

INFINITY

FULL DUPLEX
TOUR GUIDE SYSTEM



THE GROUP TOUR SYSTEM FOR
INTERACTIVE FACTORY AND FACILITY TOURS

USER MANUAL



Thank you very much for purchasing the Comhead INFINITY guided tour radio system. Please note the following information. We hope you enjoy using the system and wish you even more successful guided tours in the future! This manual is intended for users without specialist knowledge. Please read the manual thoroughly before use and keep it for future reference.

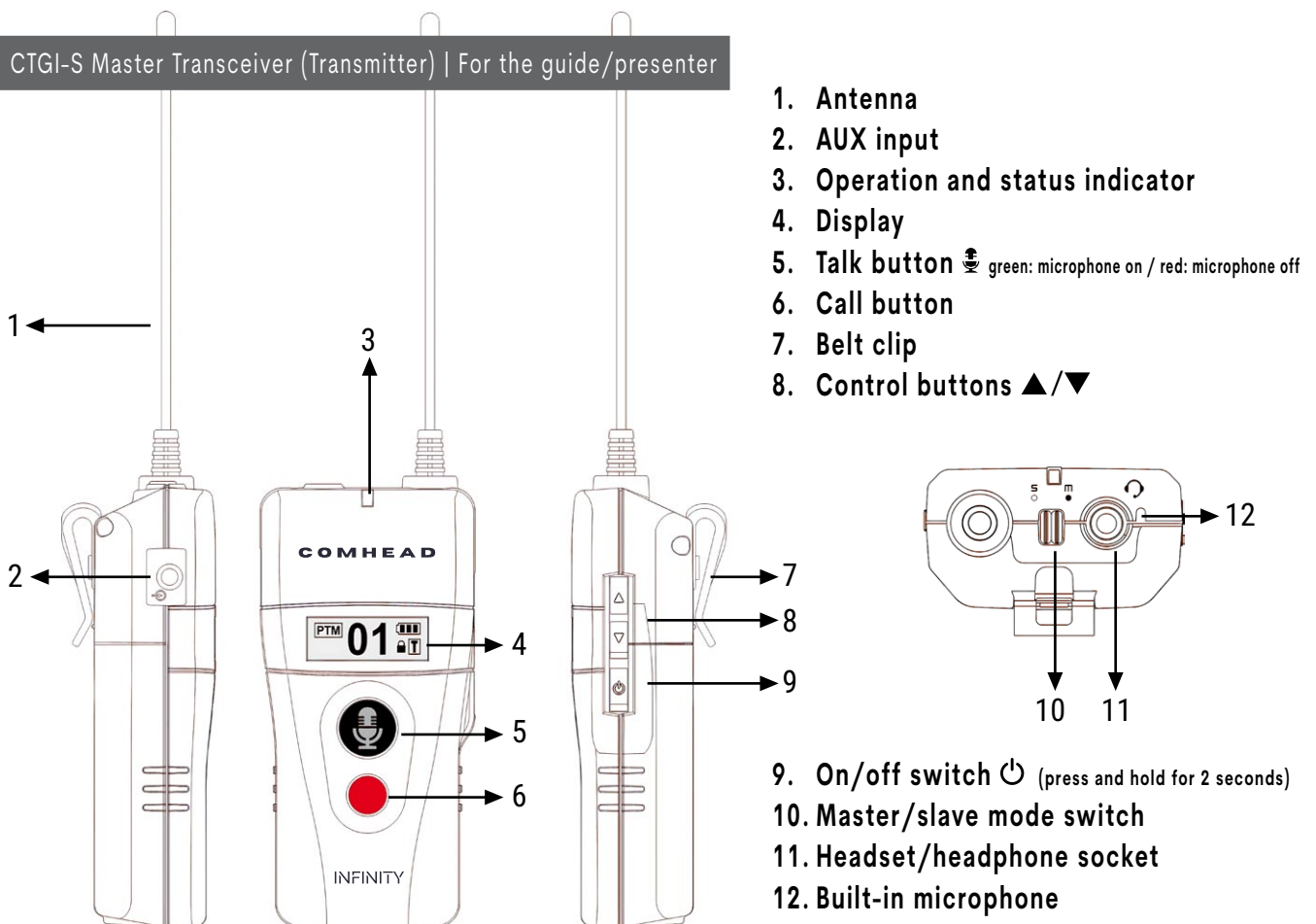
Safety instructions

The transmitter/receiver complies with all relevant EU directives and therefore bears the **CE** mark.

