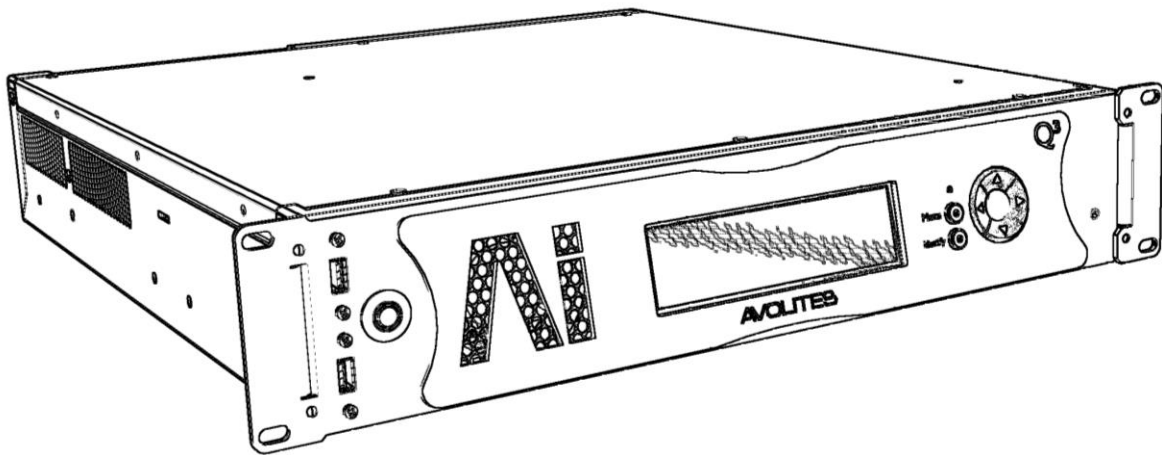


Avolites Ltd Q3, Q3H and Q3pro User Manual



For MK1 DVI hardware and MK2 HDMI hardware

Manual Stock number M8200-8000

Related to software versions and dates

Firmware August 20 2018

Ai V10.3

USB Expert V6.6 build 14

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*Before contacting Avolites for service enquiry please ensure that you have the product serial number and the Software version (shown at switch on).

The latest version of this manual and Ai Q3media server Software can be downloaded from the Avolites website.

The small print:

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Avolites has a policy of continuous product and documentation improvement. As such the detail within this manual may not match the operation of the Q3 Media server range.

In no event shall Avolites be liable for any direct, indirect, special, incidental, or consequential damages or loss whatsoever (including, without limitation, damages for loss of profits, business interruption, or other pecuniary loss) arising out of the use or inability to use the Q3 Media server range even if Avolites Ltd. has been advised of the possibility of such damages. Because some jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damages, the above limitation may not apply to you.

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1. PLEASE READ THIS	4
2. THIS DOCUMENT	5
2.1 Q3 media server variants	5
2.2 Important product safety information	8
2.3 Quick start instructions	11
3. DETAILED FEATURES	12
3.1 Front USB connection	12
3.2 Front UI control buttons and LCD	12
3.3 Front headphones connection	12
3.4 Mains inlet and loop out	13
3.5 Ethernet connections	13
3.6 LTC input and loop out	14
3.7 Audio Out	14
3.8 Midi Input	15
3.9 Rear USB connections	15
3.10 GUI DVI ports	15
3.11 Production DVI ports (Q3HMK1)	16
3.12 DVI protector information	16
3.13 Production DisplayPort (Q3HMK1)	17
3.14 Production HDMI ports (Q3 and Q3pro MK11 servers)	17
3.15 Optional Genlock input	17
3.16 Optional capture card	18
4. DETAILED SETUP SOFTWARE FEATURES	18
4.1 LCD appearance	18
4.2 Screen text samples in this manual	19
4.3 Main screen information	20
4.4 Menu structure and navigation	21
4.5 Output Setup	22
4.6 System frame rate setup	26
4.7 IP setup	27
4.8 Panel Lock	29
4.9 Headphone level	30
4.10 System Tools	31
4.11 Output capacity licencing	33
4.12 Screen order management	35
4.13 Custom DVI port EDID	35
4.14 OS recovery	36
5. HARDWARE SPECIFICATION.	37
5.1 Hardware specification	37
6. INSTALLING OPTIONAL CARDS	39
6.1 Installing optional capture card	39
6.2 Installing optional Genlock card	41
7. APPENDIX	42
7.1 Appendix A: Sales part numbers	42
7.2 Appendix D Firmware upgrade procedure	43

INTRODUCTION

1. Please read this



The Q3 and Q3pro Media server is a high performance server that needs to be treated right to gain the best performance, please follow the below instructions to assure a good experience with this product.

