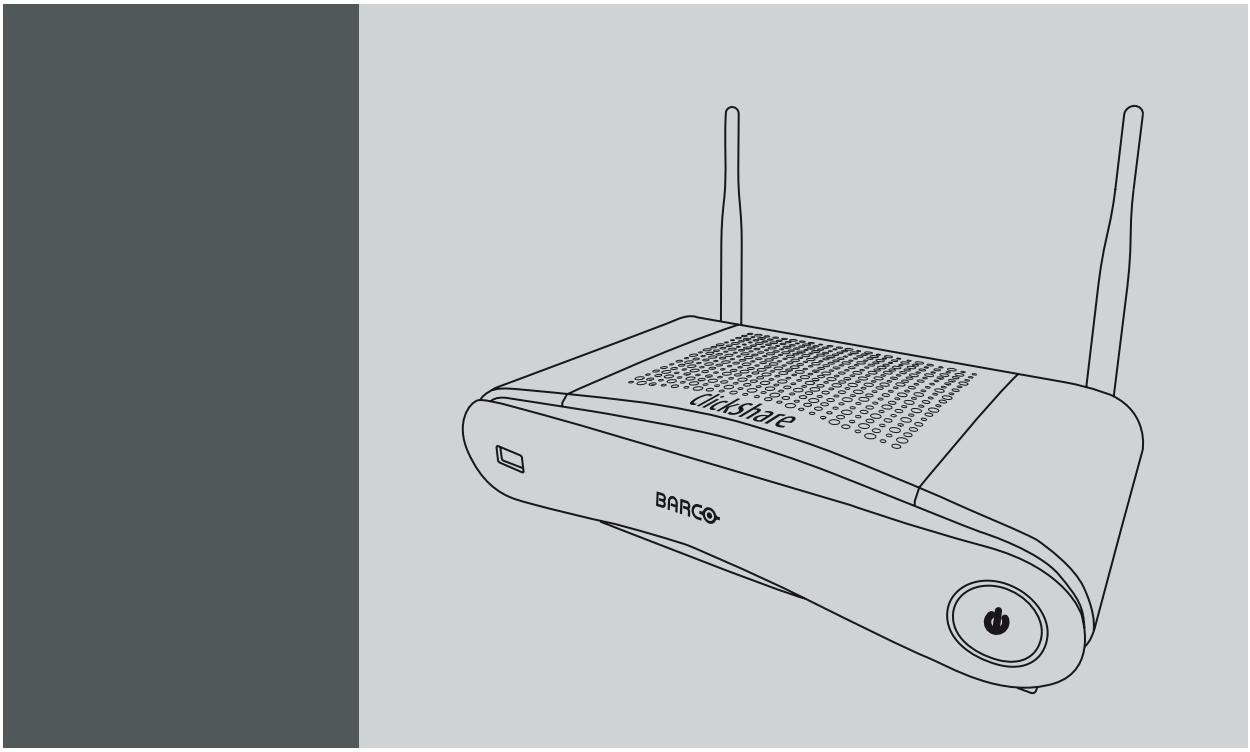
# CSE-200




## Installation manual

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**Barco NV**
President Kennedypark 35, 8500 Kortrijk, Belgium
Phone: +32 56.23.32.11
Fax: +32 56.26.22.62
Support: www.barco.com/en/support
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| rsync (>=3.0.0) | http://www.gnu.org/licenses/gpl.html |
| rsyslog | http://www.gnu.org/licenses/gpl.html |
| splashutils | http://www.gnu.org/licenses/gpl.html |
| sprintf-js | https://opensource.org/licenses/BSD-3-Clause |
| srp | http://srp.stanford.edu/license.txt |
| sscep | https://github.com/certnanny/sscep/blob/master/COPYRIGHT |
| strace | http://opensource.org/licenses/BSD-3-Clause |
| sysfsutils | http://www.gnu.org/licenses/old-licenses/gpl-2.0.html |
| sysvinit | http://www.gnu.org/licenses/old-licenses/gpl-2.0.html |
| tcpdump | http://opensource.org/licenses/BSD-3-Clause |
| Timepicker Component for Twitter Bootstrap | https://opensource.org/licenses/MIT |
| ttf-arphic-uming | http://ftp.gnu.org/non-gnu/chinese-fonts-truetype/LICENSE |
| ttf-dejavu-common | http://dejavu-fonts.org/wiki/License |
| ttf-dejavu-sans | http://dejavu-fonts.org/wiki/License |
| ttf-dejavu-sans-mono | http://dejavu-fonts.org/wiki/License |
| ttf-sazanami-gothic | https://osdn.jp/cvs/view/efont/sazanami/README |
| | http://metadata.ftp-master.debian.org/changelogs//main/t/ttf-sazanami/ttf-sazanami_20040629-8_copyright (translation) |
| ttf-sazanami-mincho | https://osdn.jp/cvs/view/efont/sazanami/README |
| | http://metadata.ftp-master.debian.org/changelogs//main/t/ttf-sazanami/ttf-sazanami_20040629-8_copyright (translation) |
| ttf-un-fonts | http://www.gnu.org/licenses/gpl.txt |
| u-boot | http://www.denx.de/wiki/U-Boot/Licensing |
| uClibc | http://www.gnu.org/licenses/lgpl.html |
| udev | http://www.gnu.org/licenses/old-licenses/gpl-2.0.html |
| update-modules | http://www.gnu.org/licenses/old-licenses/gpl-2.0.html |
| update-rc | http://www.gnu.org/licenses/old-licenses/gpl-2.0.html |
| usbutils | http://www.gnu.org/licenses/old-licenses/gpl-2.0.html |
| util-linux-ng | http://www.gnu.org/licenses/gpl.html |
| wireless_tools | http://www.gnu.org/licenses/gpl.html |
| wpa_supplicant | http://opensource.org/licenses/BSD-3-Clause |
| xserver-xorg | http://opensource.org/licenses/MIT |
| xvba-video | http://www.gnu.org/licenses/old-licenses/gpl-2.0.html |
| zeroconf | http://www.gnu.org/licenses/gpl.html |

## EN55022-CISPR22 Class B ITE (Information Technology Equipment)

This is a class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

If this equipment does cause interference to radio or television reception, the user may try to correct the interference by one or more of the following measures :

- Re-orientation of the receiving antenna for the radio or television.
- Relocate the equipment with respect to the receiver.
- Plug the equipment into a different outlet so that the equipment and receiver are on different branch circuits.
- Fasten cables connectors to the equipment by mounting screws.

## Federal Communication Commission Interference Statement

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You may also find helpful the following booklet, prepared by the FCC: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402.

Changes and Modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commissions rules.

In order to maintain compliance with FCC regulations shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio & television reception.

FCC RF Radiation Exposure Statement: This device is capable of operating in 802.11a mode. For 802.11a devices operating in the frequency range of 5.15 - 5.25 GHz, they are restricted for indoor operations to reduce any potential harmful interference for Mobile Satellite Services (MSS) in the US. WIFI Access Points that are capable of allowing your device to operate in 802.11a mode (5 .15 - 5.25 GHz band) are optimized for indoor use only. If your WIFI network is capable of operating in this mode, please restrict your WIFI use indoors to not violate federal regulations to protect Mobile Satellite Services.

Base Unit FCC ID: 2AAED-R9861520

Button FCC ID (model R9861006D01): XF6-RS9110N1103

Button FCC ID (model R9861500D01): 2AAED-R9861500D01

ClickShare Button R9861500D01 has been tested and meets the FCC RF exposure guidelines.The maximum SAR value reported is 0.915W/kg.

## Canada, Industry Canada (IC) Notices

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

## Radio Frequency (RF) Exposure Information

The radiated output power of the Barco Wireless Device is below the Industry Canada (IC) radio frequency exposure limits. The Barco Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.

Base Unit IC ID: IC: 9393B-R9861520

Button IC ID (model R9861006D01): 8407A-RS9110N1103

Button IC ID (model R9861500D01): 9393B-R9861500D01

## IC Antenna statement

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This radio transmitter 9393B-R9861520 has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Type: Dipole

Maximum Peak Gain: 2 dBi

Impedance: 50 Ohm

## Informations concernant l'exposition aux fréquences radio (RF)

La puissance de sortie émise par l'appareil de sans fil Barco est inférieure à la limite d'exposition aux fréquences radio d'Industry Canada (IC). Utilisez l'appareil de sans fil Barco de façon à minimiser les contacts humains lors du fonctionnement normal.

IC ID Unité de Base: 9393B-R9861520

IC ID Button (modèle R9861006D01): 8407A-RS9110N1103

IC ID Button (modèle R9861500D01): 9393B-R9861500D01

## Informations concernant l'exposition aux fréquences radio (RF)

La puissance de sortie émise par l'appareil de sans fil Barco est inférieure à la limite d'exposition aux fréquences radio d'Industry Canada (IC). Utilisez l'appareil de sans fil Barco de façon à minimiser les contacts humains lors du fonctionnement normal.

IC ID Unité de Base: 9393B-R9861520

IC ID Button (modèle R9861006D01): 8407A-RS9110N1103

IC ID Button (modèle R9861500D01): 9393B-R9861500D01

## Déclaration d'antenne d'Industrie Canada (IC)

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Le présent émetteur radio 9393B-R9861520 a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Type: Dipole

Gain maximum: 2 dBi

Impédance: 50 Ohm

# TABLE OF CONTENTS


**1. Introduction to the Installation Guide ..... 3**
1.1 Documentation ..... 3
1.2 Symbols and fonts ..... 3

**2. CSE-200 Specifications ..... 5**
2.1 About the CSE-200 ..... 5
2.2 CSE-200 specifications ..... 6
2.3 About the Base Unit ..... 7
2.4 About the Button ..... 9
2.5 Mobile Device Support ..... 10
2.6 Ports used by the ClickShare Base Unit ..... 11

**3. Getting started ..... 13**
3.1 Environmental Condition Check ..... 13
3.2 Basic Workflow ..... 13

**4. CSE-200 Installation ..... 15**
4.1 Installation methods for the Base unit ..... 15
4.2 Table mounting ..... 15
4.3 Wall mounting ..... 15
4.4 Recommendations about antenna placement and orientation ..... 16
4.5 Video signal connections to the Base unit ..... 17
4.6 Audio connection ..... 17
4.7 LAN connection ..... 18
4.8 Power connection ..... 18

**5. Preparing the buttons ..... 21**
5.1 Pairing ..... 21
5.2 Pre-install of the Launcher service ..... 22
5.3 ClickShare launcher installer ..... 22

**6. CSE-200 Configurator ..... 25**
6.1 Accessing the Configurator ..... 25
6.2 On-Screen Language and Text Size ..... 29
6.3 Meeting room information ..... 30
6.4 Personalisation, wallpaper ..... 31
6.5 Personalisation, Personalized wallpaper ..... 32
6.6 Manage configuration files ..... 34
6.7 Display setup ..... 35
6.8 Audio settings ..... 36
6.9 WiFi settings ..... 37
6.10 LAN settings ..... 38
6.11 Network integration, activation ..... 39
6.12 Network integration, EAP-TLS security mode ..... 42
6.13 Network integration, EAP-TTLS security mode ..... 44
6.14 Network integration, PEAP security mode ..... 46
6.15 Network integration, WPA2-PSK security mode ..... 47
6.16 Services, mobile devices ..... 48
6.17 Service, ClickShare API, remote control via API ..... 49
6.18 Security, compatibility ..... 50
6.19 Security, security level ..... 51
6.20 Security, passwords ..... 52
6.21 Status information Base Unit ..... 53
6.22 Date & Time setup, manually ..... 54
6.23 Date & Time setup, time server ..... 55
6.24 Energy savers ..... 56
6.25 Buttons ..... 57
6.26 Firmware Update ..... 58
6.27 Support & Updates, Troubleshoot, log settings ..... 59
6.28 Factory defaults ..... 60

**7. Software updates ..... 63**
7.1 Software update ..... 63

**8. Troubleshooting ..... 65**
8.1 Troubleshooting list ..... 65

**9. Environmental information ..... 69**
9.1 Disposal information ..... 69
9.2 Rohs compliance ..... 69
9.3 Production address ..... 70
9.4 Importers contact information ..... 71

# 1. INTRODUCTION TO THE INSTALLATION GUIDE

In this section you get a short introduction to the available CSE-200 documentation.

- Documentation
- Symbols and fonts

## 1.1 Documentation

### This guide

| Partnumber | Description | Level |
|---|---|---|
| R5900023 | Installation Guide | Installation engineer |

This installation guide explains how to install your CSE-200 in a meeting room, It explains also how to make everything operational. It provides detailed information on how to configure your CSE-200.

### Available System documentation

This guide is part of the documentation set describing the CSE-200 product.

| Guide | Article number |
|---|---|
| User Guide | R5900025 |
| Installation Guide | R5900023 |
| Safety Guide | R5900032 |
| Service Guide | R5900027 |
| Button Guide | R5900007 |
| Recycling Manual | R5900029 |
| API Guide | R5900018 |

A printed copy of the Safety Guide and an electronic version of the user and installation guide on USB stick is included in the CSE-200 box at purchase.

**Always check for the latest version of the manual on www.barco.com/clickshare Click on Visit the ClickShare product page and go to tab Downloads..**

**Depending on the CSE-200 version, some graphics might be different to the ones used in this manual. This however does not have any effect on the functionality.**

## 1.2 Symbols and fonts

### Symbol overview

The following icons are used in the manual :

| | |
|---|---|
| | Caution |
| | Warning |
| | Info, term definition. General info about the term |

| | |
|---|---|
| | Note: gives extra information about the described subject |
| | Tip: gives extra advice about the described subject |

## Font overview

- Buttons are indicated in bold, e.g. **OK**.
- Menu items are indicated in *italic*.
- Step related notes, tips, warnings or cautions are printed in *italic*.
- Procedure related notes, tips, warnings or cautions are printed in **bold** between 2 lines preceded by the corresponding icon.

# 2. CSE-200 SPECIFICATIONS

## 2.1 About the CSE-200

### CSE-200 sets

CSE-200 makes connecting to the meeting room's video system a matter of clicking a Button. This CSE-200 not only helps the presenter get the presentation on-screen in a second, but it also allows the other people in the meeting to participate more actively. The result is enhanced meeting efficiency and better decision-making.

At the moment 3 different sets 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 CSE-200 set

A standard CSE-200 set consists of a Base Unit and 2 Buttons. Depending on the location where you buy the product, the software of the Base Unit is different. If needed, you can buy additional Buttons and a tray to store the Buttons.

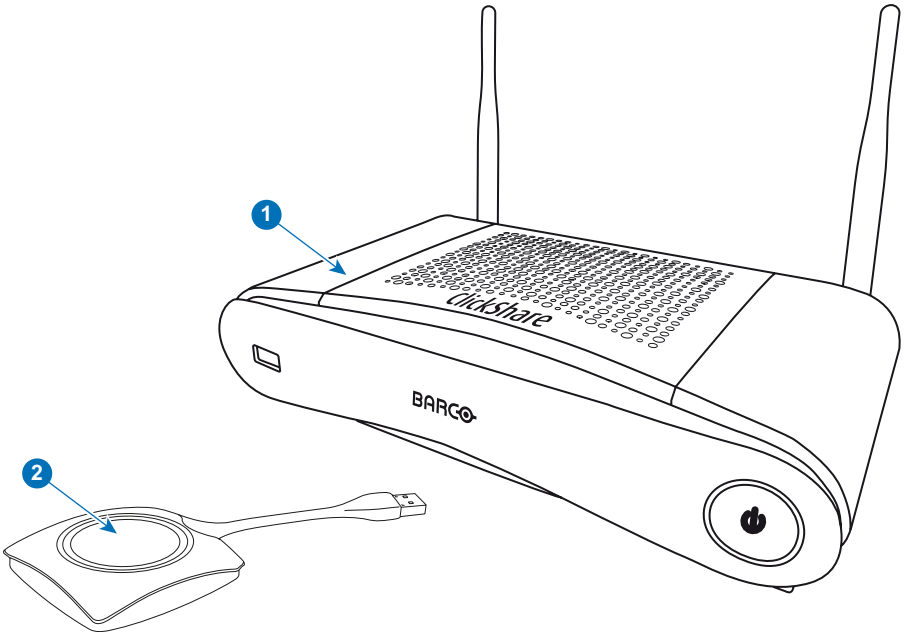


Image 2-1

| | |
|---|---|
| 1 | Base unit |
| 2 | Button |

### Accessories included

Depending on the country where you buy the product, the following regionalized accessories are also included in the CSE-200 box.

| Regional version | Contains | Accessories included |
|---|---|---|
| R9861520xx[1] | • R9861520<br>• 2x R9861500D01 | • DC adapter with AC clips type A, C, G, I<br>• USB stick with user documentation<br>• 2 antennas<br>• Printed safety manual |

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

1. xx=EU, CN, NA,

## 2.2 CSE-200 specifications

### Base Unit

| | |
|---|---|
| **Dimensions (HxWxD)** | 205mm x 115mm x 45mm (excl. antennas) / 8.1” x 4.5” x 1.8”<br>205mm x 150mm x 135mm (incl. antennas) / 8.1" x 5.9" x 5.3" |
| **Power consumption** | Operation: 6W (typical) / 18W (max)<br>Standby: 2.6W (ECO standby) / 0.4W (Deep standby) |
| **Weight** | 600g / 1.32lbs |
| **Anti-theft system** | Kensington lock |
| **Humidity** | Storage: 0 to 90% relative humidity, non-condensing<br>Operation: 0 to 85% relative humidity, non-condensing |
| **Temperature range** | Operating: 0°C to +40°C (+32°F to +104°F)<br>Max: 35°C (95°F) at 3000m<br>Storage: -20°C to +60°C (-4°F to +140°F) |
| **Connections** | 1x Ethernet LAN<br>2x (back) + 1x (front) USB<br>Audio analog line out on mini jack socket (3.5mm), digital S/PDIF |
| **Frequency band** | 2.4 GHZ and 5 GHz |
| **Reach** | Adjustable with signal strength modulation; max. 30m (100 ft) between ClickShare Button and ClickShare Base Unit |
| **Wireless transmission protocol** | IEEE 802.11 a/g/n |
| **Authentication protocol** | WPA2-PSK in stand alone mode<br>WPA2-PSK or IEEE 802.1X in network integration mode |
| **Extended desktop** | Available (depending on the driver of your graphics card) |
| **iPad, iPhone and Android compatibility** | Sharing of documents, browser, camera for both Android and iOS devices via ClickShare app |
| **Audio** | Via HDMI, analog via Audio Jack 3.5mm, S/PDIF |
| **Number of simultaneous connections** | 16 |
| **Number of sources simultaneous on screen** | 2 |
| **Noise Level** | Fanless |
| **Output resolution** | 1920x1200 |
| **Frame rate** | Up to 30 fps |
| **Video outputs** | 1x HDMI |
| **Operating system** | Windows 7/8/8.1/10<br>Mac OSX 10.10/10.11<br>Android 4.1 and later (ClickShare app)<br>iOS 7.0 and later (ClickShare app) |
| **Certifications** | FCC/CE |
| **Warranty** | 3 years standard<br>Possible to extend to 5 years |

### Button

| | |
|---|---|
| **Weight** | 75 g/0.165 lb |
| **Dimensions (HxWxD)** | 16.3 mm x 59.3 mm x 162.52 mm / 0.64” x 2.335” x 6.398” |

| | |
|---|---|
| **Power consumption** | Powered over USB<br>5V DC<br>350mA Typical<br>500mA Maximum |
| **Frequency band** | 2.4 GHZ and 5 GHz |
| **Wireless transmission protocol** | IEEE 802.11 a/b/g/n |
| **Authentication protocol** | WPA2-PSK in stand alone mode<br>WPA2-PSK or IEEE 802.1X in network integration mode |

## 2.3 About the Base Unit

**Base Unit**

The Base Unit receives the wireless input from the Buttons and controls the content of the meeting room display and the sound of the meeting room's audio system.

