

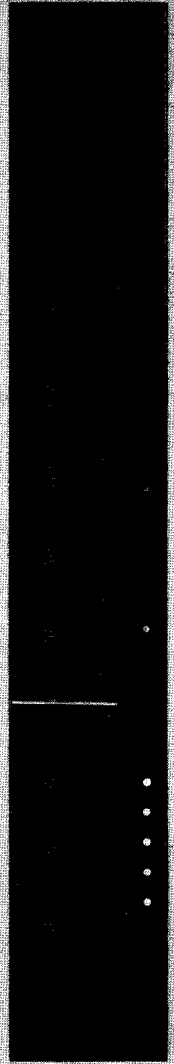
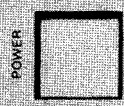
harman/kardon

LINEAR PHASE STEREO
FM/AM TUNER

TUNER

owner's manual

harman/kardon TU910 LINEAR PHASE STEREO FM/AM TUNER



mixing

off



high band

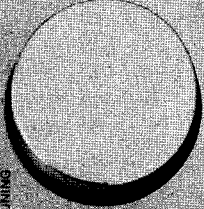


FUNCTION

Stereo

AM

TUNING



SPECIFICATIONS

Congratulations on your purchase of the Harman Kardon TU910 Linear Phase Stereo FM/AM Tuner.

In order to appreciate the full performance of this sophisticated unit, please be sure to read this owner's manual and use your tuner only in accordance with its instructions. Keep it in a safe place for future reference.

FM Section

Usable Sensitivity (Mono)	: 10.8dBf (0.95 μ V-75 Ohms)
50dB Quieting Sensitivity	
Mono	: 16.4dBf (1.8 μ V-75 Ohms)
Stereo	: 37.3dBf (20 μ V-75 Ohms)
Signal to Noise Ratio (Mono)	: 82dB
Alternate Channel Selectivity	: 70dB
Stereo Separation (1kHz, 65dBf, 100% modulation)	: 58dB
T. H. D. (1kHz, 65dBf)	
Mono	: 0.06%
Stereo	: 0.1%
Output Level/Impedance (Stereo)	: 775mV/2.2k Ohms

AM Section

Sensitivity	
External antenna	: 8 μ V
Loop antenna	: 250 μ V/m
Alternate Channel Selectivity	: 60dB

General

Dimensions (W x H x D)	: 17-1/2" x 2-11/16" x 14-11/16" (443 x 68 x 372 mm)
Weight	: 8lbs.3oz. (3.7kg)
Power Supply	: AC 120V, 60Hz
Power Consumption	: 18W

All specifications and features subject to change without notice.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure; that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

■ Sample and Hold MPX Stereo Decoder

A unique FM stereo circuit technique eliminates a side effect of MPX switching, resulting in wider FM stereo separation and lower FM stereo distortion.

■ Servo-locked Tuning

A new servo-locked tuning system allows the user to easily tune precisely for optimum reception and sound quality. Once locked in, the precise tuning will not drift with time or changes in temperature.

■ Exceptional Sound Quality

The TU910 provides low distortion, low noise, wide bandwidth and excellent stereo separation. In addition, the construction, grade of components and layout are of a high quality, and maintain audio signal purity.

■ Unique Center-tuning Indication

When the TU910 is tuned between stations, the dial scale illumination is orange. When precisely tuned (within the servo-locking range), the dial illumination changes from orange to green.

Always Use at 120V AC

This unit is designed for operation with 120V AC. Connect only to domestic AC outlets. Never connect the unit to an outlet supplying a higher voltage. This may create a fire hazard.

Handle the Power Cord Gently

- Do not disconnect the plug from the AC outlet by pulling the cord; always pull the plug itself. Pulling the cord may break the wire.
- If you do not intend to use your unit for any considerable length of time, disconnect the plug from the AC outlet.
- Do not place furniture or other heavy objects on the cord, and avoid dropping heavy objects on it. Also do not make a knot in the power cord. Not only may the cord be damaged, it can also cause a short circuit and a consequent fire hazard.

Place of Installation

Place your unit on a firm and level surface. Avoid installing your unit under the following conditions:

- ▶Moist or humid places.
- ▶Places exposed to direct sunlight or close to heating equipment.
- ▶Extremely cold locations such as those in the direct draft from an air conditioner.
- ▶Places subject to excessive vibration or dust.
- ▶Poorly ventilated places.

