confidea

System Description

televic

Attention:

This manual for Wireless Confidea System 3.0 is valid only for all

WCAP+ firmware version	≥ 1.06
WCAP fpga version	≥ 1.06
WDU+ firmware version	≥ 1.06
WCAP+ 71.98.0033	
Cocon	≥ 3.02

01

General information

1 Copyright Statement

2 Trademarks

3 Safety Instructions and conformity info

The Confidea Wireless Conference system is state of the art and has been designed to meet quality. Nevertheless, the individual components of the conference system can cause danger for persons and material assets if

- The conference system is not used as intended,

- The conference system is set up by personnel not familiar with the safety regulations,

- The conference system is converted or altered incorrectly,

- The safety instructions are not observed.

3.1 FCC and ICES information

(U.S.A and Canadian Models only)

3.1.1 Statements for FCC and Industry Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

The Confidea wireless 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.

This Wireless discussion units and the Wireless Access Point comply 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.

> ⚠️ **Radiofrequency radiation exposure Information:**
> This Wireless discussion units and the Wireless Access Point comply with FCC radiation exposure limits set forth for an uncontrolled environment. These Wireless discussion units and the Wireless Access Point should be installed and operated with minimum distance of 20 cm between the radiator and your body.
>
> The RF-parts of the Wireless discussion units and the Wireless Access Point must not be co-located or operating in conjunction with any other antenna or transmitter.

> ⚠️ **Warning:**
> Changes or modifications made to this equipment not expressly approved by Televic NV may void the FCC authorization to operate this equipment.

3.2   Conformity and Certification info for Japan

This device has been granted a designation number by Ministry of Internal Affairs and Communications: according:
Ordinance concerning Technical Regulations Conformity Certification etc. of Specified
Radio Equipment (特定無線設備の技術基準適合証明等に関する規則)

Article 2 clause 1 item 19/3

Approval n°:   *202WW10120791/2″*
                   202XW10120791/2

> ⚠️ *Warning:*
> This device should not be modified, otherwise the granted designation number will be invalid.

3.3   Important safety instructions

1.   Read Instructions

All the safety and operating instructions should be read before the product is operated.

2.   Retain Instructions

The safety and operating instructions should be retained for future reference.

3.   Heed Warnings

All warnings on the product and the operating instructions should be adhered to.

4.   Follow Instructions

All instructions for installation or operating / use should be followed.

5.   Cleaning

Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Clean only with dry cloth.

6.   Ventilation

Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

7.   Heat

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

8.   Attachments

Do not use attachments not recommended by the product manufacturer as they may cause hazards.

9.   Water and Moisture

Do not use this product near water or in a moistures environment - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool, in an unprotected outdoor installation; and the like.

10.   Accessories

Only use attachments/accessories specified by the manufacturer. Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

11.   Moving

A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

12.   Power Sources

This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

13.   Power Lines

An outdoor system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outdoor system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal. U.S.A. models only - refer to the National Electrical Code Article 820 regarding installation of CATV systems.

14. Grounding or Polarization

Do not defeat the safety purpose of the polarized or ground-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

15. Power-Cord Protection

Power-supply cords should be routed to that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plug, convenience receptacles, and the point where they exit from the product.

16. Lightning

For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power-line surges.

Not applicable when special functions are to be maintained, such as evacuation systems

17. Overloading

Do not overload wall outlets, extension cords or integral convenience receptacles as this can result in a risk of fire or electric shock.

18. Object and Liquid Entry

Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

19. Inflammable and Explosive Substance

Avoid using this product where there are gases, and also where there are inflammable and explosive substances in the immediate vicinity.

20. Heavy Shock or Vibration

When carrying this product around, do not subject the product to heavy shock or vibration.

21. Servicing

Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

22. Damage Requiring Service

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

a. When the power-supply cord or plug is damaged.

b. If liquid has been spilled, or objects have fallen into the product.

c. If the product has been exposed to rain or water.

d. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.

e. If the product has been dropped or damaged in any way.

f.   When the product exhibits a distinct change in performance-this indicates a need for service.

