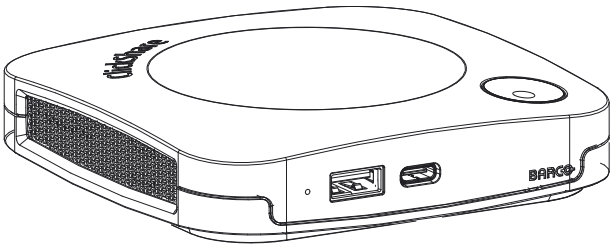
CX-20



Installation manual

ENABLING BRIGHT OUTCOMES

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The environmental conditions as well as the servicing and maintenance regulations specified in this manual must be complied with by the customer.

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THIS PRODUCT SPECIFIC USER LICENSE AGREEMENT (EULA) TOGETHER WITH THE BARCO GENERAL EULA ATTACHED HERETO SET OUT THE TERMS OF USE OF THE SOFTWARE.

1. In the event of any differences or inconsistencies between translations of the EULA and the English text of the EULA, the English text will prevail.

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1. Entitlement

Barco ClickShare (the “Software”) offered as a wireless presentation solution that includes the respective software components as further detailed in the applicable Documentation.

The Software can be used upon purchase from, and subject to payment of the relating purchase price to, a Barco authorized distributor or reseller of the ClickShare base unit and button or download of the authorized ClickShare applications (each a “Barco ClickShare Product”).

- **Term**
  The Software can be used under the terms of this EULA from the date of first use of the Barco ClickShare Product, for as long as you operate such Barco ClickShare Product.
- **Deployment and Use**
  The Software shall be used solely in association with a Barco ClickShare Product in accordance with the Documentation issued by Barco for such Product.

2. Support

The Software is subject to the warranty conditions outlined in the Barco warranty rider. Maintenance, including the provision of upgrades and updates to the Software, and helpdesk support are available at your option on the terms of Barco’s then current warranty rider.

Higher maintenance and support levels can be obtained at the moment of product sale or during the Barco ClickShare Product and/or Software warranty term.

Higher maintenance and support levels may be included in the initial transaction if ordered and paid for additionally. It is strongly suggested to maintain the maintenance and support agreement without interruption. Barco reserves the right not to restart maintenance following an interruption by the customer.

3. Terms of Use

The Software can be used as set out in the Barco EULA attached hereto.

The provisions of this Product Specific EULA override the Barco generic EULA in case of conflicts or inconsistencies.

In case of (inadvertent or other) non-compliance (e. g. where the actual use overshoots the use authorized hereunder), Barco shall have the option to suspend access to the Software until the non-compliance is remedied, failing of which Barco may terminate the License Agreement as set out herein.

4. Privacy

You are controller for personal data which are being processed via the Software. Therefore, you remain solely responsible for complying with all applicable data protection laws and for implementing and maintaining privacy protection and security measures (especially for components that you provide or control). Barco disclaims any liability in this regard.

Barco created a specific privacy policy for the ClickShare software application for mobile devices, which describes the processing of personal data via this application (*http://www.barco.com/en/about-barco/legal/privacy-policy/clickshare-app*).

5. Other Terms

- **Open Source components**
  The Software contains software components released under an Open Source license.
  A list of the third party components used is available in the Software’s README files, through the “My Barco” section of the Barco website or through other (online) means. The applicable license terms, copyright notices and, as relevant, source code access conditions apply as set out in the Barco EULA attached hereto.
- **Retention of data**
  Barco right to use and retain Functional Information (section 10.2 of the EULA) shall survive the term of this EULA.

Barco ClickShare Product Specific Privacy policy

You are controller for personal data which are being processed via the Software. Therefore, you remain solely responsible for complying with all applicable data protection laws and for implementing and maintaining privacy protection and security measures (especially for components that you provide or control). Barco disclaims any liability in this regard. Barco created a specific privacy policy for the ClickShare software application for mobile devices, which describes the processing of personal data via this application (*http://www.barco.com/en/about-barco/legal/privacy-policy/clickshare-app*).

Via the Software, Barco may gather technical information about (i) the functioning and the functionality of the products which are connected through the Software, and/or (ii) as provided by you or generated by your use of the Software (“Functional Information”). Barco may make use of such Functional Information for purposes of analytics, for developing and improving products and services, offering products and services to your organization and/or allowing third parties to access such Functional Information; based on the legitimate interest of Barco of evaluating the market, assessing and improving its products and conducting research and development. All knowhow, inventions and works derived by Barco from the Functional Information will be exclusively owned by Barco.

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In the development of the Software, the following Open Source Software components have been used:

PACKAGE	VERSION	SOURCE SITE
alsa-lib	1.1.7	ftp://ftp.alsa-project.org/pub/lib
alsa-utils	1.1.7	ftp://ftp.alsa-project.org/pub/utils
libsamplerate	0.1.9	http://www.mega-nerd.com/SRC
libsndfile	1.0.28	http://www.mega-nerd.com/libsndfile/files
ncurses	6.1	http://ftpmirror.gnu.org/ncurses
avahi	0.7	https://github.com/lathiat/avahi/releases/download/v0.7
dbus	1.12.16	https://dbus.freedesktop.org/releases/dbus
expat	2.2.7	http://downloads.sourceforge.net/project/expat/expat/2.2.7
libselinux	2.8	https://raw.githubusercontent.com/wiki/SELinuxProject/selinux/files/releases/20180524
libsepol	2.8	https://raw.githubusercontent.com/wiki/SELinuxProject/selinux/files/releases/20180524
pcre	8.42	https://ftp.pcre.org/pub/pcre
python3	3.7.4	https://python.org/ftp/python/3.7.4

PACKAGE	VERSION	SOURCE SITE
bluez5_utils-headers	5.50	https://cdn.kernel.org/pub/linux/bluetooth
libffi	v3.3-rc0	https://github.com/libffi/libffi/archive/v3.3-rc0
libzlib	1.2.11	http://www.zlib.net
libdaemon	0.14	http://0pointer.de/lennart/projects/libdaemon
libglib2	2.56.4	http://ftp.gnome.org/pub/gnome/sources/glib/2.56
elfutils	0.176	https://sourceware.org/elfutils/ftp/0.176
bzip2	1.0.8	https://sourceware.org/pub/bzip2
util-linux	2.33	https://cdn.kernel.org/pub/linux/utils/util-linux/v2.33
linux-pam	1.3.1	https://github.com/linux-pam/linux-pam/releases/download/v1.3.1
flex	2.6.4	https://github.com/westes/flex/files/981163
readline	8.0	http://ftpmirror.gnu.org/readline
bc	1.06.95	http://alpha.gnu.org/gnu/bc
bellagio	0.9.3	http://downloads.sourceforge.net/project/omxil/omxil/Bellagio%200.9.3
bitstream	1.4	https://get.videolan.org/bitstream/1.4
bluez5_utils	5.50	https://cdn.kernel.org/pub/linux/bluetooth
libical	1.0.1	https://github.com/libical/libical/releases/download/v1.0.1
eudev	3.2.7	http://dev.gentoo.org/~blueness/eudev
kmod	25	https://cdn.kernel.org/pub/linux/utils/kernel/kmod
boost	1.69.0	http://downloads.sourceforge.net/project/boost/boost/1.69.0
icu	60.2	http://download.icu-project.org/files/icu4c/60.2
bridge-utils	1.6	https://cdn.kernel.org/pub/linux/utils/net/bridge-utils
busybox	1.29.3	http://www.busybox.net/downloads
dosfstools	4.1	https://github.com/dosfstools/dosfstools/releases/download/v4.1
e2fsprogs	1.44.5	https://cdn.kernel.org/pub/linux/kernel/people/tytso/e2fsprogs/v1.44.5
iproute2	4.19.0	https://cdn.kernel.org/pub/linux/utils/net/iproute2
iptables	1.8.2	https://netfilter.org/projects/iptables/files
netcat	0.7.1	http://downloads.sourceforge.net/project/netcat/netcat/0.7.1
ntp	4.2.8p13	https://www.eecis.udel.edu/~ntp/ntp_spool/ntp4/ntp-4.2
libedit	20180525-3.1	http://www.thrysoee.dk/editline
libbsd	0.10.0	https://libbsd.freedesktop.org/releases
libevent	2.1.8-stable	https://github.com/libevent/libevent/releases/download/release-2.1.8-stable

PACKAGE	VERSION	SOURCE SITE
libopenssl	1.1.1c	https://www.openssl.org/source
pciutils	3.5.5	https://cdn.kernel.org/pub/software/utils/pciutils
unzip	60	ftp://ftp.info-zip.org/pub/infozip/src
usbutils	010	https://cdn.kernel.org/pub/linux/utils/usb/usbutils
libusb	1.0.22	https://github.com/libusb/libusb/releases/download/v1.0.22
c-ares	1.15.0	http://c-ares.haxx.se/download
ca-certificates	20190110	http://snapshot.debian.org/archive/debian/20190513T145054Z/pool/main/c/ca-certificates
cairo	1.15.12	http://cairographics.org/snapshots
fontconfig	2.13.1	http://fontconfig.org/release
freetype	2.9.1	http://download.savannah.gnu.org/releases/freetype
libpng	1.6.37	http://downloads.sourceforge.net/project/libpng/libpng16/1.6.37
libdrm	2.4.97	https://dri.freedesktop.org/libdrm
libpthread-stubs	0.4	http://xcb.freedesktop.org/dist
pixman	0.34.0	http://xorg.freedesktop.org/releases/individual/lib
wayland	1.16.0	http://wayland.freedesktop.org/releases
libxml2	2.9.9	http://xmlsoft.org/sources
collectd	5.7.2	http://collectd.org/files
libgcrypt	1.8.4	https://gnupg.org/ftp/gcrypt/libgcrypt
libgpg-error	1.33	https://www.gnupg.org/ftp/gcrypt/libgpg-error
lm-sensors	V3-5-0	https://github.com/lm-sensors/lm-sensors/archive/V3-5-0
crda	4.14	https://git.kernel.org/pub/scm/linux/kernel/git/mcgrof/crda.git/snapshot
libnl	3.4.0	https://github.com/thom311/libnl/releases/download/libnl3_4_0
cryptsetup	2.0.6	https://cdn.kernel.org/pub/linux/utils/cryptsetup/v2.0
json-c	0.13.1	https://s3.amazonaws.com/json-c_releases/releases
lvm2	2.02.183	ftp://sources.redhat.com/pub/lvm2
libaio	0.3.111	https://releases.pagure.org/libaio
popt	1.16	http://rpm5.org/files/popt
dhcp	4.3.6	http://ftp.isc.org/isc/dhcp/4.3.6
dnsmasq	2.79	http://thekelleys.org.uk/dnsmasq
dropbear	2018.76	https://matt.ucc.asn.au/dropbear/releases
dvblast	3.4	https://get.videolan.org/dvblast/3.4
libev	4.24	http://dist.schmorp.de/libev/Attic

PACKAGE	VERSION	SOURCE SITE
faad2	2.8.8	http://downloads.sourceforge.net/project/faac/faad2-src/faad2-2.8.0
fbv	1.0b	http://s-tech.elsat.net.pl/fbv
giflib	5.1.4	http://downloads.sourceforge.net/project/giflib
jpeg-turbo	2.0.1	https://downloads.sourceforge.net/project/libjpeg-turbo/2.0.1
ffmpeg	4.1.3	http://ffmpeg.org/releases
libva	2.4.0	https://github.com/intel/libva/releases/download/2.4.0
libvorbis	1.3.6	http://downloads.xiph.org/releases/vorbis
libogg	1.3.3	http://downloads.xiph.org/releases/ogg
libvpx	v1.7.0	https://github.com/webmproject/libvpx/archive/v1.7.0
opus	1.3.1	https://downloads.xiph.org/releases/opus
speex	1.2.0	https://downloads.xiph.org/releases/speex
speexdsp	20ed3452074664a-d07e380e51321-b148acebdf20	https://git.xiph.org/speexdsp.git
file	5.36	ftp://ftp.astron.com/pub/file
gdb	8.1.1	http://ftpmirror.gnu.org/gdb
gnupg2	2.2.17	https://gnupg.org/ftp/gcrypt/gnupg
libassuan	2.5.2	ftp://ftp.gnupg.org/gcrypt/libassuan
libksba	1.3.5	ftp://ftp.gnupg.org/gcrypt/libksba
libnpth	1.6	https://www.gnupg.org/ftp/gcrypt/npth
sqlite	3280000	https://www.sqlite.org/2019
gssdp	1.0.2	http://ftp.gnome.org/pub/gnome/sources/gssdp/1.0
libsoup	2.62.3	http://ftp.gnome.org/pub/gnome/sources/libsoup/2.62
gst1-libav	1.14.4	https://gstreamer.freedesktop.org/src/gst-libav
gst1-plugins-base	1.14.4	https://gstreamer.freedesktop.org/src/gst-plugins-base
gstreamer1	1.14.4	https://gstreamer.freedesktop.org/src/gstreamer
gst1-plugins-bad	1.14.4	https://gstreamer.freedesktop.org/src/gst-plugins-bad
wayland-protocols	1.17	http://wayland.freedesktop.org/releases
gst1-plugins-good	1.14.4	https://gstreamer.freedesktop.org/src/gst-plugins-good
libv4l	1.16.3	https://linuxtv.org/downloads/v4l-utils
qt5base	5.12.4	https://download.qt.io/archive/qt/5.12/5.12.4/submodules
libinput	1.12.5	http://www.freedesktop.org/software/libinput
libevdev	1.6.0	http://www.freedesktop.org/software/libevdev

PACKAGE	VERSION	SOURCE SITE
mtdev	1.1.4	http://bitmath.org/code/mtdev
pcre2	10.32	https://ftp.pcre.org/pub/pcre
gst1-vaapi	1.14.4	https://gstreamer.freedesktop.org/src/gstreamer-vaapi
htop	2.2.0	http://hisham.hm/htop/releases/2.2.0
hwdata	v0.308	https://github.com/vcrhonek/hwdata/archive/v0.308
input-event-daemon	v0.1.3	https://github.com/gandro/input-event-daemon/archive/v0.1.3
iperf3	3.6	https://downloads.es.net/pub/iperf
iw	4.14	https://cdn.kernel.org/pub/software/network/iw
jansson	2.12	http://www.digip.org/jansson/releases
jose	10	https://github.com/latchset/jose/releases/download/v10
json-for-modern-cpp	v3.5.0	https://github.com/nlohmann/json/archive/v3.5.0
jsoncpp	1.8.4	https://github.com/open-source-parsers/jsoncpp/archive/1.8.4
libarchive	3.3.3	http://www.libarchive.org/downloads
libconfig	v1.7.2	https://github.com/hyperrealm/libconfig/archive/v1.7.2
libcurl	7.65.3	https://curl.haxx.se/download
libestr	0.1.10	http://libestr.adiscon.com/files/download
libfastjson	v0.99.8	https://github.com/rsyslog/libfastjson/archive/v0.99.8
libhttpparser	v2.9.0	https://github.com/nodejs/http-parser/archive/v2.9.0
liblogging	1.0.6	http://download.rsyslog.com/liblogging
libnspr	4.20	https://ftp.mozilla.org/pub/mozilla.org/nspr/releases/v4.20/src
libnss	3.42.1	https://ftp.mozilla.org/pub/mozilla.org/security/nss/releases/NSS_3_42_1_RTM/src
libopusenc	0.2.1	https://downloads.xiph.org/releases/opus
libpcap	1.9.0	http://www.tcpdump.org/release
libqrencode	4.0.0	http://fukuchi.org/works/qrencode
libsha1	0.3	https://github.com/dottedmag/libsha1/archive/0.3
libtool	2.4.6	http://ftpmirror.gnu.org/libtool
libuv	v1.25.0	https://github.com/libuv/libuv/archive/v1.25.0
libxkbcommon	0.8.2	http://xkbcommon.org/download
libyaml	0.2.1	http://pyyaml.org/download/libyaml
libzip	1.5.1	http://www.nih.at/libzip
lighttpd	1.4.53	http://download.lighttpd.net/lighttpd/releases-1.4.x
logrotate	3.13.0	https://github.com/logrotate/logrotate/archive/3.13.0

PACKAGE	VERSION	SOURCE SITE
memtester	4.3.0	http://pyropus.ca/software/memtester/old-versions
monit	5.25.3	http://mmonit.com/monit/dist
netsnmp	5.8	https://downloads.sourceforge.net/project/net-snmp/net-snmp/5.8
nodejs	8.15.1	http://nodejs.org/dist/v8.15.1
opkg	0.3.6	http://downloads.yoctoproject.org/releases/opkg
opus-tools	0.2	https://downloads.xiph.org/releases/opus
opusfile	0.11	https://downloads.xiph.org/releases/opus
php	7.3.9	http://www.php.net/distributions
portaudio	v190600_20161030	http://www.portaudio.com/archives
powertop	2.9	https://01.org/sites/default/files/downloads/powertop
protobuf	v2.6.1	https://github.com/google/protobuf/archive/v2.6.1
python-pyyaml	4.2b4	https://files.pythonhosted.org/packages/a8/c6/a8d1555e795dbd0375c3c93b576ca13bbf139db51ea604a-fa19a2c35fc03
python-serial	3.4	https://files.pythonhosted.org/packages/cc/74/11b04703ec416717b247d789103277269d567db575d2fd88f25-d9767fe3d
qt5declarative	5.12.4	https://download.qt.io/archive/qt/5.12/5.12.4/submodules
qt5xmlpatterns	5.12.4	https://download.qt.io/archive/qt/5.12/5.12.4/submodules
qt5graphicalef-fects	5.12.4	https://download.qt.io/archive/qt/5.12/5.12.4/submodules
qt5imageformats	5.12.4	https://download.qt.io/archive/qt/5.12/5.12.4/submodules
qt5multimedia	5.12.4	https://download.qt.io/archive/qt/5.12/5.12.4/submodules
qt5quickcontrols	5.12.4	https://download.qt.io/archive/qt/5.12/5.12.4/submodules
qt5quickcon-trols2	5.12.4	https://download.qt.io/archive/qt/5.12/5.12.4/submodules
qt5serialport	5.12.4	https://download.qt.io/archive/qt/5.12/5.12.4/submodules
qt5svg	5.12.4	https://download.qt.io/archive/qt/5.12/5.12.4/submodules
qt5tools	5.12.4	https://download.qt.io/archive/qt/5.12/5.12.4/submodules
qt5webchannel	5.12.4	https://download.qt.io/archive/qt/5.12/5.12.4/submodules
qt5websockets	5.12.4	https://download.qt.io/archive/qt/5.12/5.12.4/submodules
qt5webengine	5.12.4	https://download.qt.io/archive/qt/5.12/5.12.4/submodules
webp	1.0.1	http://downloads.webmproject.org/releases/webp
ramspeed	2.6.0	http://www.alasir.com/software/ramspeed
rsync	3.1.3	http://rsync.samba.org/ftp/rsync/src
rsyslog	8.22.0	http://rsyslog.com/files/download/rsyslog
sox	14.4.2	http://downloads.sourceforge.net/project/sox/sox/14.4.2

PACKAGE	VERSION	SOURCE SITE
strace	4.26	https://strace.io/files/4.26
tcpdump	4.9.2	http://www.tcpdump.org/release
tpm-tools	1.3.9.1	http://downloads.sourceforge.net/project/trousers/tpm-tools/1.3.9.1
trousers	0.3.14	http://downloads.sourceforge.net/project/trousers/trousers/0.3.14
tzdata	2018e	http://www.iana.org/time-zones/repository/releases
weston	5.0.0	http://wayland.freedesktop.org/releases
wireless-regdb	2019.06.03	https://cdn.kernel.org/pub/software/network/wireless-regdb
wireless_tools	30.pre9	https://hewlettpackard.github.io/wireless-tools
xkeyboard-config	2.23.1	http://www.x.org/releases/individual/data/xkeyboard-config
zip	30	ftp://ftp.info-zip.org/pub/infozip/src
splashutils	1.5.4.4	http://dev.gentoo.org/~spock/projects/gensplash/archive
libresample	0.1.3	ftp://ftp.ubuntu.com/ubuntu/pool/universe/libr/libresample
ta-arm-eabi	5_4-2016q3-20160926	https://launchpad.net/gcc-arm-embedded/5.0/5-2016-q3-update/+download
alsa-plugins	1.1.1	ftp://ftp.alsa-project.org/pub/plugins
arphic-uming-fonts	20080216	http://archive.ubuntu.com/ubuntu/pool/main/t/ttf-arphic-uming
dejavu-fonts	2.34	http://downloads.sourceforge.net/project/dejavu/dejavu/2.34
sazanami-fonts	20040629	http://sourceforge.jp/projects/efont/downloads/10087
unfonts	1.0	http://kldp.net/frs/download.php/1425
liblockfile	1.09	http://snapshot.debian.org/archive/debian/20151026T153523Z/pool/main/libl/liblockfile
lockfile-progs	0.1.17	http://snapshot.debian.org/archive/debian/20141023T043132Z/pool/main/l/lockfile-progs
mmc-utils	37c86e60c0442-fef570b75c-d81aeb1db4d0cbafd	git://git.kernel.org/pub/scm/linux/kernel/git/cjb/mmc-utils.git
usbmount	0.0.22	http://snapshot.debian.org/archive/debian/20141023T043132Z/pool/main/u/usbmount
json	1.8.4-cs2	http://json.org/
flexnet	1.0.5	https://www.flexerasoftware.com/monetize/products/flexnet-licensing.html
qca6174a-30	4.5.25.38	https://source.codeaurora.org/external/wlan/qcacld-2.0
wpa_supplicant	a5ffe45908-cae43925bb5cb13-d98251c802b4717	http://w1.fi/hostap.git
wpa_passphrase	a5ffe45908-cae43925bb5cb13-d98251c802b4717	http://w1.fi/hostap.git

PACKAGE	VERSION	SOURCE SITE
wpa_cli	a5ffe45908-cae43925bb5cb13-d98251c802b4717	http://w1.fi/hostap.git
hostapd	a5ffe45908-cae43925bb5cb13-d98251c802b4717	http://w1.fi/hostap.git
hostapd_cli	a5ffe45908-cae43925bb5cb13-d98251c802b4717	http://w1.fi/hostap.git
rscode	1.3	https://sourceforge.net/projects/rscode/files/rscode
xz	5.1.1	https://tukaani.org/xz
libsrp	2.1.2	https://github.com/secure-remote-password/stanford-srp/tree/master/libsrp
libfdk-aac	0.1.4	https://github.com/mstorsjo/fdk-aac
libalac	4	https://github.com/macosforge/alac
mDNSResponder	878.30.4	https://opensource.apple.com/source/mDNSResponder
nlohmann::json	3.7.3	https://github.com/nlohmann/json
azure-iot-c-sdk	2020-07-01	https://github.com/Azure/azure-iot-sdk-c
bcrypt	3.0.6	https://github.com/kelektiv/node.bcrypt.js
body-parser	1.18.3	https://github.com/expressjs/body-parser
bunyan-prettystream	0.1.3	https://github.com/trentm/node-bunyan
bunyan-syslog	0.3.3	https://github.com/trentm/node-bunyan
bunyan	1.8.12	https://github.com/trentm/node-bunyan
cors	2.8.5	https://github.com/expressjs/cors
dbus-next	0.9.2	https://github.com/dbusjs/node-dbus-next
express	4.16.4	https://github.com/expressjs/express
generate-password	1.4.2	https://github.com/brendanashworth/generate-password
isomorphic-fetch	2.2.1	https://github.com/matthew-andrews/isomorphic-fetch
js-yaml	3.13.1	https://github.com/nodeca/js-yaml
microsoft-graph-client	2.0.0	https://github.com/microsoftgraph/msgraph-sdk-javascript
moment	2.27.0	http://momentjs.com/
morgan	1.9.1	https://github.com/expressjs/morgan
multer	1.4.1	https://github.com/expressjs/multer
npm	6.14.4	https://docs.npmjs.com
passport-http	0.3.0	http://github.com/jaredhanson/passport-http

PACKAGE	VERSION	SOURCE SITE
passport	0.4.0	http://github.com/jaredhanson/passport
promise	8.1.0	https://github.com/then/promise
request	2.88.2	https://github.com/request/request
swagger-parser	6.0.5	https://github.com/APIDevTools/swagger-parser
swagger-ui-express	4.0.1	https://github.com/scottie1984/swagger-ui-express
uboot	f44ca27357563e9e-d43f1ff76d3bd8dd14-f4747e	https://github.com/rockchip-linux/u-boot
linux	805e544f539b96d-e96388960173b-b673dab5a9dd	https://github.com/rockchip-linux/kernel
avb-vbmeta	21e95266704e572c-ed1c633bbc4aea9-f42afa0a5	https://android.googlesource.com/platform/external/avb/+/21e95266704e572ced1c633bbc4aea9f42afa0a5/avbtool
bootcontrol	b18c9afdb7-d02e1249cee5cb430-dc9f15a3ccc27	https://github.com/rockchip-linux/avb/tree/master/boot_control
libavb	7617e69a524ac-c1a50a8a98b257-d1374ea6fe4a4	https://github.com/rockchip-linux/avb/tree/master/libavb
libavb-ab	7617e69a524ac-c1a50a8a98b257-d1374ea6fe4a4	https://github.com/rockchip-linux/avb/tree/master/libavb_ab
libavb-user	7617e69a524ac-c1a50a8a98b257-d1374ea6fe4a4	https://github.com/rockchip-linux/avb/tree/master/libavb_user
rockchip-linux-bin	d6676eb02-c8a1b4966df7d8c4b-b203ea25fc98b2	https://github.com/rockchip-linux/bin
rockchip-tee-user	1e3bdb582c52707-d71e5cbe29-ca1064d7c04b696	https://github.com/rockchip-linux/rk_tee_user
rockchip-binary	04e55089bb4bba-de7c50d9b54b5a1c-fa70771cd6	https://github.com/rockchip-linux/rkbin
rockchip-gstreamer1	59c3bdd06-a22844957fe20f47-c998bb8255bedd2	https://github.com/rockchip-linux/gstreamer-rockchip
rockchip-mpp	862b0d89363e18-e45e5db5cc6-c316a173c5ac2e7	https://github.com/rockchip-linux/mpp
rockchip-libmali	f226e982386287a4d-f669e2832d9ddd613-d4153b	https://github.com/rockchip-linux/libmali
rockchip-linux-rga	72e7764a9fe358e6a-d50eb1b21176c-c95802c7fb	https://github.com/rockchip-linux/linux-rga

PACKAGE	VERSION	SOURCE SITE
NXP-SDK	2.5.0	https://www.nxp.com/support/developer-resources/software-development-tools/mcuxpresso-software-and-tools/mcuxpresso-software-development-kit-sdk:MCUXpresso-SDK?tab=Design_Tools_Tab
unlz4	-	https://github.com/lz4/lz4/blob/dev/lib/lz4.h
ring-buff	-	https://code.google.com/archive/p/ring-buff
wpa_supplicant	2.6	http://w1.fi/wpa_supplicant
quiet-libcorrect	f5a28c74f-ba7a99736fe49-d3a5243e-ca29517ae9	https://github.com/quiet/libcorrect
quiet-dsp	4951bbbf67a9857d-baab0bc6-fa69801717308109	https://github.com/quiet/quiet-dsp
quiet	b64a058e-d40a49a8ff777bf-b526f2989480eb1ec	https://github.com/quiet/quiet

EN55032-CISPR32 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.

