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## 1 Introduction

Welcome to Omnitronic! Thank you for choosing one of our products.

This user manual will show you how to install and operate the wireless microphone system. Users of this product are recommended to carefully read all warnings in this manual and on the unit in order to protect yourself and others from damage.

Please save this document for future needs and pass it on to further owners.

### 1.1 Product features

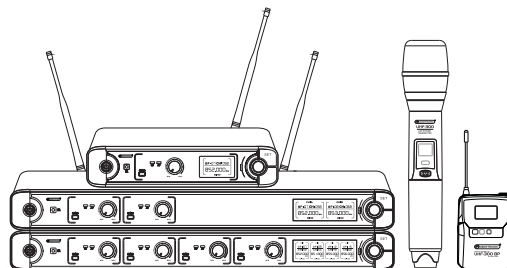
- UHF PLL microphone systems with 1, 2 or 4 channels
- Operation in the license-free frequency ranges 823-832 MHz and 863-865 MHz
- 93 preset channels in 10 channel groups
- Operation range with line of sight approx. 50 meters
- Easy and error-free synchronization between receiver and transmitter via infrared signal
- LCDs for group, frequency and channel
- LEDs for carrier and audio signal
- Volume control
- Balanced XLR output
- Unbalanced 6.3 mm jack
- Jack cable included
- Removable antennas (BNC connection)
- Operation of the receiver unit via supplied power unit
- Incl. mounting brackets for 483 mm rack installation
- Dynamic microphones with cardioid polar pattern and LCD for battery capacity and frequency
- Operation of the microphone via 2 x 1.5 V batteries (type AA), not included
- Matching pocket transmitter can be ordered separately
- License-free and approved in large parts of the EU (please check on a country-by-country basis)

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For product updates, documentation, software and support please visit [www.omnitronic.de](http://www.omnitronic.de). You can find the latest version of this user manual in the product's download section.

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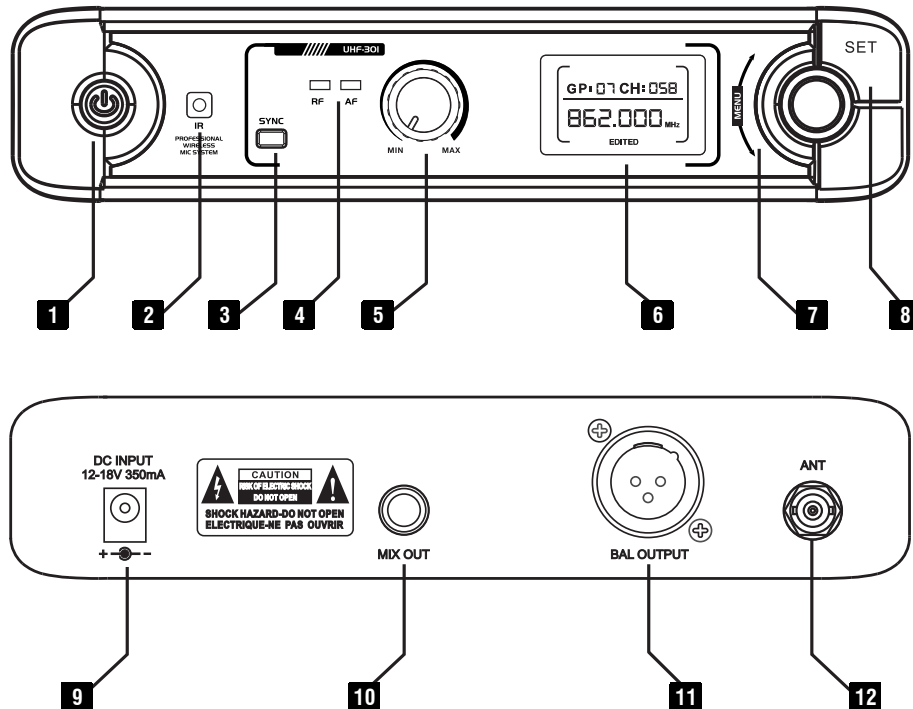
## 2 Safety Instructions



