



OPERATING INSTRUCTIONS

Synexis

Wireless Tour Guide System

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FCC Regulation

FCC ID: OSDSYNEXISTH2 for Synexis TH2

FCC ID: OSDSYNEXISTP2 for Synexis TP2

FCC ID: OSDSYNEXISTS2 for Synexis TS2

FCC ID: OSDSYNEXISRP2 for Synexis RP2

Canada: IC: 3628A-SYNEXISTH2 for Synexis TH2

Canada: IC: 3628A-SYNEXISTP2 for Synexis TP2

Canada: IC: 3628A-SYNEXISTS2 for Synexis TS2

Canada: IC: 3628A-SYNEXISRP2 for Synexis RP2

Part 15.19 Statement

NOTICE:

This device complies with Part 15 of the FCC Rules [and with RSS-210 of Industry Canada].

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and*
- (2) this device must accept any interference received, including interference that may cause undesired operation.*

Part 15.21 Statement

NOTICE:

Changes or modifications made to this equipment not expressly approved by (manufacturer name) may void the FCC authorization to operate this equipment.

Part 15.105 Statement

NOTE: *This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:*

- Reorient or relocate the receiving antenna.*
- Increase the separation between the equipment and receiver.*
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- Consult the dealer or an experienced radio/TV technician for help.*

1.) *If TV channel 13 is used in the area, the installer shall reduce or adjust the RF radiated power so that near-by TV channel 13 receivers do not receive radio interference from the system installed. Suggestions: A test with a TV receiver equipped with "rabbit-ear antenna" and tuned to channel 13 should be conducted, at the perimeter of the user's intended coverage area and not over-lapping other user's areas without the latter's consent. If this does not solve the problem, a channel near the 217 MHz edge and not near 216 MHz should be tried.*

2.) **For use in Canada only:**

Law enforcement agencies have exclusive use of the sub-band 216.45-216.50 MHz.

Therefore these frequencies are not accessible.

RF Exposure Statement

Radiofrequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device may not interfere with TV reception or Federal Government radar.

Thank you for selecting the Synexis wireless tour guide system from beyerdynamic. Please take some time to read carefully through this manual before using the system.

The Synexis tour guide system provides an optimum digital audio transmission for guided tours e.g. in factories or museums or in multilingual conferences e.g. in conjunction with an interpretation system.

Synexis consists of the following components:

- Synexis RP2 beltpack receiver
- Synexis TH2 handheld transmitter
- Synexis TP2 beltpack transmitter
- Synexis TS2 stationary transmitter
- Synexis C8 charger
- Synexis C10 charger
- Synexis C20 charger
- Synexis CHP charger

1. Safety instructions

General

- READ the operating instructions.
- KEEP the operating instructions.
- HEED all warnings.
- FOLLOW all instructions.

Exemption from liability

- beyerdynamic GmbH & Co. KG will not be liable if any damage, injury or accident occurs due to negligent, incorrect or inappropriate operation of the product.

1.1 Synexis TS2 stationary transmitter, Synexis C8, C10 chargers

Location

- The equipment must be set up so that the mains switch, mains plug and all connections on the rear of the device are easily accessible.
- If you transport the equipment to another location take care to ensure that it is adequately secured and can never be damaged by being dropped or by impacts on the equipment.

Fire hazard

- Never place naked flames (e.g. candles) near the equipment.

Humidity / heat sources

- Never expose the equipment to rain or a high level of humidity. For this reason do not install it in the immediate vicinity of swimming pools, showers, damp basement rooms or other areas with unusually high atmospheric humidity.
- Never place objects containing liquid (e.g. vases or drinking glasses) on the equipment. Liquids in the equipment could cause a short circuit.
- Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.

Connection – Synexis TS2 stationary transmitter, Synexis CHP charger

- The device can only be powered with the supplied external power adapter connected to a power outlet.

Connection - Synexis C8, C10, C20 chargers

- The equipment must be connected to a mains socket that has an earth contact.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Lay all connection cables so that they do not present a trip hazard.
- Whenever working on the equipment switch off all inputs and outputs to the power supply.
- Check whether the connection figures comply with the existing mains supply. Serious damage could occur due to connecting the system to the wrong power supply. An incorrect mains voltage could damage the equipment or cause an electric shock.
- Please note that different operating voltages require the use of different types of power cable and plugs.

Please refer to the following table:

Voltage	Power plug according to standard
110 - 125 V	UL817 and CSA C 22.2 no 42.
220 - 230 V	CEE 7 page VII, SR section 107-2-D1/IEC 83 page C4.
240 V	BS 1363 (1984): "Specification for 13A fused plugs and switched and un-switched socket outlets."

- If the equipment causes a blown fuse or a short circuit, disconnect it from the mains and have it checked and repaired.
- Do not hold the mains cable with wet hands. There must be no water or dust on the contact pins. In both cases you could receive an electric shock.
- The mains cable must be firmly connected. If it is loose there is a fire hazard.
- Always pull out the mains cable from the mains and/or from the equipment by the plug – never by the cable. The cable could be damaged and cause an electric shock or fire.
- Do not use the equipment if the mains plug is damaged.
- If you connect defective or unsuitable accessories, the equipment could be damaged. Only use connection cables available from or recommended by beyerdynamic.

Ventilation - Synexis C8, C10, C20 chargers

- Do not insert objects into the ventilation grilles or other openings. You could damage the equipment and/or injure yourself.

Maintenance

- Only clean the equipment with a slightly damp or dry cloth. Never use solvents as these damage the surface.

Trouble shooting and servicing

- Do not open the equipment without authorisation. You could receive an electric shock. There are no user-serviceable parts inside.
- Leave all service work to authorised expert personnel.

1.2 Synexis TH2 handheld transmitter, Synexis TP2 beltpack transmitter, Synexis RP2 beltpack receiver

- Protect the transmitter/receiver from moisture and sudden impacts. You could either injure yourself or others or damage the transmitter.
- Always switch off the transmitter/receiver before charging or changing the batteries.

Synexis TH2 handheld transmitter

- Do not blow into the microphone. In a condenser microphone this could damage the transformer. It is preferable to carry out a speech trial.

Synexis TP2 beltpack transmitter

- Clip-on microphones are often very compact. If they are accidentally swallowed there is a risk of choking. Always keep this type of microphone away from small children.

Synexis RP2 beltpack receiver

- The Synexis RP2 receiver can produce sound pressures of more than 85 dB (A). 85 dB(A) is the sound pressure corresponding to the maximum permissible volume which is by law (in some countries) allowed to affect your hearing for the duration of a working day. It is used as a basis according to the specifications of industrial medicine. Higher volumes or longer durations can damage your hearing. At higher volumes, the duration must be shortened in order to prevent hearing damage. The following are symptoms that you have been exposed to excessive noise for too long a time:
 - You can hear ringing or whistling sounds in your ears.
 - You have the impression (even for a short time only) that you can no longer hear high notes.

1.3 NiMH rechargeable batteries, batteries

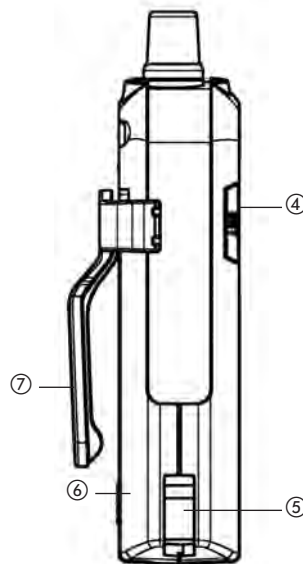
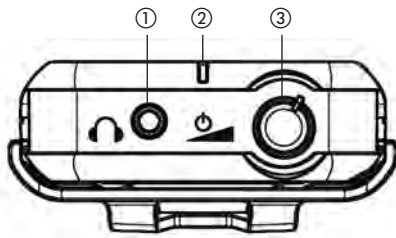
- The TH2, TP2 transmitters and the RP2 receiver can only be operated with AA (LR6) Mignon alkaline batteries or equivalent NiMH rechargeable batteries (1600 mAh to 2100 mAh).
- The normal commercial alkaline batteries can have a length tolerance of 2 - 3 mm. When changing the batteries always ensure good contact.
- If the transmitter is not being used for weeks or months, please remove the batteries. Batteries can leak when not being used for a long time and corrode the conductor strips and components. Repair is not then possible. In this case all warranty claims are null and void. The description "leak proof" on batteries is no guarantee that they will not run out.
- Never take batteries apart yourself. The battery acid contained will damage skin and clothing.
- If abused or misused, rechargeable batteries may leak. In extreme cases, they may even present an explosion, heat, fire, smoke or gas hazard.

Disposal

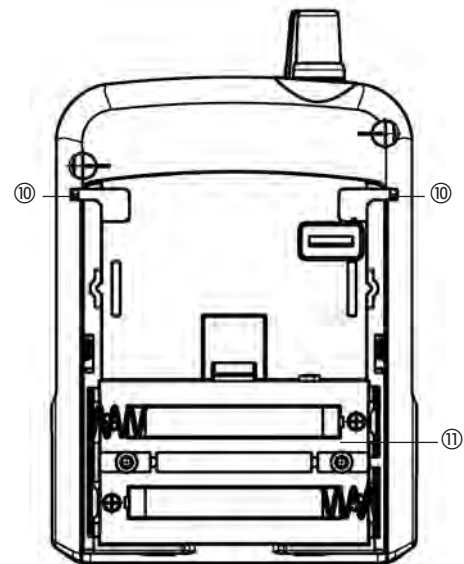
- If you throw away the device, please remove the batteries.
- Old batteries may contain substances that are harmful to your health and environment.
- Dispose used batteries always according to the applicable disposal regulations. Please do not throw used battery packs into the fire (danger of explosion) or your household rubbish, take them to your local collection points. The return is free and required by law. Please dispose discharged batteries only.
- For removing the batteries, please refer to chapter "How to insert/replace the batteries".
- All batteries are recycled to reclaim valuable material such as iron, zinc or nickel.

