

eARC JBL Soundbar Demo

With Dolby Atmos ™ support



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INTRODUCTORY

Thank you for purchasing the Createq BRIQX eARC Multi Brand Soundbar demo system, the demo system will give you the ability to demonstrate up to 4 JBL soundbars using the latest HDMI eARC technology (Enhanced Audio Return Channel) to ensure you can use the highest quality of audio and video signals on the connected products.

The system will simulate an eARC connection to a television for each of the 4 connected bars, this way they will always be connected with the highest possible quality.

The audio and video source for use on the bars is the BRIQX 4K media player that can send out up to 4K resolution video and HD and Atmos, the television will be connected to the BRIQX eARC demo using a HDMI connection as to have optimal picture quality.

In the case of connected soundbars that don't support eARC the system is backwards compatible and will use an ARC connection instead.

For controlling the system 7 illuminated pushbuttons are available, for bar selection 1 to 4 and 3 direct playlist buttons for Atmos, Movie and Music content as well as 2 volume control buttons.



CONTENTS

Please check if all the following items are present in your demo kit shipment:

- Mountingplate containing the main eARC interface, 4K30 mediaplayer and a button extension hub with interconnecting cables already installed.
- 12V/2A Power adapter
- Remote control for 4K30 mediaplayer
- 4pcs HDMI cable 3m labelled BAR1 to BAR4
- 1pc HDMI cable 3m labelled TV HDMI 1

SETTING UP PRODUCTS FOR USE WITH THE DEMO SET

SETTINGS TV

- The demo system has been designed to use a Samsung television to show the video content coming from the 4K30 mediaplayer, other brands might work too but are not guaranteed.
- On the TV make sure to <u>enable</u> the Anynet function usually found in the TVs settings under General->External Device Manager->Anynet+ (HDMI CEC).
- Disable any ECO settings in the TV that might switch it off after a set time or adjusts the brightness.
- Disable any screensaver functions present in the TV.

The eARC demo set will use HDMI-CEC to keep the television always on and the input source set to HDMI 1.

Would you like to be able to switch of the TV anyway, for instance at the end of the day it is possible to disable this function in the wifi setup menu of the eARC interface in the Shopmode Settings section.

SETTINGS SOUNDBARS

The BRIQX eARC demo set handles most of the functions normally covered by special POS modes available in the soundbar firmware's so the soundbars need to be in normal consumer mode, <u>no shopmodes can be enabled</u>.

The functions that are done by the demo system to ensure a proper demo and correct behavior are:

- Default volume settings per soundbar, resets after set period



- Power on watchdog, checks if the soundbar is still active if not the system sends the soundbar a power on command.
- Correct input watchdog, checks if the soundbar is still on the correct source input, if not switches it back to the eARC input.

ADJUST SETTINGS DEMO SYSTEM USING WIFI SETUP

There are multiple ways to use the eARC demo system and tune the system to your liking, the behavior of the pushbuttons can be changed and various other settings.

The settings can be accessed using your smartphone and connecting through wifi to the interface, to enable the wifi setup please follow these instructions:

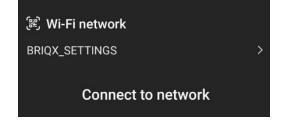


1.Wifisetup

- 1. Unplug the DC power connector from the interface.
- 2. While holding the wifi setup button on the side of the interface plug the DC power connector back into the interface, the blue LED next to the DC power connector should now be rapidly blinking.
- 3. Now unlock your smartphone and scan the QR code labeled "Open Wifi", this will show a dialog window on your phone asking to connect to BRIQX_SETTINGS, select Connect to network.



4. When asked to enable the connection without access to the internet confirm this.



5. Now scan the QR code labelled "Open Settings" and click to confirm you want to open http://10.10.10.10/settings

You are now in the Wifi Setup menu, here are the various settings available and their functionality:



2.Settings

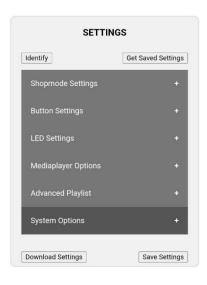


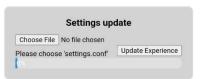
AVAILABLE SETTINGS

Identify button – pressing this button on screen will make the 4 soundbar selection buttons show a quick running light pattern, this to confirm you are connected to the right interface.

