the t.bone

IEM 100-R

UHF receiver

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user manual

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Table of contents

1 General notes

This user manual contains important information on 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, include the manual for the next owner.

Our products are subject to a process of continuous development. We therefore reserve the right to make changes without notice.

Symbols and signal words

This section provides an overview of the symbols and signal words used in this user 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 – danger zone.

2 Safety instructions

Intended use

This device is intended to be used for the wireless transmission of audio signals to earplugs. 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.

CAUTION!

Possible hearing impairment

The use of earphones at high volume over a longer period of time can cause permanent hearing damage.

Adjust the output volume of your audio device to a medium value and use the earphones no longer than about one hour a day.

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!

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.

3 Features and scope of delivery

The IEM 100-R bodypack receiver is a component of the wireless IEM 100 in-ear monitoring system and is suitable especially for professional events, on rock stages and concert halls, theatres and musicals.

the t.bone IEM 100-R 800 MHz (item no. 137670)

- Earplug outlet (1/8" mini phone socket) with volume control
- Voltage supply: 2 AA cells (LR6, 1.5 V)
- Earplugs EP 3

Ten systems can be operated simultaneously. The system operates within a frequency range of 791.850 MHz to 813.225 MHz, divided into 10 frequency groups.

the t.bone IEM 100-R 863 MHz (item no. 137794)

- Earplug outlet (1/8" mini phone socket) with volume control
- Voltage supply: 2 AA cells (LR6, 1.5 V)
- Earplugs EP 3

Three systems can be operated simultaneously. The system operates within a frequency range of 863.1 MHz to 864.4 MHz.

4 Installation and starting up

4.1 General Information

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.

Notes on wireless transmission

- This device utilizes frequencies that are not harmonized within the European Union (EU) and therefore may only be used in certain EU member states. In all European countries, the frequencies used for the transmission of audio signals are strictly regulated. Before you start, make sure the frequencies are allowed in the respective country and check whether the operation must be reported to the appropriate authority.
  For more information, please visit: *http://www.thomann.de*.
- Make sure that transmitter and receiver are both tuned to the same channel.
- Never set multiple transmitters to the same channel.
- Make sure that there are no metal objects between the transmitter and receiver.
- Avoid interference from other radio or in-ear systems.

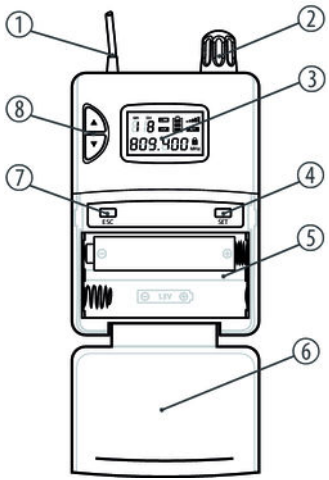
4.2 Receiver

Inserting batteries into the receiver

Press on the snap-in locks at the side to open the battery compartment (6). Flip the lid open and insert the batteries Pay attention to the correct location of the poles. Close the battery compartment and switch the transmitter on. The 'RF' LED (10) briefly lights up.

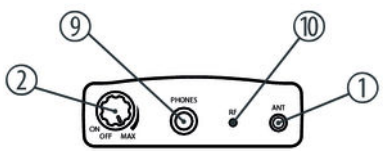
5 Connections and operating elements

5.1 Receiver

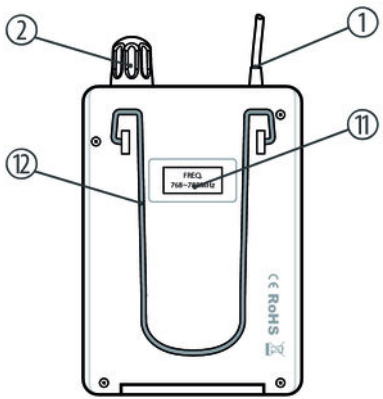


Front panel	
1	Flexible antenna.
2	*[ON/OFF/MAX]* Main switch and volume control. Turn this knob clockwise past the point of resistance to turn on the receiver. Turn it further to increase the volume. Turn this knob counter-clockwise to reduce the volume. Turn it further past the point of resistance to turn off the receiver.
3	Display
4	*[SET]* Enter button for menu control.
5	Battery compartment for two AA cells (LR6), 1.5 V or comparable rechargeable batteries.