2. Synexis RP2 backpack receiver

2.1 Controls and indicators



- ① Headphone socket, mini jack (3.5 mm)
- ② LED to display operation or charging status (refer also to the chapter "Synexis chargers")
- ③ On/off and volume control
- ④ Set button
- ⑤ Charging contacts
- ⑥ Lid of the battery compartment
- ⑦ Belt clip
- ⑧ Channel selector buttons
- ⑨ OLED display to indicate the channel, battery status, frequency and channel lock function
- ⑩ Mounting for holding strap
- ⑪ Battery compartment for two 1.5 V batteries or rechargeable batteries (1600 mAh - 2100 mAh)



2.2 How to insert/replace the batteries

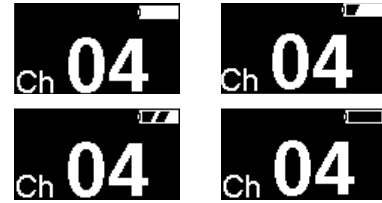
- Remove the belt clip ⑦, slide down the lid of the battery compartment ⑥ to open the battery compartment ⑪.
- Insert the supplied NiMH rechargeable batteries according to the polarity marks. **Before** using the receiver for the **first time**, the rechargeable batteries inside must be charged e.g. with the Synexis C8 or C10 charger. As an alternative you can use two 1.5 V AA alkaline batteries.
- If you wish to wear the receiver with a holding strap around your neck, you can mount a holding strap ⑩ to the right and left hand side.
- Close the battery compartment ⑪ by sliding the lid ⑥ to the top.

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

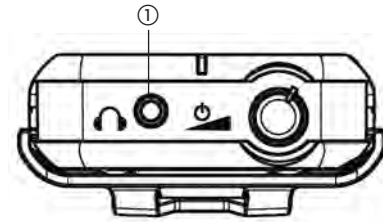
2.3 Battery status display

- The battery status is displayed ⑥ in 4 stages.
- If only one bar is displayed, you should recharge the receiver as soon as possible.
- If the battery frame is flashing, the batteries are empty and have to be replaced or recharged.
- If the receiver is equipped with rechargeable NiMH batteries, put it into the appropriate charger (e.g. Synexis C8 or C10). Despite the Auto-Off function we recommend turning off the receiver before charging.
The LED ② indicates the charging status:
LED is flashing blue The batteries are being charged
LED illuminates blue. The batteries are fully charged
LED is flashing red Error



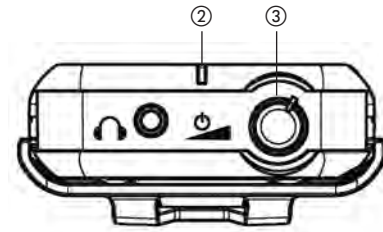
2.4 Headphone connection

- Connect a beyerdynamic headphone with mono or stereo mini jack plug to the headphone socket ①.



2.5 How to turn the receiver on/off and control the volume

- Switch on the beltpack receiver by turning the control ③ clockwise to the right.
- The LED ② will illuminate:
blue, when a transmitter is turned on and reception available.
red, when there is no transmitter turned on or no reception available.
- Use the control ③ to set the requested volume by turning it more clockwise.
- The selected channel and the battery status are displayed ⑥.
- After use, switch off the receiver by turning the control ③ anti-clockwise.
- The LED ② will go out.

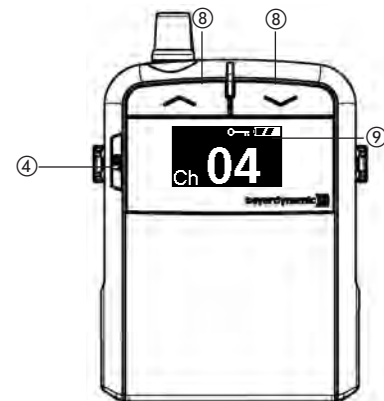


CAUTION

- Do not set the volume too high, because listening at high levels can damage your hearing.

2.6 How to select and lock a channel

- Use one of the two channel selector buttons ⑧ to select the requested channel.
- If you release the channel selector button ⑧, the channel will automatically be stored after approx. 3 seconds.
- If you would like to lock the selected channel to avoid accidental shifting, hold down the Set button ④ for about 3 seconds. A key symbol will be displayed ⑨. The channel is locked.
If you would like to unlock a locked channel, hold down the Set button ④ for about 3 seconds. The key symbol in the display ⑨ will disappear.



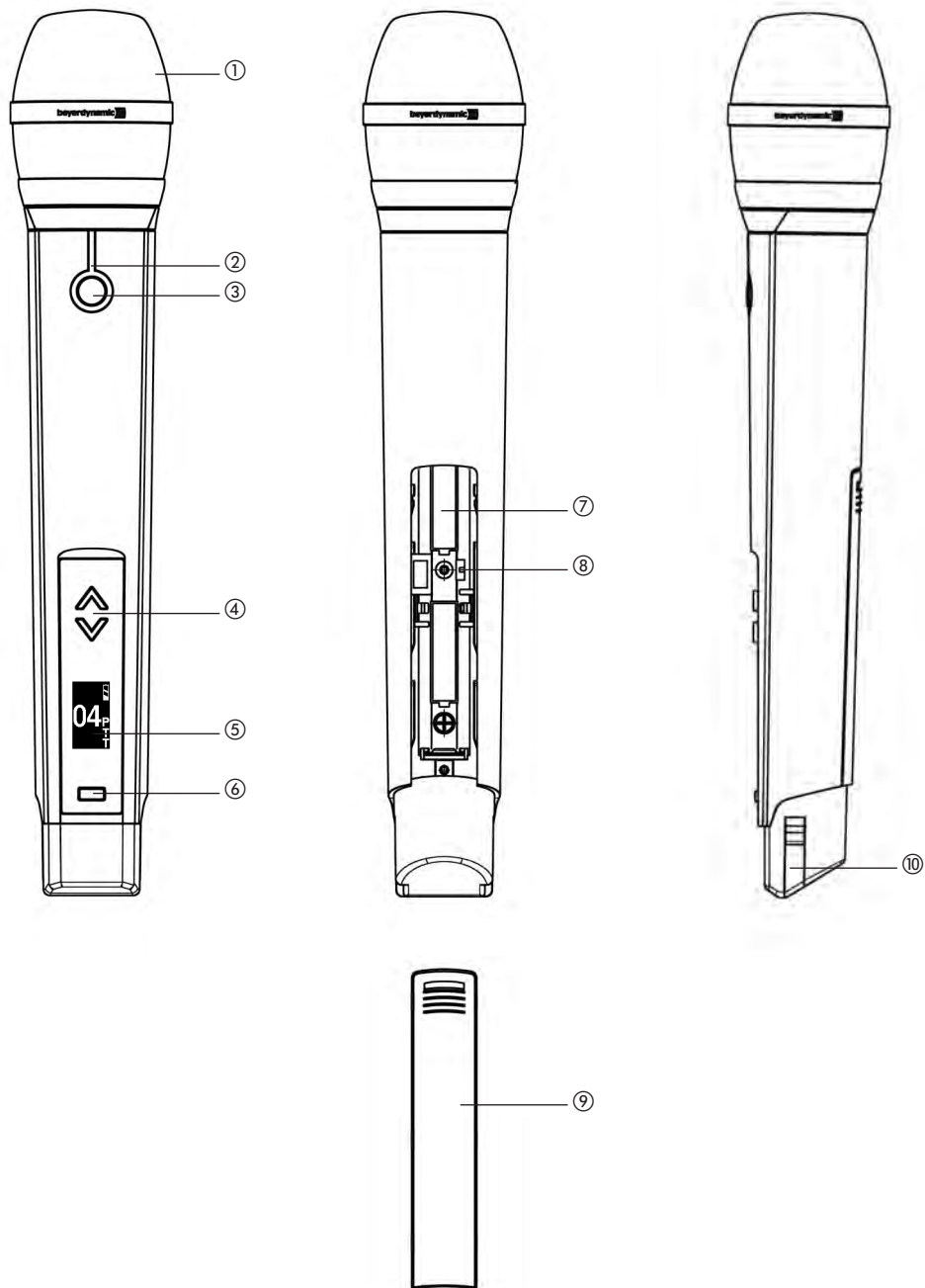
2.7 How to display the frequency

- Press the Set button ④ briefly.
- The frequency will be displayed ⑩ for a few seconds.



3. Synexis TH2 handheld transmitter

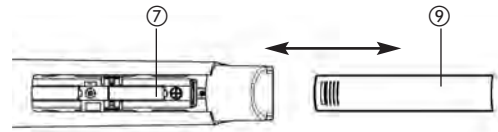
3.1 Controls and indicators



- ① Electret condenser microphone head, cardioid polar pattern
- ② LED to display mute or charging status (refer also to the chapter "Synexis chargers")
- ③ Button with mute function
- ④ Arrow-shaped buttons for channel selection and frequency display
- ⑤ OLED display to indicate battery status, channel, frequency and mute function
- ⑥ On/off and Set button
- ⑦ Battery compartment
- ⑧ Gain switch Hi/Low
- ⑨ Lid of the battery compartment
- ⑩ Charging contacts on the right and left hand side

3.2 How to insert/replace the batteries

- Slide down the lid of the battery compartment ⑨ to open the battery compartment ⑦.
- Insert the supplied NiMH rechargeable batteries according to the polarity marks. **Before** using the transmitter for the **first time**, the rechargeable batteries inside must be charged e.g. with the Synexis C8 charger. As an alternative you can use two 1.5 V AA alkaline batteries.
- Close the battery compartment ⑦ by sliding the lid ⑨ to the top.



CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

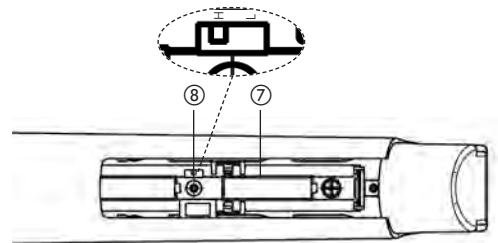
3.3 Battery status display

- The battery status is displayed ⑤ in 4 stages.
- If only one bar is displayed, you should recharge the receiver as soon as possible.
- If the battery frame is flashing, the batteries are empty and have to be replaced or recharged.
- If the transmitter is equipped with rechargeable NiMH batteries, put it into the appropriate charger (e.g. Synexis C8). Despite the Auto-Off function we recommend turning off the transmitter before charging.
Depending on the charger, the LED of the charger or the LED ② indicates the charging status:
LED is flashing blue The batteries are being charged
LED illuminates blue. The batteries are fully charged
LED is flashing red Error



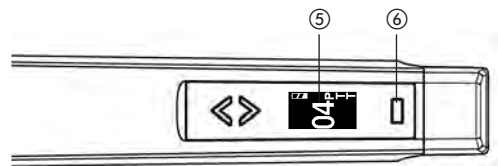
3.4 How to set the gain

- Inside the battery compartment ⑦ you will find the gain switch ⑧ to set the gain for close or distant miking. Remove the batteries first and then set the gain.
Position "High" = set switch to "H"
Position "Low" = set switch to "L"



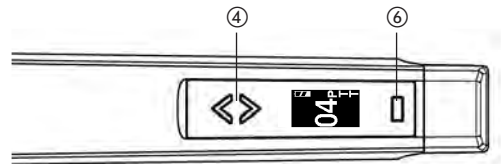
3.5 How to turn the transmitter on/off

- Turn on the handheld transmitter by pressing the on/off button ⑥ for approx. 2 seconds.
- The battery status, selected channel and mute function are displayed ⑤.
- After use turn off the handheld transmitter by pressing the on/off button ⑥ for approx. 2 seconds.



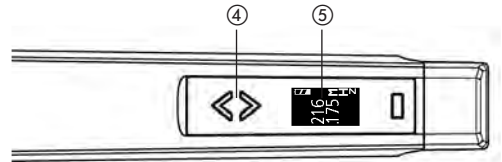
3.6 How to select a channel

- Press the on/off button ⑥ and one of the two arrow-shaped buttons ④ simultaneously for approx. 2 seconds until the channel display ⑤ will flash.
- Use the upper or lower arrow-shaped button ④ to select the requested channel.
- The channel will automatically be stored after approx. 2 seconds. If you press briefly the on/off button ⑥, the channel will immediately be stored.



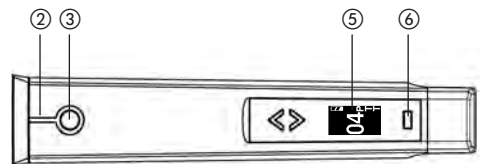
3.7 How to display the frequency

- Press both arrow-shaped buttons ④ simultaneously.
- The frequency will be displayed ⑤ for approx. 2 seconds.



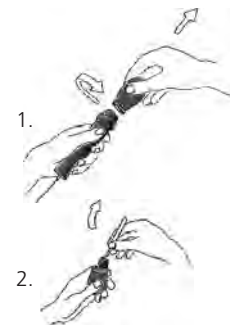
3.8 How to select the mute function

- Press the on/off button ⑥ and the mute button ③ simultaneously for approx. 2 seconds until the channel and mute display ⑤ will start to flash.
- Use the mute button ③ to select the requested mute function.
- After approx. 2 seconds the selected mute function will automatically be stored or immediately if you press briefly the on/off button ⑥.
- If the LED ② will illuminate blue, the microphone is activated. If the LED ② will flash red, the microphone is muted.
- There are three different mute functions available:
 Push-To-Mute (PTM): Hold down the mute button ③ to mute the microphone.
 Push-To-Talk (PTT): Hold down the mute button ③ to activate the microphone.
 Mute Toggle (MTG): Press the button ③ briefly to change between muted and activated microphone.



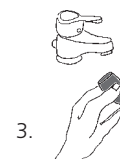
3.9 Maintenance

- Protect the handheld transmitter from moisture and sudden impacts.
- For cleaning metal surfaces, use a soft cloth moistened with methylated spirits or alcohol.
- Clean the foam pop shield under clear running water:
 1. Unscrew the microphone basket counter clockwise.
 2. Remove the foam pop shield (if necessary use tweezers).
 3. Wash the pop shield under clear running water and dry it afterwards with a hairdryer or allow it to dry overnight.
- Place the dry pop shield inside the microphone basket and screw the microphone basket clockwise.



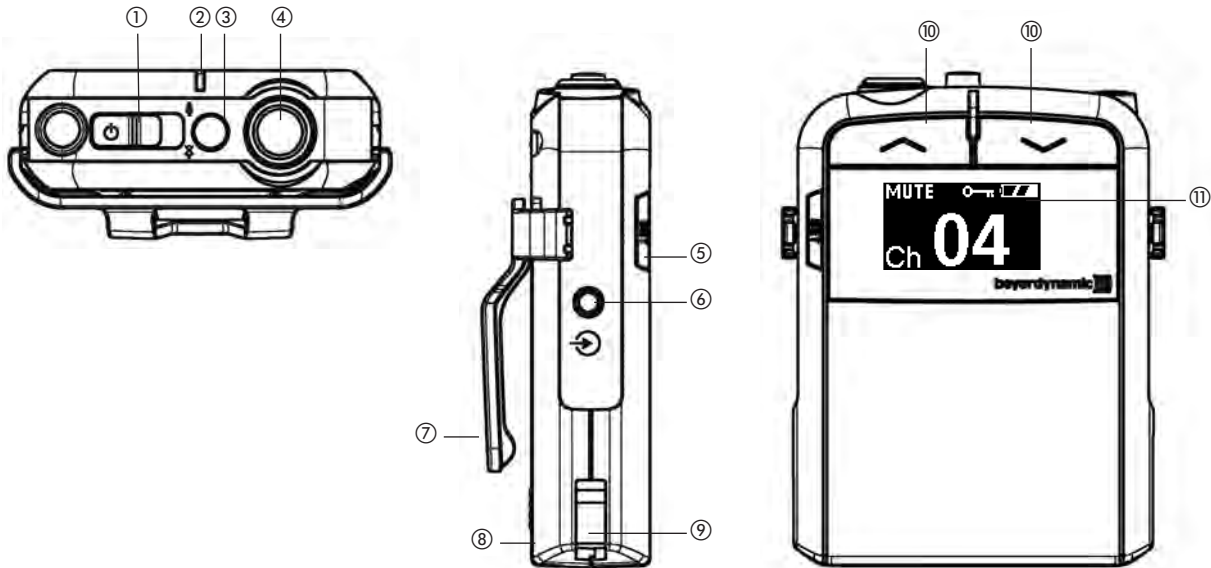
Important

- Place the microphone basket and the pop shield on the transmitter again only when completely dry.

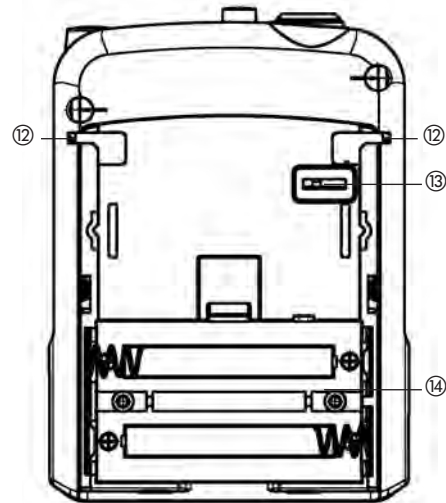


4. Synexis TP2 backpack transmitter

4.1 Controls and indicators



- ① On/off switch
- ② LED to display operating or charging status (refer also to the chapter "Synexis chargers")
- ③ Push-button to mute the microphone
- ④ Microphone connection, 4-pin mini XLR
- ⑤ Set button
- ⑥ Line-In input to connect an audio source such as MP3 player, mini stereo jack (3.5 mm)
- ⑦ Belt clip
- ⑧ Lid of the battery compartment
- ⑨ Charging contacts on the right and left hand side
- ⑩ Channel selector buttons
- ⑪ OLED display to indicate the channel, battery status, frequency and channel lock function
- ⑫ Mounting for holding strap
- ⑬ Gain switch, 3 stages Hi/Mid/Low
- ⑭ Battery compartment



4.2 How to insert/replace the batteries

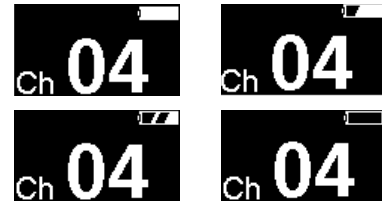
- Remove the belt clip ⑦, slide down the lid of the battery compartment ⑧ to open the battery compartment ⑭.
- Insert the supplied NiMH rechargeable batteries according to the polarity marks. **Before** using the transmitter for the **first time**, the rechargeable batteries inside must be charged e.g. with the Synexis C8 or C10 charger. As an alternative you can use two 1.5 V AA alkaline batteries.
- If you wish to wear the transmitter with a holding strap around your neck, you can mount a holding strap ⑫ to the right and left hand side.
- Close the battery compartment ⑭ by sliding the lid ⑧ to the top.