- Always connect the server to an earthed single phase mains supply.
- It is recommended to run the server from a UPS, the server can demand a maximum of 275W power.
- Ensure that the connected video sources and drains are at the same potential as the server (share the same electrical protective earth, PE conductor).
- Do not force video connectors as this may damage internal PCBs. Always use the supplied DVI-protectors and replace them when damaged or worn (PN M1808-0200)
- Always allow the server to properly shut down. Do not force a shutdown or unplug the mains while the server is active.
- Take care with USB drives to not introduce viruses onto the server.
- Support the server properly inside 19" racks, do not mount just on the front brackets, see the top of the server case label for instructions
- Read section 2.2 Important product safety information

2. This document

This manual is designed to help you get the most out of your Avolites Q3 and Q3pro Media server, even if you hate reading manuals, read this section (Section 2) because the next couple of pages contain some **important safety information** and product information which you should be aware of. This manual is about the hardware and the hardware setup as well as firmware features. The manual for the Ai media server application is available on the Desktop of the server when energized and can be downloaded from the Avolites website.

2.1 Q3 media server variants

The Q3 Media server currently has 3 variants:

Q3 MK1 SN 001-100 with a production output configuration of 2x DVI and one DisplayPort. This hardware will only support Firmware version and therefore some features described below may not be available. This will be marked as MK1, Not Available in the notes

and

Q3 and the Q3Pro with a production output configuration of 3x HDMI both are MK2 hardware

See below for the differences in capacity for each of the server variants

2.1.1 *The Q3 MK1 DVI Media server capacity and features;*

1x graphics user interface port (GUI) on DVI (single link) with Hardware EDID support,

2x Program output (DVI-1 and DVI-2) DVI (single link) with Hardware EDID support,

The above DVI ports can support the following resolutions in Progressive scan format also known as non-interlaced scanning.

720x576, 800x600, 1024x768, 1280x720, 1280x768, 1280x1024, 1360x768, 1400x1050, 1440x900, 1600x900, 1600x1080, 1920x1080, 1920x1200, and 2048x1080

The above DVI ports can support the following frequencies for the above resolutions: 24, 25, 30, 50, 60, and 75hz

See "GUI settings and Output settings" for further details on how to change the outputs.

1x DisplayPort Production output with Software EDID support

Resolutions up to 4K@ 24, 25, 30, 50, and 60Hz

Expected server capacity;

Using the highest quality AiM file format the Server is expected to deliver the following:

3 HD (1920x1080) fixtures with 4 layers each @ 60hz render frame rate using AIM Superstream content 30 F/seconds.

or

2 HD fixtures plus one 4K (3840x2160) fixture with 3 layers each @ 60hz render frame rate using AIM Superstream content 30 F/seconds.

Using the lower quality "Performance" AIM file format or the "Quality" Aim format can give more layers or framerate.

Note: The use of larger canvas sizes, Art-net pixel data, NDI streams, generative content, other AIM files, Synergy features and or custom patches may alter the above server capacity results.

Note: Please read the Ai user manual regarding the different AIM file formats and their use.

Note: High ambient temperatures may reduce GPU performance.

Note: MIDI input is not yet supported in Ai V10.3 on the Q3 hardware

2.1.2 *The Q3 MK2 HDMI Media server capacity and features;*

1x graphics user interface port (GUI) on DVI (single link) with Hardware EDID support,

3x Program output (HDMI-1, HDMI-2 and HDMI-3) all with hardware EDID support.

The HDMI 1,2 and 3 ports can support the following resolutions in Progressive scan format also known as non-interlaced scanning.