Get Saved Settings button – pressing this button on screen will load the current settings from the interface to the wifi setup menu.

Download Settings button – pressing this button will download the settings from the wifi setup menu to a settings.conf file on your smart device, this can be used to upload to another interface later or for backup purposes, you can upload the settings.conf (This must have exactly the same name and extension) using the File update section on the bottom of the wifi setup menu.





Save settings button – Pressing this button on screen will save the adjusted settings from the wifi setup menu back to the interface.

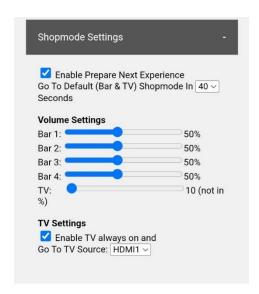
Choose file button – Lets you select a previously saved settings.conf file located on your phone or mobile device

Update Experience button – writes the loaded settings.conf file to the eARC interface.

Shopmode Settings

Opening this settings tab will show the **Volume Settings** with 5 volume sliders, 4 for the 4 soundbars and one for the television.

The volumes set here will be used as default volumes on the soundbars and television (TV volume not used in this setup), meaning that when a soundbar is selected it will be at the default volume set in this menu, when during the use of the demo system a customer changes the volume, it will be set back to this default volume level after a set period of time.





The default volumes can also be set using a pushbutton combination, when changed this way opening the wifi setup menu will reflect the adjusted default volumes when opened.

The time between the last button push and the default volumes to be set again can be adjusted here too, default is 40 seconds.

The volumes for the soundbars are represented as a percentage (10-100%), the volume for the television as a total of volume steps (10-100 steps).

The minimum volume is set to 10% to avoid having the soundbars be silent at any time when selected.

Under the **TV Settings** you will find the option to enable/disable the function to always keep the television powered on and set to a specific HDMI input, this is HDMI by default.

Don't forget to save the settings after you change the default volumes.

Button Settings

On this JBL version of the eARC demo the below settings do not function as a button extension PCB is being used, please disregard these settings.

On the button settings tab in the wifi setup menu the behavior for the pushbuttons connected to position F1, F2, F3 and F4 can be set and the double press and hold behavior of the soundbar selection buttons can be adjusted.

For the F1-F4 buttons the options are:

Disable - disables this button connection

XBUS – set this port for use with an X-bus extension module

Volume Up – Volume up

Volume Down - Volume down

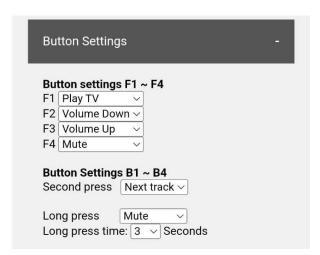
Mute - Mute audio

Next Track – Skip to next track

Play TV - Play audio from TV

Vendor Specific 1 – Vendor specific action

Idle – Set demo system back to idle mode





- The second press & long press on a bar selection button options are:

Disable – No action assigned

Mute - Mute the currently selected device

Next Track – Skip to the next track

Idle - Set demo system back to idle mode

Long press time – Time for the long press action to be executed when holding the pushbutton down

LED settings

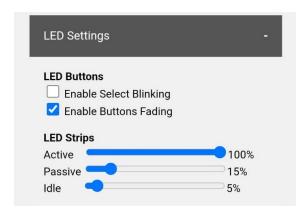
On this JBL version of the eARC demo no LED outputs are being used, please disregard these settings.

The LED settings tab in the wifi setup menu can change how the LED pushbutton illumination and LED outputs on the interface box behave.

LED Buttons

Enable Select Blinking – The led ring inside the soundbar selection buttons will give a confirmation blink when the corresponding soundbar position is selected.

Enable buttons Fading – The led rings inside the soundbar selection pushbuttons will slowly fade in- and out when the demo system is in idle mode.