23.   Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

24.   Safety Check

Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

25.   Coax Grounding

If an outside cable system is connected to the apparatus, be sure the cable system is grounded.
U.S.A. models only: Section 810 of the National Electrical Code, ANSI/NFPA No.70-1981, provides information with respect to proper grounding of the mount and supporting structure, grounding of the coax to a discharge apparatus, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
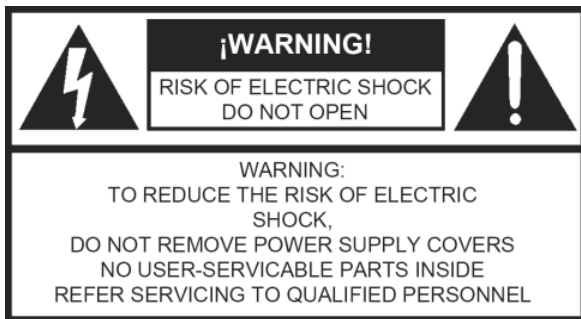
3.4   General conformity info

The Confidea Wireless Conference system is compliant with following standards:

- EN60065
- EN55103-1/-2
- IEC60914

3.5   Power Connections

For permanently connected equipment, a readily accessible disconnect device shall be incorporated in the fixed wiring; for pluggable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible.

¡WARNING!
RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING:
TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE POWER SUPPLY COVERS
NO USER-SERVICABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED PERSONNEL

Warning:
To prevent electric shock, do not use this (polarized) plug with an extension cord receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

This label may appear on the bottom of the apparatus due to space limitations.

The lightning flash with an arrowhead symbol, with an equilateral triangle, is intended to alert the user to the presence of un-insulated 'dangerous voltage' within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation mark within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Warning:
To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture. Do not open the cabinet; refer servicing to qualified personnel only.

Attention:
Installation should be performed by qualified service personnel only in accordance with the National Electrical Code or applicable local codes.

4 Confidea wireless system information

4.1 General system architecture

4.1.1 Components

Confidea G3 is a wireless conference system offering conferencing capabilities over a robust wireless link. Depending on the model, these facilities include discussion, voting and/or language distribution.

The units (delegates/chairman) are table top units that make a wireless link to a Wireless Conference Access Point called WCAP G3. This Access Point has a powerful built-in web server that allows configuring and monitoring of the system from any PC or mobile device through a standard internet browser.

4.1.2 Standalone system

A stand-alone Confidea wireless system offers basic discussion and voting. (Depending on the model).

In this case there are no connections to other systems, except for the Confidea WCAP that can be connected to a LAN network for monitoring and configuring.

The Confidea access point (WCAP) will in this set-up act as a small central unit, offering all the functionality for a basic discussion application.

5 Wireless network and frequency bands

5.1 Wireless LAN

Most of the wireless local area computer networks today are based on the IEEE 802.11 a/b/g standards. These standards were developed by the IEEE (Institute of Electrical and Electronics Engineers) in order to insure inter-operability between different WLAN vendors.

802.11 Standard	Release Date	Frequency (GHz)	Maximum bit rate (Mbits/sec)	Modulation type
a	1999	5	54	OFDM
b	1999	2.4	11	DSSS
g	2003	2.4	54	OFDM

Note:
The 2.4GHz and 5GHz frequency bands are license free world wide.
However you must be aware of country specific limitations and follow them.

5.2 Televic Confidea wireless system.

The wireless network of the Televic Confidea wireless system is based on the 802.11 a/g standards.

Additional protocols have been added on top of the 802.11 a/g standards to provide high robustness against interference from other wireless devices. These additional protocols also ensure a guaranteed quality of service for the audio streams on the wireless network.