720x576, 800x600, 1024x768, 1280x720, 1280x768, 1280x1024, 1360x768, 1400x1050, 1440x900, 1600x900, 1600x1080, 1920x1080, 1920x1200

The above HDMI ports can support the following frequencies for the above resolutions: 24, 25, 30, 50, 60, and 75hz

Further the HDMI-1 can support Resolutions up to 4K@ 24, 25, 30, 50, and 60Hz

See "GUI settings and Output settings" for further details on how to change the outputs.

Expected server capacity;

Using the highest quality AiM file format the Server is expected to deliver the following:

3 HD (1920x1080) fixtures with 4 layers each @ 60hz render frame rate using AIM Superstream content 30 F/seconds.

or

2 HD fixtures plus one 4K (3840x2160) fixture with 3 layers each @ 60hz render frame rate using AIM Superstream content 30 F/seconds.

Using the lower quality "Performance" AIM file format or the "Quality" Aim format can give more layers or framerate.

Balanced Audio Out on two XLR connectors

Isolated Timecode LTC "In" and "Thru" (balanced input)

1TB NVMe Content drive

Note: The use of larger canvas sizes, Art-net pixel data, NDI streams, generative content, other AIM files, Synergy features and or custom patches may alter the above server capacity results.

Note: Please read the Ai user manual regarding the different AIM file formats and their use.

Note: High ambient temperatures may reduce GPU performance.

Note: MIDI input is not yet supported in Ai V10.3 on the Q3 hardware

2.1.3 *The Q3Pro MK2 HDMI Media server capacity and features;*

1x graphics user interface port (GUI) on DVI (single link) with Hardware EDID

support,

3x Program output (HDMI-1, HDMI-2 and HDMI-3) all with hardware EDID support.

The HDMI 1,2 and 3 ports can support the following resolutions in Progressive scan format also known as non-interlaced scanning.

720x576, 800x600, 1024x768, 1280x720, 1280x768, 1280x1024, 1360x768, 1400x1050, 1440x900, 1600x900, 1600x1080, 1920x1080, 1920x1200

The above HDMI ports can support the following frequencies for the above resolutions: 24, 25, 30, 50, 60, and 75hz

Further the HDMI-1 and HDMI-2 can support Resolutions up to 4K@ 24, 25, 30, 50, and 60Hz

See "GUI settings and Output settings" for further details on how to change the outputs.

Expected server capacity;

Using the highest quality AiM file format the Server is expected to deliver the following:

3 HD (1920x1080) fixtures with 4 layers each @ 60hz render frame rate using AIM Superstream content 30 F/seconds.

or

2 HD fixtures plus one 4K (3840x2160) fixture with 3 layers each @ 60hz render frame rate using AIM Superstream content 30 F/seconds.

Using the lower quality "Performance" AIM file format or the "Quality" Aim format can give more layers or framerate.

Balanced Audio Out on two XLR connectors

Isolated Timecode LTC "In" and "Thru" (balanced input)

1TB NVMe Content drive

Note: The use of larger canvas sizes, Art-net pixel data, NDI streams, generative content, other AIM files, Synergy features and or custom patches may alter the above server capacity results.

Note: Please read the Ai user manual regarding the different AIM file formats and their use.

Note: High ambient temperatures may reduce GPU performance.

Note: MIDI input is not yet supported in Ai V10.3 on the Q3 hardware

2.2 Important product safety information

Please read the following text regarding product safety information

2.2.1 *Product weights and safety*

- Take care when lifting the product, see approximate product weights below;
 - Approximate product weight 11 Kg / 25 lbs
 - Approximate product weight Boxed as shipped 11 Kg / 25 lbs

2.2.2 *Environmental maximums*

- Do not operate the Q3/Q3Pro Media server if the humidity and ambient temperature cause condensation on or inside the product, allow the product to dry first before connecting to the mains supply.
- Max humidity is 95% relative humidity non-condensing
- Operating temperature range 0-40 °C or 32-104°F
- Storing temperatures -15- 50°C or 5-122°F

2.2.3 *Electrical safety*

- All Avolites media servers must be connected to protective earth (PE) when energized.
- Do not use the product if the mains inlet is damaged
- Do not use the product if the mains system is not in accordance to the below mains voltages information
- Do not open the product while connected to mains unless qualified to do so.
- Hazardous mains voltages are present inside the case and the PSU while connected to the mains.
- Hazardous voltage may be present inside the PSU for up to one minute after disconnecting from the mains.

