

ClickShare CX-50 Gen2

Model C5011S



Installation manual

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CX-50 Gen2 Introduction

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About this document

This installation manual explains how to install your CX-50 Gen2 in a meeting room, It explains also how to make everything operational. It provides detailed information on how to configure your CX-50 Gen2.

Available System documentation

Next to the installation manual, a user guide and a safety manual are available on Barco's website, www.barco.com/clickshare.

A printed copy of the safety manual is included in the CX-50 Gen2 box at purchase.



Depending on the CX-50 Gen2 version, some graphics might be different to the ones used in this manual. This however does not have any effect on the functionality.

1.1 About the CX-50 Gen2

CX-50 Gen2 versions

With the Conferencing Button or ClickShare app, in seconds, you are automatically connected to cameras, mics, soundbars and any other AV peripherals in the room for a better, more immersive meeting experience. Everything becomes part of your laptop.

This CX-50 Gen2 not only helps the presenter get the presentation on-screen in a second, but it also allows the other people in the conference to participate more actively. The result is enhanced meeting efficiency and better decision-making.

The set is compatible with any laptop, desktop tablet or smartphone OS. It works with most conferencing platforms and connects instantly with most brands of peripherals (speakers, microphones, webcams, soundbars) when using the Conferencing Button or ClickShare app.

At the moment 6 different versions are available on the market. Each set is sold in its specific region and it can only be used in that specific region because of WiFi regulations.

Components CX-50 Gen2 set

A standard CX-50 Gen2 set consists of a Base Unit and 2 Conference Buttons. Depending on the location where you buy the product, the software of the Base Unit is different. If needed, you can buy additional Conferencing Buttons and a tray to store the Buttons.

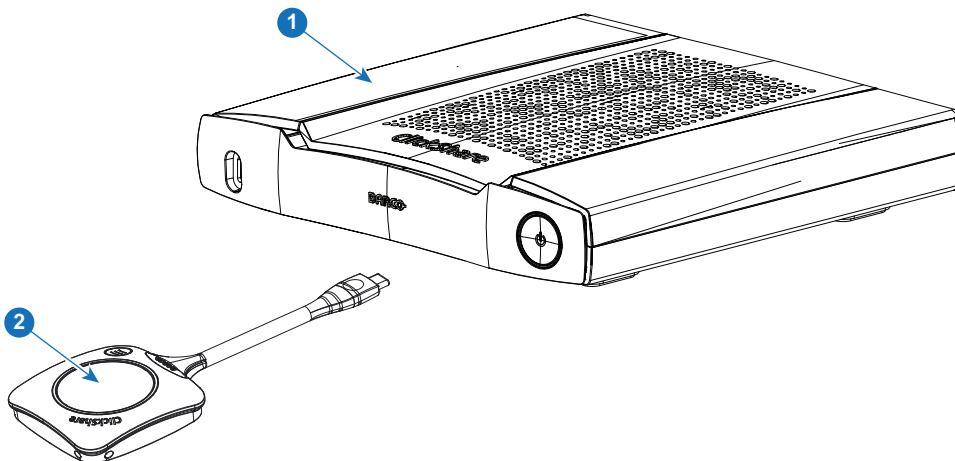


Image 1-1

- | | |
|---|----------------------------------|
| 1 | Base Unit |
| 2 | Conferencing Button ¹ |

Accessories included

Depending on the country where you buy the product, the following regionalized accessories are also included in the CX-50 Gen2 box.

1. Further called Button

ProductsR9861622xx²**Contains**

- R9861622

Accessories included

- DC adapter with regional depending power cord
- Printed safety manual

R9861622xx²B2

- R9861622
- 2x R9861600D01C³

- DC adapter with regional depending power cord
- Printed safety manual

R9861600D01C³1x R9861600D01C³

Contact your local sales representative for the correct regional variant to be used in your country.

2. xx=EU, CN, NA, US, ZH, RW,
3. For US, R9861600D01CUS

1.2 CX-50 Gen2 specifications

Dimensions (HxWxD)	39mm x 200mm x 202mm
Power supply	Standard 110/220 V AC plug or USB-C (back)
Power consumption	Operational: 74.5W (max) Standby: 0.27W - Networked standby: 3.7W
Weight	985 gr
Operating system	Windows 10 or higher macOS 11 (BigSur) and higher Android v11 and higher (ClickShare App) iOS 14 and higher (ClickShare App)
System requirements	For a smooth experience with Microsoft Teams or Zoom Minimum: Intel i3 dual-core processor / 8GB RAM / OS : Windows 10 latest build or Mojave latest build Recommended: Intel i5 4-core processor / 8GB RAM / OS: Windows 10 latest build or Mac OS latest build
Video outputs	4K UHD (3840*2160) @ 60Hz. HDMI 1.4b 4K UHD (3840*2160) @ 60Hz.USB-C DP ALT mode (back)
Video inputs	4k UHD (3840*2160) @30Hz.USB-C DP ALT mode (front)
Audio output	USB, jack, HDMI
Connections	Front side: 1x USB-C 3.1 Rear side: 1x USB-C 3.1, 2x USB -A 3.1, 1x Ethernet LAN 2.5Gbit, Audio analog line out on jack socket (3.5mm)
ClickShare Buttons	2
ClickShare App	Desktop & Mobile
Native protocols	Airplay, Google Cast, Miracast
Maximum number of simultaneous connections (with Buttons and/or App)	32
Noise Level	Max. 25dBA @ 0-30°C Max. 30dBA @ 30-40°C
Authentication protocol	WPA2-PSK in stand alone mode WPA2-PSK or IEEE 802.1X using the ClickShare Button in network integration mode
Wireless transmission protocol	IEEE 802.11 a/g/n/ac and IEEE 802.15.1
Reach	Max. 30m (100 ft) between ClickShare Button and ClickShare Base Unit
Frequency band	2.4 GHZ and 5 GHZ (DFS channels supported in select number of countries)
Temperature range	Operating: 0°C to +40°C (+32°F to +104°F) Max: 35°C (95°F) at 3000m Storage: -20°C to +60°C (-4°F to +140°F)
Humidity	Storage: 0 to 90% relative humidity, non-condensing

	Operation: 0 to 85% relative humidity, non-condensing
Anti-theft system	Kensington lock
Certifications	FCC/CE
Touch screen support & Interactivity	Yes
Wireless conferencing	via App or Button
Local view	High quality
Network connection	LAN & WiFi (dual)
Management and reporting	Yes
Warranty	1 year standard. 5 years coverage via SmartCare

Conferencing Button

Weight	60 gr - 0.132 lb
Frequency band	2.4 GHZ and 5 GHz
Wireless transmission protocol	IEEE 802.11 a/b/g/n/ac
Authentication protocol	WPA2-PSK in stand alone mode WPA2-PSK or IEEE 802.1X in network integration mode
Connectors	USB-C type
Dimensions (HxWxD)	14.6 mm x 59.3 mm x 161.39 mm / 0.57" x 2.354" x 6.354"
Power consumption	Powered over USB 5V DC 350mA Typical 500mA Maximum

1.3 About the Base Unit



Base Unit

The Base Unit receives the wireless input from the conferencing Buttons and controls the content of the meeting room display. Furthermore, a touch screen, USB camera and USB speakerphone can be connected to the Base Unit.

Base Unit functionality

The Base Unit receives the wireless input from the Buttons and controls the content of the meeting room display and the peripherals connected to the Base Unit (speakers, microphones, webcam and soundbar). Furthermore, it will send out the content from the camera and/or the speakerphone towards the Button.

The Base Unit can be inside a cabinet in the meeting room, or put on the meeting room table or mounted on a wall. Check the Installation Guide for instructions on how to install the Base Unit.

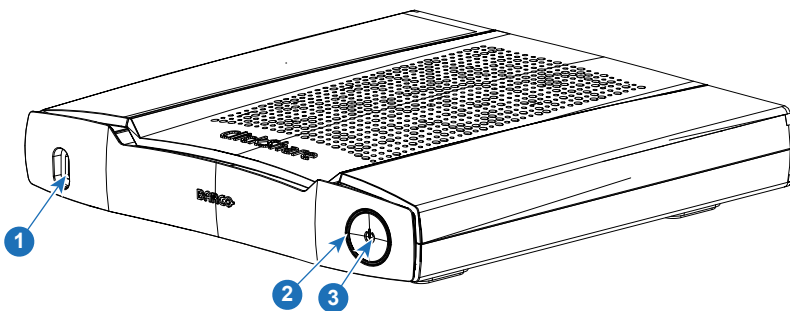


Image 1-2

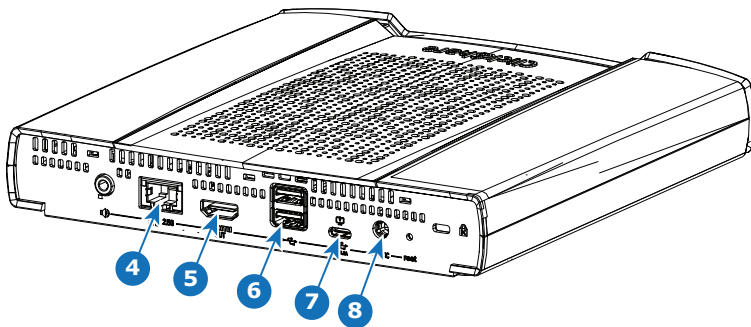


Image 1-3

1	USB Type-C™ port
2	Status LED ring
3	Standby Button
4	LAN input
5	HDMI out
6	2x USB Type-A port
7	USB Type-C™ port
8	19V DC input

USB Type-A Port

The USB port is used to update the software of both the Base Unit and the Buttons and to connect a touch screen, USB camera or USB echo-cancelling speakerphone to the Base Unit.

USB Type-C™ Port

The front USB Type-C™port is used to pair the Button to the Base Unit. This port can also be used to update the software and firmware of both the Base Unit and the Buttons.

The front USB Type-C™port used in combination with the HDMI-in to USB-C convertor, can be used as HDMI input. This port supports the wired roomdock functionality. With wired roomdock, the user can share high resolution content and connect to the room audio and video over a wired connection.

The back USB Type-C™port can be used to connect a second display, a touch screen, USB camera or USB echo-cancelling speakerphone to the Base Unit. It can also be used as power input via USB.

Status LED ring

The color of the LED ring around the power button of the Base Unit give information on the status of the system.

LEDs behavior	Explanation
static red	<ul style="list-style-type: none"> receiving content from the Buttons and streaming towards the display. during the first phase of the Base Unit boot process.
blinking white	<ul style="list-style-type: none"> system is starting up (during the second phase) Button pairing is in progress software update of the Base Unit
breathing white	<ul style="list-style-type: none"> ECO standby mode
static white	<ul style="list-style-type: none"> awake and ready (i.e. showing the welcome message on the display) pairing and software update of the Button is done, you can now unplug the Button from the Base Unit.
red blinking	<ul style="list-style-type: none"> an error occurred
dark	<ul style="list-style-type: none"> deep standby/off

Power button

The button at the front of the Base Unit has a standby function once the Base Unit is powered.

- When the system is in normal operational mode, a push makes the system goes into a pre-defined standby mode.
- When the system is in standby, a push triggers the system to start up and it goes into normal operational mode.

Back layout of the Base Unit

The connection panel is situated at the back of the Base Unit.

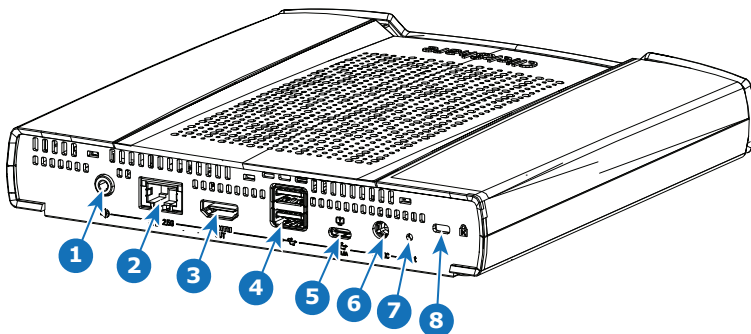


Image 1–4

1	Analog Audio out
2	LAN Ethernet connection
3	HDMI out
4	USB Type-A port (USB 3.1)
5	USB Type-C™ port (USB 3.1)
6	Power connection
7	Reset
8	Kensington lock

Mechanical fixture points

The mechanical fixture points are located at the bottom of the Base Unit (reference 1 on [Image 1–5](#))

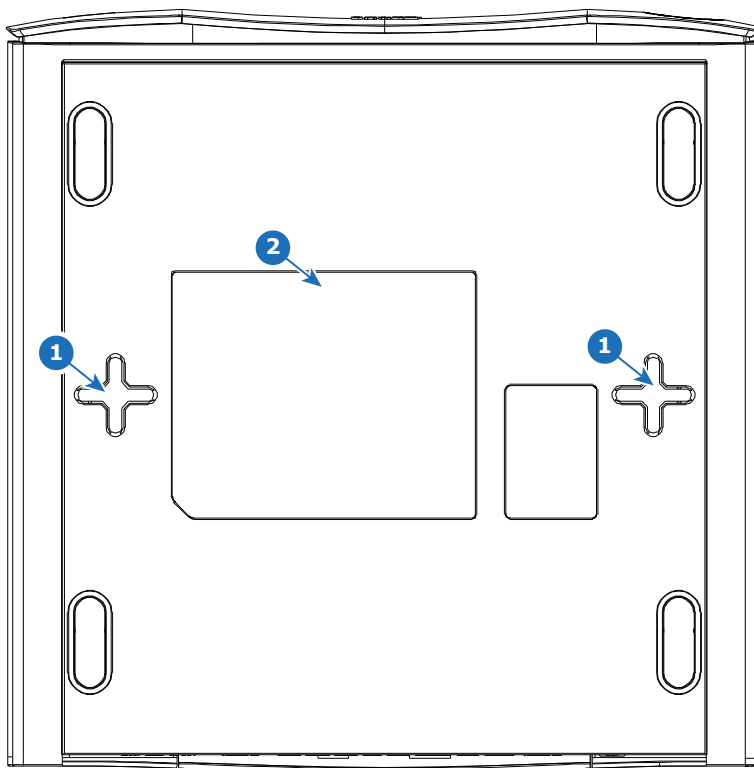


Image 1–5

Antenna

The antenna is built-in in the CX-50 Gen2.

Bottom layout of the Base Unit

The serial number label containing the Barco part number, the revision number, production date (week-year) and the serial number (reference 2 on [Image 1–5](#)).

The product label with the applicable certification logos.

The product label contains:

- the Barco logo
- the product name
- the Barco part number
- the power rating

- markings for applicable standards (CE, CCC, UL, ...)
- markings for waste regulation
- “Made in ...”

1.4 Mobile Device Support

Overview

The below list of Apps are supported by ClickShare and can be installed on your mobile device from Google Play or Apple App Store. Or can be installed on your Windows or Mac pc

Before you can use your mobile device with ClickShare, you have to connect the mobile device Wi-Fi with the ClickShare Base Unit Wi-Fi. Follow the instructions as given in your mobile device user guide. Or connect the Base Unit to the network, then you do not need to switch your Wi-Fi.

App	Used on
ClickShare App	iOS
	Android
	Windows
	Mac OS

Apps can be downloaded from www.clickshare.app.

Getting started

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2.1 Environmental Condition Check

Environment condition check

For installations in environments where the device is subject to excessive dust, then it is highly advisable and desirable to have this dust removed prior to it reaching the device clean air supply. Devices or structures to extract or shield excessive dust well away from the device are a prerequisite; if this is not a feasible solution then measures to relocate the device to a clean air environment should be considered.

It is the customer's responsibility to ensure at all times that the device is protected from the harmful effects of hostile airborne particles in the environment of the device. The manufacturer reserves the right to refuse repair if a device has been subject to negligence, abandon or improper use.

Ambient temperature conditions

Max. ambient temperature : +40°C or 104°F

Min. ambient temperature: +0°C or 32°F

Storage temperature: -10°C to +60°C (14°F to 140°F)

Humidity Conditions

Storage: 0 to 90% relative humidity, non-condensing

Operation: 0 to 85% relative humidity, non-condensing

Environment

Do not install the device in a site near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust or humidity. Be aware that room heat rises to the ceiling; check that temperature near the installation site is not excessive.

2.2 Security recommendations before starting

Keep your Base Units and Buttons up to date

Barco keeps improving their devices, this means extending existing features and adding new ones, but also providing security patches. Therefore, it is strongly recommended to keep the Base Units up to date with the latest available firmware, and ensure Buttons are updated. Always updating your device to the latest firmware. Therefore, it is strongly recommended to connect your device to internet to get automatic updates.

To insure an update of all Buttons, Barco strongly recommends pairing all Buttons with the corresponding Base Unit immediately after the Base Unit has been upgraded.

XMS platform

Manage Base Units through XMS (Cloud) management Platform to receive updates.

XMS is Barco's secure cloud-based solution for the configuration, remote management and real-time status monitoring of your devices, distributed over different locations. Enjoy easy & automated (scheduling of) software updates, Base Unit configuration, creation of templates, remote wallpaper installation, user management and insights to drive Digital Workplace.

Keep Base Units locked away

In case you expect physical tampering of the hardware by malicious people Barco recommends keeping the Base Units locked away.

Change the default Wi-Fi password

Barco strongly recommends changing the default Wi-Fi password (only applicable when WPA2-PSK mode is used), this makes it again one step more difficult for malicious people, without physical access to your devices, to intercept the traffic between Button and Base Unit.

Change the default Configurator password

Barco strongly recommends changing the default Configurator password. Anyone with malicious intentions who can access the Base Unit locally or via adjacent networks will definitely verify if the Base Unit's Configurator can be accessed to extract valuable information like e.g. Wi-Fi credentials.

2.3 Basic Workflow

Before using CX-50 Gen2

1. Unpack the ClickShare components and accessories from the box.
For a detailed overview of the content of the CX-50 Gen2 box, see [“About the Base Unit”, page 14](#).
2. Install the Base Unit in the meeting room using one of the 2 possible installation methods.
For more information on the installing procedures, see [“Installation methods for the Base Unit”, page 24](#)
3. Connect the display with the the Base Unit via HDMI or the backside USB Type-C™ port, see [“Display connection to the Base Unit”, page 36](#).
4. Connect the audio devices via USB or jack, if any to the Base Unit, see [“Fully equipped, Audio only or Camera only conference room”, page 38](#) or [“Content Audio connection”, page 44](#).
5. Connect the USB camera to Base Unit if any, see [“Fully equipped, Audio only or Camera only conference room”, page 38](#) or [“Camera connection”, page 43](#).
6. Make the power connection via the power adapter or the backside USB Type-C™ port, see [“Power connection”, page 48](#).
7. Connect a network cable between the Base Unit and the local network (make sure the Base Unit is connected to the internet to be able to reach the update server)
8. Configure device.
9. Register you device online to obtain your SmartCare package.
10. Pair your Buttons, see [“Preparing the Buttons”, page 67](#) and/or install the ClickShare app.

CX-50 Gen2 Installation

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3.1 Installation methods for the Base Unit



For optimal performance, install the Base Unit close to the display and avoid obstacles between the Base Unit and the Buttons.



Make sure not to install the Base Unit in a metal enclosure.

Physical installation

The Base Unit can be installed in different ways in a meeting room.

- Table mount
- Wall mount

A Kensington lock is foreseen on one side of the Base Unit.



WARNING: Ceiling mount is not allowed !

Standalone or network integration

The Base Unit can be used as standalone unit or integrated in a corporate network.

- Out-of-the-box use
- Out-of-the-box use with Ethernet link
- Integration in enterprise network
- Dual network integration
- Integration in dedicated enterprise network

Conferencing room setup

- Full conferencing room setup
- Flexible meeting room setup
- Audio only conferencing room setup
- Video only conferencing room setup

3.2 Guidelines for ClickShare Conference system installation

Overview

- Keep your Base Unit up to date. For an optimal experience and to assure the security of the overall system free updates are multiple times available.
- It is recommended to connect the Base Unit to the network (wired Ethernet connection or wireless connection) for the best user experience for users, guests, employees and administrators. By doing so, both guests and employees can make use of BYOD services (e.g. AirPlay, Google Cast and Miracast) but also the ClickShare Apps without disconnecting from the wireless network or losing their internet connection.
- It is recommended to use a direct connection between the Conferencing Button and the Base Unit for high quality and low latency wireless conferencing.
- Place the Base Unit in an open emplacement and avoid installing a metallic shell.
- For an optimal user experience, both ClickShare and BYOD services such as AirPlay, Google Cast or Miracast, have different implementations for presence and proximity detection. To take full advantage of these mechanisms, we strongly advise to install the ClickShare Base Unit inside the meeting room, physically close to the display and not in a closed cabinet.
- Always connect your camera and/or audio device via USB to the Base Unit.
- For optimal security, it is strongly advised to change the default passwords.
- When connecting the Base Unit onto the corporate network to enable BYOD protocols and the ClickShare Apps to share, we strongly advise to change the standby mode to “eco standby”. If not, BYOD protocols, the ClickShare apps and possibly the ClickShare Button will not be able to wake the Base Unit from standby.



For a more detailed guidelines, see “*Network Deployment Guide*” available on the support pages of the product on Barco’s website.

3.3 Table mounting

Overview

Put the Base Unit directly on the meeting room table.

The total weight of the Base Unit is 900 g.

3.4 Wall mounting

About wall mounting

No mounting bracket is needed to install the Base Unit on the wall. The Base Unit can be mounted in any position on the wall, but it is preferred to mount it with the connections downwards.

The total weight of the Base Unit is 900 g.

Required tools

- a drill (type of drill depends on the type of wall)
- Screwdriver (depending on the used screws)

Required parts

- 2 mounting screws, maximum head diameter of 6.5 mm
- 2 plugs

How to install

1. Drill two holes in the wall or ceiling as indicated on the drawing.

Horizontal distance : 162 mm,

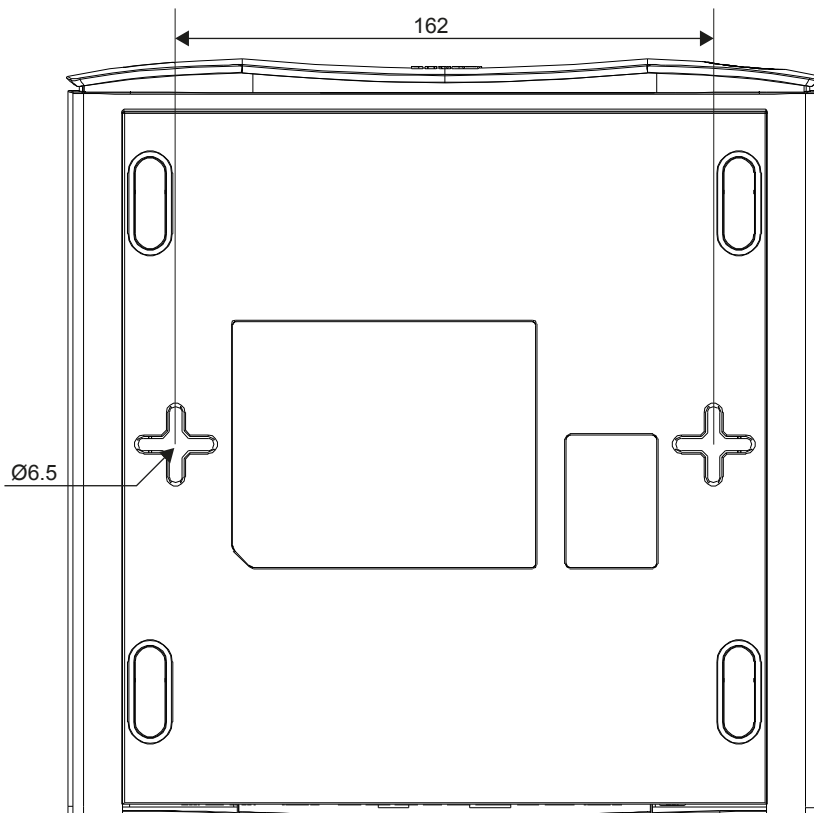


Image 3-1 Mounting holes

2. Insert a plug in each hole (if needed, depends on the wall or ceiling type) and drive in 2 screws. Do not drive in the screws completely.



Note: Mounting screws and plugs are not included in the CX-50 Gen2 box . The type of screws and plugs depend on the type of wall (stone, wood, plasterboard, ...) you are mounting the Base Unit to. Make sure the head of the screw is not larger than the hole in the bottom plate of the Base Unit (< 6.5 mm).

3. Hook the Base Unit on both screw heads and slide the Base Unit downwards until it is fixed.

3.5 Standalone setup

Overview

This setup is the simplest in terms of installation and can be used for temporary setups and in organizations where central management and 3rd party integration are not required.

The ClickShare Base Unit and Button (s) operate directly out of the box, without any integration in the Enterprise network. It is advised to connect the Base Unit at least once to the internet in order to check for updates and register your device for SmartCare. Users can connect directly to the Base Unit via the ClickShare Buttons, after the Button are paired to the Base Unit, or using the ClickShare App or Miracast or with their mobile devices using Airplay or Google Cast.

Using a ClickShare Button allows you to stay connected to the internet. Users who wish to share with the ClickShare Desktop App, ClickShare Mobile App, AirPlay and Chromecast will have to connect to the Base Unit's access point and will only be able to access the internet if the device supports to use data (3G/4G) at the same time. Note that this requires the Base Unit's access point is not turned off, is visible and can be connected to by anyone.

Sharing via Miracast will only be possible via Wi-Fi direct.

Using the ClickShare Base Unit and Buttons directly out of the box is ideal for temporary setups, visitor centers and small to medium installations without network integration needs or possibilities. This setup requires the least installation effort and keeps any shared data completely separated from your Enterprise network. Updating and configuring the Base Units will need to be done manually.

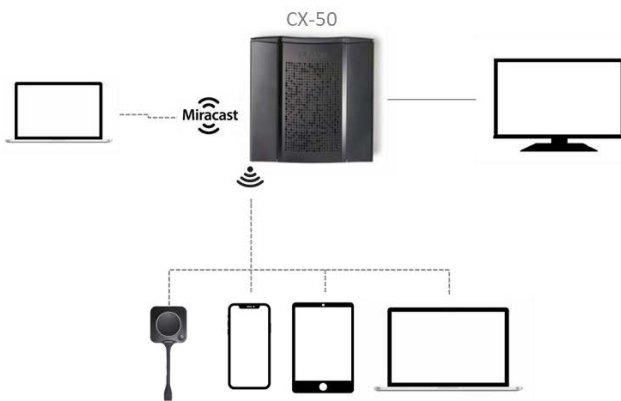


Image 3-2

3.6 Network deployment requirements

General

This topic contains recommendations for integrating our device into your enterprise network. A detailed overview is given in terms of minimal requirements and required ports and firewall rules needed to be configured to make the specific function work.

Base Unit: first-time setup

- **Activation and update:** for this action, similar to the auto-update functionality described below, an outbound TCP connection on port 443 is required towards `update.cmp.barco.com` and `assets.cloud.barco.com`.
- **Connection to XMS Cloud** for activating SmartCare and XMS Cloud functionality: TCP Port 443 outbound to `*.azure-devices.net`, `*.core.windows.net` and `global.azure-devicesprovisioning.net`.

The first-time setup requires a laptop with access to:

- XMS Cloud: outbound TCP Port 443 to `xms.cloud.barco.com`
- MyBarco portal: outbound TCP Port 443 to `*.barco.com` (`login/xms.cloud.barco.com`).
- (Optional) Web Configurator of the device: TCP ports 80 and 443 to the Base Unit or ability to connect directly to the Base Unit's Wi-Fi.

Overview of the required ports

Open the following ports on your network to ensure that you can share content via ClickShare:

Sender/Receiver		Ports
ClickShare Button (wireless presentation)	TCP	2345, 6544
	UDP	
ClickShare Desktop and Mobile Apps (wireless presentation)	TCP	6541-6545
	UDP	5353, 1900
Additional ports for Wireless Conferencing (Button or Desktop App)	TCP	1235, 9999
	UDP	1234
AirPlay	TCP	4100-4200, 7000, 7100, 47000
	UDP	4100-4200, 5353
Google Cast	TCP	8008, 8009, 9080
	UDP	1900, 5353, 32768, 61000 ⁴
Miracast MS-MICE	TCP	7236, 7250
	UDP	7236
ClickShare Configurator	TCP	80, 443
	UDP	n/a
XMS Cloud	TCP	443
XMS Edge	TCP	4003
Auto-update	TCP	80, 443
	UDP	n/a

4. Google Cast will pick a random UDP port above 32768 to facilitate video streaming.

Sender/Receiver	UDP	Ports
SNMP	UDP	161 and 162
REST API	TCP	4003

3.7 Network connected setup

Overview

This is the simplest installation which offers a seamless experience for employees and is the recommended setup for temporary setups, visitors' centers, small to medium installations without network integration needs, for internal meeting rooms, for companies with a flat network topology or when the ClickShare Button will be the main way for people to the system.

In this default mode, ClickShare Buttons and Base Units operate directly out of the box (Buttons must be paired to the Base Unit before they can be used) and users can share to the Base Unit with the ClickShare Desktop App, the ClickShare Mobile App, AirPlay, Google Cast via the network to which the Base Unit is connected without losing the internet connectivity. Sharing via Miracast depends on the configuration of the device.

Using a ClickShare Button allows guests to stay connected to the Guest LAN and thus retain internet connectivity. Guest mobile devices will usually need to connect to the Base Unit directly and will only be able to access the internet if the device supports to use data (3G/4G) at the same time.

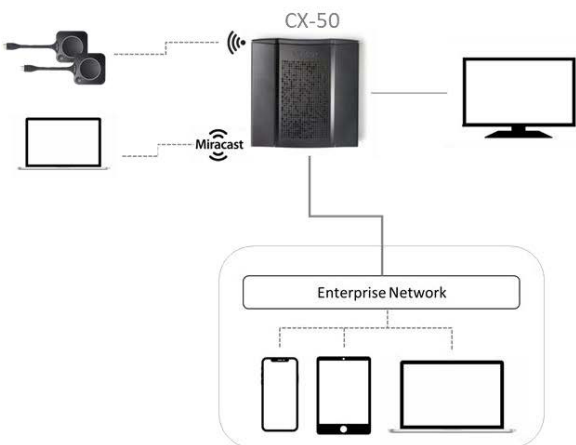


Image 3-3

Miracast on CX-50

When the Base Unit is connected to the network via the LAN cable, then Miracast can be used via Wi-Fi Direct and over infrastructure (MS-MICE).

When the Base Unit is connected to a wireless network via client mode, then Miracast can be used via Wi-Fi Direct and Over Infrastructure (MS-MICE). If the Base Unit is set up in a dual network configuration, MS-MICE will only be available on the LAN connection. When not connected to that network, the user's device will connect to the Base Unit through Wi-Fi direct.

3.8 Dual network connected setup

Overview

This installation offers a seamless experience for employees and guests and is the recommended setup for any organization with an advanced network configuration, for meeting rooms which will be frequently used by guests, visitors and externals or when the ClickShare Apps and native BYOD protocols, such as AirPlay, Google Cast and Miracast, will be frequently used in the organization.

In this setup, ClickShare Buttons connect directly to the Base Units access point with the CX-50.

Users can share to the Base Unit with the ClickShare Desktop App, the ClickShare Mobile App, AirPlay, Miracast and Google Cast via either network to which the Base Unit is connected. Miracast MS-MICE will only be available through the LAN connection, all other devices will connect to the Base Unit directly over Wi-Fi direct.

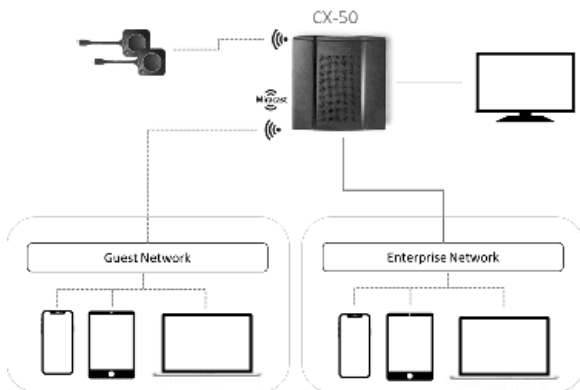


Image 3-4

How to setup via the Configurator

1. Connect the Base Unit and browse to the *ClickShare Configurator* and log in.
2. Select *Button* in the *System* menu and click **Edit settings**.

Select *External Access Point* from the drop down menu and select the preferred authentication mode and fill out the details.

Click **Save Changes**. For more information, see [“Buttons”, page 132](#).

3. Pair the Buttons again with the Base Unit.
4. Optionally the Base Unit's WiFi can be set to Access Point or can be set to Off. For more info, see [“Wi-Fi settings, Wireless Client”, page 102](#)

Setup via XMS

1. Log in to XMS and go to the *Base Units* tab.
2. In the device list select the Unit(s) for deploying network integration mode.
3. Open the *Configure* dropdown list and choose *Network integration*.
4. Select one of the authentication modes for network integration mode and fill out the details.
5. Re-pair the ClickShare Buttons with the updated Base Unit(s) to apply the new configuration

For more detailed information on how to use XMS, consult the XMS user guide.

