



# Quad R 823 Quad H 823 Quad B 823 Quad C 823

UHF wireless system



user manual

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# I 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 <u>www.thomann.de</u>.

# 1.1 Further information

On our website (<u>www.thomann.de</u>) 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.

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# **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.
	<b>Examples:</b> [VOLUME] control, [Mono] button.
Instructions	The individual steps of an instruction are numbered consecutively. The result of a step is indented and highlighted by an arrow.
	Example:
	<b>1.</b> Switch on the device.
	<b>2.</b> Press [Auto].
	$\Rightarrow$ Automatic operation is started.
	<b>3.</b> Switch off the device.



#### **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 8.

## **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.
NOTICE!	This combination of symbol and signal word indicates a pos- sible dangerous situation that can result in material and environmental damage if it is not avoided.

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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 from microphones or instruments to amplifiers or active speakers. 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.



#### 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.

Only operate the device within the ambient conditions specified in the chapter 'Technical specifications' of this user manual. Avoid heavy temperature fluctuations and do not switch the device on immediately after it was exposed to temperature fluctuations (for example after transport at low outside temperatures).

Dust and dirt inside can damage the unit. When operated in harmful ambient conditions (dust, smoke, nicotine, fog, etc.), the unit should be maintained by qualified service personnel at regular intervals to prevent overheating and other malfunction.

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#### NOTICE!

#### **External power supply**

The device is powered by an external power supply. Before connecting the external power supply, 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 the user.

Unplug the external power supply before electrical storms occur and when the device is unused for long periods of time to reduce the risk of electric shock or fire.



#### 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

The UHF wireless system is particularly suitable for professional audio transmission, for example, at events, on rock stages and in concert halls, theatres, musicals or night clubs.

- 19" UHF receiver (Quad R 823, item no. 502806)
  - Two detachable BNC antennas for optimum reception quality
  - Automatic frequency scanning
  - Infrared interface for sending the frequency selection from the receiver to the transmitter
  - Automatic Squelch
  - Outputs:  $4 \times XLR$ ,  $1 \times XLR + 1 \times 1/4$ " jack socket as overall output
  - 19" rack mountable (1 RU)
  - Power supply: 12 V ----, a suitable power adaptor is included
- Battery powered handheld cardioid microphone (Quad H 823, item no. 502807)
- Battery powered bodypack transmitter (Quad B 823, item no. 502808)
- Battery powered table call stations transmitter with gooseneck microphone (Quad C 823, item no. 502809)

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# 4 Installation and starting up

## 4.1 General Information

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.



# 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: <u>http://www.thomann.de</u>.

- 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

**Rack mounting** 

The unit has been designed for rack mounting in a standard 19" rack; it occupies one rack unit (RU).

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#### Connecting the power supply

#### NOTICE!

#### External power supply

The device is powered by an external power supply. Before connecting the external power supply, 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 the user.

Unplug the external power supply before electrical storms occur and when the device is unused for long periods of time to reduce the risk of electric shock or fire.

First, connect the power adapter to the receiver and then plug the power adapter into the power outlet.

#### Attaching the antennas

Attach the included antennas to the rear panel of the transmitter. To improve the transmission quality and to adapt to the spatial conditions they are rotatable and swivelling.

In case the space provided on the device for direct assembly of the antennas is not sufficient, for example because the space on the rack is narrow, you can use the optionally available coaxial cable to assemble the antennas separately from the device.

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**Connecting audio and starting** up Connect the audio outputs of the receiver to your mixer or your amplifier. Ensure that only one of the two outputs of the receiver (XLR or jack) is ever used at a time for the overall channel, because faults might occur otherwise.

## 4.3 Handheld microphone (Quad H)

#### **Inserting batteries**

Unscrew the bottom housing section of the handheld microphone. Insert the batteries. Pay attention to the correct location of the poles. The correct battery arrangement is illustrated in the battery compartment. Close the battery compartment, screw the bottom housing section back on, and switch the transmitter on.

## 4.4 Bodypack transmitter (Quad B)

**Inserting batteries** 

Press the button on the rear side of the bodypack transmitter and pull the battery compartment cover downwards. Insert the batteries. Pay attention to the correct location of the poles. Close the battery compartment and switch the transmitter on.



# Connecting microphone of instrument

- Ensure that the transmitter is switched off.
- Connect the microphone or instrument cable to the input on the transmitter (mini-XLR panel connector).
- Turn on the transmitter and check the transmission by using the microphone or instrument. If necessary, adjust the amplification of the transmitter and the levels on your mixing console or your amplifier.

