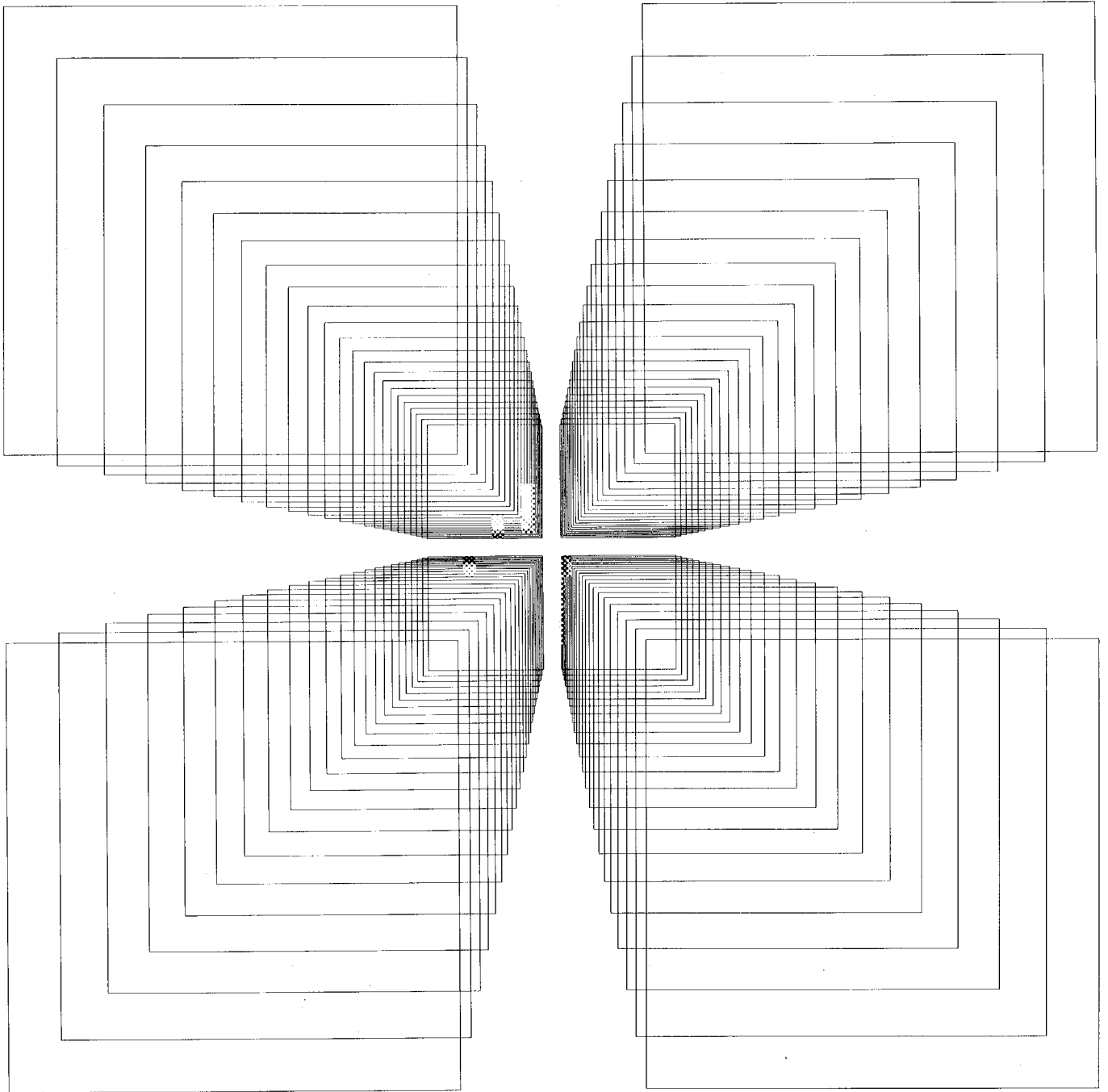


harman/kardon

TA600

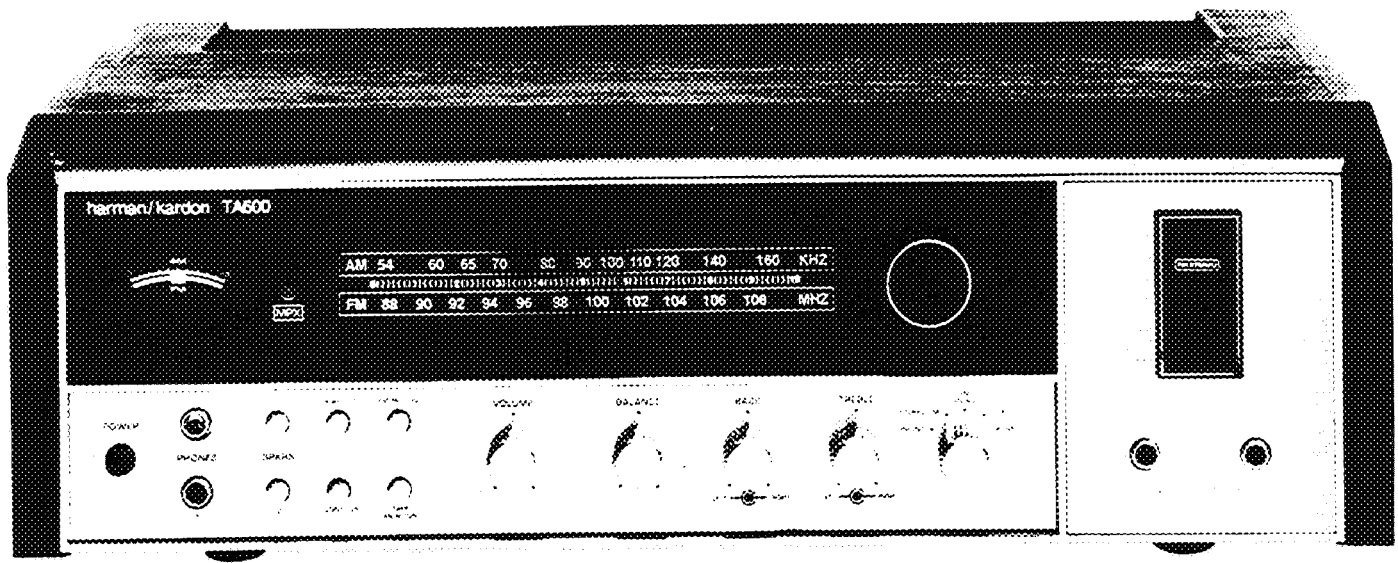
stereophonic receiver  
owner's manual



# INTRODUCTION

Your investment in a component high fidelity system indicates you have a more than average interest in music. The fact that your investment includes a Harman Kardon receiver shows us your appreciation of uncompromised reproduction of the music you enjoy. Throughout the design and manufacture of this receiver, we have made every effort to assure it will meet all of your expectations.

Read each section of the manual completely before you begin to make the connections or control adjustments in that section. You will make the right connections or adjustments the first time and will thus shorten the process of installation.



**Warning:** To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

# CONNECTING THE TA600

Before proceeding with the connection of the TA600 you should make a record of your purchase. Since you have just purchased the unit, you should still have the bill of sale.

Make sure it is clearly marked showing the date of purchase. Now look on the rear panel of your TA600 and locate the serial number. Record this number on the bill of sale, and then put it away in a safe place for future reference. This number will be important if your unit requires warranty service. It also provides identification if your unit is stolen. Also remember to fill out and mail in your registration card.

