outlet.

Brancher le cordon d'abord sur l'entrée CA [~AC IN] et puis sur la prise du secteur.

Das Kabel ist erst an die Netzanschluß [~AC IN] und dann an eine Steckdose anzuschließen.

to power supply
à une prise du secteur
an eine Steckdose

to tuner inputs
aux entrées de tuner
an Tunereingänge



Speaker
Haut-parleur
Lautsprecher

Stereo amplifier
Amplificateur stéréo
Stereo-Verstärker

Speaker
Haut-parleur
Lautsprecher

LOCATION OF CONTROLS/EMPLACEMENT DES COMMANDES/ LAGE DER BEDIENUNGSELEMENTE

❶POWER switch
Interrupteur d'alimentation
Netzschalter

❷OUTPUT LEVEL control
Réglage de niveau de sortie
Ausgangspegelregler

❸MULTIPATH switch
Interrupteur de réception multidirectionnelle
MULTIPATH-Taste

❹HI-BLEND switch
Interrupteur de haut fondu
HI-BLEND-Taste

❺FUNCTION selector
Sélecteur de fonction
Eingangswähler

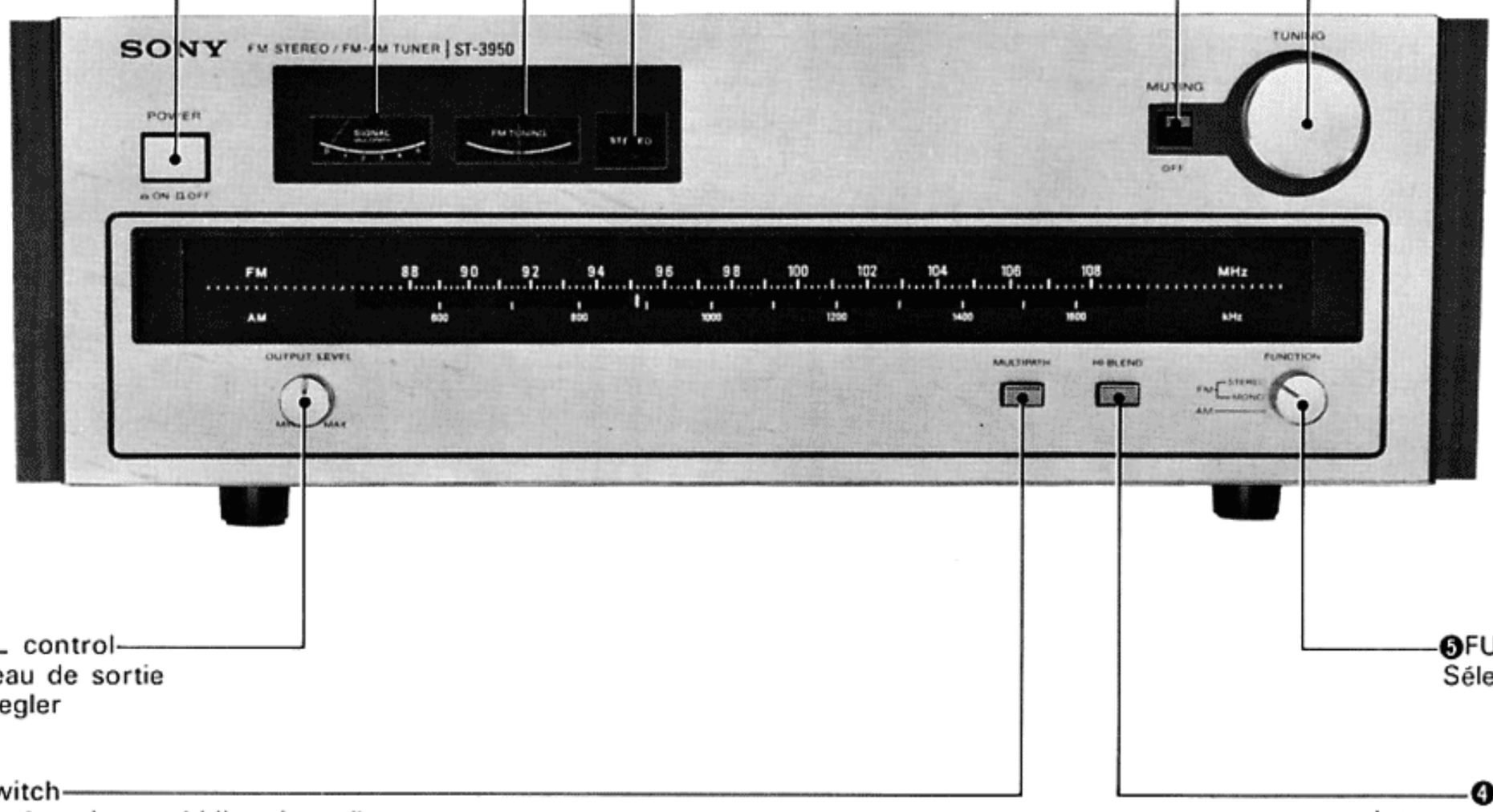
❻TUNING knob
Bouton d'accord
Abstimmknopf

❼MUTING switch
Interrupteur d'assourdissement
Stummabstimmungs-Schalter

❽STEREO lamp
Voyant stéréo
Stereoanzeigelampe

❾FM TUNING meter
Indicateur d'accord de l'émission FM
UKW-Abstimmanzeige

❿SIGNAL MULTIPATH meter
Indicateur de niveau de réception
Antenneneingangsanzeige



PRECAUTIONS

On safety

- Check that the operating voltage of your unit is identical with the voltage of your local power supply.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull it out by the cord.
- Avoid removing the side boards due to safety regulations. If necessary, consult your nearest Sony dealer.

On installation

- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Good air circulation is essential to prevent internal heat build-up in the unit. Place the unit in the location with adequate air circulation. Do not place the unit on soft surfaces such as a rug that would block the ventilation holes on the bottom.
- Do allow more than 15 cm (6 inches) of space behind the unit so that the direction of the built-in ferrite-bar antenna can be adjusted.

On operation

- When the unit is not in use, turn the power off to conserve the energy and to extend the useful life of your unit.

SYSTEM CONNECTIONS

CONNECTION NOTES

To assure correct matching at the input and output terminals of your audio system, refer to the table of "SPECIFICATIONS" of the tuner, and to the specifications given in the instruction manuals provided with your amplifier. Generally the output level of the tuner should be equal to or slightly greater than the sensitivity of the corresponding input. Also the output impedance of the tuner should be considerably lower than the impedance of the corresponding input.

For all connections use a low-capacitance type shielded cable like the one supplied. Keep the cable as short as practicable, avoiding horizontal runs. Excessively-long runs, over 2 meters (6 feet), tend to reduce the high-frequency response, while horizontal runs are susceptible to power line hum pickup.

Be sure to connect the red plug to the right [R] jack and the remaining one to the left [L]. The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise. The power cord should be connected last of all, first making sure that the POWER switch is released.

Ground Connection [⏚]
When an outdoor antenna is installed, the direct connection of the ground terminal [⏚] to the earth is recommended for lightning protection.

