televic
conference

PLIXUS SYSTEM

INSTALLATION GUIDE

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Installation Design

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Configuration

INTRODUCTION

This chapter will give you a short introduction to this manual together with a general description of the Plixus network and its functionalities.

GETTING STARTED

About This Manual

Throughout this guide we use icons to designate different types of information:

	This is a note. A note gives additional information, such as the meaning of the color of the microphone LEDs. A note also provides information that may only be applicable to some situations.
	This is a tip. A tip gives you an alternative way to do a particular step or procedure, or lets you know of an option that you may find helpful.
	This indicates that something is very important. Important information is something that you need to do in order to accomplish a certain task.
	This provides safety precaution information, that is, information that you need to be careful about to prevent potential problems when using our systems.

ABOUT PLIXUS

Concept And Design
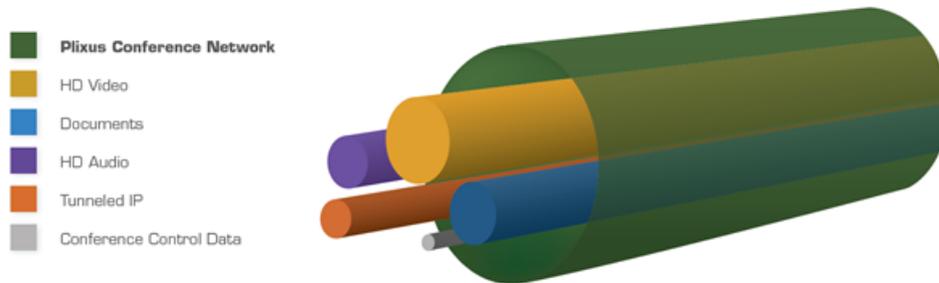
Figure 1-1 *Plixus CAT 5e cable characteristics*

Plixus is a state-of-the-art conference architecture that excels in **performance, security & reliability**.

It is a packet-based IP network that radically simplifies the conference architecture by sending all information over a single CAT 5e cable. HQ audio, HD video, and data travel over a single cable. Dedicated bandwidth is reserved for audio and video. The result is permanent and uninterrupted crystal-clear audio and video. Plixus also eliminates the large amount of equipment and cabling that was traditionally required to bring video to each delegate. Video splitters, distribution amplifiers and several cables to each delegate position are no longer needed. As a result, Plixus drastically reduces the installation cost and simplifies the maintainability of the total system architecture.

The Plixus architecture is also engineered with redundancy & maintenance in mind. All delegate stations are interconnected in daisy-chain and the last unit in the chain can close the loop for increased reliability and redundancy. Moreover, Plixus is conceived with a self-healing topology: data will always travel the shortest route and in the case of an error, Plixus will self-correct and reroute data via the fastest available pathway. Ultimately, it offers all parties peace of mind with Plixus' rock-solid reliability.

Finally, Plixus offers the best of both worlds. The mission-critical part of the central unit is entirely closed off while the DANTE™ interface enables third-party devices to communicate with the closed core network. As a result, Plixus acts as a gatekeeper who guarantees safe & secure communication and allows device extensibility via the DANTE™ interface.

SAFETY INSTRUCTIONS

This chapter describes all safety instructions needed to use the Plixus devices.
Read this before using the equipement.

SAFETY INSTRUCTIONS

The safety instructions contain general safety guidelines that integrators, installers, operators, end users, and anyone else who installs or uses Televic material is required to read and follow at all times.

Safety

All Televic systems are state of the art devices and have been designed to meet all quality standards. 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.

FCC & ICES Information

(U.S.A and Canadian Models only).

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

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

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

> Consult the Federal Communications Commission's manual "How to Identify and Resolve Radio-TV Interference Problems"

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

2. This device must accept any interference received, including interference that may cause undesired operation.

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

> ⚠ 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.

Conformity And Certification Info For Japan

This device has been granted a designation number by Ministry of Internal Affairs and Communications according to:

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 No.:

> 202WW10120791/2"

> 202XW10120791/2

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

Important Safety Instructions

1. **Read Instructions**. All the safety and operating instructions should be read before the product, device or system is operated.

2. **Retain Instructions**. The safety and operating instructions should be retained for future reference. The instructions should be kept in the vicinity of the product or system.

3. **Heed Warnings**. All warnings on the product and the operating instructions should be closely adhered to.

4. **Follow Instructions**. All instructions for installation or operating/use should be followed closely.

5. **Cleaning**. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use only a damp cloth for cleaning. Do not use isopropanol based detergents to clean uniCOS units.

6. **Ventilation**. Any slots and openings in the device or equipment 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. Do not use or operate any equipment in environments that exceed the standard operating temperatures.

8. **Modifications**. Do not use any modifications, extension, or other attachments not recommended by the product manufacturer as they may cause hazards.

9. **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.

10. **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.

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.

26. **Usage**: Non-uniform use of pixels, such as prolonged display of non-moving images (text or graphics), can create a permanent ghost-like image of these objects or otherwise degrade image quality. It can lead to uneven use results in uneven light output over time, and in severe cases can create a ghost image of previous content. While this phenomenon is inherent to LCD technology, Televic recommends a maximum use of 10 consecutive hours of displaying

the same content for any product with an LCD or OLED display. After 10 hours of use or at the end of the day it is recommended, if possible, to turn off the displays by shutting down the system. Televic highly discourages any user from leaving a system containing units with an LCD running 24/7.

General Conformity Information

The Plixus system complies with the IEC/EN 62368-1 safety standard.

The following labels may appear on the bottom of the apparatus:

as per the IEC 60417-6042 standard (caution, risk of electric shock), where **x** depends on the apparatus.
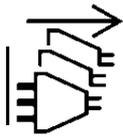
as per the IEC 60417-6172 standard (all power sources shall be disconnected before servicing to avoid shock hazard).

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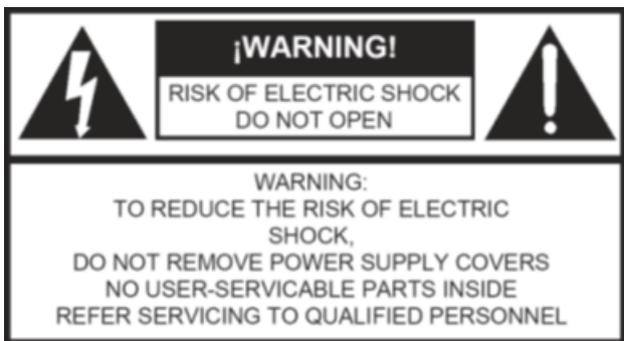
This label may appear on the bottom of the apparatus due to space limitations.

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.

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.

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.

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

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

PLIXUS COMPONENTS

The Plixus architecture allows for a mix & match of components: from flushmount devices to multimedia units and interpreter desk to PTZ cameras and third-party Dante™-enabled applications.

This chapter will describe all available hardware components together with how you can use these components to match your needs.

COMPONENTS

General Overview
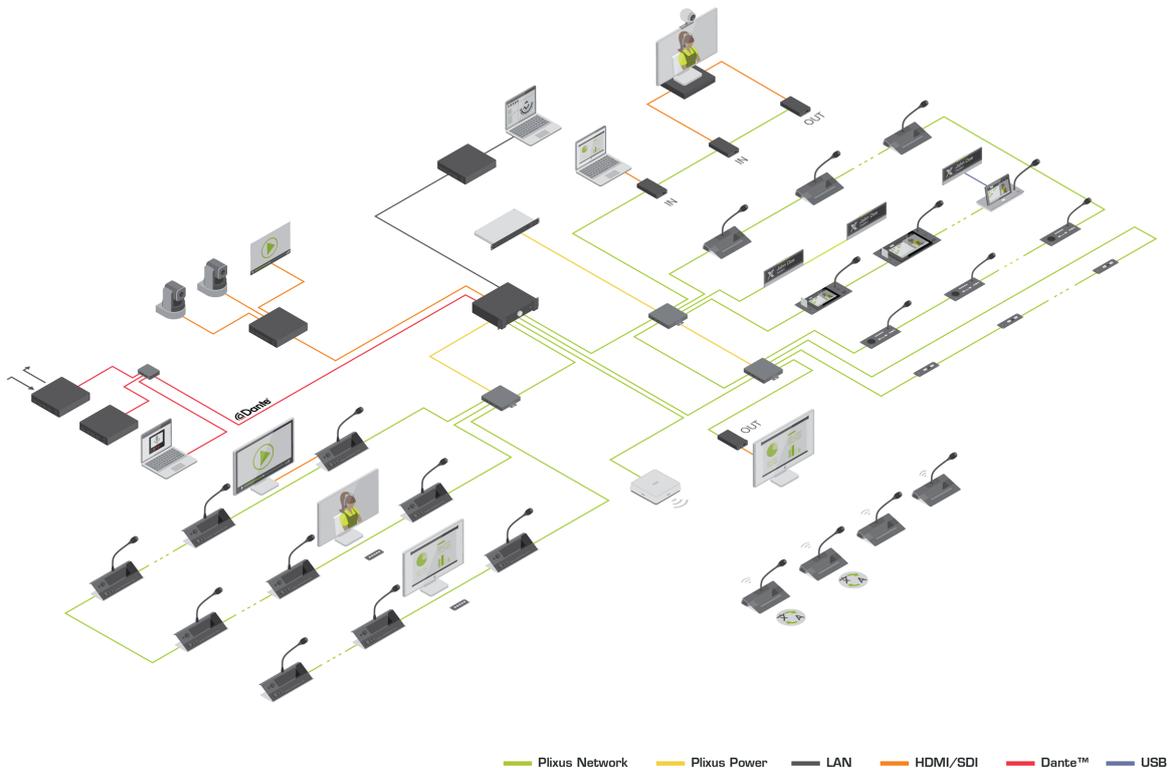
Figure 1-2 *Plixus architecture diagram with example setup*

The Plixus architecture allows for a mix & match of components: from flushmount devices over multimedia units and interpreter desk to PTZ cameras and third-party Dante™-enabled applications.

A typical setup consists of the following components:

> A central unit (Plixus MME or Plixus AE-R)

> CAT 5e network cables

> One or more power supplies, depending on the size of the network.

> One or more network extenders, depending on the size of the network. Each network extender powers a separate branch. It permits 4 branches or 2 loops.

> Confero or CoCon management software to manage every aspect of the meeting

> Recording software to record audio => T-Rex software

- A combination of units
  - Multimedia flushmount and tabletop units => uniCOS units
  - Flushmount units with different options (discussion only, interpretation, voting) => Confidea F units
  - Audio-only tabletop units with interactive display => Confidea FLEX units
  - Single and double-sided nameplates => Plixus Nameplate
  - Wireless tabletop units => Confidea FLEX G4 and GO G4 units
  - Interpretation desks => Lingua ID
- Input and output video => Video IN-OUT boxes
- A combination of peripherals
  - PTZ cameras
  - External displays
  - Digital audio device using Dante™ or AES67

COMPONENT RANGE

As discussed earlier, you can include different components in your Plixus network. These components can be divided into four different categories:

> **Central equipment**: it the heart of the Plixus network. With a Plixus central unit (Plixus MME or Plixus AE-R), you can set up, configure and maintain the Plixus network.

> **Network equipment**

> **Multimedia**: these devices support the usage of multimedia during the meeting such as viewing video on delegate units or video injection / extraction from the Plixus network.

> **Audio**: these units only support receiving and sending audio.

> **Interpreter equipment**: all equipment needed for interpretation.

PLIXUS MME

Overview

Figure 1-3 *Plixus MME front view*

Plixus, MME, the Plixus Multimedia Engine, is the heart of the Plixus system. It controls all delegate units and interconnects to other systems either via the external audio connections or control ports (camera control, Dante, central software, API).

The central unit can drive a maximum of 80 Plixus units directly from the central unit. In case a large number of units are required, the system can be extended with multiple Plixus Network Extenders.

Control Dial Functionality

The front of the Plixus MME has a Jog Wheel with the following options:

> **Push** the dial to select a Level 1 setting

> **Turn** the dial to select a Level 2 setting

The following table details the control dial options:

Level		Function
1	2	
	0 to max	Loudspeaker volume
		Microphone mode: Direct access
		Microphone mode: Request
		Microphone mode: VoX
		Microphone mode: Group
	0 to 25	Maximum number of open microphones
	0 to max	Plixus MME headphone volume

Additional icons are displayed to indicate different states:

indicates that CoCon server is connected to the Plixus MME

indicates an error state.

indicates a Controller/Peripheral setup.

Control button key lock activation/deactivation. Press and hold control dial for 5 sec. You can still browse through the settings when locked.
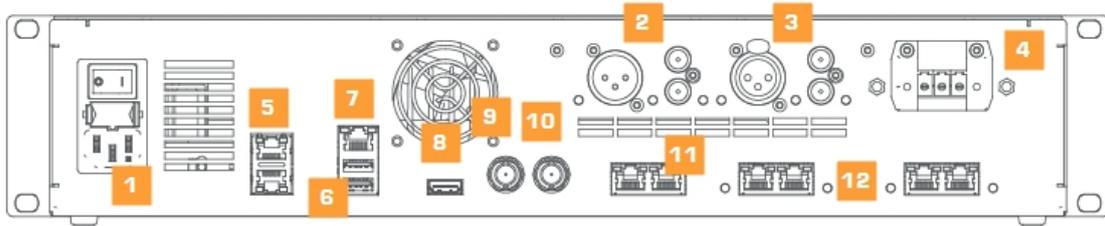
Rear Connectivity

Plixus MME rear view

The rear of the Plixus MME has the following connectivity options:

1. AC power inlet & fuse holder

2. Balanced (XLR) and two unbalanced (RCA) audio outputs

3. Balanced and (XLR) two unbalanced (RCA) audio inputs

4. 48 V power output (400 W)

5. Two redundant DANTE™ network ports (these ports can only be used on Plixus MME devices that include the Dante™ card)

6. Two USB 2.0 ports (for future use)

7. IP configuration port (LAN)

8. Digital video output (HDMI) (for future usage)

9. SDI video input

10. SDI video output

11. Two back bone conference network ports that are not powered (for future use)

12. Four powered Plixus conference network ports

Supported Video Formats

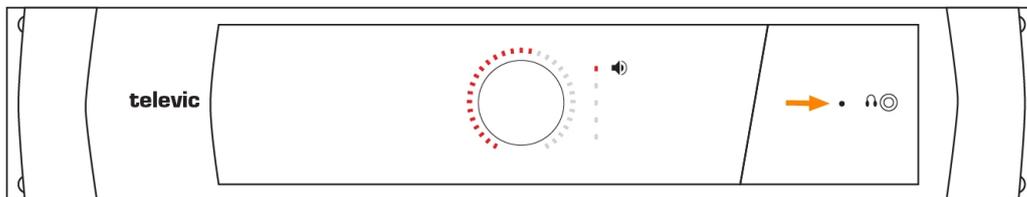| SD SDI	> PAL
	> NTSC
HD SDI	> 720p: 23.976, 24, 25, 29.97, 30, 50, 59.94 and 60 Hz
	> 1080p: 23.976, 24, 25, 29.97 and 30 Hz

Factory Defaults Restore Button

Figure 1-5 *Reset button on Plixus MME*

Depending on the amount of seconds you press and hold the reset button, different outcomes are possible:

> Press and hold the button for **less than 5 seconds**: the units will restart.

> Press and hold the button for **5 up to 20 seconds**: the IP address resets to the default IP address and the unit restarts. This is indicated by the blinking LED lights of the unit.

> Press and hold the button for **more than 20 seconds**: configurations are cleared, IP address is reset to the default IP address and the unit restarts. This is indicated by the continiously lit LED lights.

PLIXUS AE-R

Overview

Plixus AE-R front view

The Plixus audio central unit is a 19" rack mountable device that provides audio processing and signal handling required for the Plixus network. It controls all delegate units and interconnects to other systems either via the external audio connections or control ports.

With the volume dial you can adjust the volume and using the record button you can easily start or stop recording the meeting. In contrast to the multimedia central unit the Plixus AE-R does not have an internal power supply, meaning you will need at least one external power supply.
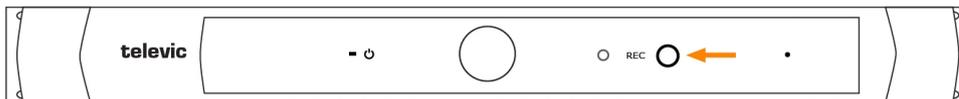
Recording Feature

Figure 1-7 *How to use the recording feature*

With the Plixus AE-R you can record the floor and up to three different languages. You can use the button on the central unit or the Plixus web server to control recording.

The LED next to the recording button shows the status of recording. The Plixus AE-R has an internal recording capacity of 8 GB. Depending on the selected bitrate you can record over 100 hours of audio. Use the USB port on the back to expand the recording memory.

You can download all Recorded meetings from the Plixus web server. There is an option to configure different recording features using the web server. See "Recording" on page 1 for more information.
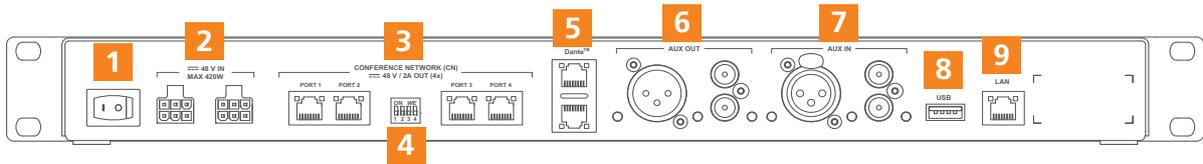
Rear End Connectivity

Figure 1-8 *Back view of Plixus AE-R*

1. On/off switch

2. Two power connectors for power supply injection

3. Plixus conference ports

4. DIP switch: each switch enables and disables 48V power to the corresponding conference port

5. Two redundant Dante™ network ports (these port are only usable on Plixus AE-R devices that include the Dante™ card)

6. Balanced (XLR) and two unbalanced (RCA) audio outputs

7. Balanced (XLR) and two unbalanced (RCA) audio inputs

8. USB 2.0 port to plug in USB device for audio recording

9. LAN port

Power Supply

The Plixus AE-R does not have an internal power supply. By default one external power supply of 220 W is delivered together with the central unit. You can use a second power supply for redundancy. However for larger setups you need the additional power to power the units, preventing you to use the second power supply for redundancy. See "Power Supply Design" on page 59
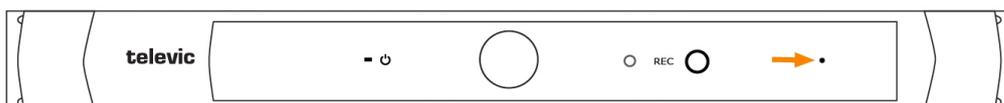
Factory Defaults Restore Button

Figure 1-9 *Reset button on Plixus AE-R*

Depending on the amount of seconds you press and hold the reset button, different outcomes are possible:

> Press and hold the button for **less than 5 seconds**: the units will restart.

> Press and hold the button for **5 up to 20 seconds**: the IP address resets to the default IP address and the unit restarts. This is indicated by the blinking LED lights of the unit.

> Press and hold the button for **more than 20 seconds**: configurations are cleared, IP address is reset to the default IP address and the unit restarts. This is indicated by the continiously lit LED lights.

PLIXUS POWER SUPPLY

The Plixus MME has an internal power supply of 48 V/10 A (480 W). However the Plixus AE-R does not. By default you receive one Plixus power supply with the AE-R. When the internal power supply of the MME or the external power supply of the AE-R is insufficient, a separate power supply is necessary.

Plixus AE-R Power Supply

In contrast to the MME the Plixus AE-R doesn't have an internal power supply. By default the Plixus AE-R comes with one external power supply.

Plixus Power Supply

The Plixus PS power supply is a 19" rack mount version. The front panel is equipped with a rocker mains switch with built-in indicator and two mains fuses.

The use of an additional power supply is needed when the internal power supply of the Plixus MME/AE-R is insufficient.

The 230 V mains is connected to the power supply through a male connector (1) at the back of the power supply. A power good TTL output on a D9 connector (2) allows you to check whether the power is okay. Six female Phoenix connectors (3) are available to branch off the 48 V.
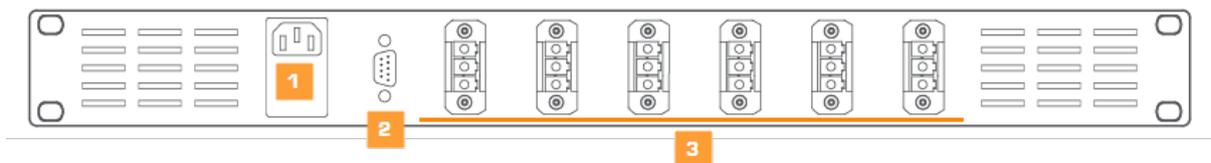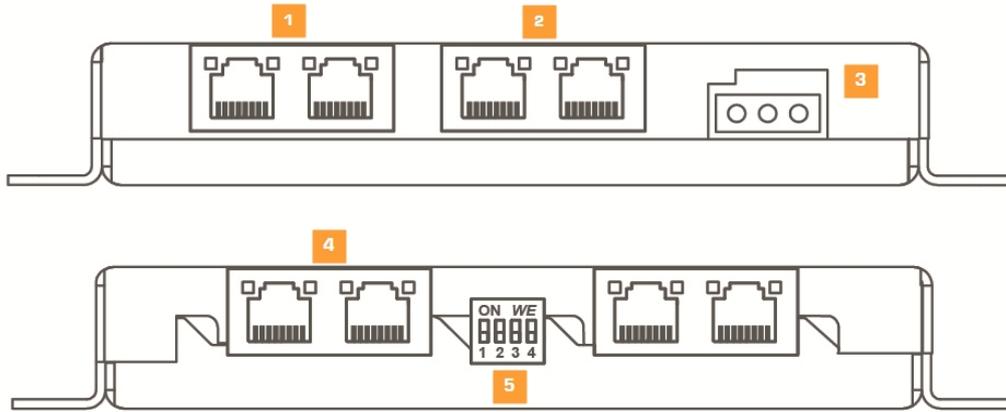

Figure 1-10 *Rear connections of Plixus PS*

PLIXUS NEXT

Plixus NEXT is the next generation of Plixus network extenders which have the same functionality and connectivity, but additionally offer the option to configure (via DIP switches) a delayed power up of the conference extension ports (see DIP switch table below).

