

SPECIFICATIONS

Congratulations on your purchase of the Harman Kardon hk495i Digital Synthesized Quartz-locked Stereo Receiver.

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

AUDIO

Power Output, RMS	: 45 watts per channel
(both channels driven into 8 Ohms, 20—20,000Hz)	@ less than 0.09% THD
HCC (high instantaneous current capability)	: 18A
Power Bandwidth (at half rated output into 8 Ohms)	: 10Hz to 60,000Hz
Frequency Response (+0, -3dB)	: 0.5Hz to 150,000Hz
Signal-to-Noise Ratio, IHF-A WTD (reference 1W output)	
Phono	: 80dB
Video/CD, Tape	: 85dB
Input Sensitivity/Impedance	
Phono	: 2.2mV/47k Ohms and 125pF
Video/CD, Tape	: 135mV/22k Ohms
Phono Overload, MM (1 kHz)	: 185mV
Tone Control Characteristics	
Bass Boost/Cut (at 50Hz)	: +10dB/-10dB
Treble Boost/Cut (at 10kHz)	: +10dB/-10dB
Loudness Control (-40dB) at 50Hz/at 10kHz	: 10dB/3dB
Subsonic Filter	: 15Hz, 6dB/Octave

TUNER

FM Section

Usable Sensitivity (Mono)	: 10.8dBf (0.95 μ V-75 Ohms)
50dB Quieting Sensitivity (Mono)	: 15.6dBf (1.65 μ V-75 Ohms)
Signal-to-Noise Ratio (Stereo)	: 75dB
Alternate Channel Selectivity	: 65dB
Stereo Separation (1 kHz, 65dBf, 100% modulation)	: 50dB
T.H.D. (1 kHz, 65dBf)	
Mono	: 0.08%
Stereo	: 0.12%

AM Section

External Antenna Sensitivity	: 15 μ V
Alternate Channel Selectivity	: 45dB

GENERAL

Dimensions (W x H x D)	: 17-1/2" x 4-1/16" x 14-1/2" (443 x 103 x 368 mm)
Weight	: 15lbs.7oz. (7kg)
Power Supply	: AC 120V, 60Hz
Power Consumption	: 220W

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.

■HCC (High-instantaneous Current Capability)

Recent studies have shown that while reproducing dynamic music signals the instantaneous impedances of nearly all loud-speakers drop to less than one third of the nominal ratings. These low instantaneous impedances typically require 3 to 6 times more current than an 8 Ohm resistive load. Reduced dynamic range and increased distortion will result if the amplifier cannot provide these higher currents. For this reason, the hk495i was designed to provide 18 amperes of instantaneous current.

■Ultrawide Bandwidth

The bandwidth of this unit is exceptionally wide and independent of negative feedback. This improves transient accuracy and phase linearity.

■Low Negative Feedback

This unit has been designed to have low distortion and wide bandwidth without high negative feedback. This further improves its dynamic accuracy.

■Discrete Component Circuitry

In order to achieve the above goals, all discrete electronic circuitry has been employed. All available integrated circuits could not provide this high level of performance.

■Active/Passive Phono Section

Unique circuitry provides precise passive RIAA equalization (without negative feedback). Then the same low level of negative feedback is applied at all frequencies from 20Hz—20kHz, resulting in improved transient accuracy.

■Sophisticated Electronic Protection

Harman Kardon engineers developed a unique protection system that permits high instantaneous current to be driven into speaker systems but protects the amplifier from short-circuited or damaged speakers and wires. This protection system in no way limits amplifier output voltage or current during music reproduction, and therefore has no negative effect on sound quality.

■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 one week even if there is a loss of power.

■Constructed for Audio Purity

The internal wiring, layout and materials have been chosen to minimize noise, hum and interaction of the various circuits.

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.

Do not cover the ventilation slots on the top of the unit. This will cause the temperature inside the unit to rise, which can eventually effect the reliability of your unit.

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.