The Base Unit can be installed in two different ways.

### Front and Top layout of the Base Unit

At the front of the Base Unit you can find a power button and a USB port. Status LED ring is mounted around the standby button of the Base unit.

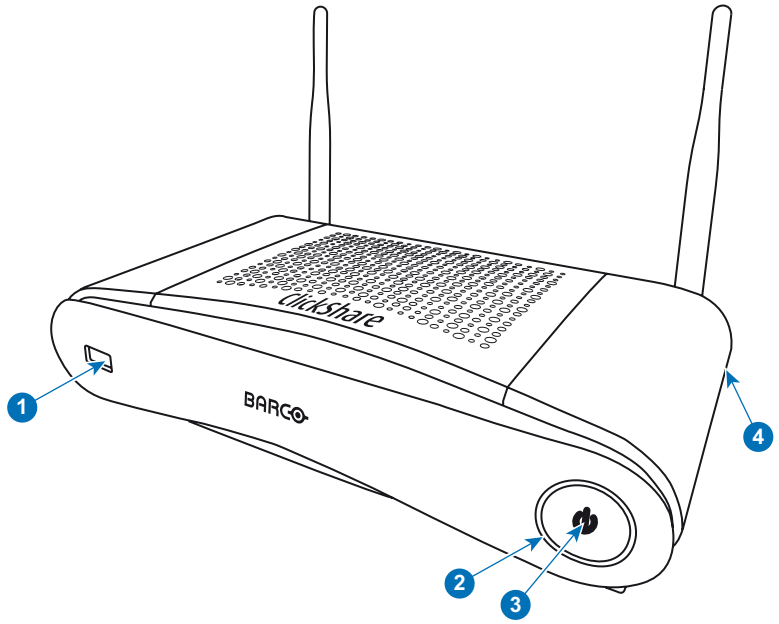


Image 2-2
Front panel Base Unit

| | |
|---|---|
| 1 | USB port |
| 2 | Status LED ring |
| 3 | Standby Button |
| 4 | Kensington lock |

Table 2-3

### USB port

The USB port is used to update the soft- and firmware of both the Base Unit and the Buttons. See also "Software update", page 63.

When plugging in the Button into the Base Unit, the Button is paired to the Base Unit. The Base Unit checks whether the Button's software and firmware are up to date. If not, the Base Unit updates the software and/or firmware.

To update the Base Unit software, download the latest version of the software from the Barco website. Copy the file on a USB stick and plug it into the USB port of the Base Unit. Follow the progress and instructions on the display.

## Status LED ring

The color of the LED at the front of the Base Unit give information on the status of the system.

| LEDs behavior | Explanation |
|---|---|
| static red | • receiving content from the Buttons and streaming towards the display.<br>• pairing and software update of the Button is done. You can now unplug the Button from the Base Unit.<br>• during the first phase of the Base Unit boot process. |
| blinking white | • system is starting up (during the second phase)<br>• Button pairing is in progress<br>• software update of the Base Unit |
| breathing white | • ECO standby mode |
| static white | • awake and ready (i.e. showing the welcome message on the display)<br>• pairing is done |
| red blinking | • an error occurred |
| dark | • deep standby/off |

## Standby 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 to a pre-defined standby mode.
- When the system is in a standby mode, a push triggers the system to start up and to go to normal operational mode.

## Back layout of the Base Unit

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

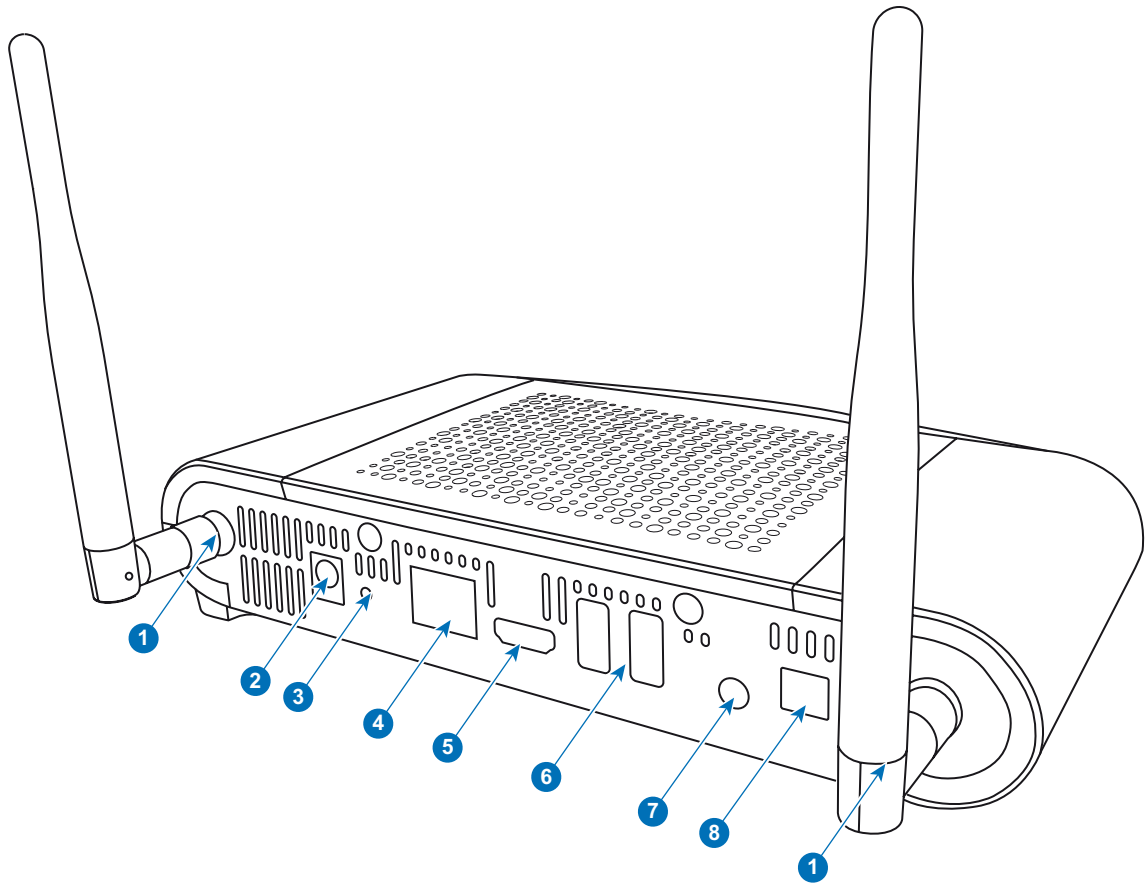


Image 2-3
Backside Base Unit

| | |
|---|---|
| 1 | Fixture points for the antenna |
| 2 | Power connection |
| 3 | Reset |
| 4 | LAN Ethernet connection |
| 5 | HDMI connector |
| 6 | USB port |
| 7 | Analog Audio out |
| 8 | Digital Audio out |

### Mechanical fixture points

The mechanical fixture points are located at the bottom of the Base Unit

### Antenna

Two antennas are included in the CSE-200 box. To avoid damage during transport, they are not pre-mounted.

The antennas can rotate for a better wireless connection.

Usage of antennas other than the ones provided with the unit are allowed within the restrictions on usage of other antennas defined by local regulations. Barco does not take responsibility for damage or disturbance of other devices that may be caused by using a different antenna. The use of an active power amplifier is not allowed.

Antenna type : Dipole

Gain : Maximum 2 dBi peak gain in 2.4GHz and 5Ghz band

### 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.

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 ...”

## 2.4 About the Button

**Button**

A Button toggles the sharing of the individual PC or MAC screen on the meeting screen.

### Button layout

A Button consists of three main components.

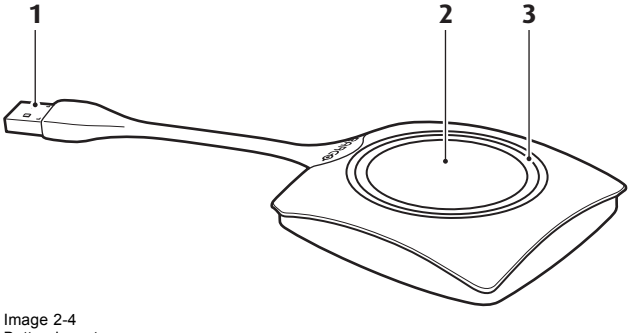


Image 2-4
Button layout

| | |
|---|---|
| 1 | USB connector |
| 2 | Button |
| 3 | LED ring |

Table 2-6

### USB connector

Using the USB connector the Button can be plugged into a laptop (for sharing your screen) or the Base Unit (for pairing the Button to the Base Unit or updating its software).

### Button

Click the Button to display the content of the laptop's screen on the meeting room display. Clicking the Button during the meeting will toggle the sharing of the screen.

### LED ring

The LED ring indicates the current status of your ClickShare.

| LEDs behavior | Explanation |
|---|---|
| white blinking | • the Button is plugged in the laptop and initializing or waiting for the user to start the ClickShare application.<br>• pairing/software update of the Button in the Base Unit is in progress. |
| static white | • ClickShare is ready to start sharing your screen.<br>• pairing is done. You can now unplug the Button from the Base Unit. |
| static red | • sharing your screen with the display.<br>• pairing and software update is done. You can now unplug the Button from the Base Unit. |
| red blinking | • an error occurred. |
| off (no light) | • the Button is not or not properly inserted into the USB port.<br>• the Button might be defective.<br>• the USB port or computer might be defective. |

### Button label

The label at the bottom of the Button contains:

- the Barco logo
- the Barco part number
- the serial number
- the revision number
- markings for applicable standards
- markings for waste regulation
- "Made in..."

**Handle the Button cable with care. Rough handling might cause defects.**

## 2.5 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.

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.

| App | Used on | Logo |
|---|---|---|
| ClickShare App | iOS<br>Android | |

## 2.6 Ports used by the ClickShare Base Unit

### Overview

| Sender | | CSE-200 Base Unit |
|---|---|---|
| ClickShare Button | TCP | 6541; 6542; 6543; 6544; 6545 |
| | UDP | 514 |
| ClickShare Presenter | TCP | 6541; 6542; 6543; 6544; 6545 |
| | UDP | 5353 |
| WebUI | TCP | 80; 443 |
| REST API | TCP | 4000; 4001 |
| | UDP | |
| Airplay | TCP | 4100-4200; 7000; 7100; 47000 |
| | UDP | 4100-4200; 5353 |

If Proxy settings are enabled in the Configurator for auto-update functionality, additional ports may be used.

# 3. GETTING STARTED

### Overview

- Environmental Condition Check
- Basic Workflow

## 3.1 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.

## 3.2 Basic Workflow

### Before using CSE-200

1. Unpack the ClickShare components and accessories from the box.
   For a detailed overview of the content of the CSE-200 box, see "About the CSE-200", page 5 .
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 "CSE-200 Installation", page 15
3. Connect the video signal between the Base Unit and the display.
4. Connect the audio from the Base Unit to the meeting room's sound system (only required for audio via jack or SPDIF).
5. If configuration via a network is needed, connect a network cable between the Base Unit and the local network (if not yet done to power the Base Unit).
6. Connect the Base Unit to the mains power (optional if Ethernet supports PoE+.
   For more information see "Power connection", page 18,
7. If desired, configure CSE-200 via the Configurator.
   For more information on the different ways to configure CSE-200, see "CSE-200 Configurator", page 25

**For more information on using CSE-200, refer to the CSE-200 User Guide. This manual can be found on Barco's website www.barco.com/clickshare Click on Visit the ClickShare product page and go to tab Downloads..**

# 4. CSE-200 INSTALLATION

### Overview

- Installation methods for the Base unit
- Table mounting
- Wall mounting
- Recommendations about antenna placement and orientation
- Video signal connections to the Base unit
- Audio connection
- LAN connection
- Power connection

## 4.1 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.**

### Introduction to the installation methods

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

- Table mount
- Wall mount

The articulated antennas are removable. They can rotate for better wireless connection.

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

**WARNING: Ceiling mount is not allowed !**

## 4.2 Table mounting

### Overview

Put the Base Unit directly on the meeting room table.

The total weight of the Base Unit is 600 g.

## 4.3 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 600 g.

### Necessary tools

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

### Necessary 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,

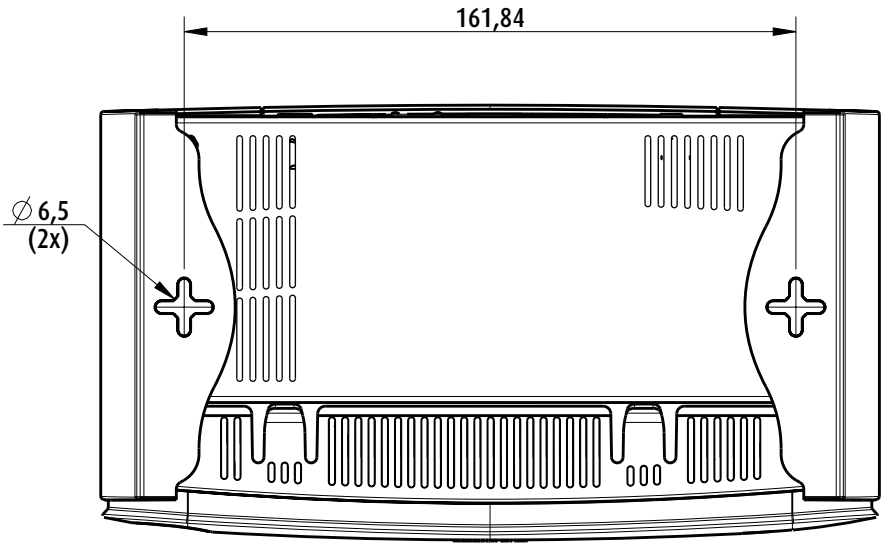


Image 4-1
Mounting holes

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 CSE-200 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.

## 4.4 Recommendations about antenna placement and orientation

### Antenna placement rules

- The antennas should be oriented vertically, so perpendicular to the ceiling and parallel to the walls.
- The antennas should be installed far enough (at least 50cm/1.6ft) from metallic surfaces to avoid unwanted reflections and far enough (at least 1m/3.3ft) from other radio equipment that operates in the same frequency range, e.g. other Wi-Fi access points, cordless telephone, microwave ovens, …. It is also best to install antennas at least 15 cm (6 inches) from concrete walls.
- The most favorable situation is a direct line of sight between antennas and Buttons. Any obstruction will cause the signal to follow a longer propagation path, which can result in performance degradation.
- Due to the particular radio pattern of the dipole antennas, the antennas should not be placed just above potential positions of ClickShare users. As a result, the advised position for the antennas is at the side of the meeting room.

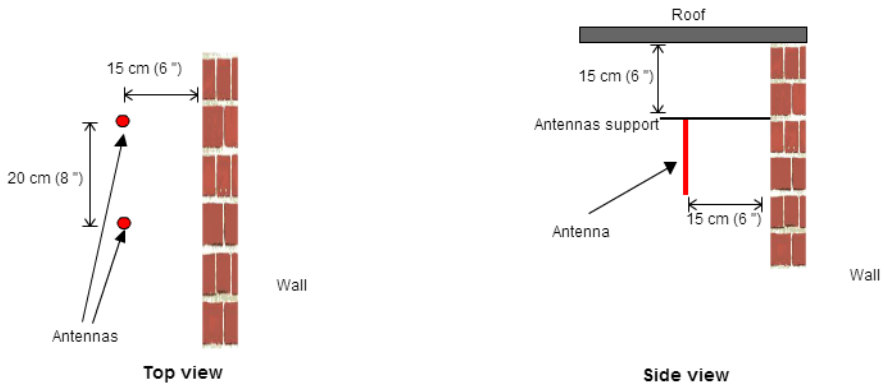


Image 4-2
Closer view of antennas installation in the meeting room

## 4.5 Video signal connections to the Base unit

**CAUTION: Make sure the Base Unit is installed properly before connecting.**

### About Video signal connection

A single screen can be connected to the Base unit.

To connect a display, an HDMI connection should be made between the Base Unit and the display.

### To connect

1. Connect the Base unit to the display using a display cable.
   ***Note:*** *No display cables are included in the ClickShare box at purchase.*

   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.

Image 4-3
Display connection

## 4.6 Audio connection

### About audio

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 will be output at line levels from the mini jack socket (3.5mm), TOSLINK socket and via the HDMI connector.

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 (eg for Windows: Control Panel > Sounds and audio devices) 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.

### Audio via HDMI

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.

### 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 "Audio settings", page 36.**

### Sound is not sent out

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

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

## 4.7 LAN connection

### About LAN connection

The Base Unit can be connected to a local network or directly to a laptop. For normal operation, a LAN connection is not necessary.

The LAN connection can be used:

- to configure your CSE-200 unit
- to update the software
- for maintenance purposes
- for network integration of your CSE-200 unit

### How to connect

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

## 4.8 Power connection

### About power

This product is intended to be supplied by a UL Listed Power Unit marked “Class 2” or “LPS” or “Limited Power Source” with output rated 12 VDC 1.5A min or Power over Ethernet (PoE) Plus IEEE802.3at Type 2 compliant Power Sourcing Equipment (PSE) rated 42.5-57 VDC, 0.4-0.3A.

An external power adapter is delivered with the product.