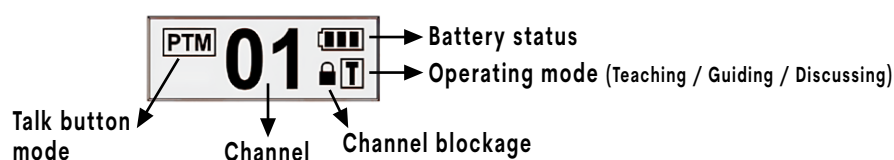
- Use only a dry, soft cloth for cleaning; never use water or chemicals.
- If the transmitter/receiver is used for purposes other than those intended, operated incorrectly or repaired improperly, no liability can be accepted for any resulting damage to property or personal injury, and no warranty can be provided for the transmitter/receiver.
- If the transmitter/receiver is to be taken out of service permanently, dispose of it in accordance with local regulations.

Overview

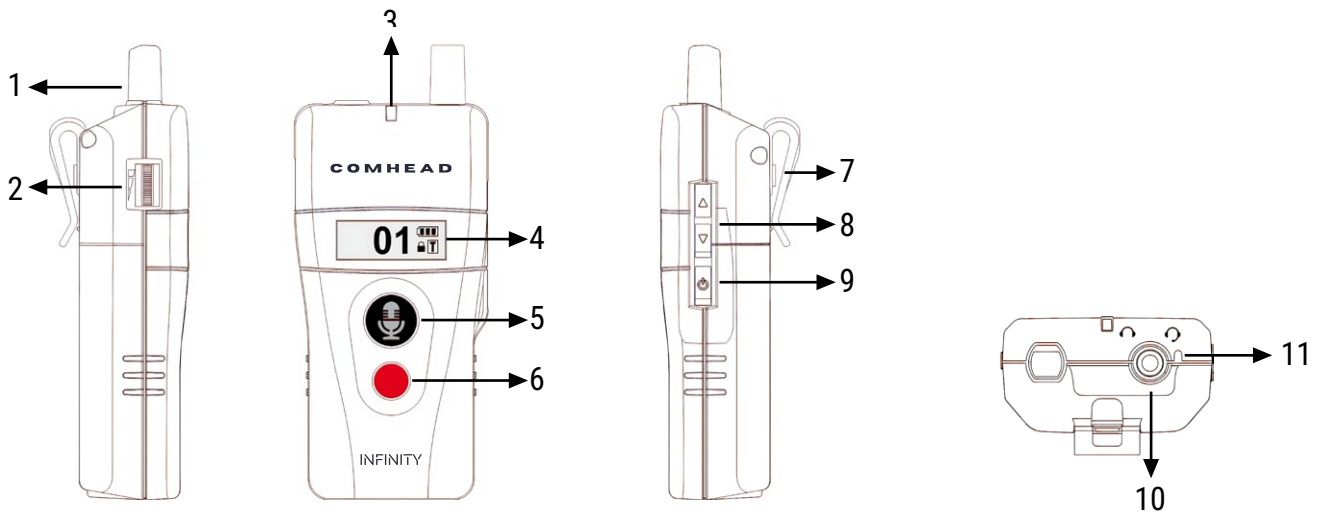
CTGI-S Master Transceiver (Transmitter) | For the guide/presenter



Master transceiver display

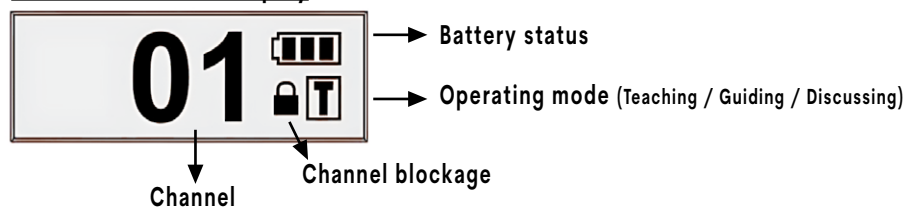


CTGI-E Guest Transceiver (Receiver) | For visitors/guests/audience members/pupils



