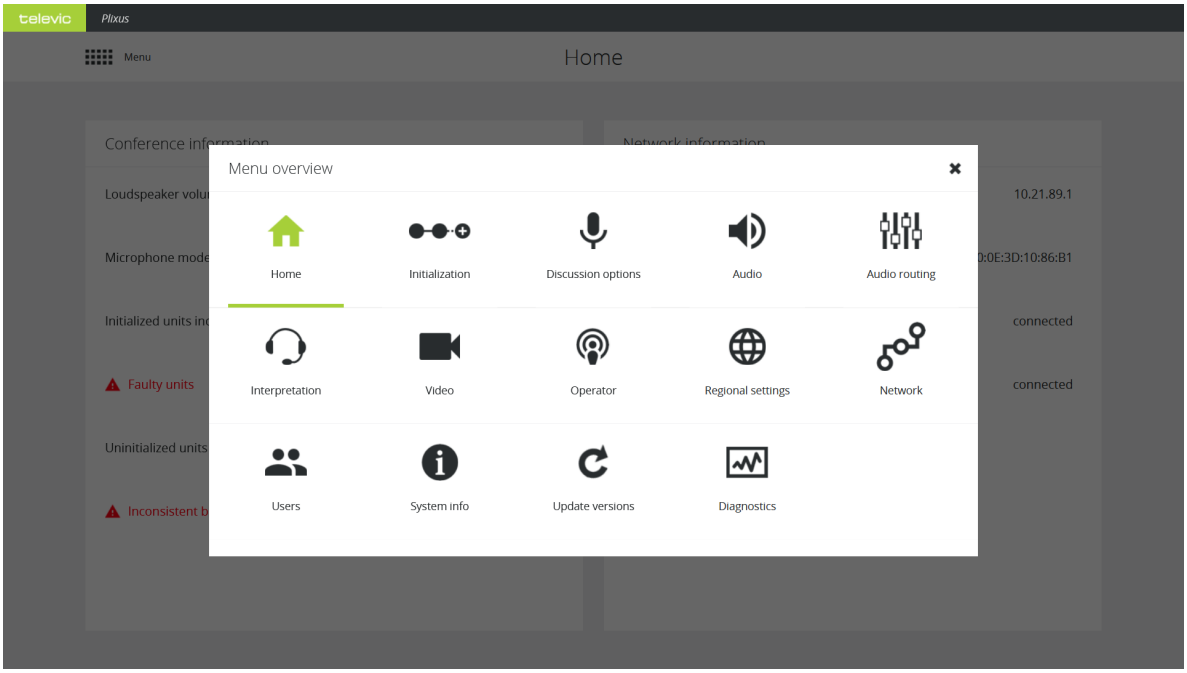
televic
conference

PLIXUS WEB SERVER

CONFIGURATION GUIDE



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Addendum 1: Configure IP Settingss

Addendum 2: Advanced Diagnostics

INTRODUCTION

This chapter will give you a short introduction to this manual together with a general description of the Plixus web server 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.

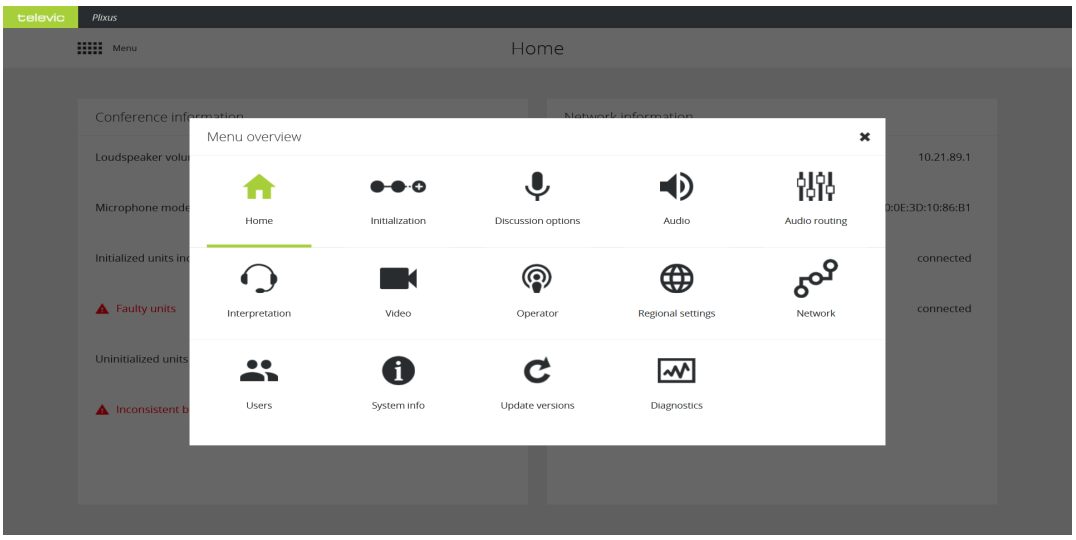
PLIXUS WEB SERVER

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.

CONFIGURATION

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

INTRODUCTION

Note that the **uniCOS CORE T** units are not compatible with CoCon and can only be used in combination with **Confero's meeting management software**.

Plixus Web Server

Below is a list containing all functionality that is available in the Plixus Plixus Web Server. This guide will discuss all these features together with how to configure and use them.

- Initialization of the units, creation of booths
- Discussion parameters for microphone modes
- Configuration of different audio settings such as the dynamics processor, auto gain reduction, auxiliary input and output levels
- Selection of basic audio routing presets (normal audio routing, N-1, external equalizer)
- Interpretation configuration up to 11 languages and possibility to send language channels to Dante
- Operator page to control microphones
- Recording of one or more channels
- Regional settings such as date and time format
- Manage network settings
- Camera protocols
- API

Plixus Web Server Versus CoCon

When the Plixus Web Server is used in combination with CoCon, the parameters of the features available in the Plixus Web Server cannot be fully configured. For some parameters, you will need a CoCon license.

For a detailed description of the differences betweent the Plixus Web Server and CoCon, see the table below:

	Plixus Web Server	CoCon 6.0
Start/Stop initialization	Yes	No
Retrieve initialization	Yes	No
Creation of synoptics	No	Yes
Support for multiple synoptics	No	Yes
Configuration of interpreter booths	Yes	Yes
Changing seat priority (delegate – chairperson)	Yes	Yes
Default microphone mode	No default, the last configured mode is used	Yes
Meeting management	No	Yes
Delegate management (delegate names, groups)	No	Yes
Agenda creation	No	Yes
Voting management	No	Yes
Speech timers	No	Yes
Services (uniCOS)	No	Yes
Messaging (uniCOS)	No	Yes
Badges and authentication	No	Yes
Operator control	Yes, limited through web server Operator page	Yes
Activation of microphones	Yes	Yes

	Plixus Web Server	CoCon 6.0
All microphone modes supported	Yes	Yes
Meeting statistics	No	Yes
Import/export of meeting data	No	Yes
Voting control	No	Yes
Signage	No	Yes
Basic interpretation	Yes, up to 11 language configurable from web server in Standalone	Yes
Advanced interpretation (with all ISO 90107 features)	No	Yes
Three basic audio configuration (normal, distance conferencing, external equalizer)	Yes, configurable from web server	Yes
Advanced audio configuration	No, but once created with CoCon, selectable from web server	Yes
Camera protocol	Yes, sent from Plixus central unit. The Plixus web server has limited Camera protocol functionality.	Yes

Performance Limitations

The Plixus conference system offers a very scalable architecture that can accommodate hundreds of different devices in one conference room. Rooms with 1000+ devices are no exception. To make optimal use of the system and offer the best user experience for the end users of the system, we do recommend to take into account the following considerations.

Agenda:

- The performance of the delegate units (especially uniCOS) is influenced by the size of the agenda. We recommend to keep the number of agenda items lower than 250 per meeting.

- For large agenda's, adding, removing or rearranging agenda items during the meeting, may cause a temporary slowdown on the delegate units.

Delegate list:

- Very large delegate lists can have an impact on the performance of the delegate units (especially uniCOS). We recommend to keep the number of delegates below 500 per meeting.
- Make sure to include the delegates in the meeting and avoid adding large numbers of delegates during a running meeting as this can influence the runtime performance while adding.

Meeting:

- Depending on the size of the agenda and the number of delegates in the meeting, the start of a meeting can take up to 2 or 3 minutes before all units are fully started and ready to use.
- The CoCon operator application allows to resend the meeting to all units. For example, when a unit was replaced during a live meeting. Note that this takes the same amount of time as starting a meeting and will cause a slowdown on all delegate units in the room.

GETTING STARTED WITH THE PLIXUS WEB SERVER

The Plixus web server, at the root of the Plixus central unit (Plixus AE-R or MME) should be used **in combination with CoCon**.
Both the Plixus and CoCon software should be **up-to-date**. For more information, please visit the Software Updates section of the Televic Conference website.

Access The Web Server On The Plixus Central Unit

To access the web server of the Plixus system, enter the IP address of the Plixus central unit (Plixus AE-R or MME) in your browser.

The default IP address of the Plixus centrla unit is **192.168.0.100** with subnet mask 255.255.255.0.

Explore The Plixus Web Server

The layout of the web server was designed to be intuitive and easy to use. All pages have a similar layout which eases configuration. The general layout consists out of two parts:

- **The header element** (1): this part contains the name of the product together with the title of the page. From here you can also access the main menu by clicking the menu icon .
- **The body element** (2): on this part of the page you can view and configure all settings. The content will change depending on the menu item you select.

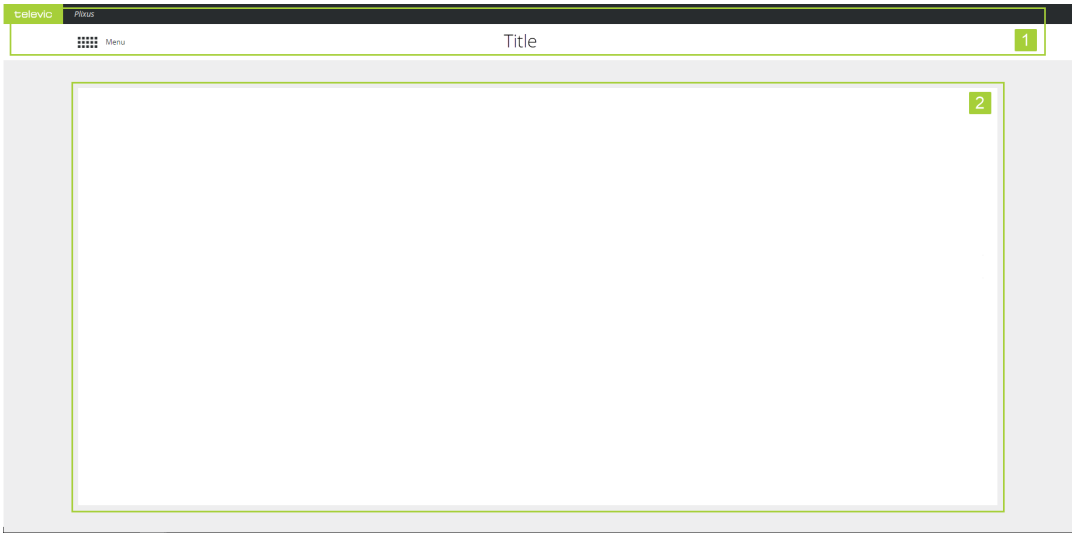


Figure 1-1 *General layout of the web server*

When you want to configure a certain setting, you simply select the correct sub menu from the main menu ( ). The following sub menus are available:

Icon	Sub menu	Description
	Home	Return to the home screen where you see the most important features and their configuration.
	Initialization	Define and configure units present in the Plixus network.
	Discussion options	Configure discussion options such as microphone to define how to activate a microphone.
	Audio	Configuration of different audio options such as dynamic processing and auto gain reduction.
	Audio routing	Configure the audio routing and the auxiliary input and output levels.
	Interpretation	Configuration of the interpretation channels.
	Operator	Control all microphones in a meeting.
	Recording	Options to record the meeting. (only available on Plixus AE-R)
	Regional settings	Change regional settings.

Icon	Sub menu	Description
	Network	Configure network settings and set camera protocol.
	Users	Change user name and password.
	System info	Contains system information such as license information, system logging, (de)activation of the Plixus web server and configuration management.
	Update versions	Overview of all firmware and software version together with the option to update to another version.
	Video application	Select the video configuration (only available on Plixus MME)
	Diagnostics	Tools to check the overall status of your system
	Confidea Wireless Coupling	Couple with Confidea G3 or G4

HOME PAGE

This is the default landing page of the web server and it shows general together with crucial information about the current state of your conference system. Click the feature name to go to the dedicated page to configure the setting.

On the left side you can see the following information:

- General volume
- Microphone mode
- Number of active units
- Number of faulty units
- Number of connected but uninitialized units

Faulty units, means that there are units missing, that are normally in the initialization list. If this is the case, this is indicated in red. A reason could be that they are not booted correctly or that they are physically disconnected from the Plixus network.

On the right side you see the following items:

- IP address o the system
- MAC address of the Plixus central unit
- Connection status with CoCon Room Server
- Connection Status with the Plixus web server

By default, it is not possible to disconnect from the Plixus web server. However, when the Plixus web server crashes home page will show **Plixus Core Not connected**. Click **Restart** to restart the Plixus web server.

INITIALIZATION

Introduction

The Plixus system always works with seats. A seat is a conceptual name for a unit or a group of units which are combined on that seat. By default this is a one-to-one mapping, so every unit has one seat. However, there can be more advanced cases where units are manually combined on a seat. During initialization you can assigns units to seats.

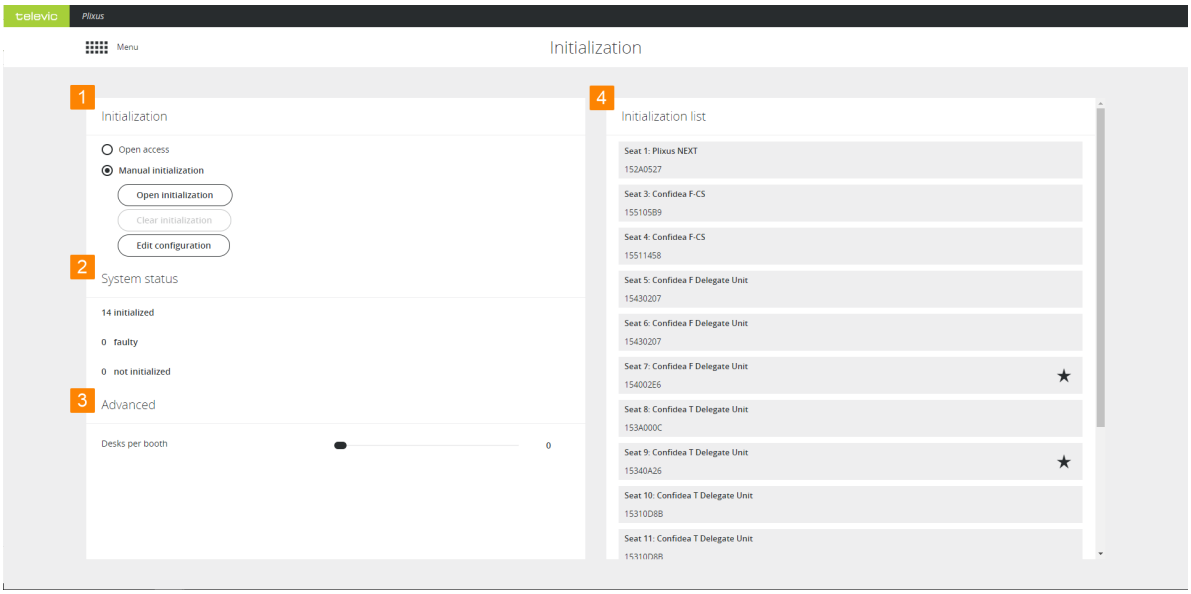


Figure 1-2 *Initialization page*

1. In **Initialization** on the left side of the page you select the mode of initialization.

2. **System status** shows the status of all units, you can see the amount of **initialized**, **faulty** and **not initialized** units. Faulty units are units that were initialized, but are now missing. Not initialized units are connected, but not yet initialized.

3. In the **Advanced** settings you can define the maximum number of desk per booth (for interpretation).

4. The **Initialization list** on the right side shows all unitialized units, per unit you can see the following information:

    a. Seat number: position of the unit in the meeting room

    b. Unit type

    c. Chairman capabilities: can unit acts as chairperson, indicated by star icon.

d. Serial number: of the unit

e. Booths: all available booths together with the amount of desks per booth and the units.

f. See if **Intercom** is active

How To Initialize Units

There are two initialization modes possible: **Open access** and **Manual initialization**.

OPEN ACCESS

- This is the default mode. The main purpose of this mode is to provide a quick way to set up and/or test the system.
- Seats are automatically assigned to the units after startup. Assigning seats is done randomly, based on which unit communicates with the central unit first. The same applies for units connected to a Plixus NEXT.
- Interpreter desks are automatically divided into booths according to the setting **Number of desk per booth**, under **Advanced** settings.
- Upon restart of the Plixus central unit (or Plixus web server) in **Open Access**, the network will be rescanned and seats and desks will be assigned accordingly.
- In Open Access mode, it is **not possible to edit the configuration** of the units (seat number or delegate/chairperson priority), nor change the configuration of the booths.
- When changing from **Open access** to **Manual Initialization**, the initialization and seat order is preserved.

MANUAL INITIALIZATION

- Use **Manual initialization** when you want to define which unit is assigned to which seat number. This can be important when using camera tracking as well as CoCon seat allocation. Manual initialization allows you to edit the configuration in terms of chairperson / delegate priority and booth configuration after initial configuration.
- Click **Open initialization** to start the initialization phase. This causes uninitialized microphones to blink red and initialized microphones to blink green. Add units to the initialization list by pressing the microphone button. During manual initialization you can perform the following actions on the units:

- : click to **swap unit**. When a unit is faulty, it will be greyed out in the web server. Click the icon and enter the serial number of the new unit. Click the checkmark icon to confirm. Note that you can only replace units with units of the same type.
- : click to **modify** the **seat number**. If you do this during the initialization, the next assigned unit number will be the highest unit number + 1.
- : click to **remove** individual units during initialization. After removal the microphone LED will blink red again.

It might take several seconds before the microphones start to blink when you click **Open initialization**.

You can only manual initialize units with a microphone button. Units without this button (e.g. Confidea channel selector) are automatically assigned to a seat.

- Click **Stop initialization** to finish and the seats are automatically assigned to the units. Stopping initialization might take a while, up to one moment depending on the number of units. The seat number will automatically map to the unit number and the Lingua ID's to desks in booths according to the setting **Desk per booth**.
- Click **Edit configuration** to change the following settings
  - Edit the **label** of the unit or booth: click the edit icon to change the label of the unit or booth.
  - **Swap units** :see "Hot swap procedure"for more information.
  - Change **seat number**: click the icon , specify the seat number and confirm.
  - **Priority**: click the icon ((delegate), (chairperson) or **VIP**) to change priority of the unit. A VIP unit has the same speech priority as a chairperson but without the prior/next and start/stop vote function.
  - **Booth configuration**: click the booth icon to change the booth configuration. Create new booths or group desks by changing booth and desk number.

- **Activate/deactivate intercom**: click the intercom icon to activate the intercom function of your unit or booth. Click the icon to deactivate it. Intercom allows the operator or participants with a Lingua ID, multimedia or Confidea units to call each other.

> If Intercom is active on a uniCOS unit then the uniCOS interface has an additional tab. On this tab the participant can accept the call or initiate a new call. Lingua ID units have an additional menu item. See "Use Intercom on delegate units" on page 1 for more information.

> Intercom options are only available if you acquired the Intercom license.

> Do not reload the page when editing the configuration.
>
> Do not change properties during meetings, because this can disturb your meeting.
>
> You can also use CoCon to configure different settings such as the priority of the unit.

- Click **Clear initialization** to clear the initialization list, as consequence all units will start to blink red. It is only possible to clear initialization when the initialization is open and units are not faulty. Confirm to finish clearing the initialization.

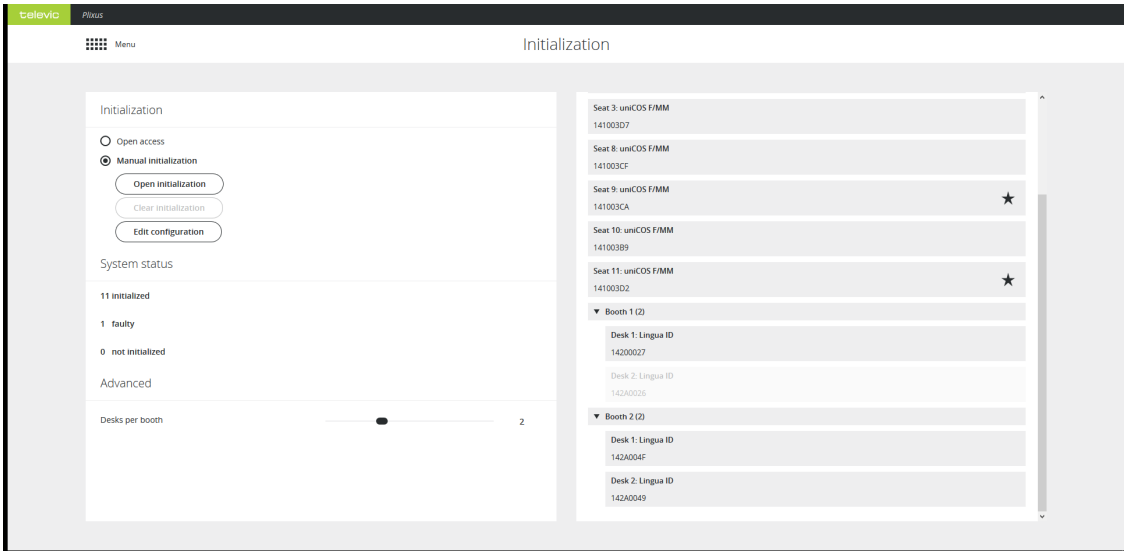
Hot Swap Procedure

Sometimes you need to swap two or more units in your Plixus setup, for example when your setup contains a faulty unit. In Plixus it is possible to swap these units without the need to reinitialize all units. Follow the procedure described below to swap units:

> Please note that you can only swap units of the same type. The new units should have the same software and firmware versions as the unit you are replacing.

1. **Remove the broken unit from the system**. Do not yet install the new unit.

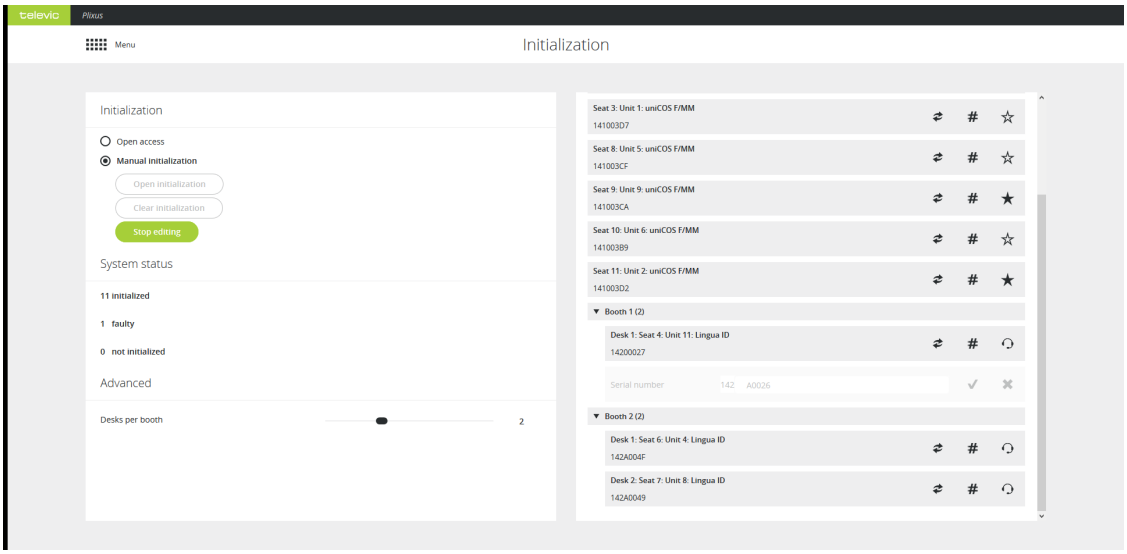
2. Go to **Initialization** in the Main menu. When a unit is defective, this item will be **greyed out** in the initialization list.



3. Click **Edit configuration**, units are not reinitialized when you select this option.

4. Click the swap icon .

5. Fill in the **serial number** of the unit you want to swap with, the three first numbers are already completed. (you can find the serial number of the unit on the bottom of the device). It is best to check that you are replacing the correct unit by **checking the serial number of the faulty device** with the one present in the Plixus web server.



6. Click ✔ to confirm the change.

7. Now add the new unit to your Plixus network. It doesn't need to be in the same location as the defective unit (brach/loop). Once Plixus detects the new unit, it will no longer be greyed out.

When you replace a uniCOS multimedia unit during a meeting, you need to click Re-send meeting in the CoCon Operator application to set the login screen allow users to login.

Activate Dante On Seat

Some setups use a wireless microphone to allow people in the audience to ask questions. As chairperson, you want to be able to control this microphone. For this use case you need Dante. In the Plixus web server you can give discussion capabilities to a Dante input. This input then becomes available in the operator view, where you can manage the microphone activity.

ASSIGN DISCUSSION CAPABILITIES TO DANTE INPUT

To visualize all Dante channels, click the filter icon ⚌ next to **Initialization list** and select **Show Dante Channels**. You can recognize Dante **input** channels by their seat number, it has the format: 600XX. Dante **output** channels have the format 610XX.