**Once the Base unit is powered, it starts up. Then the power button can be used to switch on or off.**

### How to connect the external 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, CN, EU or UK) on the power adapter of the ClickShare . Use the one which is applicable in your country.
   a) Slide down the button on the adapter (1).
   b) Insert the latch (2) of the adapter piece into notch (3)

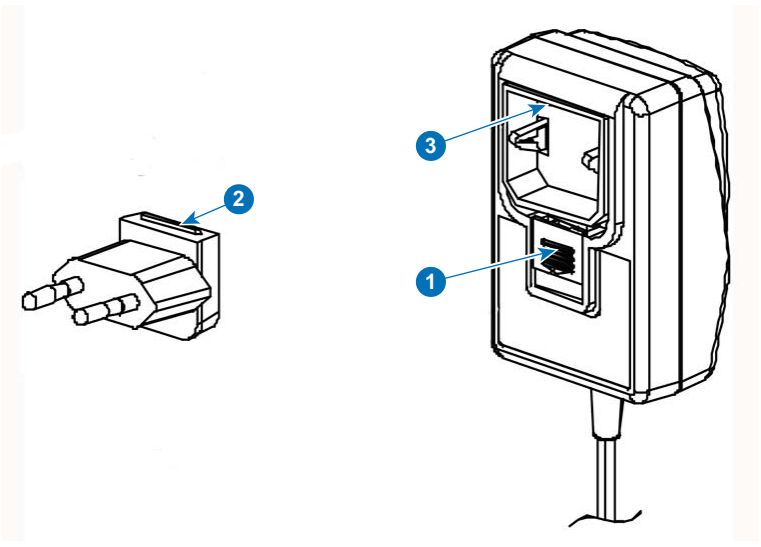


Image 4-4
Mounting adapter piece

Image 4-5
Type A

Image 4-6
Type A

Image 4-7
Type C

Image 4-8
Type G

Image 4-9
Type I

3. Connect the power cable to the wall outlet.

# 5. PREPARING THE BUTTONS

### Overview

- Pairing
- Pre-install of the Launcher service
- ClickShare launcher installer

## 5.1 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. By default, the Button(s) delivered with the CSE-200 set are already paired to the specific Base Unit.

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. If desired, this feature can be disabled in the Web Interface. When downgrading or updating to an older version of the Base Unit software the Buttons need to paired manually to update their software and that only in case the Button update over Wi-Fi is disabled.

**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

1. Insert the Button in the USB port at the front of the Base Unit you are using.

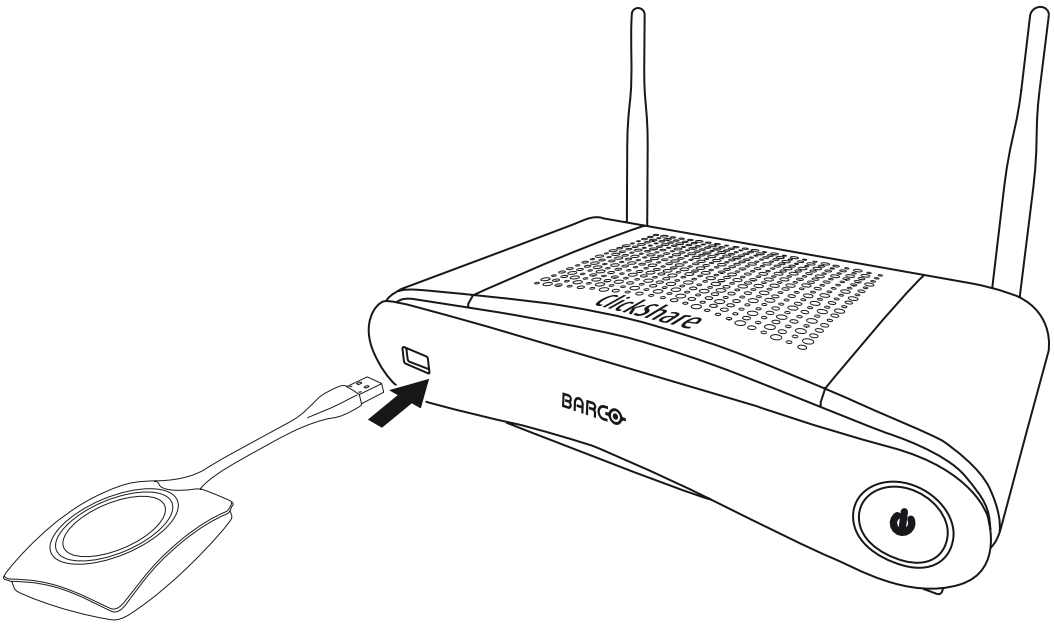


Image 5-1
Pair button

Both the LEDs of the Button and the LEDs of the Base Unit are blinking white. 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.

During the pairing and update process, a small status bar is display.

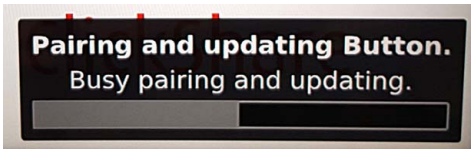


Image 5-2
Pairing message

The result of the pairing process can be as follows:

- When the LEDs become static white, the Button is paired to the Base Unit, but no software update was needed. You can unplug the Button from the Base Unit.
- When the LEDs become static red, the Button is paired to the Base Unit and the software update has finished. You can unplug the Button from the Base Unit.

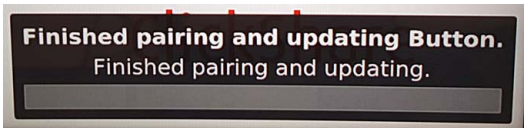


Image 5-3
Pairing finished

2. Unplug the Button from the Base Unit.

   The Button is now ready for use.

## 5.2 Pre-install of the Launcher service

### Launcher service pre-install

The ClickShare Launcher service can be pre-installed on your laptop or on company level. How this is done depends on your IT infrastructure.

When the Launcher service is pre-installed, a launcher application runs in the background. When you plug the Button in your laptop, the ClickShare application will be run from the Button automatically. There is no need to run the file from the Button.

The pre-installer can be downloaded from the Base Unit's configurator.

### Where to download the launcher installer?

The launcher service (installer) can be downloaded via the technical download section per device from Barco's website www.barco.com/clickshare.

## 5.3 ClickShare launcher installer

### Interactive setup

In this setup, user runs the installer and installs the ClickShare launcher to the computer after accepting EULA and specifying the installation directory. Follow the instructions on the displayed screens.

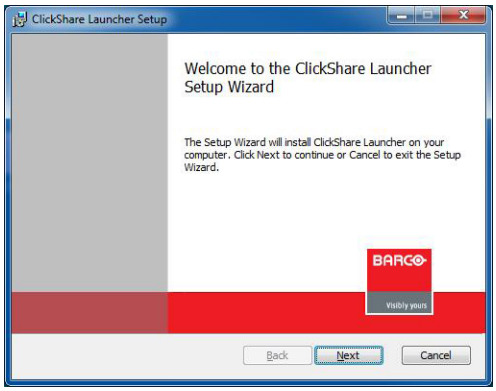


Image 5-4

After the setup finished, the ClickShare launcher will be started automatically.

## Silent setup

In this setup, a user or an IT admin can install the ClickShare launcher 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):

```
msiexec.exe /i ClickShare_Launcher_01_06_00_0144_Setup_Win.msi ACCEPT_EULA=YES INSTALLDIR=C:\
LAUNCH_APP=YES /qn
```

| 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. |
| INSTALLDIR | 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. |

Following command line can be used to uninstall the ClickShare launcher in silent mode :

```
msiexec.exe /x ClickShare_Launcher_01_06_00_0144_Setup_Win.msi /qn
```

## Windows environment variable

A windows environment variable can be introduced to start from a custom location.

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

# 6. CSE-200 CONFIGURATOR

### Overview

- Accessing the Configurator
- On-Screen Language and Text Size
- Meeting room information
- Personalisation, wallpaper
- Personalisation, Personalized wallpaper
- Manage configuration files
- Display setup
- Audio settings
- WiFi settings
- LAN settings
- Network integration, activation
- Network integration, EAP-TLS security mode
- Network integration, EAP-TTLS security mode
- Network integration, PEAP security mode
- Network integration, WPA2-PSK security mode
- Services, mobile devices
- Service, ClickShare API, remote control via API
- Security, compatibility
- Security, security level
- Security, passwords
- Status information Base Unit
- Date & Time setup, manually
- Date & Time setup, time server
- Energy savers
- Buttons
- Firmware Update
- Support & Updates, Troubleshoot, log settings
- Factory defaults

## 6.1 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

### To access the Configurator via the LAN

1. Open a browser.
   ***Note:*** *Supported browsers are Internet Explorer 10 or higher, Firefox, Google Chrome and Safari.*
2. Browse to the IP address you can find in the bottom left corner of the startup screen.
   ***Note:*** *The Wired IP address is only visible when the Base Unit is connected to the LAN. If not, the default wired IP address is indicated.*

A login screen appears.

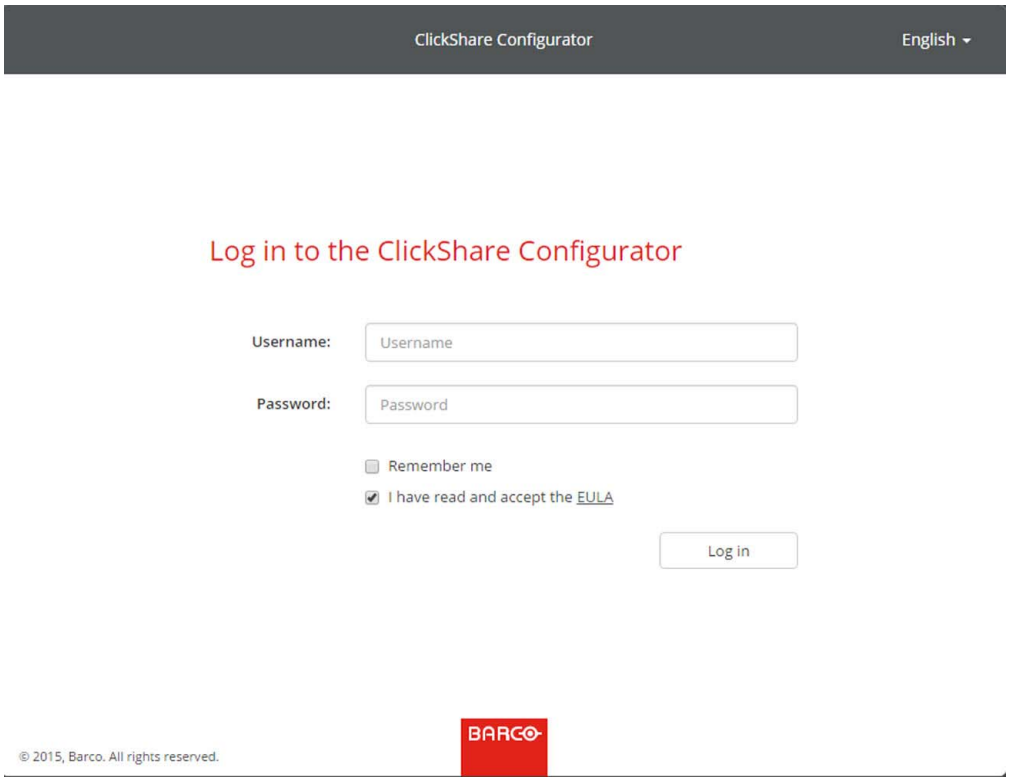


Image 6-1
Login screen

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

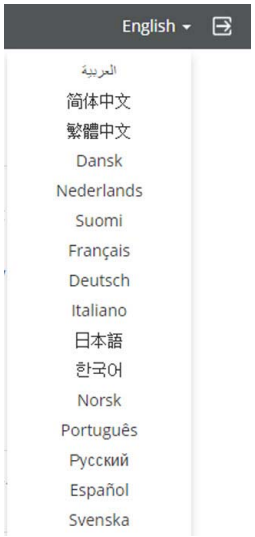


Image 6-2
Configurator lanuguages

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 click **OK**.

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

   The configurator opens.

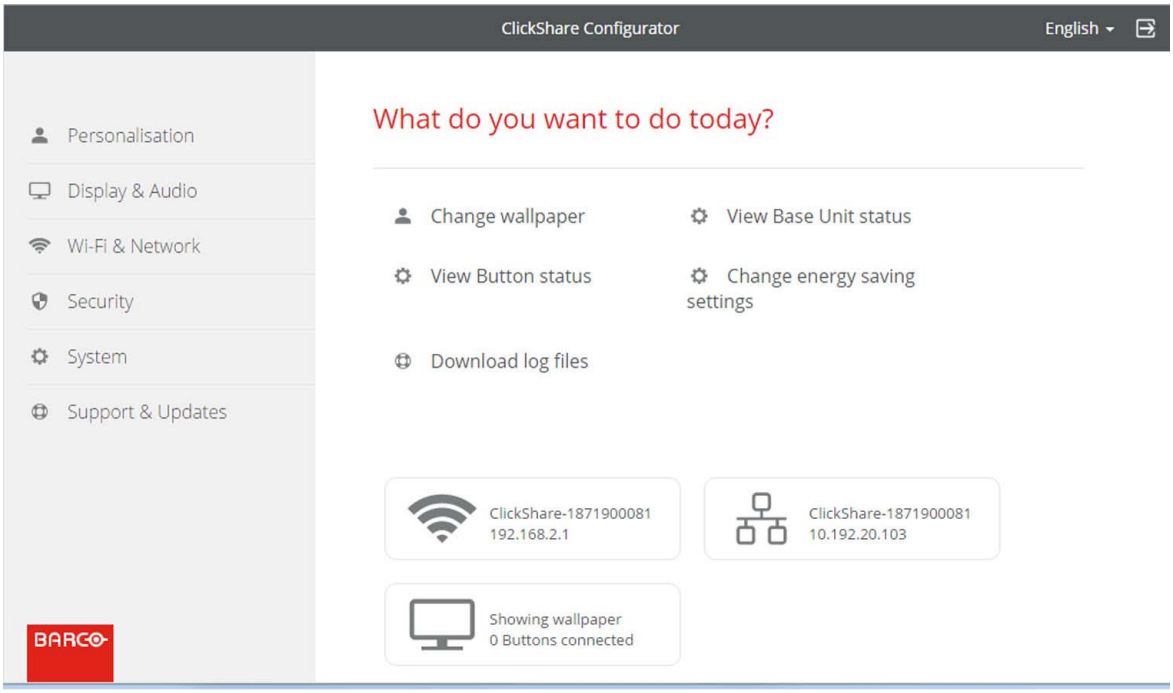


Image 6-3
Start screen

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

**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. 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 Internet Explorer, 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.

## 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 Internet Explorer, 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 web interface opens.

**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 | Display & Audio |
| Wi-Fi & Network | Wi-Fi Settings |
| | LAN Settings |
| | Network integration |
| | Services |
| Security | Compatibility |
| | Security levels |
| | Passwords |
| System | Base Unit Status |
| | Date & Time |
| | Energy Savers |
| | Buttons |
| Support & Updates | Firmware |
| | Troubleshoot |

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

## 6.2 On-Screen Language and Text Size

### About the on-screen language.

The on-screen language can be set independent of the configurator language. The on-screen text size can be changed between small, medium or large.

### Language selection

1. Log in to the *Configurator*
2. Click *Personalisation → On-Screen ID*.

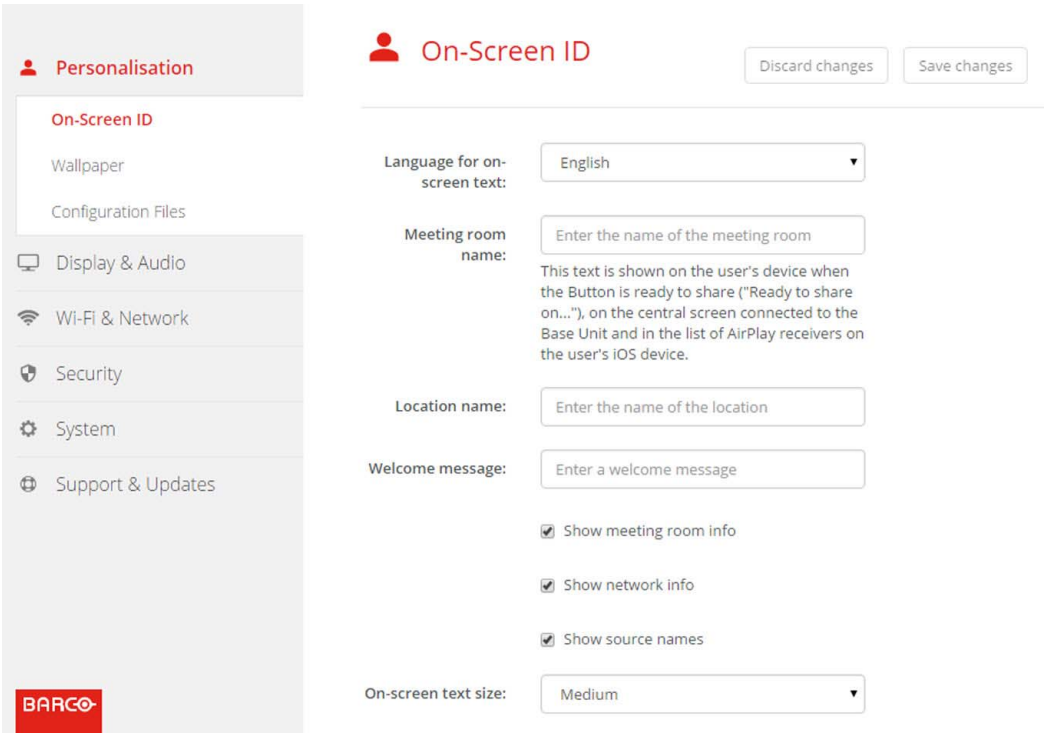


Image 6-4
Personalisation, On-Screen ID

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

### Text size

1. Log in to the *Configurator*
2. Click *Personalisation → On-Screen ID*.

3. Click on the drop down box next to *On-screen text size* and select the desired font size.
   The following sizes are possible:
   - Small
   - Medium
   - Large

## 6.3 Meeting room information

### About meeting room settings

The following settings are possible:

- Meeting room name
- Meeting room location
- Welcome message on the ClickShare screen
- Show meeting room info
- Show network info
- Show source names

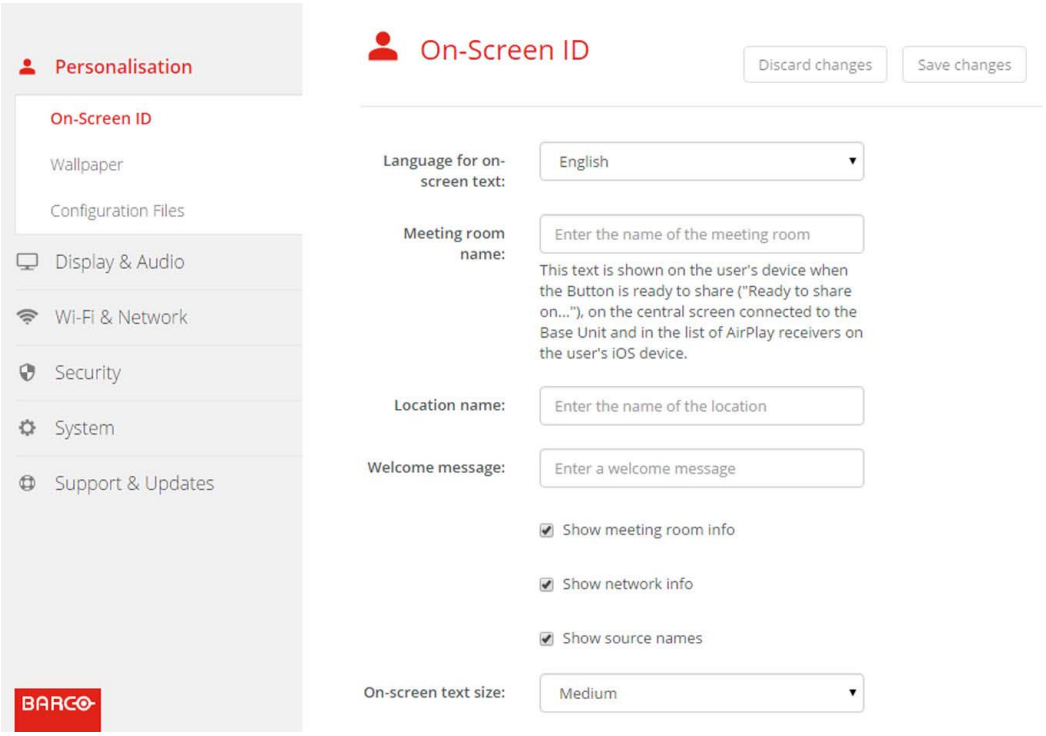


Image 6-5
Personalisation, On-Screen ID

### 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.

### Show on-screen information

1. Log in to the Configurator.
2. Click *Personalisation → On-screen ID*.
3. Check the check box in front of *Show meeting room info*.

