

# TASCAM

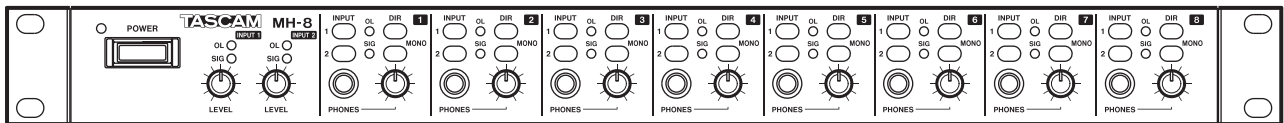
## TEAC PROFESSIONAL

D01098720A

# MH-8

## Headphone Amplifier

### OWNER'S MANUAL



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# IMPORTANT SAFETY INSTRUCTIONS



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 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.

This appliance 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 \_\_\_\_\_

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

## For U.S.A.

### TO THE USER

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### CAUTION

Changes or modifications to this equipment not expressly approved by TEAC CORPORATION for compliance could void the user's authority to operate this equipment.

### CE Marking Information

- a) Applicable electromagnetic environment: E4
- b) Peak inrush current: 9.124 A

### Norwegian:

Produkter med Klasse I konstruksjon er utstyrt med en ekstern strømforsyning med en 3-pins tilkoblingskontakt. Det er viktig at denne kontakten tilkobles en jordet stikk-kontakt.

### Swedish:

Produkter med Klass 1 konstruktion är utrustad med strömförsörjning med jordad 3 stifts strömadapter. Sladdkontakt till denna måste kopplas till en AC adapter med skyddande jord.

### Finnish:

Tuotteen suojausluokka on I (suojamaadoitettu).

Tuote on kytkettävä suojamaadoitettuun pistoraasiaan.

In North America use only on 120V supply.

## 产品有毒有害物质或元素的名称及含量

机种: MH-8		有毒有害物质或元素					
	品名	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
1	CHASSIS部份	×	○	○	○	○	○
2	线材部份	×	○	○	○	○	○
3	PCB Assy部份	×	○	○	○	○	○
4	电源部份	×	○	○	○	○	○
5	附属品部份	×	○	○	○	○	○
6	SEAL部份	×	○	○	○	○	○
7	包装部份	○	○	○	○	○	○

○: 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。

×: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。

(针对现在代替技术困难的电子部品及合金中的铅)

# IMPORTANT SAFETY INSTRUCTIONS

- 1 Read these instructions.
- 2 Keep these instructions.
- 3 Heed all warnings.
- 4 Follow all instructions.
- 5 Do not use this apparatus near water.
- 6 Clean only with dry cloth.
- 7 Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8 Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9 Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10 Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11 Only use attachments/accessories specified by the manufacturer.
- 12 Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



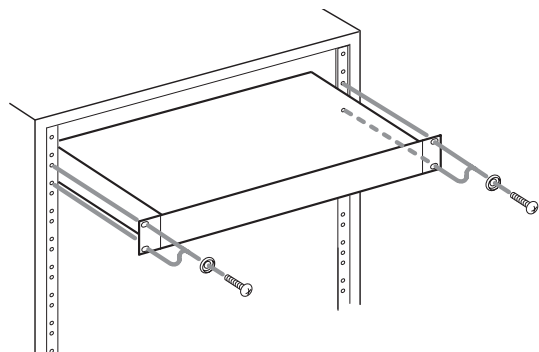
- 13 Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14 Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

- Do not expose this apparatus to drips or splashes.
- Do not place any objects filled with liquids, such as vases, on the apparatus.
- Do not install this apparatus in a confined space such as a book case or similar unit.
- The apparatus draws nominal non-operating power from the AC outlet with its POWER or STANDBY/ON switch not in the ON position.
- The apparatus should be located close enough to the AC outlet so that you can easily grasp the power cord plug at any time.
- The mains plug is used as the disconnect device, the disconnect device shall remain readily operable.
- Products with Class I construction are equipped with a power supply cord that has a 3-prong grounding plug. The cord of such a product must be plugged into an AC outlet that has a protective grounding connection.
- If the product uses batteries (including a battery pack or installed batteries), they should not be exposed to sunshine, fire or excessive heat.
- CAUTION for products that use replaceable lithium batteries: there is danger of explosion if a battery is replaced with an incorrect type of battery. Replace only with the same or equivalent type.
- Caution should be taken when using earphones or headphones with the product because excessive sound pressure (volume) from earphones or headphones can cause hearing loss.
- If you are experiencing problems with this product, contact TEAC for a service referral. Do not use the product until it has been repaired.