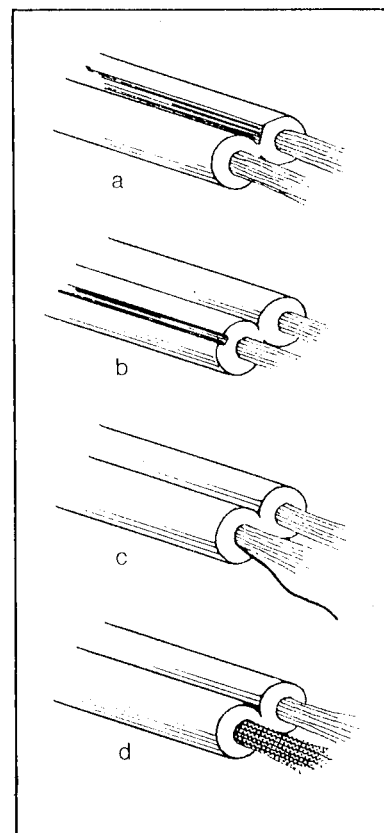
Place the TA600 on a shelf or table near where it will finally be located. Leave enough working space to make your connections easily.

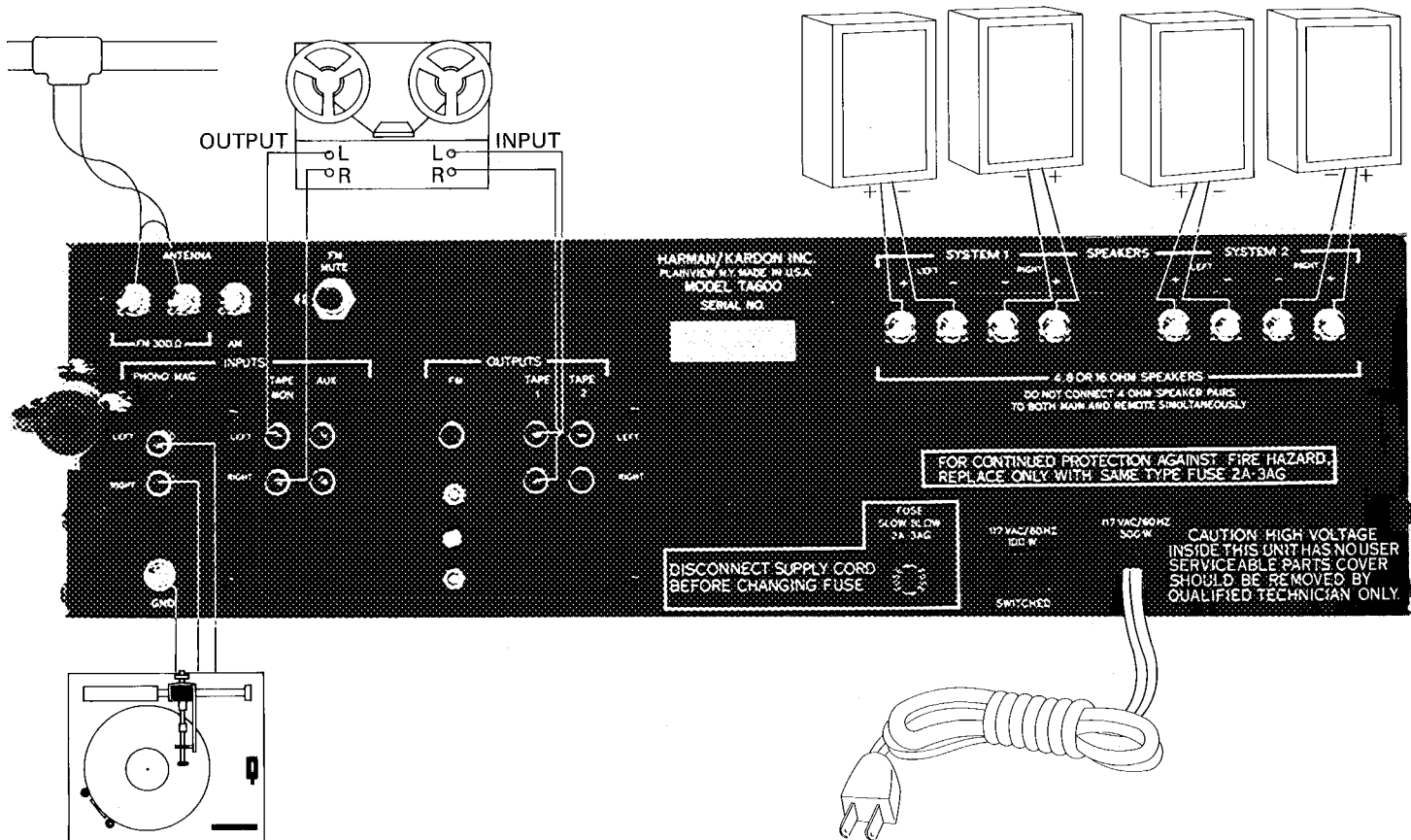
Although the TA600 is a solid-state device, its power amplifiers and dial scale illumination lamps will generate heat. The TA600 is designed to operate efficiently over a wide range of ambient temperatures, but adequate ventilation must be provided. If the TA600 will operate on an open shelf, no special provisions need to be taken. If a shelf will exist above the TA600, allow at least 1 to 2 inches of free space above the receiver. If the unit will operate in a 3 or 5-sided (bottom, back, top and sides) closed space allow at least 2 to 4 inches of free space above and to either side. In custom-mounted cabinet installations, adequate air flow can be obtained by drilling a large cutout, or several small holes, in the surrounding cabinetry, both above and below the receiver (not in the housing). Open back custom installations require no special attention. Finally, free air must flow through the bottom of the receiver. Never operate the TA600 on a rug or mat that could prevent air from entering the bottom of the receiver.

