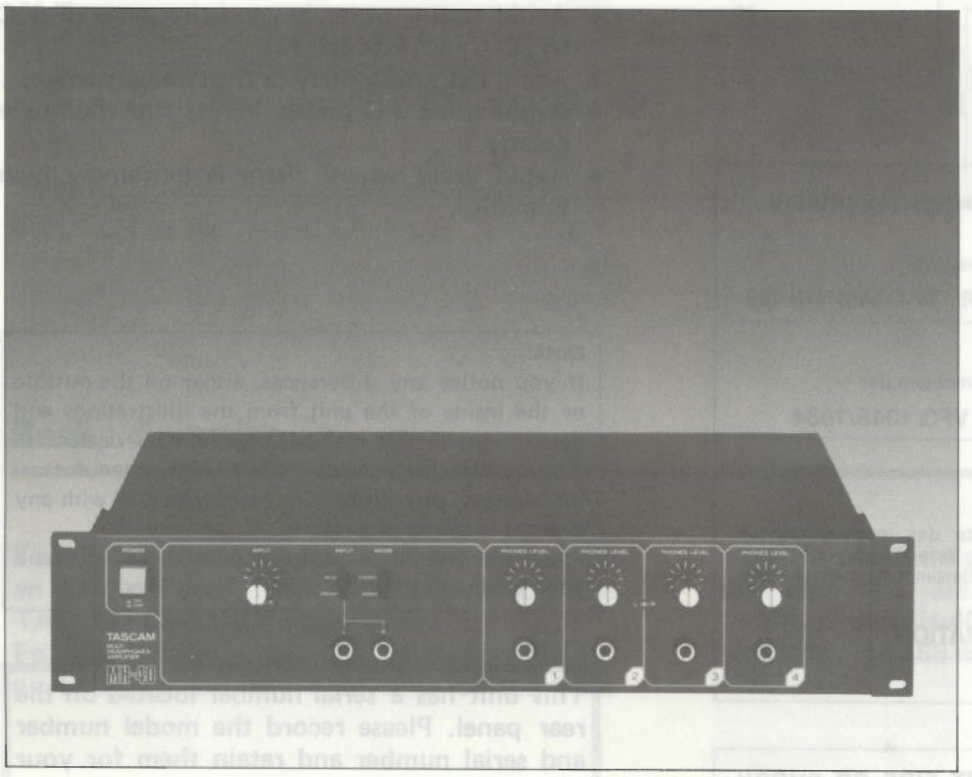
TASCAM

TEAC Professional Division

MH-40B

Multi Headphones Unit



OWNER'S MANUAL

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Introduction

The MH-40B is a 4-channel headphone amplifier unit which is designed to allow you to enlarge your musical creativity without restricting headphone applications. The 1.5 W output capacity of each channel is more than sufficient to guarantee that you won't be bothered by annoying external sounds. The placement of input jacks on the front panel which accepts the direct connections of electronic instruments make the MH-40B unique in it's own right. Besides recording studio applications, the MH-40B can be used for private monitoring purposes also. We, here at TASCAM, invite you to read through this manual thoroughly to familiarize yourself with its operation flexibilities.

Table of Contents

Environmental Considerations

These conditions apply to the MH-40B as well as to the other TASCAM equipment being used.

- Avoid temperatures beyond the range of 5°C to 30°C (40°F to 87°F).
- Avoid extremely dirty or dusty environments.
- Avoid using AC power inputs that fluctuate greatly.
- Avoid areas where there is extremely high humidity.

Bescheinigung des Herstellers/Importeurs

Hiermit wird bescheinigt, daß der/die/das

KOPFHÖRERVERSTÄRKER TASCAM MH-40B

(Gerät, Typ. Bezeichnung)

in Übereinstimmung mit den Bestimmungen der

AMTSBLATT 163/1984, VFG 1045/1984

(Amtsblattverfügung)

funk-entstört ist.