- Please read these operating instructions carefully before using the product. They contain important information for the correct use of your product. Please keep them for future reference.
- The wireless microphone systems of the UHF-300 series consist of dynamic hand-held microphones with integrated transmitter which serve for wireless signal transmission to the receiving unit. The transmission range is approx. 50 m and depends on the local conditions. The system is available with 1, 2 or 4 channels.
- This product is intended for use in the EU. The operation in the 863-865 MHz frequency range is generally approved and license-free in all EU member countries. The operation in the 823-832 MHz frequency range is license-free in Germany, however, is subject to restrictions in certain areas: AT, LV, LT, PL, SE, GB (status as of 2018). Prior to use, make sure that the desired frequencies are approved and legal in your country. Consult your national authority for possible requirements.
- Only use the product according to the instructions given herein, to avoid accidental injury or damage.
- We do not assume any liability for material and personal damage caused by improper use or non-compliance with these operating instructions. In such cases, the warranty/guarantee will be null and void.
- Unauthorized rebuilds or modifications of the product are not permitted for reasons of safety and render the warranty invalid.
- To reduce the risk of electric shock, do not open any part of the product. Only connect the product to a proper wall socket that complies with the product specification voltage. Run the mains cable in such a way that it cannot be tripped over.
- This product is intended for indoor use only. Protect it from extreme temperatures, direct sunlight, strong jolts, high humidity, moisture, flammable gases, vapors and solvents. The recommended temperature range is -5 to +45 °C.
- Do not touch the power cord and connectors with wet hands as it may cause electric shock.
- Cleaning of the product is limited to the surface. Make sure that moisture does not come into contact with any areas of the terminal connections or mains voltage control parts. Only wipe off the product with a dry, lint-free cloth. Before cleaning, disconnect the product from the mains.
- If this product is no longer working properly or is visibly damaged, take it out of operation and consult your local dealer. Do not attempt to repair the product yourself.
- Handle the product with care; it can be damaged by impacts, blows, or accidental falls, even from a low height.
- This product is not a toy. Keep it out of the reach of children and pets. Do not leave packaging material lying around carelessly.
- Do not try to short-circuit, recharge, disassemble or heat batteries (danger of explosion!). Remove the batteries if the device is not used for a longer period of time. Damaged/leaking batteries may cause harm to your skin—use safety gloves.

