

harman/kardon

DIGITAL SYNTHESIZED
QUARTZ-LOCKED TUNER

TUNER

owner's manual



SPECIFICATIONS

Congratulations on your purchase of the Harman Kardon TU915 Digital Synthesized Quartz-locked 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 : 82dB
(Mono)

Alternate Channel Selectivity: 70dB

Stereo Separation : 60dB
(1kHz, 65dBf, 100% modulation)

T.H.D. (1kHz, 65dBf)

Mono : 0.05%

Stereo : 0.08%

Output Level/Impedance : 775mV/2.2k Ohms
(Stereo)

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"x2-11/16"x14-11/16"
(443 x 68 x 372 mm)

Weight : 8lbs. 6oz. (3.8kg)

Power Supply : AC 120V, 60Hz

Power Consumption : 16W

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.

■ Digital Synthesized Quartz-locked Tuning

Quartz-locked tuning accuracy eliminates drifting and mistuning, thereby guarantying optimum sound quality. Eight AM and eight FM stations can be simultaneously stored in the memory. They will remain for three weeks even if there is a loss of power.

■ Exceptional Sound Quality

The TU915 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.

■ Improved Front-end Interference Rejection

The antenna input circuitry has an improved ability to reject strong out-of-band signals, such as those from local television broadcasts. This is especially of benefit to users living near TV broadcast stations and to those connecting TV or cable antennas to their tuner.

■ Flywheel Tuning Knob with Auto-seek

A rotary tuning knob is employed rather than push-button up/down tuning. Like an analog tuner, rotation of the knob adjusts the tuned frequency. In the auto-seek mode, the TU915 automatically finds the next station after the tuning knob stops turning.

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.

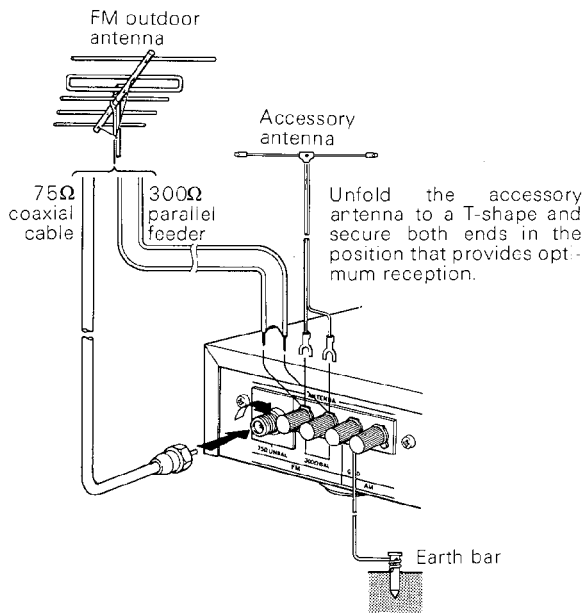
Never use benzine, thinner, alcohol or other volatile agent, and avoid spraying an insecticide near the unit.

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 300Ω parallel or 75Ω coaxial cables. We recommend type 3C-2V or 5C-2V 75Ω 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.

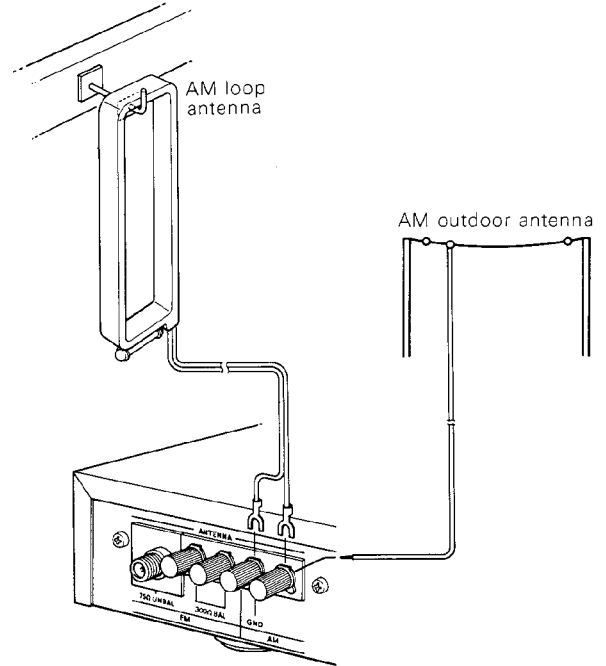
If there is a lot of noise while receiving an FM broadcast, we recommend that you make a ground connection. Connect one end of a thick wire to the antenna GND terminal and wind the other end around an earth bar or earth plate and drive it into the ground.



