televic
conference

CONFIDEA G3

USER & INSTALLATION GUIDE

from
Bramshaw ICS
Conference Communications

1800 507 557
info@bramshaw.com.au
www.bramshaw.com.au

CONTENTS

INTRODUCTION

This chapter will give you a short introduction to this manual and a general description of the Confidea G3 and its functionalities.

Compatibility

This user manual applies to the following products:

Product	Version
WCAP + firmware version	≥ 1.06
WCAP fpga version	≥ 1.06
WDU + firmware version	≥ 1.06
WCAP + 71.98.0033	
CoCon	≥ 3.02

ABOUT CONFIDEA G3

The Confidea Wireless G3 uses wireless technology to give you much more flexibility to set up your conference system. The basic system consists of the following elements:

- The Confidea Wireless Conference Access Point (WCAP)(A), which acts as a mini central unit.
- Combine this with multiple Wireless Delegate/Chairman Units (WDU)(B).
- Using the provided audio inputs and outputs (C), connect to different audio systems such as a handheld (wireless) microphone, a room audio system, a video conferencing system, etc.
- The access point has a built-in web server (E), which you can access from any desktop computer, laptop, tablet or smartphone. You can link the WCAP with the CoCon software to allow more extensive configuration of specific features such as voting.
- Link the Confidea system to a camera (F) using the LAN connection (D). You can find more information on how to configure this in the chapter Camera control.

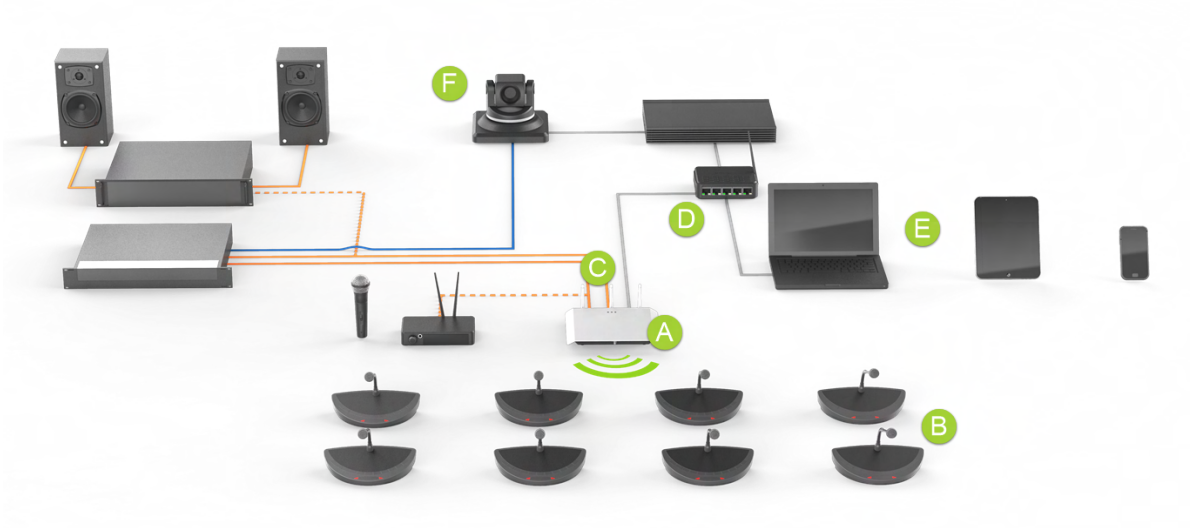


Figure 1-1 *Confidea G3 setup*

CONFIDEA G3 COMPONENTS

A Confidea G3 setup consists of three elements: the Confidea G3 WCAP, Confidea G3 units, a charging case. This chapter will describe these hardware components together with how you can use these components to match your needs.

INTRODUCTION

General System Architecture

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.

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.

WIRELESS CONFERENCE ACCESS POINT (WCAP)

Introduction

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

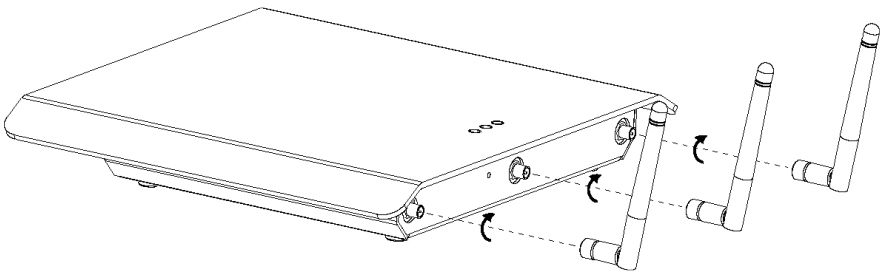


Figure 1-2 *How to attach the antennas to the WCAP*

Installation

WALL MOUNTING

The WCAP can be mounted on the wall by means of the 2 fixing holes at the bottom of the device. To prevent accidents from happening, attach the device to the wall in accordance with the installation instructions.

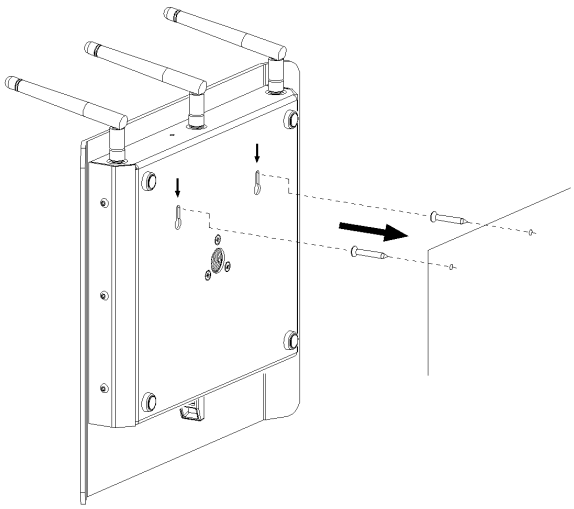


Figure 1-3 *How to mount the Confidea G3 WCAP to a wall*

TRIPOD MOUNTING

The WCAP can also be mounted on a tripod.

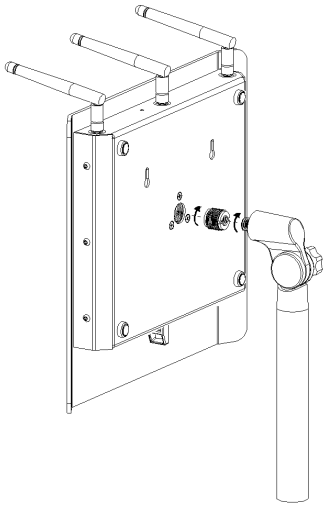


Figure 1-4 *How to mount the WCAP onto a tripod*

Connections And Controls

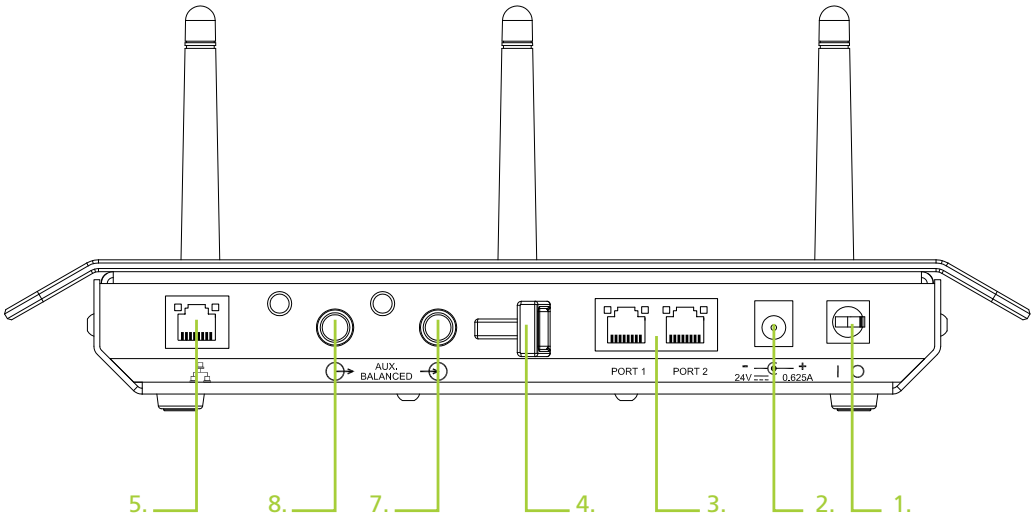


Figure 1-5 *Confidea WCAP connections*

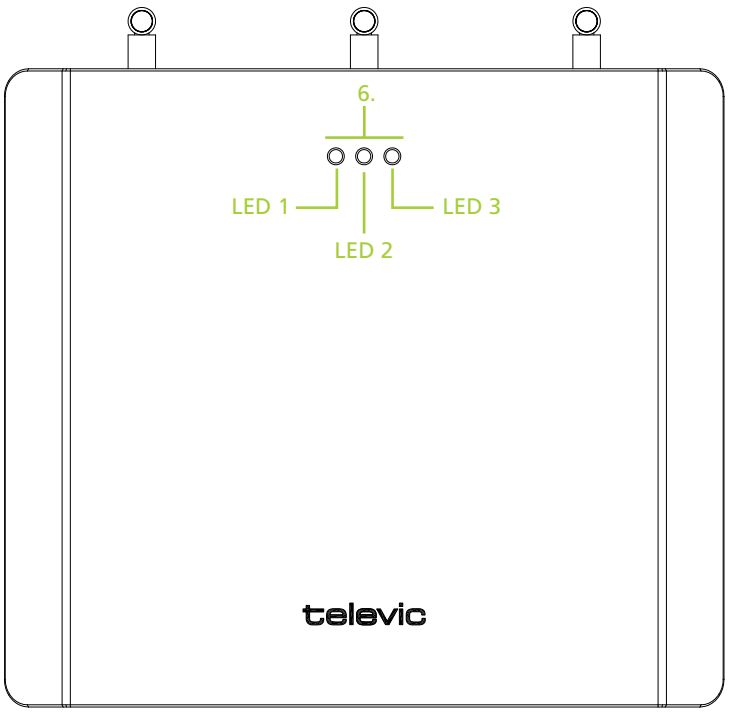
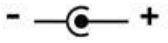


Figure 1-6 *Confidea WCAP LEDs*

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 Plixus conference bus 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**: See below for detailed info on LED status
7. **Aux input**: Auxiliary balanced input connector
8. **Aux output**: Auxiliary balanced output connector

SPECIFICATIONS OF THE ACDC ADAPTER:

- 24V / 0.625A
- DC power plug: outer diameter: 5.5mm

- Inner diameter: 2.1mm
- Polarity: 

LED MEANING

LED 1	LED 2	LED 3	Description
White			Boot sequence started
Blinking red			Unitialized fallback mode
Fixed red			Initialized fallback mode
Blinking green			Unitialized application
Fixed green			Initialized application
	Blinking white		Update in progress
Fixed green		Fixed blue	Plixus coupling active
Fixed green		Blinks blue	Plixus coupling active and initialization is open
Fixed green	Fixed pink	Fixed blue	Plixus coupling active, the WCAP has no associated Confidea G3 units (when more then 1 WCAP is coupled with Plixus)
Blinking red, green, blue	Blinking red, green, blue	Blinking red, green, blue	Test mode

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

WIRELESS CONTRIBUTION UNITS

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.

Controls And Indicators

The Confidea WDU has the following features:

Figure 1-7 *The front view of the Confidea G3 CIV unit with all possible options*

Figure 1-8 *The back view of the Confidea G3 CIV unit with all possible options*

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. **Language selection buttons**: use to select your language

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

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

Install Unit

In order to use the Confidea WDU, first install the battery and microphone. For instructions, see "Battery pack" on page 30 and "Microphones" on page 33. Disconnect the battery to avoid unwanted operation of the unit. Keep the devices in a clean and dry area.

Startup And Shutdown Of Delegate Unit

To start up the delegate units simply press the microphone button for a few seconds until the LEDs start to blink. When units are connected to a WCAP that is switched off , the units will go into sleep mode after about 2 minutes, 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 to deactivate the automatic sleep mode, remove the battery of the unit.

Mic led indications during startup or lost WCAP connection:

LED	Meaning
Both LEDs blink red	Searching for WCAP connection after startup
Both LEDs blink green	green WCAP connection lost
Both LEDs blink red for a few seconds + Left led fixed & right led blinking few seconds	Trying to connect to WCAP

BATTERY PACK

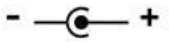
Introduction

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)

Read the safety instructions before using the Lithium battery.

Power Supply

- 15V / 2A
- DC power plug:
  - outer diameter: 5.5mm
  - Inner diameter: 2.1mm
- Polarity: 

Controls And Indicators

The battery pack contains:

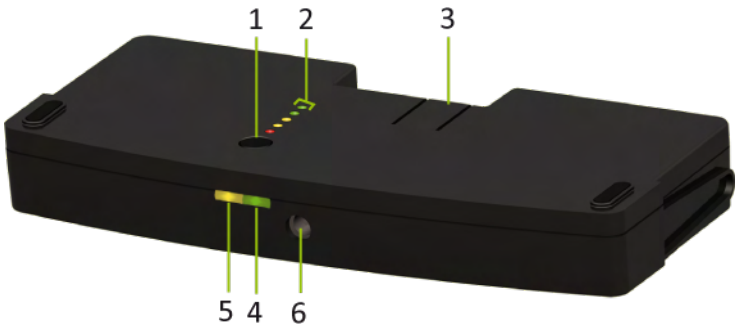


Figure 1-9 *Confidea G3 battery pack bottom side up*

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.

Battery Charging And Handling

- Charge the Confidea battery pack immediately on receipt.
- Immediately recharge the battery pack when the remaining capacity drops below 20%. This can be noticed when only LED1 (red) lights up on the battery pack (see section 8.5)
- Empty battery packs must be charged within 30 days.
- Do not leave an empty battery pack in a delegate unit.
- Best practices for maximizing the lithium ion battery life is to keep the batteries in the charging trays charging with proper ventilation between uses (i.e., charging in the CHC transport case with the cover open)

The lifetime of a battery pack can be severely affected if it is completely drained. If a delegate unit is put in storage or is not being used for a while, remove the battery pack and place it in the charger.