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

TEAC CORPORATION

Name des Herstellers/Importeurs

Note:
If you notice any differences, either on the outside or the inside of the unit from the illustrations and descriptions in this manual, talk to your dealer. He may have revision sheets that will show manufacturing changes, or notifications of how to deal with any changes in set-up procedures.
Save this manual, refer to it when necessary, and good luck with your MH-40B.

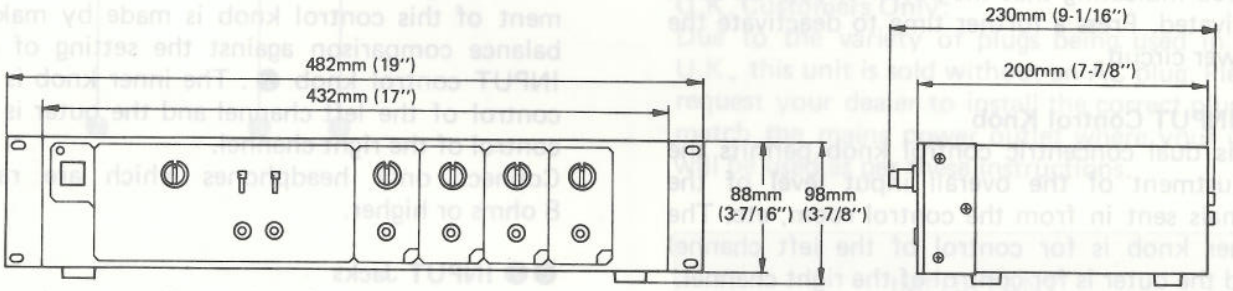
WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

This unit has a serial number located on the rear panel. Please record the model number and serial number and retain them for your records.
Model Number_____
Serial Number_____

Specifications

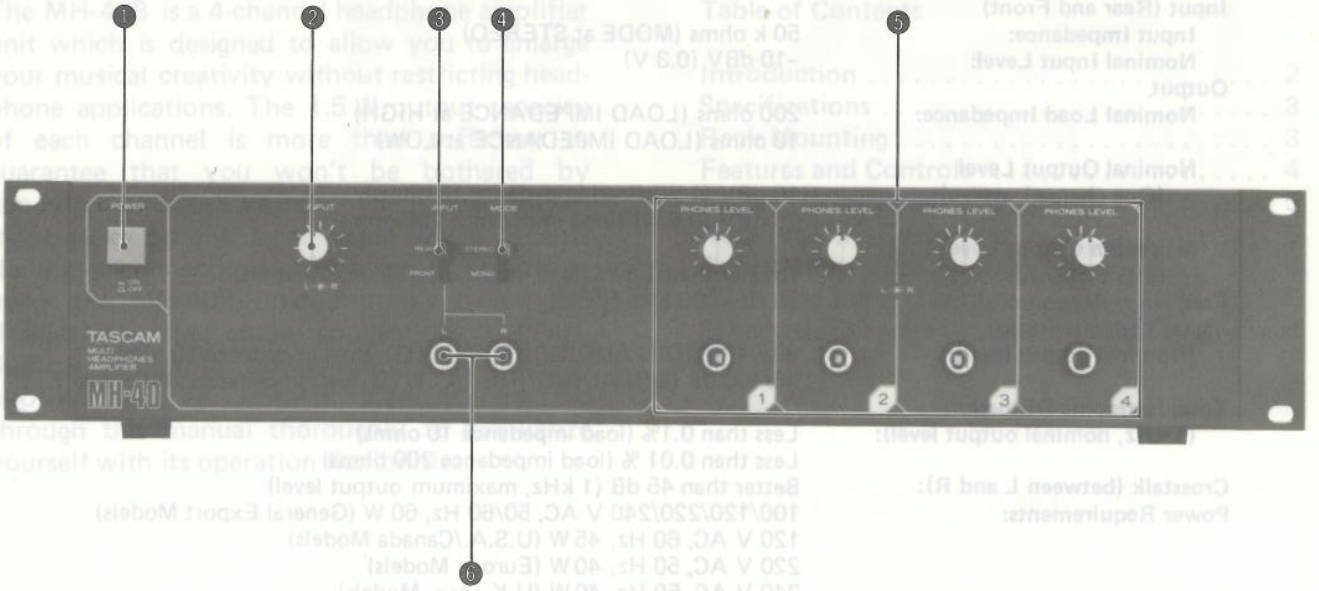
Input (Rear and Front)	
Input Impedance:	50 k ohms (MODE at STEREO)
Nominal Input Level:	-10 dBV (0.3 V)
Output	
Nominal Load Impedance:	200 ohms (LOAD IMPEDANCE at HIGH) 10 ohms (LOAD IMPEDANCE at LOW)
Nominal Output Level (One channel, stereo):	10 dBV (1 W) (load impedance 10 ohms) 20 dBV (0.5 W) (load impedance 200 ohms)
Maximum Output Level (5 % T.H.D.):	Greater than 1.5 W (load impedance 10 or 200 ohms)
Frequency Response:	20 Hz – 20 kHz $^{+0.5}_{-1}$ dB
Signal-To-Noise Ratio (Nominal output level):	90/94 dB (DIN AUDIO/IHF "A" WTD, load impedance 10 ohms) 96/100 dB (DIN AUDIO/IHF "A" WTD, load impedance 200 ohms)
Total Harmonic Distortion (1 kHz, nominal output level):	Less than 0.1% (load impedance 10 ohms) Less than 0.01 % (load impedance 200 ohms)
Crosstalk (between L and R):	Better than 45 dB (1 kHz, maximum output level)
Power Requirements:	100/120/220/240 V AC, 50/60 Hz, 60 W (General Export Models) 120 V AC, 60 Hz, 45 W (U.S.A./Canada Models) 220 V AC, 50 Hz, 40 W (Europe Models) 240 V AC, 50 Hz, 40 W (U.K./Aus. Models)
Dimensions (W x H x D):	482 x 98 x 230 mm (19" x 3-7/8" x 9-1/16")
Weight:	4.5 kg (9-15/16 lbs.) net

