

# Hapi 2

## Operations Manual

**Hegeman**

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U.S.A.



## INTRODUCTION

Stewart Hegeman's work has encompassed all aspects of audio, from recording techniques and tape recorder design, to amplifiers, advanced tuners and speakers, and the science of sound. In its original production version, the Hapi 2 became the sonic standard of the Hi Fi world and proved once again that the "Old Master" still retains his magic touch.

We welcome you to the very special circle of audio connoisseurs who can hear the difference that Hegeman products make.

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## UNPACKING

Before your Hapi 2 left the factory, it was carefully inspected for physical imperfections as a routine part of Hegeman's systematic quality control. This, along with full electrical testing, ensures a product flawless in both appearance and performance.

After you have unpacked the preamplifier, inspect it for any physical damage. Save the shipping carton and all packing materials as they are designed to reduce to a minimum the possibility of transportation damage.

In the unlikely event that damage has occurred, immediately notify your dealer and request the name of the carrier so that a written claim to cover the damages can be initiated.

THE RIGHT TO ANY CLAIM AGAINST A PUBLIC CARRIER CAN BE FORFEITED IF THE CARRIER IS NOT NOTIFIED PROMPTLY AND IF THE SHIPPING CARTON AND PACKING MATERIALS ARE NOT AVAILABLE FOR INSPECTION BY THE CARRIER. SAVE ALL PACKING MATERIALS UNTIL THE CLAIM HAS BEEN SETTLED.

## Hapi 2 Circuit Description

The input stage of the Hapi 2 preamplifier is a fixed gain, low noise, amplifier, having a flat frequency response and high input impedance. This allows the input impedance to be defined solely by the low noise 47 kilohm input resistor. Audio band noise caused by the RF interference is avoided by the use of a RF (radio frequency) filter adjacent to the input of the first amplifier.

Equalization is achieved by a purely passive circuit isolated by the first flat amplifier and the flat response output amplifier. This approach assures maximum stability with optimum transient response, minimum phase shift and eliminates the need for separate buffer amplifiers. Each preamplifier board is adjusted for frequency response and gain balance by the insertion of trimming components at four possible points in the equalization circuit. An emitter follower isolates the gain stage from the control section and provides a very low source impedance to the following circuits.

The control section provides selection for phono input plus three high level inputs, gain and balance controls, mode selection, loudness compensation and low-cut filter. A tape monitor feature is available on input position #4.

High level inputs drive the low impedance and volume controls via an emitter follower. A flat gain stage with emitter follower output restores the insertion loss of the control circuits and provides sufficient gain to drive the power amplifier. Muting relays provide a 5 second delay on warm-up to prevent initial transient pulses passing through the power

amplifier and causing speaker damage.

The Hapi 2 is powered by a unique tracking regulator supply which ties the positive and negative supply voltages to a single zener reference. This not only holds the supply to a stable voltage, but also assures the absolute symmetry in output and source impedance which is essential for balanced, distortionless and noise free circuit operation.

TECHNICAL SPECIFICATIONS

Gain-phonos.....54db @1kHz  
-high level.....16db

Bandwidth.....2Hz-350kHz.

Noise-phonos.....less than 3 microvolts  
referred to input 20kHz  
-high level.....100db below 6v output

Distortion.....less than .03% harmonic or I.M.

Squarewave Rise time.....0.5 microseconds @8v P.P output

Channel Separation.....60db

Input Impedance.....47k-36pf SHUNT

Output Source Impedance.....15 ohms

Loudness contour.....6db@100Hz 9'o clock position of  
volume control

Rumble Filter.....3db cut at 20Hz

Power Source.....117v AC 50-60Hz  
220-230v AC 50-60Hz(special order)

Dimensions.....1-3/4" x 19"x9" relay rack  
mounting (HWD)

Convenience Outlets.....1 switched, 1 unswitched  
(for auxiliary equipment)

Shipping Weight.....5 lbs.

Hegeman Limited Warranty

Hegeman warrants to the original purchaser, this product to be free from defective material and workmanship when used in accordance with its printed instructions for a period of one (1) year in normal home use, from date of purchase. Hegeman agrees to remedy any such defect or to furnish a new part in exchange for any defective part of this unit, free of charge provided the unit is delivered intact by the owner or his representative to Hegeman (prepaid) with proof of purchase for our examination.