# 4.5 Table call stations transmitter (Quad C)

#### **Inserting batteries**

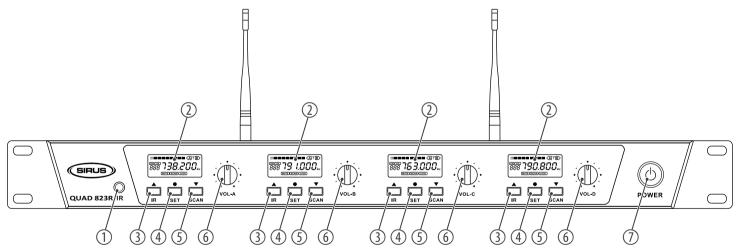
Open the lid of the battery compartment on the bottom side of the table call station, and insert the batteries. Pay attention to the correct location of the poles. Close the battery compartment and switch the transmitter on.



# 5 Connections and controls

### 5.1 Receiver



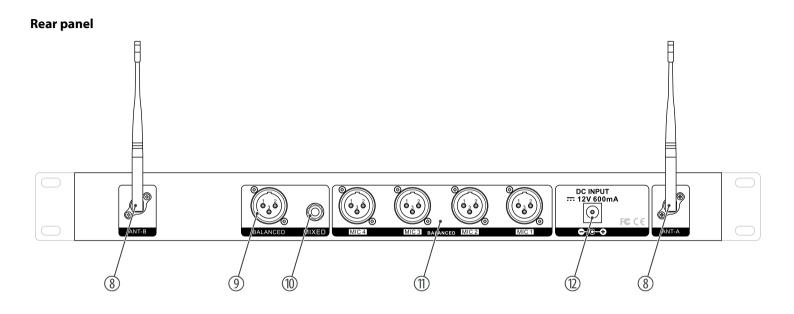


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1	Infrared sensor
2	Display
3	▲/[IR]
	Starts the synchronisation of the settings with the transmitter.
	Increases the displayed value by one.
4	●/[SET]
	Opens the menu
5	▼/[SCAN]
	Starts le automatic search for a free channel and the automatic synchronisation with the transmitter.
	Decreases the displayed value by one.
6	Rotary volume control
7	[POWER]
	Press the switch for several seconds to switch the device on or off.
	All previous settings are retained even when you switch the device off and disconnect it from the mains.

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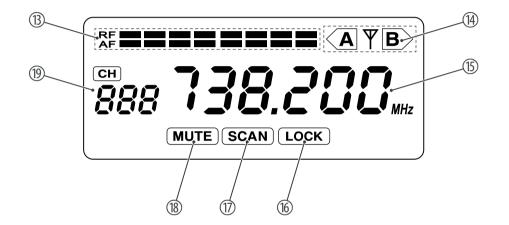




8	[ANT-B]/[ANT-A]
	UHF antenna
9	[BALANCED]
	XLR panel plug as balanced overall audio signal output for direct connection to a mixer, a power amp or recording device.
10	[MIXED]
	1/4" jack socket as unbalanced overall audio signal output for direct connection to a mixer, a power amp or recording device.
11	[AUDIO OUTPUT MIC 1] [AUDIO OUTPUT MIC 4]
	XLR panel plug as balanced audio signal output for direct connection to a mixer, a power amp or recording device.
12	[DC INPUT]
	Socket for connecting the supplied plug-in power supply



#### Display





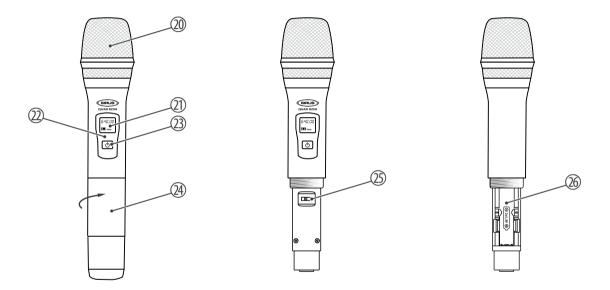
13	'RF'
	Shows the level of the received radio signal
	'AF'
	Shows the level of the audio signal
14	'A/B'
	Shows which of the two antennas is currently being used for signal transmission.
15	Indicates the frequency that is assigned to the selected channel.
16	'LOCK'
	Indicates that the receiver is locked to prevent unintentional operation.
17	'SCAN'
	Indicates that the automatic search for a free channel and the automatic synchronisation with the transmitter is run- ning.