Store the Confidea G3 battery under the correct conditions: between 0 °C and 35 °C and with a relative humidity between 5% and 75 %

Installation

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 charging circuitry.

LED status	Description
LED 3 is blinking	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.

MICROPHONES

Introduction

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

Electrical And Acoustic Properties

Parameter	Value
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)

Microphone Connector

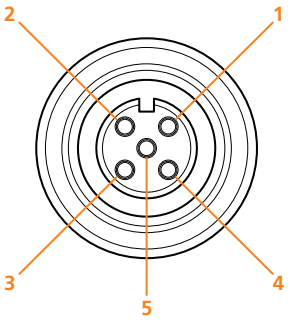


Figure 1-10 *Microphone connections*

- pin 1 : microphone GND
- pin 2 : microphone signal
- pin 3 : unused
- pin 4 : LED +
- pin 5 : LED –

Operation

The microphone contains the following elements.

- **Indicator ring**: shows the status of the microphone
- **Union nut**: attaches the removable microphone to the unit
- **Microphone plug**: connects the microphone to the unit

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

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

INSTALLATION DESIGN

This chapter describes how to set up the installation of the Confidea G3 system before you can physically install it. You will find more information on the technical details of the different components and how to combine and configure them.

WIRELESS NETWORK AND FREQUENCY BANDS

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
Wi-Fi 2 (a)	1999	5	54	OFDM
Wi-Fi 1 (b)	1999	2.4	11	DSSS
Wi-Fi 3 (g)	2003	2.4	54	OFDM

Table 1-1 *Wireless LAN standards*

The 2.4GHz and 5GHz frequency bands are license free world wide.

However you must be aware of country specific limitations and follow them.

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.

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			

Table 1-2 *Requency bands supported by Confidea G3*

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	√	√	√	X
2417 MHz	√	√	√	X
2422 MHz	√	√	√	X
2427 MHz	√	√	√	X
2432 MHz	√	√	√	X
2437 MHz	√	√	√	X
2442 MHz	√	√	√	X
2447 MHz	√	√	√	X
2452 MHz	√	√	√	X
2457 MHz	√	√	√	X
2462 MHz	√	√	√	X
2467MHz	√	X	√	X
2472 MHz	√	X	√	X

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

RLAN low	Europe	USA and Canada	Japan	Korea
5180 MHz	√	√	√	X
5200 MHz	√	√	√	X
5220 MHz	√	√	√	X
5240 MHz	√	√	√	X
5260 MHz	√	√	X	X
5280 MHz	√	√	X	X
5300 MHz	√	√	X	X
5320 MHz	√	√	X	X

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	√	√	X	X
5520 MHz	√	√	X	X
5540 MHz	√	√	X	X
5560 MHz	√	√	X	X
5580 MHz	√	√	X	X
5600 MHz	√	X	X	X
5620 MHz	√	X	X	X
5640 MHz	√	X	X	X
5660 MHz	√	√	X	X
5680 MHz	√	√	X	X
5700 MHz	√	√	X	X

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

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

INSTALLATION PROCESS

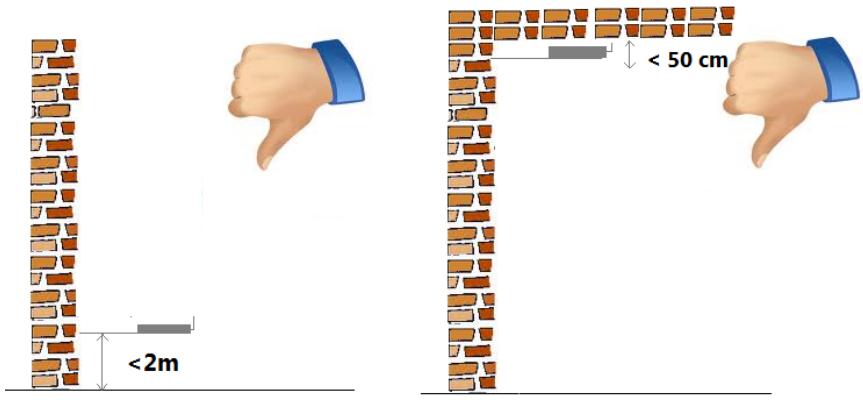
This chapter describes how to physically set up and install the Confidea G3 system. Here you can find all technical details needed to correctly install all Confidea G3 components.

MOUNT THE CONFIDEA WCAP

POSITION THE CONFIDEA WCAP

- Do not place the WCAP behind obstacles such as walls, cabinets, panels, projection screen, glass screens etc. These objects can significantly reduce RF signal strength as well as quality.
- Antennas should not be placed above suspended ceilings as this can cause unnecessary reflections and signal attenuation.
- Power cables, cable trays and electric machinery can also influence the signal of the antennas.
- Do not put antennas in metal cable trays or metal shelves as this will significantly reduce the signal quality.
- Microwave ovens and Bluetooth devices may cause intermittent interference in the 2.4 GHZ range, this is why we recommend the 5 GHz range.
- Avoid mounting the WCAP on a pillar since this will cause signal "shadows", which are areas with reduced or no signal reception.

The images below show how to position the WCAP correctly.



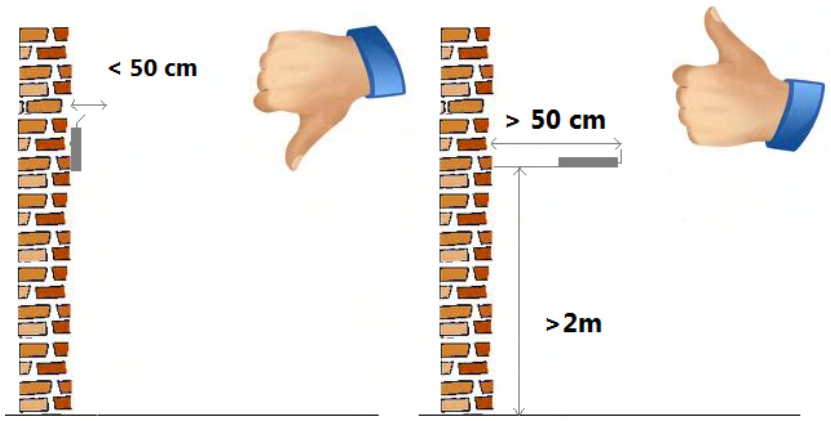


Figure 1-11 *How to position a WCAP in relation to a wall or ceiling*

OPTIMIZE POSITION OF THE WCAP ANTENNAS

- When the antennas of the WCAP are positioned very close to a wall or ceiling, this may result in absorption of the RF signal , which can decrease RF signal quality.
- It is important not to point the antennas directly towards the units.
- The angle of the antennas in relation to the position of the delegate units affects the overall RF link quality between WCAP and delegate units. See the images below for more information.

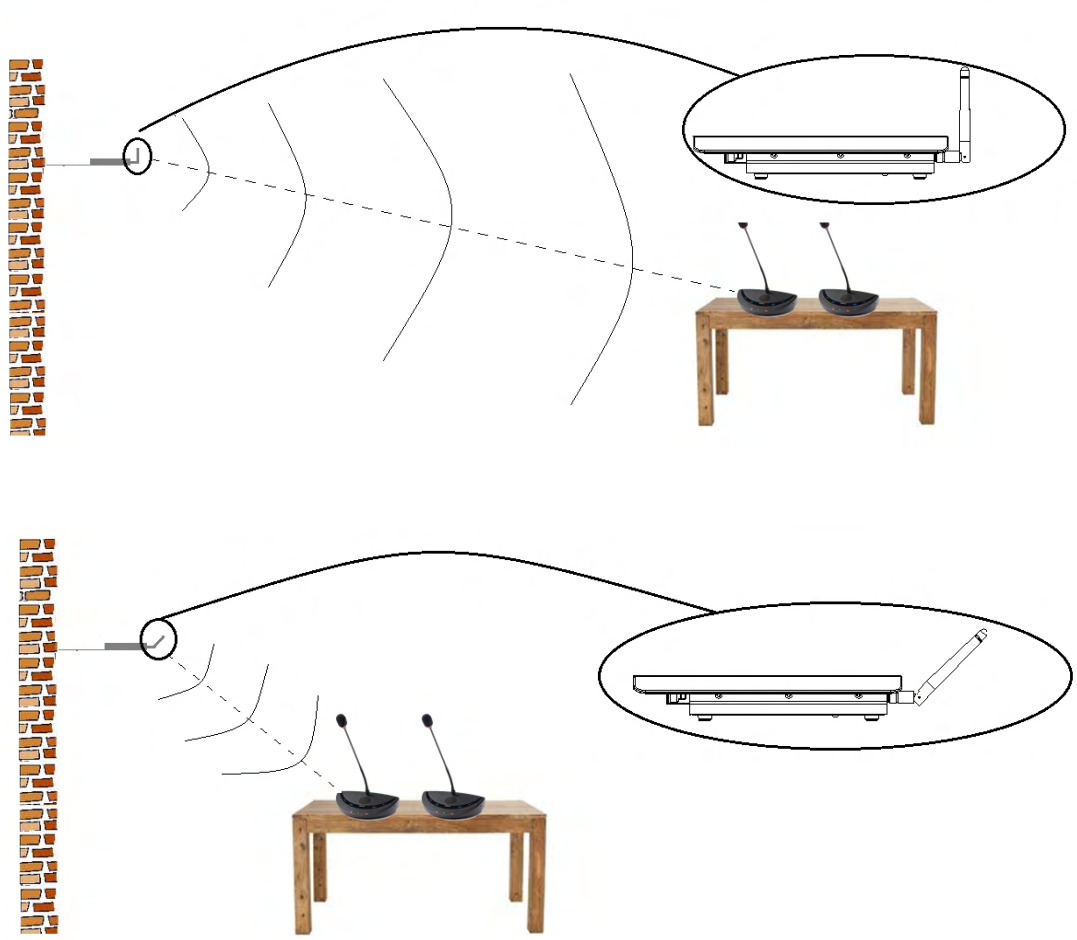


Figure 1-12 *How to position the antennas of the Confidea WCAP*

MAXIMUM RANGE OF THE WCAP

A single WCAP has a range of 30 m in “open field". However, the **maximum range** can depend less on the position of the WCAP by **positioning** the **antennas** in relation to the position of the delegate units. The **frequency** used also has an effect on the range of the WCAP. The range decreases gradually for the highest 5 RF bands, with a minimal range of 25 m (in optimal conditions)

To extend the range of the WCAP you can couple several WCAPs to a Plixus engine. By using multiple WCAPs you are able to connect to much more units spread out over the entire meeting room. For more information on Plixus and how to connect both system see the Plixus installation and user guide.

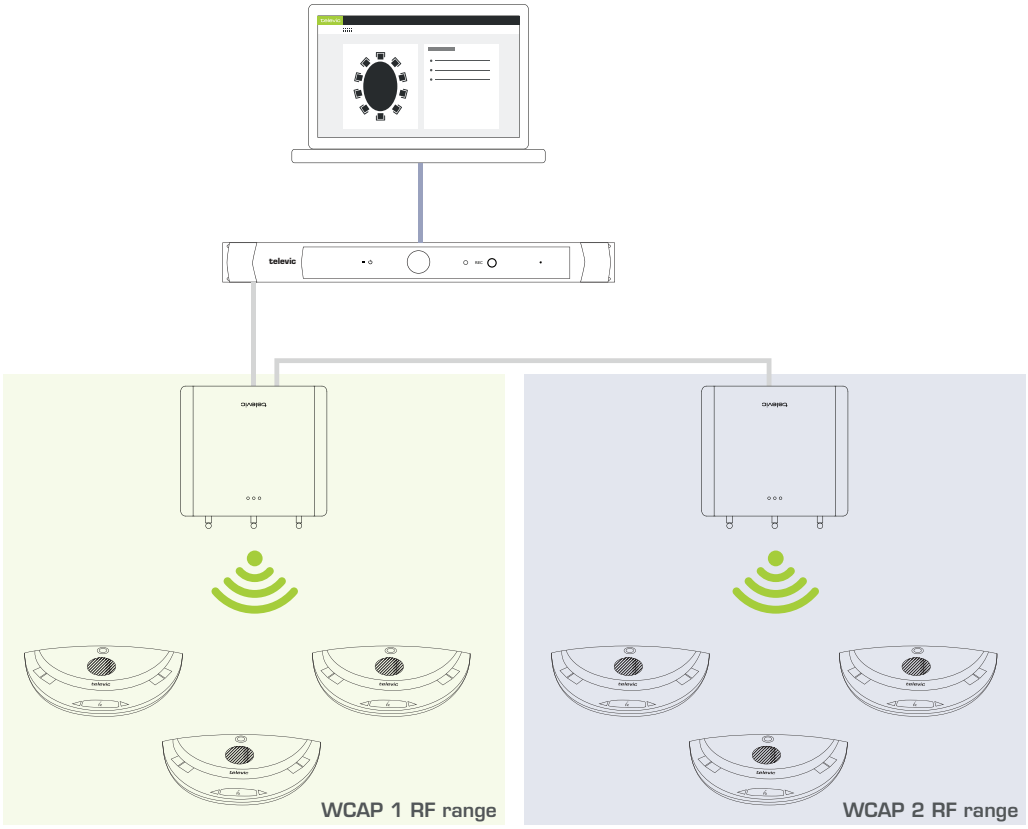


Figure 1-13 *How to extend the range by coupling multiple WCAPs to a Plixus ssytem*

Certain construction materials such as concrete or metal may absorb part of the RF signal radiation, resulting in a reduction of the maximum distance between the access point and the units.

INSTALLING THE CONFIDEA WCAP

1. Plug in the 24V adapter to the device and the power socket.
2. Connect the LAN cable to your computer or the LAN network that contains your computer.
3. Switch on the Confidea G3. The left LED light will start blinking white, this means the system is booting.
4. When the LED light turns green, the device is active.

When the light does not turn green or turns red, please contact your local support team.

CONFIGURATION

This chapter describes how to configure the Confidea G3 network using the Confidea G3 Core web server. It includes a description of how to connect to the built-in web server together with how to initialize units and configure audio settings to guarantee a successful meeting.