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.



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

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.

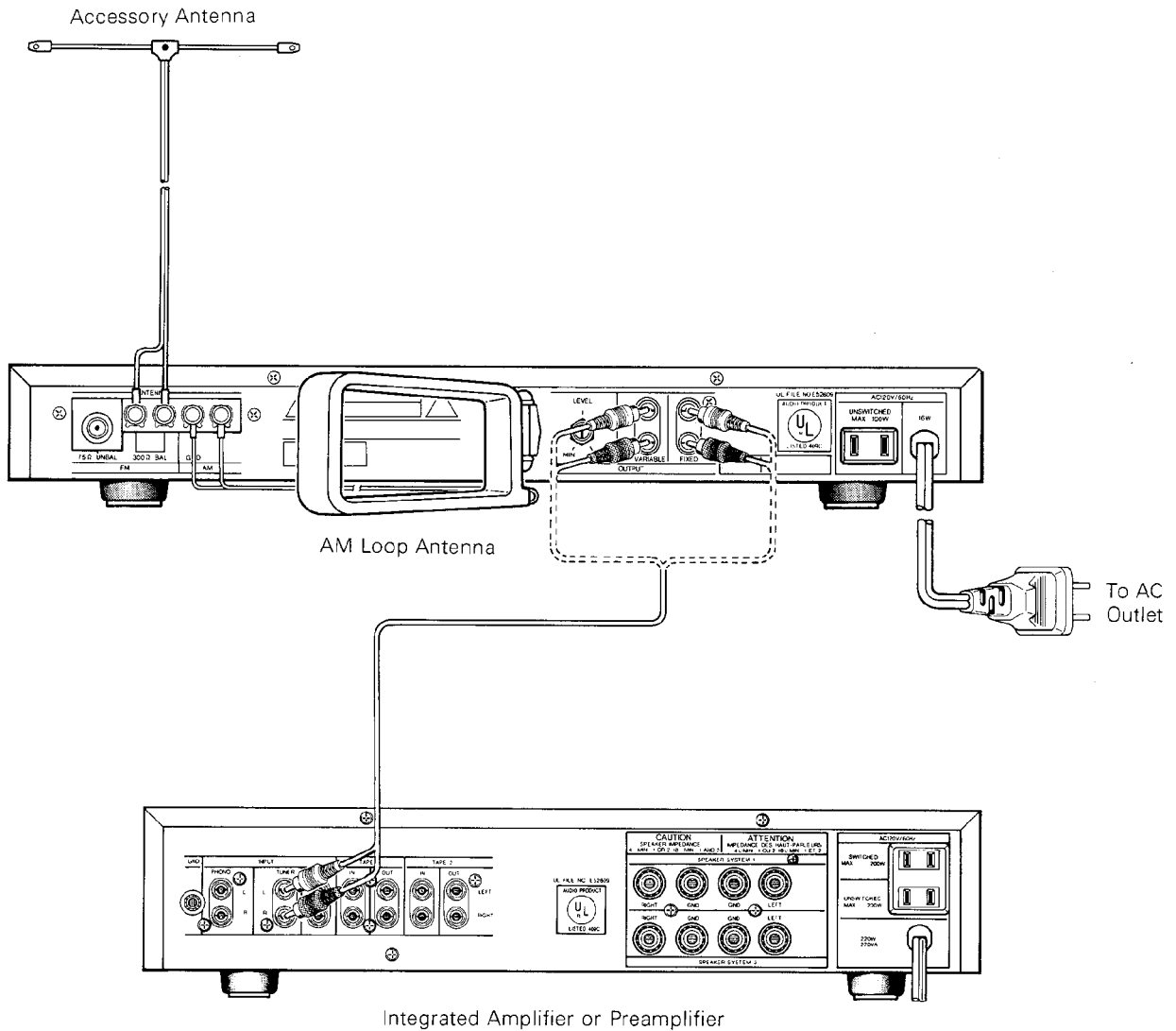
Carefully connect the plugs to the left and right channel jacks. Push the plugs in all the way. Poor seating of the plugs tends to cause hum or intermittent sound and may damage the speakers.