- | | |
|--|--|
| 1. Antenna | 7. Belt clip |
| 2. Volume control | 8. Adjustment buttons ▲/▼ |
| 3. Operating and status indicator | 9. On/off switch  |
| 4. OLED display (see below) | (press and hold for 2 seconds) |
| 5. Talk button  (press and hold to speak) | 10. Headset/headphone socket |
| 6. Reset button for warning and call signals | 11. Built-in microphone |

Guest transceiver display



Getting started

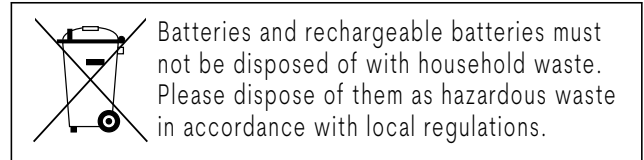
Power supply

Two 1.2 V AA-size NiMH rechargeable batteries are required to power the device. If the status indicator (3) lights up or flashes red, the batteries are flat and should be replaced.

- Only use rechargeable batteries of the same type and always replace them as a pair.
- If the device is not going to be used for a prolonged period, remove the batteries as a precaution. This ensures the device remains undamaged should the batteries leak.

1. To open the battery compartment, slide the cover on the back downwards.
2. Insert the batteries with the positive and negative terminals as marked inside the compartment.
3. Close the battery compartment again with the cover.

- The CTGI-2DC, CTGI-5DC, CTGI-5CC, CTGI-25CC and CTGI-50DC chargers are ideal for charging the rechargeable batteries. The batteries can remain in the device; simply plug the device into a charging dock. Power is supplied via the contacts on the underside of the device. Two 1.5 V AA batteries may also be used instead of rechargeable batteries. However, in this case, the devices must **not** be charged.



Select operating mode

There are three operating modes to choose from.

Guiding: The group leader wears the transmitter and can speak freely to the participants, each of whom wears a receiver. One participant at a time from the listening group can also speak, for example to ask a question. To do this, the talk button  (5) on the receiver must be pressed and held. Other participants in the listening group can speak if no other participant is holding down the talk button.

Teaching: In addition to the group leader, either an assistant with a transmitter can speak freely to everyone (factory setting) or a member of the group can take the floor, for example to ask a question.

Discussing: A group leader and an assistant, each with a transmitter, can speak freely; everyone else (with a receiver) can only listen.

The operating modes are selected as described here:

1. All devices must be switched off: Press button  (9) until 'OFF' appears on the display.
2. On the transmitter, press and hold buttons  (8) and  simultaneously until it switches on. The display shows 'Mode' and the selected operating mode. Use the buttons / to select the mode.
3. Confirm your selection with the button . The selection mode ends and the display shows the first letter (Guiding, Teaching, Discussing) of the operating mode in the bottom right-hand corner.

The receivers automatically switch to this operating mode as soon as they are set to the same transmission channel as the transmitter.

Setting the transmission channel

As long as symbol  (channel lock) is shown on the display, channel selection is locked. To unlock, press and hold buttons  and  (8) together until the  disappears. Select the channel immediately using buttons /. The channel lock will re-engage 1 second after selection.

Automatic transmission of the transmitter channel to all receivers

1. Switch off the transmitter and set the 'S/M' switch (10) to the 'M' position.
2. Switch the transmitter back on by holding down the talk button  (5) and the button  (9) simultaneously. The channel number flashes on the display.
3. Use buttons / to select the transmit channel and press button  to confirm your selection, or wait 5 seconds. The status indicator (3) will now flash rapidly and the talk button  will light up green; transmission of the transmit channel to the receivers is now active.
4. All receivers must be switched off. Once switched on, they are automatically set to the transmitter's operating mode and transmission channel.
5. To end transmission mode on the transmitter: either switch to normal operation using the talk button , or switch off the transmitter using button .

Forming a group with a transmitter and receivers

The following additional functions are available when a group is formed comprising the transmitter and all receivers.

1. Checking attendance: At the touch of a button, the group leader can use the switched-on receivers to check whether all members are present.
2. Call signal: The group leader can send a signal to everyone at the touch of a button, e.g. to gather the group.
3. If a member leaves the reception range, a warning signal sounds for them.