## ■ RACK-MOUNTING THE UNIT

Use the supplied rack-mounting kit to mount the unit in a standard 19-inch rack, as shown below.

Remove the feet of the unit before mounting.



## NOTE

- Leave 1U of space above the unit for ventilation.
- Allow at least 10 cm (4 in) at the rear of the unit for ventilation.

# 1 – Introduction

Thank you for your purchase of the TASCAM MH-8 Headphone Amplifier.

Before connecting and using the unit, please take time to read this manual thoroughly to ensure you understand how to properly set up and connect the unit, as well as the operation of its many useful and convenient functions. After you have finished reading this manual, please keep it in a safe place for future reference.

You can also download the Owner's Manual from the TASCAM web site (<http://www.tascam.com>).

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## Features

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- Rack-mountable 1U size
- 8 headphone outputs
- Maximum output of 250 mW + 250 mW (at 32Ω)
- 2 pairs of inputs
- INPUT 1 on XLR connectors or TRS phone jack inputs
- INPUT 2 on XLR connectors or RCA pin jack inputs
- Each headphone output channel also has direct inputs
- Every input and output channel has an overload indicator and a signal indicator
- Ground lift switch allows signal grounding to be turned ON or OFF for all channels at the same time

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## Included items

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The included items are listed below.

Take care when opening the package not to damage the items. Keep the package materials for transportation in the future.

Please contact the store where you purchased this unit if any of these items are missing or have been damaged during transportation.

- Main unit (MH-8)..... 1
- Power cord..... 1
- A rack-mounting screw kit..... 1
- A warranty card ..... 1
- Owner's manual (this manual) ..... 1

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## About this manual

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In this manual, we use the following conventions:

- The names of keys and controls are given in the following typeface: **POWER**.
- Additional information is introduced in the styles below when needed:

### NOTE

*Explanation of actions in special situation and supplement.*

### CAUTION

*Instructions that should be followed to avoid injury, damage to the unit or other equipment.*

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## Trademarks

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- TASCAM is a trademark of TEAC Corporation, registered in the U.S. and other countries.
- Other company names, product names and logos in this document are the trademarks or registered trademarks of their respective owners.

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## Precautions and notes for placement and use

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- The operating temperature should be between 5°C and 35°C (41°F and 95°F).
- Make sure that the unit is mounted in a level position for correct operation.
- Do not place any object on the unit for heat dissipation.
- Avoid installing this unit on top of any heat-generating electrical device such as a power amplifier.

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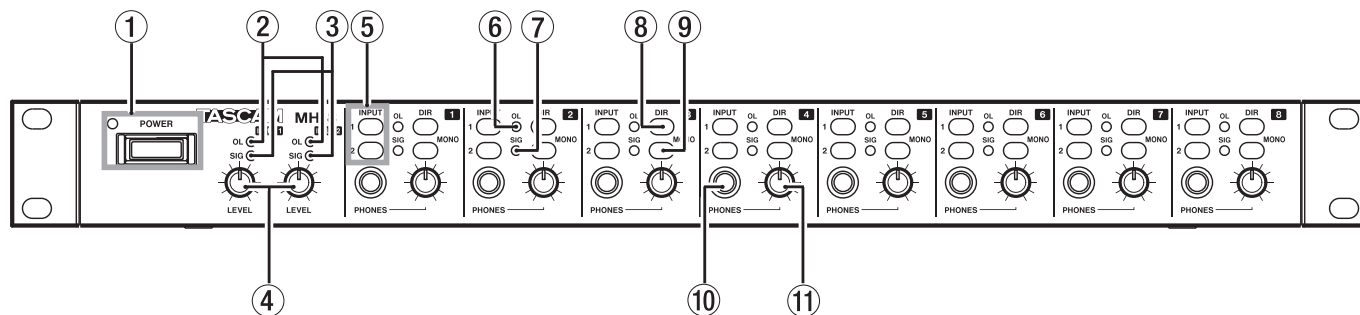
## Cleaning the unit

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To clean the unit, wipe it gently with a soft dry cloth. Do not wipe with chemical cleaning cloths, benzene, paint thinner, ethyl alcohol or other chemical agents to clean the unit as they could damage the surface.