FM ANTENNA CONNECTION

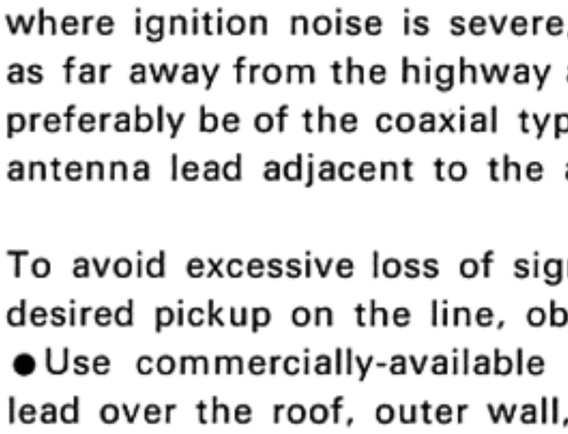
The tuner accepts 300-ohm twin lead and 75-ohm coaxial cable. The 300-ohm twin lead may be either the standard or shielded type. Standard 300-ohm twin lead is inexpensive and will be adequate for most installations. However, in cases where local noise or multipath pickup on the transmission line cause interference, a shielded transmission line must be used. In locations where ignition noise is severe, the antenna should be located as far away from the highway as possible, and the lead-in should preferably be of the coaxial type. Be careful not to run the fm antenna lead adjacent to the a-m ferrite-bar antenna.

To avoid excessive loss of signal strength and to minimize undesired pickup on the line, observe the following precautions.

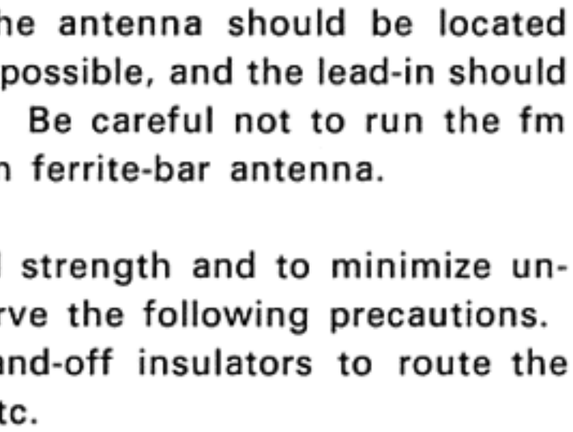
- Use commercially-available stand-off insulators to route the lead over the roof, outer wall, etc.
- Keep the lead as short as possible and avoid long horizontal runs.
- Cut off the unused portion of the lead at the tuner input, rather than folding or bunching it together.

300-ohm twin lead connection
If using 300-ohm twin lead, connect it to the FM 300Ω terminals as follows.

Standard 300-ohm twin lead



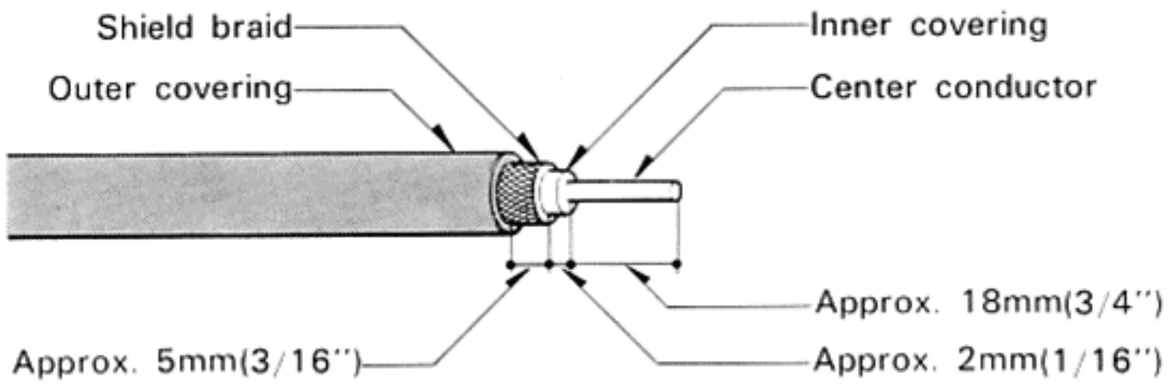
Shielded 300-ohm twin lead



75-ohm coaxial cable connection

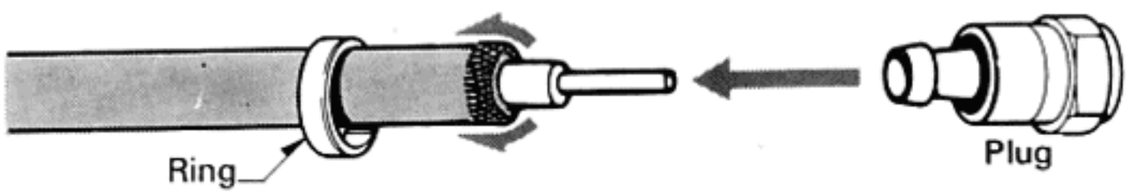
If using 75-ohm coaxial cable, attach the supplied connector as described below, and connect the cable to the FM 75Ω COAXIAL INPUT.

❶ Cut and remove the outer covering, shield braid and inner covering with knife or razor blade as shown.
Be careful not to damage the center conductor.

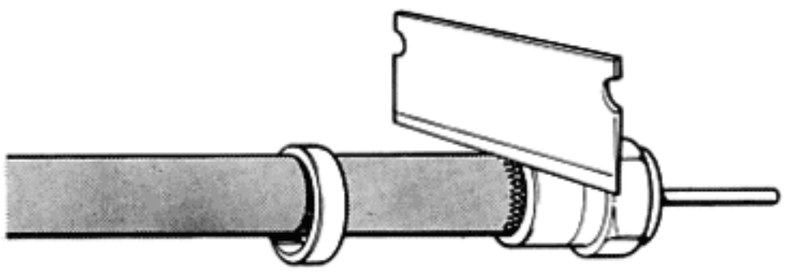


If the center conductor is a stranded type, twist the strands tightly and solder them. Don't use too much solder.

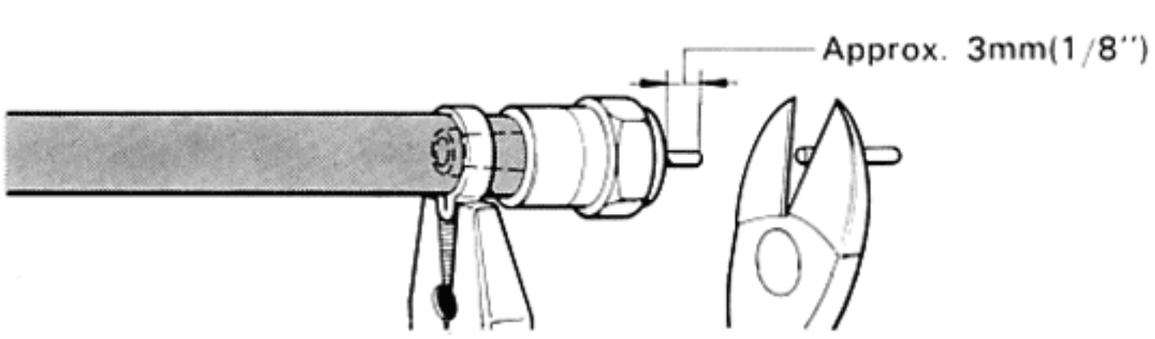
❷ Pass the ring over the cable, and spread the braid. Then push the connector into the cable between the braid and the inner covering.



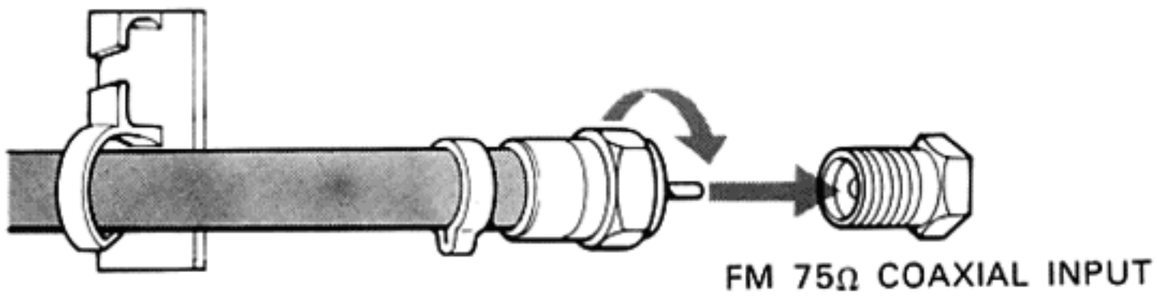
❸ Cut the excess braid.