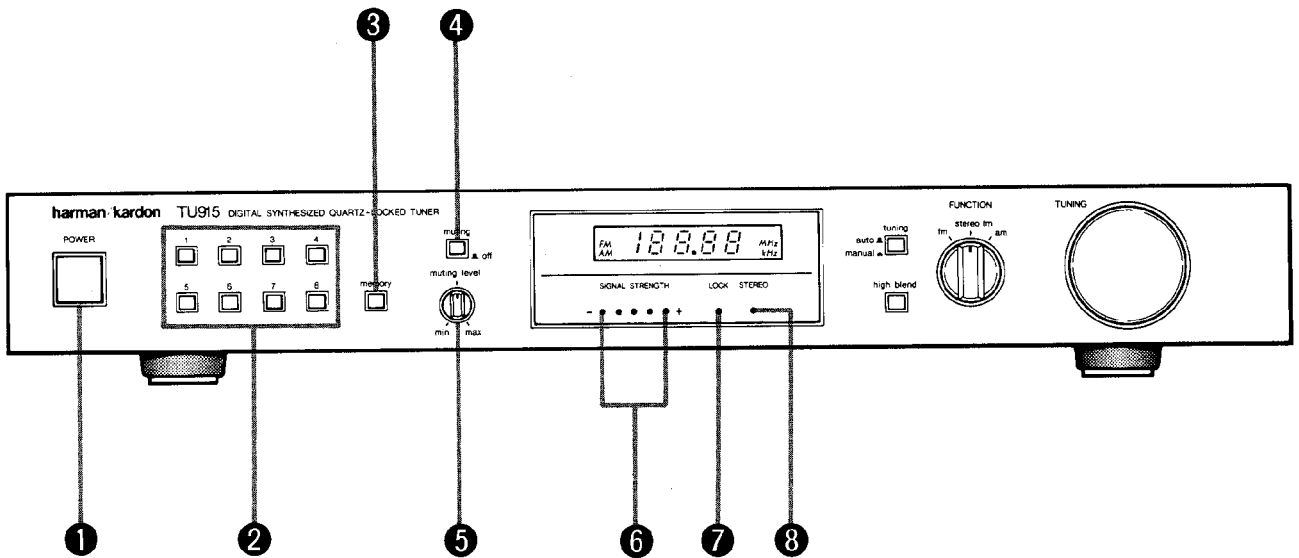
This unit is equipped with FIXED and VARIABLE OUTPUT jacks. The output level of the VARIABLE OUTPUT jacks can be adjusted in the range of 0 ~ 0.775V (100% FM modulation) by using the LEVEL control on the rear panel. Adjust the LEVEL control so that the sound level from the tuner is the same as the sound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





1 POWER SWITCH

Pressing this switch will turn on the power and the STATION DISPLAY indicates the receiving frequency. Press the switch again to turn the power off.

2 PRESET BUTTONS

Press any one of the eight PRESET buttons while the MEMORY switch is illuminated in green, and the frequency indicated by the STATION DISPLAY is memorized by that PRESET button. Each position can memorize one frequency in both the FM and AM bands, for a total capability of sixteen stations being preset in the memory. Once a station frequency is memorized, it can be recalled anytime the same button is pressed. When the PRESET button is pressed, it illuminates in green, indicating the button is in use.

3 MEMORY SWITCH

This button is used to enter or change the preset broadcast stations. When this switch is pressed, it will illuminate in green for about 15 seconds. This indicates the preset memory standby state.

NOTE: If you do not press a PRESET button while the MEMORY switch is illuminated, memory presetting can not be made.

4 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 applies to both FM and AM reception.

5 MUTING LEVEL CONTROL KNOB

This knob controls the FM muting level. When the MUTING switch is ON, turn this knob clockwise to increase or counterclockwise to decrease the muting level.

