

harman kardon

STRATOPHONIC MUSIC SYSTEM-SC4



OPERATION MANUAL

Introduction

Welcome to the wonderful world of STRATOPHONIC SOUND.

At your fingertip lies control over your new STRATOPHONIC-COMPACT, the first true component quality compact music system.

Spending a few moments reviewing this manual will add immeasurably to your future enjoyment of this fine instrument. Proper installation is outlined in easy-to-follow instructions that will assure you many rewarding years of listening pleasure.

Your receiver represents the ultimate in solid-state technology combined with new advances in air suspension speaker design.

The performance capabilities are a result of the uncompromising approach used in the development of the now famous STRATOPHONIC components—the same all-transistor components that set new standards for the Hi-Fidelity industry.

The complete and functional front panel controls and rear panel terminations allow use of the STRATOPHONIC-COMPACT as the basis of a complete home entertainment center.

From the moment you first listen to your new system, we are sure you will agree STRATOPHONIC sound is sound unbound—music with unmatched realism and life-like quality, unlike any you have heard before.

General Information

UNPACKING

Your STRATOPHONIC COMPACT MUSIC SYSTEM has been shipped in separate cartons.

After unpacking your STRATOPHONIC COMPACT MUSIC SYSTEM, inspect it carefully for signs of transit damage. All the components were subjected to numerous rigid quality control inspections and therefore should be in perfect operating condition. If damage is visible, notify your dealer at once. If the system was shipped to you, notify the transportation company. Harman-Kardon will cooperate with you in such instances, but please note that only you can recover from the carrier for damages incurred during shipment.

COMPONENT COMPLEMENT OF STRATOPHONIC COMPACT SERIES

Model	Consists of
SC330	1—SC3 Control Center (FM-Multiplex) 2—HK-30 Stratophonic Speakers
SC430	1—SC4 Control Center (AM-FM-Multiplex) 2—HK-30 Stratophonic Speakers
SC440	1—SC4 Control Center (AM-FM-Multiplex) 2—HK-40 Stratophonic Speakers
SC340	1—SC3 Control Center (FM-Multiplex) 2—HK-40 Stratophonic Speakers

WARRANTY POLICY

We urge you to fill in your warranty card and mail it to the factory without delay to protect your rights under warranty. The Harman-Kardon warranty is not valid unless we have your card on file.

WARRANTY

We warrant each unit to be free from defects in material and workmanship under normal use and service, and in accordance with the conditions herein below set forth, for a period of ninety (90) days for the automatic record changer and for a period of two (2) years for the remainder of your compact music system, from the date of delivery to the original purchaser.

Should a defect occur within the said two (2) years, and provided that the unit is returned to us with transportation prepaid and which our examination shall disclose to our satisfaction to have been thus defective, we will:

1. During the first ninety (90) days from date of sale at our option, either replace or repair and install any defective parts, free of charge.
2. After ninety (90) days, at our option, either replace or repair all defective parts of the automatic record changer, charging for both parts and labor.
3. Neither items 1 or 2 of this warranty includes any obligation as to replacement of the stylus or adjustments of tracking force, tone arm height or dropping position of the automatic record changer.
4. After ninety (90) days and for the balance of the two (2) years, at our option either replace or repair all defective parts of the remainder of your compact music system, charging only for labor.

This warranty is not applicable to any instrument which shall have been repaired or altered in any way so as in our judgment to affect its stability or reliability nor which has been subject to neglect, misuse, abuse, negligence or accident nor which has had the serial number altered, effaced, or removed. Neither shall this warranty apply to any instrument which has been connected otherwise than in accordance with instructions furnished by us.

This warranty is expressly in lieu of all other warranties, express or implied, and of all other obligations or liability on our part, and we neither assume nor authorize any representative or other person to assume for us any other liability in connection with the sale of this instrument.

SERVICE POLICY

Harman-Kardon has established a special consumer division to answer all questions pertinent to the installation and operation of your unit. Please feel free to write us at any time and we will endeavor to offer prompt and complete advice.