CONFIGURE IP SETTINGS

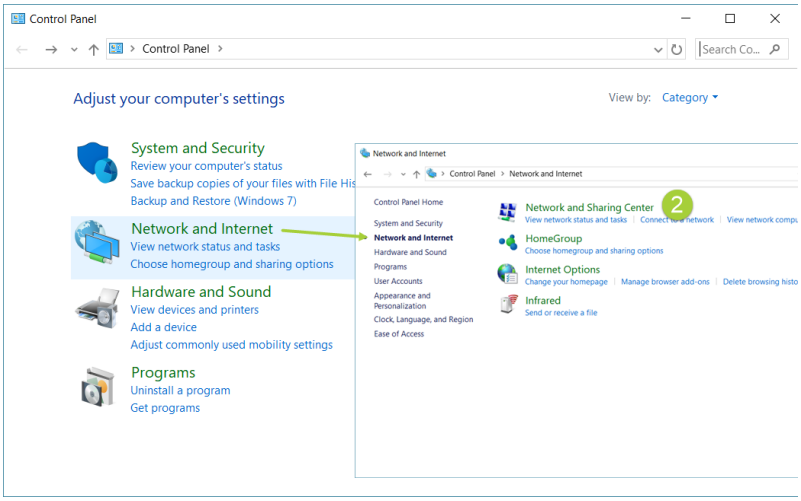
Before you start using the Confidea G3 web server you need to configure your local IP settings to be able to access the web server. Follow the procedure below to configure this.

To be able to access the web server your computer needs an IP address and subnet mask that can access the IP address of the WCAP. The **default IP address** of the WCAP is **192.168.1.110**, which means the computer should have an IP address that is within the same subnet, like 192.168.1.11. The subnet mask must be the same for all equipment on the network, being 255.255.255.0.

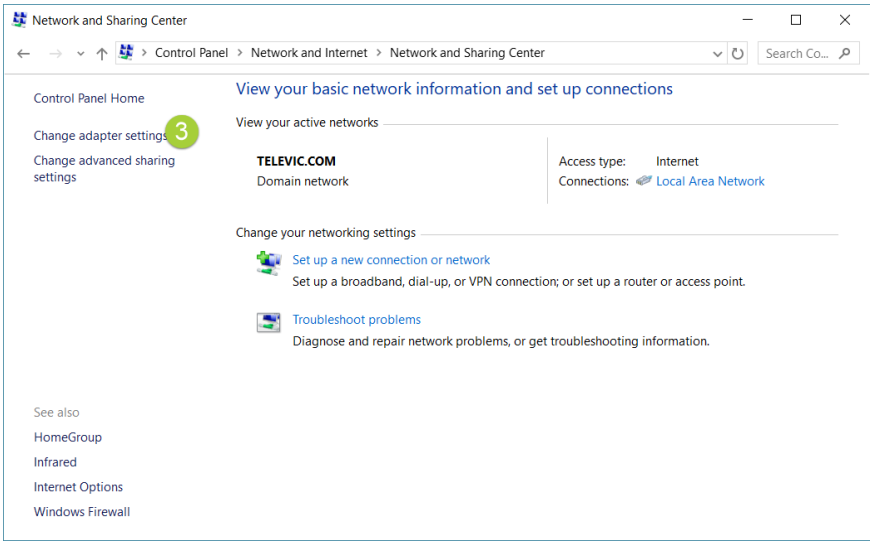
Change IP Settings In Windows

1. Go to **Control panel**.

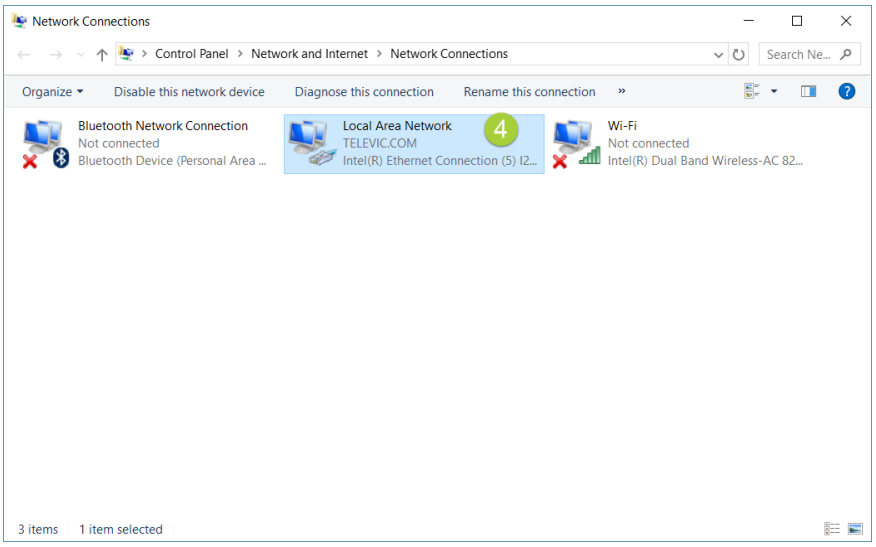
2. Click **Network and Internet** and then **Network and sharing center**.



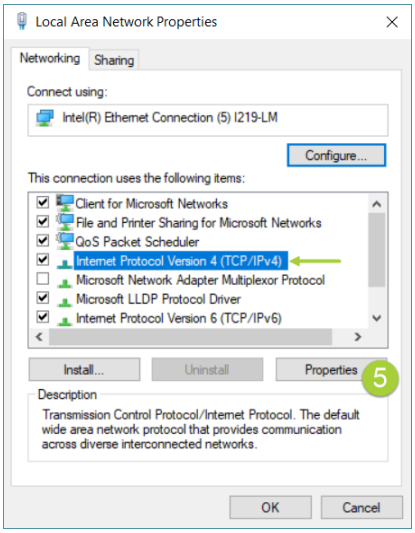
3. Click **Change adapter settings** in the menu on the left.



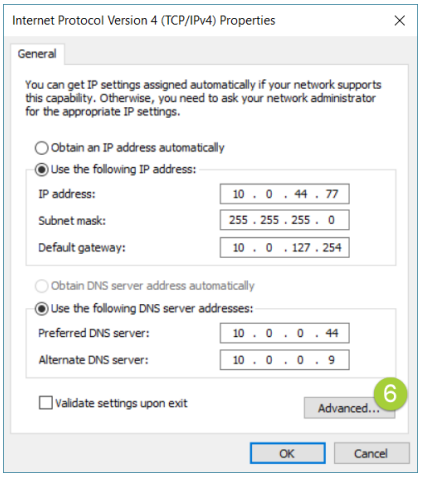
4. Right-click the **Local Area Connection** and select **Properties**.



5. Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.



6. To assign a fixed IP address to your computer, click **Advanced**.



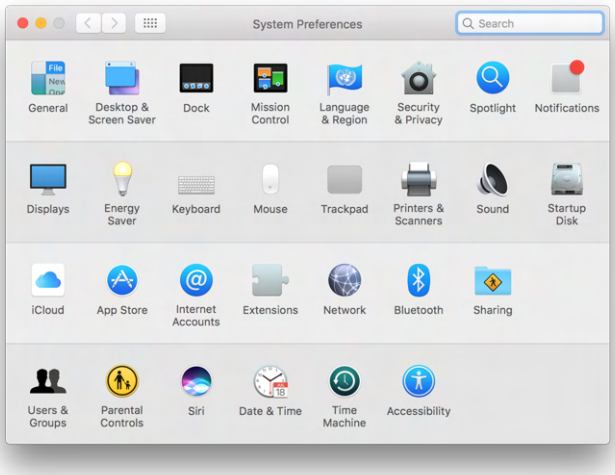
7. Click **Add** in the IP address pane.
8. Enter an IP address in the range of the WCAP, for example 192.168.1.11. Fill in 255.255.255.0 as subnet mask.

> When you use mulyiple networks on your computer (for example when your computer is connected to the Internet via WIFI, and it is connected to a central engine using a network cable), do not fill in the default gateway.

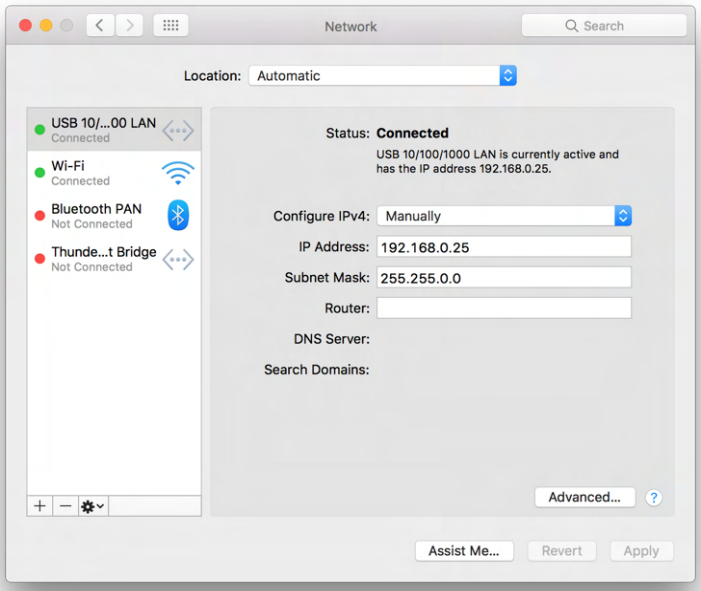
9. Click **OK**. You are now ready to access the Confidea G3 system.

Change IP Settings In MacOS

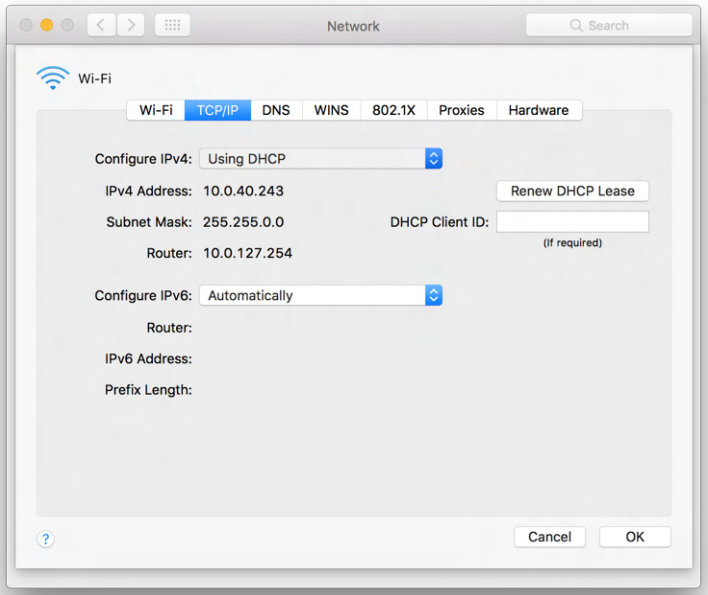
1. Go to the **Apple Menu** and select **System Preferences**.



2. Select **Network** from the menu.

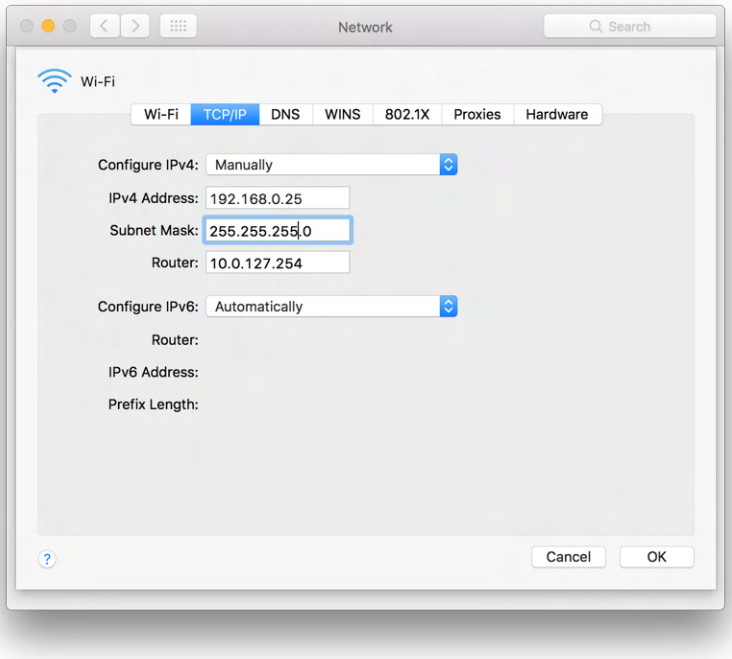


3. Click the **Advanced** button.



4. Select **TCP/IP** in the menu on top.

5. Change **Configure IPv4** to **Manually**.



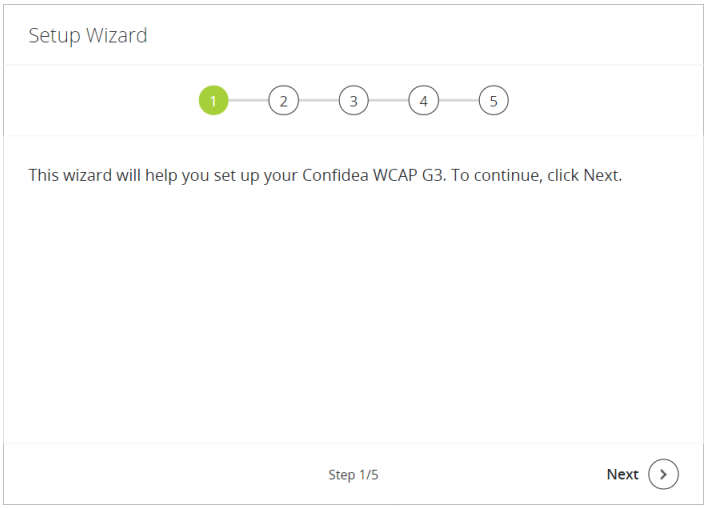
6. Enter an IP address in the range of the WCAP, for example 192.168.1.25. Fill in 255.255.255.0 as subnet mask.