LED Strips

Active – This slider sets the LED outputs brightness when the corresponding soundbar position is selected.

Passive – This slider sets the LED outputs brightness when the corresponding soundbar position is not selected.

Idle – This slider sets the LED outputs brightness when the demo system is in idle mode.



Mediaplayer Options

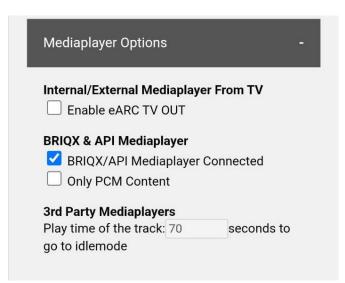
In the media player settings tab, various settings regarding the use of a mediaplayer in the demo system can be set.

Internal/External Mediaplayer
From TV – this function is not being

used in this specific setup, leave disabled.

BRIQX & API Mediaplayer – leave the first checkbox enabled as the demosystem uses the BRIQX 4K30 mediaplayer in this setup.

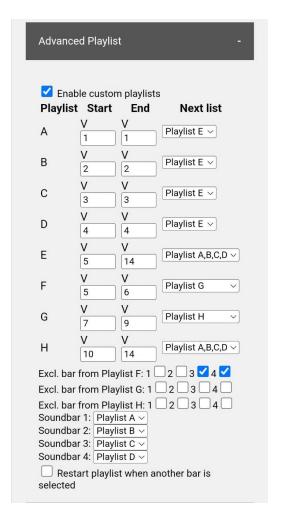
Leave the Only PCM Content checkbox unchecked to enable Dolby Atmos playback



3rd Party Mediaplayers – Only used when using non-BRIQX mediaplayers, not enabled in this setup.

Advanced Playlist

This section of the settings lets you set advanced playlist options for the pushbuttons, as the JBL eARC set uses a button extension PCB these options are pre-set and should not be changed, shown in the picture are the default settings for a JBL eARC set.





System Options

In the system options tab, some general functionality can be adjusted.

QBUS Address – Only used in setups with more than one eARC interface, leave on 1 for this set.

Enable Startup delay 2 minutes -

Enabling this option will add 2 minutes to the startup time for the demo system, this optionally gives soundbars more time to boot up when power is applied to the system, advised to leave enabled.

Autoplay Video When Selecting Bar deselect When Only Attractloop Is Available Or BRIQX API Is Used -

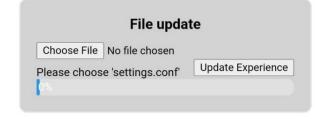
Advanced function, leave enabled for this setup.

Load Factory Settings button – pressing this button on screen will load the factory settings for the demo system, this will erase all previous settings!

Loading settings backup

A previously saved settings.conf file can be uploaded to the demo system to set all the options to the desired values in one action.

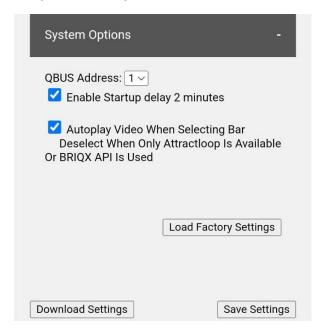
Make sure the settings.conf is on your smartphone and press the Choose File



button on screen, this will open a file dialog where you can select the backup settings file on your smartphone.

Make sure that the correct file is selected and press the Update Experience button on screen.

The settings will be uploaded instantly, and a confirmation will be shown on your smart device, reset the demo system for the new settings to be used.





UPDATING DEMO SYSTEM FIRMWARE

To add new features to the demo system, add support for new products or change the behavior or capabilities otherwise the firmware of the eARC demo system can be updated using the wifi setup menu.