## 2 – Names and Functions of Parts

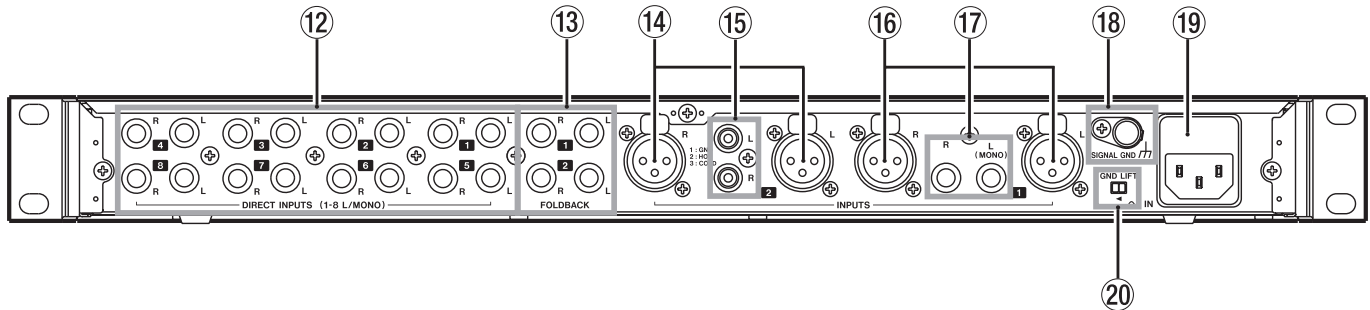
### Front panel



- ① **POWER switch and indicator**  
Press to turn power ON or OFF. The indicator lights when the power is ON.
- ② **Overload (OL) indicators**  
These light if the level input to this device is too high (overloading with a clipping level of  $-3$  dB or higher).
- ③ **Signal (SIG) indicators**  
These light when a signal ( $-20$  dBu or greater) is detected at an input jack.
- ④ **Input LEVEL knobs**  
Use to adjust the input levels.
- ⑤ **INPUT 1 and 2 activation buttons**  
Select which of the two inputs (INPUT 1 or 2) to output to the headphones.
- ⑥ **Overload (OL) indicators**  
These light if the level input to the channel is too high (overloading with a clipping level of  $-3$  dB or higher).
- ⑦ **Signal (SIG) indicators**  
These light when a signal ( $-20$  dBu or greater) is detected at a direct input for the channel.
- ⑧ **DIR buttons**  
Press to output the signal from the corresponding **DIRECT INPUTS** to the headphones.
- ⑨ **MONO buttons**  
Make the headphone output function as a monaural output.
- ⑩ **PHONES jacks**  
Connect headphones.
- ⑪ **PHONES knobs**  
Adjust the headphones output levels.

## 2 – Names and Functions of Parts

### Rear panel



- ⑫ **DIRECT INPUT jacks**  
These direct input connectors provide direct line inputs for each channel.
- ⑬ **FOLDBACK output connectors**  
These output the input signals (INPUT 1 and 2) unchanged.

#### NOTE

When input is through INPUT 2's unbalanced RCA pin jacks, the nominal output level is converted to balanced +4 dBu.

- ⑭ **INPUT 2 XLR connectors**  
These XLR connectors are balanced line inputs for INPUT 2.  
(1: GND, 2: HOT, 3: COLD)
- ⑮ **INPUT 2 RCA jacks**  
These RCA pin jacks are unbalanced line inputs for INPUT 2.

#### NOTE

Signals should not be input to both the XLR and the RCA connectors at the same time. Use either the XLR or the RCA connectors for input.