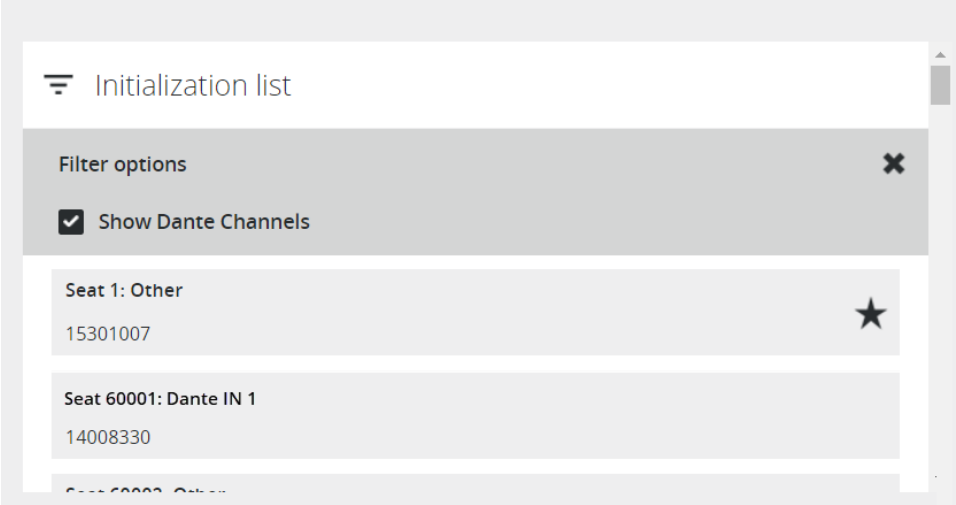


Figure 1-3 *How to visualize Dante channels in the Plixus web server*

To **assign discussion capabilities** to a Dante channel, click **Edit configuration** and then click the microphone icon next to the Dante channel. When discussion capabilities are active, the icon changes to. To **remove** the discussion capabilities, click the icon again.

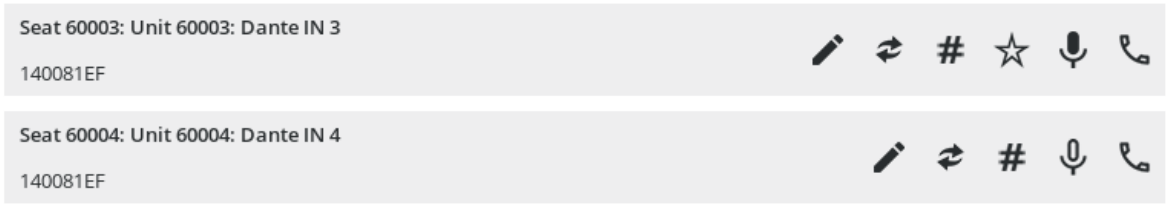


Figure 1-4 *Possible actions for Dante channels during Edit configuration on the Initialization page of the web server*

If you activate the discussion capabilities of a Dante channel, Plixus treats this seat the same as any other seat with a discussion unit. This means that you can manage the microphone activity using the **Operator** page. In **CoCon** this unit is also visible, there you can drag the unit onto the synoptic in the **Room Configurator** application.

PUT DANTE INPUT AND OUTPUT ON THE SAME SEAT

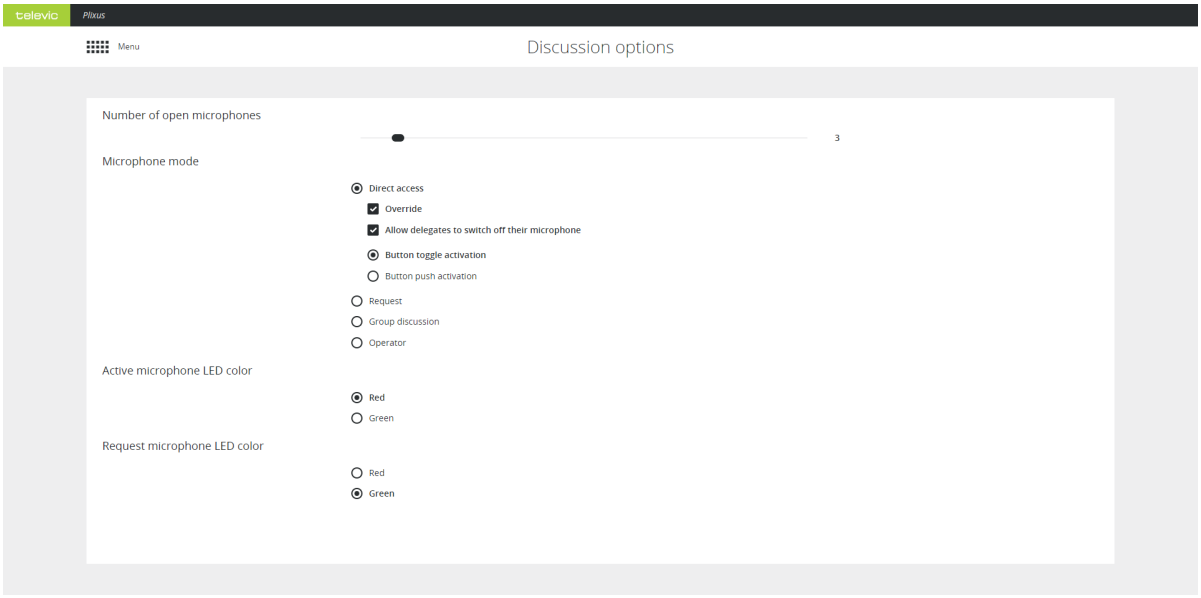
When your conference system contains a thrid party microphone and speaker, you need to link these on the same seat. To link the Dante input and output, change the seat number of the output to the seat number of the input. The input and output are now treated as one.

COMBINE DANTE WITH INTERCOM

If you want to initiate an intercom call from a seat with a Dante input to another unit, you need to create an API call. Other units such as the uniCOS and Lingua ID units can use their interface to initiate an intercom call with this seat.

DISCUSSION OPTIONS

In this chapter you will find all information to configure the most important settings of your meeting. These settings are the number of open microphones, the microphone mode and the color of the microphone LED.



Number Of Open Microphones

You can set the number of open microphones be between 1 and 25. This does not include the chairperson microphones. You can activate up to eight additional chairperson microphones on top of the 25 delegate microphones.

Microphone Mode

Different microphone modes are available and depending on the mode, you can configure additional settings.

DIRECT ACCESS

With direct access delegates can activate their own microphone by pushing the microphone button. The following additional settings are available:

Parameter	Description
Override	> **Not-selected**: microphone will not become active when the maximum number of open microphones is reached and you press the microphone button. Another active microphone must switch off first. Deactivation is possible by the delegate, via the operator page, through the chairperson using the API or CoCon. > **Selected**: when the maximum number of open microphones is reached, the first activated microphone will switch off when a delegate presses its microphone button.
Allow delegates to switch off their microphone	With this option you ensure delegates cannot switch off their own microphone. Only the operator or chairperson can do this.
Button toggle activation	Press the microphone button once to activate the microphone.
Button push activation	Keep button pressed to activate to microphone. When you release the button, the microphone will switch off.

REQUEST

In request mode you do not automatically get the floor when you activate your microphone. First you have to request the floor. The chairperson then assigns the floor to a speaker using the next-in-line button (or using the operator page, CoCon or the API). Which delegate may speak first is defined by the first-in-first-out principle. The chairperson units (or VIP units) can always speak immediately and do not have to request the floor.

For request mode additional settings can be configured:

Parameter	Description
Allow delegates to cancel their request	Select this option to allow user to cancel their request to speak by pressing the microphone button.
Allow delegates to switch off their microphone	Select to allow user to switch off their microphone by pressing the microphone button. If not selected the microphone will only switch off when another events stops the microphone for example by using the operator page.
Enable reply	Select to enable the reply functionality. With this function you can reply to a certain speaker which will put you in different request list that has priority over the default request list. Define which button to use for the reply function (Reply, Prior, Next).

VOX

Voice activation (VoX) is a mode where the microphone button is not used. The microphone becomes active when it detects sound above a certain threshold. You can configure **Voice activation** in the **Group discussion** mode. The following settings can be configured:

Parameter	Description
Threshold	The system will monitor the ambient sound level and will activate the microphone when it is above the configured threshold value.
Hold time	Determines the number of seconds the microphone stays active after detection of the last sound above threshold.

GROUP MODE

Group mode is a semi-automatic mode for standalone conferences where less protocol has to be followed and no operator is available. Pressing the microphone button activates the microphone unless the maximum amount of open microphones is reached. In this case the microphone will go into request mode. When another microphone becomes inactive, the first unit in the request list will become active.

This mode has 3 activation types: toggle, push to talk and vox.

Mode	Description
Toggle	Press microphone button once to activate microphone.
Push to talk	Keep microphone button pressed to activate microphone.
Voice activation	Microphone becomes active when it detects sound above a defined threshold. For more information see " VoX" .

OPERATOR

With the operator mode delegates **cannot activate** their own microphone. Only a command from CoCon, the operator page or the API can activate these delegate microphones. Delegates can deactivate their microphone by pressing the microphone button. **Chairman** can always activate microphones and use the **priority button** if he wants to switch off the delegate microphones.

Microphone LED

Change the LED color of an active microphone or a microphone in request. By default the LED of an active microphone is red and for a microphone in request green.

RECORDING

With the Plixus AE-R you have the option to record meetings. You can start recording by pressing the button on the central unit or by using the Plixus web server. Save the recording on the integrated hard drive or to an external USB device.

Recording is possible on an external USB device with FAT32, NTFS or ext4 format.

Record Using The Record Button

Press the record button on the front display of the central unit to start recording. A LED light next to the button indicates that the central unit is recording. Press the button again to stop the recording.

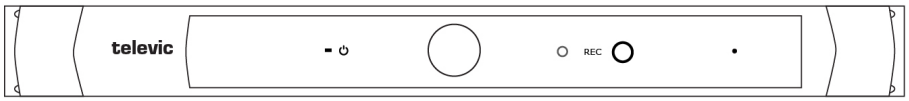
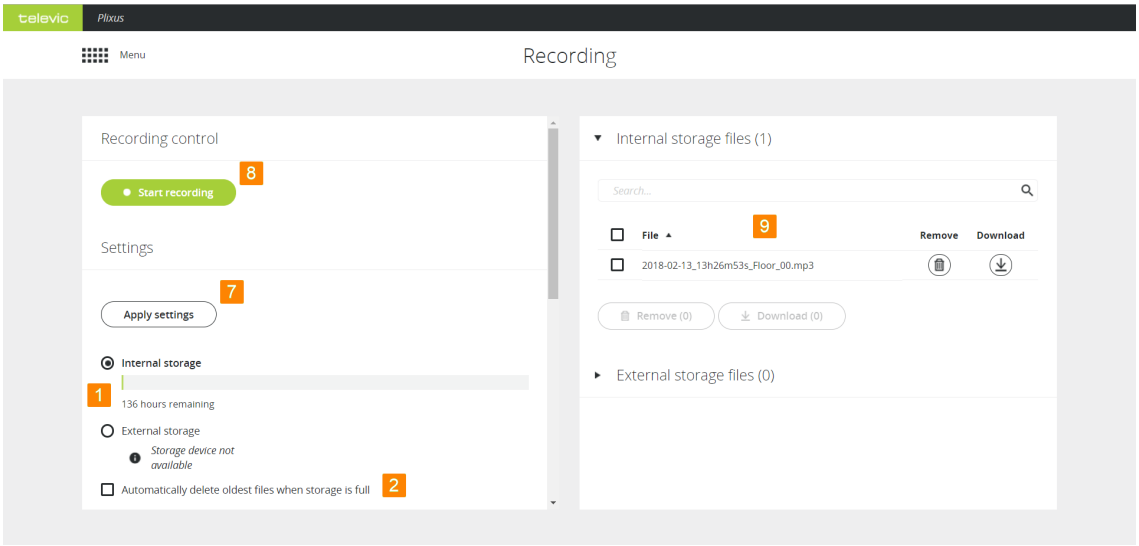
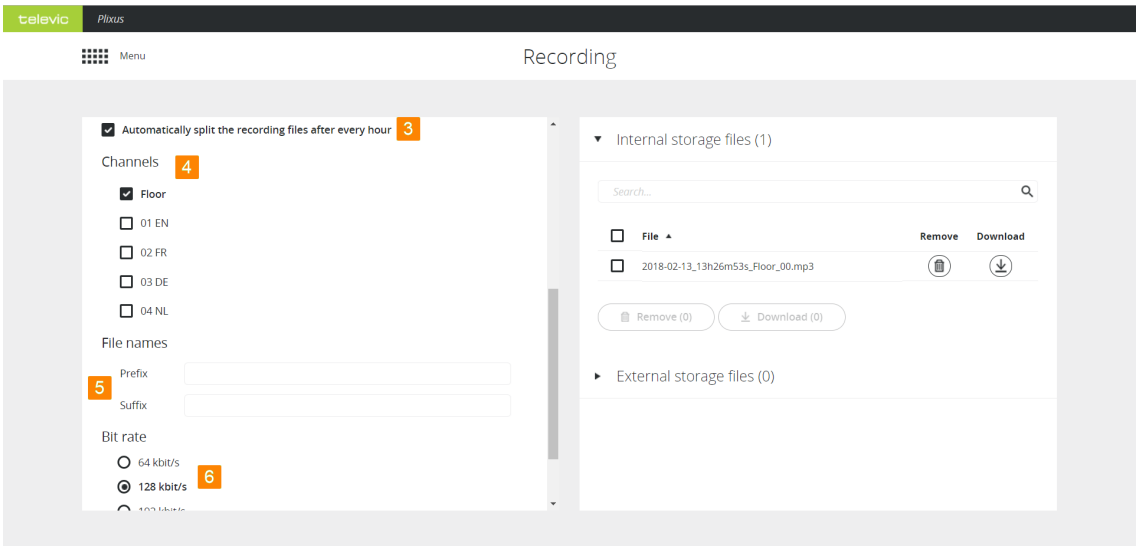


Figure 1-5 *Record button on Plixus AE-R central unit*

Record Using The Web Server

To record your conference using Plixus go to the main menu and select Recording .





1. Select where to store the recording. Select **Internal storage** to store the recording on the central unit locally or select **External storage** to store the files to an external USB device connected to the central unit. For the internal storage you can see the remaining disk space, this depends on the audio quality you selected.

2. Select this option to delete the oldest files on the central unit or external USB device when there is no more disk space.

3. This option splits up recordings into different files when the recording time is larger than one hour.

4. Select the **channels** you want to record. Per channel a different recording will be created.

5. Define a **prefix** and/or **suffix** to automatically add to your recording file name. By default the date and time are already added to the file name. The filename has the following format: **PREFIX_DATE(YYYY-MM-DD)_TIME_CHANNELNAME_SUFFIX_NumberOfRecording.mp3**. The number at the end of the name increments when the recording consists of multiple files.

6. Select the quality of the recording. By default 128 kbit/s is selected which renders medium quality audio files.

7. Click **Apply settings** to save the configuration.

8. Click **Start recording** to start and click **Stop recording** to finish your recording.

Manage Recorded Files

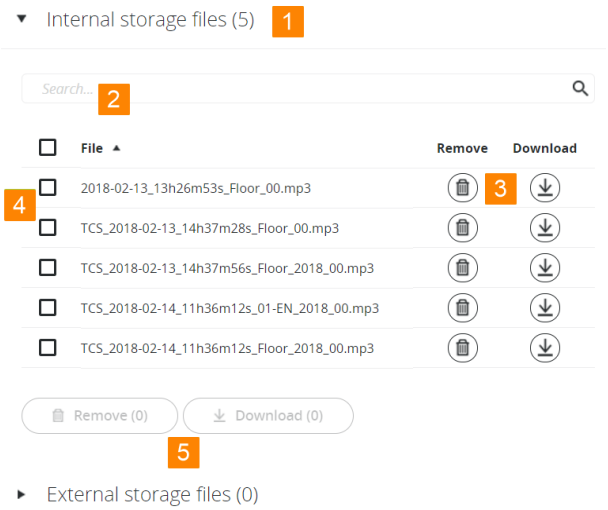


Figure 1-6 *How do download and remove your recorded files*

1. Go to the location where your files were recorded: on the central unit itself or on an external USB device.

2. You can search for specific files using the **Search** bar.

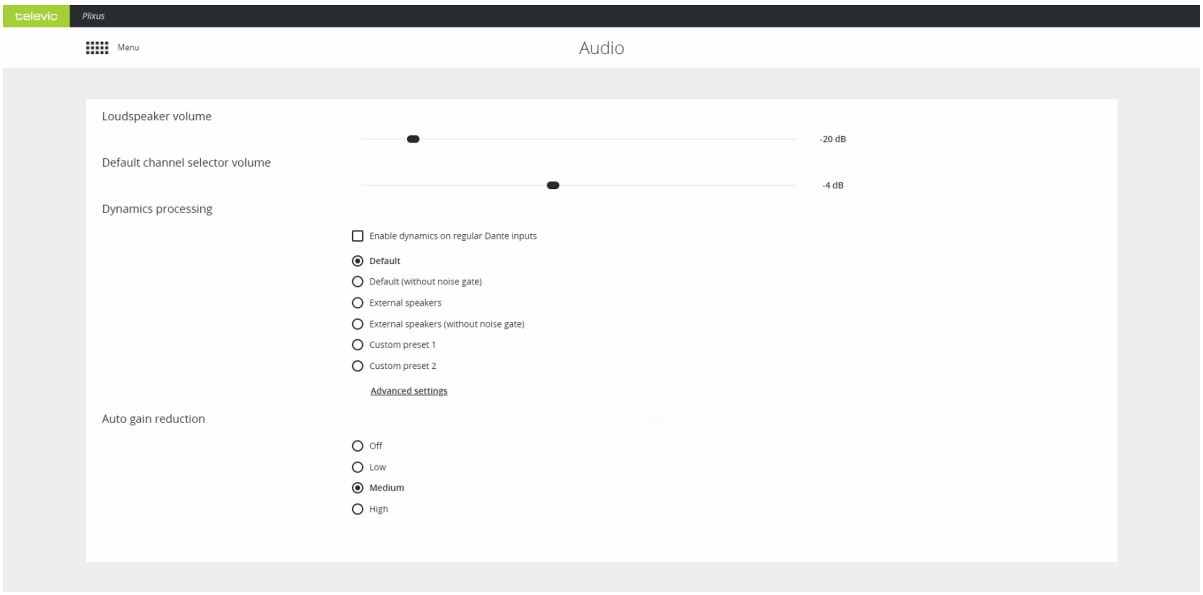
3. Download or remove single files using the buttons next to the file.

4. Select multiple files using the check boxes next to the file names.

5. Download or remove the selected file by clicking on the **Download** or **Remove** button.

AUDIO SETTINGS

On the Audio page you can configure all general audio settings for the Plixus system.



General Volume

This sets the volume for the loudspeakers in the room. The value can range from - 96dB to + 6dB. You can also change the volume by turning the control dial of the MME or volume dial of the AE-R.

Dynamics Processing

The dynamics processor settings are global settings that are applied to every microphone unit individually. These settings determine the dynamic range of the audio input.

DYNAMICS ON DANTE INPUTS

In some cases, dynamics settings might be needed for Dante on an external signal (wireless microphones, lecture, ambience, etc.). Check this box to **enable dynamics on regular Dante inputs**.

DEFAULT PRESETS

There are four default presets available for the user, for a detailed description of these presets see the table below. Click **Advanced settings** to see these presets and edit them. However, you cannot overwrite predefined options, you can only save changes as Custom preset 1 or 2.

Preset	Description
Default	This preset has been optimized for medium-size conference rooms.
Default (without noise gate)	Removes the noise gate, use when the noise in the room is limited.
External speakers	Shifts the knee-point of the compressor stage to a higher input value resulting in less chance of feedback when external speakers are used.
External speakers (without noise gate)	Same settings as external speakers, but without the noise gate.

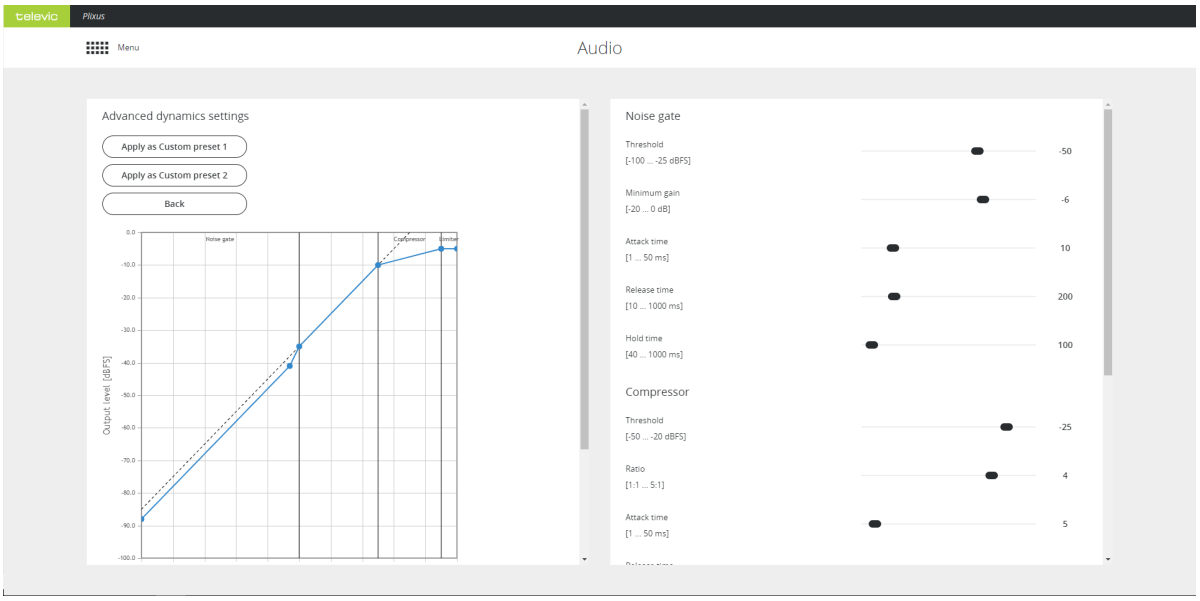
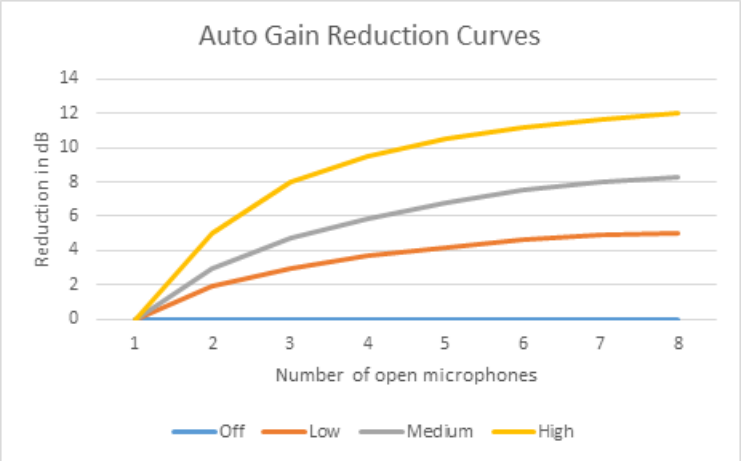


Figure 1-7 *Figure 3 13 - Audio - Advanced dynamics settings*

Auto Gain Reduction

Auto gain reduction reduces the amount of gain in signal in function of the amount of open microphones. As the number of open microphones causes the noise to go up, a gain reduction can increase the intelligibility. There are four presets available with different gain curves:



In rooms where the acoustics are very good, the auto gain reduction may be turned off. In smaller rooms or rooms where external speakers are quite close to certain microphones, it can be challenging to have enough intelligibility everywhere without feedback. Therefore a medium or high setting may be required.

AUDIO ROUTING

With audio routing you can control all routing configurations and the auxiliary levels. You can configure the following settings:

- Audio routing configuration
- Auxiliary input levels
- Auxiliary output levels and selection of the output channel
- Automatically route interpretation channels to Dante.

> Please note that this feature is only visible if the **Language configuration** option has been set to "Default" in the "Interpretation" menu.

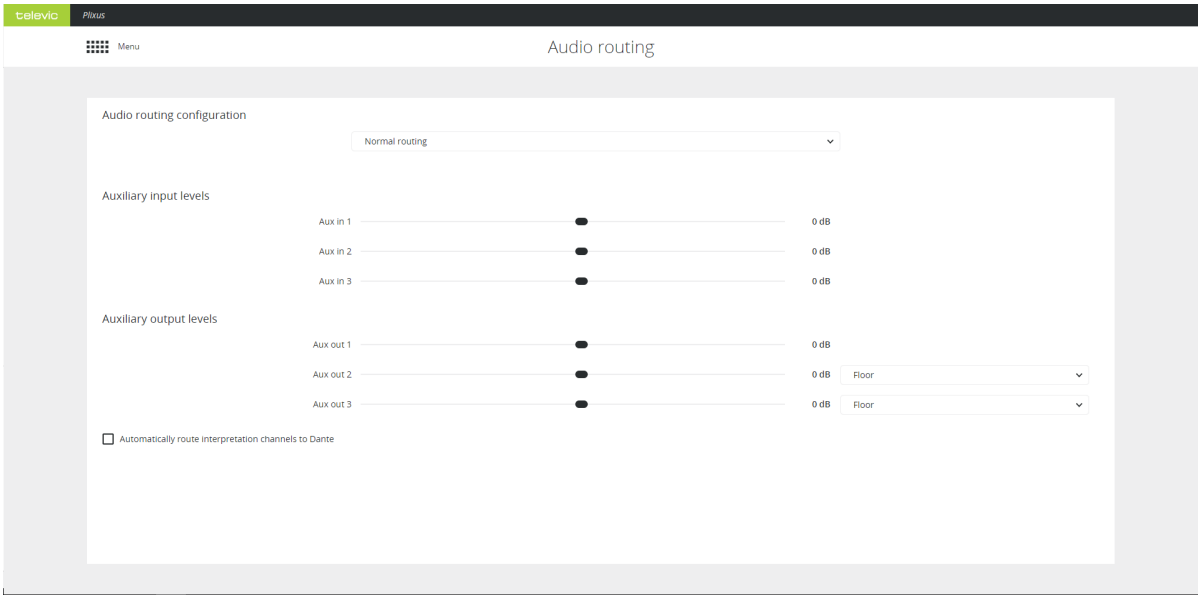


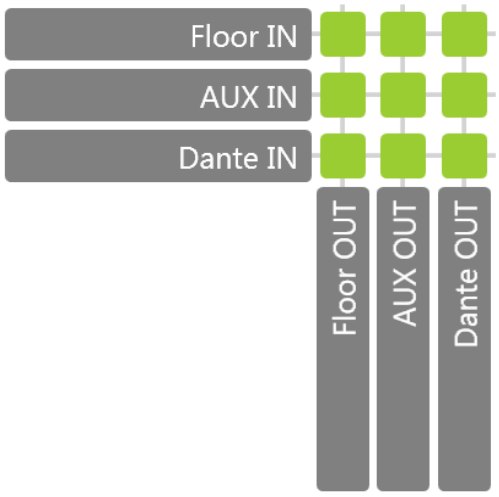
Figure 1-8 *Audio routing page*

Audio Routing Configuration

By default there are three preconfigured basic routing options. They are explained here with the picture of the CoCon routing matrix:

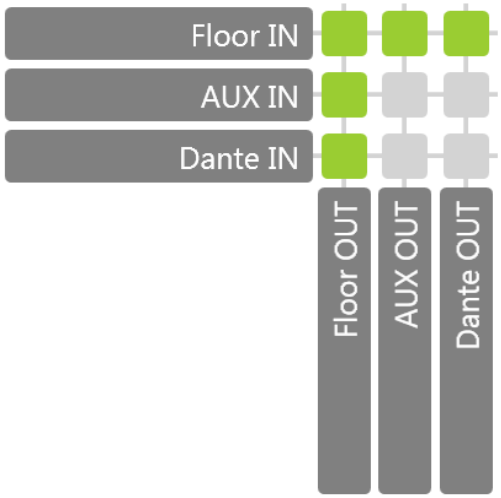
NORMAL ROUTING

No additional audio routing is done.