Checked: meeting room name, location and welcome message are displayed on-screen when nothing is shared.

Not checked: nothing is shown on-screen.

4. Check the check box in front of *Show network info*.

   Checked: LAN information such as wired IP address, hostname are displayed. Also the Wi-Fi IP address and SSID are displayed.

   Not checked: no LAN nor Wi-Fi information is displayed.

5. Check the check box in front of *Show source names*.

   Checked: the source name of the shared content is displayed on the screen.

   Not checked: no source info displayed on the screen.

## 6.4 Personalisation, wallpaper

### About wallpaper

When CSE-200 starts up, a background (wallpaper) is displayed. The display of this background wallpaper can be disabled.

By default a general ClickShare and a quick start wallpaper 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*.

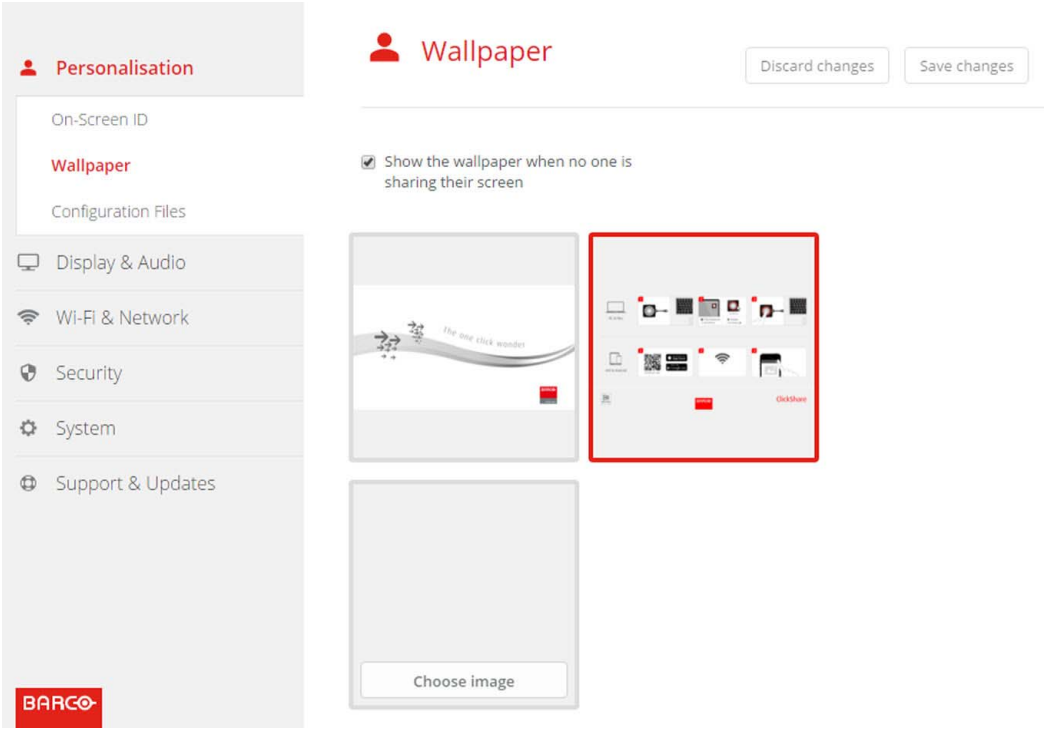


Image 6-6
Wallpaper selection

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 a general Barco CSE-200 wallpaper and a CSE-200 Quick Start Guide 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 32.**

### Download wallpaper

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

Image 6-7
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 larger AK system

## 6.5 Personalisation, Personalized wallpaper

### About a personalized wallpaper

Via the Configurator it is possible to upload personalized backgrounds or wallpapers.

The upload file should be a JPEG, PNG, BMP or TIFF format with a maximum size of 2.5MB.

Maximum 5 wallpaper can be uploaded.

### 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**.

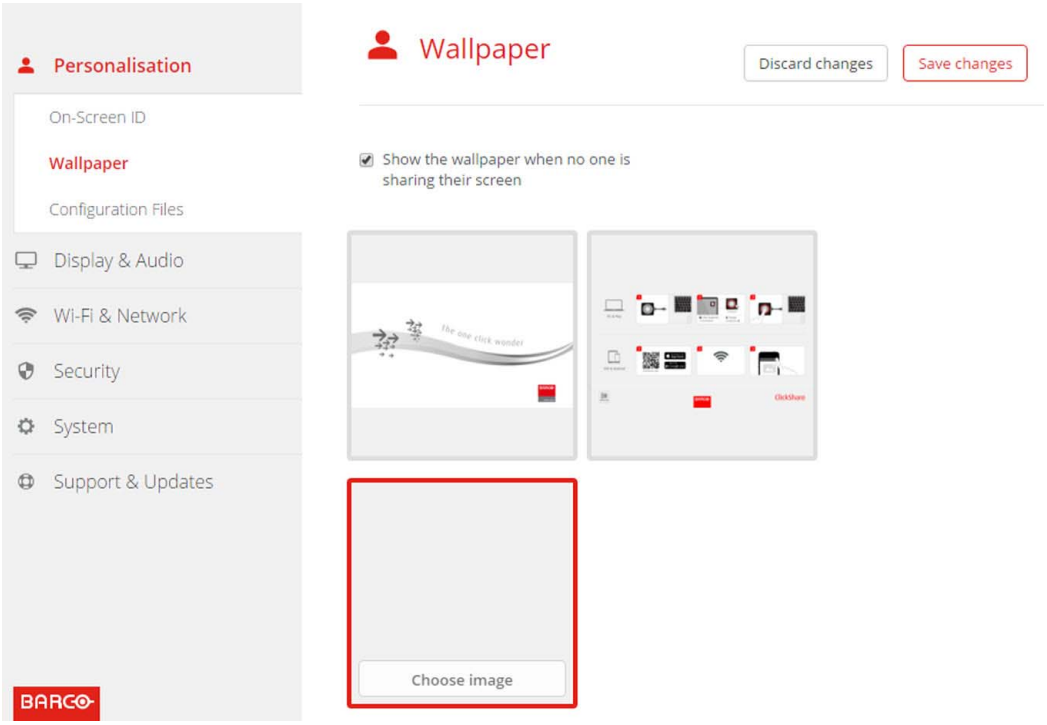


Image 6-8
Personalized wallpaper selection

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**.

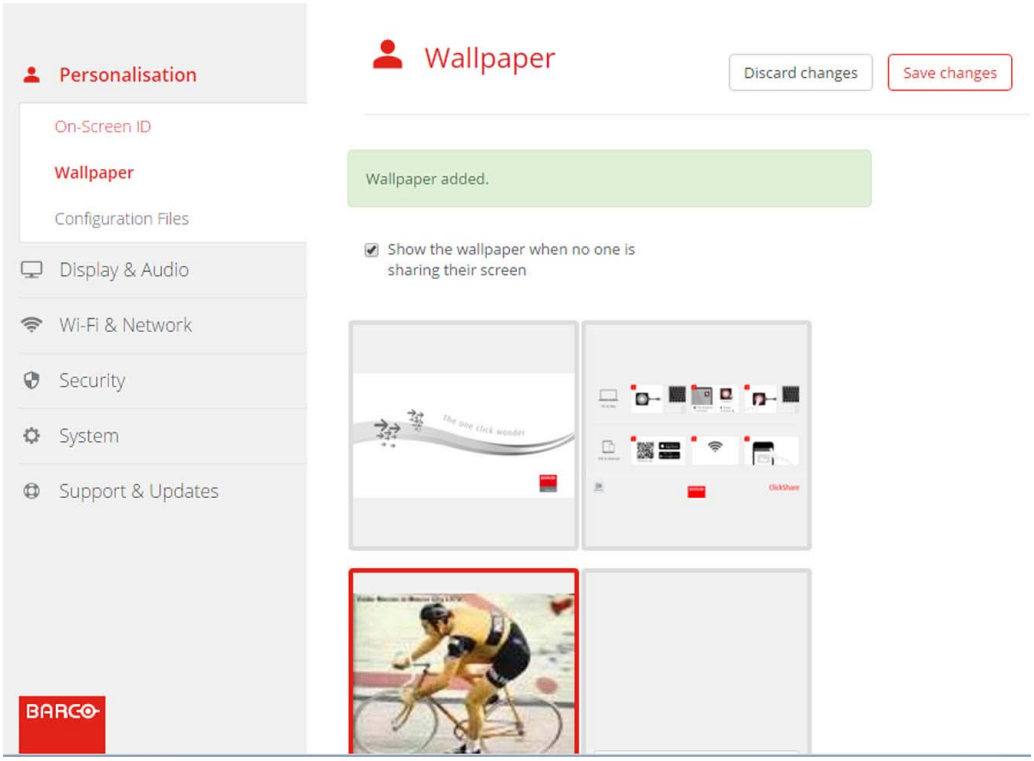


Image 6-9
Change image

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

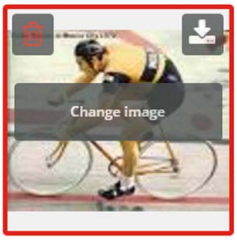


Image 6-10
Remove wallpaper

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

## 6.6 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
- WiFi channel
- WiFi frequency

### To manage the configuration files

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

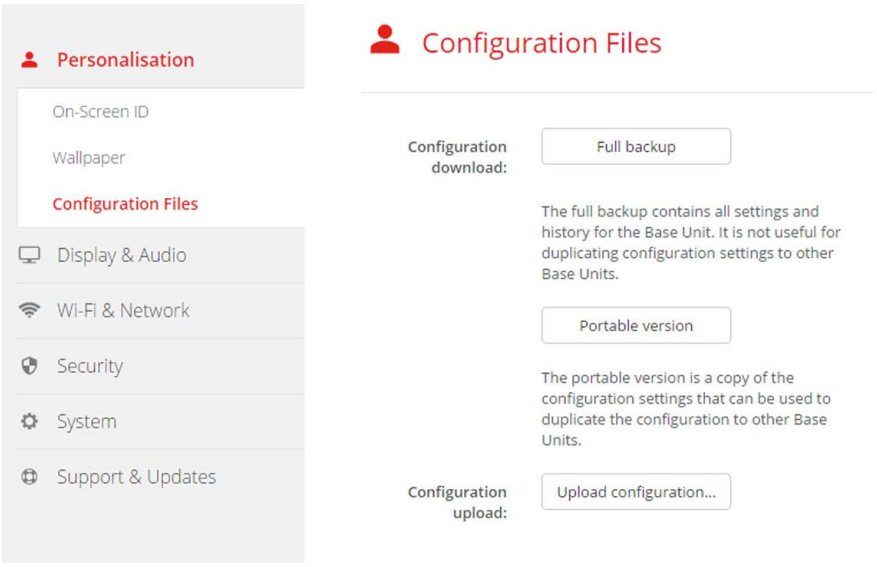


Image 6-11
Configuration files

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.**

## 6.7 Display setup

### Resolution

The output resolution to the display is set on Auto. That means that the CSE-200 output resolution is automatically adapted to the resolution of the display. For HDMI displays, a hot plug detection is available.

### Screen saver setup

1. Log in to the *Configurator*.

2. Click *Display & Audio → Display & Audio*.

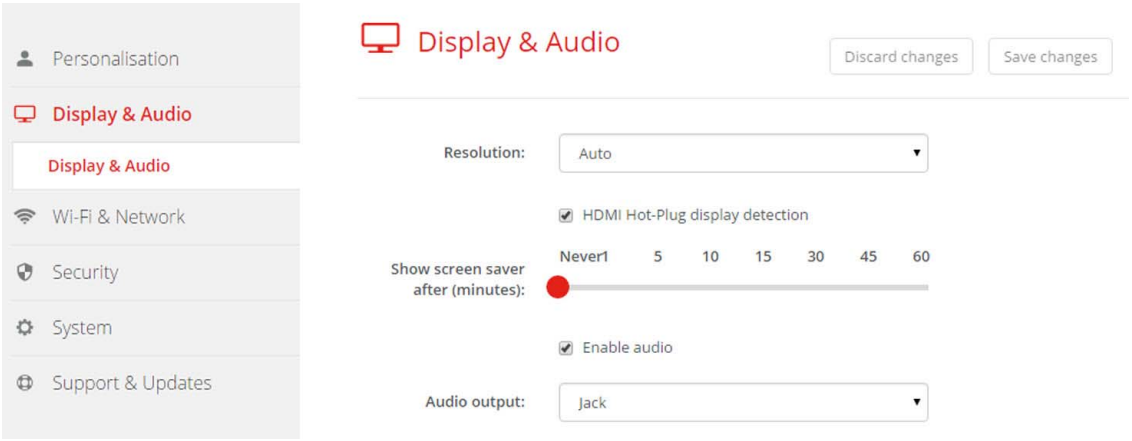


Image 6-12
Display settings

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 right, the screen saver will never be activated.

## 6.8 Audio settings

### About the audio settings

The audio functionality can be disabled or enabled. When the enable and/or disable setting is changed, the Buttons must be re-paired before the setting becomes active.

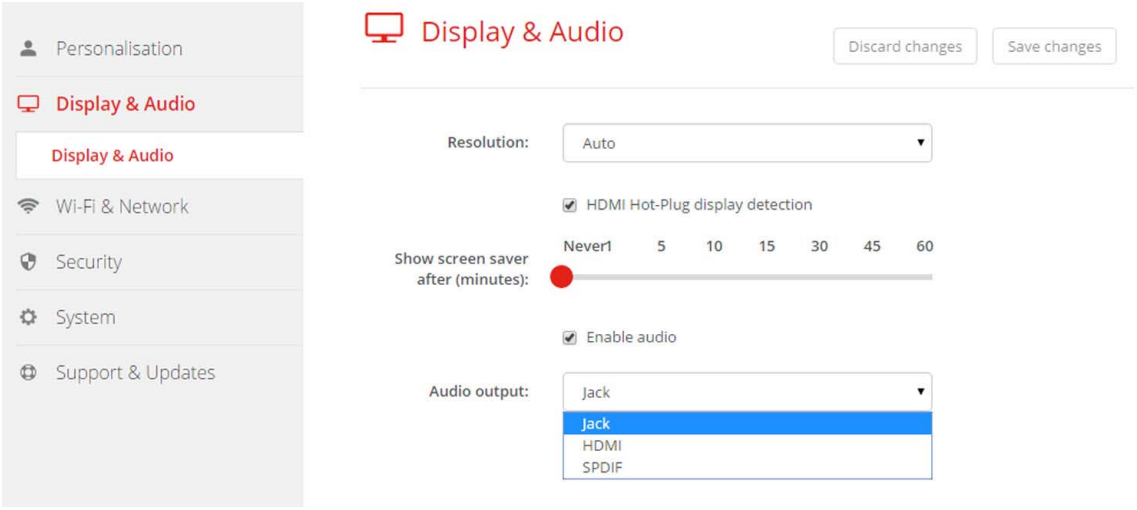


Image 6-13
Audio settings

### How to change

1. Log in to the *Configurator*.
2. Click *Display & Audio → Display & Audio*.
3. Check or uncheck the check box next to Enable Audio.

   Checked: audio is enabled.

   Unchecked: audio is disabled.
4. To select the audio output, click on the drop down box and select the desired audio output.

   Jack: audio output via jack.

   HDMI: audio output via HDMI.

   SPDIF: digital audio ouput via TOSLINK
5. Click on **Save changes** to apply the new settings.

## 6.9 WiFi settings

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

### About WiFi

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

The transmission power of the wireless signal can be reduced.