7. Click **OK**.

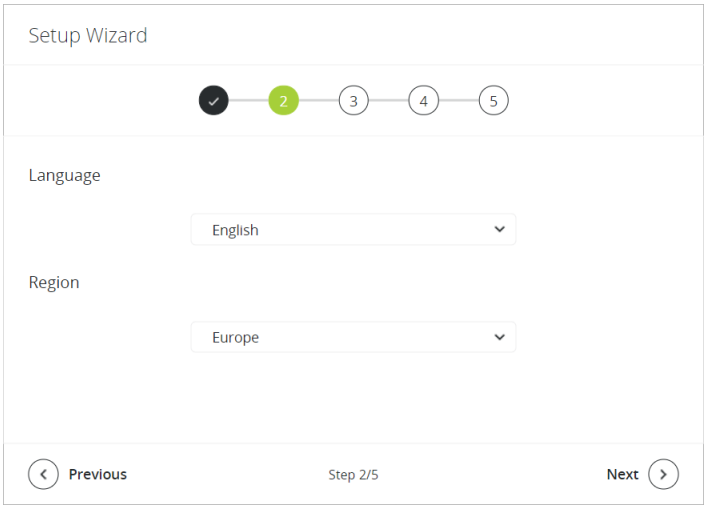
ACCESS THE WCAP WEB SERVER

ACCESS THE WCAP WEB SERVER FOR THE FIRST TIME

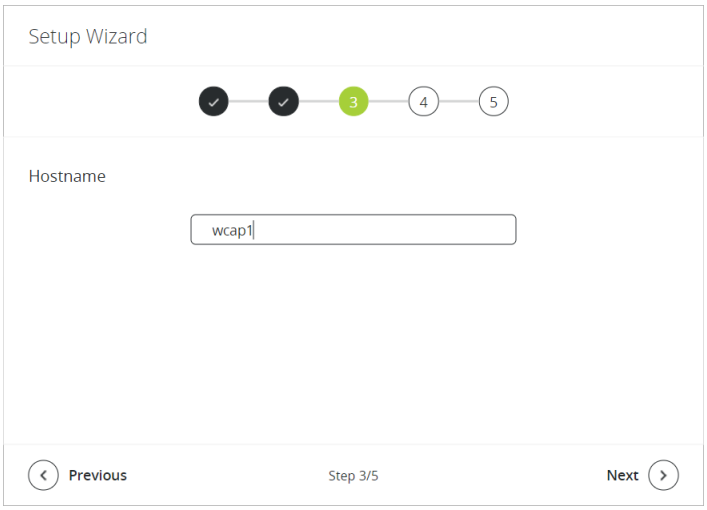
1. On the computer connected to the WCAP, open your web browser and type 192.168.1.110 or wcap3.local in the address bar.
2. Press Enter.
3. Follow the wizard for initial setup of the WCAP.



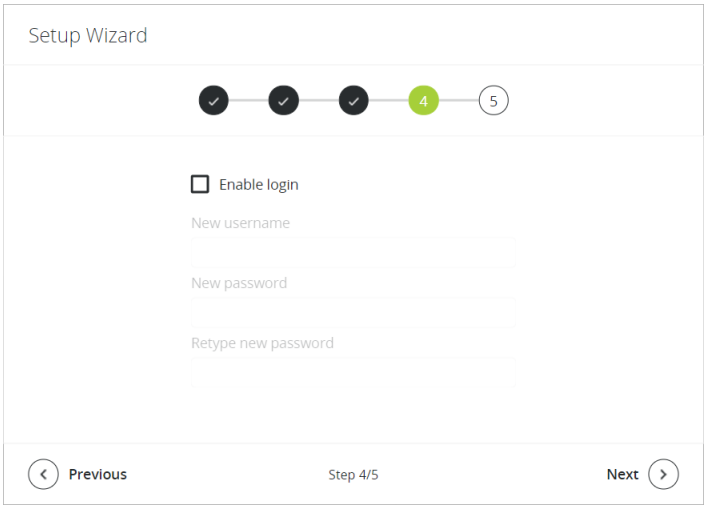
4. In the second step select your language and the region. The region will determine which frequencies are available.



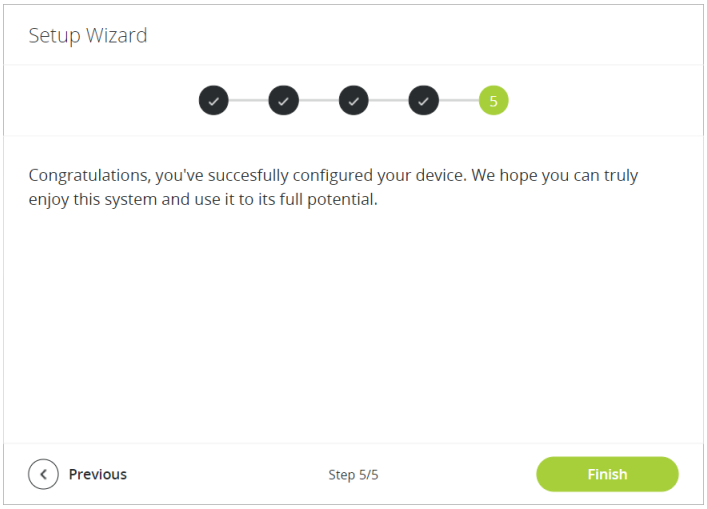
5. In step three you can define a hostname. This name will then be associated with this WCAP, allowing easy identification and differentiation between multiple WCAPs. With the hostname you can see which host uses which frequency.



6. In step four you can define a user name and password to login to the web server. If you do not enable this, you can leave these fields blank on the login screen.



7. When ready click the Finish button.



8. After initial setup, change the IP address as described in "Configure IP settings" on page 46 to prevent conflicts when multiple access points with the same IP address are available in the network.

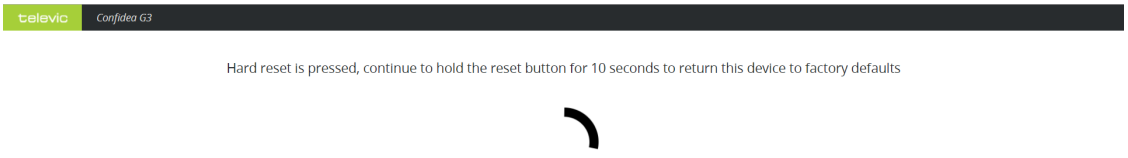
ACCESS THE CONFIGURED WCAP

1. On the computer connected to the WCAP, open your web browser and type the IP address of the WCAP or **wcap3.local** in the address bar.
2. Press Enter.
3. Enter the user name and password if configured otherwise just click **Log in**.

RETURN TO FACTORY SETTINGS

If you do not know the IP address then it is possible to reset the WCAP (reset to factory settings).

1. Press and hold the reset button next to the middle antenna for 10 sec. The web server shows you how long you should keep the button pressed.



2. When you release the button a screen will appear to indicate that the device will reset. After this action the IP address will be reset to its default value.

INTRODUCTION TO THE WEB SERVER

Compatibility

The web server is compatible with different types of mobile and desktop devices.

Some of the web server's functionality may be blocked by security software installed on your computer.

Quick Start To The Application

After you enter the IP address of the WCAP in the address bar of your browser, you will see the screen displayed below. On the **Home** screen you get a quick view of the configuration of the most important settings. These settings are divided into two groups (1): **Conference information** and **Network information**. The **Conference information** contains all items related to the actual conferencing, while the **Network information** contains all information related to network configuration of the WCAP.

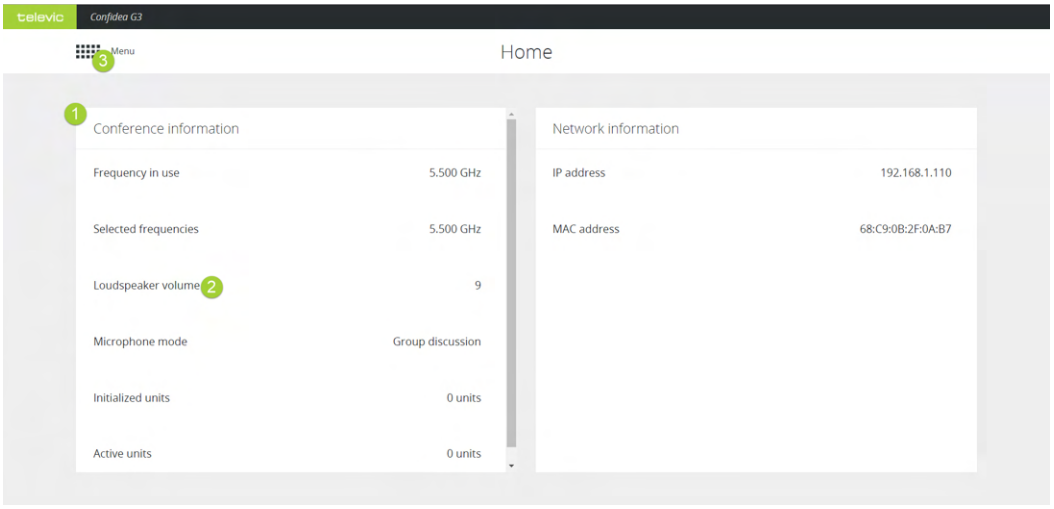


Figure 1-14 *The web server's home page.*

You can click one of the settings name (2) to go to its configuration page. When you click the **Menu** icon, you will see all available features that you can configure.

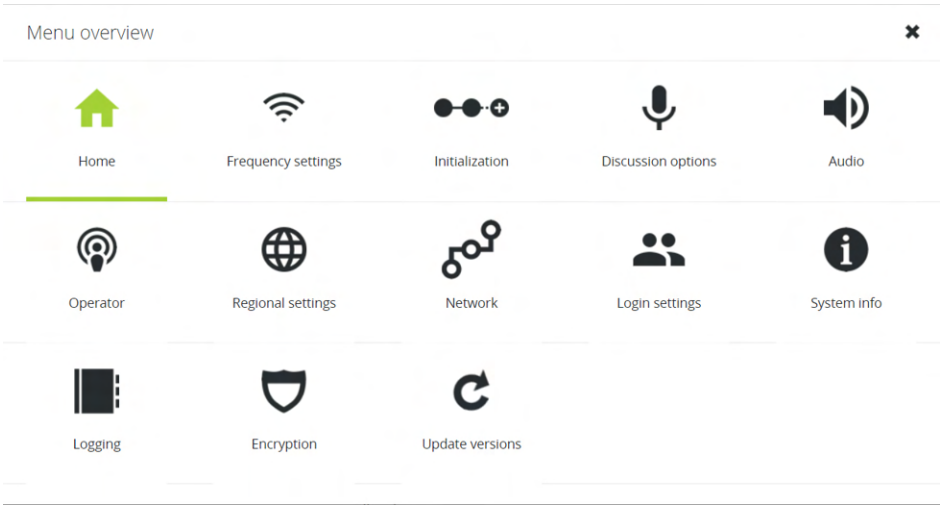


Figure 1-15 *Web server menu*

The following menu items are available, the table below gives a short description of every item.

Icon	Menu item	Description
	Home	Returns to the home screen.
	Frequency settings	On this page you can choose a frequency from an overview of all available frequencies and their signal strength.
	Initialization	Place in the web server to define and configure the delegates linked to the WCAP.
	Discussion options	Configuration of discussion options such as microphone mode to define when the microphone is active.
	Audio	Configuration of different audio options together with the configuration of the AUX IN and AUX OUT.
	Operator	See who is speaking, requests to speak and manually activate or deactivate microphones of delegates.
	Regional settings	Configuration of language and region.
	Network	IP configuration and configuration of the camera protocol.
	Login settings	Change user name and password.
	System info	Device and system information. You can upload your CoCon license here.

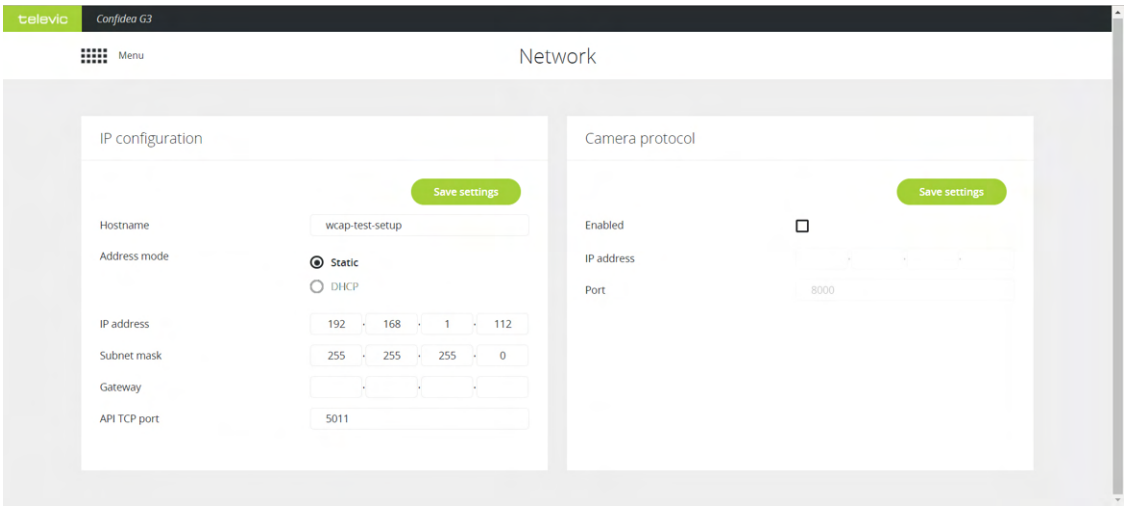
Icon	Menu item	Description
	Logging	Contains all the systems logging.
	Encryption	Configure the encryption settings.
	Update version	Update the WCAP and delegate units.

