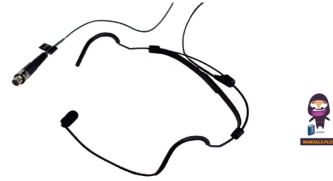


contacta RF-HM Radio Frequency Systems



# contacta RF-HM Radio Frequency Systems User Guide

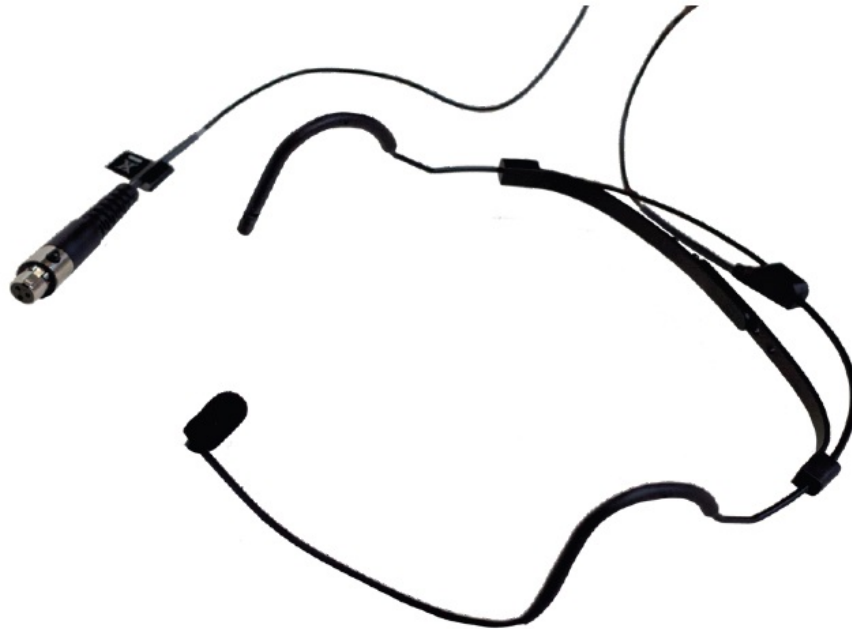
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contacta RF-HM Radio Frequency Systems



## Product Information

### Specifications

- **Product Name:** Radio Frequency Systems
- **Transmission Type:** FM Radio Frequency
- **Intended Use:** Wireless transmission of speech or music
- **Range:** Up to 100 meters in buildings
- **Channels:** Up to 42 channels simultaneously

### Product Usage Instructions

#### Transmitters

The transmitters are connected to an audio source like a microphone or PA system and send signals to compatible RF receivers.

#### Radio Frequency Rack Transmitter (RF-TXRM-865/RF-TXRM-915)

The Rack Transmitter is designed for wireless and amplified assistive listening in large venues. It operates on either 865MHz or 915MHz frequencies.

**Applications:** Large venues, assistive listening systems

**What's in the Box:** Transmitter unit, power adapter, user manual

#### Physical Data:

- **Dimensions:** Mixed
- **Weight:** 1.25kg (2.75lbs)
- **Finish:** Mixed

#### Portable Radio Frequency Transmitter (RF-TX1-865/RF-TX1-915)

The compact Portable Transmitter sends signals of speech or music to compatible portable receivers across

selectable channels. Available in 865MHz or 915MHz versions.

## **Receivers**

The receivers can be used with Inductive Neck Loops for direct sound reception in T Coil enabled hearing instruments.

## **FAQ**

- **Q: What is the wireless coverage range of the transmitters?**

**A:** The transmitters have an approximate wireless coverage of 100 meters in line of sight at high power.

- **Q: How many channels are accessible on the 865MHz version?**

**A:** The 865MHz version allows access to 42 channels, while the 915MHz version has 25 available channels.

## **Radio Frequency Systems**

High-quality, portable, and fixed wireless transmission of speech or music over FM radio frequency. Delivering superb intelligibility and crystal-clear amplified sounds.