- ⑯ **INPUT 1 XLR connectors**  
These XLR connectors are balanced line inputs for INPUT 1.
- ⑰ **INPUT 1 TRS jacks**  
These TRS jacks are balanced line inputs for INPUT 1.

#### NOTE

Signals should not be input to both the XLR and the TRS connectors at the same time. Use either the XLR or the TRS connectors for input.

- ⑱ **Signal ground (SIGNAL GND) connector**  
Use a commercially available PVC-covered cord to connect this connector to the signal ground. Note that this is NOT an electrical safety ground (earth).

- ⑲ **Power connector**  
Use the included power cord to connect the power source.

#### CAUTION

When using this unit, always use the included power cord. Moreover, do not use the included power cord with any other equipment. Misuse of a power cord could cause malfunction, fire or electric shock.

- ⑳ **Ground lift (GND LIFT) switch**  
Even when the ground connector is used to ground the unit, this ground connection can be interrupted (ground lift) by setting the **GND LIFT** switch to the left.

## 3 – Troubleshooting

If you are having trouble with the operation of this unit, please try the following before seeking repair. If these measures do not solve the problem, please contact the store where you bought the unit or a TASCAM Service Center.

### ■ Power will not turn ON.

- Confirm that the power plug is securely inserted.

### ■ No sound is output.

- Are the headphones connected correctly?
- Are the input sources connected correctly?
- Are the input selections correct?
- Are the input **LEVEL** knobs minimized?
- Are the headphone output (**PHONES**) knobs minimized?

### ■ There is noise.

- Check the connecting cables for incomplete connections.

# 4 – Specifications

## Audio inputs and outputs

### INPUT 1 and 2

Connector	XLR-3-31 (1: GND, 2: HOT, 3: COLD)
Input impedance	56 k $\Omega$
Nominal input level	+4 dBu (1.23 V)
Maximum input level	+24 dBu (12.3 V)

### INPUT 1

Connectors	6.3 mm (1/4") TRS Standard phone jacks (Tip: HOT, Ring: COLD, Sleeve: GND)
Input impedance	56 k $\Omega$
Nominal input level	+4 dBu (1.23 V)
Maximum input level	+24 dBu (12.3 V)

### INPUT 2

Connectors	RCA pin jacks
Input impedance	22 k $\Omega$
Nominal input level	-10 dBV (0.3 V)
Maximum input level	+10 dBV (3.16 V)

### DIRECT INPUT

Connectors	6.3 mm (1/4") TRS Standard phone jacks (Tip: HOT, Ring: COLD, Sleeve: GND)
Input impedance	56 k $\Omega$
Nominal input level	+4 dBu (1.23 V)
Maximum input level	+24 dBu (12.3 V)

### FOLDBACK outputs

Connectors	6.3 mm (1/4") TRS Standard phone jacks (Tip: HOT, Ring: COLD, Sleeve: GND)
Output impedance	94 $\Omega$
Nominal output level	+4 dBu (1.23 V)
Maximum output level	+24 dBu (12.3 V)

### PHONES outputs

Connectors	6.3 mm (1/4") Standard stereo phone jacks
Maximum output	250 mW + 250 mW (32 $\Omega$ )