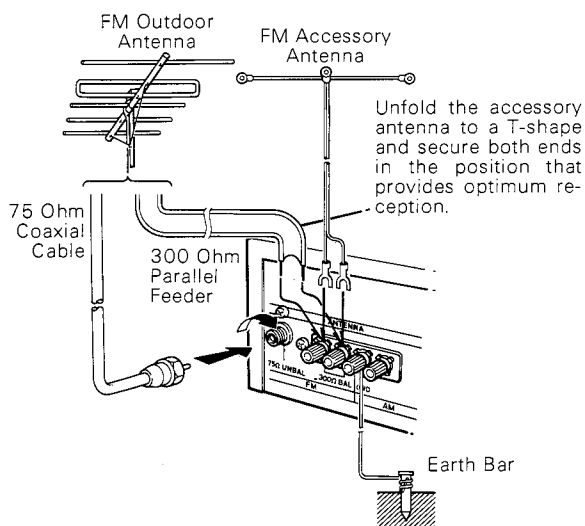
ANTENNAS

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.

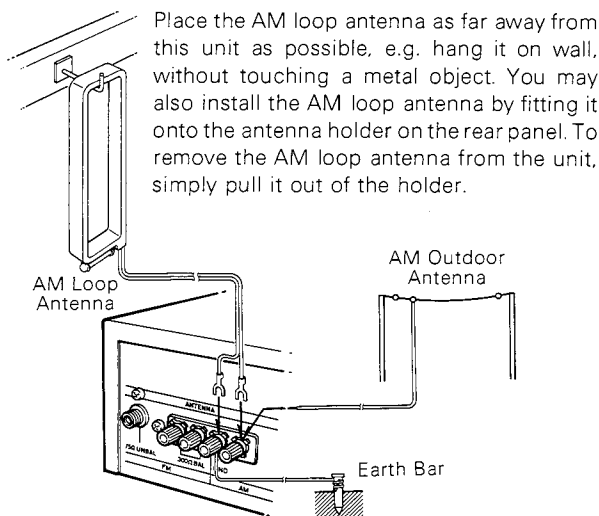
If there is a lot of noise while receiving an FM broadcast, we recommend that you make a ground connection. Connect one end of a thick wire to the antenna GND terminal and wind the other end around an earth bar or earth plate and drive it into the ground.



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

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.

AC Convenience Receptacles

This unit is provided with two AC convenience receptacles on the rear panel for supplying power to a tuner, turntable, tape deck or other low power component. The receptacles have a power capacity of 180 watts each. Check the component's owner's manual to find its power requirement.

SWITCHED: The power to this receptacle is turned on and off by this unit's power switch.

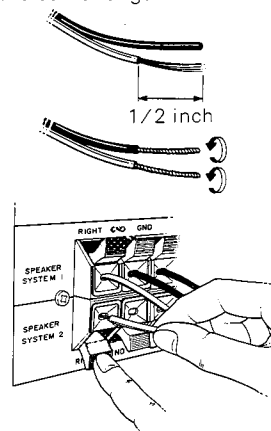
UNSWITCHED: The power to this receptacle is independent of this unit's power switch.

