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HB-20MFX | HB-40MFX

guitar combo

th•mann
MUSIC IS OUR PASSION

user manual

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11.06.2021, ID: 499438, 499441 (V2)

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1 General information

This user manual contains important information on the safe operation of the device. Read and follow all safety notes and all instructions. Save this manual for future reference. Make sure that it is available to all persons using this device. If you sell the device to another user, be sure that they also receive this manual.

Our products and user manuals are subject to a process of continuous development. We therefore reserve the right to make changes without notice. Please refer to the latest version of the user manual which is ready for download under *www.thomann.de*.

1.1 Further information

On our website (*www.thomann.de)* you will find lots of further information and details on the following points:

Download	This manual is also available as PDF file for you to download.
Keyword search	Use the search function in the electronic version to find the topics of interest for you quickly.
Online guides	Our online guides provide detailed information on technical basics and terms.
Personal consultation	For personal consultation please contact our technical hotline.
Service	If you have any problems with the device the customer service will gladly assist you.

1.2 Notational conventions

This manual uses the following notational conventions:

Letterings

The letterings for connectors and controls are marked by square brackets and italics.

Examples: *[VOLUME]* control, *[Mono]* button.

1.3 Symbols and signal words

In this section you will find an overview of the meaning of symbols and signal words that are used in this manual.

Signal word	Meaning
DANGER!	This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided.
CAUTION!	This combination of symbol and signal word indicates a possible dangerous situation that can result in minor injury if it is not avoided.
NOTICE!	This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided.

Warning signs	Type of danger
	Warning – high-voltage.

Warning signs	Type of danger
	Warning – danger zone.

2 Safety instructions

Intended use

This device is intended to be used for amplification and playback of signals from musical instruments with electromagnetic pickups. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

Safety

DANGER!

Danger for children

Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard! Ensure that children do not detach any small parts (e.g. knobs or the like) from the unit. They could swallow the pieces and choke! Never let children unattended use electrical devices.

DANGER!

Electric shock caused by high voltages inside

Within the device there are areas where high voltages may be present. Never remove any covers. There are no user-serviceable parts inside. Do not use the device if covers, protectors or optical components are missing or damaged.

DANGER!

Electric shock caused by short-circuit

Do not modify the mains cable or the plug. Failure to do so could result in electric shock/death or fire. If in doubt, seek advice from a registered electrician.

CAUTION!

Possible hearing damage

The device can produce volume levels that may cause temporary or permanent hearing impairment. Over an extended period of time, even levels that seem to be uncritical can cause hearing damage. Decrease the volume level immediately if you experience ringing in your ears or hearing impairment. If this is not possible, keep a greater distance or use sufficient ear protectors.

NOTICE!

Risk of fire

Do not block areas of ventilation. Do not install the device near any direct heat source. Keep the device away from naked flames.

NOTICE!

Operating conditions

This device has been designed for indoor use only. To prevent damage, never expose the device to any liquid or moisture. Avoid direct sunlight, heavy dirt, and strong vibrations.

NOTICE!

Power supply

Before connecting the device, ensure that the input voltage (AC outlet) matches the voltage rating of the device and that the AC outlet is protected by a residual current circuit breaker. Failure to do so could result in damage to the device and possibly injure the user. Unplug the device before electrical storms occur and when it is unused for long periods of time to reduce the risk of electric shock or fire.

3 Features

Special features of the device:

- 20 watt output power (item # 499438) or
  40 watt output power (item # 499441)
- Class AB
- 1 × 8" speaker (item # 499438) or
  1 × 10" speaker (item # 499441)
- 12 mm wooden housing
- 5 amp voicings, incl. Clean, Crunch, Lead, OD1 and OD2
- 4 fully programmable presets
- Multi-FX DSP with 5 digital effects: Reverb, Delay, Chorus, Tremolo and Phaser
- Controls for gain, volume, treble, mids, bass, FX and master volume
- Mini jack connections for AUX / line input and headphone output
- Bluetooth audio receiver for playing backing tracks
- Digital guitar tuner with LED display

4 Installation and starting up

Unpack and check carefully there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the product against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

Create all connections while the device is off. Use the shortest possible high-quality cables for all connections. Take care when running the cables to prevent tripping hazards.