### **Note:**

Contacta has a policy of continuous product development. Therefore, small specification changes may not be reflected in this catalog. Images, labels, packaging, accessories, and product colors are subject to change without notice.

## **Introduction**

Radiofrequency systems provide clear sound for assistive listening in small or large public venues and tour guide applications.

- Contacta RF assistive listening system is ideal for when sound sources need to be wirelessly transmitted across large areas, sending signals through walls, ceilings or other obstacles regardless of building characteristics.
- Transmitters are connected to an audio source such as a microphone or PA system and send signals to compatible RF receivers. Our system can utilize up to 42 channels simultaneously with a range of up to 100 meters in buildings.
- Receivers can be used with Inductive Neck Loops, allowing users to receive the sound directly in their T-Coil-enabled hearing instrument.

## **Transmitters**



## Radio Frequency Rack Transmitter

RF-TXRM-865/RF-TXRM-915

- The Radio Frequency Rack Transmitter is available in either 865MHz or 915MHz (USA/AU) frequencies. It uses internationally approved FM frequencies to transfer clear sound to portable receivers.
- It is designed to provide wireless and amplified assistive listening in large venues from a sound source to compatible RF receivers using FM radio waves.

### Applications:

Designed to deliver wireless FM assistive listening in large public venues and for interpretation.

- Lecture Halls
- Auditoriums
- Meeting Rooms
- Conferences
- Places of Worship

### What's in the Box:

- Radio Frequency Stationary Transmitter
- Power Supply Adaptor
- 19" Rack Mount Bracket
- Earth (Ground) Cable for Optional Use
- Fixing Screws
- TNC Rod Antenna

**Compatible Accessories**

- Portable Radio Frequency Receiver
- Remote Antenna Kit

**Physical Data:**

Dimensions	Height – 51mm (2") Width – 215mm (8.46") Depth – 210mm (8.26")
Weight	1.25kg (2.75lbs)
Finish	Mixed

**Product Code:**

Radio Frequency Rack Transmitter	RF-TXRM-865/915
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**Technical Data:**

Carrier Frequency Range	865MHz (UK/EU) / 915MHz (USA/AU) (country dependent)
RF Output Power	Hi: 18 dBm Mid: 13 dBm (country dependant) Lo: 10dBm
Antenna	TNC connector
Headphone Output	200mW @ 32 ohm
Inputs	Mic in: 3.5mm & 6.3mm Aux in: RCA Loop in: 6.3mm Incoming Bluetooth™ streaming
Mic/Line Inputs	Mic Input: -30dBv Line Input Limits: 10dBv Unbalanced/Balanced connections available
XLR Connector	Level= \-30dBv Balanced Connection
Mic-In Connectors	Mono/Stereo Aux out-Mono Mic Level-30dBv
Connectors	AUX IN = Audio Source MIC IN = Dynamic Mics PH PWR = Electret Mics
Outputs	Earmic out: 3.5mm, stereo Aux out RCA Loop out:6.3mm
Wireless Coverage	Approx. 100 meters (line of sight @ Hi-power)
Power Requirements	100 ~ 240 V AC / 12 V DC, 1A switching power
Frequency Response	70Hz – 12kHz
Channel	42 channels are accessible on the 865MHz version. 25 channels are available on the 915MHz version
Display	Backlit OLED
Software	Smart programming software for fast set-up of multiple receivers

#### Front/Rear Panels:



## Portable Radio Frequency Transmitter

RF-TX1-865 / RF-TX1-915



- The compact Portable Radio Frequency Transmitter sends signals of speech or music to compatible portable receivers across selectable channels. Two versions respectively work on 865MHz or 915MHz (USA/AU) frequencies.
- The transmission range is up to 100 meters in an open field, and there is no limit to the number of receivers that can be used per group. The transmitter utilizes digital audio transmission technology. A micro-USB power supply provides fast and simple charging and the unit can also be charged using the drop-in RF-DC24 charging case.