Connecting Speakers

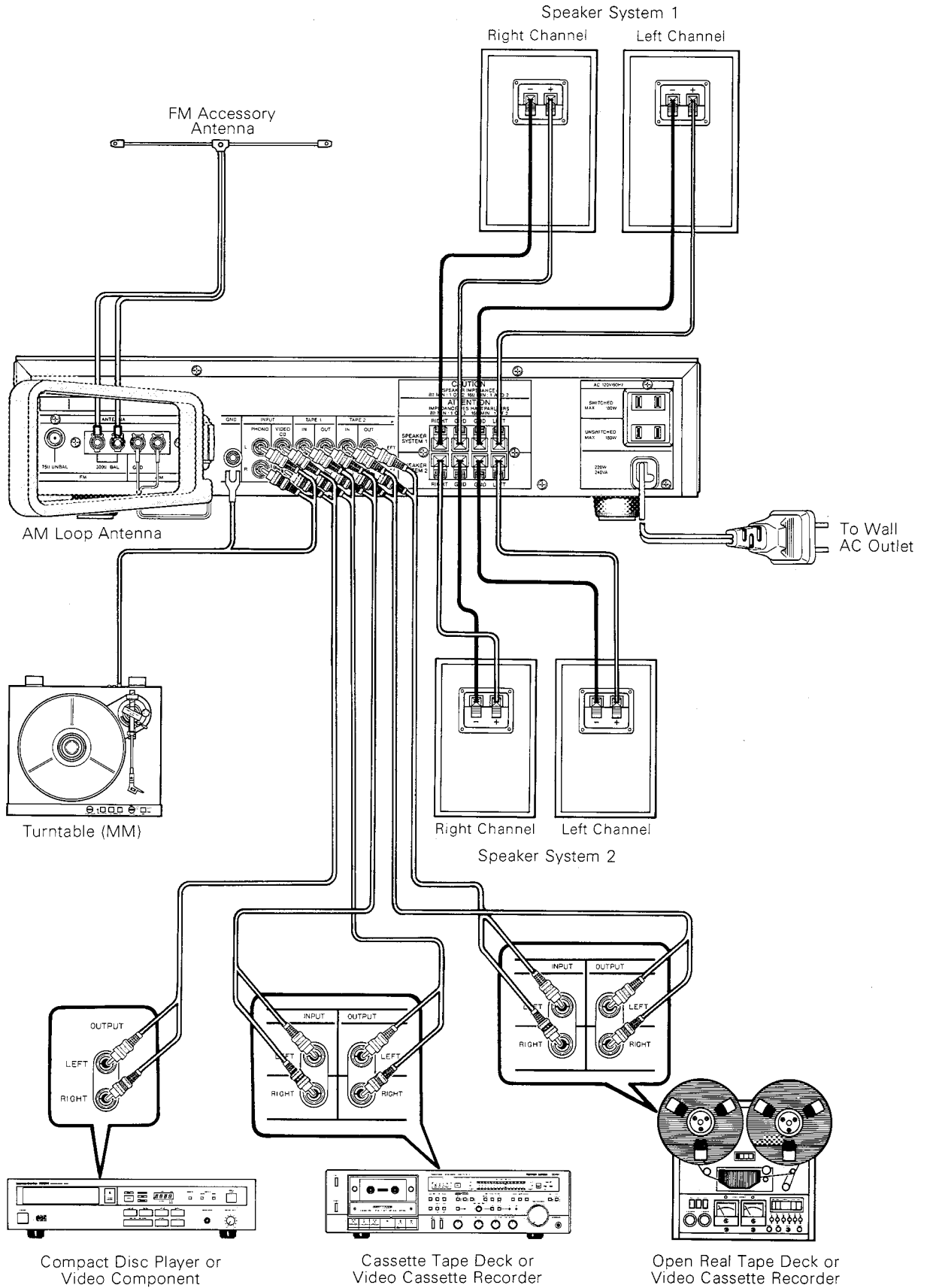
Connect the speaker wires carefully to the speaker terminals on the rear panel so as not to mistake the left and the right channels or reverse the speaker polarities (+ and -).