❹ Crimp the ring with a lineman's plier to secure the connector. Let the center conductor protrude about 3 mm (1/8 inch); cut off the excess conductor.

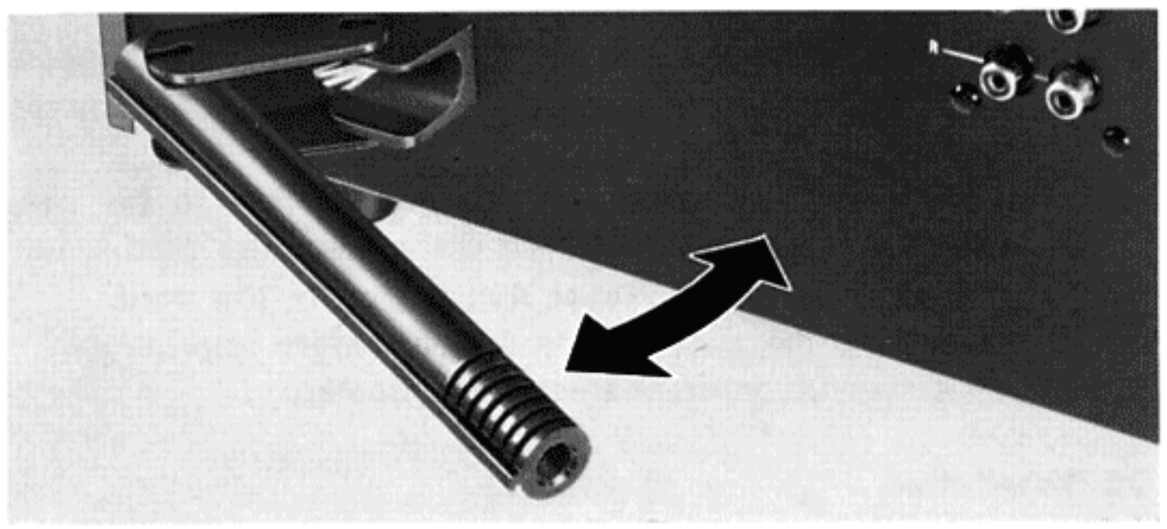


❺ Connect the cable to the 75Ω COAXIAL INPUT.



AM ANTENNA CONNECTION

In most areas, the built-in ferrite-bar antenna will provide satisfactory a-m reception. Position the antenna on the rear panel as shown for best reception.



In difficult reception areas, it may be necessary to connect a length of insulated wire 5 – 15 meters (20 – 50 feet) long to the AM ANTENNA terminal. Extend this out of doors if possible, keeping the greater portion horizontal. A-m signal strength indicated on the SIGNAL MULTIPATH meter; the stronger the signal the greater the deflection to the right.

OUTPUT CONNECTIONS

FIXED OUTPUT jacks

These connect the fm signals at a 750 millivolt output level (at 100% modulation) to the TUNER input jacks of the amplifier.

VARIABLE OUTPUT jacks

The output level at these jacks can be varied continuously from 0 to 1.5 volts by turning the OUTPUT LEVEL control on the front panel. These are useful in equalizing the volume produced by the tuner with that provided by other signal sources such as tape recorders, record players, etc.

NOTE :

You can use the FIXED and VARIABLE jacks simultaneou

Fm discriminator output jack [FM DISCRI]

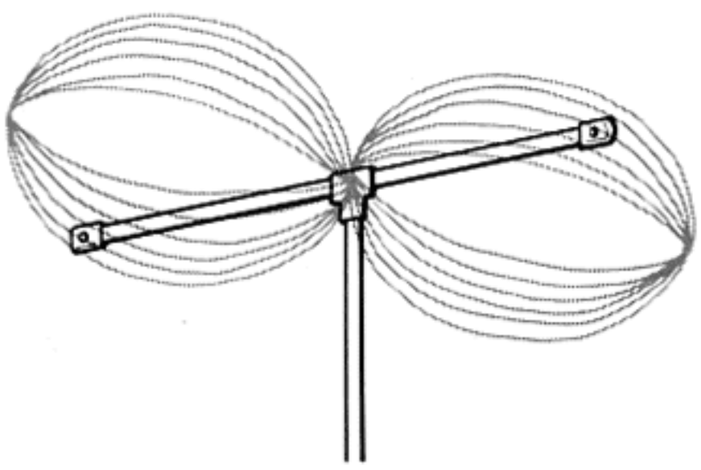
This jack accepts an adaptor for fm discrete four-channel broadcasts. An output of 150 millivolts is supplied to this jack when receiving a 100% modulated signal.

FM ANTENNAS

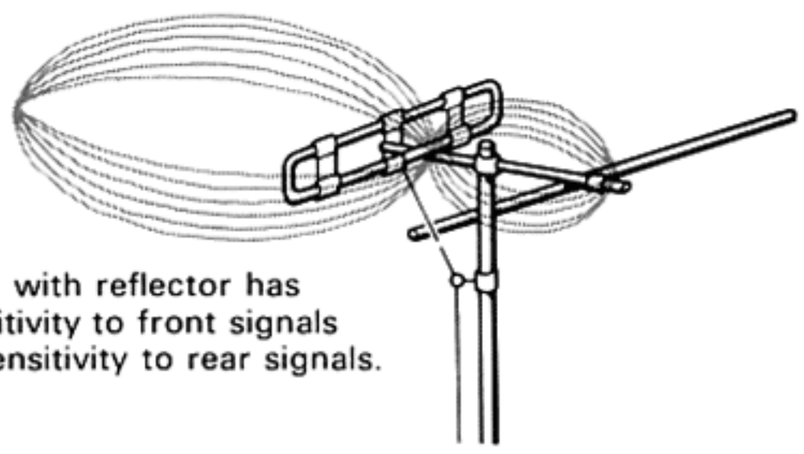
Good fm reception depends not only on the tuner sensitivity but on the quality of the received signals. This is determined by the signal strength, the presence of multipath signal and the geographic location of the desired fm stations. To get the best from your tuner, use an antenna suited to your location. Until you install a suitable one, the supplied ribbon antenna may be useful.

In a strong signal area, the familiar "rabbit-ear" antenna is simple to install and is usually suitable for fm reception, since it can be adjusted easily for best signal pickup. If there are many high structures nearby, and evidence of strong multipath reception is present, use a highly-directional rotatable outdoor antenna.

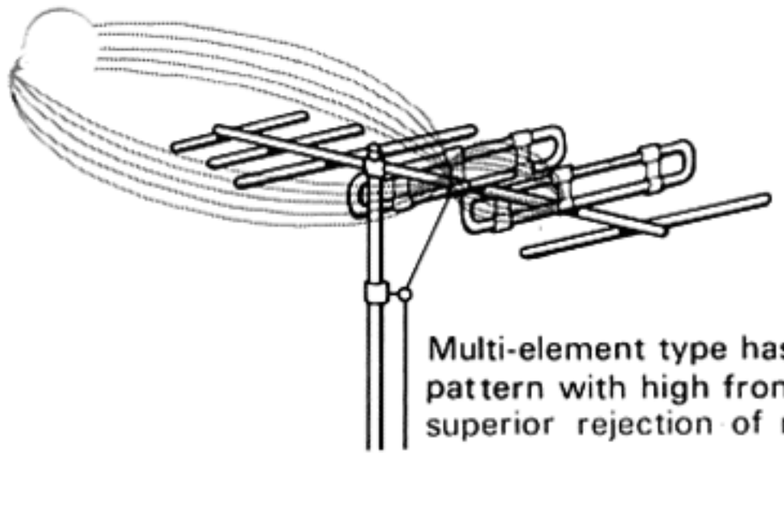
If you wish to receive not only the local stations that an indoor antenna pulls in, but to reach out into areas where there may be programs more to your taste, use a high-gain directional outdoor fm antenna properly installed with a rotator.