Moving the Unit

Before moving the unit, be sure to unplug the power cord from the AC outlet and disconnect the interconnection cords to other units.

Do Not Open the Cabinet

To prevent fire or shock hazard, do not tamper with internal components for inspection or maintenance. Harman Kardon does not guarantee against performance degradation resulting from any modification.

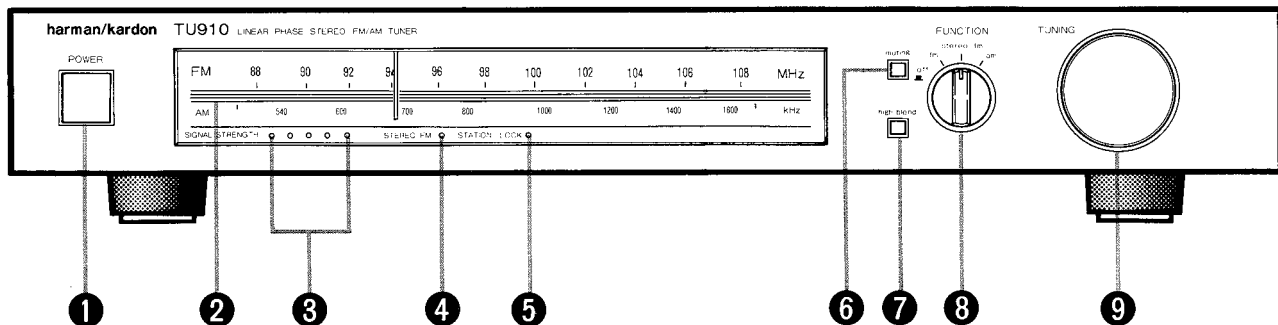
If water, a hairpin or wire accidentally enters the unit, immediately unplug the power cord from the AC outlet to prevent shock and consult an authorized Harman Kardon service station. If you use the unit under this condition, it may cause a fire or shock hazard.

Cleaning

When the unit gets dirty, wipe it with a soft dry cloth. If necessary, wipe it with a soft cloth dampened with mild soapy water and then wipe with a dry cloth.

Never use benzine, thinner, alcohol or other volatile agent, and avoid spraying an insecticide near the unit.

CONTROLS AND FUNCTIONS



❶ POWER SWITCH

Pressing this switch will turn on the power and the dial panel will illuminate. Press the switch again to turn the power off.

❷ DIAL ILLUMINATION

The TU910 was designed to be tuned easily and accurately. When it is tuned between stations, the dial is illuminated in orange. When it is precisely tuned to a broadcast station, the color of the DIAL ILLUMINATION changes from orange to green.

❸ SIGNAL STRENGTH INDICATOR

The relative strength of the signal being received is displayed by this indicator. Tune and adjust the antenna position for the highest possible indication.

❹ STEREO FM INDICATOR

This indicator is illuminated when an FM stereo broadcast is received.

❺ STATION LOCK INDICATOR

The TU910 has a built-in servo-lock system that provides accurate fine tuning for optimum reception and sound quality. It also prevents drifting with time or changes in temperature. When the TUNING knob is adjusted, the locking system is temporarily turned off. When the DIAL ILLUMINATION changes from orange to green, tuning is nearly precise and within range for the locking system to engage. About two seconds after the TUNING knob has stopped turning, the STATION LOCK indicator will illuminate, confirming that the TU910 is locked onto that broadcast station.

❻ MUTING SWITCH

This switch eliminates irritating inter-station noise when tuning from station to station. To tune in a weak station, it may be necessary to press this switch to the "off" (in) position, which deactivates the muting function. This muting feature only applies to FM reception.

❼ HIGH BLEND SWITCH

This switch reduces irritating high frequency noise generated when receiving a weak FM stereo broadcast. Press this switch to the ON position (button in) to reduce this noise.

❽ FUNCTION SELECTOR

FM position: in this position, all FM broadcasts will be received as monaural broadcasts, regardless of whether or not they are in stereo. This position manually overrides the automatic stereo/mono switching system employed in the "stereo fm" position, and thereby may provide quieter, more listenable sound quality under poor reception conditions.

STEREO FM position: in this position, stereo FM reception is automatically selected when received at medium or high signal strength. When an FM monaural signal or a weak FM stereo signal is received, it automatically switches to the FM monaural mode.