1. Two Plixus network conference ports (uplink).

      a. Gives Plixus network signal to conference extension ports of the central unit or other network extender.

      b. Allows connection in branch / loop.

2. LAN ports are not used.

3. 48 V power supply: powers the four conference ports.

4. Four Plixus network conference ports (downlink).

5. DIP switches enable / disable power of conference ports and allow sequential startup.

DIP Switch Table

DIP switch settings				Ports powered at startup	Startup delay of first port(s)	Port interval(s)	Remark
1	1	1	1	All ports	0	0	Standard settings
0	0	0	0	None	NA	NA	No power, only data. Switches activated after startup, will power corresponding ports
1	0	0	0	Port 1	0	NA	1 port powered
0	1	0	0	Port 1 + 2	0	0.5	2 ports powered
1	1	0	0	Port 1 + 2 + 3	0	0.5	3 ports powered
0	0	1	0	All ports	0	0.5	delay 0 to 1.5
1	0	1	0	All ports	2	0.5	delay 2 to 3.5
0	1	1	0	All ports	4	0.5	delay 4 to 5.5
1	1	1	0	All ports	6	0.5	delay 6 to 7.5
0	0	0	1	All ports	8	0.5	delay 8 to 9.5
1	0	0	1	All ports	10	0.5	delay 10 to 11.5
0	1	0	1	All ports	12	0.5	delay 12 to 13.5
1	1	0	1	All ports	14	0.5	delay 14 to 15.5
0	0	1	1	All ports	16	0.5	delay 16 to 17.5
1	0	1	1	All ports	18	0.5	delay 18 to 19.5
0	1	1	1	None	NA	0	Remote control*

*planned for future releases

General Network Extender Guidelines

> The maximum distance between the central unit and the first Plixus NEXT or delegate unit in the branch is 100 m.

> The maximum distance between two Plixus NEXT is 100 m.

> The Plixus Plixus NEXT must be powered externally (through eitherPlixus MME or Plixus PS).

> One branch or loop cannot consist out of more than 8 Plixus Plixus NEXT (for optimized packet propagation)

> One branch or loop may consist of no more than 20 Plixus devices (less if power is limiting factor).

> Restrict a downlink port branch to 1 network speed: 100 Mbit or 1 Gbit!
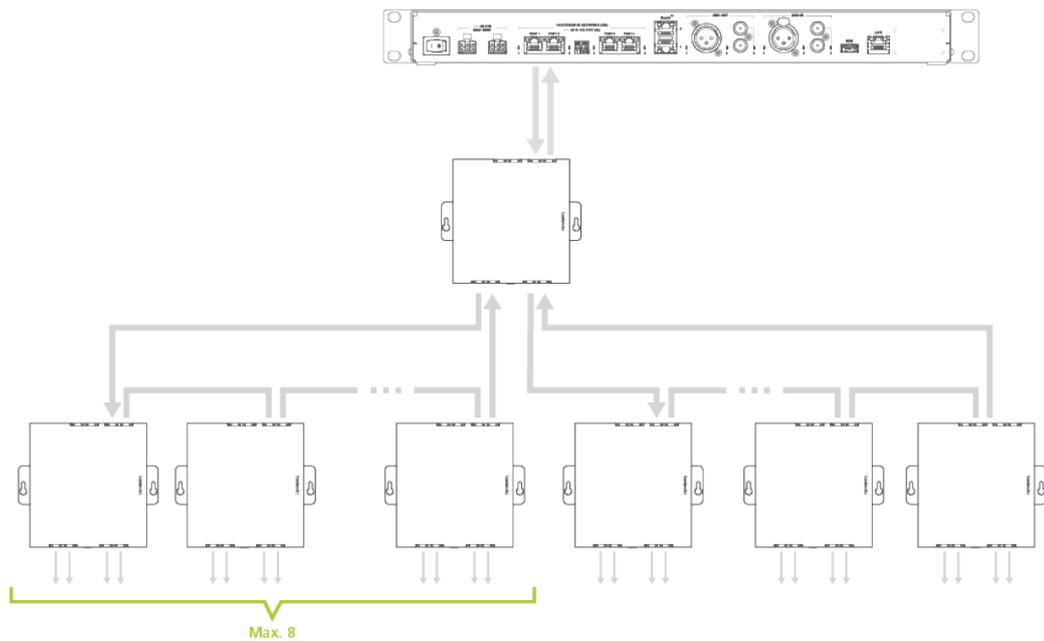

Figure 1-11 *Example network extender configuration*

Redundancy

In Plixus it is possible to insert a type of fail-safe mechanism by creating redundancy. You can get redundancy by inserting loops in your network. When there is a loop, Plixus can still access the device using a different route when a cable or a device in one side of the loop breaks.
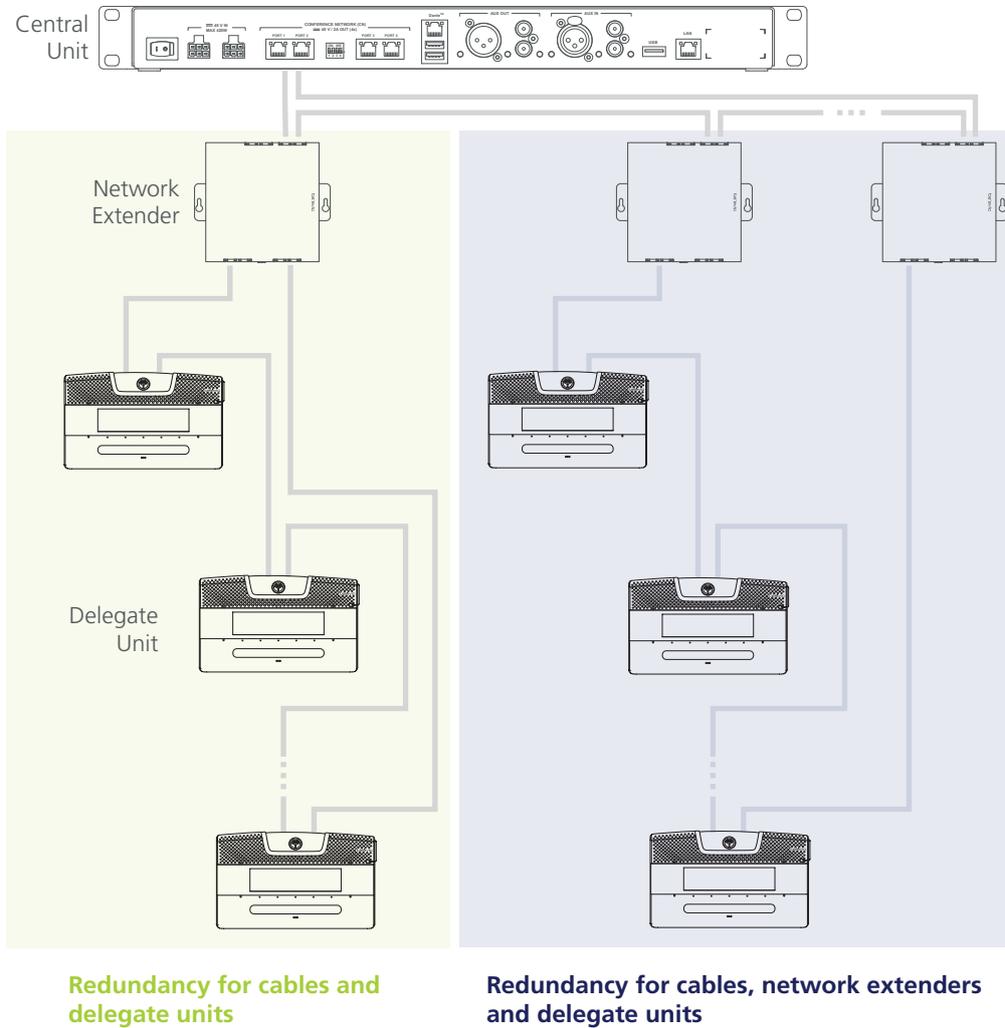

Redundancy for cables and delegate units

Redundancy for cables, network extenders and delegate units

Figure 1-12 *How to create redundancy using Plixus NEXT.*

PLIXUS V-IN

Plixus V-IN Box

Through the Plixus Video-IN (V-IN) box you can insert a HDMI video stream anywhere in the Plixus network. There are two modes available for the V-IN box:

> Fixed routing

> Push to show

You can use multiple V-IN boxes in a Plixus network. Group V-IN boxes in order to create a presentation stream based on a push to show principle (using the Video-Request button or dry contacts). A total of six streams can be active in the Plixus network at any given time.
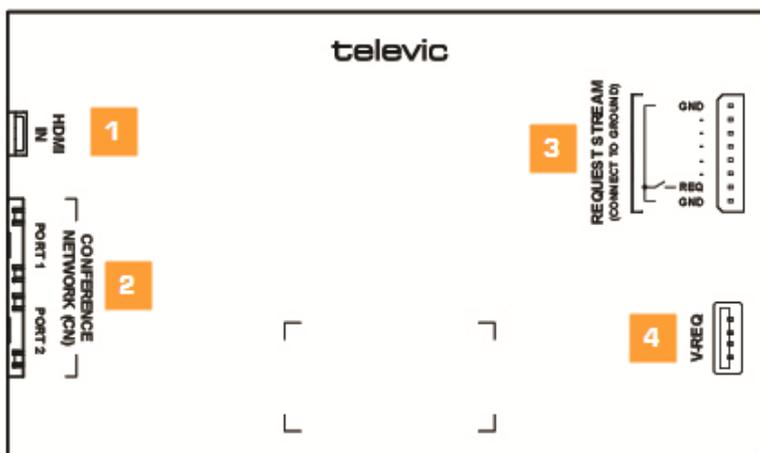

Figure 1-13 *Plixus V-IN box*

1. Insert HDMI video stream

2. Two Plixus conference ports

3. Dry contacts for video stream input request

4. USB connection to V-REQ

The USB connection for the V-REQ is not a standard USB connection. This connection only works for the V-REQ.

The V-IN box supports the following formats:

- 1920×1080p60

- 1920×1080p30

- 1280×720p30

- Interlace is not supported

Plixus V-REQ

The Video Request button is a flushmount button connected to the Plixus V-IN box with a dedicated USB cable provided with Plixus V-REQ (see image below).

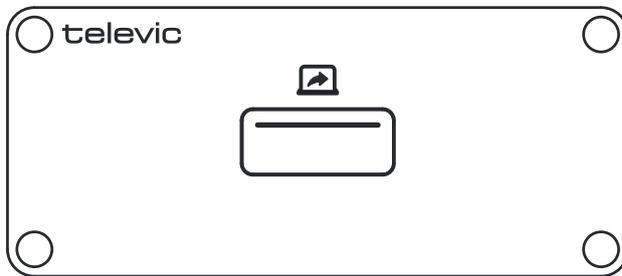Connection of V-REQ to the V-IN box is done through the included micro USB cable.

Figure 1-14 *Plixus V-REQ Accessory*

PLIXUS V-OUT

Plixus V-Out Box

You can use the Plixus Video-OUT Box to extract any HDMI video stream from the Plixus network to an external device using HDMI. Two modes are available:

> fixed stream routing

> selection of available streams (using Video-Selection (V-SEL) or dry contacts)

You can assign multiple V-OUT boxes to a group, routing a specific stream to these boxes.
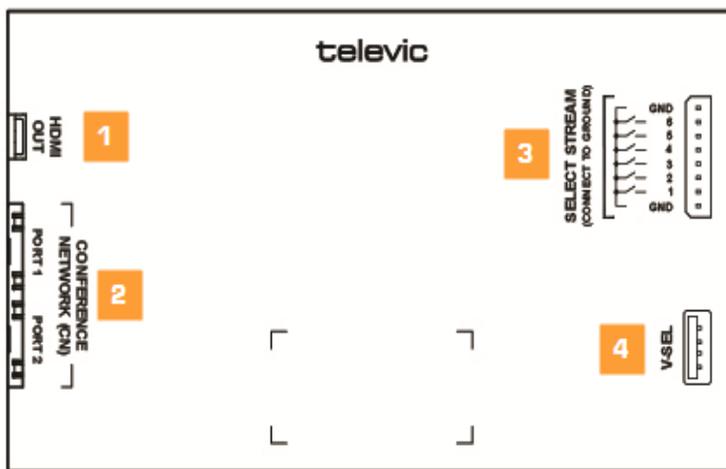

Figure 1-15 *Plixus V-OUT box*

1. HDMI OUT connection

2. Two Plixus conference ports

3. Dry contacts for video stream selection (six streams available)

4. USB connection for V-SEL

> The USB connection for the V-SEL is not a standard USB connection. This connection only works for the V-SEL.

The V-OUT box supports the following formats:

> Supports all resolutions with a maximum of 1920×1080p60

> Interlace is not supported

Plixus V-SEL

The Video Selection button is a flushmount panel with buttons connected to the V-OUT box with a dedicated USB cable provided with V-SEL (see image below).
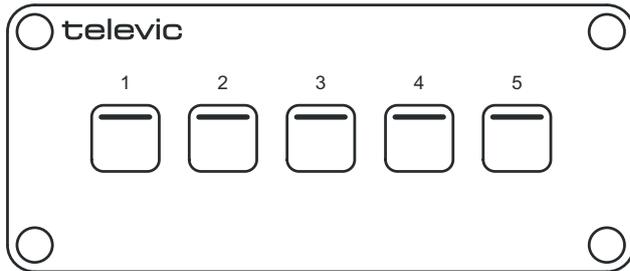

Figure 1-16 *Plixus V-SEL Accessory*

PLIXUS UNIBOX PRO

The Plixus uniBOX PRO is dedicated to custom installations with tabletop screens. It comes with all connections to combine almost any screen with different Confidea F modules such as a microphone button, a voting board, an RFID badge reader, and different other components. Link the uniBOX PRO to a desktop screen or go for a more integrated look, and combine the uniBOX PRO with a motorized screen that disappears into the table.

You can power the uniBOX PRO over the Plixus network or you can power it using the snap and lock mini DIN power connector. For more information see the Power Supply section.
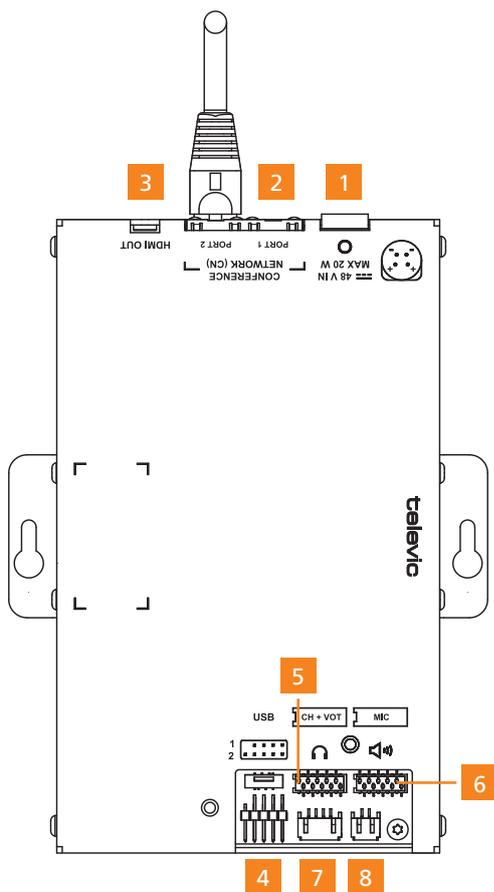

Figure 1-17 *uniBOX PRO and its connections*

The uniBOX PRO has the following connections:

1. Snap and lock mini DIN power plug

2. Two Plixus conference ports

3. HDMI OUT connector

4. Two USB connectors

5. Micro-MaTch connector for voting, RFID, channel selection board

6. Micro-MaTch connector for microphone button board

7. Headphones port

8. Loudspeaker port

F-BOX

The F-BOX is a compact Plixus audio interface to be installed under a table, between the armrest of a chair, underneath an elevated floor, etc. It comes with embedded ports and connectors to plug a microphone, a microphone status button, voting buttons, a loudspeaker and headphones.

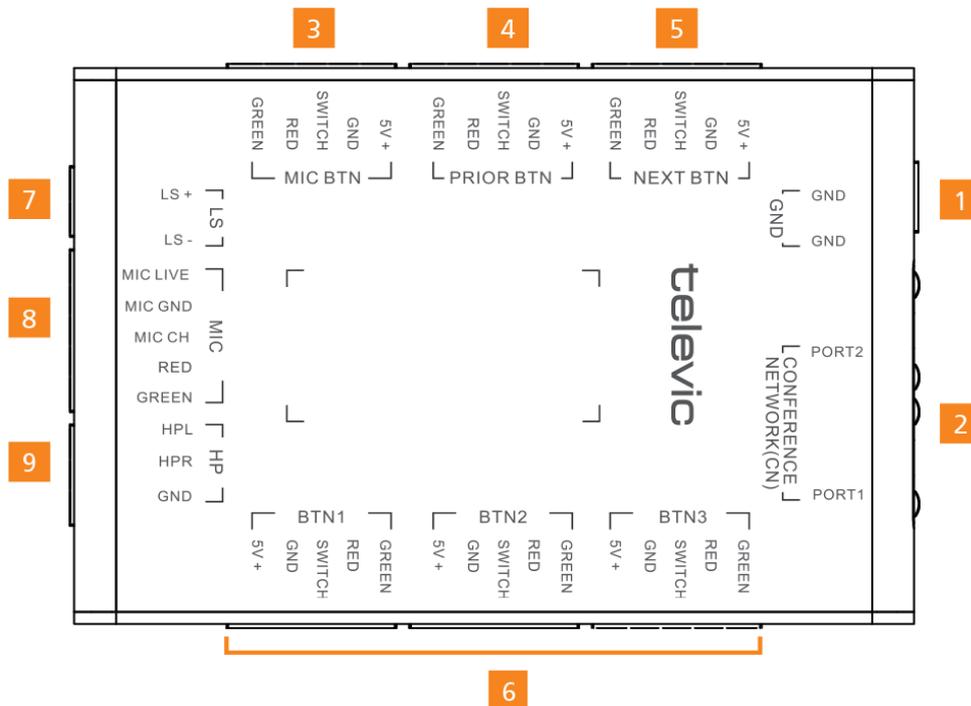You can power the F-BOX over the Plixus network using an RJ45 Cat5e cable.

Figure 1-18 *F-BOX and its connections*

The F-BOX has the following connections:

    1. Ground port

    2. Two Plixus conference ports

    3. Microphone button connector

    4. Prior button connector

    5. Next button connector

    6. Three voting button connectors

    7. Loudspeaker port

8. Screw lock microphone connector

9. Headphones port (stereo)

DISCUSSION UNITS AND INTERPRETER DESKS

You can add different types of units and other peripherals to your Plixus architecture depending on your requirements. Below you can find a list of all delegate equipment that you can combine with Plixus together with a short description.

Discussion Units

AUDIO ONLY EQUIPMENT

Product	Description
Confidea F	Audio-only flushmount unit of the Plixus network.
Confidea FLEX	Audio-only tabletop unit with an interactive display that shows meeting information and offers additional control. There is only one type of unit with extended functionalities by the use of licenses
Confidea G4	Wireless unit with extended functionalities by the use of licenses.
Confidea GO G4	Discussion-only wireless unit.

MULTIMEDIA EQUIPMENT

Product	Description
unicos PRO T uniCOS CORE T uniCOS PRO F	Touch screen multimedia unit. Allows delegates and chairmen to see additional information, video, but also documents that are relevant for the meeting or the agenda (depending on uniCOS model). * uniCOS CORE T does not work with anything below version 7.16 or outside of 7 branch.

ADVANCED EQUIPMENT

Product	Description
Plixus Nameplate	Is a double or single sided nameplate based on E-ink technology which automatically updates the display when delegates sign in or by input of the conference manager. Daisy chain to connect to the Plixus network connect directly to multimedia units using USB. Use the CoCon Nameplate software to configure the nameplate.

For more information on how to use these different peripherals consult the Plixus end user guide. Chapter "Installation Design" on page 46 describes how to set up all these units in the Plixus network.

Interpreter Equipment

Within the Plixus network it is possible to configure interpretation. Different units are availble for interpreters. Below you can find a list of all these units, together with a short description.

Product	Description
Lingua interpreter desk (video-enabled): - Lingua ID-MM Mike	Specifically designed to support interpretation. In the video-enabled version, you can extract video from the unit's HDMI output.
Lingua Interpreter desk (udio only): - Lingua ID Mike	Specifically designed to support interpretation, that does not support video.

PLIXUS NAMEPLATE

The Plixus use the E Ink technology to display user-specific content. The nameplate has two sides that can display different content. When the power of the nameplate is off, then the content will still be visible on the nameplate.