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Base Unit FCC ID: 2AAED-R9861511

Button FCC ID (model R9861600D01C): 2AAED-R9861600D01

ClickShare Button 2AAED-R9861600D01 has been tested and meets the FCC RF exposure guidelines. The maximum SAR value reported is 1.19 W/kg.

ClickShare button 2AAED-R9861600D01 should be installed and operated with a minimum distance of 5 mm between the radiator and your body.

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.

Caution: Exposure to Radio Frequency Radiation.

1. To comply with the Canadian RF exposure compliance requirements, this device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.
2. To comply with RSS 102 RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.

Base Unit IC: IC: 21559-R9861511

Button IC (model R9861600D01C): 21559-R9861600D01

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 23575-R9861511 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.

Indoor use only warning

Operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

Certification information (SAR)

This device is also designed to meet the requirements for exposure to radio waves established by the Industry Canada.

The SAR limit adopted by Canada is 1.6 W/kg averaged over one gram of tissue. The highest SAR value reported to the IC for this device type complies with this limit.

The highest SAR value reported to the IC for this device type when using in portable exposure conditions is 1.15 W/kg.

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.

Avertissement: L'exposition aux rayonnements fréquences radio

1. Pour se conformer aux exigences de conformité RF canadienne l'exposition, cet appareil et son antenne ne doivent pas être co-localisés ou fonctionnant en conjonction avec une autre antenne ou transmetteur.
2. Pour se conformer aux exigences de conformité CNR 102 RF exposition, une distance de séparation d'au moins 20 cm doit être maintenue entre l'antenne de cet appareil et toutes les personnes.

IC Unité de Base: 23575-R9861511

IC Button (model R9861600D01C): 21559-R9861600D01

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 23575-R9861511 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.

Utilisation à l'intérieur seulement

La bande 5 150-5 250 MHz est réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

Informations de certification (DAS)

Cet appareil est également conçu pour satisfaire aux exigences concernant l’exposition aux ondes radioélectriques établies par Industrie Canada.

Le seuil du DAS adopté par le Canada est de 1.6 W/kg pour 1g de tissu. La plus grande valeur de DAS signalée à IC pour ce type d’appareil ne dépasse pas ce seuil.

La valeur maximale de DAS signalée à IC pour ce type d’appareil lors du test dans des conditions d’exposition portative est de 1.15 W/kg.

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Introduction to the Installation Guide

1

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1.1 Documentation

About the documentation

This installation guide explains how to install your CX-20 in a meeting room, It explains also how to make everything operational. It provides detailed information on how to configure your CX-20 .

Available System documentation

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

A printed copy of the Safety Guide is included in the CX-20 box at purchase.

Depending on the CX-20 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.

CX-20 Specifications

2

2.1 About the CX-20

CX-20 sets

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

This CX-20 not only helps the presenter get the presentation on-screen in a second, but it also allows the other people in the conference to participate more actively. The result is enhanced meeting efficiency and better decision-making.

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

At the moment 6 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 CX-20 set

A standard CX-20 set consists of a Base Unit and 1 Conferencing Buttons. Depending on the location where you buy the product, the software of the Base Unit is different. If needed, you can buy additional Conferencing Buttons and a tray to store the Buttons.

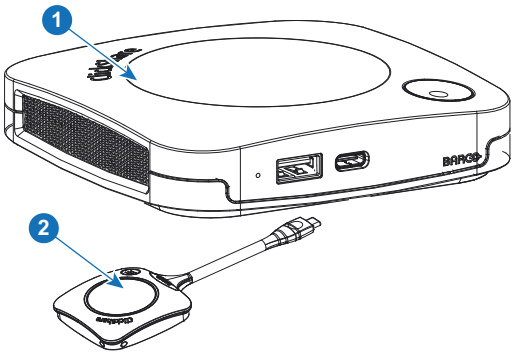

Image 2–1

1	Base Unit
2	Conferencing Button[2]

Accessories included

Depending on the country where you buy the product, the following regionalized accessories are also included in the CX-20 box.

Products	Contains	Accessories included
R9861512xx[3]	• R9861511 • 1x R9861600D01C	• DC adapter with AC clips type A, C, G, I[4] • Wall mount system • Printed safety manual
R9861600D01C[5]	1x R9861600D01C[5]	

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

2. Futher called Button
3. xx=EU, CN, NA, US, ZH, RW,
4. Included AC clips can be different according to the region
5. For US, R9861600D01CUS

2.2 CX-20 Specifications

Base unit

Dimensions (HxWxD)	34 mm x 135 mm x 135 mm
Power supply	Standard 110/220 V AC plug
Power consumption	Operational: 5-10W, 24W Max
Weight	900 gr
Operating system	Windows 8/8.1/10. macOS 10.15 and higher. Android v11 and higher (ClickShare App) iOS 14 and higher (ClickShare App)
System requirements	For a smooth experience with Microsoft Teams or Zoom. Minimum: • Intel i3 dual-core processor • 8GB RAM • OS: - Windows 10 latest build - Mojave latest build Recommended: • Intel i5 4-core processor • 8GB RAM • OS: - Windows 10 latest build - Mac OS latest build
Video outputs	4K UHD (3840*2160) @ 30Hz. HDMI 1.4b
Audio output	USB, HDMI
USB	1 X USB-A, 1 X USB-C
ClickShare Buttons	1
ClickShare App	Desktop & Mobile
Native protocols	Airplay, Google Cast, Miracast
Maximum number of simultaneous connections (with Buttons and/or App)	minimum 32
Noise Level	Max. 25dBA @ 0-30°C Max. 30dBA @ 30-40°C
Authentication protocol	WPA2-PSK in stand alone mode WPA2-PSK or IEEE 802.1X using the ClickShare Button in network integration mode
Wireless transmission protocol	IEEE 802.11 a/g/n/ac and IEEE 802.15.1
Reach	Max. 30m (100 ft) between ClickShare Button and ClickShare Base Unit Frequency band 2.4 GHZ and 5 GHz (DFS)
Frequency band	2.4 GHZ and 5 GHz (DFS channels supported in select number of countries)
Connections	1x Ethernet LAN 1Gbit

	1x USB Type-C 2.0 (front); 1x USB Type A 2.0 (front)
Temperature range	Operating: 0°C to +40°C (+32°F to +104°F) Max: 35°C (95°F) at 3000m Storage: -20°C to +60°C (-4°F to +140°F)
Humidity	Storage: 0 to 90% relative humidity, non-condensing Operation: 0 to 85% relative humidity, non-condensing
Anti-theft system	Kensington lock
Certifications	FCC/CE
Touch screen support & Interactivity	/
Wireless conferencing	via App or Button
Local view & moderation	Local view of the room display only
Network connection	LAN & WiFi *
Management and reporting	Yes
Warranty	1 year standard. 5 years coverage via SmartCare

Conferencing Button

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

2.3 About the Base Unit

Base Unit functionality

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

The Base Unit can be put on the meeting room table or mounted on a wall or ceiling. Check the installation guide for instructions on how to install the Base Unit.

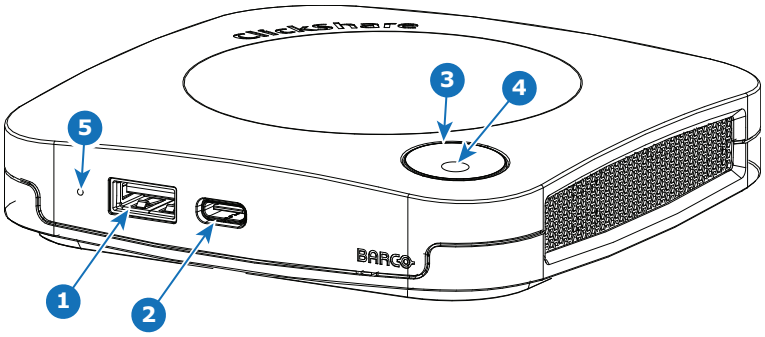

Image 2–2

1	USB Type-A port (USB 2.0)
2	USB Type-C port (USB 2.0)
3	Status LED ring
4	Standby Button

USB ports

Both USB ports, one USB Type-C™ and one USB Type-A, are used to connect a USB camera or USB echo-cancelling speakerphone to the Base Unit. Additionally the USB Type-C™ port is also used to pair the Buttons when not done via XMS. Both ports can be used to update the Base Unit firmware also when not done via XMS..

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

The use of a convertor is sometimes necessary to connect to one of these ports.

Status LED ring

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

LEDs behavior	Explanation
static red	• receiving content from the Button and streaming towards the display. • during the first phase of the Base Unit boot process.
blinking white	• system is starting up (during the second phase) • Button pairing is in progress • 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) • pairing and software update of the Button is done, you can now unplug the Button from the Base Unit..
red blinking	• an error occurred
dark	• deep standby/off

Back layout of the Base Unit

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

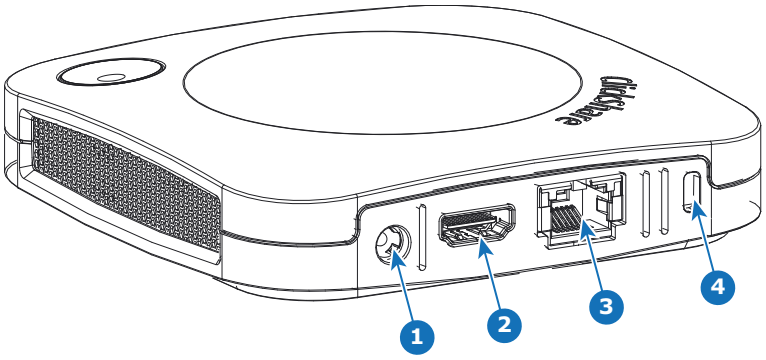

Image 2–3

1	Power connection
2	HDMI out
3	LAN Ethernet connection
4	Kensington lock

Mechanical fixture points

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

Antenna

The antenna is built-in in the CX-20 .

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 ...”

3 Getting started

3.1 Environmental Condition Check 28
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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 CX-20

1. Unpack the ClickShare components and accessories from the box.

   For a detailed overview of the content of the CX-20 box, see “*About the CX-20* ”, page 22.
2. Install the Base Unit in the meeting room using one of the possible installation methods.

   For more information on the installing procedures, see “*CX-20 Installation*”, page 29
3. Connect the video signal between the Base Unit and the display, see “*Video signal connections to the Base Unit*”, page 36.
4. Connect USB camera to Base Unit if any, see “*Camera connection*”, page 36
5. Connect the Base Unit to the mains power.

   For more information see “*Power connection*”, page 38,
6. Connect a network cable between the Base Unit and the local network (make sure the Base Unit is connected to the internet to be able to reach the update server).
7. Configure device (can be used without configuration but is not recommanded).
8. Register you device online to obtain your SmartCare package.
9. Pair your Buttons, see “Preparing the Buttons”, page 51

For more information on using CX-20 , refer to the CX-20 User Guide. This manual can be found on Barco's website *www.barco.com/clickshare*.

4 CX-20 Installation

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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.

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

Physical installation

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

- Table mount
- Wall mount
- Ceiling mount

Standalone or network integration

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

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

Conferencing room setup

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

4.2 Guidelines for ClickShare Conference system installation

Overview

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

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

4.3 Table mounting

Overview

Put the Base Unit directly on the meeting room table.

The total weight of the Base Unit is 530 g.

4.4 Wall or ceiling mounting

About wall or ceiling mounting

A mounting base is used to mount the CX-20 t o the wall or ceiling. This base has key-shaped screw holes to allow you to fasten the base to a wall or ceiling or you can use the self-adhesive layer to mount the base. Once you determine the location for your device follow the next procedure to mount the device.

Mounting with screws

1. Take the mounting base out of the package.
2. Place the mounting base on the wall or ceiling and mark the screw holes (1).

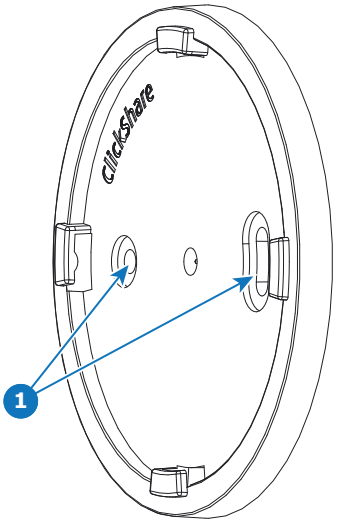

Image 4–1

3. Select a drill bit slightly smaller than the size of the used anchors to ensure a snug fit.
4. Drill the holes where marked.
5. Tap plastic screw anchors into the drill holes with a hammer (if needed, depending on the wall or ceiling type).
6. Place the mounting base on the ceiling or wall, drive in the screws.
7. Place your device on the mounting base and turn it clockwise until it is locked.

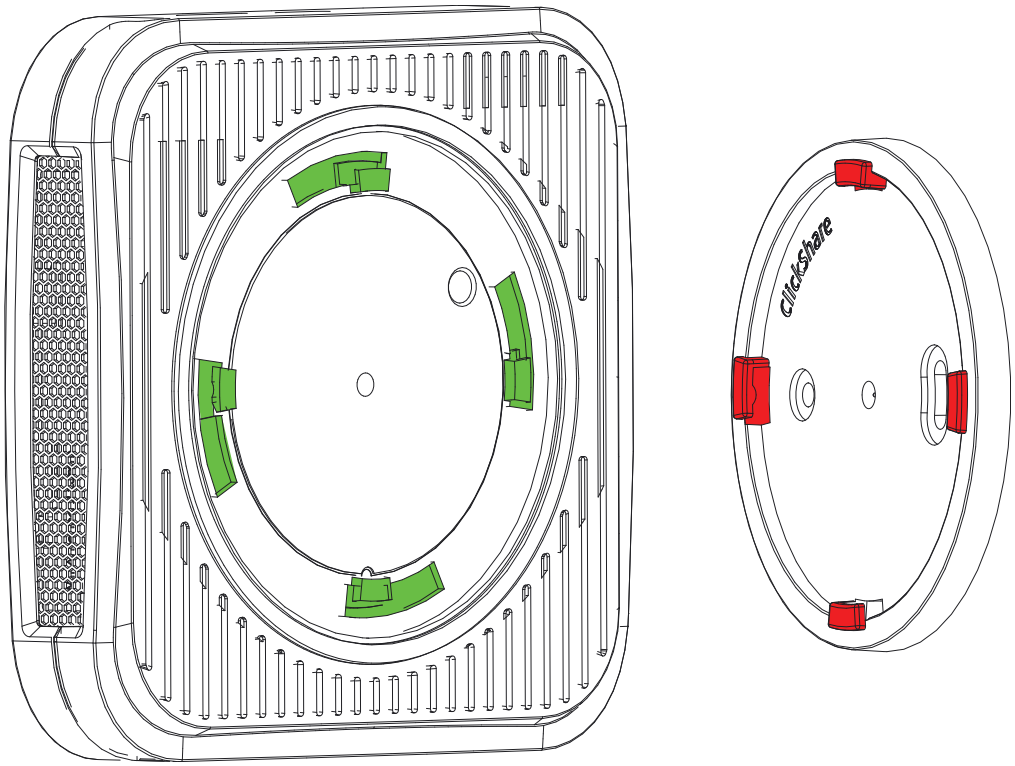

Image 4–2

Mounting with the self-adhesive layer

1. Peel off the removable protection foil.

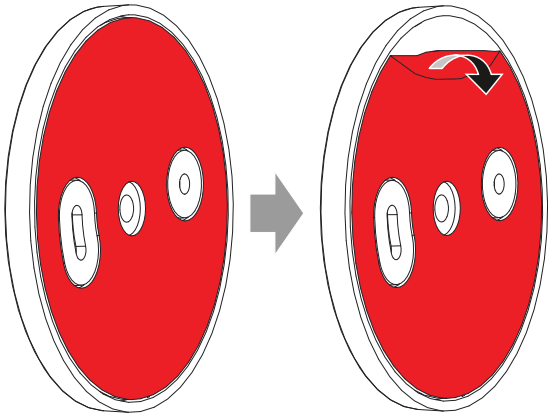

Image 4–3

2. Stick the base on the chosen location.
3. Place your device on the mounting base and turn it clockwise until it is locked (Image 4–2).

4.5 Standalone setup

Overview

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

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

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

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

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

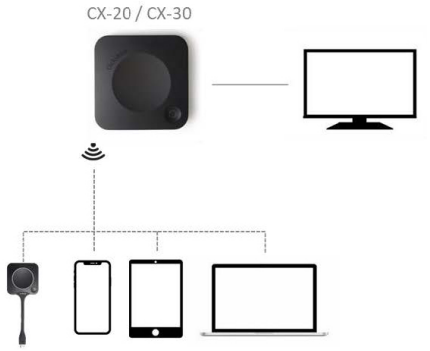

Image 4–4

4.6 Network connected setup

Overview

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

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

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

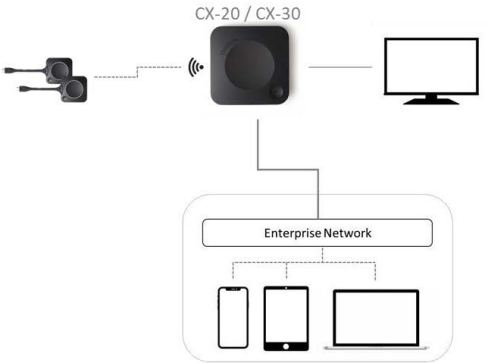

Image 4–5

Miracast on CX-20/CX-30

When the Base Unit is connected to the network via the LAN cable, than Miracast can be used via Wi-Fi Direct and Over Infrastructure (MS-MICE), but only available when the Base Unit's access point is turned OFF. In

this configuration, the access point of the Base Unit is disabled and Buttons must connect to the Base Unit via corporate access points. Note that Wireless Conferencing capabilities of the ClickShare Button might be limited and its performance will depend on the internal network.

4.7 Dedicated network setup

Overview

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

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

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

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

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

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

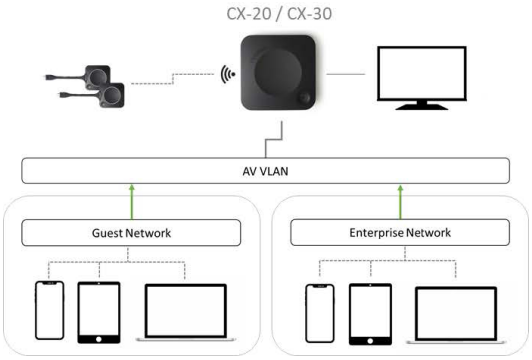

Image 4–6

How to setup via the Configurator

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

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

   Click **Save Changes**. For more information, see "Buttons", page 96
3. Pair the Buttons again with the Base Unit.
4. Optionally the Base Unit's WiFi can be set to Access Point or can be set to Off. For more info, see "",

Setup via XMS

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

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

4.8 Fully equipped, Audio only or Camera only conference room

Fully equipped conference room

The following components should be available in the room:

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

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

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

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

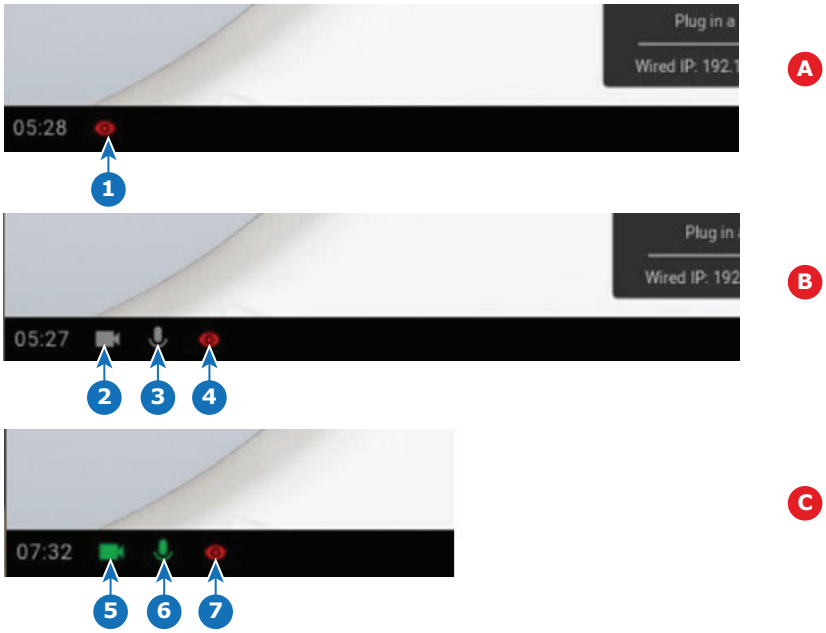

Image 4–7

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

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

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

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

Audio only room

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

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

Video only room

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

4.9 Video signal connections to the Base Unit

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.

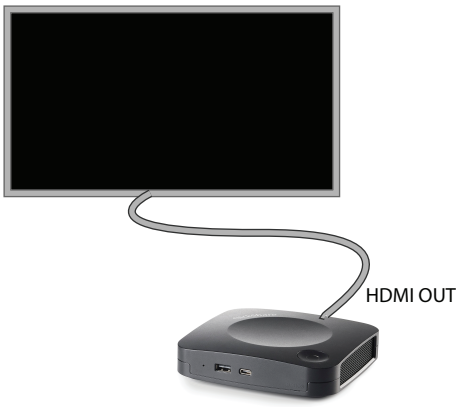

Image 4–8 Display connection

4.10 Camera connection

About USB cameras

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

To connect

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

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

4.11 Content Audio connection

About content audio (no speakerphone connected)

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

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

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

About content audio (speakerphone connected)

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

Audio via HDMI (no speakerphone connected)

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

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

Sound is not sent out

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

E.g. for Windows 7:

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

E.g. for Windows 10

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

4.12 Echo Canceling Speakerphone audio connection

About echo canceling speakerphone audio

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

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

USB speakerphone support

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

How to connect an echo-canceling speakerphone

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

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

Sound is not sent out

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

E.g. for Windows 7

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

E.g. for Windows 10

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

What happens if you select the wrong audio device

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

4.13 LAN connection

About LAN connection

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

Maximum allowed LAN speed: 1000 Mbit

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

How to connect

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

4.14 Power connection

About power

An external power adapter is delivered with the product. The output rate is 12 VDC 2A.

CAUTION: 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, AU, IN, CH, EU or UK) on the power adapter of the ClickShare until it clicks. Use the one

   which is applicable in your country.

Image 4–9 Power adapter

3. Connect the power cable to the wall outlet.

4.15 First startup of the Base Unit

Workflow

1. First time boot of the Base Unit.

   The following screen is seen on the connected monitor.

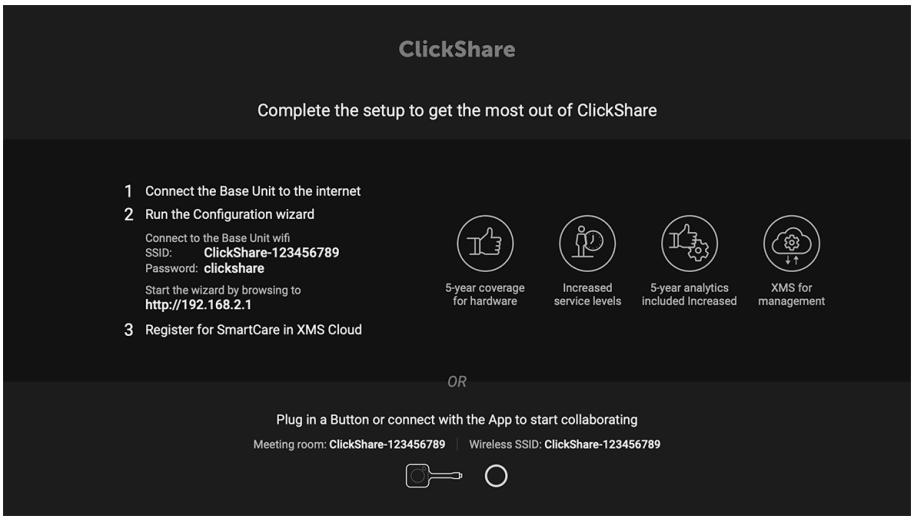

Image 4–10 Onboarding screen

There are now 2 ways to continue:

1. Check for updates (optional), configure your Base Unit and register to XMS Cloud. See “Preferred way to start up”, page 40
2. Plug in a button and start sharing your screen. See “Start up without configuration”, page 45

4.16 Preferred way to start up

What will be done?

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

How to handle

1. Connect the device's WiFi with the given instructions.

   The default SSID is ClickShare-<serial number>.

   Password : clickshare

2. Once your WiFi connection is made, continue with the network setting of your device.

   Browse to *http://192.168.2.1*

   The ClickShare Configurator wizard starts up.