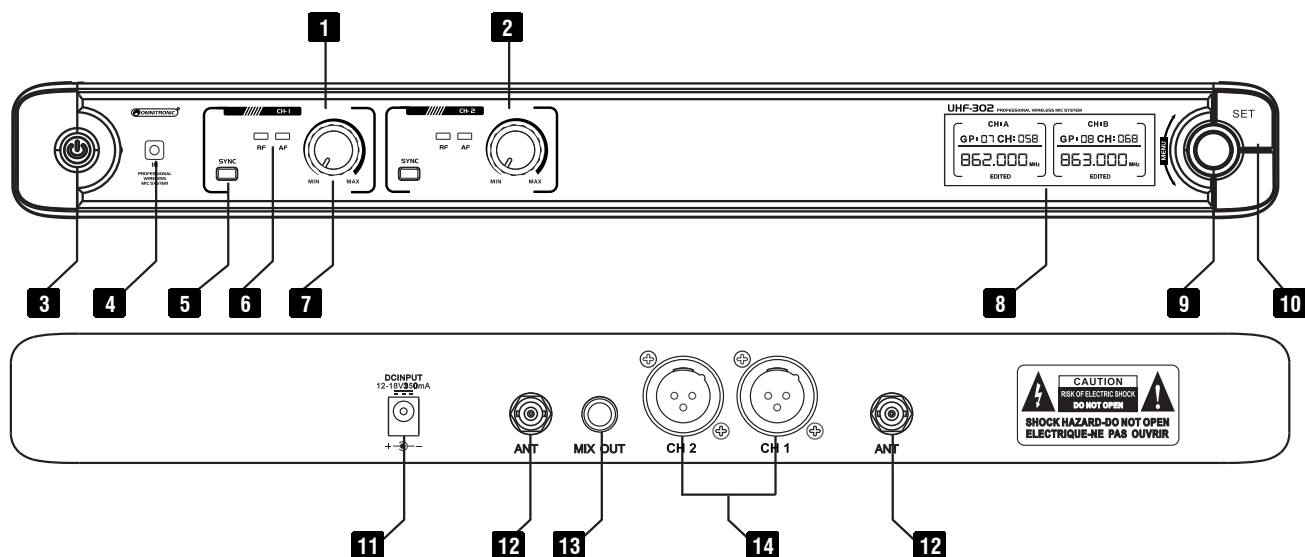
## 3 Operating Elements and Connections

### 3.1 UHF-301 Receiver



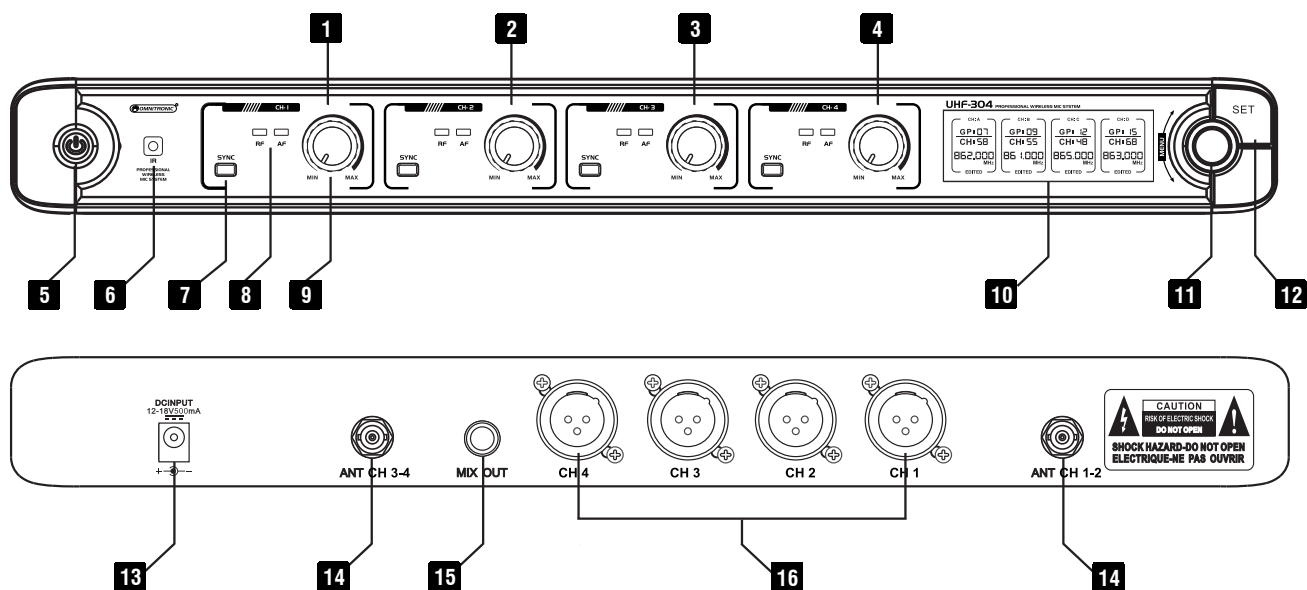
No.	Element	Function
1	Power switch	Press 2 seconds to switch the receiver on and off.
2	Infrared interface	To synchronize receiver and microphone point the infrared interfaces at a maximum distance of 20 cm from each other.
3	SYNC button	To synchronize receiver and microphone.
4	Status indicators	RF: Indicates an existing connection to the microphone. AF: Lights up when an audio signal from the microphone is received.
5	Level control	Control for the audio signal at the rear outputs.
6	LCD display	Indicates group, channel and frequency.
7	Press control	To set the transmission channel.
8	SET button	To enter the setting menu.
9	Power input	Plug in the connection cable of the supplied power adapter here.
10	Signal output	Unbalanced 6.3 mm jack for connection to a microphone or line input of a mixer or amplifier.
11	Signal output	Balanced XLR jack for connection to a microphone input of a mixer or amplifier.
12	Antenna input	To connect the antenna provided.