If your problem cannot be resolved through our combined efforts we may wish to refer you to one of our authorized warranty stations. The unit must be shipped via Railway Express. Prepaid to the station designated, accompanied by a brief note describing the exact nature of the difficulty. *Under no circumstances should the set be shipped directly to the factory without prior authorization.*

Installation Procedure

AUTOMATIC TURNTABLE

The automatic turntable supplied with your STRATOPHONIC COMPACT MUSIC SYSTEM is one of the Garrard Professional Laboratory Series. Complete instructions for the operation and maintenance of this automatic turntable will be found in the enclosed Garrard instruction manual.

CARTRIDGE

The cartridge supplied with your automatic turntable has been chosen to give the highest quality performance when operating with your STRATOPHONIC COMPACT MUSIC SYSTEM.

Under normal conditions the stylus used in this cartridge will last for a number of years before it has to be replaced. Abnormal use, however, may damage the stylus. It is therefore recommended that you have the stylus checked annually at your dealer or whenever you suspect it may have been damaged.

The replacement stylus for this cartridge is available at your dealer.

VENTILATION

Your receiver, being an all transistor unit, produces very little heat in itself, therefore extending the life of all the components. To maintain proper ventilation and insure low operating temperatures, at least 1 inch of air space should be provided from the rear of the cabinet to the wall when installing your system.

The rear panel surface of the receiver has been designed as a heat sink (a device which dissipates heat) for the output transistors. This area will become warm under normal use. This is normal and should not be cause for concern.

POWER REQUIREMENTS

Connect the AC line cord into any outlet furnishing 117 volts, 50 or 60 cycle AC current. The voltage may vary between 105 and 125 volts. An AC convenience outlet is located on the rear panel of the receiver. This outlet is "switched" and is controlled by the on/off switch on the front panel. Any auxiliary equipment may be plugged into this

outlet. The rating of this equipment should not exceed 200 watts.