Overview

Below you can find an overview of the different functionalities available on the nameplate.
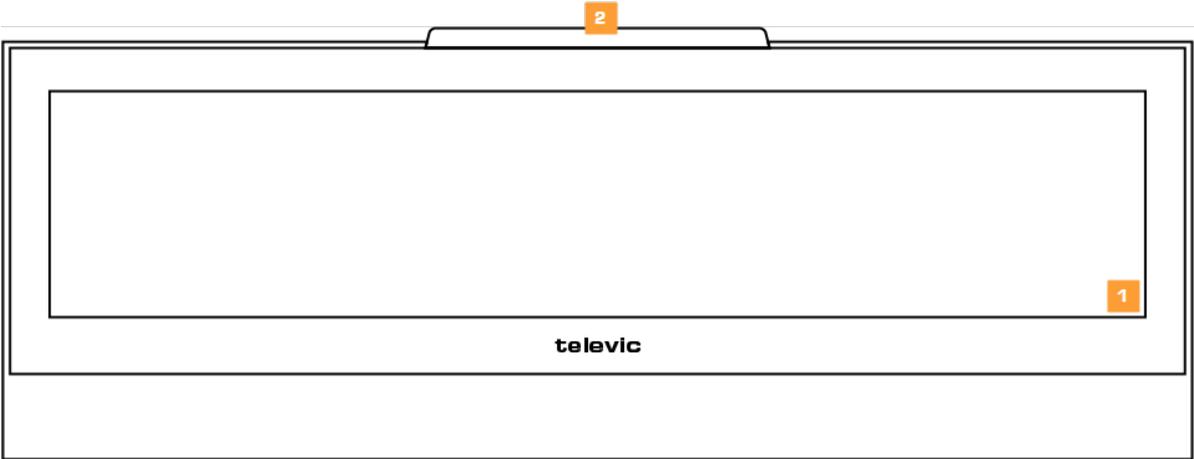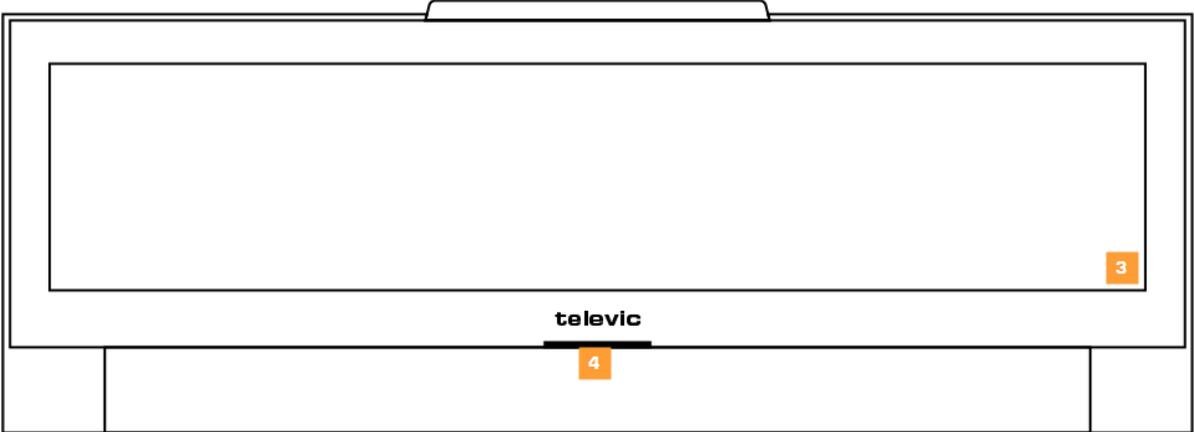

Figure 1-19 *Plixus Nameplate front side*

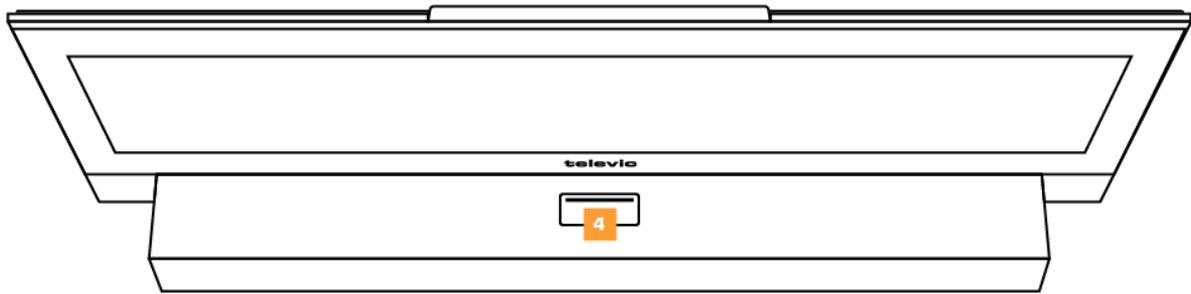Figure 1-20 *Plixus Nameplate back side*
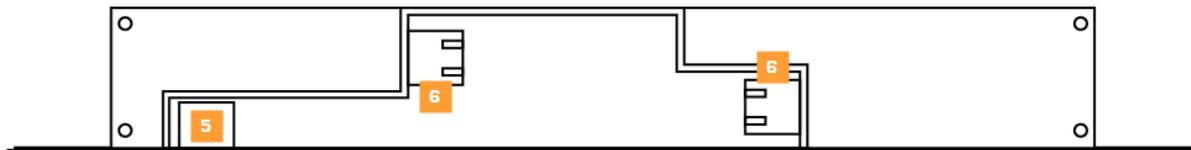
Figure 1-21 *Plixus top view*

Figure 1-22 *Plixus bottom view*

The Plixus has the following components:

    1. Front screen

    2. LED light: lights up when you press the request button on the nameplate

    3. Back screen: can be different from the front screen

    4. Request button: push button to indicate request to speak

    5. USB connection

    6. Two Plixus conference ports

> When the nameplate is connected via USB as well as the Plixus conference ports, then the nameplate will always use the USB connection.

INSTALLATION DESIGN

This chapter describes how to set up the installation of the Plixus network 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.

PLIXUS COMPONENT PROPERTIES

It is not possible to combine all Plixus components on the same branch because some units are **powered over the Plixus cable**, while others require external power.

In addition there is a difference in network speed for audio-only devices versus multimedia devices. As a consequence, three different categories of devices are possible that you cannot mix on the same branch.

The following tables list the properties of all components. Please note the different categories:

> **100 Mbit powered over Plixus Cable**

> **1 Gbit powered over Plixus Cable**

> **1 Gbit externally powered**

100 Mbit Powered Over Plixus Cable

Component type	Plixus Network Speed	Power over Plixus cable	Max Power Consumption
Confidea F	100 Mbit	+	5 W
Confidea T	100 Mbit	+	4.5 W
Confidea F-CS	100 Mbit	+	2 W
Confidea FLEX	100 Mbit	+	6 W
Lingua ID Mike (audio only)	100 Mbit	+	11 W
Confidea G4 WAP	100 Mbit	+	24 W
Plixus Nameplate	100 Mbit	+	3 W
Confidea F-BOX	100 Mbit	+	5 W

1 Gbit Powered Over Plixus Cable

Component type	Plixus Network Speed	Power over Plixus cable	Max Power Consumption
Lingua ID-MM Mike (video)	1 Gbit	+	12 W
uniCOS PRO F	1 Gbit	+	15 W (1 USB port) + 2.5W when using second USB
uniCOS PRO T	1 Gbit	+	15 W (1 USB port) + 2.5W when using second USB
uniCOS CORE T	1 Gbit	+	15 W (1 USB port)
Confidea F-DIV-C	1 Gbit	+	12 W
Plixus V-OUT Box	1 Gbit	+	5.5 W
Plixus V-IN Box	1 Gbit	+	6 W
uniBOX PRO	1 Gbit	+	11.3 (1 USB port) + 2.5W when using second USB

1 Gbit Externally Powered

Component type	Plixus Network Speed	Power over Plixus cable	Max Power Consumption
uniCOS PRO F	1 Gbit	-	15 W (1 USB port) + 2.5W when using second USB
uniCOS PRO T	1 Gbit	-	15 W (1 USB port) + 2.5W when using second USB
uniCOS CORE T	1 Gbit		15 W (1 USB port) + 2.5W when using second USB
Plixus NEXT	100 Mbit / 1 Gbit	-	7 W
uniBOX PRO	1 Gbit	-	11.3 (1 USB port) + 2.5W when using second USB

A branch cannot mix products with different network speeds. A single branch is restricted to components from one and the same category.

A **branch** can only contain units that are **all powered over cable** or **that are all externally powered**, **not** the combination of both.
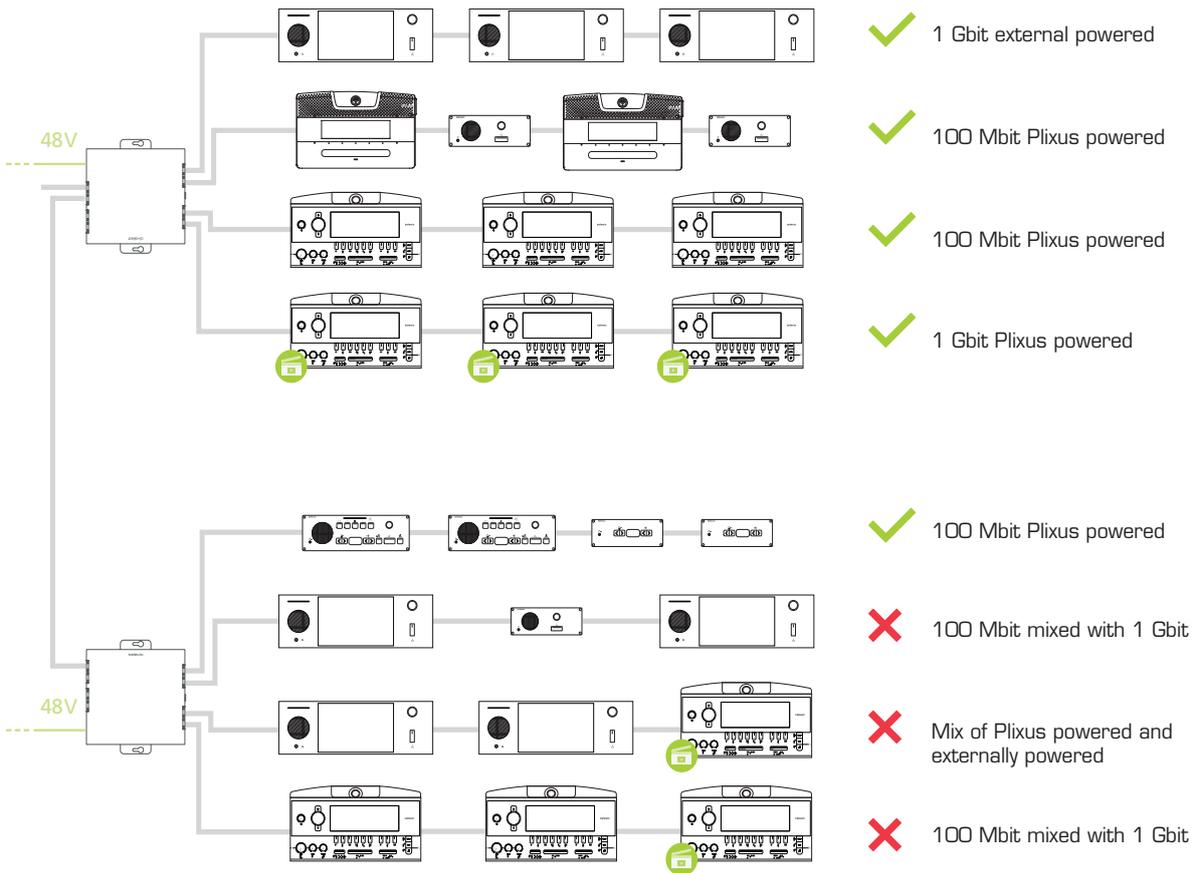
Figure 1-23 *Do's and don'ts of combining units*

💡 It is strongly recommended to only place Plixus NEXT devices in one branch, and not to mix them with uniCOS multimedia units (although they belong to the same category).

GENERAL INSTALLATION GUIDELINES

The following installation design rule apply for one branch / loop powered only by the Plixus central unit (internal 48 Vdc power supply) or an external Plixus Power Supply:

> A maximum of 100 W

> A specific maximum of devices per product family per branch / loop

> A maximum cable length between two units of 100 m

Units Per Branch / Loop

Depending on the type of unit, we advise to add a maximum amount of devices per branch. This is to ensure that the last device in the branch receives enough power (only for devices powered over Ethernet) and limit delay data transmission.

When building your configuration, always refer to the Plixus Power Calculator tool available here: https://conference.televic.digital/knowledgebase/products/plixus/#tab-f9accbaab20a6cf930a

In the table below you can see the maximum allowed devices per branch.

Device type	Max. number per branch
Confidea T/F	20
Confidea FLEX	10
Confidea F channel selector	30
uniCOS F/MM (externally powered)	30
uniCOS F/MM7 (powered over cable)	6
uniCOS PRO F (formerly F/MM10) (powered over cable)	5
uniCOS PRO T (formerly T/MM10) (powered over cable)	5
uniCOS CORE T	5
Lingua Interpreter Desk	8
uniBOX PRO (externally powered)	30

Device type	Max. number per branch
uniBOX PRO (powered over cable)	6
Video IN / OUT	10
Plixus NEXT	8
Confidea WCAP G3	8
Confidea WAP G4	4
Confidea F-DIV-C	8
Plixus Nameplate	8

When To Use A Network Extender

When the four Plixus conference ports provided by the central unit are insufficient for your system, you can extend your range by using network extenders (Plixus NEXT). A network extender has four additional conference ports, which allows you to add much more units to your network.

> The Plixus NEXT requires a 48V power supply.

There a two possible configurations to use these network extender, you can daisy-chain them or put them in a tree structure. When you daisy-chain network extenders you can use a maximum of eight extenders per branch. In a tree structure there are no limitations. See "Installation Diagram" on the next page for a schematic representation of these cases.

INSTALLATION DIAGRAM

Configuration With Plixus Engine Only

Plixus Central Unit

Room Equipment

Plixus Power Supply
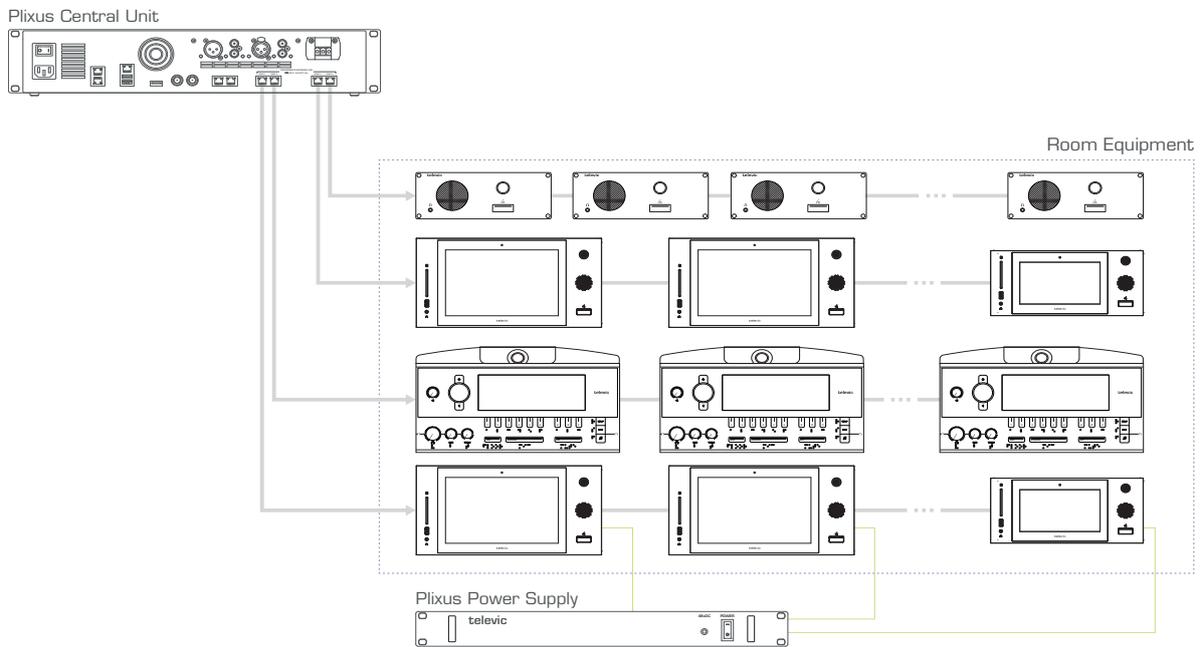
Example of Plixus network with central unit only

For a setup where you only need a central unit, connect the units directly to the conference ports of the Plixus central unit. Daisy chain the different units in the branch. If your system contains uniCOS units, you need an external power supply.

Only mix compatible units in one branch. For more information on which units you can combine see "Plixus Component Properties" on page 47. In this table you can also see the power consumption, which you need to know how many units you can have in one branch. Use the power calculator tool to validate your configuration ("Power Supply Design" on page 59).

Configuration With Network Extender

DAISY-CHAIN NETWORK EXTENDERS

When you daisy-chain network extenders, you can have a maximum of 32 network extenders (eight per branch and this for the four Plixus conference ports).
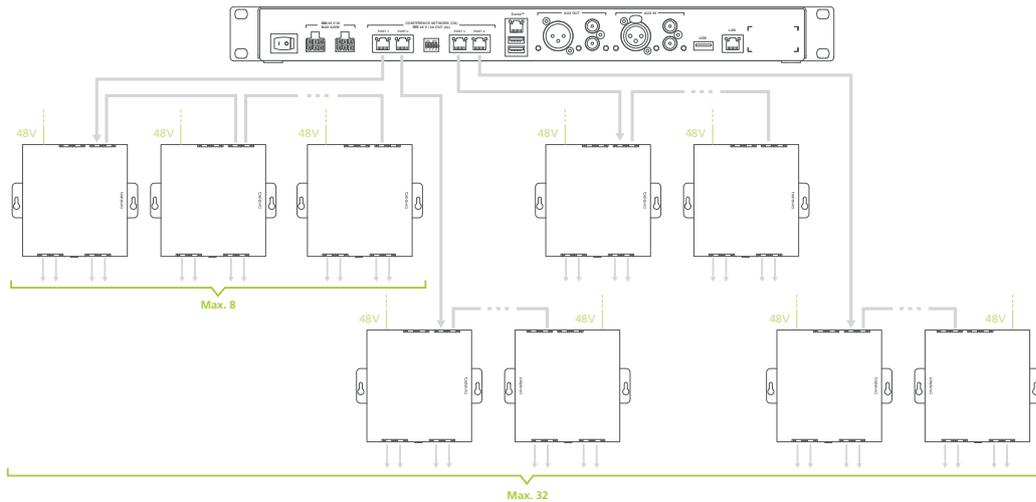
Figure 1-25 *How to put network extenders in daisy-chain configuration*

To create redundancy in your system you can insert loops (see "Plixus NEXT" on page 30).
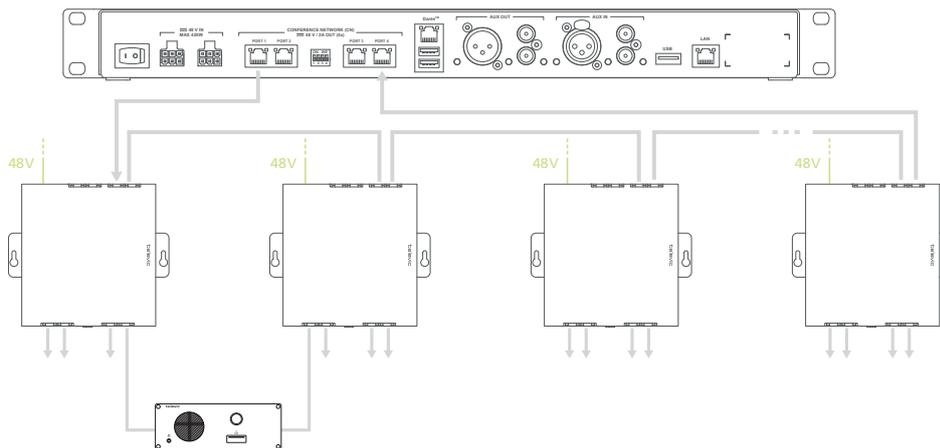
Figure 1-26 *Plixus network with daisy-chained network extenders and loops*

TREE STRUCTURE OF NETWORK EXTENDERS

For larger setups you can put the network extenders in a tree structures. Here there is no limitation on the amount of network extenders you can put in the tree.
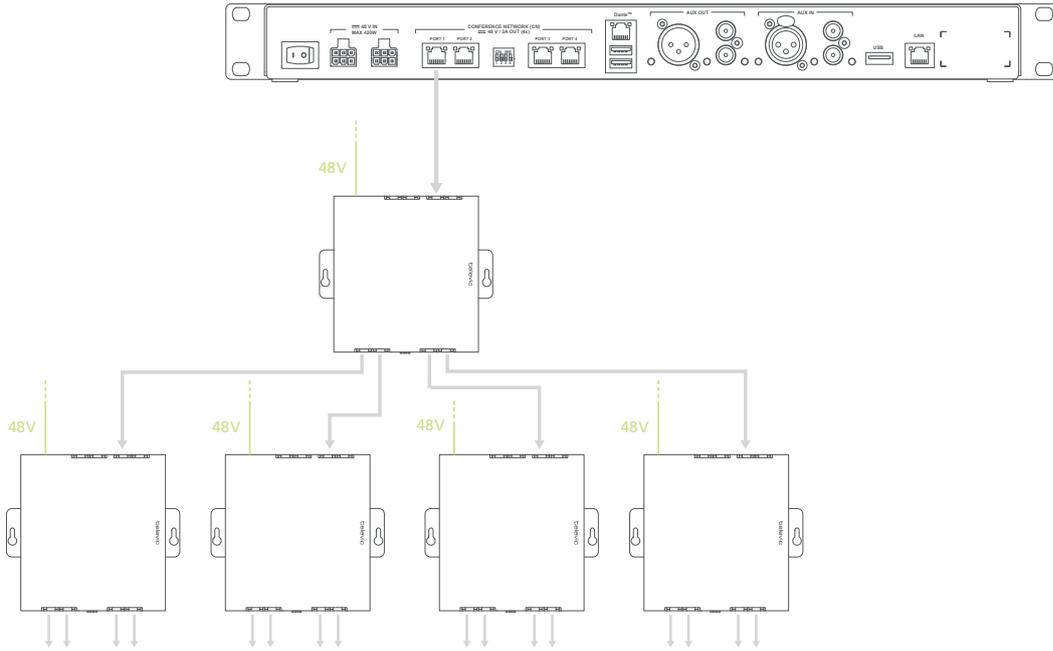
Figure 1-27 *How to use network extenders in a tree structure*