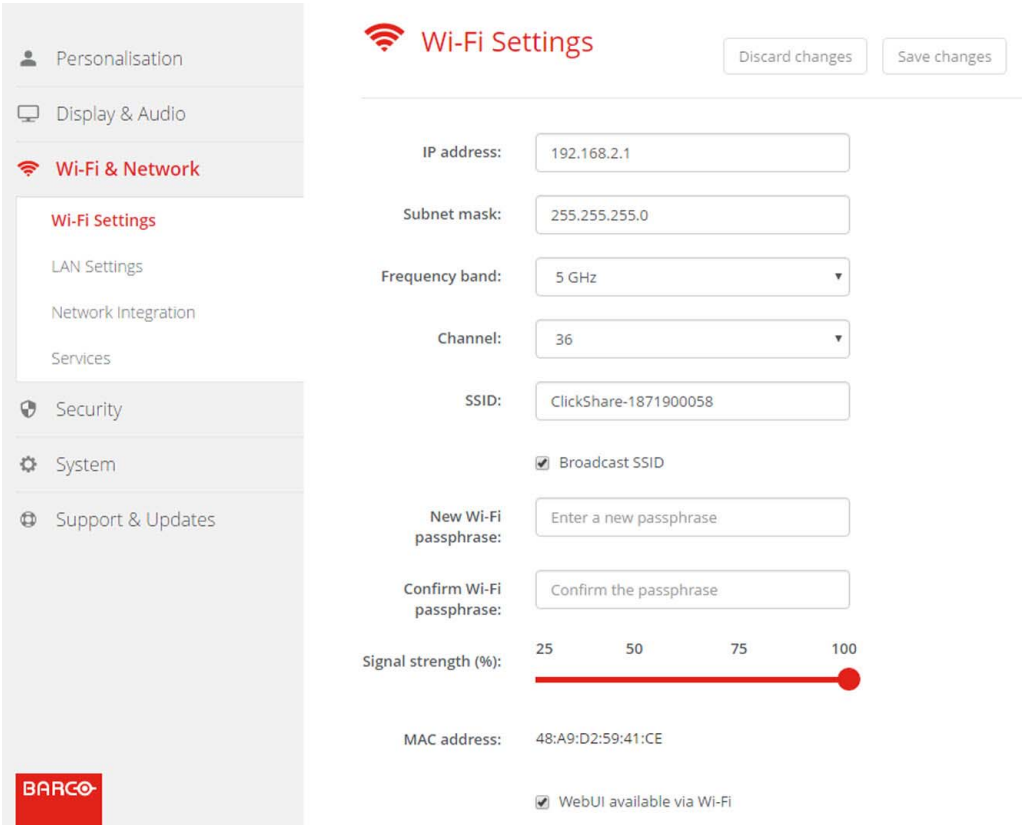


Image 6-14
WiFi settings

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

### IP address & subnet mask

1. Log in to the *Configurator*.
2. Click *Wi-Fi & Network → WiFi Settings*.
3. 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.*

### Frequency band & channel

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.

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.
   ***Note:*** *Make sure your PC's wireless interface supports the 5 GHz band before selecting it on the Base Unit.*

### SSID & passphrase

1. Enter a public name (SSID) for the wireless network.

   The default SSID is *ClickShare-<serial number Base Unit>*.

2. If you want to broadcast this SSID, check the checkbox before *Enable SSID broadcast*.

3. Enter a new WiFi passphrase and confirm that passphrase.

### Signal strength

1. Select the Signal Strength. Click on the slider and reduce the broadcasted power (signal strength) until the desired strength is obtained.

   ***Note:*** *Too low power and interference by others might lead to connection issues. If so, increase again the signal strength until the issues are solved.*

   By default the strength is set to 100%.

### WebUI 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.

## 6.10 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*.

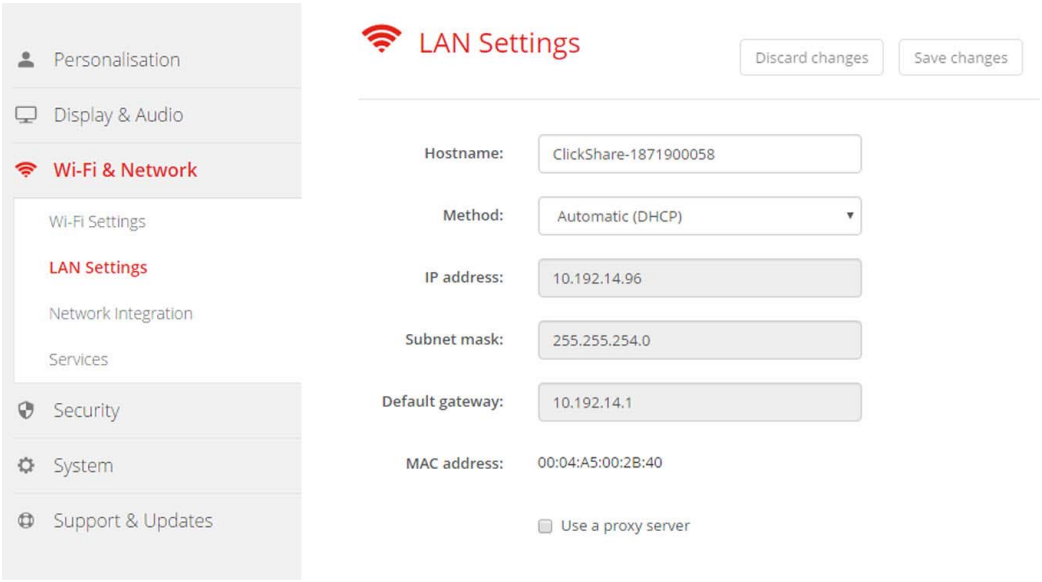


Image 6-15
LAN settings

3. Click in the input field next to *Hostname* and enter a host name for the Base Unit.

   The default host name is *ClickShare-<serial number Base Unit>*.

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 **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.

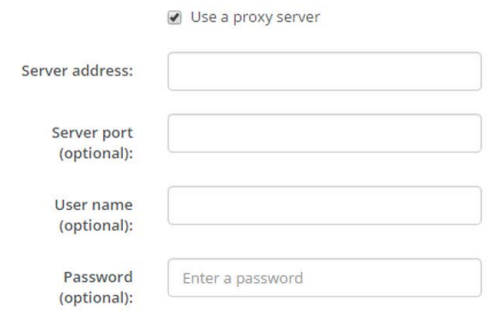


Image 6-16
Proxy settings

   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.

## 6.11 Network integration, activation

### Introduction

“ClickShare Network Integration” aims at deploying ClickShare in larger organizations without interfering with the existing wireless network infrastructure. In a default stand-alone setup, the ClickShare Base Unit creates its own wireless access point (AP) which

the ClickShare Buttons use to connect. These so-called “rogue” APs can become a nuisance in larger installations. Next to that, meeting participants who are sharing content from mobile devices have to switch networks to connect with the ClickShare Base Unit.

This is where ClickShare Network Integration comes in. Once fully configured and enabled, the built-in AP of the Base Unit is disabled. The Button or the mobile devices can then connect to a wireless access point that is part of the corporate network. At this point, the Base Unit needs to be connected to the corporate network via the wired Ethernet interface so that the Buttons and mobile devices can share their content on the Base Unit.

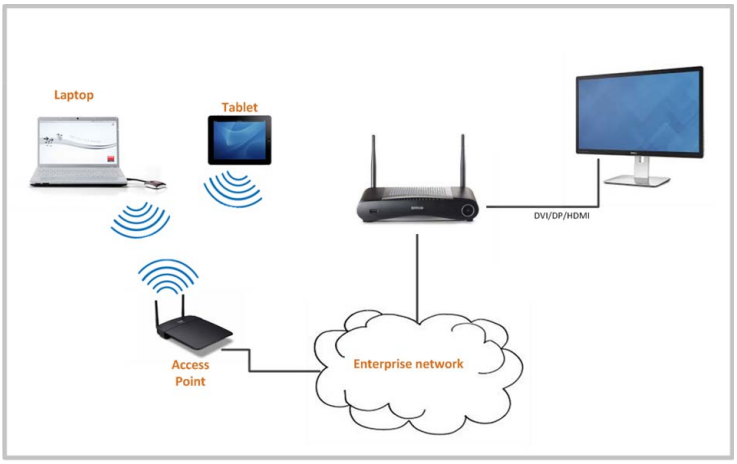


Image 6-17

## Security modes

There are 2 security modes supported by the Button to connect to the corporate network:

- The first one, which applies to a typical corporate network setup, is WPA2-Enterprise with 802.1X.
- As we also want to support smaller organizations, which might have a more traditional Wi-Fi setup, there is also support for WPA2-PSK, also known as WPA2-Personal.

Both modes are based on Wi-Fi Protected Access (WPA). We talk about WPA2, an improved version of the original WPA standard, which adds AES encryption to improve security.

**WPA2-Enterprise with 802.1X**

WPA2-Enterprise relies on a server (using RADIUS) to authenticate each individual client on the network. To do this, authentication 802.1x is used (also known as port-based Network Access Control). 802.1x encapsulates the Extensible Authentication Protocol (EAP) for use on local area networks. This is also known as “EAP over LAN” or EAPoL. Using RADIUS, these EAPoL messages are routed through the network in order to authenticate the client device on the network – which, in the case of ClickShare, are the Buttons.

The 802.11i (WPA2) standard defines a number of required EAP methods. However, not all of them are used extensively in the field, and some other ones (which are not in the standard) are used much more often. Therefore, we have selected the most widely used EAP methods. The list of EAP methods supported in the ClickShare system is:

- EAP-TLS
- PEAP
- EAP-TTLS

## Considerations

When you choose to integrate the ClickShare system into your corporate network, there are a few things to consider up front. First of all, make sure that all your Base Units can be connected to your network via the wired Ethernet interface. Also, take into account the amount of bandwidth that each Button needs to stream the captured screen content to the Base Unit – this is usually somewhere between 5 and 15 Mbps. So, prevent bottlenecks in your network (e.g. 100 Mbps switches) that could potentially degrade your ClickShare experience due to a lack of bandwidth.

## Prerequisites

Before rolling out ClickShare Network Integration, make sure your infrastructure meets the following prerequisites.

**Network**

Once you enable the corporate network, the internal Wi-Fi access point of the ClickShare Base Unit is disabled. Make sure your Base Unit is connected to the corporate network via its wired Ethernet interface.

**Firewall**

To ensure that you can successfully share content via the ClickShare Button, or from mobile devices, to the Base Unit, make sure the ports mentioned in "Ports used by the ClickShare Base Unit", page 11are open on your network:

**VLAN**

A lot of corporate networks are divided into multiple VLANs – for example, to separate BYOD (Bring Your Own Device) traffic from the “core” corporate network. Take this into consideration when integrating ClickShare into your network. ClickShare Buttons connecting to your wireless infrastructure should be able to connect to the Base Units. Furthermore, if you want to use the mobile apps, these should also be able to reach the Base Units. It is advisable to put all ClickShare Units into a separate VLAN so they are easily manageable.

**DNS**

For the Buttons to be able to stream their content to the Base Unit, they must be able to resolve the Base Unit’s hostname within the network. If no DNS is available Buttons will fall back to the IP of the Base Unit at the moment of USB pairing. Because of this we strongly advise to reserve IP addresses in your DHCP server for each Base Unit to prevent issues when the hostname is not resolvable.

**NTP**

When using EAP-TLS, you must also configure NTP on the Base Unit. This can be done via the Base Unit WebUI. The Base Unit must have the correct time to handle the certificates required for EAP-TLS. Preferably, you should use an NTP server with high availability on the local corporate network. Be advised that, when using an NTP server on the internet, the Base Unit cannot connect through a proxy server.

## Advice

To check if a button could reach the Base Unit please connect a PC in the same way a Button would connect (same user name, pw, certificates) and ping the Base Unit’s hostname, you can find the hostname in the Based Units Configurator. If the ping fails try pinging the IP adjust your network setup so pinging the hostname is successful.

We strongly advise to reserve IP addresses in your DHCP server for each Base Unit to prevent issues when the hostname is not resolvable.

## Start up

Due to the complexity of the ClickShare Network Integration feature, you must activate it first. To activate, go to the Network integration and click **Change configuration** button.

**The Corporate Network Integration feature is provided “AS IS”, without any liability or obligation (including support) of or on behalf of Barco. Barco cannot guarantee that the feature works in your corporate network. The reliability, quality and stability when sharing using the Corporate Network Integration depends on your network infrastructure.**

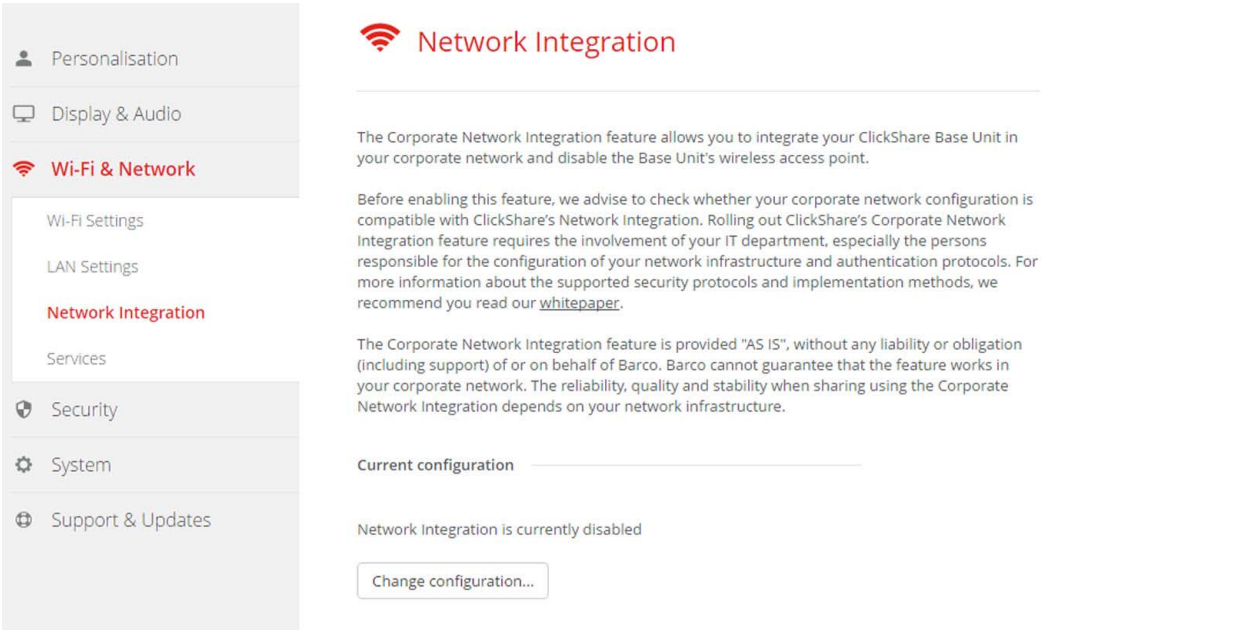


Image 6-18
Network integration, activation

A setup wizard starts up.

## Apps

Once integrated into the network, any mobile device connected to the corporate network will be able to share content with any Base Unit on the network. (If so desired, you can prohibit sharing from mobile devices via the Base Unit’s WebUI.) We advise to enable passcode authentication for mobile devices. This option can be found on the *Wi-Fi & Network* > *Services* page of the Configurator.

**You must repair all the Buttons after completing the setup wizard !**

## 6.12 Network integration, 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 start up for EAP-TLS

1. Log in to the *Configurator*.
2. Click *WiFi & Network → Network integration*. Click on **Change configuraton**.
3. Select the radio button next to *EAP-TLS* and click **Next**.

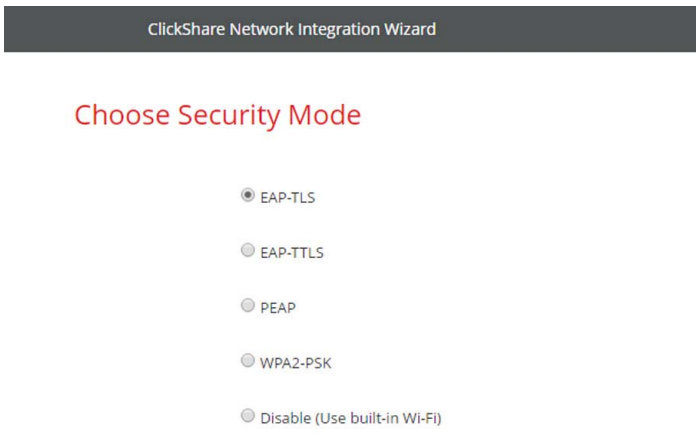


Image 6-19
Network integration, EAP-TLS selected

The EAP-TLS mode window opens.
Two choices are possible:

- Auto alignment via SCEP
- Manually provide Client & CA certificates

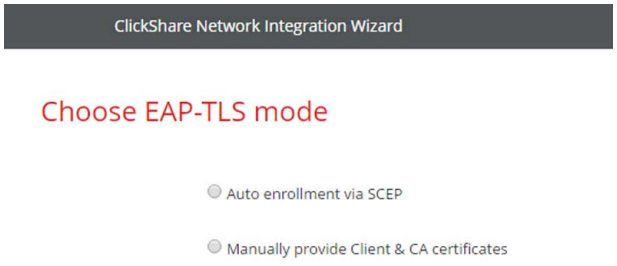


Image 6-20

### Using SCEP

Select the radio button next to *Auto enrollment via SCEP* and click **Next**.

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. Since most companies are using Microsoft Windows Server and its active directory (AD) to manage users and devices our

SCEP implementation is specifically targeted at the Network Device Enrolment Service (NDES) which is part of Windows Server 2008 R2 and Windows Server 2012. No other SCEP server implementations are supported.

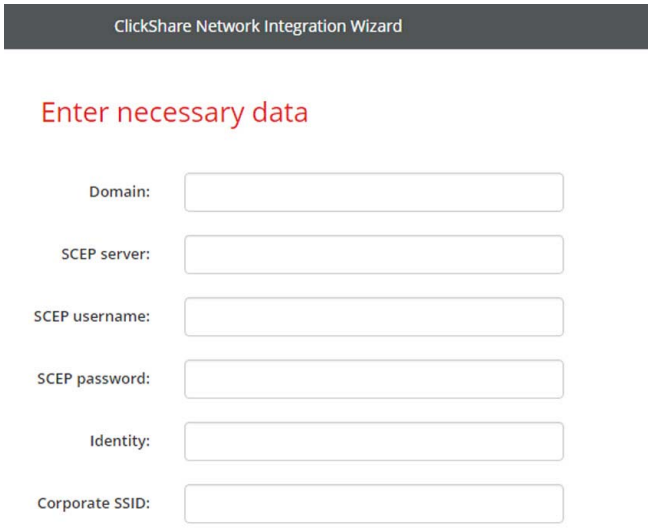


Image 6-21

**About NDES**

The Network Device Enrolment Service is Microsoft's server implementation of the SCEP protocol. If you want to enable EAP-TLS using SCEP make sure NDES is enabled, configured and running on your Windows Server. For more details about setting up NDES, please visit the Microsoft website[2]. SCEP uses a so called *"challenge password"* to authenticate the enrollment request. For NDES, this challenge can be retrieved from your server at: http(s)://[your-server-hostname]/CertSrv/mscep_admin.

When you enter the necessary credentials into the setup wizard, the Base Unit will automatically retrieve this challenge from the web page and use it in the enrollment request, thereby fully automating the process.