5.2.1 Frequency bands

The Confidea wireless system supports the following frequency bands

ISM 2.4 GHz	RLAN low	RLAN high	ISM 5 GHz
2412 MHz	5180 MHz	5500 MHz	5745 MHz
2417 MHz	5200 MHz	5520 MHz	5765 MHz
2422 MHz	5220 MHz	5540 MHz	5785 MHz
2427 MHz	5240 MHz	5560 MHz	5805 MHz
2432 MHz	5260 MHz	5580 MHz	5825 MHz
2437 MHz	5280 MHz	5600 MHz	
2442 MHz	5300 MHz	5620 MHz	
2447 MHz	5320 MHz	5640 MHz	
2452 MHz		5660 MHz	
2457 MHz		5680 MHz	
2462 MHz		5700 MHz	
2467MHz			
2472 MHz			

In the **2.4 GHz ISM** (Industrial Scientific Medical) band, there are 13 overlapping high-frequency carriers available. Only 3 non-overlapping carriers are available.

ISM 2.4 GHz	Europe	USA and Canada	Japan	Korea
2412 MHz	V	V	V	V
2417 MHz	V	V	V	V
2422 MHz	V	V	V	V
2427 MHz	V	V	V	V
2432 MHz	V	V	V	V
2437 MHz	V	V	V	V
2442 MHz	V	V	V	V
2447 MHz	V	V	V	V
2452 MHz	V	V	V	V
2457 MHz	V	V	V	V
2462 MHz	V	V	V	V
2467MHz	V	X	V	V
2472 MHz	V	X	V	V

In the "**RLAN low**" frequency band, there are 8 non-overlapping wireless carriers

RLAN LOW	Europe	USA and Canada	Japan	Korea
5180 MHz	V	V	V	V
5200 MHz	V	V	V	V
5220 MHz	V	V	V	V
5240 MHz	V	V	V	V
5260 MHz	V	V	V	V
5280 MHz	V	V	V	V
5300 MHz	V	V	V	V
5320 MHz	V	V	V	V

When transmitting in the 5.15-5.25 GHz band, this device is restricted to indoor use only.

In the "**RLAN high**" frequency band, there are 10 non-overlapping carriers.

RLAN HIGH	Europe	USA and Canada	Japan	Korea
5500 MHz	V	V	V	V
5520 MHz	V	V	V	V
5540 MHz	V	V	V	V
5560 MHz	V	V	V	V
5580 MHz	V	V	V	V
5600 MHz	V	X	V	V
5620 MHz	V	X	V	V
5640 MHz	V	X	V	V
5660 MHz	V	V	V	X
5680 MHz	V	V	V	X
5700 MHz	V	V	V	X

In the "**5 GHz ISM**" frequency band, there are 5 non-overlapping carriers. All of these carriers can be used.

5 GHz ISM	Europe	USA and Canada	Japan	Korea
5745 MHz	V	V	X	V
5765 MHz	V	V	X	V
5785 MHz	V	V	X	V
5805 MHz	V	V	X	V

System Components

6 Wireless contribution units

6.1 Introduction

The wireless contribution units, called Confidea WDU, consist of Delegate and Chairman Units. Both are used for speech reinforcement in a conference room. The chairman units are used to guide and control an ongoing discussion.

6.2 Controls and indicators

The Confidea WDU has the following features:

1. **Microphone connector**
    Connection of a microphone to the wireless unit.

2. **Microphone button**
    Activation/deactivation of the microphone.

3. **Loudspeaker**
    distributes the floor channel. Mutes in case microphone is active.

4. **Headphone connectors**
    Connection of headphone to the wireless unit. Mono- and stereo headphones can be used.

5. **Volume buttons**
    Change the volume level of the headphones.

6. **Microphone status LEDs**

    Indication LEDs show the status of the microphone. (Red: active, green: request)

7. **PRIOR button (Chairman Unit)**
    Long press: temporarily deactivates the microphone of all active units.
    Short press: permanently deactivates the microphone of all active units.

8. **Next button (Chairman Unit)**
    Grants the floor to the next delegate in the waiting list.

9. **System volume control**
    Adjust system volume by holding the button and pressing the volume buttons.

10. **Voting buttons**
    Each voting button has a blue LED indicator.

11. **Voting control buttons**
    Used by the chairman to control a voting session. (Start / pause / stop)

12. **Information display**
    Indication of voting, volume and channel information.