To form a group:

1. Switch off the transmitter and all receivers.
2. Set the 'S/M' switch (10) on the transmitter to the 'M' position.
3. Switch the transmitter back on by pressing and holding the red call button (6) and button  (9) simultaneously. A chain symbol appears on the left-hand side of the display and the channel number flashes on the right-hand side.
4. Use the buttons / (8) to select the transmission channel and press button  to confirm your selection, or wait 5 seconds. The status indicator (3) will now flash rapidly; the group formation function is activated.
5. Switch on all receivers belonging to the group.
6. The transmitter's display shows the number of receivers that are switched on. If the number is correct, exit group setting mode on the transmitter: either switch to normal operation using the red call button (6) or switch off the transmitter using the  button.

Connecting the headset / headphones, repositioning the devices

1. Connect the headset to the socket (11) on the transmitter and position the microphone so that it is close to your mouth.
2. Connect the headset or headphones to the socket (10) on the receiver and put them on.
3. To wear the transmitter/receiver around your neck, the supplied neck strap can be attached to the clip on the back. Alternatively, the transmitter/receiver can be attached directly to your belt or trouser waistband using the clip.

Operation

1. To switch on the devices, press and hold button  (9) until the display lights up; to switch them off, press and hold button  until the display shows 'OFF'. The status LED (3) on the transmitter flashes continuously. On the receiver, it only flashes if the transmission channel does not match that of the transmitter or if the transmitter is switched off. If the LED lights up or flashes red, the batteries are flat and should be replaced.
2. The transmitter is set at the factory so that, once switched on, the talk button  (5) lights up green and 'PTB' (talk button mode) is shown on the left-hand side of the display. You can now speak. To pause speaking, switch off the microphone using the talk button ; the button will then light up red. To speak again, press the talk button  once more so that it lights up green again. However, the transmitter can also be set so that you must hold down the  button to speak, or so that the microphone is switched off whilst the  button is held down.
3. On the receiver, adjust the volume for the headphones using the dial (2) on the left-hand side.
4. On the transmitter, adjust the volume for the headset using the buttons / (8).

Notes on the 'Guiding' operating mode

1. The transmitter and all receivers must be set to 'Guiding' mode, so that a 'G' is shown in the bottom right-hand corner of the display.
2. If you wish to allow questions or contributions from participants, slide the 'S/M' switch (10) on the transmitter to the 'S' position. In the 'M' position, the talk buttons  on the receivers do not function. The participant who is the first to press and hold the talk button  may speak; the button will then light up green. All other talk buttons are disabled until then and will not light up when pressed.



Notes on 'Teaching' mode

1. The group leader and the assistant are each given a transmitter. Set the 'S/M' switch (10) on the group leader's transmitter to the 'M' (Master) position and on the assistant's transmitter to the 'S' (Slave) position.
2. All transmitters and receivers must be set to 'Teaching' mode, so that a 'T' is shown in the bottom right-hand corner of the display.
3. The group leader and the assistant can speak in turn as long as their talk buttons  are lit green. However, for a participant to speak, the assistant must mute their microphone using the talk button, which will then light up red. The participant who is the first to press and hold the talk button  may speak; the button will then light up green. All other talk buttons are blocked during this time and do not light up when pressed. To speak (when using headphones without a microphone), hold the built-in microphone (11) close to your mouth or use the microphone on the connected headset.

Notes on the 'Discussing' operating mode

1. The two participants who will be speaking freely will each be given a transmitter.
2. All transmitters and receivers must be set to 'Discussing' mode, so that a 'D' appears in the bottom right-hand corner of the display.
3. Unlike in 'Teaching' mode, participants with receivers can only listen and cannot ask questions.

Additional functions

Once a group has been formed using the transmitter and the receivers, further functions can be used.

Checking attendance

1. Briefly press the red call button (6) on the transmitter: on the display, the large number shows the number of people present, whilst the small number shows the number of group members. If the numbers match, everyone is present and has switched on their receivers.
2. To return to the previous display, press the red button again.

Call signal, e.g. to assemble the group

1. Press and hold the red call button (6) on the transmitter until 'CALLING...' appears on the display. To return to the previous display, press the button again.
2. A call signal will sound on the connected receivers; the display will show 'GATHER', the talk button  (5) will flash red and the device will vibrate for 30 seconds. To stop the call signal, press the red reset button (6). If the call signal is not stopped, the receiver will switch off automatically after 20 minutes.