### Applications:

Ideal for situations where listeners require clear sound for tour guidance or private group interactions.

- Museums
- Historical Sites
- Exhibitions/Events/Conferences
- Outdoor Tours

### What's in the Box:

- Portable Radio Frequency Transmitter

- Lanyard
- Micro-USB Power Cable
- Lapel Microphone
- 2 x AA 1.2V 2100mAh rechargeable (NiMH) batteries

### Compatible Accessories

- Portable Radio Frequency Receiver
- 24 Bay Charging Case
- Ear-Worn Microphone
- Discreet Microphone

### Technical Data:

Emission Modulation	4GFSK
Latency	<4 ms@HQ
Mic Capsule	Condenser
Antenna	Flexible antenna
RF Output	High: <10 mW for 863~865, 915~928MHz Low: 2~6mW
Mic Input	3-pole Mini XLR
Audio input	3.5mm
Batteries	2 x AA 1.2V 2100mA rechargeable (NiMH)
Battery Life	>8 hours
Operation Range	>50 meters
Frequency Response	70Hz – 12kHz
Channel	42 channels are accessible on the 865MHz version. 25 channels are available on the 915MHz version
Display	White Backlit LCM
Channel-lock	Auto-Lock for the selected channel
Software	Smart programming software for fast setup of multiple receivers

### Physical Data:



Dimensions	Height – 88mm (3.46”) Width – 64mm (2.51”) Depth – 29mm (1.14”)
Weight	113.5g (0.25lbs)
Finish	Mixed

**Product Code:**

Portable Radio Frequency Transmitter	RF-TX1-865/915
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**Portable Radio Frequency Handheld Transmitter**

RF-TXHH-865/ RF-TXHH-915



- This hand-held microphone has an integrated multi-frequency transmitter and UHF technology. It is for use with Portable Radio Frequency Receivers, with two versions available that respectively work on 865MHz or 915MHz (USA/AU) frequencies.
- This microphone transmits sound wirelessly and directly to groups of receivers programmed on the same channel, making it ideal for use in lectures, events, and educational venues.

**Applications:**

Ideal for use in education venues or when a speaker addresses a group of people directly.

- Museums
- Educational Venues
- Community Centres
- Lecture Halls
- Entertainment Venues

**What's in the Box:**

- Portable Radio Frequency Handheld Transmitter
- 2 x AA Alkaline batteries

**Compatible Accessories:**

- Portable Radio Frequency Receiver
- Micro-USB Power Cable [USB-M100]

**Technical Data:**

Emission Modulation	4GFSK
Latency	<4 ms@HQ
Mic Capsule	Dynamic
Antenna	Flexible antenna
RF Output	High: <10 mW Low: <1 mW
Battery	2 x AA alkaline / rechargeable NiMH battery (rechargeable batteries not supplied, alkaline included)
Battery Life	>8 hours
Operation Range	>50 meters
Connectors	Micro-USB charge port
Channel	42 channels are accessible on the 865MHz version. 25 channels are available on the 915MHz version

**Physical Data:**

Dimensions	Diameter – 49mm (1.9”) Height – 258mm (10.1”)
Weight	270.5g (0.59lbs)
Finish	Grey

**Product Code:**

Portable RF Handheld Transmitter	RF-TXHH-865/915
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**Receivers****Portable Radio Frequency Receiver**

RF-RX1-865 / RF-RX1-915



- A lightweight Portable Receiver is compatible with all Contacta RF-865/915 transmitters. The wide frequency bandwidth of this system makes it ideal for the transmission of both speech and music, delivering crystal-clear intelligible sound.
- The system offers fast programming of up to 42 selectable channels and there is no limit to the number of receivers that can be used in each group. The receiver can be used for either assistive listening or tour guide applications.
- Recharging the RF-RX1 is quick and easy using the RF-DC24 drop-in charging case.
- We offer two versions that respectively work on 865MHz (UK/EU) or 915MHz (US/AUS) frequencies.