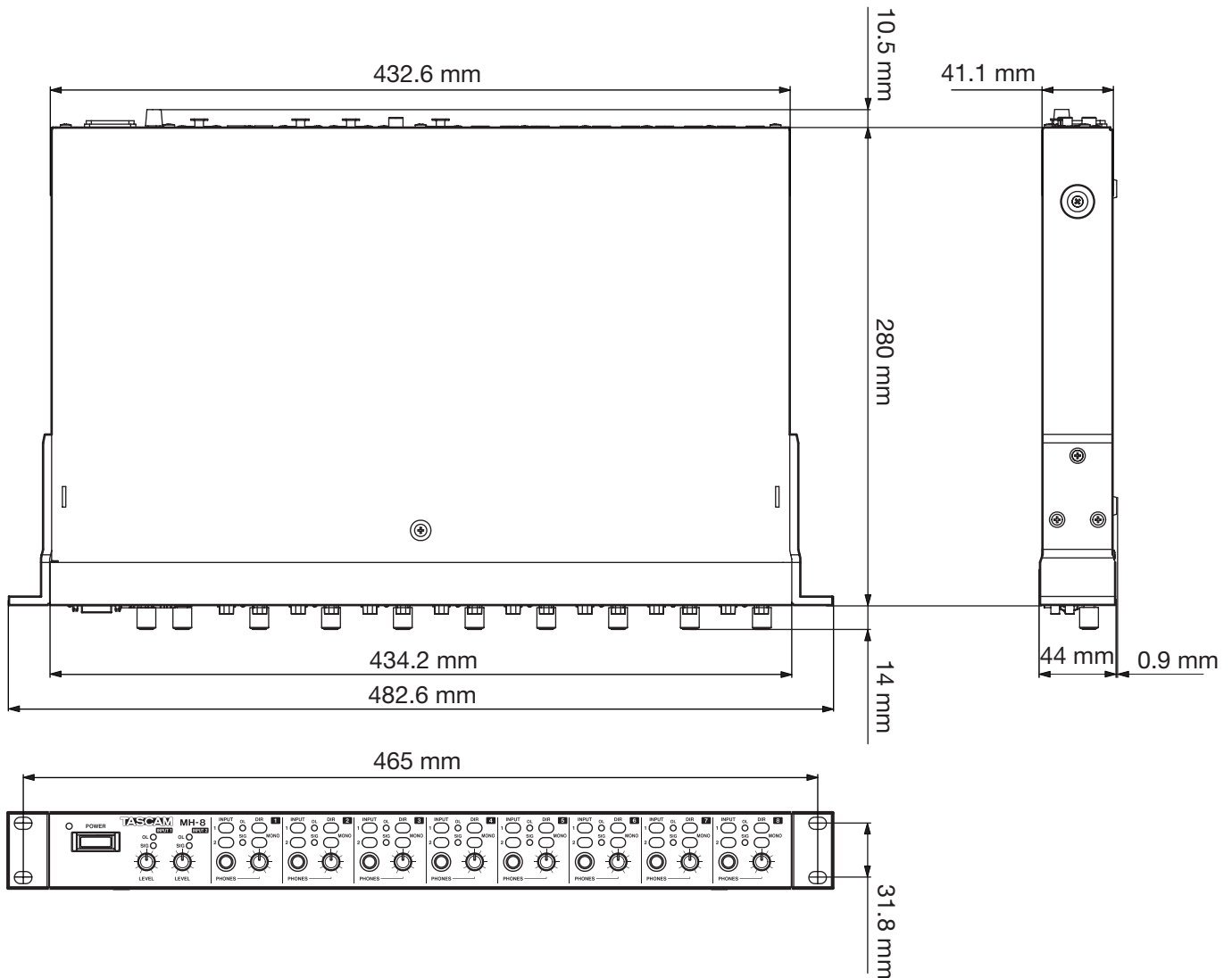
## Audio performance

Frequency response	20 Hz - 50 kHz/100 mW 32 $\Omega$ , $\pm$ 3 dB (PHONES outputs) 10 Hz - 100 kHz, $\pm$ 3 dB (FOLDBACK outputs)
S/N ratio	85 dB or greater (PHONES outputs, A-WTD, 20 kHz LPF) 90 dB or greater (FOLDBACK outputs, A-WTD, 20 kHz LPF)
THD	0.05% or less (PHONES outputs, when outputting 100 mW + 100 mW (32 $\Omega$ ), 20Hz HPF and 20 kHz LPF) 0.007% or less (FOLDBACK outputs, 20 Hz HPF and 20 kHz LPF)
Channel separation	50 dB or greater (Within a channel, PHONES outputs, A-WTD, 20 kHz LPF, 1 kHz nominal input, 32 $\Omega$ termination) 90 dB or greater (FOLDBACK outputs, A-WTD, 20 kHz LPF, 1 kHz nominal input, 600 $\Omega$ termination)
Crosstalk	65 dB or greater (PHONES outputs, A-WTD, 20 kHz LPF, 1 kHz nominal input, 32 $\Omega$ termination)
Power	AC 100-240V, 50-60 Hz
Power consumption	36 W
Dimensions (mm)	482 (width) x 44 (height) x 280 (depth)
Weight	3.8 kg