6 SIGNAL STRENGTH INDICATOR

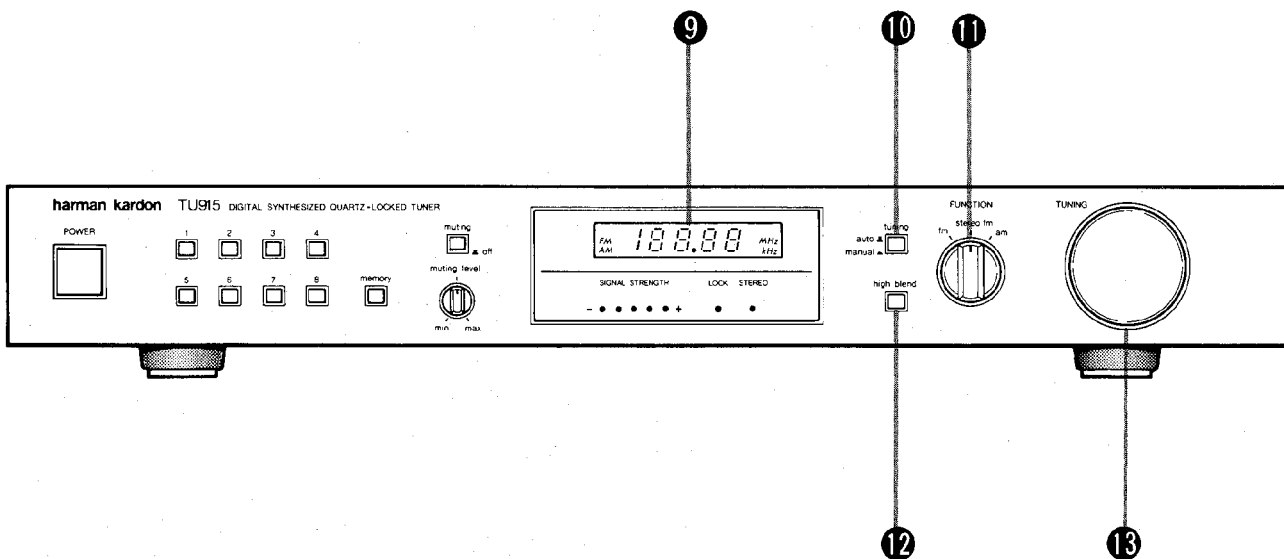
The relative strength of the signal being received is displayed by this indicator. Tune and adjust the antenna position for the highest possible indication.

7 LOCK INDICATOR

When the TU915 is tuned to a broadcast frequency that is sufficiently strong for the quartz lock circuitry to engage, the LOCK indicator illuminates.

8 STEREO INDICATOR

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



9 STATION DISPLAY

This digital display indicates the band (AM or FM) and frequency of the tuned station.

10 TUNING MODE SWITCH

Either an auto or manual tuning mode can be selected. When this switch is pressed to "manual" position, tuning is made manually. Press and release this switch to "auto" position and automatic seek tuning is activated.

11 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, FM stereo 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.

12 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.

13 TUNING KNOB

This knob is used to tune to a desired broadcast frequency. In the auto mode, a slight rotation of this knob will activate the seek tuning circuitry which will automatically find the closest broadcast and lock on it. It will seek up in frequency when turned clockwise, or down in frequency when turned counterclockwise. The auto mode will not lock onto a station until the TUNING knob has stopped rotating. Should the auto mode pass by a desired station, possibly because it is too weak to be clearly received, the manual tuning mode should be selected.

NOTE: The frequency step changeover switches on the undersurface of the TU915 convert the step of receiving frequency. For FM broadcasting, two steps of 50kHz and 100kHz are available; for AM broadcasting, two steps of 9kHz and 10kHz are available.