3.9 Dedicated network setup

Overview

This installation offers an isolated network setup where all connections from and to the Base Units can be controlled. This dedicated AV (or ClickShare) network or VLAN can be used for more fine-grained access control, to ensure no connection can happen between any of the connected physical or virtual LANs or to separate all ClickShare traffic from all other IP traffic to ensure business requirements in terms of bandwidth, security and latency.

In this setup, the configurations can widely differ depending on network topology and security requirements in the organization. Here, we will describe a simple setup where the Base Unit is placed in a dedicated AV VLAN, a commonly used practice within organizations.

In this setup, ClickShare Buttons and Base Unit operate directly out of the box (Buttons must be paired to the Base Unit before they can be used)). Since the Base Unit has been installed in a dedicated network, firewall configuration will be required to enable the use of the ClickShare Desktop App, the ClickShare Mobile App, AirPlay and Google Cast over the network

If the firewall is not configured to allow connections from either the guest Wi-Fi or the employee Wi-Fi, users can connect to the wireless access point of the Base Unit to share with the ClickShare Desktop App, ClickShare Mobile App, AirPlay and Chromecast and will only be able to access the internet if the device supports to use data (3G/4G/5G) at the same time. Note that this requires that the Base Unit's access point is not turned off, is visible and can be connected to by anyone. Mobile users are limited to the experience described in the standalone setup. For Miracast, the Base Unit will have to be configured for Miracast to offer a Wi-Fi direct connection.

Connecting the Base Unit to the Enterprise network opens the possibility for using the eXperience Management Suite (XMS) for central management and/or using the auto-update functionality to keep your installed base up to date.

A Base Unit which is connected to the network, can be monitored through SNMP, can be controlled and monitored by other 3rd party systems such as Crestron or can be interfaced through the ClickShare REST API.

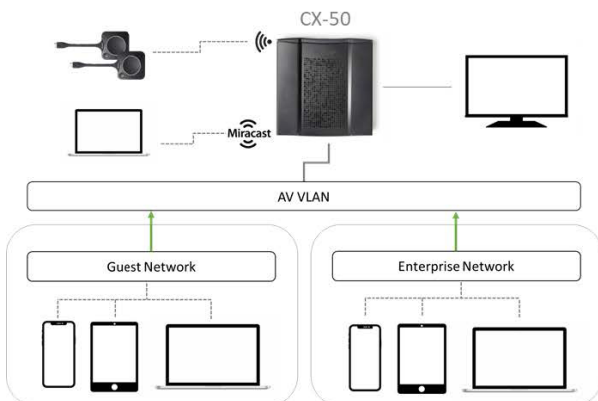


Image 3-5

How to setup via the Configurator

1. Connect the Base Unit and browse to the *ClickShare Configurator* and log in.
2. Select *Button* in the *System* menu and click **Edit settings**.

Select *External Access Point* from the drop down menu and select the preferred authentication mode and fill out the details.

Click **Save Changes**. For more information, see [“Buttons”, page 132](#)

3. Pair the Buttons again with the Base Unit.
4. Optionally the Base Unit's WiFi can be set to Access Point or can be set to Off. For more info, see [“Wi-Fi settings, Wireless Client”, page 102](#)

Setup via XMS

1. Log in to XMS and go to the *Base Units* tab.
 2. In the device list select the Unit(s) for deploying network integration mode.
 3. Open the *Configure* dropdown list and choose *Network integration*.
 4. Select one of the authentication modes for network integration mode and fill out the details.
 5. Re-pair the ClickShare Buttons with the updated Base Unit(s) to apply the new configuration
- For more detailed information on how to use XMS, consult the XMS user guide.

3.10 Display connection to the Base Unit

Ways to connect a display to the Base Unit


Way 1: Connect your display via a HDMI cable to the Base Unit.

Way 2: For displays who support video via USB, connect your display via an USB cable to the USB Type C port of the Base Unit.

Way 3: For dual display, connect one display with the HDMI output of the Base Unit and connect the second display to the USB Type C port of the Base Unit.

Connection via HDMI

1. Connect the Base Unit to the display using a HDMI cable.

 *Note:* No display cables are included in the ClickShare box at purchase.

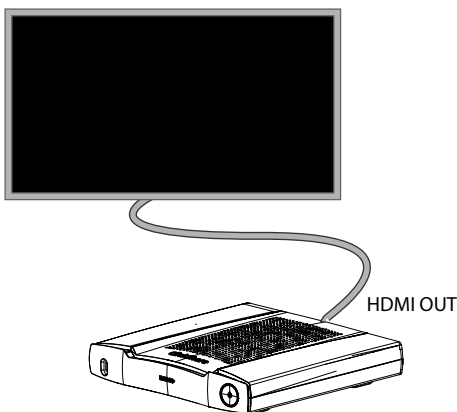



Image 3-6

When setting up a display configuration, connect the HDMI cable to the display. When necessary, use an adapter piece to connect to a display port or a DVI port on the display side.

 To guarantee picture quality, 4K capabilities and limit EMC exposure 360-degree bond shielding HDMI cables supporting the HDMI 2.0 specification should be used.

Connection via USB

1. Connect the USB Type-C port at the backside of the Base Unit to the USB input of the display (only for displays supporting video via USB).

Check Barco's website for the full list of supported/advised cables.

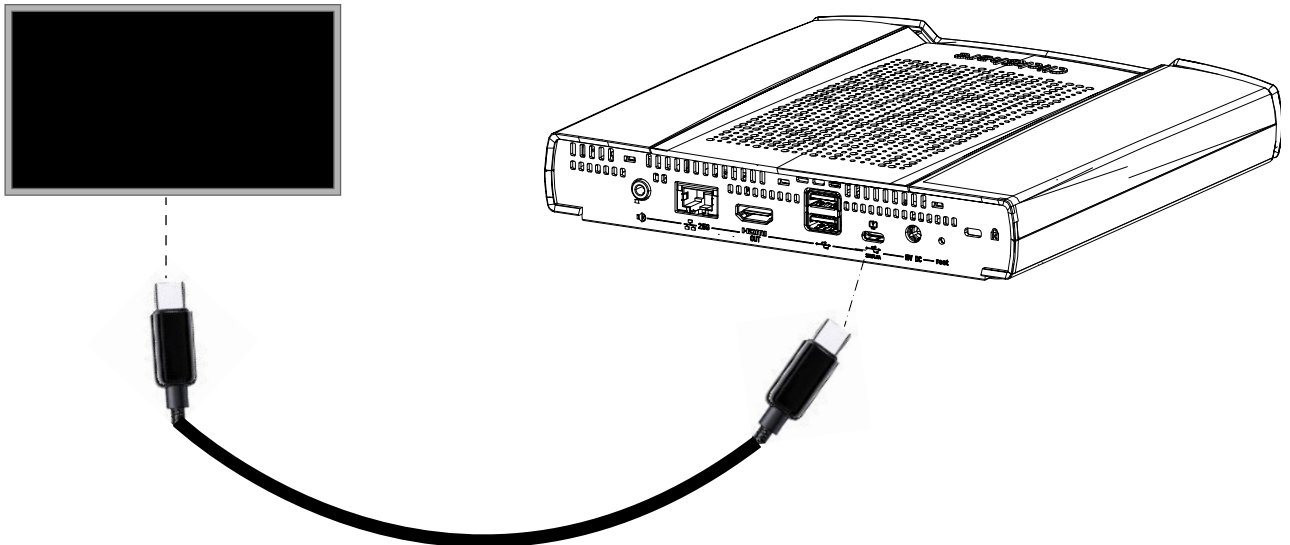


Image 3-7

Video and audio is transferred via the USB cable to the display.



When the display is connected via USB Type-C port and that display has extra USB Type-C port(s), these ports can be used to connect a camera and/or an echo canceling speakerphone. Next to that, when the display is able to output 90W or 100W (20V/5A or 20V/45A) via the USB Type-C connection, the Base Unit can be powered via that way.



When an HDMI and USB Type-C connection is made between the Base Unit and the display, the HDMI connection has priority.



Ultra-wide displays can only be connected with a “Display Port to USB” connection.

Dual display connection

1. Connect one display to the HDMI out of the Base Unit.

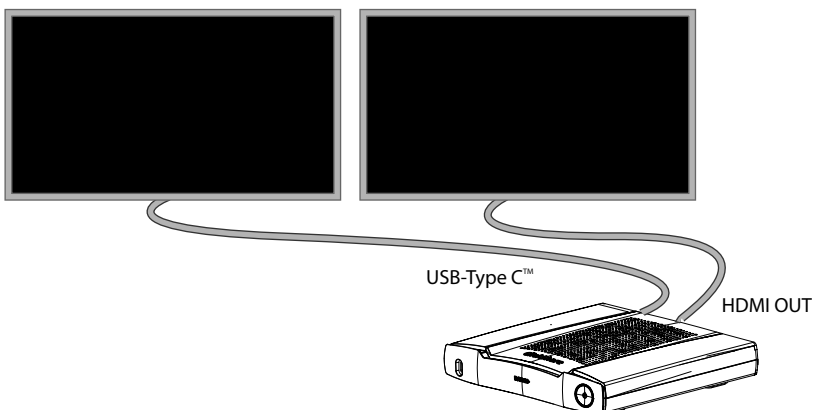


Image 3-8

2. Connect the second display via USB to the backside USB Type-C port of the Base Unit.



Note: Touch screen displays must be connected to the USB Type-C port!



Note: Only one ultra-wide display can be connected at a time. If that ultra-wide display is touch enabled, then no other touch display can be used.

3.11 Fully equipped, Audio only or Camera only conference room

Fully equipped conference room

The following components should be available in the room:

- USB camera must support at least a resolution of 720p.
- a combined speaker - microphone system connected via USB.

When connecting with the Button, it allows you to connect the room speakerphone, microphone and camera wireless to your laptop and use the better equipment of the room in your video conferencing call.

In most video conferencing tools the selection of the room peripherals (camera and speakerphone) will happen automatically.

Icons on the wallpaper indicate the availability and status of the peripherals in the room. When one of them is not attached to the Base Unit allowing to create an audio only meeting room or a video only meeting room, the corresponding icon will not be shown on the wallpaper.

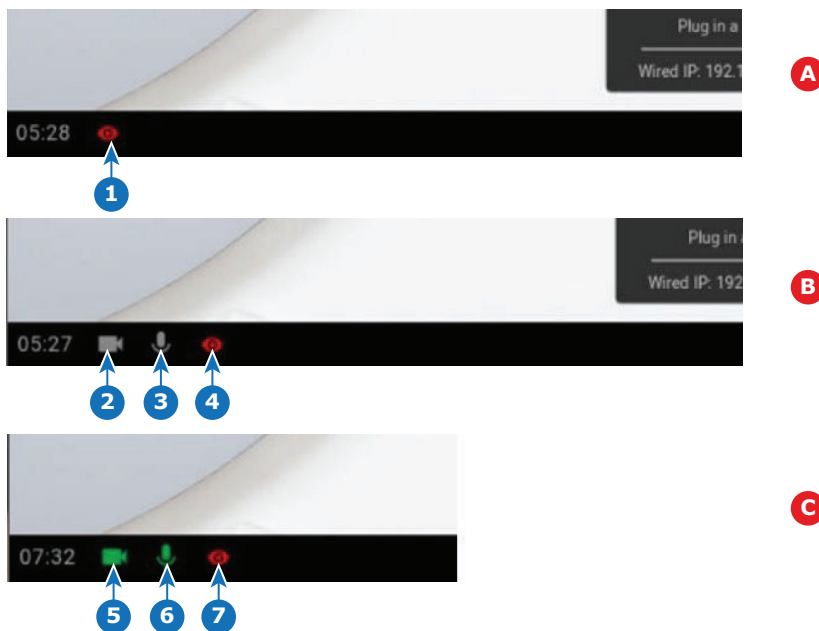


Image 3-9

- | | |
|---|--|
| A No peripherals attached, local view active | 3 Speakerphone connected, not active |
| B Camera and speakerphone attached, only local view | 4 Local view active |
| C Camera and speakerphone attached and active, local view active | 5 Camera connected and active |
| 1 Local view active | 6 Speakerphone connected and active, not muted. |
| 2 Camera connected, not active | 7 Local view active |



The muted state of the microphone is indicated by a microphone symbol with a dash through the symbol.

With just one click in the ClickShare App you join the next virtual meeting on your agenda. Your Outlook calendar automatically synchronizes with the ClickShare Collaboration App. The next Microsoft Teams meeting on your agenda is shown in the ClickShare App: join that call with just one click, your Teams App will open automatically and your call will start immediately. The same is true for your Zoom, Webex or other calls as well.

One click to share your content. Start sharing content in a Microsoft Teams, Zoom or Webex call and ClickShare automatically shares the same content to the meeting room display.

Audio only room

Audio only rooms have just a combined speaker - microphone system connected via USB.


When connecting with the Button or ClickShare desktop app, it allows you to connect the room speakerphone and microphone to your laptop for use in a conferencing call.

Video only room

Video only rooms have just an USB camera connected to the Base Unit.

3.12 Flexible Meeting Room setup

Collaboration bar

1. Connect the collaboration bar to the back ports of the CX-50 Gen2.
 - a) Connect an "HDMI" cable from the "HDMI out" port of the CX-50 Gen2 to the "HDMI in" port of the collaboration bar (reference 1).
 - b) Connect a "USB" cable from the "USB-A" port of the CX-50 Gen2 to the dedicated "USB" port of the collaboration bar (reference 2).
-  *Note:* Dual screen setups requires additional switching hardware. Plugging a secondary display into the front "USB-C" port directly is not supported!
2. Connect an "HDMI" cable from the "HDMI out" port of the collaboration bar to the "HDMI in" port of the primary display (reference 3).

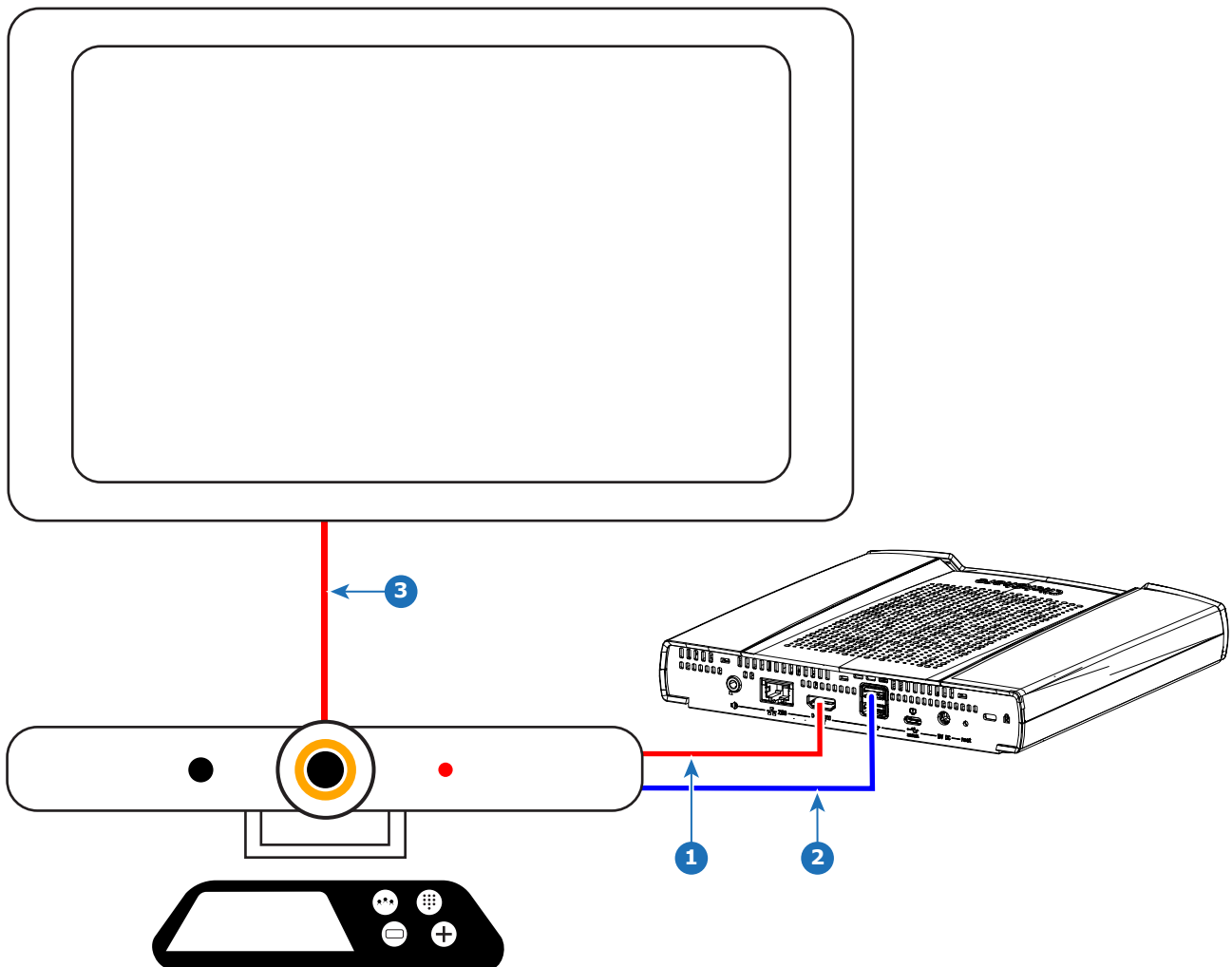



Image 3–10 Example collaboration bar connections

Modular setup

1. Connect an "HDMI" cable from the "HDMI out" port of the CX-50 Gen2 to the "HDMI in" port of the room controller (reference 1).
2. Connect a "USB-A to USB-C" cable from the "USB-C" port at the **front** of the CX-50 Gen2 to the "USB-A" of the room pc (reference 2).
3. Connect a "USB" cable from the "USB-A" or "USB-C" port at the **back** of the CX-50 Gen2 to the external peripherals (reference 3).

 **Note:** It is not possible to pair new buttons while in Modular setup mode with the Base Unit in room system mode!

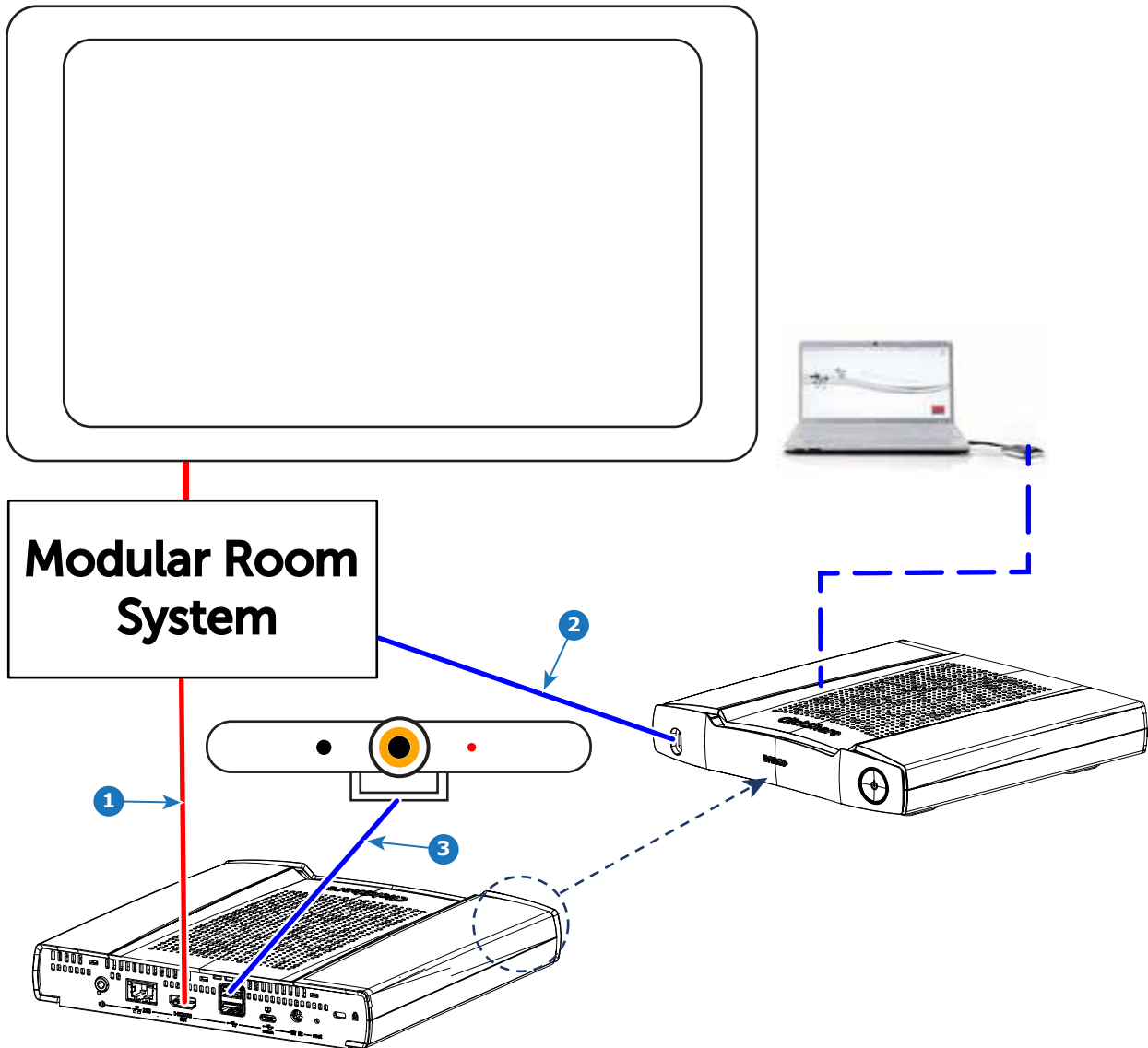


Image 3–11 Example modular room system connections

3.13 Touch screen connections to the Base Unit

About the connection

A single screen can be connected to the Base Unit.

To connect video, an HDMI connection should be made between the Base Unit and the display. To connect the touch functionality, an USB cable should be connected between the touch screen and the Base Unit. A list of supported touch screen can be found on Barco's website. See <https://www.barco.com/en/support/docs/TDE9538>.

To connect

1. Connect an HDMI cable between the Base Unit and touch screen display. When necessary, use an adapter piece to connect to a display port or a DVI port on the display side.
2. Connect the USB output of the touch screen with an USB connector on the Base Unit.



Note: When the display is connected to the Base Unit via USB cable, then the touch screen can be connected to the display when there is an extra USB available.

3.14 Camera connection

About USB cameras

Any USB camera with at least a resolution of 720p can be connected to the Base Unit. A list of supported cameras can be found on Barco's website.

Since the USB ports are USB 2.0 or higher ports, HDMI cameras are supported via HDMI to USB converter.

To connect

1. Connect the camera via USB to the Base Unit.

Camera connected to the Base Unit is accessible when plugging in the Button. No drivers required, all camera's will be visible to the user as "ClickShare Camera".

3.15 Content Audio connection

About content audio (no speakerphone connected)

The ClickShare Button captures the audio output of the user's laptop and sends it to the Base Unit together with the video signal. The audio can be output at line levels from the mini jack socket (3.5mm), TOSLINK socket or via the HDMI connector (can be set in the configurator).

It is up to the user to decide whether or not to send the audio signal together with the video signal. The user can decide this by using the same tools as he would to control the laptop's speakers or a headphone: the audio controls of the operating system or the physical buttons on the keyboard of their laptop (mute/unmute, lower volume, higher volume).

There will be synchronization between the audio and video signal when the user is sharing content.

About content audio (speakerphone connected)

The content audio captured on the user' laptop is transmitted via the sharing Button to the Base Unit and is send to USB port with speakerphone connected.

Audio via HDMI (no speakerphone connected)

When your display is connected via HDMI and it supports audio, a separate audio connection is not necessary. The audio signal is sent together with the video signal to the display.

When USB speakerphone is attached to the Base Unit, this will output all audio. Even if separate audio system is attached.

How to connect separate audio

1. When using the analog output, connect an audio cable with mini jack (3.5mm) into the analog audio output of the Base Unit.

When using the digital output, connect an fibre optical cable with TOSLINK connector into the digital audio output of the Base Unit.

2. Connect the other side to the meeting room's sound system.



Audio output needs to be selected in the Configurator, for more info, see "[CX-50 Gen2 Configurator](#)", page 77.

Sound is not sent out

In some Windows environments sound is not sent out. This can be solved as follow (depending on your Windows version):

E.g. for Windows 7:

1. Right click on the sound icon in the system tray and select *Default device*. The *Sound* window opens.
2. Select Speakers ClickShare, select *Set default* and click **Apply**.

E.g. for Windows 10

1. Click on the sound icon in the system tray and click on the arrow up to open possibilities.
2. Select the desired device.

3.16 Echo Canceling Speakerphone audio connection

About echo canceling speakerphone audio

The audio capture by an echo canceling speakerphone connected to the Base Unit is sent to the Button and can be used in remote conference. The content audio transmitted from the Button to the Base Unit is sent to the speakerphone.

It is a bidirectional audio transmission between the Button and the speakerphone.

USB speakerphone support

A list of supported speakerphones can be found on Barco's website.

How to connect an echo-canceling speakerphone

1. Connect your speakerphone device via USB to the Base Unit.

When USB speakerphone is attached to the Base Unit, this will output all audio. Even if separate audio system is attached for the content audio..

Sound is not sent out

In some Windows environments sound is not sent out. This can be solved as follow:

E.g. for Windows 7

1. Right click on the sound icon in the system tray and select *Default communication device*. The *Sound* window opens.
2. Select Echo Cancelling Speakerphone, select *Set default* and click **Apply**.

E.g. for Windows 10

1. Click on the sound icon in the system tray and click on the arrow up to open possibilities.
2. Select the desired device.

What happens if you select the wrong audio device

- When you are sharing screen content and the audio goes through the speakerphone
 - Audio will be played out in the room even when not sharing
 - Audio will be transmitted low-latency, so there will be no lip-sync
 - Due to aggressive jitter adaptation, the sound (esp. music) might not be 100% fixed tone
- When you use the ClickShare speaker in your UC&C call
 - Audio will have additional delay
 - Audio will not be outputted when you are not on screen, potentially giving you a false feeling of "ended call" or "muted state"
- When you do not select the room speakerphone as microphone, but your laptop's microphone in combination with a ClickShare Speaker or the room speakerphone:
 - High probability of echo for remote participants!
 - Bad microphone pickup in the room

3.17 LAN connection

About LAN connection

The Base Unit can be connected to a local network or directly to a laptop.

Maximum allowed LAN speed: 1000 Mbit

We do strongly advise the LAN connection and the use of XMS cloud for configuration, monitoring and additional functionality. The LAN connection also greatly improves the user experience when using the ClickShare Apps and native sharing protocols such as Airplay and others.

How to connect

1. Insert a network cable with RJ-45 connector into the LAN port.
2. Connect the other side to a LAN.

3.18 HDMI connection to the Base Unit

About HDMI in

By default there is no HDMI in to the Base Unit. To connect HDMI to the Base Unit a Barco adapter must be used. This adapter makes it possible to connect an HDMI source to the Base Unit and a USB Type-C™ port remains available. The connected HDMI signal will be converted to DisplayPort over USB-C.



DisplayPort over USB-C needs to be enabled in the *Configurator*, tab page *Display & Audio, Inputs*.

Required parts

Barco HDMI-in to USB-C convertor kit (R9861581)

How to connect

1. Connect the USB Type-C™ connector of the HDMI adapter with the front USB Type-C™ port (1).

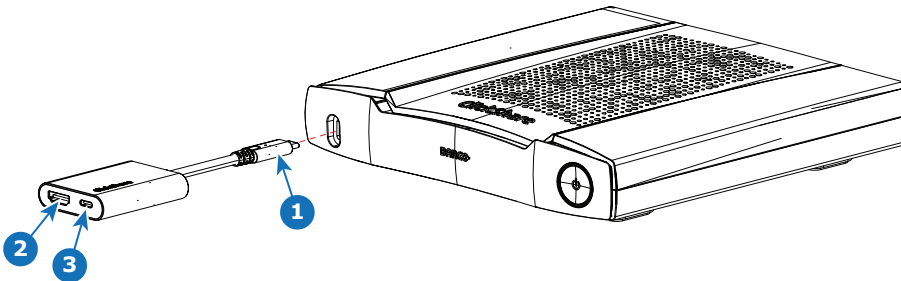


Image 3-12

2. Connect your HDMI source with an HDMI cable to the HDMI input of the HDMI adapter (2)
3. The spare USB Type-C™ port can be used for wired roomdock.

3.19 Power connection

About power connection

The Base Unit can be powered in two ways:

- Via a 19VDC network adapter
- Via USB Type-C™



When both connections are made, the external power adapter has the priority.

About the power adapter



WARNING: Use a power cord which complies to local regulations. If not included in the box, contact your local dealer for a correct power cord.

The Base Unit is intended to be powered by the Barco supplied power adapter ATM090T-A190, with power specifications: input 100-240V, 1.2A 50/60Hz and output 19 VDC 4.74A.



Image 3-13

Via the power adapter

1. Plug the barrel connector of the power adapter into the power input of the Base Unit.
2. Slide a power input adaptor piece (US, AU, IN, CH, EU or UK) on the power adapter of the ClickShare until it clicks. Use the one which is applicable in your country.
3. Connect the power cable to the wall outlet.

Via USB and display

1. Connect the USB Type-C port at the backside of the Base Unit to the USB input of the display (only for displays that can deliver power to the USB port)

Minimum power specification for the USB of the display are: 90W or 100W (20V/5A or 20V/4.5A)

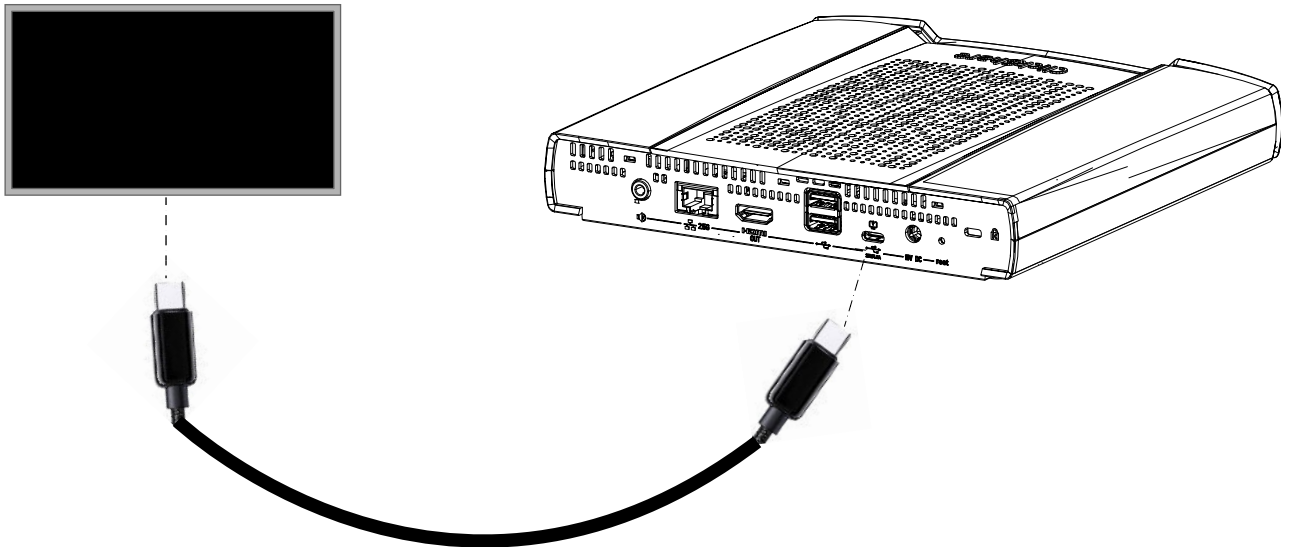


Image 3–14

The display sends power to the Base Unit and the Base Unit sends video signal to the display.

3.20 Wired roomdock


About wired roomdock

The front USB Type-C™port supports the wired roomdock functionality.

With wired roomdock, the user can share high resolution and frame rate content and connect to the room audio and video over a wired connection.