18	'MUTE'
	Indicates that the receiver does not receive a signal, e.g. because the transmitter is disabled, the connection is inter- rupted or the channel is just changing.
19	'CH'
	Shows the selected channel



# 5.2 Handheld microphone

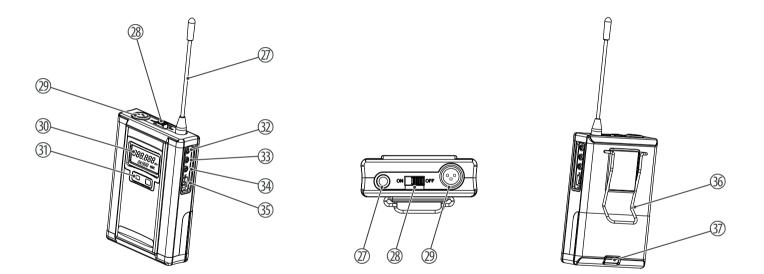




20	Microphone head grill to prevent damage and to reduce wind and breath noise.
21	Display. Shows the frequency and the battery status of the microphone.
	When the display starts to flash, replace the batteries of the microphone.
22	Infrared sensor
23	Main switch
	Hold the switch pressed for several seconds to turn on the microphone.
	Hold the switch pressed again for several seconds to turn off the microphone.
24	Lower housing part. Unscrew to open.
25	Switch for selecting the radio signal
	Slide the switch on 'H' (high power) to use the microphone from a long distance. Slide the switch on 'L' (low power) to use the microphone from a short distance.
26	Battery compartment for two AA batteries (LR06), 1.5 V or comparable rechargeable batteries



# 5.3 Bodypack transmitter





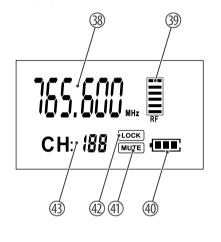
27	Antenna
28	[ON]/[OFF]
	Main switch. Turns the device on and off.
29	Mini-XLR chassis plug for connecting a microphone or an instrument
30	Display
31	Infrared sensor
32	•
	Opens the menu
33	▲
	Increases the shown frequency
34	$\checkmark$
	Decreases the shown frequency



35	Switch for selecting the radio signal
	Slide the switch on 'H' (high power) to use the microphone from a long distance. Slide the switch on 'L' (low power) to use the microphone from a short distance.
36	Retaining clamp
37	Battery compartment for two round cell batteries (AA, LR06), 1.5 V or comparable rechargeable batteries.



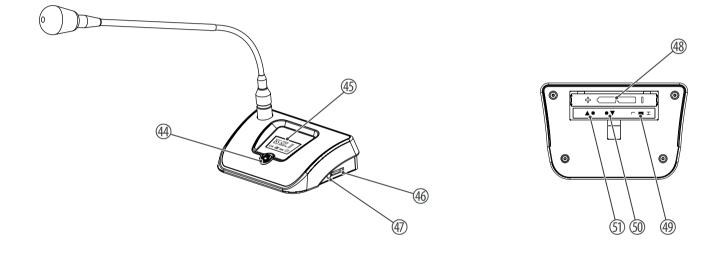
#### Display



38	Indicates the frequency that is assigned to the selected channel.
39	'RF'
	Shows the level of the radio signal sent.
40	Battery level indicator. Replace the batteries when only one blinking bar remains displayed. Reduces the voltage of the batteries even further if the transmitter is automatically switched off.
41	<i>'MUTE'</i> Shows that the transmitter has been muted. This is the case if the transmitter and receiver are working on different frequencies, if the receiver is not getting a usable signal or if you have muted the transmitter.
42	'LOCK' Indicates that the unit is locked to prevent unintentional operation.
43	Shows the selected channel



# 5.4 Table call stations transmitter





44	Main switch
	Hold the switch pressed for several seconds to turn on the table call stations transmitter.
	Hold the switch pressed again for several seconds to turn off the transmitter.
	Press the main switch briefly to mute the table call stations transmitter.
	Replace the batteries when the LED of the main switch changes from green to red. If the voltage of the batteries reduces even further, the display shows <i>'bAtOFF'</i> and the transmitter is automatically switched off.
45	Display (see 🍯 'Display' on page 33)
46	Rotary volume control
47	Infrared sensor
48	Battery compartment for two round cell batteries (AA, LR06), 1.5 V or comparable rechargeable batteries.
49	Switch for selecting the radio signal
	Slide the switch on 'H' (high power) to use the transmitter from a long distance. Slide the switch on 'L' (low power) to use the transmitter from a short distance.