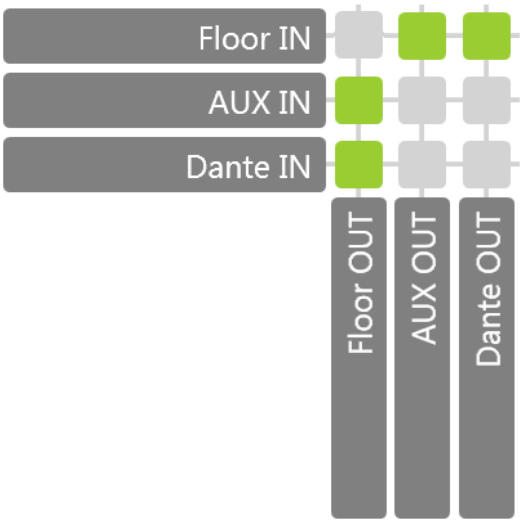
DISTANCE CONFERENCING

This adds an external signal, using AUX IN, to the local floor signal and sends the local floor signal, using AUX OUT, to a remote party, for example sitting in a different room.



EXTERNAL EQUALIZER

This option allows you to add an external signal processing equipment or a mixing board.



PRESETS FROM COCON AUDIO APPLICATION

You can use the CoCon Audio application to create additional audio routing configurations. After creation these are sent to and saved on the Plixus central unit. These are then accessible from the web server, even when CoCon is not running. In contrast to the predefined configurations you can still edit these configurations.

Auxiliary Levels

Auxiliary input levels and output levels are by default referenced on 0 dB. This means there is no amplification or gain reduction. You can adjust the levels manually by using the scroll bar.

Additional Options

When a predefined audio configuration is selected and you use the web server for the interpreter configuration, there two additional functions are available.

- You can assign an outgoing language channel to Aux 2 and 3. In the drop-down box select the desired outgoing channel. This is only possible when the languages are configured in the web server.

- All language channels that you configure in the web server can be automatically routed to Dante when you select the checkbox **Automatically route interpretation channels to Dante**.
  This means the following for the Dante channels: The floor is always routed to channel number 1. From then on, with the option activated, the other x language channels follow on channel 2 until x+1

INTERPRETATION

On the Interpretation page you configure the languages needed for the meeting. You can add up to eleven channels.

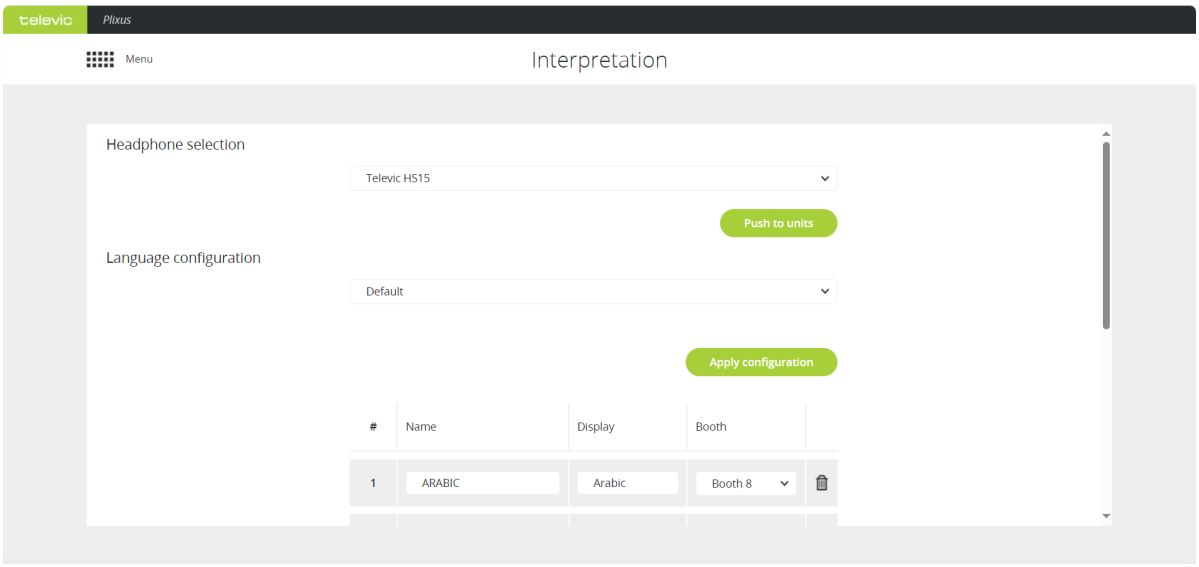


Figure 1-9 *Interpretation page*

Headphones Selection

Select the model of headphones in the drop down list and click **Push to units** to implement your choice.

Add New Language

When **Language configuration** is set to set "Default", a chekbox with the option to route the interpretation channels to Dante will be shown on the "Audio routing"configuration page.

To add a language configuration, click the bottom empty field in the table in the Column Name. You can define the following parameters:

Parameter	Description
Name	Name the language, not used for display but is used for the API output.
Display	Text to display on relays, channels and channel selectors. Limited to seven characters.

Parameter	Description
Booth	Select one of the initialized booths from the drop down box. The value " ------" represents a virtual booth. This means that you can use the language by selecting it on B/C channels on the Lingua ID.
	Remove the configured language.

Click **Apply configuration** to activate it.

You can add a maximum of 63 language channels.

Add Interpretation Configuration From CoCon

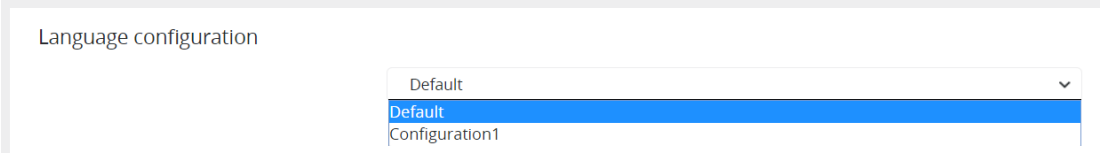


Figure 1-10 *How to add language configurations created in CoCon*

You can also configure languages in the CoCon Interpretation application. You can find these configurations in the drop down list on top of the page. Select the configuration and click **Apply configuration** to use it. When you open a different configuration, the default configuration will be cleared.

VIDEO

On the Video page you can select the which video configuration to use in your setup. To access the Video page, click the Video icon in the main menu. The configurations available originate from CoCon or the API. Select one of the configurations from the drop-down list to activate it.

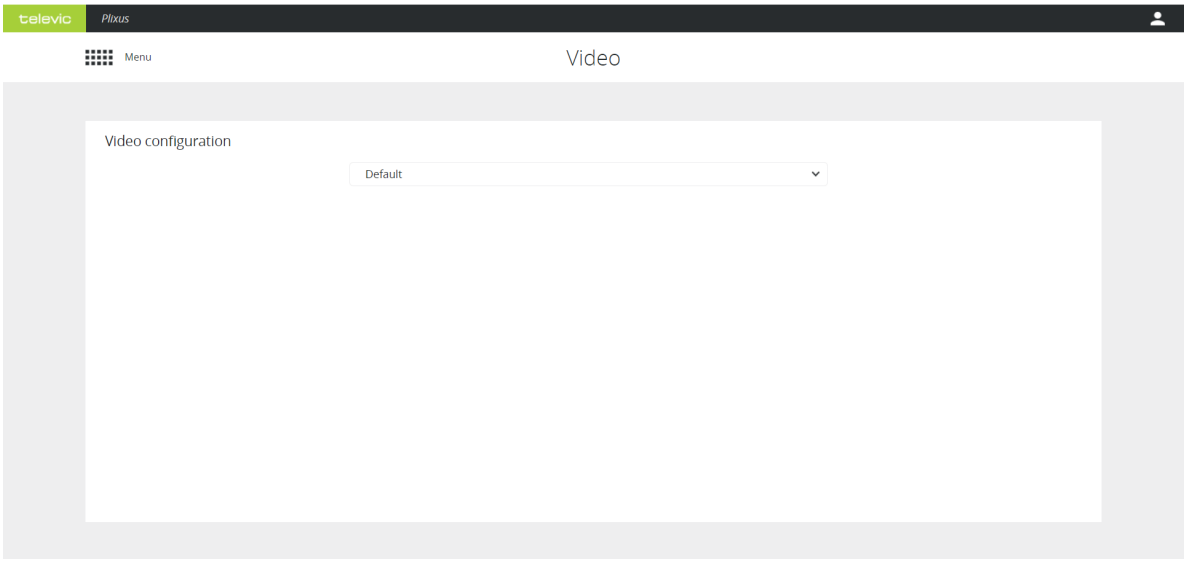


Figure 1-11 *The Video page*

OPERATOR

On the **Operator** page you can control the microphones in the meeting and see how is speaking or requesting to speak. The Operator page consists out of two parts:

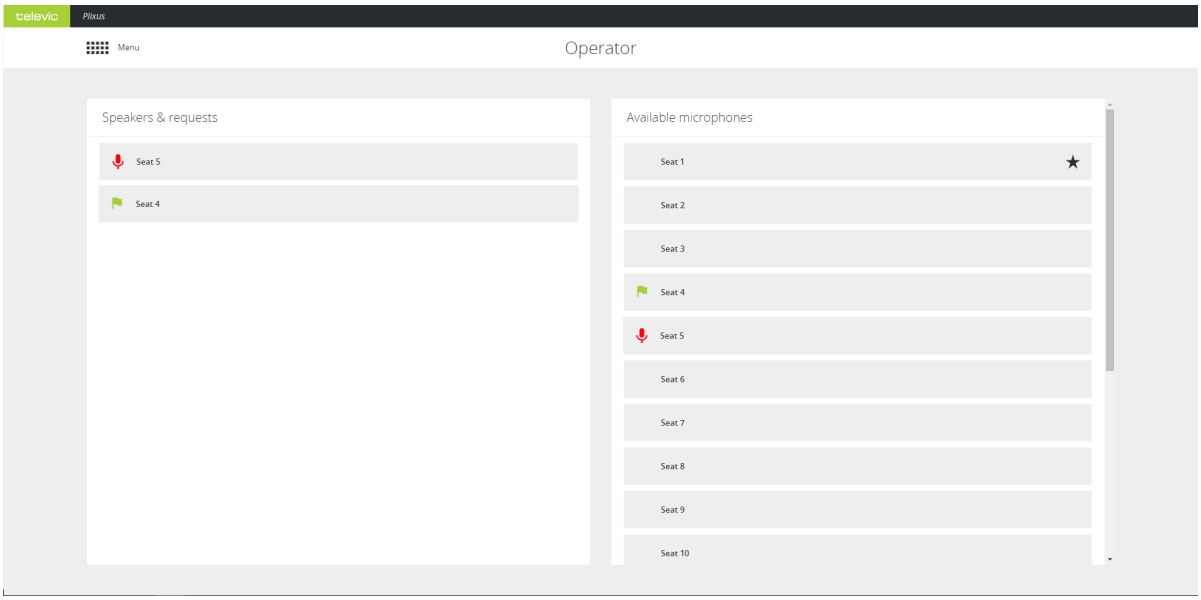


Figure 1-12 *The Operator page*

List	Description
Speakers & request	Shows all active microphones, all requests (only possible with Request microphone mode) and replies (if configured). Click on an active microphone to switch it off. Click on a microphone in request or reply to turn it on.
Available microphones	This list shows all microphones, sorted on seat number, with an indication of the chairperson priority and the active or request microphones. Clicking on a microphone will change the status from either to active or switch off the microphone.

REGIONAL SETTINGS

Go to the **Regional settings** page to change the date and time format.

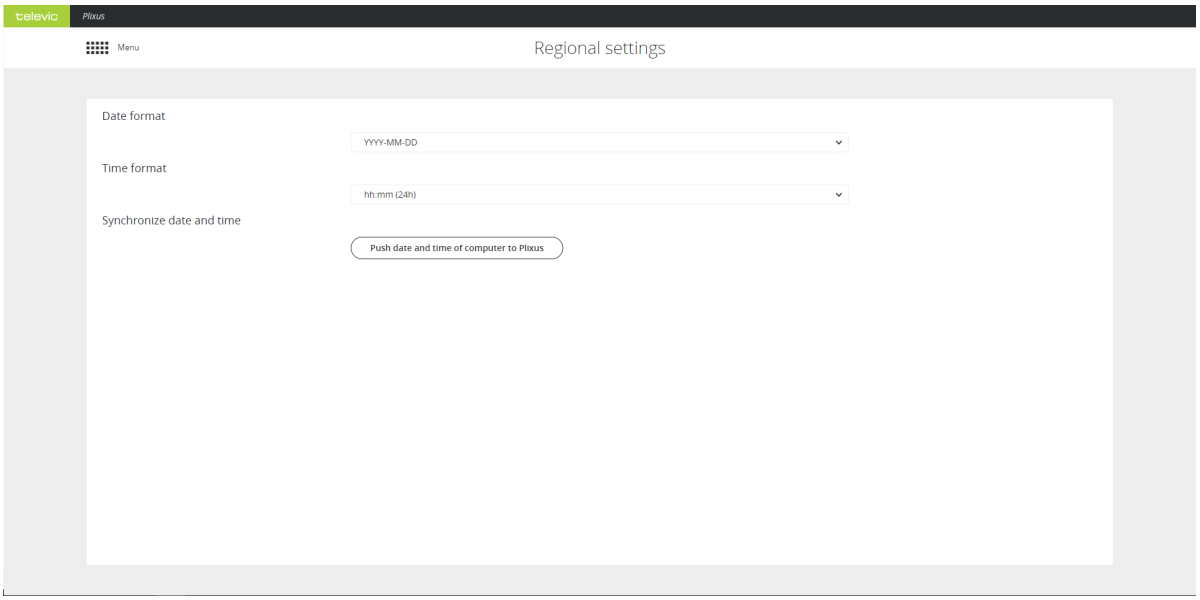


Figure 1-13 *The Regional settings page*

Click **Push date and time of computer to Plixus** to synchronize to time of your Plixus system with that of your computer.

NETWORK SETTINGS

On this page, you can adjust the network settings of the Plixus central unit and configure the camera protocol to be sent from the Plixus central unit to the camera tracking system. Here you are also able to enable the API.

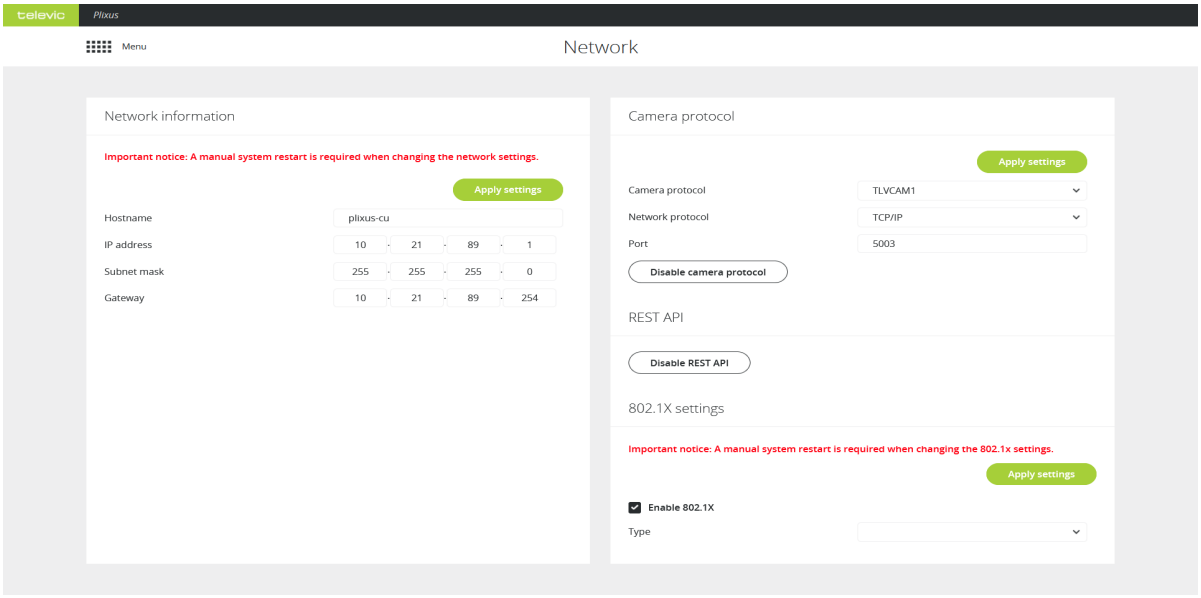


Figure 1-14 *Network settings page*

Network Information

You can configure the following network parameters:

Parameter	Description
Hostname	Is the name of the Plixus central unit.
IP address	The IP address to access the central unit, default value is **192.168.0.100**. When you change the IP address, you need to restart the central unit to complete the action.
Subnet mask	Default subnet is 255.255.0.0
Gateway	The access point to another network.

Communication Ports

The Plixus Central Unit allows a lot of different connections, using different protocols served by different applications.

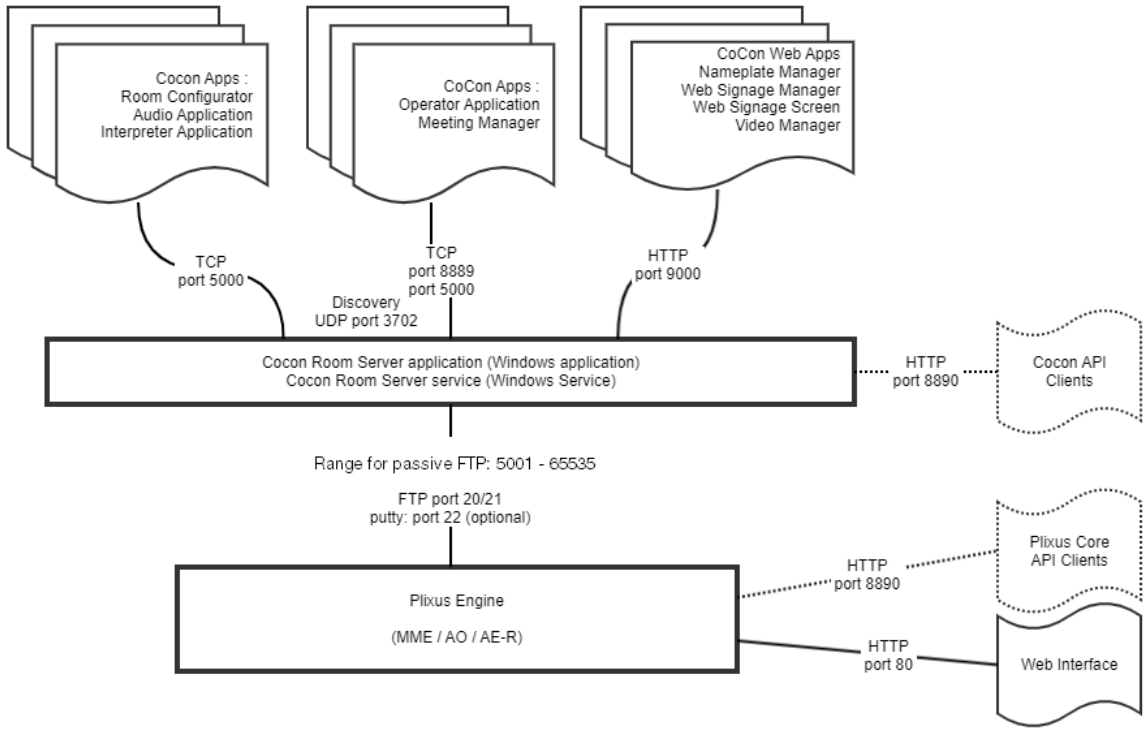


Figure 1-15 *Network ports diagram*

PORT STRUCTURE

The ports that are used for these connections are structured as follows:

Port	Description
5000 - 5999	TCP communication
6000 - 6999	WebSocket communication, the first digit of the port is a 6

Port	Description
9000 - 9999	Swagger API communication: › If second digit is a 0: communication to the CU application › If second digit is a 1: communication to the ERS › If second digit is a 2: communication to the ECS › If second digit is a 3: communication to the CAM › If third digit is a 0: use of SSL (secured connection) › If third digit is 1: plain connection › If last digit is 1: room connection › If last digit is 2: configuration connection

ASSIGNED PORTS

The following ports are currently assigned:

Port	Description
3702 (UDP)	WS discovery (boradcast server to all clients
5000 (TCP)	Cocon aplications
5011	Room connection to the Central Unit software
5012 (TCP)	Configuration connection to the Central Unit software
5111 (TCP)	Room connection to Embedded Room Server
6011	WebSocket Room connection to the Central Unit software
6012	WebSocket configuration connection to the Central Unit software
6101	WebSocket (secured) connection to the Embedded Room Server
6111	WebSocket connection to the Embedded Room Server
6212	WebSocket connection to the Embedded Configuration Server
6312	WebSocket connection to the Camera Protocol software
8300 (UDP)	Server connection from the Camera Protocol software
8889 (TCP)	Legacy Cocon applications

Port	Description
8890 (TCP)	REST connection to Embedded Room Server
9000 (HTTP)	Web applications (nameplate , signage, etc.)
9012	Swagger REST API Configuration connection to the Central Unit software
9111	Swagger REST API Room connection to the Embedded Room Server
20/21 (FTP)	Connection from the roomserver to the Central Unit software
22	Putty (optional)
80 (HTTP)	Website

Camera Protocol

Camera protocol is disabled by default. When you enable the camera protocol you can configure the following parameters:

Parameter	Description
Camera protocol	Select the protocol you want to use. Two protocols are available: TLVCAM 1 and TLVCAM 2. These are the most commonly used camera protocols that are also provided with CoCon. For more information on camera protocols see the appendix.
Network protocol	Both TCP/IP and UDP are provided.
Port	This is the port on the client where the camera protocol is either sent to (UDP) or where the third party client has to listen to on the Plixus central unit (TCP)
IP address	When you select UDP you need to specify the IP address of the destination (third-party).

COMMANDS FOR TLVCAM1 PROTOCOL

All commands sent for this protocol start with a '%' sign. The last character is a character that states the end of the transmission. Just before the end of transmission character, there are four characters within the command sent to the camera control which account for the CRC checksum. The CRC checksum is in uppercase hexadecimal form while all other numbers are in decimal form.

The protocol is described as follows: **STX** '%' data **CRC ETX** with:

- **STX** = start transmit char (0x25 = '%')
- **ETX** = end transmit char (0x0D)
- **CRC** = 16 bit sum of the ASCII characters between STX and CRC

All commands sent by the protocol, need to be acknowledged by the camera system! For UDP connection this is not necessary. The protocol will retransmit the command up to 3 times if no acknowledge is received. The acknowledge frame is 1byte long and holds the value 0x06.

We will adopt a certain notation to explain the messages sent. All separate entities in a message are represented between curly brackets. If the contents of such an entity is also between quotes (' ') then this means that this is a literal string. Otherwise it describes the logical entity. A logical entity will also contain a number between brackets. This number states how many characters the entity will exist of. If the subtext 1+ is attached to the entity between curly brackets, then this means that one or more occurrences of this entity may occur.

Whenever a microphone of a delegate or the microphone of the president is activated, then a command is sent to the camera control. Whenever an active microphone is deactivated, another command is sent to the camera control.

- The microphone of the president is activated: {STX}{'P'}{Microphone number (4)} {CRC (4)}{ETX}
- The microphone of the president is deactivated: {STX}{'p'}{Microphone number (4)} {CRC (4)}{ETX}
- The microphone of a delegate is activated: {STX}{'M'}{Microphone number (4)} {CRC (4)} {ETX}
- The microphone of a delegate is deactivated: {STX}{'m'}{Microphone number (4)} {CRC (4)}{ETX}

The remaining commands are control commands.

- All active microphones are deactivated and the camera control should reset itself to a neutral starting position.

  {STX}{'R'}{CRC (4)}{ETX}

- At a time-interval of around 5 seconds a synchronization message is sent to the camera control. The message contains all the numbers of the active microphones or the number 0 to stipulate that there are no microphones active.

  {STX}{'S'}{Microphone Number (4)}1+{CRC (4)}{ETX}

- All active microphones are deactivated simultaneously.

  {STX}{‘V’}{‘0000’}{CRC (4)}{ETX}

EXAMPLES

- If the president microphone is activated, and the president microphone has the number ‘0001’ then the following message is sent: %P00010111
- When the president microphone is deactivated, then the following message is sent: %p00010131
- If a delegate microphone is activated, and that delegate microphone has the number ‘0003’ then the following message is sent: %M00030110
- When the delegate microphone is deactivated, then the following message is sent: %m00030130
- Suppose now that the delegate microphone with number ‘0003’ is active. On a synchronization check the synchronization message will look like this: %S00030116
- Suppose now that the delegate microphones with number ‘0002’ and ‘0004’ are also active. On a synchronization check the synchronization message will look like this: %000300020004029C
- When no microphones are active, then the following synchronization will be received: %S00000113
- When the camera control system should reset itself to its start position, then the following message will be received: %R0052
- When all microphones are deactivated simultaneously, then the following message is received: %V00000116

COMMANDS FOR TLVCAM2 PROTOCOL (PHILIPS)

All commands sent by this protocol **start** with a **‘$’** sign or **‘&**’ and commands are **terminated** with a **CR(0xd) and LF(0xa)**.