AM position: This position is used to receive an AM broadcast.

❾ TUNING KNOB

This knob is used to tune to the desired stations. When a broadcast station is precisely tuned in, the color of the DIAL ILLUMINATION changes from orange to green.

Connecting to an Integrated Amplifier or Pre-amplifier

Connect the OUTPUT jacks of this unit and the TUNER or AUX input jacks of the preamplifier or the integrated amplifier by using the attached connection wire.

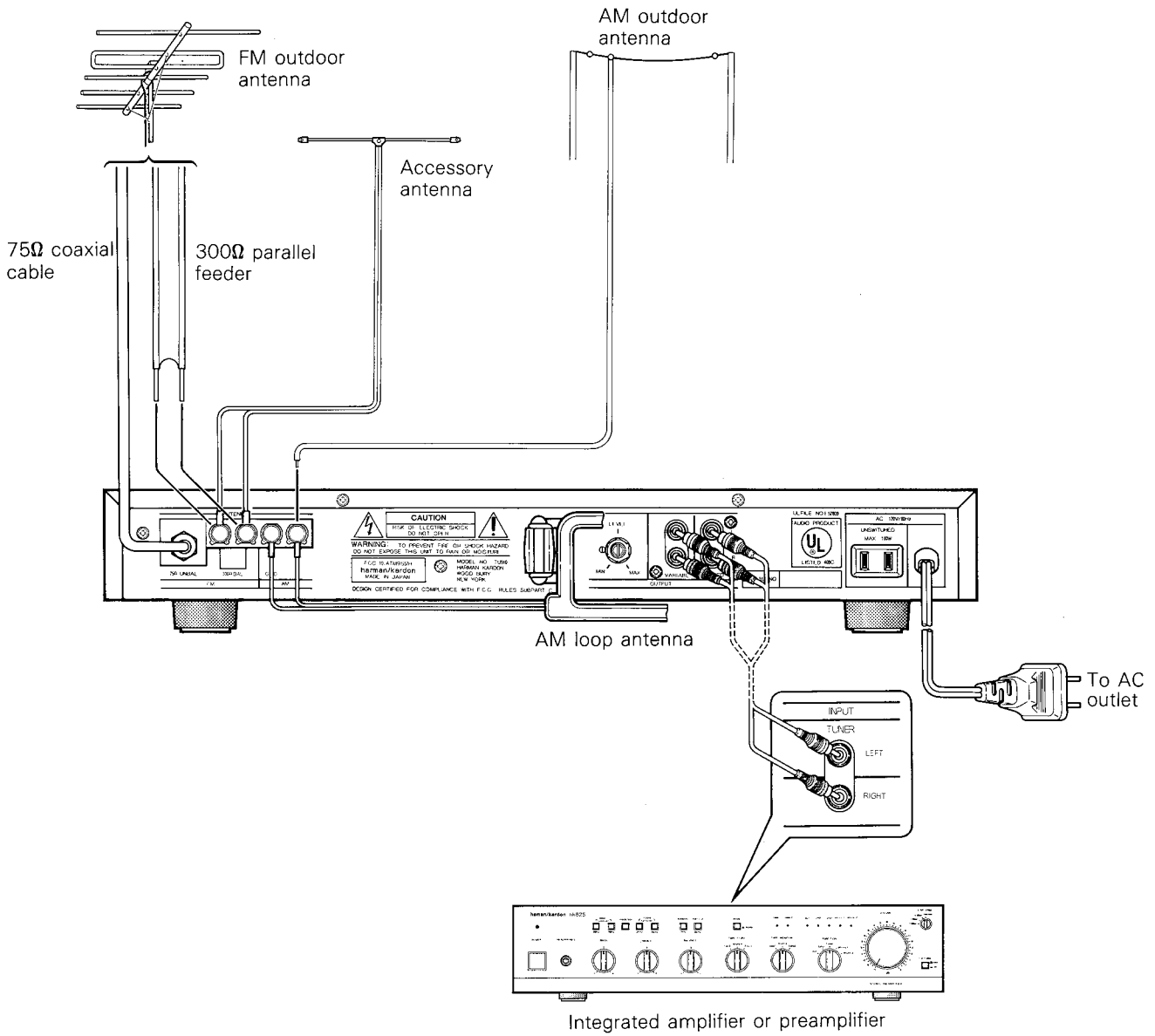
Carefully connect the plugs to the left and right channel jacks. Push the plugs in all the way. Poor seating of the plugs tends to cause hum or intermittent sound and may damage the speakers.