50	•
	Decreases the shown frequency
51	<b>▲●</b>
	Increases the shown frequency



## 6 Operating

### 6.1 Receiver

#### Switching on the receiver

- Turn on the power using the main switch.
  - ⇒ The display is activated. The device is operational. Now, you can make the desired settings.

#### **Selecting frequency**

- **1.** Press [SET].
  - $\Rightarrow$  The frequency display flashes.
- **2.** Use  $\blacktriangle/ \nabla$  to set the frequency.
- **3.** Press [SET] to confirm the selection.
  - ⇒ The display shows the set frequency. The setting is complete.

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# Synchronising transmitter and receiver

- **1.** Open the transmitter to expose the infra red sensor.
- **2.** ▶ Press ▲/[*IR*].
  - $\Rightarrow$  The display shows '-----' and the synchronisation starts.
- **3. •** Hold the infrared sensor of the transmitter near the infrared sensor of the receiver.
  - $\Rightarrow$  The settings of the receiver are transmitted to the transmitter.
- **4.** After successful synchronisation, the display shows '*P*-----'.

## Automatic search for a free channel and automatic synchronisation

- **1.** ▶ Press ▼/[SCAN].
  - $\Rightarrow$  The display shows 'SCAN' and flashes.
- **2.** Hold the infrared sensor of the corresponding transmitter near the infrared sensor of the receiver.
  - ⇒ The automatic synchronisation is carried out.
- **3.** If the system does not find a frequency and a free channel within five seconds, it automatically returns to the default state.

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# Locking or unlocking the keypad

- **1.** Press  $\blacktriangle$  /[*IR*] until the display shows 'LOCK'.
  - $\Rightarrow$  All keys except for the main switch are locked.
- **2.** To unlock the keypad, press  $\blacktriangle/[IR]$  until 'LOCK' is no longer visible.
  - ⇒ The keys have their original function again.

### 6.2 Handheld microphone

#### Turning the microphone on / off

- **1.** Hold the main switch pressed for several seconds to turn on the microphone.
- **2.** Hold the main switch pressed again for several seconds to turn off the microphone.



# Synchronising the receiver with the microphone

1.	Prepare the receiver for the synchronisation (see 🖏 'Synchronising transmitter and
	receiver' on page 38).

- **2.** Hold the infrared sensor of the microphone near the infrared sensor of the receiver.
  - $\Rightarrow$  The settings of the receiver are transmitted to the microphone and are displayed.

#### **Setting the radio signal** The key for operating the device is accessible if you unscrew the bottom housing section.

- **1.** Slide the switch on 'H' (high power) to use the microphone from a long distance. This mode reduces the battery runtime of the microphone.
- **2.** Slide the switch on  $\mathcal{L}'$  (low power) to use the microphone from a short distance.
- **3.** Hold the main switch pressed for several seconds to turn on the microphone and to synchronise the microphone with the receiver.

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### 6.3 Bodypack transmitter

# Turn the bodypack transmitter on / off

- **1.** Slide the main switch on [ON] to turn on the bodypack transmitter.
- 2. Slide the main switch on [OFF] to turn off the bodypack transmitter.

# Synchronising the bodypack transmitter with the receiver

- **1.** Prepare the receiver for the synchronisation (see  $\stackrel{\text{\tiny (Synchronising transmitter and receiver' on page 38).$
- **2.** Hold the infrared sensor of the microphone underneath the display near the infrared sensor of the receiver.
  - ⇒ The settings of the receiver are transmitted to the bodypack transmitter and are displayed.

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Setting the frequency manually	If you don't want to synchronise the transmitter with the receiver using the infrared sensor, you can also set the transmission frequency manually.
	<b>1.</b> ▶ Press ●.
	$\Rightarrow$ The frequency display flashes.
	<b>2.</b> Use $\blacktriangle/\blacksquare$ to set the frequency.
	<b>3.</b> $\blacktriangleright$ Press $\bullet$ to confirm the selection.
	$\Rightarrow$ The display shows the set frequency. The setting is complete.
Setting the radio signal	

- **1.** Slide the switch on H' (high power) to use the bodypack transmitter from a long distance. This mode reduces the battery runtime of the microphone.
- **2.** Slide the switch on  $\mathcal{L}'$  (low power) to use the bodypack transmitter from a short distance.
- **3.** Slide the main switch on [ON] to turn on the bodypack transmitter and to synchronise the bodypack transmitter with the receiver.