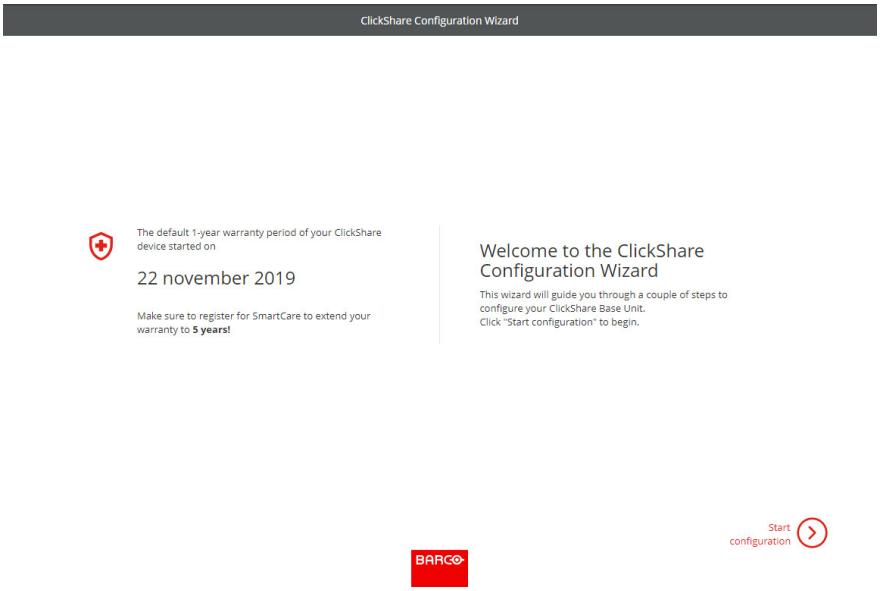

Image 4–11

3. Click **Start configuration**.

   The *Firmware* update window opens.

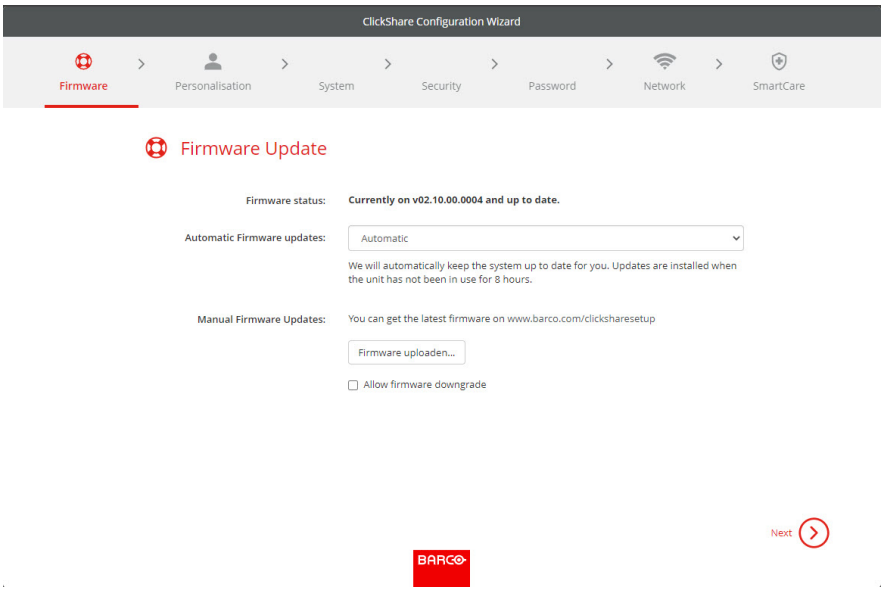

Image 4–12

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

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

For more info about automatic firmware update, see “Firmware Update”, page 103.

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

4. Personalisation step.

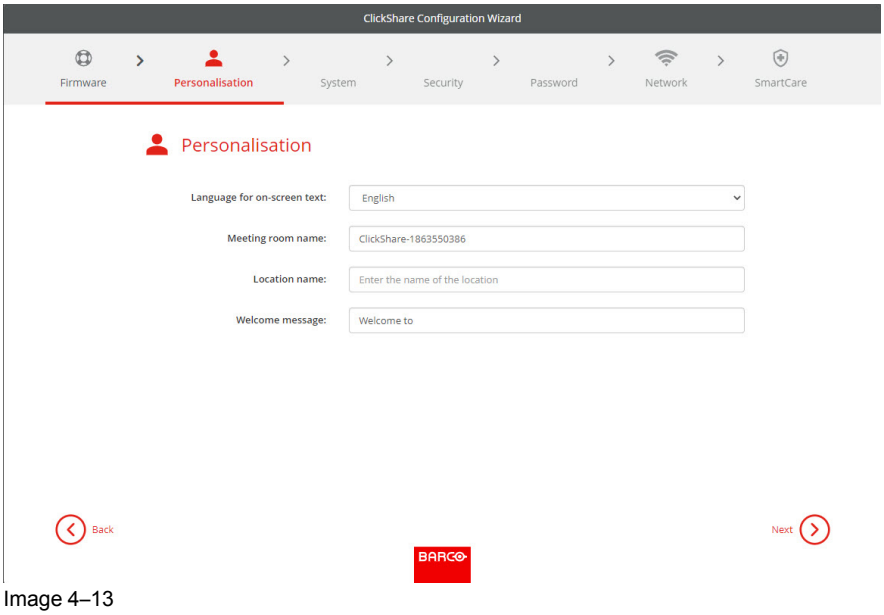

Image 4–13

Enter the on screen language you want to use. For more info, see “On-Screen ID information”, page 64.

Enter the meeting room name, location name and welcome message. For more info, see “On-Screen ID information”, page 64.

5. System settings

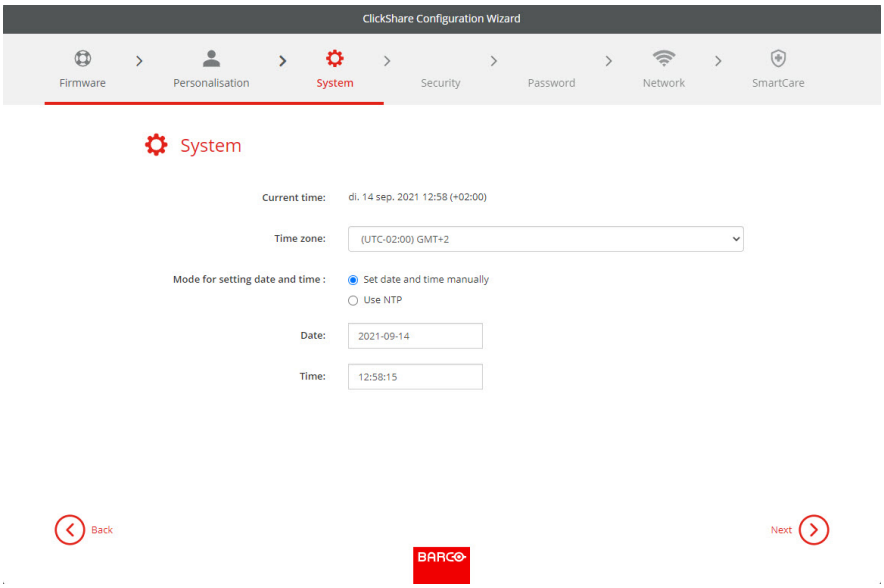

Image 4–14

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

For more info about manual time setup, see “Date & Time setup, manually”, page 93.

For more info about the use of an NTP server, see “Date & Time setup, time server”, page 95.

6. Security settings

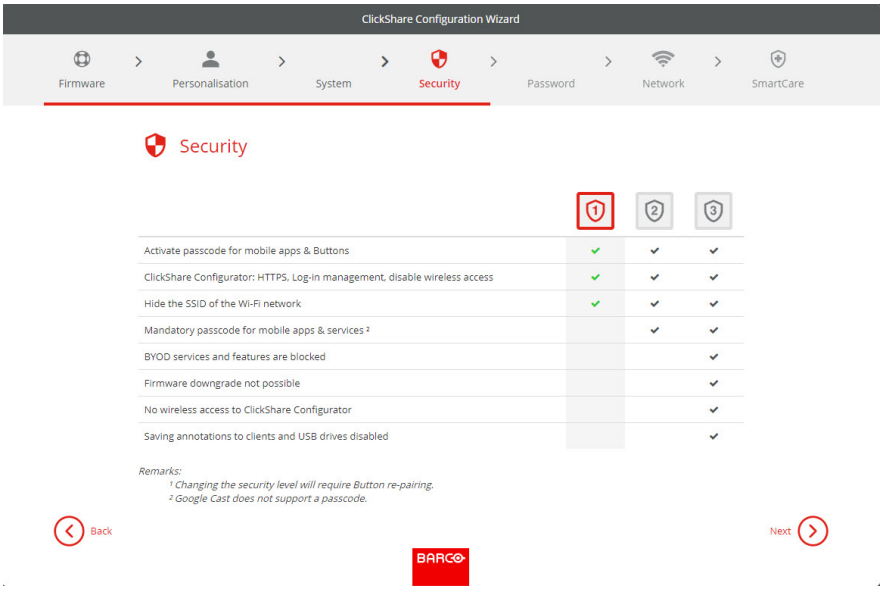

Image 4–15

Set the desired security level. For more info, see “Security, security level”, page 90.

7. Password change

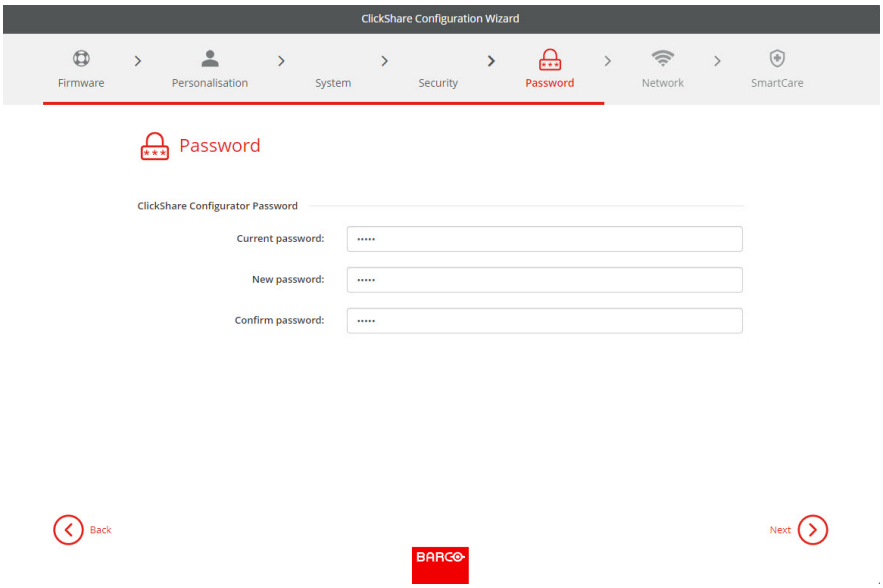

Image 4–16

We advise to change the default password to enter the Configurator. For more info, see “Security, passwords”, page 92.

8. Network settings

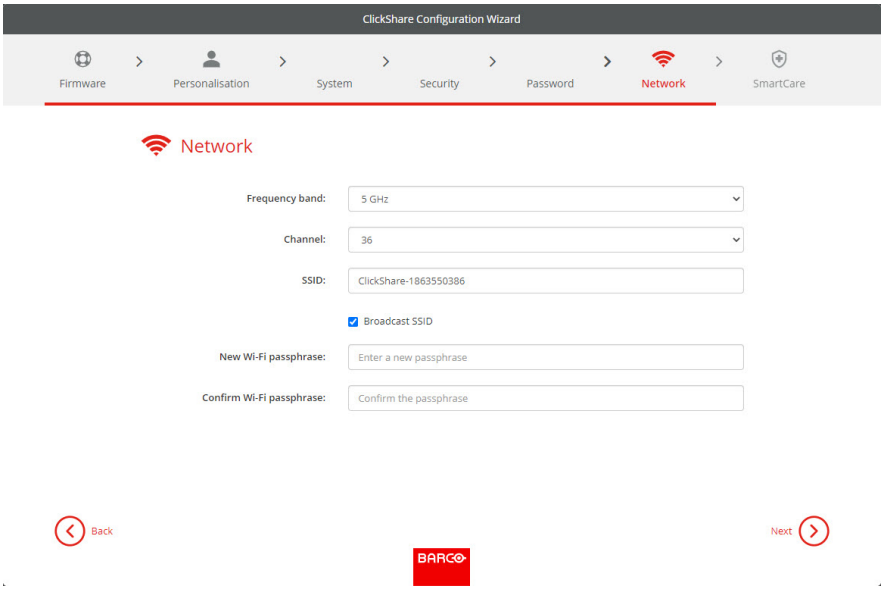

Image 4–17

Select the frequency band, channel and enter a Wi-Fi passphrase when desired. For more info, see “”, .

9. SmartCare registration

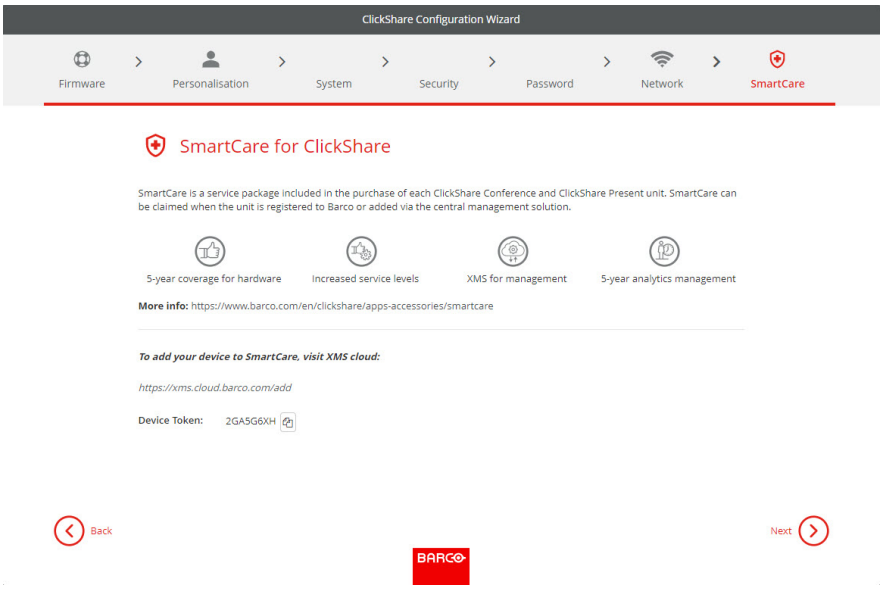

Image 4–18

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

Click on the link to start the registration procedure.

Follow the procedure in “Registration to XMS Cloud”, page 45.

10. Overview page

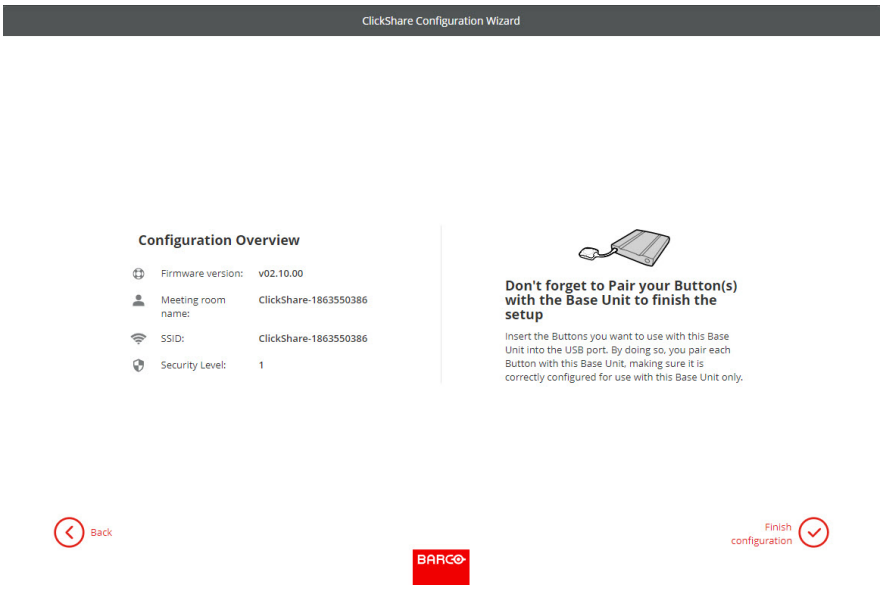

Image 4–19

Gives an overview of the current configuration.

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

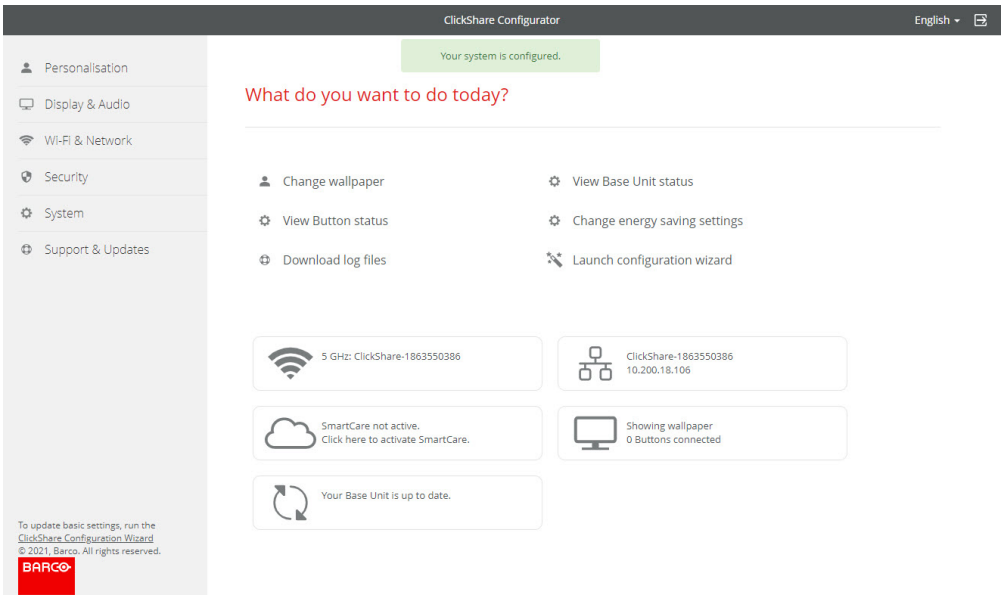

Image 4–20

4.17 Start up without configuration

How to start

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

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

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

4.18 Registration to XMS Cloud

About registration

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

This SmartCare package includes:

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

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

Registration can be done to

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

Online to XMS cloud

1. Surf to *https://xms.cloud.barco.com/add*.

   The XMS login page is displayed.

2. Enter your Email address and click **Continue**.

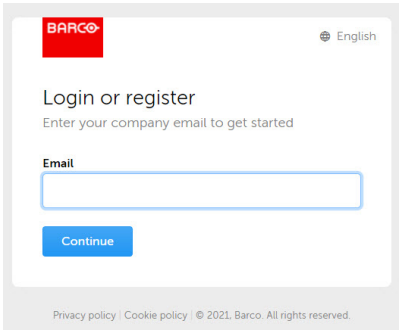

Image 4–21

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

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

The XMS cloud welcome page is displayed.

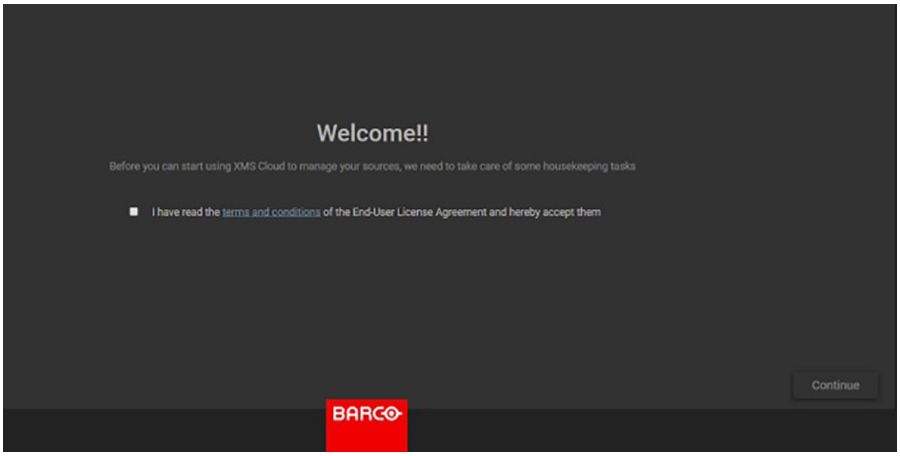

Image 4–22 Welcome page to XMS-cloud

3. Accept the End User License agreement and click **Continue**.
4. Fill out your company information and click **Continue**.

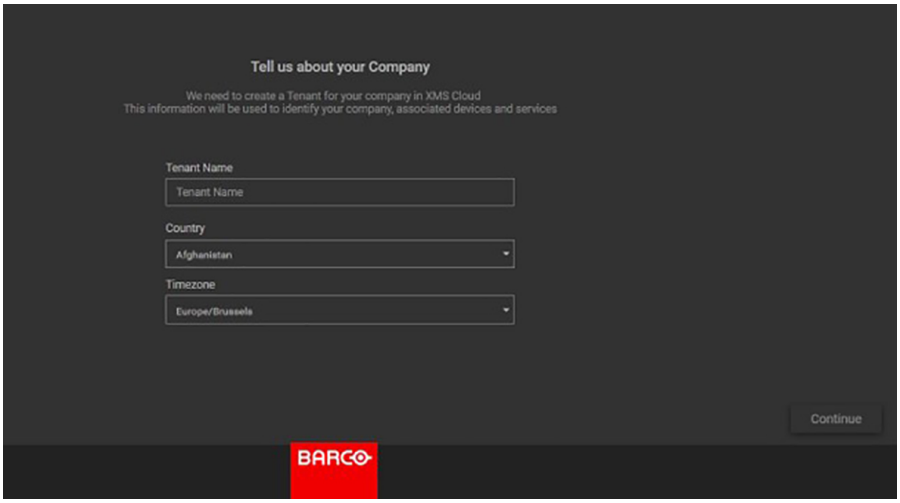

Image 4–23 Company information

5. Enter the device token to setup your device and to receive your 5 years of service coverage. The device token is indicated on the wizard screen (see Image 4–19)

   Click **Continue**.

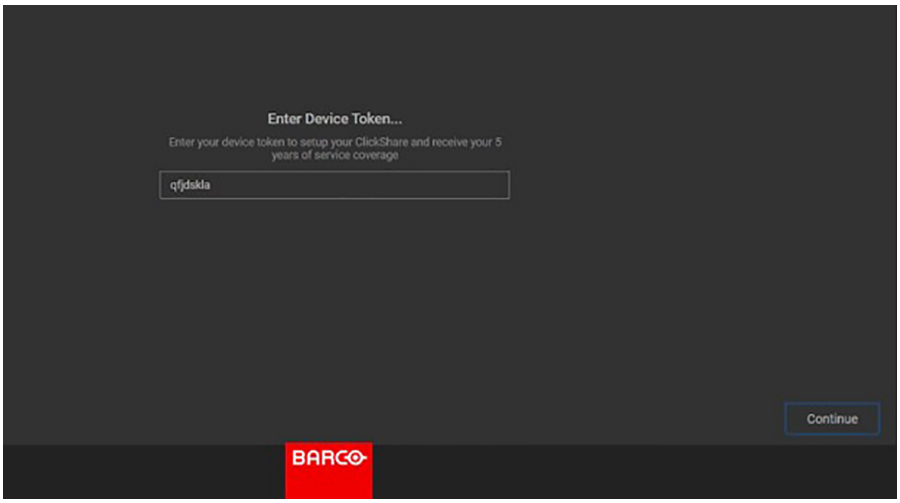

Image 4–24 Enter device token

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

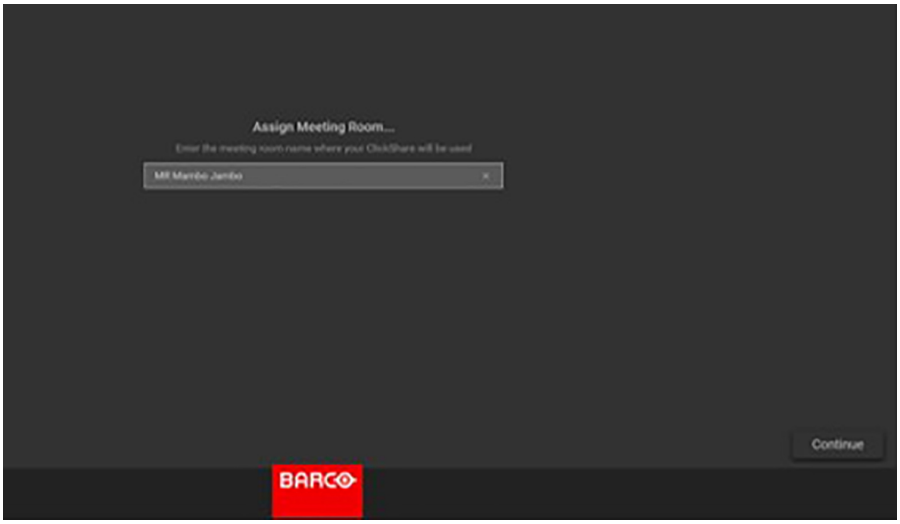

Image 4–25 Assign meeting room

Your device is successfully registered.

4.19 Activating calendar integration with XMS Cloud

About Calendar

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

Before starting

To enable the device to get the calendar, XMS Cloud needs to be “connected” to your Microsoft Azure Account. This ‘connection’ makes it possible to discover your rooms and share their credentials with the devices.

Approval from your organization's O365 admins are required.

How to setup

1. Go to XMS Cloud (*https://xms.cloud.barco.com*) and login with your credentials.
2. Click on the tab *Calendar*.

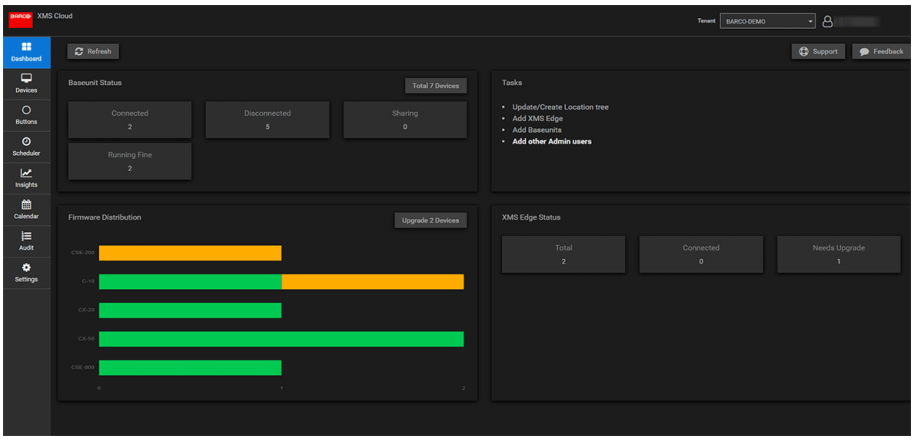

Image 4–26

The calendar connection page opens.