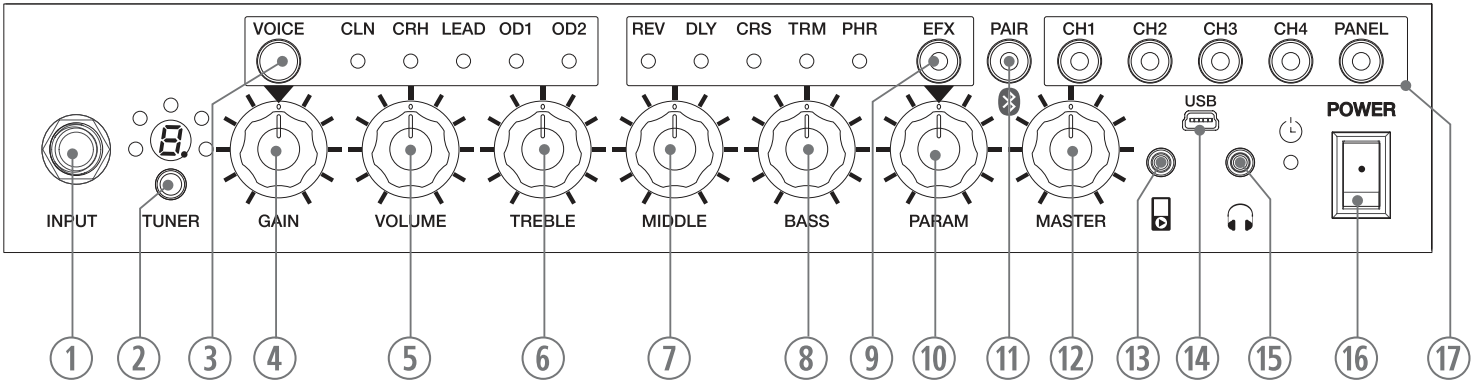
NOTICE!

Possible property damage by magnetic fields

Loudspeakers produce a static magnetic field. Therefore, maintain an appropriate distance to devices that can be adversely affected or damaged by an external magnetic field.

5 Connections and controls

Front panel



1	*[INPUT]* 1/4" jack socket to connect your instrument.
2	*[TUNER]* Button to turn the built-in tuner on or off. When switched on, the display above the button shows the note value of individually played notes. If the red and yellow LEDs light up to the left of the display, the string is tuned way too low. If only the yellow LED lights up, the string is tuned a little too low. If the red and yellow LEDs light up to the right of the display, the string is tuned way too high. If only the yellow LED lights up, the string is tuned a little too high. When the green LED lights up, the tuning of the string corresponds exactly to the displayed note value.
3	*[VOICE]* Button to activate the voicings CLN (clean), CRH (crunch), LEAD, OD1 (overdrive 1) and OD2 (overdrive 2). The LEDs to the right of the button indicate the activated voicing.
4	*[GAIN]* Input gain control.
5	*[VOLUME]* Control to adjust the volume of the instrument channel. In combination with active effects, *[VOLUME]* can be considered as a dry signal level control.