**Necessary Data to continue:**

| | |
|---|---|
| Domain | The company domain for which you are enrolling, should match with the one defined in your Active Directory. |
| SCEP ServerIP/host-name | This is the IP or hostname of the Windows Server in your network running the NDES service. Since Internet Information Services (IIS) supports both HTTP and HTTPS, also include which of the two you want to use. If not provided it will be default set to HTTP.<br>E.g.: http://myserver or https://10.192.5.1 or server.mycompany.com (will use http) |
| SCEP User name | 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 enroll permissions on the configured certificate templates. |
| SCEP Password | The corresponding password for the identity that you are using to authenticate on the corporate network. Per Base Unit, every Button uses the same identity and password to connect to the corporate network. |
| Domain | The company domain for which you are enrolling should match 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. When using EAP-TLS make sure that the necessary mapping exists between the Client Certificate issued by your CA and this user account. |
| Corporate SSID | The SSID of your corporate wireless infrastructure to which the ClickShare Buttons will connect. |

## Using manually upload of certificates

Select the radio button next to *Provide certificates manually* and click **Next**.

If your current setup does not support SCEP or you prefer not to use it but you still want to benefit of the mutual authentication EAP-TLS offers, it is also possible to manually upload the necessary certificates.

2. NDES White Paper: http://social.technet.microsoft.com/wiki/contents/articles/9063.network-device-enrollment-service-ndes-in-active-directory-certificate-services-ad-cs-en-us.aspx

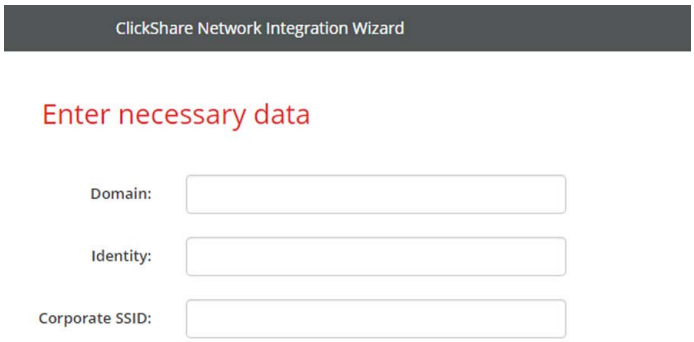


Image 6-22

**Necessary Data to continue:**

| | |
|---|---|
| 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. When using EAP-TLS make sure that the necessary mapping exists between the Client Certificate issued by your CA and this user account. |
| Corporate SSID | The SSID of your corporate wireless infrastructure to which the ClickShare Buttons will connect. |

Click **Next** to continue with the upload of the client certificate.

Click **Upload Client Certificate**.

The client certificate you provide should be signed by the authoritative root CA in your domain and should be linked to the user you specify in the Identity field. Also, make sure that the client certificate you provide contains the private key – this is necessary to set up the TLS connection successfully.

ClickShare supports 2 formats for uploading a client certificate:

- *PKCS#12 (.pfx)* - An archive file format for storing multiple cryptography objects.
- *Privacy Enhanced Mail (.pem)* – A Base64 encoded DER certificate stored between 2 tags: `"-----BEGIN CERTIFICATE-----"` and `"-----END CERTIFICATE-----"`.

**When the provided PKCS#12 file also contains the necessary CA certificate the Base Unit will extract it and verify the chain of trust to avoid that you have to separately provide the CA certificate.**

**CA certificate**

The CA certificate is the certificate of the authoritative root CA in your domain and will be used in setting up the EAP-TLS connection. During the wizard the Base Unit will ensure that it can validate the chain of trust between the Client and CA certificates you provide.

ClickShare supports the common .crt file extension which can contain a Base64 encoded DER certificate.

**When having problems connecting the Button to your corporate network, to get feedback from the Button please have a look at the ClickShare Client log. This log can be pressing the holding Shift key when starting the Client executable. Look for the lines *"EDSUSBDongleConnection::mpParseDongleMessages"*. An error code and a short summary of the issue should be logged.**

## 6.13 Network integration, 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 start up for EAP-TTLS

1. Log in to the *Configurator*.

2. Click *WiFi & Network → Network integration*. Click on **Change configuraton**.
3. Select the radio button next to *EAP-TTLS* and click **Next**.

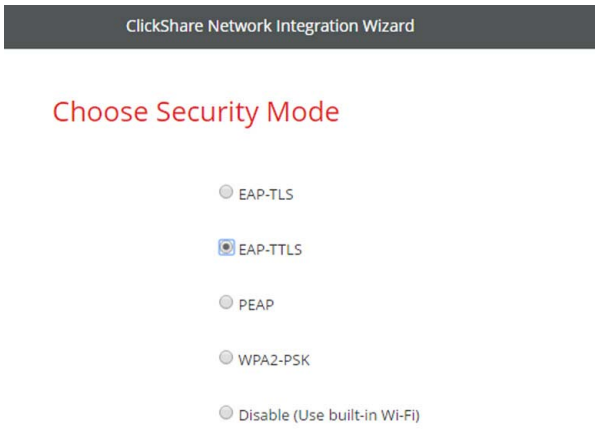


Image 6-23
Network integration, EAP-TTLS selected

The EAP-TTLS mode window opens.

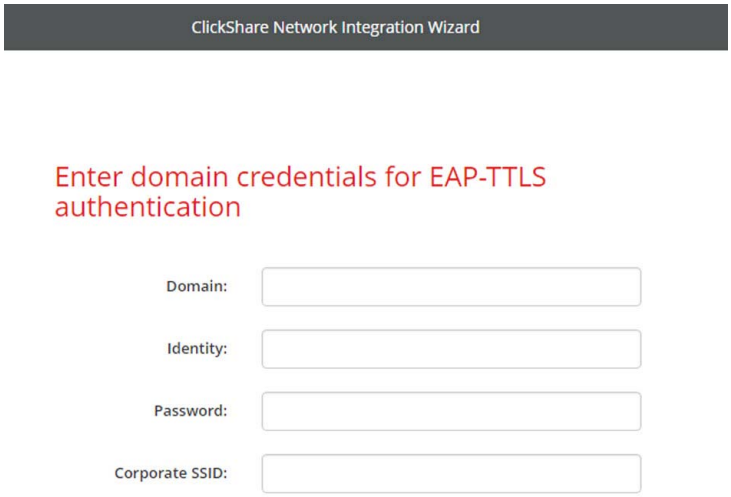


Image 6-24

**Necessary Data to continue:**

| | |
|---|---|
| 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. |
| Password | The corresponding password for the identity that you are using to authenticate on the corporate network. Per Base Unit each Button will use the same identity and password to connect to the corporate network. |
| Corporate SSID | The SSID of your corporate wireless infrastructure to which the ClickShare Buttons will connect. |

Click **Next** to continue.

When having problems connecting the Button to your corporate network, to get feedback from the Button please have a look at the ClickShare Client log. This log can be enabled by holding shift when starting the Client executable. Look for the lines *"EDSUSBDongleConnection::mpParseDongleMessages"*. An error code and a short summary of the issue should be logged.

## 6.14 Network integration, PEAP security mode

### 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. Log in to the *Configurator*.
2. Click *WiFi & Network → Network integration*. Click on **Change configuraton**.
3. Select the radio button next to *PEAP* and click **Next**.

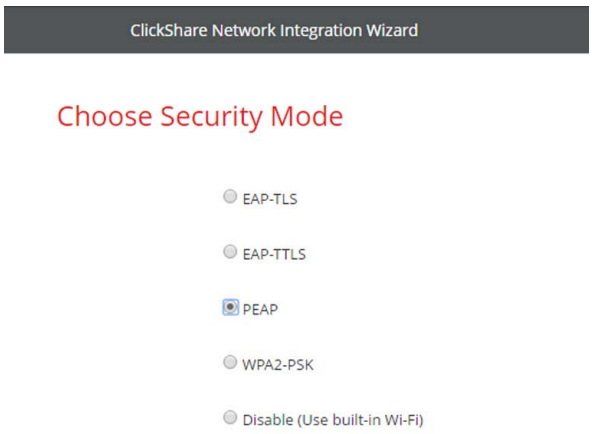


Image 6-25
Network integration, PEAP selected

The PEAP mode window opens.

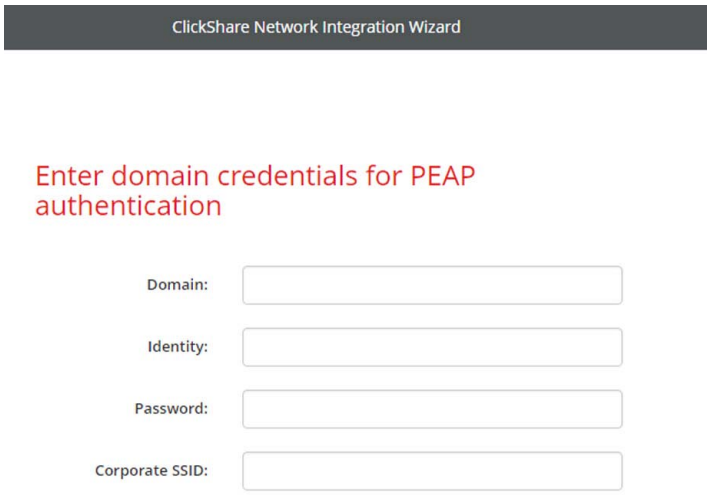


Image 6-26

**Necessary Data to continue:**

| | |
|---|---|
| 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. |

| | |
|---|---|
| Password | The corresponding password for the identity that you are using to authenticate on the corporate network. Per Base Unit each Button will use the same identity and password to connect to the corporate network. |
| Corporate SSID | The SSID of your corporate wireless infrastructure to which the ClickShare Buttons will connect. |

Click **Next** to continue.

When having problems connecting the Button to your corporate network, to get feedback from the Button please have a look at the ClickShare Client log. This log can be pressing the holding Shift key when starting the Client executable. Look for the lines *"EDSUSBDongleConnection::mpParseDongleMessages"*. An error code and a short summary of the issue should be logged.

## 6.15 Network integration, WPA2-PSK security mode

### 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. Log in to the *Configurator*.
2. Click *WiFi & Network → Network integration*. Click on **Change configuraton**.
3. Select the radio button next to *WPA2-PSK* and click **Next**.

Image 6-27
Network integration, WPA2-PSK selected

The WPA2-PSK mode window opens.

**Necessary Data to continue:**

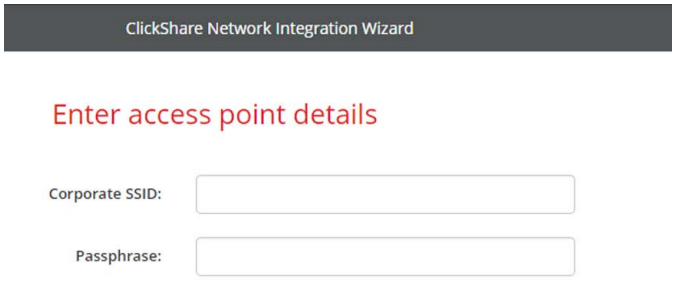


Image 6-28

| | |
|---|---|
| Corporate SSID | The SSID of your corporate wireless infrastructure to which the ClickShare Buttons will connect. |
| Passphrase (Pre-shared key) | 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. |

Click **Next** to continue.

When having problems connecting the Button to your corporate network, to get feedback from the Button please have a look at the ClickShare Client log. This log can be pressing the holding Shift key when starting the Client executable. Look for the lines *"EDSUSBDongleConnection::mpParseDongleMessages"*. An error code and a short summary of the issue should be logged.

## 6.16 Services, 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 ClickShar app.

### About streaming information

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.

### How to enable

1. Log in to the *Configurator*.
2. Click *WiFi & Network → Services*.

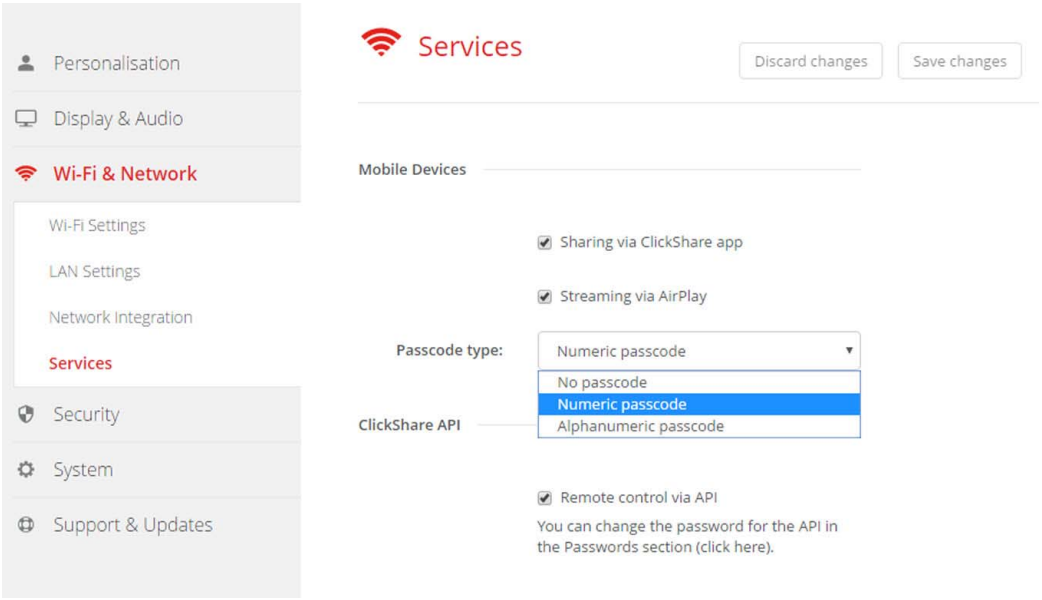


Image 6-29
Services, mobile devices

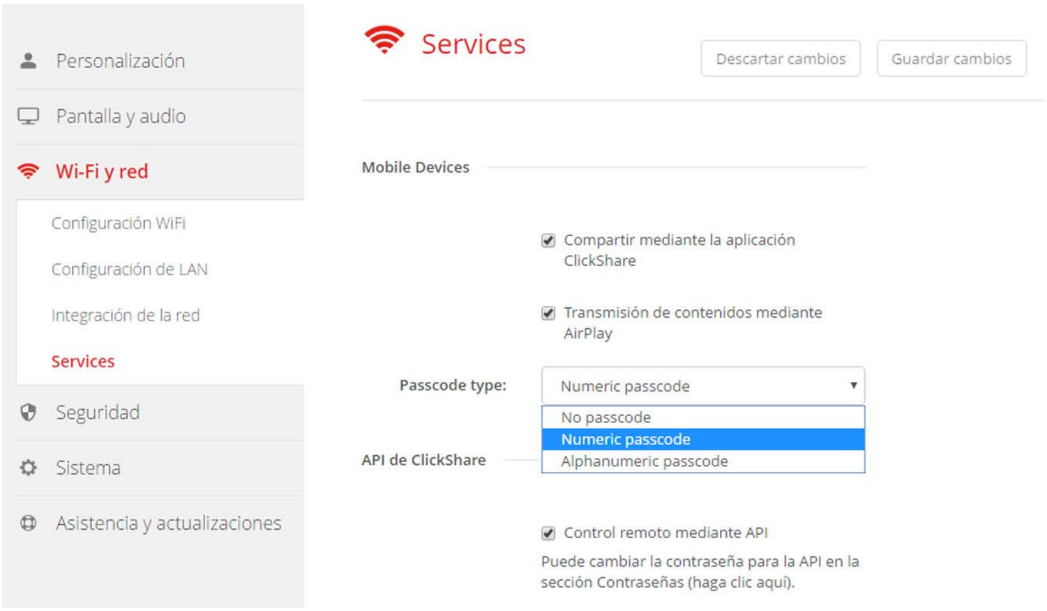


Image 6-30
Services, mobile devices

3. To allow sharing content via ClickShare app, check the check box in front of *Sharing via ClickShare app*.
   To allow streaming via AirPlay, check the check box in front of *Streaming via AirPlay*.
4. To add a passcode, click on the drop down and select the desired passcode.
   The following options are possible:
   - No passcode
   - Numeric passcode
   - Alphanumeric passcode
5. Click **Save changes** to apply this setting.

   Access via mobile devices is activate.

## 6.17 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.

### How to enable

1. Log in to the *Configurator*.
2. Click *WiFi & Network → Services*.

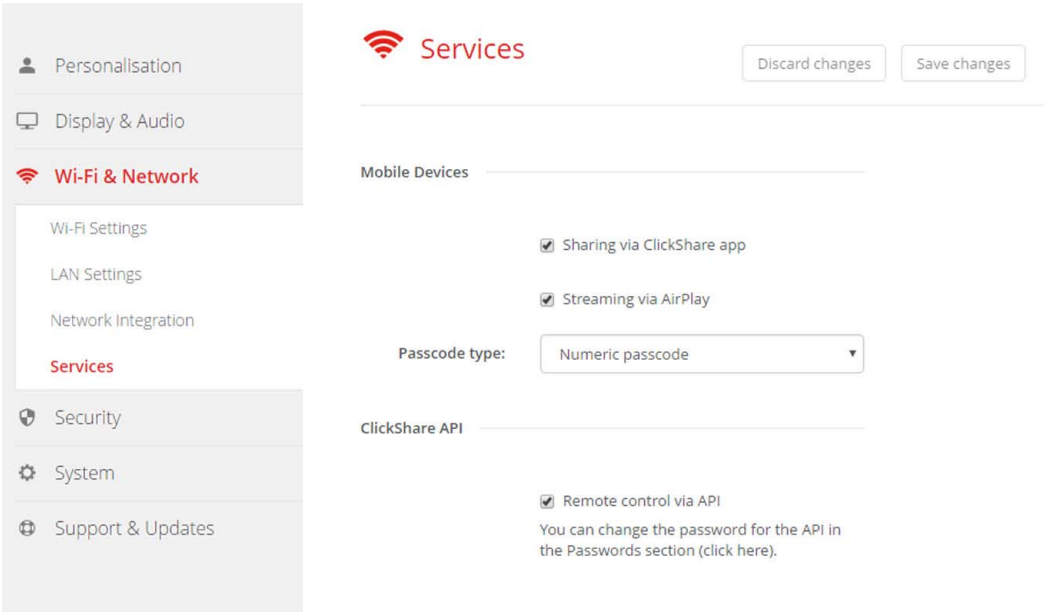


Image 6-31
ClickShare API setting

3. Check the check box in front of *Remote control via API* to enable this function.

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

   Not checked: no remote control via API allowed.