Ribbon dipole and rabbit antennas pick up signals from both front and rear equally well.



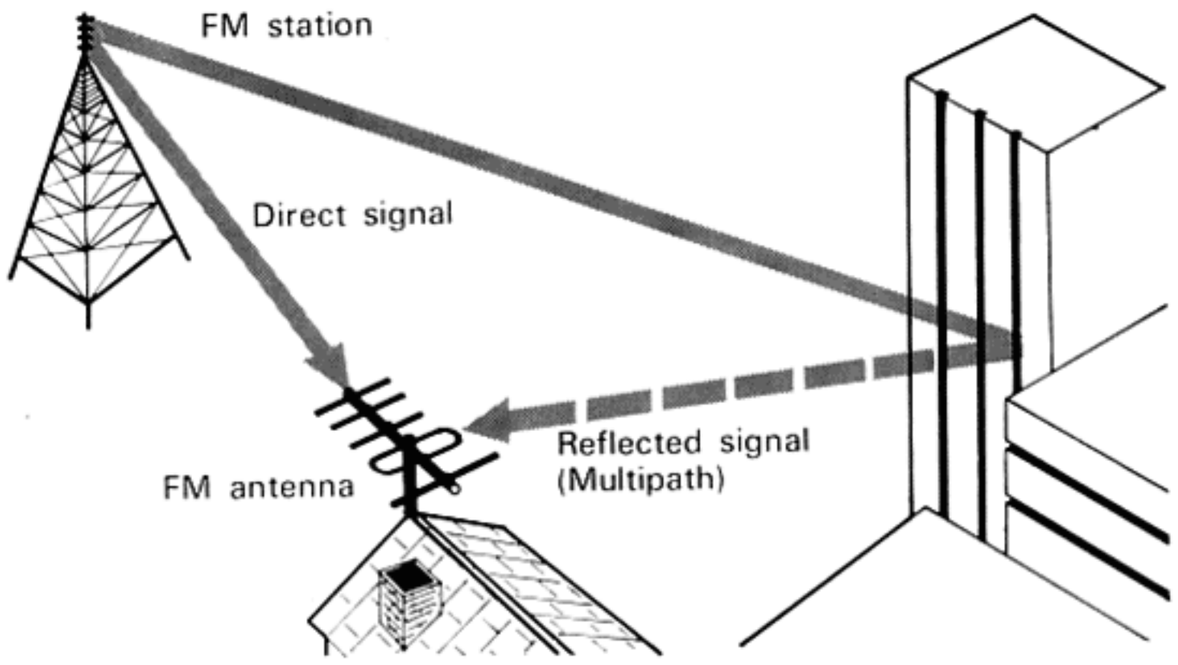
Dipole antenna with reflector has increased sensitivity to front signals and reduced sensitivity to rear signals.



Multi-element type has narrower pickup pattern with high frontal sensitivity and superior rejection of rear signals.

MULTIPATH RECEPTION

The most important factor affecting fm signal quality is multipath reception. Multipath is caused by signal reflections from hills or structures that reach the receiving antenna perceptibly later in time. Particularly with fm stereo, multipath can cause severe distortion and complete loss of channel separation. The effects of a multipath condition appear as high-frequency noise and distortion, particularly noticeable in music systems with extended response. The effects of multipath reception can be avoided to a great extent by using shielded twin lead, and a good directional antenna that is correctly oriented. To help eliminate the effects of multipath by antenna readjustment, the tuner employs a visual read-out of the received strength of the multipath signal.



FM ANTENNA ORIENTATION

For the highest quality reception, once the antenna has been installed, it should be adjusted to furnish a maximum of signal strength and a minimum multipath component. This can be readily done if either a "rabbit-ear" or motor-driven antenna is used. Adjustment is facilitated by the use of the SIGNAL MULTIPATH meter which is part of your new Sony tuner. Normally this meter gives a visual indication of the station signal strength. However, when the MULTIPATH switch is pressed, the magnitude of the station multipath component is visually indicated. The desired objective of maximum signal and minimum multipath can be quickly and easily accomplished by adjusting first for maximum signal strength. Then depress the MULTIPATH switch and rotate the antenna for a minimum multipath indication on the meter. Now recheck to see if the signal strength is sufficient for lowest noise reception. In most cases, this procedure for finding the optimum signal/multipath ratio should only take a few seconds.

If your favorite stations lie in different directions, this procedure should be accomplished at each change of station. When a fixed position antenna is used, vary the location and direction until an overall satisfactory position is found before making the installation permanent.

FUNCTION OF CONTROLS

Before plugging in or attempting to operate this tuner, it is suggested that you familiarize yourself with all its parts, and the purpose of each.

❶ POWER switch
Depress it to apply power to the tuner. The dial will light. Depressing it again will shut off the power.

❷ OUTPUT LEVEL control
Controls the output level of the VARIABLE jacks on the rear panel from 0 to 1.5 volts. At the center click position, the same level as the FIXED jacks, 750 millivolts, is supplied.

❸ MULTIPATH switch
Check the multipath reception on fm by pushing this switch. If the SIGNAL MULTIPATH meter reads close to "0", no substantial amount of multipath is being received. If there is a moderate to large deflection, readjust the antenna.

❹ HI-BLEND switch
Normally keep this switch released.
If a stereo signal contains background hiss or static, depress this switch to obtain satisfactory listening. This activates the high-blend circuit to mix the high-frequency components of the left and right channels, thereby cancelling noise without affecting frequency response, although there is a reduction in stereo channel separation at the higher frequencies. If the signal strength is not adequate and background noise is noticeable, use of this switch will effectively improve reception.

❺ FUNCTION selector

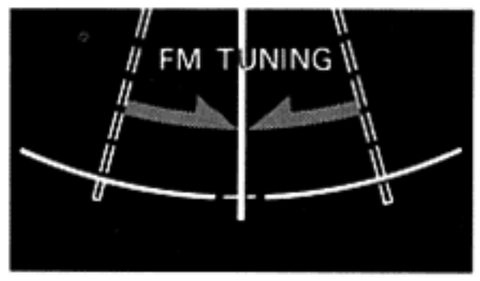
FM STEREO	for fm reception, normally use this position. When a stereo signal of sufficient strength is received, the tuner operates in stereo mode, and the STEREO lamp will light. If the signal changes to mono, the tuner will be switched to mono mode automatically.
FM MONO	locks the tuner to mono mode which is helpful when the broadcast is weak and noisy.
AM	for a-m reception.

❻ TUNING knob
Selects the desired fm or a-m station.

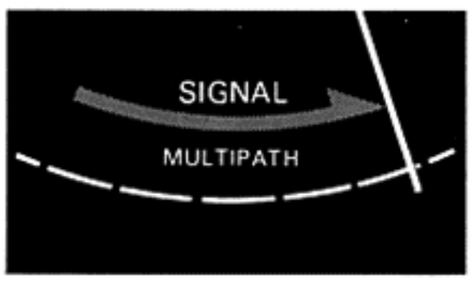
❼ MUTING switch
Normally keep this switch at the upper position to eliminate fm interstation noise while tuning from station to station. Very weak stations are also muted along with the noise, and must be tuned in with the switch set to OFF. In this case, keep the volume down to avoid speaker damage caused by the interstation noise.

❽ STEREO lamp
This lamp will light when an fm stereo program of sufficient signal strength is tuned in with the FUNCTION selector set to FM STEREO.