You can also create redundancy in a tree structure, the figure below shows you how to achieve this.
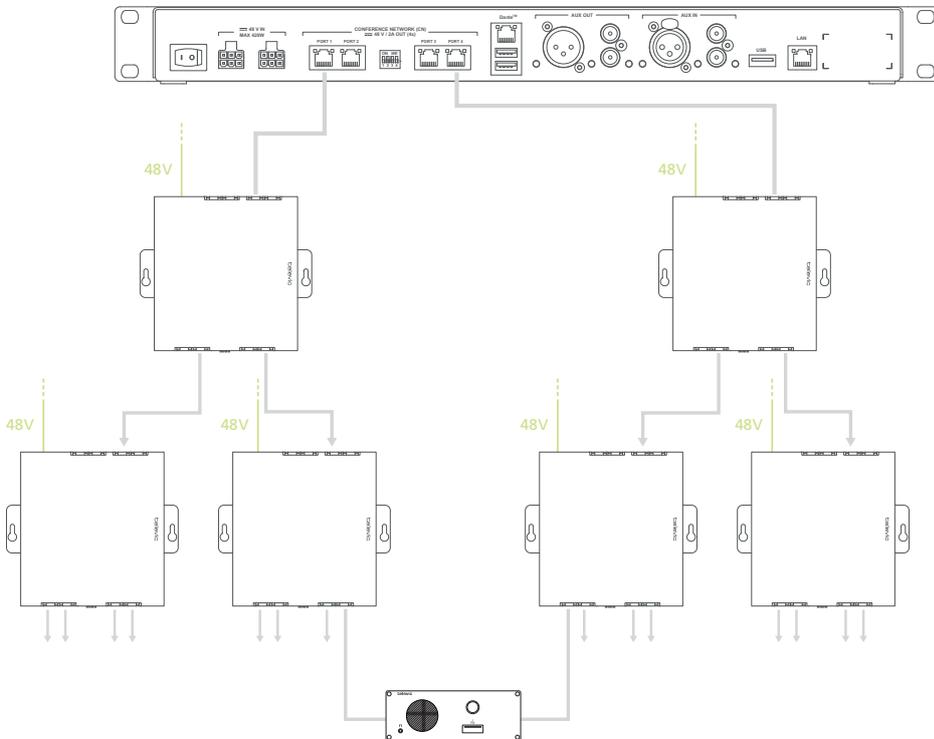
Figure 1-28 *Plixus network with network extenders in tree structure and with loops*

PLIXUS SETUP WITH NETWORK EXTENDERS
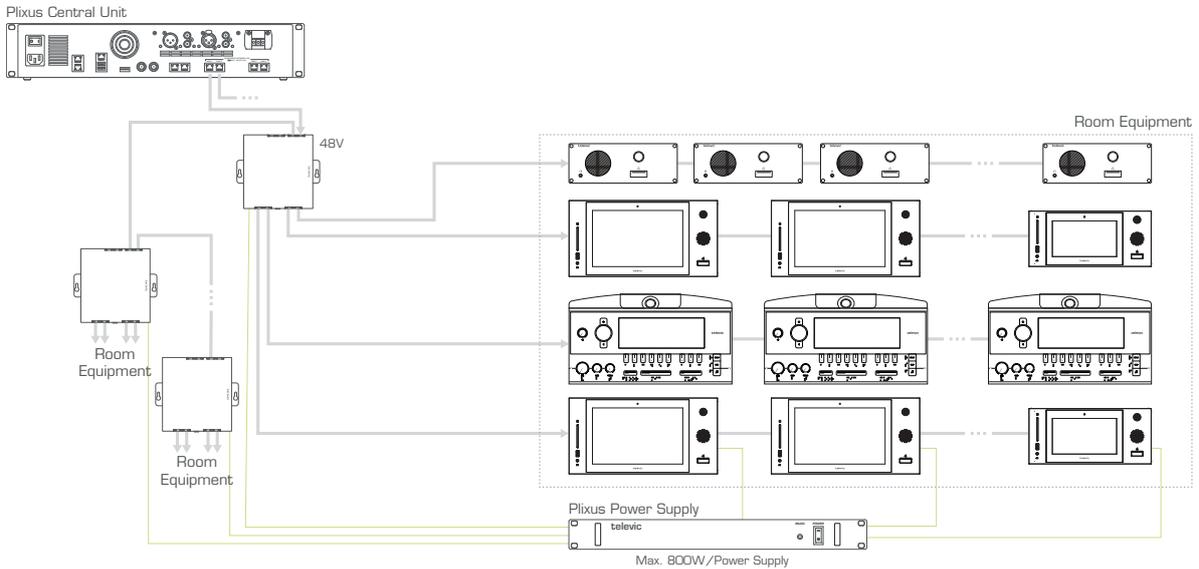
Figure 1-29 *Example of Plixus network with network extenders.*

For installation with a network connector, use the conference port on top of the network extender to connect with the Plixus central unit. Use the second top conference port to form a daisy chain with another network extender. Use the conference ports on the bottom of the extender to connect the units inside the room. To connect the extender to the units the same principles apply as for the direct connection of the central unit to the units. See "Configuration with Plixus Engine Only"for more information.

The network extender and uniCOS units (can also be powered over cable) require an external power supply. There is a maximum of power that the power supply can foresee. Use the power calculator tool to see how many power supplies you require ("Power Supply Design" on page 59).

> The Plixus AE-R does not have an internal power supply and comes with one power supply of 220 W by default. Check the table with power consumption details and use the power calculator tool to check how many power supplies you need. You can find more information on the power needed for your system in "Power Supply Design" on page 59.

Examples

EXAMPLE WITH 50 CONFIDEA F UNITS

48V

10 units
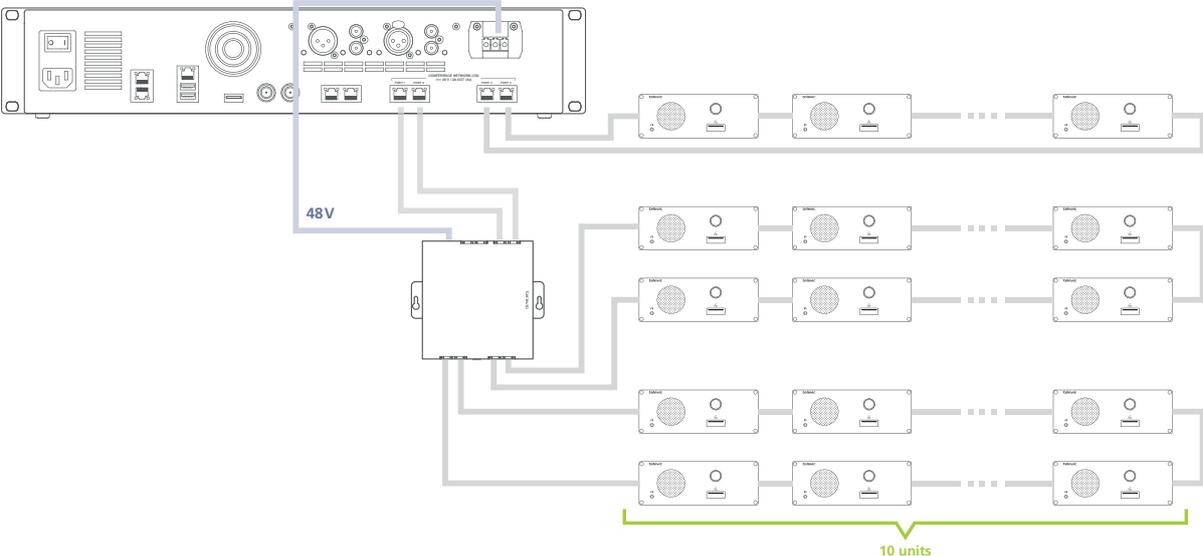
Configuration With Plixus AE-R And Lingua IDs

When your setup contains an audio-only central unit and many interpreter booths, it is best not to mix the interpreter desks with other delegate or chairperson units on the same branch. Consequently, at least one branch of the central unit only contains Lingua IDs. For large setups, it is best practice to create loops with or without network extenders, to guarantee a fully functional system even if one unit fails. Therefore, you should devote two branches to the interpreter desks.
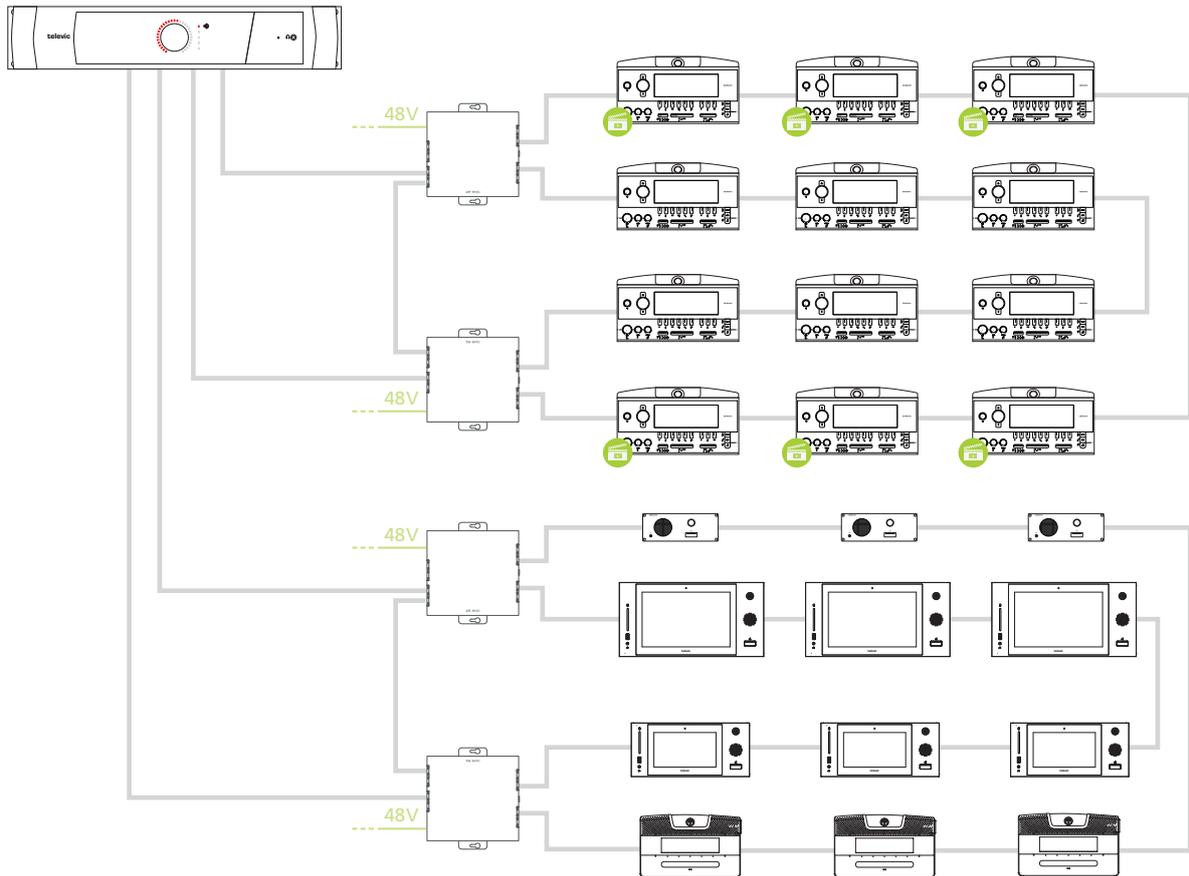
Figure 1-30 *How to set up an audio-only system with a large amount of Lingua IDs*

POWER SUPPLY DESIGN

Power Availability And Consumption Table

Power availability	
Plixus MME total power supply	500 W (400 W available for Plixus ports)
Plixus AE-R power supply	220 W
One single Plixus port allows	100 W (central unit ports or extension ports)

Maximum power consumption		
71.98.0105 - 71.98.0118	Confidea T	Max 4.5 W
71.98.0501 - 71.98.0515	Confidea F	5 W
71.98.0551	Confidea F-CS	2 W
71.98.0131	Confidea FLEX	6 W
71.98.2014	uniCOS PRO F	15 W (1 USB port) + 2.5W when using second USB
71.98.2005	uniCOS PRO T	15 W (1 USB port) + 2.5W when using second USB
71.98.2015	uniCOS CORE T	15 W (1 USB port) + 2.5W when using second USB
	Plixus NEXT	7 W
71.98.2004	uniBOX PRO	11.3 (1 USB port) + 2.5W when using second USB
71.98.2103	Lingua ID Mike - Audio only	11 W
71.98.2104	Lingua ID MM Mike - Video	12 W
71.98.2920	Plixus V-IN box	6 W
71.98.2922	Plixus V-OUT box	5.5 W

Maximum power consumption		
71.98.0034 - 71.98.0035	Confidea WAP G4 (with and without Dante)	24 W
71.98.2051 - 71.98.2050	Plixus Nameplate (double sided & single sided)	4 W
Maximum distance between units		100 m (signal regenerated in every unit)
Minimum required voltage per unit		36 V

The general rule states that you should use a maximum **20 delegate units per branch / loop**.

Plixus AE-R Power Supply

The Plixus AE-R does not have an internal power supply, however it does have two power connectors. By default, you get one power supply together with the central unit. You can extend this power supply with another as redundancy or when the system requires more power.

To check how many power supplies you require, consult the flowchart shown below.
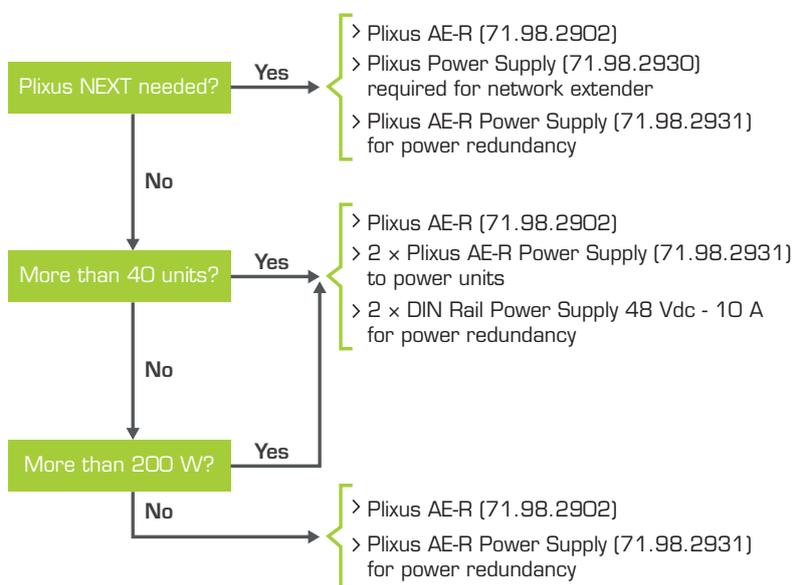
Figure 1-31 *How to decide to need an additional Plixus AE-R power supply*

Calculator Tool

💡 The Plixus Power Calculator Tool allows to you to validate a configuration in more detail. It takes into account the network cable lengths, power cable lengths and the different types of equipment.

The Plixus Power Calculator Tool can be easily found in the Plixus section of the Televic's Knowledge Base here ("Tools" tab):

https://conference.televic.digital/knowledgebase/products/plixus/

Regardless of the calculator values, the maximum values above still apply. If more units, more power or a larger length is needed, then you need to create a separate branch using a Network Extender.

Cable Requirements

📢 Televic advises to use minimum **CAT 5e F/UTP 23 AWG** for **run cables** and **CAT 5e F/UTP 24 AWG patch cables**.

Televic strongly advises that cables for all **video-enabled products** are created in **loop**.

Please follow the cable guidelines described here, they are important to guarantee correct system performance.

> Keep all cable runs **under 90% of the maximum distance** supported for each media type as specified in the relevant standard. This extra headroom is for the additional patch cables that will be included in the end-to-end connection.

> Always use the **same type of cable** (except AWG) in the end-to-end connection.

> Cabling installations and components should be compliant with the **ISO/IEC 11801 standard**.

> **Do not stress the cable** by doing any of the following

>> Applying additional twists

>> Pulling or stretching beyond its specified pulling load rating

>> Bending it beyond its specified bend radius

> Creating tension in suspended runs

> Stapling or applying pressure with cable ties

- **Avoid** placing **copper cables** near equipment that can generate high levels of **electromagnetic** interference. Generally avoid locations near power cords, fluorescent lights, building electrical cables and fire-prevention components.

- Use the **Plixus Power Calculator** to ensure sufficient power for all units in the network.

INSTALL NAMEPLATE IN PLIXUS NETWORK

The Plixus Nameplate requires a network speed of **100 Mbit**. This means that when you want to use the nameplate in your Plixus network, you can only combine it with units that require the **same speed** (in that branch). For a detailed list of all Plixus compatible units and their network speed see the Plixus Installation Guide. You could, for example, combine the nameplate with a Confidea T or F unit in the same branch, but not with an uniCOS unit.

However, there is a possibility to combine the nameplate with **multimedia** units, such as the uniCOS units, on the same branch. To connect the units, you can use the **USB connection** available on both units.
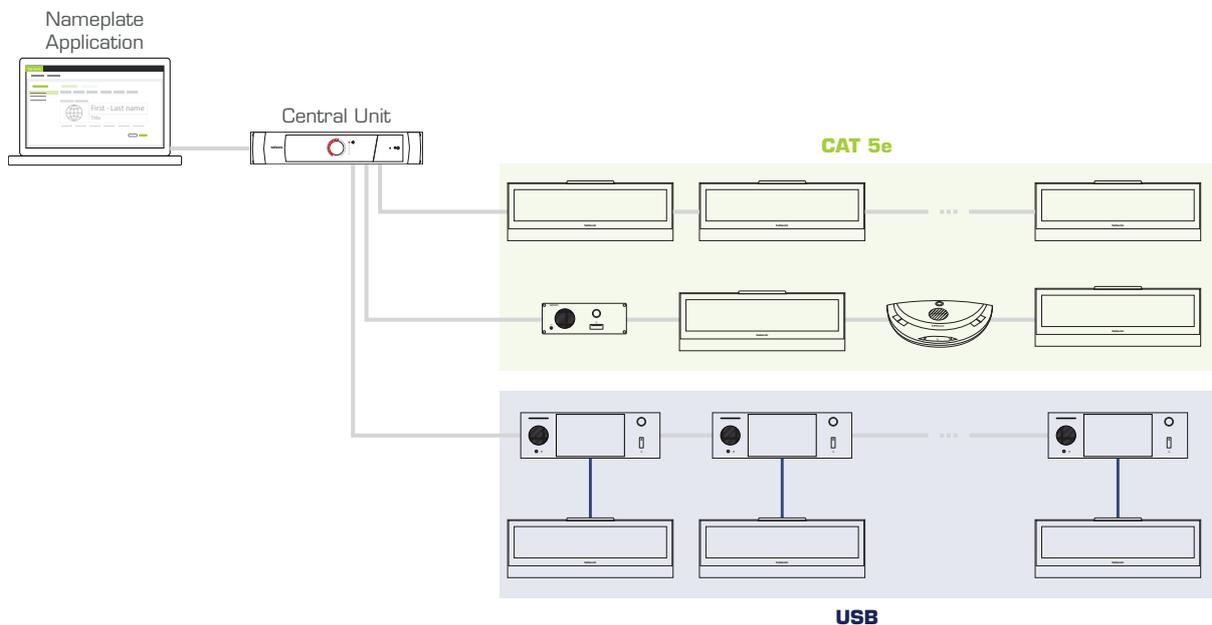
Figure 1-32 *How to integrate the nameplate in the Plixus network*

There are two different ways of using the nameplate. First, it is possible to associate the **nameplate with a delegate unit on the same seat**. However, you can also use the nameplate in **standalone mode**. In this case the nameplate works independently of the delegate unit.

> When the nameplate is connected via USB as well as the Plixus conference ports, then the nameplate will always use the USB connection.

Use Nameplate And Delegate Unit On The Same Seat

Associate a nameplate with a delegate unit on the same seat. The benefit of this setup is that the nameplate is synced with your unit. This means that when a delegate microphone is active, the LED of the nameplate will also become active. In this case you can use the nameplate together with an **RFID card**. When the delegate inserts his card into the unit, the nameplate can show the name of the delegate on that seat.

Use Nameplate In Standalone Mode

If you just want to use the nameplate to **display delegate information independently of the conferencing system**, you can use it in **standalone** mode. In this mode you can use the CoCon Nameplate Manager application alone to configure the layout of the nameplate and display the content on the nameplate devices inside the room.

Please refer to the CoCon User Guide available on the Televic Knowledge Base, chapter "Nameplate Application", for more information on how to configure the Plixus Nameplate.