Warning signal when leaving the reception area

If a member leaves the reception area, a warning signal sounds after one minute, the talk button  flashes red and the display shows 'OUT OF RANGE'. The warning stops as soon as the member returns to the reception area or the red reset button (6) is pressed.

Additional setting options

The default settings for the transmitter and receiver can be changed as required. However, the devices can also be easily reset to their factory settings.

1. Switch off the transmitter/receiver and switch it back on by holding down buttons  (8) and  (9). The settings menu appears on the display, with the first menu item being 'Channel Lock'.
2. Use the  or  button to change the setting and confirm the change with the  button: the selected setting will be underlined. If you do not wish to change the setting, simply press the  button. The next menu item will appear on the display.
3. After the last menu option, press the  button to exit the settings menu.



Settings for the transmitter

Menu item	Settings
Channel Lock	<u>ON</u> , OFF
Talk: Function of the talk button  (5)	PTB (push to bolt): Switch between speaking and muting the microphone PTT (push to talk): Hold down the button to speak PTM (push to mute): Hold down the button to mute
Mic. Gain: Amplification of the microphone signal	1, 2, <u>3</u> , 4, 5
RF Power: Transmitter power	<u>Low</u> (10 mW), Hi (20 mW)
Audio Priority: Priority given to the signal from socket  (2)	<u>OFF</u> : The signals from the microphone and the socket  are transmitted. ON: Only the signal from the socket  is transmitted (microphone off).

underlined = factory setting

Receiver settings

Menu item	Settings
Channel Lock	<u>ON</u> , OFF
Auto Power-Off: The receiver switches off automatically after 20 minutes if it does not receive a signal from the transmitter.	<u>ON</u> , OFF
Auto Power-On: The receiver switches on automatically as soon as it is removed from the charger.	ON, <u>OFF</u>
Alarm: A warning is issued when you leave the reception area.	<u>ON</u> , OFF
Earphone Output: Headphone volume	<u>Regular</u> : Default setting HAC level: for hearing aids

underlined = factory setting

Resetting to factory settings

The factory settings are highlighted with an underline in the two previous tables. When resetting to factory settings, transmission channel 01 (823.5 MHz) is also set, and the operating mode is set to 'Teaching'.

1. Switch off the transmitter/receiver using button  (9).
2. Hold down buttons  and  (8) and button  until the device switches back on. The device has now been reset to its factory settings.
3. Set the transmission channel and operating mode accordingly.

Technical Specifications

Radio frequency range	823 – 865 MHz
Channels	42
Latency	18 MS
THD	< 7 %
Transmit power	≤ 10 MW
Built-in microphone	Condenser microphone
Power supply	2 x 1.2 V NiMH rechargeable batteries or 2 x 1.5 V alkaline batteries
Operating time	up to 16 hours
Charging time (rechargeable batteries)	4–6 hours
Range	70–100 metres
Dimensions (W x D x H)	47 x 35 x 97 mm (excluding antenna)
Weight	105 g (including rechargeable batteries)
Headset headphone socket	3.5 mm jack (CTIA standard)
AUX socket on the transmitter	3.5 mm jack
Operating temperature	0 – 40 °C
Audio frequency range	300 – 4500 Hz
Transmission type	digital

Channel allocation

CH	MHz	CH	MHz	CH	MHz	CH	MHz
01	823,500	11	863,500	21	823,250	31	828,250
02	864,500	12	824,000	22	823,750	32	828,750
03	831,500	13	825,000	23	824,250	33	829,250
04	824,500	14	826,000	24	824,750	34	829,750
05	825,500	15	827,000	25	825,250	35	830,250
06	826,500	16	828,000	26	825,750	36	830,750
07	827,500	17	829,000	27	826,250	37	831,250
08	828,500	18	830,000	28	826,750	38	831,750
09	829,500	19	831,000	29	827,250	39	863,250
10	830,500	20	864,000	30	827,750	40	863,750
						41	864,250
						42	864,750

Frequency band 863 – 865 MHz:

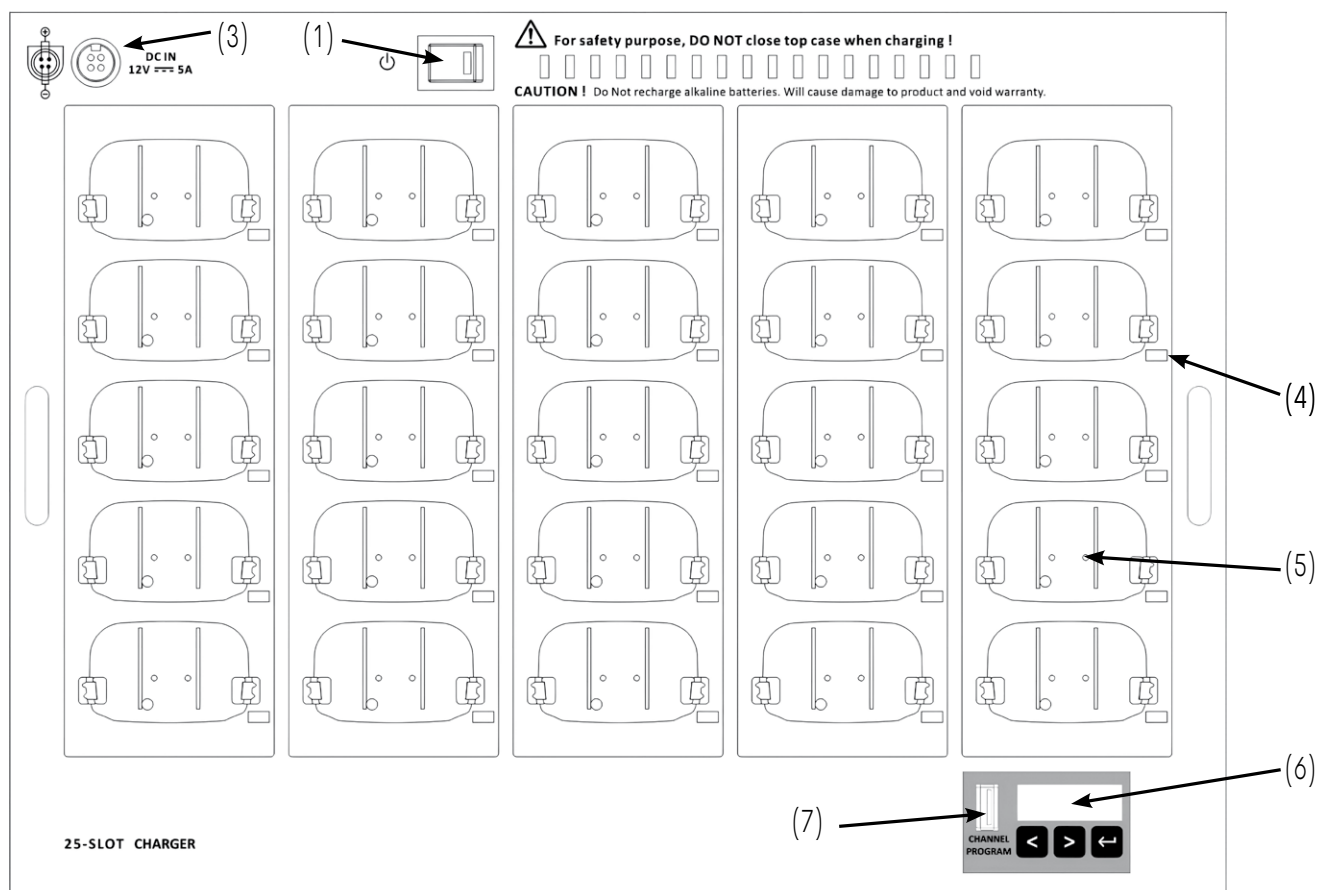
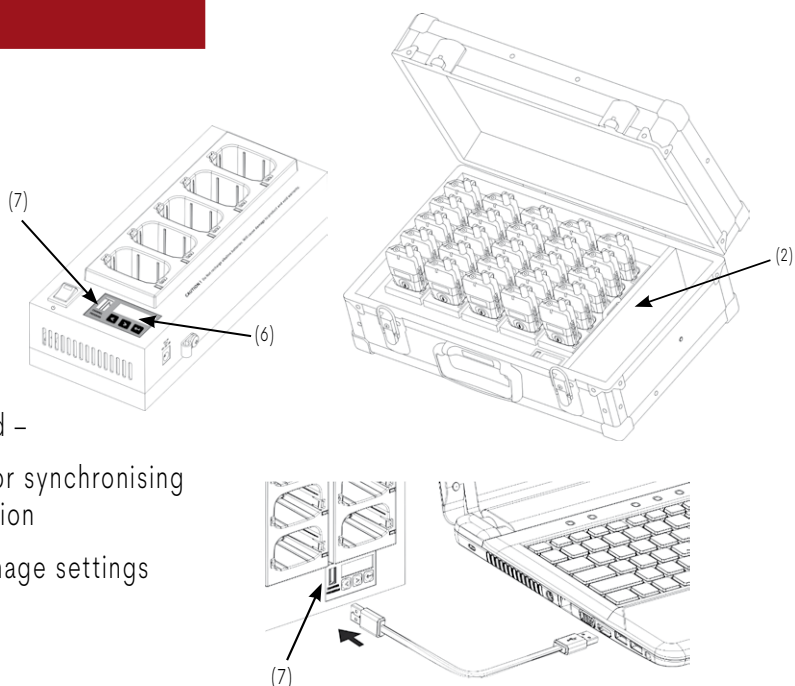
No registration or licence fees required in EU and EFTA countries (channels 02, 11, 20, 39 – 42).