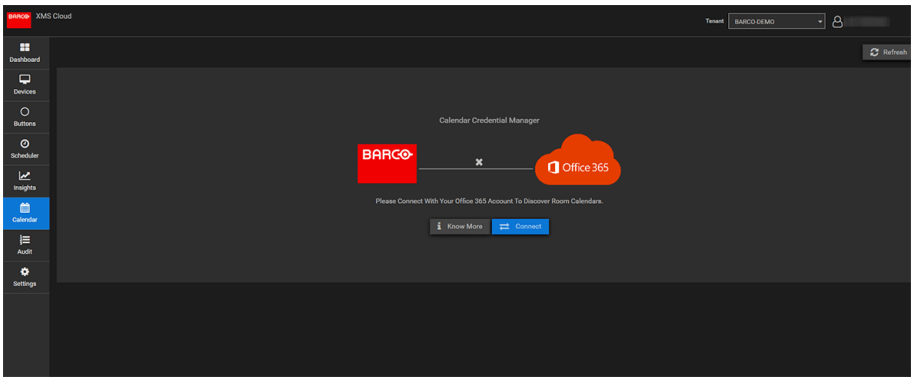

Image 4–27

3. Click **Connect**.

   You will be redirected to your Microsoft Azure account to begin the integration.

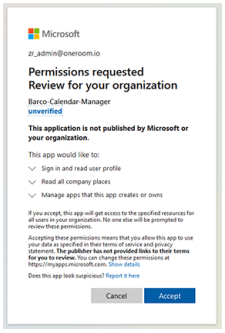

Image 4–28

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

   When accepted, you are redirected back to XMS Cloud. This process should finish in 10 to 30 minutes but it can take in occasional cases a longer time. The next page is displayed.

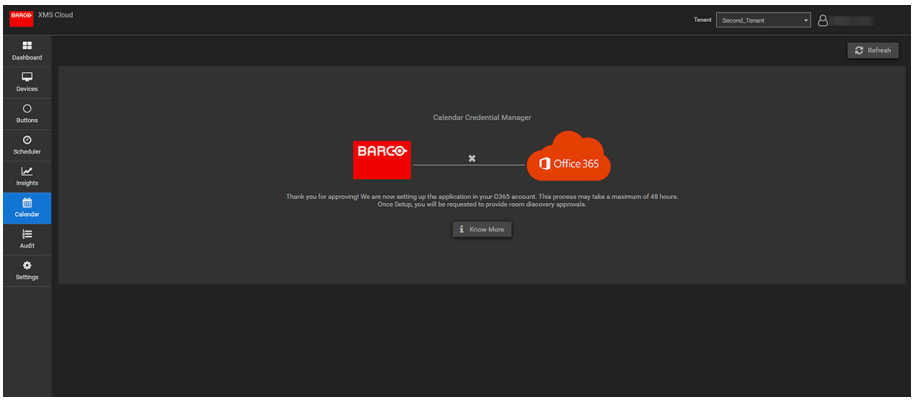

Image 4–29

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

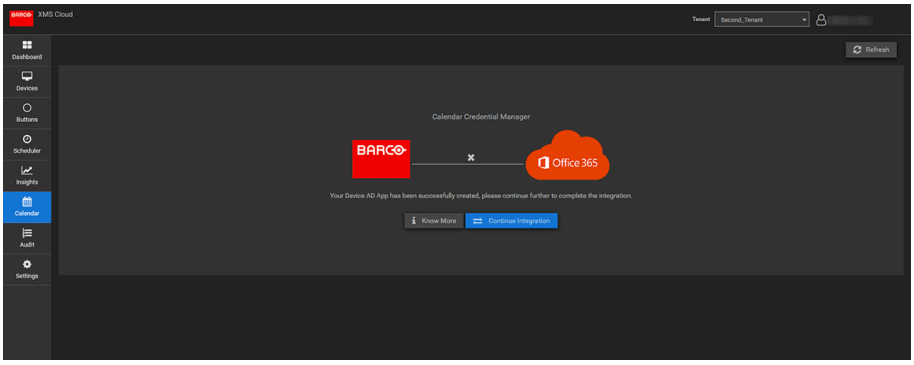

Image 4–30

6. Click **Continue integration** to request the O365 admin's final permission to discover rooms.

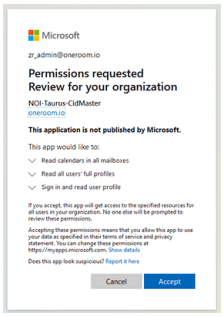

Image 4–31

7. Click **Accept**.

   You are redirected to XMS Cloud with the your rooms discovered.

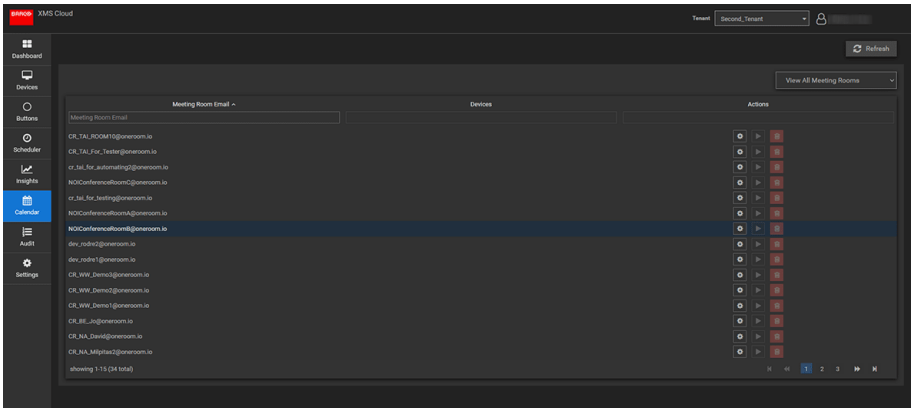

Image 4–32

Assign a meeting room to a calendar (no devices are mapped yet)

1. Click the *Settings* icon next to the E-mail address of the meeting room.

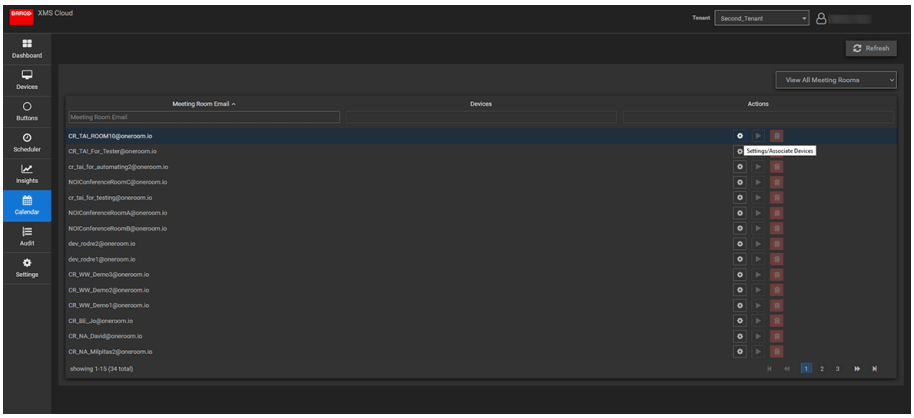

Image 4–33

A popup opens.

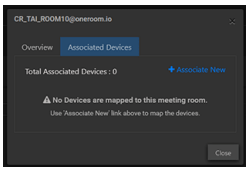

Image 4–34

2. Click on **Associated devices** if not yet selected.
3. Click on **Associate new**.
4. Select your device in the device column and then click outside the box to save the setting.

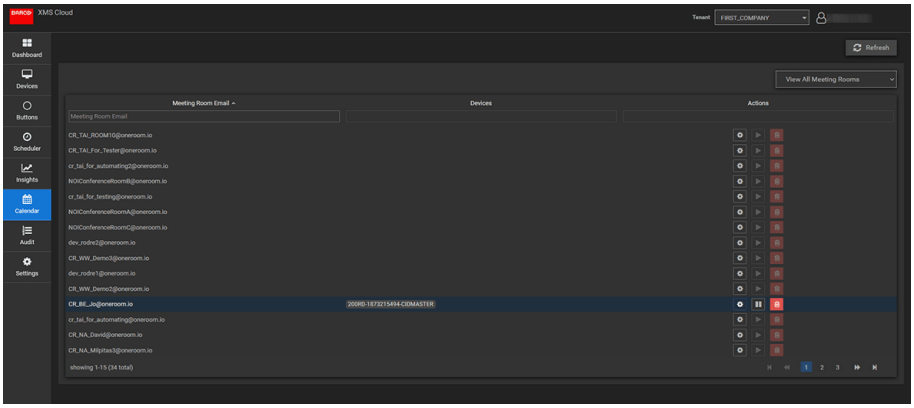

Image 4–35

Preparing the Buttons

5

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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. All Buttons will need to be updated and paired before use.

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

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

Pairing a Button can be done in two ways:

- by plugging the Button to the Base Unit.
- by using the Button Manager application running on your laptop.

To pair a Button to the Base Unit by plugging in

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

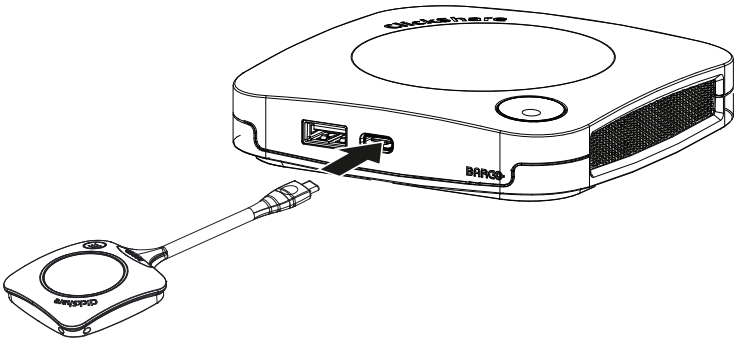

Image 5–1 Pair Button

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

The Base Unit automatically checks whether the software of the Button is up to date. If not, the Base Unit updates the Button software. This may take more time.
The result of the pairing process can be as follows:

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

2. Unplug the Button from the Base Unit.

The Button is now ready for use.

Image 5–2

5.2 ClickShare Extension Pack

About

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

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

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

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

5.3 ClickShare Extension Pack installer

Interactive setup

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

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

Starting the setup

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

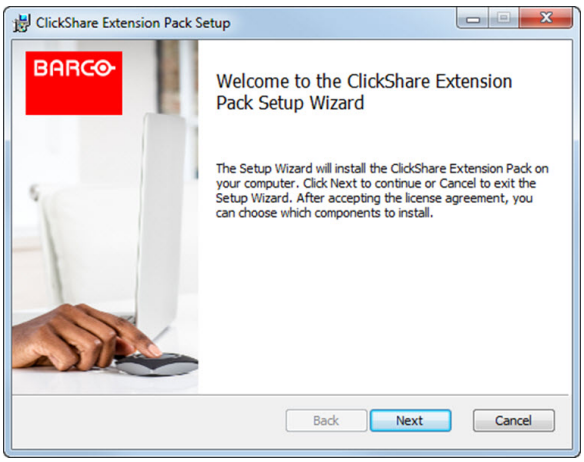

Image 5–3

4. Click **Next**, accept the License Agreement and click **Next** to continue.

   If necessary, follow the on screen instructions.

Silent setup

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

Launcher only install:

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

Extended desktop only install :

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

Full install (laucher + extended desktop):

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

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

Parameter Description

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

Windows environment variable

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

5.4 ClickShare Windows Certified driver

About

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

This Windows driver automatically lauches the executable on the Button.

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

5.5 ClickShare Desktop App

About

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

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

meeting room. Even more easy when using the PresentSense functionality. Just walk in a meeting room and click **Connect**.

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

Installation

When the ClickShare Desktop App is not pre-deployed in your IT environment, you can download and install the software without administrator rights from *www.clickshare.app* . Admin rights are necessary to install the ClickShare Desktop App with calendar integration function or App-based Conferencing feature. More info of the MSI installer can be found in “MSI installer of the ClickShare Desktop App”, page 55.

5.6 MSI installer of the ClickShare Desktop App

CAUTION: Installation can only be done with administrator rights.

How to install

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

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

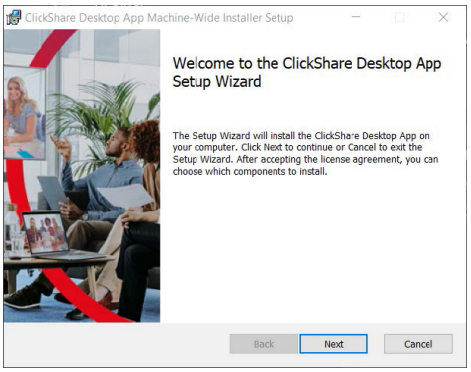

Image 5–4

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

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

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

6 CX-20 Configurator

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About configuration

The configuration of your device can be done in

- XMS cloud
- the local configurator

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

The next topics are describing the local configurator.

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

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

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

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

To access the Configurator via the LAN

1. Open a browser.

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

2. Browse to the IP address of your device.

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

   A login screen appears.

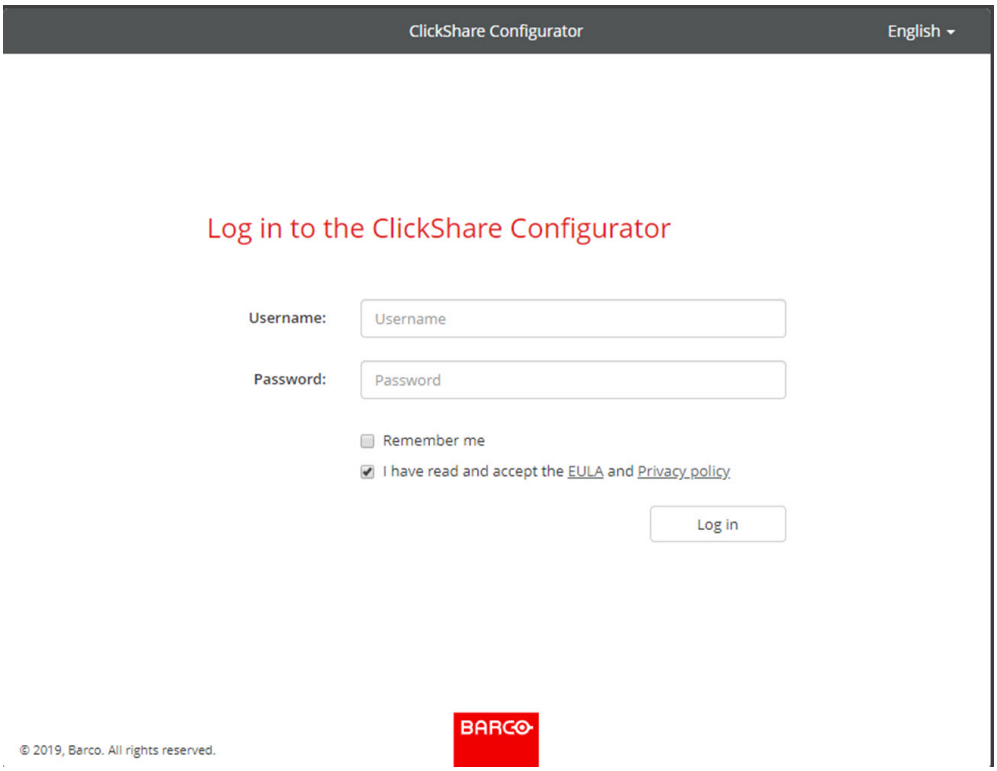

Image 6–1 Login screen

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

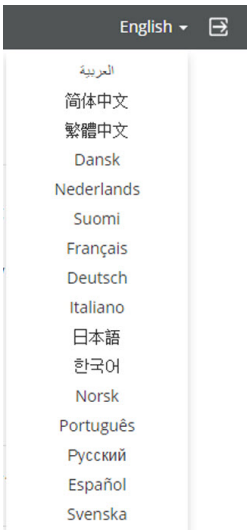

Image 6–2 Configurator lanuguages

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 the Privacy policy and click **OK**.

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

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

   The Configurator opens.

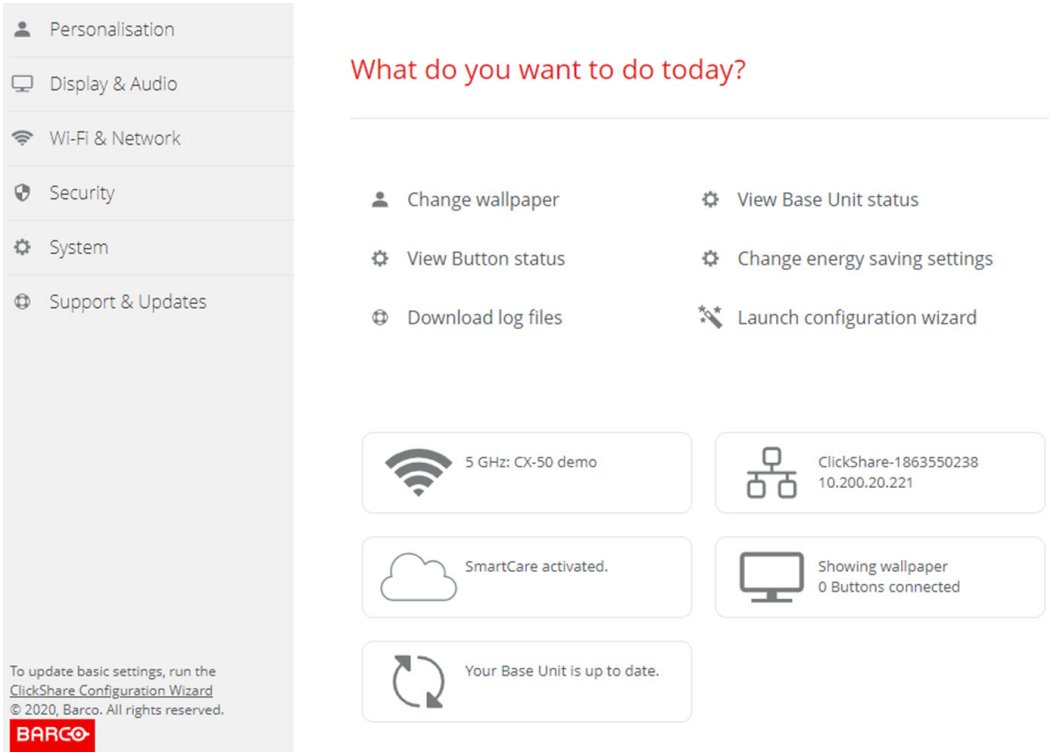

Image 6–3 Start screen

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 SSID
- the number of Buttons connected
- the system state
- the SmartCare state

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

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

To access the Configurator via a direct connection.

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

   Note: Supported browsers are 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. The wired IP address is given on the startup page.

To access the Configurator via the Base Unit wireless network

1. On your laptop, connect to the Base Unit wireless network.

   The default SSID and password to connect to the Base Unit are respectively 'ClickShare-<serial base number>' and 'clickshare'.

2. On your laptop, open a browser.

   Note: Supported browsers are 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 configurator opens. The wired IP address is given on the startup page.

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

Overview of functions

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

6.2 ClickShare Configuration Wizard

This procedure is equal with the onboarding procedure.

About the configuration wizard

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

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

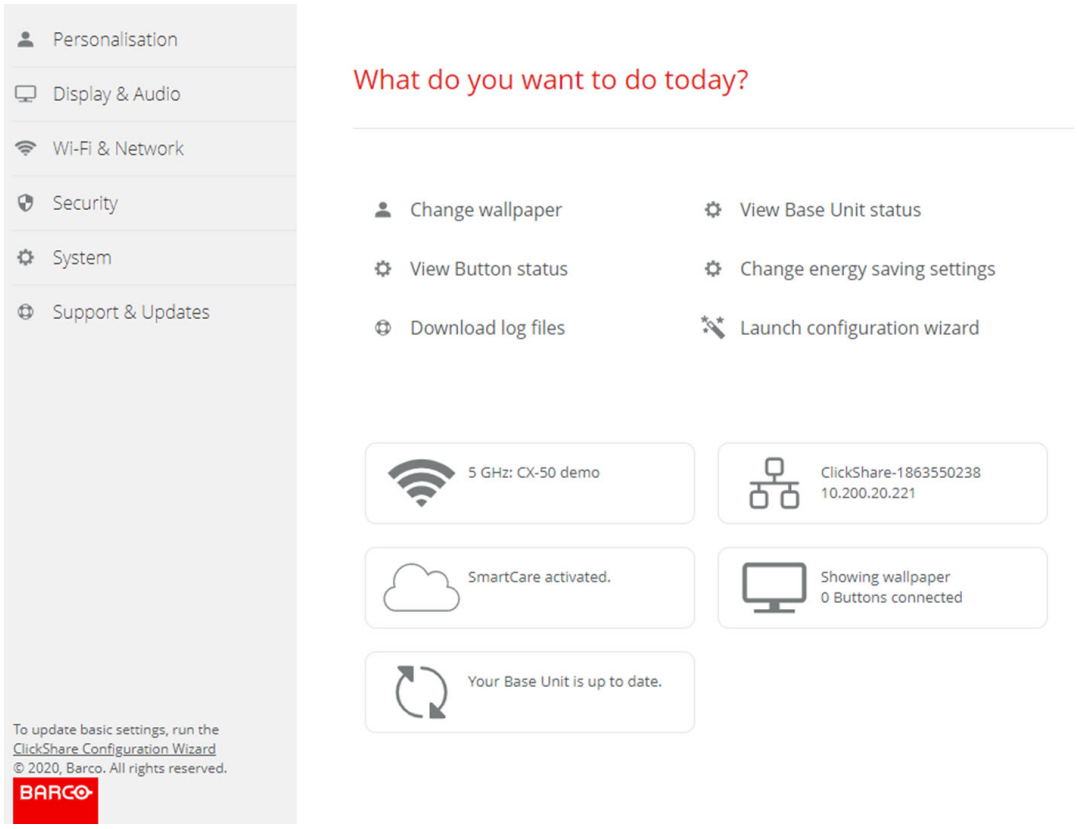

Image 6–4 Configuration Wizard start

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

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

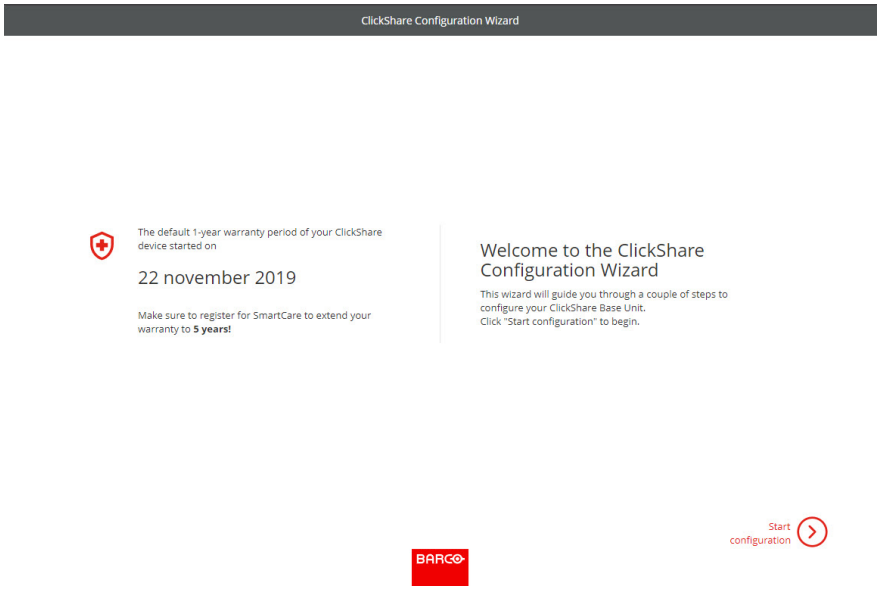

Image 6–5 Configuration welcome page

Click **Start configuration**.

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

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

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

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

Firmware	Firmware update – automatically	See “Firmware Update”, page 103
	Firmware update – manually	
Personalisation	Language on-screen text	See “On-Screen ID information”, page 64.
	Meeting room name, location name and welcome message	See “On-Screen ID information”, page 64.
System	Time zone, manual time setup	See “Date & Time setup, manually”, page 93.
	Use NTP	See “Date & Time setup, time server”, page 95.
Security	Level settings	See “Security, security level”, page 90.
Password	ClickShare Configurator password	See “Security, passwords”, page 92.
Network	Frequency band, channel Wi-Fi passphrase	See “”, .
SmartCare for ClickShare	Register your device to get the SmartCare package	See “Registration to XMS Cloud”, page 45.

6.3 On-Screen ID information

About device identification

The following items can be set:

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

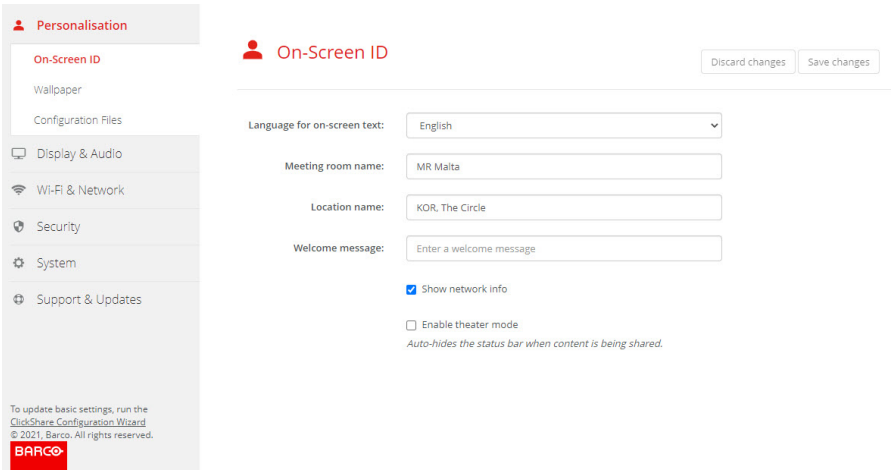

Image 6–6 On-Screen ID

On Screen language selection

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

   The following languages are possible:

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

Meeting room name, location and welcome message

1. Log in to the Configurator.
2. Click *Personalisation* → *On-screen ID*.
3. Click in the input field next to *Meeting room name* and enter a name for the meeting room.