COMBINE PLIXUS WITH CONFIDEA G4

Combine Wired And Wireless Units

With Plixus it is possible to combine wired and wireless units. This can be the case when disabled people require a wireless microphone. You can also use the wireless units to extend the amount of people that can join the meeting. A third reason to combine wired and wireless, is to use the wireless system as backup.
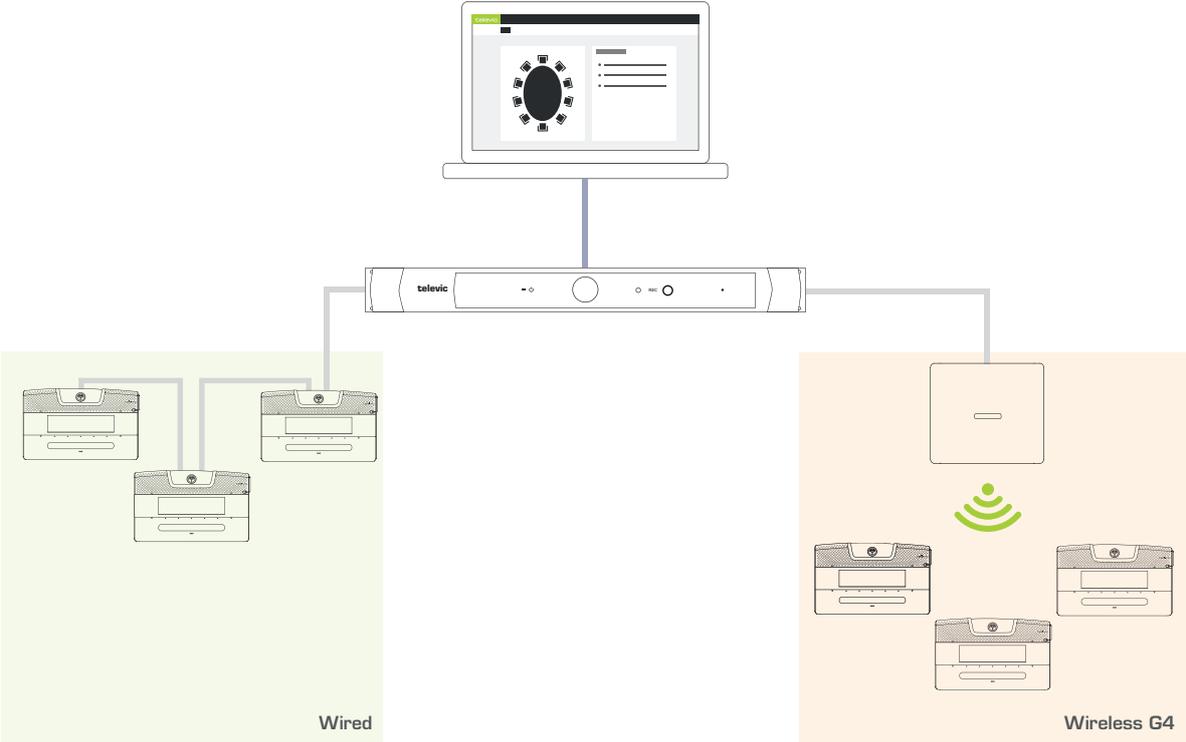
Figure 1-33 *How to combine wired and wireless units in a single Plixus setup*

Combine Interpretation With Wireless Units

In the Confidea G4 product range, the Confidea FLEX G4 units support channel selection with Floor + first 8 languages.

Couple these units with the Plixus central unit to receive the channels from the Lingua Interpreter Desks in your Plixus network.
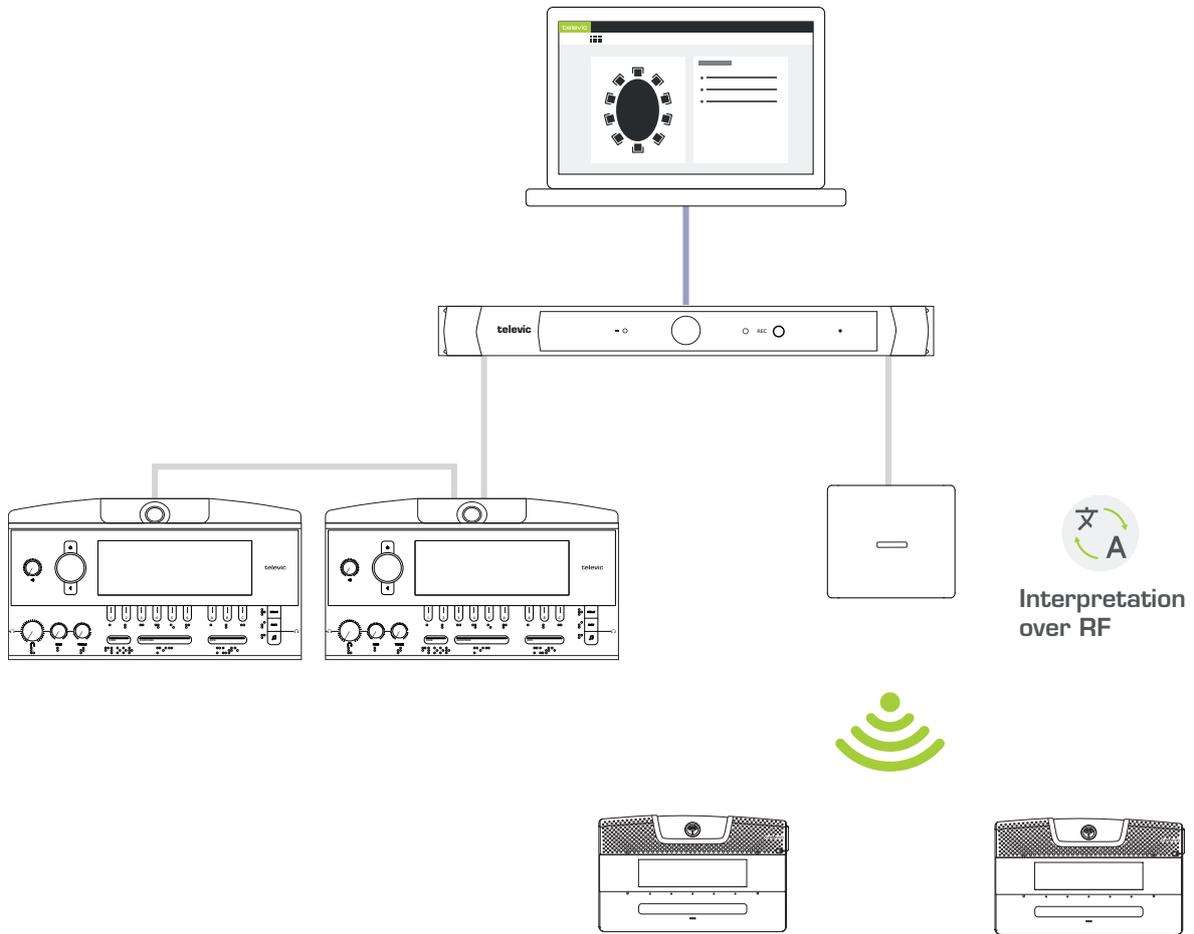
Figure 1-34 *How to distribute languages using radio frequency*

Range Extension With Multiple Access Points

Improve the range of your room by using multiple WAPs. By using multiple WAPs, you are able to connect to much more units spread out over the entire meeting room. For more information on how to position the WAPs for optimal transmission, refer to Confidea G4 Installation Manual available on the Televic Knowledge Base.
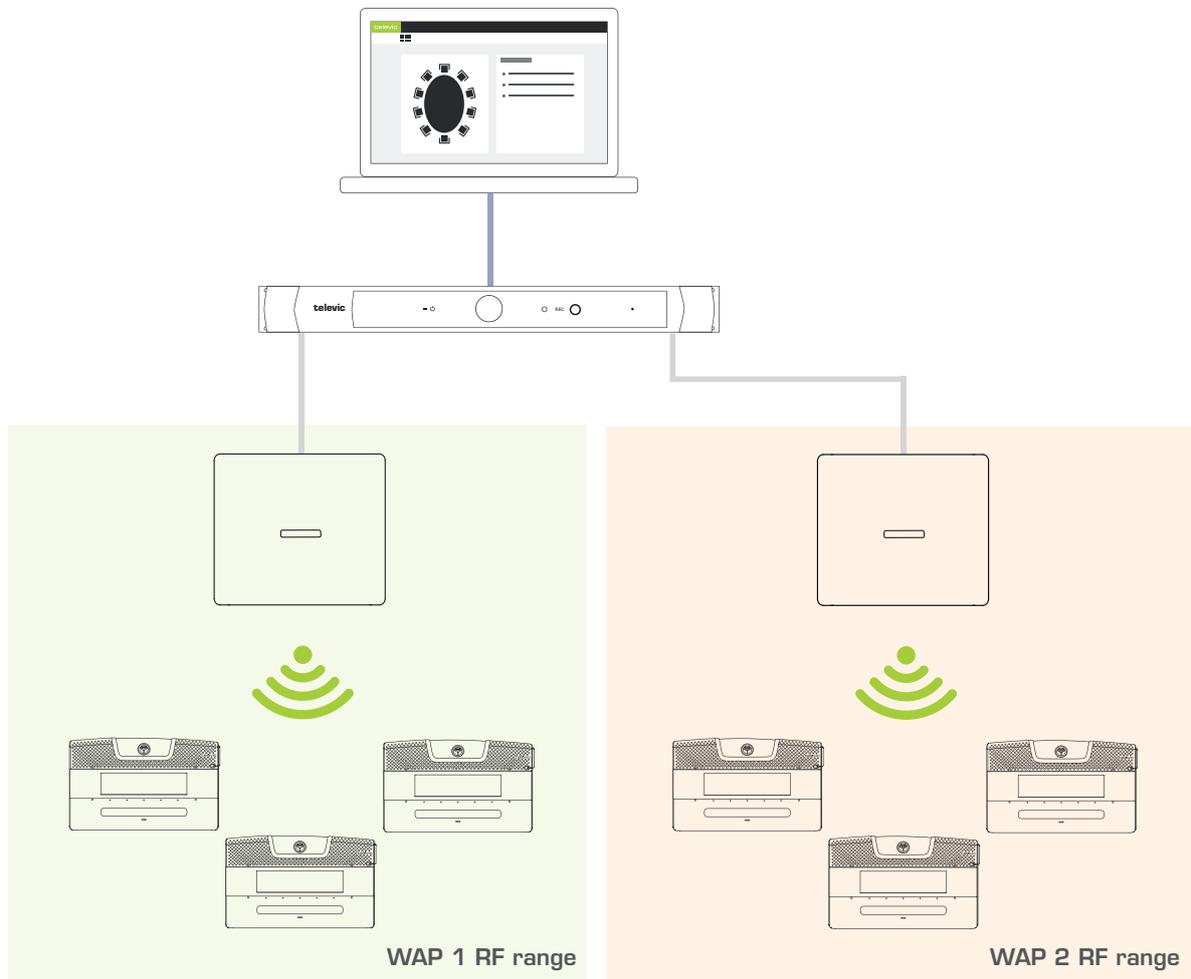
Figure 1-35 *Improve the range of your system by using multiple WAPs*

Split And Combine Rooms

Use the WAP in standalone mode for small meetings. For larger meetings you can combine multiple rooms by coupling the WAP with the Plixus central unit. In this way you can manage all units centrally using the Plixus central unit and web server.

When you need to split the room again, simply uncouple the WAP from Plixus. The WAP will go back to standalone mode where it remembers all its previous settings.

The Plixus central unit will remember the WAPs once they were coupled. Just couple them using the web server whenever you need to combine rooms.
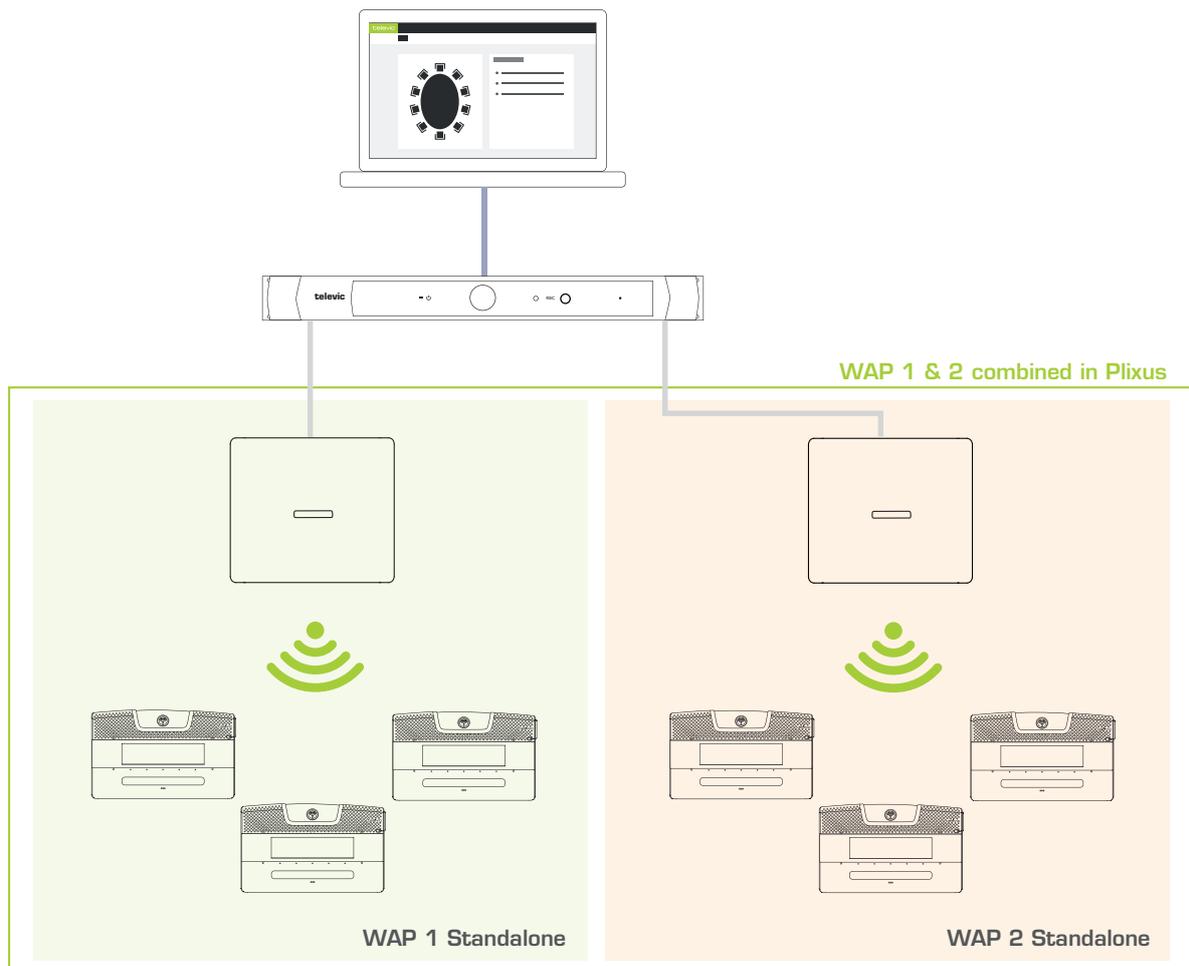
Figure 1-36 *Use the WAPs in standalone mode when you need to separate rooms or combine to rooms into one by coupling the WAPs to the Plixus network.*

INSTALLATION PROCESS

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

INTRODUCTION

⚠️ Before you start, make sure to take all necessary precautions. Refer to the tables above and ensure all components are installed and sufficiently powered.

Before you install the Plixus system, make the installation design as described in "Installation Design" on page 46 to ensure correct installation. In this design you will calculate the following elements:

> The system power consumption

> The amount of external power supplies needed

> Cable length needed

POWER SUPPLY

Power Network Extenders

To supply power to the network extenders 48 VDC is required. A WAGO Power Connector supplies the necessary power. It is advised to use strain reliefs.
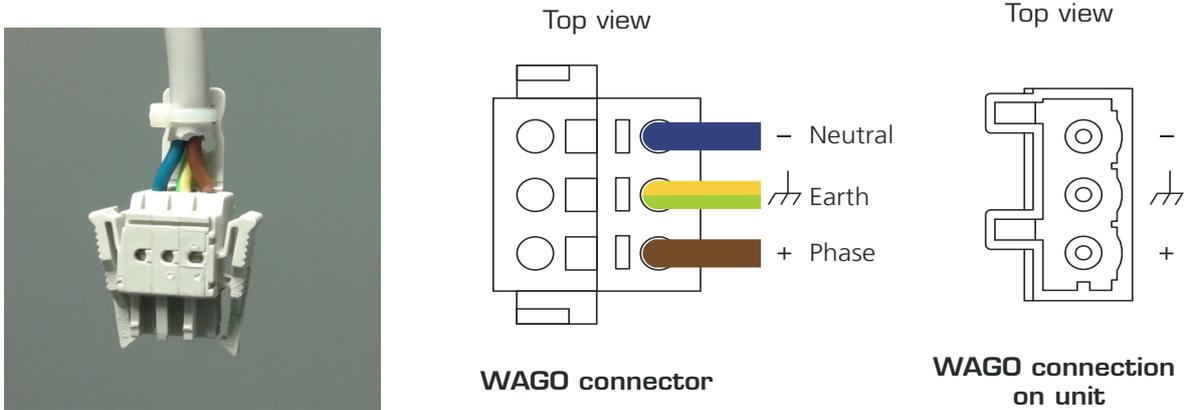
Figure 1-37 *WAGO connector together with the connection available on the devices*

> 📋 Each power connector has two interfaces with three contacts that allows you to daisy chain units.

> ⚠️ When connecting the power cables, please note the correct order of the cables and their corresponding colors, see the picture above.

Power UniCOS Units And UniBOX PRO

When you do not provide power to these units over the Plixus cable, you can use the **snap and lock mini DIN power plug**. Plug in the connector to the unit and connect the wires on the other end of the DIN power plug to the Plixus power supply you are using. You can use any connector of your choice for this (for example a WAGO connector, a junction box, a power bus distributor, etc.). By default a WAGO connector is supplied with the unit. You can power the uniCOS and uniBOX PRO units as depicted in the image below and using the description of the WAGO connector in the previous section.

Plixus Power Supply

snap and lock
mini DIN power plug
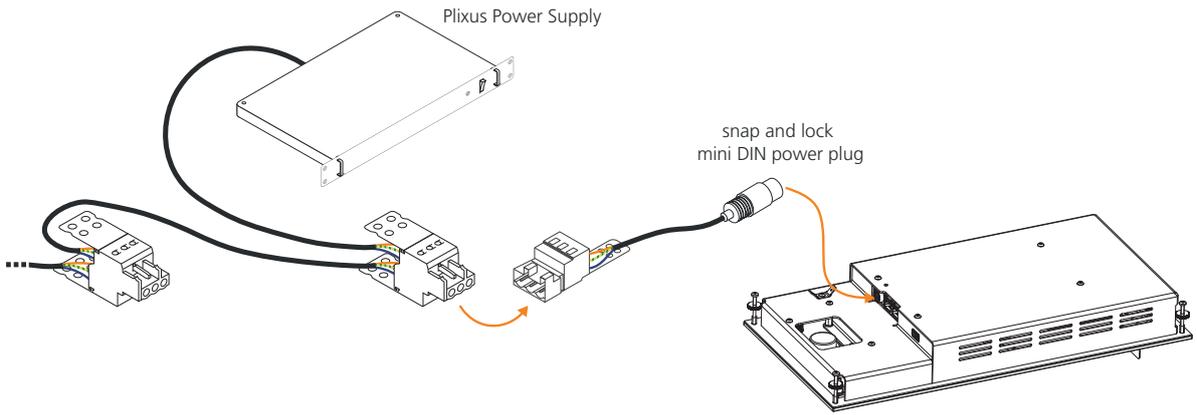
Figure 1-38 *How to power the uniCOS unit using the Plixus Power Supply and the supplied WAGO connector*
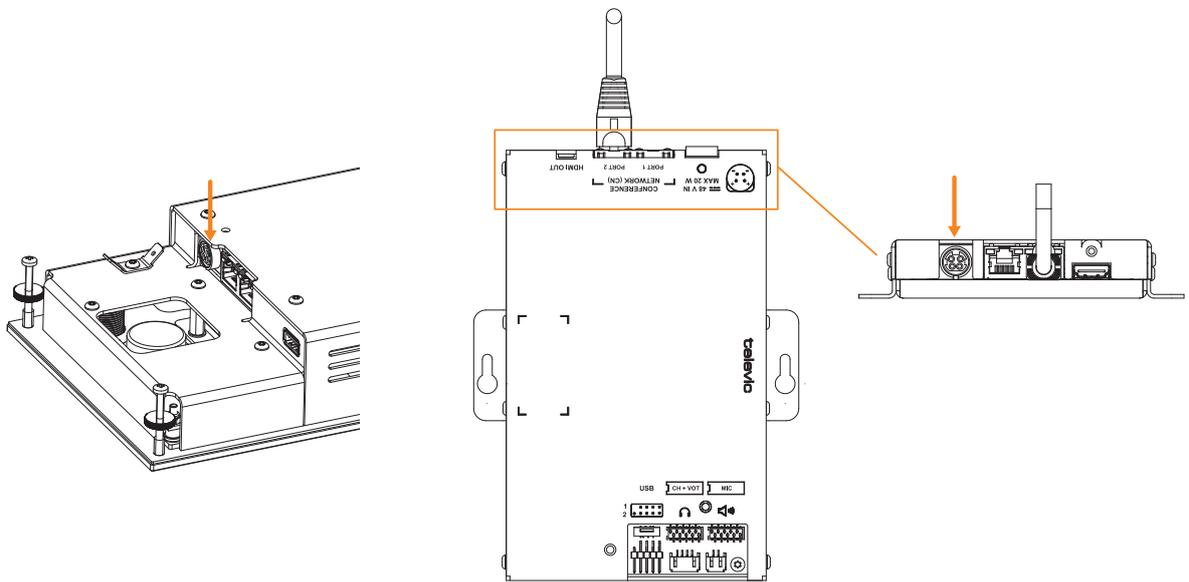
Figure 1-39 *Posistion of the snap and lock mini DIN power plug on the uniCOS units and uniBOX PRO*

Power Supply Of The Central Unit

> ⚠ When connecting power at the back of the central unit, please note the correct order of the cables and their corresponding colors

PLIXUS AE-R

To supply power to the Plixus AE-R using the power outlets on the central unit. You can add two 220 V power supplies. Use a second one when 220 V is insufficient or as a redundant power supply.
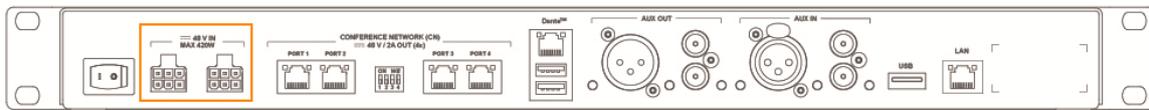
Figure 1-40 *How to supply power to the Plixus AE-R*

PLIXUS MME

The Plixus MME has an internal power supply. To supply power to the units using the Plixus MME put the cables in the correct order:

1. Blue cable = 0 V

2. Green / yellow cable= earth

3. Brown cable = 48 VDC
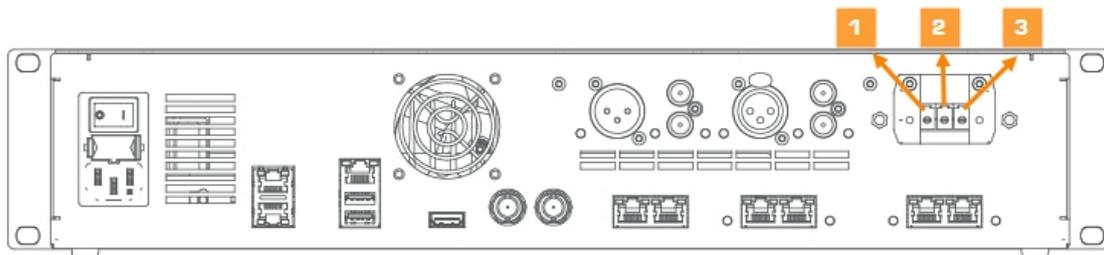
Figure 1-41 *Power connection of Plixus MME*

You can supply power the units over Ethernet. Each **conference ports** can supply a **maximum of 100 W**.