2.2.4 *Mains Voltages:*

- The minimum and maximum voltage ratings are: 90-240V AC $\pm 10\%$
Single phase with the following connections:
Phase, Neutral and PE (protective earth) with the Neutral at PE potential
- Mains frequency 50-60hz $\pm 10\%$
- Power consumption Max 275W , 4~2.8A (110~240V AC)

2.2.5 *CMOS battery*

The product motherboard contains a Lithium-ion button cell for CMOS data retention.

This battery is used to maintain CMOS data when the product is not powered, this battery will need to be replaced at least every five years. If the product is mostly off for long periods or in cold environments then it may need an earlier replacement.

Replacement PN 11-03-0018



Recycle the CMOS Lithium-ion button cell battery in accordance with local law
Please be aware that Lithium-ion button cells are a particular danger to small children.

2.2.6 *Servicing the product*

- Leave repairs and service to qualified personnel.
- Hazardous voltages are present inside the server when connected to the mains, even if the server is switched off.
- Always disconnect from the mains before opening the server.
- Hazardous voltage may be present inside the PSU for up to one minute after disconnecting from the mains
- Do not operate the Q3 media server without the PowerCON internal cover.
- Replace safety critical parts like PSU, battery, fuses, mains connector, and internal mains lead with original parts.
- Remove the Power and wait for the VSB standby rail to be drained.
- Use ESD protection devices when servicing the server.
- Take care when replacing the battery to not short the outputs of the battery
- Take care not to obstruct the CPU or PSU fan
- When cleaning any fan inside the server with compressed air or a vacuum cleaner, take care to not allow the fan to spin.
- Take care not to bend the PCIe looms with a small radius.

2.3 Quick start instructions

2.3.1 Connecting

- Connect the server to mains (240V/110V Single phase L+N+PE) using a Neutrik PowerCON TRUE1 mains connector.
 - Connect a monitor to the GUI DVI output (preferred resolution 1920x1080)
 - Connect one or more output devices to the production outputs (i.e. monitors, projector, LED screen)
 - Connect a keyboard and mouse to the rear or front USB ports
-

2.3.2 Switching on

- Switch on the server by pressing the Blue flashing power switch on the left hand front panel.
-

2.3.3 Production outputs

- Check that the set resolutions are correct for your application by,
 - Press the [Left] or [Right] button to show the output resolutions
 - If correct proceed to "Ethernet setup"
-

2.3.4 Production outputs setup change

- When the OS and Ai has started
 - Close down the Ai application
 - On the front panel select [Menu]
 - Select "Output Setup" by using [Left and Right cursor] and press [OK]
 - Select "Output" by using [Left] and [Right cursor] and use [Up] and [Down] cursor] to select the desired output resolution. Press [OK] to save this setting.
 - The server will now adjust the outputs which may take up to 10 seconds
 - Press MENU to exit
 - Start-up Ai
-

2.3.5 Ethernet setup

- When the OS and Ai has started
 - Close down the Ai application
 - On the front panel select [MENU]
 - Select "Ethernet" by using [Left] and [Right cursor] and press [OK]
 - Select "Ethernet port 1 or 2" by using [Left and Right cursor] use [Up and Down cursor] to select the desired address. Press [OK] to save this setting.
 - Press MENU to exit
 - Start-up Ai
-

2.3.6 Setting up Ai

- In Ai media server application, click on the Ai logo in the right bottom corner, this is the navigation button
- Then select the [file], and then [project browser] button.
- Select your project file, a template, or a blank project

Using the 'Single Screen' template will open a new project with the outputs configured.

2.3.7 Using Ai

- Using the Navigation Button, select [Perform] then [Performance], this will open the main Performance Workspace.
- In the centre of the screen is the Default Media bank. Media can be played by a [Left-Click] on the desired media tile.
- To add more media into the media bank, drag-and-drop files from Windows Explorer into Ai.

Note: Videos must be encoded in the AiM Codec. Details on how to perform this can be found at www.avolites.com

3. Detailed features

3.1 Front USB connection

3.1.1 Front USB connection 2x

USB3 Connection with legacy USB2.0 enabled. These ports can be used for keyboard & mouse as well as content transfer. Do not use these ports to play media content from.