13. **RFID card reader**

14. **RF Status LEDs**
    Blue LED Indication of the condition of the RF connection.
    Off   :   connection established
    Blinking   :   searching connection
    On   :   out of range

15. Battery status LEDs

Red LED blinking the remaining operation time

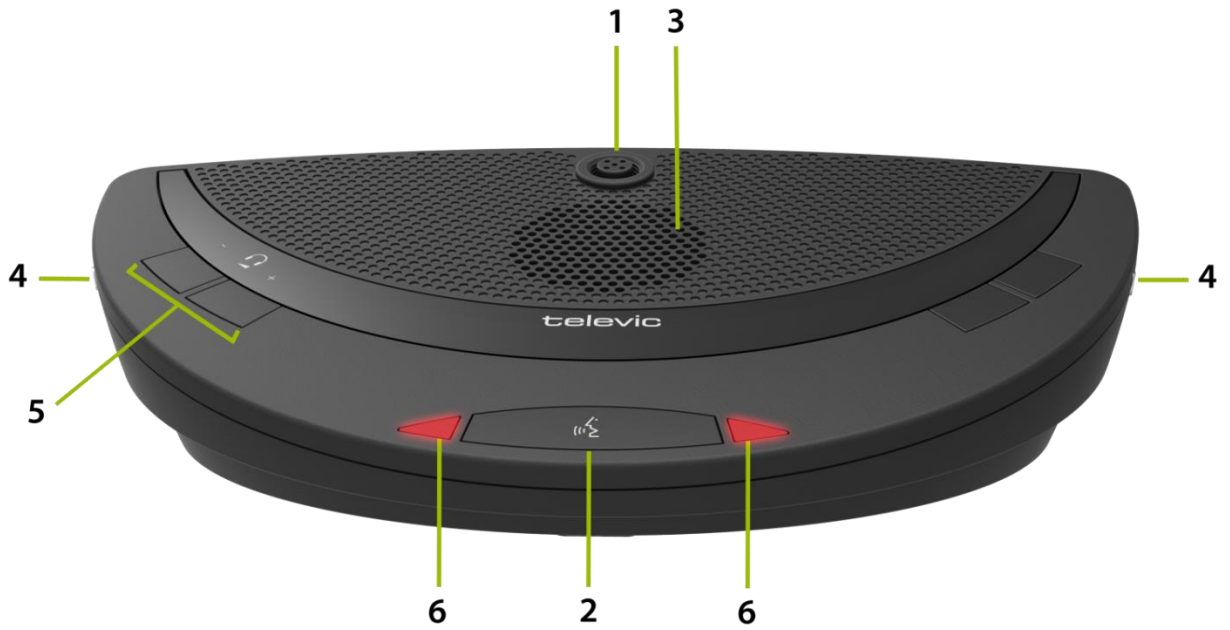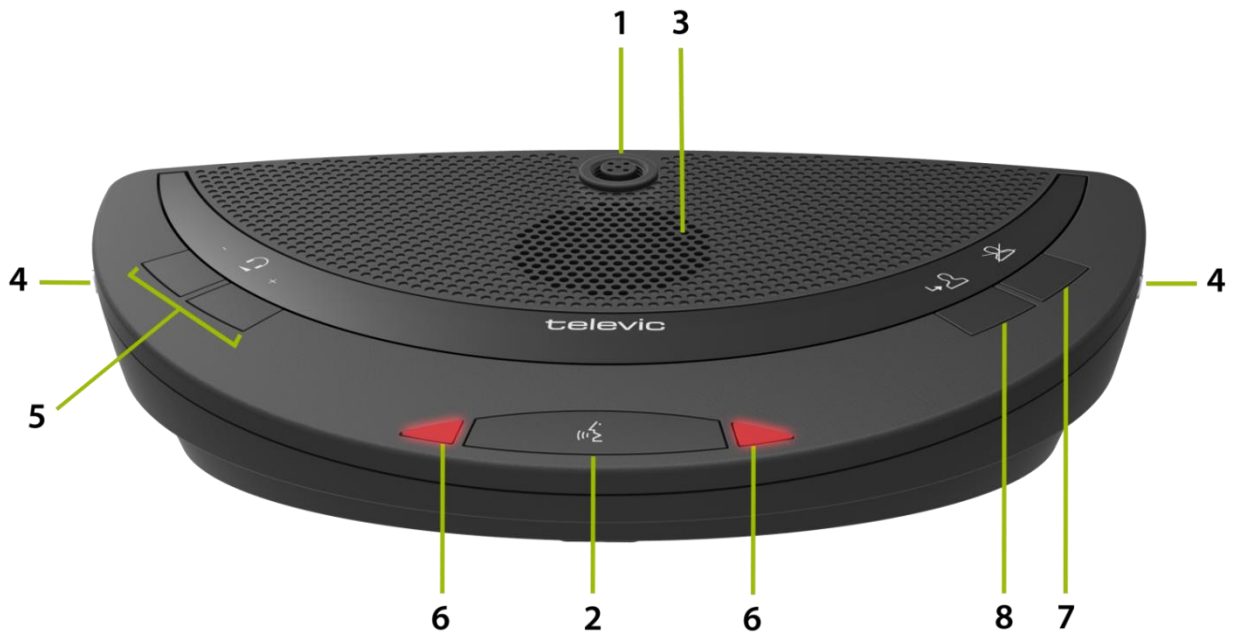|		
1 Hz	:	4h remaining
2Hz	:	2h remaining
4Hz	:	1h remaining