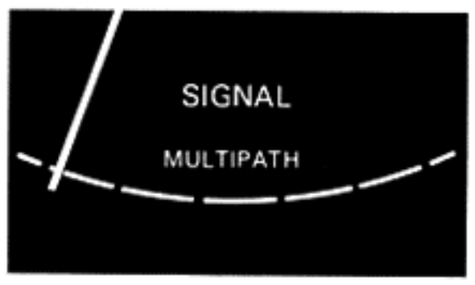
❾ FM TUNING meter
While receiving fm programs, this meter acts as a center-of-channel indicator; correct tuning is indicated by a center reading. When the dial indicator comes near the station, the meter pointer will swing either to the left or right, and the pointer will return to the center position at the channel center of the selected station as the correct tuning point is reached. Detuning from the center point will also cause the pointer to move to the right or left, and it will return to the center again when detuned completely.



❿ SIGNAL MULTIPATH meter
This is a dual-function meter which normally indicates the ..al strength of fm and a-m broadcast stations. The maximum pointer deflection to the right means best tuning of the signal. Relative strength of received signals is shown by the amount of pointer deflection. If the pointer reads 0 – 1, the signal level is too weak for full performance. In this case adjust the antenna.

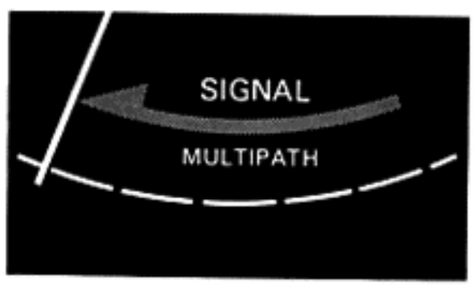


Good antenna input



Weak antenna input

However, on fm stations, by pressing the MULTIPATH switch, the magnitude of the multipath component is indicated by the degree of meter deflection. If the deflection is substantial, perceptible distortion will be present, and should be removed by readjusting the antenna.



Adjust the antenna direction until the meter reads "0".

ERATION

FM RECEPTION

❶ Depress the POWER switch to turn on the unit.
❷ Set the FUNCTION selector to FM STEREO.
❸ Release the HI-BLEND switch and set the MUTING switch to its upper position.
❹ Tune in the desired station with the TUNING knob.
❺ Adjust the volume and tone quality with the controls of the amplifier.

The correct tuning of the desired fm station is shown by the SIGNAL MULTIPATH and FM TUNING meters. When receiving the fm signal, the upper half of the dial indicator will light up, and the best tuning point is shown by the maximum deflection to the right of the SIGNAL MULTIPATH meter and the center position of the FM TUNING meter.

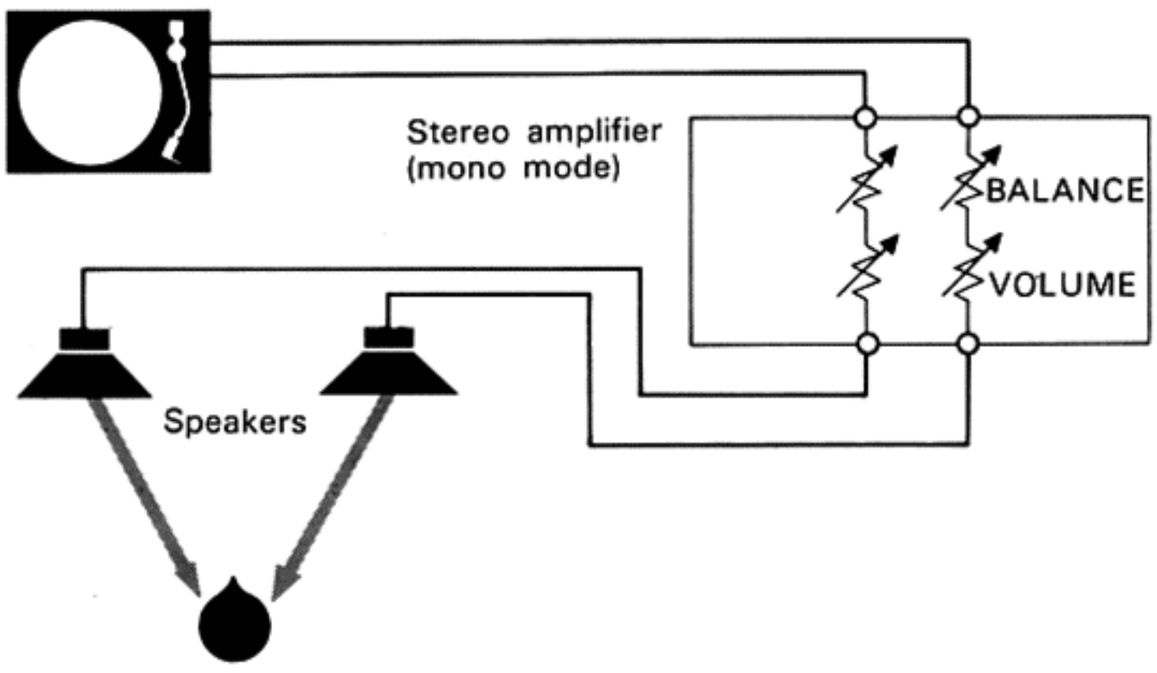
NOTES :
● To tune in very weak stations, lower the volume and set the M ING switch to OFF.
● When fm stereo signals are too weak or noisy, the STEREO lamp will flicker. If this happens, adjust the antenna, or depress the HI-BLEND switch, or set the FUNCTION selector to FM MONO.

AM RECEPTION

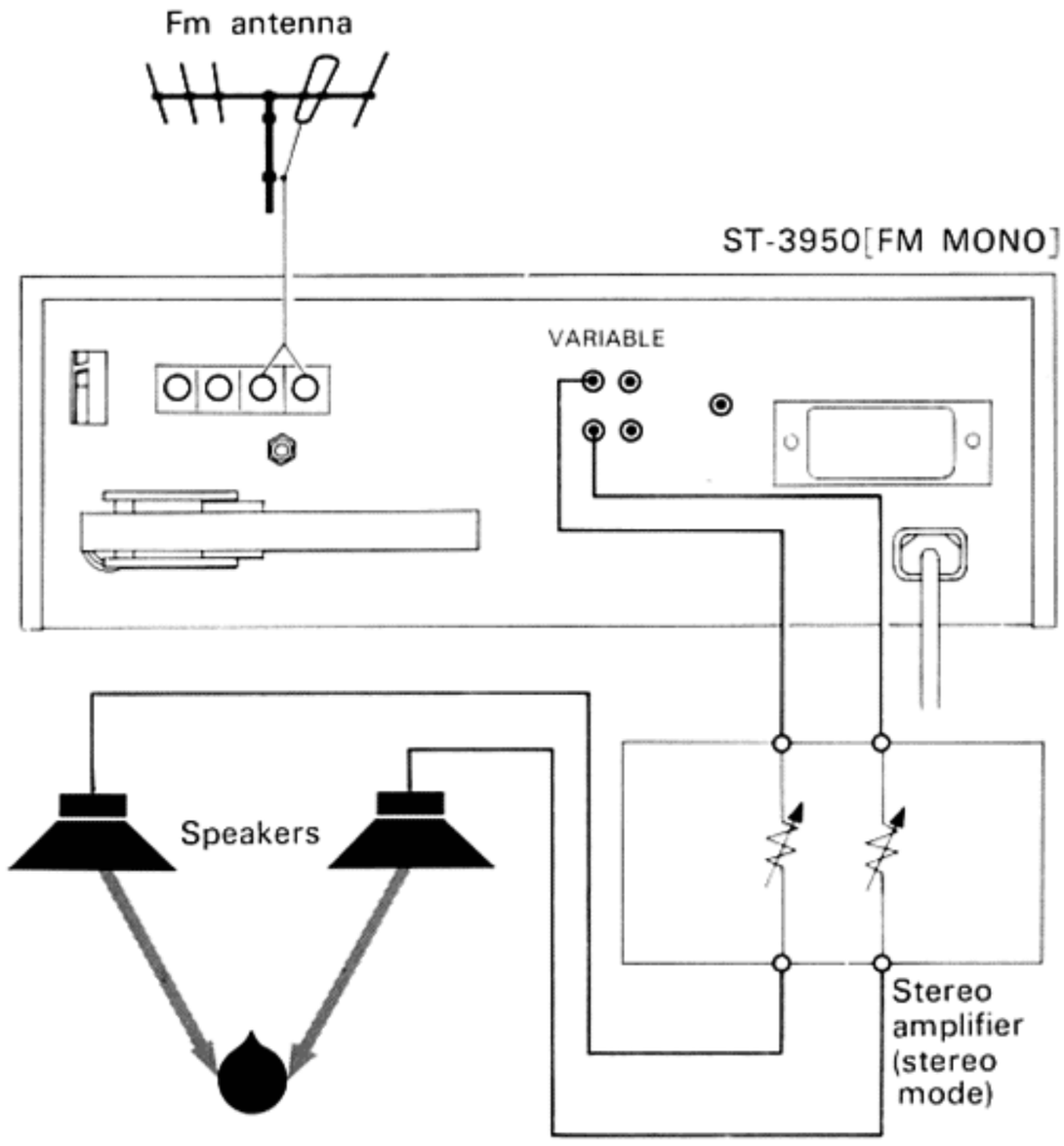
❶ Depress the POWER switch to turn on the unit.
❷ Set the FUNCTION selector to AM
❸ Tune in the desired station with the TUNING knob. The correct tuning is shown by the maximum deflection of the SIGNAL MULTIPATH meter.
❹ Adjust the volume and tone quality with the controls of the amplifier.