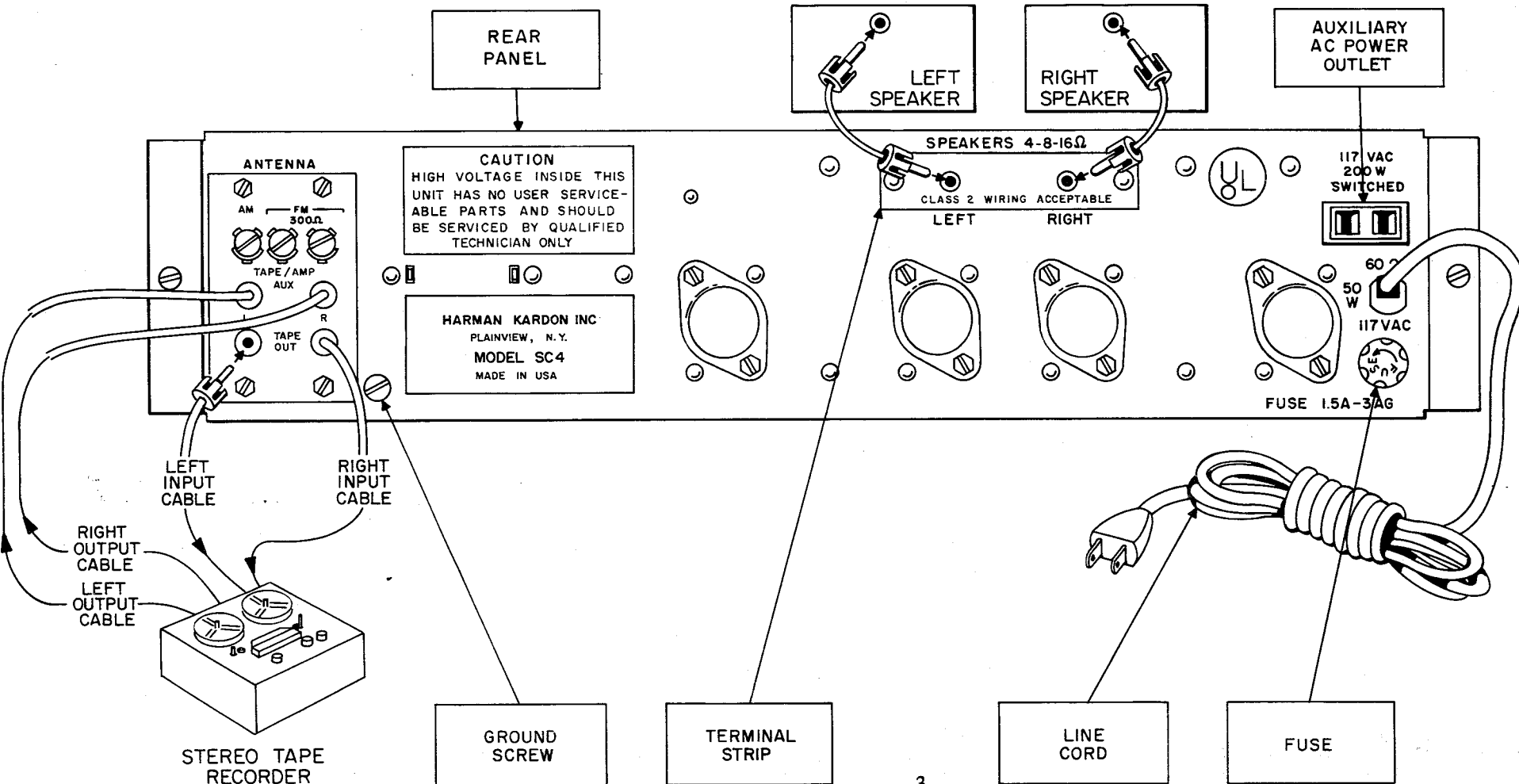
CONNECTING THE SPEAKERS FOR STEREO OPERATION

A 24 foot speaker cable has been supplied with each speaker to connect to the receiver. Each end of the cable comes with a convenient molded plug for easy installation.

It may be easily dressed around the molding for an inconspicuous and neat installation. Do not drive

the staples or tacks through the center of the wire for this may short out the two sections and will decrease the overall volume or short out the speakers entirely.

- 1) Plug one end of the speaker cable into the receptacle on the rear of your left speaker (this is the speaker on the left as you face the speakers).
- 2) Plug the other end of the speaker cable into the LEFT speaker receptacle on the rear of the receiver.
- 3) Similarly connect the other speaker cable to your right speaker.



4) Attach the other end of the speaker cable to the receptacle marked **RIGHT** on the rear of the receiver.

5) Your receiver is now connected for stereo operation.

CONNECTING THE FM ANTENNA

Due to the exceptionally high sensitivity of your receiver the 48" wire supplied is sufficient for all but the most difficult locations. The balanced antenna input is designed to accept a 300 ohm antenna, indoor or outdoor type.

When using the antenna supplied connect one end of the 48" wire to either FM antenna terminal as shown. Horizontal placement of the antenna offers maximum polarization for optimum reception. The antenna may be tacked to the back of the molding behind the equipment or to the shelf you use.

In more remote locations, an outside Yagi, folded di-pole or omni-directional antenna is recommended (Jerrold/Taco FMP 8, FMP 10, FMP 16. For the greatest gain, an 8 to 14 element Yagi designed for the FM band is suggested. A Yagi however, is very directional and it may be desirable to use an antenna rotor if a full 360° coverage is required. For reception in the suburbs, an outside folded di-pole or omni-directional di-pole is recommended.

CONNECTING THE AM ANTENNA

The self contained AM antenna located inside the cabinet of your stratophonic compact music system comprises all the antenna usually required for normal signal area. In more remote locations, an additional outdoor antenna may be required. This should consist of a single wire, as long as is reasonably practical. It must be kept away from large metal objects, power lines or electrical machinery to insure reception without extraneous noise. Attach this length of wire to the AM terminal on the **ANTENNA TERMINAL STRIP**.