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

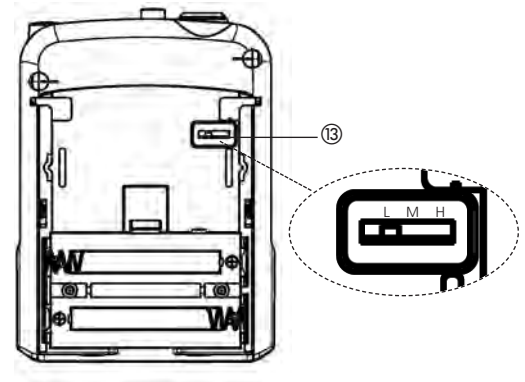
4.3 Battery status display

- The battery status is displayed ⑩ in 4 stages.
- If only one bar is displayed, you should recharge the receiver as soon as possible.
- If the battery frame is flashing, the batteries are empty and have to be replaced or recharged.
- If the transmitter is equipped with rechargeable NiMH batteries, put it into the appropriate charger (e.g. Synexis C8 or C10). Despite the Auto-Off function we recommend turning off the transmitter before charging.
The LED ② indicates the charging status:
LED is flashing blue The batteries are being charged
LED illuminates blue The batteries are fully charged
LED is flashing red Error



4.4 How to set the gain

- With the 3-stage (Hi/Mid/Low) gain switch ⑬ you can set the gain for close or distant miking. Remove the lid of the battery compartment ⑧ to access the switch.
Position "Low" = set switch to "L"
Position "Mid" = set switch to "M"
Position "High" = set switch to "H"

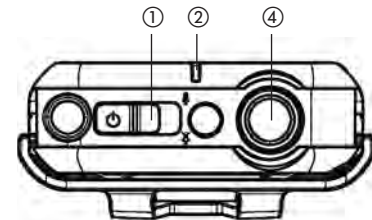


4.5 Microphone connection

- Connect a microphone to the 4-pin mini XLR socket ④. Make sure the connector will correctly lock in place.

Note

- In order to avoid popping noise in the Synexis RP2 receiver, you should connect the microphone when the mute function ③ is activated or when Synexis TP2 receiver is turned off.

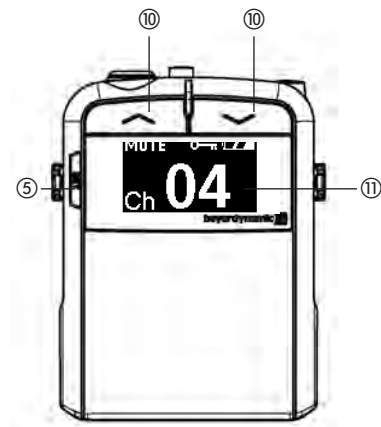


4.6 How to turn the transmitter on/off

- Turn on the beltpack transmitter with the on/off switch ①.
- The LED ② will illuminate blue.
- The selected channel and the battery status are displayed ⑩.
- After use turn off the beltpack transmitter with the on/off switch ①.
- The LED ② will go out.

4.7 How to select and lock a channel

- Use one of the two channel selector buttons ⑩ to select the requested channel.
- If you release the channel selector button ⑩, the channel will automatically be stored after approx. 3 seconds.
- If you would like to lock the selected channel to avoid accidental shifting, hold down the Set button ⑤ for about 3 seconds. A key symbol will be displayed ⑪. The channel is locked.
If you would like to unlock a locked channel, hold down the Set button ⑤ for about 3 seconds. The key symbol in the display ⑪ will disappear.



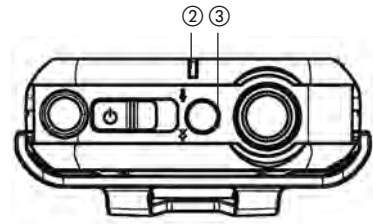
4.8 How to display the frequency

- Press the Set button ⑤ briefly.
- The frequency will be displayed ⑪ for a few seconds.



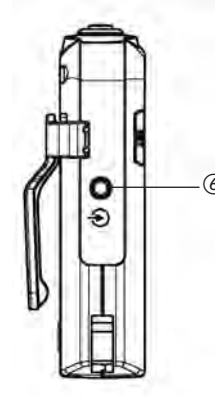
4.9 How to mute the microphone

- If you would like to mute the connected microphone, press the mute button ③. The LED ② will flash red. "Mute" is displayed ⑪. In order to turn off the mute function, press the mute button ③ once again.



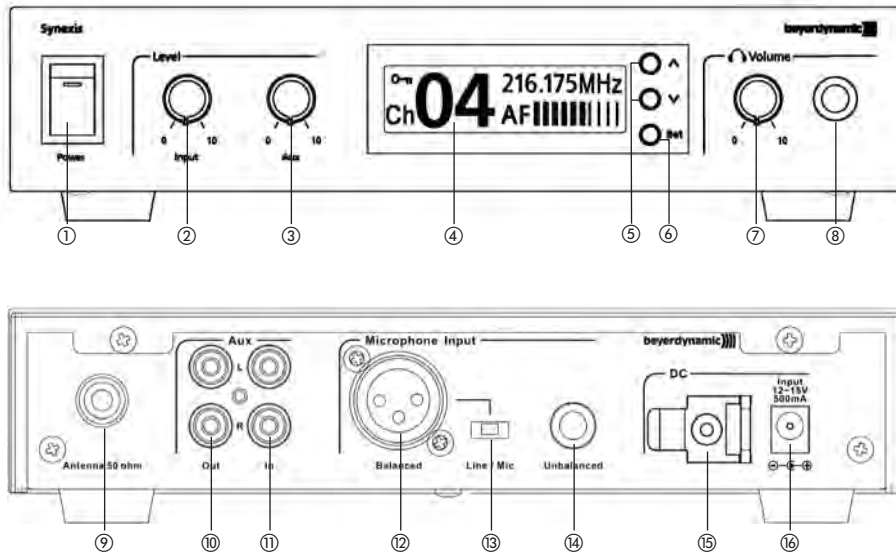
4.10. How to connect an audio source

- You can connect an audio source (e.g. MP3 player) to the Line In input ⑥, if you want to play recordings during guided tours.



5. Synexis TS2 stationary transmitter

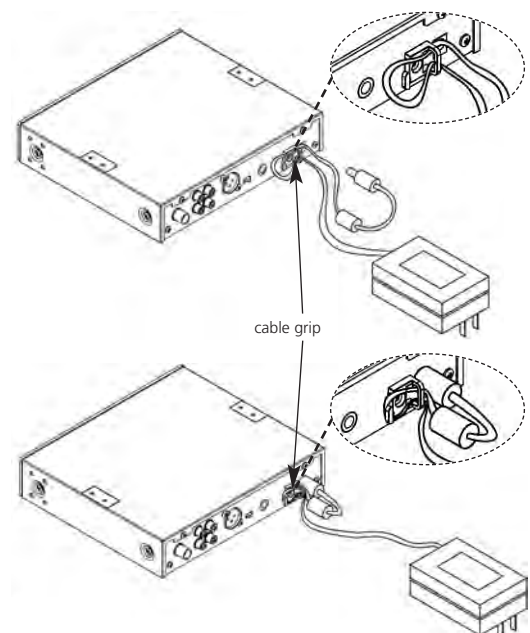
5.1 Controls and indicators



- ① On/off switch
- ② Level control microphone input
- ③ Level control AUX input
- ④ OLED display to indicate channel, AF level, frequency and channel lock function
- ⑤ Channel selector buttons
- ⑥ Set button
- ⑦ Level control headphone
- ⑧ Headphone connection, 1/4" stereo jack (6.35 mm) (Mix from Aux and Input. On request, Aux only for single interpretation applications.)
- ⑨ Antenna output, 50 ohms, TNC
- ⑩ AUX output, phono RCA, stereo
- ⑪ AUX input, phono RCA, stereo, for MP3 or CD
- ⑫ Input for line or dynamic microphone, balanced, 3-pin XLR
- ⑬ Sensitivity switch for Line level or microphone
- ⑭ Microphone input, unbalanced, 1/4" stereo jack (6.35 mm)
- ⑮ Cable grip
- ⑯ DC connection for power adapter

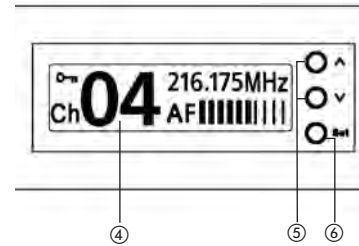
5.2 Setting up

1. Connect the supplied antenna to the antenna output ⑨.
2. Connect the XLR input ⑫ or the jack input ⑭ to the output of a mixing console, interpretation system or a dynamic microphone.
3. Set the sensitivity according to the input level.
Recommendation:
Mic when using dynamic microphones
Line when using interpretation systems, mixing console outputs etc.
4. Depending on the application you can connect an MP3 or CD player to the AUX input ⑪.
5. Make sure the mains voltage shown on the power adapter corresponds to the local mains voltage.
6. Connect the power adapter to the receiver and to AC power.
7. Switch on the Synexis TS2 ①.
8. Channel and AF level are displayed ④.
9. If the transmitter is not operated for a while, the display turns into a "screensaver" mode (dimmed, continuous display). The AF level is not displayed in the "screensaver" mode. In order to activate it, press briefly the Set button ⑥.
10. To avoid accidental pulling off the power adapter cable, thread the power cable through the cable grip as shown on the illustrations on the right hand side.