## Preparing for Connections:

Choosing the right wire for connecting your speakers to the receiver will assure the best performance. We recommend use of 18 gauge, stranded, two-conductor wire. This type of wire is often called lamp, or "zip", cord and is available at most high fidelity stores or any electrical supply store. Lengths of up to 50 feet can be used without affecting the low frequency performance of your system. For longer runs use 16 gauge wire. If the run is short, you may use thinner 20 gauge wire, though 18 gauge wire is preferred.

Lamp cord usually provides a "code," which is a means of identifying the conductors; a rib, sharp corner (see "a"), or indentations molded along its length (see "b"). On others a thin, colored thread is molded inside the insulator along with one conductor (see "c"), or the two conductors are different colors (see "d").





## Connecting the TA600

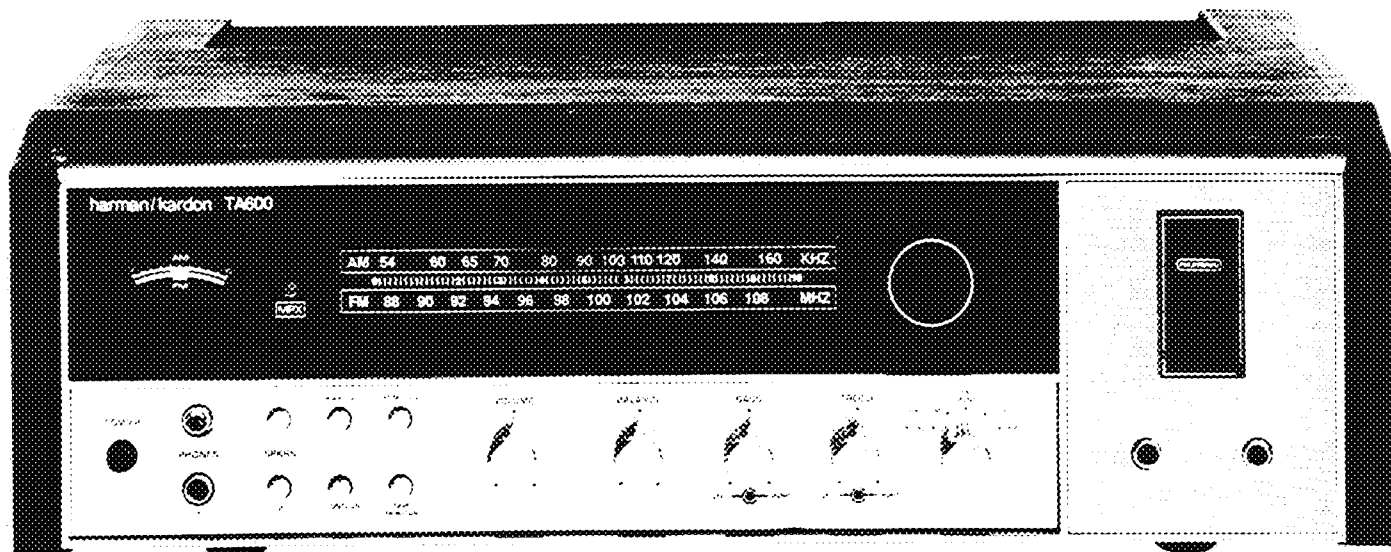
1. Connect 300—ohm FM antenna lead. If no outdoor antenna is available connect the lugs of the dipole antenna supplied with your TA600.
2. A ferrite loopstick AM Antenna is provided on the rear of the TA600. It can be oriented to provide good reception in most areas. If a "long wire" antenna is necessary connect it to the AM Antenna input terminal.
3. Connect left and right record playing unit cables to phono **INPUT (LEFT-RIGHT)** connectors. If a separate ground lead is provided connect it under the knurled **GND** nut.
4. Connect left and right input cables of open reel or cassette tape equipment to **TAPE 1 (LEFT-RIGHT) OUTPUT** connectors. If a second unit is available connect its input cables to **TAPE 2 (LEFT-RIGHT) OUTPUT**.
5. If your tape equipment has a true tape monitoring facility, connect tape equipment to **TAPE MON INPUT (LEFT-RIGHT)** connectors. Tape equipment capable of playback only also can be connected to **TAPE MON** inputs.