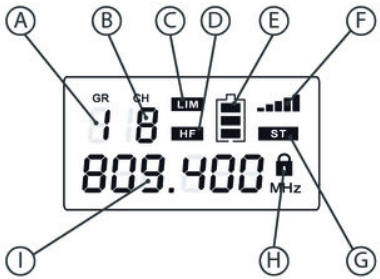
Front panel	
6	Battery compartment lid.
7	*[ESC]* button Function "Cancel/EXIT" in the menu.
8	▲ / ▼ Buttons for increasing / decreasing the currently indicated value. To adjust the Balance keep the corresponding button pressed.



Top side	
9	**PHONES** 1/8" mini phone socket (stereo) for the earplugs.
10	**RF** This LED lights up on incoming radio signal.



Rear panel	
11	Indication of the frequency range in which the device operates. The specification here must match the specification printed on the back of the transmitter.
12	Clip to attach the receiver to your belt or guitar strap.



Display	
A	**GR** Indicates the selected frequency group.
B	**CH** Indicates the selected channel.
C	**LIM** Indicates limiter action as protection against volume peaks.
D	**HF** Indicates the activated high frequency boost function.
E	Battery level indicator. Replace the batteries when only one bar remains displayed.
F	Radio signal strength indicator (one to five bars).
G	**ST** Indicates an incoming stereo signal.

Display	
H	🔒 Indicates that the unit is locked to prevent unintentional operation.
I	Indicates the frequency that is assigned to the set combination of frequency group and channel (*Chapter 8.2 'Frequency charts' on page 24*).

6 Operation

The [SET] and [ESC] buttons that you need to set up the receiver are located behind the battery compartment lid.

Selecting frequency group and channel

Press the *[SET]*,button repeatedly until the *'GROUP'* field (frequency group) flashes in the display. Use the ▲ or ▼ buttons to increase or decrease the indicated value by one. When the desired value is shown press the *[SET]* button to confirm the setting and proceed to the next menu item. Press *[ESC]* to confirm the setting and exit the menu.

Press the *[SET]*,button repeatedly until the *'CHANNEL'* field flashes in the display. Use the ▲ or ▼ buttons to increase or decrease the indicated value by one. When the desired value is shown press the *[SET]* button to confirm the setting and proceed to the next menu item. Press *[ESC]* to confirm the setting and exit the menu.

In the lower area, the display shows the used transmission frequency in MHz, that is assigned to the set combination of frequency group and channel (*Chapter 8.2 'Frequency charts' on page 24*).

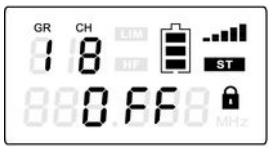
Transmitter and receiver must be set to the same combination of frequency group and channel. If you use multiple wireless systems from this device family, for best results you should assign all systems to the same frequency group, but give each system a different channel.

Turning on the treble boost

Press the *[SET]* button repeatedly until *'ON'* or *'OFF'* and the *'HF'* field are flashing in the display. Use the ▲ or ▼ button to turn the treble boost function on or off (display = *'ON'* or *'OFF'*). If this function is enabled, the frequencies above 10 kHz are boosted by 6 dB and the display shows the *'HF'* field. If the function is disabled, there is no treble boost.

Press the *[SET]* button to confirm the setting and proceed to the next menu item. Press *[ESC]* to confirm the setting and exit the menu.