3.2 Front UI control buttons and LCD

3.2.1 Menu

This key is used to enter the front panel menu for systems setup and also to exit from the menu, follow the prompts on the front screen. This key is noted as [Menu] in this manual.

3.2.2 Identify

This key will be used in conjunction with Avolites Titan and Synergy to quickly pair a Q3 media server with a Titan console.

3.2.3 Cursor keys

These are used to navigate the menu structure, or expose additional information. These keys is noted as [Left], [Right], [Up], [down] in this manual.

3.2.4 OK

This key is used to select a function, or to commit a setting to the hardware. This key is noted as [OK] in this manual.

3.2.5 LCD

The RGB LCD is controlled by the hardware brightness is automatically set and is not adjustable

3.3 Front headphones connection

3.3.1 Headphone connection

3.5mm Jack with the following connections:

Tip: Left, Ring: Right, Sleeve: Ground

3.3.2 Headphone signal level

The build in headphone amp can produce 35mW into a 32R load. The headphone level can be adjusted from the front UI. The base level is referenced to (follows) the level of the main audio output on the back of the server. This audio level is set in the windows UI.

3.3.3 Headphone audio level warning.



People who listening to headphones at high volume can suffer tinnitus (ringing in the ears) and irreversible hearing loss.

3.4 Mains inlet and loop out

3.4.1 Mains rating

The supplied main connection must according to the following information; 240V/110V Single phase L+N+PE, 50/60Hz with N at the same potential as PE.

3.4.2 Mains connectors

The mains inlet uses the Neutrik PowerCON TRUE1 mains connector. The mains loop out is directly connected to the mains input.

PowerCON TRUE1 mains connector is rated at 16A@240v and 20A@110V

The server draws up to 275W or 1.2A@240V or 2.5A@110V

The combined load from the server itself and the loop out cannot exceed the maximum of the PowerCON TRUE1 input connector (16A* for 240V or 20A for 110V)

3.4.3 Correct mains connector usage

Do not use copy or "equivalent" connectors on the mains inlet and loop-out, using copy or "equivalent" connectors will invalidate the warrantee.

Only use the Neutrik PowerCON TRUE1 connector.



* Note: when the mains feed cable is fitted with a 10A or 13A local connector the maximum server and loop-out current is reduced to the used local connector rating

3.5 Ethernet connections

Ethernet 1 and Ethernet 2 ports are identical in type, ratings, and setup

3.5.1 Connectors

The Neutrik EtherCON is compatible with standard RJ45 connectors, Avolites advises to use Cat5e or better cables.

3.5.2 Ethernet speed and status

The ports are 10/100Mb and 1Gb compatible, however for a reliable system Avolites strongly advises to only use 1Gb networks.

Each port has an indicator that shows the port status, the network connection state is also shown on the front LCD.

LED indicator	Port status	LCD indicator
Green	1Gb network connection	1Gb
Red	100Mb connection	100
Off	no connection	--

```
03H : Centre TC 24:60:60:25 Ai:Running Eth1:1Gb Eth2:1Gb
HDMI-1:Centre HDMI-2:IMAG:
HDMI-3:Wall
```

3.5.3 DHCP

Both ports are DHCP capable, DHCP is by default switched off.

DHCP can be enabled through the front UI, see below "Ethernet settings"

3.6 LTC input and loop out

3.6.1 LTC connector

Female XLR 3 pin, LTC input,

Male XLR 3 pin, LTC Loop through

The connector pinout are as follows:

XLR pin	Signal
1	Ground
2	- LTC
3	+ LTC

3.6.2 LTC signal

The SMPTE LTC input and loop-out are both balanced.

The input and loop out are connected in parallel, the input is protected with a 600Ω line transformer.

The signal levels can be between 100mV to 1.5V peak.

LTC grounding, if required the ground connection for the LTC input can be omitted by the user.

The ground of the Loop out is referenced to the server Chassis ground (PE).

3.6.3 LTC front readout

The LTC indicator will be shown and updated on the front panel when the Ai media server application is active. Without Ai running this front readout will not react to the LTC input.

Q3H : Centre	TC 24:60:60:25	Ai:Running
HDMI-1:Centre	HDMI-2:IMMS	Eth1:1Gb Eth2:1Gb
HDMI-3:Wall		

Alternatively, the LTC input can be interrogated using the USB expert application.