# Locking or unlocking the keypad

- **1.** Turn the bodypack transmitter off.
- 2. ► Hold ▲ pressed and slide the main switch on [ON] to turn on the bodypack transmitter.
  - ⇒ The display shows 'LOCK'. All keys except for the main switch are locked.
- **3.** To unlock the keypad, turn the bodypack transmitter off.

Hold ▲ pressed and slide the main switch on [ON] to turn on the bodypack transmitter.

⇒ 'LOCK' is no longer visible in the display. The keys have their original function again.



### 6.4 Table call stations transmitter

# Turn the table call stations transmitter on / off

- **1.** Hold the switch pressed for several seconds to turn on the table call stations transmitter.
- **2.** Hold the switch pressed again for several seconds to turn off the table call stations transmitter.
- **3.** Press the main switch briefly to mute the table call stations transmitter.

#### Synchronising the table call stations transmitter with the receiver

- **1.** Prepare the receiver for the synchronisation (see  $\stackrel{\text{\tiny{(5)}}}{\Rightarrow}$  'Synchronising transmitter and receiver' on page 38).
- **2.** Hold the infrared sensor of the table call stations transmitter near the infrared sensor of the receiver.
  - ⇒ The settings of the receiver are transmitted to the table call stations transmitter and are displayed.



Setting the frequency manually	If you don't want to synchronise the table call stations transmitter with the receiver using the infrared sensor, you can also set the transmission frequency manually.
	The keys for operating the device are accessible if you open the battery compartment on the bottom side of the table call stations transmitter.
	Use $▲ ● / ● ▼$ to set the frequency.
	⇒ The display shows the set frequency. The setting is complete.
Setting the radio signal	The key for operating the device is accessible if you open the battery compartment on the bottom side of the table call stations transmitter.
	<b>1.</b> Slide the switch on 'H' (high power) to use the transmitter from a long distance. This mode reduces the battery runtime of the microphone.
	<b>2.</b> Slide the switch on 'L' (low power) to use the transmitter from a short distance.
	<b>3.</b> Hold the main switch pressed for several seconds to turn on the table call stations transmitter and to synchronise the transmitter with the receiver.



# Locking or unlocking the keypad

- **1.** Turn the table call stations transmitter off.
- 2. ► Hold ▲● pressed and turn the table call stations transmitter on.
  - ⇒ The display shows 'LOCK'. All keys except for the main switch are locked.
- **3.** To unlock the keypad, turn the table call stations transmitter off.
  - Hold ▲● pressed and turn on the table call stations transmitter.
  - ⇒ 'LOCK' is no longer visible in the display. The keys have their original function again.

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## 7 Technical specifications

## 7.1 Receiver

Input connections	Power supply	Socket for connecting the supplied AC power supply
Output connections	Balanced overall audio signal output for direct connection to a mixer, a power amp or recording device	1 × XLR panel plug, balanced
	Balanced audio signal output for direct connection to a mixer, a power amp or recording device	4 × XLR panel plug, balanced
	Balanced overall audio signal output for direct connection to a mixer, a power amp or recording device	$1 \times 1/4$ " jack socket (unbalanced)
Frequency band	823 MHz865 MHz	
Sensitivity	–95 dBm	



Frequency range	40 Hz18 kHz	
Total harmonic distortion (THD)	< 0.5 % @ 1 kHz	
Signal-to-noise ratio	> 110 dB	
Power supply	External power adapter, 100 - 240 V $\sim$ 50/60 Hz	
Operating voltage	12 V / 600 mA, centre positive	
Dimensions (W $\times$ H $\times$ D), without antenna	412 mm × 44 mm × 215 mm	
Weight	1.95 kg	
Ambient conditions	Temperature range	0 °C40 °C
	Relative humidity	50 %, non-condensing



## 7.2 Handheld microphone

Frequency band	823 MHz865 MHz		
Modulation type	Frequency modulation (FM)		
Maximum transmission power	30 mW (switchable)		
Frequency range	40 Hz18 kHz		
THD	< 0.5 % @ 1 kHz		
Signal-to-noise ratio	> 102 dB (A)		
Battery / rechargeable battery	Battery type	2 AA cells (LR6, 1.5 V) or corresponding rechargeable batteries	
	Operating time	8 h or15 h (depending on the transmission power)	
Dimensions (L $\times$ D)	245 mm × 51 mm		
Weight	350 g		