5.3 How to select and lock a channel

- Select a channel with the channel selector buttons ⑤.
- Press the up or down button ⑤ until the requested channel is displayed ④.
- Release the button ⑤ to store the selected channel.
- If you would like to lock the selected channel to avoid accidental shifting, hold down the Set button ⑥ for about 3 seconds. A key symbol will be displayed ④. The channel is locked.
- If you would like to unlock a locked channel, hold down the Set button ⑥ for about 3 seconds. The key symbol in the display ④ will disappear.



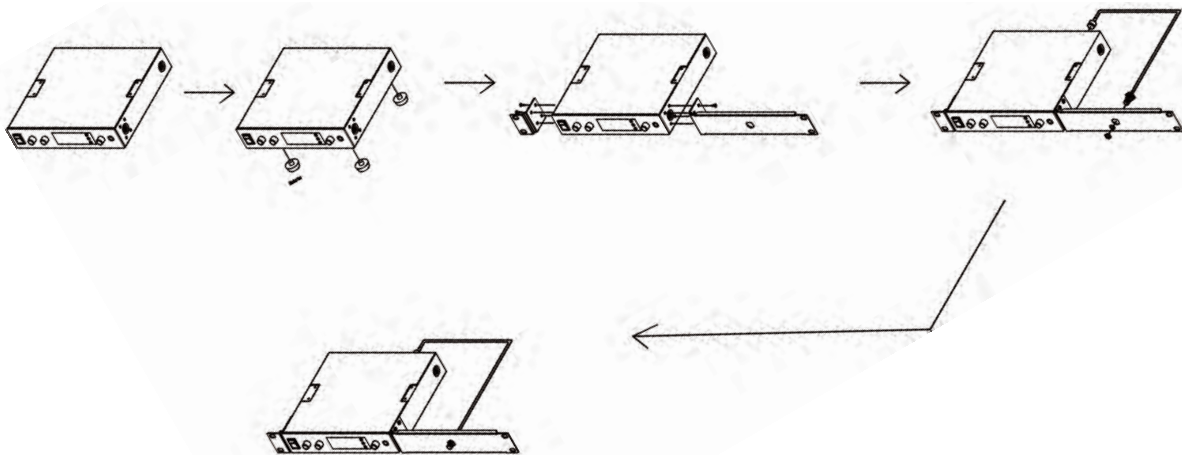
5.4 How to display the frequency

- Press the Set button ⑥ briefly.
- The frequency is displayed next to the channel.

5.5 Mounting the antenna on the front / 19" rack mounting

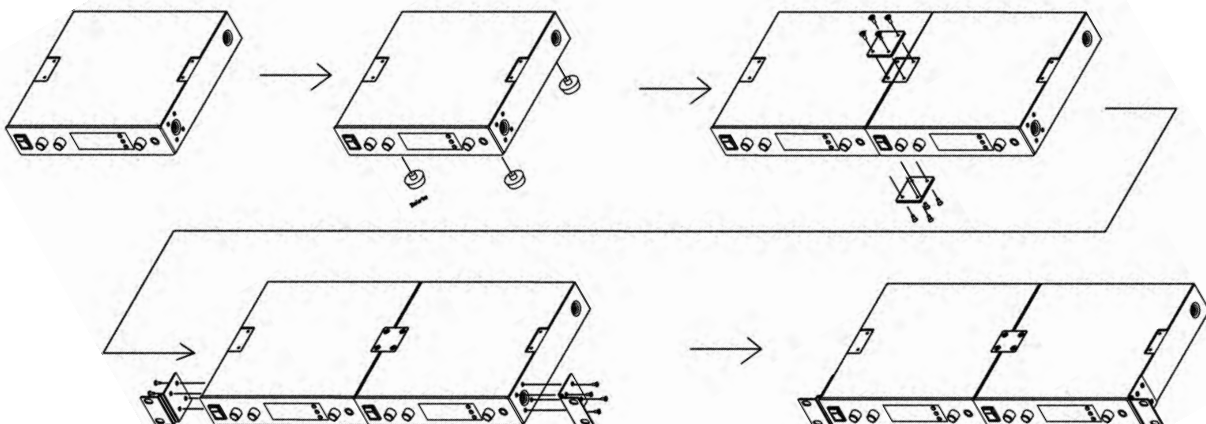
One transmitter - mounting the antenna on the front

- Remove the rubber pads from the bottom of the transmitter.
- Attach the shorter one of the two supplied brackets to one side of the transmitter and the longer bracket with a hole for mounting the antenna on the front on the other side.
- Connect the antenna cable to the antenna input ⑨ on the rear, pull the cable through the hole and mount the antenna on the front.



Two transmitters - 19" rack mounting

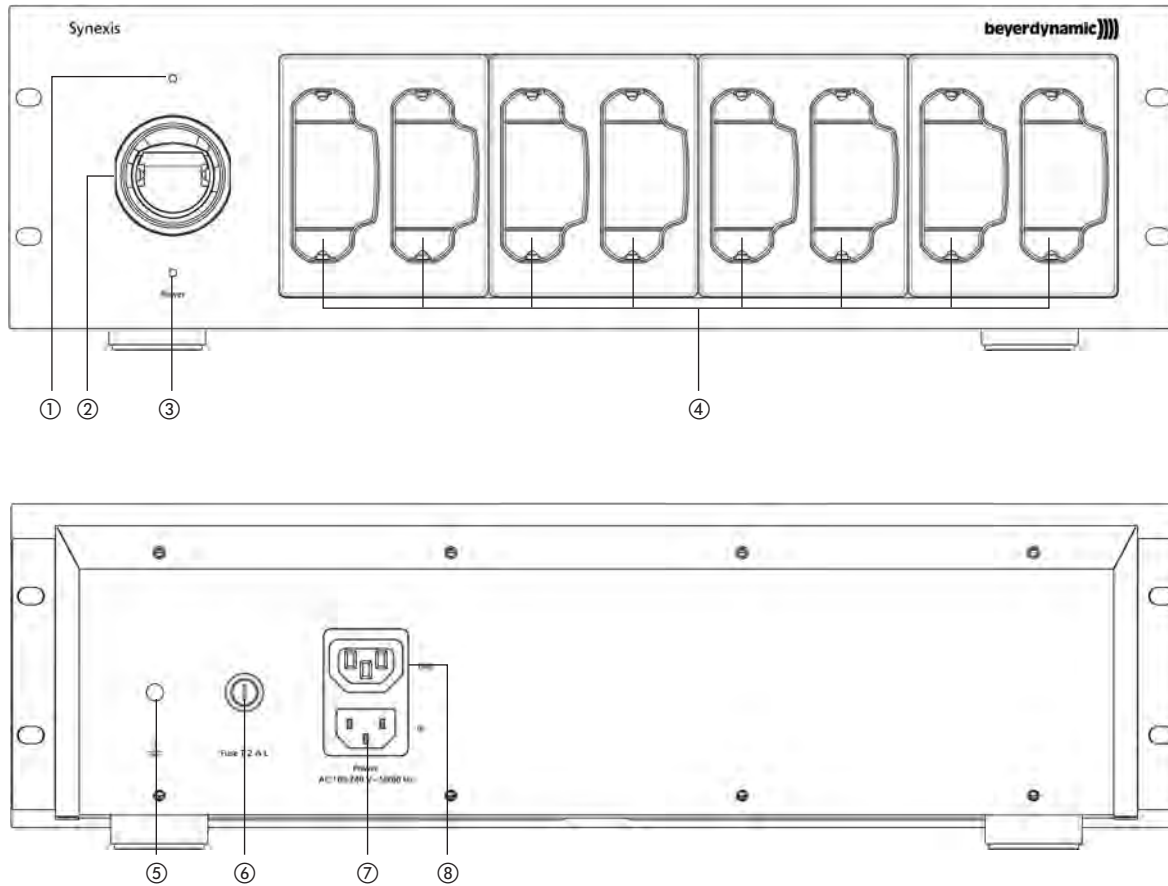
- Remove the rubber pads from the bottom of the transmitter.
- Mount the connection plates on the top and bottom of the two transmitters.
- After joining the two transmitters together, mount the supplied brackets on the right and left hand side of the transmitters and mount them in a 19" rack.