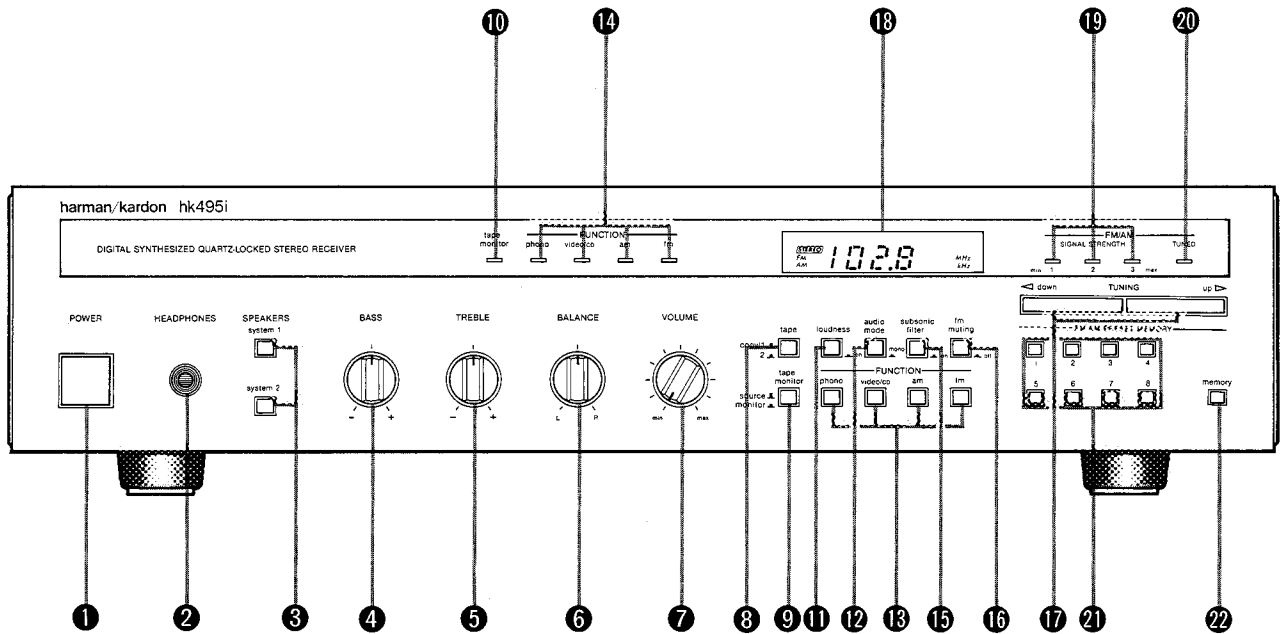
Use sufficiently thick wire (18 gauge for short lengths, 16~12 gauge for longer lengths). It is recommended to use color-coded wire for easy polarity identification. Speaker wires should be as short as possible, and the left and the right channel wires should be the same length.

1. Remove about 1/2 inch (12 mm) of insulation from the end of each wire and twist the strands of each end.
2. Push the plastic button of the speaker terminal. Insert the bare end of the wire into the opening at the center of the speaker terminal. Release the plastic button, and the end of the wire will automatically be held in place.



CAUTION: Two speaker systems can be connected to this unit. The minimum speaker impedance should be 8 Ohm when only one speaker system is connected. When two speaker systems are connected, care should be taken that net impedance does not become less than 8 Ohm.





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 HEADPHONE JACK (HEADPHONES)

Stereo headphones with a standard 1/4 inch plug can be connected to this jack. When both SPEAKER switches are in the OFF position (buttons out), sound can still be obtained via the headphone jack.

3 SPEAKER SWITCHES (SPEAKERS)

One or two speaker systems can be connected to this unit. Depress the SPEAKERS SYSTEM 1 or SYSTEM 2 switch corresponding to the system to which you want to listen. To use both speaker systems, depress both switches. Press down the switches once again if the use of the speaker systems are not desired.

4 BASS CONTROL KNOB (BASS)

This knob controls the low frequency sound level. Turn it clockwise to boost or counterclockwise to reduce the low frequency sound level.

5 TREBLE CONTROL KNOB (TREBLE)

This knob controls the high frequency sound level. Turn it clockwise to boost or counterclockwise to reduce the high frequency sound level.

6 BALANCE CONTROL KNOB (BALANCE)

This knob is used to balance the left and the right channels. Usually, it is set at the center. Turn it to the left or right to balance the sound if it seems unbalanced from the speakers or the headphones.

7 VOLUME CONTROL KNOB (VOLUME)

This knob controls the sound level. Turning clockwise increases the sound volume, and turning counterclockwise decreases it. Set this knob at a minimum level before turning the power on or changing the sound source to protect the speakers from being damaged by a sudden high level sound.

8 TAPE SWITCH (tape)

This switch is used for recording from another input on the tape deck connected to the TAPE 1 and/or TAPE 2 jacks, or for duplicate the tape in the tape deck connected to the TAPE 1 jacks onto the tape in the tape deck connected to the TAPE 2 jacks.