Ambient conditions	Temperature range	0 °C40 °C
	Relative humidity	50 %, non-condensing



## 7.3 Bodypack transmitter

Frequency band	823 MHz865 MHz	
Modulation type	Frequency modulation (FM)	
Maximum transmission power	30 mW (switchable)	
Frequency range	40 Hz18 kHz	
THD	< 0.5 % @ 1 kHz	
Signal-to-noise ratio	> 102 dB (A)	
Battery / rechargeable battery	Battery type	2 AA cells (LR6, 1.5 V) or corresponding rechargeable batteries
	Operating time	8 h or15 h (depending on the transmission power)
Dimensions (W $\times$ H $\times$ D), without antenna	$62 \text{ mm} \times 95 \text{ mm} \times 34 \text{ mm}$	
Weight	100 g	



Ambient conditions	Temperature range	0 °C40 °C
	Relative humidity	50 %, non-condensing



## 7.4 Table call stations transmitter

Frequency band	823 MHz865 MHz		
Modulation type	Frequency modulation (FM)		
Maximum transmission power	30 mW (switchable)		
Frequency range	40 Hz18 kHz		
THD	< 0.5 %		
Signal-to-noise ratio	> 102 dB (A)		
Battery / rechargeable battery	Battery type	2 AA cells (LR6, 1.5 V) or corresponding rechargeable batteries	
	Operating time	8 h or15 h (depending on the transmission power)	
Dimensions (W $\times$ H $\times$ D), without microphone	175 mm × 115 mm × 50 mm		
Weight	650 g		



Ambient conditions	Temperature range	0 °C40 °C
	Relative humidity	50 %, non-condensing

### 7.5 Overview scope of delivery

ltem no.	System	Scope of delivery
504466	Sirus Quad R + 4H 823 Bundle	$1 \times$ receiver, $4 \times$ handheld microphone
504471	Sirus Quad R + 4B 823 Bundle	$1 \times$ receiver, $4 \times$ bodypack transmitter
504473	Sirus Quad R + 2H + 2B 823 Bundle	$1 \times$ receiver, $2 \times$ handheld microphone, $2 \times$ bodypack transmitter
504475	Sirus Quad R + 4C 823 Bundle	$1 \times$ receiver, $4 \times$ table call stations transmitter



### **Further information**

Transmission technology	Analog
Channels	4
Frequency band	UHF
Diversity	Yes
Frequency search	Yes
Detachable antennas	Yes
Receiver type	Stationary
Capsule type	Dynamic
Replacement capsule	No
Charging system	No
Built-in battery	No



Antennas converter	No
Splitter	No



## 8 Plug and connection assignment

Introduction	This chapter will help you select the right cables and plugs to connect your valuable equip- ment 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 trans- mission	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 trans- mitted 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 conduc- tors 'Ground' and 'Signal', in a balanced transmission a second core is added. This also transfers the signal, but phase-shifted by 180°.

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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.

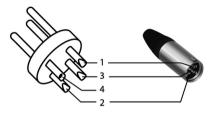
#### 1/4" TS phone plug (mono, unbalanced)



1	Signal
2	Ground, shielding



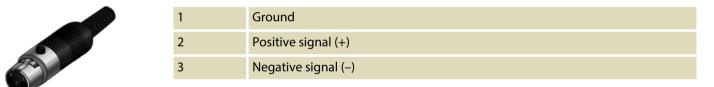
#### XLR plug (balanced)



2 3 4

Ground, shielding
Signal (in phase, +)
Signal (out of phase, –)
Shielding on plug housing (option)

#### Mini XLR





## 9 Troubleshooting

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

Quad R 823 Quad H 823 Quad B 823 Quad C 823

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Symptom	Remedy
No sound	1. Check the power supply of transmitter and receiver.
	2. Make sure that transmitter and receiver are operating in the same frequency range. The frequency range can be found on the devices.
	3. Are transmitter and receiver set to the same channel?
	4. Test the connection between the receiver and the connected audio device (amplifier, mixer). Is the connected audio device turned on and does the signal level at the output of the receiver match the input requirements of the audio device?
	5. See if the audio transmission works when you move the transmitter closer to the receiver.
	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.

UHF wireless system

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Symptom	Remedy
	2. If you use more than one wireless system at the same time, check the used frequencies and channels.
	3. Interference can also be caused by other radio or in-ear systems.

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



## 10 Protecting the environment

Disposal of the packaging material



#### **Disposal of batteries**



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.

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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