The latest software version or vendor specific software versions for the eARC interface are available on the support page for this product or the vendor sections on the support page, the link is: https://www.createq.nl/en-gb/JBL

Transfer the update.bin file to your smartphone and connect to the wifi setup as described below:

- 1. Disconnect the DC power connector from the BRIQX interface.
- 2. While holding down the Wi-Fi setup button located on the side of the interface, reconnect the DC power connector to the interface. The blue LED next to the DC power connector should start rapidly blinking.
- 3. Unlock your smartphone and scan the QR code labeled "Open WiFi." This will display a dialog window on your phone, prompting you to connect to BRIQX_SETTINGS. Select "Connect to network."
- 4. When asked to enable the connection without access to the internet, confirm your selection.
- 5. Open your smartphone's browser and navigate to http://10.10.10.10/update
- 6. You will now be in the Firmware Update menu. Use the "Choose File" button to open a file dialog on your smart device. Select the provided "update.bin" file.
- 7. Press the "Update" button on the screen to initiate the updating process. Ensure that the power to the demo system is not disconnected during this process.



8. A progress bar will be displayed, indicating the status of the update. Once it reaches 100%, the demo system will automatically restart and be ready for use again.

FIRMWARE UPDATE



CONNECTING THE DEMO SET

The eARC demo set has the capability to provide the audio signal coming from the BRIQX 4K30 mediaplayer to 4 connected soundbars.

PHYSICAL CONNECTIONS TO MAKE TO PRODUCTS

When using a full 4 soundbar setup the physical connections to the products to make are:

- 1. Connect the soundbars you want to use in the demo to the HDMI connectors labelled BAR 1 to BAR 4 on the interface, <u>use the eARC or ARC HDMI ports on the soundbars</u>.
- 2. Connect the television to the TV OUT port on the interface and use the HDMI 1 input on the television.
- 3. Connect the BRIQX 4K30 HDMI output of the player to the HDMI connector labelled MEDIA HDMI IN on the interface.
- 4. Connect the various pushbuttons that you want to use in the system, the soundbar selection buttons connect to the BAR1, BAR2, BAR3 and BAR4 connectors on the button extension PCB, as well as the 3 playlist buttons Atmos, Movie and music and the two volume buttons..
- 5. Connect the supplied 12V2A power adapter to the 12V DC input on the module to power the eARC demo system.

See the Wiring Diagram in the back of this manual for a visual representation of connections



CONNECTING SOUNDBARS

The JBL soundbars are numbered from BAR1 to BAR4 with the highest modelnumber bar connected to the BAR 1 position, for example :

BAR1 = BAR 1000

BAR2 = BAR 800

BAR3 = BAR 500

BAR4 = BAR 300

In some setups only 3 bars are being used instead of 4, check the base configuration of the set and leave the bar position that is not being used empty in that case, in the above setup if only BAR 800,500 and 300 are being used use the following connections:

BAR1 = Leave empty

BAR2 = BAR 800

BAR3 = BAR 500

BAR4 = BAR 300

The soundbars connected to the demo system are hot-swappable, meaning you can connect and disconnect them while the system is powered and after the bar has fully booted it will be ready for use on the POS system.

There will be a text show on the television showing HDMI x Connected or HDMI x Disconnected to indicate and confirm any connects or disconnects.

When a soundbar is connected to the demo system the demo system scans the soundbar to find out if it is an ARC or eARC enabled soundbar and will set the demo system options accordingly.

You can check if the demo system recognizes the soundbar as an ARC or eARC enabled bar by the behavior of the soundbar selection pushbutton when the soundbar is first plugged into the system.

- When the soundbar is detected as eARC compatible the pushbutton will blink once.
- When the soundbar is detected as only ARC compatible it will blink 10 times in rapid succession.



The eARC demo system does not support using the HDMI IN ports on the soundbar, make sure to use the HDMI eARC or HDMI ARC connection on the soundbar as shown below.







 Connect the powercords supplied with the soundbars to the mains power, preferably to the same switched mains sockets as the TV and eARC demo set.



CONNECTING THE TELEVISION

The television is used to display the video content coming from the eARC demoset

- 1. Connect the HDMI cable coming from the TV OUT HDMI port on the eARC interface to the HDMI 1 input on the television, make sure this matches the port settings in the setup menu of the EARC interface, default is HDMI input 1.
- 2. Connect the powercord from the television to the mains power, preferably to the same switched main sockets as the soundbars and eARC demo set.