#### **Applications:**

Ideal for assistive listening, tour guidance, or interpretation.

- Museums
- Historical Sites
- Exhibitions/Events/Conferences
- Outdoor Tours
- Assistive Listening

#### **What's in the Box:**

- Portable Radio Frequency Receiver
- Lanyard
- Micro-USB Power Cable
- Earphones
- 2 x AA 1.2V 2100mAh Rechargeable Batteries

#### **Compatible Accessories**

- Portable Radio Frequency Transmitter
- Stationary Radio Frequency Transmitter
- Portable Radio Frequency Handheld Transmitter
- 24 Bay Charging Case

- Inductive Neck Loop
- Headphones

#### Technical Data:

Emission Modulation	4GFSK
Antenna	Flexible antenna
Headphone Output	3.5mm
Line Output	3.5mm
Batteries	2 x AA 1.2V 2100mAh rechargeable (NiMH)
Battery Life	>10 hours
Frequency Response	70 Hz – 12kHz
Channel	42 channels are accessible on the 865MHz version. 25 channels are available on the 915MHz version
Display	White Backlit LCM
Channel Lock	Auto-Lock for the selected channel
Software	Smart programming software for fast setup of multiple receivers

#### Physical Data:

Dimensions	Height – 88mm (3.46”) Width – 64mm (2.51”) Depth – 29mm (1.14”)
Weight	109.5g (0.24lbs)
Finish	Mixed

#### Product Code:

Portable Radio Frequency Receiver	RF-RX1-865 / 915
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#### Microphones



## Ear-worn microphone for use with RF-TX1

### RF-TX1-EM

This ear-worn microphone is compatible with the Portable Radio Frequency Transmitter [RF-TX1-865/915]. It comes with a 1.2m cable and mini-XLR connector. Enables hands-free communication with clear sound using a high-quality Condenser microphone capsule.

### Applications:

Ideal for tour guidance or private group interactions.

- Museums
- Historical Sites
- Exhibitions/Events/Conferences
- Outdoor Tours

### Physical Data:

Dimensions	Height – 60mm (2.3") Width – 32mm (1.25") Depth – 160mm (6.2") Lead Length – 1.2m (47.2")
Weight	10.5g (0.02lbs)
Finish	Beige

### Technical Data:

Connector	Mini-XLR
Power Supply	1 ~ 10V / DC phantom voltage
Transducer Type	Condenser capsule
Polar Pattern	Unidirectional
Sensitivity	-47 ± 3 dB @f = 1 kHz, S.P.L = 1Pa, 0 dB=1V / 1pa -67 ± 3 (0dB = 1 V/microbar)
Frequency Response	70 – 16kHz

**Product Code:**

Ear-Worn Microphone	RF-TX1-EM
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**Lapel Microphone for use with RF-TX1**



**RF-TX1-LM**

This lapel microphone is compatible with the Portable Radio Frequency Transmitter. It includes a tie clip and a 1m cable with a mini-XLR connector. It enables hands-free communication with clear sound using a high-quality Condenser microphone capsule.

**Applications:**

Ideal for tour guidance or private group interactions.

- Museums
- Historical Sites
- Exhibitions/Events/Conferences
- Outdoor Tours

**Physical Data:**

Dimensions	<p>Mic:</p> <p>Height – 11.4mm (0.44") Width – 11.4mm (0.44")</p> <p>Depth – 24.7mm (0.97") without clip</p> <p>Clip:</p> <p>Height – 6.5mm (0.25")</p> <p>Width – 44.2mm (1.74") [40.5mm (1.59") without clip]</p> <p>Lead Length – 1000mm (39.3")</p>
Weight	24g (0.05lbs) with clip
Finish	Black