CONFIGURE NETWORK SETTINGS

Change IP Settings

1. Click the **Menu** button and click the **Network** menu item. You can configure the following settings:

Parameter	Description
Hostname	Change the hostname of the WCAP.
Address mode	Choose between static and DHCP mode: **Static**: in this mode the IP address and subnet mask are fixed and must be inserted into the appropriate fields. When the **Static** option is **active**, *it is not possible to activate the DHCP*. **DHCP**: DHCP (Dynamic Host Configuration Protocol) is a protocol used by the WCAP to automatically obtain the parameters necessary for operation in an IP network. This reduces system administration workload, allowing the WCAP to be added to the network with little or no manual configuration. There must be a DHCP server on the network that dynamically assigns IP addresses when using the DHCP setting
IP address	Enter the fixed IP address of the WCAP. (Only available in static mode).
Subnet mask	Define the subnet of the WCAP
Gateway	Is the access point to another network.
API TCP port	



2. Click **Save settings**.

CONFIGURE FREQUENCY SETTINGS

Select Frequencies

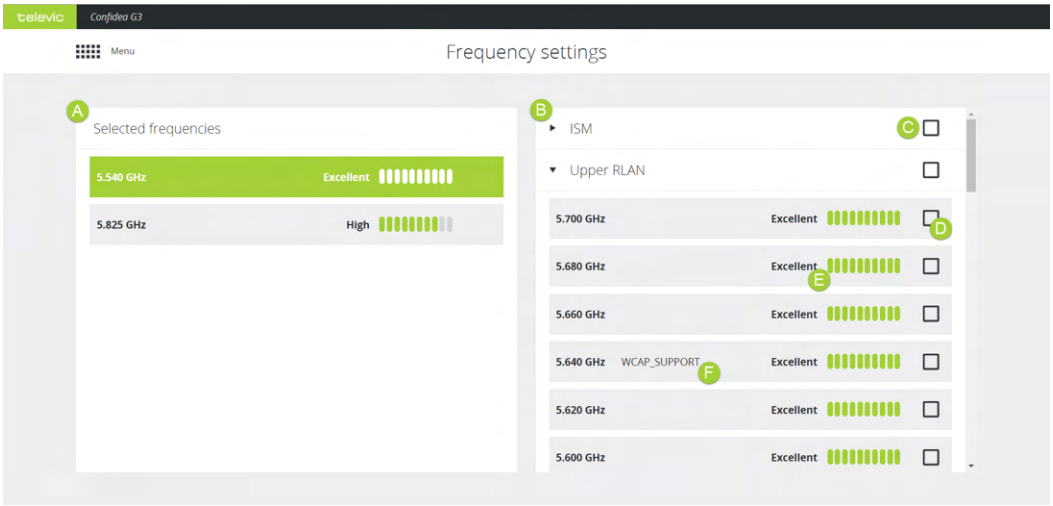
1. Click the menu icon and select **Frequency settings**.

   The left part of the page shows which frequencies are selected (A). The frequency used by the WCAP is indicated in green.

2. Select frequencies on the right part of the page (B), this list contains all available frequencies. Select all frequencies in a category by clicking the checkbox next to the title (C) or select separate frequencies (D). Frequencies that are not selected, will not be used.

   You can see the strength of the signal by the amount and the colors of the bars next to the frequency (E).

   If you select more than one frequency, then the WCAP will automatically select a frequency from the selection.



If other WCAPs are in the same IP network and their hostname is specified, then you can see which frequencies they are using as their hostname is shown next to the frequency (F).

Frequency Planning

FREQUENCY INTERFERENCE

If more than one WCAP or Wi-Fi access points are in the same room or within 30 m, we advise that only one uses automatic frequency selection. This is to avoid that the frequency scanning is disturbed by the other access point(s). If multiple access points are used within each other's reach, manual frequency selection based on frequency planning is strongly recommended to avoid that Wi-Fi access points and Confidea WCAP would use the same frequencies.

When the Confidea wireless system is set to manually select the wireless carrier frequency, then you must check that the Confidea wireless carrier does not overlap the already occupied Wi-Fi wireless carrier channels.

When using manual frequency selection in 5 GHz band , ideally the frequency selection is done in such way that between 2 used frequencies , there is a 40 MHz "distance" to avoid interference by RF sidebands.

HOW TO AVOID INTERFERENCE

The transmission mode between WDUs and WCAP is specifically designed to be used in very challenging environments with a high density of Wi-Fi signals that are present due to Wi-Fi access points as well as smart devices, which may cause RF interferences

Wi-Fi devices such as smartphones , tablets, etc., can send regular probing signals over the entire Wi-Fi band to search for a Wi-Fi connection. This probing can cause temporary interference and will continue until a Wi-Fi connection is established. When a large number of Wi-Fi devices is present in the room , these probing signals may cause WDU connection loss due to the saturation of the used frequency .

Therefore it is strongly recommended that a Wi-Fi collection point is set up, so Wi-Fi devices can lock on to them and reduce the risk of interference.

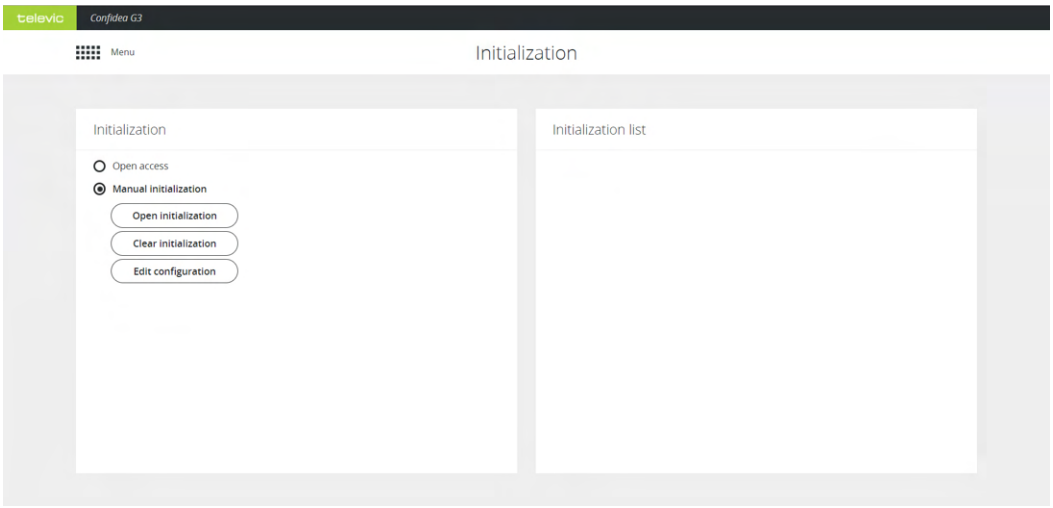
The Wi-Fi access points must have sufficient capacity to ensure Wi-Fi connection for all Wi-Fi devices present. If Wi-Fi connection capacity is insufficient for all mobile Wi-Fi devices present, then unstable functionality of the Confidea wireless system due to interference cannot be excluded!

CONFIGURE CONFERENCE SETTINGS

Initialization

In stand-alone mode, the WCAP supports two kinds of initialization:

- Open access: any unit can connect to the WCAP without an initialization procedure.
- Manual initialization: a unit can only connect after it completes a certain procedure.



INITIALIZE UNITS THROUGH OPEN ACCESS

1. Click the **Menu** icon and select **Initialization**.
2. On the Initialization page select **Open access**. With this option the WCAP will detect all active units (activate by pressing the microphone button) and add them to initialization list. Once a unit is added its LED lights will turn off.
3. To edit the name and add groups select **Manual initialization** and click **Edit configuration**. For more information see "Edit units" on page 64.
4. Click **Clear initialization** to remove the current setup.
5. Click **Confirm** to accept.

MANUALLY INITIALIZE UNITS

1. Click the **Menu** icon and select **Initialization**.
2. On the Initialization page select **Manual initialization**. To be able to detect the units, it must be active (press the microphone button on the unit). If the unit did not detect the WCAP, its LED lights will blink green. When it detects the WCAP the LED light will blink red.
3. If there are already units present in the **Initialization list** click **Clear initialization** to remove the current setup.
4. Click **Open initialization**. When you start the new initialization, the microphone status LED's on all wireless units will start to blink red .

> Microphone LEDs blinking red at a rate of 2 Hz is an indication that the units are trying to connect to the WCAP.
>
> Microphone LEDs blinking red at a rate of 1 Hz is an indication that the units are waiting for the initialization.

5. To add a unit to the initialization list, press the microphone button of the unit (this is the button with the following icon  .
6. The LEDs will turn green indicating that the unit is added to the initialization list. Per unit the following information is shown:

Parameters	Description
Name	Name of the unit, can be edited
Chairman icon	A start icon indicates that this unit has chairman capabilities.
Serial number	The serial number of the unit
Battery life	Shows the remaining battery life of the unit
Packet loss (quality)	Shows the number of packets lost during transmission, this affects the quality of the sound. The higher the number, the lower the quality.

7. Repeat step 5 until all units are added.
8. Click **Close initialization** to save the setup. Only those units that were initialized are visible in the Initialization list and are available to join the conference. This list remains available on the WCAP,

even when WCAP is switched off and on again.

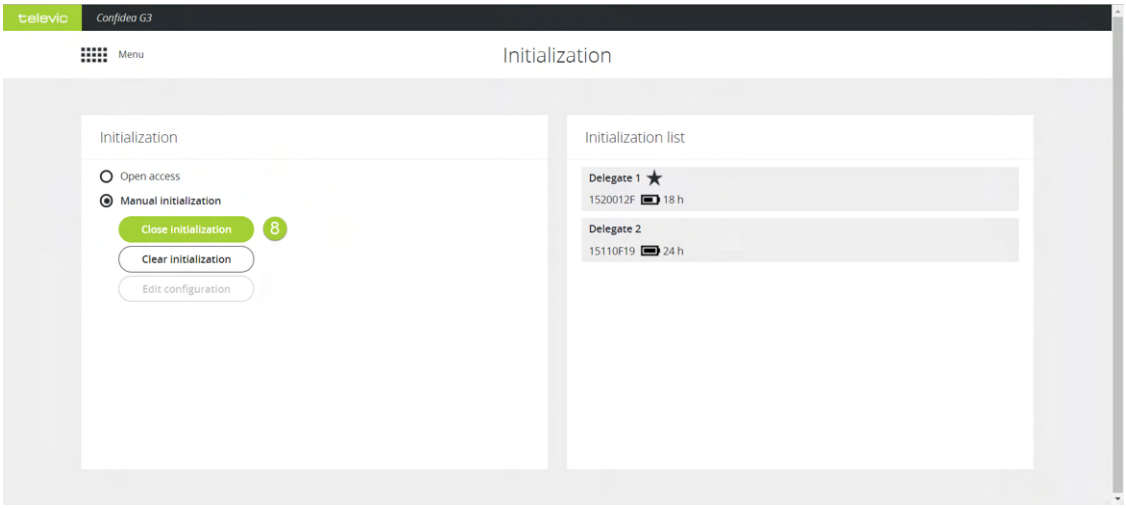
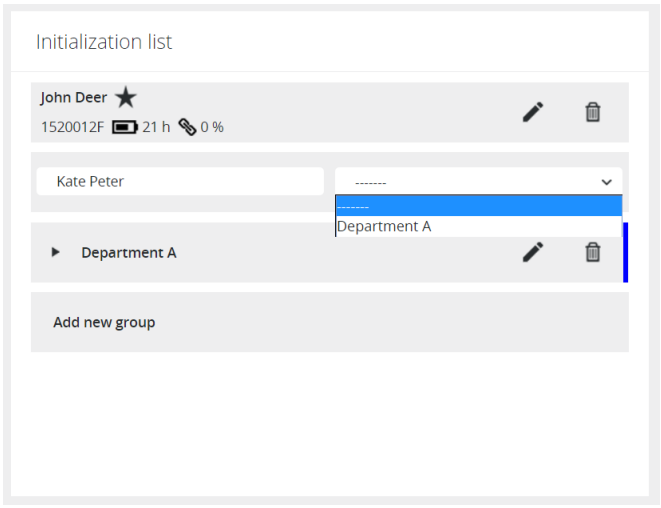


Figure 1-16 *How to manually initialize units. The battery icon shows the remaining battery life of the unit.*

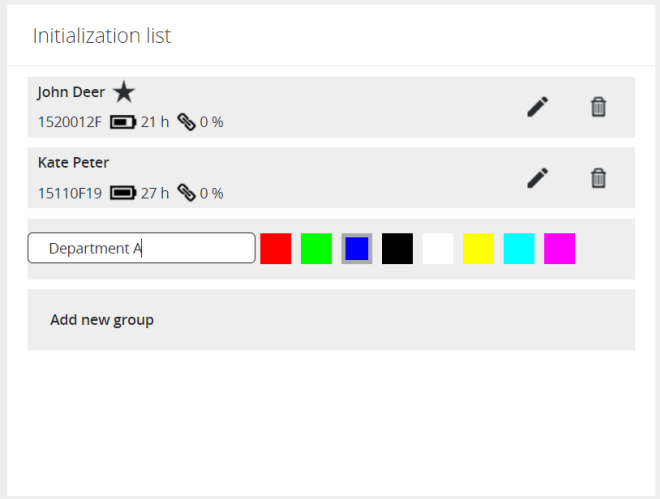
EDIT UNITS

Once units are linked to the WCAP it is possible to edit some of the features of the units. You can change the name, create groups and add units to specific groups.

1. Click **Edit configuration**.
2. Click the edit icon to change the name and press ENTER when ready.
3. Select a group from the drop-down menu if wanted.



4. Click **Add new group** to create a new group. Choose a color, define a name and press ENTER.



5. Click **Stop editing** to save and leave the edit page.

6. Click the remove icon to delete groups or units. When you click Clear initialization, all units will be removed, but not the groups.

Configure Discussion Options

On the discussion options page you can configure different settings that determine how your conference will take place. To configure these settings click Discussion options in the menu. You can configure the following settings:

Parameter		Description
Maximum active microphones		Is the maximum number of microphones that can be active at the same time. Chairman units always have priority. When the maximum is reached , the microphone of the delegate unit which was switched on first , will be automatically deactivated. A maximum six microphones can be active at the same time
Microphone mode		Defines when a microphone becomes active and a delegate can speak. Different options are available
	Operator	Only the operator can activate the microphone using the web server ( ) or CoCon software.