## 6.18 Security, compatibility

### About the compatibility

This function allows Buttons with certificate to be paired with devices without certificate (CSC-1 and CSM-1)

### How to activate

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

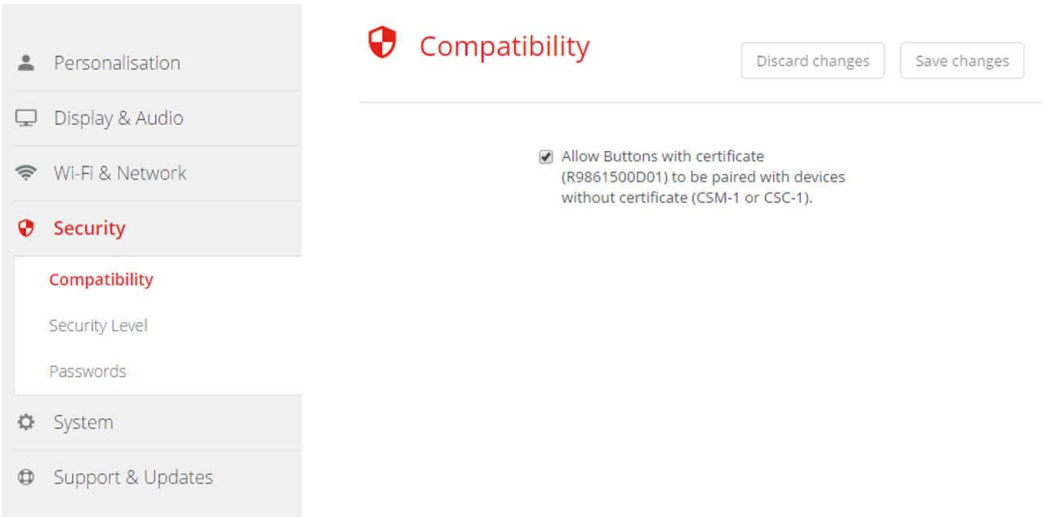


Image 6-32
Compatibility

3. Check the check box next to *Allow Buttons with certificate...* .

   Checked: allowed to pair with devices without certificate.

   Not checked: not allow to pair with devices without certificate.

4. Click **Save changes** to apply the setting.

**Changing the *Compatibility* setting will require a repairing of the Buttons used with this Base Unit.**

## 6.19 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,
- WebUI access via HTTPS with login management,
- no wireless WebUI access,
- 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 repairing of the Buttons.**

### How to set the security level

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

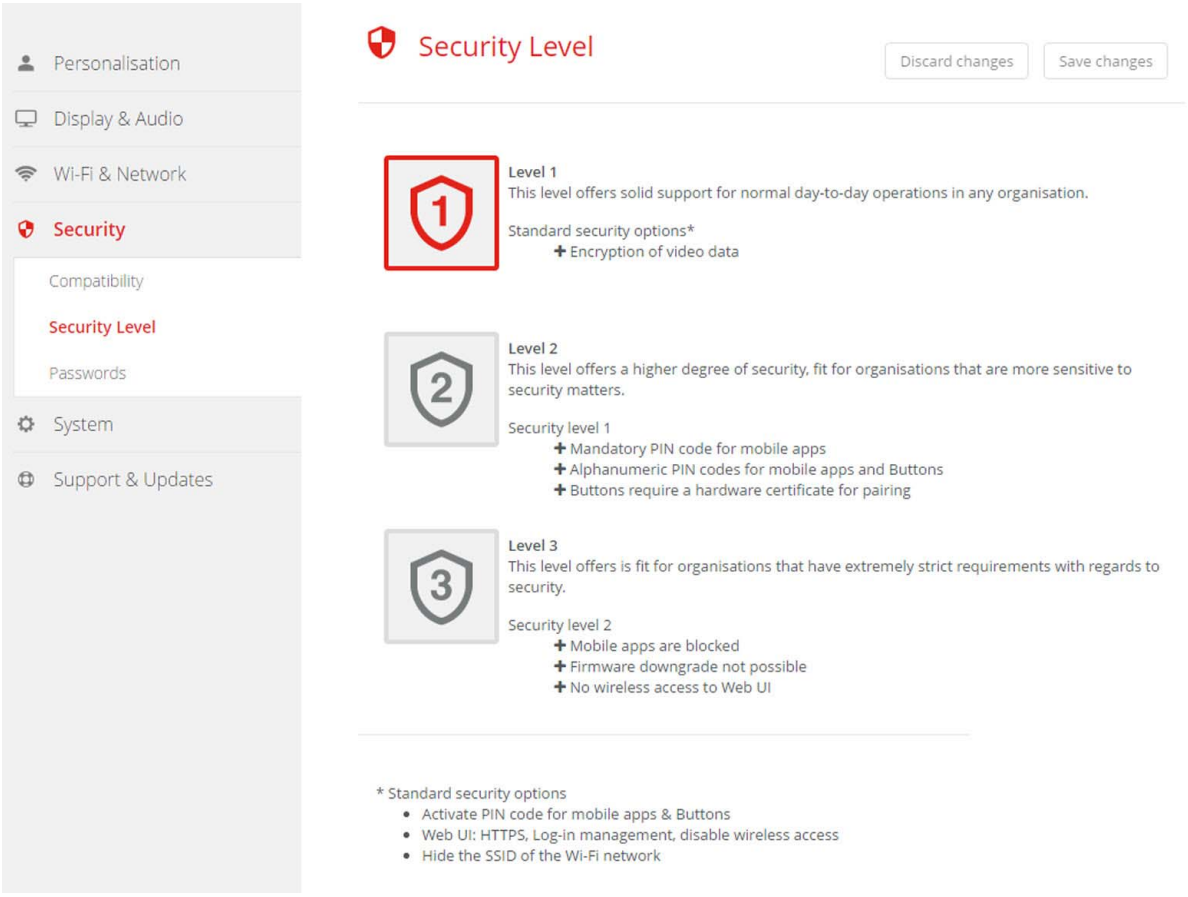


Image 6-33
Security levels

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

## 6.20 Security, passwords

### About passwords

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

The ClickShare API access is password protected. That password can be changed in the configurator.

### Changing the WebUI password

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

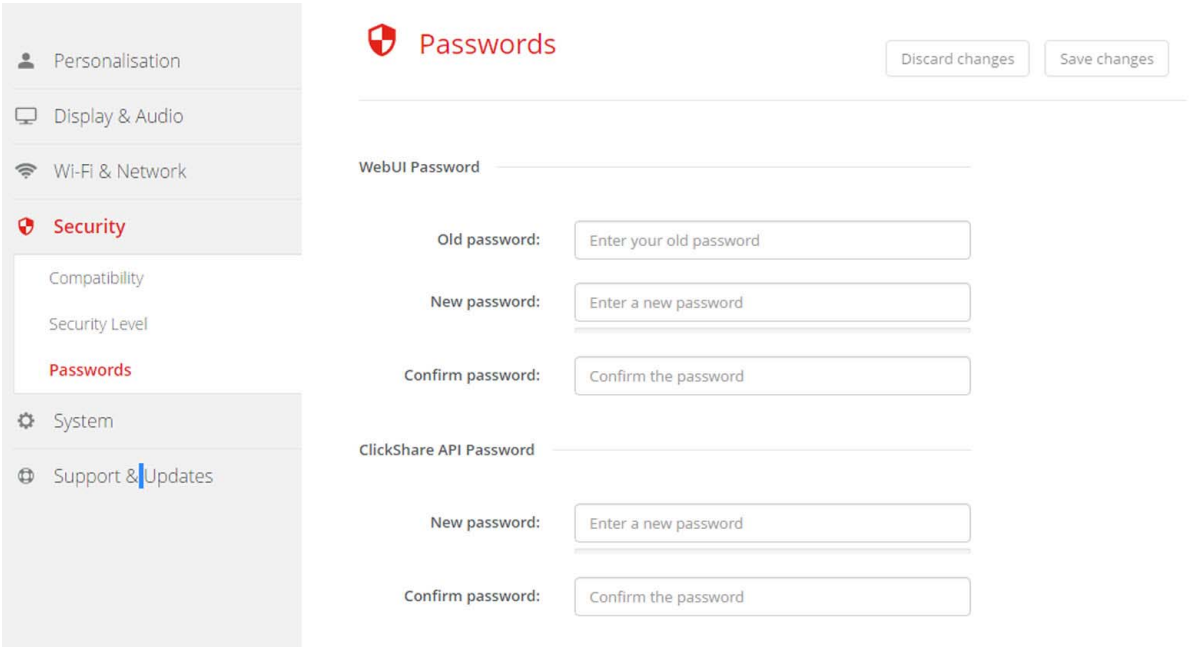


Image 6-34
Passwords

3. Click in the *WebUI 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.

### Changing the ClickShare API Password

1. Log in to the *Configurator*.
2. Click *Security* → *Passwords*.
3. Click in the *ClickShare API Password* pane in the input field next to *New password* and enter the new password.
4. Click in the input field next to *Confirm password* and enter the new password again.
5. Click **Save changes** to apply.

## 6.21 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*.

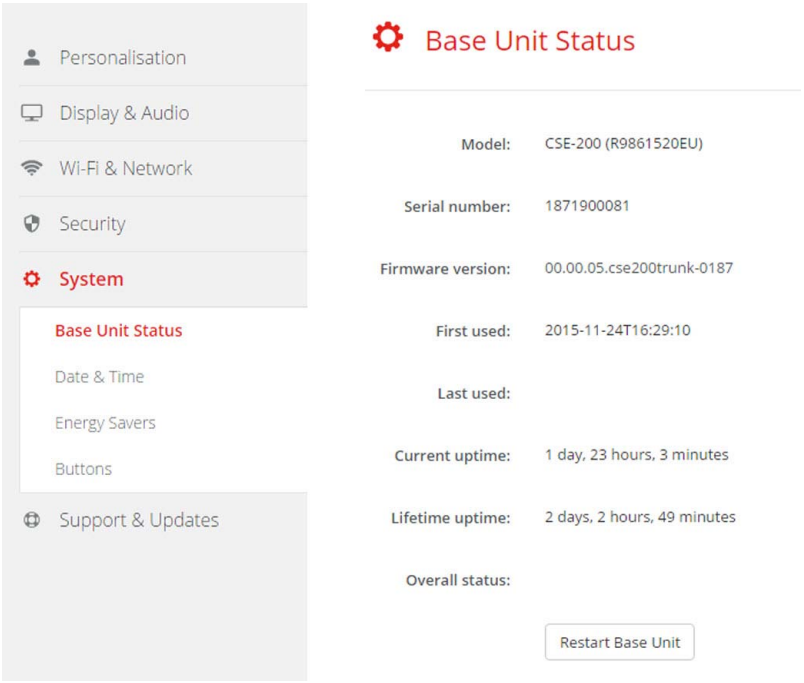


Image 6-35

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.

## 6.22 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*.

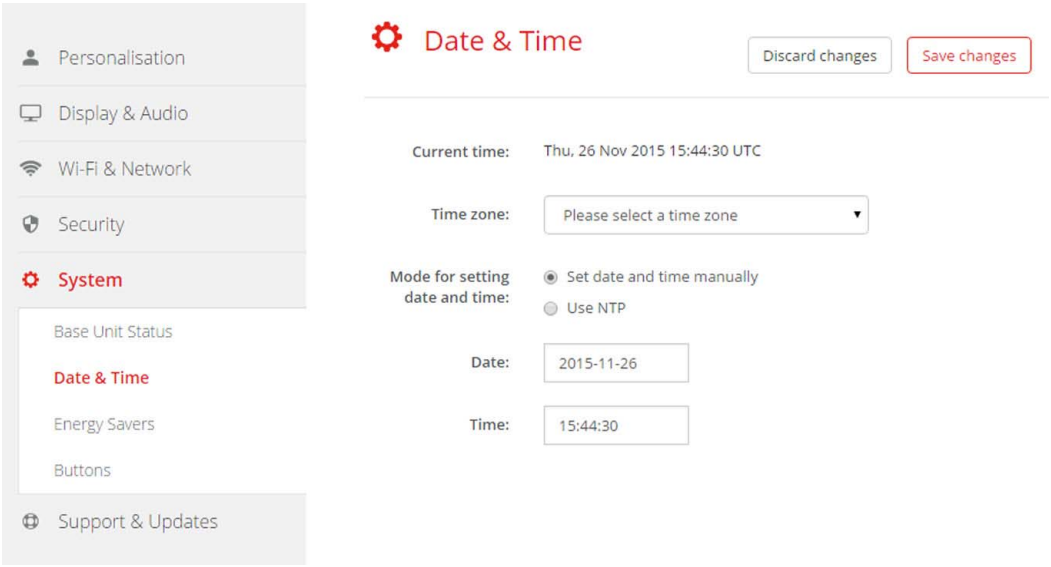


Image 6-36
Manual time & date update

   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 6-37
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 6-38
Time setup

8. Click on the up down arrow of each scroll counter until the correct hour, minutes and seconds are obtained.
9. Click **Save changes** to apply.

## 6.23 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*.

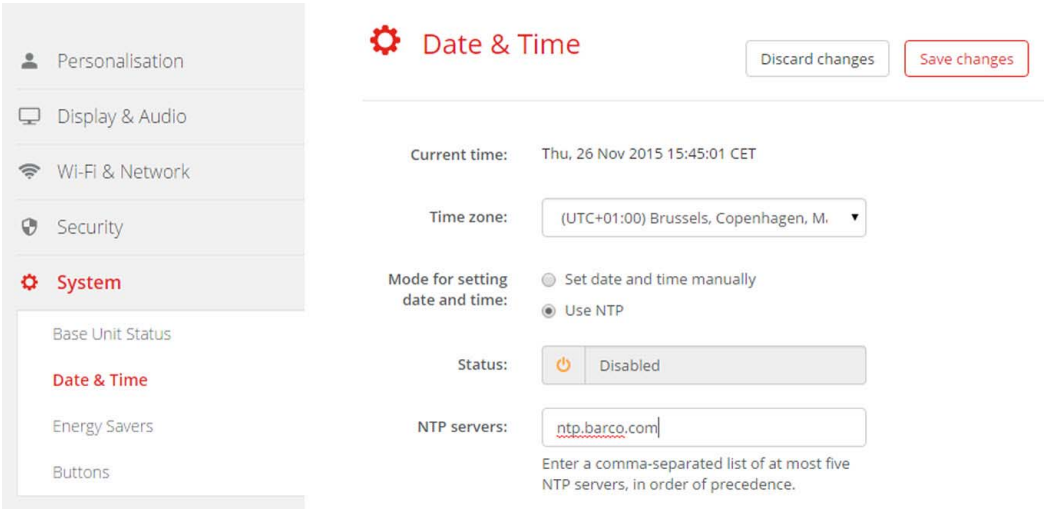


Image 6-39
Time server setup

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. Click **Save changes** to apply.

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

## 6.24 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 Eco standby mode.

**Eco standby**

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

Power consumption in Eco standby: 2.6W

The Base Unit will wake up with one of the following actions:

- Button or app connecting with the Base Unit
- Press the standby button on the Base Unit
- "Wake up" signal over the network
- Pairing a Button on the Base Unit's USB port
- Detection of display hot plug

**Deep standby**

When the Base Unit goes in Deep standby mode, it will shut down all processes, including the Wi-Fi access point and LAN connection. The Base Unit's LEDs will be dark to indicate this standby mode.

Power consumption in Deep standby: 0.4W

The Base Unit will wake up only when the standby button on the Base Unit is pressed.

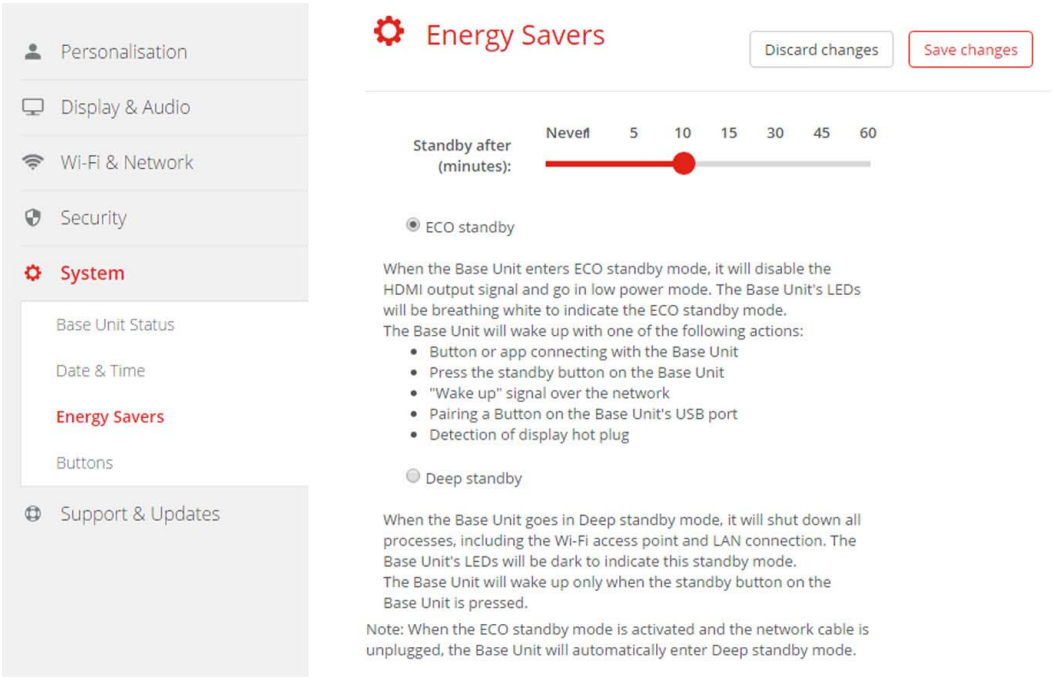


Image 6-40
Energy savers

### How to change the display timeout and standby mode

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.
4. To select a standby mode, select the radio button before *Eco standby* or *Deep standby*.

## 6.25 Buttons

### About Buttons

It is possible to update the software of the Buttons over Wi-Fi. All Buttons used with the Base Unit are indicated in the Buttons List. The list contains the state, the signal strength, the serial number, the firmware version, the number of connections and last connection.