9 TAPE MONITOR SWITCH (tape monitor)

This switch is used when listening to a tape or monitoring the sound during recording. The TAPE MONITOR indicator lights up in red when it is pressed ("monitor" position). When listening to a program source other than a tape, set this switch to the "source" position.

NOTE: The TAPE 1 and TAPE 2 jacks on the rear panel can also be used to record and playback audio signals with a video cassette recorder.

The VIDEO/CD INPUT jacks can be used to play audio signals from a video disc player or video cassette recorder.

10 TAPE MONITOR INDICATOR

This indicator illuminates when the TAPE MONITOR switch is pressed.

11 LOUDNESS SWITCH (loudness)

This switch is pressed to create a natural sound quality when listening at a low volume by boosting the low and high frequency ranges.

12 AUDIO MODE SWITCH (audio mode)

This switch is used to combine the left and right channels and create a mono signal. Usually it is set in the stereo position (button out). If the FM stereo broadcast station you are listening to is weak and there is a lot of noise, set this switch to "mono." The two channels are combined into a monaural signal, but the noise is reduced for more comfortable listening.

13 FUNCTION SELECTOR (FUNCTION)

These switches are used to select a program source other than a tape.

phono : Press this switch to listen to a disc played on the turntable connected to the PHONO INPUT jacks.

video/CD : Press this switch to listen to the sound from the video component, the compact disc player or other component connected to the VIDEO/CD INPUT jacks.

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

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

14 FUNCTION INDICATORS

Each FUNCTION indicator illuminates in red corresponding to the setting of the FUNCTION selector.

15 SUBSONIC FILTER SWITCH (subsonic filter)

When playing the turntable, this filter switch is used to reduce subsonic frequencies, which may excessively vibrate the speaker cones or turntable and cause feedback.

16 MUTING SWITCH (fm muting)

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" position, which deactivates the muting function. This muting feature applies to both FM and AM reception.

17 TUNING BUTTONS (TUNING)

These buttons are used to tune to a desired broadcast frequency.

down: When this button is pressed, the tuned frequency will decrease to a lower frequency.

up: When this button is pressed, the tuned frequency will increase to a higher frequency.

18 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.

19 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.

20 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.

21 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.

22 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.

FM/AM Reception

1. Turn the VOLUME control knob to the minimum level and press the POWER switch. The STATION DISPLAY will indicate the FM or AM frequency.
2. Press the SPEAKERS SYSTEM 1 switch or/and SPEAKERS SYSTEM 2 switch for the desired speaker system(s).
3. Press the FM switch of the FUNCTION selector for FM reception or the AM switch of the FUNCTION selector for AM reception. The FM or AM FUNCTION indicator will light up.
4. Set the TAPE MONITOR switch to the "source" position.
5. Softly press either the DOWN or UP TUNING button to change the tuning frequency in small increments. To select a higher frequency than that indicated by the STATION DISPLAY, press the UP button. To select a lower frequency, press the DOWN button. 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. While increasing or decreasing the tuning frequency, irritating interstation noise may be created. This noise can be eliminated by setting the FM MUTING switch in the ON (button out) position. This muting feature may impede the ability to receive a weak station, and in these cases, the MUTING switch should be depressed ("off" position).
7. When the desired station is selected, advance the VOLUME control knob to a comfortable level and adjust the BASS and TREBLE control knobs as desired.
8. Activate the BALANCE control knob, LOUDNESS or AUDIO MODE switch if necessary.

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 in the AM or FM mode.
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.

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. Turn the VOLUME control knob to the minimum level and press the POWER switch.
2. Press the SPEAKERS SYSTEM 1 switch or/and SPEAKERS SYSTEM 2 switch for the desired speaker system(s).
3. Press the FM switch of the FUNCTION selector.
4. Set the TAPE MONITOR switch to the "source" position.
5. Press the MUTING switch to the "off" position.
6. Press the AUDIO MODE switch to the "mono" position.
7. Press either the DOWN or UP TUNING button to find the desired broadcasting station. The best tuning is obtained when many segments of the SIGNAL STRENGTH indicator light up.
8. When the desired station is selected, advance the VOLUME control knob to a comfortable level and adjust the BASS and TREBLE control knobs as desired.