How to connect

1. Make a connection between the laptop USB Type-C™port and the front USB Type-C™port of the Base Unit (can also with the USB Type-C™port on the Barco HDMI-in to USB-C convertor)

 **Note:** Make sure that the laptop USB Type-C™port supports display port alternate mode.

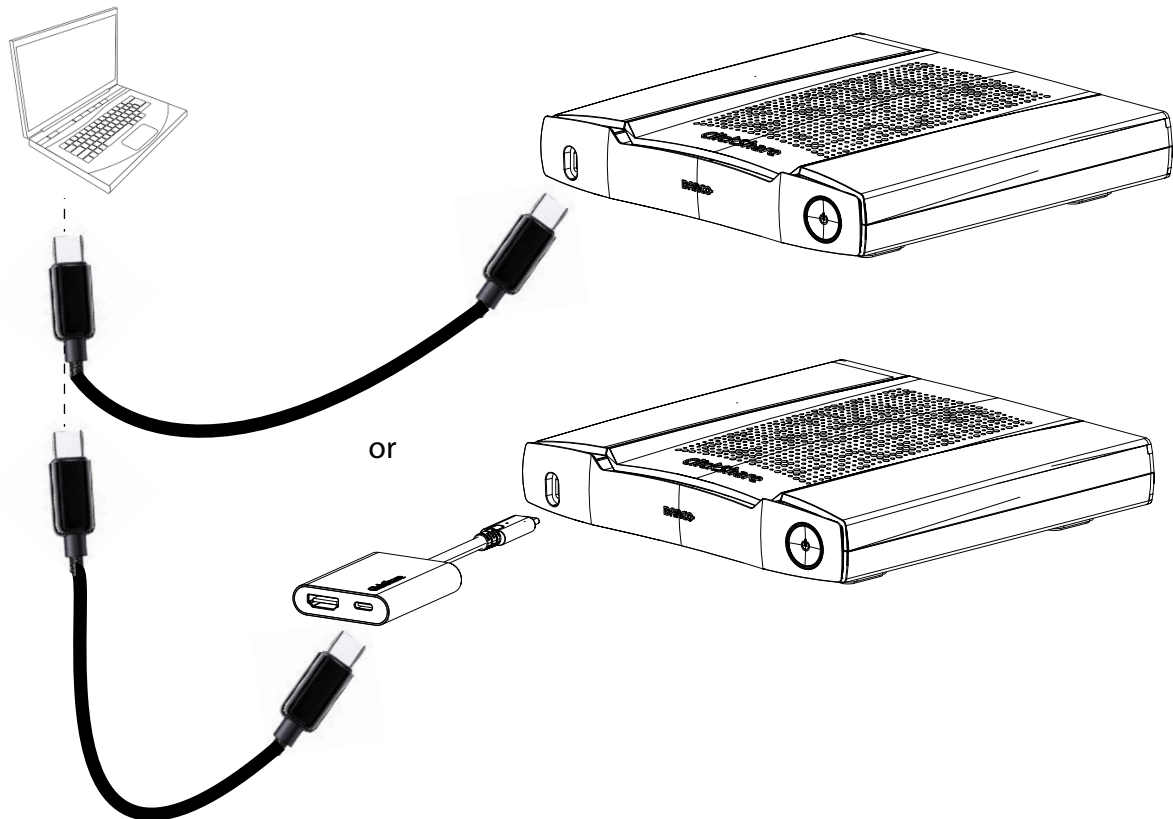


Image 3–15 Wired roomdock connection



Before Wired Roomdock can be used, configure it in the Configurator. Go to *Display & Audio* and select *Input*. For more info, see [“Display setup, Inputs”, page 95](#)

3.21 First startup of the Base Unit

Workflow

1. First time boot of the Base Unit.

The following screen is seen on the connected monitor.

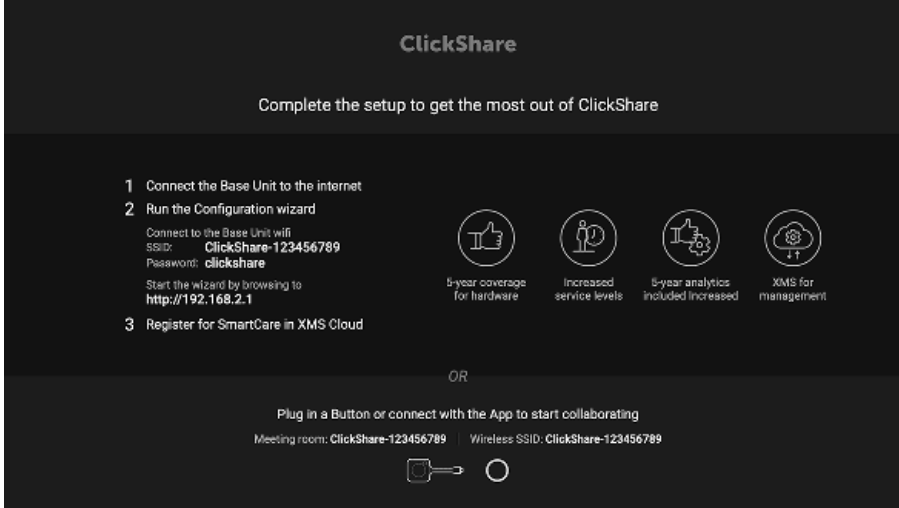


Image 3–16 Onboarding screen

There are now 2 ways to continue:

1. Check for updates (optional), configure your Base Unit and register to XMS Cloud. See [“Preferred way to start up”, page 52](#)
2. Plug in a button and start sharing your screen. See [“Start up without configuration”, page 58](#)

3.22 Preferred way to start up

What will be done?

After an optional firmware update check, the configuration wizard should be started to configure the Base Unit. To finalize the complete startup, the Base Unit can be registered to XMS Cloud to get your SmartCare package. That package contains a 5-year coverage for hardware, increased service levels, 5-year analytics and XMS for management.

How to handle

1. Connect the device's WiFi with the given instructions.
The default SSID is ClickShare-<serial number>.
Password : clickshare
2. Once your WiFi connection is made, continue with the network setting of your device.
Browse to <http://192.168.2.1>
The ClickShare Configurator wizard starts up.

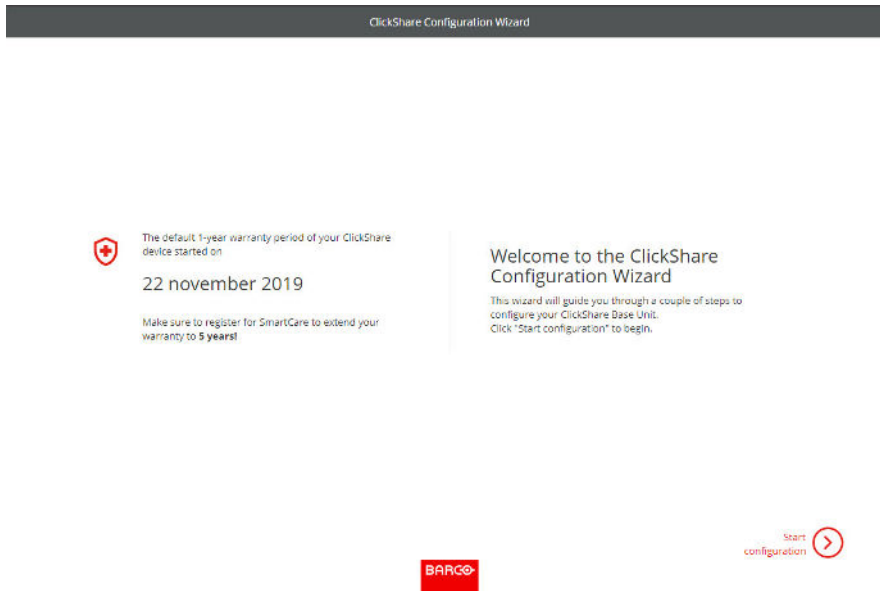


Image 3–17

3. Click **Start configuration**.
The *Firmware* update window opens.

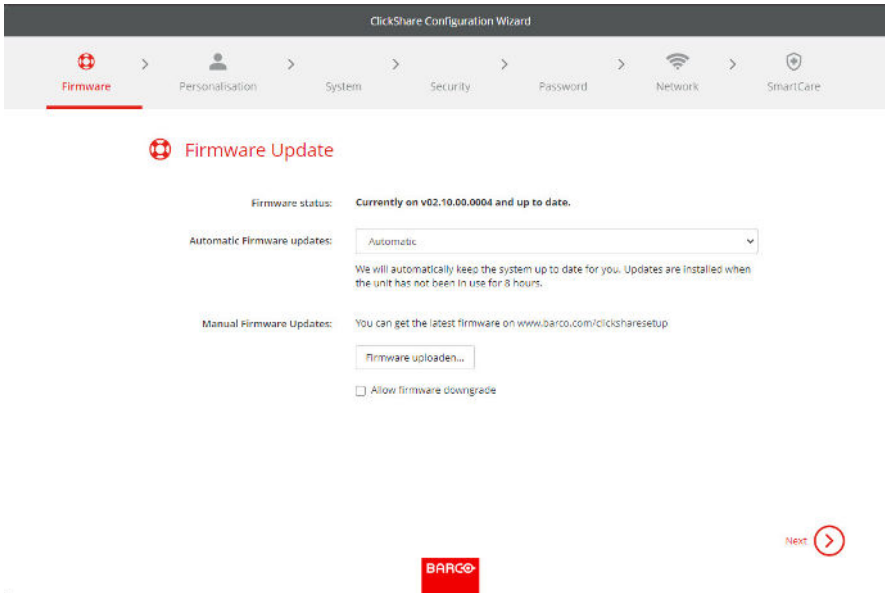


Image 3–18

When connected to the internet you can select *Automatic* for firmware update (recommended). If you set it on *No*, you still have the choice to manually update by downloading the software on an USB stick.

When connected to the internet and the setting is set to *Automatic*, the software check will be done and the latest version will be downloaded but the update of the firmware will be executed only when finishing the configuration wizard.

For more info about automatic firmware update, see [“Firmware Update”, page 141](#).

Click **Next** to continue to the next page and **Back** to return to the previous page.

4. Personalisation step.

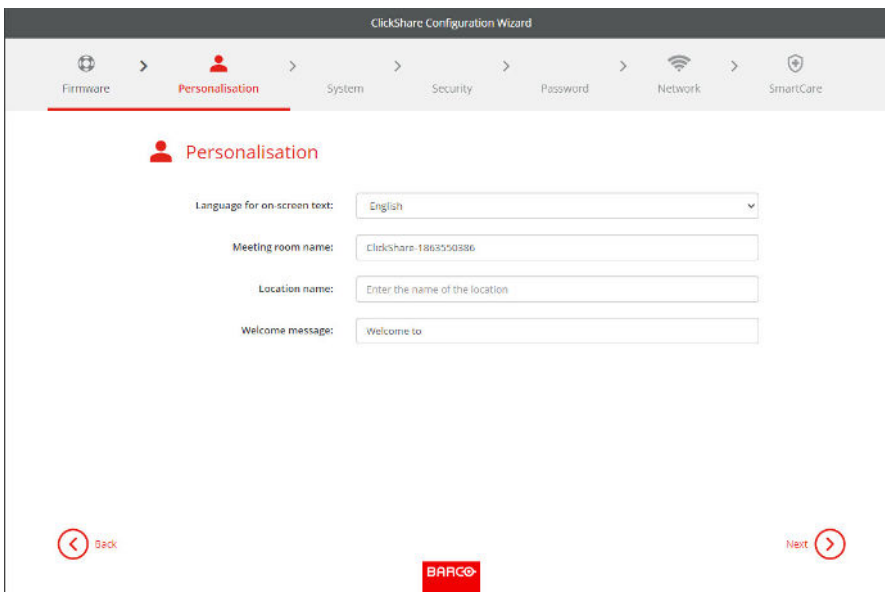


Image 3–19

Enter the on screen language you want to use. For more info, see [“On-Screen ID information”, page 85](#).

Enter the meeting room name, location name and welcome message. For more info, see [“On-Screen ID information”, page 85](#).

5. System settings

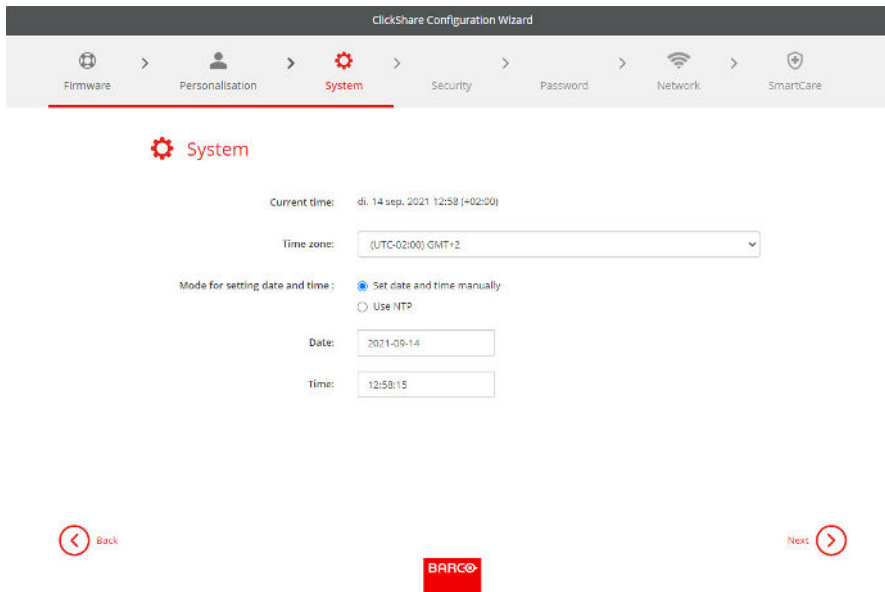


Image 3–20

Enter a time zone and make a selection between manual time setup and the use of NTP.

For more info about manual time setup, see [“Date & Time setup, manually”](#), page 128.

For more info about the use of an NTP server, see [“Date & Time setup, time server”](#), page 130.

6. Security settings

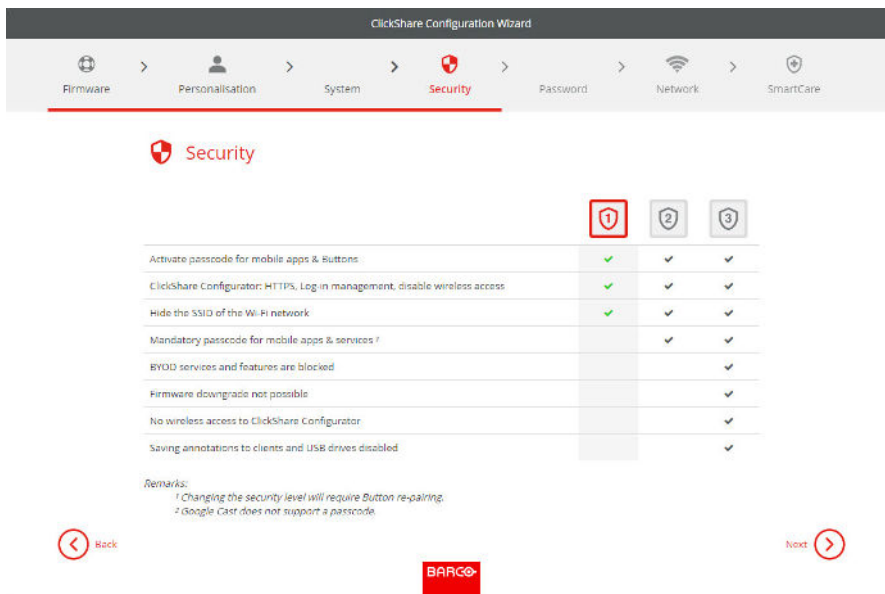


Image 3–21

Set the desired security level. For more info, see [“Security, security level”](#), page 122.

7. Password change

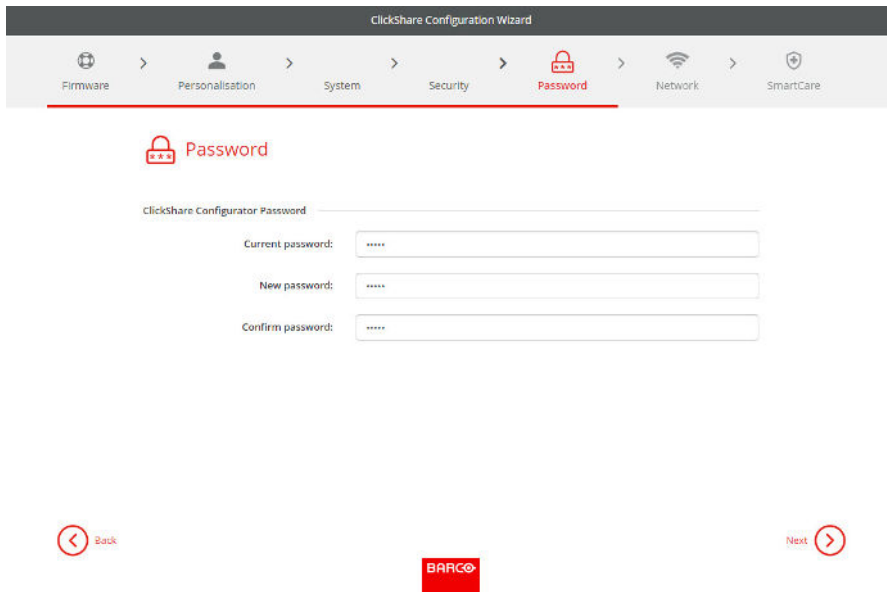


Image 3–22

We advise to change the default password to enter the Configurator. For more info, see [“Security, passwords”, page 124.](#)

8. Network settings

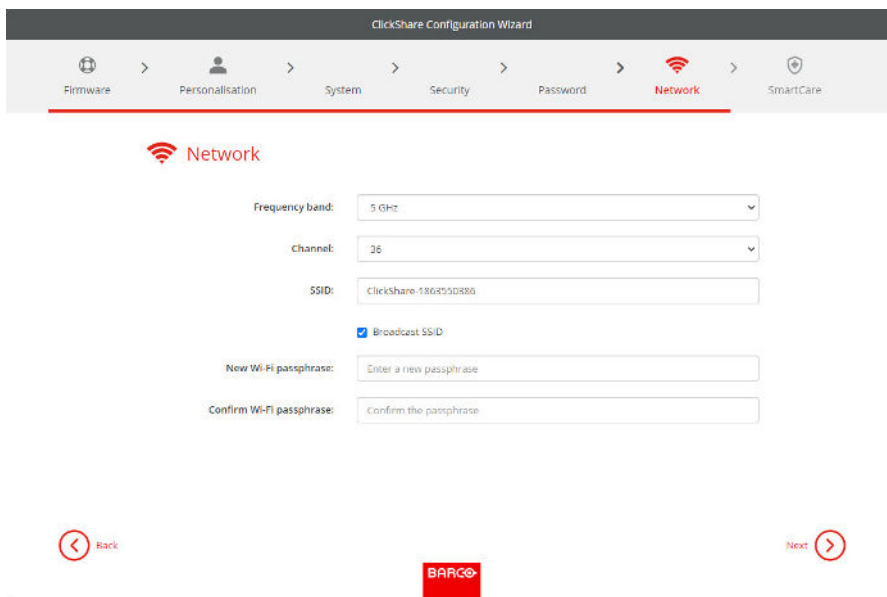


Image 3–23

Select the frequency band, channel and enter a Wi-Fi passphrase when desired. For more info, see [“Wi-Fi settings, Access Point settings”, page 100.](#)

9. SmartCare registration

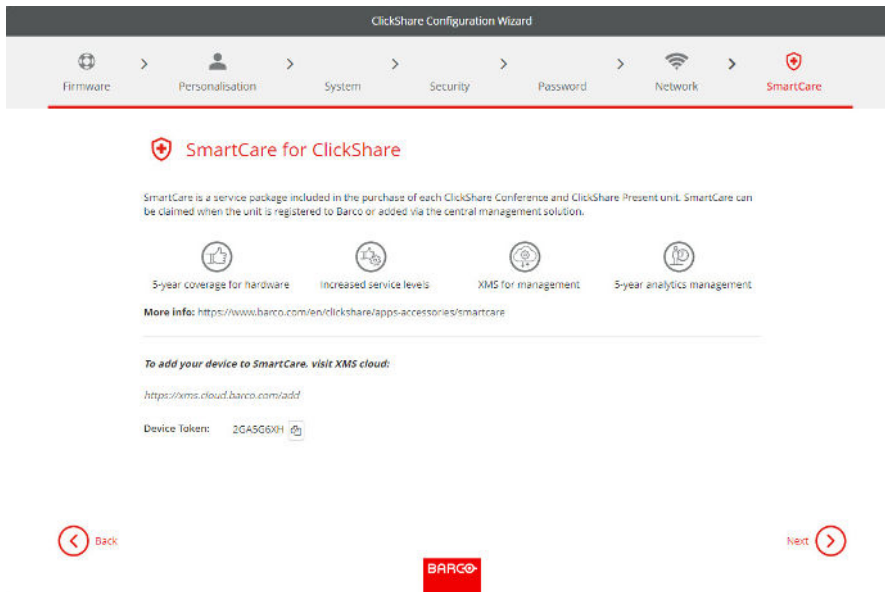


Image 3–24

To benefit from the SmartCare program, your device should be registered to XMS Cloud. Copy your device token by clicking on the copy icon next to the token.

Click on the link to start the registration procedure.

Follow the procedure in “Registration to XMS Cloud”, page 59.

10. Overview page

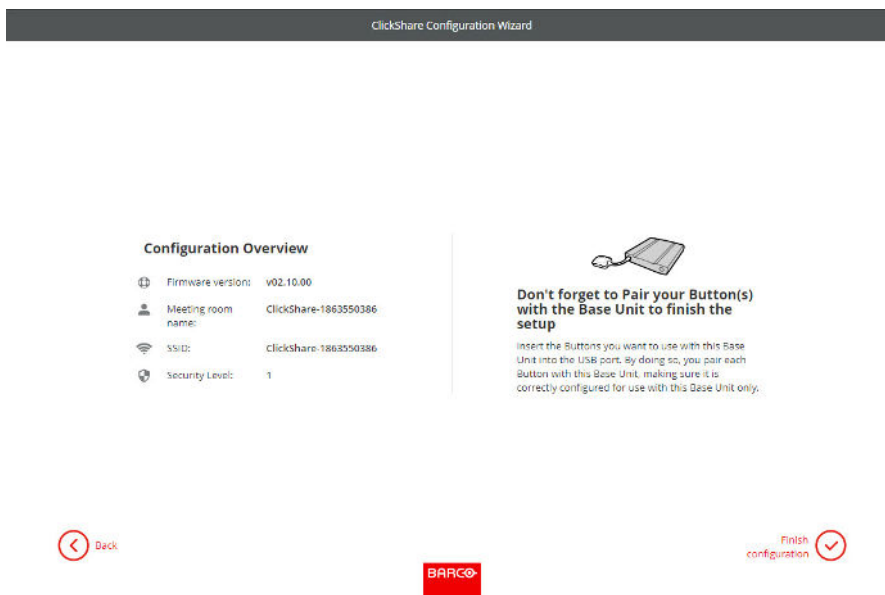


Image 3–25

Gives an overview of the current configuration.

Click **Finish configuration**. When your device is connected to the internet and firmware update was set to automatic, a software check and an update will be executed. The Configurator starts automatically with a message that your device is configured.

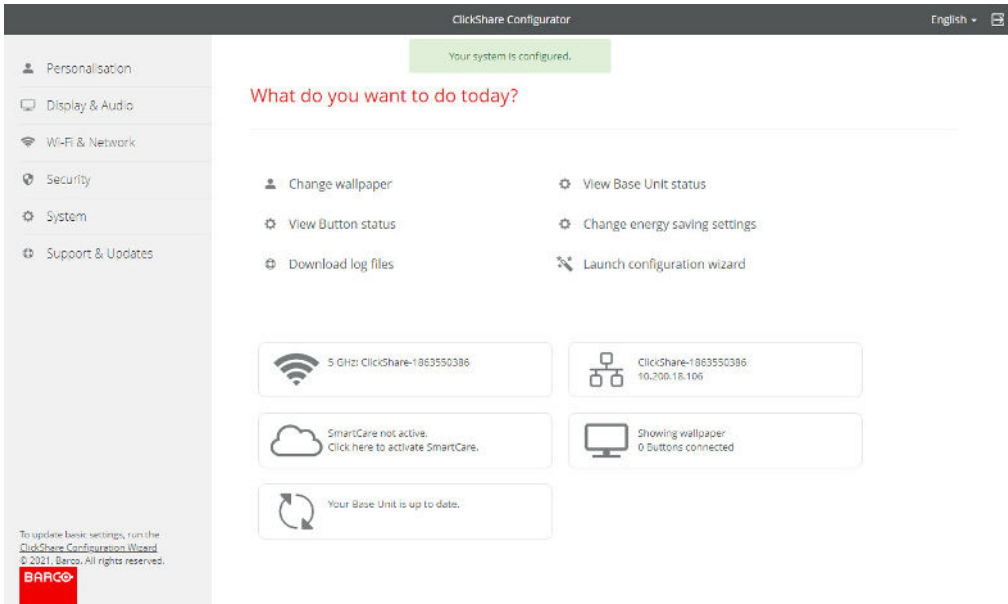


Image 3–26

3.23 Start up without configuration

How to start

1. Plug in a Button and start sharing your screen.

As soon as a user connects to the Base Unit, the default wallpaper will be shown on the meeting room display and the unit can be used with its default configuration. However, as long as the Configuration Wizard has not been completed, the initial startup screen will again be shown at each reboot of the device.

Registration of the device is only possible in the Configuration Wizard or from the ClickShare Configurator and when the Base Unit is connected to the internet.

3.24 Registration to XMS Cloud

About registration

When your device is connected to the internet and updated you can start to register your device. You have to register your device in order to claim your 5 years SmartCare package.

This SmartCare package includes:

- 5-year coverage for hardware
- Increased service levels
- XMS for management
- 5-year analytics management

More info can be found on <https://www.barco.com/en/clickshare/apps-accessories/smartcare>.

Registration can be done to

- XMS cloud by the end customer (preferred flow) or by the reseller in the name of the customer.

Online to XMS cloud

1. Surf to <https://xms.cloud.barco.com/add>.
The XMS login page is displayed.
2. Enter your Email address and click **Continue**.

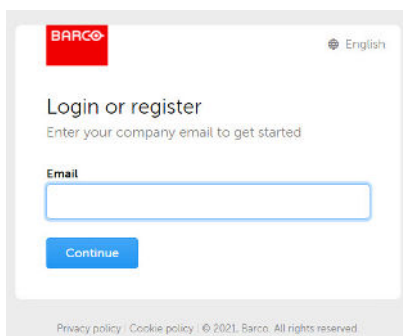


Image 3–27

When your E-mail address is known by XMS Cloud you arrive on the tenant selection page. To continue, go to step 5.

When your E-mail address is not known by XMS Cloud, a verification code will be sent to the entered E-mail address. Enter the verification code and click **Continue**.

The XMS cloud welcome page is displayed.

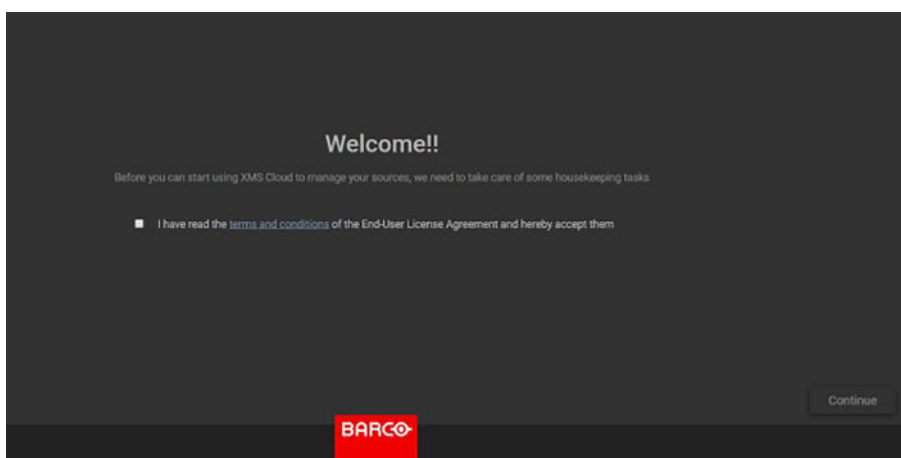


Image 3–28 Welcome page to XMS-cloud

3. Accept the End User License agreement and click **Continue**.

4. Fill out your company information and click **Continue**.

Tell us about your Company

We need to create a Tenant for your company in XMS Cloud
This information will be used to identify your company, associated devices and services

Tenant Name

Country

Timezone

Continue

BARCO

Image 3–29 Company information

5. Enter the device token to setup your device and to receive your 5 years of service coverage. The device token is indicated on the wizard screen (see [Image 3–25](#))

Click **Continue**.

Enter Device Token...

Enter your device token to setup your ClickShare and receive your 5 years of service coverage

Continue

BARCO

Image 3–30 Enter device token

6. Assign a meeting room and click **Continue**.

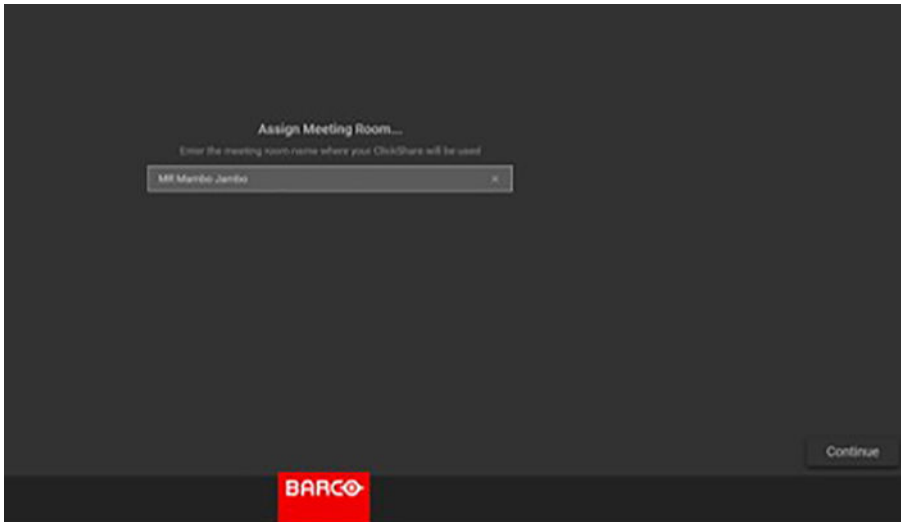


Image 3–31 Assign meeting room

Your device is successfully registered.

3.25 Activating calendar integration with XMS Cloud

About Calendar

The calendar capability allows to display your room calendar on the monitor connected with ClickShare device.

Secure Azure AD integration

XMS Cloud can be used to display the availability of the meeting room on the screen using ClickShare (optional feature). This is done securely using Azure Enterprise Applications that integrate with Azure AD. To mitigate security risks that might arise while integrating Azure Enterprise Applications in Azure AD, this feature makes use of 2 separate Azure Enterprise Applications, the 'ClickShare Meeting Room Discovery' and the 'ClickShare Calendar Sync'. The 'ClickShare Meeting Room Discovery' is a multi-tenant application while the 'ClickShare Calendar Sync' is a single tenant application, only hosted in the customer's Azure AD. The ClickShare Base Units access the calendars only through the single tenant 'ClickShare Calendar Sync' using a per customer unique and random client secret. The client secret is created by Microsoft with the following properties: randomly generated and expires automatically after 24 months.

For more in-depth information, see Barco's Security white paper "XMS Cloud and (Virtual) Edge Security Whitepaper" which can be downloaded from Barco's website.



Verify the publisher (Barco) of the Enterprise Application before adding it to your tenant.



Limit the access of the Enterprise Application 'ClickShare Calendar Sync' to only the needed meeting rooms (and no other calendars) using an ApplicationAccessPolicy on Microsoft Exchange Online.

Role of the IT administrator in this process

To enable the device to get the calendar, XMS Cloud needs to be "connected" to your Microsoft Azure Account. This 'connection' makes it possible to discover your rooms and share their credentials with the devices. Approval from your organization's O365 administrators is required.

1. Before starting the integration, contact an IT administrator who has a **Global Administrator role in Azure Active Directory**. Only this type of account can enable the integration.
2. Add the credentials of the IT administrator to the XMS tenant you want to add the calendar.
3. Ask the IT administrator to sign in to XMS Cloud and browse to the Calendar page and ask him to execute the next *How to setup*.
4. After the How to setup, the customer or the integrator can continue with the procedure *Assign a meeting room to a calendar*.

Before starting

By default, the Microsoft Calendar plug-in is installed in your current tenant. If not (or if removed manually), proceed as follows to bring it back:

1. In XMS Cloud, navigate to *Marketplace* >> *Calendar* and click **View Details**.
2. In the detail window, click **Add to XMS**.

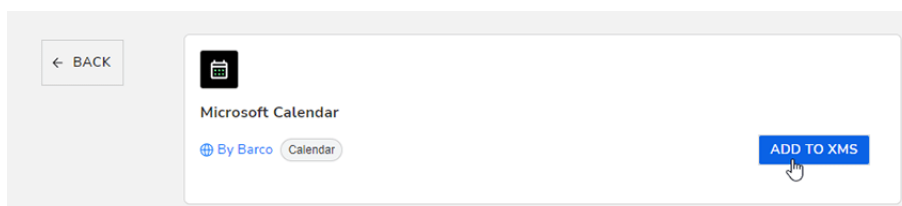


Image 3-32

How to setup the calendar (as IT administrator)

The following actions are to be performed by the IT administrator with a global Administrator role in Azure Active Directory.

1. In XMS Cloud, go to *Marketplace >> Microsoft Calendar*.

The Calendar default page is displayed.