Note:

Units with the out of range LED on will be switched off after 2 minutes.
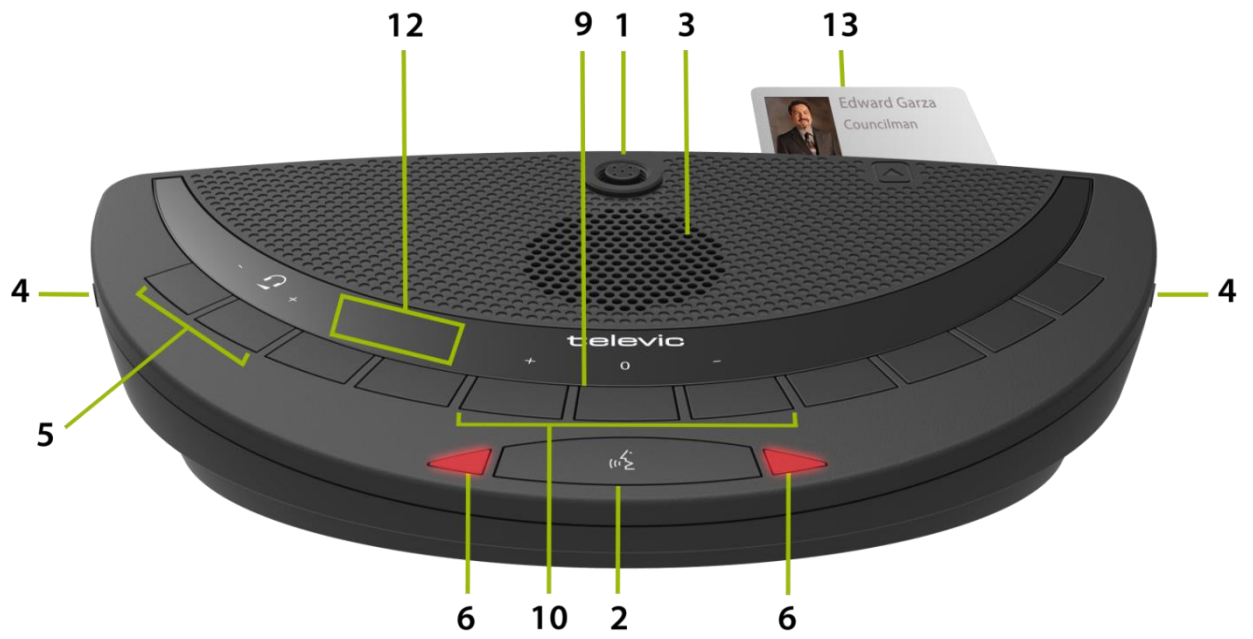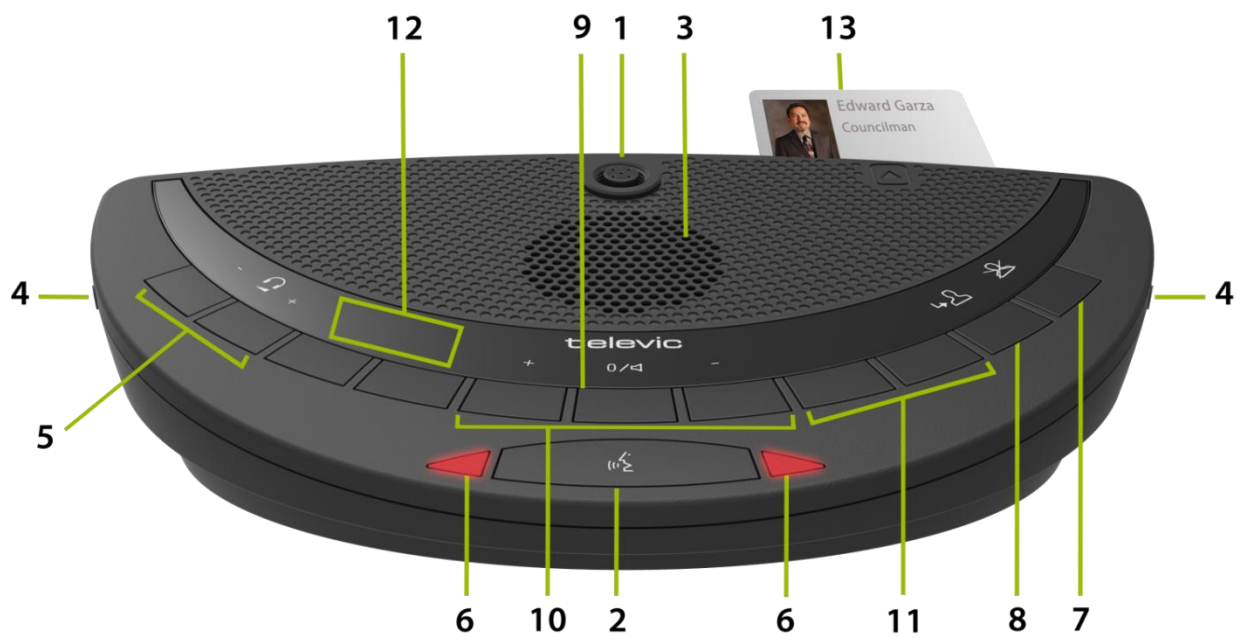
Confidea DD G3