INSTALL CABLES

Use CAT 5e cables to connect Plixus AE-R or MME to the delegate and chairmen units, and to connect the different units in a branch / loop. For more information on cable details, see "Cable Requirements" on page 61.

Televic has standard pre-made cables available in different lengths:

> ICC5/2 2 m

> ICC5/5 5 m

> ICC5/10 10 m

> ICC5/20 20 m

The voltage level at the output of the central unit is 48 V. A voltage drop is caused by the length of the cable and the number of units. The last unit of the branch should receive at least 36 V.

INSTALL MICROPHONES

General Microphone Characteristics

All Plixus compatible units have either a screw-lock connector (older "D-Mic" models) or a push-and-lock connector (newer "Mike" models) to insert pluggable microphones. The microphones comes in various lengths and types:

PUSH-AND-LOCK "MIKE" MICROPHONES (FOR NEW UNITS)

Reference Number	Microphone Model	Microphone Type	Length
71.98.0094	Mike LPM	Low Profile	10 cm
71.98.0093	Mike PLM 301 F	Gooseneck, single flex	30 cm
71.98.0094	Mike PLM 401 F	Gooseneck, single flex	40 cm
71.98.0098	Mike PLM 402 F	Gooseneck, double flex	40 cm
71.98.0095	Mike PLM 502 F	Gooseneck, double flex	50 cm
71.98.0096	Mike PLM 602 F	Gooseneck, double flex	60 cm
71.98.0099	Mike PLM 40FF	Gooseneck, full flex	40 cm

SCREW-LOCK "D-MIC" MICROPHONES (FOR OLDER UNITS)

Reference Number	Microphone Model	Microphone Type	Length
71.98.0053	D-MIC 30 SL	Gooseneck, unidirectional	30 cm
71.98.0054	D-MIC 40 SL	Gooseneck, unidirectional	40 cm
71.98.0055	D-MIC 50 SL	Gooseneck, unidirectional	50 cm
71.98.0056	D-MIC 60 SL	Gooseneck, unidirectional	60 cm
71.98.0057	D-MIC 70 SL	Gooseneck, unidirectional	70 cm
71.98.0059	D-MIC 40 FF	Gooseneck, fully flexible	40 cm
71.98.0072	D-MIC 40 BC	Goosneck, cardioid	40 cm
71.98.0073	D-MIC 40 BC	Goosneck, hypercardioid	40 cm

Technical Microphone Characteristics

Please refer to the datasheet of the microphone for more information:

https://conference.televic.digital/knowledgebase/products/microphones/

Microphone Connector Characteristics

PUSH-AND-LOCK MICROPHONES

The Mike microphones have a sturdy connection that are easy to connect and disconnect. Make sure the release button of the microphone is positioned backwards, then insert the microphone into the Mike connector of the unit.. To remove the microphone, simply press the release button.
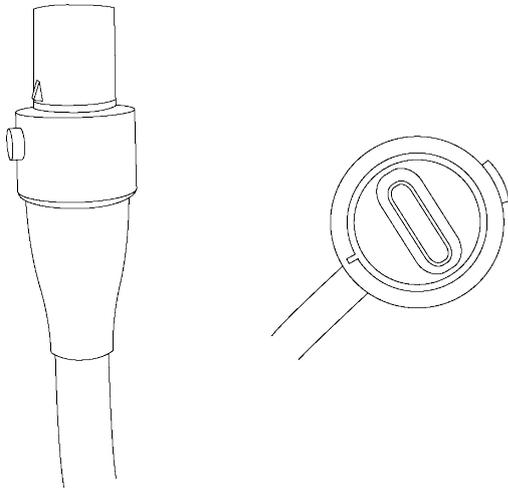
Figure 1-42 *Push-and-Lock microphone connection*

SCREW-LOCK MICROPHONES

The Confidea D-MIC microphones have a 5-pin connector to plug into the different Plixus compatible units. Each pin has a distinct function:
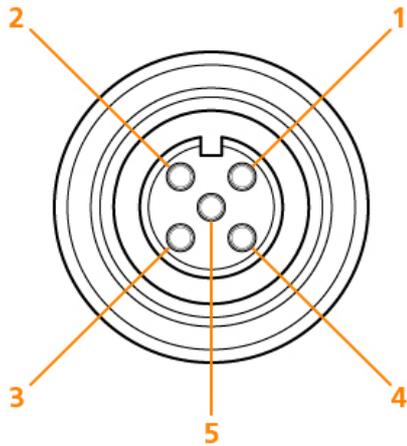
Figure 1-43 *Screw-Lock microphone connection*

1. Pin 1: Microphone GND

2. Pin 2: Microphone signal

3. Pin 3: not used

4. Pin 4: LED +

5. Pin 5: LED -

Microphone Operation Modes

The microphone contains the following elements:

> **Indicator ring**: shows the status of the microphone.

> **Microphone plug**: connects the microphone to the unit.

> **Release button** (push-and-lock microphones only): releases the microphone from the unit.

The color of the microphone indicator ring shows the **status** of the microphone:

Color	Status
Red (continuous)	Microphone is active
Red (blinking)	Last minute of speech time (if set via software) Speech Request (if set via software)
Green (continuous)	Microphone is initialized
Green (blinking)	Microphone request

Mounting The Microphone Connector Of The F-BOX

To mount the screw-lock microphone connector F-BOX_MIC or the push-and-lock microphone F-BOX_MIKE to the F-BOX, refer to the quick installation guide here:

https://documents.televic.digital/conference/index.php/s/b26jBiXofpoD83C

Handling Of Gooseneck Microphones

Below are safety instructions and prescriptions for proper use, safety warnings, storage and environmental conditions to keep your microphones healthy over a long lasting period.

OPERATING

The flexible arm of your gooseneck microphone is able to keep its position, without sagging or vibrating. Its operation is based on the friction developed between the inner spring, constructed as a metal spiral (steel) and the outer cover made of copper (or brass).

Any external treatment on the flexible arm can affect the mechanical or electrical properties of the microphones flexible tube.

Warnings:

> Avoid contact with any kind of solid, liquid or gel lubricating substance (oils, soaps, talcum powder, graphite, etc.) since they could cause structural degradation of the product. Even avoid contact with water as it may cause oxidation.

> Any kind of cleaning needs to be oil or lubricant-free or the product will be permanently damaged. Above products will eliminate the friction between the metal surfaces mentioned earlier and are strictly forbidden.

> Your gooseneck microphone has been tested for bending angles of up to 90°. Do not try to bend or twist the flexible arm for more than 90° as permanent damage will occur.

USE, MAINTENANCE AND STORAGE

> Clean the flexible tube only with a dry cloth.

> Respect the application limits at room temperature ranging between +5° C and + 40° C, and a relative humidity < 60 %.

> Store your gooseneck microphone at constant temperature and the lowest humidity rate possible (< 50 %) to avoid condensation which can damage the flexible arm as well as the electret microphone cell.

> Respect the load times and the minimum bending angles stated in our technical sheets.

SPEAKING DISTANCE

The recommended **speaking distance** from the mouth to the top of the microphone is between **20 to 40 cm**. In order to accommodate the variety of speakers and speaking distances, microphones are available in various lengths:

MAXIMUM ANGLE USE

The microphones mentioned below can be used with the following maximum angle (°), measured from a flat surface (0°):

Reference Number	Microphone Model	Maximum Angle From a Flat Surface
71.03.2430	TGM2430	90
71.03.2450	TGM2450	20
71.98.0053	D-MIC 30 SL	90
71.98.0054	D-MIC 40 SL	60
71.98.0055	D-MIC 50 SL	20
71.98.0056	D-MIC 60 SL	00*
71.98.0057	D-MIC 70 SL	00*

Reference Number	Microphone Model	Maximum Angle From a Flat Surface
71.98.0059	D-MIC FF	60
71.98.0072	D-Mic 40 BC Cardioid	60
71.98.0073	D-Mic 40 BC Hypercardioid	60
71.98.0091	Mike LPM (low profile microphone)	20
71.98.0093	PLM 301 F	90
71.98.0094	PLM 401	60
71.98.0095	PLM 502F	20
71.98.0096	PLM 602 F	00*
71.98.0098	PLM 402 F	60

* "00" means that it can only be mounted on a horizontal surface

WARRANTY

The warranty automatically expires if the above prescriptions were not fulfilled or if the product has been modified, changed or unproperly stored. Any claim should be sent to Televic together with some explanatory technical document. Products can only sent back after prior authorization of Televic.

INSTALL DELEGATE UNITS

Keep at least one meter between two consecutive units to prevent howling effects.

Connect Plixus Units

For all system cable connections use CAT 5e FTP cables with an RJ-45 shielded connector. Plixus units have an automatic port sensing feature. This means that it doesn't matter which port is used, the units automatically detect whether it is an input or output.

Each unit has two conference ports, below you can find a list with all Plixus compatible units and the location of their conference ports.

Unit type	Conference port location
Confidea F	Built-in part of unit, location may vary depending on the type of unit.
Confidea FLEX	Bottom side of unit
Plixus Nameplate	Bottom side of unit
uniCOS	Built-in part of unit
Lingua ID Mike / Lingua ID MM Mike	Back side of unit

Connect To Plixus Central Unit

After connecting the different Plixus units to each other, connect the branch of units to one of the conference network ports of the Plixus AE-R, MME or a network extender.

> The Plixus AE-R and MME have four conference network ports.

> **General rule**: 80 units can be supported directly by the central unit. However this depends on type on units , cable sections and length. To calculate the exact amount with the Plixus power calculator tool.

> The central unit can deliver 400 W for external loads (for the Plixus AE-R this is 200 W, which you can increase to 400 W with an additional external power supply)

> The cable length to the first unit should not exceed 100 m.

> The cable length between the units should not exceed 100 m.

Install Confidea FLEX, Confidea FLEX G4 And Confidea GO G4 Units

MANAGE LICENSES (CONFIDEA FLEX & FLEX G4)

With these units, through licenses, you can activate more functions whenever you want. To activate or deactivate a license, follow the procedure described below:

1. Go to the **Initialization** page of the Plixus web server.

2. Select **Manual initialization** and click **Open initialization**.

3. All units now show the **License screen**.

4. Press the microphone button to initialize the unit, this activates the license screen.

5. Blue buttons indicate that the license is active. Per license, you can see the number of remaining licenses.

6. Press the license button of your choice, to activate or deactivate this license.

7. **Close initialization** .
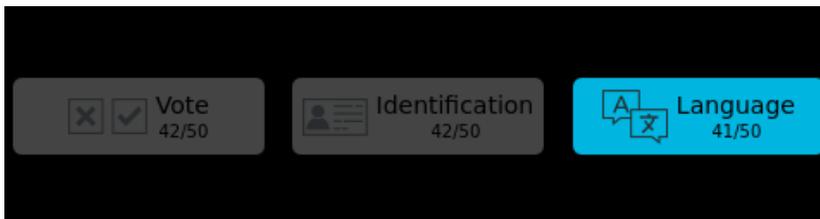
Figure 1-44 *License screen on the Confidea FLEX*

> Note that the Confidea GO G4 only offers the L-Dual license. Unlike the Confidea FLEX G4, it is not possible to add extra licenses such as voting, identification and language.

CONFIGURE UNITS AS CHAIRPERSON OR DELEGATE

There is only one type of Confidea unit, this means that you can configure the unit as chairperson or as delegate. To change the priority of the unit follow the procedure described below:

1. Go to the **Initialization** page of the Plixus web server.

2. Under Manual initialization, click Edit configuration.

3. Click the priority icon to switch between chairperson and delegate:

a. ☆: delegate (Confidea FLEX with one central microphone LED on the microphone button)

b. ★: chairperson (Confidea FLEX with microphone LED on the left and PRIOR LED on the right of the microphone button)

4. Click **Stop editing**.

ATTACH UNICOS TABLETOP UNITS TO A FIXED SURFACE

You can attach the uniCOS PRO T (formerly T/MM10) and CORE T to a **fixed surface**, so it is no longer possible to move the unit around. The tabletop unit has three small openings on the bottom of the unit, which you can use to attach it to a table.

First drill **three holes** in the table you want to fix the unit to, then you also need to foresee a large opening to guide the cables of the unit through.
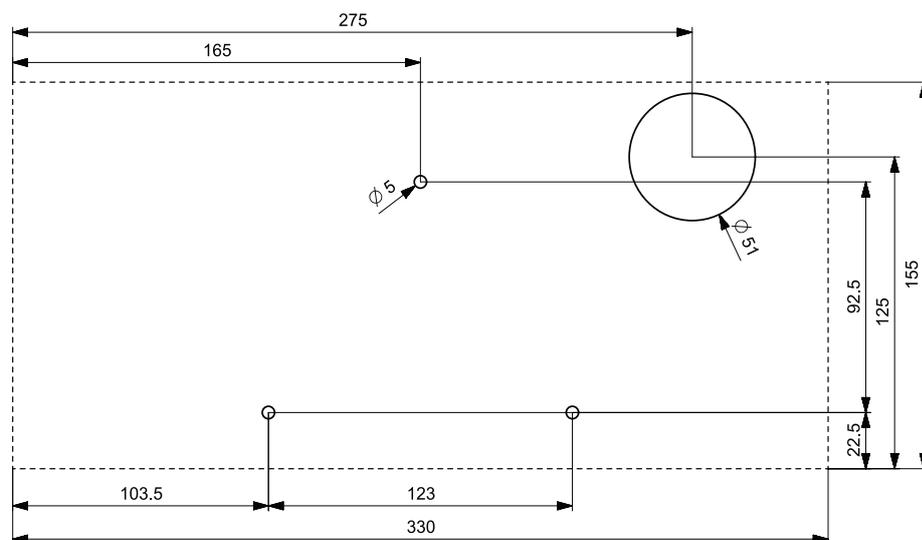
Figure 1-45 *uniCOS PRO T / CORE T table cutout*

In the next step, insert the cables into the designated opening, and then insert and tighten the screws as depicted in the image below.
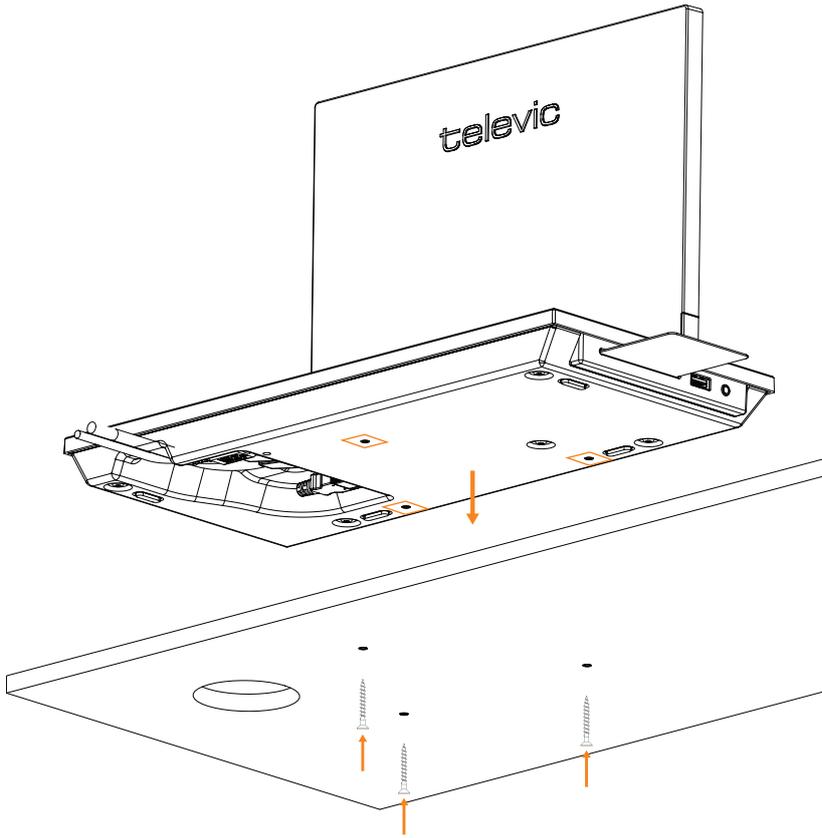
Figure 1-46 *How to attach the uniCOS PRO T / CORE T to a fixed surface*

INSTALL THE UNICOS UNITS IN THE RESPECTIVE MOUNTING BRACKET

You can mount the uniCOS F/MM7 *(discontinued)* and uniCOS PRO F (formerly F/MM10) as a tabletop unit using the available brackets:
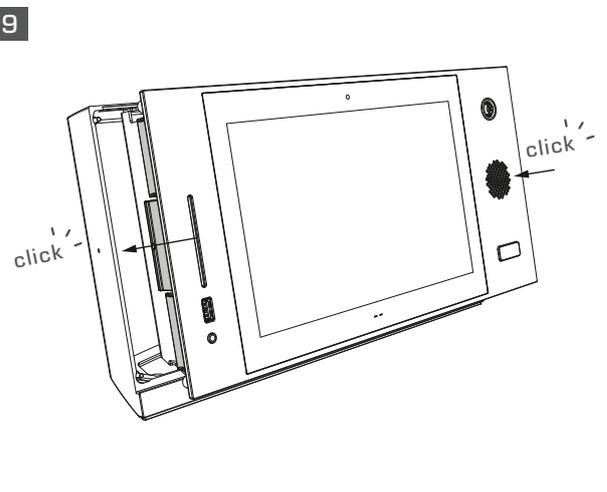
> uniCOS F/MM7 bracket: **71.98.0012** (discontinued).

> uniCOS PRO F (formerly F/MM10) bracket **71.98.0013**.

Follow the descriptions described here to mount the brackets on a fixed surface and insert the units into the bracket.