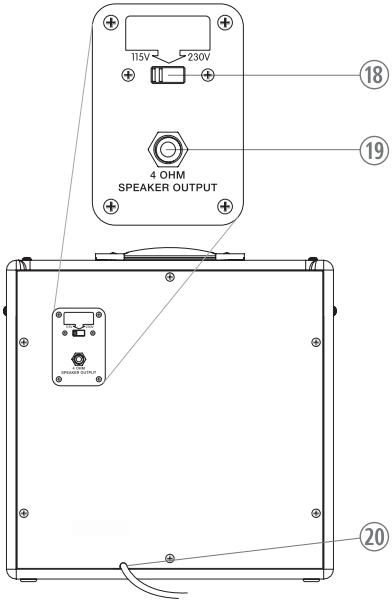
6	*[TREBLE]* Treble control.
7	*[MIDDLE]* Mids control.
8	*[BASS]* Bass control.
9	*[EFX]* Button to activate the effects REV (reverb), DLY, (delay), CRS (chorus), TRM (tremolo) and PHR (phaser). The LEDs to the left of the button indicate the activated effect. After activating the desired effect, 3 parameters can be set. To do so, hold *[EFX]* down until the LED in the button lights up red and thereby indicates that the first parameter can be set with *[PARAM]* . Press *[EFX]* again, this LED lights up green and thereby indicates that the second parameter can be set with *[PARAM]* . Press *[EFX]* again, this LED lights up blue and thereby indicates that the third parameter can be set with *[PARAM]* . Press *[EFX]* again to re-select the previous parameters. To exit these settings, hold *[EFX]* down until the LED in the button turns off. Please refer to the parameter matrix below for the details.

10	*[PARAM]* Effect level control and control for various settings of the selected effect (see *[EFX]*). The effects are in parallel with the dry signal. Therefore *[PARAM]* can be considered as a wet signal level control.
11	*[PAIR]* Button for pairing or decoupling a Bluetooth device. Press the button. The blue LED in the button flashes, indicating that the device is ready for pairing. When establishing the connection via the Bluetooth device, search for “HB-20MFX GiT Amp” or “HB-40MFX GiT Amp”. When paired, the LED lights up constantly and you can play audio files via the device.
12	*[MASTER]* Control to adjust the overall volume.
13	 AUX input (3.5 mm jack socket) for connecting MP3 or CD players as well as mobile phones, tablets, etc.
14	*[USB]* Mini USB port through which the device can receive digital audio streams. Connect the device to the USB port of a computer using a suitable cable and select “MRX High Audio” as the audio output device. Of the controllers and buttons described here, only the *[MASTER]* control affects the USB signal.

15	🎧 Headphones output (3.5 mm mini phone socket). When headphones are connected, the internal loudspeaker and the connection for external loudspeaker boxes are automatically muted.

16	*[POWER]* Mains switch. Turns the device on and off. If the device does not receive any signal for about 25 minutes at the *[INPUT]* socket, it will automatically turn to standby mode. The LED to the left of the switch then only glows. To turn the device on again, switch it off briefly with the *[POWER]* switch and then on again.
17	*[CH1~4 | Panel]* The settings for VOICE, GAIN, VOLUME, TREBLE, MIDDLE, BASS, PARAM and EFX can be saved in the memory locations CH1 ~ 4. This means that four different sounds can be called up at the touch of a button. To save the sound set with the aforementioned controls and buttons, press and hold the button for the desired memory location for one second. After releasing the button, it flashes briefly, indicating that saving has been successful. To activate the sounds stored under 1 – 4, briefly press the desired button, the LED of which then changes from red to green. If you change one of the parameters mentioned while using a saved sound, the LED of the active memory location changes to red. The *[PANEL]* LED changes to green and shows that the sound set with the controls and buttons is active again. You can also press *[PANEL]* at any time to switch to the sound set with the knobs and buttons.

Rear panel



18	*[115 V | 230 V]* Switch for setting the mains voltage available at the operating site. If the setting here deviates from the actual mains voltage, the device will be damaged or destroyed.
19	1/4" jack socket to connect external speaker boxes. The total impedance of the speakers connected here must not fall below 4 Ω. If this connection is used, the built-in loudspeaker is switched off.
20	Power cord.

5.1 Parameter matrix

Here you can see in which colour the *[EFX]* LED has to light up in order to be able to set the desired parameters of the respective active effect.

