the box

MBA80W

mobile PA system

th•mann
MUSIC IS OUR PASSION

user manual

Musikhaus Thomann
Thomann GmbH
Hans-Thomann-Straße 1
96138 Burgebrach
Germany
Telephone: +49 (0) 9546 9223-0
E-mail: info@thomann.de
Internet: www.thomann.de

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Table of contents

1 General notes

This manual contains important instructions for the safe operation of the unit. Read and follow the safety instructions and all other instructions. Keep the manual for future reference. Make sure that it is available to all those using the device. If you sell the unit please make sure that the buyer also receives this manual.

Our products are subject to a process of continuous development. Thus, they are subject to change.

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.

Displays

Texts and values displayed on the device are marked by quotation marks and italics.

Examples: *'24ch'*, *'OFF'*.

Cross-references

References to other locations in this manual are identified by an arrow and the specified page number. In the electronic version of the manual, you can click the cross-reference to jump to the specified location.

Example: See *'Cross-references' on page 7*.

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 – danger zone.

2 Safety instructions

Intended use

This device is intended to be used in a sound reinforcement system. Use the device only as described in this user manual. 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

Always use proper ready-made insulated mains cabling (power cord) with a protective contact plug. 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!

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.

NOTICE!

Risk of fire due to incorrect polarity

Incorrectly inserted batteries may destroy the device or the batteries.

Ensure that proper polarity is observed when inserting batteries.

NOTICE!

Possible damage by leaking batteries

Leaking batteries can cause permanent damage to the device.

Take batteries out of the device if it is not going to be used for a longer period.

NOTICE!

Possible damage due to incorrect storage

Deep discharge can cause batteries to become permanently damaged or lose some of their capacity.

Before prolonged rest periods, charge the batteries to around 50 % of their capacity and then switch the equipment off. Store the equipment at a temperature between 10 °C and 32 °C in as dry an environment as possible. During extended storage periods, charge the batteries to 50 % approximately every three months.

Notes on radio transmission

- This equipment uses a frequency range that is free of charge and registration within the European Union.
  For more information, please visit: *http://www.thomann.de*.
- When operating, make sure that transmitter and receiver are set to the same channel.
- Never set more than one transmitter to the same channel.
- Make sure that no metal objects are located between transmitter and receiver.
- Avoid interference by other radio and in-ear systems.

3 Features

The mobile PA system is characterized by the following features:

- Compact all-in-one system
- Mains and battery operation for maximum flexibility
- 6.5" woofer, 1" compression driver
- Output power: 80 W in mains operation, 60 W in battery operation
- Frequency range 80 Hz … 18 kHz
- Integrated UHF receiver for the supplied UHF wireless microphone
- Integrated media player with display, SD card slot, USB port and Bluetooth receiver
- Infrared remote control
- 2 × MIC / Line inputs, 1 × stereo input, 1 × RCA input
- 1 × Line output
- Plastic housing with tripod flange, carrying handle

4 Installation and starting up

Unpack and carefully check that there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the device 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.

4.1 Battery operation

You can also operate the device independently of the mains power supply with the two permanently installed rechargeable lithium batteries (lithium ion batteries, 12 V, 2.0 Ah).

4.2 Remote control

When shipping, the battery is already installed in the remote and protected against discharge by a transparent plastic film. Remove the plastic film before initial use.

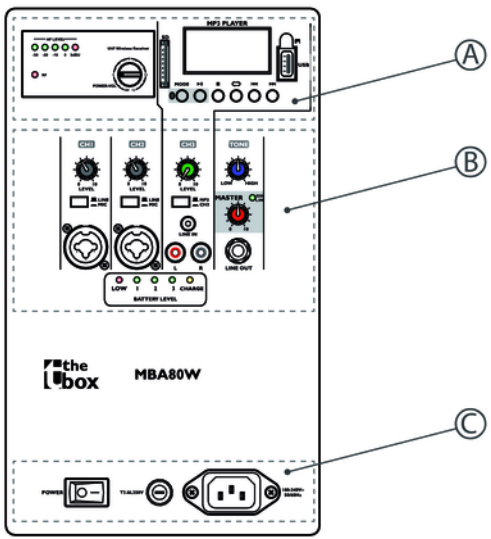
For replacing the battery, follow the instructions on the back of the remote control. Use only lithium button cells CR 2025. Note the correct polarity when inserting the battery.