Mount UniCOS F/MM 7 In The Bracket
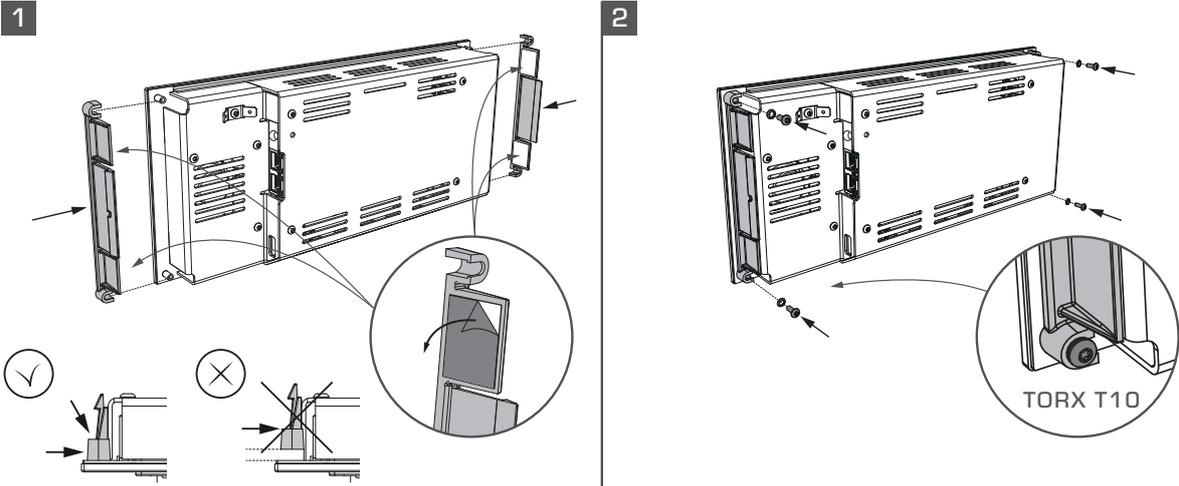
3 TABLE CUTOUT
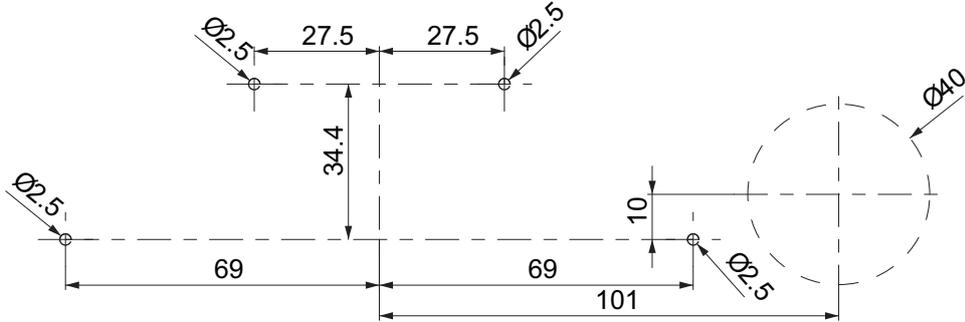
4
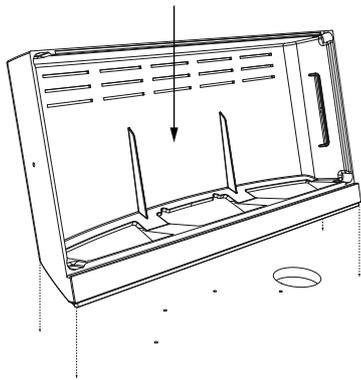
5
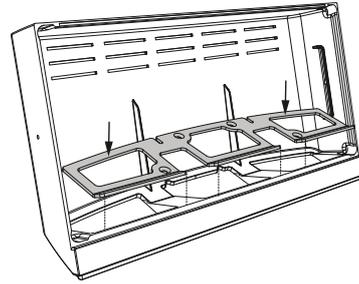
6
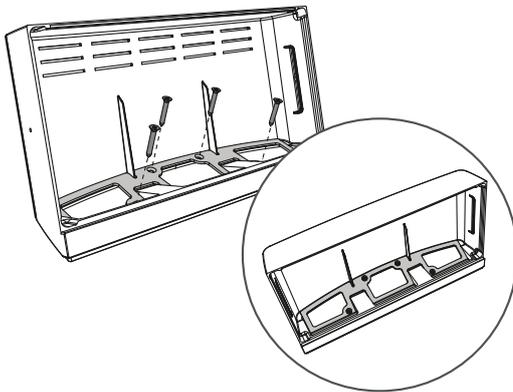
7 📝 Only when power is applied externally

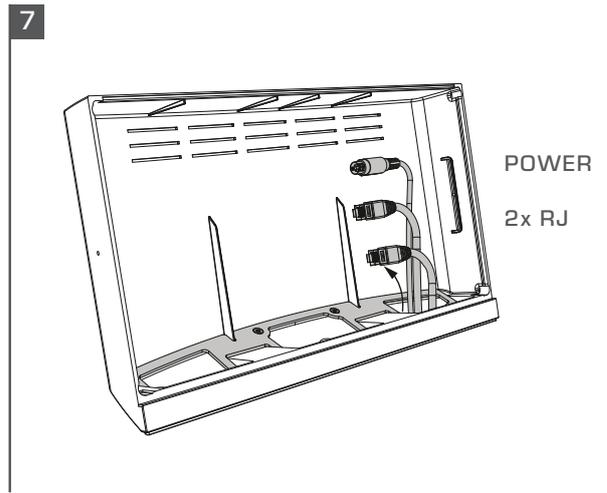POWER

2x RJ

8

9

click

click
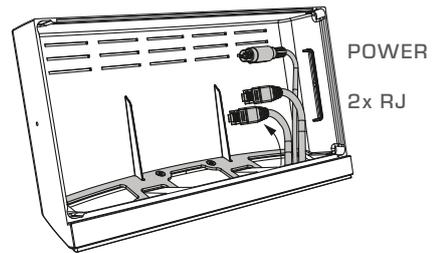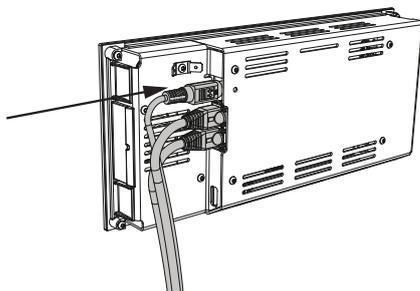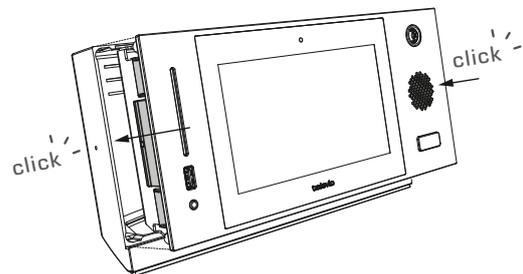
10
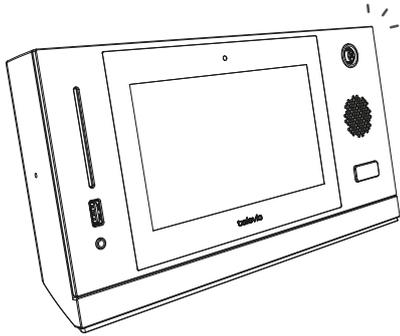
Remove UniCOS F/MM 7 From The Bracket

Ø 2 mm
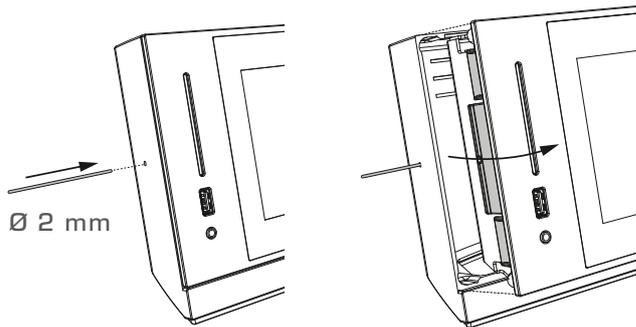
Mount UniCOS PRO F (Formerly F/MM 10) In The Bracket

1

2

TORX T10

3 TABLE CUTOUT

```
        40        40
                              CABLE EXIT
                                      Ø45

37.9

                              13

                        118

   150                150
```

4

5

6

7

POWER

2x RJ

8

9

click

click

10
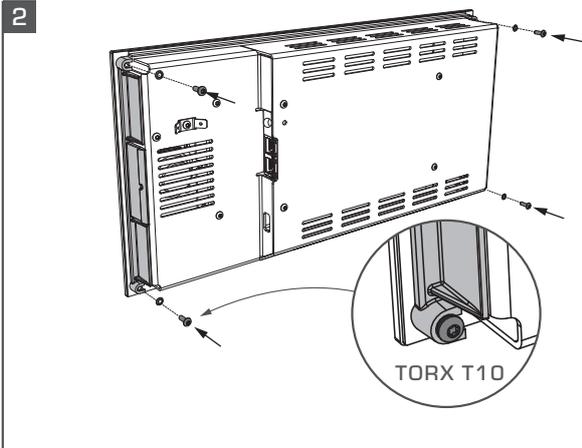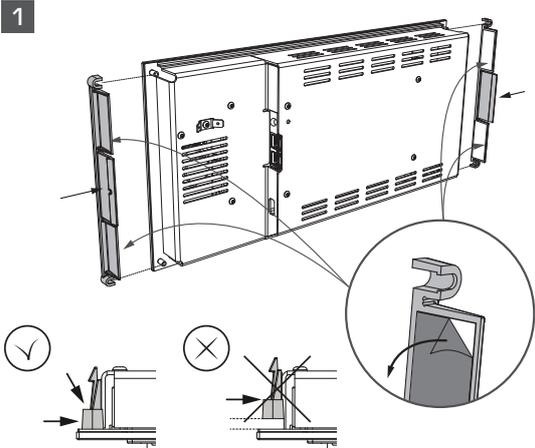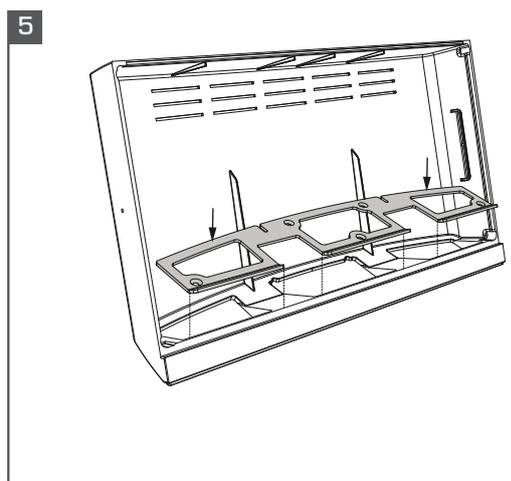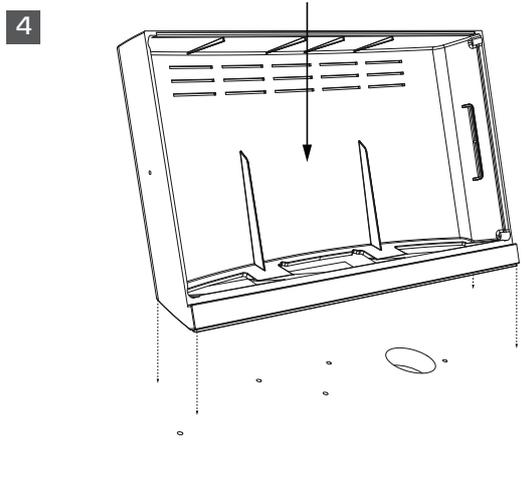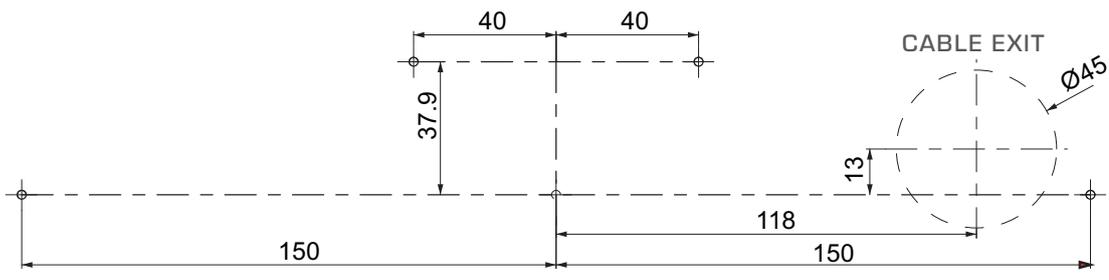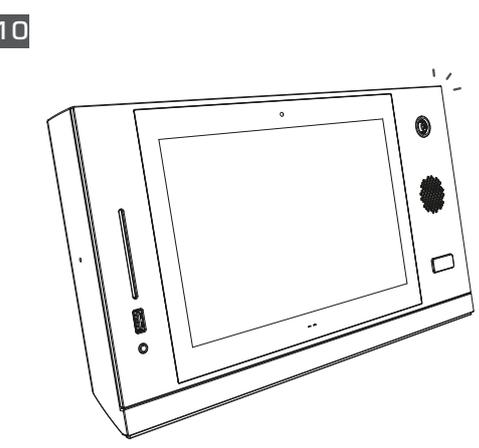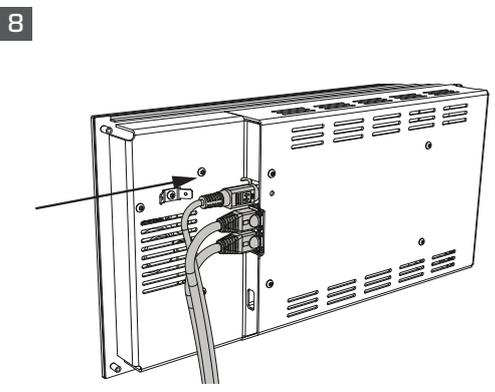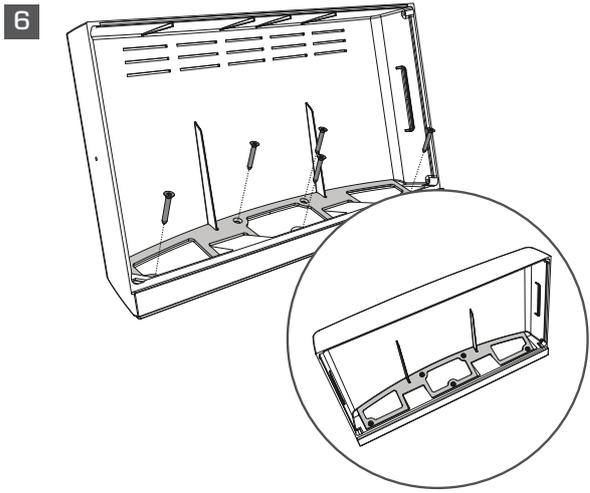
Remove UniCOS PRO F (Formerly F/MM 10) From The Bracket

Ø 2 mm
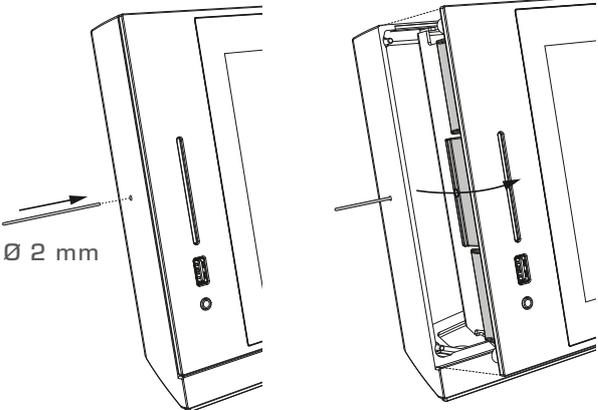
CONNECT THE CONFIDEA G4 TO THE PLIXUS NETWORK

Within Plixus it is possible to connect the central unit to a Confidea G4 wireless system. When connected, Plixus will treat the G4 units the same way as all other wired units.

Use the conference ports on the WAP to connect to the Plixus central unit, or a network extender. In some cases, you may need to have multiple WAPs available (see "Combine Plixus with Confidea G4" on page 65 for more information). You can daisy chain multiple WAPs in one branch. We suggest not to put more than four WAPs on one branch.
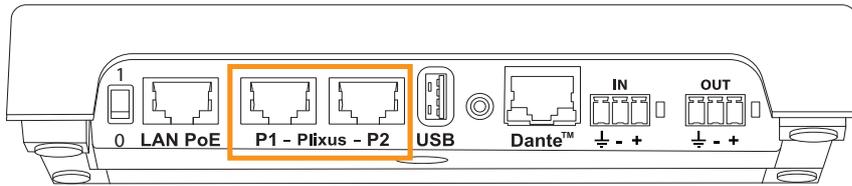

Figure 1-47 *Back view with conference ports on Confidea G4 WAP*

To supply power to the WAP, you can use the LAN connection to a PC through a PoE+ cable.

> When your setup contains multiple WAPs, then these should use a different frequency to allow successful operation.
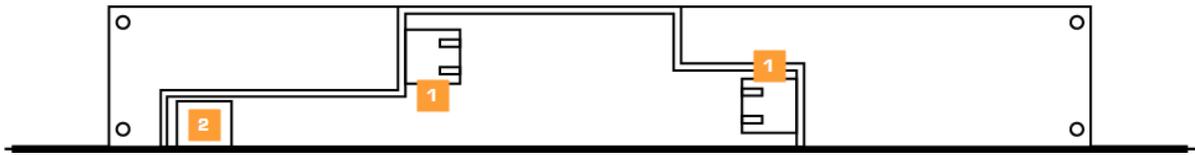
CABLING OF NAMEPLATE

Figure 1-48 *The bottom side of the Plixus showing all available ports*

You can use the Plixus in your Plixus network. There are two options to connect to the nameplate to your system. You can use the Plixus conference ports (1) or use the USB connection (2).

Connect To Plixus Conference Ports

To daisy-chain the nameplate in a branch connected directly to the central unit or a network extender plug in the CAT 5e cable into the conference port.

PORTABLE USAGE

Guide the cables through the openings on the side of the nameplate base when you want to easily chnage the location of the nameplate. To see how to attach the side panels see "Mount the Nameplate" on page 96.

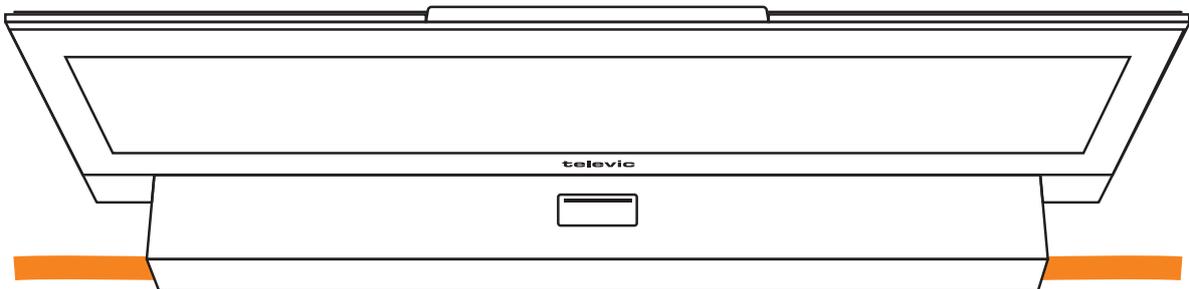Figure 1-49 *Bottom view of CAT 5e cabling of nameplate for portable usage*

Figure 1-50 *Top view of cabling of nameplate for portable usage*
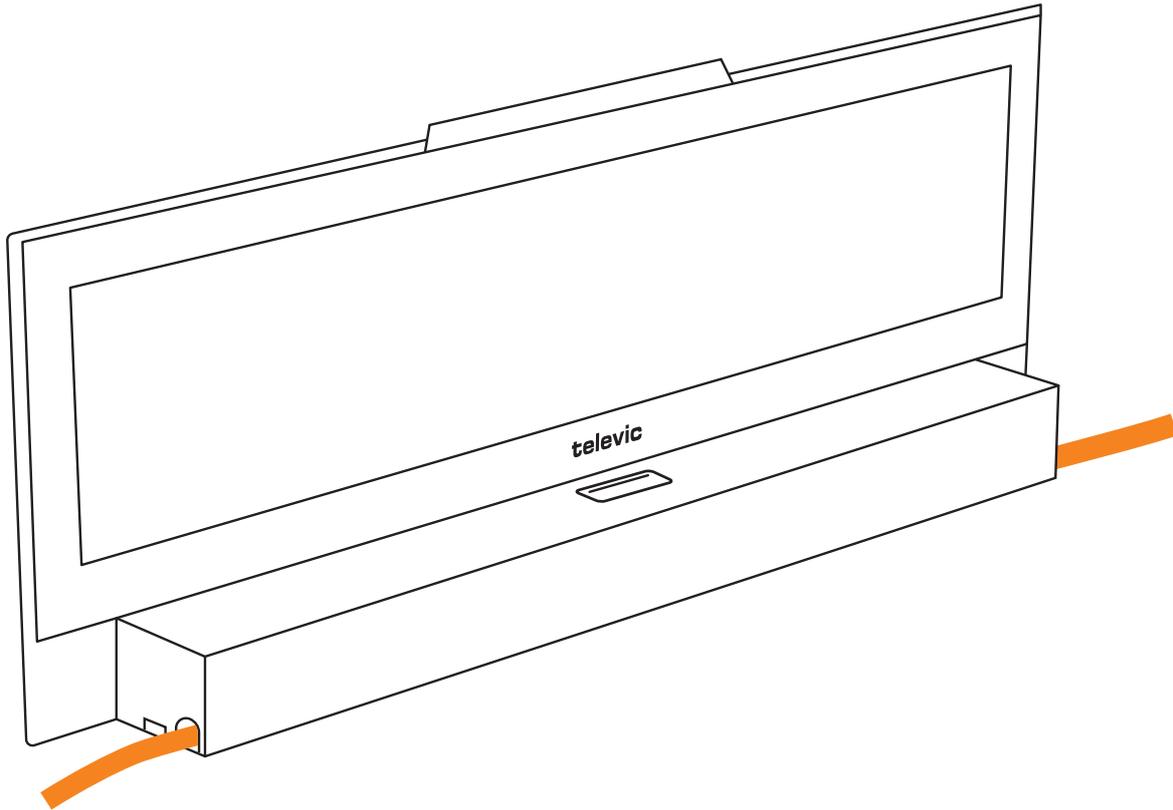
Figure 1-51 *Side view of cabling of nameplate in portable usage*

FIXED USAGE

When integrating the nameplate into a table, you can guide the cables through the opening in the mounting bracket and bottom plate into the table. Next attach the side panels for oprtable usage as shown in "Mount the Nameplate" on page 96.
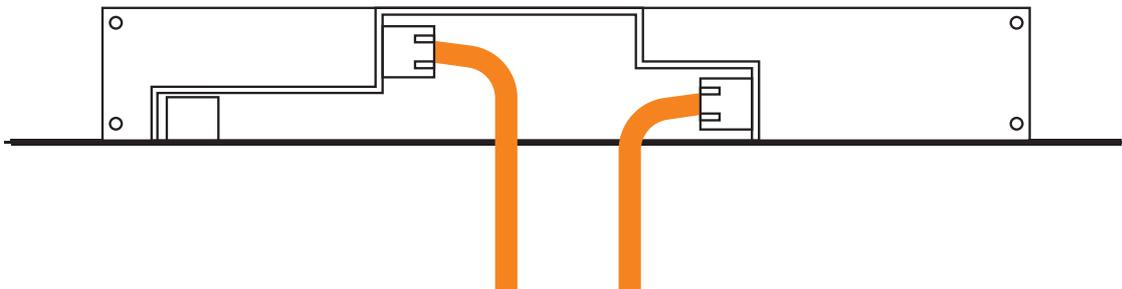