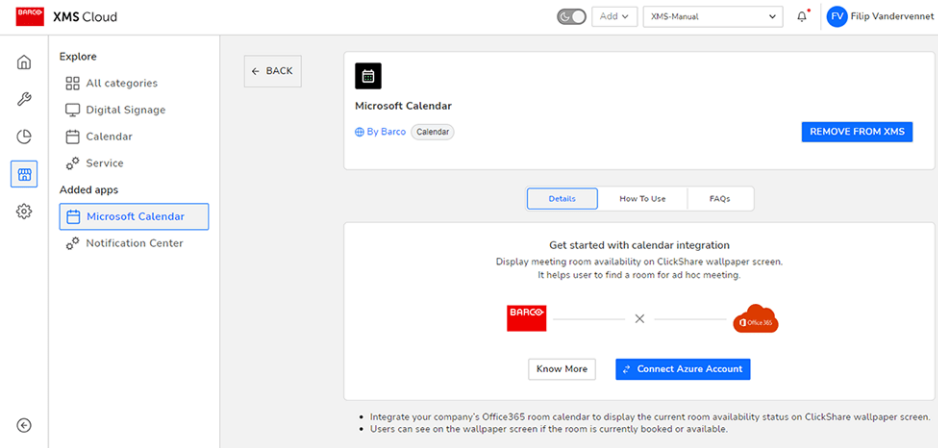


Image 3–33

2. Click **Connect Azure Account**.

You will be redirected to your Microsoft Azure account. The Microsoft sign-in window will be displayed.

3. Sign in with the correct administrator credentials.

Once signed in, you will see the approval screen for ClickShare Meeting Room Discovery.

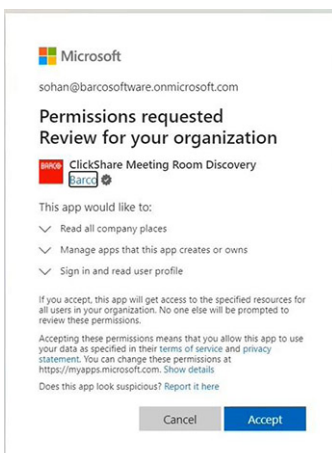


Image 3–34

4. Read the message on the screen and click **Accept**.

When accepted, you will be redirected back to XMS Cloud with a page similar to the following:

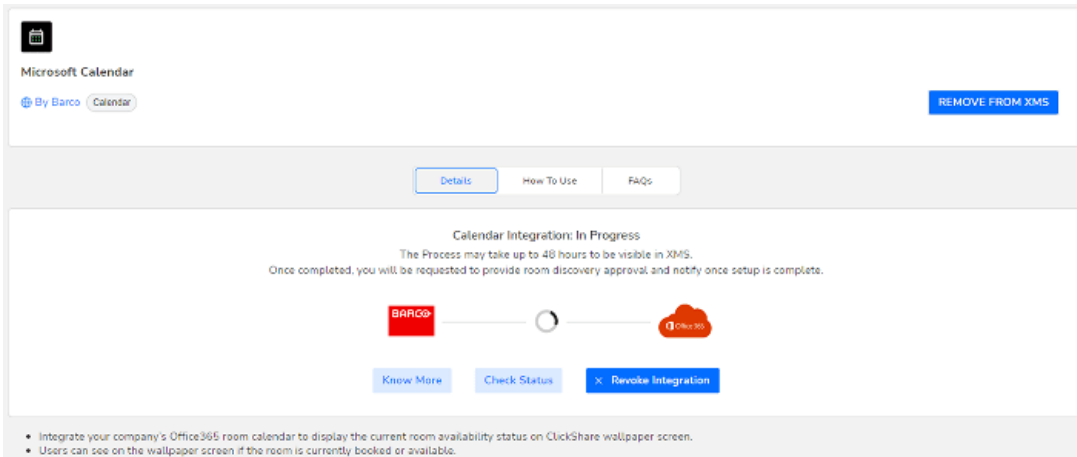


Image 3–35

This process should finish in 10 to 30 minutes. Only in exceptional cases, this could take longer.

- Once the process has finished, the screen is refreshed and shows the **Continue integration** button.

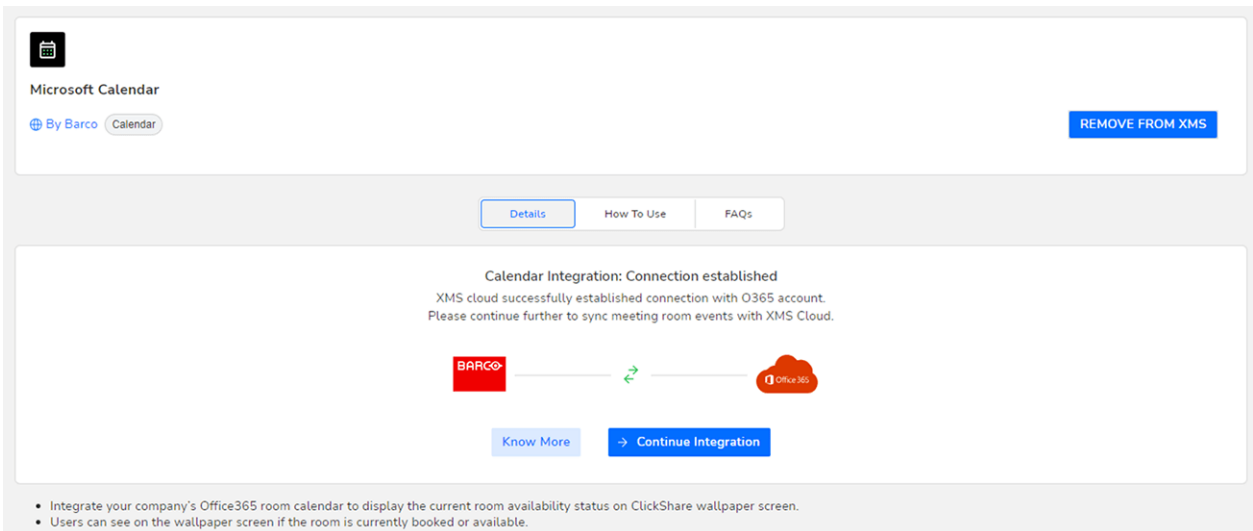


Image 3–36

- Click **Continue integration** to request the O365 admin's final permission to read calendar information for each room-account and generate credential for devices to achieve that.

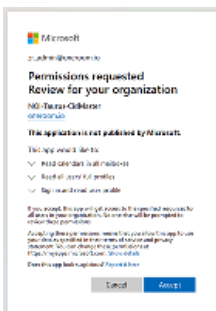


Image 3–37

- Click **Accept**.

Your connection with Microsoft Calendar is now active. The menu option *Calendar* will now also be visible in the *Manage* menu.

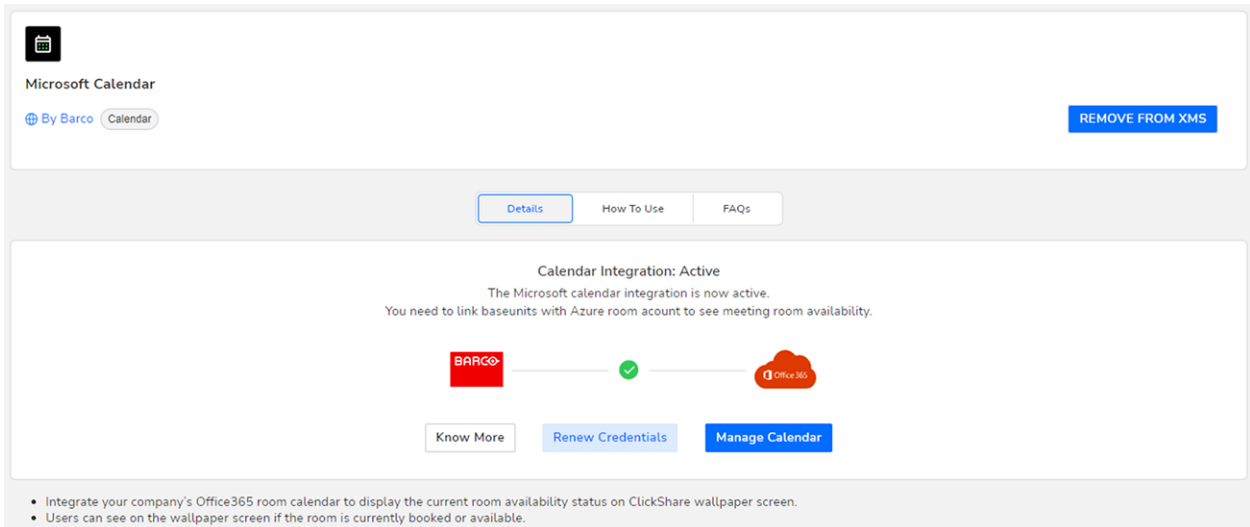


Image 3–38

In order to assign Base Unit devices to your calendar meeting rooms, click **Manage Calendar**. Alternatively, you can also browse in XMS Cloud to: *“Manage” >> Calendar*.

Assign a meeting room to a calendar

1. On the Manage Calendar page, spot the desired Meeting room and click on **+ Link Base Unit**.

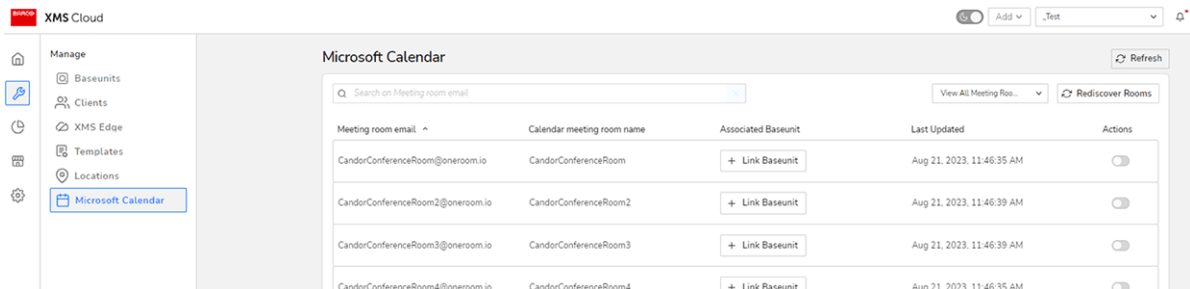


Image 3–39 Example of the Manage Calendar window.

The Base Unit selector window is prompted.

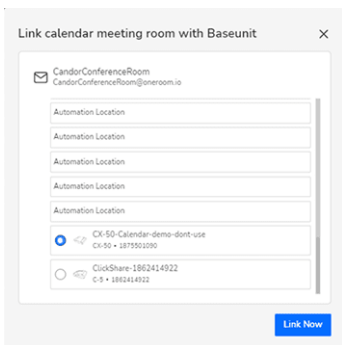


Image 3–40 Example of the Base Unit selector window.

2. Select the desired Base Unit device that should be linked with the chosen meeting room.
3. Click **Link Now**.

The Base Unit device is now linked with the chosen meeting room.

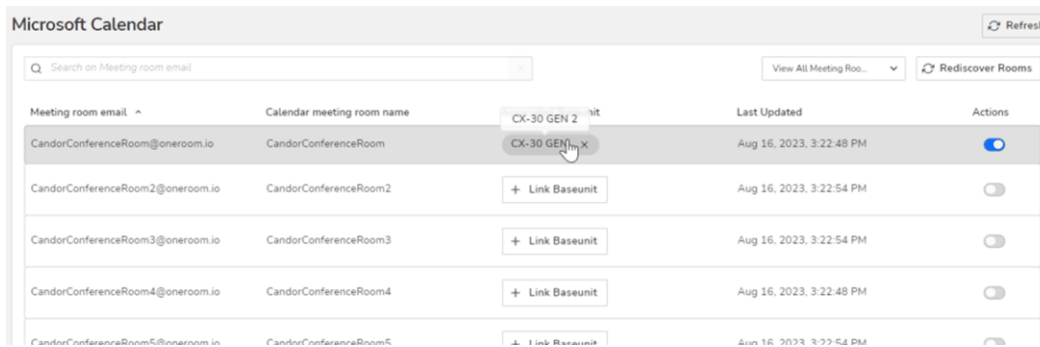


Image 3–41 Example of the meeting room linked with a Base Unit device

- Repeat this procedure for every meeting room that has a ClickShare Base Unit device.

About Credentials

By default the user does not need to do anything for expiring credentials. as XMS Cloud auto-renews credentials during an periodic credentials check. If renewed, the renew credentials will be valid for the next six months.

You can manually renew credentials by going to the Calendar plug-in page and clicking Renew credentials.

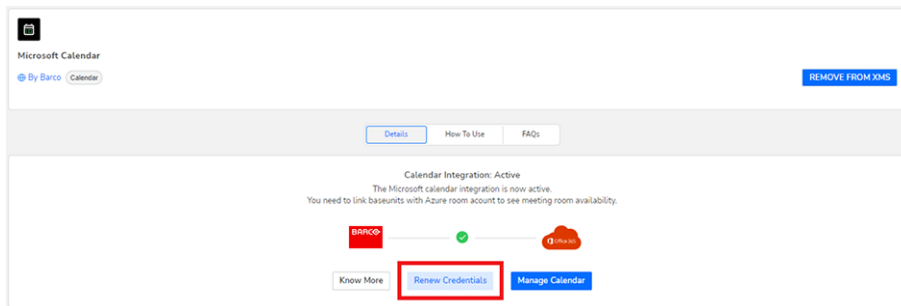


Image 3–42

Preparing the Buttons

4

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4.1 Pairing

Pairing of the Buttons with the Base Unit

To be able to use a Button it should be assigned to the Base Unit you are using. This process is called pairing. All Buttons will need to be updated and paired before use.

In case you buy additional Buttons or when a Button should be assigned to another Base Unit, the Button needs to be paired (again). The Button software update runs in the background and will not impact users while using the system. When downgrading or updating to an older version of the Base Unit software the Button need to paired manually to update their software.



A Button can only be paired to one Base Unit at a time.
The Button will always make connection to the Base Unit it was last paired to.

To pair a Button to the Base Unit by plugging in

1. Insert the Button in the USB type-C™ port available on the Base Unit you are using.

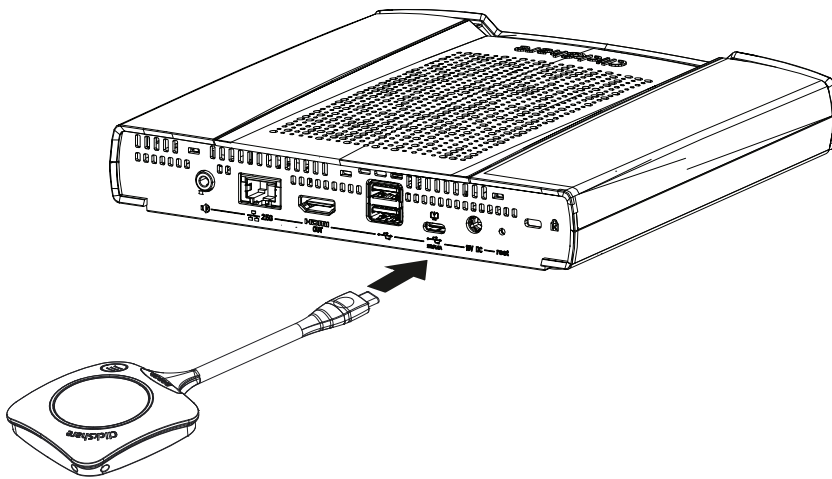


Image 4-1

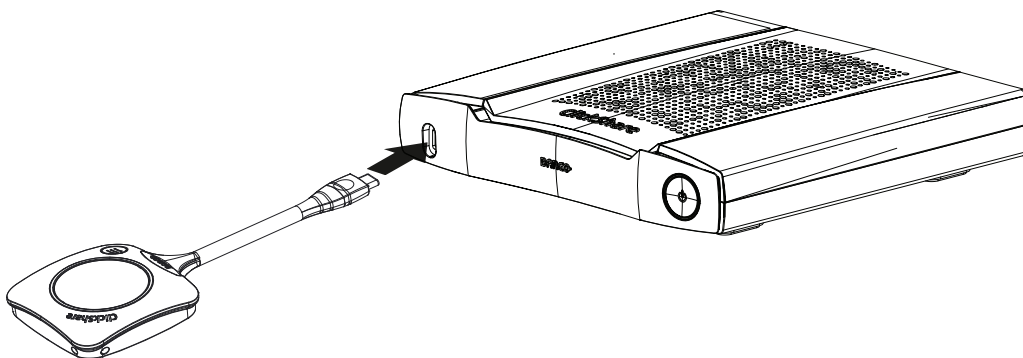


Image 4-2

The Base Unit LED is blinking while the Button LED fills up a circle. This means pairing is in progress.

The Base Unit automatically checks whether the software of the Button is up to date. If not, the Base Unit updates the Button software. This may take more time.

The result of the pairing process can be as follows:

- When the LEDs on the Button become green and static white on the Base Unit, the Button is paired to the Base Unit. You can unplug the Button from the Base Unit.

2. Unplug the Button from the Base Unit.

The Button is now ready for use.



Image 4-3

4.2 ClickShare Extension Pack

About

The ClickShare Extension Pack is a collection of tools to upgrade your ClickShare user experience. This Extension Pack contains the ClickShare Launcher service and a driver to enable the Extended Desktop functionality (only on Windows). Both tools will be installed by default. To change the default behavior of the installer, the installer will need to be executed with command line parameters.

The ClickShare Extension Pack can be installed by the end user manually, pre-installed on your company's laptop image or deployed company-wide with SCCM or other tools.

The ClickShare Extension Pack can be used in combination with a Button and/or with the ClickShare desktop app.

The latest extension pack can be downloaded via <http://www.barco.com/en/product/clickshare-extension-pack>

4.3 ClickShare Extension Pack installer

Interactive setup

In this setup, the user runs the installer which will install the ClickShare Extension Pack on his computer after the user accepts the EULA.

After the setup finished, the ClickShare launcher will be started automatically. The Extended desktop driver can only be used after the user reboots his computer.

Starting the setup

1. Download the ClickShare Extension Pack (download via <http://www.barco.com/en/product/clickshare-extension-pack>).
2. Unzip the downloaded file.
3. Click *ClickShare-Extension-Pack.msi* to start the installation.

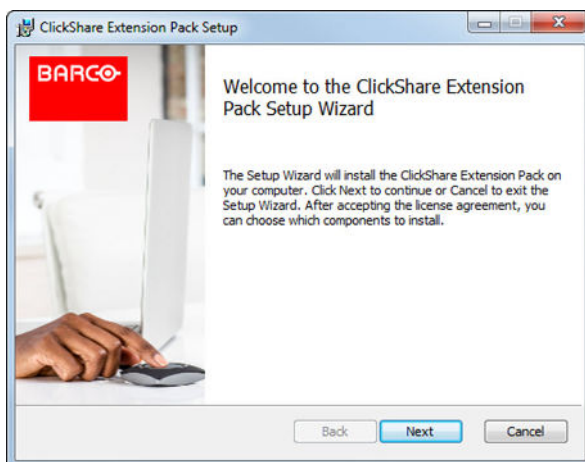


Image 4–4

4. Click **Next**, accept the License Agreement and click **Next** to continue.
If necessary, follow the on screen instructions.

Silent setup

In this setup, a user or an IT admin can install the ClickShare Extension pack using the Windows command prompt. Following is an example of a silent installation (version numbers are only given as example, always check Barco's web for the latest version):

Launcher only install:

```
msiexec.exe /i ClickShare-Extension-Pack-01.00.02.0003.msi ACCEPT_EULA=YES INSTALLFOLDER=C:\ LAUNCH_APP=YES /qn
```

Extended desktop only install :

```
msiexec.exe /i ClickShare-Extension-Pack-01.00.02.0003.msi ACCEPT_EULA=YES ADDLOCAL=ExtendedDesktopDriverFeature INSTALLFOLDER=C:\ LAUNCH_APP=YES /qn
```

Full install (launcher + extended desktop):

```
msiexec.exe /i ClickShare-Extension-Pack-01.00.02.0003.msi ACCEPT_EULA=YES ADDLOCAL=ALL INSTALLFOLDER=C:\ LAUNCH_APP=YES /qn
```



The computer will reboot. This can be suppressed with /norestart. A reboot will be needed afterwards for the extended desktop feature to be working. In case the end-user should decide if they want to reboot, /promptrestart /QB!+ can be used (basic UI, no cancel option, but prompt to reboot)

Parameter Description

ACCEPT_EULA	This parameter shows that the installer accepts the EULA text as is. This parameters must be set to YES in order to continue to the installation.
INSTALLFOLDER	This parameter specifies the installation directory for ClickShare launcher. If not specified, the default folder will be the Program Files folder.
LAUNCH_APP	The ClickShare launcher application will be started right after the installation finishes if this parameter is set to YES. Otherwise, the launcher application will not be started.
/qn	This parameter indicates that the installation will be done in silent mode, meaning that there will be no visible windows during the installation.
ADDLOCAL	This parameter indicated the type of the installation. No parameter added, installs only the launcher.

Windows environment variable

The variable to be used is CLICKSHARE_LAUNCHER_CLIENT_PATH. The value should be the path to the client software.

4.4 ClickShare Windows Certified driver

About

The ClickShare Windows Certified driver is auto-installed when plugging in a Button in a Window PC.

This Windows driver automatically launches the executable on the Button.

Note that at least version **1.20.0** is required in order to support Buttons with firmware version 4.10 or higher. In case an older version is installed on your PC, start windows update *check for updates* with a button inserted into your PC. On Windows 7, 8 and 8.1 computers, the driver will have to be manually downloaded and installed.

4.5 ClickShare Desktop App

About

With the ClickShare Desktop App installed on your computer you can enter a meeting room and get on the screen in a few seconds without the need to plug in a Button. The ClickShare Desktop App can be used in combination with a Button.

The ClickShare Desktop App connects to the meeting room screen in order to share your content. Presence detection technology is used to do so. The ClickShare Desktop App uses presence detection technology to determine which meeting room is closest to the user. Just click on your meeting room name. This means you will never have to enter IP addresses or scroll long lists of meeting rooms before being connected to your meeting room. Even more easy when using the PresentSense functionality. Just walk in a meeting room and click **Connect**.

When using Outlook as your main agenda, you get also an immediate overview of your next meetings. No need to search for the appointment or invite in Outlook. Just click **Join** to join your conference call. With App-based Conferencing, you can now also enjoy wireless conferencing without plugging in a Button. As soon as you are connected to the ClickShare Conference device, the attached room peripherals can be used in your next conference call. Make sure to install the ClickShare Desktop App through the MSI installer (admin rights required) and to enable the App-based Conferencing feature.

Installation

When the ClickShare Desktop App is not pre-deployed in your IT environment, you can download and install the software without administrator rights from www.clickshare.app. Admin rights are necessary to install the ClickShare Desktop App with calendar integration function or App-based Conferencing feature. More info of the MSI installer can be found in "[MSI installer of the ClickShare Desktop App](#)", page 75.

4.6 MSI installer of the ClickShare Desktop App



CAUTION: Installation can only be done with administrator rights.

How to install

1. Download the MSI installer from www.clickshare.app.
2. Run the MSI installer by double clicking the downloaded file.

The installation wizard starts. Follow the instruction on the different windows.

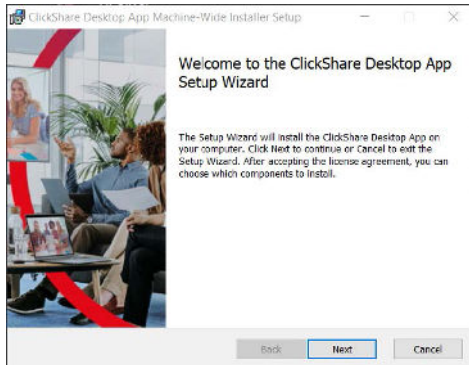


Image 4-5

3. Read the License Agreement and check the 'I accept the terms in the license agreement' checkbox to continue.

Click **Next**.

4. Enable the necessary components and click **Install**.

The ClickShare Desktop App and the selected features are now available for all users of your computer.

CX-50 Gen2 Configurator

5

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About configuration

The configuration of your device can be done in

- XMS cloud
- the local configurator

The configurator in XMS cloud will (in time) more elaborated than the local configurator. Therefore it preferred to configure your devices via XMS cloud. For more info see XMS documentation.

The next topics are describing the local configurator.



Within some menus the *Configurator* is indicated as *WebUI*. E.g. WebUI password, that is the password to enter the Configurator.

5.1 Accessing the Configurator

Getting access to the Configurator

There are three ways to access the Configurator:

- Via the LAN
- Direct Ethernet connection between PC and Base Unit.
- Via the Base Unit's wireless network

When accessing the configurator for the first time, the ClickShare Configuration Wizard starts automatically.


This configuration wizard can be started at any moment to change your configuration instead of using the menus.

To access the Configurator via the LAN

1. Open a browser.

 **Note:** Supported browsers are Microsoft Edge, Firefox, Google Chrome and Safari.

2. Browse to the IP address of your device.

 **Note:** If you do not know the IP address due to *Show network info* is disabled, connect via a direct connection or via a wireless connection to your device to discover the wired IP address.

A login screen appears.

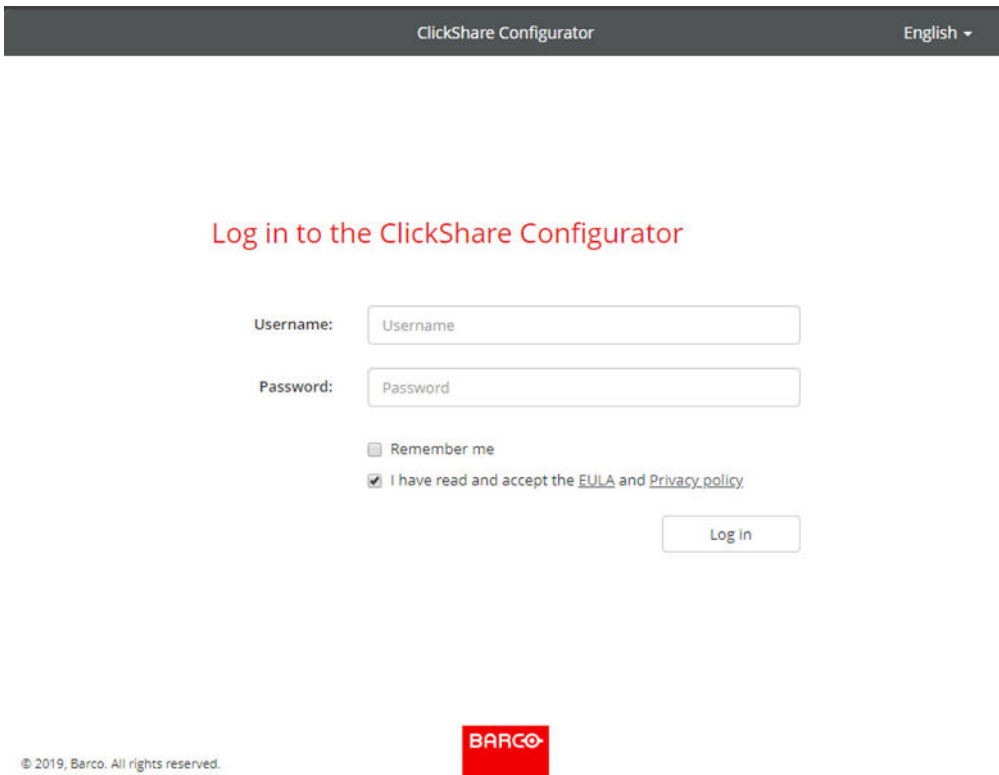


Image 5–1 Login screen

3. To change the language of the Configurator, click on the drop down next to the current selected language and select the desired language.

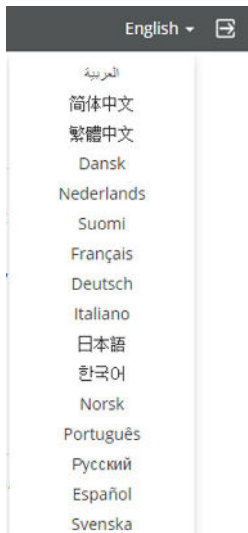


Image 5–2 Configurator languages

The following languages are possible:

- Arabic
- Simplified Chinese
- Traditional Chinese
- Danish
- Dutch
- English
- Finnish
- French
- German
- Italian
- Japanese
- Korean
- Norwegian
- Portuguese
- Russian
- Spanish
- Swedish

The Configurator language changes to the selected language.

4. Enter the user name 'admin' and the password, read and accept the EULA and the Privacy policy and click **OK**.

By default, the password is set to 'admin'.

Warning: It is strongly recommended to change the default password into a strong password on first use, to prevent that anyone else accessing the configurator can change the settings of the ClickShare Base Unit. See section "Security, passwords".

The Configurator opens.

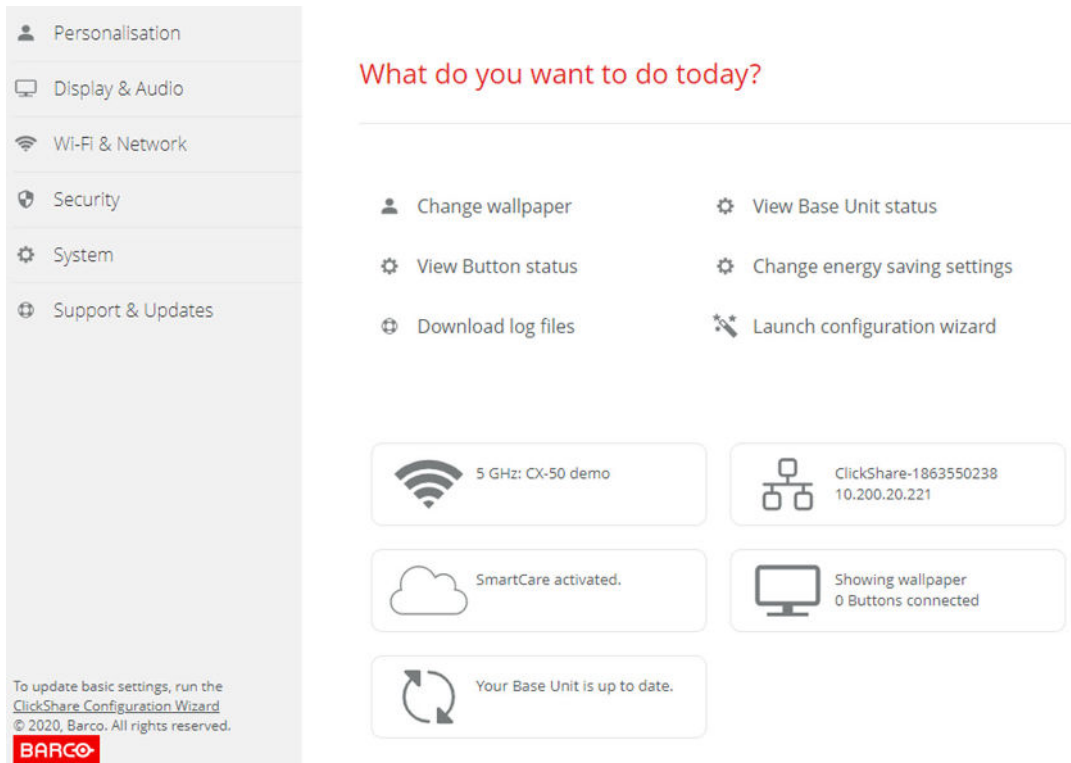


Image 5–3 Start screen

The language of the configurator can be changed on any page in the interface.

The screen is split up in 2 panes. Left pane with the selection buttons and a right pane to configure the selected function.

The startup screen itself shows:

- the wired IP address
- the wireless SSID
- the number of Buttons connected
- the system state
- the SmartCare state

Each of these boxes are also direct links to the described function.



If you cannot find the IP address (e.g. there is no screen available) you should connect to the Base Unit directly with your laptop via an Ethernet crossover cable and access the web interface using the fixed IP address 192.168.1.23. Make sure your own LAN adapter is set in the 192.168.1.x range.

To access the Configurator via a direct connection.

1. Connect the Base Unit to your laptop using an Ethernet cable.
2. On your laptop, open a browser.



Note: Supported browsers are Microsoft Edge, Firefox and Safari.

3. Browse to <http://192.168.1.23>.


A login screen appears.

4. Enter the user name 'admin' and the password, read and accept the EULA and click **OK**.

By default the password is set to 'admin'.

The configurator opens. The wired IP address is given on the startup page.

To access the Configurator via the Base Unit wireless network

1. On your laptop, connect to the Base Unit wireless network.
The default SSID and password to connect to the Base Unit are respectively 'ClickShare-<serial base number>' and 'clickshare'.
2. On your laptop, open a browser.
 **Note:** Supported browsers are Microsoft Edge, Firefox and Safari.
3. Browse to <http://192.168.2.1>.
A login screen appears.
4. Enter the user name 'admin' and the password, read and accept the EULA and click **OK**.
By default the password is set to 'admin'.
The configurator opens. The wired IP address is given on the startup page.



Older laptops might not support the 5 GHz Frequency Band. If your Base Unit is set to that frequency range, those devices will not be able to connect to the Base Unit via the wireless network.