ADJUSTING THE OUTPUT LEVEL

If the VARIABLE OUTPUT jacks are being used, adjust the output level with the OUTPUT LEVEL control as follows.
(ay a record or a tape at a normal listening level in the mono mode, and adjust the balance of the amplifier so that the sound image is centered between the left and right speakers.



❷ Set the amplifier's mode to stereo.
❸ Set the FUNCTION selector of the tuner to FM MONO.
❹ Compare the volume level of the record (or the tape) with that of the tuner by switching the amplifier's input selector.
❺ Adjust the OUTPUT LEVEL control of the tuner so that the same volume as the record (or the tape) can be heard from the center between the left and right speakers. Clockwise rotation increases the volume.



CARE OF YOUR EQUIPMENT

TROUBLE CHECKS

The following chart will help correct most problems which may occur with the unit. If the problem persists after you have made these checks, consult your Sony dealer.
Before going through the check list below first refer back to the "CONNECTION DIAGRAM", and "OPERATION".

No audio output
- Depress the POWER switch. Note the dial light.
- Check that the power cord is plugged into a working outlet.
- Check the connections to the amplifier.
- Check the setting of the amplifier's input selector, volume control and power switch.
- Check that the OUTPUT LEVEL control is not turned fully counterclockwise.

SIGNAL MULTIPATH meter is unstable
- Adjust the antenna.

STEREO lamp does not light when receiving stereo programs
- Adjust the antenna.
- Check that the FUNCTION selector is at FM STEREO.

STEREO lamp flickers
- Set the FUNCTION selector to FM MONO.
- If the SIGNAL MULTIPATH meter shows weak antenna input, use an appropriate outdoor antenna. A multi-element type is recommended.
- If the meter shows sufficient level but an unstable reading, adjust the antenna to eliminate multipath reception.

Severe hum or noise
- Tune accurately.
- Use shielded connecting cords.
- Ground the tuner.
- Avoid long horizontal runs of antenna lead.
- Do not run the antenna lead adjacent to a power cord.
- Keep connecting cords (or antenna lead) away from transformers or motors, and at least 3 meters (10 feet) from TV sets and fluorescent lights.
- Adjust the antenna.

Volume level is too high or too low
- Reconnect the amplifier to the VARIABLE jacks and adjust the output level of the tuner.

Ignition noise
- Install the outdoor antenna away from heavy traffic.
- Use a shielded or coaxial lead for the antenna.

Electrostatic charge
- Ground the tuner.

CLEANING

Clean the cabinet, panel and knobs periodically with a soft cloth. If finger prints, food and veberage stains, etc. are difficult to remove, use a cloth moistened with a mild soap solution. Do not use any type of scouring powder, abrasive pad or solvent.

SPECIFICATIONS

FM tuner section

Tuning range	87.5 MHz – 108 MHz
Antenna	300 ohm balanced
	75 ohm coaxial cable input
Intermediate frequency	10.7 MHz
Sensitivity at 50 dB quieting	
	3.0 μV (MONO)
	40 μV (STEREO)
Sensitivity at 46 dB quieting (40 kHz deviation)	
	40 μV (STEREO)
Usable sensitivity	IHF 1.7 μV
	1.5 μV, S/N=26 dB (40 kHz deviation)
Signal-to-noise ratio	75 dB (MONO)
	70 dB (STEREO)
Harmonic distortion	at 100 Hz
	0.15% (MONO)
	0.25% (STEREO)
	at 1 kHz
	0.15% (MONO)
	0.25% (STEREO)
	at 10 kHz
	0.2% (MONO)
	0.6% (STEREO)
IM distortion	0.15% (MONO)
	0.3% (STEREO)
Separation	35 dB at 100 Hz
	40 dB at 1 kHz
	35 dB at 10 kHz
Frequency response	40 Hz – 12.5 kHz $^{+0.3}_{-0.8}$ dB
Alternate channel selectivity	
	80 dB
Capture ratio	1.0 dB
AM suppression ratio	56 dB
Image response ratio	80 dB
IF response ratio	100 dB
Spurious response ratio	90 dB
RF intermodulation	65 dB
Sub-carrier product ratio	
	60 dB
Muting threshold	Approx. 5 μV

AM tuner section

Tuning range	530 kHz – 1,605 kHz
Antenna	Built-in ferrite-bar antenna
	External antenna terminal
Intermediate frequency	468 kHz
Usable sensitivity	250 μV/m, built-in antenna
	100 μV, external antenna
Signal-to-noise ratio	50 dB at 50 mV/m
Harmonic distortion	0.5% at 50 mV/m, 400 Hz
Selectivity	35 dB
Image response ratio	40 dB at 1,000 kHz
IF response ratio	35 dB at 1,000 kHz

General

Output level	FIXED 750 mV 10 k ohms VARIABLE 0 – 1.5 V 1.5 k ohms FM DISCRI 150 mV 2.5 k ohms
System	Fm stereo, fm/a-m superheterodyne tuner
Semiconductors	2 ICs, 5 FETs, 32 Transistors, 15 Diodes, 1 LED
Power requirements	110, 127, 220 or 240 V ac~ adjustable, 50/60 Hz
Power consumption	29 W (for the model available in U.K.) 27 W (for the model available in other countries)
Dimensions	Approx. 460 × 170 × 335 mm (w/h/d) ($18\frac{1}{8} \times 6\frac{5}{8} \times 13$ inches) including projecting parts and controls
Weight	Approx. 8.0 kg (17 lb 10 oz) net Approx. 9.8 kg (21 lb 6 oz) in shipping carton
Supplied accessories	FM ribbon antenna . . . . . 1 Connecting cord. . . . . 1 75-ohm cable connector. . . . . 1 Polishing cloth . . . . . 1 Ac power cord 1

While the information given is true at the time of printing, small production changes in the course of our company's policy of improvement through research and design might not necessarily be indicated in the specifications. We would ask you to check with your appointed Sony dealer if clarification on any point is required.