The TV gets connected using a HDMI cable for the audio and video signals and with certain brands and/or models an additional USB cable to a communication port on the demo system module is needed to be able to control the volume level on the TV.

CONNECTING QBUS

In this setup only a short QBUS connection is needed between the main eARC interface and the buttons extension PCB, this is already installed previously.



OPERATING THE DEMO SET

DEMO SYSTEM STARTUP

When the 12V DC power is applied to the demo system the boot process will start indicated by the blinking of the soundbar selection pushbuttons, this process in standard configuration takes about 1 minute, possible more when the option for an extra delay is selected in the settings menu.

The demo system will indicate it is ready for use by starting its idle mode routine that is indicated by the slow fading in and out of the LED rings in the bar selection push buttons.

We strongly advise to have the connected products like the soundbars and television on the same electrical outlet and/or switch as the demo system itself so that they always boot at the same time when the mains power is switched on.

During the idle mode the attract loop video is shown on the television and the soundbars are muted.

SELECTING A SOUNDBAR

Using one of the selection pushbuttons the connected soundbars can be selected for playback, this will set the volume of the selected soundbar to its predetermined volume level and start the first selection video which is the product video corresponding to that soundbar position.

Now any other connected soundbar can be selected if the product video of the previously selected sundbar is playing the product video of the newly selected bar will now start playing, if any other video was playing it will start playing back the audio from the already playing selection video, so that a good comparison can be made between the soundbars.

Double pressing or holding one of the selection buttons can trigger another action, like next track or mute, determined by the settings in the settings menu.

After a certain time of no user interaction with the demo system or when the playing selection video is ended the demo system will return to its idle state.



ADJUSTING THE DEFAULT VOLUMES

To set the default volumes for the connected soundbars there are two procedures, one is using the wifi setup menu for the demo system, the second procedure is using the selection pushbuttons for the bars.

- 1. To enter the default volume mode please press and hold the corresponding soundbar selection pushbutton for about 15 seconds, the illuminated ring on the pushbutton will start blinking rapidly, you have now entered the default volume mode for this soundbar.
- 2. Now use the volume buttons present on the soundbar itself to set your desired volume level.
- 3. Once you are happy with the new default volume give the bar selection pushbutton one press and you will have stored the new default volume level for that individual soundbar.

To set the default volumes using the wifi setup menu please refer to the corresponding section in this manual.



Content Update

Besides the updating possibilities for the firmware and settings of the eARC module when using the BRIQX 4K30 media player with the eARC demo system it is also possible to easily update the content used for the videos and overlays that are being played back and shown on screen.

We advise to not attempt a content update without consulting your supplier or distributor of the POS display you have received as it may result in mismatching functionality/graphics or losing the original content that is pre-installed on the system.

Here are some of the details regarding the content and content updating.

Content Settings

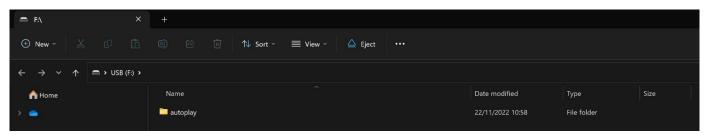
The BRIQX 4K30 player supports 4K resolution video files reliable up to 30 frames per second with a preference for the H265 codec with a bit rate of 30mbps.

For the overlay files we recommend using a maximum resolution of 1920x1080 even when using 4K video output, as this scale the most optimal.

The overlays must be PNG graphic files with transparency support, the video playing behind the overlay will then show through the transparent parts of the PNG file, partial transparency is supported.

Attract Loop videos

- All videos must be placed into the /autoplay folder in the root of the USB pendrive.



- The attract loop videos must start their filename with Axx__ (that is two underscores)
 - So, the first file is named A01_xxxxxxx.mp4
 - The second file is named A02_xxxxxxx.mp4 etc.
- So, all the video files which names start with Axx_ will play in a continues loop.



- A00 cannot be used as a filename as that is reserved as a special command.