Overview of functions

Group	Function
Personalization	On-Screen ID
	Wallpaper
	Configuration Files
Display & Audio	Outputs
	Inputs
	Peripherals
Wi-Fi & Network	Wi-Fi Settings
	LAN Settings
	Services
Security	Security levels
	Passwords
System	Base Unit Status
	Date & Time
	Energy Savers
	Buttons
	Blackboard
	XMS
Support & Updates	Firmware
	Troubleshoot

When a setting is changed, always click **Save changes** to store the changes.

5.2 ClickShare Configuration Wizard



This procedure is equal with the onboarding procedure.

About the configuration wizard

During the first start up of the Base Unit, the configuration wizard starts up automatically.

Or, you can start up the configuration wizard by clicking at the bottom left on **Configuration wizard** or on Launch configuration wizard on the dashboard page.

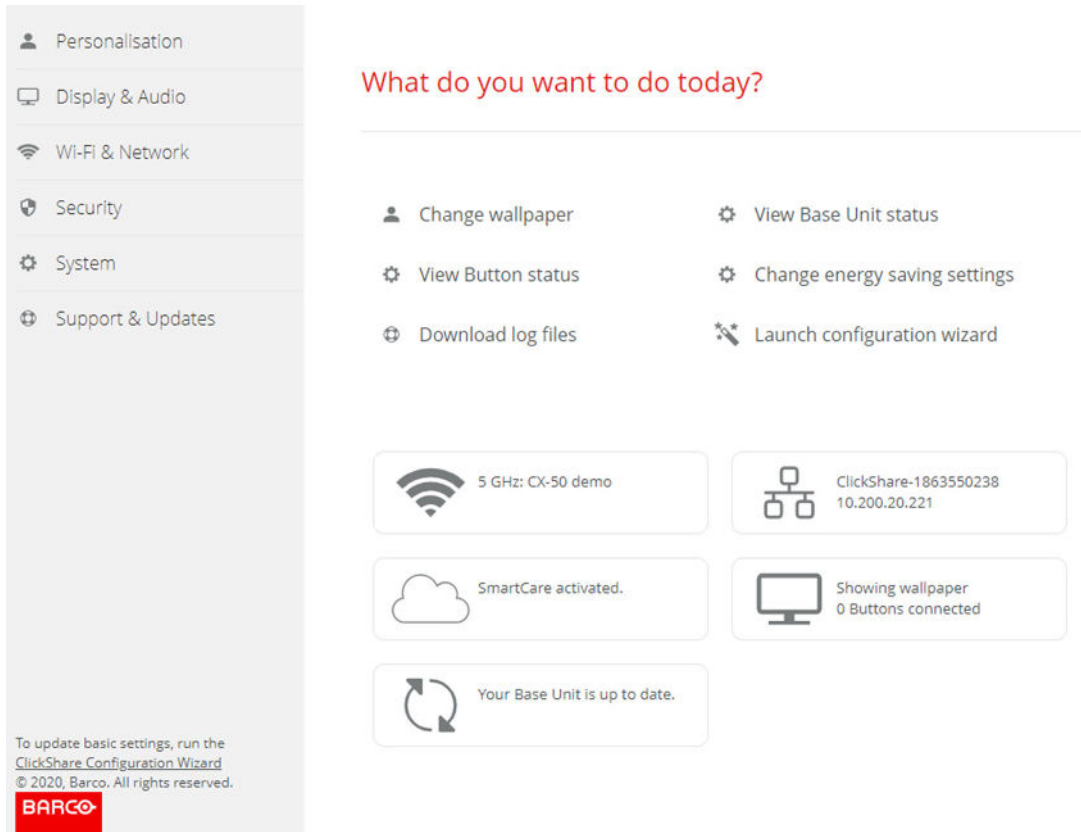


Image 5–4 Configuration Wizard start

All basic settings necessary to configure the Base Unit are covered by this configuration wizard. Once the configuration wizard is finished, the Base Unit is ready for use.

The welcome page indicates also the warranty start date. By default this period is 1 year and can be extended by registering your device.

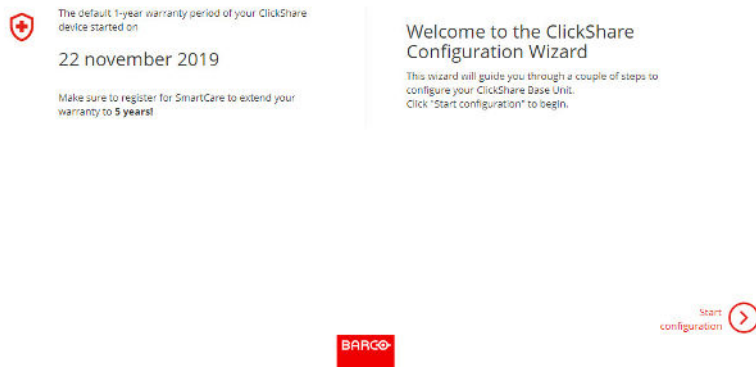


Image 5–5 Configuration welcome page

Click **Start configuration**.

Fill out the necessary items and click **Next** to continue.

To return to the previous step, click on **Back**.

For more information about a specific topic, see one of the following topics.

The ClickShare Configuration Wizard can be started at any time to change the configuration just by clicking on **ClickShare Configuration Wizard** at the left bottom of each screen or on *Launch configuration wizard* on the start page.

Firmware	Firmware update – automatically	See “Firmware Update”, page 141
	Firmware update – manually	
Personalisation	Language on-screen text	See “On-Screen ID information”, page 85.
	Meeting room name, location name and welcome message	See “On-Screen ID information”, page 85.
System	Time zone, manual time setup	See “Date & Time setup, manually”, page 128.
	Use NTP	See “Date & Time setup, time server”, page 130.
Security	Level settings	See “Security, security level”, page 122.
Password	ClickShare Configurator password	See “Security, passwords”, page 124.
Network	Frequency band, channel Wi-Fi passphrase	See “Wi-Fi settings, Access Point settings”, page 100.
SmartCare for ClickShare	Register your device to get the SmartCare package	See “Registration to XMS Cloud”, page 59.

5.3 On-Screen ID information

About device identification

The following items can be set:

- On-Screen language. Independent from the Configurator language.
- Meeting room name
- Location of the meeting room
- Welcome message to be displayed in the meeting room
- Show the network information
 - Checked: LAN information such as wired IP address is displayed. Also the Wi-Fi IP address and SSID are displayed.
 - Not checked: no LAN nor Wi-Fi information is displayed (default setup)
- Enable theater mode
 - Checked: the entire screen is used to share content. No status bar displayed anymore. The status bar pops up to show status changes, notifications, pin code etc. and fades out again. With touch screens a 'tag' enables you to bring up the status bar to start annotation and blackboarding.
 - Not-checked: Status bar remains on the screen.

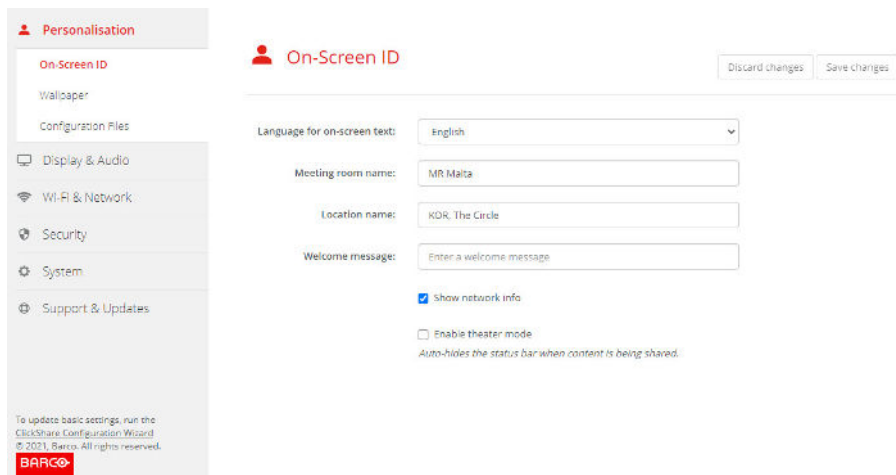


Image 5–6 On-Screen ID

On Screen language selection

1. Log in to the Configurator.
2. Click *Personalisation* → *On-screen ID*.
3. Select the language of the on-screen text. Click on the drop down box next to *Language for on-screen text* and select the desired language.

The following languages are possible:

- Arabic
- Simplified Chinese
- Traditional Chinese
- Danish
- Dutch
- English
- Finnish
- French
- German
- Italian
- Japanese
- Korean
- Norwegian
- Portuguese

- Russian
- Spanish
- Swedish

Meeting room name, location and welcome message

1. Log in to the Configurator.
2. Click *Personalisation* → *On-screen ID*.
3. Click in the input field next to *Meeting room name* and enter a name for the meeting room.
This text is shown on the user's device when the Button is ready to share ("Ready to share on..."), on the central screen connected to the Base Unit and in the list of AirPlay receivers on the user's iOS device.
4. Click in the input field next to *Location name* and enter the location.
5. Click in the input field next to *Welcome message* and enter the desired message.

5.4 Personalisation, Wallpaper

About wallpaper

When CX-50 Gen2 starts up, a background (wallpaper) is displayed. The display of this background wallpaper can be disabled.

By default two general ClickShare wallpapers are available. The possibility exists to upload personal backgrounds (wallpapers). The default wallpapers cannot be removed from the system.

Wallpaper selection

1. Log in to the Configurator
2. Click *Personalisation* → *Wallpaper*.

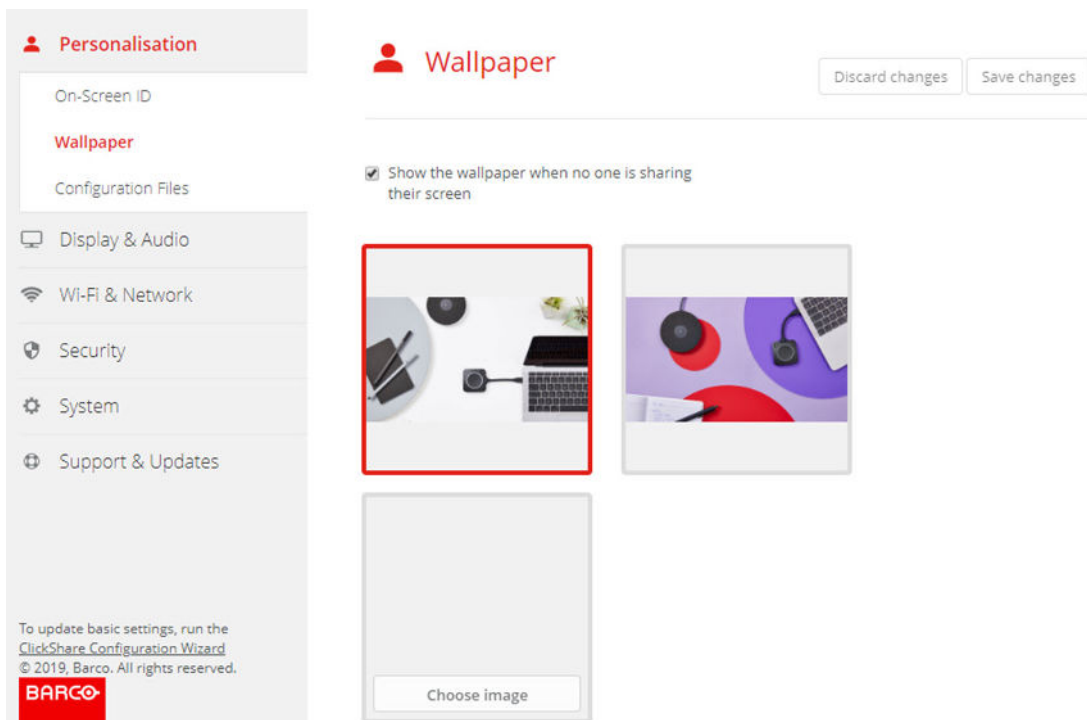



Image 5-7 Wallpaper selection


The *Wallpaper* selection pane is shown. The current selected wallpaper is shown with a red border.

3. Select one of the available wallpapers and click on **Save Changes**.

 **Note:** By default two general Barco wallpapers are available. They are automatically resized to fit the aspect ratio of the screen.

The selected wallpaper is indicated with a red border.

The message **Successfully applied changes** appears on top of the wallpaper selection window.

 You can also add a personal wallpaper, e.g. your company logo. For more information on adding a new wallpaper to the list, see [“Personalisation, Personalized wallpaper”](#), page 89.

Download wallpaper

1. Hover with your mouse over the wallpaper to download and click on the download symbol on the upper right corner.



Image 5-8 Download wallpaper

The wallpaper is downloaded to your PC.

Enable - disable Wallpaper

1. Within the Wallpaper pane, check the check box next to *Show the wallpaper when no one is sharing their screen*.

Checked: wallpaper will be displayed when no one is sharing content.

Not checked: no wallpaper will be displayed when no one is sharing content. The video output of the Base Unit is disabled when no content is shared. This feature is especially useful when the Base Unit is integrated in a room system such as a Cisco video conferencing system, Microsoft Teams room system or a Zoom room system.

5.5 Personalisation, Personalized wallpaper

How to upload

1. Log in to the Configurator
2. Click *Personalisation* → *Wallpaper*.
The *Wallpaper* selection pane is shown. The current selected wallpaper is shown with a red border.
3. Hoover your mouse over the free place and click on **Choose image**.

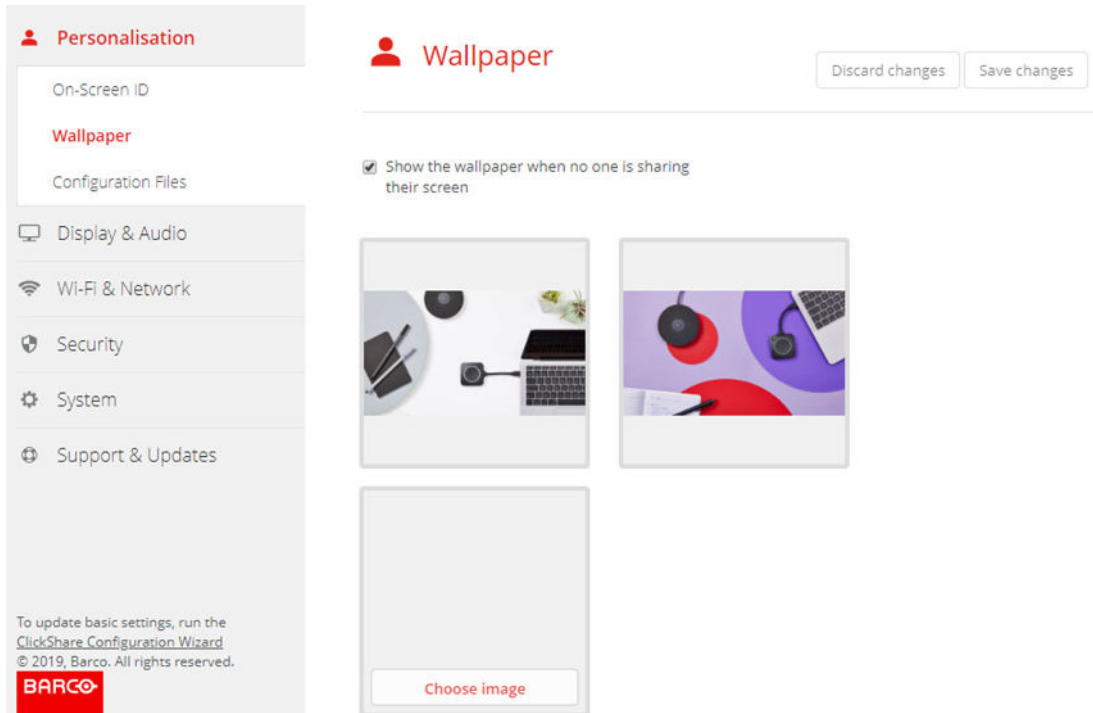


Image 5–9 Personalized wallpaper selection

A browser window opens.

4. Browse for the desired image, click **Open** to load the image.
The content of the file is checked and when valid (format and size), the file is uploaded. The new wallpaper gets a red border.
5. Click on **Save changes** to apply the personalized wallpaper
The message **Successfully applied changes** is displayed on top of the page.

Change personalized image

1. Click *Personalisation* → *Wallpaper*.
2. Hoover your mouse over the current personalized image and click **Change image**.

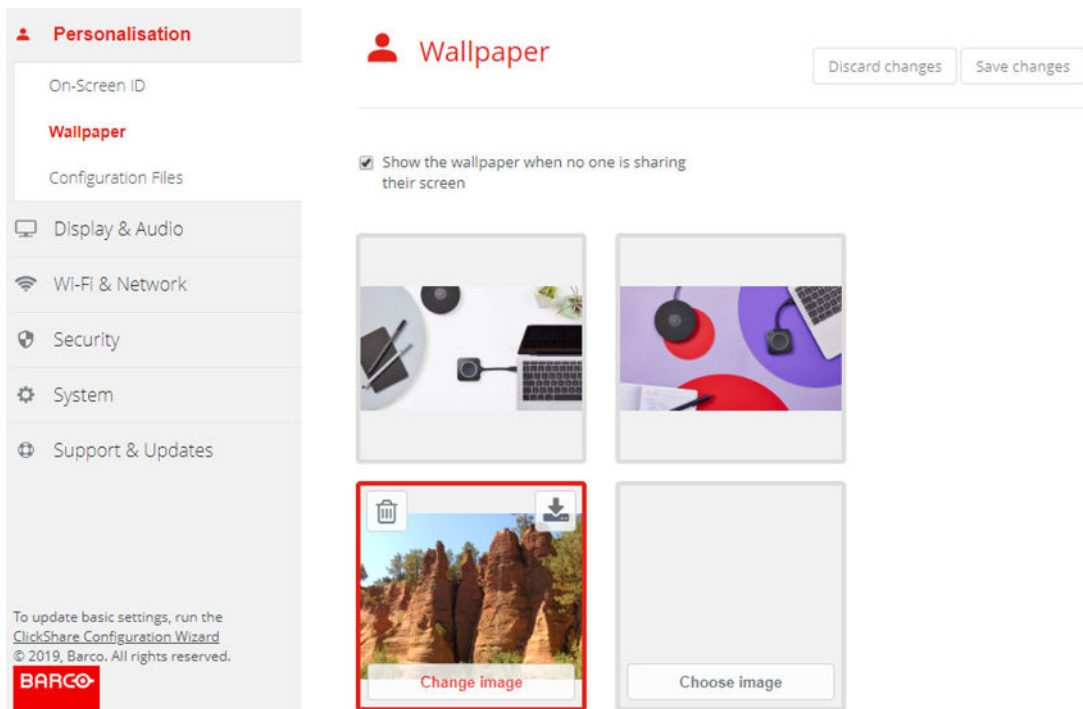


Image 5–10 Change image

3. Browse for the desired image, click Open to load the image.
The content of the file is checked and when valid (format and size), the file is uploaded. The new wallpaper gets a red border.
4. Click on **Save changes** to apply the personalized wallpaper and replace the previous file.
The message **Successfully applied changes** is displayed on top of the page.

Remove personalized wallpaper

1. Hover your mouse over the current image and click on the trash bin to remove the image.

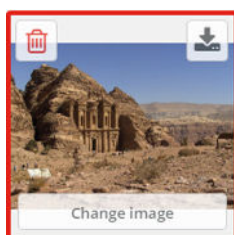


Image 5–11 Remove wallpaper

The personalized wallpaper is removed and the default wall paper is activated.

5.6 Manage configuration files

About Manage configuration files

A full backup can be downloaded but cannot be used to duplicate configuration settings to other Base Units. Therefore, it is possible to download a Portable version. This portable version can be uploaded via the upload configuration button on other Base Units (same type). Via the same button, the full backup can be uploaded on the original Base Unit.

A portable backup contains:

- Wallpapers
- Wallpapers settings
- Logging settings
- All display settings
- OSD language
- Location
- Welcome message
- Wi-Fi channel
- Wi-Fi frequency

To manage the configuration files

1. Log in to the *Configurator*.
2. Click *Personalisation* → *Configuration Files*.

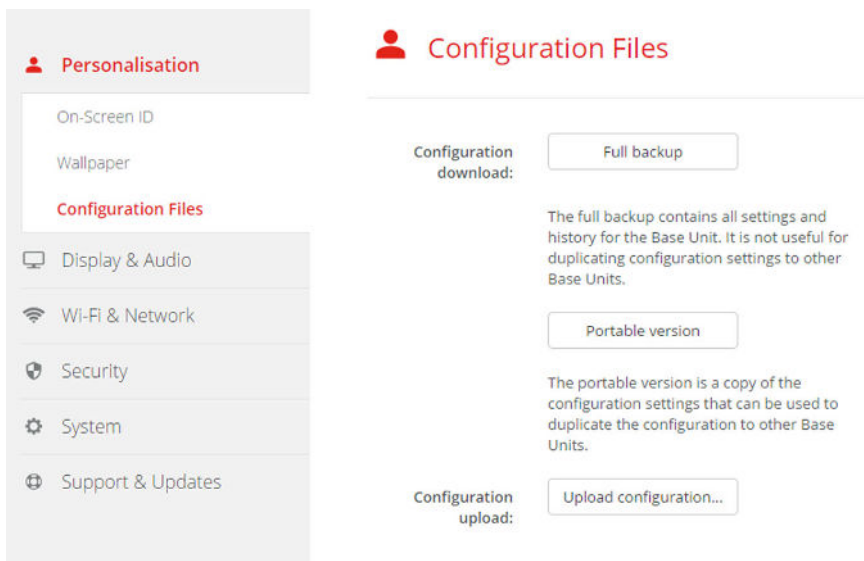


Image 5–12 Configuration files

3. To download a full backup, click on **Full Backup**.

An xml file, containing all information and history will be downloaded. This file can be reused on the same Base Unit only.

4. To download a portable version, click on **Portable Version**.

An xml file, containing portable information to duplicate settings on another Base Unit.

5. To upload a configuration, click on **Upload Configuration**.

A browser window opens. Navigate to the upload file (xml file) and click **Open** to upload.

A full backup can be uploaded on the Base Unit where the backup was created and a portable version can be uploaded on any other Base Unit of the same model.



When uploading a config file, the history of software updates and paired Buttons is lost. Paired Buttons will however remain functional if the Base Unit has not changed from SSID or wireless password.

5.7 Display setup, Outputs

Display port

Display port output via USB Type C™ port at the back side of the Base Unit.

This output is enabled by default and the resolution is fixed set to *Auto*.

HDMI

When there is an HDMI connection between the Base Unit and a display, the display type is indicated. The resolution can be selected.

Resolution

The output resolution to the display is set on Auto. That means that the CX-50 Gen2 output resolution is automatically adapted to the resolution of the display. For HDMI displays, a hot plug detection is available.

When a display is connected to the output the Model & Vendor or indicated.

When no display is connected, the indication *Not Connected* is displayed next to *Model & Vendor*.

Display mode

The display mode can be set to either:

- Clone mode:
Source code will be duplicated across the connected displays.
- Extended mode: **(default)**
An extra window will be available for additional source content to be displayed.

It is possible to swap the position of the dual displays by changing the number after *ClickShare Position*.



If a touch screen is being used, its position must be set as one!

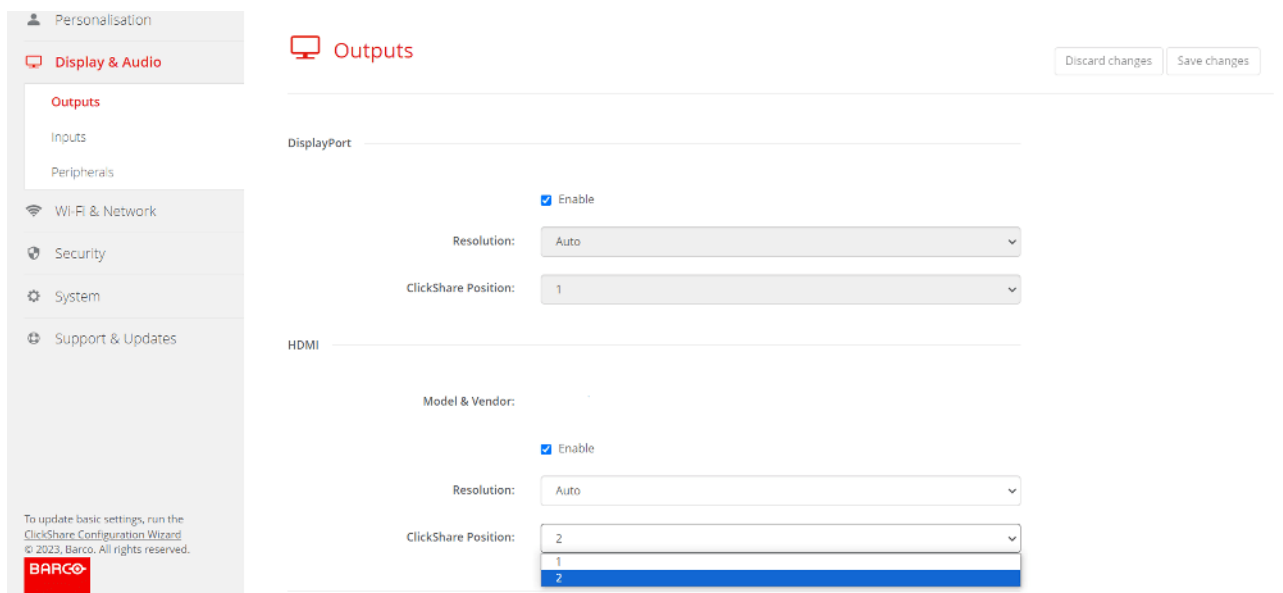


Image 5–13

CEC

Consumer Electronics Control (CEC) is a feature of HDMI designed to allow users to command and control devices connected through HDMI by using only one remote control.

To enable CEC, check the check box before *Enable CEC*.

Audio output

Audio can be enabled by checking the check box before *Enable audio*.

When an USB speakerphone is connected to your device, this device will be the default audio output device for both conference and content audio and it will not be possible to configure HDMI, DP or audio jack as audio output. USB is by default selected and cannot be changed.

When no USB speakerphone is connected with your device, you can configure the audio output and select HDMI or DP or audio jack.

The UI illustration image shows a device with USB speakerphone connected.



Since all audio is played out and captured from the echo-cancelling speaker, the peripheral will cancel out the content audio. Users will have to enable audio sharing into the call when playing content with audio. This can be selected in the different tools when sharing.

1. Log in to the *Configurator*.
2. Click *Display & Audio* → *Outputs*.

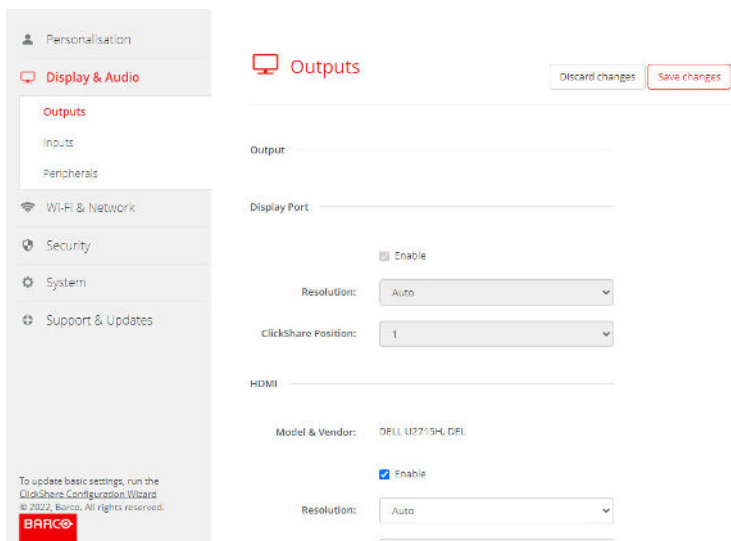


Image 5–14 Display setup, output

3. To activate the screen saver, drag the slider bar to the left or to the right until the desired delay time is reached.

When the slider is set completely to the left, the screen saver will never be activated.

5.8 Display setup, Inputs

Input mode setup

1. Log in to the *Configurator*.
2. Click *Display & Audio* → *Inputs*

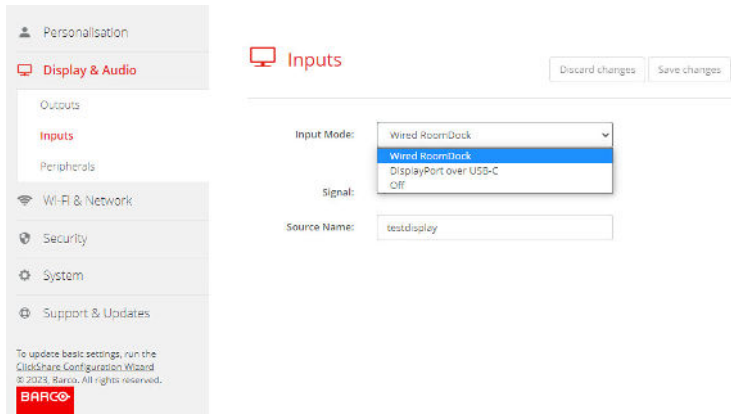


Image 5–15 Display, Inputs

3. To change the input mode, click on the drop down next to *Input Mode* and select the desired option.

The following options are possible:

- **Wired RoomDock:** display screen will be displayed on local device.
- **DisplayPort over USB-C:** input from HDMI device via convertor to DisplayPort over USB-C
- **Off:** no input allowed

When there is a signal available, the led next to *Signal* lights up green.

4. Enter a source name. Click in the input field, select the current name and enter a new name.
5. Click **Save Settings**.

5.9 Peripherals

Overview

ClickShare Conference allows you to connect the room speakerphone, microphone, camera and room system wirelessly to your laptop and use the better equipment of the room in your video conferencing call.

The Peripheral page allows you to enable flexible meeting rooms and gives an overview of the connected devices and their status.

Overview of the peripherals

1. Log in to the *Configurator*.
2. Click *Display & Audio* → *Peripherals*.

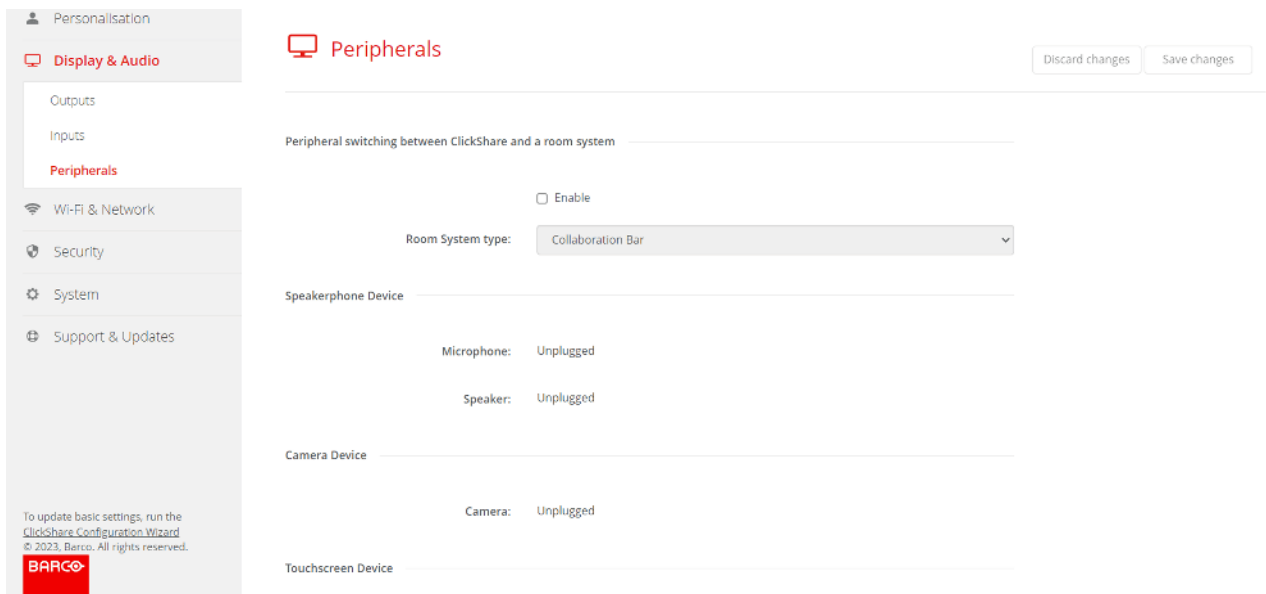


Image 5–16 Peripherals

Quality score camera

When the camera is in use, a quality score is given between 0 and 100. It gives an indication what's going on with the camera stream quality and format change. The quality score reflects the image quality, where zero means the lowest quality accepted by ClickShare (lowest bandwidth) and 100 means the maximum quality available by the camera (highest bandwidth). This is unrelated to the format resolution or framerate. The quality is adjusted to meet the requested framerate, if the framerate cannot be reached, the quality is lowered. If the lowest quality is reached, there is no other way to meet the framerate. Therefore the quality score will be equal to zero.