#### Technical Data:

Connector	Mini-XLR
Power Supply	1 ~ 5V / DC phantom voltage
Transducer Type	Condenser capsule
Polar Pattern	Unidirectional
Sensitivity	-50 ± 3 dB @f =1 kHz, S.P.L=1 Pa, 0 dB=1V / Pa
Frequency Response	180 Hz – 17kHz

#### Product Code:

Lapel Microphone	RF-TX1-LM
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#### Discreet Headset Microphone



### RF-HM

This microphone is compatible with the RF-TX1 Portable Radio Frequency Transmitter. Its unique design offers improved comfort for long-term use. The two ear hooks and its rear-head frame make it comfortable and lightweight, assisting in effortless hands-free communication, using a high-quality Condensor microphone Capsule.

#### Physical Data:

Dimensions	Capsule Housing Diameter – 5mm (0.19") Capsule Housing Length – 6mm (0.23") Boom length – 110mm (4.33") Lead Length – 1300mm (51.18") Lead Diameter – 1.5mm (0.05")
Weight	30 ± 5g (0.06lbs ± 0.01lbs)
Finish	Black

#### Technical Data:

Connector	Mini-XLR
Power Supply	1 ~ 10V / DC
Polar pattern	Unidirectional
Impedance	1,200 W ± 30% (at 1k Hz)
Sensitivity	-70 ± 3 dB (0 dB=1V / microbar)
Frequency Response	70 ~ 16k Hz

#### Product Code:

Discreet Headset Microphone	RF-HM
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Listening Options



Headphones

RF-HP1

Overhead headphones compatible with the RF-RX1 Portable Radio Frequency Receiver. It has a standard 3.5mm audio jack and a 1m lead.

Physical Data:

Dimensions	Height – 175mm (6.80”) Width – 150mm (5.09”) Depth – 15mm (0.59”) Lead Length – 2 metres (78.7”)
Weight	48g (0.10lbs)
Finish	Black

Technical Data:

Impedance	32W
Frequency Response	20-20000Hz
Sensitivity	104dB
Connection	3.5mm audio plug

Product Code:

In-Ear Headphones	RF-HP1
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Inductive Neck Loop



### RF-NL1

The Inductive Neck Loop is a compact listening device compatible with our RF-RX1 Portable Radio Frequency Receiver. When connected to the receiver, the RF-NL1 will produce a magnetic field that lets users with Telecoil-enabled hearing instruments receive the sound directly in their hearing aids.

#### Physical Data:

Dimensions	Loop Cable Length – 800mm (31.5”) Loop Cable Diameter – 4mm (0.15”)
	Cord Cable Length – 450mm (17.7”) Cord Cable Diameter – 3mm (0.12”)
Weight	57g (0.12lbs)
Finish	Black

#### Technical Data:

Connector	3.5mm plug (stereo)
Input Power	250mW

#### Product Code:

Inductive Neck Loop	RF-NL1
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#### Charging Equipment



## **24-Bay Charging Case for Portable Receiver/Transmitter**

### **RF-DC24**

- This charging case is for use with the Portable RF Transmitter and Portable RF Receiver and can hold up to 24 devices in an upright position. The case is portable and charging is a simple drop-in connection.
- The built-in digital panel enables fast and easy programming of multiple devices, including data-copy and channel-sync for compatible transmitters and receivers. This allows fast setup from a master device.

### **Applications:**

Ideal for situations where listeners require clear sound, tour guidance, or interpretation.