- The microphone of a delegate is activated: $1{Microphone number (4)}<CR><LF>
- The microphone of a delegate is deactivated: $2{Microphone number (4)}<CR><LF>
- All active microphones are deactivated and the camera control should reset itself to a neutral starting position: &30000<CR><LF>
- All active microphones are deactivated simultaneously: &30000<CR><LF>

EXAMPLES

- If the president microphone is activated, and the president microphone has the number ‘0001’ then the following message is sent: $10001<CR><LF>
- When the president microphone is deactivated, then the following message is sent: $20001<CR><LF>
- If a delegate microphone is activated, and that delegate microphone has the number ‘0003’ then the following message is sent: $10003<CR><LF>.
- When the delegate microphone is deactivated, then the following message is sent: $20003<CR><LF>
- When the camera control system should reset itself to its start position, then the following message will be received: &30000<CR><LF>
- When all microphones are deactivated simultaneously, then the following message is received: &30000<CR><LF>

REST API

The Plixus Core API provides a subset of commands that are available on the CoCon API. The Plixus Core API has the same communication protocol and command structure as the CoCon API which allows third-party programmers to simply change the IP address from the CoCon Room Server PC to the Plixus central unit. By default the API is disabled.

Default TCP port for API connection is port 8890

The following TCP ports are reserved for the Plixus system, do **NOT** use for camera control: 5011, 5012, 5111, 6011, 6012, 6101, 6111, 6212, 6312 and 8890.

802.1X Settings

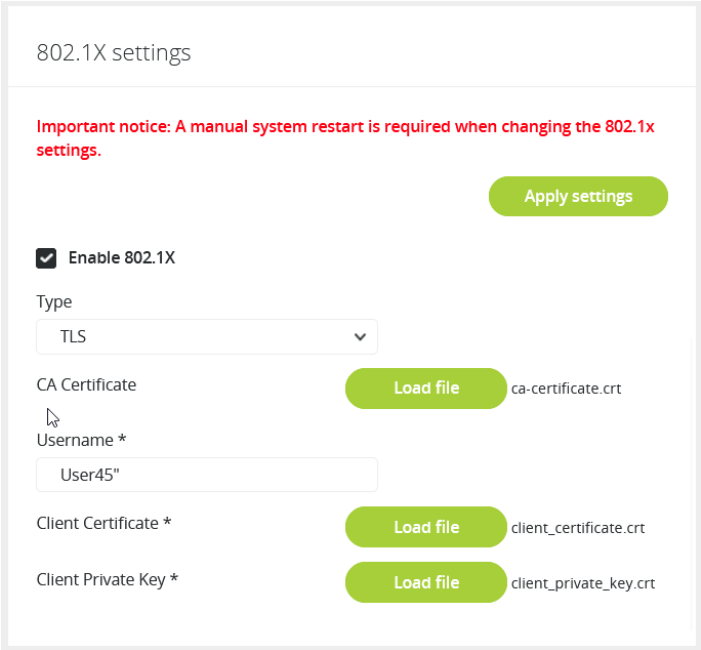
802.1X is an IEEE standard for Port-Based Network Access Protocol (PNAC). It is a highly secure network authentication protocol that allows the server to check the user's credentials and/or certificates before granting or blocking their access to the network.

The 802.1X protocol applies to Plixus LAN and WAP G4 LAN ports. Plixus wired devices do not support the 802.1X protocol.

Three types of authentication are possible:

Authentication Type	Credentials	Level of Security
MD5	Username + Password	LOW
TLS	CA Certificate + Client Private Key + Client Certificate	HIGH
PEAP	CA Certificate + Username + Password	MEDIUM

ACTIVATE THE 802.1X PROTOCOL



To activate the 802.1X protocol, process as follows:

1. Tick the "Enable 802.1X" checkbox.

2. In the dropdown list, select the desired authentication type.

3. Click the "Load file" buttons and, upload the user name / password / certificates (when applicable).

4. Click on "Apply settings" and **restart the system** for the changes to be taken into account.

When a certificate is about to expire, a notification will appear in the Settings tab 30 days before the expiration date. Upload a new certificate as indicated here-above.

USERS

On the **Users** page, you can enable user login. Click on **Enable login system** to activate this option.

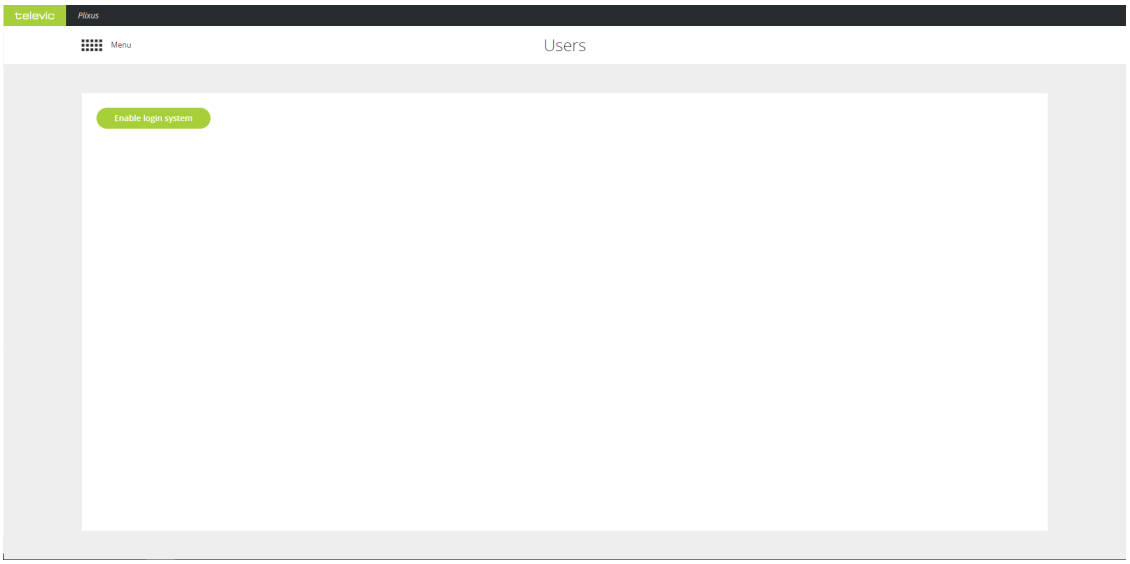


Figure 1-16 *Users page: Enable login system*

Three types of users then become available: **Administrator**, **Operator** and **Custom**.

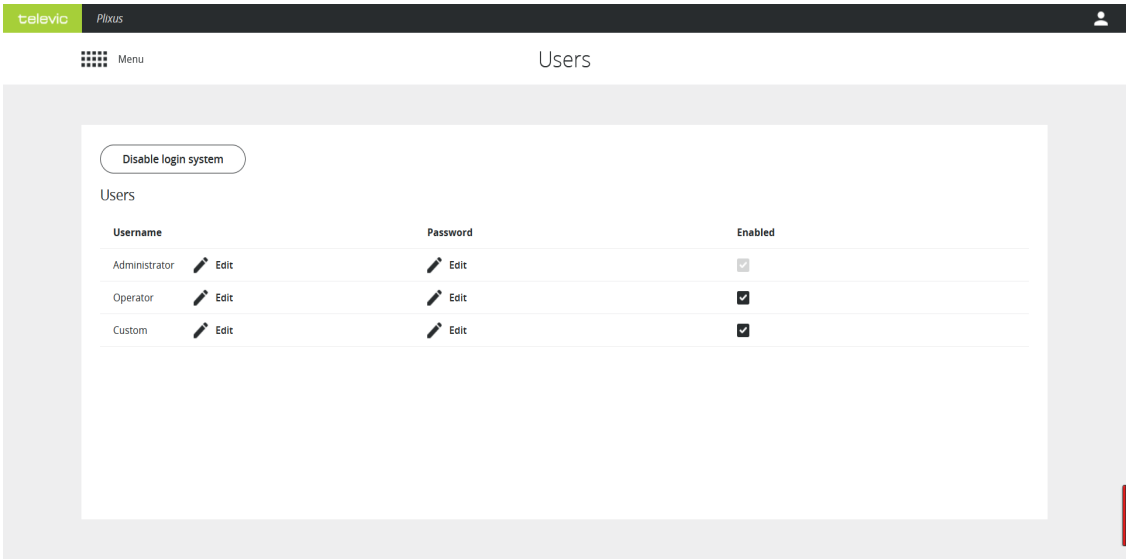


Figure 1-17 *Users page: types of users*

For each user, you can edit the name and password: click on the Edit icon to change the username and/or password of a user. There is also an option to disable one or more users.

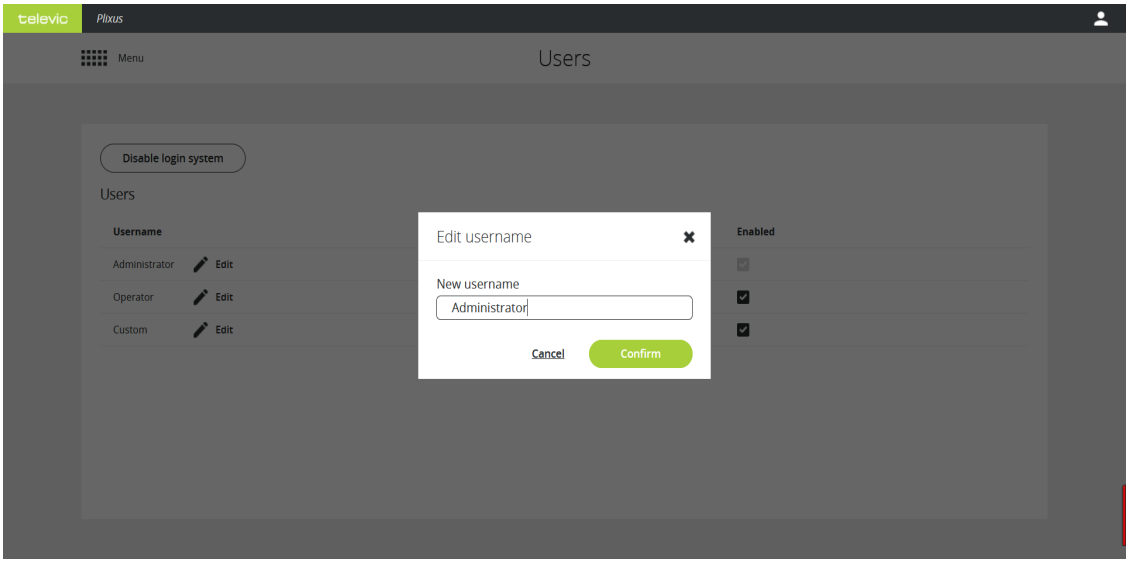


Figure 1-18 *Edit username*

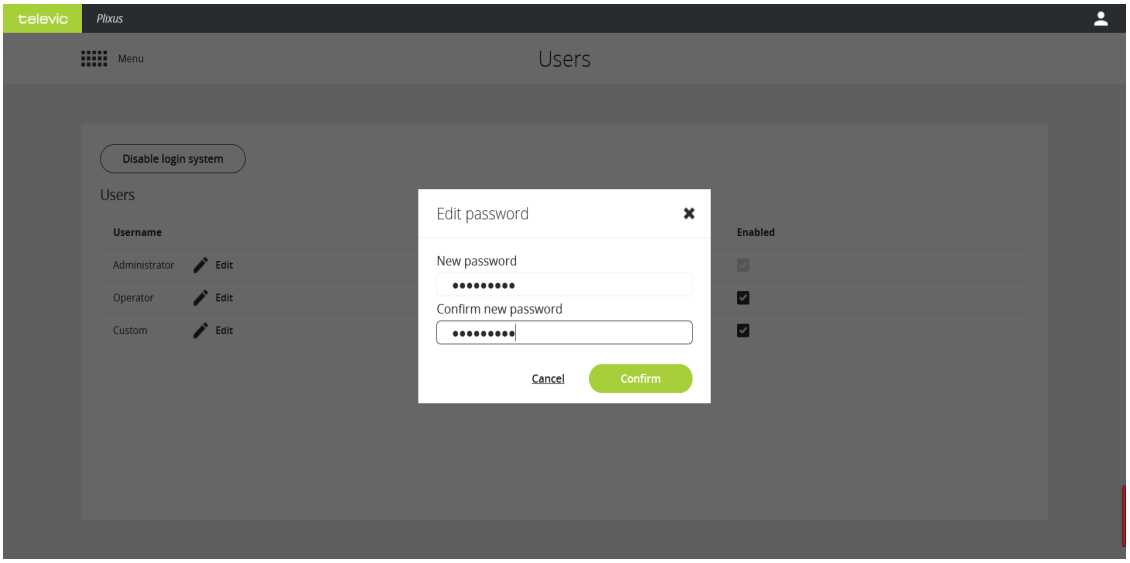


Figure 1-19 *Edit password*

Once you've configured these settings, the User icon becomes available in the upper right corner of the screen. Click the User icon to log out and sign in with a different user, with or without a password depending on how you configured the users.

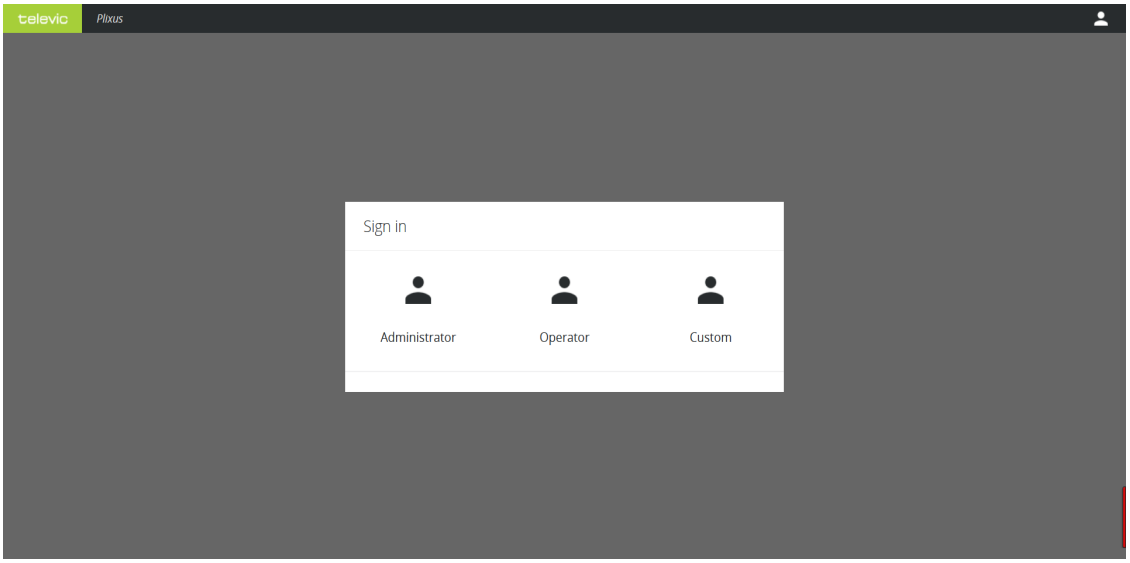


Figure 1-20 *Sign is as a different user: select the user type*

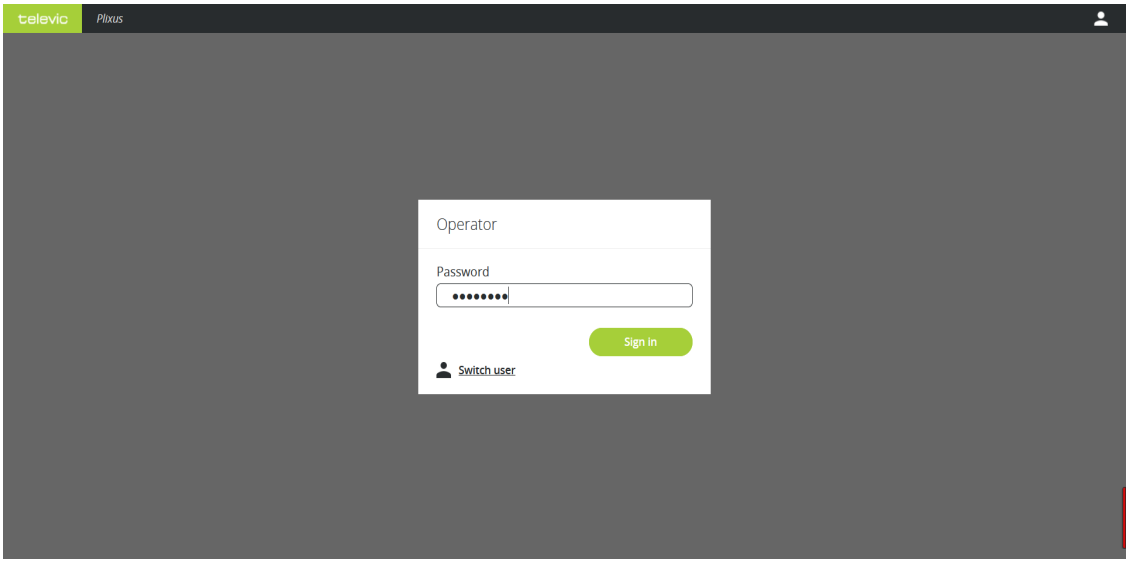


Figure 1-21 *Sign is as a different user: enter the password and log in*

UPDATE VERSIONS

Use the **Update version** page to see the update history of your system and update to a different version.

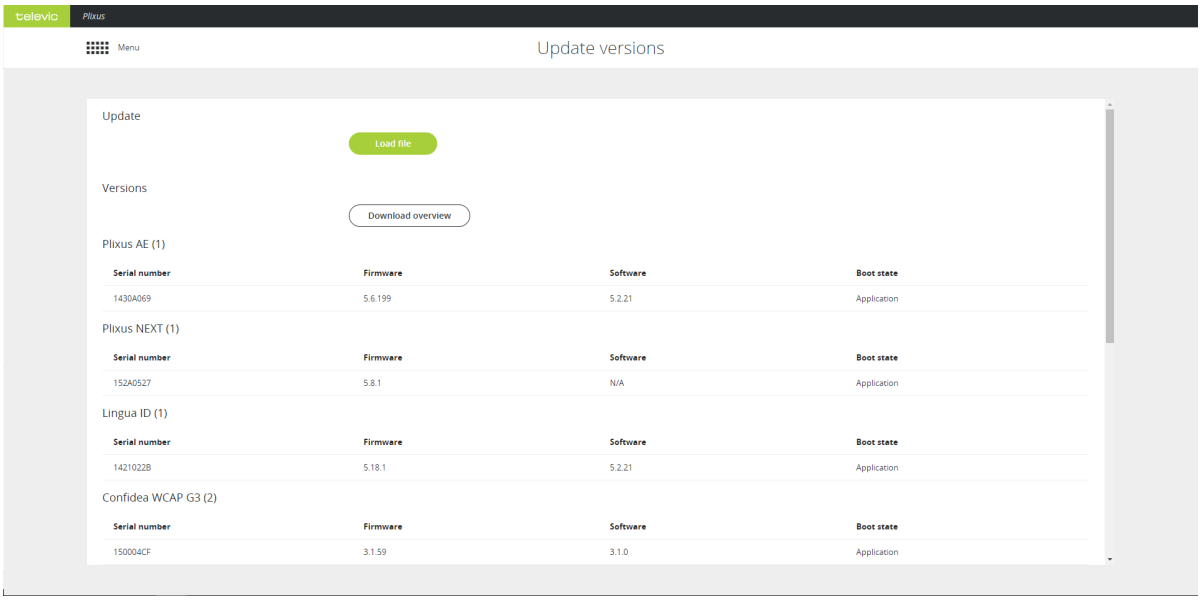


Figure 1-22 *The Update page*

Update Plixus System

To update the Plixus system, click **Load file**. Open the correct **.tuf** file. Uploading a file can take some time. Do **not refresh** the page during this process.

You can find all Plixus related software updates on the Televic Conference website (https://www.televic-conference.com/en/plixus-software-updates).

After upload, click **Start update**. This will start the update process.

Do not switch off, change configurations on the system or refresh the update page while the update is ongoing.

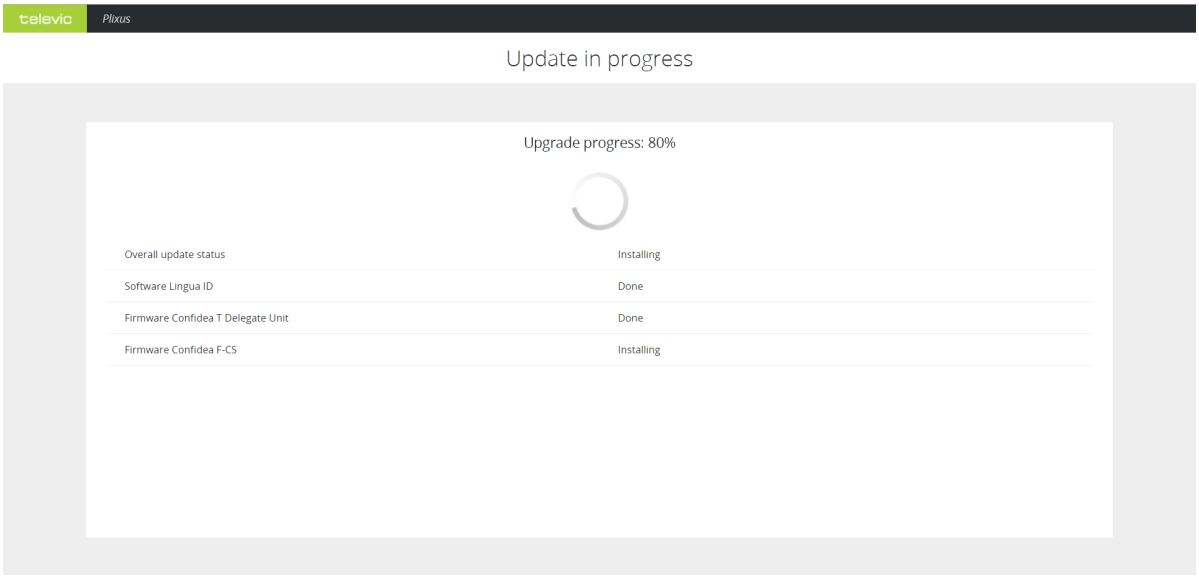


Figure 1-23 *Upgrade in process*

It can time some time before the update is complete, the duration depends on the number of units and the amount of different units connected to the system.

When the update is complete click **Reboot system** to restart this the system. This is required for the update to be successful.

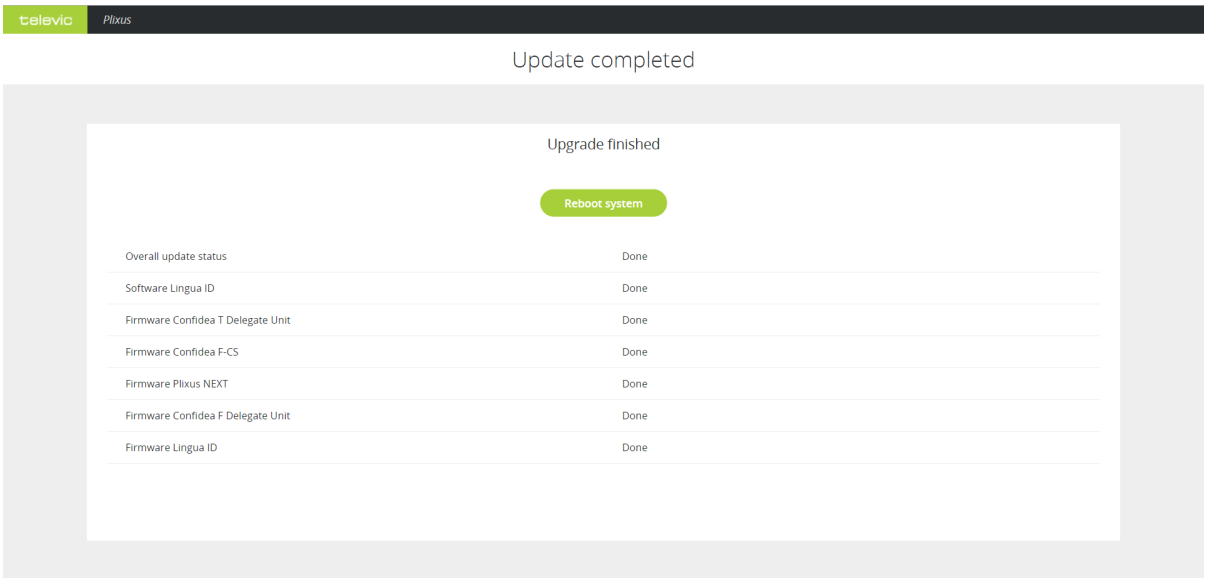


Figure 1-24 *Reboot system after update*

Fallback firmware (socalled "Golden" version, version programmed during production process) will not be impacted by a CRP update. This firmware is used as a bootloader and used as fallback in case a failure occurs and unit doesn't boot to application software.

Different fallback firmware versions have no influence on the functional performance of the system.

To be able to update the **Confidea G3 WCAP and units**, you need to uncouple these from the Plixus system and perform the update using the Confidea G3 web server. See the Confidea G3 user guide for more information.

Please note that the **uniCOS PRO T (71.98.2005), formerly T-MM10** does not work with a software version below CRP 6.9 (when used with Plixus for CoCon) or CRP 7.13 (when used with Confero). A downgrade to a lower version is not possible.

Converting Between Major Software Versions

When converting between major versions of the software (e.g. CoCon 6.x based systems or Confero 7.x based systems), **it is required to perform a factory reset after the upgrade**. The configuration settings between these versions are not compatible with each other, and a factory reset of the systems ensures that all settings will be compatible with the newly installed software version.

Always **make a backup** when changing software versions. Please refer to the Update Procedure of your system on Televic's Software Updates page.

Update Versions

Under **Version** you can find a list with all devices in the network (also units that are not yet initialized). Click **Download overview** to get a .txt file that contains all devices together with their serial numbers and firmware versions. You can use this as reference before the update.

If the system discovers a version mismatch, you will get an error message showing which devices are affected.

SYSTEM INFO

On the **System info** page, you can find all general system information.