- In these specifications, 0 dBV is referenced to 1.0 Volt.
- Improvements may result in features and specifications changing without notice.
- Photos and illustrations may differ slightly from production models.



Rack Mounting

The MH-40B is designed to be mounted on an EIA standard 19-inch rack, preferably the TASCAM CS-607B Console Rack.
For this purpose, mounting holes are provided on both the left and right sides of the front panel to which the appropriate screws and washers, each two, are to be inserted. The panel height of the MH-40B is the equivalent to 2 EIA standard units (88 mm, or 3-7/16").



❶ POWER Switch
This switch controls the on-off operation of the unit. When pressed to ON (⏏), an LED lights in red indicating that the power circuit has been activated. Press a further time to deactivate the power circuit.

❷ INPUT Control Knob
This dual concentric control knob permits the adjustment of the overall input level of the signals sent in from the control room, etc. The inner knob is for control of the left channel and the outer is for control of the right channel.

❸ INPUT Select Switch
This switch selects which of the two input lines that will feed the monitoring headphones.
REAR: Selects the RCA pin jacks on the rear panel.
FRONT: Selects the 1/4" mono-phone jacks on the front panel.

❹ MODE Select Switch
This switch selects either the stereophonic or monophonic mode of operation. In the MONO position, the stereo input signal is evenly combined and distributed to form a monophonic effect. On the other hand, when a monophonic signal is input through either the L(eft) or R(ight) input jacks, the monophonic signal will be evenly distributed to both channels to produce a centered acoustic image on output at the headphones.