## 3.2 UHF-302 Receiver



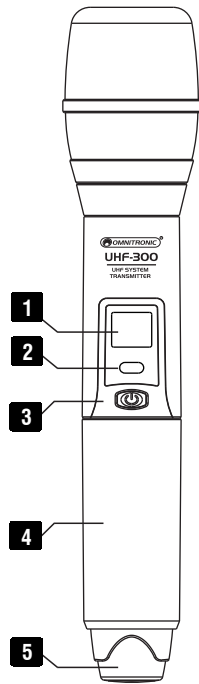
No.	Element	Function
1	Receiver unit 1	
2	Receiver unit 2	
3	Power switch	Press 2 seconds to switch the receiver on and off.
4	Infrared interface	To synchronize receiver and microphone point the infrared interfaces at a maximum distance of 20 cm from each other.
5	SYNC button	To synchronize receiver and microphone.
6	Status indicators	RF: Indicates an existing connection to the microphone. AF: Lights up when an audio signal from the microphone is received.
7	Level control	Control for the audio signal of the respective channel at the rear outputs.
8	LCD display	Indicates group, channel and frequency.
9	Press control	To set the transmission channel.
10	SET button	To enter the setting menu.
11	Power input	Plug in the connection cable of the supplied power adapter here.
12	Antenna inputs	To connect the antennas provided.
13	Mixed output	Unbalanced 6.3 mm jack for the output of the master signal of all channels. For connection to a microphone or line input of a mixer or amplifier.
14	Channel output	Balanced XLR outputs for the output signal from the respective channel. For connection to balanced microphone inputs of a mixer or amplifier.

### 3.3 UHF-304 Receiver



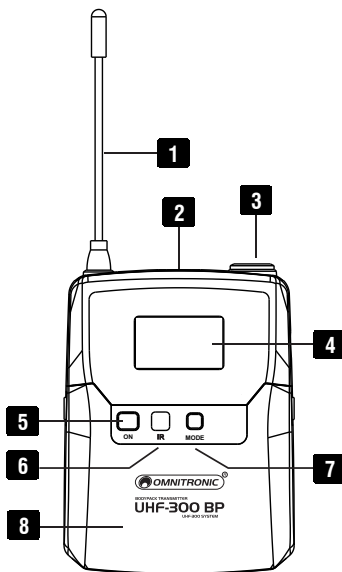
No.	Element	Function
1	Receiver unit 1	
2	Receiver unit 2	
3	Receiver unit 3	
4	Receiver unit 4	
5	Power switch	Press 2 seconds to switch the receiver on and off.
6	Infrared interface	To synchronize receiver and microphone point the infrared interfaces at a maximum distance of 20 cm from each other.
7	SYNC button	To synchronize receiver and microphone.
8	Status indicators	RF: Indicates an existing connection to the microphone. AF: Lights up when an audio signal from the microphone is received.
9	Level control	Control for the audio signal of the respective channel at the rear outputs.
10	LCD display	Indicates group, channel and frequency.
11	Press control	To set the transmission channel.
12	SET button	To enter the setting menu.
13	Power input	Plug in the connection cable of the supplied power adapter here.
14	Antenna inputs	To connect the antennas provided.
15	Mixed output	Unbalanced 6.3 mm jack for the output of the master signal of all channels. For connection to a microphone or line input of a mixer or amplifier.
16	Channel output	Balanced XLR outputs for the output signal from the respective channel. For connection to balanced microphone inputs of a mixer or amplifier.

### 3.4 Hand-held microphone



No.	Element	Function
1	LCD display	Indicates the transmission frequency and the battery capacity.
2	Infrared interface	To synchronize receiver and microphone.
3	Power switch	Press 2 seconds to switch the microphone on and off.
4	Battery compartment	Insert two 1.5 V batteries here.
5	Transmission antenna	

### 3.5 Pocket transmitter



No.	Element	Function
1	Transmission antenna	
2	MUTE button	Mutes the pocket transmitter.
	Microphone input	Mini XLR input for connecting the lavalier or headset microphone.
3	LCD display	Indicates the transmission frequency and the battery capacity.
4	Power switch	Press 2 seconds to switch the transmitter on and off.
5	Infrared interface	To synchronize receiver and transmitter.
6	MODE button	To adjust the gain level.
7	Battery compartment	Insert two 1.5 V batteries here.