This unit is equipped with FIXED and VARIABLE OUTPUT jacks. The output level of the VARIABLE OUTPUT jacks can be adjusted in the range of 0~0.775V (100% FM modulation) by using the LEVEL control on the rear panel. Adjust the LEVEL control so that the sound level from the tuner is the same as the sound level from other sources, such as phono or tape.

NOTE: While you are connecting this unit to the rest of your high fidelity system, please unplug the power cord, disconnecting not only this unit but all the components from the AC outlet.

Do not interwind the connection wires with the power cord. If interwound, the sound quality may be degraded.

The AC convenience receptacle on the rear panel can be used for supplying power to a turntable, tape deck or other low power component. The power capacity is 100 watts. Check the component's owner's manual to find its power requirement. This outlet is independent of this unit's power switch.

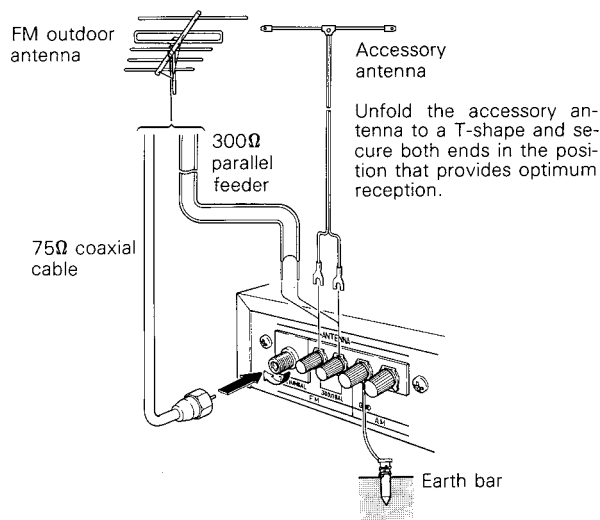


FM Antenna

If experiencing poor FM reception while using the accessory antenna, the use of an outdoor antenna exclusively for FM reception is likely to improve FM reception.

The connecting wire between the antenna and the antenna input terminal is called a feeder. Most feeders are 300 Ω parallel or 75 Ω coaxial cables. We recommend type 3C-2V or 5C-2V 75 Ω coaxial cable to be used with this unit to enable it to perform to its fullest capacity. The coaxial cable has a stronger resistance against loss and interference compared to a parallel feeder.

If there is a lot of noise while receiving an FM broadcast, we recommend that you make a ground connection. Connect one end of a thick wire to the antenna GND terminal and wind the other end around an earth bar or earth plate and drive it into the ground.

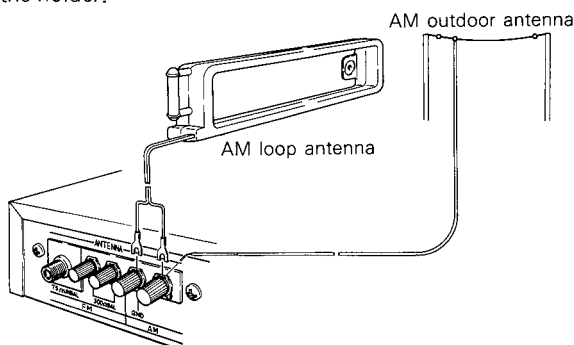


CAUTION: Never make a connection to a gas pipe because it may cause fire hazard.

AM Antenna

The AM loop antenna attached to this unit allows sufficient reception, except in an area where AM signals are weak. In a fringe area or inside a concrete building where the reception is weak and the sound quality is poor, an outdoor AM antenna is likely to improve reception.

Place the AM loop antenna as far away from this unit as possible, e.g. hang it on wall, without touching a metal object. You may also install the AM loop antenna by fitting it onto the antenna holder on the rear panel. To remove the AM loop antenna from the unit, simply pull it out of the holder.