Quality score, normalized value between 0 and 100.:

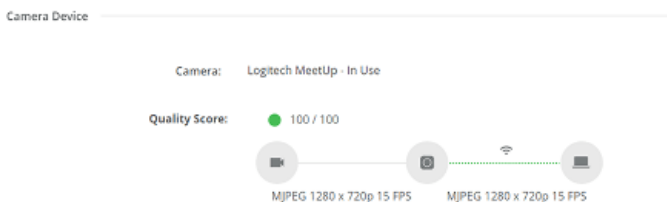


Image 5–17 Quality score

- Green: >68
- Orange: 35 – 68
- Red: 0 – 34

Source (camera to Base Unit) is requested frame rate. This frame rate results in a destination frame rate between Base Unit and app or Button.

Firmware update peripherals

Update of firmware of the peripheral devices via the configurator is supported for Logitech Meetup and Rally and only when the camera is not in use.

When the installed firmware version is lower than the Barco certified peripheral firmware version, then the install button becomes active. Click on **Install** to install the latest version.

5.10 Flexible Meeting Rooms

Configure your CX-50 Gen2 to seamlessly integrate with a collaboration bar standardized in-room system or a modular in-room system.

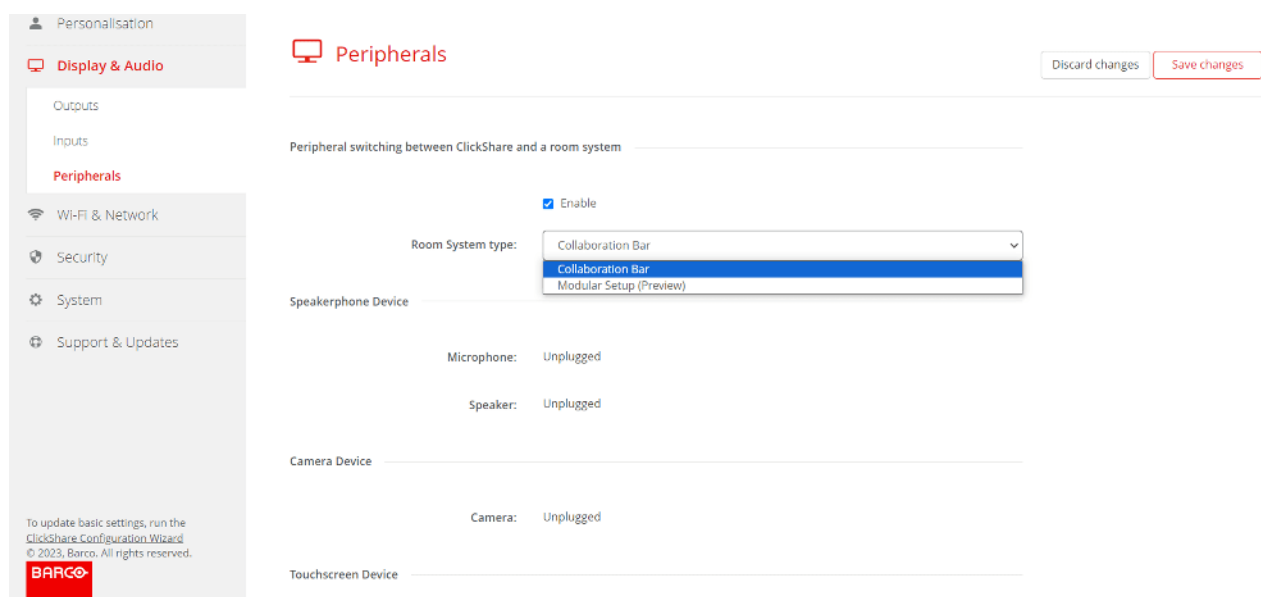



Image 5–18 Room system type drop-down menu


Collaboration bar

1. Enable the check box under *Peripheral switching between ClickShare and a room system* under *Display & Audio - Peripherals*.
2. Choose *Collaboration Bar* from the drop-down menu *Room System type*.

 **Note:** Standby mode will automatically switch to and remain locked as “ECO mode”.

Modular setup

1. Set *Audio Output* to “USB” under *Display & Audio - Outputs*.
2. Enable the check box under *Peripheral switching between ClickShare and a room system* under *Display & Audio - Peripherals*.

 **Note:** Standby mode will automatically switch to and remain locked as “ECO mode”.

3. Choose *Modular Setup* from the drop-down menu *Room System type*.
4. Ensure following settings are configured on your modular devices.
 - Enable automatic screen sharing.
 - Echo Cancelling Speakerphone set as default Audio configuration.
 - The “Room Camera” as default Video Camera.

5.11 Wi-Fi settings



WARNING: It is not allowed to operate the Base Unit outside its intended geographical region.

About Wi-Fi

A connection with the Base Unit can be made via a wireless connection. A fixed wireless IP address is used to establish the connection.

An overview of the current settings is given when *Wi-Fi Settings* is selected and *Access Point* is enabled.

Image 5–19 Wi-Fi settings

The Access Point Settings and the Wireless Client settings can be enabled or disabled after clicking **Edit settings**.

Check the check box next to *Enable*.

Checked: access point settings are enabled. All current settings can be changed.

Unchecked: access point settings are disabled.

For more detailed info about the access point settings, see [“Wi-Fi settings, Access Point settings”](#), page 100.



Changing the IP address will require a repairing of the Buttons used with this Base Unit.

5.12 Wi-Fi settings, Access Point settings

How to change

1. Check the check box next to *Enable*.
Checked: access point settings are enabled. All current settings can be changed.
Unchecked: access point settings are disabled.
2. If desired, enter a new Wi-Fi passphrase and confirm this Wi-Fi passphrase.

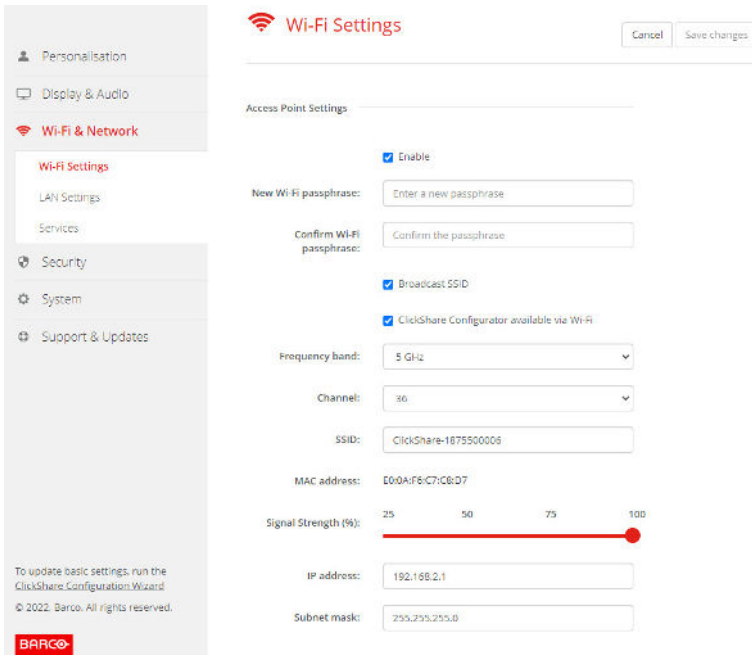


Image 5–20 Wi-Fi settings, access point settings

3. Enter a public name (SSID) for the wireless network.
 The default SSID is *ClickShare-<serial number Base Unit>*.
4. If you want to broadcast this SSID, check the checkbox before *Enable SSID broadcast*.

About frequency band & channel selection

In an ideal setup, overlapping channels should not be used for two ClickShare Base Units within range of each other. As the channels in the 2.4 GHz band overlap with each other, best practice is to use channels 1, 6 and 11 on a single floor. On floors above and below, the channel pattern will be shifted to avoid overlap between floors, e.g. by placing channel 6 at the center of the illustrated pattern.

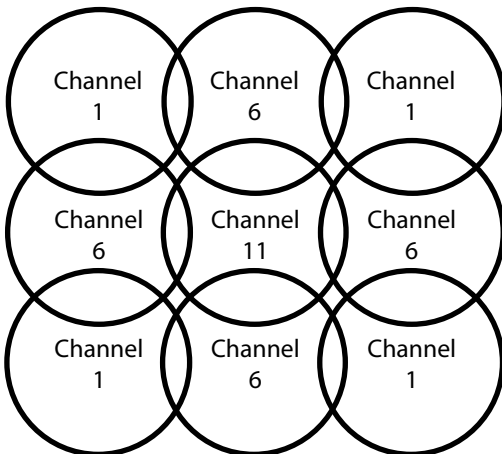


Image 5–21

The 5 GHz channels do not overlap with each other and are less used by non-Wi-Fi devices than the 2.4 GHz channels. Moreover, 5 GHz signals are more rapidly damped than 2.4 GHz signals. Therefore, the use of a 5 GHz channel is recommended. This will limit the impact of a ClickShare system on other installed ClickShare units and on other WLAN users.

Frequency band & channel selection

1. Select the wireless connection channel by clicking on the drop down box and selecting the desired channel.

The channels available in the list vary according to the regional version of your Base Unit. Re-pairing the Buttons is not required when changing the frequency band or wireless connection channel.

Ideally, the ClickShare channel is selected after conducting a wireless site survey. A site survey maps out the sources of interference and the active RF systems. There are several Wi-Fi survey tools available on the market. Based on the results from a site survey, the least occupied channel can be found and selected for each meeting room.

2. Select the wireless connection frequency band: 2.4 GHz or 5 GHz by clicking on the drop down box and selecting the correct band.

Below the channel selection pane, an indication is given of the available bandwidth of the current channel. To see if sufficient bandwidth is available in a different channel, select the channel in the drop down and save the changes. The page will reload with the new settings and an indication of the channel fit will be given after approximately 1 minute. There is no need to reload the page to see the result.

The channels available in the list vary according to the regional version of your Base Unit. Re-pairing the Buttons is not required when changing the frequency band or wireless connection channel.

When Intense use, change to another Wi-Fi channel is displayed, change to another channel. The page will reload after approximately 1 minute.

ClickShare Configurator access via Wi-Fi

1. To allow access to the Configurator via Wi-Fi, check the check box in front of *WebUI available via Wi-Fi*.

Checked: Configurator accessible via Wi-Fi.

Not checked: access to the configurator via Wi-Fi is blocked.

IP address & subnet mask

1. To change the IP address or subnet mask, click in the input field and enter the 4 octets of the new IP address or subnet mask.



Note: This must NOT be 0.0.0.0 for static IP-Address assignment.

Wireless Client Settings

For more info, see [“Wi-Fi settings, Access Point settings”](#), page 100.

5.13 Wi-Fi settings, Wireless Client

Introduction

Wireless Client mode allows to connect the Base Unit to a network over Wi-Fi instead of via the Ethernet interface. It brings identical functionality as a wired network connection; complete network integration, auto-update functionality and central management in XMS. It offers increased flexibility in the placement of the Base Unit as a network cable drop is no longer required on the installation location.

How to activate Wireless Client

1. Log in to the *Configurator*.
2. Click *Wi-Fi & Network* → *Wi-Fi Settings*.
3. Check the check box below *Wireless Client Settings*.

The Wireless Client Settings opens.

Image 5–22 Wi-Fi settings, Wireless Client

Different Wireless Client mode settings are possible:

- EAP-TLS
- EAP-TTLS
- PEAP
- WPA2–PSK

5.14 Wi-Fi settings, Wireless Client, EAP-TLS

About EAP-TLS

EAP-TLS (Transport Layer Security) is an EAP method based on certificates which allows mutual authentication between client and server. It requires a PKI (Public Key Infrastructure) to distribute server and client certificates. For some organizations this might be too big of a hurdle, for those cases EAP-TTLS and PEAP provide good alternatives. Even though a X.509 client certificate is not strictly required by the standard it is mandatory in most implementations including for ClickShare. When implemented using client certificates, EAP-TLS is considered one of the most secure EAP methods. The only minor disadvantage, compared to PEAP and EAP-TTLS, is that the user identity is transmitted in the clear before the actual TLS handshake is performed. EAP-TLS is supported via SCEP, INDES or manual certificate upload.

How to start up for EAP-TLS

1. Select *EAP-TLS* from the drop down list next to *Authentication Mode*.

Image 5–23 Wi-Fi Settings, Wireless Client, EAP-TLS

2. Fill out a *Corporate SSID*.
The SSID of your corporate wireless infrastructure to which the ClickShare Buttons will connect.
3. Fill out the *Domain* and *Identity*.
4. Select the certification method. Click on the drop down box and select the desired method.
 - Manually provide Client & CA certificates
 - Auto enrollment via SCEP

Manually providing certificates

1. Upload client certificate. Click on Choose file and browse to the desired file.

Allowed file formats:

- .pfx (PKCS#12)
- .p12 (Base64 encoded DER)

The should at least include the client certificate and corresponding private key.

2. Enter the Client certificate Password.

3. Upload CA certificate. Click on Choose file and browse to the desired file.

The following formats are allowed:

- .pem
- .cer
- .crt
- .pb7 (Base64 encoded DER)

File should at least contain the root CA certificate for your domain.

4. Save Changes

Using Auto enrollment

The Simple Certificate Enrolment Protocol (SCEP) is a protocol which enables issuing and revoking of certificates in a scalable way. SCEP support is included to allow a quicker and smoother integration of the ClickShare Base Unit and Buttons into the corporate network.

Up until Base Unit firmware version 02.11.01 the SCEP implementation was specifically targeted at the Network Device enrollment Service (NDES) which is part of Windows Server. From Base Unit firmware version 02.12.00 and later we support both NDES and standard SCEP.

NDES requires the following parameters:

SCEP Server: This is the IP or hostname of the Windows Server in your network running the NDES service. Only http is allowed. E.g.: `http://myserver` or `http://10.192.5.1`

SCEP username: This is a user in your Active Directory which has the required permission to access the NDES service and request the challenge password. To be sure of this, the user should be part of the CA Administrators group (in case of a stand-alone CA) or have enrol permissions on the configured certificate templates.

SCEP Password: The corresponding password for the SCEP username that you are using to authenticate on service.

Common Name: The identity you want to link to the certificate.

Image 5–24 Wi-Fi Settings, Wireless Client, EAP-TLS, NDES

SCEP requires the following parameters:

SCEP Server: This is the IP or hostname of Server the server running the SCEP service with the port and suffix appended. Only http is allowed. E.g.: `http://myserver:8080/scep` or `http://10.192.5.1/test`

SCEP Challenge: The corresponding SCEP challenge password.

Common Name: The identity you want to link to the certificate.

Provide certificate: Auto enrollment via SCEP

SCEP server: http://

SCEP challenge:

Common Name: ClickShare-0004A50110C4

Image 5–25 Wi-Fi Settings, Wireless Client, EAP-TLS, SCEP

5.15 Wi-Fi settings, Wireless Client, EAP-TTLS

About EAP-TTLS

EAP-TTLS (Tunneled Transport Layer Security) is an EAP implementation by Juniper networks. It is designed to provide authentication that is as strong as EAP-TLS, but it does not require each user to be issued a certificate. Instead, only the authentication servers are issued certificates. User authentication is performed by password, but the password credentials are transported in a securely encrypted tunnel established based upon the server certificates.

User authentication is performed against the same security database that is already in use on the corporate LAN: for example, SQL or LDAP databases, or token systems. Since EAP-TTLS is usually implemented in corporate environments without a client certificate we have not included support for this. If you prefer using client certificates per user we suggest using EAP-TLS.

How to start up for EAP-TTLS

1. Select *EAP-TTLS* from the drop down list next to *Authentication Mode*.

The screenshot displays the configuration interface for Wi-Fi settings on a wireless client. The left sidebar contains a navigation menu with the following items: Personalisation, Display & Audio, Wi-Fi & Network (highlighted), Wi-Fi Settings (sub-item), LAN Settings, Services, Security, System, and Support & Updates. The main configuration area includes the following fields and options:

- Authentication Mode:** A dropdown menu set to "EAP-TTLS".
- Corporate SSID:** An empty text input field.
- Domain:** An empty text input field.
- Identity:** An empty text input field.
- Anonymous Identity:** An empty text input field. Below this field is a note: "Leave this field empty in order not to use Anonymous Identity during the authentication process."
- Password:** An empty text input field.
- Upload CA certificate (optional):** A file selection button labeled "Bestand kiezen" with the text "Geen bestand gekozen". Below the button, it lists allowed file formats: ".pem, .cer, .crt, .p7b (Base64 encoded DER)". A note states: "File should at least contain the root CA certificate for your domain."
- Method:** A dropdown menu set to "Automatic (DHCP)".
- IP address:** A greyed-out text input field.
- Subnet mask:** A greyed-out text input field.
- Default gateway:** A greyed-out text input field.
- DNS servers:** A greyed-out text input field.

At the bottom left of the interface, there is a note: "To update basic settings, run the [ClickShare Configuration Wizard](#)" and a copyright notice: "© 2021, Barco. All rights reserved." The BARCO logo is located at the bottom left of the configuration area.

Image 5–26 Wi-Fi Settings, Wireless Client, EAP-TTLS

5.16 Wi-Fi settings, Wireless Client, PEAP

About PEAP

PEAP (Protected Extensible Authentication Protocol) is an EAP implementation co-developed by Cisco Systems, Microsoft and RSA Security. It sets up a secure TLS tunnel using the servers CA certificate after which actual user authentication takes place within the tunnel. This way of working enables it to use the security of TLS while authenticating the user but without the need for a PKI.

The standard does not mandate which method is to be used to authenticate within the tunnel. But in this application note, with regard to PEAP, we are referring to PEAPv0 with EAP-MSCHAPv2 as the inner authentication method. This is one of the two certified PEAP implementations in the WPA and WPA2 standards – and by far the most common and widespread implementation of PEAP.

How to start up for PEAP

1. Select *PEAP* from the drop down list next to *Authentication Mode*.

The screenshot shows the 'Wi-Fi & Network' settings page. The 'Authentication Mode' is set to 'PEAP'. The 'Corporate SSID', 'Domain', 'Identity', and 'Anonymous Identity' fields are empty. A note below the 'Anonymous Identity' field states: 'Leave this field empty in order not to use Anonymous Identity during the authentication process.' The 'Password' field is empty. The 'Upload CA certificate (optional)' section has a 'Bestand kiezen' button and a message: 'Geen bestand gekozen. Allowed file formats: .pem, .cer, .crt, .p7b (Base64 encoded DER). File should at least contain the root CA certificate for your domain.' The 'Method' is set to 'Automatic (DHCP)'. The 'IP address', 'Subnet mask', 'Default gateway', and 'DNS servers' fields are empty.

Image 5–27 Wi-Fi Settings, Wireless Client, PEAP

2. Fill out a *Corporate SSID*.
The SSID of your corporate wireless infrastructure to which the ClickShare Buttons will connect.
3. Fill out the *Domain* and *Identity*.
4. Enter a *Password*.
5. Upload CA certificate. Click on Choose file and browse to the desired file.

The following formats are allowed:

- .pem
- .cer
- .crt
- .p7b (Base64 encoded DER)

File should at least contain the root CA certificate for your domain.

6. Click **Save Changes** to save the settings.

5.17 Wi-Fi settings, Wireless Client, WPA2-PSK

About WPA2-PSK

WPA2-PSK does not distinguish between individual users, there is 1 password (PSK – Pre-Shared Key) for all clients connecting to the wireless infrastructure. This makes setup very straightforward. Once connected, all data transmitted between client and AP (access point) is encrypted using a 256 bit key.

How to start up for WPA2-PSK

1. Select *WPA2-PSK* from the drop down list next to *Authentication Mode*.

The image shows a configuration form for WPA2-PSK. The 'Authentication Mode' dropdown menu is selected to 'WPA2-PSK'. Below it are several input fields: 'Corporate SSID', 'Passphrase', 'Method' (set to 'Automatic (DHCP)'), 'IP address', 'Subnet mask', 'Default gateway', and 'DNS servers'. The latter four fields are currently empty and have a light gray background.

Image 5–28 Wi-Fi Settings, Wireless Client, WPA-PSK

2. Fill out a *Corporate SSID*.

The SSID of your corporate wireless infrastructure to which the ClickShare Buttons will connect.

3. Fill out Passphrase.

The key used in WPA2-PSK to authenticate onto the wireless infrastructure. This can be a string of 64 hexadecimal digits or a passphrase of 8 to 63 printable ASCII characters.

4. Click **Save changes**.

5.18 LAN settings

About LAN network settings

A network connection can be configured through DHCP or by manually entering a fixed IP address.



DHCP

Dynamic host configuration protocol. DHCP is a communications protocol that lets network administrators manage centrally and automate the assignment of IP addresses in an organization's network. Using the Internet Protocol, each machine that can connect to the Internet needs a unique IP address. When an organization sets up its computer users with a connection to the Internet, an IP address must be assigned to each machine. Without DHCP, the IP address must be entered manually at each computer and, if computers move to another location in another part of the network, a new IP address must be entered. DHCP lets a network administrator supervise and distribute IP addresses from a central point and automatically sends a new IP address when a computer is plugged into a different place in the network.

Hostname & method

1. Log in to the *Configurator*.
2. Click *Wi-Fi & Network* → *LAN Settings*.

The screenshot displays the 'LAN Settings' configuration interface. On the left is a navigation sidebar with categories: Personalisation, Display & Audio, Wi-Fi & Network (selected), Services, Security, System, and Support & Updates. The main content area is titled 'LAN Settings' and includes a 'Discard changes' and 'Save changes' button. The settings are organized into sections:

- LAN Hostname Settings:** Hostname: ClickShare-1863550238
- Primary Interface:**
 - Method: Automatic (DHCP)
 - IP address: 10.200.20.205
 - Subnet mask: 255.255.254.0
 - Default gateway: 10.200.20.1
 - MAC address: 00:04:A5:01:03:EE
 - DNS servers: 10.197.192.11,10.193.251.11
- Wired Authentication Status:** Disabled state. A button 'Setup wired authentication...' is visible.
- LAN Proxy Settings:** A checkbox 'Use a proxy server' is present and unchecked.

 At the bottom left of the sidebar, there is a note: 'To update basic settings, run the ClickShare Configuration Wizard' and '© 2020, Barco. All rights reserved.' along with the BARCO logo.

Image 5–29 LAN settings

3. Click in the input field next to *Hostname* and enter a host name for the Base Unit.
The default host name is *ClickShare- \langle serial number Base Unit \rangle .*
4. To select the method, click on the drop down box next to *Method* and select the *Automatic (DHCP)* or *Manual*.

When Automatic (DHCP) is selected, the IP address, subnet mask and default gateway fields are grayed out but the currently used settings are filled out.


5. Click **Save changes** to apply the settings.

Manual (fixed) IP address

1. Click on the drop down box next to *Method* and select *Manual*.


The IP address, subnet and gateway input fields are activated.

2. Click in the input field of the *IP address* and fill out the 4 octets.

 **Note:** An address contains 4 octets with a maximum value of 255. This must NOT be 0.0.0.0 for static IP-Address assignment


3. Click in the *Subnet mask* input fields and fill out the 4 octets as appropriate for the local subnet.

4. Click in the *Default Gateway* input fields and fill out the 4 octets. Set the Default-Gateway to the IP-Address of the router (MUST be on the local subnet!).

 **Note:** This must NOT be 0.0.0.0. If there is no router on the local subnet then just set this field to any IP-Address on the subnet.

5. Click in the DNS Servers input field and fill out the preferred DNS servers (maximum 5) in a comma separated list.

6. Click **Save changes** to apply the settings.

 Do not use IP address 192.168.2.x for a Subnet mask 255.255.255.0 and IP address 192.168.x.x for a Subnet mask 255.255.0.0

Use a proxy server

This setting is important for the auto-update feature of the Base Unit, which require internet access.

1. Check the check box next to Use a proxy server.

Use a proxy server

Server address:

Server port (optional):

User name (optional):

Password (optional):

Image 5–30 Proxy settings

The proxy settings become available.

2. Enter the proxy server address. Enter the IP address or hostname. Some proxy servers need a port number, user name and password, for others is this optional.
3. Optionally, enter the used server port.
4. Optionally, enter the user name.
5. Optionally, enter the password.
6. Click **Save changes** to apply the settings.

5.19 LAN Settings, Wired Authentication

How to setup

1. Click on **Setup wired authentication...**

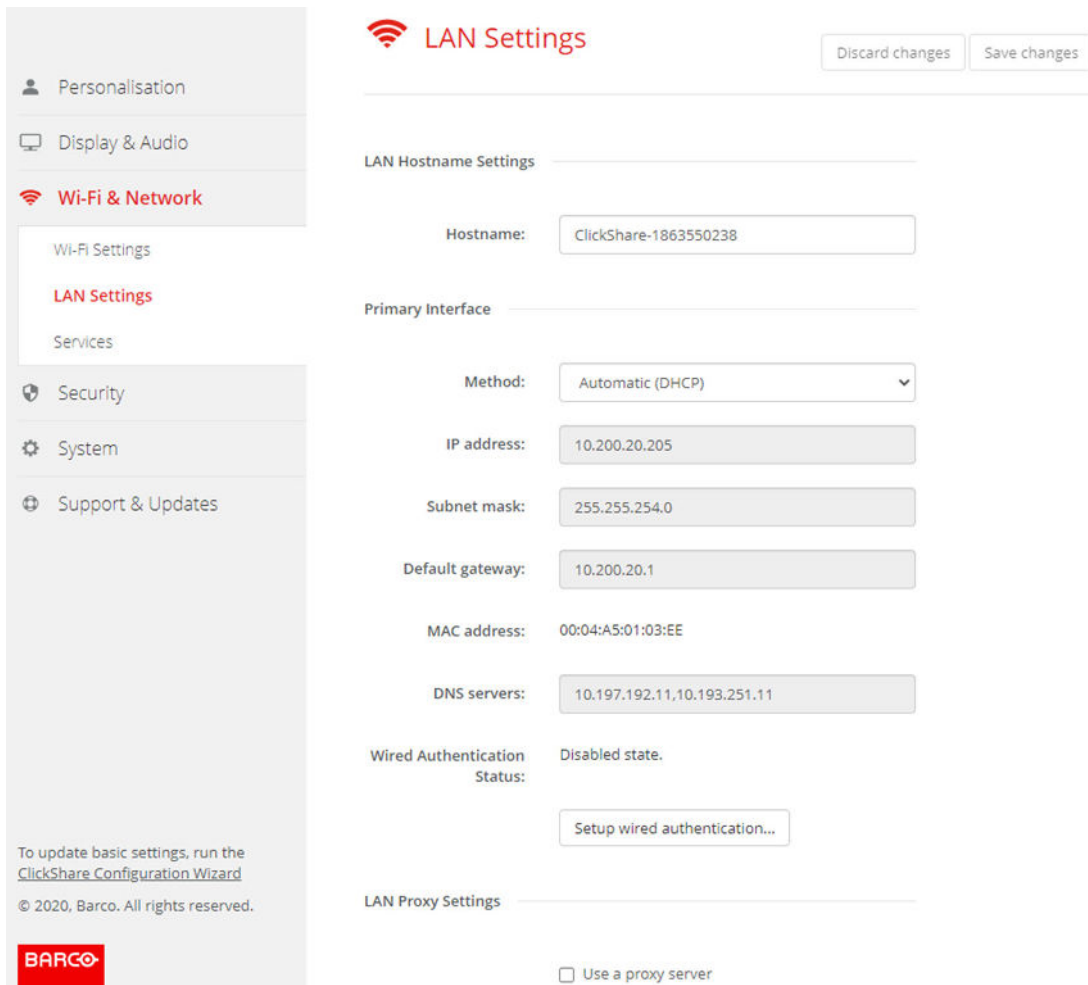


Image 5–31 Wired authentication

The setup wizard starts.

2. Select the authentication method. Click on the drop down and select the desired method.

The following methods are available:

- No authentication: no authentication mechanism will be applied to the wired interface.
- EAP-TLS
- EAP-TTLS
- PEAP

5.20 LAN Settings, EAP-TLS security mode

About EAP-TLS

EAP-TLS (Transport Layer Security) is an EAP method based on certificates which allows mutual authentication between client and server. It requires a PKI (Public Key Infrastructure) to distribute server and client certificates. For some organizations this might be too big of a hurdle, for those cases EAP-TTLS and PEAP provide good alternatives. Even though a X.509 client certificate is not strictly required by the standard it is mandatory in most implementations including for ClickShare. When implemented using client certificates, EAP-TLS is considered one of the most secure EAP methods. The only minor disadvantage, compared to PEAP and EAP-TTLS, is that the user identity is transmitted in the clear before the actual TLS handshake is performed. EAP-TLS is supported via SCEP or manual certificate upload.

How to setup EAP-TLS

1. Select Authentication Mode *EAP-TLS*.

Image 5–32 EAP-TLS

2. Fill out the *Domain* and *Identity*.
3. Select the certification method. Click on the drop down box and select the desired method.
 - Manually provide Client & CA certificates
 - Auto enrollment via SCEP

Manually providing certificates

1. Upload client certificate. Click on Choose file and browse to the desired file.

Allowed file formats:

- .pfx (PKCS#12)
- .p12 (Base64 encoded DER)

The should at least include the client certificate and corresponding private key.

2. Enter the Client certificate Password.
3. Upload CA certificate. Click on Choose file and browse to the desired file.

The following formats are allowed:

- .pem
- .cer

- .crt
- .pb7 (Base64 encoded DER)

File should at least contain the root CA certificate for your domain.

4. Save configuration

Using Auto enrollment

The Simple Certificate Enrolment Protocol (SCEP) is a protocol which enables issuing and revoking of certificates in a scalable way. SCEP support is included to allow a quicker and smoother integration of the ClickShare Base Unit and Buttons into the corporate network.

Up until Base Unit firmware version 02.11.01 the SCEP implementation was specifically targeted at the Network Device enrollment Service (NDES) which is part of Windows Server. From Base Unit firmware version 02.12.00 and later we support both NDES and standard SCEP.

NDES requires the following parameters:

SCEP Server: This is the IP or hostname of the Windows Server in your network running the NDES service. Only http is allowed. E.g.: http://myserver or http://10.192.5.1

SCEP username: This is a user in your Active Directory which has the required permission to access the NDES service and request the challenge password. To be sure of this, the user should be part of the CA Administrators group (in case of a stand-alone CA) or have enrol permissions on the configured certificate templates.

SCEP Password: The corresponding password for the SCEP username that you are using to authenticate on service.

Common Name: The identity you want to link to the certificate.

The screenshot shows a configuration form for NDES. It includes a dropdown menu for 'Provide certificate:' set to 'Auto enrollment via NDES'. Below it are input fields for 'SCEP server:' (containing 'http://' and a suffix '/CertSrv/mscep_admin/'), 'SCEP username:', 'SCEP password:', and 'Common Name:' (containing 'ClickShare-0004A50110C4').

Image 5–33 LAN Settings, Wireless Client, EAP-TLS, NDES

SCEP requires the following parameters:

SCEP Server: This is the IP or hostname of Server the server running the SCEP service with the port and suffix appended. Only http is allowed. E.g.: http://myserver:8080/scep or http://10.192.5.1/test

SCEP Challenge: The corresponding SCEP challenge password.

Common Name: The identity you want to link to the certificate.

The screenshot shows a configuration form for SCEP. It includes a dropdown menu for 'Provide certificate:' set to 'Auto enrollment via SCEP'. Below it are input fields for 'SCEP server:' (containing 'http://'), 'SCEP challenge:', and 'Common Name:' (containing 'ClickShare-0004A50110C4').

Image 5–34 LAN Settings, Wireless Client, EAP-TLS, SCEP

5.21 LAN Settings, EAP-TTLS security mode

About EAP-TTLS

EAP-TTLS (Tunneled Transport Layer Security) is an EAP implementation by Juniper networks. It is designed to provide authentication that is as strong as EAP-TLS, but it does not require each user to be issued a certificate. Instead, only the authentication servers are issued certificates. User authentication is performed by password, but the password credentials are transported in a securely encrypted tunnel established based upon the server certificates.

User authentication is performed against the same security database that is already in use on the corporate LAN: for example, SQL or LDAP databases, or token systems. Since EAP-TTLS is usually implemented in corporate environments without a client certificate we have not included support for this. If you prefer using client certificates per user we suggest using EAP-TLS.

How to setup EAP-TTLS

1. Select Authentication Mode *EAP-TTLS*.

Image 5–35 EAP-TTLS

2. Fill out the *Domain* and *Identity*.

Domain	The company domain for which you are enrolling, should match with the one defined in your Active Directory.
Identity	Identity of the user account in the Active Directory which will be used by the ClickShare Buttons to connect to the corporate network.

3. Enter the *Password*.

The corresponding password for the identity that you are using to authenticate on the LAN network. Per Base Unit each Button will use the same identity and password to connect to the corporate network.

4. Optionally, upload the CA certificate.

The following formats are allowed:

- .pem
- .cer
- .crt
- .pb7 (Base64 encoded DER)

File should at least contain the root CA certificate for your domain.

5. Click **Save configuration**.

5.22 Service, mobile devices

ClickShare app

This function enables the possibility to connect with a mobile device using the ClickShare app to connect to the Base Unit.

It is enabled by default. When the Base Unit is integrated in the corporate network, it may be required to disable content sharing from the ClickShare app.

About streaming information via AirPlay

Before you can stream information and display it via ClickShare your device must be connected with the wireless network of the Base Unit. Then AirPlay must be activated on your device. For more information about activating AirPlay, consult the user guide of your device.