**NOTE:** The TA600 is supplied with shorting plugs in the **TAPE MON** receptacles. Due to the sensitivity of the unit these plugs must be used if no tape equipment is connected to the **TAPE MON** receptacles.

6. **AUX INPUT:** Connect any "high level" output equipment, such as long wave, marine, or citizen's band tuners. A second tape recorder or the audio output of a television set also can be connected.

7. **SYSTEM 1 SPEAKERS:** Connect one set of speakers to the system 1 (LEFT-RIGHT) terminals. The **LEFT** channel connection should be connected to the speaker to the left of your listening area; the **RIGHT** channel connection to the speaker on the right side. Make sure each lead is firmly connected.  
**NOTE:** Note to which terminals the coded side of the wire is connected (+ or -). Both speakers must be connected identically to be in phase. Speaker phasing will be checked in the operating section.
8. **SYSTEM 2 SPEAKERS:** If a second set of speakers is to be used connect them to **SYSTEM 2 (LEFT-RIGHT)** terminals as described in step 7.
9. **117 VAC/60HZ SWITCHED:** Connect AC power plug of your record playing equipment to this outlet. Outlet is live whenever TA600 is turned on.
10. **FUSE:** The **2A-3AG SLOW-BLOW** AC power fuse protects the receiver from shorts or other conditions that would cause excessive current to be drawn. **ANY REPLACEMENT FUSE MUST BE THE SAME TYPE AS SPECIFIED ON REAR PANEL.**

# OPERATING THE TA600



Familiarize yourself with the front panel controls. Instead of discussing each control separately we will illustrate how they work together. First push the **POWER** switch to turn on your TA600. Activate your record player.

## PLAYING RECORDS

Four controls are used to play back disc recordings.

- (1) **SPKRS 1** — On (Push in)
- (2) Function — **PHONO**
- (3) **VOLUME** — Advance (clockwise) to comfortable level
- (4) **BALANCE** — Neutral (midpoint)

You should now hear your record being played back. The **BALANCE** control will shift the loudness to the left or right speaker as you adjust the control. If you do not get sound, check the control positions given. Make sure that the **TAPE MONITOR** switch is "off" (out). Also check the rear panel **PHONO** connections.

If at average listening levels, you hear an objectionable (i.e., easily audible) amount of hum, try disconnecting the ground wire from the turntable to the TA600. Some turntable-cartridge combinations actually produce less hum this way. Another source of hum is inadequate seating of the input signal cables in the receptacles of the TA600. Check all cable seating carefully.

### CAUTION:

Always push **POWER** switch off before checking rear panel connections.