Tuning Method

1. Turn on your amplifier, turn the volume control to the minimum level and select the tuner function on the amplifier according to its owner's manual.
2. Press the POWER switch and the dial panel will illuminate.
3. Set the FUNCTION selector to the "stereo fm" position for FM reception or to the "am" position for AM reception.
4. Tune in the desired station by using the TUNING knob. When the desired station is tuned in, the color of the DIAL ILLUMINATION changes from orange to green. The SIGNAL STRENGTH indicator progressively illuminates according to the reception level. When receiving an FM broadcast, the color of the DIAL ILLUMINATION changes from orange to green and after two seconds the STATION LOCK indicator will illuminate to indicate that the station is locked in. When receiving an FM stereo broadcast, the STEREO FM indicator will illuminate automatically.
5. Under normal reception conditions, set the MUTING switch to the ON position (button out) to eliminate irritating interstation noise when scanning the stations. To receive a weak station, press this switch to the "off" (in) position, which deactivates the muting function.
6. After tuning the station, set the volume of amplifier to your favorite level.
7. If an irritating noise is generated when receiving a weak FM stereo broadcast, press the HIGH BLEND switch (button in).

Receiving a Very Weak FM Broadcast

Normally, weak FM broadcasts and noise are cut out by the muting function. When receiving such a weak FM broadcast is desired, do as follows;

1. Set the volume control of the amplifier at minimum level and press the POWER switch.
2. Set the FUNCTION selector to the "fm" position.
3. Press the MUTING switch to the "off" position.
4. Tune the desired station by using the TUNING knob.

TROUBLESHOOTING CHECKLIST

Most of the problems consumers have with their high fidelity system are due to incorrect operation. If this unit does not operate as you intended, first check the items in the

following checklist. Also check other related components such as the amplifier, speakers and other electrical equipment you use with this tuner.

Problem	Cause	Remedy
The dial panel does not light up when the POWER switch is pressed.	<ul style="list-style-type: none"> •The power cord is not plugged in. •The power cord is plugged into a receptacle that is not "live". 	<ul style="list-style-type: none"> •Plug in the power cord securely. •Plug the power cord into a "live" receptacle.
The dial panel lights up, but no sound is heard.	<ul style="list-style-type: none"> •The connection wires are disconnected or broken. •The tuned frequency does not carry a broadcast. •The muting function is active and the signal strength is weak. •The function switch or speaker switch of the amplifier are not set in the correct position. 	<ul style="list-style-type: none"> •Check the connection wires and connect them correctly. •Tune to a broadcasted station. •Press the MUTING switch to the "off" position. •Read the owner's manual of the amplifier and operate it correctly.
When listening to an FM stereo broadcast, noise is heard, while it is not heard when listening monaurally.	<ul style="list-style-type: none"> •This is a reception problem that is affecting stereo decoding. 	<ul style="list-style-type: none"> •Press the HIGH BLEND switch to the ON position (button in). •Change the position of the FUNCTION selector from "stereo fm" to "fm". •Reposition the antenna for better reception.
<p>FM sound has a large amount interference.</p> <p>The STEREO FM indicator is not completely illuminating.</p> <p>The STATION LOCK indicator does not illuminate.</p> <p>Sound distorts and/or the volume level becomes low.</p>	<ul style="list-style-type: none"> •Incorrect connection to the antenna. •Poor location and/or direction of the antenna. •Transmitting station is too far away. •Multi-path distortion is being caused by the mutual interference of broadcast signals received directly from the transmitting station (direct waves) and signals being reflected from nearby buildings or mountains (reflected waves). 	<ul style="list-style-type: none"> •Check the antenna connection wires and connect them correctly. •Try changing the location, height and/or direction of the antenna. •If an indoor antenna is being used, change to an outdoor antenna. •Use a more directional antenna.
A buzzing or hissing noise is produced continuously or intermittently.	<ul style="list-style-type: none"> •Caused by the "discharge phenomenon" and the "oscillation phenomenon" of nearby electric appliances (such as fluorescent lights, TV, motors, etc.). 	<ul style="list-style-type: none"> •Place this unit further away from these types of electric appliances. •Install noise-filters on the electric appliances.

Warranty and After-sale Service

- Please find the description of our warranty policy enclosed with this unit.
- Read it carefully and keep it in a safe place.
- The warranty period is two years from the date of purchase. Your bill of sale identifies this date. Therefore, it is important that you also keep the bill of sale for the length of the warranty period.
- If this unit does not operate normally, first check this unit by yourself following the instructions provided in "Troubleshooting Checklist" in the manual.

- If a problem persists even though you have done as suggested in the checklist, consult your authorized Harman Kardon service station.
- Repair within the warranty term is made according to the prescriptions specified in the warranty card. For details, refer to the warranty card.