6. Synexis C8 / C10 / C 20 / CHP chargers

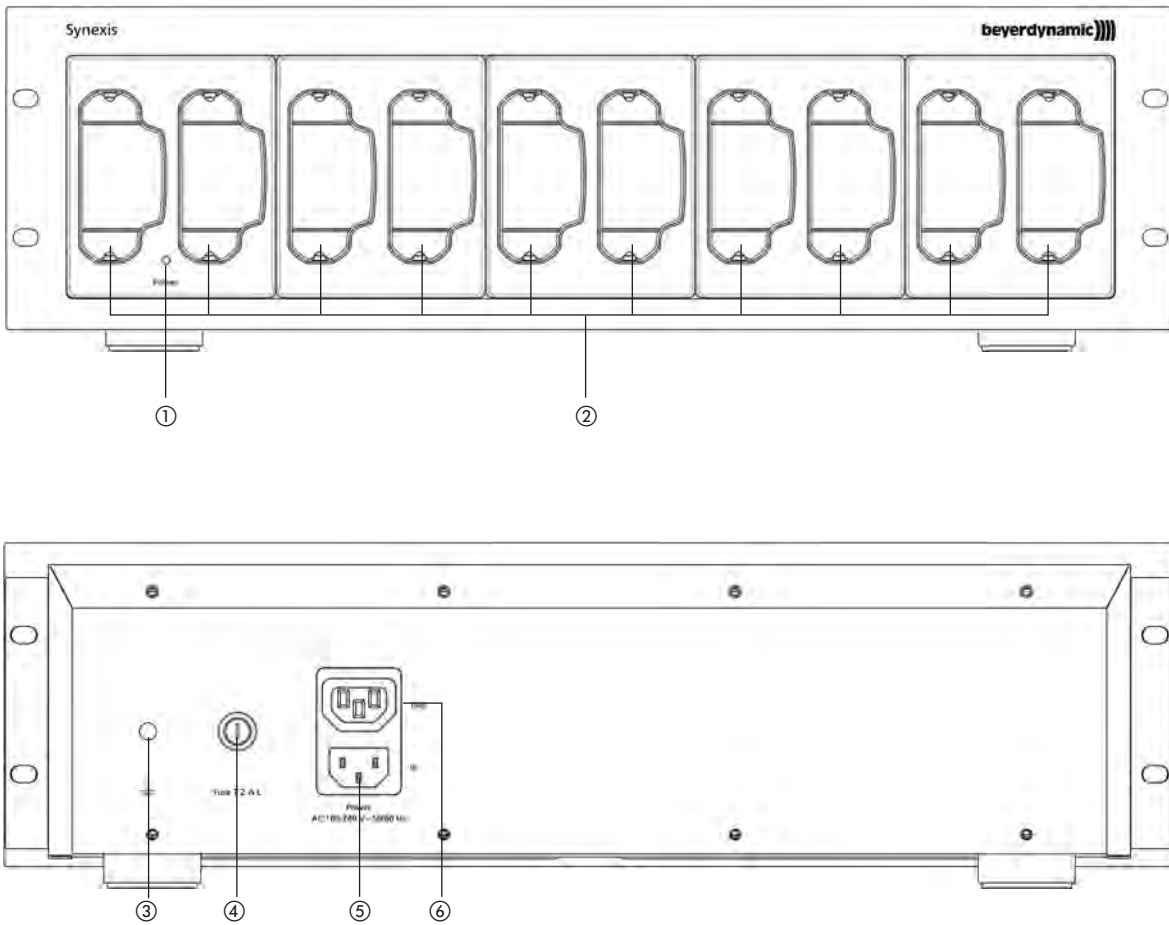
6.1 Controls and indicators

Synexis C8



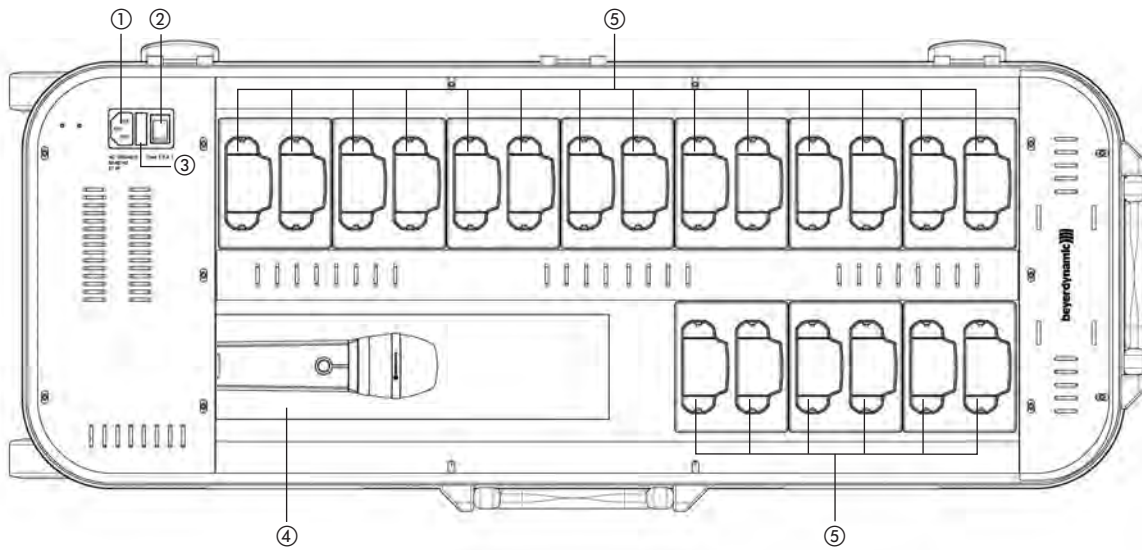
- ① Charging status of handheld transmitter
- ② Charging compartment for handheld transmitter
- ③ Power on LED
- ④ Charging compartments for beltpack transmitters / beltpack receivers
- ⑤ Ground
- ⑥ Fuse
- ⑦ Mains connection
- ⑧ Connection to loop through another charger

Synexis C10



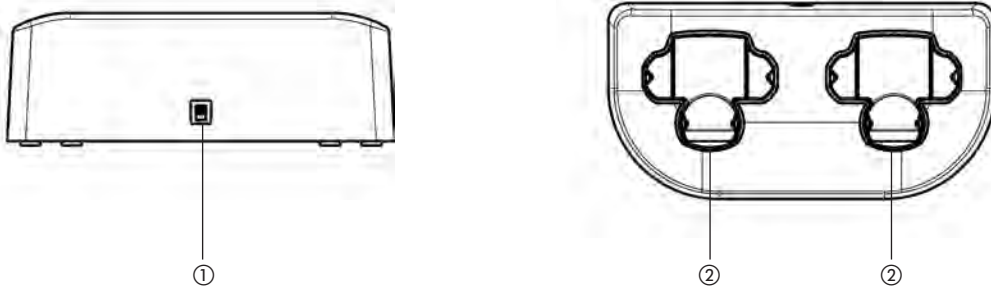
- ① Power on LED
- ② Charging compartments for belt-pack transmitters / belt-pack receivers
- ③ Ground
- ④ Fuse
- ⑤ Mains connection
- ⑥ Connection to loop through another charger

Synexis C20



- ① Mains connectio
- ② Power on switch with LED
- ③ Fuse
- ④ Charging compartment for handheld transmitter
- ⑤ Charging compartments for beltback transmitters / beltback receivers

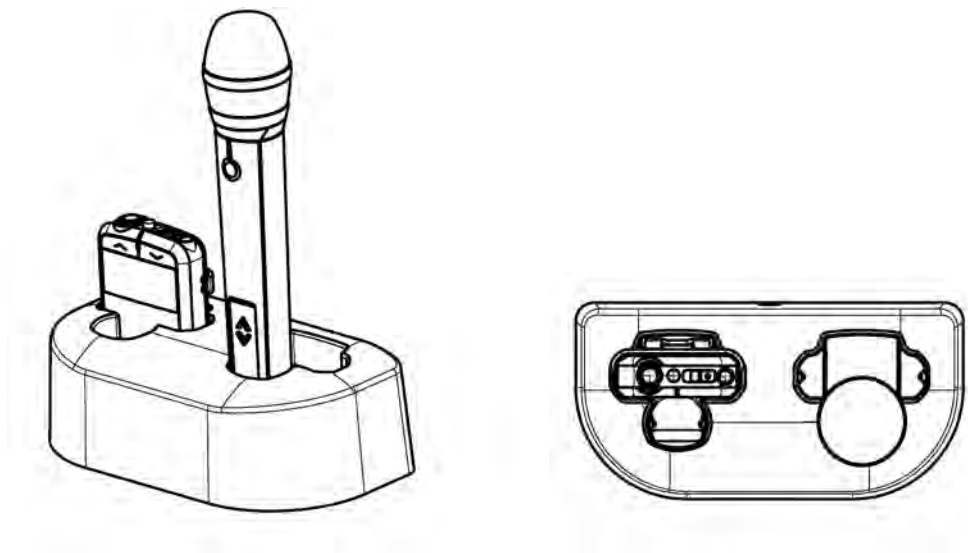
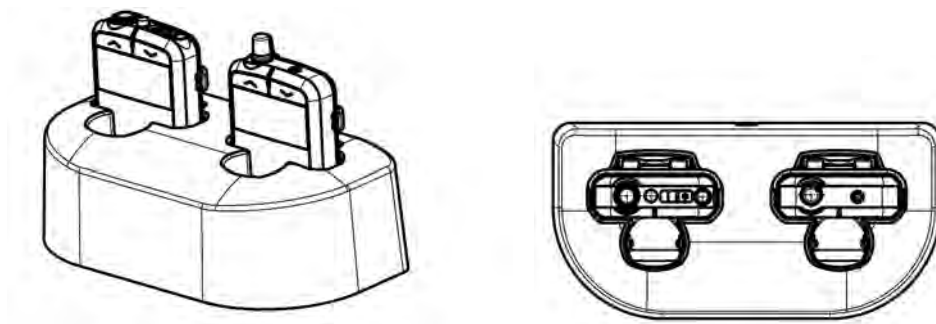
Synexis CHP



- ① DC connection for power adapter
- ② Charging compartments for beltback transmitters / beltback receivers / handheld transmitters

Caution

The beltback transmitter/receiver and handheld transmitter cannot simultaneously be inserted into the same charging compartment!