## 4 Setup and Operation

### 4.1 Placing the receiver

Place the receiver on an even surface and connect the antennas provided to the antenna jacks. Put the antennas upright in a V-shaped position. For 19" rack installation (483 mm) mounting brackets are provided. Fasten the brackets at the left and right sides of the housing. In order to ensure sufficient cooling of the unit, air must always be able to flow freely through all air vents.

#### Notes

- Place the receiver at least 1 meter above the ground and not too close to lateral walls.
- Avoid sources of interference such as metal surfaces or electronic devices (e.g. computer, CD player).
- Ideally, position the receiving antennas at the height of the transmitter. When using multiple systems, do not allow antennas to cross or touch each other.
- For optimum reception, keep the transmitter at least 1 meter away from the receiver and avoid obstacles.

### 4.2 Connecting the receiver


- 1) Connect the receiver to the subsequent unit:
  - The unbalanced XLR outputs of the individual channel outputs can be connected to a microphone input each of a mixer.
  - Use the unbalanced 6.3 mm jack "MIX OUT" for the master signal of all receiving channels for connection to a microphone input or a highly sensitive line input.
- 2) Finally, connect the power adapter to the power input of the receiver and the mains plug to a mains socket. Use the receiver only with the supplied power adapter. Always disconnect the mains connector when you wish to change connections, move the unit to a different place or if it is not used for a longer period.

### 4.3 Hand-held microphone and pocket transmitter

- 1) For operation, the hand-held microphone and the pocket transmitter require two 1.5 V AA batteries each. To access the battery compartment unscrew the lower part of the microphone. In case of the pocket transmitter, fold up the front cover. Insert two batteries as indicated in the battery compartment.
- 2) The capacity of the batteries is indicated in the display in several steps. Replace the batteries when the battery icon shows one bar. If the devices are not used for a longer period, please remove the batteries to prevent damage in case of battery leakage.
- 3) Attach the pocket transmitter with the belt clip to your clothing or strap on your instrument. Connect the microphone or instrument cable to the mini XLR input. The sensitivity for the input can be adjusted in the setting menu.

## 5 Operation

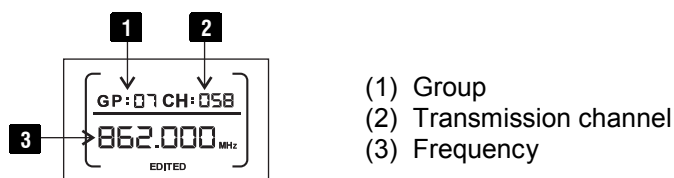
Switch on the receiver and make the following settings for each receiver unit separately.

- 1) Set the receiver unit to a free and interference-free transmission channel (section 5.1).
- 2) Switch on the transmitter and synchronize it with the receiver unit. For this, point the transmitter's infrared interface towards the receiver's transmitter's infrared interface (max. 20 cm distance). Make sure there are no obstacles between the IR interfaces. Press the button **SYNC** at the receiver. When the receiver unit and the transmitter have been set to the same channel, the **RF** reception indicator at the receiver lights up.
- 3) Switch on the following audio unit or advance the respective fader on the mixer. Speak into the transmitter's microphone (AF indicator lights) and match the output level of the reception channel to the input of the following unit with the corresponding volume control.
- 4) The sensitivity and thus the volume level of the pocket transmitter can be adjusted. Use the **MODE** button to select the setting H(igh), M(edium) or L(ow) when a microphone is connected or Line when an instrument is connected.
- 5) To mute the pocket transmitter during operation, press the **MUTE** button. The display indicates .
- 6) After operation, switch off the receiver and do not forget to switch off the transmitters. Otherwise the batteries will be exhausted the next time they are used.

### 5.1 Adjusting a transmission channel

There are 93 channels available for wireless transmission. To facilitate the setup of the system, the channels are divided into 10 groups. Each of the groups accommodates factory-preset channels which are carefully matched and cannot be changed. The corresponding frequencies can be found in the table in section 8.2. In case of interference of several channels within a group occurring at the place of operation, select a different group.

- 1) Press the **SET** button. The indication **EDITED** starts flashing in the display and the setting mode for the first receiver unit is activated. Press the **MENU** control to confirm.
- 2) The letters next to **GP** start flashing and the group can be set. Turn the **MENU** control to select the group, and then press the control to confirm. Note: The selection of the group effects all receiver units.
- 3) The letters next to **CH** start flashing and the channel can be set within the current group. Turn the **MENU** control to select the channel, and then press the control to confirm.
- 4) Press the **SET** button again to set further receiver units or to exit the setting mode. If no button has been pressed for a few seconds, the setting mode will be exited automatically.