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.

Listening to a Record (Disc)

1. Turn the VOLUME control knob to the minimum level and press the POWER switch.
2. Press the SPEAKERS SYSTEM 1 switch or/and SPEAKERS SYSTEM 2 switch for the desired speaker system(s).
3. Press the PHONO switch of the FUNCTION selector and the PHONO FUNCTION indicator will light up.
4. Set the TAPE MONITOR switch to the "source" position.
5. Activate your turntable and place the stylus on the record (disc).
6. Turn the VOLUME control knob clockwise to increase the sound volume to the desired level.
7. If the disc has a large warp, press the SUBSONIC FILTER switch to the "on" position.
8. Adjust the BASS and TREBLE control knobs to obtain the desired tone.
9. Activate the BALANCE control knob, LOUDNESS or AUDIO MODE switch if necessary.

NOTE: If you hear a hum at average listening levels, turn the POWER switch off and check to see that the phono and the ground connections are secure. Depending on the cartridge type used, less hum may be created without the ground connection.

Listening to the Video/CD Input Source

To listen to a video component, compact disc player or other component:

1. Turn the VOLUME control knob to the minimum level and press the POWER switch.
2. Press the SPEAKERS SYSTEM 1 switch or/and SPEAKERS SYSTEM 2 switch for the desired speaker system(s).
3. Press the VIDEO/CD switch of the FUNCTION selector and the VIDEO/CD FUNCTION indicator lights up.
4. Set the TAPE MONITOR switch to the "source" position.
5. Activate the component connected to the VIDEO/CD INPUT jacks.
6. Advance the VOLUME control knob to a comfortable level and adjust the BASS and TREBLE control knobs as desired.
7. Activate the BALANCE control knob, LOUDNESS or AUDIO MODE switch if necessary.

Tape Playback

1. Turn the VOLUME control knob to the minimum level and press the POWER switch.
2. Press the SPEAKERS SYSTEM 1 switch or/and SPEAKERS SYSTEM 2 switch for the desired speaker system(s).
3. Set the TAPE switch to the "1" or "2" position corresponding to the tape deck to be played.
4. Press the TAPE MONITOR switch to the "monitor" position and confirm that the TAPE MONITOR indicator lights up.
5. Insert a recorded tape in the tape deck and set the tape deck in the playback mode.
6. Advance the VOLUME control knob to a comfortable level and adjust the BASS and TREBLE control knobs as desired.
7. Activate the BALANCE control knob, LOUDNESS or AUDIO MODE switch if necessary.

Tape Recording

Recording from a program source (FM/AM broadcast, turntable or a component connected to VIDEO/CD INPUT jacks) on a tape deck connected to the TAPE 1 and/or TAPE 2 jacks:

1. Turn the VOLUME control knob to the minimum level and press the POWER switch.
2. Press the SPEAKERS SYSTEM 1 switch or/and SPEAKERS SYSTEM 2 switch for the desired speaker system(s).
3. Select the desired program source with the FUNCTION selector. The FUNCTION indicator lights up to indicate the program source selected.
4. Set the TAPE switch to the "1" or "2" position corresponding to the tape deck to be recorded.
5. Set the TAPE MONITOR switch to the "source" position.
6. Advance the VOLUME control knob to a comfortable level.
7. If the program source mode is monaural, press the AUDIO MODE switch to the "mono" position according to the mono program source.
8. Start recording by activating the tape deck(s) connected to TAPE 1 and/or TAPE 2 jacks. The source sound can be listened to from the speakers or headphone.
9. To monitor the sound being recorded, press the TAPE MONITOR switch to the "monitor" position. The TAPE MONITOR indicator lights up, indicating the monitoring state.

NOTE: In case simultaneous recording onto the tape in the tape decks connected to the TAPE 1 jacks and TAPE 2 jacks is desired, press the TAPE switch to set it to the "2" position.

The tape monitor output signal fed to the tape deck is carried out directly from the program source without being influenced by the volume, balance, bass and treble controls, loudness and subsonic filter switches of this unit.