Synexis CHP with beltpack transmitter/receiver and handheld transmitter**Synexis CHP with beltpack transmitter/receiver****6.2 How to use the chargers**

- The Synexis chargers have been developed for charging the rechargeable batteries inside the Synexis RP beltpack receiver, Synexis TP beltpack transmitter and Synexis TH handheld transmitter.
 - **Synexis C8** provides 8 charging compartments for the Synexis RP beltpack receiver or Synexis TP beltpack transmitter and one charging compartment for the Synexis TH handheld transmitter.
 - **Synexis C10** provides 10 charging compartments for the Synexis RP beltpack receiver or Synexis TP beltpack transmitter .
 - **Synexis C20** provides 20 charging compartments for the Synexis RP beltpack receiver or Synexis TP beltpack transmitter and one charging compartment for the Synexis TH handheld transmitter. The charger is built into a practical trolley. The accessory compartment in the cover of the case provides room for headphones and microphones of the beltpack receivers/transmitters.
 - **Synexis CHP** provides 2 charging compartments for the Synexis RP beltpack receiver or Synexis TP beltpack transmitter or the Synexis TH handheld transmitter.
- The Synexis C8 or C10 charger has been designed for the installation into a 19" rack (3 U). When you install the charger into a 19" rack, make sure that the charger is connected to a switchable mains supply.

**Safety information:**

- **Never charge a beltpack receiver, handheld or beltpack transmitter when they are powered with normal batteries! The batteries can explode and damage the transmitter!**
- Despite the Auto-Off function we recommend turning off the receivers, handheld and beltpack transmitters before charging!
- After a power failure or after the receiver and/or transmitter has been reinserted, the entire charging process begins again. Overcharging is prevented however.
- If you use the transmitter and receiver from time to time only, we recommend to recharge these devices every 2 or 3 months to avoid the rechargeable batteries being over-discharged due to self-discharge.
- Do not cover the ventilation slots of the Synexis C8, C10, C20 chargers. With Synexis C20 charge only when the case is wide open.

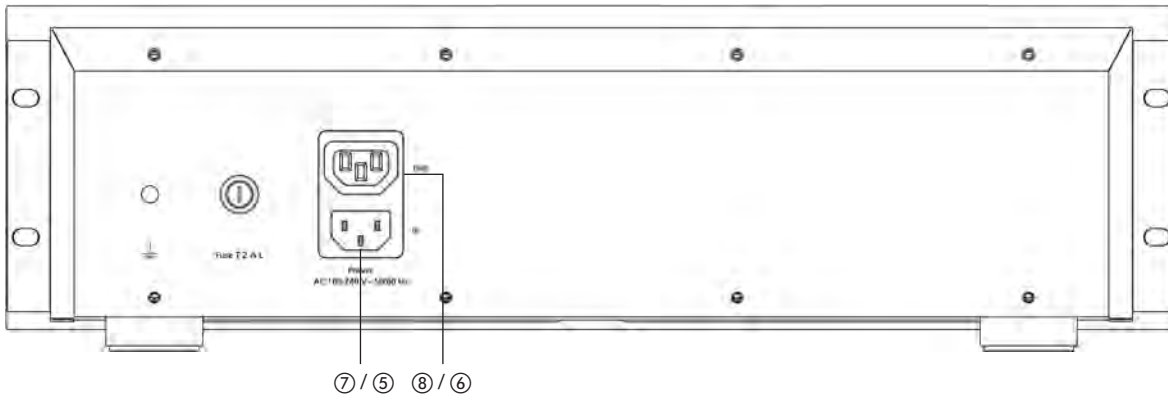
6.3 Power supply

Synexis C8 / C10

- Connect the Synexis C8 ⑦ or C10 ⑤ charger to AC power.
- The charger has no separate on/off switch and is ready for operation when it is connected to AC power.
- You can link a maximum of 8 chargers by connecting the first charger via the connection ⑦ or ⑤ to the connection ⑧ or ⑥ of the second charger and then connect the second charger via the mains connection ⑦ or ⑤ to AC power.

Note: For appropriate IEC-60320 C13/C14 power cord extensions, please contact your local dealer.

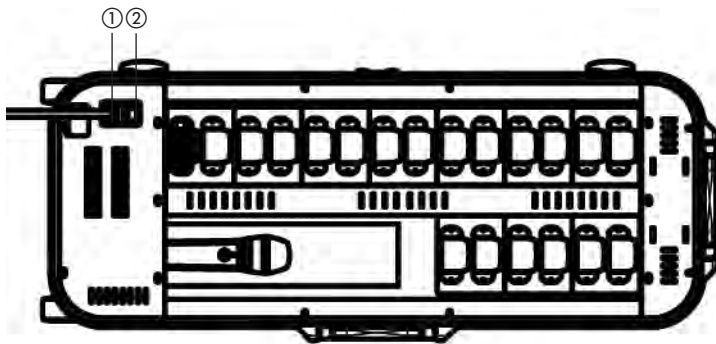
Synexis C8 / C10



Synexis C20

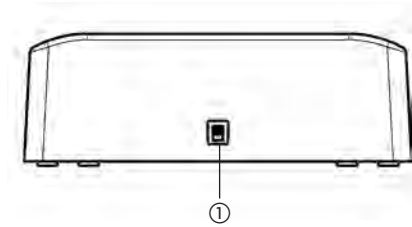
- Put the case horizontally down and open the cover all the way to the stop.
- Connect the Synexis C20 charger ① to AC power.
- Switch on the charger with the power on switch ②.

Synexis C20



Synexis CHP

- Connect the Synexis C20 charger to AC power.
- Switch on the charger with the power on switch.

Synexis CHP**6.4 Charging**

- When the Synexis beltpack receivers / beltpack transmitters are equipped with rechargeable batteries, put them into the appropriate charging compartments of the Synexis C8, C10, C20 or CHP charger.
- When the handheld transmitter is equipped with rechargeable batteries, you can recharge it in the appropriate charging compartment of the Synexis C8, C20 (display and mute button point upwards) or CHP charger (refer to the appropriate drawing).
- The charging process starts automatically.
- The LED of the beltpack receiver and transmitter indicates the charging state of the batteries.
- To indicate the charging state of the batteries inside the handheld transmitter there is an LED ① above the charging compartment ② of the Synexis C8 charger.

LED is flashing blue:	The batteries are being charged
LED illuminates blue:	The batteries are fully charged
LED is flashing red:	Error (no or defective rechargeable batteries or accidental attempt to charge alkaline batteries)

6.5 Maintenance

- For maintenance and cleaning disconnect the charger from AC power.
- In order to ensure a perfect function, keep the contacts in the charging compartments clean.
- Clean the charger with a dry cloth only.
- When the housing or the power cable is damaged, the charger must not be put into operation.

6.6 Charging capacity and memory effect

- A rechargeable battery achieves its full capacity after several times of charging and discharging.

Note:

- Furthermore, significance levels are integrated such as dU-recognition, supervision of voltage gradient, temperature and safety timer.

7. General instructions for a trouble-free operation

- Make sure that the transmitter and receiver are on the same frequency.
- Check the batteries and replace or recharge them if necessary.
- The transmission range depends on various factors such as local, constructional conditions. It can be reduced due to shadowing effects of metal partitions (e.g. in lifts), high production machinery and reflections from metallic objects. Taking all negative circumstances into account, the average transmission range is between 30 and 50 m.
In practice the group should not have more than 30 participants, as the length of the group could extend beyond the transmission range of the system. Furthermore, the group should be kept within optical vision for safety reasons.
- To avoid popping try holding the Synexis TH2 microphone at a slight angle below the mouth.
- Blowing into the microphone to check that it is working can cause serious damage. Speaking a few words or counting is recommended.

8. Trouble shooting

Problem	Possible cause	Solution
Transmitter does not work	<ul style="list-style-type: none"> • Transmitter and receiver have different frequencies • Microphone is muted • Microphone is not properly connected to the Synexis TP2 beltback transmitter • Insufficient battery voltage • Poor battery contact, batteries inserted incorrectly 	<ul style="list-style-type: none"> • Check if transmitter and receiver have the same frequency. Adjust the same frequency with the channel selector switch. • Activate the microphone by turning off the mute function. • Connect the microphone properly to the Synexis TP2 beltback transmitter. • Replace the alkaline batteries or recharge the rechargeable batteries. • Check the batteries and insert them again.
Noise / chirping	<ul style="list-style-type: none"> • Two transmitters on the same frequency • Interference from other transmitters 	<ul style="list-style-type: none"> • Change the frequency of one transmitter. • Switch off the other transmitters.
Receiver does not work	<ul style="list-style-type: none"> • Batteries are empty or headphone is defective • Headphone is not connected properly to the receiver • Transmitter and receiver have different frequencies 	<ul style="list-style-type: none"> • Recharge / replace batteries or try another headphone. • Make sure that the headphone is connected properly. • Check if transmitter and receiver have the same frequency. Adjust the same frequency with the channel selector switch.
No reception	<ul style="list-style-type: none"> • Distance between transmitter and receiver is too long • Transmitter is not switched on • Transmitter works on a different frequency • No microphone connected to beltback transmitter 	<ul style="list-style-type: none"> • Reduce the distance between transmitter and receiver. • Switch on the transmitter. • Make sure that transmitter and receiver are on the same frequency. • Connect suitable microphone.