PRECAUTIONS

Sécurité

- Vérifier que la tension de fonctionnement de l'appareil soit identique à celle du secteur local.
- Des objets étrangers ou des liquides viendraient-ils à pénétrer dans le coffret, débrancher l'appareil et le faire vérifier par un personnel qualifié avant tout nouvel emploi.
- Ne pas laisser l'appareil branché sur la prise du secteur, s'il ne doit pas être utilisé pour une longue période. Pour débrancher le cordon, le tirer par la fiche. Ne jamais tirer par le cordon lui-même.
- Par mesure de sécurité, éviter de retirer les plaques latérales. Si nécessaire, consulter le concessionnaire Sony le plus proche.

Installation

- Ne pas placer l'appareil près de sources de chaleur comme des radiateurs ou des bouches d'air chaud, ni à un endroit exposé au rayonnement direct du soleil. Le garder à l'abri de la poussière, des vibrations mécaniques ou des chocs.
- Une bonne circulation d'air est essentielle pour éviter une surchauffe à l'intérieur de l'appareil. Placer l'appareil dans un endroit où cette circulation d'air est suffisante. Ne pas le placer sur une surface molle comme une couverture, ni dans un espace clos, ce qui boucherait les trous de ventilation situés en dessous de l'appareil.
- Laisser un espace libre d'au moins 15 cm (6 pouces) derrière l'appareil de sorte que l'antenne en barre de ferrite incorporée puisse facilement être orientée.

Opération

- Lorsque l'appareil n'est pas utilisé, le mettre hors tension pour l'économie de l'énergie et la durée de vie du tuner.

CONNEXIONS DE LA CHAINE

REMARQUES SUR LES CONNEXIONS

Pour assurer un branchement correct des bornes d'entrée et de sortie du tuner, se référer aux "SPECIFICATIONS", et aux instructions du mode d'emploi fourni avec l'amplificateur. En général, le niveau de sortie du tuner doit être égal ou de "légèrement supérieur" à la sensibilité de l'entrée correspondante. Aussi, l'impédance de sortie du tuner doit être considérablement inférieure à l'impédance d'entrée correspondante.

Pour toutes les connexions, utiliser un cordon blindé à faible capacitance comme celui fourni. Les cordons doivent être aussi courts que possible. Eviter les cordons à l'horizontale sur de grandes longueurs (plus de 2 mètres —6 pd), pouvant provoquer une atténuation du programme de haute fréquence contenue, et étant susceptible de prendre un bourdonnement du secteur.

S'assurer de connecter la fiche rouge à la prise droite repérée [R] et l'autre à la prise gauche [L]. Les connecteurs de cordon seront bien enfoncés dans les prises. Un mauvais branchement peut se traduire par un bourdonnement et bruit. Brancher le cordon d'alimentation en dernier, en s'assurant que l'interrupteur d'alimentation est relâché.

Mise à la terre [⏚]
Avec une antenne extérieure, une mise à la terre directe est préférable, en tant que protection contre la foudre.

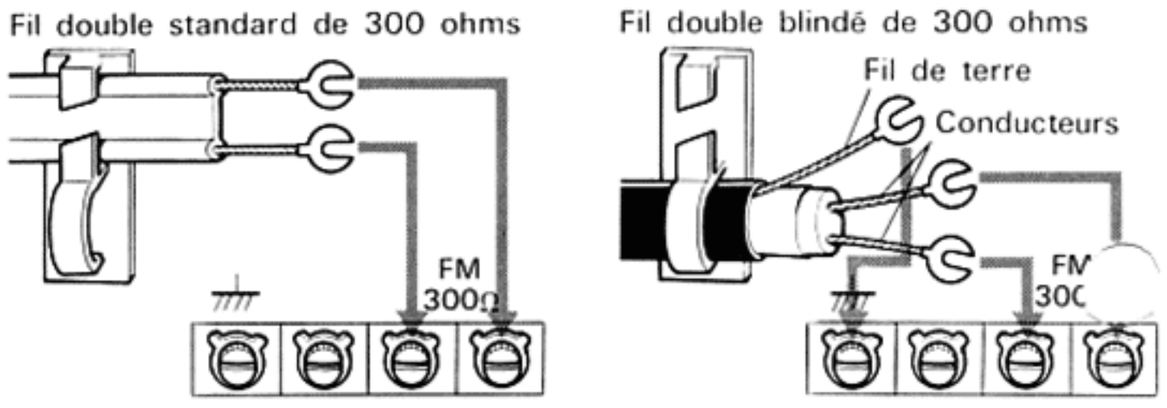
CONNEXION DE L'ANTENNE FM

Le tuner peut être connecté soit à une ligne de transmission de 300 ohms (à double fil d'entrée) soit à un câble coaxial de 75 ohms. Le fil double de 300 ohms peut être du type normal ou du type blindé ; le type normal est peu onéreux et parfaitement adéquat pour la plupart des installations. Néanmoins, dans le cas où des parasites locaux ou une capture multidirectionnelle sur la ligne de transmission cause des interférences, il convient d'utiliser une ligne de transmission blindée. Dans les endroits où les parasites dues aux voitures sont importants, placer l'antenne le plus long possible de l'axe de circulation en question, et le câble de la descente d'antenne sera de préférence de type coaxial. Eviter la portée du fil d'antenne auprès de l'antenne en barre de ferrite.

Pour éviter une perte excessive de puissance du signal, et minimiser les parasites collectés par la descente d'antenne, observer les règles suivantes.

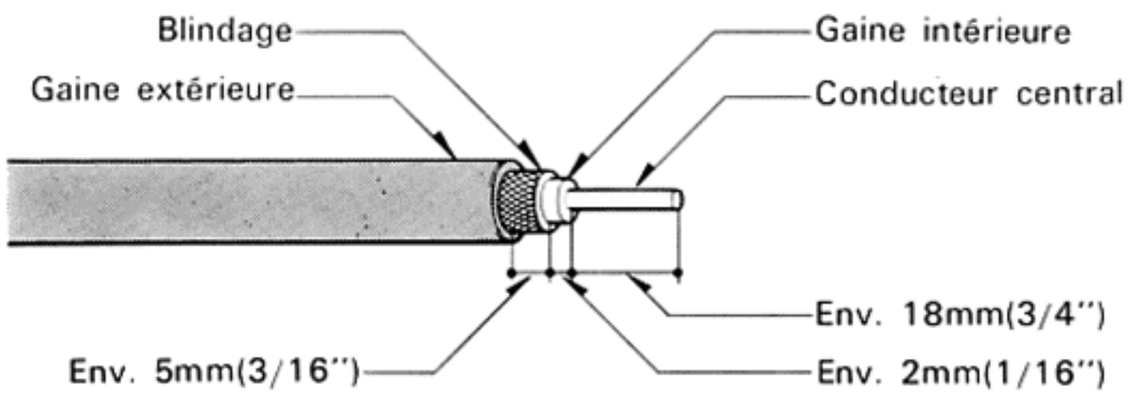
- Avec une antenne extérieure, le fil de raccord doit être monté sur isolateurs (on trouve ces derniers dans le commerce) le long du toit, des murs, etc.
- Le fil de raccord doit être le plus court possible. Eviter les longues portées horizontales.
- Couper les portions inutilisée du cordon à l'entrée du récepteur, plutôt que les plier ou les presser ensemble.

Fil double de connexion de 300 ohms
Pour l'utilisation du fil double de connexion de 300 ohms, le connecter avec bornes marquées FM 300 Ω de la façon suivante.



Connexion du câble coaxial de 75 ohms
Lors de l'utilisation du câble coaxial de 75 ohms, attacher le connecteur fourni comme indiqué ci-dessous et connecter le câble à la prise d'entrée [FM 75 Ω COAXIAL INPUT].

❶ Couper et enlever la gaine extérieure, le blindage et la gaine intérieure à l'aide d'un couteau ou d'une lame de rasoir. S'assurer de ne pas endommager le conducteur central.