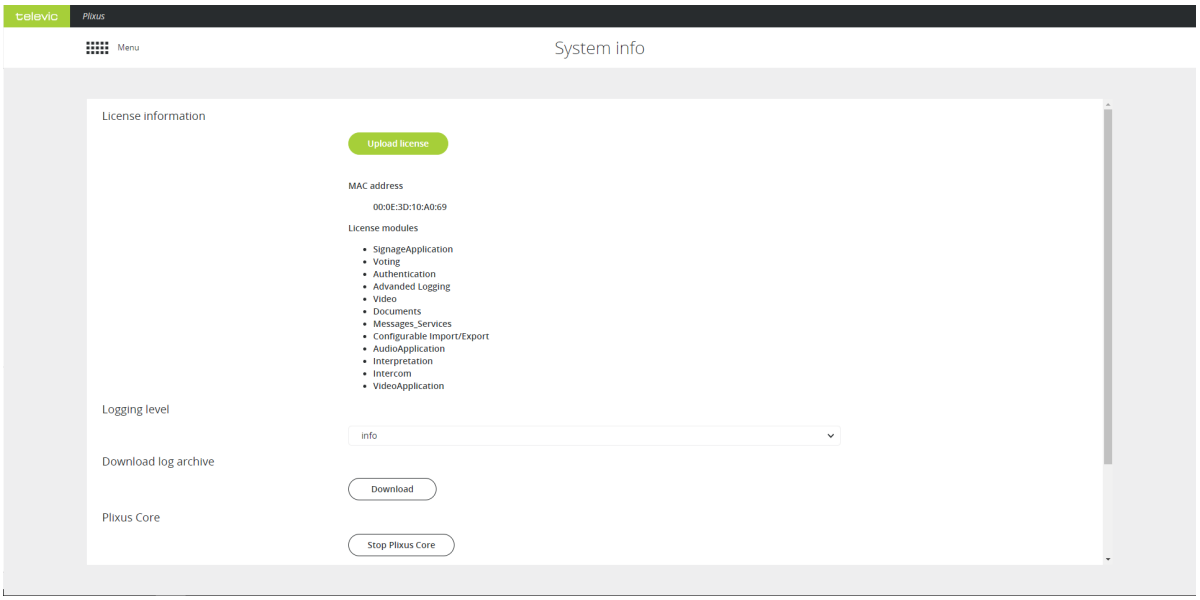


Figure 1-25 *The System info page*

Parameter	Description
License information	Click **Upload license** to upload your CoCon license. Only license file with the correct MAC address (of the central unit) will work. After upload this page shows all license details such as the licensed CoCon applications. The MAC-address is the address of the Plixus central unit and corresponds to the one shown on the label of central unit.
Logging level	Two log levels are available: advanced (debug) and standard (info) Default value is **Standard**.
Download log archive	Click the button to download all log entries.

Parameter	Description
Plixus Core	Click the button to activate or deactivate the Plixus web server. Use this for functions that are not possible in the Plixus web server and require CoCon. The web server will switch back to the old web server and you need CoCon Room Server for all functionality. It can take some time before the web server switches over. From CRP 6.0 onwards, this option is no longer available.
Import configuration	When you install a new central unit, you can import configurations. This can be interesting in case your previous system is defective or you have multiple comparable rooms.
Export configuration	Export your current configuration containing the following settings: > Initialization > Dynamics processing settings > Audio routing settings > Interpretation settings

Below you can find more information on the different log levels:

Fatal: are very severe errors that prevents the system from running.

Error: logs all unhandled exceptions; the system is still running.

Warning: designates potentially harmful situations that can effect the end user, but probably does not require immediate intervention.

Info: information that is useful to the running and management of your system.

Debug: designates fine-grained informational events that are most useful to debug an application.

Trace: provides even more details than debug. Selecting this option increases memory usage drastically.

Do not use the **trace** log level except when explicitly demanded by Televic Conference for debugging purposes, and for a short period of time. Due to increased usage of the internal processor as consequence of the large amount of data generated, the system may malfunction.

DIAGNOSTICS

On the Diagnostics page you can find the tools to check the overall status of your system. It allows you to monitor and test your setup to identify faulty units and help you solve issues. To access **Diagnostics** click the icon in Main menu.

Overview

On the Diagnostics page you can perform different actions. The image below gives an overview of all possible actions. The sections that follow give a detailed description how to use all these features.

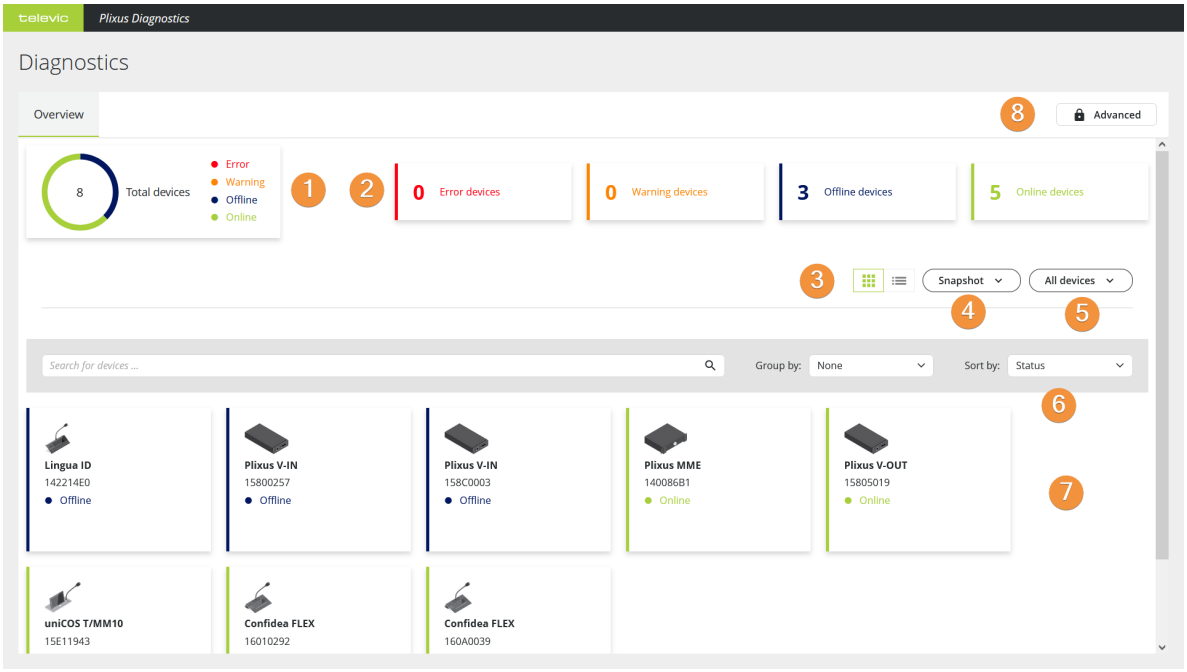


Figure 1-26 *An overview of the Diagnostics page of the Plixus web server*

1. **Quick view of system status**: shows a pie chart with the total amount of devices including all central equipment such as the central unit and the network extenders, and the amount of devices per device status.

2. **Quick filters**: click one or more of the filter buttons to show the devices with a specific status.

3. **Change view**: show devices as tiles or as a list

4. **Create Snapshot** of your system: creates a JSON file containing all system information on the moment you create the snapshot.

5. **Highlight all devices**: click this button to highlight all devices (those that support this feature). This lights up the LED ring of the microphone and the LEDs next to the microphone button.

6. **Search bar**: use the functions to search for devices, group by Loop/Brach or sort the devices.

7. **Device list**: shows all devices of the setup as or list or as tiles (depending on the view you selected). For every device you can see:

    a. Type of device

    b. Serial number

    c. Status

    d. Different actions such as Highlight and Test

8. Advanced diagnostics tool (for installers and technical support only): extended data and metrics that can be visualized and collected while the system is running. For more information, please refer to the next chapter Advanced Diagnostics.

Filter

The Diagnostics application has different options to filter out specific devices.

USING THE FILTER BUTTONS

On top of the application there are four filter buttons available:

- **Error devices**:device is not functioning properly, for example device is stuck in golden mode
- **Warning devices**: device has a warning, typically this is a low battery. Mostly seen in wireless units.
- **Offline devices**: device lost connection to the central unit
- **Online devices**: fully operational device

Select one or more of the buttons to add the devices to your selection in the device overview section. Once you **click a button**, it becomes highlighted. Click the button again to **remove** the devices **from the selection**.

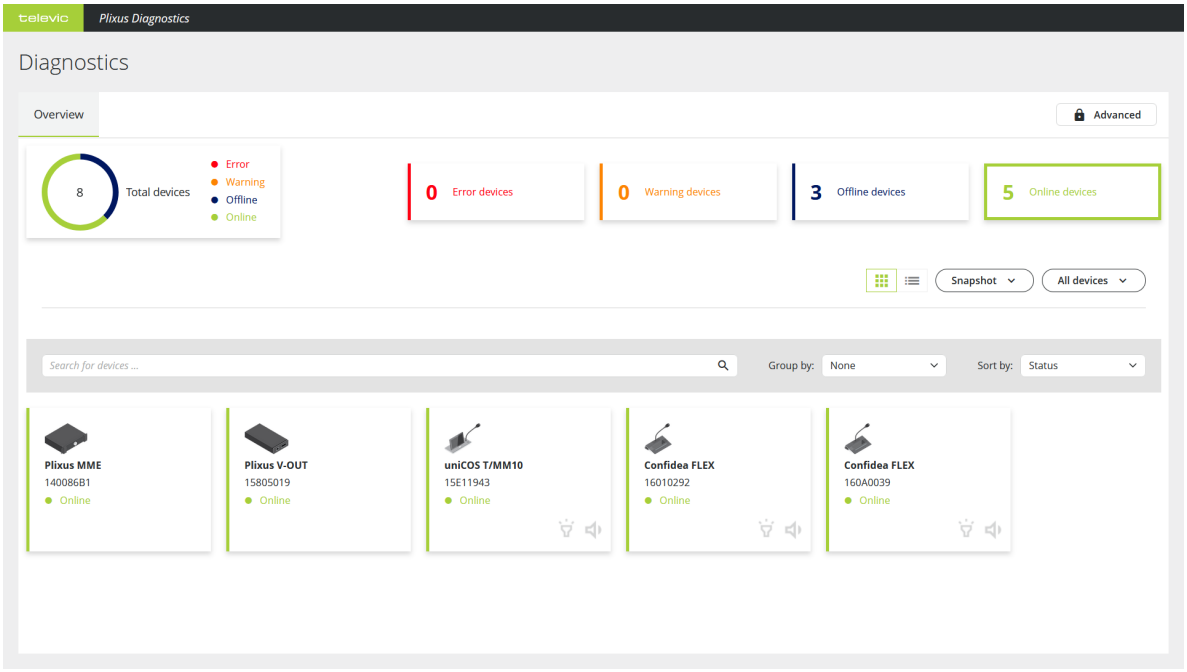


Figure 1-27 *How to use the filters in the Diagnostics application. One filter is active: online devices.*

USING THE SEARCH FUNCTION

You can use the search bar to find specific devices. You can use the device type or serial number to find specific devices. The search function works dynamically and the search result updates in real-time while you type.

Visualize Loops And Branches

In the Diagnostics application, you can **group devices** based on the **loop/branch** they belong to. With this option, you can see when a loop is broken because then the loop becomes a branch. To see the loops/branches select **Loop/Branch** under **Group by** next to the search bar.

For every loop/branch, you can see the **serial number** of the device the **loop/branch starts/ends** in the **header** of the group. The **order** of the devices in the overview is the same as in the actual loop/branch present in the room. For a loop, this means that the first device in the list, is directly connected to the first device in the group header and the last device in the list is connected to the second device in the group header, as shown by the orange line in the image below.

All wireless devices, whether Confidea G3 or Confidea G4, will be added in the same group.

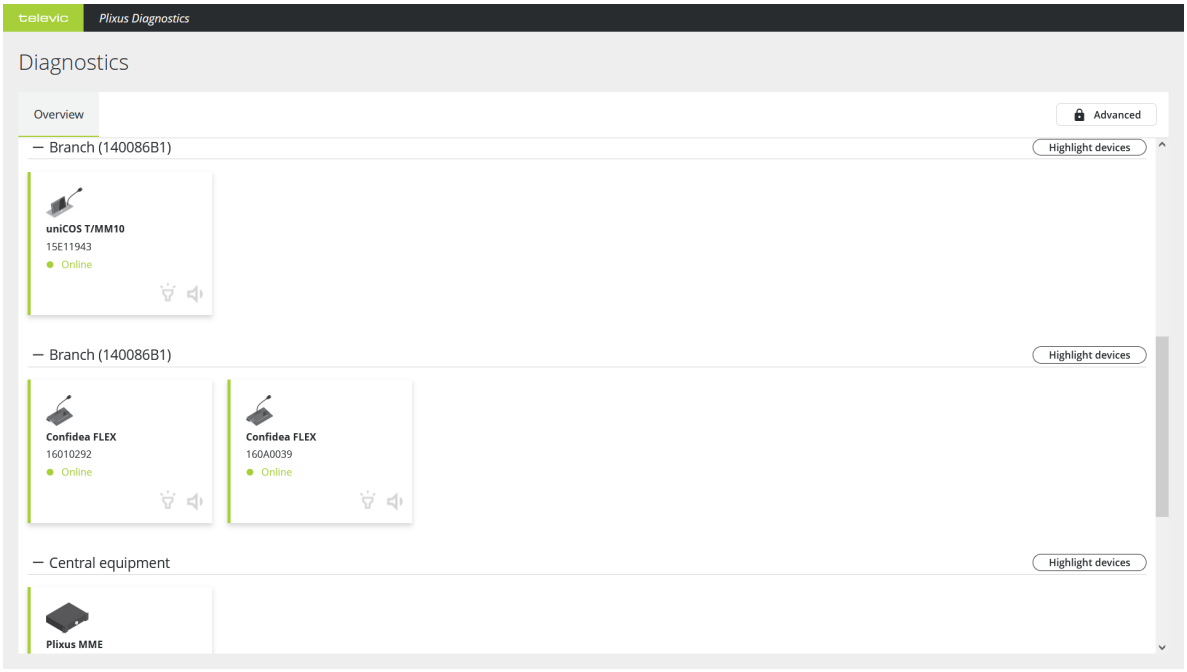


Figure 1-28 *The order of the devices in the loop/branch group corresponds to the actual order of the units in the setup, meaning the first device is connected directly to the device next to in the visual representation*

View Device Details

When you click a device in the overview with all devices, a window pane appears on the right. This pane shows the following device information:

- Firmware version (golden)
- Firmware version
- Software version
- Boot status
- Battery status (wireless devices)
- Device status
- Option to highlight and test device (only for devices that support this feature)

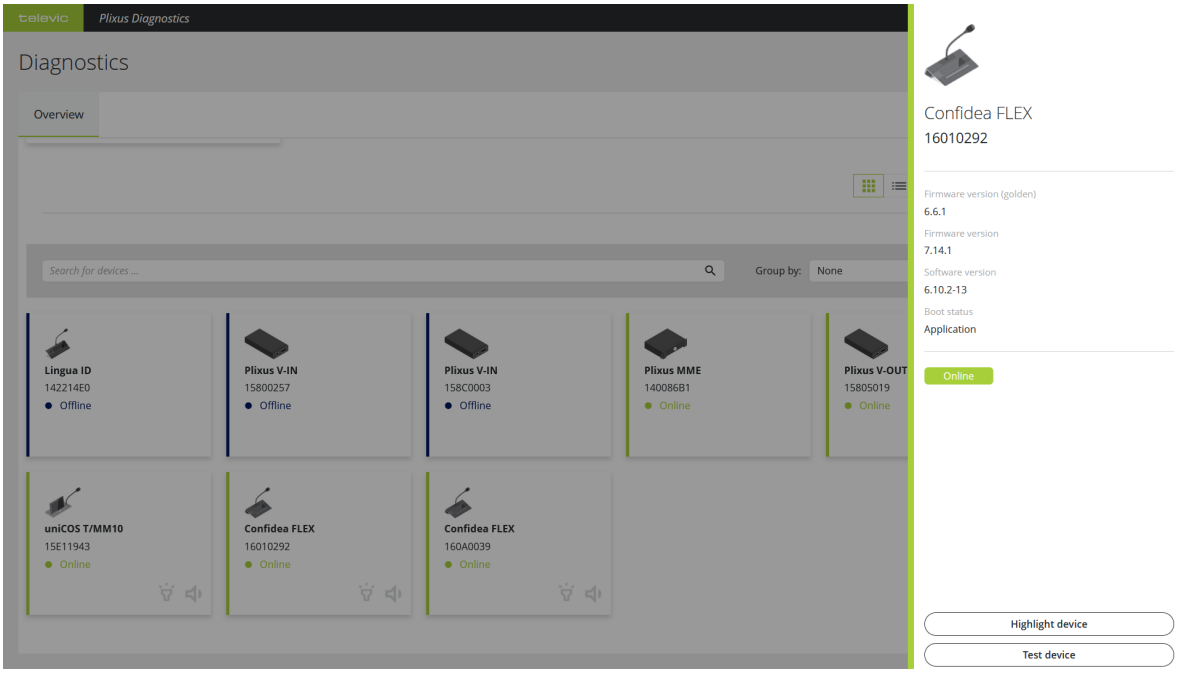


Figure 1-29 *Device details pane of wired device Confidea FLEX in the Diagnostics application*

Figure 1-30

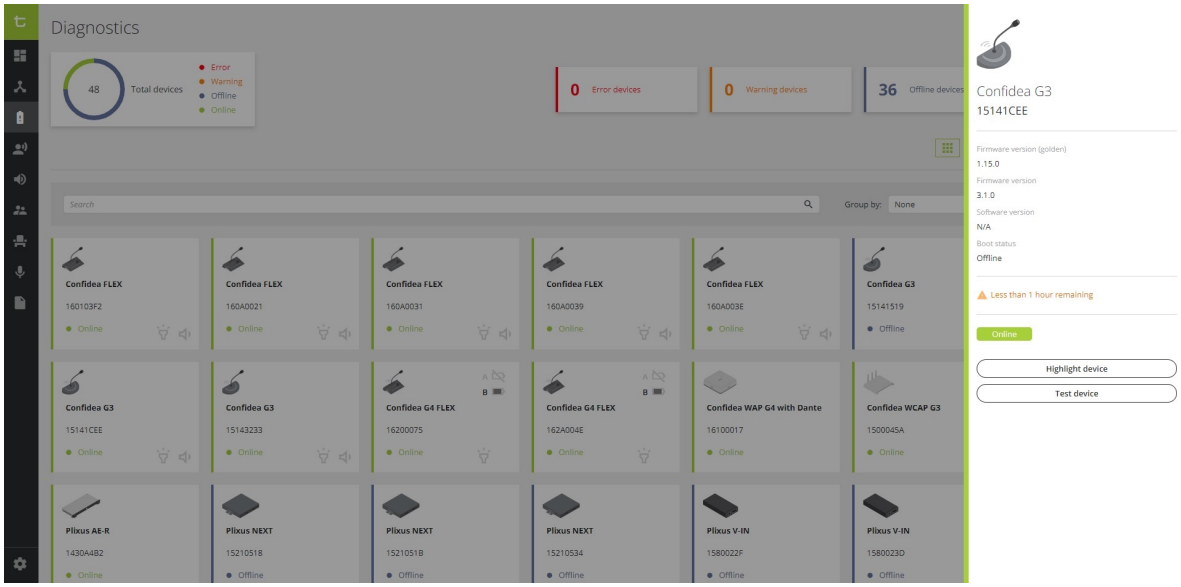


Figure 1-31 *Device details pane of wireless device Confidea G3 in the Diagnostics application*

Figure 1-32

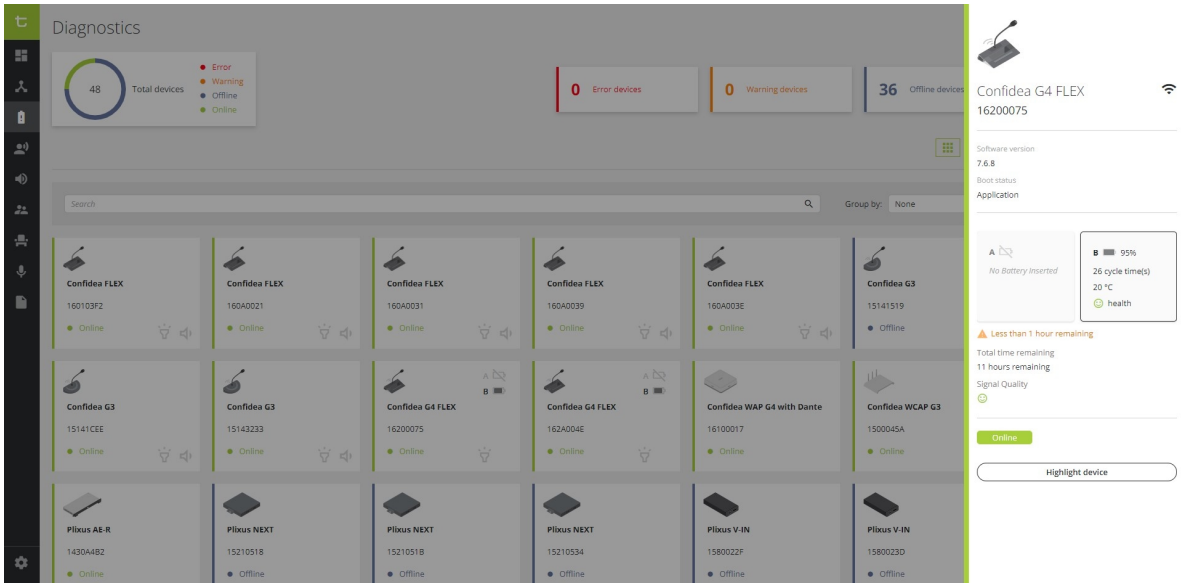


Figure 1-33 *Device details pane of wireless device Confidea FLEX G4 in the Diagnostics application*

Highlight Devices

Plixus offers a useful option to **highlight one or more devices in your system**. Highlighting devices allows you to identify specific devices in your setup and see where they are located in a loop or branch. When you highlight a device the **LED ring of the microphone** and the **LEDs** next to the **microphone button** light up.

Not all devices support the highlighting feature, only those devices with LEDs. Currently it is only possible to highlight discussion units with a microphone and a uniBOX setup, that are online with or without warnings.

HIGHLIGHT A SINGLE DEVICE

There a two options to highlight a single device:

- In the **tile or list view**: click the highlight icon to activate or deactivate the highlighting
- In the **device overview**, click the device to see the device details. On the bottom of the window pane that appears on the right, click **Highlight device**.

HIGHLIGHT ALL DEVICES

To highlight all devices at once, click the button **All devices** in the upper right corner and select **Highlight all devices**. This highlights **all online devices without errors** that support this feature. To stop highlighting, clich the button **All devices** again and select **Stop highlighting all devices**.

HIGHLIGHT ALL DEVICES IN A BRANCH/LOOP

In Diagnostics it is possible to visualize devices as branches and loops. For more information on how to do this see "Visualize loops and branches"

Next to every loop or branch, you can find the button **Highlight devices**. Click this button to highlight all devices in this loop/branch. In the loop/branch you can stop highlighting individual devices to see which device is which in your setup.

Test Device

Using the Diagnostics application, you can test devices. In Test mode, you send a sinus test tone to the device you want to test. The speakers of the device you are testing should then play this tone. You can also test the microphone of the unit, the loudspeaker of the other units then play the audio captured by the microphone of the tested device.

There are two options to test a device:

- In the **tile or list view**: click the test icon to activate test mode
- In the **device overview**, click the device to see the device details. On the bottom of the window pane that appears in the right, click **Test device**.

In test mode, you disconnect from CoCon. Therefore a popup appears to confirm you want to go into test mode. When you are in test mode, the browser displays an orange header indicating the system is in test mode. In this header, there is also an option to **disable** the test mode. You can also disable the test mode by clicking the test icon again.

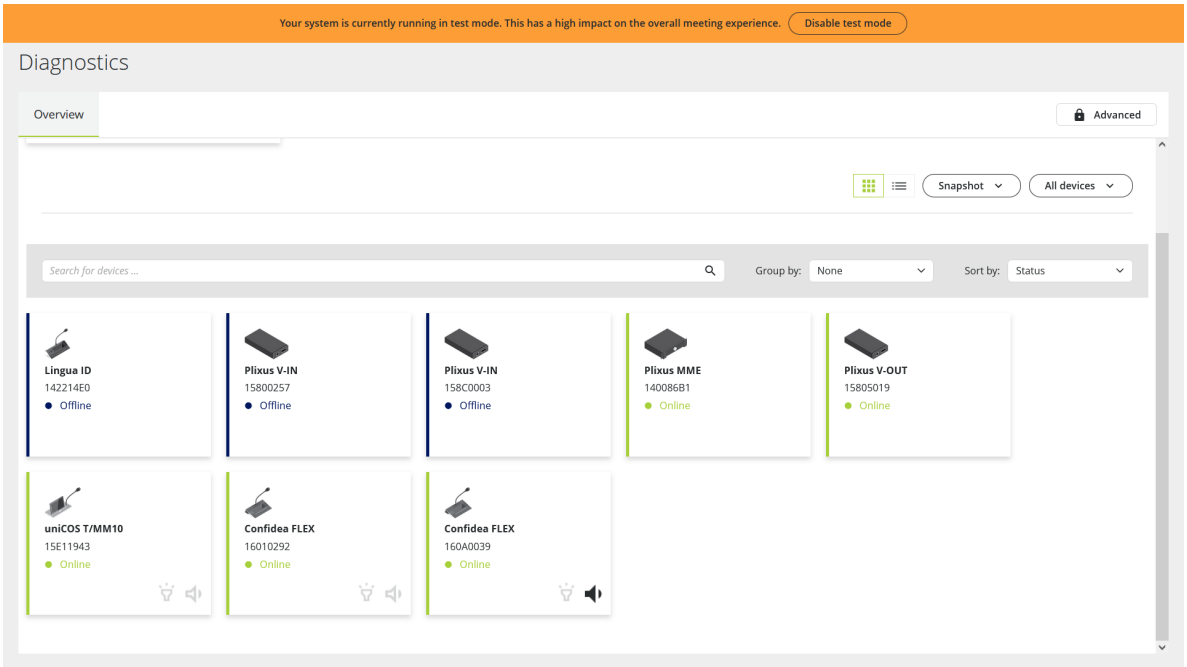


Figure 1-34 *The Diagnostics application in test mode. The orange header on top indicates that the system is in test mode.*

Not all devices support the test feature. Currently it is only possible to test online devices without errors with a microphone and/or speaker.