	Reverb (REV)	**Delay (DLY)**	**Chorus (CRS)**	**Tremolo (TRM)**	**Phaser (PHR)**
*[EFX]*LED: Red	Reverb duration	Delay time	Depth	Speed	Depth
*[EFX]*LED: Green	Tone	Echoes	speed	Intensity	Rate
*[EFX]*LED: Blue	Level	Level	Level	Level	Level

6 Technical specifications

Model		HB-20MFX	HB-40MFX
Speaker		1 × 8" speaker	1 × 10" speaker
Input connections	Instruments	1/4" phone socket	
	AUX / wireless	3.5 mm jack socket / Bluetooth	
	USB	Mini-USB for receiving digital audio streams	
Output connections	Headphones	3.5 mm phone socket	
	Speaker	1/4" phone socket	
Input impedance		1 MΩ	
Output power		15 W (RMS), 20 W (peak)	35 W (RMS), 40 W (peak)
Frequency range		70 Hz to 10 kHz	
Signal-to-noise ratio		75 dB	
Total harmonic distortion (THD)		0.5 % (clean sound)	

Bluetooth audio receiver	Standard	Version 5.0
	Frequency of operation	2.4 GHz … 2.48 GHz
	Transmission power	2 dBm (typ.), 4 dBm (max.)
	Sampling rate	44.1 kHz
	Operating range	10 m
Tuner	Frequency	440 Hz
	Instruments	Guitar, bass, C-ukulele, D-ukulele
	Tuning range	0A (27.5 Hz – 8C (4186 Hz)
USB digital audio	Version	2.0
	Bit depth	16-bit / 24-bit
	Sampling rate	44.1 kHz / 48 kHz
Sound control	Treble	7 kHz
	Mids	900
	Bass	100 Hz

Voicings		Clean, Crunch, Lead, OD1, OD2	
Effects		Reverb, Delay, Chorus, Tremolo, Phaser	
Power consumption		max. 30 W	max. 55 W
Supply voltage		110/230 V ~ 50/60 Hz	
Dimensions (W × H × D)		350 mm × 355 mm × 170 mm	400 mm × 405 mm × 210 mm
Weight		6.5 kg	9.0 kg
Ambient conditions	Temperature range	0 °C…40 °C	
	Relative humidity	20 – 80 %, non-condensing	

Further information

Channels	1
Reverb	Yes
Effects processor	Yes
Storable presets	Yes, 4 ×
External effects loop	No
Line input	Yes
Line output	No
Recording output	No
MIDI port	No
External speaker connector	Yes
Headphone connection	Yes
Standby function	Yes

Foot switch connector	No
Incl. foot switch	No

7 FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

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

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 7.874 inches between the radiator and your body.

8 Plug and connection assignment

Introduction

This chapter will help you select the right cables and plugs to connect your valuable equipment in such a way that a perfect sound experience is ensured.

Please note these advices, because especially in 'Sound & Light' caution is indicated: Even if a plug fits into the socket, an incorrect connection may result in a destroyed power amp, a short circuit or 'just' in poor transmission quality!

Balanced and unbalanced transmission

Unbalanced transmission is mainly used in semi-professional environment and in hifi use. Instrument cables with two conductors (one core plus shielding) are typical representatives of the unbalanced transmission. One conductor is ground and shielding while the signal is transmitted through the core.

Unbalanced transmission is susceptible to electromagnetic interference, especially at low levels, such as microphone signals and when using long cables.

In a professional environment, therefore, the balanced transmission is preferred, because this enables an undisturbed transmission of signals over long distances. In addition to the conductors 'Ground' and 'Signal', in a balanced transmission a second core is added. This also transfers the signal, but phase-shifted by 180°.

Since the interference affects both cores equally, by subtracting the phase-shifted signals, the interfering signal is completely neutralized. The result is a pure signal without any noise interference.

1/4" TS phone plug (mono, unbalanced)

1	Signal
2	Ground, shielding

Three-pole 1/8" mini phone jack (stereo, unbalanced)

1	Signal (left)
2	Signal (right)
3	Ground, shielding

9 Protecting the environment

Disposal of the packaging material

For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

Do not just dispose of these materials with your normal household waste, but make sure that they are collected for recycling. Please follow the notes and markings on the packaging.

Disposal of your old device

This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE) in its currently valid version. Do not dispose with your normal household waste.

Dispose of this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.