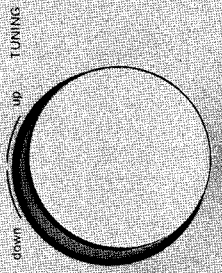


harman/kardon
DIGITAL SYNTHESIZED
QUARTZ-LOCK TUNER

TUNER

owner's manual

harman/kardon TU912 DIGITAL SYNTHESIZED QUARTZ-LOCK TUNER



SPECIFICATIONS

Congratulations on your purchase of the Harman Kardon TU912 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
50dB Quieting Sensitivity	
Mono	: 15dBf
Stereo	: 37dBf
Signal-to-Noise Ratio	
Mono	: 82dB
Stereo	: 74dB
Harmonic Distortion (1kHz, 65dBf)	
Mono	: 0.06%
Stereo	: 0.09%
Stereo Separation (1kHz, 65dBf)	: 50dB
Alternate Channel Selectivity	: 60dB
Capture Ratio	: 1.2dB
AM Rejection (45dBf)	: 55dB
IF Rejection	: 90dB
Spurious Rejection	: 75dB
Image Rejection	: 40dB

AM Section

Sensitivity (External antenna)	: 25 μ V/m
Signal-to-Noise Ratio	: 50dB
Alternate Channel Selectivity	: 60dB
IF Rejection	: 65dB
Image Rejection	: 40dB

General Section

Dimensions (W×H×D)	: 17-7/16"×2-11/16"×14-3/16" (443 × 68 × 360 mm)
Weight	: 7.3lbs. (3.3kg)
Power Supply	: AC 120V, 60Hz
Power Consumption	: 14W

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 to 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 to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UNE RALLONGE. UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

This manual applies to champagne gold and black versions with this model TU912.

■ 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.

■ Exceptional Sound Quality

The TU912 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.

■ One Week Memory Back-Up

The preset memory of up to 8 AM and 8 FM stations is stored indefinitely while the unit is connected to a "live" AC receptacle, and will be retained for one week when disconnected from AC power.

■ Improved MPX Stereo Decoder

The FM stereo quality has been improved over previous designs to provide lower distortion and wider separation.

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.

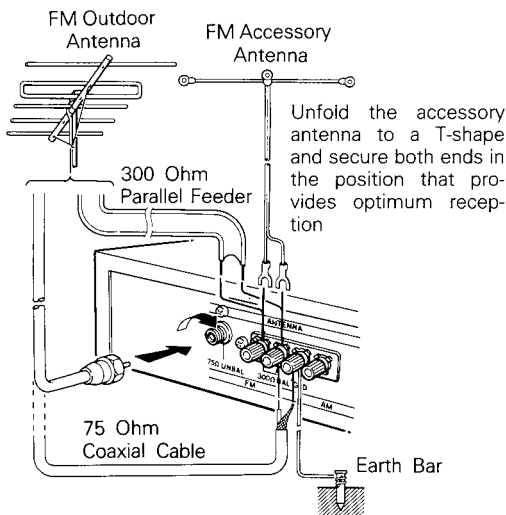
Never use benzine, thinner, alcohol or other volatile agent, and avoid spraying an insecticide near the unit.

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

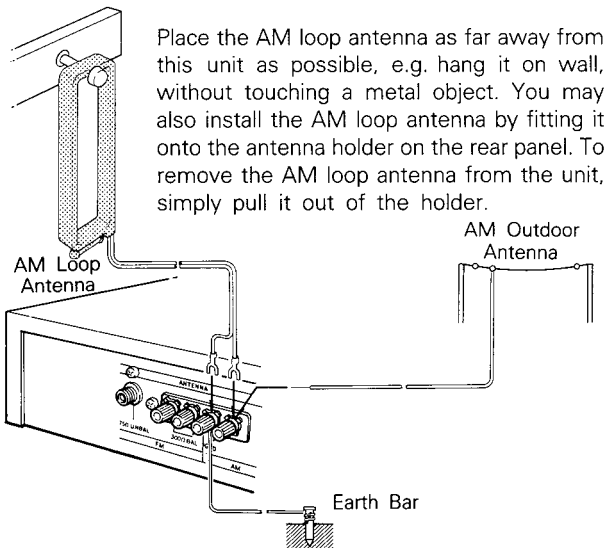
If there is a lot of noise while receiving an FM broadcast, we recommend that you make a ground connection. Connect one end of a thick wire to the antenna "GND" terminal and wind the other end around an earth bar or earth plate and drive it into the ground.