Advanced Diagnostics

The Advanced diagnostics tool has been designed for installers and technical support only. They will be able to visualize and collect extended data and metrics while the system is running. For more information, please refer to the next chapter Advanced Diagnostics.

USE INTERCOM ON DELEGATE UNITS

The intercom feature allows delegates and operators to call each other. You need to **activate** the Intercom functionality of the unit in the **Plixus web server**. You can find the intercom settings on the **Initialization** page, see "Manual initialization" on page 21 for more information. Different unit types support the intercom function:

- **Multimedia units** such as the uniCOS units
- **Lingua ID** units
- **Confidea** units

Below you can find a description of how the intercom feature works and looks like on these devices.

You can also initiate an intercom call via API.

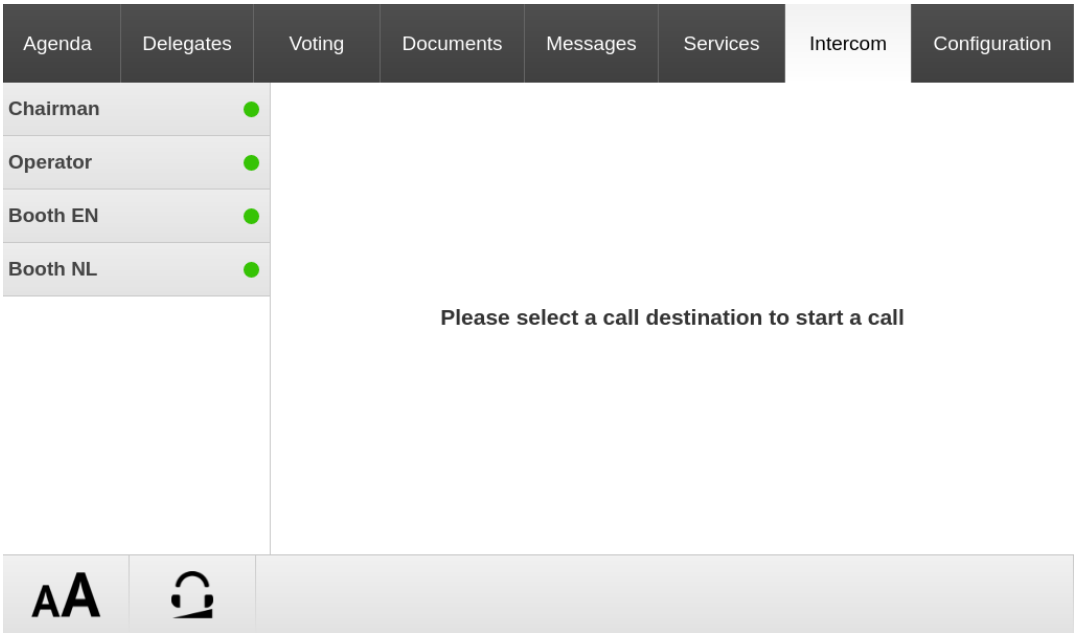
UniCOS Units

When Intercom is active, the uniCOS unit has an additional tab available in the uniCOS interface: **Intercom**. On the left side you see a list of all possible recipients. The names of Lingua ID are the A channel names and the names of the uniCOS units are the label of the unit (you can change this in the Plixus web server in **Initialization**). When you didn't use labels or set the language the name show Seat x or Booth x (x being the seat or booth number). The dot next to the name of the recipient indicates whether you can call that person, this depends on:

- The microphone status of that unit
- The amount of audio channels in use. When all audio channels are occupied, it is not possible to make an intercom call (a maximum of 5 simultaneous intercom calls is allowed)

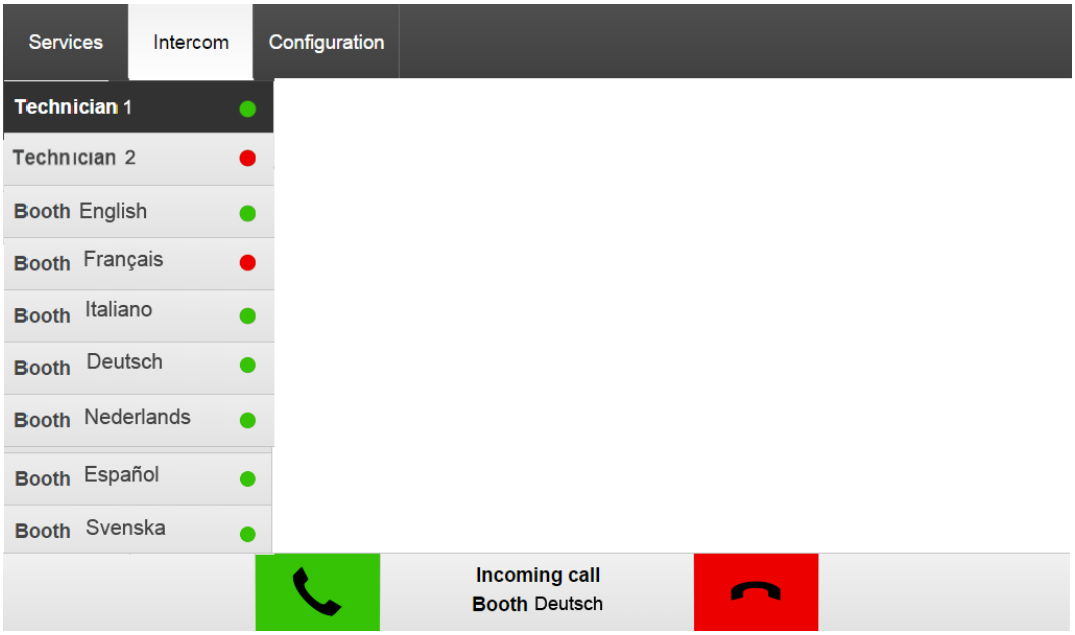
HOW TO INITIATE A CALL

Select a recipient from the list on the left and press the green **call button** on your screen.



HOW TO ACCEPT/DECLINE A CALL

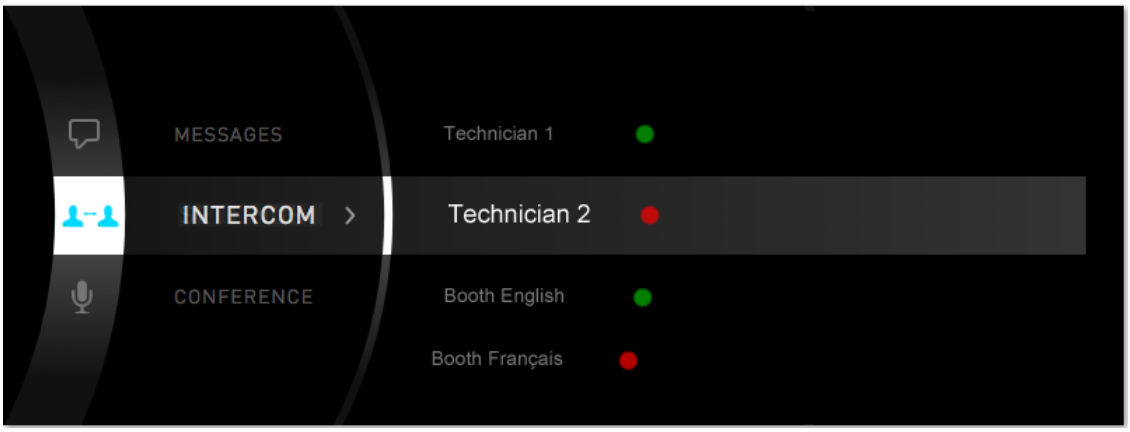
When a uniCOS unit **receives** a call, the bottom of the screen you are viewing at that time shows who is calling with a button to **accept** and **decline** the call. When the call is ongoing the bottom of the screen shows the duration of the call and a button to end the call.



Lingua ID Units

HOW TO INITIATE A CALL

To start a call use the **Menu navigation button** on the unit to navigate through the menu and select **Intercom**. Here you can see all possible recipients and if their are available to receive a call (indicated by a dot next to their name). Press the Menu button to select the recipient and start the call.

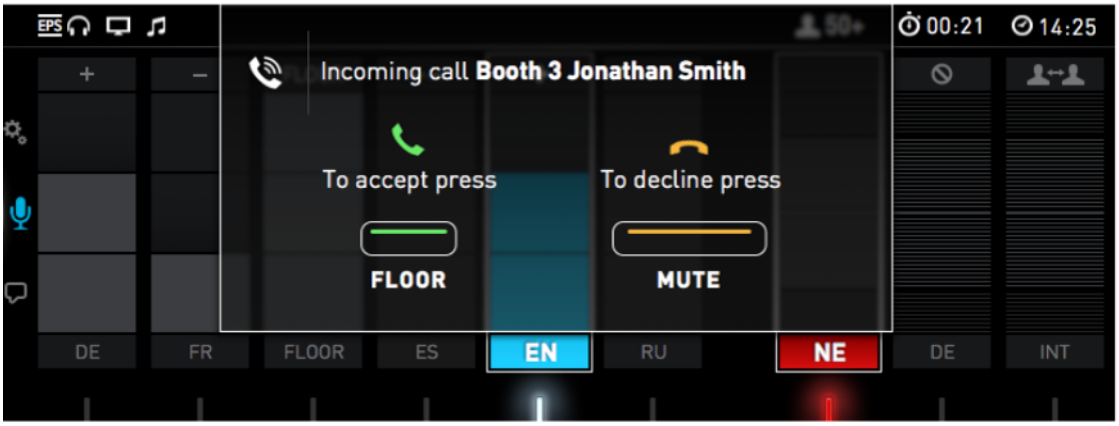


HOW TO ACCEPT/DECLINE A CALL

When a interpreter receivers a call on the Lingua ID:

- Desks that are not active get a **popup** showing the caller ID and which buttons to press to accept or decline the call.
- The interpreters who are speaking (microphone active) just get a small **phone icon** in the top **ribbon** of the interface.

If somebody calls an interpreter booth, they call every desk in that booth. When someone in that booths answers the call, all notificiations disappear. When someone declines the call, the call ends completely.



Confidea Units

Confidea units can only receive intercom calls. Depending on the type of unit more or less options are available.

HOW TO ACCEPT/DECLINE A CALL

When someone initiates a call with a Confidea unit, the LED ring of the microphone and the LEDs next to the microphone button start to **blink green**. To accept the call, **press the microphone button**.

Only chairperson units can **decline** a call by pressing the **Prior** button . During the call the LED ring of the microphone is inactive and the LEDs next to the microphone button blink blue (Confidea F) or green (Confidea T and G3). To **terminate** the call press the microphone button.

COUPLE WITH CONFIDEA G4

With Plixus it is possible to combine wired units with wireless ones. You can add one or more Confidea WAP G4 to your Plixus network simply by connecting them to one of the conference ports.

We advise to first couple wireless units with the WAPs in standalone mode and upgrade units and WAPs to the latest version. When the devices need a new upgrade, you can simply uncouple and update the units in standalone mode using the Confidea G4 web server.

Couple The Confidea WAP G4 With The Plixus Central Unit

1. Select **Confidea wireless coupling** in the main menu. This screen will show you all available WAPs.

2. Click **Enable coupling** to connect with the Plixus system. After the coupling, you are able to see which frequencies the WAPs are being used together with their MAC address.

It is best to only enable or disable the Confidea G4 coupling when no microphones are active, as this can lead to audio distortion.

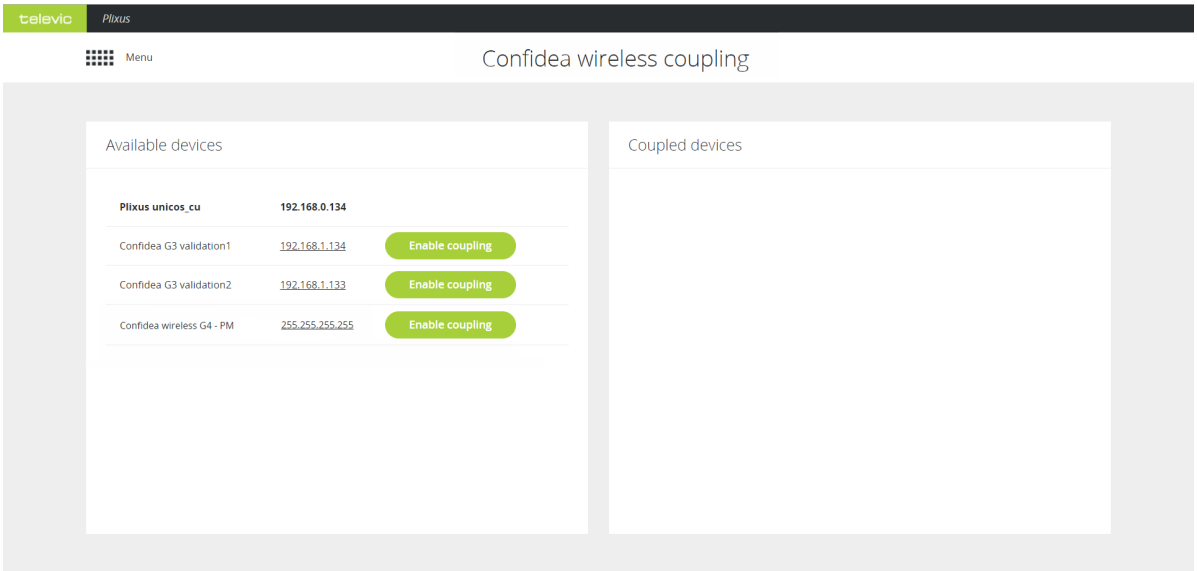


Figure 1-35 *Couple the Confidea WAP G4 with Plixus*

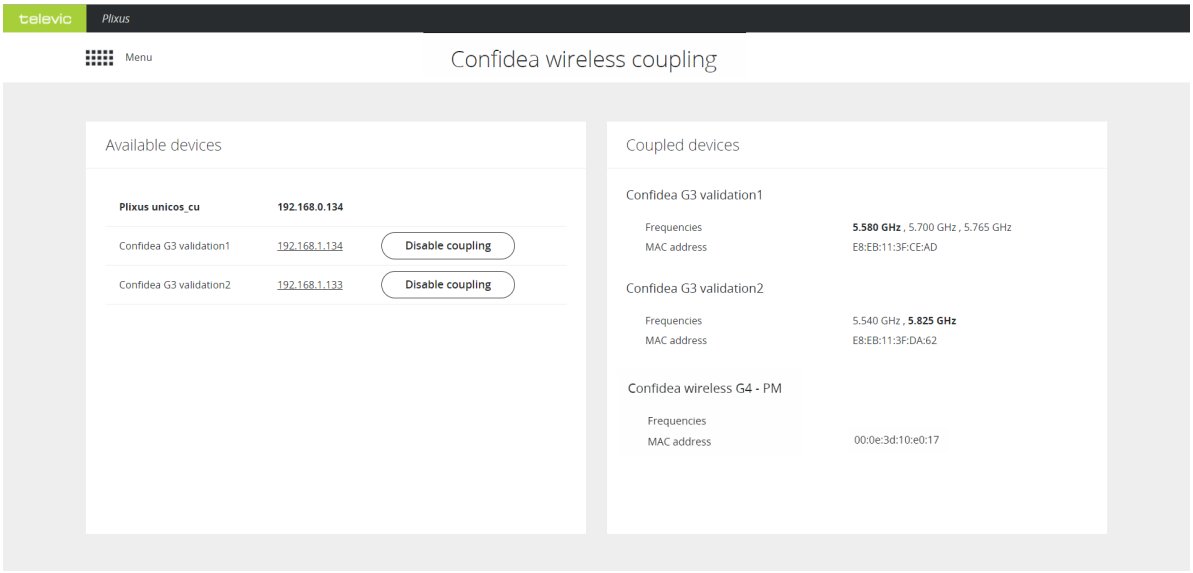


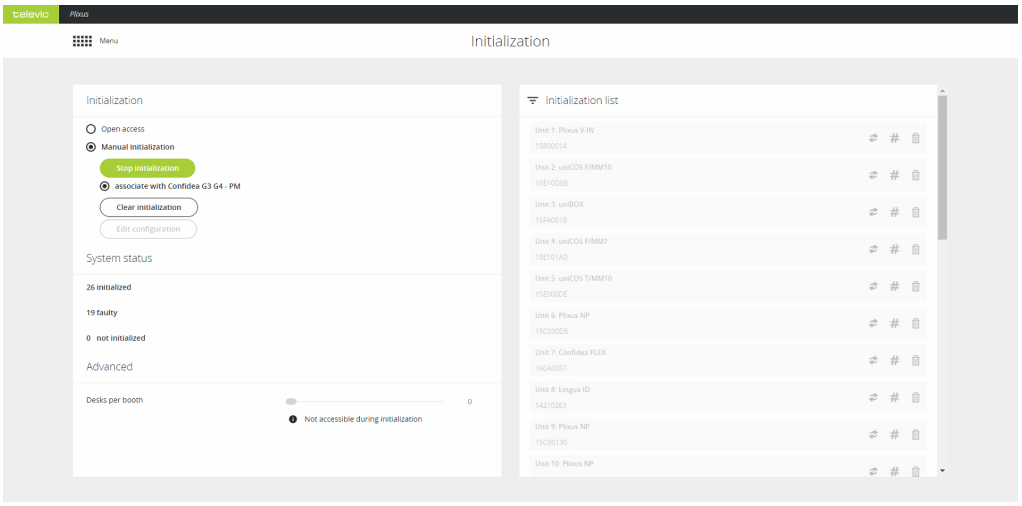
Figure 1-36 *View coupled Confidea WAP G4 and their details*

Associate Units With A Confidea WAP G4

1. Select **Initialization** from the main menu. Make sure that **Manual initialization** has been checked. **Open access cannot be used with Confidea G4!**

2. Click **Open initialization** to associate wireless units with the WAPs.

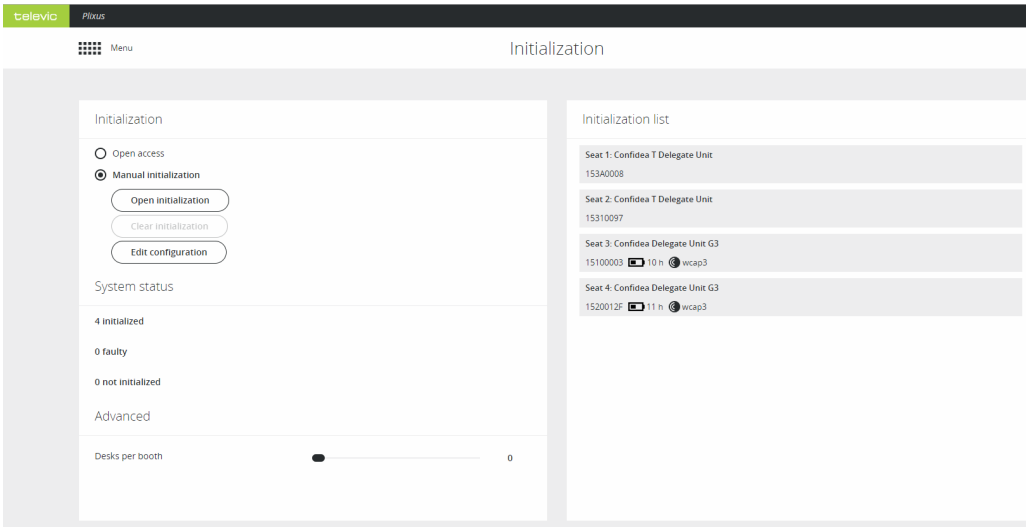
3. Select the radio button of theWAP you want associate the units with.



4. Press the microphone button from the units (red blinking LED) you want to associate with the WAP. The LEDs of the units turn green when there initialized.

5. Select the radio button from the other WAP(s) to associate units.

6. Click **Stop initialization**. For every wireless unit you can see the name of the WAP they are associated with.



ADDENDUM 1: CONFIGURE IP SETTINGSS

This chapter will explain how to configure your local IP settings to access the web server. The procedure is explained both for Windows and Mac OS users.

CONFIGURE IP SETTINGS IN WINDOWS

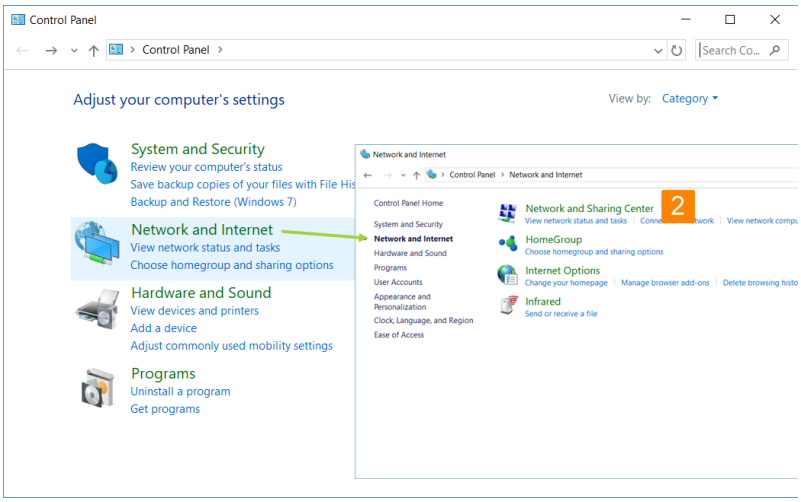
Before you start using the Plixus web server you need to configure your local IP settings to be able to access the web server.

To be able to access the web server your computer needs an IP address and subnet mask that can access the IP address of the central unit. The **default IP address** of the central unit is **192.168.0.100**, which means the computer should have an IP address that is within the same subnet, like 192.168.0.200. The subnet mask must be the same for all equipment on the network, being 255.255.255.0.

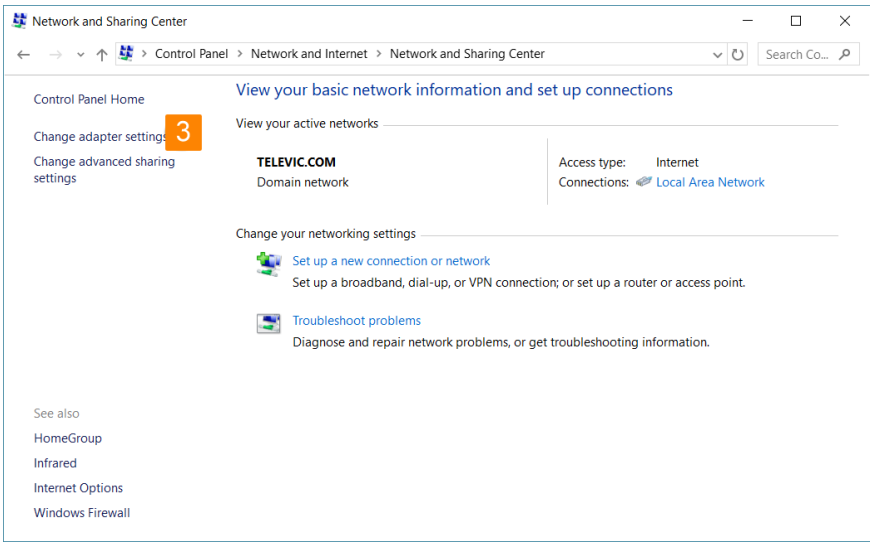
Follow the procedure below to change the IP settings in Windows:

1. Go to **Control panel**.

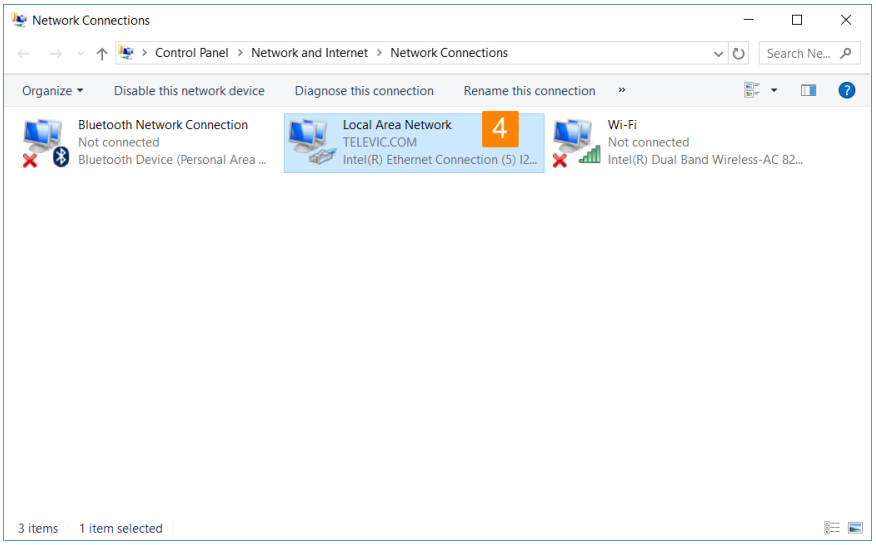
2. Click **Network and Internet** and then **Network and sharing center**.



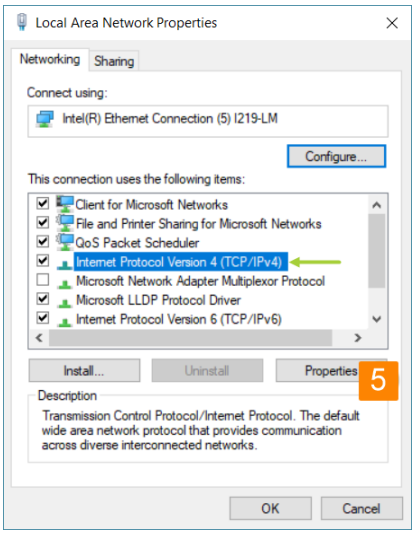
3. Click **Change adapter settings** in the menu on the left.



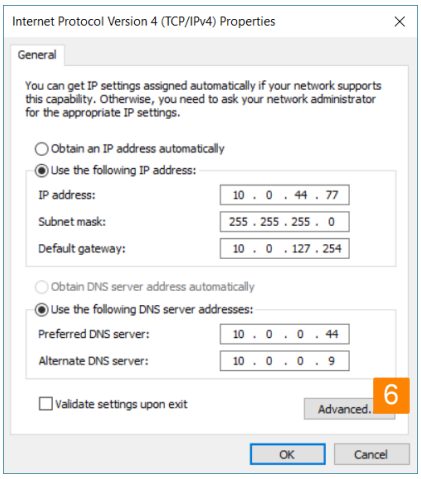
4. Right-click the **Local Area Connection** and select **Properties**.