3.7 Audio Out

3.7.1 Audio connector

XLR 3 pin male connector

The connector pinout are as follows:

XLR pin	Signal
1	Ground
2	Cold
3	Hot

3.7.2 Audio Signals

Both audio L and R out are balanced signals. The signal level is referenced from the pc audio output.

3.7.3 Audio grounding

The ground of the audio out ports are referenced to the server chassis ground (PE)

If required the ground connection for the Audio output can be lifted by the user using the "Earth lift" switch on the back of the server. When this is done the Lifted LED indicator (Red) is lit.

3.8 Midi Input

3.8.1 MIDI connector

5 pin DIN 180°

The connector pinout are as follows:

DIN 5	Signal
1	NC
2	NC
3	NC
4	MIDI +
5	MIDI -

3.8.1 MIDI signal

The MIDI input is internally protected with an Opto-isolator and a 200Ω resistor as per the MIDI standard.

The Midi notes and timecode are passed to the Ai media server application, consult the Ai Media server manual for further setup information

The MIDI input can be interrogated using the USB expert application.

Note: MIDI input is not yet supported in Ai V10.3 on the Q3Hhardware

3.9 Rear USB connections

3.9.1 Rear USB connection 2x

USB3 Connection with Legacy USB2.0 enabled. These ports can be used for keyboard & mouse as well as content transfer. Do not use these ports to play media content from.

3.10 GUI DVI ports

3.10.1 GUI DVI connector

The connector is a DVI-D Dual link type (all pins fitted) to aid compatibility with the different cable types available, however the signals are DVI-D single link, therefore the maximum GUI resolution is 1920x1200.

3.10.2 DVI protector use

The server is shipped with DVI protector connectors, the use of these will prolong the life of the DVI output ports that are fitted on the server

3.10.3 GUI DVI signals

The GUI output signals are DVI-D single link only. Analog VGA is not supported without the use of an active converter.

3.10.4 GUI DVI Resolutions and framerates supported

For the resolutions and frequencies supported by the GUI, see server capacity above

3.11 Production DVI ports (Q3HMK1)

Production 1 and Production 2 ports are identical in type, ratings, and setup

3.11.1 Production DVI connector

The connector is a DVI-D Dual link type (all pins fitted) to aid compatibility with the different cable types available, however the signals are DVI-D single link therefore, the maximum resolution is 1920x1200.

3.11.2 DVI protector use

The server is shipped with DVI protector connectors, the use of these will prolong the life of the DVI output ports that are fitted on the server

3.11.3 Production DVI signals

The Production output signals are DVI-D single link. Analog VGA is not supported with the use of an active converter.

3.11.4 Production DVI Resolutions and framerates supported

For the resolutions and frequencies supported by the GUI, see server capacity above

3.11.5 Production DVI Enable

Production DVI ports can be disabled using the front panel interface, All production ports are enabled by default, however they will disable during an EDID change.

Production outputs that are enabled have a lit Green Led on the back of the server, and clear indication on the front panel.

3.12 DVI protector information

Even the gold plated DVI connectors that are used on the Q3 Server are typically only rated for a few hundred mattings, this is due to too high signal frequencies and low signal currents of the DVI TMDS signals.

Therefore the server is shipped with DVI protector connectors for the three DVI outputs, the use of these will prolong the life of the DVI output ports that are fitted on the server printed circuit boards.

Effects of worn connectors often show up as intermittent contact or loss of a single colour or green pixels near high contract edges in the images.

Spare DVI protectors can be ordered from Avolites by quoting part number M1808-0200

Note: There are many DVI protectors available online, however during testing Avolites has found a number of them to be bad in connection and image quality.

Note: When using very long DVI cables it may be necessary to remove the protector in order to get a good image quality, this is due to the signal losses incurred within the protector (like any connector in the signal path)

3.13 Production DisplayPort (Q3HMK1)

3.13.1 Production DisplayPort connector

The connector is a normal DisplayPort type (all lanes in use) that accepts lockable cables.

3.13.2 Production DisplayPort signals

The Production output is of the DisplayPort 1.4 type

Active DP to HDMI or DVI converters are supported

Avolites strongly advises to use the StarTech active converters, other converters may work however Avolites accepts no responsibility of they do not.