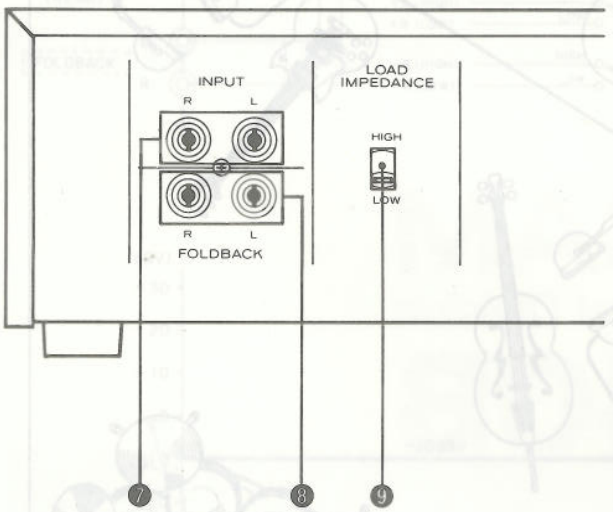
❺ PHONES LEVEL Control Knob/Phones Output Jacks (1 – 4)
This dual concentric control knob controls the monitoring level at the headphones. The adjustment of this control knob is made by making balance comparison against the setting of the INPUT control knob ❷ . The inner knob is for control of the left channel and the outer is for control of the right channel.
Connect only headphones which are rated 8 ohms or higher.

❻❼ INPUT Jacks
The signal originating from the control room, etc. is connected to the RCA INPUT jacks provided on the rear panel. The 1/4" monophone jacks on the front panel serve the purpose of providing a means to connect electronic instruments directly to the MH-40B without having to bother with interfacing auxillary equipment.

❽ FOLDBACK Terminals
Since these terminals are connected in parallel to the rear INPUT jacks, the signals which are fed through these INPUT jacks can be "folded back" out the FOLDBACK terminals to feed auxillary equipment.

⑨ LOAD IMPEDANCE Select Switch
Set to LOW for headphones whose impedance is lower than 100 ohms and HIGH for headphones with a higher impedance. The setting of this switch determines the performance of the circuitry for all four channels of the unit.

AC Power Cord
If your unit is a General Export model, see "Voltage Conversion".
U.K. customers are requested to refer to "Note for U.K. Customers".



Voltage Conversion (General Export Model Only)

This unit is adjusted to operate on the electric voltage specified on the unit and packing carton.
Note: This voltage conversion is not possible on model sold in the U.S.A. and Canada, UK, Australia or Europe.
For general export units, if it is necessary to change the voltage requirements of the MH-40B to match your area, use the following procedures. Always disconnect Power Line Cord before making these changes.

1. Remove the bonnet panel of the unit by removing the screws.
2. Locate the voltage selector plug near the transformer inside the unit.
3. Pull out the plug and reinsert it so that the desired voltage appears in the cut-out window of the plug.

Note for U.K. Customers

U.K. Customers Only:
Due to the variety of plugs being used in the U.K., this unit is sold without an AC plug. Please request your dealer to install the correct plug to match the mains power outlet where your unit will be used as per these instructions.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