If service is required:

- 1.) Contact Hegeman (address below) for authorization to return your unit for service. NO RETURNS WILL BE ACCEPTED WITHOUT PRIOR RETURN AUTHORIZATION.
- 2.) Hegeman is not responsible for shipping damage. If you do not have original packing, please request it when requesting the Return Authorization.
- 3.) All merchandise must be sent U.P.S., PREPAID and insured to Hegeman.  
FOR RETURN AUTHORIZATION, WRITE TO:

HEGEMAN  
9 Jules Lane  
New Brunswick, New Jersey 08901  
08901

- 4.) This warranty applies only to parts which are returned to the factory prepaid and are, in the sole judgement of Hegeman, defective under the terms of the warranty.
- 5.) The warranty set forth above is in lieu of all other warranties, expressed or implied, of merchantability, fitness for purpose or otherwise. In no event shall we be liable for incidental or consequential damages or have any liability with respect to defects other than the obligations set forth above.

The purchaser should complete the enclosed warranty card and mail it to Hegeman within 15 days after the purchase in order to register the warranty.

Some states do not allow limitations on how long an implied warranty lasts, and/or the exclusion of limitation of incidental or consequential damages, so the above limitation or exclusions may not apply to you. This warranty gives you specific rights and you may also have other rights which vary from state to state.

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Section 1 Back Panel Connections

All rear panel input and output signal connections should be made with high quality co-axial audio cables (RCA phono type). Channel A corresponds to the left channel and Channel B to the right channel of the Hapi 2.

Main Out 1 and Main Out 2

The Hapi 2 will drive any stereo or mono amplifier. Connect either main outs directly to the amplifier inputs. Channel A from the Hapi 2 to the left channel input of the amplifier and Channel B from the Hapi 2 to the right channel input of the amplifier.

Tape Out and Tape 4

The Hapi 2 provides you with a full tape circuit. To connect a tape deck or other component (equalizer signal processor) use the following procedure: the left and right outputs of the tape deck are connected by audio cables to the jacks on the back panel label TAPE 4 CH A and CH B. The left and right inputs of the tape deck are connected by audio cables to the jacks on the back panel labeled TAPE OUT CH A and CH B.

AUX 3

This high level input is provided for associated equipment such as a second tuner TV sound output, video recorder or a playback tape deck.

TUNER 2

Connect the cable from the left output of your tuner to tuner CH A input of the Hapi 2. Connect the cable from the right output of your tuner to tuner CH B input of the Hapi.

PHONO P

Connect the cable from Channel A (left) of the turntable into Phono 1 CH A input jack. Connect the cable from channel B (right) of the turntable into phono 1 CH B input jack.

GND Ground

Under certain conditions it may be necessary to provide a common ground between the Hapi 2 and your associated equipment.

Headamp + 13 v DC

This outlet is intended for use with future Hegeman accessory products.

## Section 2 Front Panel Controls

### Power

This high current power switch controls the power on the Hapi 2 and the switched AC outlets at the rear.

### Input

This selector switch controls which input you wish to use.

Position P is used for the phono input.

Position 2 is used for the tuner input.

Position 3 is used for the aux input.

Position 4 is used for the tape input.

### Tape

This switch allows you to monitor the tape current.

### Lo-Cut

This switch allows a system cutoff below 20Hz to accomodate warped records or any mechanical resonance of your phono playback system.

### Mode

This switch controls channel switching.

Position A-Signal from the left channel (CHA) is fed to both channels.

Position B-Signal from the right channel (CHB) is fed to both channels.

Position AB-Combines both inputs for a mono signal to both inputs.

Position ST- Stereo Signal

### Balance

The balance control adjusts for unequal volume levels between channels.

Moving the controls to the left channel will reduce the volume of the right channel (CHB) while moving the control to the right will reduce the volume of the left channel (CHA).

### Loud

The loudness circuit used at low listening levels adds a small amount of bass enhancement to preserve the balance of sound.