## PHASING SPEAKERS

Set Function switch to **STEREO FM**. Tune in a stereo FM station. Then switch the Function switch to **FM MONO**. The sound should appear to come from a point midway between your speakers. If the sound is not clearly centered, recheck your speaker connections. You may also have speakers of dissimilar polarity. Reverse the connections for *one* speaker at the rear panel. The system should now be in phase.

If speaker system 2 is connected press the **SPKRS 2** switch and check that the speakers are in phase.

## FM BROADCASTS

Five basic controls are used to receive FM Broadcasts.

- (1) Function — **STEREO FM**
- (2) **BALANCE** — Neutral (midpoint)
- (3) **FM MUTING** — Out
- (4) Tuning — Move dial pointer to extreme left of dial.
- (5) **VOLUME** — Advance (clockwise) until a hiss is audible

The hissing is atmospheric noise, Depress the **FM MUTING** pushbutton and the noise is eliminated. Turn the Tuning knob until a broadcast signal is received. The signal strength tuning meter will deflect registering the relative strength of the incoming signal. If the broadcast is in stereo the red **MPX** beacon will light.

## TUNING METER

The tuning meter of the TA600 (when centered) is tuned to the exact center of the pass band. However, you may detune slightly (either + or -) and still not have degradation of the quality of sound. Only when detuned enough to reach the edge of the pass band will the signal become noisy, distorted and finally disappear.

It is important to note that it is NOT ALWAYS NECESSARY to be tuned to the EXACT center of an assigned pass band to obtain clean, undistorted sound. Note: Very weak stations may be received if **FM MUTING** is not used. Station-to-station tuning, however, is not noise free.

The dial scale of the TA600 is calibrated for FM and AM broadcast frequencies. In addition, for your convenience, a third "logging" scale is provided with values from 0 to 100. With this scale all you need remember is that your favorite FM or AM station is at 80 on the logging scale.

## MUTING ADJUSTMENT

A control on the left of the rear panel controls the signal threshold at which muting action takes place when the **FM MUTING** pushbutton is activated. The control has been set at our factory to accommodate the majority of FM reception conditions. If you wish to readjust this control, depress the **FM MUTING** button and tune away from any station. Turn the **FM MUTE** control until the interstation noise (hiss) disappears.

The most frequently used controls are Function, VOLUME, and POWER. However, each of the controls not mentioned so far have a specific purpose that supplements these basic controls.

**PHONES 1 and 2:** Stereo headphone receptacles. Does not automatically defeat speaker systems. Can be used whether speakers are on or off.

**HIGH CUT:** Activates a filter that reduces high frequency content of any program material. Will reduce tape hiss, record scratches, and other problems.

**CONTOUR:** Works with **VOLUME** control to increase bass energy at low volume settings. Progressively less effect as volume is increased.

**TAPE MONITOR:** Admits programs from any "high level" source connected to **TAPE MON** receptacles. Does not affect signal appearing at **TAPE OUTPUT** receptacles.

**BASS:** Dual concentric control that provides means to increase or decrease low frequency content in program material separately for each channel. Neutral position at 12 o'clock.

**TREBLE:** Same effect as BASS control except works on high frequency content.

**TAPE RECORDER IN-OUT.** These are stereo phone jacks connected in parallel with the **TAPE MON INPUT** and **TAPE 1** and **2 OUTPUTS**. They provide a convenient method of connection for tape recording and playback without moving any units for access to rear input connectors. Not to be used for headphones.

We warrant this product to be free from defects in material and workmanship under normal use and service, and in accordance with the conditions set forth below. Should a defect occur within the period specified, provided that the unit is returned to either Harman/Kardon Plainview or an authorized Harman/Kardon warranty station, transportation prepaid, and which our examination shall disclose to our satisfaction to be defective, we will, for a period of **two (2) years** from the date of purchase, either repair or replace and install any defective parts of this product free of charge.

This warranty is not applicable to any product which shall have been repaired or altered in any way so as to, in our judgment, affect its stability or reliability; or to any product that has been subject to neglect, misuse, abuse, or accident; or which has had its serial number altered, effaced or removed. Neither shall this warranty apply to any product which has been connected other than in accordance with instructions furnished by us.