Frequency band 823 – 832 MHz:

Restrictions or requirements apply in the following countries: **AT, CZ, FR, LT, PL, SE, UK**

Charging technology

- (1) On/off switch
- (2) Storage compartment for charging cable
- (3) Power input
- (4) Charging indicator:
 - Red LED: device is charging
 - Green LED: fully charged
 - Red LED flashing: no batteries inserted
- (5) Charging contacts: one pin each for + and -
- (6) Display: < & > for channel selection and for synchronising all devices plugged into the charging station
- (7) USB socket for connection to a PC to manage settings via the software



General:

During charging, the LED indicator lights up "RED/ORANGE". As soon as the indicator changes to "GREEN", the devices are fully charged.

If the LED indicator is not lit, check that the charging cable is connected correctly and that the device in question is properly and securely inserted into the charging compartment.

Charging and storing the devices

The following options are available for storing and charging the devices:



CTGI-2DC desktop charging station for 2 devices

- H: 5.2 cm x W: 12 cm x D: 8.5 cm
 - Weight: 0.2 kg (empty), approx. 0.4 kg when full
- Art.-Nr.: 1005362

CTGI-5DC desktop charging station for 5 devices

- H: 6.5 cm x W: 23 cm x D: 9.4 cm
 - Weight: 0.8 kg (empty), approx. 1.3 kg (full)
- Art.-Nr.: 1005360



CTGI-5CC 5-piece carrying case

- H: 11 cm x W: 42 cm x D: 30 cm
 - Weight: 1 kg (empty), approx. 1.5 kg when full
- Art.-Nr.: 1005366

CTGI-25CC 25-piece carrying case

- H: 17 cm x W: 43.7 cm x D: 26.6 cm
 - Weight: 2.4 kg (empty), approx. 5 kg when full
- Art.-Nr.: 1005363



CTGI-20DC 19-inch charging station for 50 devices

- H: 40 cm x W: 40 cm x D: 22.3 cm
 - Weight: 12 kg (empty), approx. 17 kg when full
- Art.-Nr.: 1005361

The devices are charged via contact points. Alternatively, you can also use the devices with standard AA batteries. However, in this case, the devices must NOT be charged. Keep the charging cases and bags away from direct sunlight and moisture. Do not drop them or shake them vigorously. Plug the supplied charging cable into the designated socket on the charging unit.

Troubleshooting

No sound can be heard on the receiver

- Is the volume control (2) turned up?
- Is the receiver set to the same transmission channel as the transmitter?
- Is the same operating mode (G/T/D) as on the transmitter shown in the bottom right-hand corner of the display?
Switch the receiver off and then on again. The receiver will then switch to the same operating mode as the transmitter, provided it is set to the same transmission channel.

It is not possible to ask questions via the receiver

- In 'Guiding' mode, the 'S/M' switch (10) on the transmitter must be set to the 'S' position.
- Whilst a participant is holding down the talk button  (5), the talk buttons on all other receivers are disabled.
- In 'Teaching' mode, for a participant to speak, the assistant must mute their microphone using the talk button .
- In 'Discussing' mode, it is generally not possible for a participant to ask follow-up questions.