   This text is shown on the user's device when the Button is ready to share ("Ready to share on..."), on the central screen connected to the Base Unit and in the list of AirPlay receivers on the user's iOS device.
4. Click in the input field next to *Location name* and enter the location.
5. Click in the input field next to *Welcome message* and enter the desired message.

6.4 Personalisation, Wallpaper

About wallpaper

When CX-20 starts up, a background (wallpaper) is displayed. The display of this background wallpaper can be disabled.

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

Wallpaper selection

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

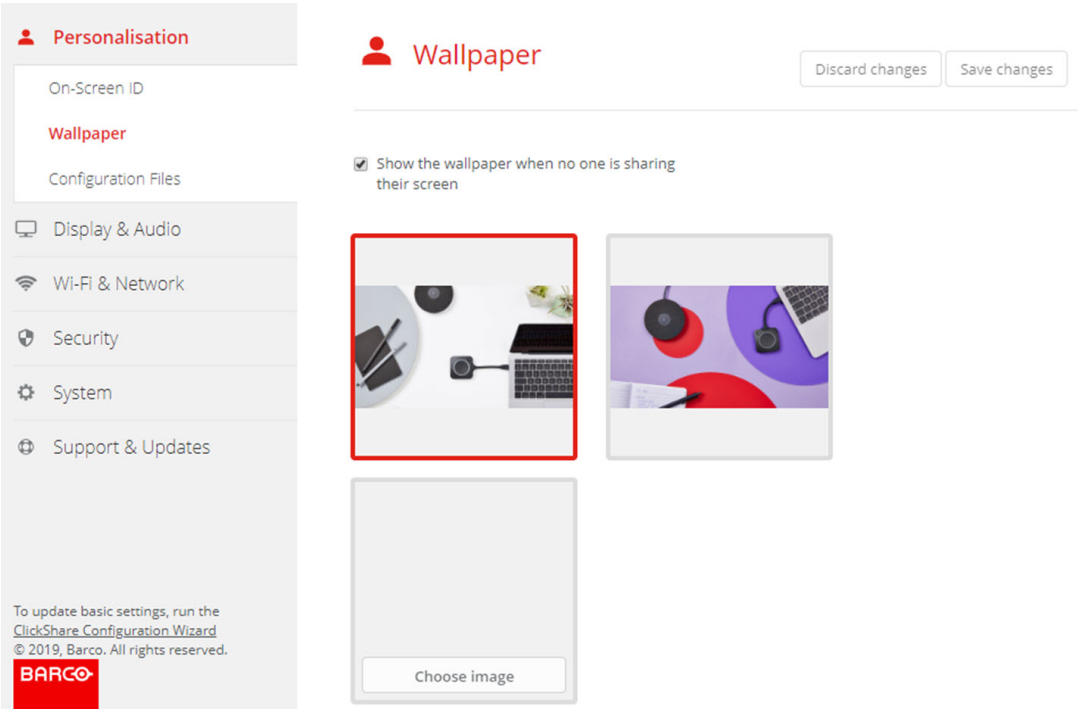

Image 6–7 Wallpaper selection

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

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

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

   The selected wallpaper is indicated with a red border.

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

You can also add a personal wallpaper, e.g. your company logo. For more information on adding a new wallpaper to the list, see “Personalisation, Personalized wallpaper”, page 67.

Download wallpaper

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

Image 6–8 Download wallpaper

The wallpaper is downloaded to your PC.

Enable - disable Wallpaper

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

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

   Not checked: no wallpaper will be displayed when no one is sharing content. The video output of the Base Unit is disabled when no content is shared. This feature is especially useful when the Base Unit is

integrated in a room system such as a Cisco video conferencing system, Microsoft Teams room system or a Zoom room system.

6.5 Personalisation, Personalized wallpaper

How to upload

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

   The *Wallpaper* selection pane is shown. The current selected wallpaper is shown with a red border.
3. Hoover your mouse over the free place and click on **Choose image**.

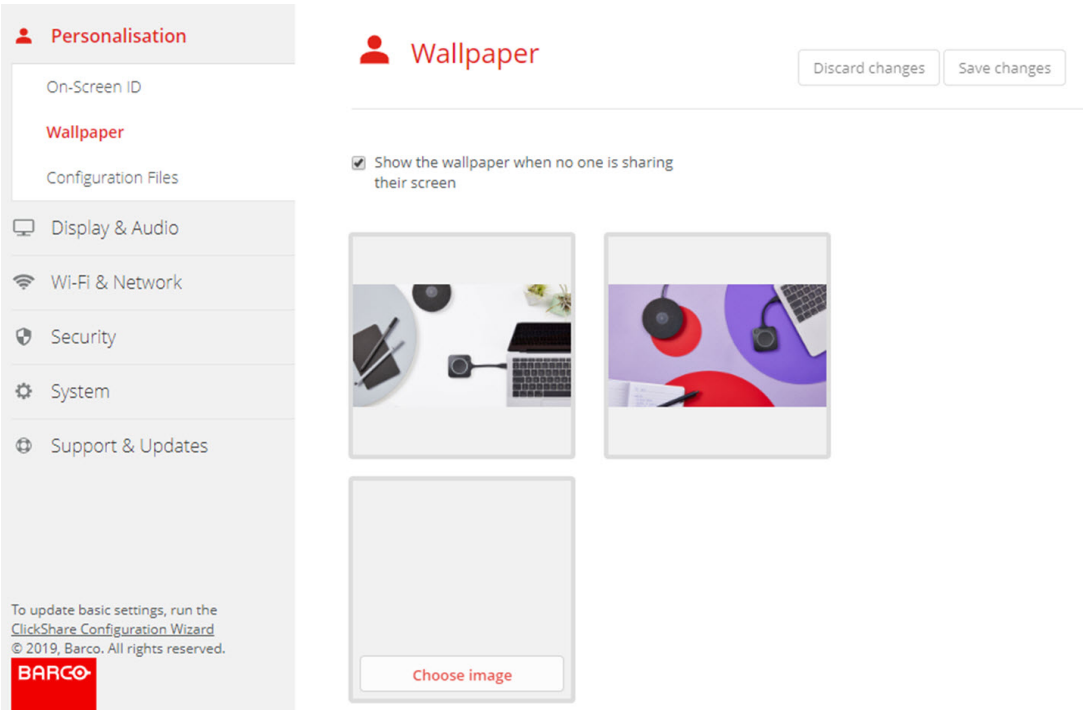

Image 6–9 Personalized wallpaper selection

A browser window opens.

4. Browse for the desired image, click Open to load the image.

   The content of the file is checked and when valid (format and size), the file is uploaded. The new wallpaper gets a red border.
5. Click on **Save changes** to apply the personalized wallpaper

   The message **Successfully applied changes** is displayed on top of the page.

Change personalized image

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

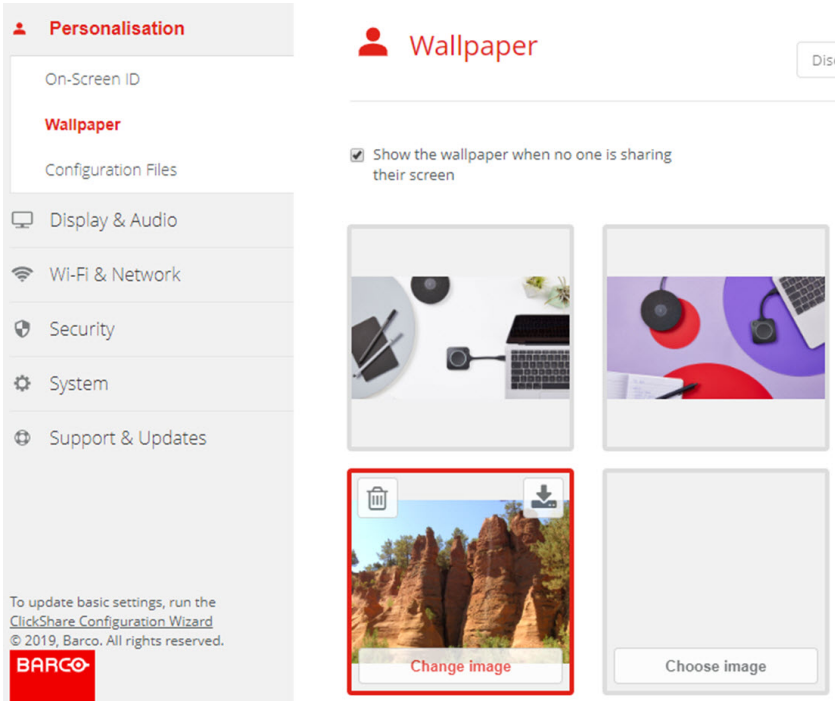

Image 6–10 Change image

3. Browse for the desired image, click Open to load the image.

   The content of the file is checked and when valid (format and size), the file is uploaded. The new wallpaper gets a red border.

4. Click on **Save changes** to apply the personalized wallpaper and replace the previous file.

   The message **Successfully applied changes** is displayed on top of the page.

Remove personalized wallpaper

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

Image 6–11 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
- Wi-Fi channel
- Wi-Fi frequency

To manage the configuration files

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

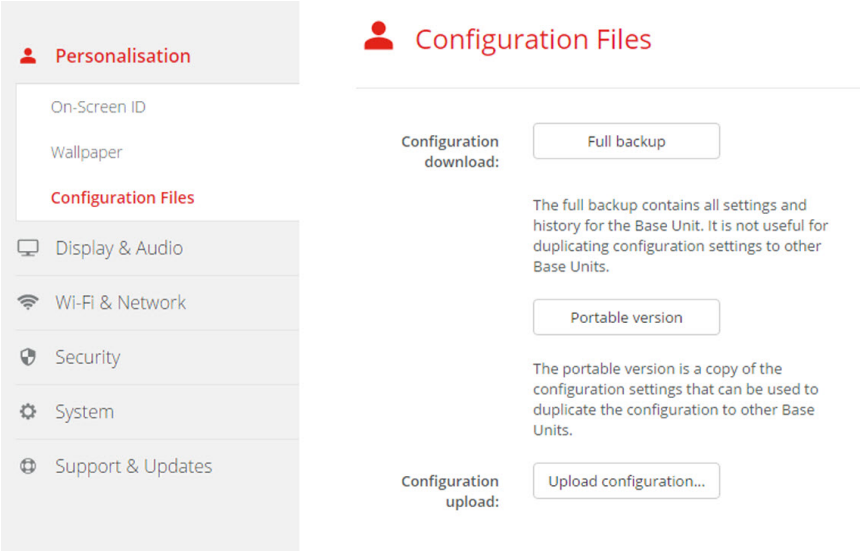

Image 6–12 Configuration files

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

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

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

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

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

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

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

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

6.7 Display & Audio setup

Resolution

The output resolution to the display is set on Auto. That means that the CX-20 output resolution is automatically adapted to the resolution of the display. For HDMI displays, a hot plug detection is available.

CEC

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

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

Audio

Enable or disable audio output.

Check the check box in front of Enable audio to enable audio output.

Screen saver setup

1. Log in to the *Configurator*.

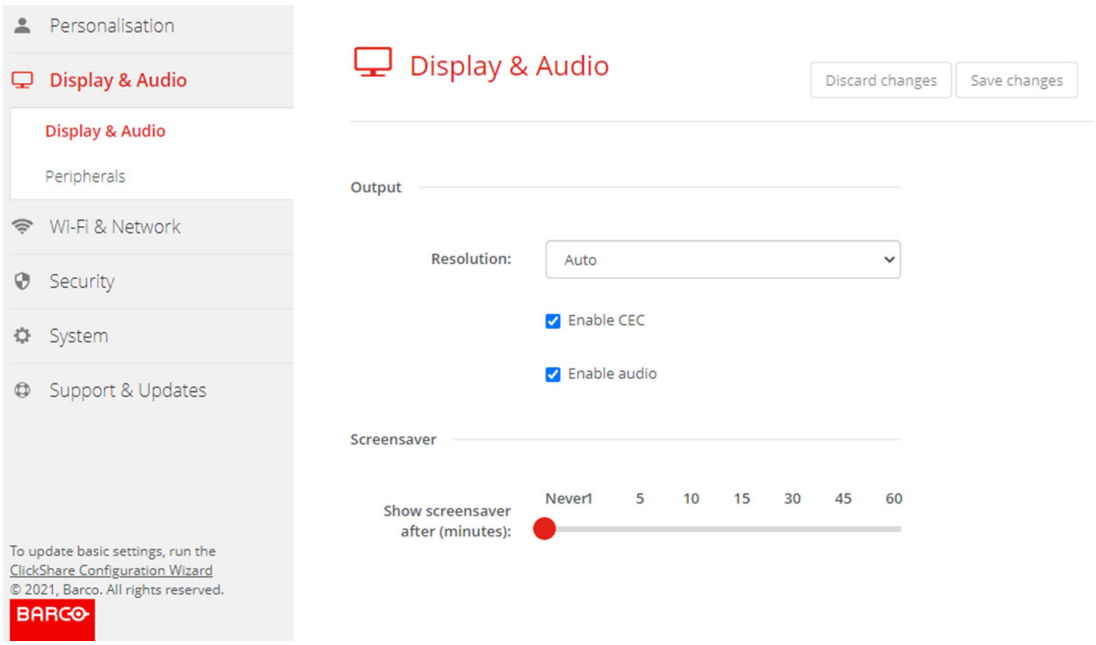

Image 6–13

2. Click *Display & Audio → Display & Audio*.
3. To activate the screen saver, drag the slider bar to the left or to the right until the desired delay time is reached.

   When the slider is set completely to the left, the screen saver will never be activated.
4. Click **Save changes**.

6.8 Peripherals

Overview

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

The Peripheral page gives an overview of the connected devices and their status.

Firmware update peripherals

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

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

How to get an overview

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

An overview of the status of the *Speakerphone Device*, microphone and speaker, and *Camera device* is given.

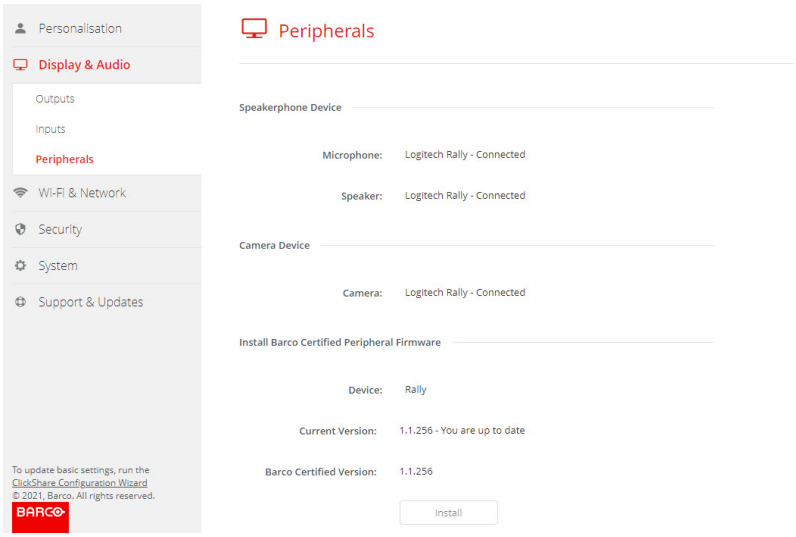

Image 6–14 Peripherals

Quality score camera

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

Quality score, normalized value between 0 and 100.:

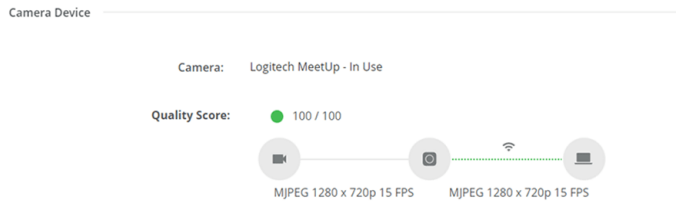

Image 6–15 Quality score

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

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

6.9 Wi-Fi settings

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

For wireless conferencing, it is recommended to use the 5 GHz frequency band.

About

The operational mode of the Wi-Fi setting can be set in 3 different modes:

- Access point
- Wireless client
- Off

Change operational mode

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

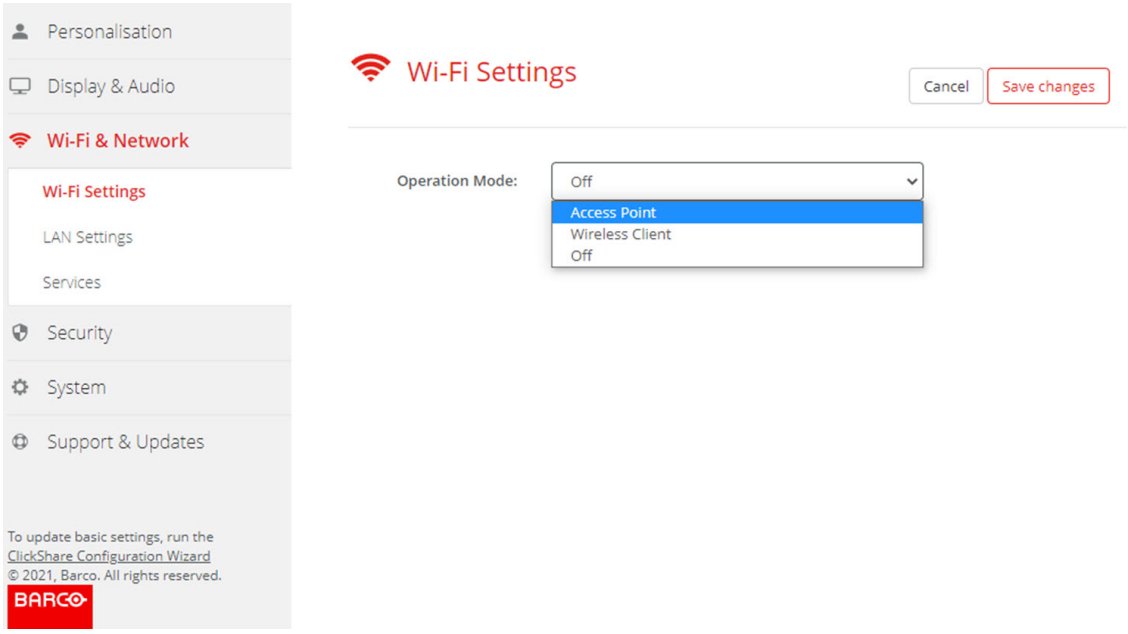

Image 6–16 Wi-Fi settings

3. Select the operational mode by clicking on the drop down and selecting the desired option.

   The following options are possible.

   - Access point
   - Wireless client
   - Off

4. To change the Access Point settings, select Access Point.

   For more detailed information, see “Wi-Fi settings, Access Point settings”, page 72

5. To change the Wireless Client Settings, select Wireless Client.

   For more detailed information, see “”, .

6.10 Wi-Fi settings, Access Point settings

How to change

1. Check the check box next to *Enable*.

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

   Unchecked: access point settings are disabled.

2. If desired, enter a new Wi-Fi passphrase and confirm this Wi-Fi passphrase.

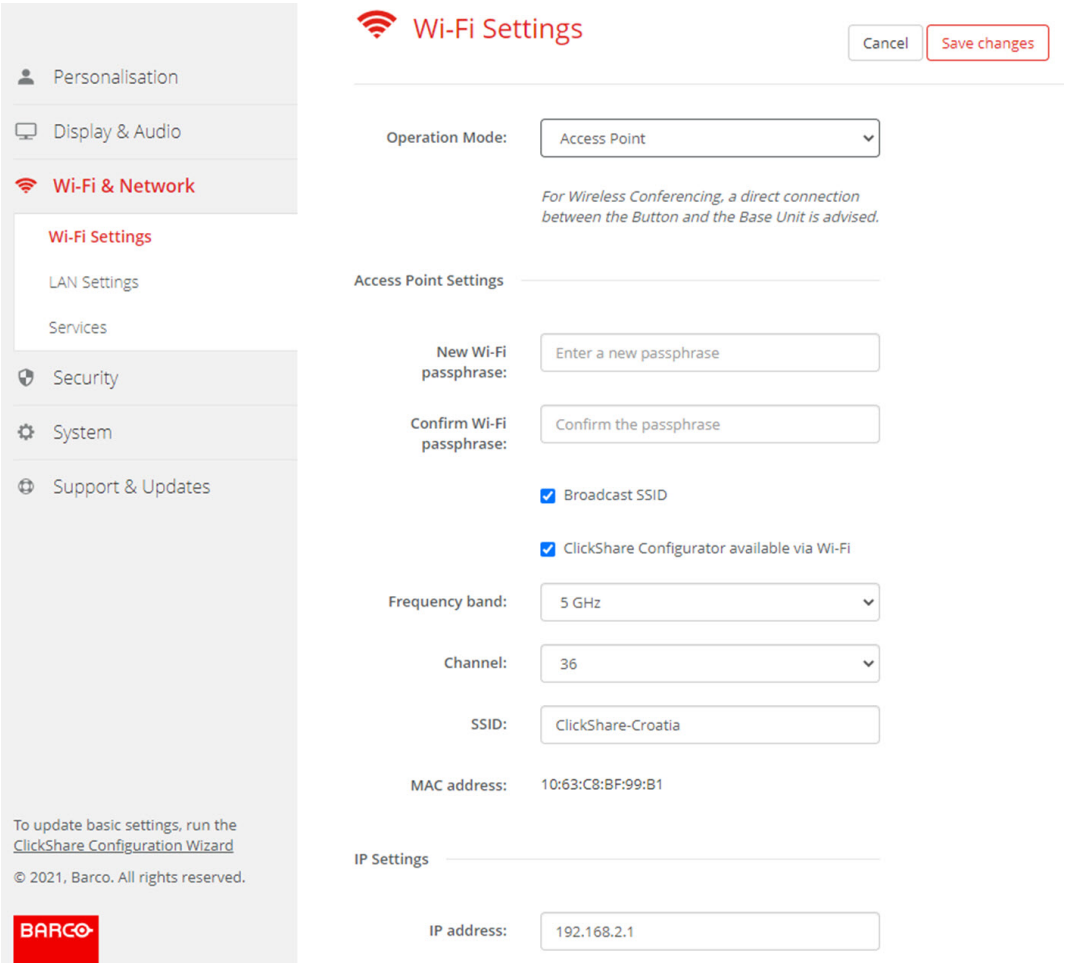

Image 6–17 Wi-Fi settings, access point settings

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

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

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

About frequency band & channel selection

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

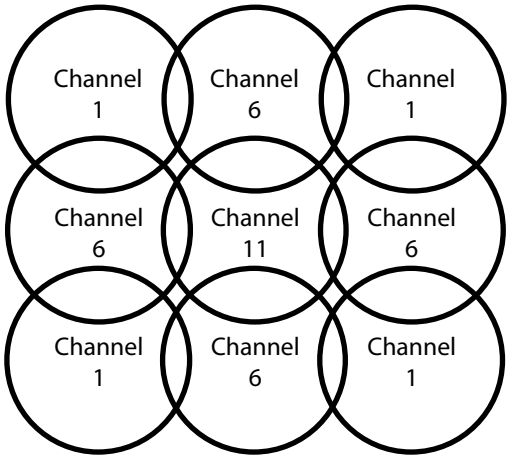

Image 6–18

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

Frequency band & channel selection

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

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

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

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

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

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

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

ClickShare Configurator access via Wi-Fi

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

   Checked: Configurator accessible via Wi-Fi.

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

IP address & subnet mask

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

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

Wireless Client Settings

For more info, see “”, .

6.11 Wi-Fi settings, Wireless Client

Introduction

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

Note that when Wireless Client mode is enabled, the Base Unit Wi-Fi is occupied and can no longer be used for direct connections, either from the ClickShare Button, the ClickShare apps or from Airplay or Google Cast and Miracast. This means that these connections need to happen over the corporate network. As a consequence, when setting up Wireless Client mode, the Buttons are auto-configured to connect to the same network as the Base Unit. This setting however can be manually changed in the Buttons tab in the System menu.

For Wireless Conferencing, a direct connection between the Button and the Base Unit is advised.

How to activate Wireless Client

1. Log in to the *Configurator*.
2. Click *Wi-Fi & Network* → *Wi-Fi Settings*.
3. Click **Edit settings**.
4. Click on the drop down box next to *Operational Mode* and select *Wireless Client*.