Si l'âme du câble est constituée de plusieurs brins torsadés, souder le bout avec les brins bien serrés, sans mettre trop de soudre.

TECHNISCHE DATEN

UKW-Tunerteil

Empfangsbereich	87,5 MHz—108 MHz
Antennenanschlüsse	300 Ohm, symmetrisch
	75 Ohm, Koaxialkabeleingang
Zwischenfrequenz	10,7 MHz
Empfindlichkeit bei 50 dB Geräuschdämpfung	
	3,0 µV (MONO)
	40 µV (STEREO)
Empfindlichkeit bei 46 dB Geräuschdämpfung (40 kHz Hub)	
	40 µV (STEREO)
Empfindlichkeit beim Normalbetrieb	
	1,7 µV, IHF-Norm
	1,5 µV, Signal-Rauschabstand = 26 dB (40 kHz Hub)
Signal-Rauschabstand	75 dB (MONO)
	70 dB (STEREO)
Klirrgrad	bei 100 Hz
	0,15% (MONO)
	0,25% (STEREO)
	bei 1 kHz
	0,15% (MONO)
	0,25% (STEREO)
	bei 10 kHz
	0,2% (MONO)
	0,6% (STEREO)
IM-Verzerrung	0,15% (MONO)
	0,3% (STEREO)
Kanaltrennung	35 dB bei 100 Hz
	40 dB bei 1 kHz
	35 dB bei 10 kHz
Frequenzgang	40 Hz—12,5 kHz $^{+0,3}_{-0,8}$ dB
Trennschärfe	80 dB
Gleichwellenselektion	1,0 dB
AM-Unterdrückung	56 dB
Spiegelselektion	80 dB
ZF-Unterdrückung	100 dB
Nebenwellenunterdrückung	
	90 dB
HF-Intermodulation	65 dB
Pilotenunterdrückung	60 dB
Suchabstimmpegel	ca. 5 µV

MW-Tunerteil

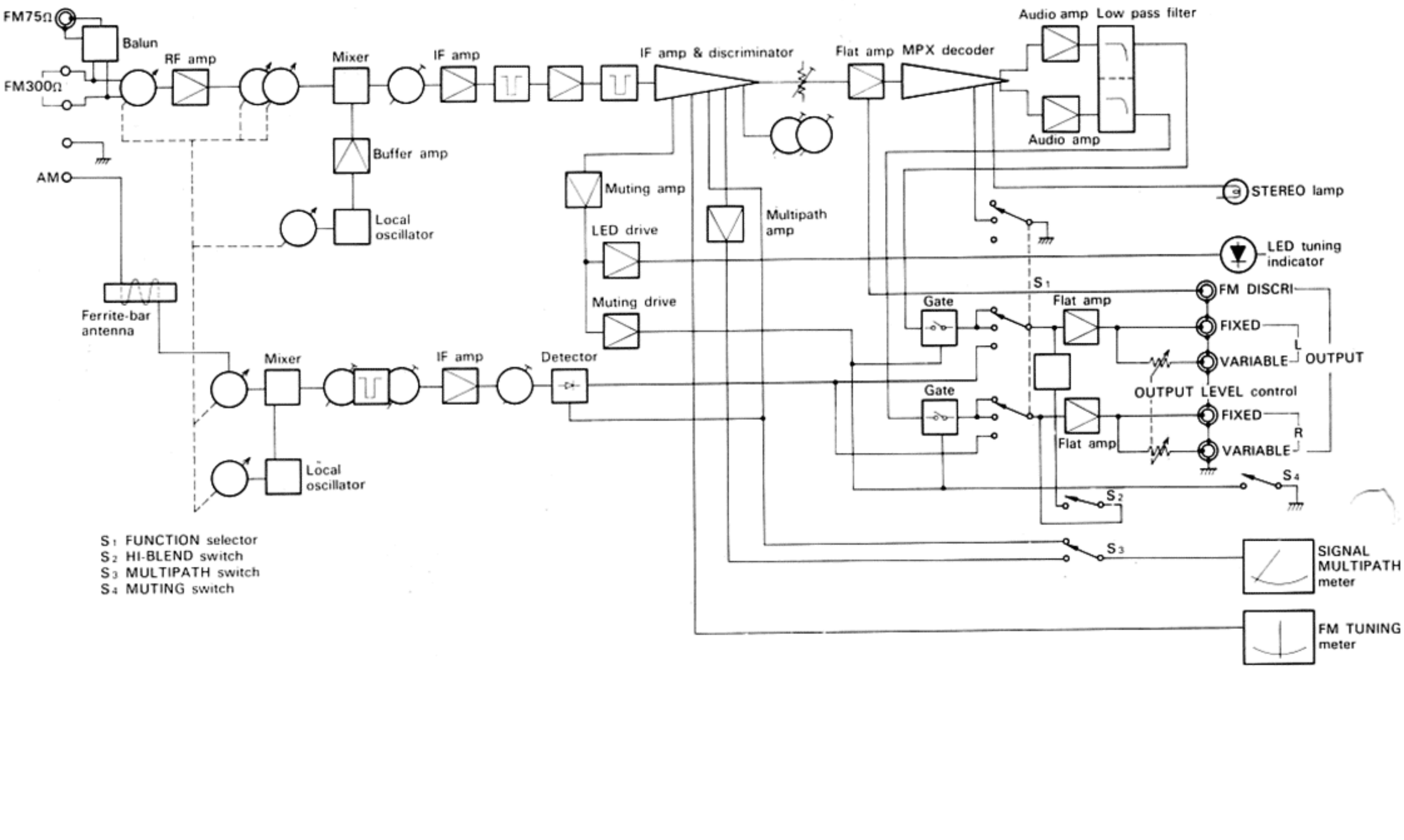
Empfangsbereich	530 kHz—1.605 kHz
Antenne	Eingebaute Ferritstabantenne
	Anßenantennenanschlüsse
Zwischenfrequenz	468 kHz
Empfindlichkeit beim Normalbetrieb	
	250 µV/m, eingebaute Antenne
	100 µV, Außenantenne
Signal-Rauschabstand	50 dB bei 50 mV/m
Klirrgrad	0,5% bei 50 mV/m, 400 Hz
Trennschärfe	35 dB
Spiegelselektion	40 dB bei 1.000 kHz
ZF-Unterdrückung	35 dB bei 1.000 kHz

Allgemeines

Ausgänge	FIXED 750 mV, 10 kOhm
	VARIABLE 0—1,5 V, 1,5 kOhm
	FM DISCRI 150 mV, 2,5 kOhm
System	UKW Stereo, UKW/MW-Superhet-Tuner
Halbleiterbestückung	2 IC, 5 FET, 32 Transistoren, 15 Dioden, 1 LED
Stromversorgung	110, 127, 220 oder 240 V Wechselspannung einstellbar, 50/60 Hz
Leistungsaufnahme	29 W (für die in Großbritannien erhältliche Ausführung)
	27 W (für die in anderen Ländern erhältliche Ausführung)
Abmessungen	ca. 460×170×335 mm (B/H/T) einschl. vorspringender Teile und Bedienungselemente
Gewicht	ca. 8,0 kg (netto)
	ca. 9,8 kg (im Versandkarton)
Mitgeliefertes Zubehör	UKW-Banddipolantenne 1
	Verbindungskabel..... 1
	Anschlußstück für 75-Ohm-Kabel... 1
	Poliertuch 1
	Netzkabel 1

Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

BLOCK DIAGRAM/SCHEMA DE PRINCIPE/BLOCKSCHALTPLAN



S_1 FUNCTION selector
S_2 HI-BLEND switch
S_3 MULTIPATH switch
S_4 MUTING switch

3-780-851-11 (3)

Sony Corporation

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