Confidea CD G3

Confidea DV

Confidea CV

Confidea Back

6.3 Installation

In order to use the Confidea WDU, the battery and microphone need to be installed. For instructions, see the microphone and battery installation and handling.

Disconnect the battery to avoid unwanted operation of the unit. Keep the devices in a clean and dry area.

6.4 Startup and shutdown of delegate unit

To startup the delegate units simply press the microphone button for a few moments, until the LEDs are blinking.

When units are connected to WCAP and the WCAP is switched off, the units will go to sleep mode after +/_ 2 min, if no connection with another WCAP could be established

If the delegate units are activated they will continue to search for a connection with a WCAP, so if no connection with a WCAP could be established, the delegate units will remain on!

To Switch off the delegate units or the WCAP needs to be deactivated to trigger automatic sleep mode after +/_ 2 min, or batteries have to be removed

There is no switch off feature available via the delegate unit buttons

7 Microphone

7.1 Introduction

The Confidea-D MIC30SL (30 cm) - D MIC40SL (40 cm) - D MIC50SL (50 cm) pluggable microphone is used with the different delegate- and chairman units. This microphone ha a uni-directional response for optimum performance even in noisy conditions, and has a very low susceptibility to RF-interference from mobile phones.

7.2 Electrical and acoustic properties

Transducer type	Back electret (condenser)
Operating principle	Pressure gradient
Polar pattern	Uni-directional, cardioïd
Nominal impedance	Bias resistor = 1k2 Vdd = 3.3 V DC, SPL = 1Pa
Max.SPL at 1 kHz	110 DB SPL (1% THD+N)
Signal to noise ratio	>67 dB(A)
Free field sensitivity	9.4 mV/Pa, ±3 dB @ 1 kHz or (-40.5 dB, 0 dB = 1 V/Pa @ 1 kHz)
Power supply	3.3 V DC, 0.5 mA
Consumption	0.5 mA (without LED ring); max. 25 mA (with illuminated ring)

7.3 Microphone connector

- pin 1 : microphone GND

- pin 2 : microphone signal

- pin 3 : unused

- pin 4 : LED +

- pin 5 : LED –
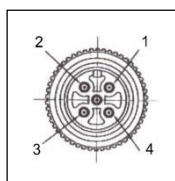
7.4 Operation

The microphone contains the following elements.

- **Indicator ring:** shows the status of the microphone

- **Union nut:** attaches the pluggable microphone to the unit

- **Microphone plug:** connects the microphone to the unit

The colour of the microphone indicator ring shows the status of the microphone.

Color	Condition
Red (on)	Microphone active
Red (flash)	Last minute of speech time (if set via software) or Speech request (if set via software)
Green (on)	Microphone is initialized
Green (flash)	Microphone request

8 Battery pack

8.1 Introduction

The Confidea wireless battery pack is used with the wireless conference units.

Output voltage:	7.2V
Capacity:	6600 mAh
Charge time:	4 Hours
Max charge voltage:	15V
Charge current:	2 A
Autonomy:	+ 28 Hours (Typical)

8.2 Safety

> ⚠️ **_Warning:_**
> Danger of explosion if the battery pack is incorrectly replaced
>
> Replace with the same or equivalent type
>
> Do not use or leave the battery pack at very high temperature conditions (e.g. strong direct sunlight or a vehicle in extremely hot conditions)
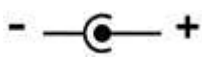>
> Do not throw the battery pack into fire

8.2.1 Power supply

15V / 2A

DC power plug: outer diameter: 5.5mm

Inner diameter: 2.1mm

Polarity:

8.3 Controls and indicators

The battery pack contains:

1. **Test button**
   Push to check the capacity and the status of the battery pack.

2. **Capacity and status indicator**
   Shows the capacity of the battery pack

3. **Clip**
   Locks/unlocks the battery pack in the wireless unit.

4. **Power LED**
   indicates that the charger is connected and powered.

5. **Charging LED**
   Indicates the charging status (in progress or completed) when the wall plug battery charger is connected.

6. **Socket**
   to connect the charger plug.
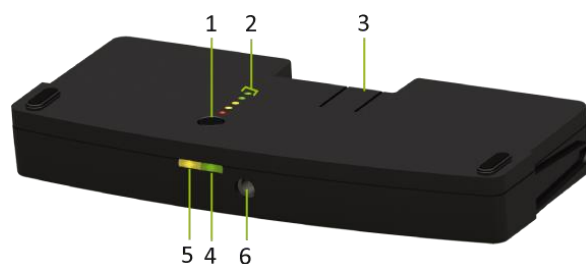
8.4 Installation

Install a charged battery pack in a compatible device. To check the condition of the battery pack, push the test button 1.

The indicator is a five segment LED. The first LED (LED1 closest to the test button) is red and indicates a low capacity battery. The higher the charge, the higher the number of LEDs that light up.

| LED on	Remaining charge
LED 1 (red)	0-20%
LED 2 (orange)	20-40%
LED 3 (orange)	40-60%
LED 4 (green)	60-80%
LED 5 (green)	80-100%

After the display of the battery condition (for 4-5 seconds), the first three LEDs (LED1 to LED3) will indicate the status of the charge circuitry.

LED 3 is flashing:	Charging circuitry is ok
All other indications:	Indicates a failure Disconnect the charger from the battery pack and remove the battery pack from the conference unit.