CONNECTING A STEREO TAPE RECORDER

Since most stereo tape recorders include their own record and playback pre-amplifiers, it is not desirable to connect the output of the recorder into any low level input receptacles. This will result in overloading of the low level stage and cause distortion.

Connect the two tape recorder output leads to the **LEFT** and **RIGHT TAPE AMP/AUX** receptacles on the rear panel of the receiver. This will enable you to play back your stereo tapes.

To make a recording, connect the inputs of your recorder to the **LEFT** and **RIGHT TAPE OUT** receptacles. This will enable you to make a stereophonic recording with the proper recording equalization as determined by your recorder, while simultaneously listening to the program material through your speaker system. The recording signals from the **TAPE OUT** receptacles are unaffected by the tone controls or volume setting of the receiver to insure an absolutely flat response.

CONNECTING A MONOPHONIC TAPE RECORDER

If a monophonic tape recorder is to be used with your receiver connect the recorder output to either the **LEFT** or **RIGHT TAPE AMP/AUX** input receptacle located on the rear panel. This will enable you to play back your monophonic tapes.

If your recorder is stereo playback but records monophonically, connect the output as described in the previous section on connecting a stereo tape recorder. Connect the input for recording monophonically as described below.

Connect the input of your recorder to either the **LEFT** or **RIGHT TAPE OUT** receptacle. This will enable you to record monophonically while simultaneously listening to the program through the receiver and speakers.

Operation Procedure

Every control on this receiver serves a specific useful function and is important for the proper operation of your stereo system. *It is important to note that under no circumstances should this receiver be operated without either a speaker or resistive load (4 Ω 5 W) across both the output terminals.*

ON/OFF SWITCH

The power switch is located on the volume control. In the full counter-clockwise position the receiver is off. Rotate the control clockwise to turn the receiver on.

TUNING CONTROL

The **TUNING CONTROL** is located directly to the right of the dial glass and is used to select the desired station.

TUNING METER

Your receiver incorporates a D'Arsonval movement tuning meter for precise tuning. The **TUNING METER** is used to tune to the center of the station channel and proper tuning is achieved when you are on a station and the **TUNING METER** is at maximum deflection.

VOLUME CONTROL

The **VOLUME CONTROL** on your receiver is essentially two controls in one, mechanically tied together, to be operated by one knob. The volume control varies both channels simultaneously and is used to adjust the volume level of program material fed into the stereo system. Its effect can be modified by the special Harman-Kardon **CONTOUR** switch.

BALANCE CONTROL

The nature of stereophonic reproduction is such that it requires two identical channels to attain the highest degree of faithfulness and spatial distribution. Any variation in the efficiency of one channel as compared to the other will disturb this relationship. As there may be slight differences between the location of the two speakers, tape heads, cartridge coils, etc., your receiver includes a special control to balance one channel against the other. Sufficient range is covered by this control to permit rebalancing of the overall system even in extreme cases where unbalance exists.

It should be noted that the **BALANCE** control may be set anywhere within its range of adjustment to attain system balance.

BASS AND TREBLE TONE CONTROLS

The BASS and TREBLE tone controls on your receiver provide the full range of tonal adjustment necessary for stereo high fidelity listening. The tone control range is considerable and can adequately adjust the low and high frequencies in accordance with your listening preference, speaker characteristics and room acoustics.

FUNCTION SELECTOR SWITCH

The FUNCTION SELECTOR switch selects the desired type of program source. The switch on the SC4 has six switching positions as follows.

1. PHONO MONO. This position selects your record player, for monophonic playback and includes RIAA equalization.
2. PHONO STEREO. This position selects your record player, for stereophonic playback and includes RIAA equalization.

3. TAPE AMP/AUX. This position selects any high level equipment, such as the output of your television set or any other high level signal which is connected to the AUX receptacles on the rear of the receiver.

4. FM MONO. In this position you can listen to stereophonic broadcasts monophonically. Monophonic programs will appear unchanged.

5. FM STEREO. This is the normal listening position for all monophonic and stereophonic FM Broadcasts. In this position the stereo indicator light and the STEREO MATIC switching circuit built into your receiver are operative.

