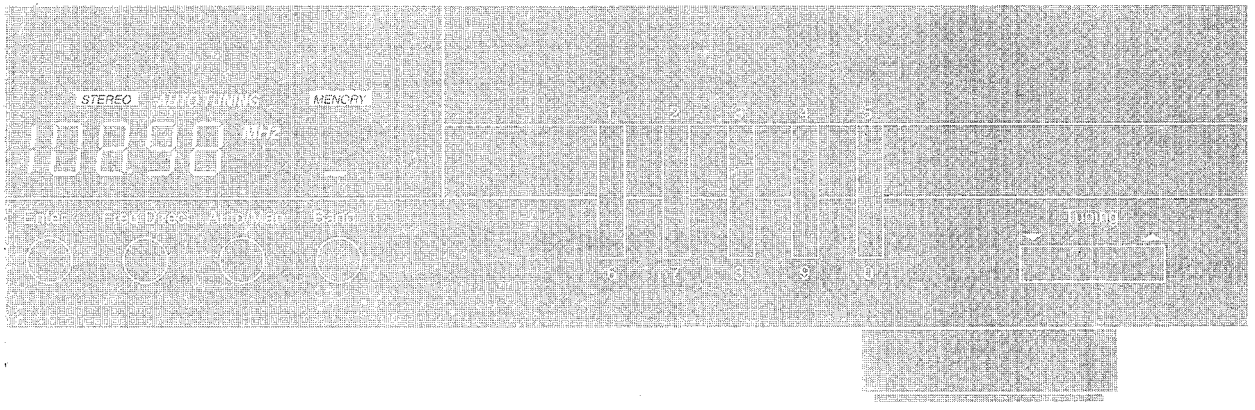
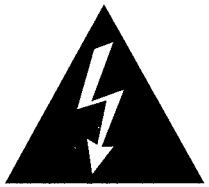
TU930



harman/kardon

AM/FM Stereo Tuner

OWNER'S MANUAL



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, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION: POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND

Harman Kardon TU930

Date of purchase _____
Purchased from _____
Address of business purchased from _____
_____
Installed by _____
Date installed _____
Serial No. _____

Note to CATV System installer: This reminder is provided to call the CATV system installer's attention to Article 820-40 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.

Save all packing material.

It is essential for shipping should you move, or in the event the unit ever needs repair.

U. S. and Canadian customers should use 120 volt AC only. Other customers should use voltages appropriate to their area. Connecting the unit to an outlet supplying a higher voltage may create a fire hazard.

General Instructions

Handle the Power Cord Gently.

- To disconnect the plug from the AC outlet, pull on the plug itself, not on the cord.
- Disconnect the plug from the AC outlet whenever the unit is to be left unused for an extended period of time.
- 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 cord.

Place the unit on a firm and level surface.

Avoid installing it:

- In moist or humid places;
- Close to heating equipment or in places exposed to direct sunlight;
- In a direct draft from an air conditioner or in other very cold locations;
- In places subject to excessive vibration or dust;
- In poorly ventilated places.

Moving the Unit.

Before moving the unit, be sure to unplug the power cord from the AC outlet and disconnect all wires to antennas and other components.

Do Not Open the Cabinet.

Do not attempt to service this unit. Tampering with internal components can cause fire or shock, and may void your guarantee. If water or small objects enter the unit, unplug the power cord immediately and consult an authorized Harman Kardon service center. Using the unit under such conditions may cause a fire or shock hazard.

Cleaning.

Remove dust by wiping the unit with a soft, dry cloth. If necessary, use a soft cloth lightly dampened with mild soapy water; then wipe with a dry cloth. Never use benzene, thinner, alcohol or other volatile agents, and avoid spraying insecticides near the unit.

TU930 AM-FM Stereo Tuner

Thank you for choosing a Harman Kardon tuner. And congratulations. Your new unit is an exceptionally well-engineered product that will give you years of superb performance.

Among its special features are:

■ Digital Synthesized Quartz-Locked Tuning

Quartz-locked tuning guarantees optimum sound quality by eliminating drifting and mistuning. A total of 30 AM and FM preset stations can be stored in memory, for one or two-touch access.

■ Exceptional Sound Quality

The TU930 provides low distortion, low noise, wide bandwidth, and excellent stereo separation. The high quality construction, grade of components, and layout provide exceptional audio signal purity.