9 Wireless Conference Access Point (WCAP)

9.1 Introduction

All communication to and from the wireless units is controlled by the WCAP.
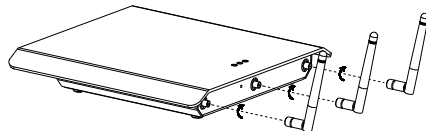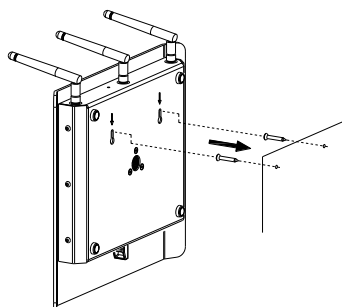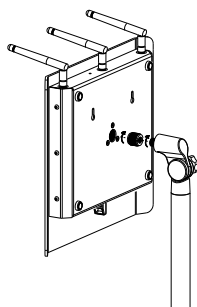

9.2 Installation

9.2.1 Wall Mounting

The WCAP can be mounted on the wall by means of the 2 fixing holes at the bottom side of the device

To prevent accident, this device must be securely attached to the wall in accordance with the installation instructions.
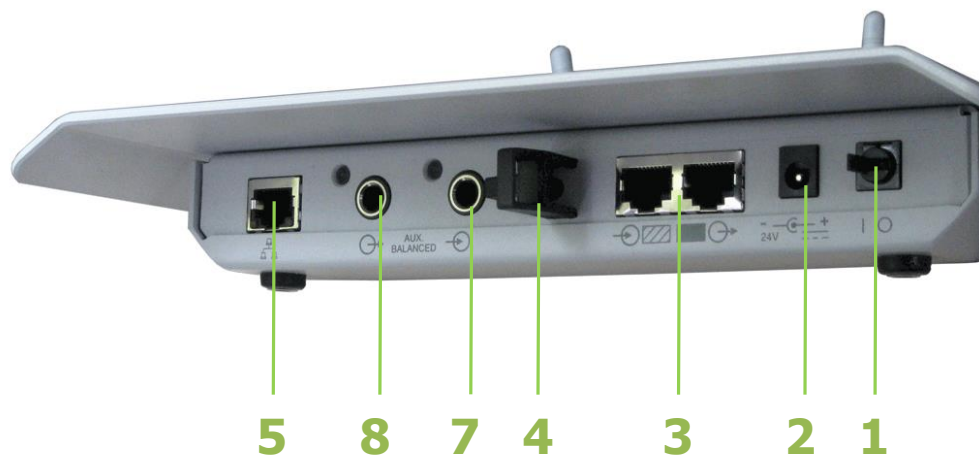

9.2.2 Tripod Mounting

The WCAP can also be mounted on a tripod.

9.3 Connections and Controls

1. **Power Switch**
   The WCAP can be switched on/off with the power switch at the back of the WCAP.

2. **Power Supply**
   The power supply of the WCAP is provided by a 110 - 230VAC/24VDC adaptor

3. **Digital Bus Connection**
   Connection with the uniCOS conference buts is done through RJ45 – connectors at the back of the WCAP

4. **Cable retention clip**
   The cable retention clip is used to safeguard the cable of the power adaptor

5. **LAN port**
   Through the LAN connector at the back of the WCAP, a PC can be connected using a standard cat. 5e FTP network cable.

6. **Status LEDS**
   The status LEDs give information on selected mode, RF link quality (Signal/Noise Ratio) and delegate unit detection

7. **Aux input**
   Auxiliary balanced output connector

8. **Aux**

9. **output**
   Auxiliary balanced input connector

Specifications of th ACDC adapter:

24V / 0.625A

DC power plug: outer diameter: 5.5mm

Inner diameter: 2.1mm

Polarity: − —Ⓒ— +

LED1	LED2	LED3	Meaning
White			Boot sequence started
Blinking red			Unitialized golden mode
Fixed red			Initialized golden
Blinking green			Unitialized application
Fixed Green			Initialized application
	Fixed green		Connected with uniCOS
	Blinking red		Connection error
	Blinking green		Connecting with uniCOS
	Off		Standalone
	Blinking white		Update in progress
		Red	Transmission error/Retransmit
		Green	Packet transmit
		Off	Idle
Blinking red, green, blue	Blinking red, green, blue	Blinking red, green, blue	Test mode

Remark:

At startup, the transition from boot sequence started (blinking white led) to application mode started (blinking green) is very short and so the short red led activation in between might even not be noticed