The supported versions of AirPlay can be found on Barco's website, www.barco.com/clickshare. The support of non-released version of these protocols cannot be guaranteed by Barco.

About streaming via Google Cast

Before you can mirror information and display it via ClickShare your device must be connected with the wireless network of the Base Unit. When activating Google Cast on your device an overview of the access points is given. For more information about using Google Cast, consult the user guide of your device.

The supported versions of Google Cast can be found on Barco's website, www.barco.com/clickshare. The support of non-released version of these protocols cannot be guaranteed by Barco.

Google Cast does not support a passcode.



Google Cast can only be used when the clock of the Base Unit is set correctly. If not Google Cast cannot make a connection with the Base Unit.

About streaming via Miracast™

Miracast™ enables seamless display of multimedia content between Miracast® devices. Miracast allows users to wirelessly share multimedia, including high-resolution pictures and high-definition (HD) video content between Wi-Fi devices, even if a Wi-Fi network is not available.

Miracast sets up its own network to stream information and display it via ClickShare so there is no need for a direct connection with the Base Unit. Miracast must be activated on your device. For more information about activating Miracast, consult the user guide of your device.

The supported versions of Miracast can be found on Barco's website, www.barco.com/clickshare. The support of non-released version of these protocols cannot be guaranteed by Barco.

How to enable

1. Log in to the *Configurator*.
2. Click *Wi-Fi & Network* → *Services*.

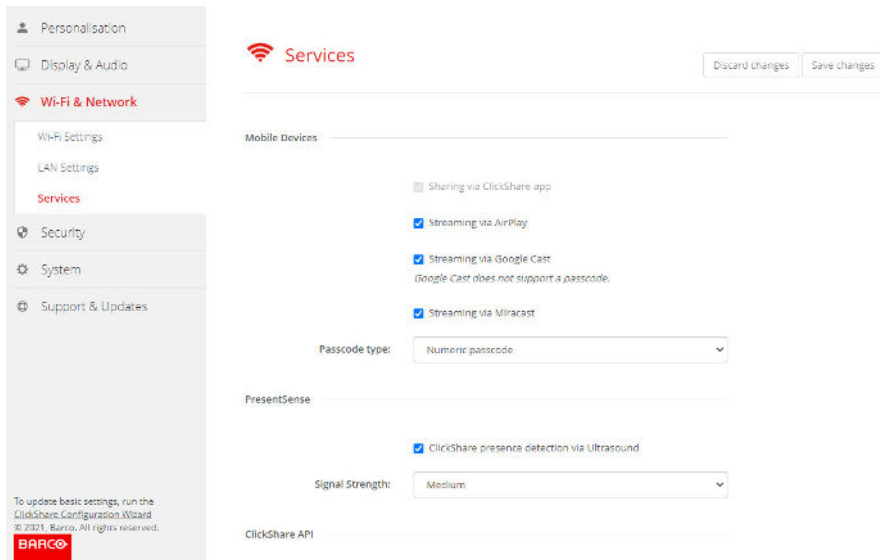


Image 5–36 Services, mobile devices

3. To allow sharing content via ClickShare app, *Sharing via ClickShare app* is activated by default and cannot be changed.

To allow streaming via AirPlay, check the check box in front of *Streaming via AirPlay*.

To allow streaming (mirroring) via Google Cast, check the check box in front of *Streaming via Google Cast*.

To allow streaming via Miracast, check the check box in front of *Streaming via Miracast*.

Note: from firmware version 2.12, after a factory reset, AirPlay, Google Cast and Miracast are deactivated.

Passcode type selection

1. Log in to the *Configurator*.
2. Click *Wi-Fi & Network* → *Services*.
3. Click on the drop down box and select the desired passcode type.
 - No passcode
 - Numeric passcode

Passcode applies to all BYOD screen sharing except Google Cast.

5.23 Service, PresentSense

About PresentSense

The PresentSense function makes it easy to connect to a Base Unit when walking in meeting room. When this function is enabled and the ClickShare desktop app is installed on the user's PC, when walking in a meeting room the Base Unit detects via ultrasound, which contains the device ID and pin code, your presence and makes the connection with the included pin code after the user click **Connect** on a popup on his PC..

The app will connect and disconnect automatically when you enter or leave the meeting room. No meeting room selection nor entering pin codes is necessary. Only those in the room can see and hear what you do.

How to activate

1. Log in to the *Configurator*.
2. Click *Wi-Fi & Network* → *Services*.

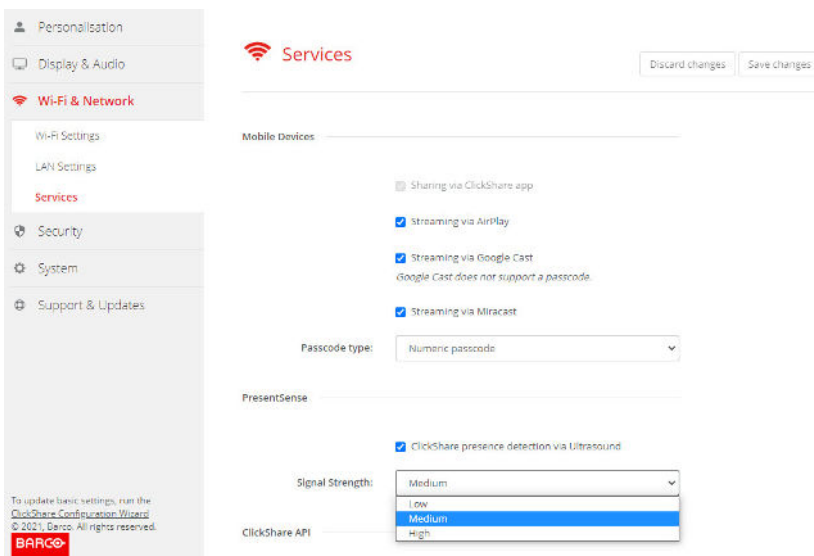


Image 5–37 PresentSense

3. In the *PresentSense* pane, check the check box next to *ClickShare presence detection via Ultrasound*.
Checked: PresentSense detection activated.
Not checked: PresentSense detection not activated.
4. Select the signal strength by clicking on the drop down box next to *Signal Strength*.
The following options are possible:
 - Low
 - Medium
 - High

5.24 Service, ClickShare API, remote control via API

About API settings

The API can be enabled or disabled, that means that the access to the unit from an external device can be allowed or can be blocked.

This functions in enabled by default.

API documentation

The API documentation is included in the Base Unit. Just click on *View API documentation* to access to the documentation. Enter your user name and password to access the stored documentation on the Base Unit.



The default user name and password are identical to those of the configurator (admin/admin). This can be changed in *Security* → *Passwords*.

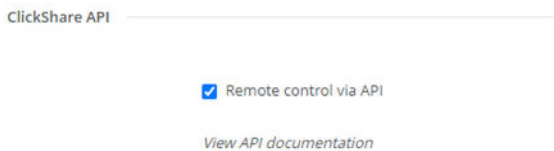


Image 5–38 ClickShare API & documentation

How to enable remote control via API

1. Log in to the *Configurator*.
2. Click *Wi-Fi & Network* → *Services*.
3. Check the check box in front of *Remote control via API* to enable this function.

This check box is normally checked by default.

Checked: remote control via API is allowed. A password can be used to protect the access.

Not checked: no remote control via API allowed.

About API documentation

The complete API documentation for integration by 3th parties is stored on the Base Unit and protected by user name and password.

How to display the API documentation

1. Log in to the *Configurator*.
 2. Click on *View API documentation*.
 3. Enter your user name and password and click **OK**.
- The documentation is displayed as a clickable HTML page.

5.25 Services, SNMP

About SNMP

Simple Network Management Protocol (SNMP) is an internet standard protocol for collecting and organizing information about managed devices on IP networks and for modifying that information to change device behaviour. In general a SNMP management suite (running on a server) communicates with an SNMP agent (running on the device). The SNMP agent collects and exposes device information in the form of variables according a MIB (Management Information Base). SNMP management suites will be able to approach ClickShare devices via SNMP protocol for requesting device information.

SNMPv3 is supported.

How to enable

1. Log in to the *Configurator*.
2. Click *Wi-Fi & Network* → *Services*.
3. Scroll to *SNMP*.

Image 5–39 Service, SNMP

4. Check the check box in front of *Enable*.
The configuration fields become available.

How to configure

1. When using the default *Engine ID*, make sure the check box before *Use default Engine ID* is checked.
The default engine ID is a combination of the Barco Enterprise Number with the MAC-address (eth0).
2. Fill out the *SNMP Manager* address.
That is the host address which will receive the TRAP events/messages.
Possible traps can be:
 - Alarm CPU temperature trap which indicates that CPU temperature exceeds the threshold.
 - Alarm Case Fan Speed trap which indicates the case fan is spinning too slow.
 - Alarm Process Not Running trap which indicates one of the monitored processes is not running.
3. Enter the *Username*.
4. Enter a new password and confirm that password.

5.26 Security, security level

About security levels

For the use of the ClickShare system, a security level can be set. By default, level 1 is activated. A security level is a predefined set of settings which are automatically set when a level is selected.

Level 1 : offers support for normal day-to-day operations in any organization.

Level 1 contains the standard security options and encryption of audio and video data.

The standard security options are:

- PIN code activation for mobile apps and Buttons,
- ClickShare Configurator (WebUI) access via HTTPS with login management,
- no wireless ClickShare Configurator (WebUI) access and Remote control via API,
- SSID of Wi-Fi network is hidden.

Level 2 : this level offers a higher degree of security, fit for organizations that are more sensitive to security matters.

Level 2 contains the level 1 security and a mandatory PIN code for mobile devices. Alphanumeric PIN codes for mobile apps and Buttons and the Buttons require a certificate for pairing.

Level 3 : this level is used for organizations that have extremely strict requirements with regards to security.

Level 3 contains the level 2 security extended with blocking of mobile apps, downgrading firmware not possible and no wireless access to the Configurator (WebUI).

When a security level is set, the individual items included in that security level can be changed using the individual item in the Configurator. When changing an individual item the security level indication will be adapted accordingly, but no other settings will be changed automatically.

E.g. when level 3 is set and you change mobile app blocking to allowed, then the security level indication will change to level 2. But all other items initially in level 3 remains in the level 3 state.



To reset your individual changes, select the desired security level and click **Save changes**.



Changing the security level will require a re-pairing of the Buttons.

Changing the security level from 1 to a higher level will change the compatibility setting for Buttons with certificate (R9861006D01). They cannot re-pair as long as the security setting is higher than level 1.

How to set the security level

1. Log in to the *Configurator*.
2. Click *Security* → *Security Level*.

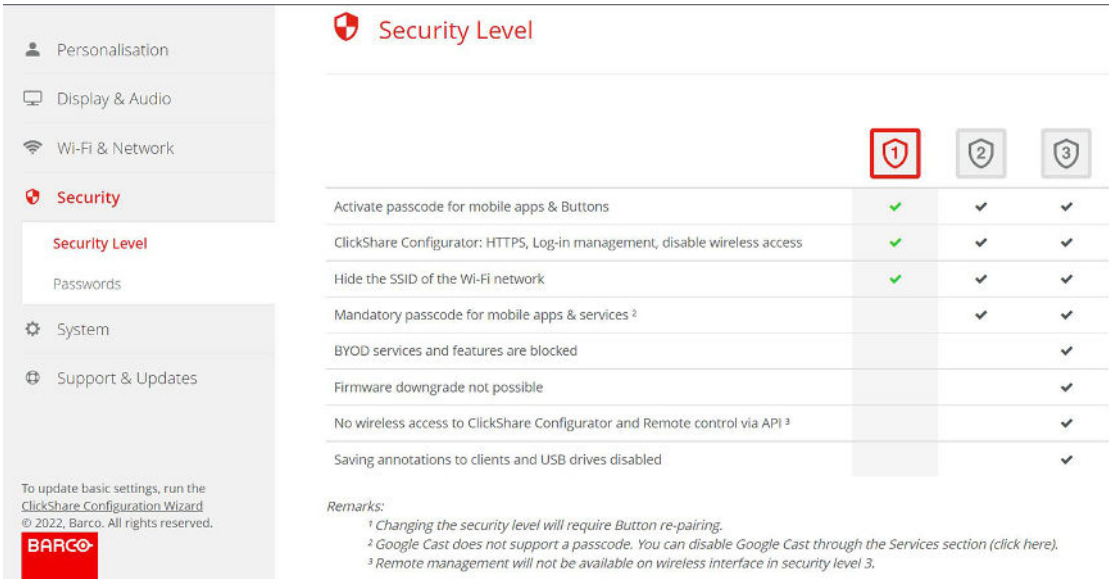


Image 5–40 Security levels

- 3. Select the desired security level icon.
- 4. Click **Save changes** to apply the setting.

5.27 Security, passwords

About passwords

To access the ClickShare Configurator a user name and password is needed. That password can be changed at any time to protect the *ClickShare Configuration* settings.

Changing the ClickShare Configurator & API password

1. Log in to the *Configurator*.
2. Click *Security* → *Passwords*.

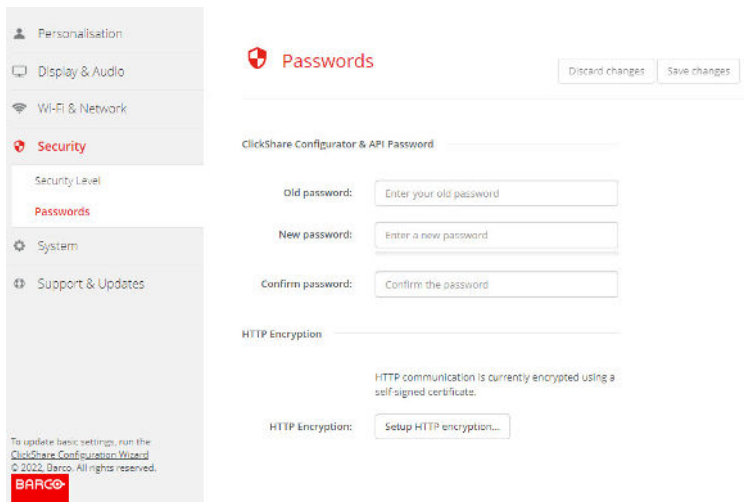


Image 5–41 Passwords

3. Click in the *Password* pane in the input field next to *Old password* and enter the old password.
4. Click in the input field next to *New password* and enter a new password.
5. Click in the input field next to *Confirm password* and enter the new password again.
6. Click **Save changes** to apply.

5.28 Security, HTTP Encryption

About HTTP encryption

HTTP encryption can be set up by using a self signed certificate or a custom certificate. By default, a self signed certificate is used.

How to setup

1. Log in to the *Configurator*.
2. Click *Security* → *Passwords*.

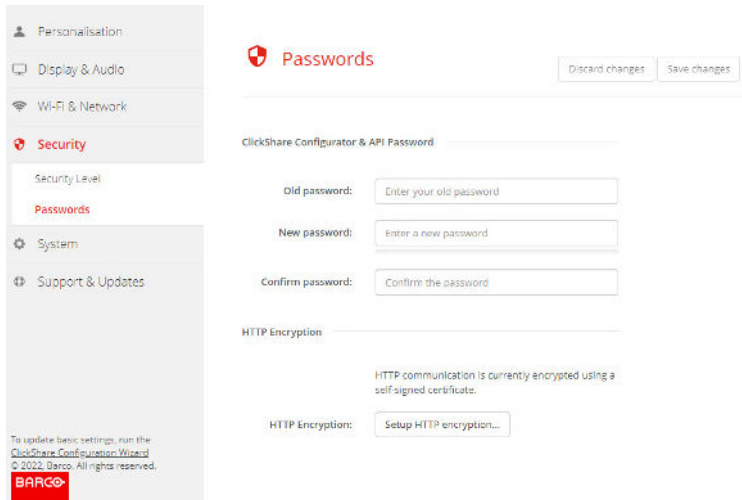


Image 5–42 HTTP Encryption

3. Click on **HTTP encryption...**
4. Choose the certificate.

The following options are possible:

- Use a self signed certificate
- Use a custom certificate.

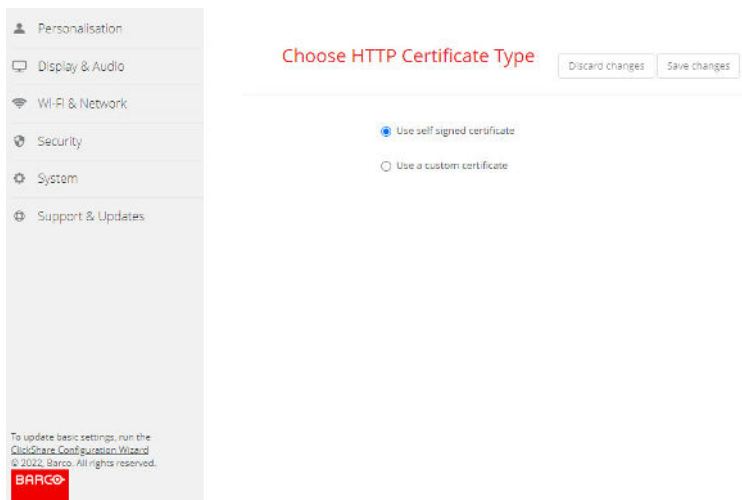


Image 5–43 HTTP encryption

Custom certificate upload

1. Enter your passphrase.

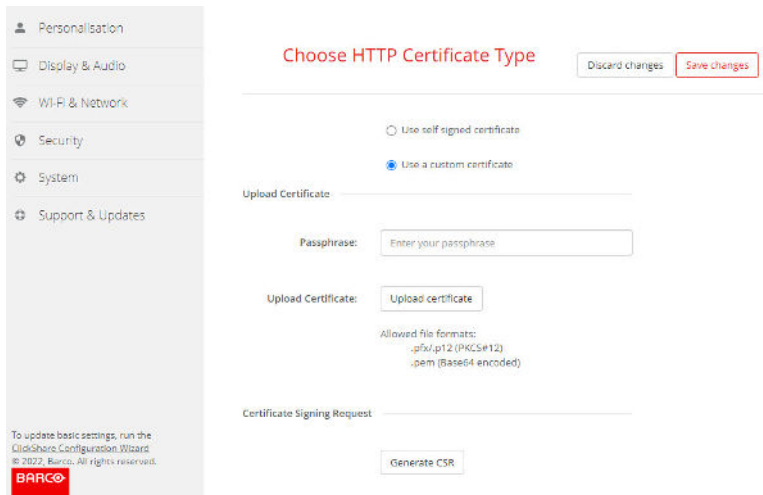


Image 5–44 Upload custom certificate

2. Click on **Upload certificate**.
A browser window opens.
3. Select the desired custom certificate file and click Open.
The allowed file formats are:
 - .pfx/.p12 (PKCS#12)
 - .pem (Base64 encoded)
4. Click on **Generate CSR** .
A *Download Certificate Signing Request* page opens.
5. Fill out the page and click **Download**.
A CRS file will be created and downloaded to your computer.

5.29 Status information Base Unit

Status information

The following information can be found:

- Model information, name and part number
- Serial number
- Firmware version
- First used
- Last used
- Current uptime: time since last startup
- Lifetime uptime: time used since first startup
- Overall status

Base Unit restart

1. Log in to the *Configurator*.
2. Click *Support* → *Base Unit Status*.

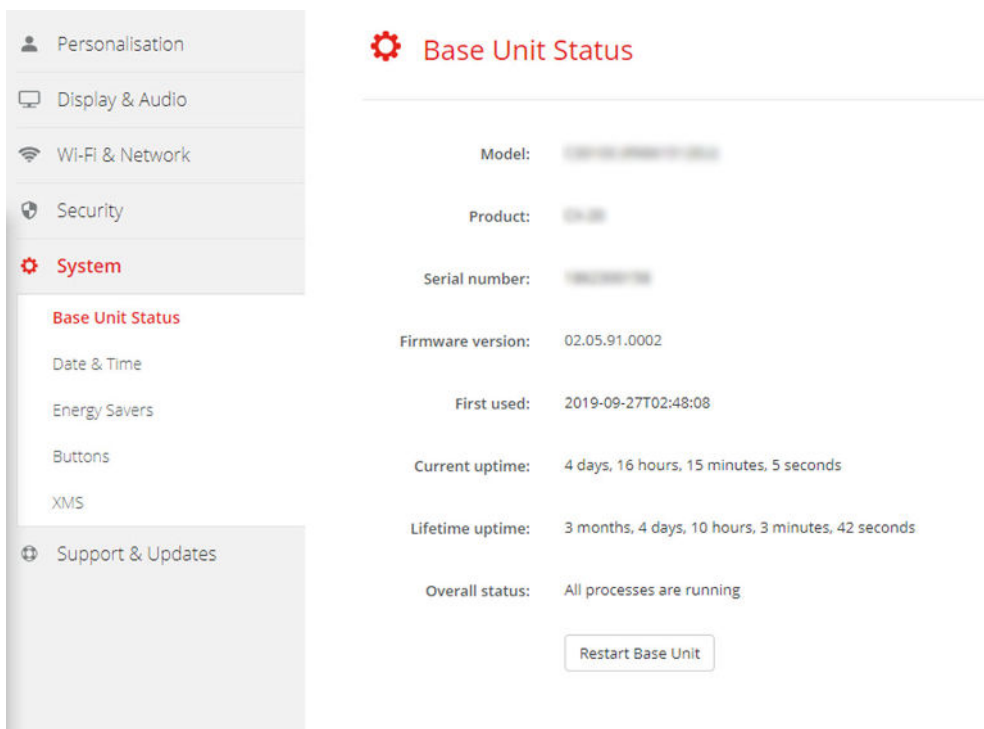


Image 5–45

3. To restart the Base Unit, click on **Restart Base Unit**.
A ClickShare system reboot message with progress bar is displayed while rebooting takes place.
When the reboot is finished, a re-login is necessary.

5.30 Date & Time setup, manually

About Date & Time setup

The date and time can be set manually using the time zone indication or using at least one NTP servers.

How to setup

1. Log in to the *Configurator*.
2. Click *System* → *Date & Time*.

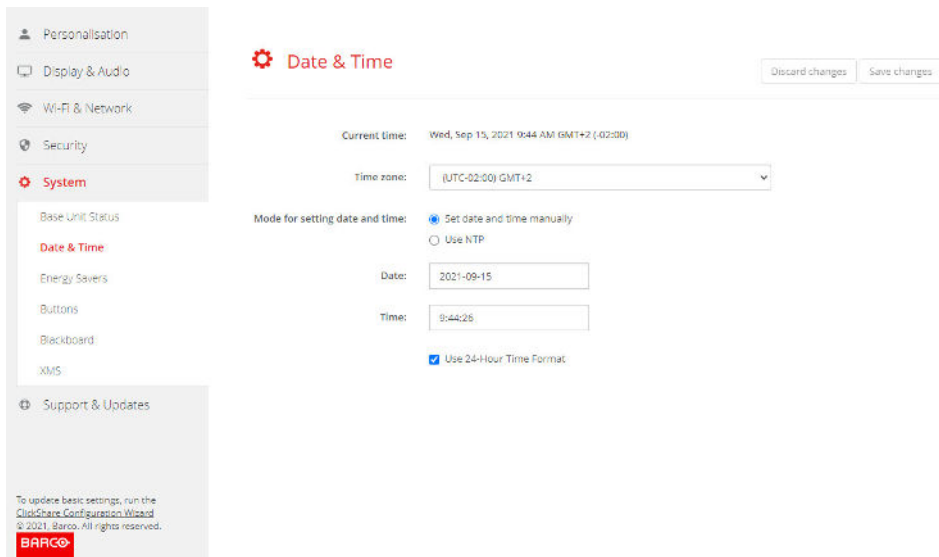


Image 5–46 Manual time & date update

The current time is indicated next to *Current time*.

3. Select your time zone. Click on the drop down box next to *Time zone* and select the corresponding time zone.
4. Check the radio button in front of *Set time and date manually*.
5. To change the date, click in the input field next to *Date*.

A calendar window opens. The current date is indicated with a red background.

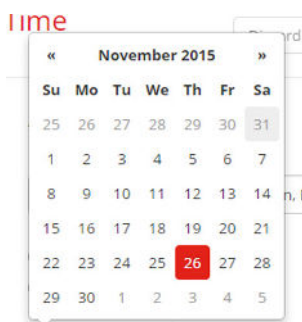


Image 5–47 Date selection

6. To change the month, click on the left or right arrows next the month name until the desired month and year are obtained.

Click on a number in the number field to setup the day.

7. To change the time, click in the time field next to *Time*.

A window with 3 scroll counters open.



Image 5-48 Time setup

8. Click on the up down arrow of each scroll counter until the correct hour, minutes and seconds are obtained.
9. Select the time format.
Checked: use of 24 hour time format
Not checked: use of 12 hour time format
10. Click **Save changes** to apply.

5.31 Date & Time setup, time server

About using NTP server

The clock is continuously synchronized with an external time server and the deviation is in the order of milliseconds. Extra time servers can be added.

As long as there is no synchronization with a time server the status is indicated as disabled.

How to setup

1. Log in to the *Configurator*.
2. Click *System* → *Date & Time*.

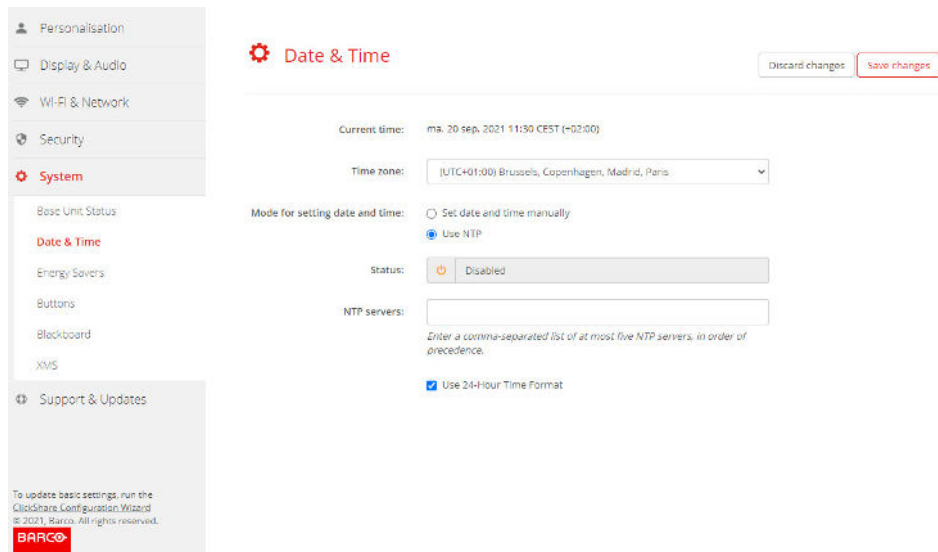



Image 5–49 Time server setup

The current time is indicated next to *Current time*.

3. Check the radio button next *Use NTP*.
4. Enter a NTP server address next to *NTP servers*. Enter the IP address or server name.

 *Note:* Multiple servers (maximum 5) can be added, separated by a comma.

5. Select the time format.

Checked: use of 24 hour time format

Not checked: use of 12 hour time format

6. Click **Save changes** to apply.

A synchronization with the NTP server takes place. The status field indicates the progress.

5.32 Energy savers

About standby

Standby after (minutes): If there is no client connection detected during the standby timeout period, the Base Unit will enter the selected standby mode.

Default setting: Time to standby: 10 min, the Base Unit will enter the standby mode.

Eco mode

When the Base Unit enters standby mode, it will disable the HDMI output signal. The Base Unit's LEDs will be breathing white to indicate the standby mode.

The Base Unit will activate the output with one of the following actions:

- Button or app connecting with the Base Unit
- Press the standby button on the Base Unit
- Pairing a Button on the Base Unit's USB port
- Plugging in an HDMI display
- Plugging in an HDMI source
- When a camera starts streaming

Standby mode

When the Base Unit goes in deep standby mode, it will shut down all processes, including the Wi-Fi access point.

The Base Unit will go to network standby whenever there is an active network connected to the Base Unit.

In this case, the Base Unit's LEDs will be breathing white.

Power consumption in network standby: 3.7W.

If no network is detected, it will enter deep standby and the Base Unit's LEDs will be dark.

Power consumption in Deep standby: 0.27W

To wake the Base Unit from deep standby you need to press the standby button.

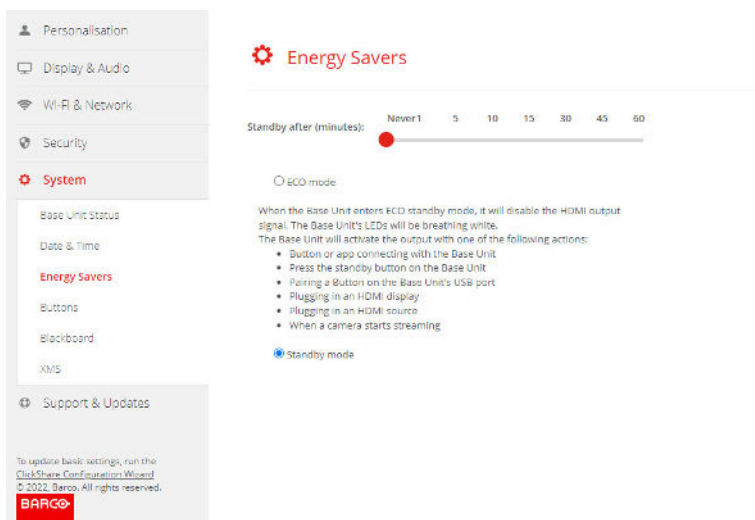


Image 5-50

How to change the display timeout

1. Log in to the *Configurator*.
2. Click *System* → *Energy Savers*.
3. To set a display time out, move the slider to the left or to the right until the desired standby timeout is reached.

5.33 Buttons

About Buttons

The Button page indicates to which Base Unit or network the Buttons are connected. It also shows their current state.

When connected to a network, it indicates the domain, the identity and provided certificate.

The Buttons can be connected to a Base Unit or to an external access point.

All Buttons used with the Base Unit are indicated in the Buttons List containing:

- Serial number
- MAC address
- Article code
- Firmware version
- It is possible to update the software of the Buttons over Wi-Fi
- Model info
- Amount of connections
- Last connection

To edit the settings

1. Log in to the *Configurator*.
2. Click *System* → *Buttons*.

The screenshot shows the 'Buttons' settings page in the ClickShare Configurator. The left sidebar is open to the 'System' menu, with 'Buttons' selected. The main content area shows a table of connected buttons. The table has columns for 'Select', 'Serial number', 'MAC address', 'Article code', 'Firmware', 'Model info', 'Connections', and 'Last connection'. There are two buttons listed in the table. A 'Remove' button is located in the top right corner of the table area. The page title is 'Buttons' and there is an 'Edit settings' button in the top right corner.

Select	Serial number	MAC address	Article code	Firmware	Model info	Connections	Last connection
<input type="checkbox"/>	1860086321	08:3A:88:1F:19:6E	R9861600D01C	04.18.00.0001	GEN4.0	13	2023-09-19T08:04:43
<input type="checkbox"/>	1200463655	EC:5C:84:04:D4:21	R9861600D01C	04.18.00.0001	GEN4.1	6	2023-09-19T08:04:58

Image 5–51 Buttons overview

The current list of connected Buttons with their respective details are shown.

3. Click **Edit settings**.
4. Select whether the Buttons should connect to an external access point or your ClickShare device.



Note: External access point will require additional settings to be filled out!

5.34 Buttons, External access point, mode EAP-TLS

How to fill out

1. Fill out a *Corporate SSID*.

Image 5–52 Buttons, External access point, mode EAP-TLS

The SSID of your corporate wireless infrastructure to which the ClickShare Buttons will connect.

2. Fill out the *Domain* and *Identity*.
3. Select the certification method. Click on the drop down box and select the desired method.
 - Manually provide Client & CA certificates
 - Auto enrollment via SCEP

Manually providing certificates

1. Upload client certificate. Click on Choose file and browse to the desired file.

Allowed file formats:

- .pfx (PKCS#12)
- .p12 (Base64 encoded DER)

The should at least include the client certificate and corresponding private key.

2. Enter the Client certificate Password.
3. Upload CA certificate. Click on Choose file and browse to the desired file.

The following formats are allowed:

- .pem
- .cer
- .crt
- .pb7 (Base64 encoded DER)

File should at least contain the root CA certificate for your domain.

4. Save Changes

Using Auto enrollment

The Simple Certificate Enrolment Protocol (SCEP) is a protocol which enables issuing and revoking of certificates in a scalable way. SCEP support is included to allow a quicker and smoother integration of the ClickShare Base Unit and Buttons into the corporate network.

Up until Base Unit firmware version 02.11.01 the SCEP implementation was specifically targeted at the Network Device enrollment Service (NDES) which is part of Windows Server. From Base Unit firmware version 02.12.00 and later we support both NDES and standard SCEP.

NDES requires the following parameters:

SCEP Server: This is the IP or hostname of the Windows Server in your network running the NDES service. Only http is allowed. E.g.: http://myserver or http://10.192.5.1

SCEP username: This is a user in your Active Directory which has the required permission to access the NDES service and request the challenge password. To be sure of this, the user should be part of the CA Administrators group (in case of a stand-alone CA) or have enrol permissions on the configured certificate templates.