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



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



7. Click **Add** in the IP address pane.

8. Enter an IP address in the range of the central unit, for example 192.168.0.26. Fill in 255.255.255.0 as subnet mask.

9. Click **OK**. You are now ready to access the central unit.

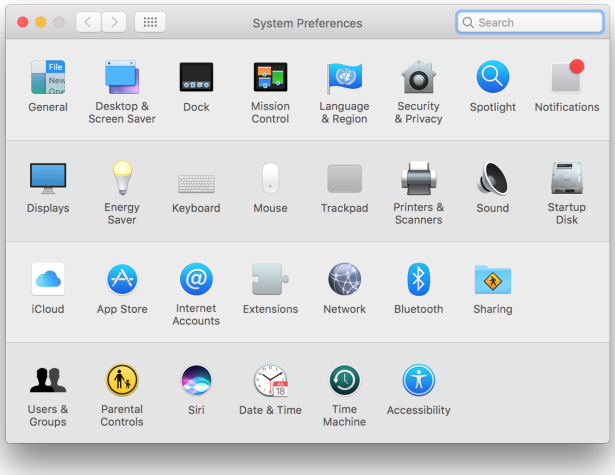
CONFIGURE IP SETTINGS IN MAC

Before you start using the Plixus web server you need to configure your local IP settings to be able to access the web server.

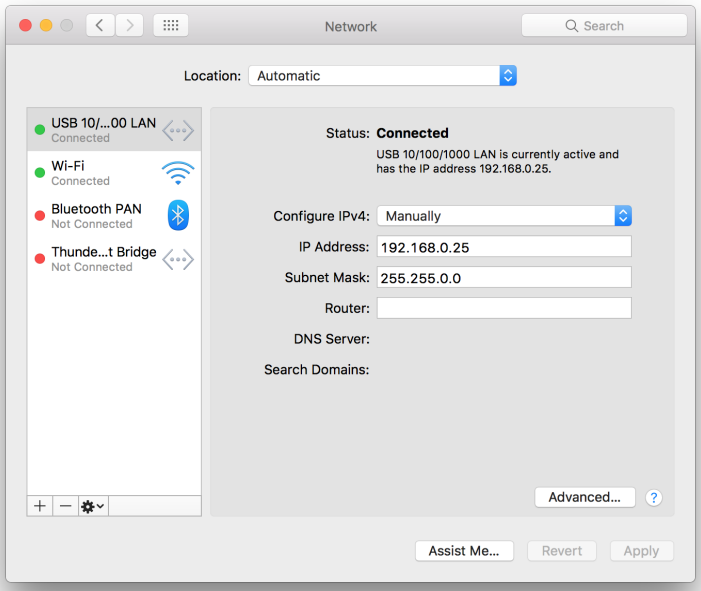
To be able to access the web server your computer needs an IP address and subnet mask that can access the IP address of the central unit. The **default IP address** of the central unit is **192.168.0.100**, which means the computer should have an IP address that is within the same subnet, like 192.168.0.200. The subnet mask must be the same for all equipment on the network, being 255.255.255.0.

Follow the procedure below to change the IP settings in Mac:

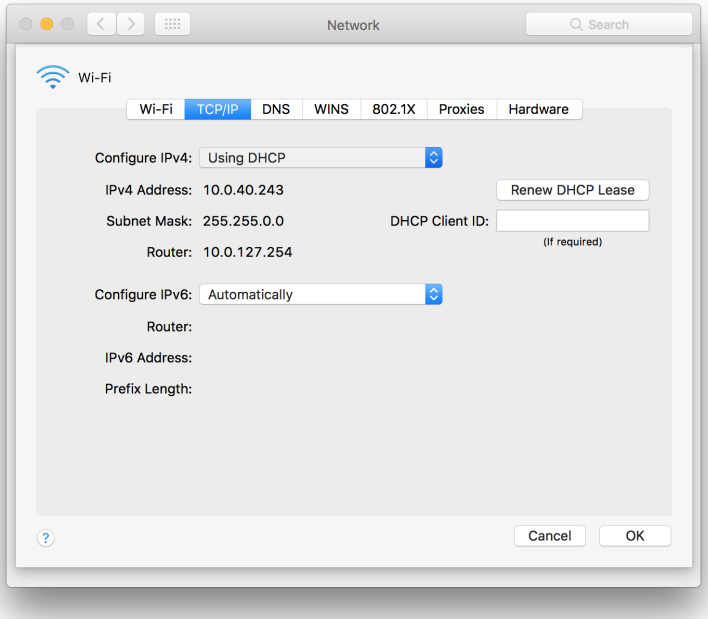
1. Go to the **Apple Menu** and select **System Preferences**.



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

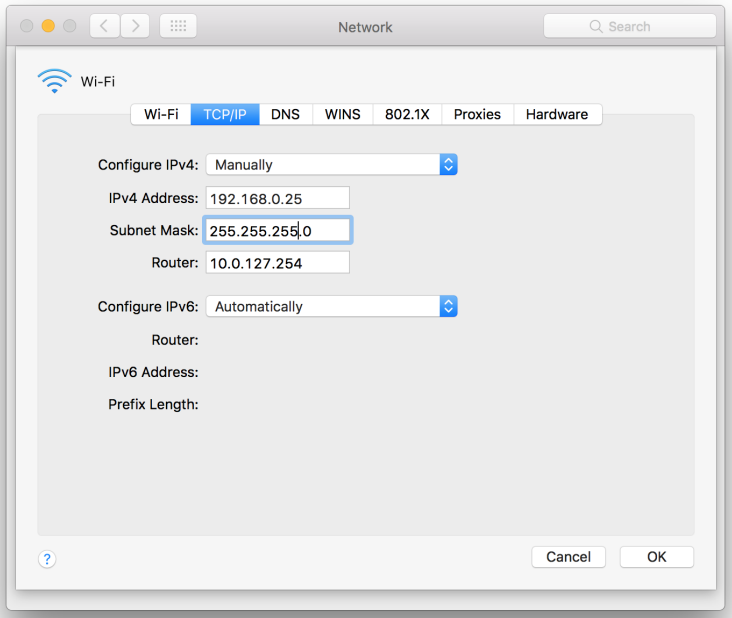


3. Click the **Advanced** button.



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

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



6. Enter an IP address in the range of the central unit, for example 192.168.0.25. Fill in 255.255.255.0 as subnet mask.

7. Click **OK**.

ADDENDUM 2: ADVANCED DIAGNOSTICS

This chapter will explain how the Advanced Diagnostics tool works for both wired and wireless systems.

Warning: The Advanced Diagnostics tool must only be used by **Installers** and **Technical Support**.

ABOUT PLIXUS ADVANCED DIAGNOSTICS

Plixus already includes a general **Diagnostics** page with tools that can be accessed by clicking the icon in the Main menu. This page gives information on the overall status of the system and helps monitor and test the setup to identify faulty units.

The **Advanced Diagnostics** section is intended for **Installers** and **Technical Support**. It can be accessed by clicking in the top right of the "Diagnostics" page.

In this section, you will find **extended data and metrics** that can be visualized and collected while the system is running, such as abnormal voltages, packet and link error counts. A capture button can track the devices' behavior, and it is possible to locate the errors on the map of the network, as well as to export the map.

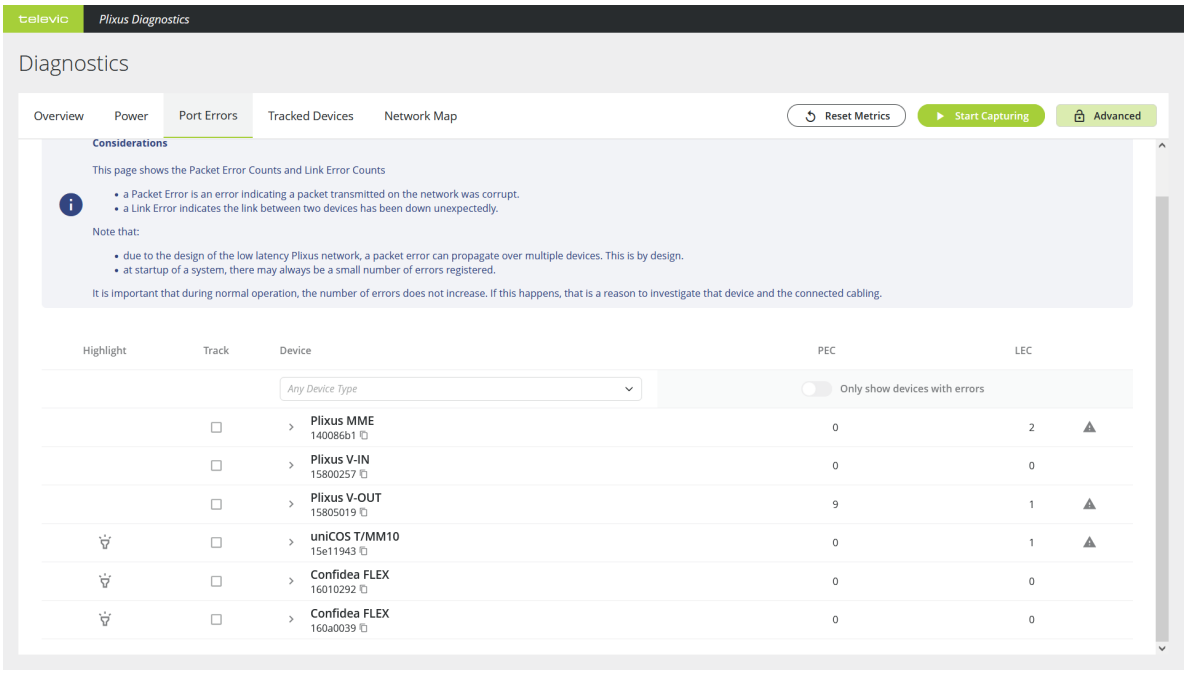
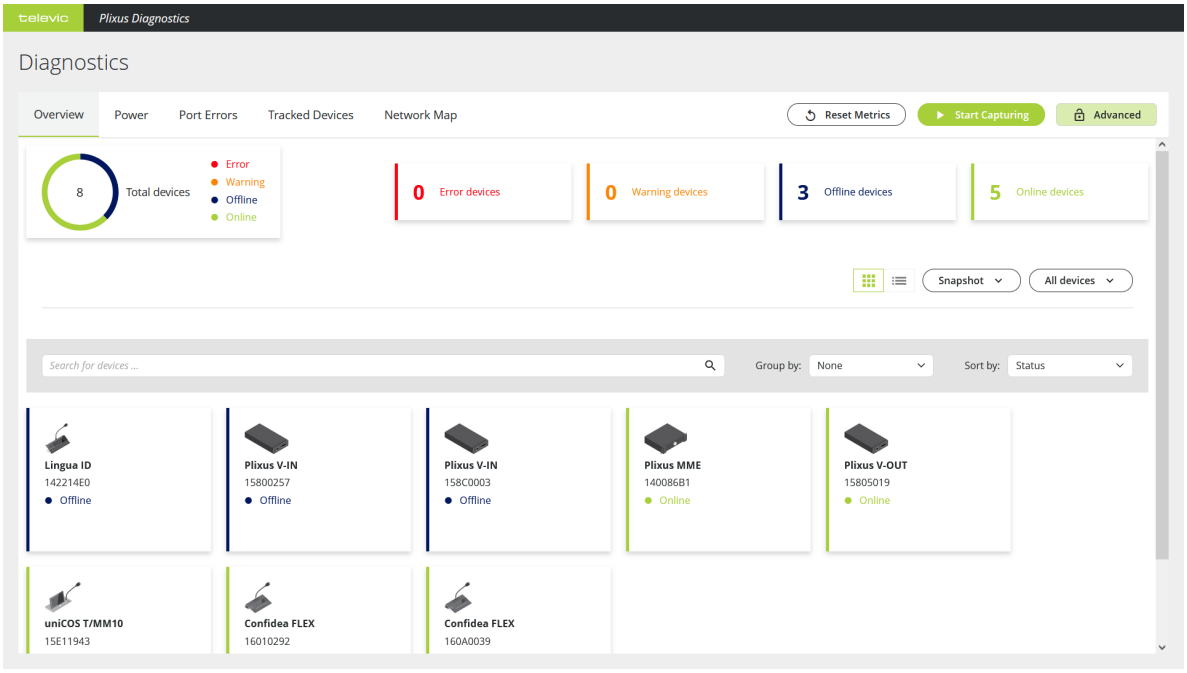


Figure 1-37 *Example of an Advanced Diagnostics page for a wired system*

ADVANCED DIAGNOSTICS FOR WIRED SYSTEMS

This section explains how to use the **Advanced Diagnostics** tool with a wired system.

Introduction

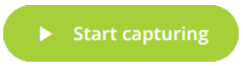


The Advanced Diagnostics page has five tabs:

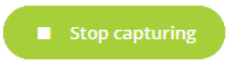
- **Overview** for checking the overall status of the system and perform various monitoring and testing actions. This section is the same as in the **Technician** user role section of this manual.
- **Power** for checking voltage, current and power indicators per port and per network extender. Note that even though the central units are also shown on this page, the voltage and current measurements are not yet implemented for these devices.
- **Port Errors** for spotting port and link errors per port and per device, and for visually tracking the devices' behavior.
- **Tracked Devices** for visually tracking the packet and link errors on a time graph.
- **Network Map** for getting an overview layout of the system and exporting it if needed.

See the sections below for more information on these tabs.

CAPTURING DATA

1. Click 

to start capturing the diagnostics data.

2. Click 

to stop capturing. The metrics won't be updated any further. More details will be given further on in the description of the tabs.

> **Important:** Because capturing data can have an influence on the overall system performance, capturing and observing metrics should only be done during a specific test session. It is strongly recommended to **stop capturing before doing a regular meeting** as it may slow down the system during use.

3. Click 

to delete all the captured data and metrics from the Port Errors and Tracked Devices tab. The PEC and LEC will be set to O and the warnings will disappear.

> It is important to reset the metrics when starting a new capture. **Not resetting the metrics can show irrelevant data** such as port errors from the time the network was started and not yet stable.

Overview

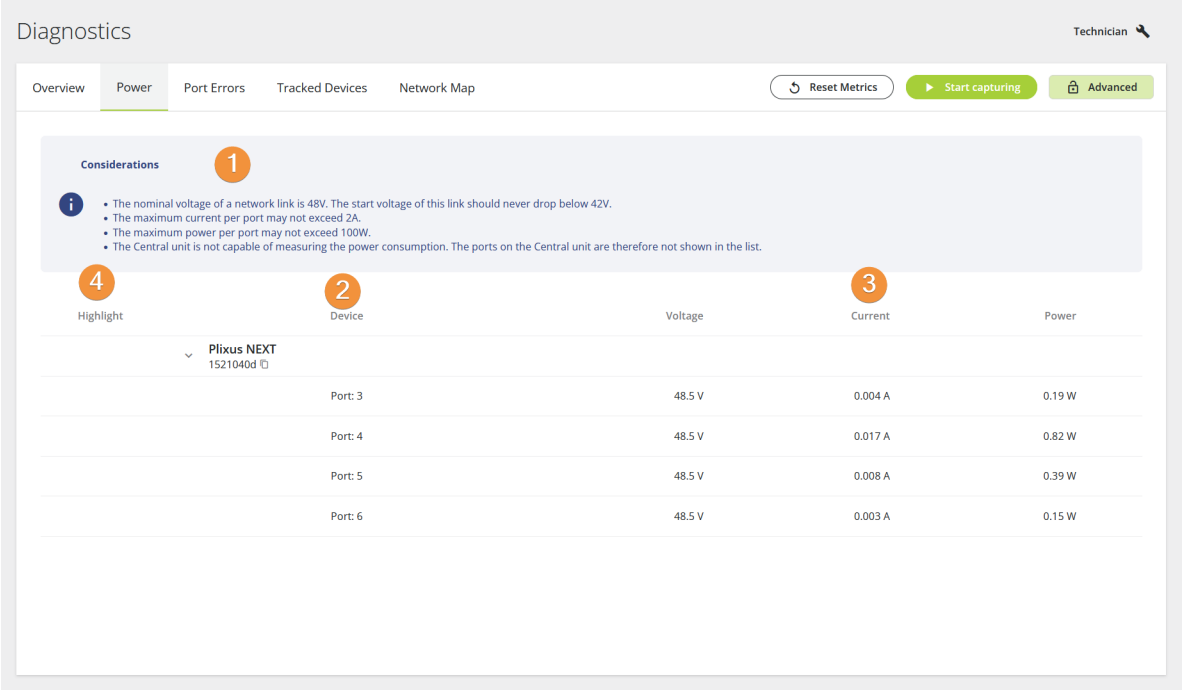
In the **Overview** tab, you can check the overall status of the system and perform various monitoring and testing actions.

Please refer to the "Diagnostics" section of the manual for more information.

Power

In a wired network, power can be delivered by central units (Plixus AE-R or MME) and by network extenders. In this tab, you can check the voltage, current and power indicators per port of the network extenders.

> Even though the central units are also shown on this page, the voltage and current measurements are not yet implemented for these devices. Only the network extenders have a voltage and current sensor.



1. **Considerations** to take into account when checking the Power information of the devices.

2. **Device** column with information about the type of device, its serial number and the corresponding port.

Click to copy the serial number of a device into your clipboard in case you need to paste it somewhere.

3. The **Voltage**, **Current** and **Power** columns give electrical information about the ports per network extender. Click on the indicator of your choice to sort the data:

- Data are sorted from the lowest to the highest power.
- Data are sorted from the highest to the lowest power.

In case of abnormal voltage, a warning icon will appear on the line of the device encountering an issue. Note that the maximum current should be 2 A.

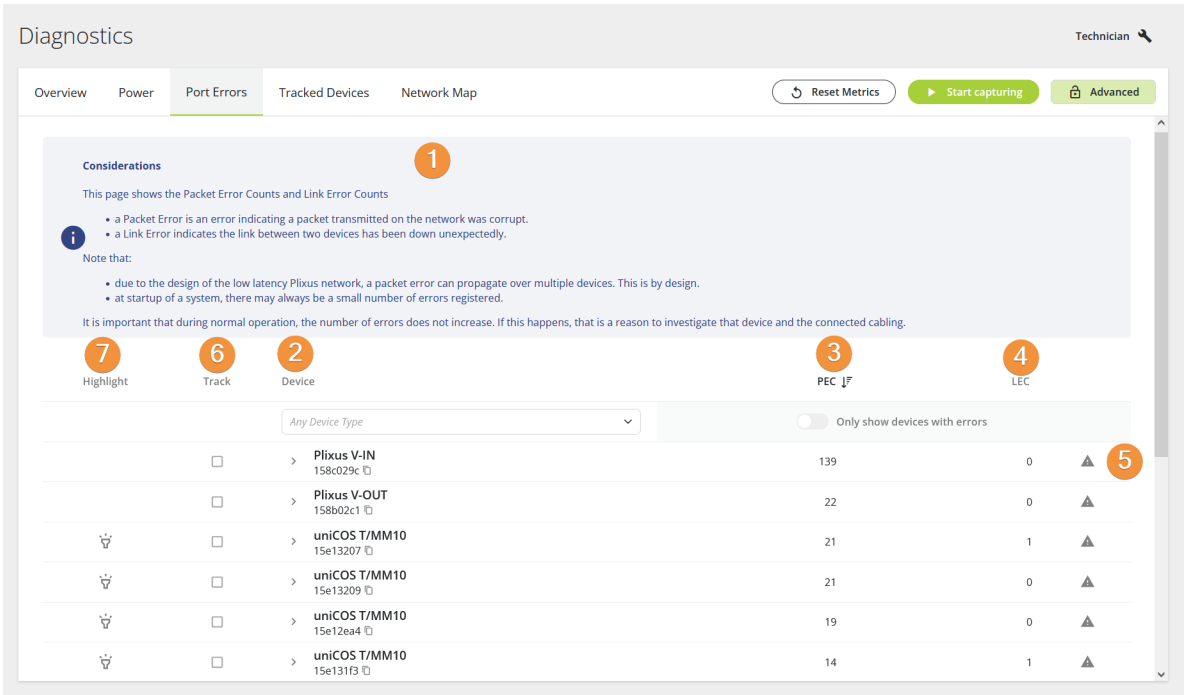
4. (When applicable) By clicking the Highlight icon , the corresponding device's outline will turn red in the **Network Map** tab.

> When capturing data, the outlines of the central unit, wireless access point and network extender turn red for 10 seconds after the highlight icon has been activated. When the capturing is stopped, the outline stays red permanently until the highlight icon is deactivated.

Port Errors

In this tab, you can track:

- Packet error counts (PEC). A packet error indicates that a packet transmitted on the network is corrupt due to hardware-related issues (e.g. instability due to cable, connector, unit defect, etc.).
- Link error counts (LEC). A link error indicates that the link between two devices has been down unexpectedly and that no data can be detected on a port.



1. **Considerations** to take into account when checking the Power information of the devices.

2. The **Device** column shows information about the type of device, its serial number and the corresponding port.

 Click  to copy the serial number of a device into your clipboard in case you need to paste it somewhere.

3. The PEC column shows the number of packet errors. Hover over the indicator on top of the column to sort the data:

-  Data are sorted from the lowest to the highest number of port errors.
-  Data are sorted from the highest to the lowest number of port errors.

4. The LEC column shows the number of link errors. The link error count is the number of times the link from a port to a port on a neighboring device has been down. Hover over the indicator on top of the column to sort the data:

-  Data are sorted from the lowest to the highest number of link errors.
-  Data are sorted from the highest to the lowest number of link errors.

5. The icon shows a PEC or LEC issue with the port of a device.

6. This column allows you to select the device(s) whose behavior you want to start tracking.The recorded data per port per device over time will be shown in the **Tracked Devices** tab.

7. *(When applicable)* By clicking the Highlight icon  , the corresponding device's outline will turn red in the **Network Map** tab. If the device is a discussion unit, you will also be able to physically locate it in the system as the **LED ring of the microphone** and the **LED next to the microphone button** will light up.

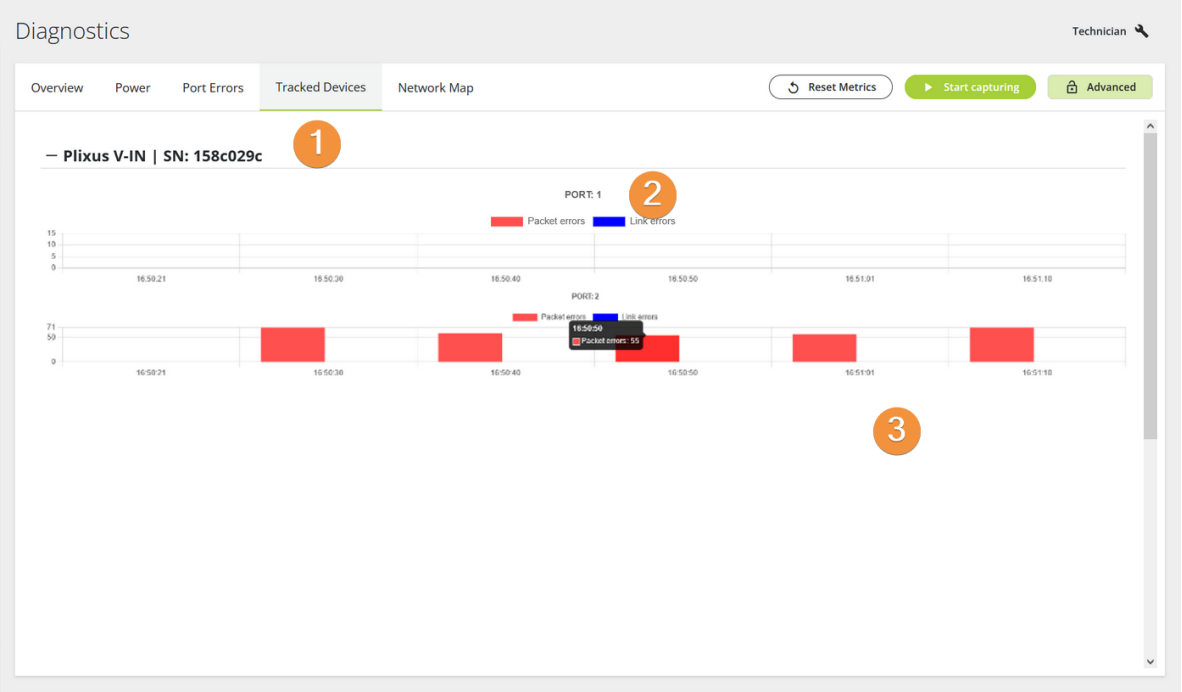
Not all physical devices support the highlighting feature, only the devices with LEDs. Currently, it is only possible to highlight discussion units with a microphone and a uniBOX setup, that are online with or without warnings.

When capturing data (see point 7 below), the outlines of the central unit, wireless access point and network extender turn red for 10 seconds after the highlight icon has been activated. When the capturing is stopped, the outline stays red permanently until the highlight icon is deactivated.

Tracked Devices

This tab allows to track port error over time for selected devices. Please refer to the previous chapter about the tab to select the devices you want to track.

The X axis of the chart shows the time, and the Y axis the number of errors per interval. The number of errors is clipped to 15 on the chart, but it can be higher. Just hover over an error to see the number.