Selection videos

- The selection videos must also be placed in the /autoplay folder of the USB pen drive.
- The selection video file names must start with Vxx__
- So, the first selection video file is named V01_xxxxxxx.mp4

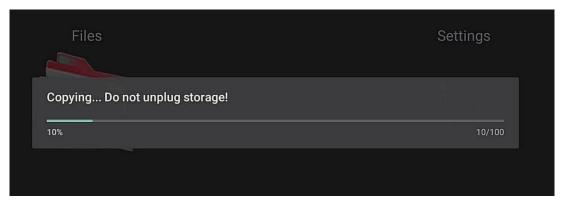
 The second selection video file is named V02 xxxxxxx.mp4 etc.
- The selection video files are bound to a specific selection action in the switching interface that the video is tied to in the interface software.
- V00 cannot be used as a filename as that is reserved as a special command.

Overlays

- To use graphical overlay files, they too must be placed in the /autoplay folder of the USB pen drive.
- The overlay files must be PNG graphic files with transparency support.
- 1920x1080 resolution gives the best results.
- The graphical file names must start with OVLxx
- The first overlay file is named OVL01_xxxxxxxx.png
 The second overlay file is named OVL02_xxxxxxxx.png
- OVL00 cannot be used as a filename as that is reserved as a special command.

When the USB pen drive is prepared and loaded with all the files (that are all inside the /autoplay folder) stick the pen drive in the USB-A socket on the media player.

The player will now automatically transfer the files to the internal memory of the player, a progress bar is shown and when the bar disappears the USB pen drive can be removed and the player should start auto playing all the attract loop video files in a continues loop.





If later the need to replace one or more files arises it is important to put all the content on the USB pen drive and not only the files that you want to update.

It is important to always provide the full content package on the USB pendrive when performing a content update, as leaving any files of ill delete those file from the original content stored inside the mediplayer.

A powercycle of the demo system is always required after a content update to get the system functioning again.

Filenames

The eARC demo system in connection with the BRIQX 4K30 player uses a standard set of content filenames to ensure the correct functioning together, here is a listing of the standard files, the important part are the first characters including the double underscores ex. A01__, everything behind those characters can be anything you like, represented below as xxxxxx.

Video Content	Usage
A01_xxxxxx.mp4	Attract loop video
V01_xxxxxxx.mp4	Product Video Bar1
V02_xxxxxx.mp4	Product Video Bar2
V03_xxxxxx.mp4	Product Video Bar3
V04_xxxxxx.mp4	Product Video Bar4
V05_xxxxxxx.mp4	Atmos trailer 1
V06_xxxxxxx.mp4	Atmos trailer 2
V07_xxxxxxx.mp4	Virtual Surround Trailer
V08_xxxxxx.mp4	Movie Trailer 1
V09_xxxxxxx.mp4	Movie Trailer 2
V10_xxxxxx.mp4	Music Track 1
V11_xxxxxx.mp4	Music Track 2
V12_xxxxxx.mp4	Music Track 3
V13_xxxxxx.mp4	Music Track 4
V14_xxxxxx.mp4	Music Track 5
Overlay Content	Usage
OVL06_xxxxxxx.png	Dolby Atmos Exemption Message
OVL79_xxxxxxx.png	Boot screen overlay
OVL80_xxxxxxx.png	HDMI 1 Connected overlay
OVL81_xxxxxx.png	HDMI 1 Disconnected overlay



OVL82_xxxxxx.png	HDMI 2 Connected overlay
OVL83_xxxxxxx.png	HDMI 2 Disconnected overlay
OVL84_xxxxxx.png	HDMI 3 Connected overlay
OVL85_xxxxxxx.png	HDMI 3 Disconnected overlay
OVL86_xxxxxx.png	HDMI 4 Connected overlay
OVL87_xxxxxxx.png	HDMI 4 Disconnected overlay
OVL88_xxxxxxx.png	Please wait overlay
OVL89_xxxxxxx.png	Ready for use overlay
OVL90xxxxxx.png	Next track overlay
OVL91_xxxxxx.png	Volume down overlay
OVL92_xxxxxx.png	Volume up overlay
OVL94_xxxxxx.png	Soundbar 1 selected overlay
OVL95_xxxxxxx.png	Soundbar 2 selected overlay
OVL96_xxxxxx.png	Soundbar 3 selected overlay
OVL97_xxxxxxx.png	Soundbar 4 selected overlay
OVL99_xxxxxx.png	Dummy overlay

Should you like other overlays or content functionality than described here please contact us for a bespoke solution.