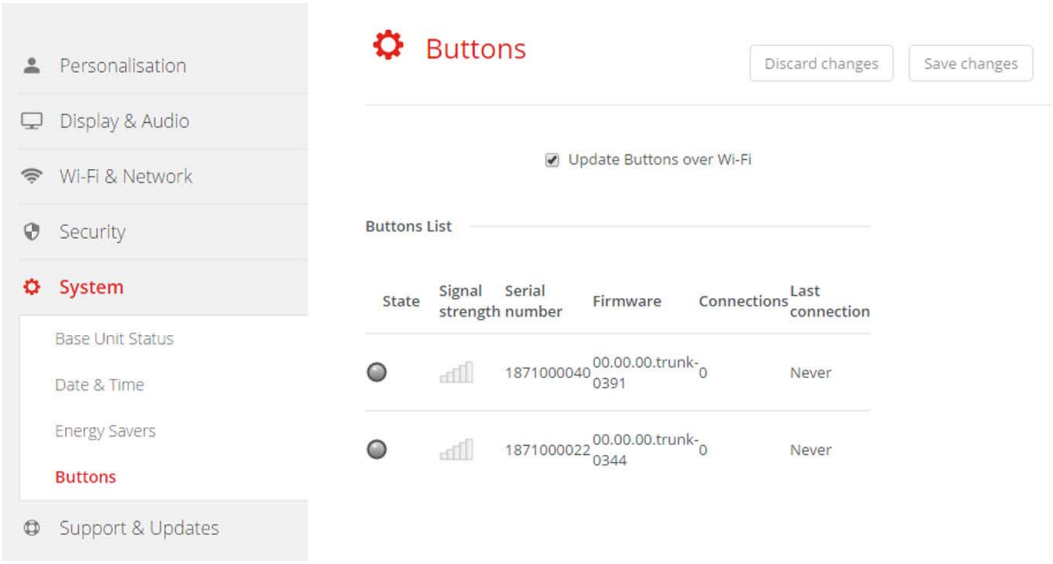


Image 6-41
Buttons

### How to enable update over Wi-Fi

1. Log in to the *Configurator*.
2. Click *System* → *Buttons*.
3. Check the check box in front of *Update Buttons over Wi-Fi*.

## 6.26 Firmware Update

### About Software update

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

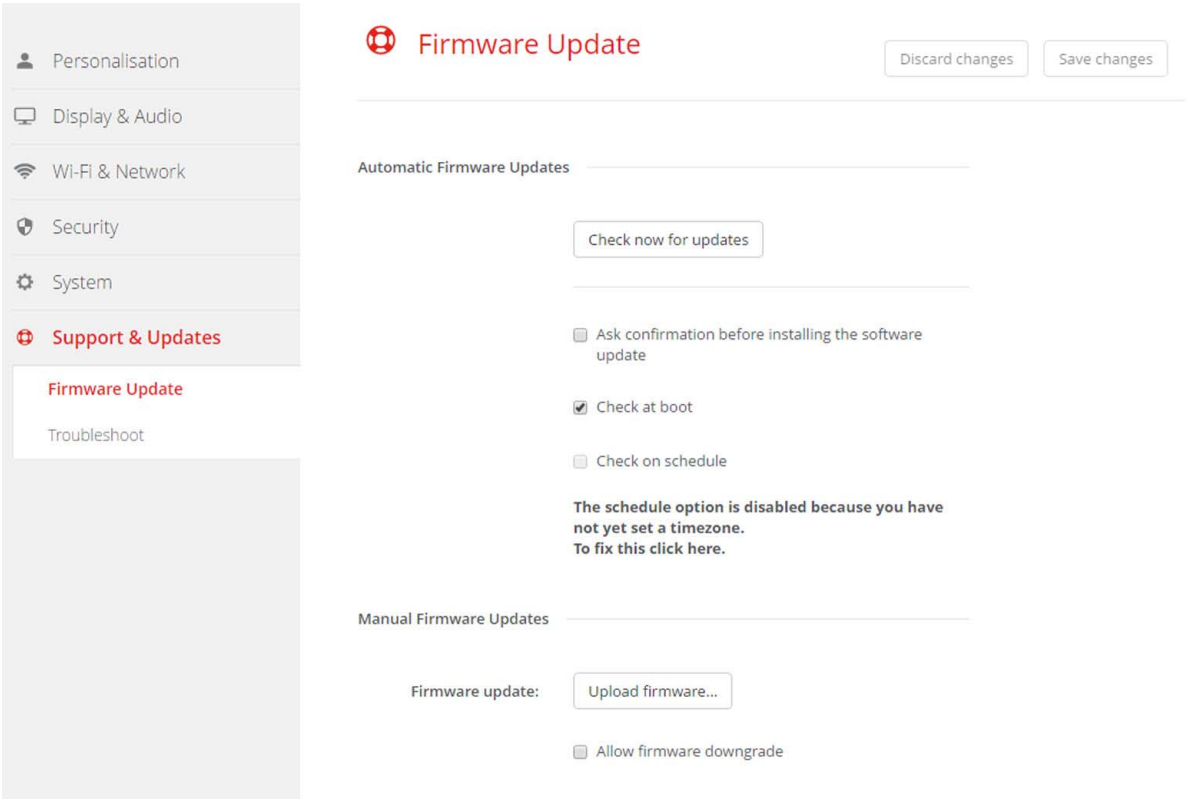


Image 6-42
Firmware update

### About automatic firmware updates

Automatic firmware updates can be triggered in 3 ways:

- triggered via a scheduled time
- triggered at boot
- manual trigger

### How to start an Automatic firmware update

1. Log in to the *Configurator*.
2. Click *Support & Updates* → *Firmware*.
3. To check immediately if new software versions are available, click on **Check now for updates**.

   The system checks if new firmware is available and uploads this automatically to the Base Unit.
4. To ask a confirmation before installing the software update, check the check box in front of *Ask confirmation...* .
5. To check for new software at boot, check the check box *Check at boot*.

   During booting up, when new firmware is found, this firmware will be loaded and the Base Unit will reboot.
6. To use a schedule, check the check box in front of *Check on schedule*.
   Click on the drop down box and select the desired time slot.
   ***Note:*** *Select a time slot where you are sure the Base Unit will not be in use.*

When new firmware is available, this firmware will be loaded and the Base Unit will reboot.

### Manual firmware update

1. Download the latest version of the software 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 software and click **Open** to start the upload.
   ***Note:*** *This should be an nad 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 allowed on the Base Unit, check the check box in front of *Allow firmware downgrade*.**

## 6.27 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*.

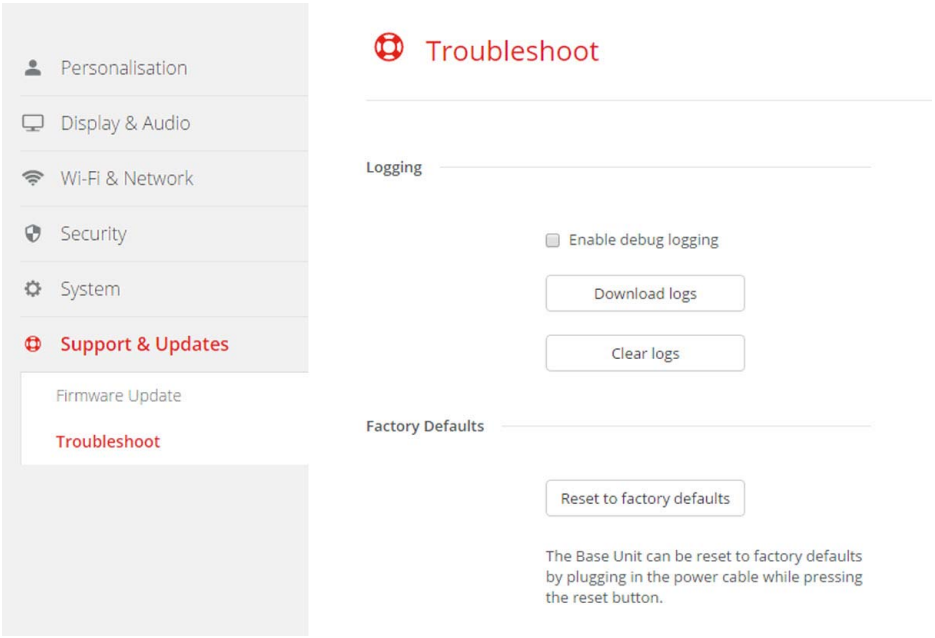


Image 6-43
Troubleshoot, logging

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**.
7. To enable logging by the ClickShare client (6):

- If the launcher service is running hold down the shift key while connecting the Button to the PC, until logging is started.
- If the launcher service is not running : hold down the shift key while double clicking the ClickShare application.

The following message appears on the sys tray:

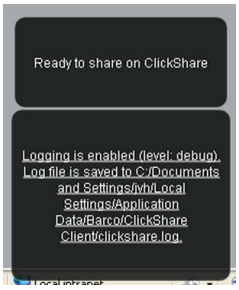


Image 6-44
Client logging

## 6.28 Factory defaults

### About default settings

The ClickShare Base Unit can return to the factory default settings.

The following settings are the defaults:

- Meeting room identification info is cleared.
- Language is set to English.
- Custom wallpapers are removed and the default wallpaper is restored.
- Standby timer is reset to 10 min.
- Hostname and SSID is set to *clickshare-serialnumber*.
- The SSID is broadcasted
- WiFi password is reset to *clickshare*.
- The default WiFi channel is set back to frequency 5 GHz, channel 36.
- The update history is cleared.
- The table with the associated Buttons is cleared.
- The admin password is reset to *admin*.
- Debug logging and remote logging are disabled.

**Restoring to factory defaults will require a repairing of the Buttons used with this Base Unit.**

### How to restore factory defaults

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

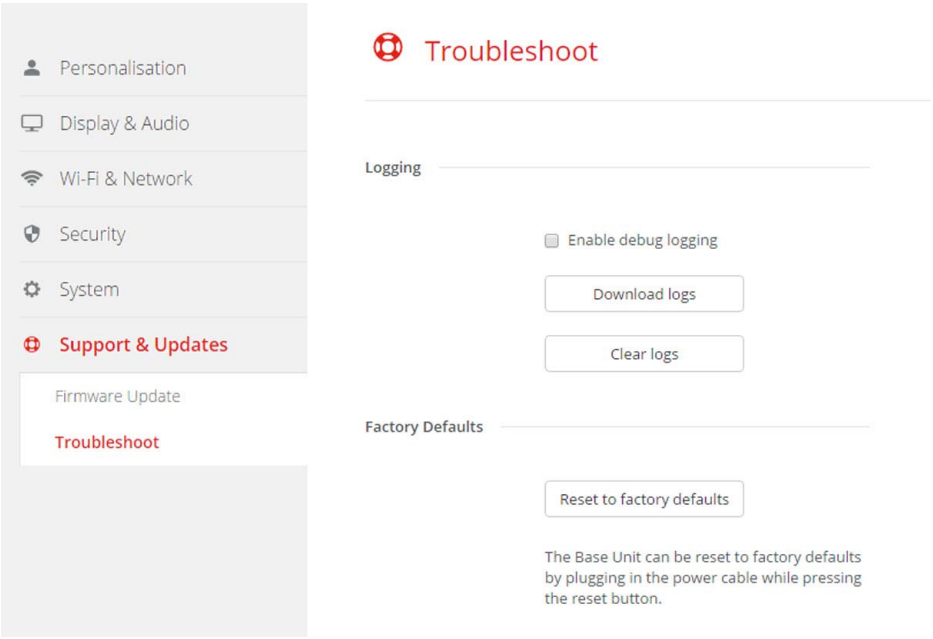


Image 6-45
Troubleshoot, factory defaults

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.

**Alternative way: The Base Unit can be reset to factory defaults by plugging in the power cable while pressing the reset button.**

# 7. SOFTWARE UPDATES

## 7.1 Software update

### About Software updates

There are two ways to update the Base Unit software:

- via the Configurator, for more information, see "Firmware Update", page 58.
- 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 software from Barco's website, , www.barco.com/clickshare. Click on **Visit the ClickShare product page** and go to tab **Downloads**
2. Unzip the zip file.
3. Copy the ENC file to a USB stick.
4. Rename the file to `clickshare_firmware.enc`.

   Renaming is necessary as the software will look for that specific filename on the device.
5. Insert the USB stick into the USB port at the front of the Base Unit.
6. Follow the instructions on the meeting room screen.
7. When the on-screen message indicates that the process is finished, remove the USB stick.

   The Base Unit reboots.

# 8. TROUBLESHOOTING

## 8.1 Troubleshooting list

### 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. | • Replace the cable.<br>• Use another cable. |
| | Bad resolution of the display<br>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 | • 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 | • Put the Base Unit closer to the meeting room table.<br>• Change the orientation of the antennas at the back of the Base Unit.<br>• Remove or limit as much as possible all obstructions between the Buttons and the Base Unit. |
| Web interface is not accessible | Browser | • Use another browser (version).<br>• Check the browser settings. |
| | No connection | • There are three methods to access the web interface. Refer to the corresponding chapter of the documentation.<br>• Check the proxy settings |
| Users do not get a CSE-200 drive when inserting the Button in their laptop. | • No automatic refresh of drives<br>• Windows tries to assign the ClickShare drive to an already reserved drive letter | • Refresh your view on the laptop.<br>• Use Microsoft Windows Disk Management to assign it to a free drive letter. |
| | Bad connection at USB port on the laptop | • Reconnect to the USB port.<br>• Try another USB port.<br>• Reboot the laptop. |
| | • Some types of USB devices might be blocked as a company policy.<br>• USB port settings on the laptop might limit the usage of high power USB devices when on battery power. | If possible, change the USB port policy on the laptop. |

| Problem | Cause | Solution |
|---|---|---|
| Low video performance | Laptop performance | • Lower the screen resolution of the laptop.<br>• Disable the hardware acceleration for video.<br>• Use only a part of the display to show the video.<br>• 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 | Disable the usage of overlays in the preferences of the video player. |
| | The content uses HDCP | ClickShare does not support showing HDCP content (it will be displayed as black) |
| Some programs of Windows are not shown on the display | Use of overlays, 3D or hardware acceleration in the GPU | • Disable overlays or hardware acceleration in the GPU.<br>• Disable AeroGlass in Windows 7<br>• 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 | You are the second person that wants to share content. Only one screen can appear simultaneously | 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. | ClickShare tries to restore the connection automatically. If it fails, the LEDs on the Button start blinking red.<br>Unplug the button from your laptop and try a new button. |
| Noting 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. |
| | 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 | Congestion of the wireless channel | Use wireless network scan tools to look for free or the least congested channels. |
| | Metal cabinets, walls, construction elements, ... can cause reflections deteriorating the wireless signal.<br>Obstructions between Buttons and Base Unit cause lowering of the wireless strength and quality. | Move the Base Unit to another place in the room. |
| | | Avoid placing it inside cabinets, false ceiling, below the table, behind a wall, in another room, .... |
| | | Re-orient he Base Unit antennas |
| | | Check out the ClickShare White paper on WiFi See www.barco.com/clickshare. |

| Problem | Cause | Solution |
|---|---|---|
| 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 | IP address is not within your LAN range. |
| | | DHCP is not enabled. |
| No WiFi connection with Base Unit | SSID not correct | Enter the correct SSID |

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

# 9. ENVIRONMENTAL INFORMATION

## 9.1 Disposal information

### Disposal Information

Waste Electrical and Electronic Equipment

This symbol on the product indicates that, under the European Directive 2012/19/EU governing waste from electrical and electronic equipment, this product must not be disposed of with other municipal waste. Please dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

For more information about recycling of this product, please contact your local city office or your municipal waste disposal service.

For details, please visit the Barco website at: http://www.barco.com/en/AboutBarco/weee

### Disposal of batteries in the product

This product contains batteries covered by the Directive 2006/66/EC which must be collected and disposed of separately from municipal waste.

If the battery contains more than the specified values of lead (Pb), mercury (Hg) or cadmium (Cd), these chemical symbols will appear below the crossed-out wheeled bin symbol.

By participating in separate collection of batteries, you will help to ensure proper disposal and to prevent potential negative effects on the environment and human health.

## 9.2 Rohs compliance

### Turkey RoHS compliance

Türkiye Cumhuriyeti: AEEE Yönetmeliğine Uygundur.

[Republic of Turkey: In conformity with the WEEE Regulation]

### 中国大陆 RoHS – Chinese Mainland RoHS

根据中国大陆《电器电子产品有害物质限制使用管理办法》(也称为中国大陆RoHS)，以下部分列出了Barco产品中可能包含的有毒和/或有害物质的名称和含量。中国大陆RoHS指令包含在中国信息产业部MCV标准:“电子信息产品中有毒物质的限量要求”中。

According to the “Management Methods for the Restriction of the Use of Hazardous Substances in Electrical and Electronic Products” (Also called RoHS of Chinese Mainland), the table below lists the names and contents of toxic and/or hazardous substances that Barco’s product may contain. The RoHS of Chinese Mainland is included in the MCV standard of the Ministry of Information Industry of China, in the section “Limit Requirements of toxic substances in Electronic Information Products”.

| 零件项目(名称)<br>Component Name | 有毒有害物质或元素<br>Hazardous Substances or Elements | | | | | |
|---|---|---|---|---|---|---|
| | 铅<br>(Pb) | 汞<br>(Hg) | 镉<br>(Cd) | 六价铬<br>(Cr6+) | 多溴联苯<br>(PBB) | 多溴二苯醚<br>(PBDE) |
| 印制电路配件<br>Printed Circuit Assemblies | x | 0 | x | 0 | 0 | 0 |
| 电(线)缆<br>Cables | x | 0 | x | 0 | 0 | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 底架<br>Chassis | x | 0 | x | 0 | 0 | 0 |
| 电源供应器<br>Power Supply Unit | x | 0 | x | 0 | 0 | 0 |
| 文件说明书<br>Paper Manuals | 0 | 0 | 0 | 0 | 0 | 0 |

本表格依据SJ/T 11364的规定编制

This table is prepared in accordance with the provisions of SJ/T 11364.

O: 表示该有毒有害物质在该部件所有均质材料中的含量均在 GB/T 26572 标准规定的限量要求以下.

O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in GB/T 26572.

X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 标准规定的限量要求.

X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in GB/T 26572.

在中国大陆销售的相应电子信息产品(EIP)都必须遵照中国大陆《电子电气产品有害物质限制使用标识要求》标准贴上环保使用期限(EFUP)标签。Barco产品所采用的EFUP标签(请参阅实例，徽标内部的编号使用于指定产品)基于中国大陆的《电子信息产品环保使用期限通则》标准。

All Electronic Information Products (EIP) that are sold within Chinese Mainland must comply with the “Marking for the restriction of the use of hazardous substances in electrical and electronic product” of Chinese Mainland, marked with the Environmental Friendly Use Period (EFUP) logo. The number inside the EFUP logo that Barco uses (please refer to the photo) is based on the “General guidelines of environment-friendly use period of electronic information products” of Chinese Mainland.

Image 9-1

## 9.3 Production address

### Factory

Barco N.V.

12F, Citychamp Building, No. 12, Tai Yang Gong Zhong Lu, Chaoyang District, Beijing, P.R.C

### Made in information

The made in country is indicated on the product ID label on the product itself.

### Production date

The month and year of production is indicated on the product ID label on the product itself.

## 9.4 Importers contact information

### Contact

To find your local importer, contact Barco directly or one of Barco's regional offices via the contact information given on Barco's web site, www.barco.com.