1. Name and serial number of selected device. Click on + or - to expand or hide the graphs of the corresponding device.

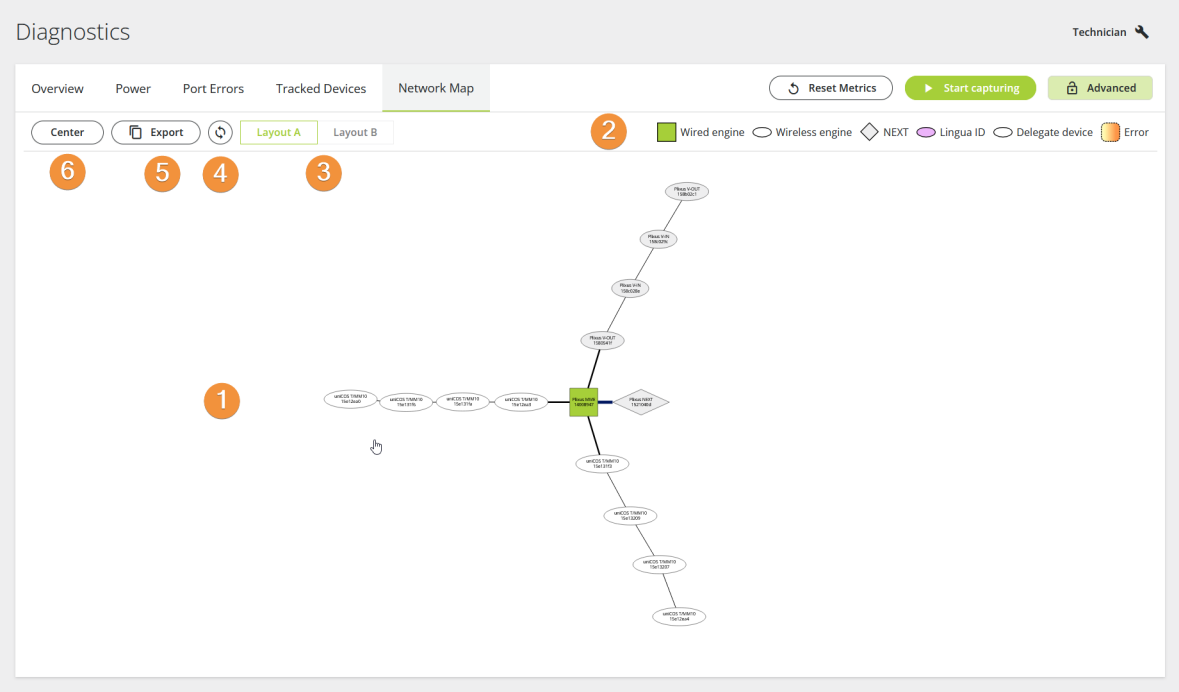
2. Port number of the selected device.When you click on an error indicator ("Packet errors" or "Link errors"), the indicator gets crossed out and the corresponding packet loss data disappears from the chart. That way, you can isolate one type of error for better visualization on the chart.

3. Graph showing the captured data over time. The above image is reporting recurring packet errors on port 1 of a Plixus V-IN device.

Network Map

The network map is a graph visualization of your Plixus network on which it is possible to see where the errors are located.

If the layout of the Plixus network changes, the network map will be updated automatically. But this can be turned off.



1. Map of a Plixus MME network. When you click a device, the outline of its representation on the map will turn red.

For the devices that have a microphone button and microphone LEDs, the LEDs will turn on. Highlighting a button on the map is also coupled to the device selection on the Port Error Counts tab.

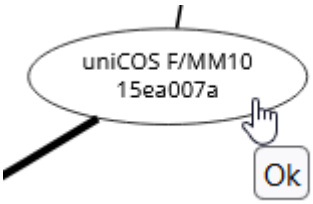
Map adjustments:

- To zoom in or out, use the wheel of your mouse.
- To move the whole map on the screen, left-click and drag it while holding the left button down.

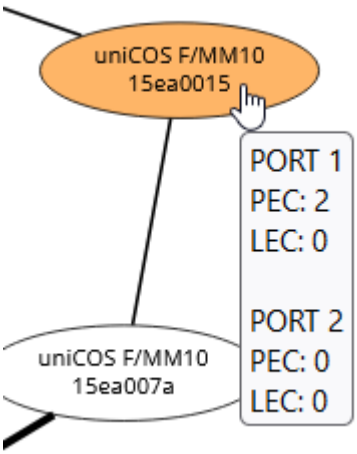
Line cololors:

- Extra thick blue lines: connections between a central unit and a network extender.
- Thick black lines: connections between a central unit or a network extender and the unit(s) at the edge of a branch or a loop.
- Thin black lines: connections between units.
- Grey dotted lines: wireless connections to G4 units.
- Red outlines: central unit, network extender and/or unit highlighted on the map after activating the icon in the Network Extender Power and/or Port Error Counts tab. Note that the Plixus central unit and Plixus NEXT cannot be physically highlighted.

If you hover over a device and no error is detected, an "Ok" message will pop up.



If you hover over a device in orange, it means an error has been detected and you will have more information about the types of errors. Below is an example of a PEC error count.



2. Node colors per type of devices:

- Central units: green
- Network extenders: gray
- Lingua IDs: magenta
- Other devices: white
- Yellow / Orange / Red: error

3. Layout selection. Choose the layout that works best to visualize your system.

4. Enable/disable automatic graph updates of the installation.

- = Automatic updates are enabled
- = Automatic updates are disabled

> Note that automatic graph updates take substantial processor resources and can slow down responsiveness in the browser, especially on large networks. Therefore, they are automatically disabled in case of large systems.

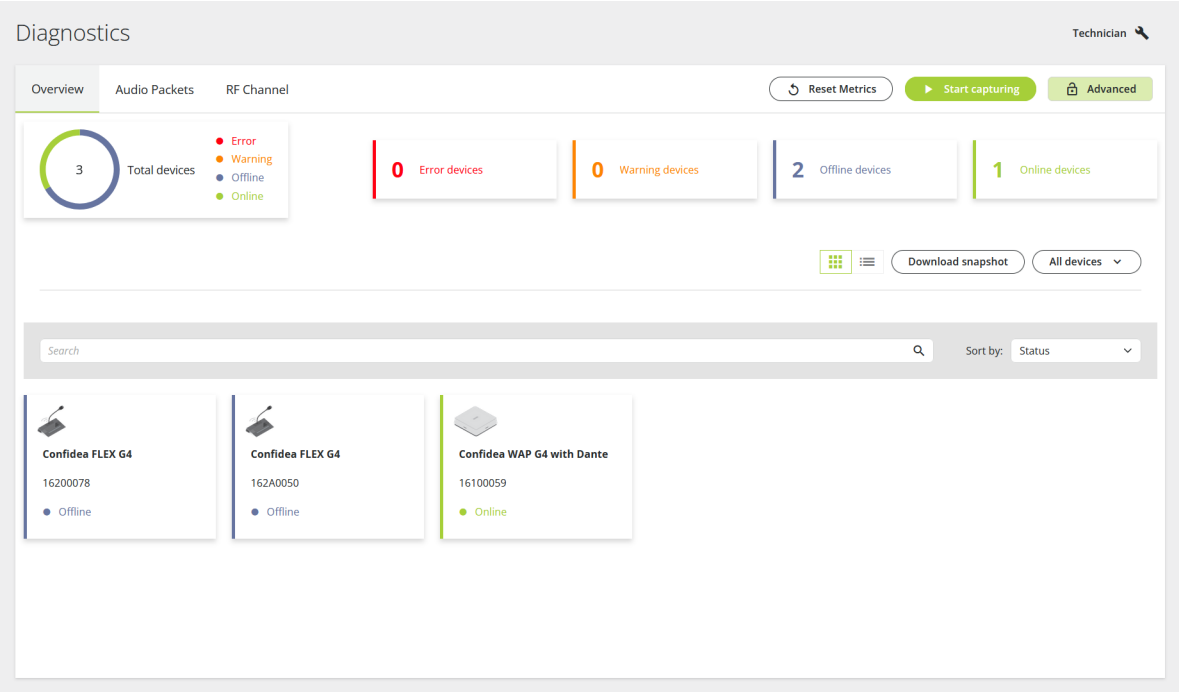
5. Click on **Export** to copy the code of the map in your clipboard. You can then paste the code in any online graphviz editor (e.g. https://dreampuf.github.io/GraphvizOnline/) in order to make changes and download the image in various formats.

6. Reset the map in its original size and position on the screen.

ADVANCED DIAGNOSTICS FOR WIRELESS SYSTEMS

This section explains how to use the **Advanced Diagnostics** tool with a wireless system.

Introduction

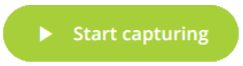


The Advanced Diagnostics page has three tabs:

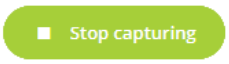
- **Overview** for checking the overall status of the system and perform various monitoring and testing actions. This section is the same as in the **Technician** user role section of this manual.
- **Audio Packets** for spotting audio packet loss downstream and upstream over time.
- **RF Channel** for spotting channel interferences over time.

See the sections below for more information on these tabs.

CAPTURING DATA

1. Click 

to start capturing the diagnostics data.

2. Click 

to stop capturing. The metrics won't be updated any further. More details will be given further on in the description of the tabs.

Important: Because capturing data can have an influence on the overall system performance, capturing and observing metrics should only be done during a specific test session. It is strongly recommended to **stop capturing before doing a regular meeting** as it may slow down the system during use.

3. Click 

to delete all the captured data and metrics from the Audio Packets and RF Channel tabs.

It is important to reset the metrics when starting a new capture. **Not resetting the metrics can show irrelevant data** such as port errors from the time the network was started and not yet stable.

Overview

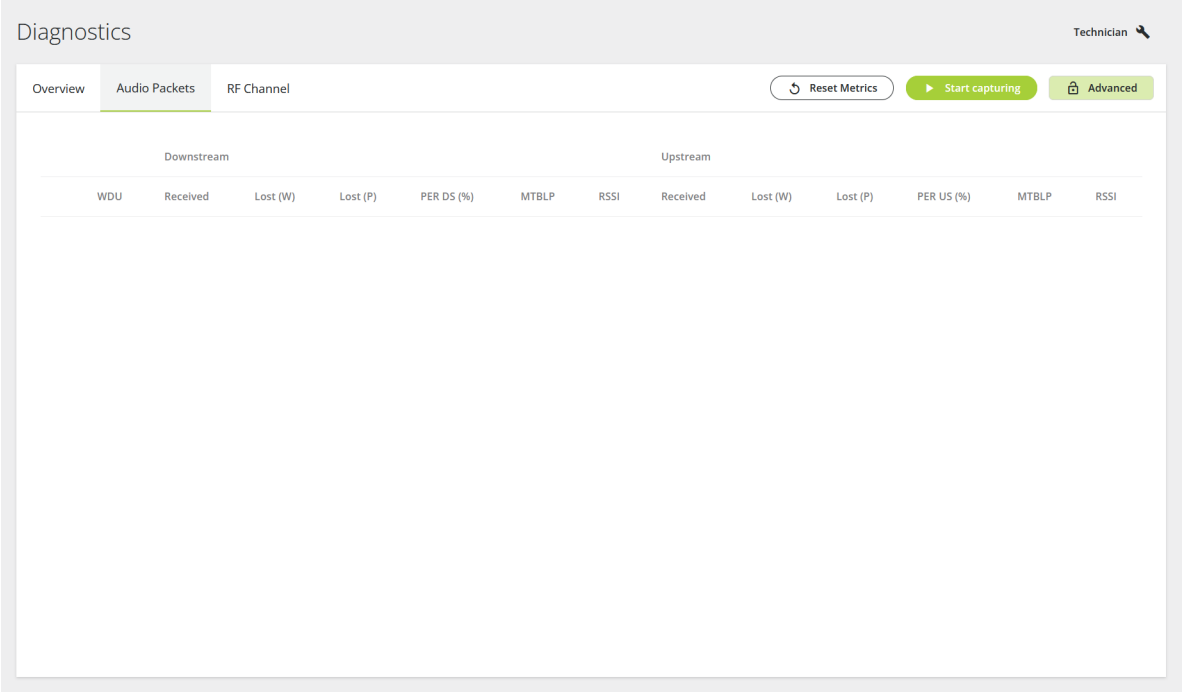
In the **Overview** tab, you can check the overall status of the system and perform various monitoring and testing actions.

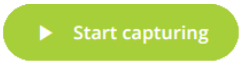
Please refer to the "Diagnostics" section of the manual for more information.

Audio Packets

In this tab, you can monitor the wireless audio and packet loss, downstream (blue bar) and upstream (red bar).

Initially, the page looks like this:

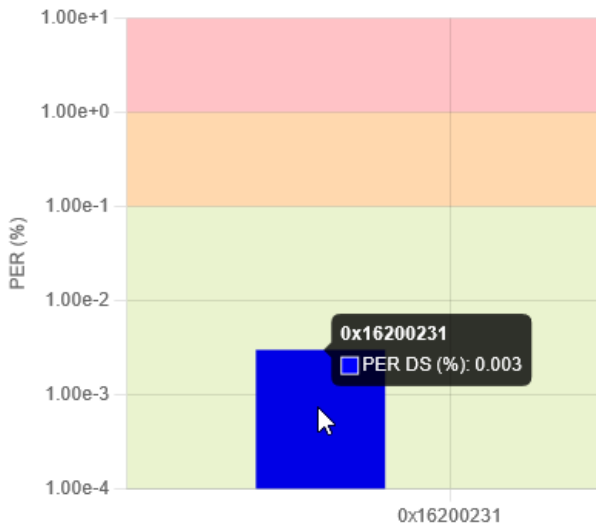


When you click  to capture the behavior of the system devices over time, the received packets and packet loss–upstream and downstream–appear both in a table and a graph as shown below:

1. Global graph showing packet error rate downstream (PER DS) and upstream (PER US) per device. The color thresholds are as follows:

- Green threshold: low packet loss that doesn't impact the system. Normally, the blue and red bars should remain within this threshold.
- Orange threshold: medium packet loss that may cause some audible glitches,
- Red threshold: high packet loss that is critical for the system.

Hover over the packet loss of a device to get more information:



When you click on "PER DS (%)" or "PER US (%)" on top of the graph, the indicator gets crossed out and the corresponding packet loss data disappears. That way, you can isolate one type of packet loss for better visualization:

2. Table showing packet indicators downstream and upstream per device:

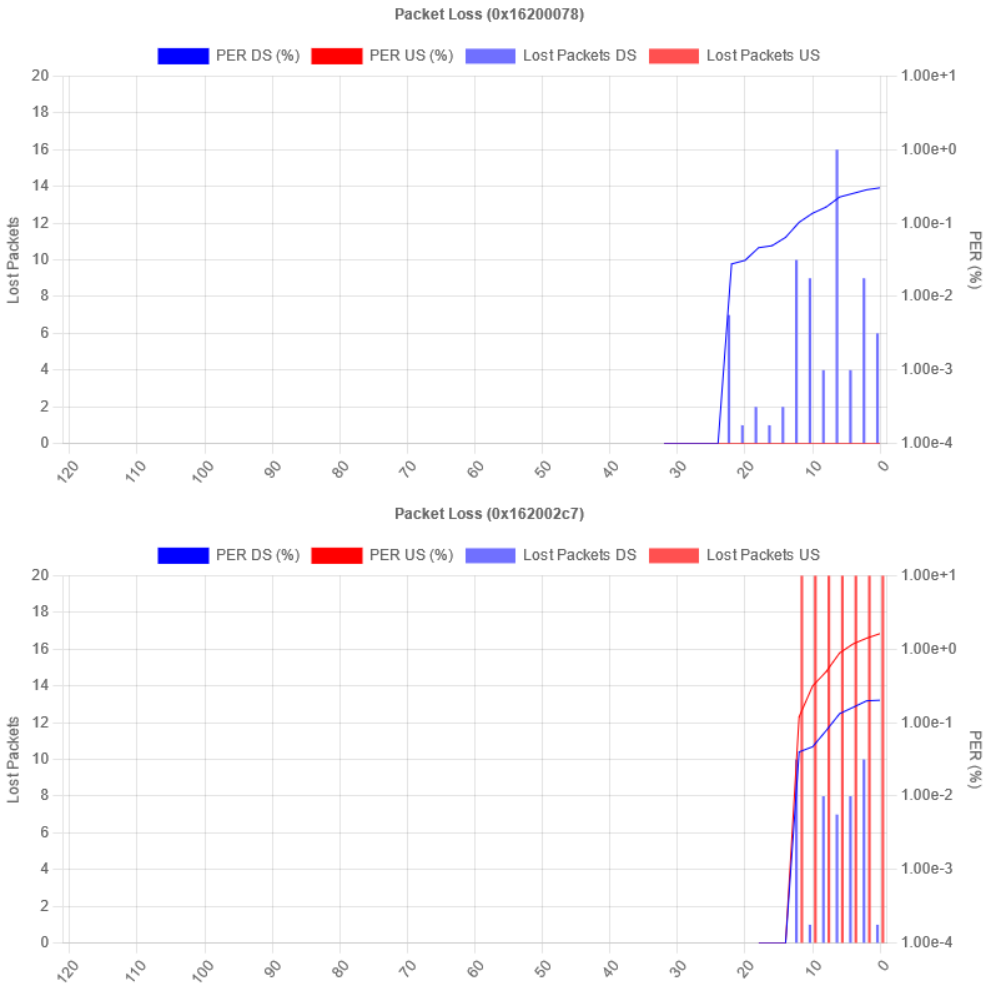
Indicator	Description
WDU	Wireless Delegate Unit
Received	Number of received packets
Lost (W)	Number of packets not received on the Wi-Fi interface
Lost (P)	Number of packet lost for playback because not received or received with too much latency
PER DS	Packet Error Rate Downstream
PER US	Packet Error Rate Upstream
MTBLP	Mean Time Between Lost Packets
RSSI	Received Signal Strength Indicator

Click on the indicator of your choice to sort the data:

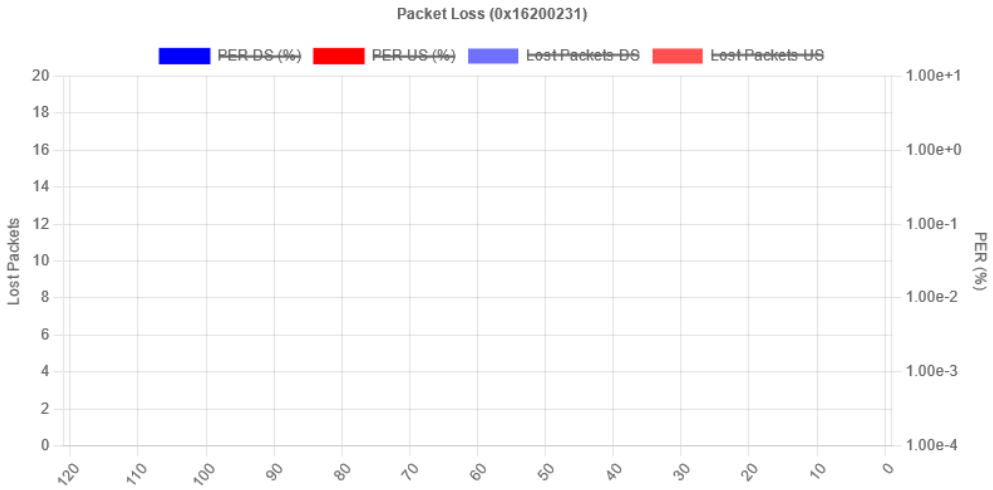
-  Data are sorted from the lowest to the highest.
-  Data are sorted from the highest to the lowest.

When you tick the checkbox of a device, a graph showing the packet loss appears at the bottom of the page. In the graph, the packet loss can be tracked over the last 120 seconds.

The height of the bars, to be interpreted on the left Y-axis, represents the number of lost packets per time interval. The continuous line is a filtered average of the packet error rate, to be read out on the right Y-axis.



As with the global graph, clicking the type of packet loss on top crosses it out and make the corresponding data disappear:

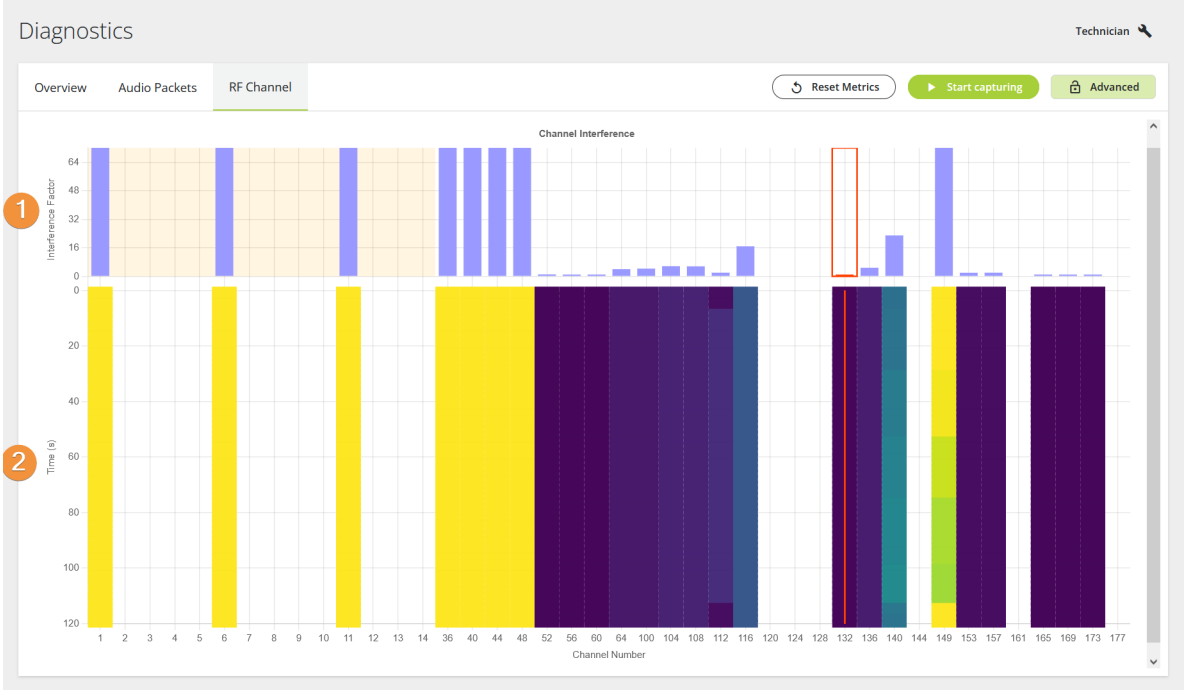


RF Channels

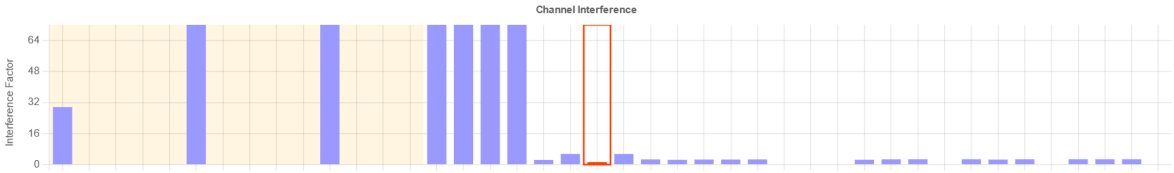
In this tab, you can monitor the RF channels during the data capture on two stacked charts. Both charts have a shared X-axis representing the RF channels.

- On top, a bar chart showing the interference factors per channel,
- On the bottom, a waterfall chart showing the interference change over a time period of 120 seconds.

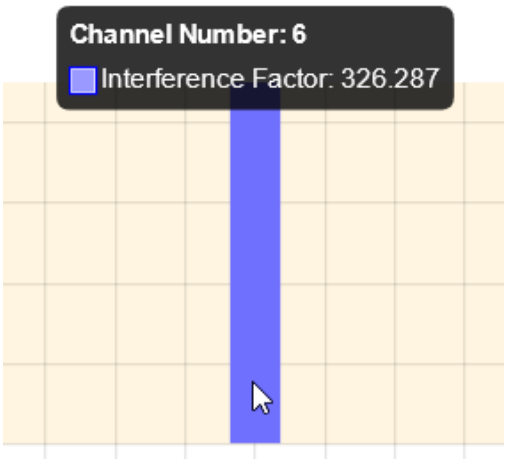
Note that it can take up to a few seconds after clicking on the RF Channels tab to see the content of the page.



1. The bar chart on top displays the interference factor per channel.



Although the bar height is clipped to 70 on the chart, the actual interference factor can be higher. Just hover a channel bar to see the exact level of interference factor (326.287 in the example below):

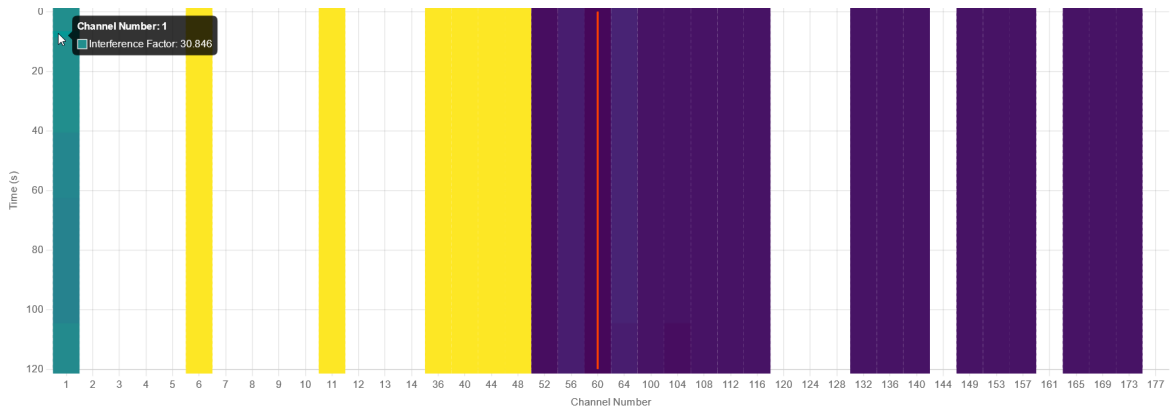


A higher bar represents more interference, which is less favorable for wireless communication on that channel.

- The left part with an **orange background** applies to the **2.4 GHz band** (in this example, channels 1 to 14, with only channels 1, 6 and 11 being used).
- The right part with a **white background** applies to the **5 GHz band** (channels 36 to 177).
- The bar with the **red borders** corresponds to the **channel being currently used**.

2. The **waterfall chart** on the bottom shows the **interference change over a 120-seconds period**. When the capturing tool is running, the chart is changing live.

The X-axis is the same as in the first chart and shows the channels from 1 to 177. The Y-axis is the time axis with the most recent time interval on top and 120 seconds in the past on the bottom. You can also hover a channel bar to see the interference factor.



3. The chart uses a color scale to represent the interference factor: **the lower the interference factor, the darker the bar** (e.g. purple). Conversely, **the higher the interference factor, the brighter the bar** (e.g. yellow).

The **red line** corresponds to the **channel being currently used**. If the current channel changed over the last 120 seconds, the red line will be broken. Too many channel swaps in a limited amount of time indicates bad system behavior. This can happen due to a lack of enabled channels with low interference.

If you turn off the channel being used, another channel will be automatically selected, and the line will move accordingly on both the bar chart and the waterfall chart.

televic
conference

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GET IN TOUCH