SCEP Password: The corresponding password for the SCEP username that you are using to authenticate on service.

Common Name: The identity you want to link to the certificate.

The screenshot shows a configuration form for NDES. It includes a dropdown menu for 'Provide certificate:' set to 'Auto enrollment via NDES'. Below it are input fields for 'SCEP server:' (with 'http://' and '/CertSrv/mscep_admin/' pre-filled), 'SCEP username:', 'SCEP password:', and 'Common Name:' (with 'ClickShare-0004A50110C4' pre-filled).

Image 5–53 Button Settings, Wireless Client, EAP-TLS, NDES

SCEP requires the following parameters:

SCEP Server: This is the IP or hostname of Server the server running the SCEP service with the port and suffix appended. Only http is allowed. E.g.: http://myserver:8080/scep or http://10.192.5.1/test

SCEP Challenge: The corresponding SCEP challenge password.

Common Name: The identity you want to link to the certificate.

The screenshot shows a configuration form for SCEP. It includes a dropdown menu for 'Provide certificate:' set to 'Auto enrollment via SCEP'. Below it are input fields for 'SCEP server:' (with 'http://' pre-filled), 'SCEP challenge:', and 'Common Name:' (with 'ClickShare-0004A50110C4' pre-filled).

Image 5–54 Button Settings, Wireless Client, EAP-TLS, SCEP

5.35 Buttons, External access point, mode EAP-TTLS

How to fill out the settings

1. Fill out a *Corporate SSID*.

The screenshot shows the 'Buttons' configuration page. At the top left is a gear icon and the word 'Buttons'. To the right are 'Cancel' and 'Save changes' buttons. Below this is a dropdown menu labeled 'Buttons connect to:' with 'External Access Point' selected. Underneath is a section titled 'External Access Point Settings'. It contains several fields: 'Authentication Mode:' with a dropdown set to 'EAP-TTLS'; 'Corporate SSID:' with a text box containing 'Home Sweet Home'; 'Domain:', 'Identity:', and 'Password:' each with an empty text box. At the bottom is an 'Upload CA certificate (optional):' section with a file selection button labeled 'Bestand kiezen' and a message 'Geen bestand gekozen'. Below this, it lists allowed file formats: '.pem', '.cer', '.crt', and '.p7b (Base64 encoded DER)', and notes that the file should contain the root CA certificate for the domain.

Image 5–55 Buttons, External access point, mode EAP-TTLS

The SSID of your corporate wireless infrastructure to which the ClickShare Buttons will connect.

2. Fill out the *Domain* and *Identity*.
3. Enter a *Password*.
4. Upload CA certificate. Click on Choose file and browse to the desired file.

The following formats are allowed:

- .pem
- .cer
- .crt
- .p7b (Base64 encoded DER)

File should at least contain the root CA certificate for your domain.

5. Click **Save Changes** to save the settings.

5.36 Buttons, External access point, mode PEAP

How to fill out the settings

1. Fill out a *Corporate SSID*.

The screenshot shows the 'Buttons' configuration window. At the top, there is a gear icon and the title 'Buttons'. To the right are 'Cancel' and 'Save changes' buttons. Below the title, there is a dropdown menu labeled 'Buttons connect to:' with 'External Access Point' selected. Underneath is a section titled 'External Access Point Settings'. It contains several fields: 'Authentication Mode:' with a dropdown set to 'PEAP'; 'Corporate SSID:' with a text box containing 'Home Sweet Home'; 'Domain:', 'Identity:', and 'Password:' each with an empty text box. At the bottom, there is an 'Upload CA certificate (optional):' section with a file selection button labeled 'Bestand kiezen' and the text 'Geen bestand gekozen'. Below this, it lists allowed file formats: '.pem', '.cer', '.crt', and '.pb7 (Base64 encoded DER)'. A note states: 'File should at least contain the root CA certificate for your domain.'

Image 5–56 Buttons, External access point, mode PEAP

The SSID of your corporate wireless infrastructure to which the ClickShare Buttons will connect.

2. Fill out the *Domain* and *Identity*.
3. Enter a *Password*.
4. Upload CA certificate. Click on Choose file and browse to the desired file.

The following formats are allowed:

- .pem
- .cer
- .crt
- .pb7 (Base64 encoded DER)

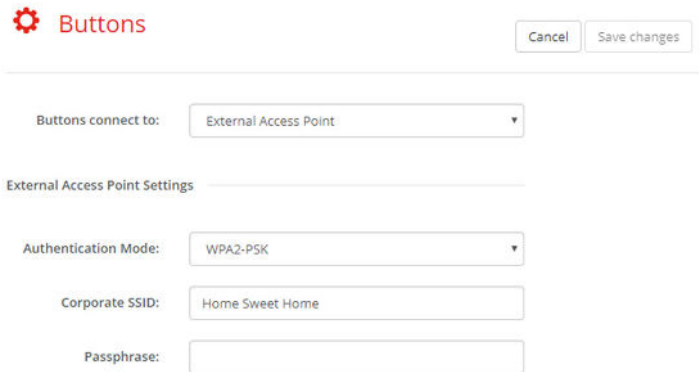
File should at least contain the root CA certificate for your domain.

5. Click **Save Changes** to save the settings.

5.37 Buttons, External access point, mode WPA2-PSK

How to fill out the settings

1. Fill out a *Corporate SSID*.



The screenshot shows a configuration window titled "Buttons" with a gear icon. At the top right are "Cancel" and "Save changes" buttons. Below the title bar, there is a "Buttons connect to:" dropdown menu set to "External Access Point". Underneath is a section titled "External Access Point Settings" with a horizontal separator line. This section contains three fields: "Authentication Mode:" set to "WPA2-PSK", "Corporate SSID:" containing the text "Home Sweet Home", and "Passphrase:" which is currently empty.

Image 5–57 Buttons, External access point, mode WPA2-PSK

The SSID of your corporate wireless infrastructure to which the ClickShare Buttons will connect.

2. Fill out Passphrase.

The key used in WPA2-PSK to authenticate onto the wireless infrastructure. This can be a string of 64 hexadecimal digits or a passphrase of 8 to 63 printable ASCII characters.

3. Click **Save changes** to save the settings.

5.38 Blackboard

About Blackboard

Saving information from a blackboard can be enabled or disabled. When enabled, the information is saved on hard disk of all connected Buttons, connected ClickShare apps and on the USB sticks connected with the Base Unit.

How to change the blackboard setting

1. Log in to the *Configurator*.
2. Click *System* → *Blackboard*.

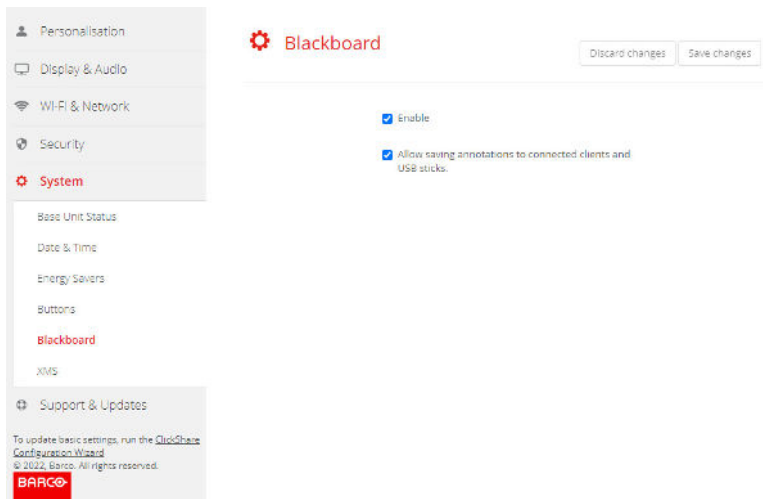


Image 5–58 Save annotations

3. To enable or disable Blackboarding check or uncheck the checkbox in front of enable or disable.
Checked: blackboarding enabled
Unchecked: blackboarding disabled.
4. Check or uncheck the check box in front of *Allow saving annotations to connected clients and USB sticks*.
Checked: annotations on the blackboard can be saved.
Unchecked: no annotations on the blackboard can be saved.

5.39 XMS Cloud Integration

Overview

When your device is not registered and connected to the cloud service, the following message will be displayed: Device has not been added to XMS cloud. To add your device to XMS cloud click here <https://xms.barco.com/add>.

The device token is given and can be copied.

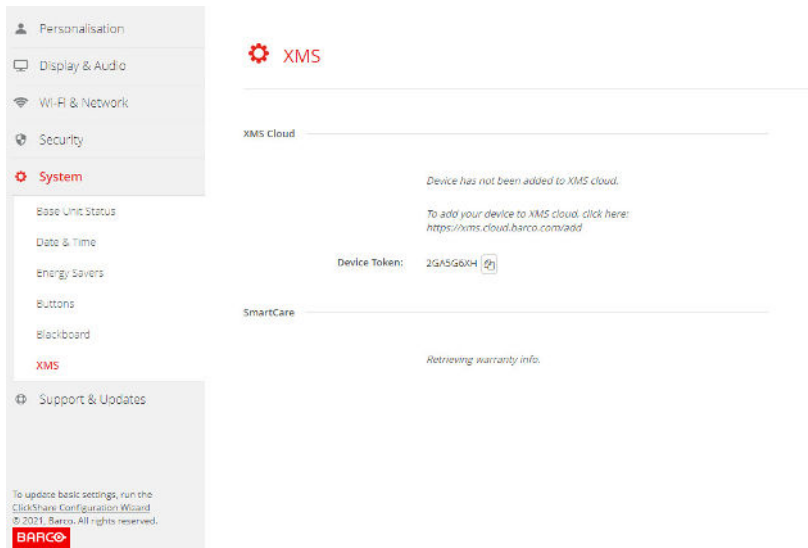


Image 5–59 XMS cloud, no registration

When your device is correctly registered, the following message is displayed: *The ClickShare device has been successfully registered.*

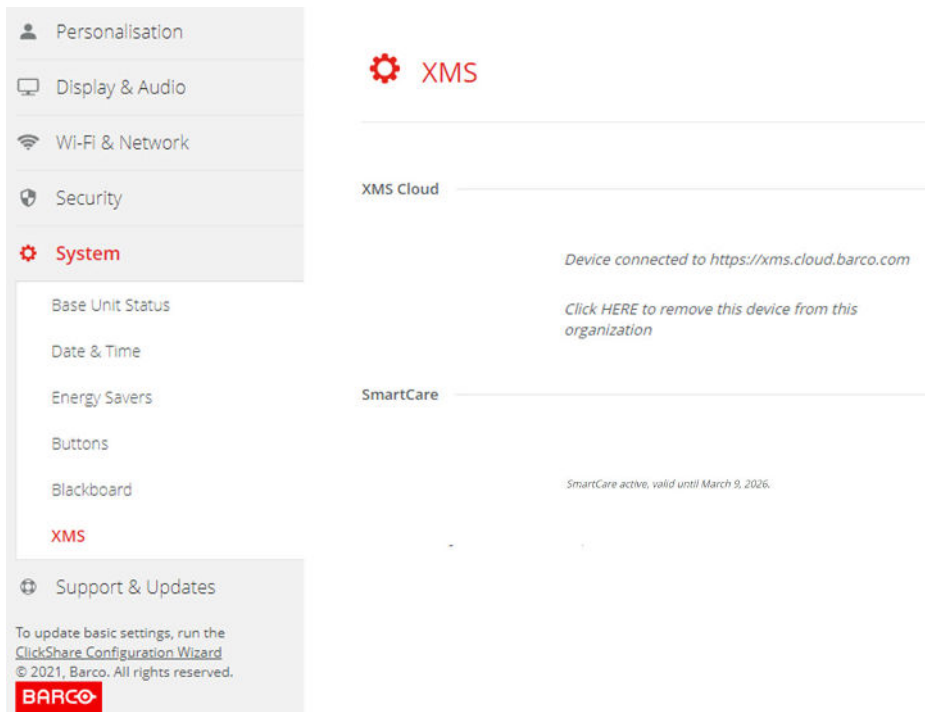


Image 5–60 XMS cloud

What can be done?

1. Check your network settings or register your device to XMS Cloud.

Follow procedure as described in [“Registration to XMS Cloud”, page 59](#).

SmartCare

The SmartCare package is included in the purchase of each ClickShare unit.

For those rare occasions when you encounter issues with our ClickShare units, we have launched SmartCare, a service package that provides your company with budget predictability, swift hardware replacement and expert support from both Barco and our partners for up to 5 years.

When SmartCare is activated, in the SmartCare pane the message *SmartCare active, valid until...* is displayed.

When not yet activated, you have 6 months after the first setup to activate SmartCare and enjoy 5 years of hardware coverage.

When the activation period is expired, the warranty end date will be displayed.

5.40 Firmware Update

About Firmware update

The firmware of the Base Unit can be updated via the web interface. The latest version of the firmware is available on Barco's website.

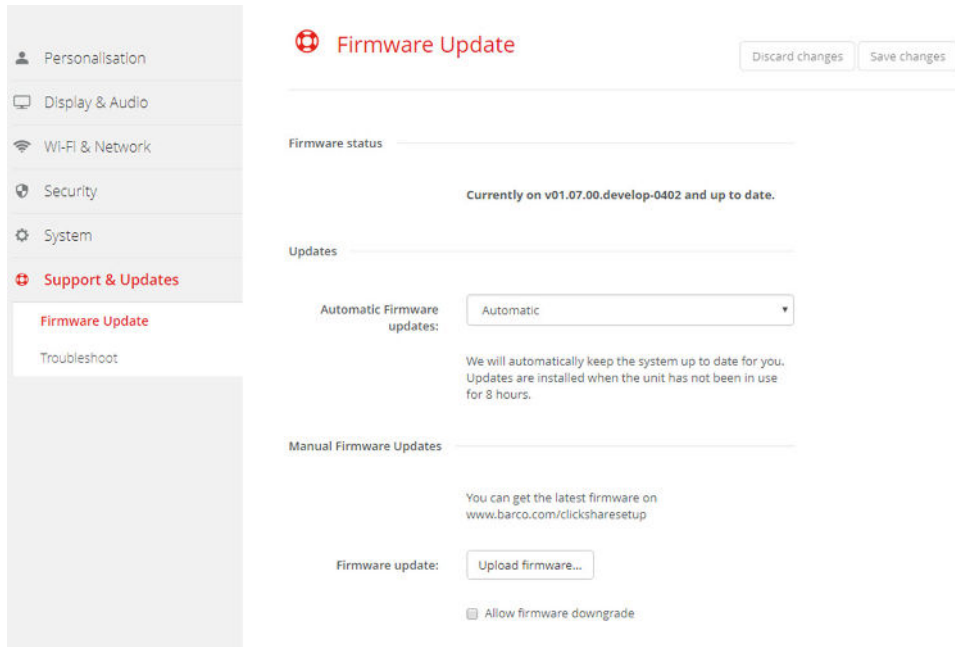


Image 5–61 Firmware update

About automatic firmware updates

There are 3 ways to configure automatic updates:

- **Automatic:** The system will automatically detect firmware updates and install them for you when it's not in use.
- **Notify:** The system will automatically detect firmware updates and notify you on the web interface dashboard and firmware page. The update can then be initiated via the *Support & Updates > Firmware* page
- **Off:** The system will not detect firmware updates and will not notify you.

Manual firmware update

1. Download the latest version of the firmware from Barco's website.
2. Log in to the *Configurator*.
3. Click *Support & Updates* → *Firmware*.
4. To upload a firmware version, click on **Upload firmware...**

A browser window opens.

5. Browse to the file with the new firmware and click **Open** to start the upload.



Note: This should be an .enc file. You might have to unzip the file downloaded from Barco's website.



Note: Updating the software to the Base Unit takes several minutes. Progress can be followed on the meeting room display.

The Base Unit software is updated.



If a firmware downgrade is required on the Base Unit, check the check box in front of *Allow firmware downgrade*.

Firmware update without using the Configurator

Next to using the configurator to upgrade the firmware, the following ways are also possible:

- When your device is connected to a network and managed via the XMS (Cloud) management platform, the firmware can be upgrade via this Management solution. For more information on upgrading firmware in this way, consult Barco's web pages on XMS (<https://www.barco.com/en/page/xms-cloud-management-platform>).
- Download the firmware on a USB stick and plug in this USB in your device. For more information, see "Updating the CX-50 Gen2 firmware", page 148

5.41 Support & Updates, Troubleshoot, log settings

About logging

Both Button and Base Unit log data is saved in log files on the Base Unit. These log files can contain debugging information. They can be downloaded on a local computer and cleared on the Base Unit. Debug logging covers only a few hours before it will be overwritten. Therefore, it is important if you discover a problem with your system to download the logging immediately.

How to use

1. Log in to the *Configurator*.
2. Click *Support & Updates* → *Troubleshoot*.

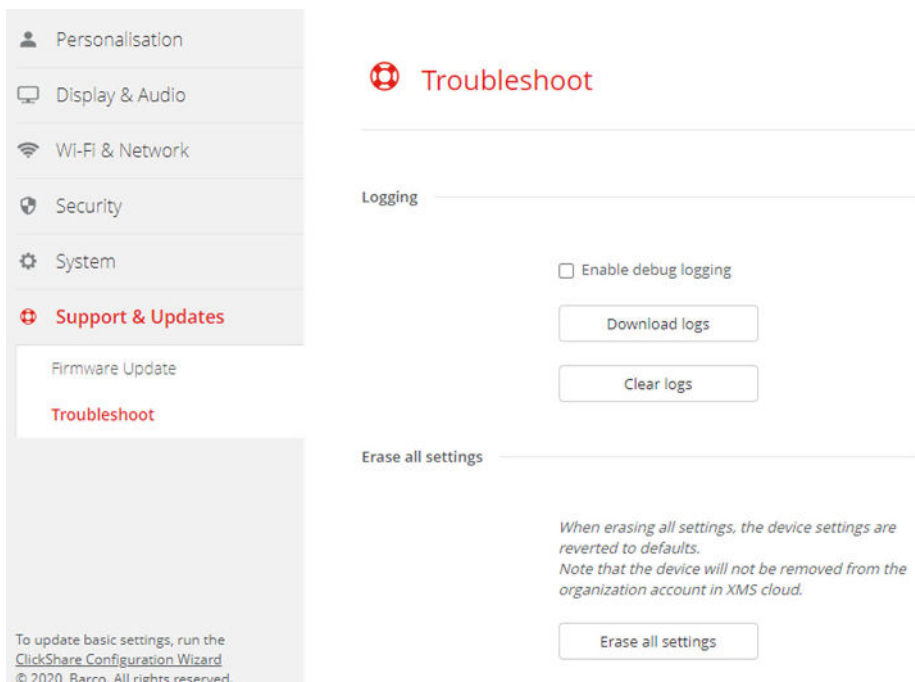


Image 5-62 Troubleshoot, logging

3. To create a debug log, check the check box next to *Enable debug logging*.
4. Reproduce the issue you want to report.
5. To download the current log file, click on **Download logs**.
6. To clear the current log file, click **Clear logs**.

5.42 Troubleshooting, Erase all settings

About erasing all settings

When erasing all settings, the device settings are reverted to defaults. There is no need to go through the onboarding procedure.



The device will not be removed from the organization account in XMS cloud.

How to erase

1. Log in to the *Configurator*.
2. Click *Support & Updates* → *Troubleshoot*.
3. To erase all settings and revert to default, click **Erase all settings**.

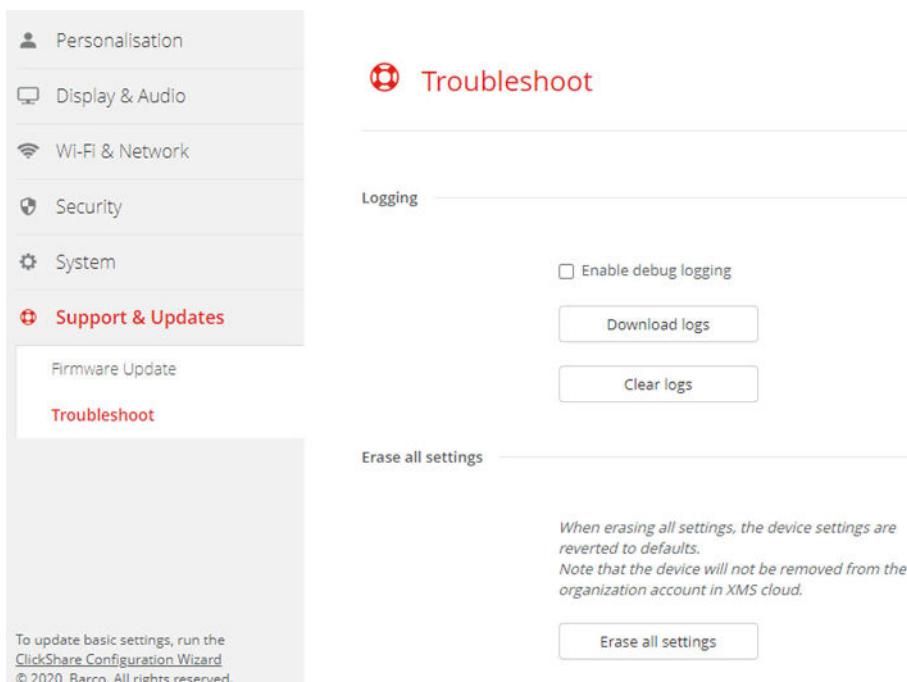


Image 5-63 Troubleshoot, logging

5.43 Reset to factory defaults

About the reset

When applying a reset to factory defaults, the device settings are reverted to the factory defaults. Additionally, the Base Unit will be removed from the organization account in XMS cloud and the first time setup procedure will be initiated, as if the device came out of the box.



The unit needs to be connected to the internet to complete the first time setup.

How to reset

1. Log in to the *Configurator*.
2. Click *Support & Updates* → *Troubleshoot*.

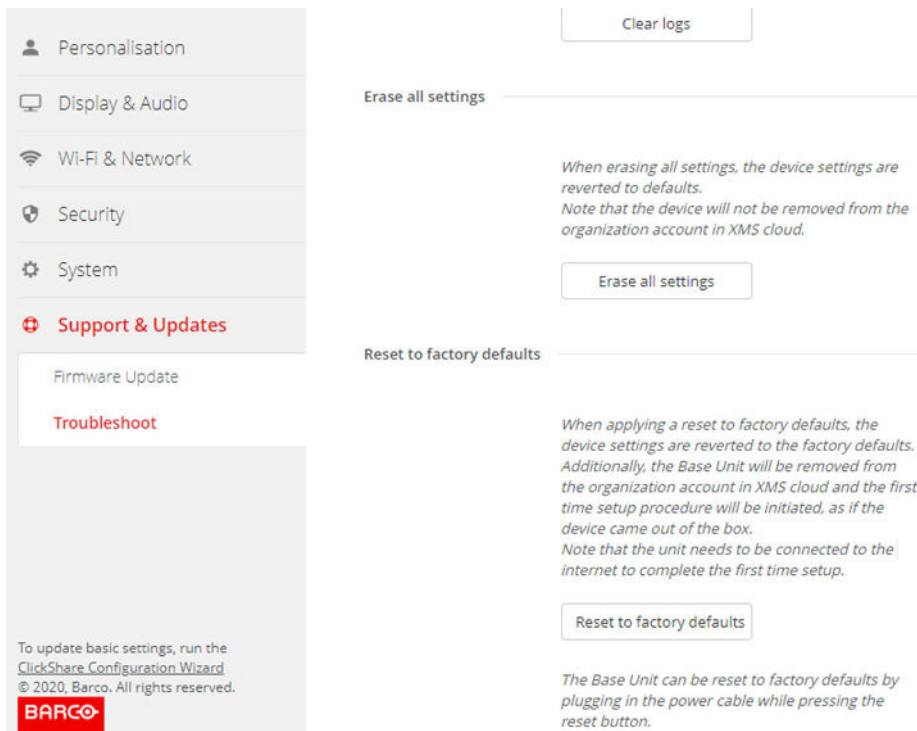


Image 5–64 Factory reset

3. Click **Reset to factory defaults**.

The following message is displayed: “This action will remove all settings of the Base Unit and replace them with the default settings. Are you sure you want to continue?”

4. If you want to continue, click **Yes, remove all settings** otherwise click **No, I changed my mind**.

When yes is clicked, the system starts a reboot.

5.44 Troubleshoot, diagnostics

About diagnostics

A TCP dump test will capture the network data for 2 minutes and the result will be written in a separate file in the log archive. This file can only be opened with a network monitoring tool.

How to start

1. Log in to the *Configurator*.
2. Click *Support & Updates* → *Troubleshoot*.
3. In the Diagnostics pane, click **Run TCP Dump Test**.

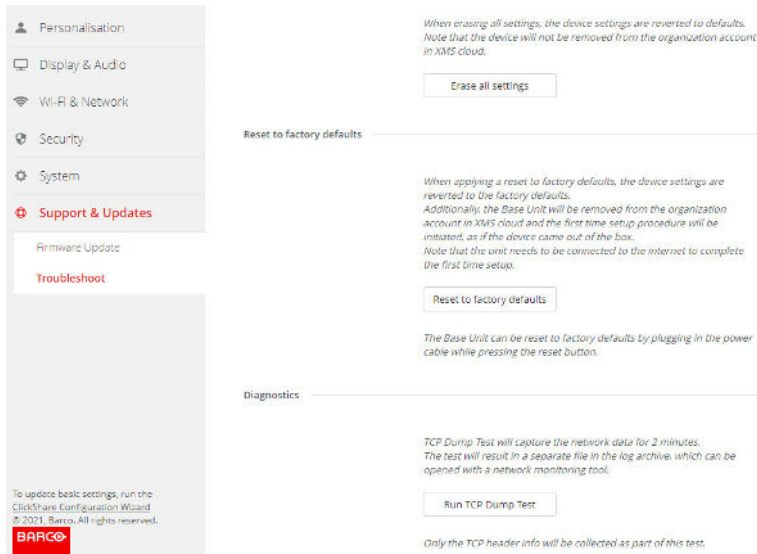


Image 5–65 Troubleshoot, diagnostics

A separate file is written to the log archive.

Only the TCP header info will be collected as part of this test.

Firmware updates

6

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6.1 Updating the CX-50 Gen2 firmware



When starting up the device for the first time a software update is necessary. This update can only be done via the network.

About Firmware updates

There are different ways to update the Base Unit software:

- automatic update when connected with the network or your device is configured in XMS cloud.
- via the Configurator, for more information, see “[Firmware Update](#)”, page 141.
- by copying the software on a USB stick

To update the Base Unit software by copying the software on a USB stick

1. Download the latest version of the firmware from Barco's website, www.barco.com/clickshare. Click on **Support** and select the update firmware button of your device type.

2. Unzip the zip file.

3. Copy the ENC file to a USB stick.

You can have multiple firmwares for multiple device types on the same stick.

4. Insert the USB stick into the USB port at the front of the Base Unit.

5. Follow the instructions on the meeting room screen.

6. When the on-screen message indicates that the process is finished, remove the USB stick.

The Base Unit reboots.

Troubleshooting

7

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7.1 Troubleshooting list

Barco knowledge base and YouTube videos

Go to the product page on Barco's website and select in the right column **Support**. You will get access to Barco's *Knowledge base* (<https://www.barco.com/en/support/knowledge-base>) and *Latest tutorial videos*. For more YouTube videos, consult <https://www.youtube.com/user/barcoTV> and select ClickShare.

Problem solving

Problem	Cause	Solution
Quality of the image on the meeting room display is not satisfactory	The quality or length of the cable between the Base Unit and the display or the connection between these two.	<ul style="list-style-type: none"> • Replace the cable. • Use another cable.
	Bad resolution of the display The system can handle the average laptop resolution of 3 Megapixel. However, up or down scaling on the meeting room display can cause visible artefacts.	Change the resolution on the web interface and match it to the native resolution of the meeting room display.
Users have a bad wireless connection. The connection from the Button to the Base Unit keeps falling away.	Wireless congestion	<ul style="list-style-type: none"> • Use a WiFi scanner to find a free wireless channel and select it via the web interface. You can use commercial as well as free online tools such as inSSIDer or Xirrus for this. Refer to "WiFi settings".
	Low signal strength	<ul style="list-style-type: none"> • Put the Base Unit closer to the meeting room table. • Remove or limit as much as possible all obstructions between the Buttons and the Base Unit.
Web interface is not accessible	Browser	<ul style="list-style-type: none"> • Use another browser (version). • Check the browser settings.
	No connection	<ul style="list-style-type: none"> • There are three methods to access the web interface. Refer to the corresponding chapter of the documentation. • Check the proxy settings
Users do not get a ClickShare drive when inserting the Button in their laptop.	<ul style="list-style-type: none"> • No automatic refresh of drives • Windows tries to assign the ClickShare drive to an already reserved drive letter 	<ul style="list-style-type: none"> • Refresh your view on the laptop. • Use Microsoft Windows Disk Management to assign it to a free drive letter.
	Bad connection at USB port on the laptop	<ul style="list-style-type: none"> • Reconnect to the USB port. • Try another USB port. • Reboot the laptop.
	<ul style="list-style-type: none"> • Some types of USB devices might be blocked as a company policy. • USB port settings on the laptop might limit the usage of high 	If possible, change the USB port policy on the laptop.

Problem	Cause	Solution
	power USB devices when on battery power.	
Low video performance	Laptop performance	<ul style="list-style-type: none"> Lower the screen resolution of the laptop. Disable the hardware acceleration for video. Use only a part of the display to show the video. Right click ClickShare icon in system tray and click on Capture mode to toggle the current setting..
	Wireless connectivity	See "Users have bad connectivity"
Video is not shown on screen	Player uses overlays	<ul style="list-style-type: none"> Disable the usage of overlays in the preferences of the video player. video is protected by HDCP and cannot be captured by ClickShare.
Some programs of Windows are not shown on the display	Use of overlays, 3D or hardware acceleration in the GPU	<ul style="list-style-type: none"> Disable overlays or hardware acceleration in the GPU. Disable AeroGlass in Windows 7 Upgrade the Base Unit to the latest software version.
When using Windows 7 the following message about the Windows Aero color scheme appears: "Windows has detected your computer's performance is slow. This could be because there are not enough resources to run the Windows Aero color scheme. To improve...".	ClickShare uses resources from the GPU. In combination with other programs which do so, Windows 7 sometimes shows this message suggesting to disable Aero to improve the performance of your laptop.	It is safe to ignore this message and choose 'Keep the current color scheme'.
Your screen is not shown on the display when pressing the Button	The number of shared video's on the screen is exceeded. When roomdock is used, only one participant can share his screen.	Click and hold the button for 2 seconds to use the Show me full screen function.
	The ClickShare software is not running.	Go to the ClickShare drive and run the software.
Your content is removed from the display and the LEDs on the button are blinking white	Connection to the Base Unit is lost.	<p>ClickShare tries to restore the connection automatically. If it fails, the LEDs on the Button start blinking red.</p> <p>Unplug the Button from your laptop and try a new Button.</p>
Nothing is shown on the displays at all.	The displays are switched off.	Switch on the displays.
	The display cable is not correctly connected	Insert the display cable to the display and the Base Unit.
	The display does not recognize or is not able to display the Base Unit output resolution.	Change the corresponding setting via the web interface.

Problem	Cause	Solution
	The Base Unit is in standby mode	Briefly push the standby button on the Base Unit or insert a Button and run the ClickShare software.
Bad WiFi connectivity	<p>Congestion of the wireless channel</p> <p>Metal cabinets, walls, construction elements, ... can cause reflections deteriorating the wireless signal.</p> <p>Obstructions between Buttons and Base Unit cause lowering of the wireless strength and quality.</p>	<p>Use wireless network scan tools to look for free or the least congested channels.</p> <p>Move the Base Unit to another place in the room.</p> <p>Avoid placing it inside cabinets, false ceiling, below the table, behind a wall, in another room,</p> <p>Check out the ClickShare White paper on WiFi See www.barco.com/clickshare.</p>
Web Interface shows error in the processes "WiFi Access Point Daemon" and/or "DHCP Server"	Configuration file is corrupted	Browse to the Configuration tab on the Web Interface and press "Load Default Settings".
ClickShare Base Unit does not start up correctly	Configuration file is corrupted	Browse to the Configuration tab of the Web Interface and press "Load Default Settings".
No LAN connection with the Base Unit	Wrong IP address	<p>IP address is not within your LAN range.</p> <p>DHCP is not enabled.</p>
No WiFi connection with Base Unit	SSID not correct	Enter the correct SSID
Echo when using ClickShare in the call	<p>Wrong micro selection</p> <p>The peripheral is not cancelling the echo. As a result the microphone will pick up what the remote participant says and send it back in the call</p> <p>Massive reverb (echo, sound bouncing) in the room itself. This can also be the reason why the remote side can hear the in-room participants as if they sit in a metal can or a fishbowl if they do not sit directly in front of the microphone.</p>	<p>Select the microphone from the ClickShare system and not the PC microphone during the call.</p> <p>Use a correct device with echo cancelling.</p> <p>In these situations, the use of table (or ceiling) mics or the use of sound absorbing panels might be advised.</p>

Locate the problem you are experiencing in the table below and apply the solution.

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