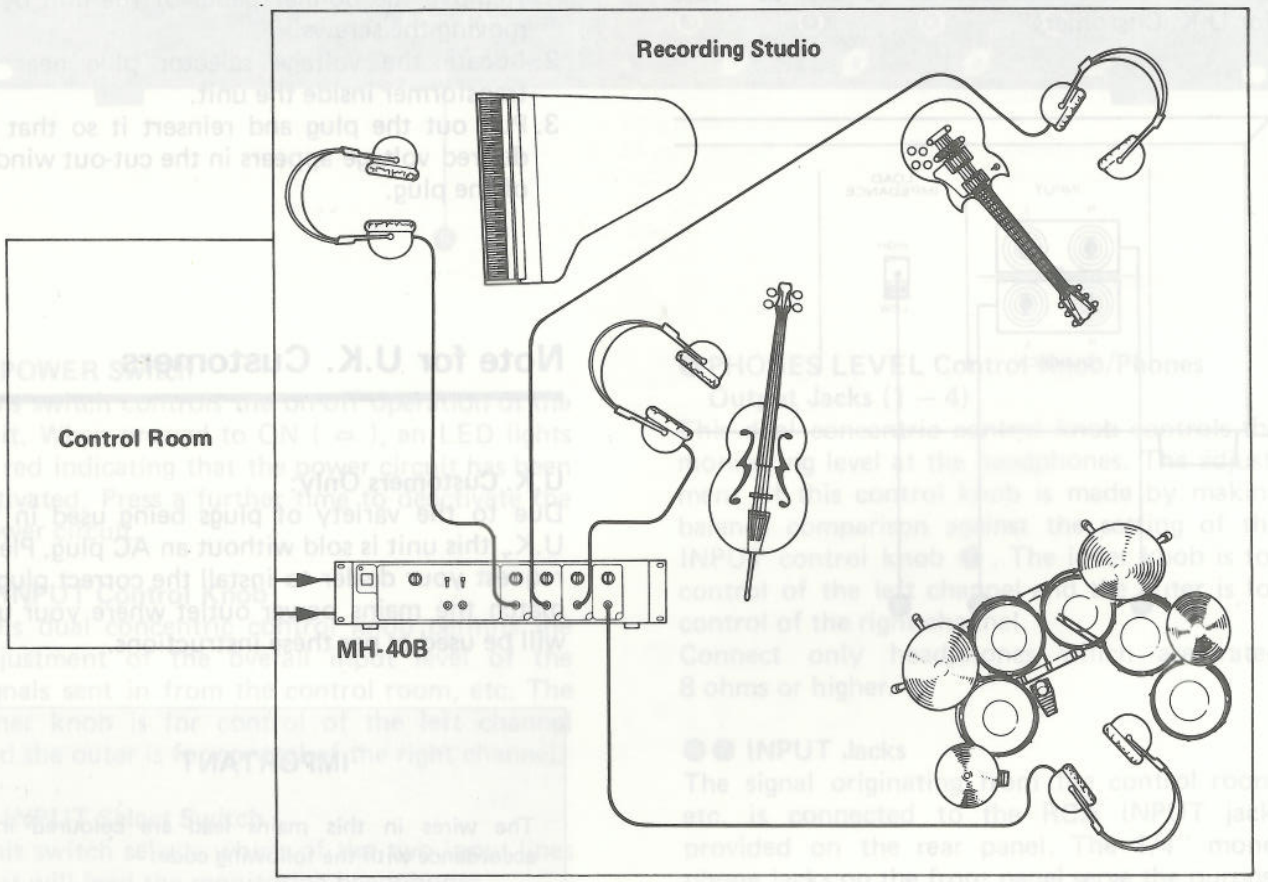
BLUE:	**NEUTRAL**
BROWN:	**LIVE**

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals of your plug, proceed as follows.

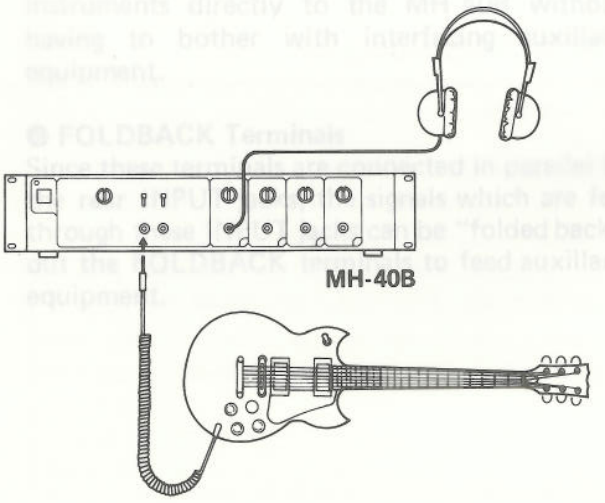
The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