Lock settings



Press the *[SET]* button repeatedly until *'ON'* or *'OFF'* and the 🔒 symbol are flashing in the display. Use the ▲ or ▼ buttons to toggle between locked status (display = *'ON'*) and normal operation (display = *'OFF'*). In locked status, you can view the system settings, but you cannot change them. In this case the display shows the 🔒 symbol.

Press the *[SET]* button to confirm the setting and proceed to the next menu item. Press *[ESC]* to confirm the setting and exit the menu.

7 Troubleshooting

In the following we list a few common problems that may occur during operation. We give you some suggestions for easy troubleshooting:

Symptom	Remedy
No sound	1. Check the power supply of the transmitter and receiver.
	2. Make sure that both transmitter and receiver operate in the same frequency range and that the transmitting antenna is designed for this frequency range. The frequency range is stated on the devices.
	3. Are both transmitter and receiver set to the same frequency group and the same channel?
	4. Check the connection between the transmitter and the connected audio device (amp, mixer). Is the connected audio device switched on and does the output signal level of the audio device match the input sensitivity of the transmitter?
	5. Try to improve the transmission by moving the receiver closer to the transmitter.
	6. Make sure that no metal objects near the transmitter or receiver obstruct the transmission.
Transmission is interrupted.	1. Modify the orientation of the antennas.

Symptom	Remedy
	2. If you use more than one wireless system at the same time, check the used frequency groups and channels.
	3. Interference can also be caused by televisions, radios or mobile phones.
The sound is distorted.	Change the 'INPUT LEVEL' control setting on the transmitter.

If the procedures recommended above do not succeed, please contact our Service Center. You can find the contact information at *www.thomann.de*.

8 Technical specifications

8.1 Receiver

Modulation type	Frequency modulation (FM)
Image frequency rejection	> 55 dB
Sensitivity	–94 dBm @ 30 dB SINAD, typical
Audio output level	100 mW
Operating supply voltage	2 AA cells (LR6, 1.5 V)
Dimensions (W × H × D, without antenna)	105 mm × 64 mm × 23 mm
Weight (without batteries)	100 g

8.2 Frequency charts

the t.bone IEM 100-R 800 MHz (item no. 137670)							
Frequency group 1							
Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
790.850 MHz	791.475 MHz	792.525 MHz	793.150 MHz	795.550 MHz	797.050 MHz	798.850 MHz	800.650 MHz
Channel 9	Channel 10	Channel 11	Channel 12	Channel 13	Channel 14	Channel 15	Channel 16
802.575 MHz	803.725 MHz	805.750 MHz	806.850 MHz	808.650 MHz	811.725 MHz	813.150 MHz	813.800 MHz
Frequency group 2							
Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
791.400 MHz	792.600 MHz	793.925 MHz	794.200 MHz	795.725 MHz	797.750 MHz	799.400 MHz	801.475 MHz
Channel 9	Channel 10	Channel 11	Channel 12	Channel 13	Channel 14	Channel 15	Channel 16
803.100 MHz	804.775 MHz	805.800 MHz	807.400 MHz	809.200 MHz	810.200 MHz	812.775 MHz	813.750 MHz

the t.bone IEM 100-R 800 MHz (item no. 137670)							
Frequency group 3							
Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
790.875 MHz	791.450 MHz	792.550 MHz	793.175 MHz	795.575 MHz	797.075 MHz	798.875 MHz	801.100 MHz
Channel 9	Channel 10	Channel 11	Channel 12	Channel 13	Channel 14	Channel 15	Channel 16
802.550 MHz	803.700 MHz	805.775 MHz	806.875 MHz	808.625 MHz	811.700 MHz	813.175 MHz	813.775 MHz
Frequency group 4							
Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
792.625 MHz	793.100 MHz	793.450 MHz	793.950 MHz	795.025 MHz	797.300 MHz	799.425 MHz	800.625 MHz
Channel 9	Channel 10	Channel 11	Channel 12	Channel 13	Channel 14	Channel 15	Channel 16
804.800 MHz	805.250 MHz	807.475 MHz	808.550 MHz	809.975 MHz	810.325 MHz	811.600 MHz	813.300 MHz