## 6 Problem Chart

Problem	Remedy
No power.	<ul style="list-style-type: none"> <li>• Check connection cable of power unit and any extension cables.</li> </ul>
No sound; receiver RF indication does not light.	<ul style="list-style-type: none"> <li>• Make sure transmitter and receiver are switched on.</li> <li>• Check receiver battery indication to ensure that batteries are providing power. Replace batteries if necessary.</li> <li>• Make sure that receiver is in line of sight of transmitter. If necessary, reduce distance between transmitter and receiver.</li> </ul>
No receiver sound; receiver RF indication lights.	<ul style="list-style-type: none"> <li>• Turn up the level on receiver and/or pocket transmitter.</li> <li>• Check for proper connection between transmitter and mixer/amplifier.</li> <li>• Apply signal to transmitter and observe receiver's RF indication. If it lights up, the problem is elsewhere in the sound system.</li> </ul>
Received signal is noisy or contains extraneous sounds with transmitter on.	<ul style="list-style-type: none"> <li>• Check transmitter's battery indication to ensure that battery is providing power.</li> <li>• Remove local sources of HF interference, such as lighting equipment.</li> <li>• Two transmitters may be operating on the same frequency. Locate and turn one off or change the frequency.</li> <li>• Signal may be too weak. If possible, move receiver closer to transmitter.</li> </ul>
Noise from receiver with transmitter off.	<ul style="list-style-type: none"> <li>• Remove local sources of HF interference, such as lighting equipment.</li> <li>• Reposition the receiver.</li> </ul>
Momentary loss of sound as receiver is moved around performing area.	<ul style="list-style-type: none"> <li>• Reposition transmitter and perform another test and observe RF indication. If audio drop-outs persist, mark dead spots in performing area and avoid them during performance.</li> </ul>

## 7 Protecting the Environment

### Disposal of old equipment



When to be definitively put out of operation, take the product to a local recycling plant for a disposal which is not harmful to the environment. Devices marked with this symbol must not be disposed of as household waste. Contact your retailer or local authorities for more information.



Remove any inserted batteries and dispose of them separately from the product.



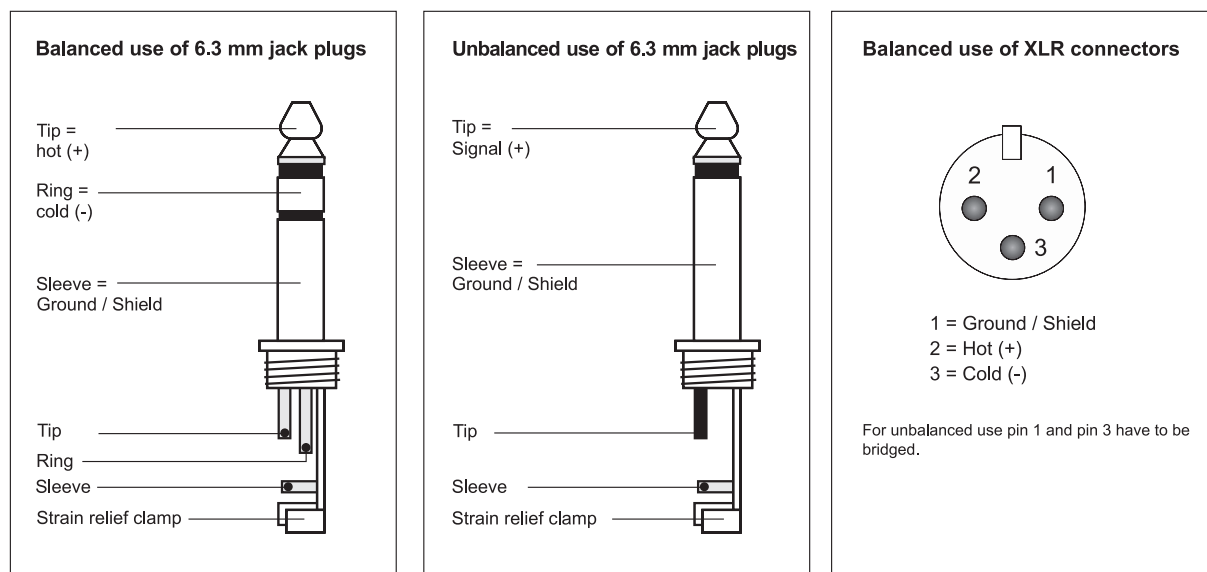
You as the end user are required by law (Battery Ordinance) to return all used batteries/rechargeable batteries. Disposing of them in the household waste is prohibited. You may return your used batteries free of charge to collection points in your municipality and anywhere where batteries/ rechargeable batteries are sold. By disposing of used devices and batteries correctly, you contribute to the protection of the environment.