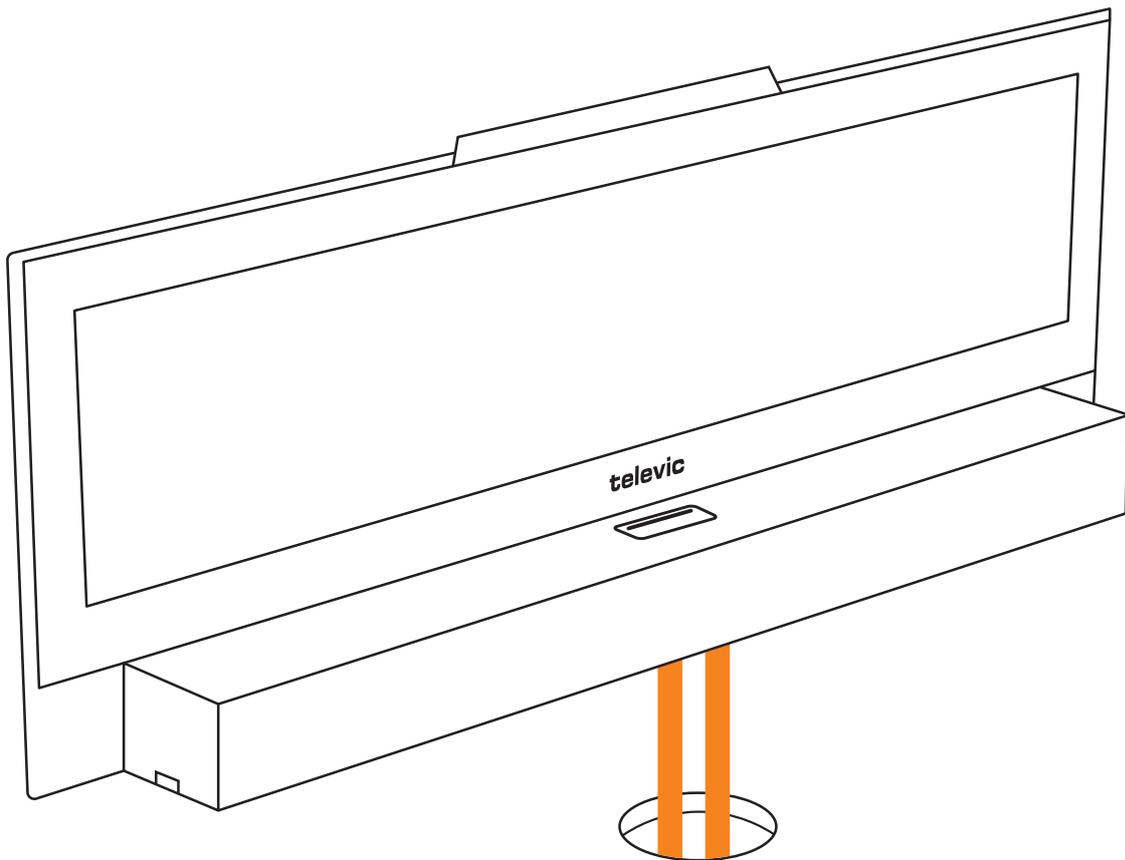Figure 1-52 *Bottom view of cabling of nameplate for fixed usage*

Figure 1-53 *Side view of nameplate cabling for fixed usage*

Connect To USB

It is also possible to connect the nameplate directly to a delegate unit using the USB connection. Use this option when you cannot mix the delegate unit and the nameplate because they require a different network speed (e.g. uniCOS and uniBOX PRO units) or you want to use the nameplate independently of your conference system.

MOUNT THE NAMEPLATE

Portable Usage

To change the location of your nameplate, you can mount it as a portable unit. To use the nameplate in this mode, the **mounting bracket** (1) is already attached to the **portable base** (2).

Once attached, place the bracket and base so that the side closest to the cable opening, lines up with the backside of the nameplate. Click the nameplate onto the bracket.
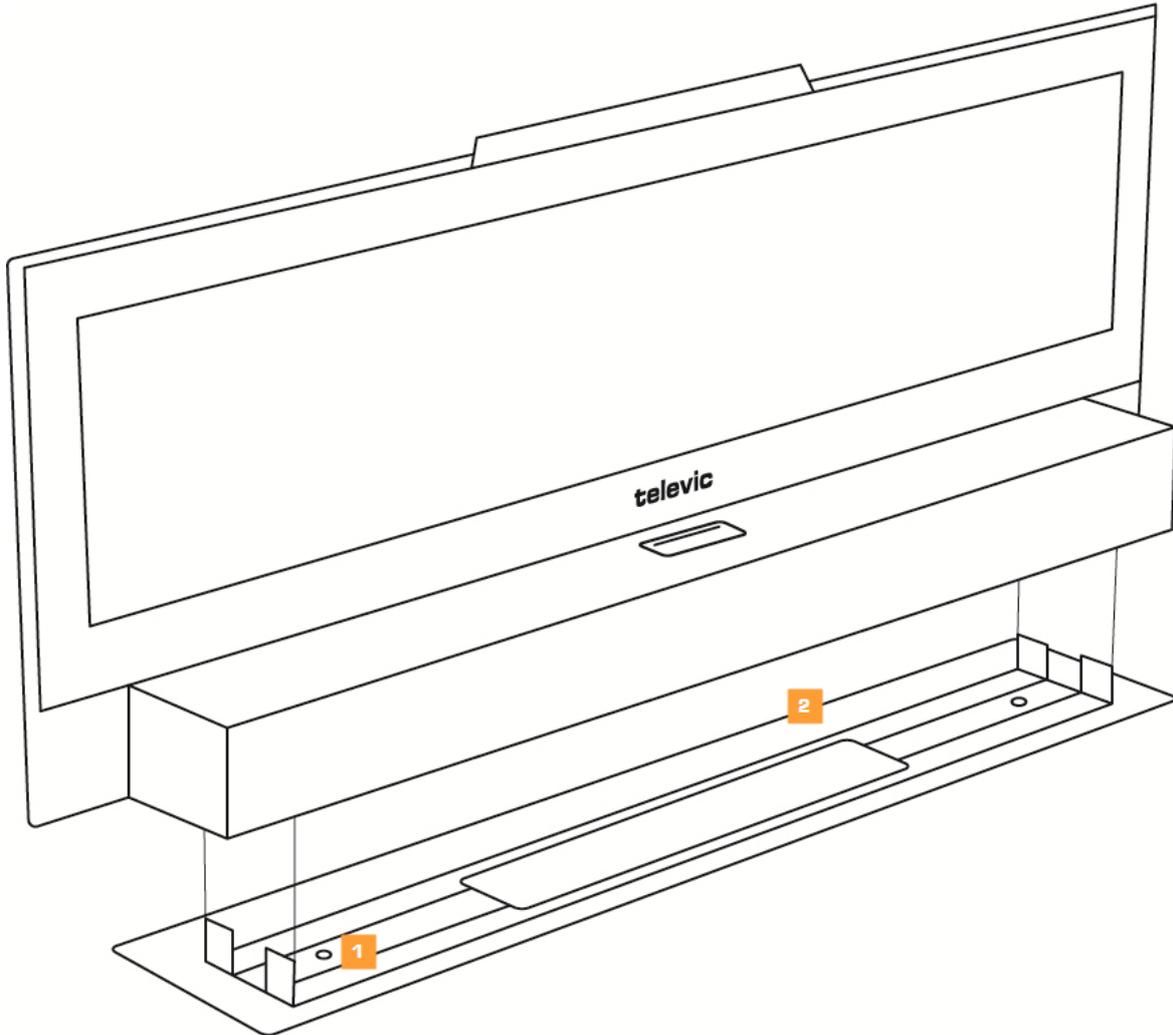

Figure 1-54 *How to mount the Plixus for portable use*

Fixed Usage

To use the nameplate on a fixed position, first dettach the portable base from the mounting bracket. Tehn, install the nameplate on the table by attaching the mounting bracket to the table. Click the nameplate onto the mounting bracket.
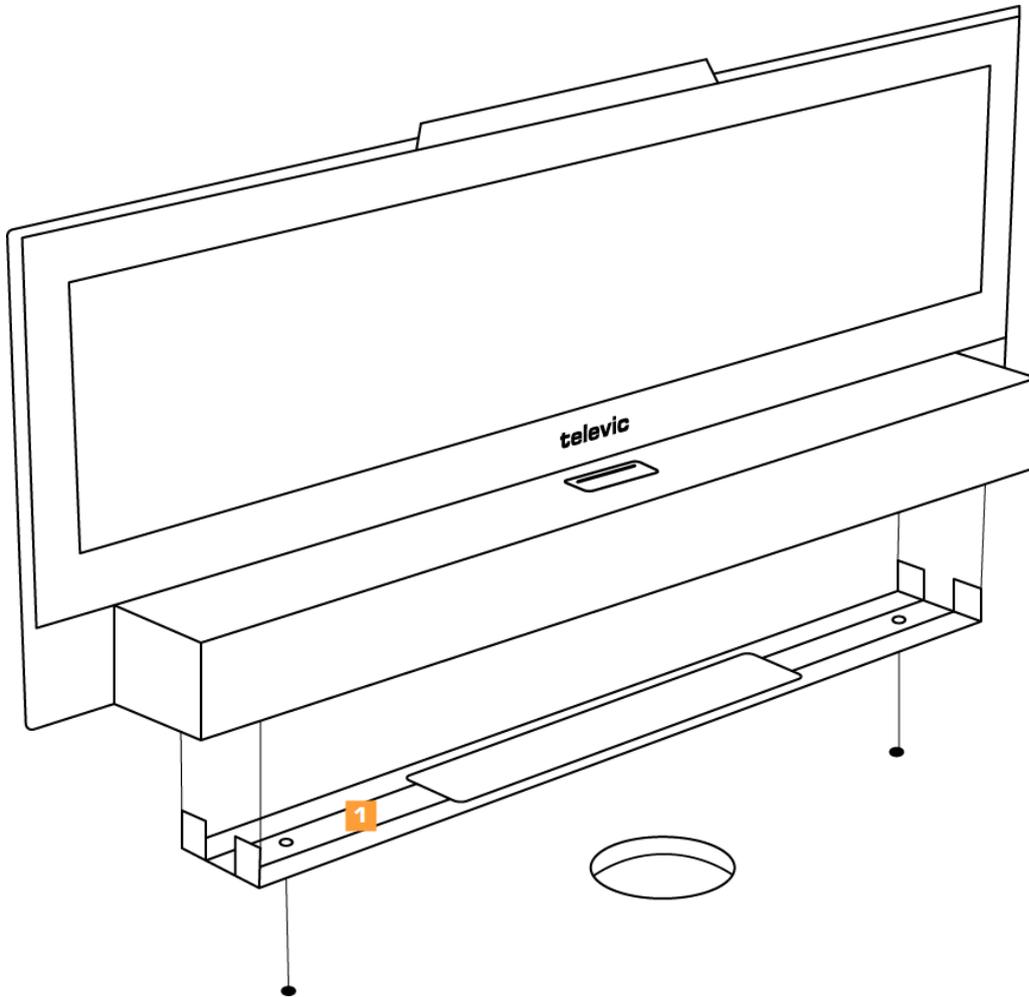

Figure 1-55 *How to mount the Plixus for fixed usage*

Mount The Side Panels

Two different types of side panels are provided with the nameplate. Depending on the cabling of the nameplate you should use panel A or B as depicted in the figure below..

To easily switch the position of the nameplate you can place the cables through the opening on either side of the nameplate. In this case use the side panels A as depicted in the figure below. When fixating the side panels beware that the left and right side panel are different

If you use the fixed configuration and place the cables through the bottom opening into the table, use the side panels depicted in B as shown in the figure below.
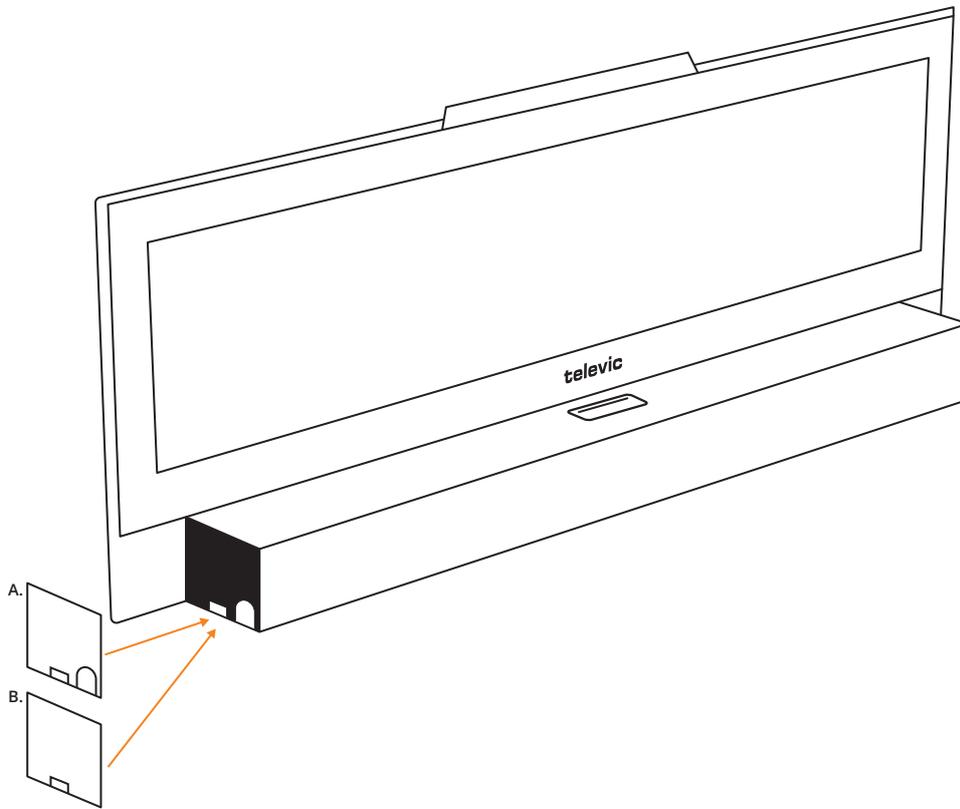
Figure 1-56 *How to mount the side panels of the Nameplate depending on the cabling. A. Standalone cabling, B. fixed cabling*

Detach Bottom

To detach the nameplate from the mounting bracket (and bottom plate), use a flat screw driver or something similar. Insert the screw driver into the rectangular opening on the side of the nameplate base and press down.
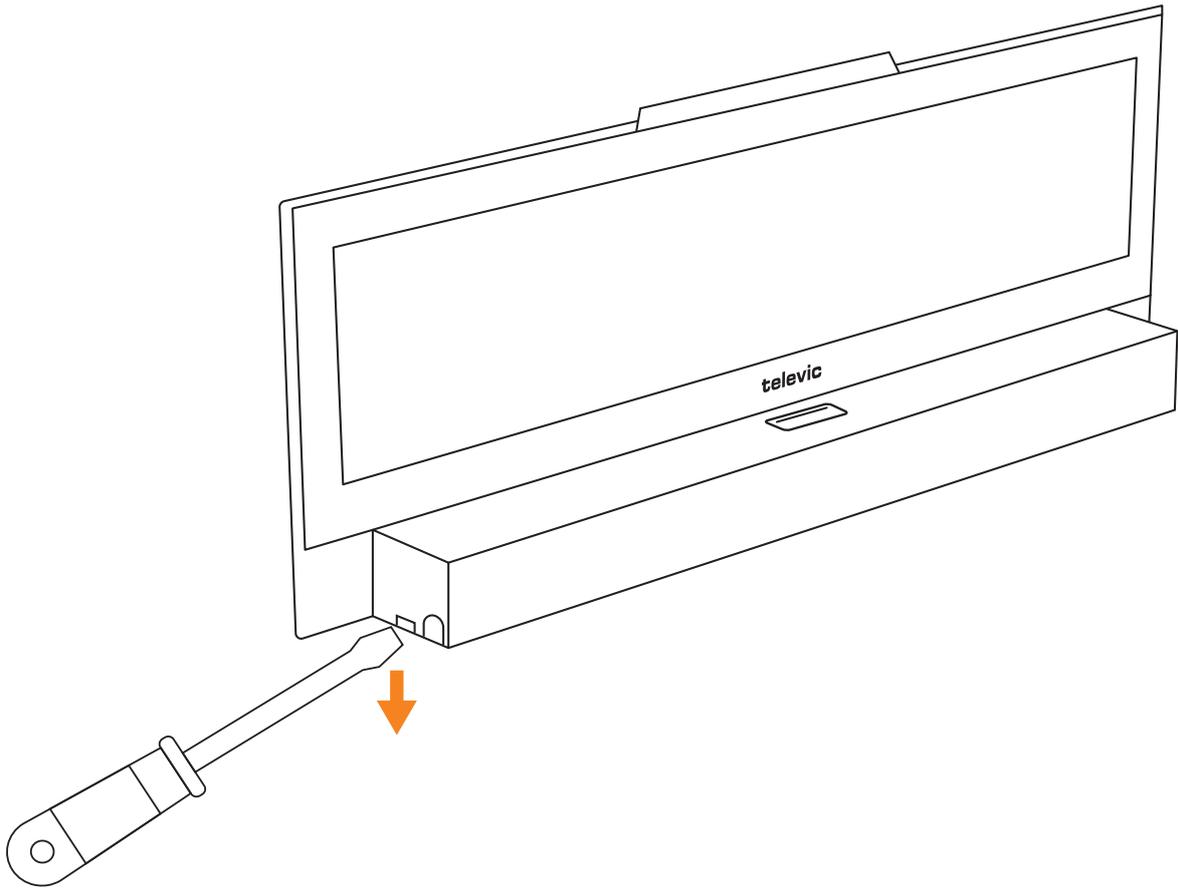
Figure 1-57 *How to detach the nameplate from the mounting bracket and bottom plate*

CONFIGURATION

This chapter describes how to configure the Plixus network

PLIXUS WEB SERVER

Introduction To The Plixus Web Server

By default, the Plixus central unit (Plixus MME or Plixus AE-R) is provided with an embedded web server (version 6.x). This web server allows the configuration of a few basic conference settings without a dedicated computer.

To access the Plixus web server, enter the IP address of the Plixus central unit in your web browser.

> The default IP address is **192.168.0.100** with subnet mask 255.255.255.0.
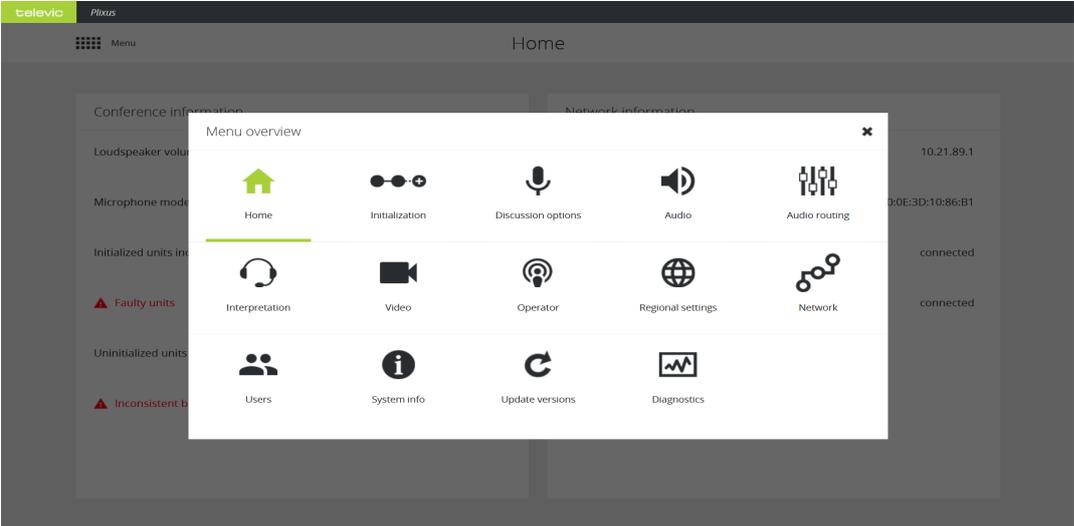
Choose A Meeting Management Software

It is not possible to configure each feature with the Plixus web server only. The Plixus central unit has to be updated and used with a Televic meeting management software. It can be either:

> **CoCon**, a flexible meeting management software that can be extended with different modules that are useful for complex meetings requiring an agenda, authority voting, signage, advanced audio and video, etc.
>
> CoCon works **in combination with** the Plixus web server (version 6.x), meaning that both the Plixus central unit and CoCon will have to be updated before the first use.
>
> Please refer to the CoCon & Plixus software update page on the Televic website to update your system.
>
> or

> **Confero 7.x**, an entirely web-based platform with an intuitive interface. Confero must be installed at the root of the Plixus central unit (replacing the Plixus web server version 6.x). Afterwards, Confero can be extended with extra licenses for additional functionalities and role assignment. The Plixus central unit, with Confero installed on it, will have to be updated before the first use.
>
> Please refer to the Confero for Plixus software update page on the Televic website to update your system.

> **The Plixus web server should only be used with CoCon**. For standard meeting management, please update your central unit to Confero.

> If you need to purchase a **CoCon** license, or a license to get additional functionalities for **Confero**, fill in the license request form here:
>
> https://www.televic.com/en/conference/support/request-software-license

Configuration

> If you are using the Plixus central unit in combination with **CoCon**, please refer to the CoCon Manual and the Plixus Web Server Configuration Guide.

> If you are using the Plixus central unit with **Confero**, please refer to the Confero Manual.

> If you are using the Plixus central unit with a Confero Cloud license (Confero PLAN, MEET and/or CAM), please refer to the Confero Cloud Manual.

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