the t.bone IEM 100-R 800 MHz (item no. 137670)							
Frequency group 5							
Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
790.900 MHz	791.425 MHz	792.575 MHz	793.200 MHz	795.600 MHz	797.100 MHz	798.900 MHz	801.125 MHz
Channel 9	Channel 10	Channel 11	Channel 12	Channel 13	Channel 14	Channel 15	Channel 16
803.025 MHz	803.675 MHz	805.300 MHz	806.900 MHz	808.600 MHz	810.050 MHz	811.675 MHz	813.125 MHz
Frequency group 6							
Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
792.650 MHz	793.475 MHz	793.975 MHz	794.525 MHz	795.050 MHz	797.775 MHz	799.450 MHz	800.600 MHz
Channel 9	Channel 10	Channel 11	Channel 12	Channel 13	Channel 14	Channel 15	Channel 16
804.825 MHz	805.225 MHz	807.450 MHz	808.525 MHz	809.950 MHz	810.525 MHz	811.575 MHz	813.275 MHz

the t.bone IEM 100-R 800 MHz (item no. 137670)							
Frequency group 7							
Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
790.925 MHz	793.225 MHz	794.100 MHz	795.625 MHz	797.125 MHz	798.925 MHz	801.150 MHz	802.175 MHz
Channel 9	Channel 10	Channel 11	Channel 12	Channel 13	Channel 14	Channel 15	Channel 16
803.050 MHz	803.650 MHz	805.275 MHz	806.925 MHz	808.575 MHz	810.025 MHz	811.650 MHz	813.100 MHz
Frequency group 8							
Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
794.000 MHz	794.300 MHz	794.575 MHz	795.100 MHz	796.775 MHz	797.800 MHz	800.525 MHz	802.000 MHz
Channel 9	Channel 10	Channel 11	Channel 12	Channel 13	Channel 14	Channel 15	Channel 16
803.600 MHz	805.200 MHz	807.425 MHz	809.125 MHz	809.950 MHz	811.550 MHz	812.800 MHz	813.250 MHz

the t.bone IEM 100-R 800 MHz (item no. 137670)							
Frequency group 9							
Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
790.950 MHz	793.425 MHz	794.125 MHz	795.650 MHz	797.150 MHz	798.950 MHz	801.175 MHz	802.200 MHz
Channel 9	Channel 10	Channel 11	Channel 12	Channel 13	Channel 14	Channel 15	Channel 16
803.050 MHz	803.625 MHz	805.250 MHz	806.950 MHz	809.100 MHz	810.000 MHz	811.625 MHz	813.200 MHz
Frequency group 10							
Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
794.050 MHz	794.325 MHz	795.075 MHz	796.800 MHz	797.275 MHz	800.575 MHz	801.200 MHz	802.050 MHz
Channel 9	Channel 10	Channel 11	Channel 12	Channel 13	Channel 14	Channel 15	Channel 16
803.575 MHz	805.175 MHz	806.950 MHz	809.150 MHz	809.475 MHz	811.100 MHz	812.850 MHz	813.225 MHz

the t.bone IEM 100-R 863 MHz (item no. 137794)							
Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
863.100 MHz	863.900 MHz	864.500 MHz	864.900 MHz	863.200 MHz	863.300 MHz	863.400 MHz	863.500 MHz
Channel 9	Channel 10	Channel 11	Channel 12	Channel 13	Channel 14	Channel 15	Channel 16
863.600 MHz	863.700 MHz	863.800 MHz	864.000 MHz	864.100 MHz	864.200 MHz	864.300 MHz	864.400 MHz

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 these materials with your normal household waste, but make sure that they are fed to a recovery. Please follow the notes and markings on the packaging.

Disposal of batteries

Batteries must not be disposed of as domestic waste or thrown into fire. Dispose of the batteries according to national or local regulations regarding hazardous waste. To protect the environment, dispose of empty batteries at your retail store or at appropriate collection sites.

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 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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