## 8 Technical Specifications

UHF-301 / UHF-302 / UHF-304	
System:	Non-diversity, 1/2/3/4 channels
Carrier frequency:	823-832 MHz and 863-865 MHz
Receiving frequencies:	93
Coverage:	50 m (with line-of-sight)
RF power output:	10 mW
Modulation method:	FM
Frequency stability:	10 ppm
Sensitivity:	6 dBμV
S/N ratio:	>80 dB
Frequency range:	50-18000 Hz (±3 dB)
T.H.D.:	<0.5 % at 1 kHz
Audio outputs:	
Mic:	XLR, bal.
Mix:	6.3 mm jack, unbal.
Power supply:	
Receiver:	12-18 V DC via supplied power unit connected to 100-240 V AC, 50/60 Hz
Power consumption:	6 W
Microphone:	2 x 1.5 V battery, type AA
Current consumption:	130 mA
Pocket transmitter:	2 x 1.5 V battery, type AA
Current consumption:	130 mA
Dimensions, weight:	
Receiver UHF-301:	235 x 210 x 47 mm (L x W x H), 1.5 kg
Receiver UHF-302/UHF-304:	235 x 410 x 47 mm (L x W x H), 1.8 kg
Microphone:	50 x 250 mm (D x L), 230 g (w/o batteries)
Pocket transmitter:	25 x 65 x 170 mm (L x W x H), 80 g

Specifications are subject to change without notice due to product improvements.

### 8.1 Connector configuration



## 8.2 Radio frequencies in MHz

Channel	Gruppe 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9	Group 0
1	823.875	864.350	863.100	830.850	863.100	823.375	823.875	823.100	823.200	826.900
2	824.500	863.975	863.500	829.000	863.500	826.125	824.500	823.500	823.600	831.300
3	827.175	863.150	864.200	828.225	864.300	826.575	827.175	824.100	824.200	863.600
4	831.800	863.525	864.800	825.250	864.900	827.975	829.625	824.900	825.000	864.000
5	864.425			824.675		831.800	831.800	826.100	826.200	
6	823.375			864.200		824.500	823.375	827.700	827.800	
7	824.900			863.175		824.900	824.900	829.900	830.000	
8	826.575			863.600		827.175	825.425	864.700	864.800	
9	827.975			825.975		829.625	826.125	825.275	825.375	
10	829.625			864.650		830.350	826.575	826.575	826.675	
11	830.350					823.875	827.975	828.400	828.500	
12	863.425					825.425	828.525	830.950	831.050	
13	864.900					828.525	830.350			
14	825.425						864.050			
15	826.125									
16	828.525									

## 8.3 Item numbers

Item	
No. 13063300	UHF-301 1-Channel Wireless Mic System 823-832/863-865MHz
No. 13063302	UHF-302 2-Channel Wireless Mic System 823-832/863-865MHz
No. 13063304	UHF-304 4-Channel Wireless Mic System 823-832/863-865MHz
No. 13063306	UHF-300 Handheld Microphone 823-832/863-865MHz
No. 13063314	UHF-300 Microphone Holder
No. 13063308	UHF-300 Bodypack 823-832/863-865MHz
No. 13063310	UHF-300 Headset Microphone black
No. 13063311	UHF-300 Headset Microphone skin-colored
No. 13063312	UHF-300 Lavalier Microphone
No. 13063313	UHF-300 Guitar Adapter Cable

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