■ Wired Remote Control Capability

This tuner can be remotely controlled when connected to an external infrared sensor or another hi-fi component with an infrared sensor.

INSTALLATION

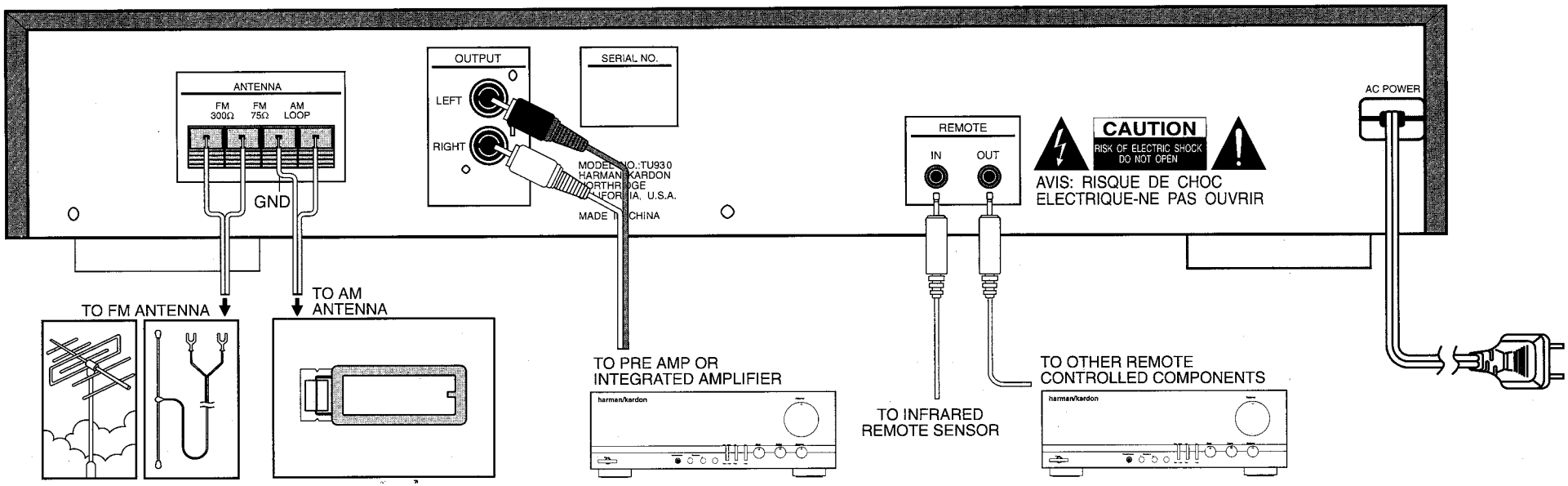
FM Antenna - Select the antenna that best meets your needs:

(120 V - without 75Ω connector)

1. An indoor antenna is supplied with your tuner. This will work well if you are located in a strong signal area.
2. Other indoor antennas are available which may improve reception by offering greater position flexibility.
3. If reception is unsatisfactory using indoor antennas, install an outdoor antenna.
4. Or, you may connect to an FM cable antenna.

To get the most from your new tuner, please read this manual carefully and follow its instructions. Save this manual for future reference.

Installation



FM Antenna

Select the antenna that best meets your needs:

1. An indoor dipole antenna is supplied with your tuner. This will work well if you are located in a strong signal area.
2. Other indoor antennas are available, which may improve reception by offering greater positioning flexibilty.
3. If reception is unsatisfactory using indoor antennas, install an outdoor antenna.
4. Or , you may connect to an FM cable antenna.

Connecting the Antenna

Connect the two leads of the antenna to the two sclip terminals marked "FM 300Ω".

AM Antenna

Your tuner comes with an AM loop antenna, which provides good reception in most locations. Connect this antenna to the clip terminals marked "AM" on the back of the unit.

For best reception, place the antenna away from the unit, and away from contact with any metal object. Alternatively, you may place the antenna in the holder packaged with the antenna.