TROUBLESHOOTING

FAQ

Supported Audio Formats

Below is a list of audio formats which eARC can support:

Uncompressed Formats:

- 2 to 8 channels, all HDMI standard sampling rates, frequencies, and bitrates up to 192 kHz and 24 bits
- Up to 32 channels, using reduced sampling rates, such as 16-channel 96 kHz and 32-channel 48 kHz

Dolby Formats:

- Dolby Digital (AC-3)
- AC-4
- Dolby Digital Plus (E-AC-3, 192 kHz x 2 ch x 16 bits bandwidth)
- Dolby TrueHD
- Dolby Atmos

DTS Formats:

- DTS
- DTS-HD Master Audio
- DTS: X

Fraunhofer Formats:

- MP3
- AAC-LC
- HE-AAC
- HE-AACv2
- AAC-LC and HE-AAC combined with MPEG surround
- MPEG-H 3D Audio



PROBLEM - SOLUTION LISTING

Television not showing videosignal/switching to wrong HDMI input	- Check if the HDMI input setting in the wifi setup menu of the eARC interface matches the physical HDMI input used on the television
Soundbar not playing back audio	 - Check if the HDMI cable going to the soundbar is connected to an eARC or ARC HDMI port, it should not be connected to a normal HDMI Input port. - Check if the soundbar is in shopmode, its should be in normal consumer mode
Television not powering on when powering the POS set	- Check if the Anynet (HDMI-CEC) function is enabled in the settings menu for the TV
After updating the content no videos are playing	 Make sure to powercycle the demoset after a content update Make sure to provide a full content package when updating the content, only providing a single file on the USB pendrive will delete all other content already present on the meiaplayer



HOW TO CONTACT US FOR TECHNICAL ASSISTANCE (PHONE/EMAIL/WEB)

For technical assistance please contact us at:

Createq B.V.

Het Witte Hert 14

1601MJ Enkhuizen

Netherlands

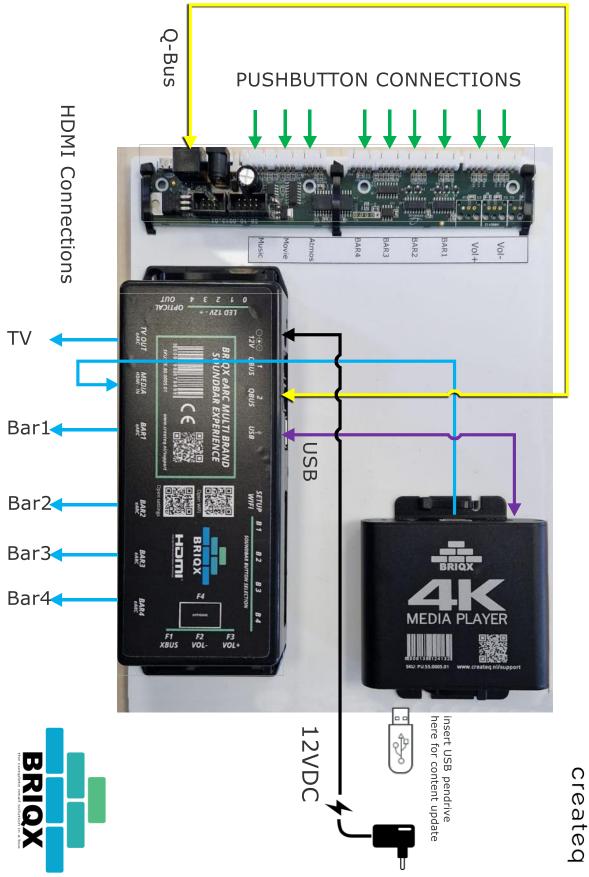
+31(0)228 321155

help@createq.nl

^{*}The product images shown are for *illustration purposes only* and may not be an exact representation of the product.



CONNECTION DIAGRAM



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