Applications

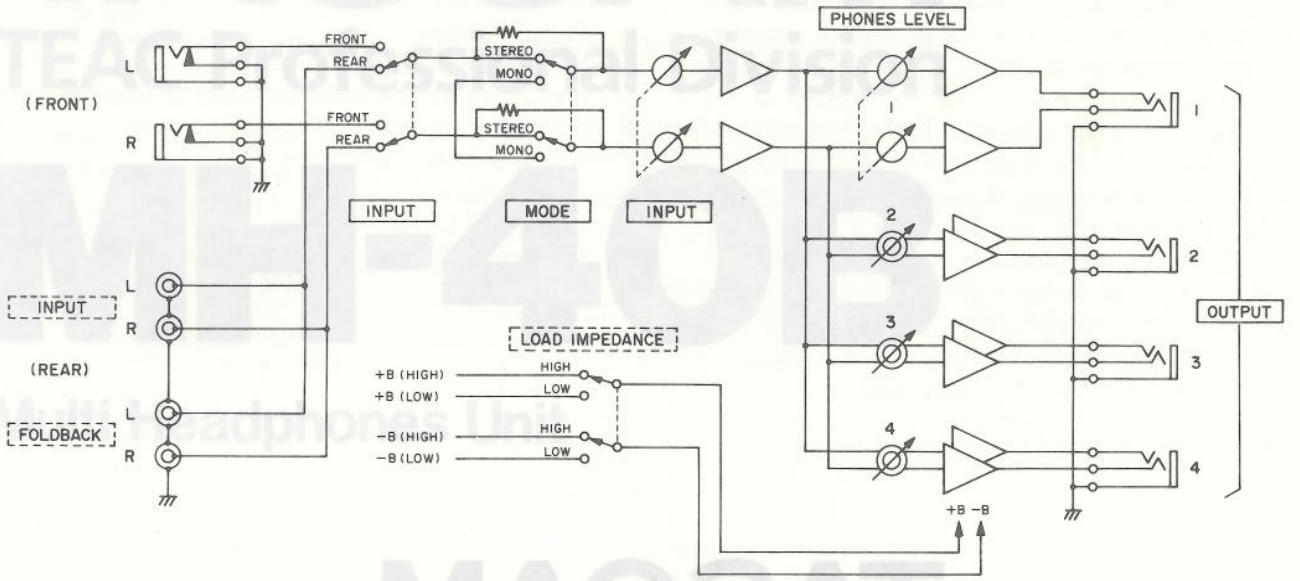
This illustration shows an example of a recording situation in a recording studio. In this set-up, there are four players, each playing a musical instrument and simultaneously monitoring the overall harmonics through headphones interfaced with the MH-40B.
The input signal flow follows this basic path:
It comes into the MH-40B via the rear or front INPUT jacks. From here, it flows on to the REAR/FRONT INPUT select switch and then on to the MONO/STEREO MODE select switch for routing to the INPUT level control and internal amplifier. Finally, it's sent through the PHONES LEVEL control (correctly set the LOAD IMPEDANCE switch.) and output at the headphones jacks (1 – 4).

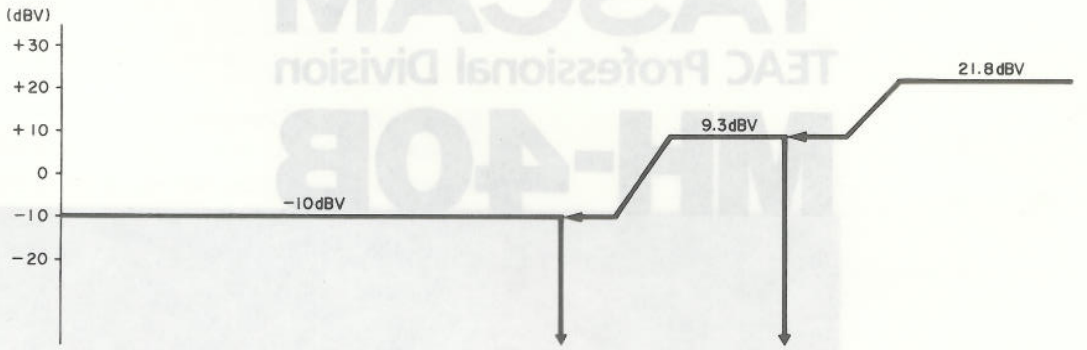


The L(eft) and R(ight) mono-phone jacks located on the front panel permits the direct connection of electronic equipment, etc. and can be used as a facility for allowing the musician to enjoy private instrumental play without having to worry about annoying anyone around.
For this type of application, set the INPUT and MODE switches to the FRONT and MONO positions and use the PHONES LEVEL control knob to adjust the volume level of the headphones.



Block and Level Diagrams





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MH-40B

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