Parameter		Description
	Direct speak	Enables the delegate to switch his microphone on/off at any time. The only limitation is the maximum amount of active microphones. When the option **Interrupt possible** is selected and the maximum amount of active microphones is reached, then the microphone that has been active the longest will be switched off. (Chairman always has priority) Activating the option **Push to talk** means the microphone button needs to be pressed to be able to speak.
	Request	When the delegate presses the microphone button, a request is sent to the chairman or conference operator to speak (to cancel the request, press the microphone button again). Once the floor is requested, the microphone of the first one in the queue will blink green, the other in the queue have fixed green LEDs, meaning the unit is in request mode. The chairman or conference operator grants the participant permission to speak by using the NEXT button or by activating the microphone via the CoCon software(if available). By checking the **Cancel request allowed** option, the delegate can cancel his request by pressing the microphone button again.

Parameter		Description
	VOX	Very similar to Direct speak, but microphones are activated by voice detection. **Vox Treshold**: determines the sound level needed to activate the microphone. The threshold is to be chosen in such way that the microphone is switched on directly after the person begins to speak. Setting the threshold too high might result in a microphone not being switched on or switched on too late. Setting the threshold too low might results in a microphone being switched on by ambient sound **Vox Pencil drop** suppression: avoids accidental microphone activation due to short sounds. This setting may cause a short microphone activation delay. **Vox Time out**: the microphone will be switched off when the Vox threshold level is not reached during the amount of seconds set in the Vox time out. A Vox time out setting which is to low might result in interrupted audio when there is a pause or low passage in the audio.  A high microphone preset combined with strong audio input may result in the perception that the VOX activation is too slow due to the limiter release time
	Group discussion	Any microphone can be switched on until the maximum amount of active microphones is reached. Other participants can switch their microphone in request mode. The first applicant who requests the floor will get the floor when one of the currently active microphones is turned off. When a chairman pushes the NEXT button , the microphone which was active the longest time , will be switched off and the first one in the request queue will be switched on. The microphone LEDs of the first one in the queue will blink green, the other ones in the queue have fixed green microphone LEDs.

Parameter	Description
Last microphone remains on	Select this option to keep the microphone of the person who last spoke active, creating an ambient sound. If you select the option **On, with ring lit**, then the LED of the microphone remains on. If you do not select this option, then the microphone is on, but you will not be able to see it.
Active microphone LED color	The default color of an active microphone is red, but you can change this to green.
Request microphone LED color	The default color of a microphone in request is green, but you can change it to red.

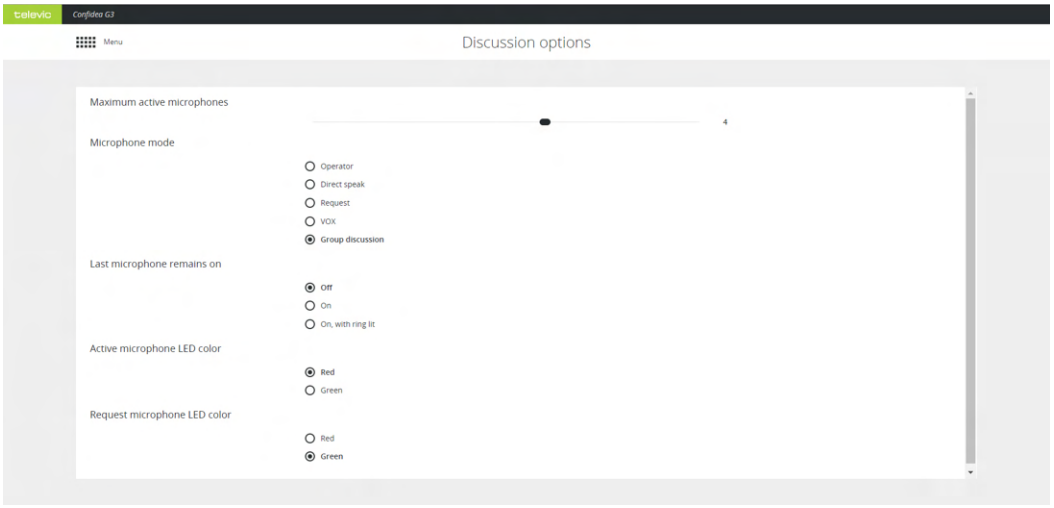


Figure 1-17 *The Discussion options screen*

CONFIGURE AUDIO SETTINGS

It is possible to configure different audio such as the sensitivity of the microphone. Select **Audio** from the menu to see these settings. The settings are grouped into three categories: **General**, **AUX IN (1)** and **AUX OUT(1)**.

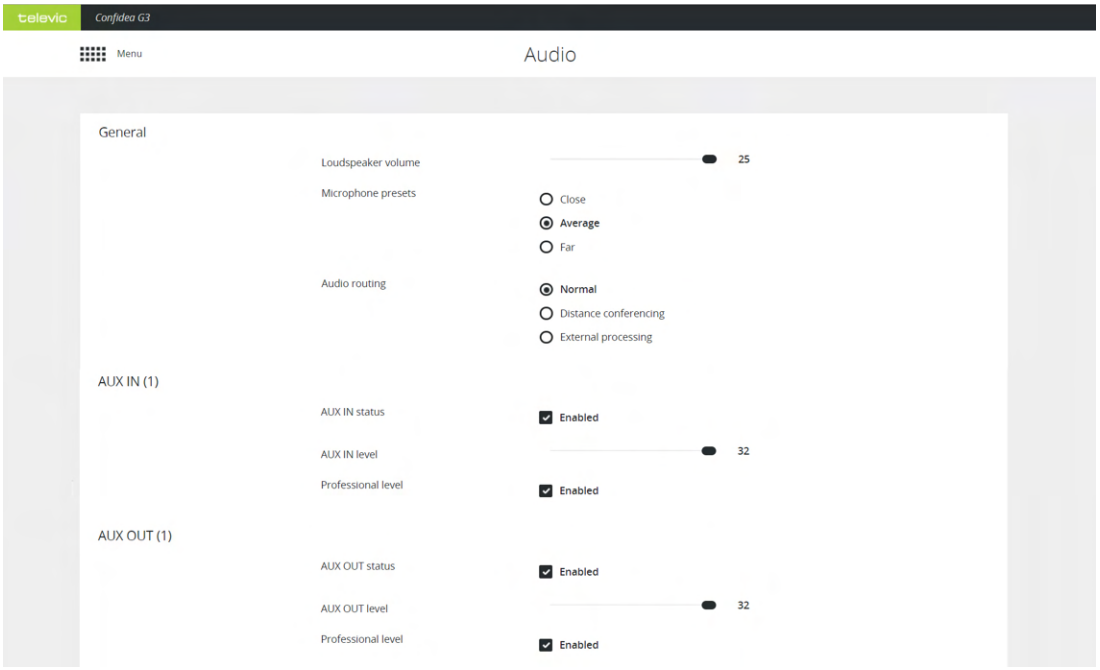


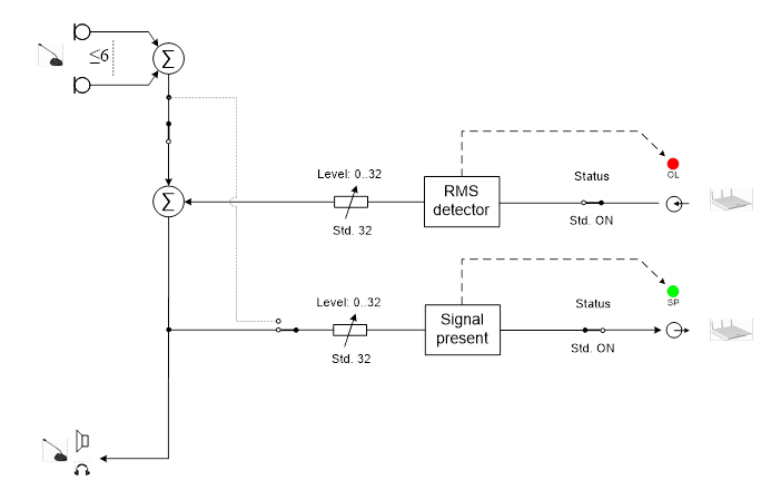
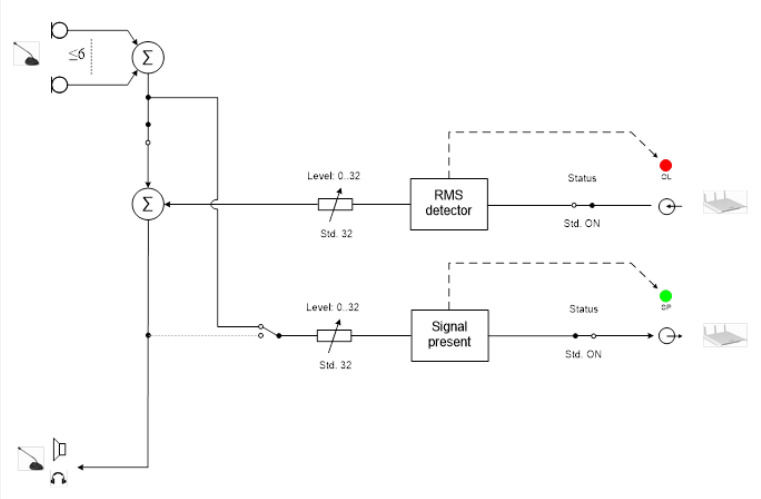
Figure 1-18 *Configure Confidea G3 audio settings in the web server*

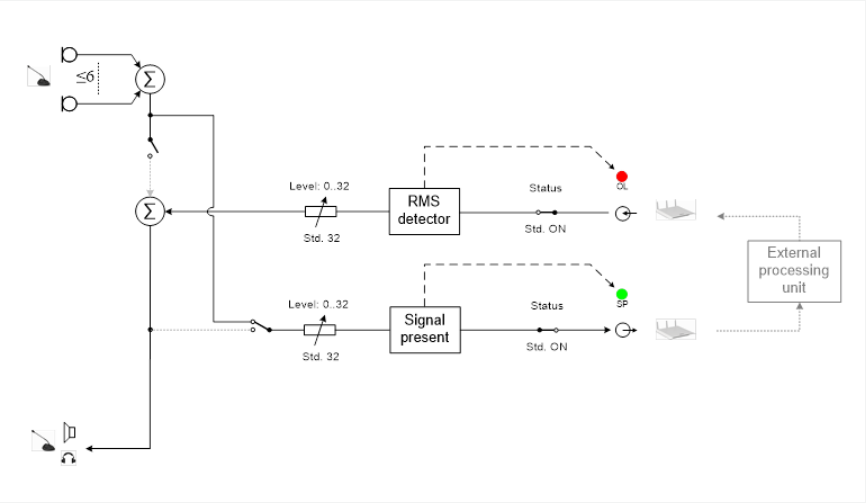
General Audio Settings

You can configure the following general audio settings:

Parameter	Description
Loudspeaker volume	Define the volume of speaker of the units.

Parameter	Description
Microphone presets	Configure the sensitivity of the microphone. This setting depends on: › The distance of the delegate to the microphone. › Volume of external loudspeakers (if present). A combination of a Far microphone preset together with high external loudspeaker volume or external loudspeakers positioned close to the microphones can cause acoustic feedback. › External compressor limiter device : in this case **Microphone preset** must be set to **Close**, to allow maximum adjustability on the external compressor-limiter device (see also AUX control settings).

Parameter	Description
Audio routing	**None**: no additional audio routing is done.  **Distance conferencing**: this adds an external signal, using AUX IN, to the local floor signal and sends the local floor signal, using AUX OUT, to a remote party, for example sitting in a different room.  **External processing**: this option allows you to add an external signal processing equipment or a mixing board.

Parameter	Description
	

AUX IN Settings

The Confidea G3 WCAP has one auxiliary input. You can configure the following AUX IN settings:

Parameter	Description
AUX IN status	Switch the input on or off
AUX IN level	Adjust the volume of the input
Professional level	Two input level ranges are possible: › Off (= Consumer level) : nominal level -10 DBV , max input level +10 dBV › On (= Professional level) : nominal level +4 dBu , max input level +24 dBu The professional level setting should be the same for the AUX IN and AUX OUT

AUX OUT Settings

The Confidea G3 WCAP has one auxiliary output. You can configure the following AUX OUT settings:

Parameter	Description
AUX OUT status	Switch the output on or off
AUX OUT level	Adjust the volume of the output

Parameter	Description
Professional level	Two input level ranges are possible: › Off (= Consumer level) : nominal level -10 DBV , max input level +10 dBV › On (= Professional level) : nominal level +4 dBu , max input level +24 dBu The professional level setting should be same for the AUX IN and AUX OUT

USE THE OPERATOR MODE

In operator mode ( ) you can see which delegate is speaking or requesting to speak. You can also (de)activate the microphone of units, or requests to speak. When you select the microphone mode **Operator**, then microphones can only be activated using this screen. The image below explains which actions are available on the **Operator** page.

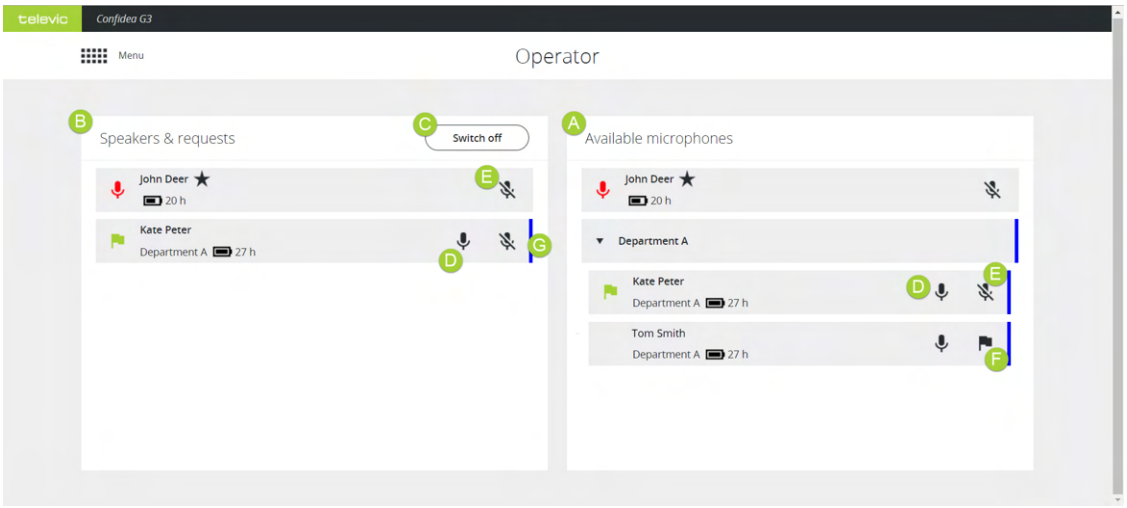


Figure 1-19 *The Operator page*

A. Shows all available microphone units.

B. Shows which units are speaking or requesting to speak.

C. Click the Switch off button to switch off all microphones at once.

D. Click the microphone icon to activate a microphone. Active microphones are indicated by a red microphone icon .

E. Click to switch off an individual microphone.

F. Click the icon to send the unit into request mode (green blinking microphone LED). Units in request are indicated by a green request icon .