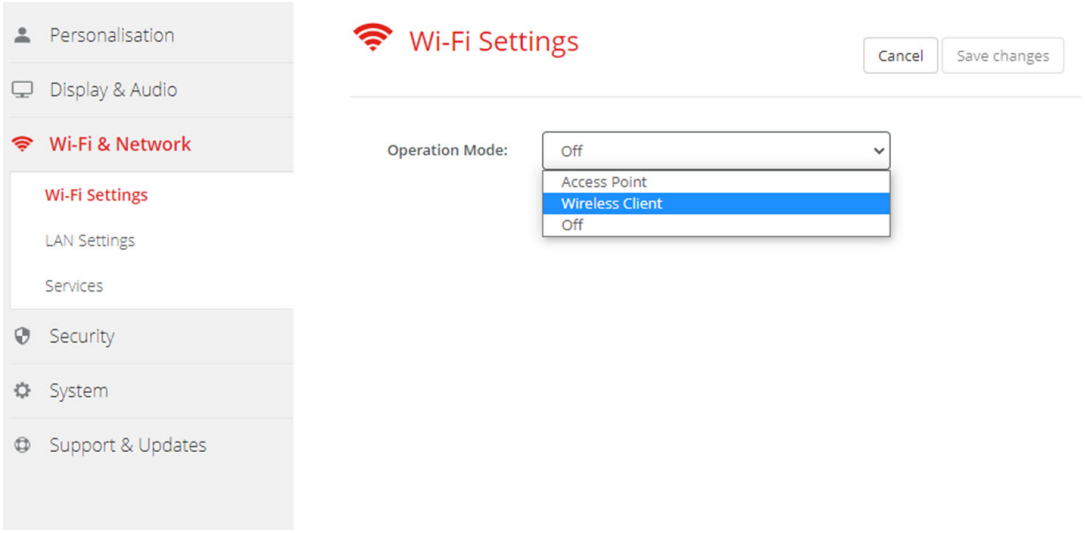

Image 6–19 Wi-Fi settings, Wireless Client

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

About EAP-TLS

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

How to start up for EAP-TLS

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

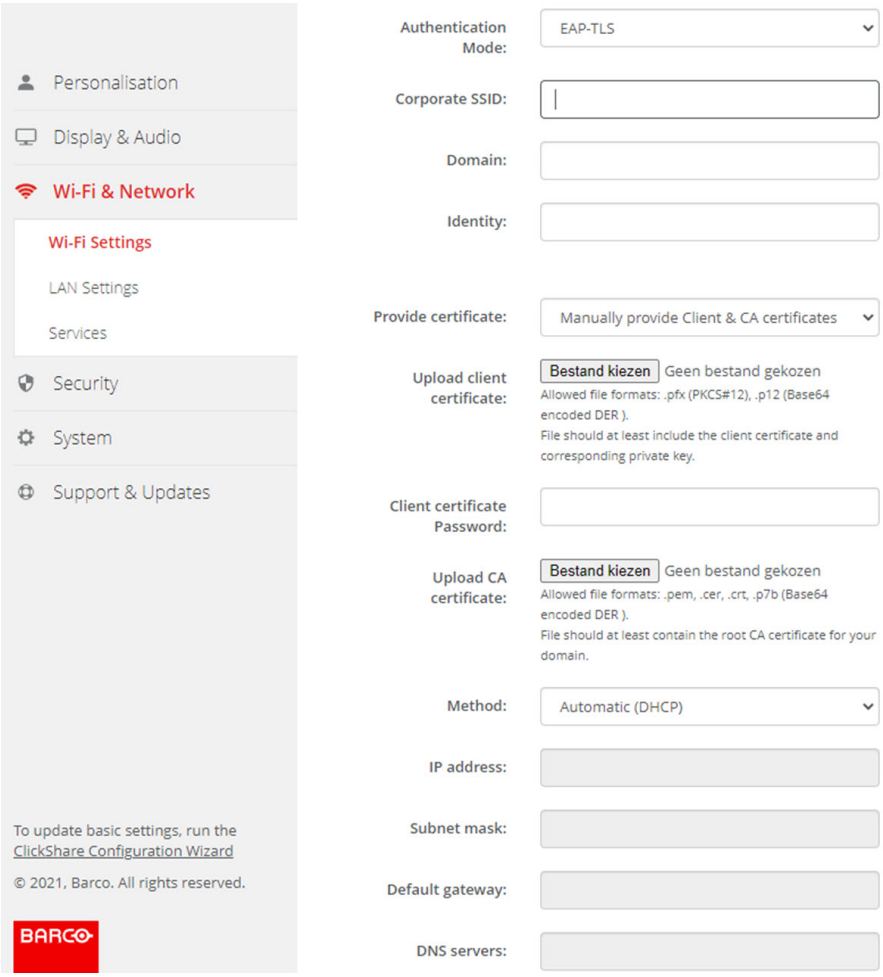

Image 6–20 Wi-Fi Settings, Wireless Client, EAP-TLS

2. Fill out a *Corporate SSID*.

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

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

4. Select the certification method. Click on the drop down box and select the desired method.
   - Manually provide Client & CA certificates
   - Auto enrollment via SCEP

Manually providing certificates

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

   Allowed file formats:

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

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

2. Enter the Client certificate Password.

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

   The following formats are allowed:

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

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

4. Save Changes

Using SCEP

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.

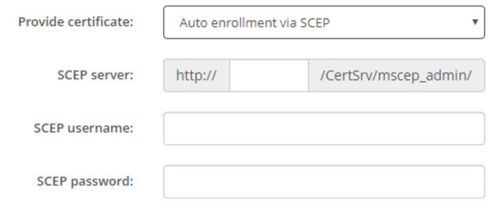

Image 6–21 Wi-Fi Settings, Wireless Client, EAP-TLS, SCEP

SCEP ServerIP/ hostname	This is the IP or hostname of the Windows Server in your network running the NDES service. By default HTTP is used. E.g.: http://myserver or http://10.192.5.1
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.

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

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

About EAP-TTLS

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

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

How to start up for EAP-TTLS

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

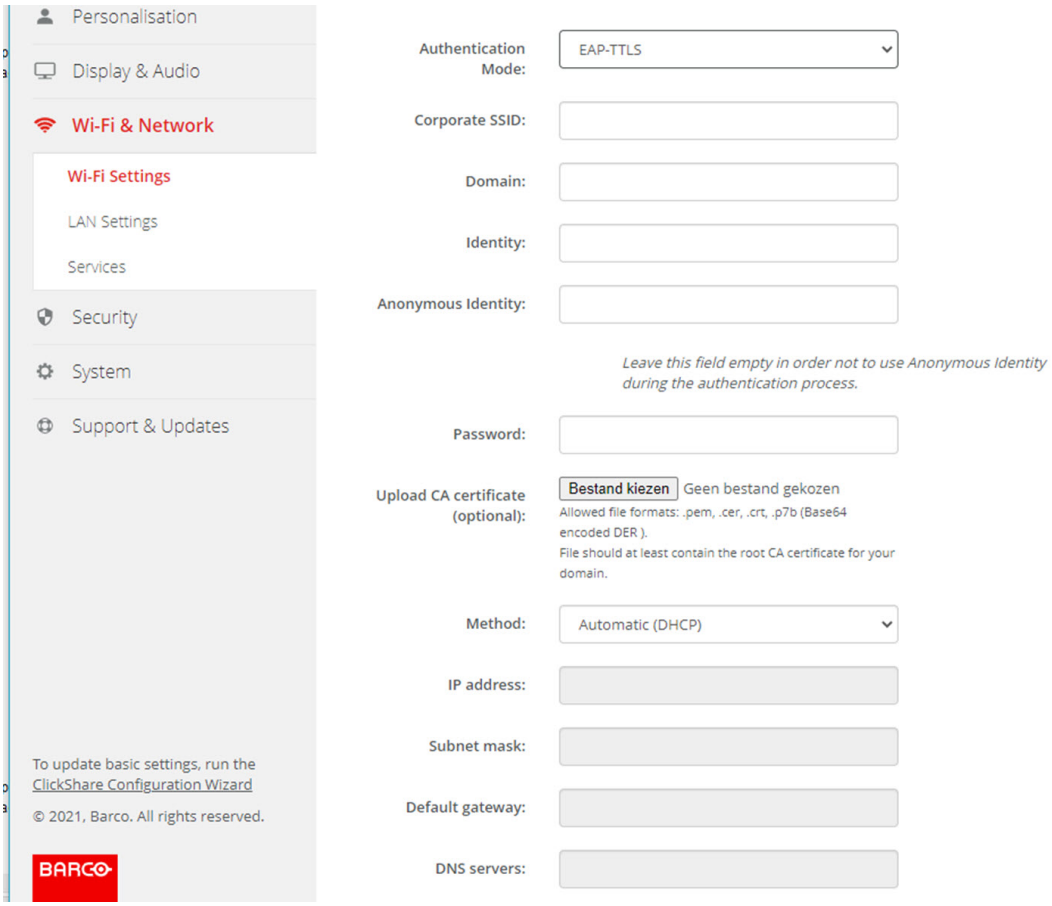

Image 6–22 Wi-Fi Settings, Wireless Client, EAP-TTLS

6.14 Wi-Fi settings, Wireless Client, PEAP

About PEAP

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

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

How to start up for PEAP

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

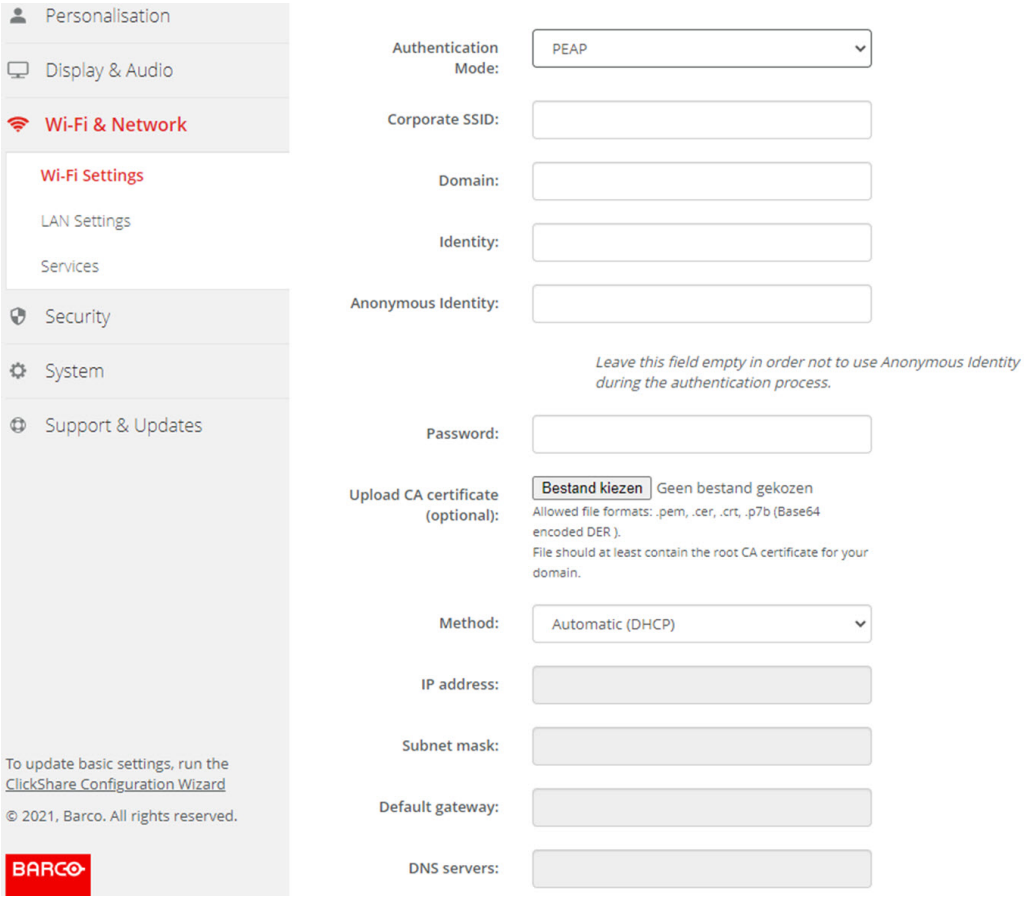

Image 6–23 Wi-Fi Settings, Wireless Client, PEAP

2. Fill out a *Corporate SSID*.

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

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

4. Enter a *Password*.

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

   The following formats are allowed:

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

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

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

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

About WPA2-PSK

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

How to start up for WPA2-PSK

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

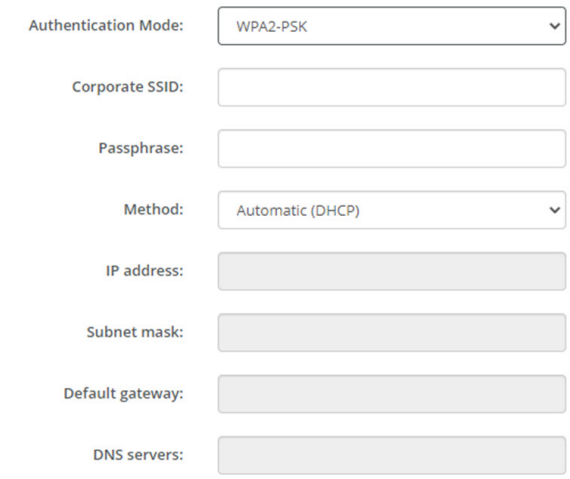

Image 6–24 Wi-Fi Settings, Wireless Client, WPA-PSK

2. Fill out a *Corporate SSID*.

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

3. Fill out Passphrase.

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

4. Click **Save changes**.

6.16 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*.

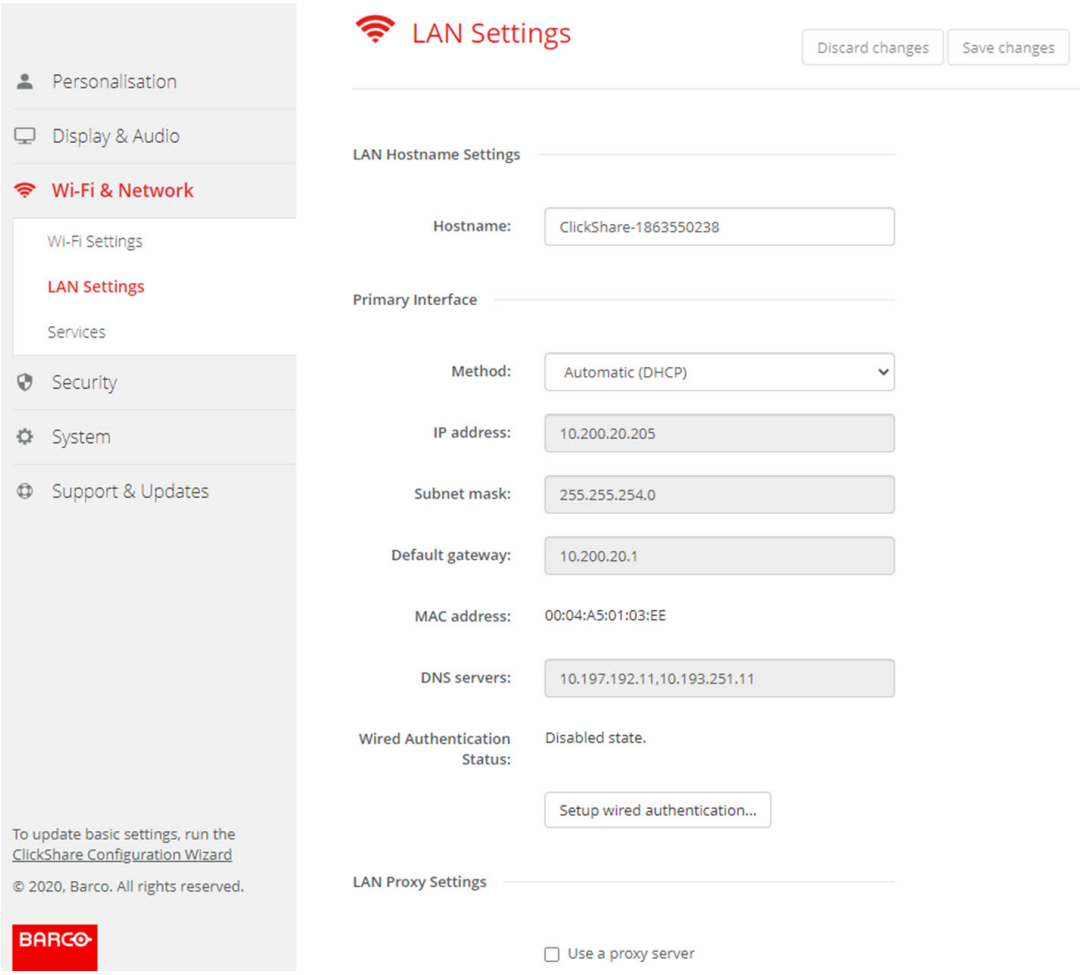

Image 6–25 LAN settings

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 in the DNS Servers input field and fill out the preferred DNS servers (maximum 5) in a comma separated list.
6. Click **Save changes** to apply the settings.

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

Use a proxy server

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

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

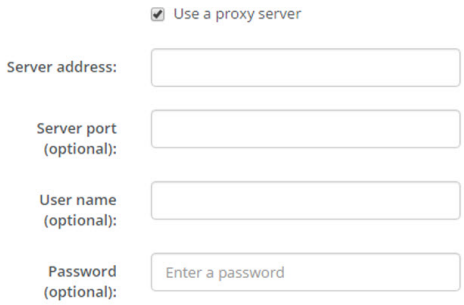

Image 6–26 Proxy settings

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.

6.17 LAN Settings, Wired Authentication

How to setup

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

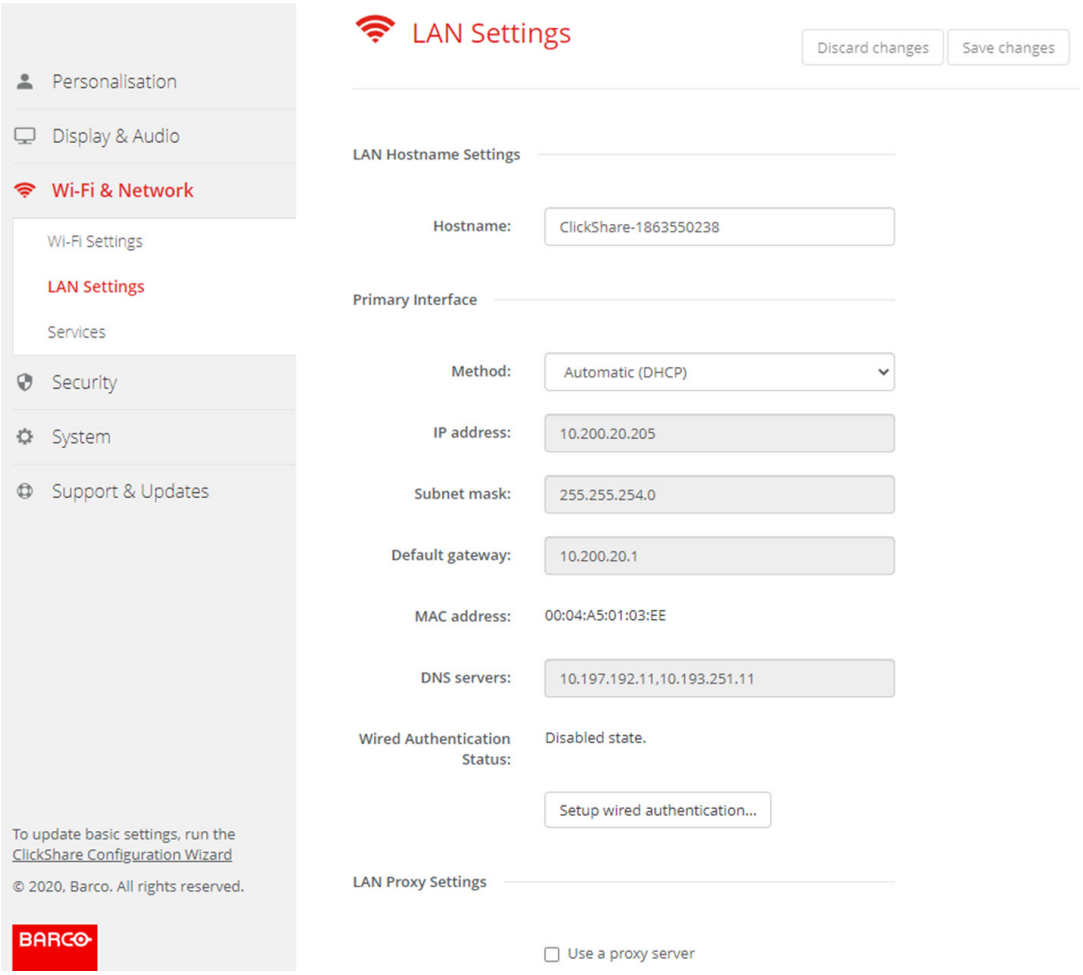

Image 6–27 Wired authentication

The setup wizard starts.

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

   The following methods are available:

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

6.18 LAN Settings, EAP-TLS security mode

About EAP-TLS

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

How to setup EAP-TLS

1. Select Authentication Mode *EAP-TLS*.

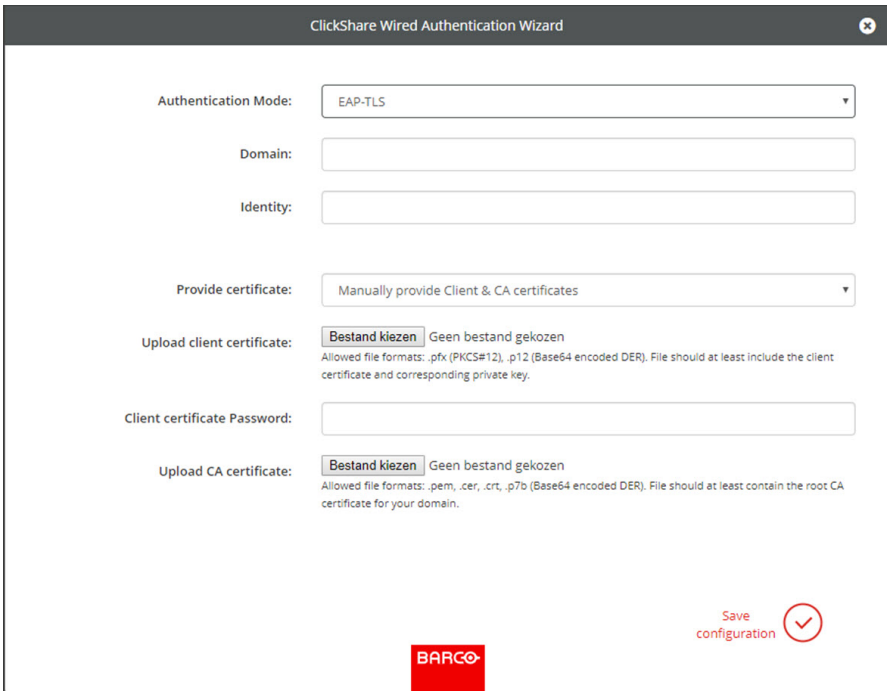

Image 6–28 EAP-TLS

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

Manually providing certificates

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

   Allowed file formats:

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

   The should at least include the client certificate and corresponding private key.
2. Enter the Client certificate Password.
3. Upload CA certificate. Click on Choose file and browse to the desired file.

   The following formats are allowed:

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

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

Using SCEP

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. Initial support for other generic servers is available by extending the possible parameters to use for NDES/SCEP enrolment.

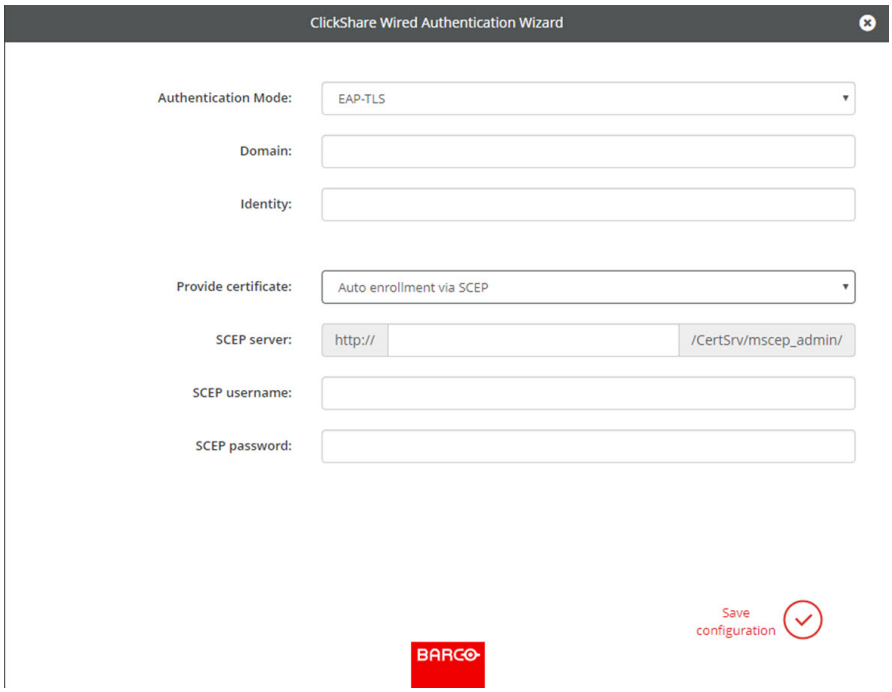

Image 6–29 EAP-TLS — SCEP

SCEP ServerIP/ hostname	This is the IP or hostname of the Windows Server in your network running the NDES service. By default HTTP is used. E.g.: http://myserver or http://10.192.5.1
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.

Click on **Save configuration** to save the settings.

6.19 LAN Settings, EAP-TTLS security mode

About EAP-TTLS

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

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

How to setup EAP-TTLS

1. Select Authentication Mode *EAP-TTLS*.

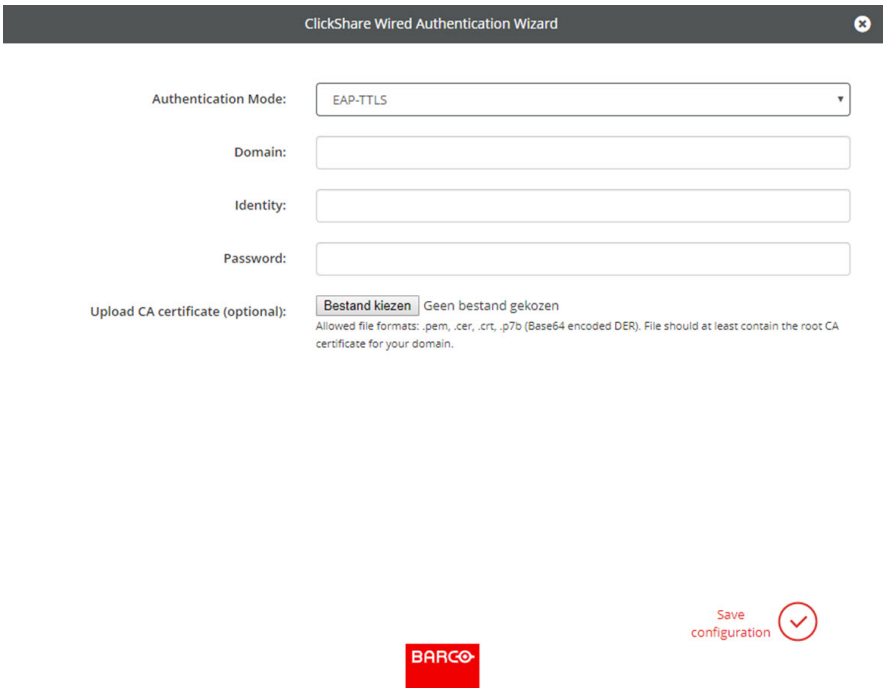

Image 6–30 EAP-TTLS

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

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

3. Enter the *Password*.

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

4. Optionally, upload the CA certificate.

   The following formats are allowed:

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

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

5. Click **Save configuration**.

6.20 Services, Mobile devices

ClickShare app

The ClickShare app is enabled by default and makes it possible to connect with a mobile device to the Base Unit.