CAUTION: Never make a connection to a gas pipe because it can cause a 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.



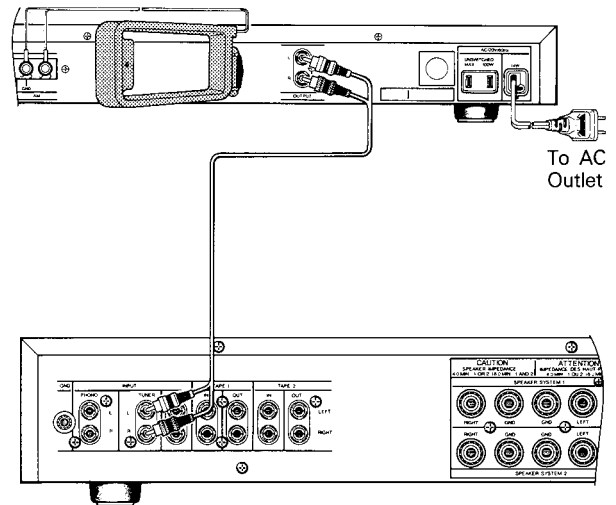
Connecting to an Integrated Amplifier or Preamplifier

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 setting of the plugs tends to cause hum or intermittent sound and may damage the speakers.

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.



Integrated Amplifier or Preamplifier

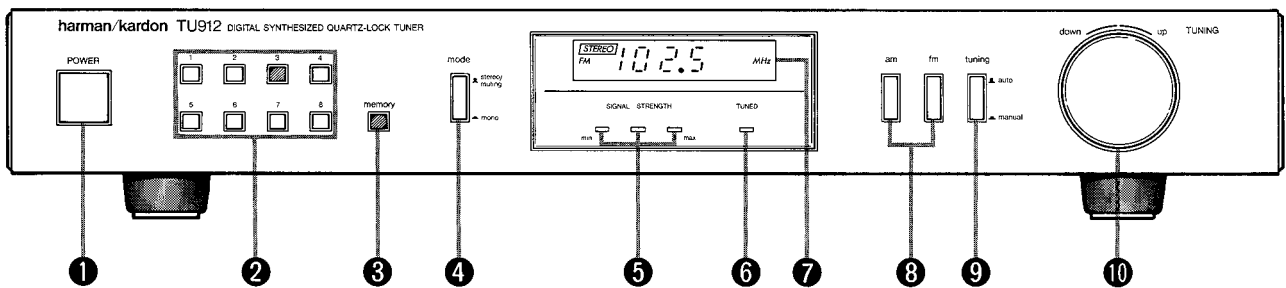
Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

AC Convenience Receptacle

This unit is provided with an AC convenience receptacle on the rear panel for supplying power to a turntable, tape deck or other low power component. The receptacle has a power capacity of 100 watts. Check the component's owner's manual to find its power requirement.

The power to this "UNSWITCHED" receptacle is independent of this unit's power switch.



1 POWER SWITCH (POWER)

Pressing this switch will turn on the power and the STATION DISPLAY will indicate 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 any time the same PRESET button is pressed. When the PRESET button is pressed, it illuminates in green, indicating the button is in use.

3 MEMORY SWITCH (memory)

This switch 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 MODE SWITCH (mode)

This switch is used to receive a weak broadcast signal. When it is depressed, the muting function is deactivated and a weak signal will pass. Also, FM broadcasts will be received in mono, thereby reducing the additional noise created when a weak signal is received in stereo.