G. Color indicates to which group the delegate belongs.

SYSTEM CONFIGURATION

Regional Settings

To configure the regional settings select **Regional settings** from the menu. Here you can configure the language of the web server. You can also select the country or region, this will determine which frequencies are available in accordance with local regulations.

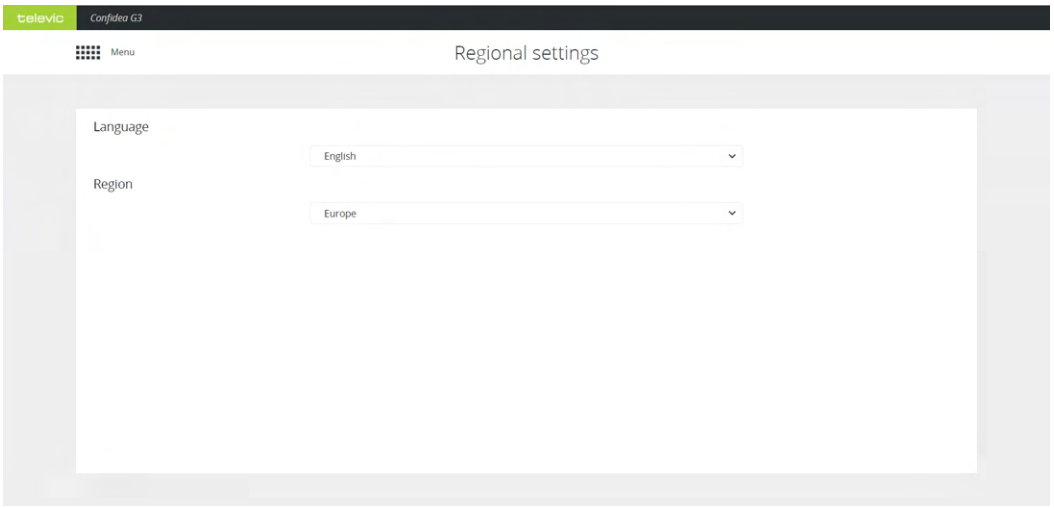
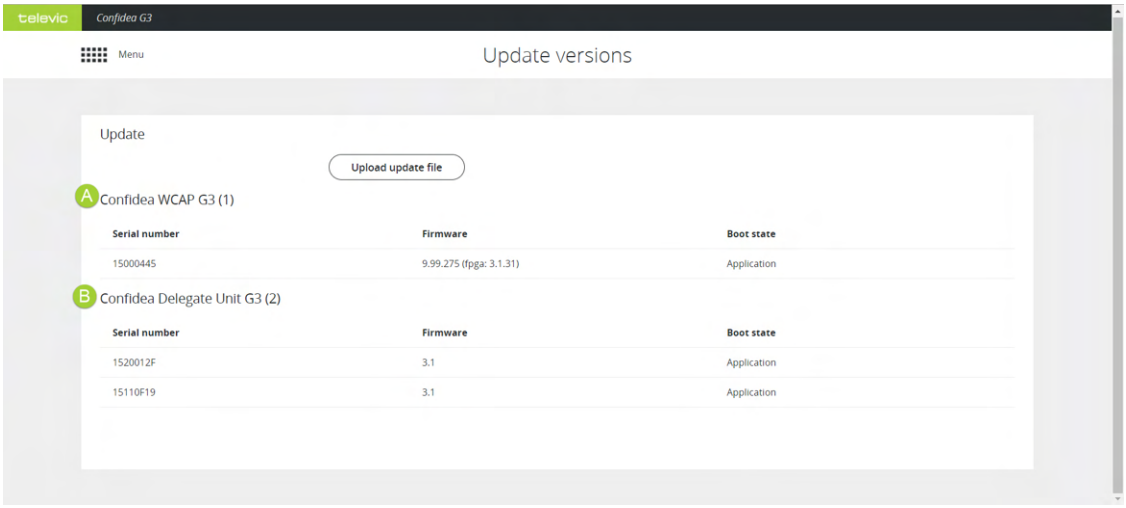


Figure 1-20 *How to configure the regional settings of Confidea G3*

Update Confidea G3

CHECK FIRMWARE VERSIONS

1. Click **Update versions** in the main menu.



2. On this page you can see the firmware version of the WCAP (A) as well as the firmware version of the delegate units (B)

3. To check whether you have the latest version, go to https://www.televic-conference.com/en/confidea-g3-software-updates and select Confidea G3. On these pages you can also see the latest release notes.

UPDATE FIRMWARE OF WCAP AND WDU

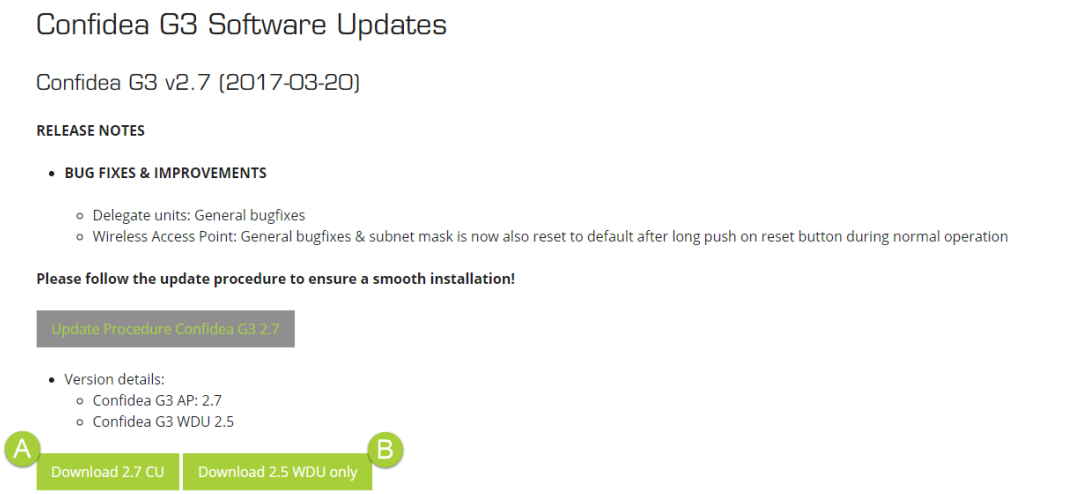
The same update procedure applies for the WCAP firmware as for the WDU firmware.

The update may take a while; do not turn off the device. During update you are unable to use the device. When updating delegate units, check whether battery status is at least 50% and that you have the least amount of interference. Interference will drastically increase the update time.

1. Click **Update versions** in the main menu.

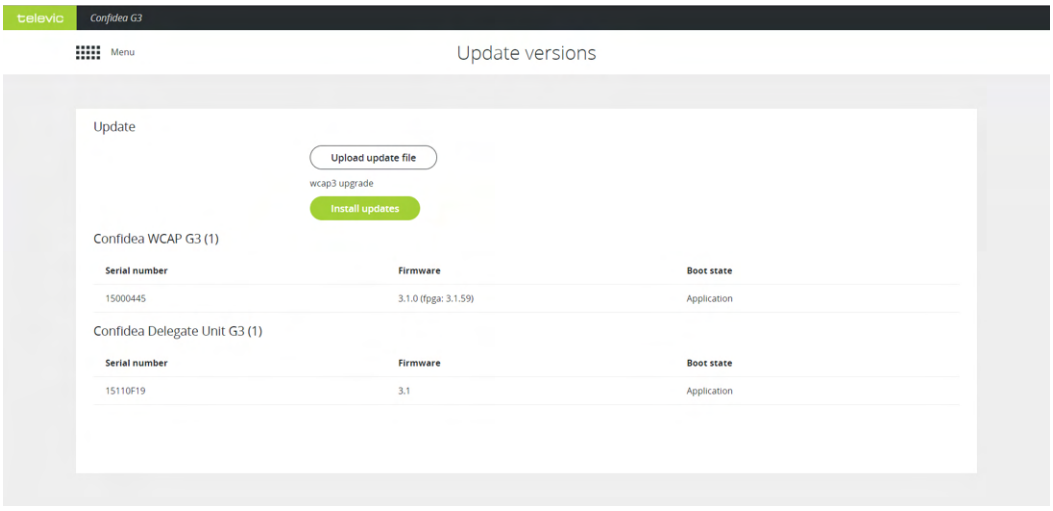
2. Go to https://www.televic-conference.com/en/confidea-g3-software-updates, select Confidea G3.

3. Download the update for the WCAP (A) and/or the WDU (B).



> WCAP and WDU firmware versions need to be updated separately. The format of the update file of the WDU looks like this: "WDU.x.yz.tar" or "WDU.x.yz.tuf". The update file of the WCAP has the following format: "AP.x.yz.tar" or "AP.x.yz.tuf".

4. Click **Upload update** file on the update page and select the downloaded update file.



5. Click **Install updates**. The application will check if the file is correct and then install the firmware. The web server will show you the progress of the installation. If the update fails, the system will boot in golden mode allowing you to retry the update.

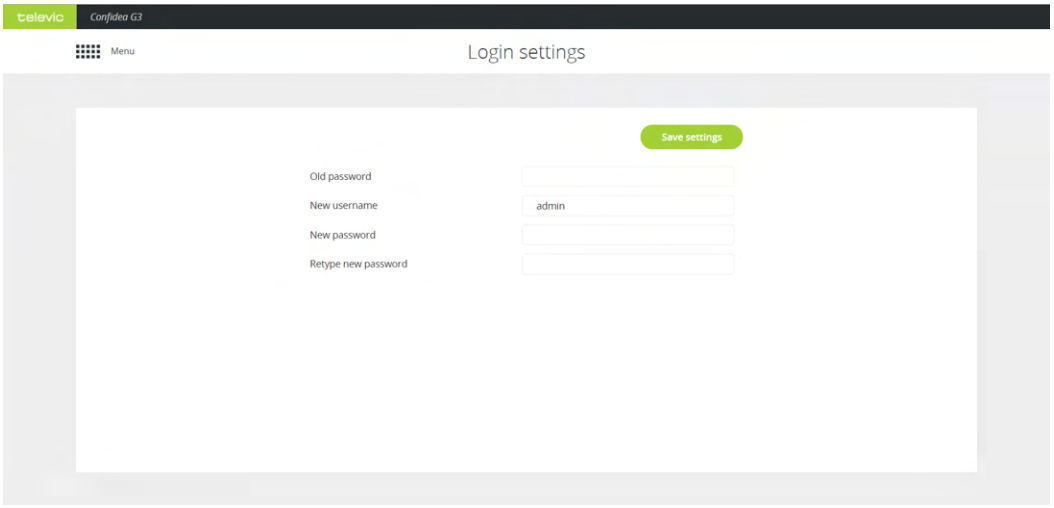
   During WDU update the microphone LEDs on the units will alternate between red and green.

If a unit is accidentally switched off during the update (e.g. due to empty battery) , this will temporarily stop the update , but after a few minutes the update for the other units will continue

6. When the update is finished, click **Continue** to reboot the WCAP. After a delegate unit update, only the devices will reboot.
7. When you return to the update page, you now see the firmware version you installed for the WCAP and/or WDU's.

Login Settings

Select Login settings ( ) in the main menu to change user name and password. Click Save settings to save any changes made.



System Info

On the system info page you can find the following information:

Parameters	Description
Device information	Shows device specific information of the WCAP
System information	Shows system information such as IP address and mode
License	Place to upload your CoCon license, click **Upload license**
Reboot WCAP	Click **Reboot WCAP** to restart the device

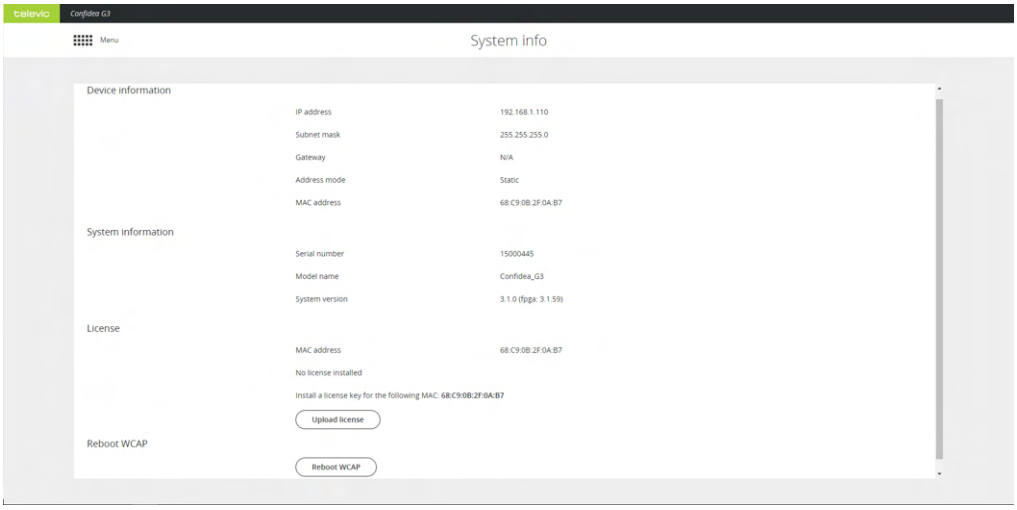


Figure 1-21 *The system info page*

Logging

To see the system logging select the **Logging** ( ) from the main menu. You can use the logging screen as a monitoring or analysis tool when certain problems occur . This page captures every event , change of settings , warning and other messages. You can easily filter which messages you want to see by clicking the message button on top of the page (A).