About streaming information via AirPlay

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

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

About streaming via Google Cast

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

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

Google Cast does not support a passcode.

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

About streaming via Miracast™

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

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

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

To be able to use Miracast, you need to disable the access point and integrate the Buttons into the corporate network. But we do not advise using wireless conferencing when the Button does not connect directly to the Base Unit. This limitation will be eliminated in future firmware releases.

Passcode type selection

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

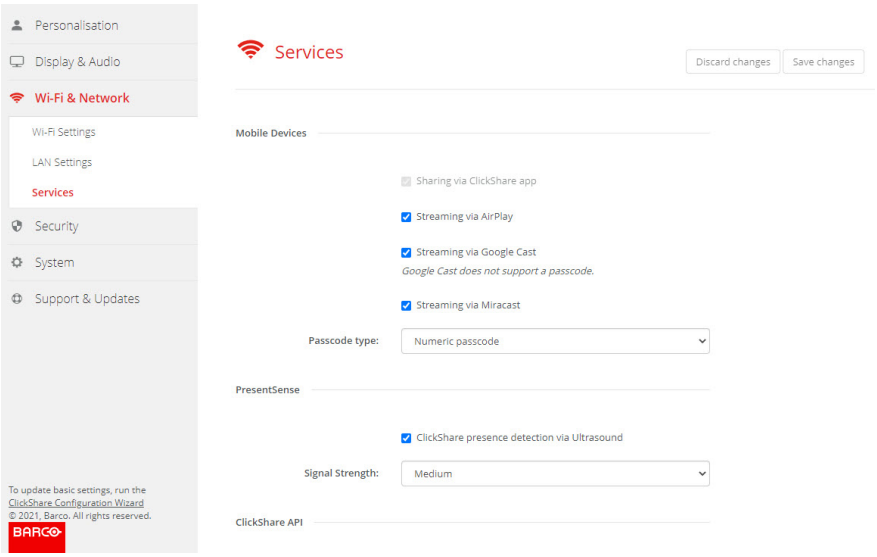

Image 6–31 Services, mobile devices

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

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

   To allow streaming (mirroring) via Google Cast, check the check box in front of *Streaming via Google Cast*. Google cast does not support a passcode.

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

4. Click on the drop down box and select the desired passcode type.
   - No passcode
   - Numeric passcode

   Passcode applies to all BYOD screen sharing except Google Cast.

6.21 Service, PresentSense

About PresentSense

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

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

How to activate

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

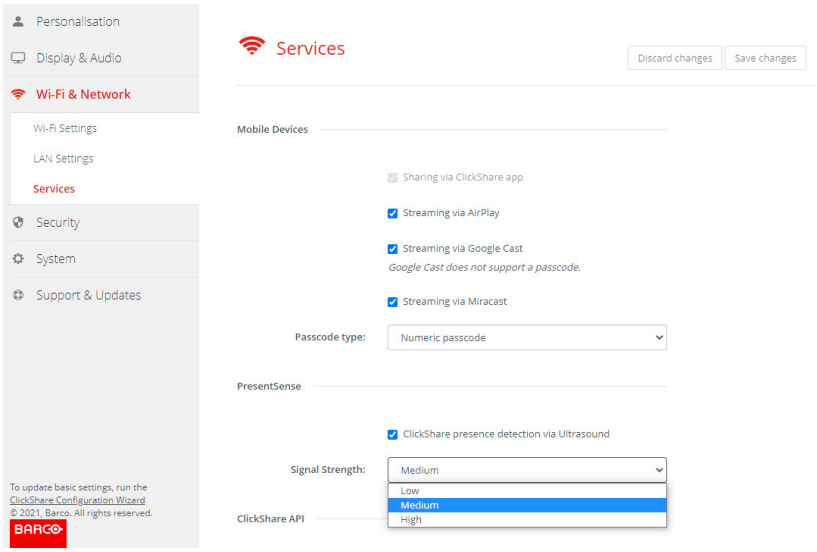

Image 6–32 PresentSense

3. In the *PresentSense* pane, check the check box next to *ClickShare presence detection via Ultrasound*.

   Checked: PresentSense detection activated.

   Not checked: PresentSense detection not activated.

4. Select the signal strength by clicking on the drop down box next to *Signal Strength*.

   The following options are possible:

   - Low
   - Medium
   - High

6.22 Service, ClickShare API, remote control via API

About API settings

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

This functions in enabled by default.

API documentation

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

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

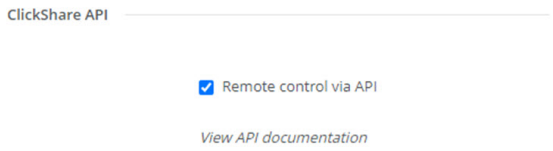

Image 6–33 ClickShare API & documentation

How to enable remote control via API

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

   This check box is normally checked by default.

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

   Not checked: no remote control via API allowed.

About API documentation

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

How to display the API documentation

1. Log in to the *Configurator*.
2. Click on *View API documentation*.
3. Enter your user name and password and click **OK**.

   The documentation is displayed as a clickable HTML page.

6.23 Services, SNMP

About SNMP

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

according a MIB (Management Information Base). SNMP management suites will be able to approach ClickShare devices via SNMP protocol for requesting device information.

SNMPv3 is supported.

How to enable

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

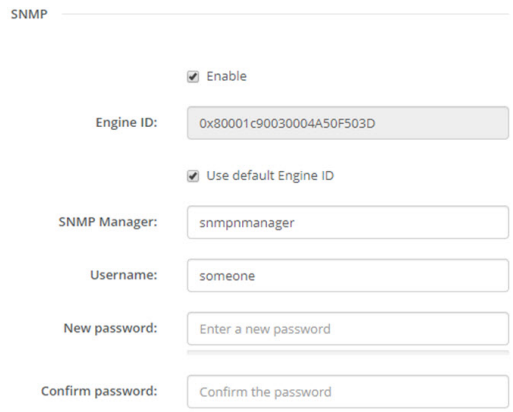

Image 6–34 Service, SNMP

4. Check the check box in front of *Enable*.

   The configuration fields become available.

How to configure

1. When using the default *Engine ID*, make sure the check box before *Use default Engine ID* is checked.

   The default engine ID is a combination of the Barco Enterprise Number with the MAC-address (eth0).

2. Fill out the *SNMP Manager* address.

   That is the host address which will receive the TRAP events/messages.
   Possible traps can be:

   - Alarm CPU temperature trap which indicates that CPU temperature exceeds the threshold.
   - Alarm Case Fan Speed trap which indicates the case fan is spinning too slow.
   - Alarm Process Not Running trap which indicates one of the monitored processes is not running.

3. Enter the *Username*.
4. Enter a new password and confirm that password.

6.24 Security, security level

About security levels

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

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

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

The standard security options are:

- PIN code activation for mobile apps and Buttons,
- ClickShare Configurator (WebUI) access via HTTPS with login management,

- no wireless ClickShare Configurator (WebUI) access,
- SSID of Wi-Fi network is hidden.

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

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

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

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

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

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

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

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

How to set the security level

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

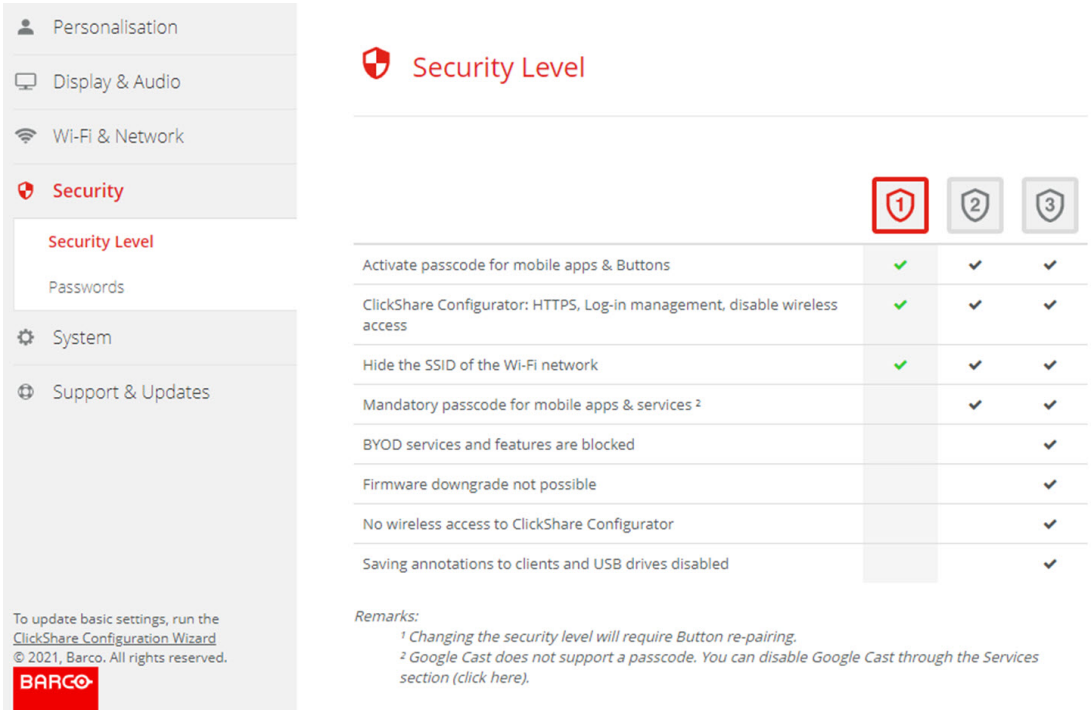

Image 6–35 Security levels

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

6.25 Security, passwords

About passwords

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

Changing the ClickShare Configurator password

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

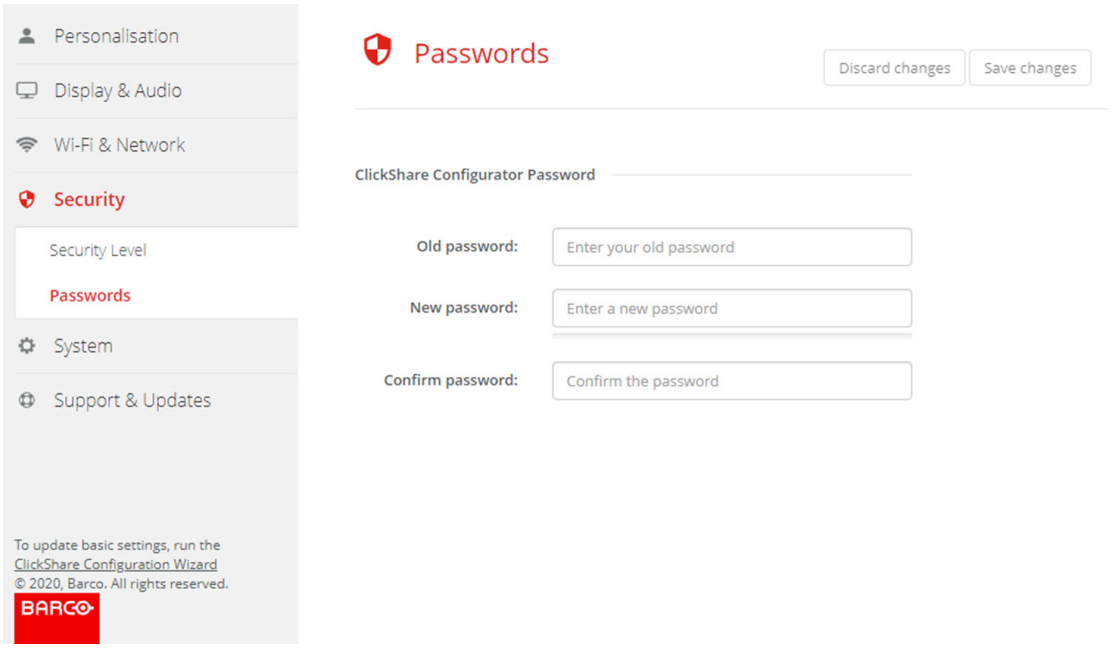

Image 6–36 Passwords

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

6.26 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*.

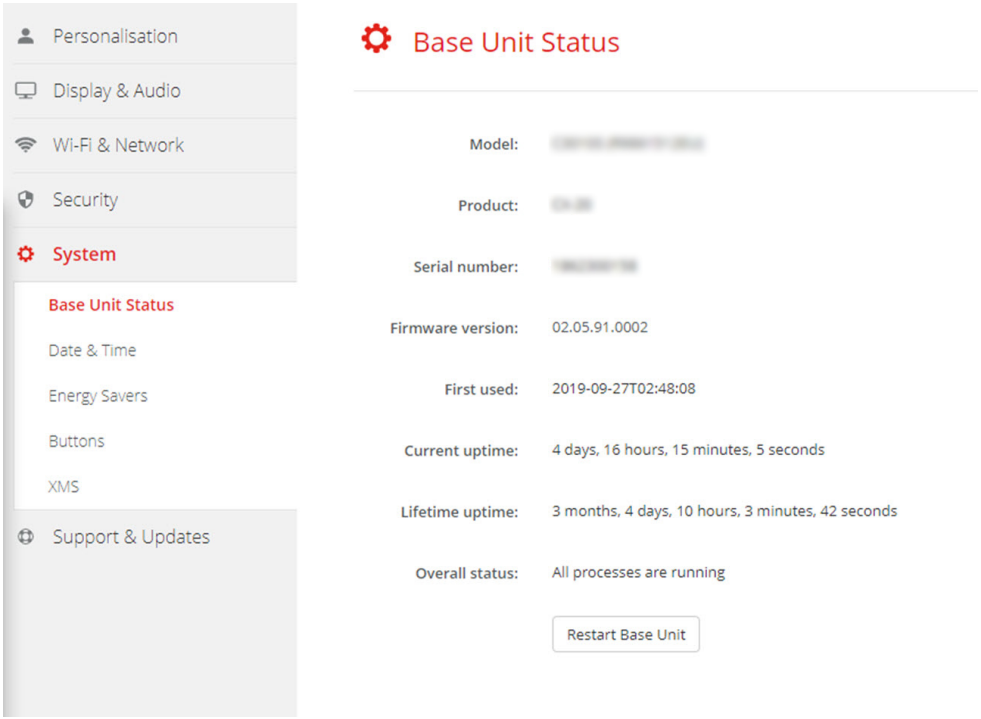

Image 6–37

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.

6.27 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*.

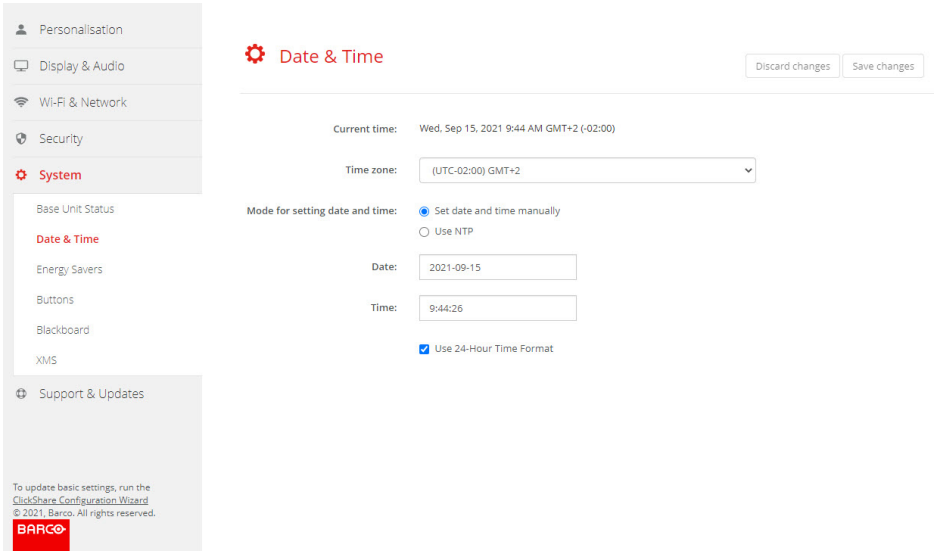

Image 6–38 Manual time & date update

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 6–39 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 6–40 Time setup

8. Click on the up down arrow of each scroll counter until the correct hour, minutes and seconds are obtained.
9. Select the time format.

   Checked: use of 24 hour time format

Not checked: use of 12 hour time format

10. Click **Save changes** to apply.

6.28 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*.

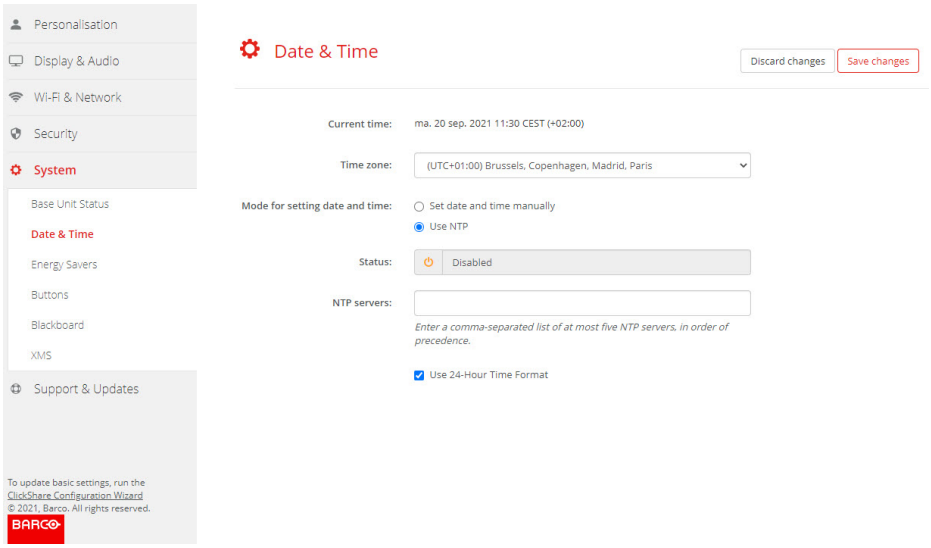

Image 6–41 Time server setup

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

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

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

5. Select the time format.

   Checked: use of 24 hour time format

   Not checked: use of 12 hour time format

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

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

6.29 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 mode

When the Base Unit enters ECO standby mode, it will disable the HDMI output signal. 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
- Pairing a Button on the Base Unit's USB port
- Plugging in an HDMI display
- When a CEC event is received

Standby mode

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.

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

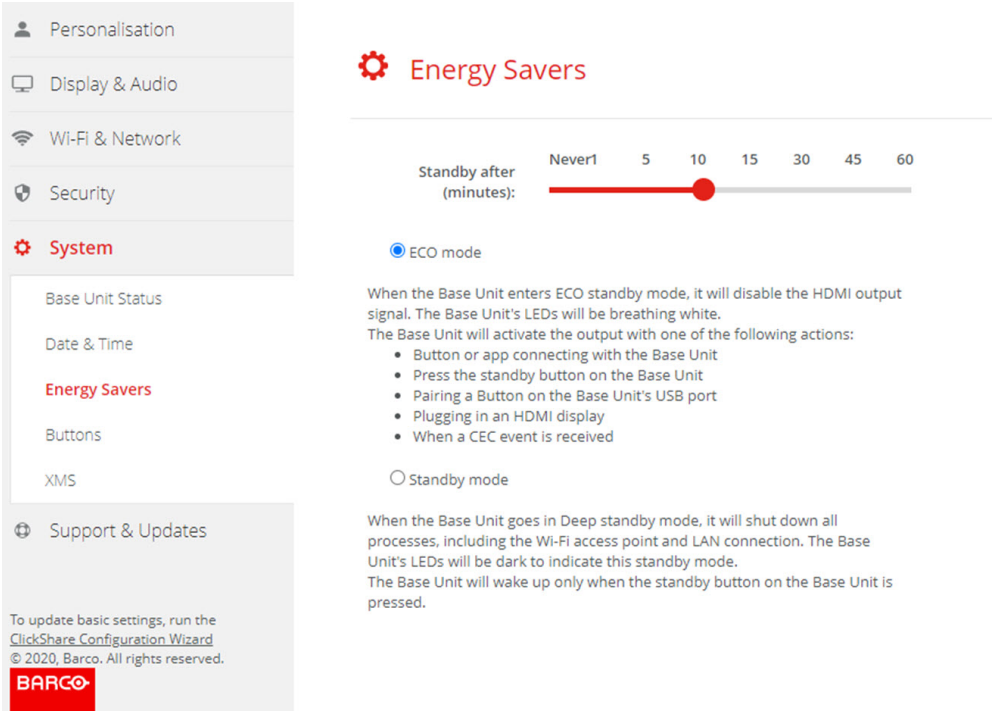

Image 6–42 Energy savers

How to change the display timeout

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

6.30 Buttons

About Buttons

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

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

All Buttons used with the Base Unit are indicated in the Buttons List. The list contains the serial number, MAC address, article code and the firmware version, the number of connections and last connection date and time.

It is possible to update the software of the Buttons over Wi-Fi.

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

To edit the settings

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

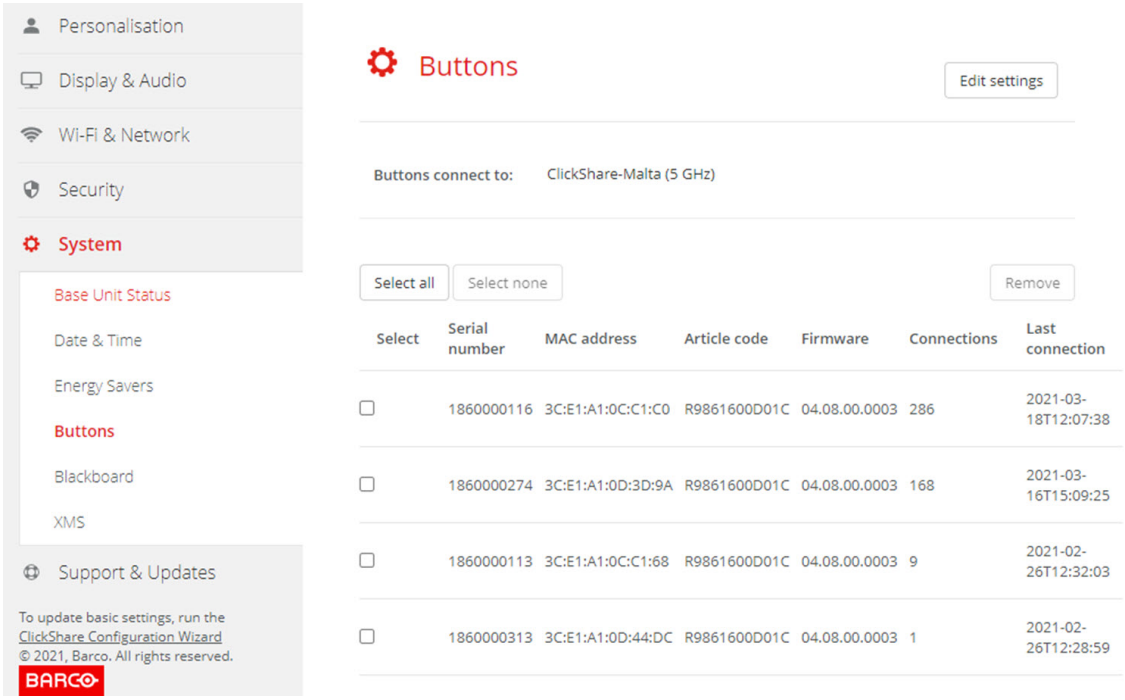

Image 6–43 Buttons overview

The current state is indicated and the list of Buttons is given.

3. Click **Edit settings**.
4. Select to which access point the Buttons are connected. Click on the drop down list next to *Buttons connect to* and select the desired point.

   Depending on the selection, your ClickShare device or external access point, settings should be filed out.

   For your ClickShare device, no settings are needed.

6.31 Buttons, External access point, mode EAP-TLS

How to fill out

1. Fill out a *Corporate SSID*.

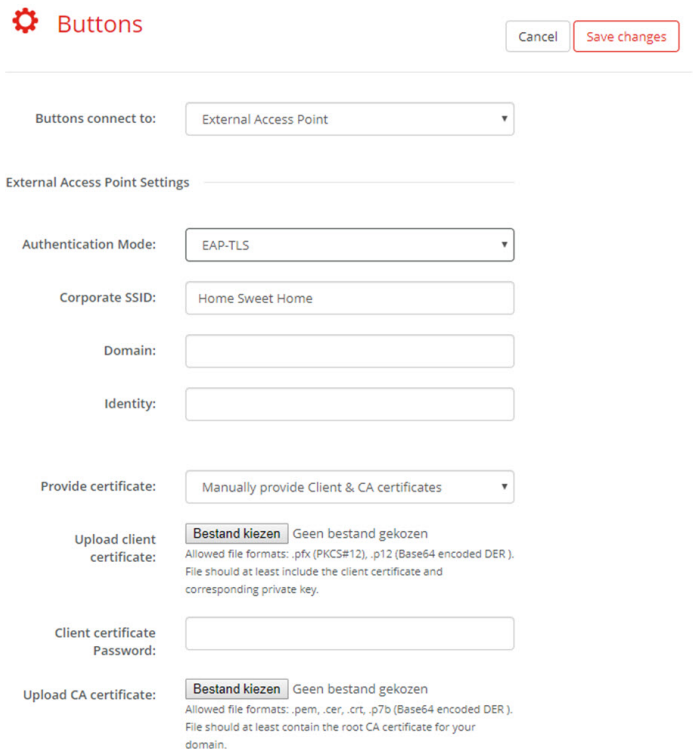

Image 6–44 Buttons, External access point, mode EAP-TLS

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

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

Manually providing certificates

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

   Allowed file formats:

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

   The should at least include the client certificate and corresponding private key.
2. Enter the Client certificate Password.
3. Upload CA certificate. Click on Choose file and browse to the desired file.