6. AM This position selects the AM section of your receiver for AM reception.

STEREO HEADPHONE RECEPTACLE

The stereo headphone receptacle located on the front panel will accept any headphone with any impedance rating. The headphone receptacle is "on" at all times. If you wish to listen to the headphones alone, see the paragraph on "SPEAKER SWITCH".

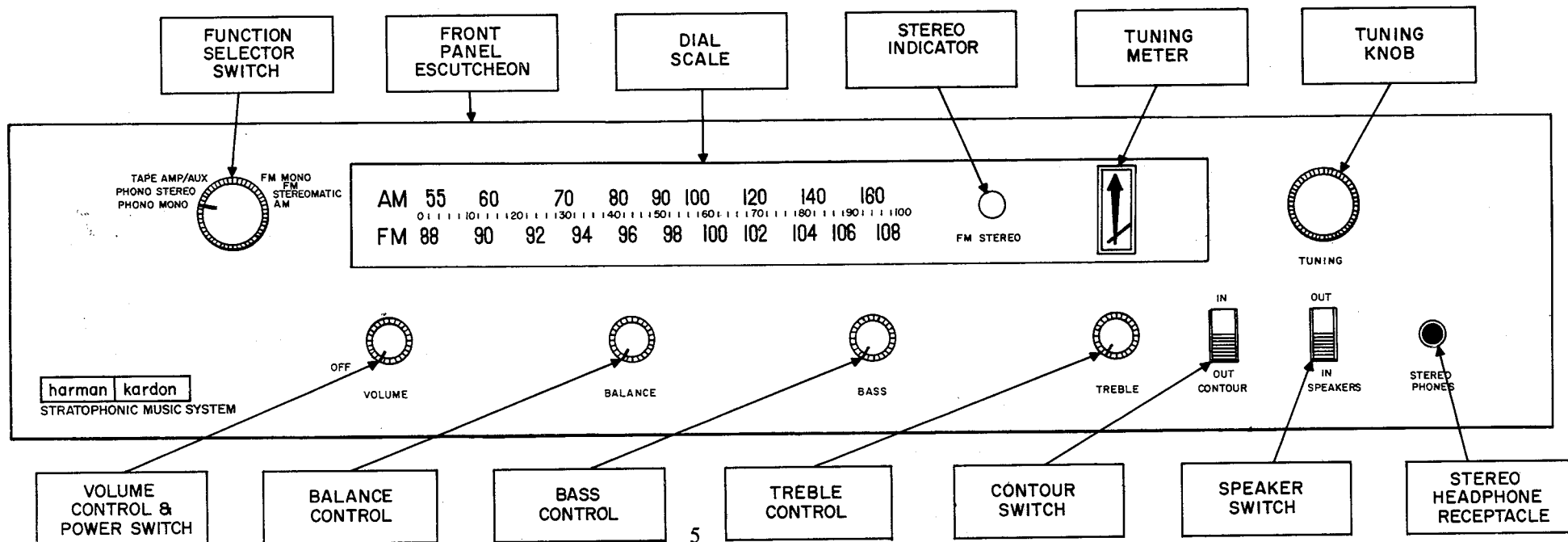
CONTOUR SWITCH

One of the limitations of human hearing is its tendency to lose sensitivity to the very low pitched sounds as the program sound level is reduced. It is this characteristic (known as the Fletcher-Munson effect) which causes one to play music programs at high listening levels in order to experience the full rich tone available from fine modern recordings.

The Harman-Kardon CONTOUR switch compensates for this effect; thereby eliminating high listening levels as a requisite for full enjoyment of reproduced music. For warm, full-bodied reproduction at low listening levels, throw the CONTOUR switch "IN". At high levels, the contour switch has no effect.

SPEAKER SWITCH

The speaker switch is used to defeat the speakers while you are listening to the stereo headphones. To defeat the speakers, throw the switch to the "off" position.



SELECTING MONOPHONIC OR FM STEREO BROADCASTS

Under normal use the Function Selector Switch should be placed in the FM STEREO position.