4.3 Microphone

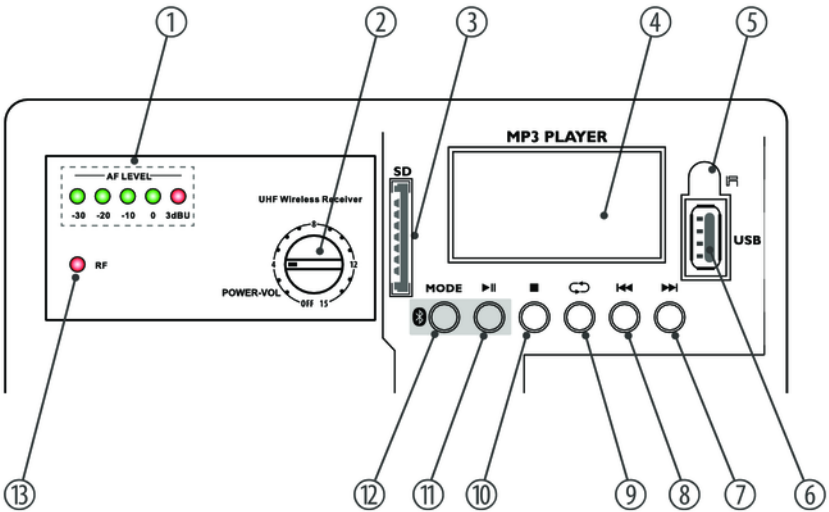
Use only LR6 AA (1.5 V) batteries or rechargeable Ni-MH batteries (nickel metal hydride). Note the correct polarity when inserting the batteries.

5 Connections and controls

Rear view – overview



Partial view A



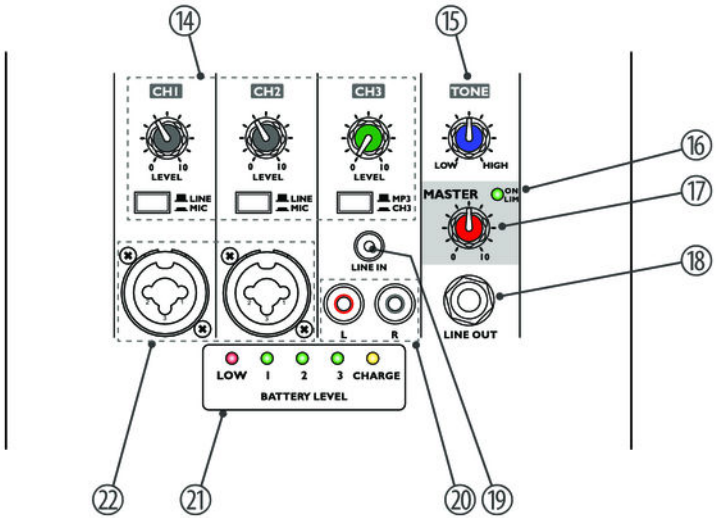
1	*[AF LEVEL]* The indicator LEDS light up when an audio signal from an external device is present.
2	*[POWER-VOL]* On / off switch and volume control of the radio receiver.
3	SD card slot.
4	Display (*'Display' on page 30*).
5	*[IR]* Infrared sensor for the remote control signals.
6	USB port.