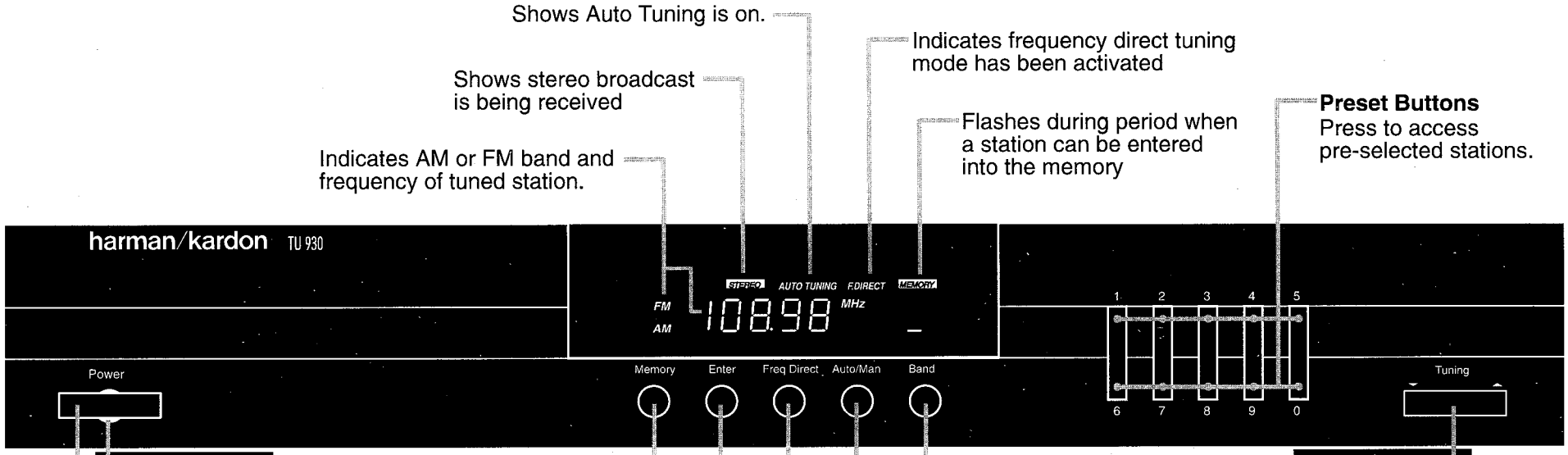
In areas where AM signals are weak, an outdoor AM antenna may improve sound quality. Connect this antenna to the clip terminals marked "AM" and connect a ground wire to the "GND" terminal.

Connection to Preamplifier or Integrated Amplifier

Using the cable provided, connect the left and right OUTPUT jacks on the back of the tuner to the Tuner input on your preamplifier or integrated amplifier. To avoid sound disturbances and possible damage to your speakers, be sure to push to push the plug all the way into their jacks.

NOTE: Before making this connection, unplug all the components of your stereo system from AC power outlets. Also be careful not to intertwine the connection wires with any power cord, as this can degrade sound quality.

Controls and Displays



Memory
Press to open the memory for a new preset station (see page 6)

Band
Press to select FM or AM reception

Standby Indicator
Illuminates when unit is turned off

Enter
Press to enter the new station into a preset. (see page 6)

Auto/Man
Press on for automatic seek tuning in stereo, off for manual tuning in mono.

Tuning
Press ▲ to tune to stations with higher frequencies; press ▼ for lower frequencies.

Power Switch
Press to turn the unit on and off

Frequency Direct
Press to activate frequency direct tuning (see page 6)

Operating Instructions

Tuning for a Desired Broadcast

Your tuner has special features designed to give you the best possible sound quality under a variety of conditions.

Auto/Manual Tuning

Begin using this tuner with "AUTO TUNING" activated. "AUTO TUNING" will light up on the display panel. In this mode, pressing the ▲ or ▼ Tuning buttons causes the tuner to step up or down the broadcast band, stopping at the next **strong signal** it receives. This feature also allows the tuner to receive broadcasts in stereo.

If you wish to receive a weak broadcast signal, which the tuner skips over in AUTO TUNING, only then should you turn this feature off. In this MANUAL TUNING mode, pressing the ▲ or ▼ Tuning buttons causes the tuner to step up or down the broadcast band regardless of whether a signal is present.

NOTE: In MANUAL TUNING mode, all broadcasts are received in mono. Mono tuning is included in this mode because broadcasts too weak to be received in the AUTO TUNING mode are also too weak to be received in stereo. If you later tune to a stronger broadcast, be sure to also return to AUTO TUNING mode.

Frequency Direct Tuning

This tuning feature allows you to directly enter the desired broadcast frequency:

1. Press the "Band" button for FM or AM.
2. Press the "Freq Direct" button. The digit locations in the display will begin to blink.
3. Press the 10 numbered buttons to enter the desired broadcast frequency.
4. Press the "Enter" button. The display will stop blinking.