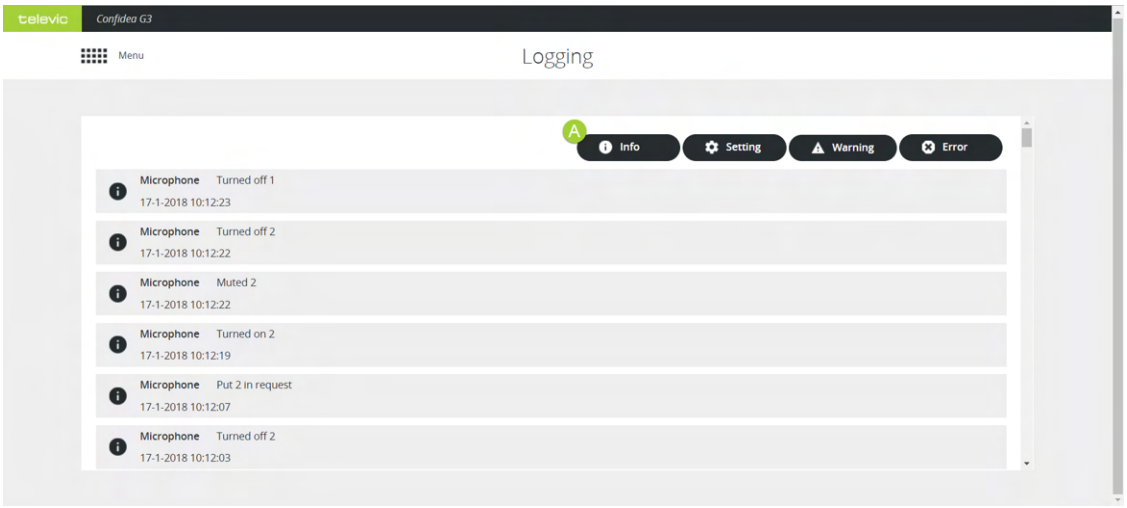


Figure 1-22 *The logging page*

The following information is available:

Icon	Information type	Description
	Info	Messages concerning delegate units connecting, microphone activations
	Settings	Messages concerning change of settings
	Warning	Warnings messages, this designates anything that can potentially cause problems.
	Error	Indicates that there is a problem that needs further attention

Encryption

To see and alter encryption settings select **Encryption** () from the main menu. The WCAP uses AES 128 bit encryption. The Confidea comes with a built-in default factory encryption key. However to increase the security or to ensure that only specific delegate units can connect to the WCAP, another random encryption key can be generated and uploaded. This key will be sent to all delegates connected to the system. If another encryption option is selected, then only those units having the correct encryption will be able to log onto the system.

 If you want to add another unit to the system, you need to select the default encryption first.

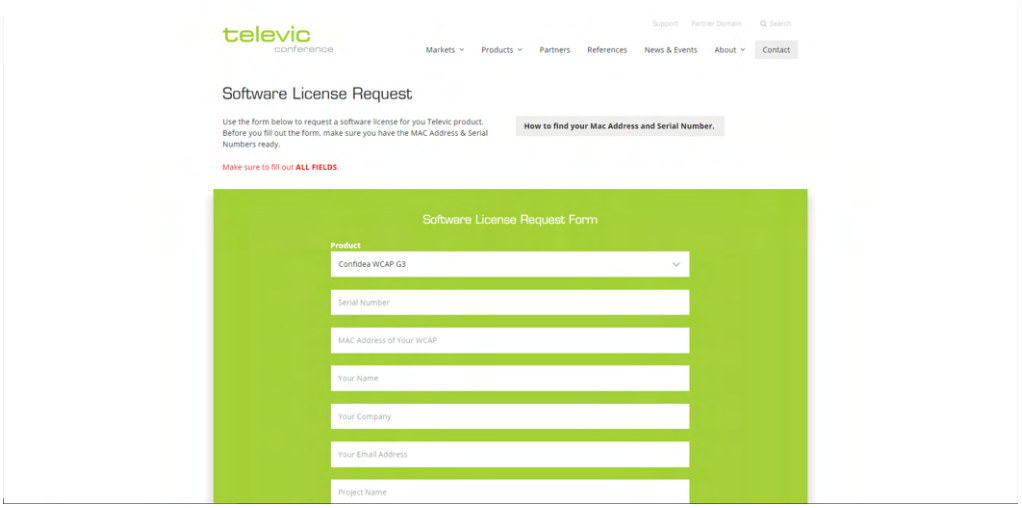
LINK COCON TO WCAP

Introduction

To obtain your CoCon license you need the MAC address of the Confidea WCAP. Using the MAC address of the WCAP makes the license independent of the computer on which the CoCon Room Server is running. The license will allow only one concurrent connection and the software will adapt automatically to the license modules which are active in the license file.

When you want to acquire a license follow the procedure described below:

1. Go to https://www.televic-conference.com/en/software-license-request , the website describes where you can find all relevant information needed to request a license.



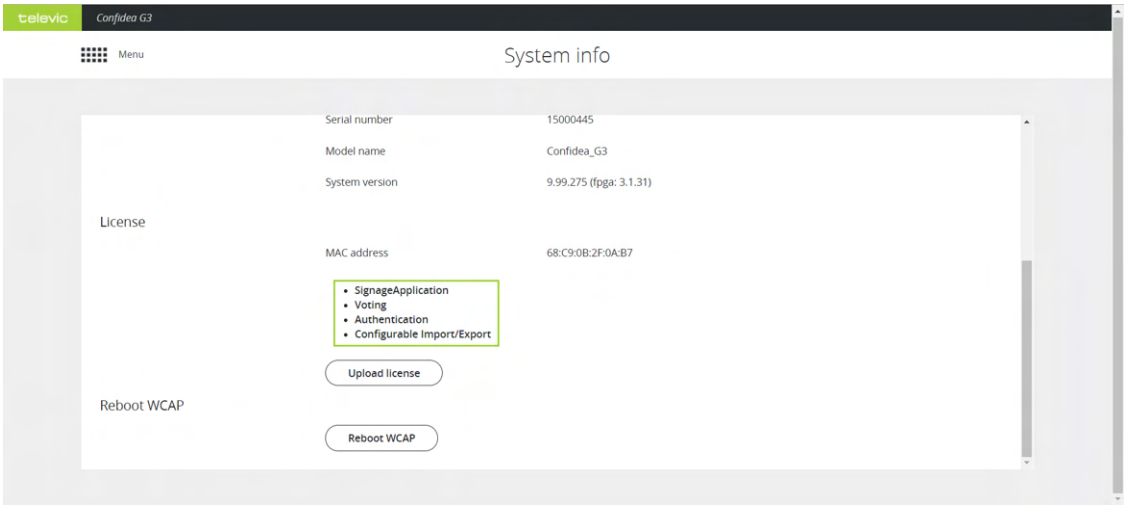
2. Fill in the request form with the product details and your contact information.
3. Click **Submit**.
4. You will receive an email with the license file on the email address specified in the form.

Upload License

The license is an XML file, you can open the file to check whether the license contains the correct modules. The file should also contain the MAC address of your WCAP. To upload your file, complete the following procedure:

1. Select **System info** ( ) from the main menu.
2. Go to license and click **Upload license**.

3. Select the license file you received by email.



4. When the upload is complete, you will be able to see which models are licensed.

5. Connect CoCon to the central equipment.

COUPLE CONFIDEA G3 WITH PLIXUS

The Confidea wireless system can be used on the Plixus network. For more information on how to configure the WCAP in the Plixus architecture see the Plixus user documentation.

When a WCAP resides on the Plixus network this has a couple of consequences for the functionality of the WCAP web server. When the WCAP is linked to the Plixus engine, most of the conference settings will be configured on the Plixus engine and no longer on the WCAP.

The header (A) of the web server shows that the WCAP is coupled with a Plixus network. On the main page you can also see that there is less information available and the message that the WCAP is couple with Plixus. The only settings you can adjust are those that are displayed on the **Home** screen.

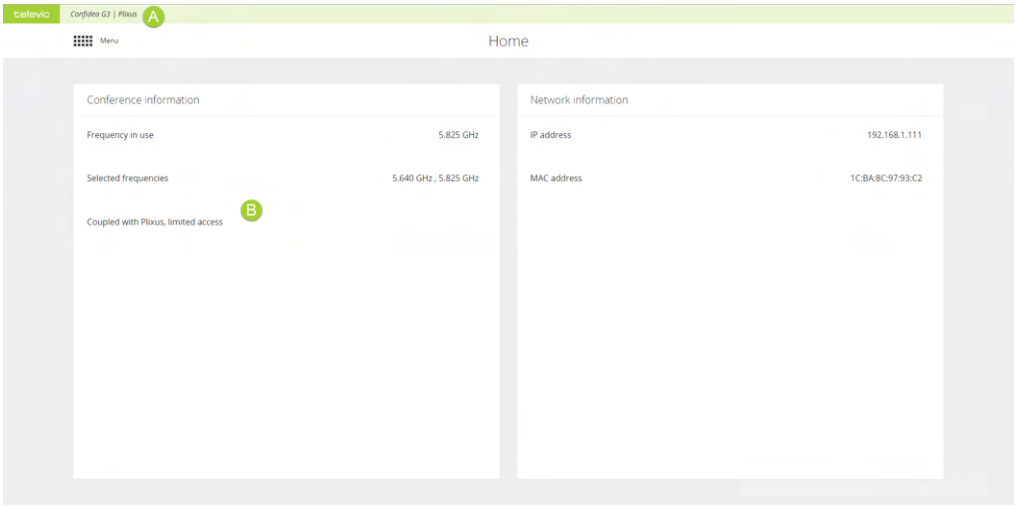
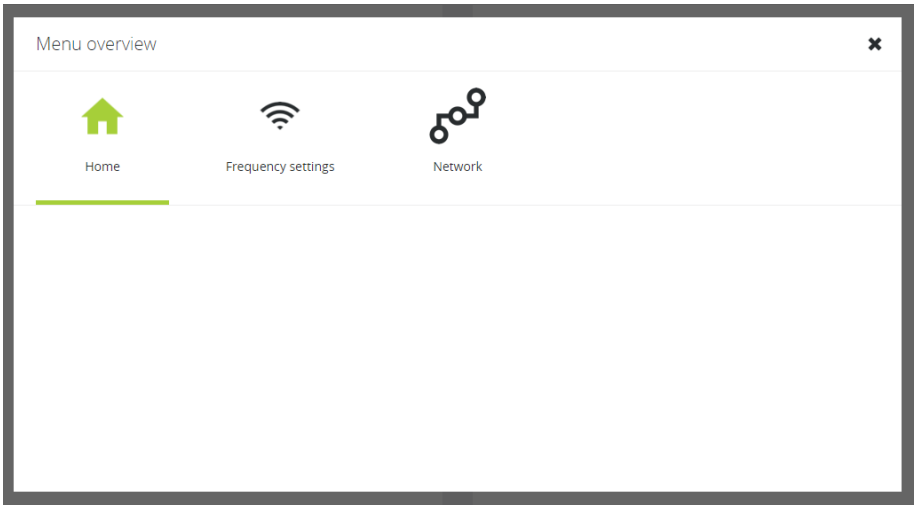


Figure 1-23 *Home screen when Confidea G3 is coupled to Plixus*

In Plixus mode you can still configure the frequency settings and the network settings. For all other settings such as initialization and discussion options, you need to configure this on the Plixus engine.

When you want to update the Confidea WCAP and the WDUs you will have to uncouple Confidea from the Plixus network.



When you want to update the Confidea WCAP and the WDUs, you will have to uncouple Confidea from the Plixus network.

CAMERA CONTROL

Introduction

The Confidea conference system supports camera control. The WCAP sends out data via UDP to the camera system. The camera control function can be enabled using the Confidea web server. How you can do this, is described below.

Configure Camera Control

To combine the Confidea WCAP with the camera control feature, follow the steps described below:

1. Go to **Network settings** in the main menu.
2. In the **Camera protocol** panel enable the setting by selecting the Enabled checkbox.
3. Fill in the IP address of the camera system.
4. Define the destination port. The default UDP communication port is 8000. When you select a port manually using the web server, the port number should be larger than 3000.

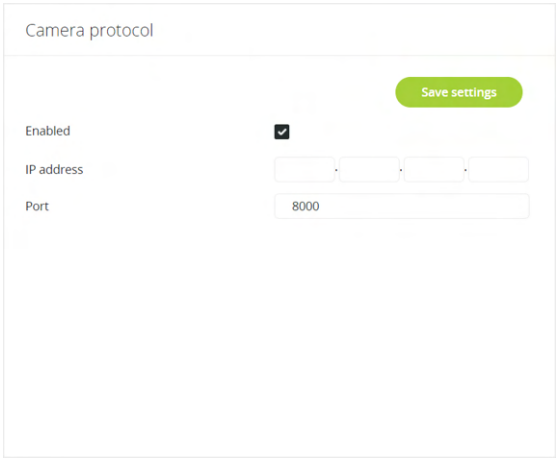


Figure 1-24 *Camera control settings in the Confidea G3 web server*

The WCAP sends data to the camera after a microphone button event in JSON format: {“UID”: micnr, “status”: x}.

- Micnr : is the microphone number , can be one or more digits.

- Status : 0 = off, 1 = on, 2 = request , 3 = prior

For example: data sent when microphone 7 is in request : {“UID”: 7, “status”: 2}

televic
conference

Bramshaw ICS Conference Communications

t 1800 507 557
info@bramshaw.com.au
www.bramshaw.com.au

TELEVIC CONFERENCE

Leo Bekaertlaan 1

8870 Izegem

Belgium

+32 51 30 30 45

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