Headphones & headsets for the Comhead INFINITY Tour Guide System

Hearing protection headsets and headphones for factory tours in very noisy areas

- All the headsets and headphones shown on pages 11–13 are certified hearing protectors in accordance with **DIN EN 352**. They comply with all the necessary standards and regulations set out in Regulation **(EU) 2016/425** on personal protective equipment (PPE).

Wearing style: neck strap



Active noise-cancelling headset with neckband

- Can be worn under safety helmets and hard hats
- 32 dB SNR attenuation
- Weight: 365 grams
- Ultra-noise-cancelling microphone



Hearing protection headset with neckband

- Can be worn under safety helmets and hard hats
- 28 dB SNR attenuation
- Weight: 282 grams
- Ultra noise-cancelling microphone



Ear-protecting headphones with a neckband

- Can be worn under safety helmets and hard hats
- 28 dB SNR attenuation
- Weight: 256 grams

Headphones & headsets for the Comhead INFINITY Tour Guide System

Hearing protection headsets and headphones for factory tours in very noisy areas

Wearing style: headband



Hearing protection headset with headband

- Universal fit for all head sizes
- 31 dB SNR attenuation
- Weight: 300 grams
- Ultra noise-cancelling microphone



Active noise-cancelling headset with headband

- Universal fit for all head sizes
- Level-dependent noise reduction allows you to hear ambient sounds
- Bluetooth functionality for making phone calls
- 31 dB SNR noise reduction
- Weight: 300 grams
- Ultra noise-cancelling microphone



Ear-protecting headphones with headband

- Universal fit for all head sizes
- 31 dB SNR attenuation
- Weight: 273 grams



Active noise-cancelling headphones with a headband

- Universal fit for all head sizes
- Level-dependent attenuation allows you to hear ambient noise
- 26 dB SNR attenuation
- Weight: 303 grams

Headphones & headsets for the Comhead INFINITY Tour Guide System

Hearing protection headsets and headphones for factory tours in very noisy areas

Wearing style: helmet adapter



Hearing protection headset with helmet adapter

- For attachment to safety helmets
- 30 dB SNR attenuation
- Weight: 251 grams
- Ultra noise-cancelling microphone



Active noise-cancelling headset with helmet adapter

- For attachment to safety helmets
- Level-dependent noise reduction allows you to hear ambient sounds
- Bluetooth function for making phone calls
- 31 dB SNR noise reduction
- Weight: 387 grams
- Ultra noise-cancelling microphone



Hearing protection headphones with helmet adapter

- For attachment to safety helmets
- 29 dB SNR attenuation
- Weight: 224 grams



Active hearing protection headphones with helmet adapter

- For attachment to safety helmets
- Level-dependent attenuation allows the user to hear ambient sounds
- 25 dB SNR attenuation
- Weight: 32 grams

Lightweight headsets and headphones



Comfort Headset (Binaural)

- Elegant design and maximum comfort
- Outstanding sound quality
- Fold-away microphone
- Weight: 115 grams



Neckband headset

- Secure fit on the head
- Long gooseneck microphone
- In-ear earphones with replaceable eartips



Comfort Headset (Monaural)

- Elegant design and maximum comfort
- Outstanding sound quality
- Fold-away microphone
- Weight: 77 grams



In-ear headset

- Voice transmission via neck microphone
- Noise reduction: 25dB SNR
- Replaceable earbuds
- Weight: 50 grams



Single-ear earphones

- Very light and discreet
- Fits all ear sizes
- Can be worn on the left or right ear



Customised headset

- Individually fitted ear cup
- Perfect fit
- Gooseneck microphone
- Weight: 10 grams



Mono earpiece headset

- Very light and discreet
- Flexible microphone
- Fits all ear sizes
- Can be worn on the left or right

Hygiene supplies

Headphone covers



Microphone covers



INFINITY

FULL DUPLEX TOUR GUIDE SYSTEM

COMHEAD Headset Company GmbH
Borsteler Chaussee 51
22453 Hamburg | Germany

Tel.: +49 40 500580-20
Fax.: +49 40 500580-30
Email: info@comhead.de
Website: www.comhead.de