If the receiver is tuned to a monophonic FM broadcast, the special STEREO circuit *automatically* defeats the multiplex circuitry and the receiver will reproduce monophonic sound through both speakers. Should this station begin to transmit stereo, the STEREO circuit will *automatically* switch in the multiplex section and you will receive the broadcast in full stereo through your speakers. Should the station conclude broadcasting in stereo, your receiver will *automatically* switch back to monophonic reception.

The exclusive Harman-Kardon STEREO circuit is always operative—even as you tune across the FM dial. As you tune to a stereophonic broadcast the STEREO circuit *automatically* switches your receiver to the stereophonic mode of operation—and back to monophonic as the stereo station is passed.

Should you receive a weak stereo signal whose quality has been degraded by noise or excessive multipath, and you wish to listen to this stereo broadcast, monophonically, place the function selector switch in the FM MONO position.

STEREO INDICATOR LIGHT

A Stereo indicator light is located directly behind the FM dial glass and operates in conjunction with the FM STEREO position of the Function switch. The light visually indicates the reproduction of stereo through your receiver.

To tune for FM stereo proceed as follows:

1. Place the function selector switch in the FM STEREO position.

2. Tune carefully to the desired station, using your tuning meter for maximum deflection. Your stereo indicator light will now glow if you are tuned to a stereo program.

Special Technical Information

DIAL SCALE

The Dial Scale on the SC3 receiver is marked with two scales, an FM frequency scale (88-108 MC), and a logging scale (0-100). The Dial Scale on the SC4 receiver is marked with three scales, an FM frequency scale (88-108MC), an AM frequency scale (55-160 KC) and a logging scale (0-100).

Since most FM stations operate on frequencies which are not whole numbers (such as 96 MC as compared to 96.3) ideally each megacycle division on the frequency scale should be divided into 10 parts to enable the user to pinpoint the location of the station. This would require a dial scale which would be longer than the front panel.

The logging scale which is divided into 100 equal parts provides a means of finding your favorite station, once you have noted its position on the logging scale. For example, in New York City, WQXR operates on 96.3MC. After locating this station through the use of the frequency scale (between 96 and 98 MC), you find that the pointer falls on 46 on the logging scale. Make a note of this setting and when you next want to tune to WQXR, all that is necessary is to set the pointer to 46 on the logging scale.

EQUALIZATION

In order to achieve good reproduction of the wide range of frequencies in music and to make necessary adjustments for the limitations of the recording technique, record manufacturers have found it

necessary to modify the actual frequency response of the music while it is being recorded. Thus, to avoid overcutting and consequent distortion, a measured and deliberate reduction is effected in low frequency response by selecting a "turnover frequency" and by recording attenuated response below that point. To assure optimum signal to noise at the high frequency end when the record is played at home, the highs are deliberately exaggerated during the recording process. A measured and deliberate boost is effected above a certain frequency. This combination of deliberate exaggeration at the low and high ends of the frequency response can be expressed in a recording curve. When the record is played a mirror image of that curve should be available so that the ideal "flat" response may be achieved.

The PHONO positions of the Function Selector automatically select the proper equalization that is required.

FUSES

Your receiver is protected by a 2½ amp-3AG fuse. In the event of fuse failure replace **ONLY** with the same type used. Replacing with a fuse of a higher rating will not protect the instrument and may result in severe damage.

SERVICE

If this instrument should not perform properly during the first two years after date of purchase, contact the factory for instructions. The factory has many authorized warranty service stations in the United States, and for the station nearest you, please write our Customer Service Department, Harman Kardon, Inc., Plainview, Long Island, New York. Be sure to include the model and serial number of the unit. A brief description of your other components is often of help in answering your questions. **DO NOT** return this instrument to Harman Kardon without first receiving authorization.

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AMES COURT, PLAINVIEW, L.I., N.Y.

THE LEADER IN SOLID-STATE HIGH-FIDELITY COMPONENTS

• A subsidiary of The Jerrold Corporation

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