   The following formats are allowed:

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

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

Using SCEP

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. Initial support for other generic servers is available by extending the possible parameters to use for NDES/SCEP enrolment.

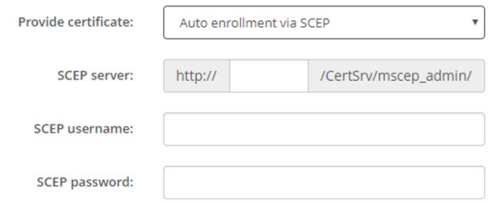

Image 6–45 Buttons, EAP-TLS, SCEP

SCEP ServerIP/ hostname	This is the IP or hostname of the Windows Server in your network running the NDES service. By default HTTP is used. E.g.: http://myserver or http://10.192.5.1
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.

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

6.32 Buttons, External access point, mode EAP-TTLS

How to fill out the settings

1. Fill out a *Corporate SSID*.

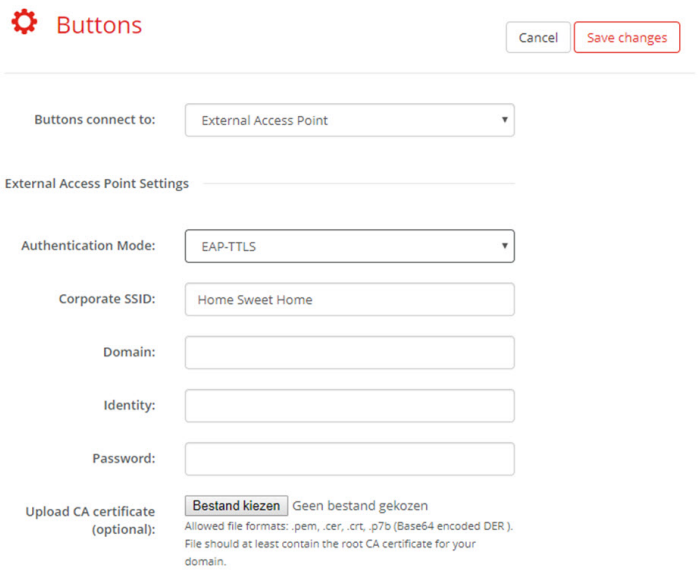

Image 6–46 Buttons, External access point, mode EAP-TTLS

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

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

   The following formats are allowed:

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

   File should at least contain the root CA certificate for your domain.
5. Click **Save Changes** to save the settings.

6.33 Buttons, External access point, mode PEAP

How to fill out the settings

1. Fill out a *Corporate SSID*.

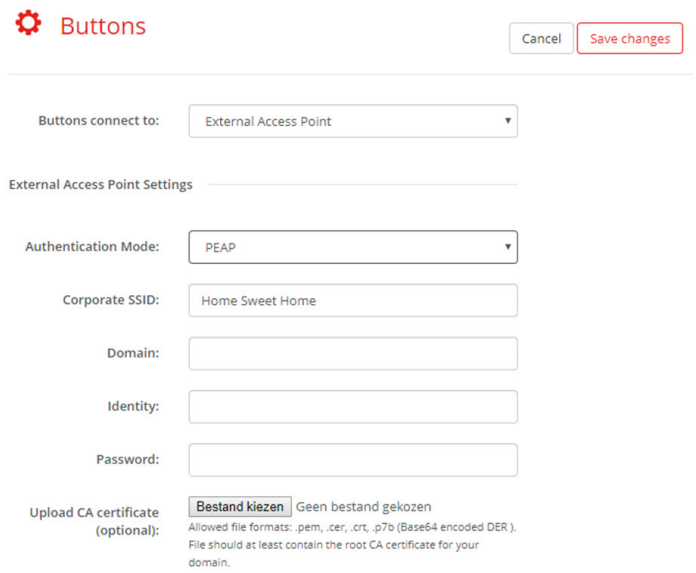

Image 6–47 Buttons, External access point, mode PEAP

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

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

   The following formats are allowed:

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

   File should at least contain the root CA certificate for your domain.
5. Click **Save Changes** to save the settings.

6.34 Buttons, External access point, mode WPA2-PSK

How to fill out the settings

1. Fill out a *Corporate SSID*.

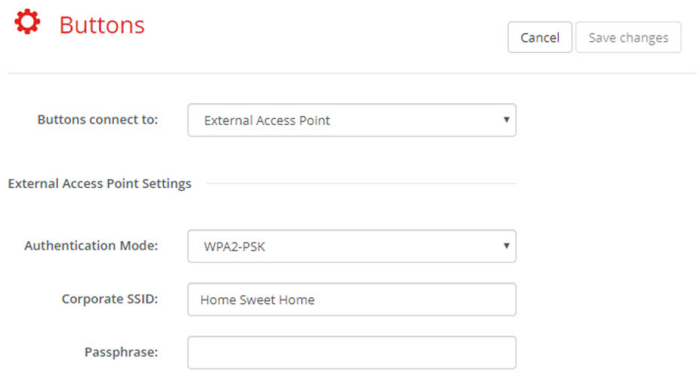

Image 6–48 Buttons, External access point, mode WPA2-PSK

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

2. Fill out Passphrase.

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

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

6.35 Blackboard

About Blackboard

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

How to change the blackboard setting

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

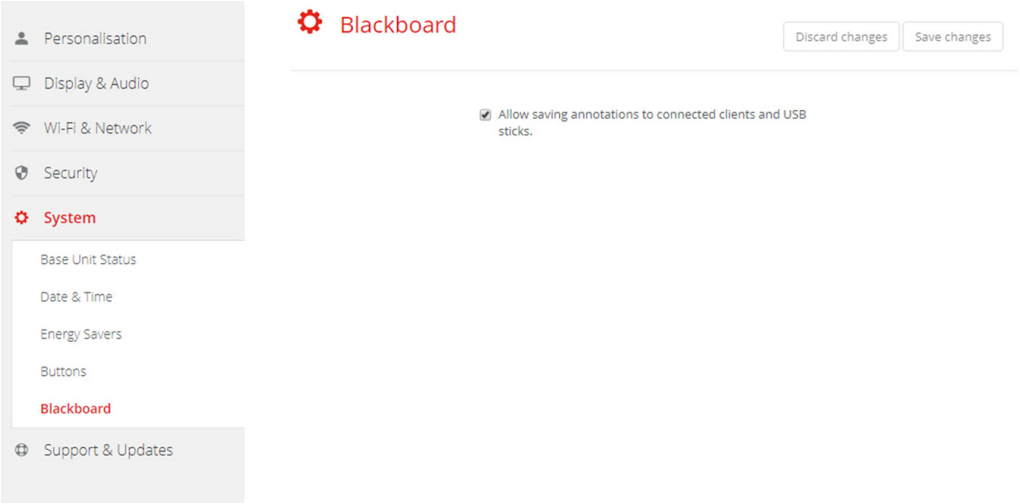

Image 6–49 Save annotations

3. Check or uncheck the check box in front of *Allow saving annotations to connected clients and USB sticks*.

   Checked: annotations on the blackboard can be saved.

   Unchecked: no annotations on the blackboard can be saved.

6.36 XMS Cloud Integration

Overview

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

The device token is given and can be copied.

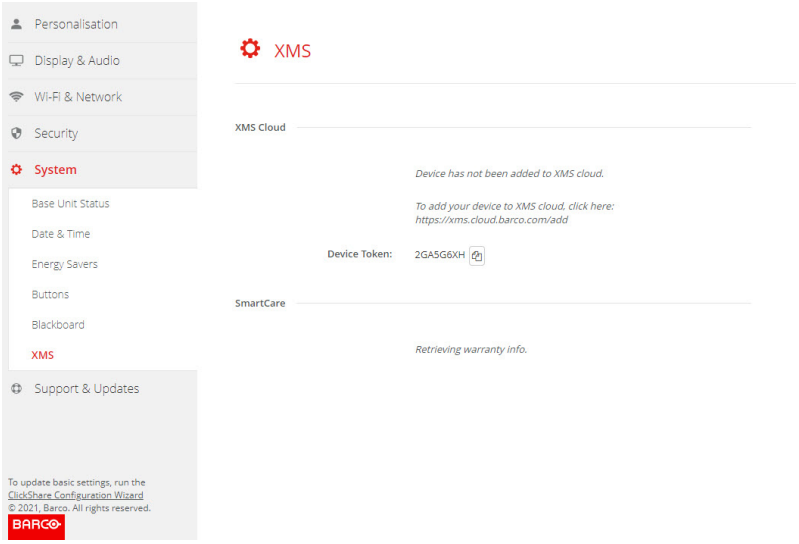

Image 6–50 XMS cloud, no registration

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

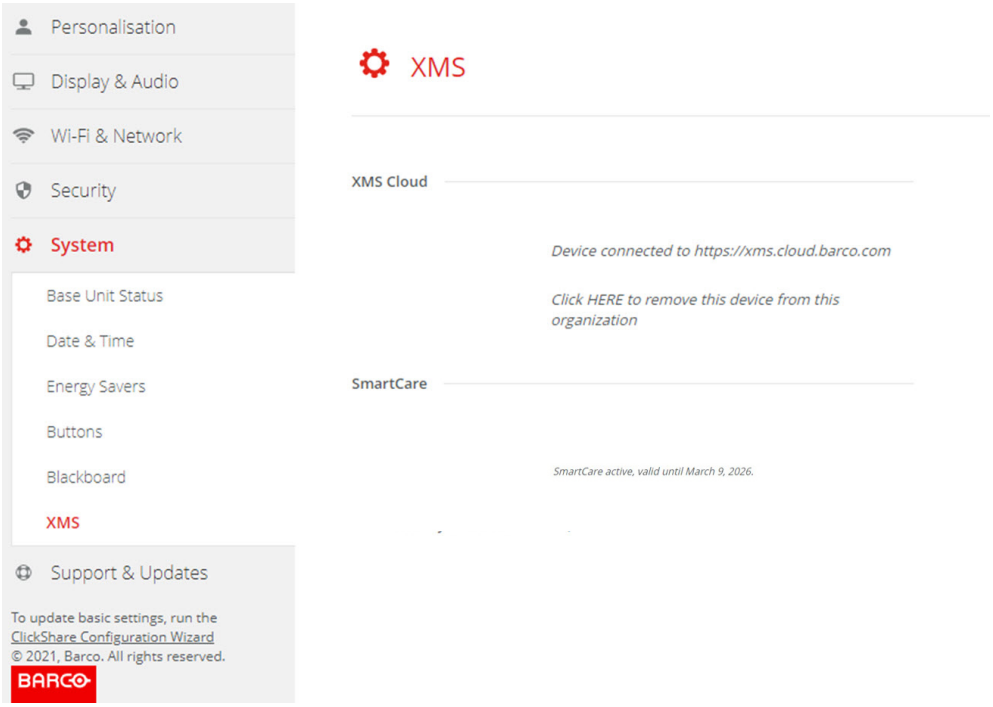

Image 6–51 XMS cloud

What can be done?

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

   Follow procedure as described in "*Registration to XMS Cloud*", *page 45*.

SmartCare

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

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

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

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

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

6.37 Firmware Update

About Firmware update

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

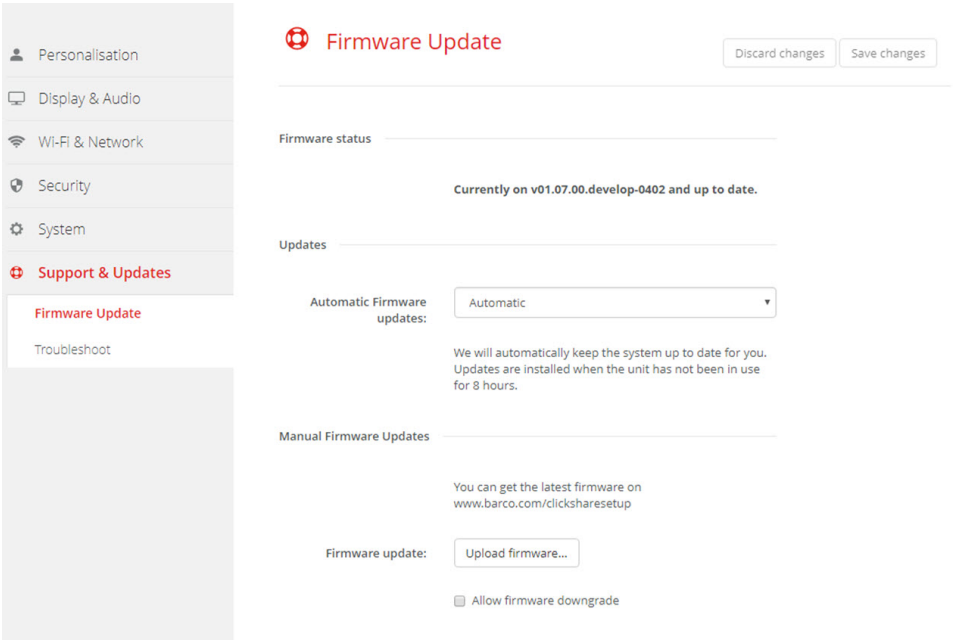

Image 6–52 Firmware update

About automatic firmware updates

There are 3 ways to configure automatic updates:

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

Manual firmware update

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

   A browser window opens.
5. Browse to the file with the new firmware and click **Open** to start the upload.

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

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

   The Base Unit software is updated.

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

Firmware update without using the Configurator

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

- When your device is connected to a network and managed via the XMS (Cloud) management platform, the firmware can be upgrade via this Management solution. For more information on upgrading firmware in this

way, consult Barco's web pages on XMS (https://www.barco.com/en/page/xms-cloud-management-platform).
- Download the firmware on a USB stick and plug in this USB in your device. For more information, see "*Updating the CX-20 firmware*", page 110

6.38 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*.

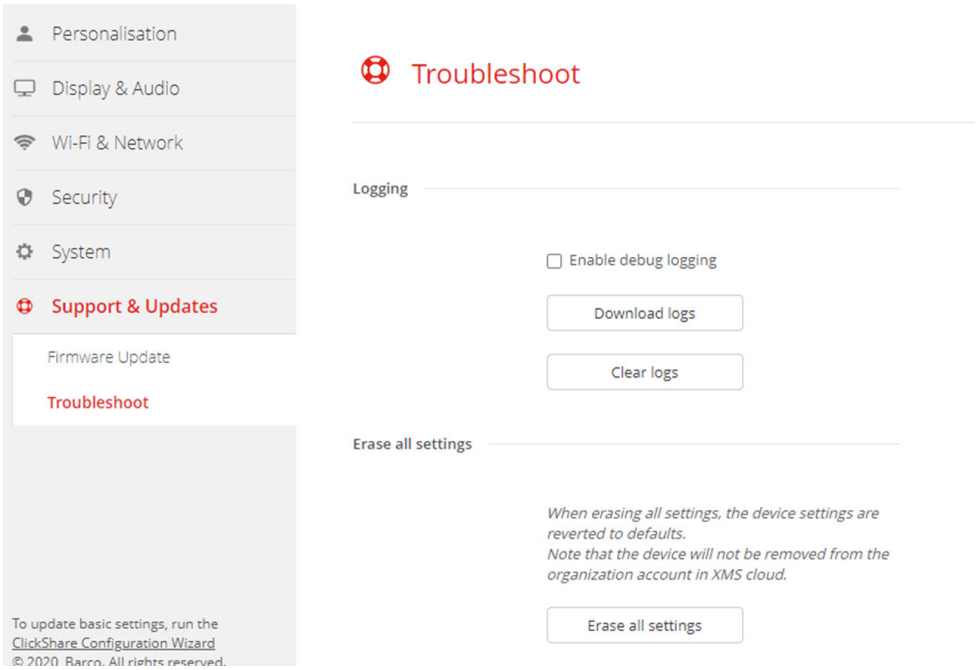

Image 6–53 Troubleshoot, logging

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**.

6.39 Troubleshooting, Erase all settings

About erasing all settings

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

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

How to erase

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

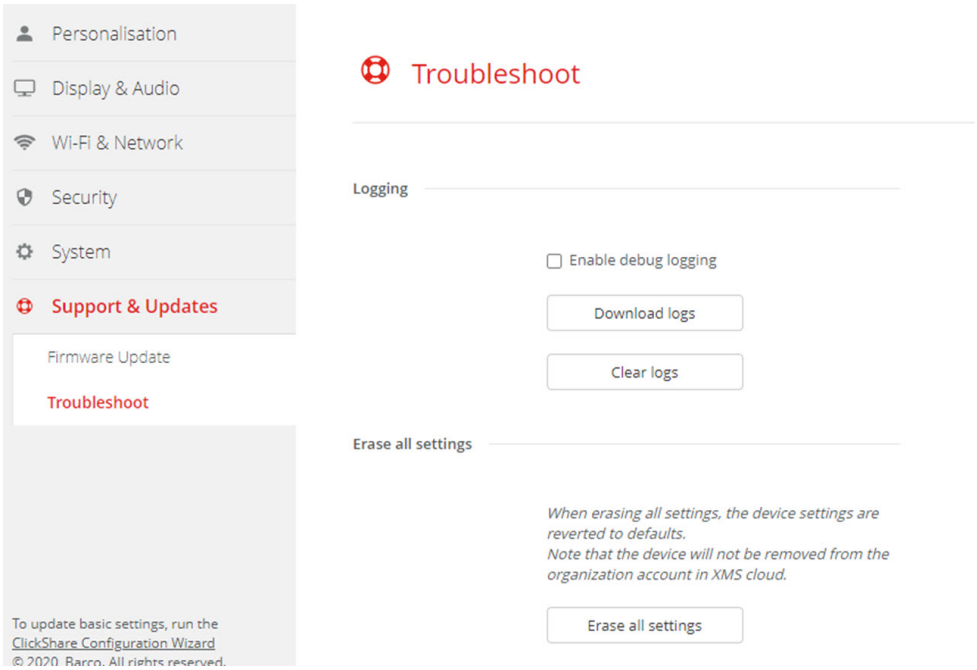

Image 6–54 Troubleshoot, logging

6.40 Reset to factory defaults

About the reset

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

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

How to reset

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

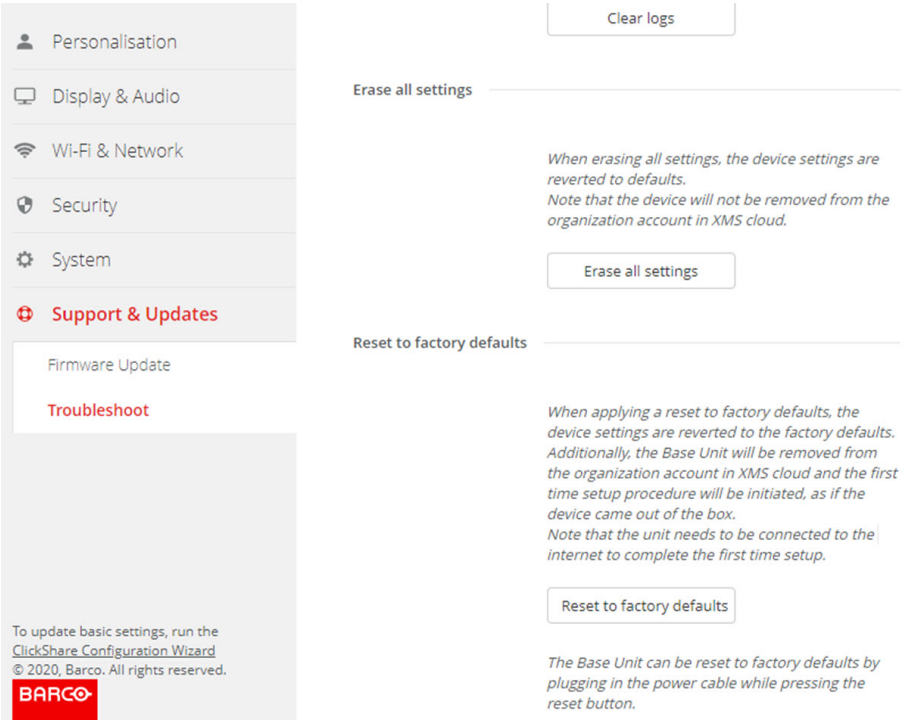

Image 6–55 Factory reset

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

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

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

   When yes is clicked, the system starts a reboot.

6.41 Troubleshoot, diagnostics

About diagnostics

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

How to start

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

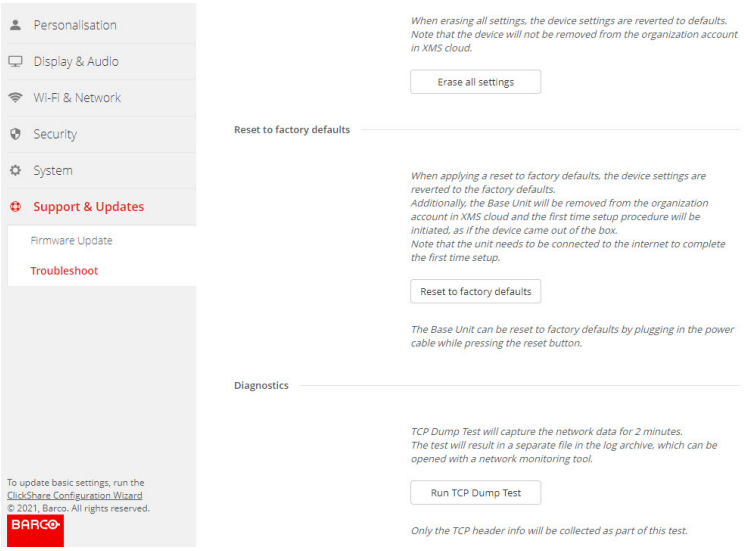

Image 6–56 Troubleshoot, diagnositcs

A separate file is written to the log archive.

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

7 Firmware updates

7.1 Updating the CX-20 firmware

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

About Firmware updates

There are different ways to update the Base Unit software:

- automatic update when connected with the network or your device is configured in XMS cloud.
- via the Configurator, for more information, see “*Firmware Update*”, page 103.
- by copying the software on a USB stick

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

1. Download the latest version of the firmware from Barco's website, *www.barco.com/clickshare*. Click on **Support** and select the update firmware button of your device type.
2. Unzip the zip file.
3. Copy the ENC file to a USB stick.

   You can have multiple firmwares for multiple device types on the same stick.
4. Insert the USB stick into the USB port at the front of the Base Unit.
5. Follow the instructions on the meeting room screen.
6. When the on-screen message indicates that the process is finished, remove the USB stick.

   The Base Unit reboots.

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. • Use another cable.
	Bad resolution of the display The system can handle the average laptop resolution of 3 Megapixel. However, up or down scaling on the meeting room display can cause visible artefacts.	Change the resolution on the web interface and match it to the native resolution of the meeting room display.
Users have a bad wireless connection. The connection from the Button to the Base Unit keeps falling away.	Wireless congestion	• 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. • Change the orientation of the antennas at the back of the Base Unit. • 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). • Check the browser settings.
	No connection	• There are three methods to access the web interface. Refer to the corresponding chapter of the documentation. • Check the proxy settings
Users do not get a ClickShare drive when inserting the Button in their laptop.	• No automatic refresh of drives • Windows tries to assign the ClickShare drive to an already reserved drive letter	• Refresh your view on the laptop. • Use Microsoft Windows Disk Management to assign it to a free drive letter.
	Bad connection at USB port on the laptop	• Reconnect to the USB port. • Try another USB port. • Reboot the laptop.
	• Some types of USB devices might be blocked as a company policy. • 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. • Disable the hardware acceleration for video. • Use only a part of the display to show the video. • Right click ClickShare icon in system tray and click on Capture mode to toggle the current setting..
	Wireless connectivity	See “Users have bad connectivity”
Video is not shown on screen	Player uses overlays	• Disable the usage of overlays in the preferences of the video player. • video is protected by HDCP and cannot be captured by ClickShare.
Some programs of Windows are not shown on the display	Use of overlays, 3D or hardware acceleration in the GPU	• Disable overlays or hardware acceleration in the GPU. • Disable AeroGlass in Windows 7 • Upgrade the Base Unit to the latest software version.
When using Windows 7 the following message about the Windows Aero color scheme appears: "Windows has detected your computer's performance is slow. This could be because there are not enough resources to run the Windows Aero color scheme. To improve...".	ClickShare uses resources from the GPU. In combination with other programs which do so, Windows 7 sometimes shows this message suggesting to disable Aero to improve the performance of your laptop.	It is safe to ignore this message and choose 'Keep the current color scheme'.
Your screen is not shown on the display when pressing the Button	The number of shared video’son the screen is exceeded. When roomdock is used, only one participant can share his screen.	Click and hold the button for 2 seconds to use the Show me full screen function.
	The ClickShare software is not running.	Go to the ClickShare drive and run the software.
Your content is removed from the display and the LEDs on the button are blinking white	Connection to the Base Unit is lost.	ClickShare tries to restore the connection automatically. If it fails, the LEDs on the Button start blinking red. 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.

Problem	Cause	Solution
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.	Move the Base Unit to another place in the room.
	Obstructions between Buttons and Base Unit cause lowering of the wireless strength and quality.	Avoid placing it inside cabinets, false ceiling, below the table, behind a wall, in another room, ...
		Re-orient the Base Unit antennas
		Check out the ClickShare White paper on WiFi See www.barco.com/clickshare.
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
Echo when using ClickShare in the call	Wrong micro selection	Select the microphone from the ClickShare system and not the PC microphone during the call.
	The peripheral is not cancelling the echo. As a result the microphone will pick up what the remote participant says and send it back in thecall	Use a correct device with echo cancelling.
	Massive reverb (echo, sound bouncing) in the room itself. This can also be the reason why the remote side can hear the in-room participants as if they sit in a metal can or a fishbowl if they do not sit directly in front of the microphone.	In these situations, the use of table (or ceiling) mics or the use of sound absorbing panels might be advised.

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

Barco knowledge base and YouTube videos

Go to the product page on Barco’s website and select in the right column **Support**. You will get access to Barco’s *Knowledge base* and *Latest tutorial videos*. For more YouTube videos, consult https://www.youtube.com/user/barcoTV and select ClickShare.

HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE
Wi Fi