# 4 – Specifications

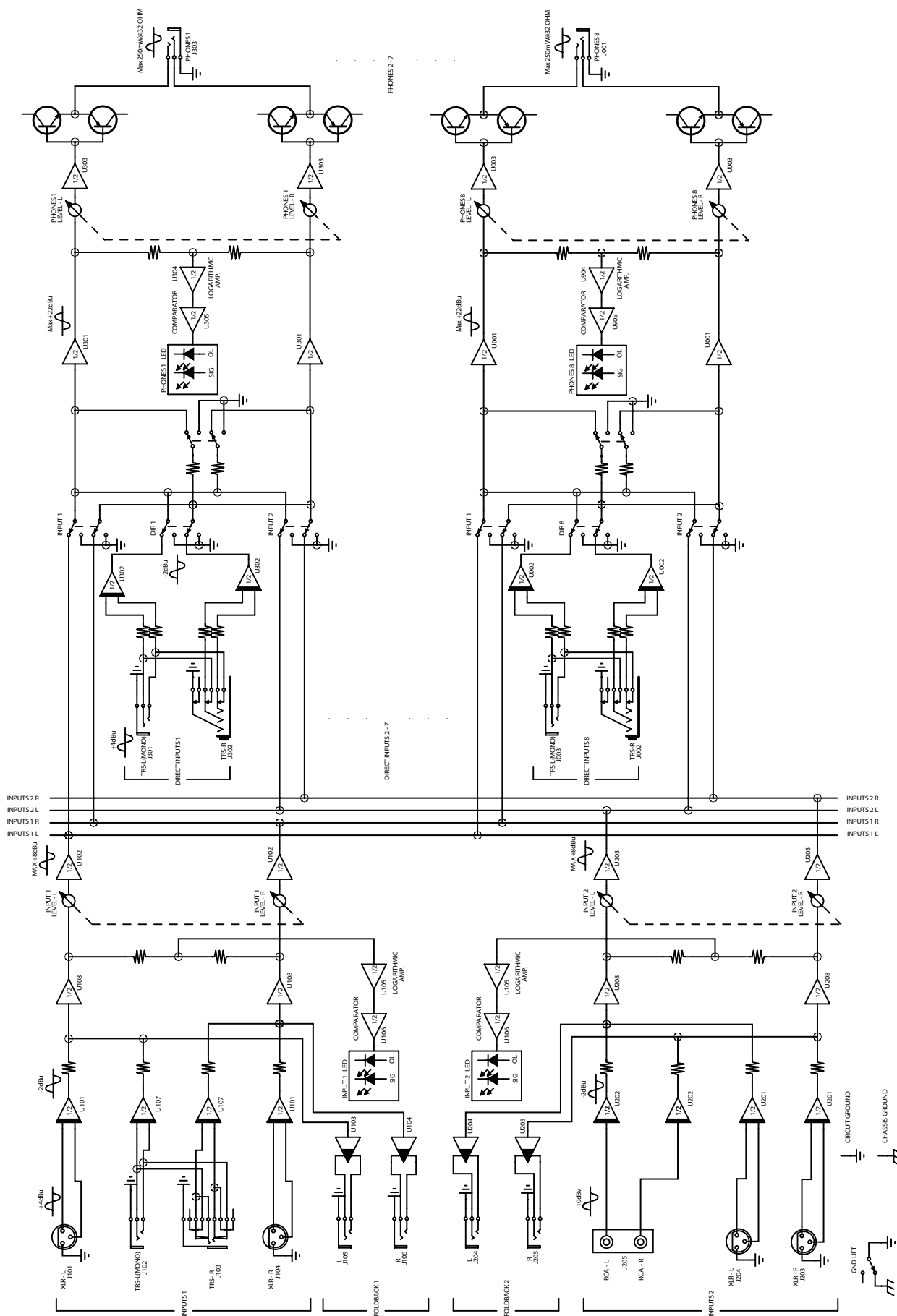
## Dimensional drawings



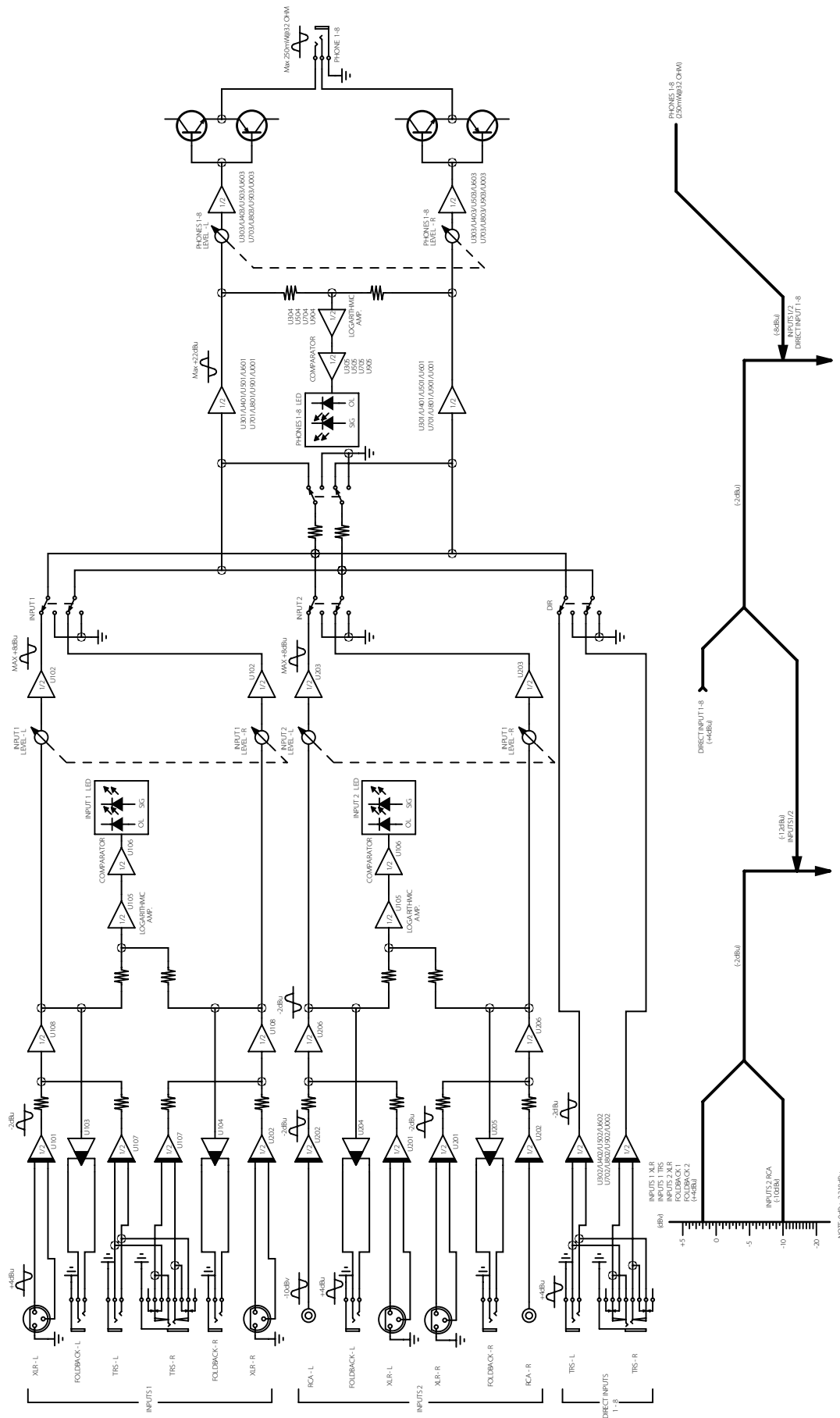
- Illustrations and other depictions may differ in part from the actual product.
- Specifications and external appearance may be changed without notification to improve the product.

# 4 – Specifications

## Block diagram



## Level diagram



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TEAC PROFESSIONAL

# MH-8

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