Automatic Seek Tuning

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 STATION DISPLAY will indicate the FM or AM frequency.
3. Set the FUNCTION selector to the "stereo fm" position for FM reception or to the "am" position for AM reception.
4. Set the TUNING mode switch to the "auto" position.
5. Slightly turn the TUNING knob clockwise or counterclockwise to start scanning the broadcast stations. To select a higher frequency than that indicated by the STATION DISPLAY, turn the knob clockwise. To select a lower frequency, turn the knob counterclockwise. The frequency changes until a broadcasted signal is tuned in, and the automatic scanning stops at that station. The SIGNAL STRENGTH indicator progressively illuminates according to the reception level, and the LOCK indicator will illuminate to indicate that the station is locked in. When receiving an FM stereo broadcast, the STEREO indicator will illuminate automatically.
To quickly tune to a desired broadcast station whose frequency is far higher or lower than the frequency indicated on the STATION DISPLAY, turn the TUNING knob quickly, skipping all broadcast stations on the way, until the desired broadcast station comes close. Automatic tuning will start when the TUNING knob is stopped near the desired broadcast station.
6. If the tuned frequency is not the desired broadcast station, slightly turn the TUNING knob clockwise or counterclockwise to resume automatic seeking.
7. Under normal condition, irritating interstation noise can be eliminated by the muting feature (MUTING switch in out position). If a weak signal is desired, the muting feature can be defeated by depressing the MUTING switch.
8. When the desired station is selected, adjust the volume control of the amplifier as desired.
9. A weak FM stereo broadcast may have an undesirable amount of high frequency noise. The high blend feature reduces stereo separation at high frequencies and greatly reduces this noise. Switching to mono tuning by selecting the "fm" position, rather than the "stereo fm" position will eliminate all stereo-related noise.

NOTE: When a broadcast is weak, automatic tuning to that frequency may not be possible. In this case, place a dedicated antenna outdoors or tune manually as described in the following section.

Manual Tuning

Manual tuning is useful when the desired station is too weak to be picked up in the automatic tuning mode.

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 for FM reception or to the "am" position for AM reception.
3. Press the TUNING mode switch to the "manual" position.
4. Press the MUTING switch to the "off" position.
5. Turn the TUNING knob to find the desired broadcasting station. The best tuning is obtained when many segments of the SIGNAL STRENGTH indicator light up.
6. When the desired station is selected, adjust the volume control of the amplifier as desired.

Preset Memory Tuning

This feature enables the selection of one of eight AM and eight FM broadcasts by simply pressing a PRESET button. This eliminates the need for auto or manual tuning. In order to use this feature, broadcast frequencies must first be entered into the PRESET button as follows:

1. Tune to the station to be memorized by using auto or manual tuning.
2. Press the MEMORY switch. It will illuminate in green. While this switch is illuminated, press one of the PRESET buttons numbered 1 through 8. The button pressed will illuminate in green and presetting of the station is completed.
3. To cancel a memorized station and memorize a new station at that number, tune to the frequency of the new station and follow step 2 above. The old station is automatically cleared, and the new station is memorized.

NOTE: Since this unit is provided with a memory backup circuit, the memory contents will remain stored for about three weeks when power cord is unplugged from an AC outlet. If the memory contents are cleared (erased), the presetting procedure must be performed again.

When the MEMORY switch is pressed, the switch illuminates in green for about 15 seconds. The memory function will only work while the MEMORY switch is illuminated.

Last Station Memory Function

This function "remembers" the frequency last received before changing bands (FM/AM).

- ▶ When changing the band from FM to AM and again to FM, the last received FM station will be tuned in.

This function also "remembers" the frequency of the station last received.

- ▶ When the power is turned on, the frequency of the station last received is displayed by the STATION DISPLAY, regardless of whether the station is a preset one or not.

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 STATION DISPLAY does not display frequency 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.
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.
FM sound has a large amount interference. The STEREO indicator is not completely illuminating. The LOCK indicator does not illuminate. Sound distorts and/or the volume level becomes low.	<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.
Broadcasting cannot be preset.	<ul style="list-style-type: none"> •The PRESET button is not pressed while the MEMORY switch is illuminated. 	<ul style="list-style-type: none"> •Press the PRESET button while the MEMORY switch is illuminating.
Station selection cannot be made by using the PRESET button.	<ul style="list-style-type: none"> •The power cord has not been plugged in for three weeks or more. 	<ul style="list-style-type: none"> •Set the preset memory again.

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.