- Museums
- Historical Sites
- Exhibitions/Events/Conferences
- Outdoor Tours
- Assistive Listening

### **What's in the Box:**

- 24-Bay Charging Case for RF Receiver/Transmitter
- Power Supply Unit
- USB Drive with PC Programming Software

### **Technical Data:**

Charging Pockets	24
Charging Current	350 ± 50 mA, per pocket
Charging Time	4 ~ 6 hours @ 2100 mAh NiMH rechargeable batteries
Charging Algorithm	PWM control, -V, and TIMER power-off detector
Power Requirements	AC100 ~ 240 V switching power adapter (50/60Hz), DC12 V, 5A
Ambient Temperature	0C ~ 40C (32F-104F)

#### Physical Data:

Dimensions	Height – 437mm (17.2”) Width – 266mm (10.4”) Depth – 170mm (6.6”)
Weight	4.69kg (10.3lbs)
Finish	Mixed (Silver/Black)
Construction	High-grade metallic protective case with inner padding

#### Product Code:

24 Bay Charging Case	RF-DC-24
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### Accessories and Spare Parts

#### Accessories



#### Remote Antenna Kit for Stationary Transmitter

##### RF-TXRA

- The Remote Antenna Kit is for use with the Radio Frequency Stationary Transmitter RF-TXRM.
- This kit allows secured repositioning of the TNC antenna at the front of an Audio Rack, for improved signal strength.

**Physical Data:**

Dimensions	Long Ear  Length – 241 mm (9.5")  Height – 44 mm (1.7")  Width – 40 mm (1.6")   Short Ear  Length – 26 mm (1.02")  Height – 44 mm (1.7")  Width – 40 mm (1.6")  Steel Plate Depth – 1.6 mm (0.06") Lead Length – 1500 mm (59")
Weight	295g (0.65lbs)

**Technical Data:**

Material of short/long ear	Steel plate with coating
Connector of lead	TNC (male), TNC (female)

**Product Code:**

Remote Antenna Kit	RF-TXRA
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**In-Ear Headphones****RF-IEH**

The In-Ear Headphones are compatible with the Portable Radio Frequency Receiver. It has a standard 3.5mm audio jack and a 1m lead.

**Physical Data:**

Dimensions	Cable  Length – 1050mm (41.3”) Diameter – 1mm (0.04”)
	Earbuds  Height – 30mm (1.18”) Depth – 15mm (0.59”) Width – 18mm (0.71”)
Weight	10.5g (0.02lbs)
Finish	Black

#### Technical Data:

Jack	3.5mm (3 pins)
Power Rating	2 mW
Impedance	32W
Maximum Input Power	8 mW
Output S.P.L.	100 ± 5dB SPL (0db=20 µPa) at 1KHz with Vrms input=178 mV
Frequency Response	10~10,000Hz

#### Product Code:

In-Ear Headphones	RF-IEH
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#### Rechargeable Battery



#### RF-BATT-AA

1.2V 2100mAh AA rechargeable (NiMH) battery for use with the Portable RF Transmitter and Portable RF Receiver.

#### Physical Data:

Dimensions	Length – 50mm (1.9") Depth –13mm (0.5")
Weight	27.6g (0.06lbs)

#### Technical Data:

Chemical system	NiMH
Voltage	1.2 V
Capacity	2100mAh

#### Product Code:

Rechargeable Battery	RF-BATT-AA
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#### Additional Spare Parts:

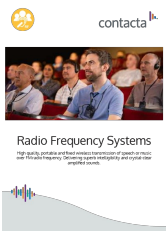
Single Rechargeable Battery 2100mAh for RF-TX1/RX1	RF-BATT-AA
Belt Clip for RF-TX1/RX1	RF-CLIP
Lanyard for RF-TX1/RX1	RF-LAN
Micro USB Cable for RF-TX1/RX1/TXHH	USB-M100
2-Port USB Plug	PLUG-USB-UK-2
4-Port USB Plug	PLUG-USB-UK-4

#### Contact Information

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#### Documents / Resources

	<p><a href="#">contacta RF-HM Radio Frequency Systems</a> [pdf] User Guide</p> <p>RF-HM Radio Frequency Systems, Radio Frequency Systems, Frequency Systems, Systems</p>
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## References

- [Innovative assistive technology solutions - Contacta](#)
- [User Manual](#)

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