5 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.

6 TUNED INDICATOR

This indicator turns on when a broadcast frequency is correctly tuned in. It may not light up for a weak station, even when it is correctly tuned.

7 STATION DISPLAY

This digital display indicates the band (AM or FM) and frequency of the tuned station. Also, when an FM stereo broadcast is received, the "STEREO" display will illuminate.

8 FUNCTION SELECTOR

"am" switch: Press this switch to listen to an AM broadcast.

"fm" switch: Press this switch to listen to an FM broadcast.

9 TUNING MODE SELECTOR (tuning)

Either an automatic 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.

10 TUNING SWITCH (TUNING)

This is a rotary switch. When turned clockwise, it will raise the tuned frequency. When turned counterclockwise, it will reduce the tuned frequency. In the automatic seek tuning mode, the "TUNING" switch should be turned briefly and then released. The tuned frequency will continue to automatically increase or decrease until a strong station is found.

Automatic Seek Tuning

1. Turn the volume control knob of the amplifier to the minimum level and turn on the amplifier. Then, 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. Depress the "fm" switch for FM reception or the "am" switch for AM reception.
4. Set the "tuning" mode selector to the "auto" position.
5. Slightly rotate the "TUNING" switch knob clockwise or counterclockwise to start seeking the broadcast stations. To select a higher frequency than that indicated by the STATION DISPLAY, turn the knob clockwise (to the "up" direction). To select a lower frequency, turn the knob counterclockwise (to the "down" direction). The frequency changes until a broadcasted signal is tuned in, and the automatic seeking stops at that station. The "SIGNAL STRENGTH" indicator progressively illuminates according to the reception level, and the "TUNED" indicator will illuminate to indicate that the station is tuned in. When receiving an FM stereo broadcast, the "STEREO" display will illuminate automatically.
6. If the tuned frequency is not the desired broadcast station, slightly rotate the "TUNING" switch knob clockwise or counterclockwise to resume automatic seeking.
7. In the area of poor signal strength, the muting circuit may eliminate desired stations. In this case, the "mode" switch should be depressed to the "mono" position.
8. When the desired station is selected, advance the volume control knob of the amplifier to a comfortable level.

NOTE: When a broadcast is weak, automatic seek 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 seek tuning mode.

1. Set the volume control knob of the amplifier at minimum level and press the "POWER" switch.
2. Depress the "fm" switch for FM reception or the "am" switch for AM reception.
3. Depress the "tuning" mode selector to the "manual" position.
4. Depress the "mode" switch to the "mono" position.
5. Rotate the "TUNING" switch knob clockwise (to the "up" direction) or counterclockwise ("down" direction) to find the desired broadcasting station. The best tuning is obtained when many segments of the "SIGNAL STRENGTH" indicator light up. If it is desired station, leave the "TUNING" switch. The station will then be locked in.
6. When the desired station is selected, advance the volume control knob of the amplifier to a comfortable level.

Preset Memory

This feature enables the selection of one of eight AM and eight FM broadcasts by simply pressing a PRESET button. In order to use this feature, broadcast frequencies must first be entered into the Preset Memory as follows:

1. Tune to the station to be memorized by using Automatic Seek 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 that station will be entered in the Preset Memory.
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 one week 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. If a problem persists even though you have done as suggested in the checklist, consult your authorized Harman Kardon service station.

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 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. ●The connection wires are disconnected or broken. 	<ul style="list-style-type: none"> ●Tune to a broadcasted station. ●Depress the "mode" switch to the "mono" position. ●Read the owner's manual of the amplifier and operate it correctly. ●Check the connection wires and connect them correctly.
<p>FM sound has a large amount interference.</p> <p>The "STEREO" display is not completely illuminating.</p> <p>The "TUNED" 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.
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 one week or more, and the memory has been erased. 	<ul style="list-style-type: none"> ●Set the preset memory again.