7	▶▶ Depending on operating mode, Skip forward (to the next track) or switch to the next menu option. Keep this button pressed to increase the volume of the internal media player. We recommend always leaving the volume of the media player at its maximum setting and regulating the overall volume with the *[LEVEL]* regulator for channel 3.
8	◀◀ Depending on operating mode, Skip backwards (to the previous track) or switch to the previous menu option. Keep this button pressed to decrease the volume of the internal media player. We recommend always leaving the volume of the media player at its maximum setting and regulating the overall volume with the *[LEVEL]* regulator for channel 3.

9	⟲ Selection button. Press the button repeatedly to activate a playback mode. The active mode and the title of the current track will appear on the display: ■ Normal *'N'*. All tracks of the selected audio source are played in succession. ■ Random *'R'*. All tracks of the selected audio source are played in random order. ■ Intro *'I'*. The first ten seconds of each track of the selected audio source will be played. ■ All *'A'*. All tracks in endless loop, like Normal mode *'N'*. ■ Single *'1'*. Only the selected track is played once. ■ Folder *'F'*. All tracks of a specific folder of the selected audio source are being played.
10	■ Stop button to stop playback.
11	▶II Depending on operating mode, Play / Pause button to start / stop playback or button to select a menu item.

12	*[MODE]* Selection button. Press this button to select an audio source: SD card, USB input or Bluetooth port. The active source is shown on the display.
13	*[RF]* The red display LED *[RF]* lights up when a radio signal is transmitted between the microphone and receiver.

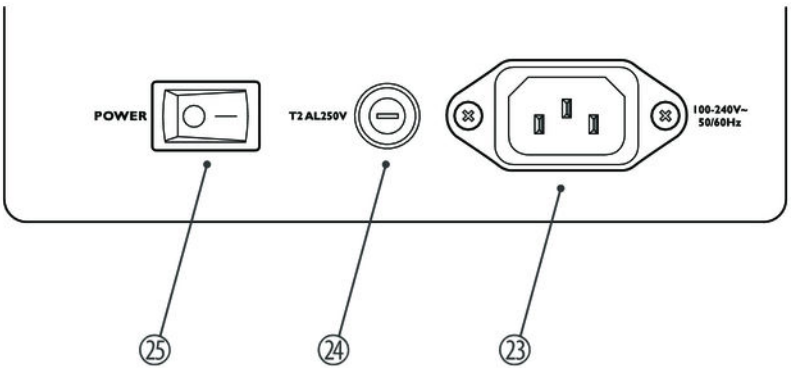
Partial view B



14	*[CH1]*, *[CH2]* *[LEVEL]*: Volume control *[LINE]* / *[MIC]*: Switch between LINE and MIC input signal levels
	[CH3] *[LEVEL]*: Volume control *[MP3]* / *[CH3]*: Switch for the input signal of channel 3: external device connected to RCA jack/3.5 mm mini phone socket or internal media player
15	*[TONE]* Tone control. Turn this knob to the right for a brighter sound with more treble. Turn this knob to the left for a duller sound with more bass.
16	*[ON | LIM]* Indicator LED. Lights solid green in normal operation and flickers red when clipping. In this case, turn the volume of the active channel down.

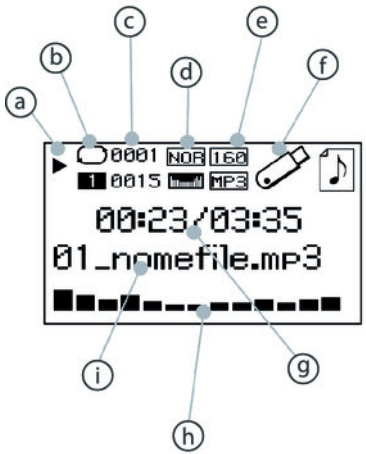
17	*[MASTER]* Volume control. Use this control to adjust the overall volume of the device (sum of all input channels).
18	*[LINE OUT]* Line output (1/4" socket) to connect an amplifier, a PA or an additional speaker.
19	*[LINE IN]* 3.5 mm input socket to connect an external audio device to channel 3.
20	RCA input sockets to connect an external audio device to channel 3.
21	*[BATTERY LEVEL]* State of charge indicators. All three green LEDs light when batteries are fully charged. When capacity decreases, the green LEDs 3, 2 to 1 go out one by one. If only the red LED lights the remaining battery capacity is low. Then connect the device to the mains power to charge the batteries. While charging, the yellow LED lights.
22	XLR / 1/4" combo sockets for signal input channel 1 and 2.