9. Components

Synexis RP2	Beltpack receiver, frequency range 216 MHz.	Order # 721.468
Synexis TH2	Handheld transmitter, frequency range 216 MHz	Order # 721.476
Synexis TP2	Beltpack transmitter, frequency range 216 MHz	Order # 721.484
Synexis TS2	Stationary transmitter, frequency range 216 MHz.	Order # 721.484
Synexis C8	Charger with 1 charging compartment for handheld transmitter, 8 charging compartments for beltpack transmitters/receivers	Order # 721.506
Synexis C10	Charger with 10 charging compartments for beltpack transmitters/receivers.	Order # 722.294
Synexis C20	Charging case with 1 charging compartment for handheld transmitter, 20 charging compartments for beltpack transmitters/receivers	Order # 721.514
Synexis CHP	Charger with 2 charging compartments for handheld transmitter, beltpack transmitter or beltpack receiver	Order # 721.522

10. Supplied accessories

Synexis RP2 receiver / Synexis TH2, TP2 transmitter

2 x NiMH rechargeable batteries (1600 - 2100 mAh)

Synexis TS2 stationary transmitter

Power adapter Rod antenna

19" mounting kit including connecting cables for antenna connection on the front

Synexis C8, C10, C20 charger

Power cable

Synexis CHP charger

Power adapter with multi-function connector

11. Optional accessories

Synexis RP2 receiver

DT 1 S	Single-ear-phone, 32 Ω , mono mini jack (3.5 mm), cable length 0.8 m (2.6 ft.).	Order # 471.399
DT 2	Headphone, 32 Ω , stereo mini jack (3.5 mm), cable length 0.8 m (2.6 ft.)	Order # 484.679
DT 3	Headphone, 32 Ω , stereo mini jack (3.5 mm), cable length 0.8 m (2.6 ft.)	Order # 484.571

Synexis TH2 handheld transmitter

MKV 11	Microphone clamp for stand-mounting the handheld transmitter.	Order # 407.232
GST 400	Microphone stand, 3/8", height 0.90 to 1.65 m (2.95 - 5.41 ft.), with G 400 boom	Order # 421.294
GST 400	Microphone stand, 5/8", height 0.90 to 1.65 m (2.95 - 5.41 ft.), with G 400 boom	Order # 423.130
GST 500	Microphone stand, 3/8", height 0.80 to 1.60 m (2.79 - 5.25 ft.), with telescopic G 500 boom	Order # 406.252
GST 500	Microphone stand, 5/8", height 0.80 to 1.60 m (2.79 - 5.25 ft.), with telescopic G 500 boom	Order # 406.945
ST 232	Desk stand, 3/8", height 165 mm (6.5"), diameter 130 mm (5")	Order # 273.309
ST 600	Stand, 3/8", height 0.87 - 1.575 m (2.85 - 5.17 ft.), with heavy base plate	Order # 421.316
WS 59 AZ	Wind shield, charcoal grey (also available in blue, green, yellow, red and white)	Order # 419.087
ZUV 85	Holding sling	Order # 248.509

Synexis TP2 beltpack transmitter

Opus 54.18 BLK	Neckworn microphone, condenser, cardioid, 4-pin female mini XLR connector, black	Order # 464.945
Opus 54.18 SC	same as above, but beige	Order # 474.223
Opus 55.18 Mk II BLK	Neckworn microphone, condenser, omnidirectional, waterproof, 4-pin female mini XLR connector, black	Order # 475.394
Opus 55.18 Mk II SC	same as above, but beige	Order # 475.386
TG-X 54.18 BLK	Neckworn microphone, condenser, supercardioid, 4-pin female mini XLR connector, black	Order # 700.061
TG-X 54.18 SC	same as above, but beige	Order # 700.053
TG-X 55.18 BLK	Neckworn microphone, condenser, omnidirectional, 4-pin female mini XLR connector, black	Order # 700.096
TG-X 55.18 SC	same as above, but beige	Order # 700.088
MCE 55.18 BLK	Mini condenser lavalier microphone, omnidirectional, waterproof, 4-pin female mini XLR connector, black	Order # 475.408
MCE 55.18 SC	same as above, but beige	Order # 475.416
MCE 10.18	Condenser lavalier microphone, hypercardioid, 4-pin female mini XLR connector, black	Order # 471.895

12. Frequencies

Channel display	Frequency
1	216.025 MHz
2	216.075 MHz
3	216.125 MHz
4	216.175 MHz
5	216.225 MHz
6	216.275 MHz
7	216.325 MHz
8	216.375 MHz
9	216.425 MHz
10	216.525 MHz
11	216.575 MHz
12	216.625 MHz
13	216.675 MHz
14	216.725 MHz
15	216.775 MHz
16	216.825 MHz
17	216.875 MHz
18	216.925 MHz
19	216.975 MHz

13. Technical specifications

Synexis RP2 beltpack receiver

Oscillation type	PLL synthesized control OSC
Carrier frequency range	216.025 - 216.975 MHz
Adjustable channel	19 channels
Frequency response	100 Hz - 10 kHz
Dynamic range	> 70 dB
Ambient temperature	-10 - +50 °C
T.H.D.	< 3%
Battery	Two 1.2 V AA (NiMH, 1600 mAh) or two 1.5 V AA (Alkaline)
Operation range	50 m (line of sight)
Sensitivity	1 μ V @ Sinad 12 dB
Antenna	Headphone cable serves as antenna
Adjacent channel performance	60 dB @ 50 kHz
IMD rejection	21.4 MHz / 455 kHz
Audio level	1200 mV
Headphone jack	3.5 mm jack, applicable for either mono or stereo headphone
Operation hours	NiMH – 16 hours, typically Alkaline – 18 hours, typically
Dimensions (D x W x H)	31.7 x 67.7 x 92 mm
Weight (without batteries)	90 g

Synexis TH2 handheld transmitter

Oscillation type	PLL synthesized control OSC
Carrier frequency range	216.025 - 216.975 MHz
Adjustable channel	19 channels
Frequency response	100 Hz - 10 kHz
Dynamic range	> 70 dB
Ambient temperature	-10 - +50 °C
T.H.D.	< 3%
Battery	Two 1.2 V AA (NiMH, 1600 mAh) or two 1.5 V AA (Alkaline)
Operation range	50 m (line of sight)
Microphone capsule	Condenser
Antenna	Mesh head antenna
RF output power	10 mW
Spurious emission	< 250 nW
Audio input	through mic capsule
Maximum deviation	\pm 10 kHz
Operation hours	NiMH – 7 hours, typically Alkaline – 8 hours, typically
Dimensions	
Diameter	47.7 mm
Height	262.4 mm
Weight (without batteries)	200 g

Synexis TP2 beltpack transmitter

Oscillation type	PLL synthesized control OSC
Carrier frequency range	216.025 - 216.975 MHz
Adjustable channel	19 channels
Frequency response	100 Hz - 10 kHz
Dynamic range	> 70 dB
Ambient temperature	-10 - +50 °C
T.H.D.	< 2%
Battery	Two 1.2 V AA (NiMH, 1600 mAh) or two 1.5 V AA (Alkaline)
Operation range	50 m (line of sight)
Microphone capsule type	Condenser
Antenna	Microphone cable serves as antenna
RF output power	10 mW
Spurious emission	< 250 nW
Audio input	Mic in and Aux in
Maximum deviation	\pm 10 kHz
Operation hours	NiMH – 8 hours, typically Alkaline – 10 hours, typically
Dimensions (D x W x H)	31.7 x 67.7 x 92 mm
Weight (without batteries)	90 g

Synexis TS2 stationary transmitter

Oscillation type	PLL synthesized control OSC
Carrier frequency range	216.025 - 216.975 MHz
Adjustable channel	19 channels
Frequency response	
Headphone*	20 Hz - 10 kHz
RP2	100 Hz - 10 kHz
RF output power**	12 dBm / 20 dBm (Low / High)
Dynamic range	> 70 dB
Ambient temperature	-10 - +50 °C
T.H.D.	< 1%
Operation range	100 m (line of sight)
Dimensions (D x W x H)	216 x 215 x 44 mm (without skidproof pad)
Weight	1257.5 g

*In order to change the transmitter internally to "Aux", please contact the Service department at beyerdynamic.

**In order to change the RF output power internally, please contact the Service department at beyerdynamic.

Synexis C8 charger

AC input	100 - 240 V, 50/60 Hz
Fuse	0.5 A, 250 V
Connection	AC input and AC output socket
Switching power supply input	100 - 240 V AC, 50/60 Hz
Switching power supply output	5 V DC, 12 A
Full loading current	555 mA (115 V) / 340 mA (230 V)
Ambient temperature (26 °C / 55%)	46 °C
Dimensions (W x D x H)	482 x 239.6 x 141.9 mm
Weight	5.26 kg
Charging compartments	8 for beltpack transmitter/receiver, 1 for handheld transmitter
LED power indicator	
LED charging indicator for handheld microphone	

Synexis C10 charger

AC input	100 - 240 V, 50/60 Hz
Fuse	0.5 A, 250 V
Connection	AC input and AC output socket
Switching power supply input	100 - 240 V AC, 50/60 Hz
Switching power supply output	5 V DC, 12 A
Full loading current	593 mA (115 V) / 356 mA (230 V)
Ambient temperature (26 °C / 55%)	46 °C
Dimensions (W x D x H)	482 x 239.6 x 141.9 mm
Weight	4.67 kg
Charging compartments	10 for beltpack transmitter/receiver
LED power indicator	

Synexis C20 charger

AC input	100 - 240 V, 50/60 Hz
Fuse	1 A, 250 V
Connection	AC input and AC output socket
Switching power supply input	100 - 240 V AC, 50/60 Hz
Switching power supply output	5 V DC, 12 A
Ambient temperature (26 °C / 55%)	56 °C
Dimensions (W x D x H)	874 x 359 x 227.5 mm
Weight	12.14 kg
Charging compartments	20 for beltpack transmitter/receiver, 1 for handheld transmitter
LED power indicator	

Synexis CHP charger

Input	AC 100 - 240 V / 47 - 63 Hz
Output	DC 5 V / 2.5 A, 12.5 W (max.)
Charging current per socket	430 - 470 mA
Ambient temperature (26 °C / 55%)	40 °C
Dimensions (W x D x H)	210 x 106 x 71.4 mm
Weight (without power adapter)	1.04 kg
Charging compartments	2 for handheld transmitter, beltpack transmitter/receiver

beyerdynamic))))

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