If you try to enter a frequency that is not within the broadcast band, the display will continue to blink. In this case, press the "Freq Direct" button twice and return to step 3.

Preset Memory

The TU930 allows you to store up to 30 broadcast frequencies in its memory. These can later be recalled by pressing the numbered buttons on the front panel or on the keypad of a compatible system remote control (that is not included with the TU930).

To enter a broadcast frequency in memory:

1. Tune to the desired broadcast.
2. Press the memory button. "MEMORY" will blink for 5 seconds, during which a Memory Preset number can be entered.
3. Press the 10 numbered buttons to enter a Preset number from 1 to 30, then press "Enter".

To recall a Preset from memory, press the numbered buttons. The second digit must be entered while the first digit is still blinking. When single digit Presets are entered the display will stop blinking within 3 seconds.

To change a preset station, simply enter the new setting. The old setting is automatically erased.

Remote Control

If you wish to control your TU930 with an external infrared remote sensor, simply connect the wire from the remote sensor to the REMOTE IN jack on the back panel. A control wire may then be run from the REMOTE OUT jack to the Remote Input of another stereo component. Alternatively, if you have a stereo component with a built-in infrared remote sensor and a Remote Output jack, it may be possible to connect this jack to the REMOTE IN jack of your tuner. Not all components are compatible, but it will not hurt to experiment.

Once your TU930 is connected to an external infrared sensor, you will need a compatible remote control commander. One such commander is the remote control unit from Harmon Kardon's TU9600 tuner, available through Harman Kardon's Parts Department.

Harman Kardon also offers MasterworksTM, a universal remote control that can be used not only with your tuner, but with other components as well, including TVs, VCRs, Cassette Decks and CD Players. Masterworks may be available from your Harman Kardon dealer.

Troubleshooting

This unit is designed for trouble-free operation: most problems users encounter are due to operating errors. So if you have a problem, first check this list for a possible solution. If the problem persists, consult your authorized Harman Kardon service center.

If the problem is...	**Make sure that:**
Station Display does not illuminate when the Power switch is pressed.	■ Unit is securely plugged into a live outlet.
No sound is heard	■ Speaker selector is set to the desired speakers ■ Correct source button has been pressed. ■ Volume is turned up. ■ Speakers are connected properly. ■ The tuned frequency carries a broadcasted station. ■ If the signal is weak, "MANUAL TUNING" mode is used.
FM sound has a large amount of interference. OR, The "Stereo" display is not fully illuminated. OR, sound distorts and/or volume level is too low.	■ The antenna is properly connected. ■ The antenna is properly located. ■ The antenna is set in the proper direction. ■ The antenna is adequate to receive the desired station.
Intermittent or continous buzzing or hissing.	■ The unit is away from fluorescent lights, TVs, motors and other electrical appliances (or install noise filters on these appliances).
Stations cannot be preset.	■ After pressing the Memory button, the Preset button is presssed while the "Memory" light is still flashing.
Station selection cannot be made by using the Preset buttons	■ Stations have been entered into the memory as per steps 1 - 3 on page 6.

Specifications

Specification	120 Volt Version
Tuner Section, FM	
Usable Sensitivity, Mono (dBf)	11.2
50dB Quieting Sensitivity, (dBf)	37.2
S/N Ration @ 65dBf, mono/stereo (dB)	74/68
Capture Ratio (dB)	2dB
Selectivity, Adjacent/Alternate	10dB/75dB
IF Rejection (dB)	100
Image Rejection (dB)	70
AM Rejection @ 45dBf (dB)	60
Spurious Response Rejection (dB)	100
Stereo Separation @ 1kHz, 65dBf (dB)	40
THD @ 1kHz, 65dBf, mono stereo (%)	0.15/0.2
Audio Output Level, 75kHz dev.	1.2 Volts
Tuner Section, AM	
Sensitivity, External Antenna (μV)	25
Alternate Channel Selectivity (dB)	50
Image Rejection (dB)	40
IF Rejection (dB)	60
Signal/Noise Ration (dB)	50
Audio Output Level, 30% mod	500mV
Dimensions, Width x Height x Depth (mm)	443x78x335
Dimensions, Width x Height x Depth (inches)	17.4x3.1x13.2
Weight	7.0 lbs/3.2 kg