Partial view C



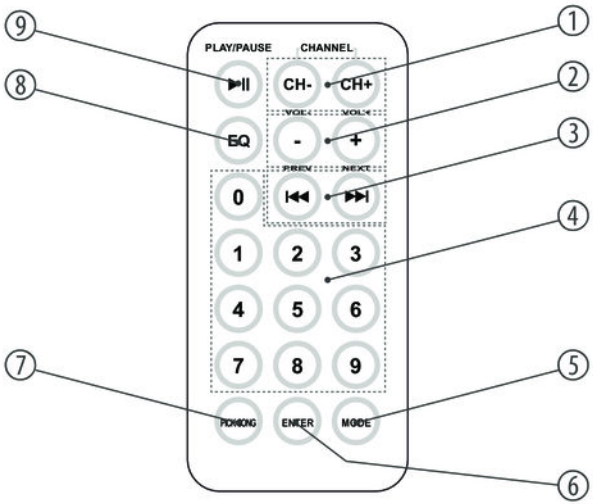
23	Mains connection socket.
24	Fuse holder.
25	*[POWER]* Main switch to turn the device on and off.

Display



a	Play/Pause.
b	Endless loop.
c	Number of the currently playing track and number of tracks in the current folder.
d	Selected EQ setting.
e	Bit rate and file type of the currently playing track.
f	Symbol for the selected data source.
g	Elapsed time / total time of the currently playing track.
h	Frequency spectrum bar graph.
i	File name of the currently playing track.

Remote control

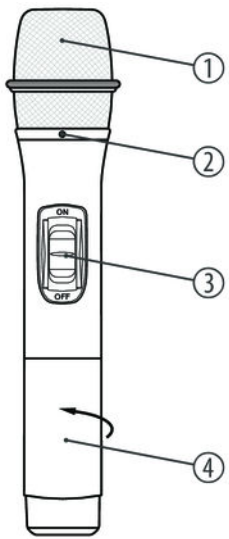


1	*[CHANNEL]* No function.
2	*[VOL– / VOL+]* To decrease or increase the volume.
3	*[PREV / NEXT]* Forward (skip to the next track) or backward (skip to the previous track).
4	Numeric keypad for direct access to tracks.
5	*[MODE]* Selection button. Press this button to select an audio source: SD card, USB input or Bluetooth port. The active source is shown on the display.

6	*[ENTER]* This button opens a menu with the following options: ■ *'EQ'* – Selects an equalizer setting, corresponds to the *[EQ]* key on the remote control. ■ *'PLAY MODE'* – Selects a play mode, corresponds to the ⟲ key on the device. ■ *'CHANGE DEVICE'* – Selects an audio source, corresponds to the *[MODE]* key on the remote control. ■ *'EXIT'* – to exit the selection menu. To navigate within the selection menu, use *[PREV / NEXT]*. To select an option, use *[PLAY / PAUSE]*.
7	*[PICK SONG]* No function.

8	*[EQ]* Selects an EQ setting: ■ *'NOR'* – Normal ■ *'POP'* – Pop music ■ *'ROCK'* – Rock music ■ *'JAZZ'* – Jazz ■ *'CLAS'* – Classic music ■ *'COU'* – Country music ■ *'BAS'* – Bass boost
9	*[PLAY/PAUSE]* Play / pause button to start / stop playback.

Microphone



1	Microphone head grill to prevent damage and to reduce wind and breath noise.
2	Battery charge level indicator. If the remaining charge level of the batteries is too low, the indicator ring lights up red.
3	*[ON/OFF]* Slide switch to turn the microphone on and off.
4	Lower housing part with battery compartment and transmitter. Unscrew to open.