### **Exceptions:**

This warranty does not include any obligation as to the repair or replacement of any wooden enclosure or other similar accessory due to damage incurred after initial delivery, nor to any responsibility for transportation charges incurred in the shipment of the defective product to or from Harman/Kardon Plainview or any of its authorized warranty stations.

The duration of implied warranties is 2 years. Our obligation under any warranty, express or implied, is limited to repair or replacement of any unit found to be defective. Under no circumstances shall we be liable for incidental or consequential damages.

To obtain service under the terms of the warranty policy, it is necessary for you to retain your **ORIGINAL BILL OF SALE**. Any card or other registration device does not constitute proof of purchase nor will it be regarded as such. In the event your equipment requires service during the two-year warranty period, only presentation of your **ORIGINAL BILL OF SALE** to either an authorized warranty station or the factory itself will insure your rights under the warranty policy described above.

We have a Customer Relations Department equipped to handle any questions you may have regarding the installation or operation of your unit. Feel free to correspond with us at any time. We will make every effort to give you prompt and complete advice on any inquiry.

If any problem cannot be resolved through correspondence with the factory, we may wish to refer you to an authorized warranty station in your area if we feel this is best in your situation. Similarly, we may prefer to authorize the return of your unit to the factory in Plainview, New York. Should this possibility arise, a Service Return Authorization form, and packing and shipping instructions will be mailed to you. This material will identify your unit as belonging to you during its processing through our Service Department and allow us to return it to you in the shortest possible time. This authorization form **must accompany** your unit when it is returned to us.

**UNDER NO CIRCUMSTANCES SHOULD YOU SHIP A UNIT TO US WITHOUT PRIOR AUTHORIZATION.** You risk major delays in the processing of your unit and the possibility of loss of your equipment.

# TA600 SPECIFICATIONS

AMPLIFIER SECTION	
<b>Power Output</b>	<b>38 WATTS MIN RMS PER CHANNEL. BOTH CHANNELS DRIVEN INTO 8 OHMS FROM 20Hz TO 20kHz WITH LESS THAN 0.3% THD</b>
<b>Power Bandwidth</b>	From 10Hz to 40kHz at less than 0.3% THD into 8 ohms, both channels driven simultaneously at 19 watts per channel.
<b>Frequency Response</b>	20Hz to 20kHz $\pm$ 0.5dB
<b>System Rise Time</b>	Less than 3 microseconds.
<b>Square Wave Tilt</b>	Less than 10% at 20Hz.
<b>Total Harmonic Distortion</b>	Less than 0.3% from 250 milliwatts to 38 watts RMS, both channels driven simultaneously into 8 ohms from 20Hz to 20kHz.
<b>Intermodulation Distortion</b>	0.12% (SMPTE) at rated power output.
<b>Damping Factor</b>	Greater than 30.
PREAMP SECTION	
<b>Input Impedance</b>	Phono 47K AUX 30K Tape Mon 30K
<b>Input Sensitivity</b>	Phono 2.6mV AUX 180mV Tape Mon 180mV
<b>S/N</b>	Phono -60dB AUX -75dB Tape Mon -75dB Residual -75dB
<b>Phono Overload</b>	80mV
<b>RIAA Equalization</b>	$\pm$ 1.5dB
<b>Crosstalk</b>	Phono 35dB AUX 40dB Tape Mon 40dB
<b>Tone Control Effect</b>	$\pm$ 12dB @ 50Hz $\pm$ 12dB @ 10kHz
<b>Contour</b>	-10dB @ 50Hz (40dB below full power output)
TUNER	
<b>Usable Sensitivity</b>	2.5 microvolts, IHF
<b>Ultimate S/N Ratio</b>	60dB
<b>Capture Ratio</b>	2.5 dB
<b>Alternate Channel Selectivity</b>	60dB
<b>Image Rejection</b>	-50dB
<b>Spurious Response Rejection</b>	-60dB
<b>IF Rejection</b>	-70dB
<b>MPX Separation</b>	Greater than 35dB
<b>MPX THD</b>	0.6% (mono) 0.7% (stereo)