Tape Dubbing

Two tape decks can be connected to this unit and dubbing can be done from the tape in the tape deck connected to the TAPE 1 jacks onto the tape in the tape deck connected to the TAPE 2 jacks.

1. Turn the VOLUME control knob to the minimum level and press the POWER switch.
2. Press the SPEAKERS SYSTEM 1 switch or/and SPEAKERS SYSTEM 2 switch for the desired speaker system(s).
3. Set the TAPE switch to the "copy" position (button out).
4. If the tape to be dubbed is monaural, press the AUDIO MODE switch to the "mono" position.
5. After setting the tape deck connected to the TAPE 1 jacks for playback and the tape deck connected to the TAPE 2 jacks for recording, dubbing will begin.
6. To monitor the sound being duplicated, press the TAPE MONITOR switch to the "monitor" position.

Another program source can be listened to during dubbing, with no effect on the dubbing quality.

1. Set the TAPE MONITOR switch to the "source" position.
2. Select the desired program source with the FUNCTION selector.

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 turntable, tape deck, speakers and other electrical equipment you use with this receiver.

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. 	<ul style="list-style-type: none"> •Plug in the power cord securely.
No sound is heard.	<ul style="list-style-type: none"> •The tuned frequency does not carry a broadcast. •The muting function is ON and the signal strength is weak. •The TAPE MONITOR switch is in the "monitor" position (indicator is lit up). •The FUNCTION selection was not made properly. •The SPEAKERS SYSTEM 1 and 2 switches are set to the OFF position. •The speaker wires are disconnected or broken. 	<ul style="list-style-type: none"> •Tune to a broadcasted station. •Press the MUTING switch to the "off" position. •Repress the TAPE MONITOR switch to the "source" position (button out). •Press the proper FUNCTION selector according to the desired program source. •Press the SPEAKERS SYSTEM 1 or 2 switch. •Check the speaker 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.
Sound is not heard from the speaker system on one side.	<ul style="list-style-type: none"> •The connection of a speaker wires are incorrect or incomplete. •The connection wires to other equipment are disconnected. •The BALANCE control knob is turned to either the extreme right or the left position. 	<ul style="list-style-type: none"> •Check the speaker wires for disconnection or breaking and reconnect them correctly. •Check the wires for disconnection and connect them correctly. •Set the mark on the BALANCE control knob to the center position.

Problem	Cause	Remedy
When listening to stereo sound, the left and right sounds are reversed.	<ul style="list-style-type: none"> •The left and right speaker wires are reversed. •The left and right wires connected to other equipment are reversed. 	<ul style="list-style-type: none"> •Check the speaker wires and connect them correctly. •Check the wires to other equipment and connect them correctly.
Sounds are not heard in stereo.	<ul style="list-style-type: none"> •The AUDIO MODE switch is in the "mono" position. 	<ul style="list-style-type: none"> •Repress the AUDIO MODE switch (button out).
When playing the turntable, a low-pitched noise ("hum" or "buzz") is heard.	<ul style="list-style-type: none"> •The ground wire of the turntable is disconnected. •The connections of the turntable wires are incorrect or incomplete. 	<ul style="list-style-type: none"> •Make the ground wire connection correctly. •Insert the turntable wires into the PHONO INPUT jacks of this unit securely.
When increasing the volume level while playing a turntable, an undesirable prolonged sound (howling) is heard.	<ul style="list-style-type: none"> •"Howling" is created by the speakers and turntable. •Too much low frequency sound is present. 	<ul style="list-style-type: none"> •Place the speakers further away from the turntable. •Place the turntable on a more solid surface. •Decrease the setting of the BASS control knob. •Turn off the LOUDNESS switch. •Turn on the SUBSONIC FILTER switch.
Sound quality is poor.	<ul style="list-style-type: none"> •Input components have not been set up correctly. •Tone control is not proper. 	<ul style="list-style-type: none"> •Check the antenna, turntable and cartridge, tape deck, etc. and make corrections as needed. •Adjust the BASS and/or TREBLE control knobs to obtain a desired tone.

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.