Playback via Bluetooth

Establishing connection to Bluetooth device

Follow the instructions given in the manual of the Bluetooth device and turn it on. Place it near the device.

Press *[MODE]* and select the Bluetooth interface as the source for playback. After a few seconds your Bluetooth device is detected. The display shows the message *'BT Connected'*. If it does not work automatically, press ▶II and start synchronisation from the Bluetooth device.

Bluetooth menu

Hold *[MODE]* pressed for a few seconds to open the Bluetooth menu.

To navigate within the menu, use *[PREV / NEXT]*. To select an option, use *[PLAY / PAUSE]*.

The menu offers the following options:

- *'Recently reconnection'* – re-connect to the last used Bluetooth device.
- *'EQ'*
  - *'Normal'* – Normal
  - *'Pop'* – Pop music
  - *'Rock'* – Rock music
  - *'Jazz'* – Jazz
  - *'Classic'* – Classic music
  - *'County'* – Country music

  - *'Lowbass'* – Bass boost
- *'Deleted paired info'* – erases all information on last link with a Bluetooth device. Try this option to solve problems establishing a Bluetooth connection.
- *'Device Information'* – shows information about the name and address of the Bluetooth interface of the device on the display.
- *'Exit'* – to exit the menu.

6 Technical specifications

Amplifier / speaker	
Inputs	2 × XLR/6.35 mm combo jack as microphone / line input
	1 × 3.5-mm phone socket for line input
	2 × RCA sockets for additional signal input, for CD players or similar devices with line out signal.
Output	1 × 1/4" phone socket for line output
Speaker	Two-way system with 1" compression driver and 6.5" woofer
Frequency response	80 Hz … 18 kHz (–3 dB)
Output power	80 W (mains operation)
	60 W (battery operation)
Radio link	
Carrier frequency	UHF band (863 MHz … 865 MHz)

NF frequency response	60 Hz … 16 kHz (–3 dB)
Modulation type	Frequency modulation (FM)
Signal-to-noise ratio	> 100 dB
Transmission power	< 10 mW
THD	< 0.1 %
General	
Operating supply voltage	100…240 V ~ 50/60 Hz
	Built-in rechargeable battery: lithium ion battery 22.2 V / 2000mAh, maintenance-free
Power consumption	27 W
Fuse	5 mm × 20 mm, 2 A, 250 V, slow-blow
Operating time per battery charge	4 h … 6 h
Charging time	7 h … 9 h

Dimensions (W × H × D)	240 mm × 380 mm × 200 mm
Weight	6 kg

7 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

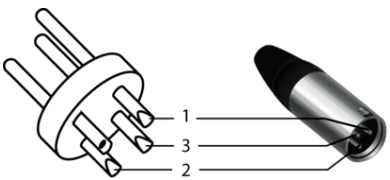
1/4" TRS phone plug (mono, balanced)

1	Signal (in phase, +)
2	Signal (out of phase, –)
3	Ground

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

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

XLR plug (balanced)



1	Ground, shielding
2	Signal (in phase, +)
3	Signal (out of phase, –)

RCA connection

Drawing and table indicate the pin assignment of an RCA plug.

1	Signal
2	Ground, shielding

8 Cleaning

Device components

Clean the device components that are accessible from the outside regularly. The cleaning frequency depends on the operating environment: damp, smoky or particularly dirty environments can cause greater accumulation of dirt on the device components.

- Clean with a dry soft cloth.
- Stubborn dirt can be removed with a slightly dampened cloth.
- Never use solvents or alcohol for cleaning.

9 Protecting the environment

Disposal of the packaging material

For the 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 batteries

Batteries do contain some hazardous chemicals so they should not be thrown away with the normal household waste. They should be returned to the manufacturer for disposal or recycled elsewhere in accordance with your local regulations.

Remove lithium batteries from the device before disposal. Protect used lithium batteries against short circuit, for example by taping the poles.

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.

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