Do not use passive converters as these are not suitable for Media servers

3.13.3 Production DisplayPort Resolutions and framerates Supported

For the resolutions and frequencies supported by the Display Port production output, see server capacity above

3.13.4 Production DisplayPort Enable

Production DP port is enabled by default, there is no facility to disable this port

3.14 Production HDMI ports (Q3 and Q3pro MK11 servers)

Production 1,2 and 3 ports are identical in type, ratings, and setup

3.14.1 Production HDMI connector

The connector is a HDMI which can take a locking connector either with a screw or with the hook arrangement.



The signals are HDMI 2.0 compliant

3.14.2 Production HDMI Resolutions and framerates Supported

The table below shows the maximum resolutions supported by each output port for the different servers in the MK2 Q3 and Q3pro range

Server type	Production Output 1	Production Output 2	Production Output 3
Q3HMK2	max 4K@60	max 1920x1200@60	max 1920x1200@60
Q3Pro MK2	max 4K@60	max 4K@60	max 1920x1200@60

3.15 Optional Genlock input

The Q3 and Q3Pro Servers can be fitted with an optional Genlock card set.(Avolites PN M1796-1114). This option is either fitted at the factory or fitted after purchase. Instructions for fitting the options are given in a different section of this manual below.

3.15.1 *Optional Genlock input*

The Genlock input connector is a BNC connector 75Ω terminated

3.15.2 *Supported Synchronizing input signals*

The following signals can be used to sync against

- PAL & NTSC SD video blackburst
- HDTV tri-level sync
- TTL
- Sync signals on SDI

The supported sync frequencies are the same as the supported frame rates listed in the server capacity section above.

Setup of the sync signals and groups are done in the Radeon interface on the media sever windows environment for further information see the Ai application manual.

3.16 **Optional capture card**

The Q3 Server can be fitted with an optional capture card, there are currently two capture cards supported.

These options are either fitted at the factory or fitted after purchase.

Instructions for fitting the options are given in a different section below.

M1796-1110 Ai Q3 Server Dual SDI Capture

M1796-1111 Ai Q3 Server Single HDMI-I capture

Capture card capacities

Capture option	Connection	Resolution
Dual SDI Capture	2x 3G SDI (BNC in & Loop)	Support for all 3G/HD/SD video modes up to 1080p 60Hz
Single DVI capture	1x HDMI-I Dual link with converters HDMI and RGB	4096 x 4096 pixels and supports 1080p (1920x1080) at 60Hz
Dual DVI capture		

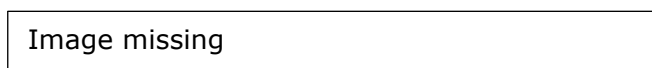
4. **Detailed setup software features**

4.1 **LCD appearance**

The LCD is an RGB LCD and the User interface uses colour to demark the different information zones. See sample screen shots below.

4.1.1 *Q3 MK1 DVI variant*

After power-up;



4.1.2 Q3 MK2 HDMI variant

After power-up;



4.1.3 Q3Pro MK2 HDMI variant

After power-up;



4.2 Screen text samples in this manual

This manual shows the HDMI version of the Q3 Server in the screen samples used to explain each feature, the difference is that the production outputs are listed as HDMI versus DVI or DP, the functionality of the menus are the same for each server, except for output capacity selections.

4.3 Main screen information

The LCD will always show the important data on the top two lines, the information presented is:

4.3.1 Server name, project name

Server name: this can be set in Ai. Pressing [Left] or [Right] will show the project name currently loaded in Ai

```
03H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
```

```
Script2 TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
```

4.3.2 Timecode readout

Timecode display: shows timecode entering the server when Ai is active.

```
03H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
```

4.3.3 Ai status

Ai application status: shows if Ai is active. In some cases the user must disable A to make changes to the hardware setup.

```
03H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
```

4.3.4 Ethernet status

Ethernet port 1 and 2 status, 1Gb indicates a 1Gb link active

```
03H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
```

4.3.5 Production output name, resolution

Production output name, can be set in Ai. Pressing [Left] or [Right] will show the output resolution.

MK1 DVI Q3 Server shown as sample

```
03H:00014 Centre TC 24:60:60:25 Ai:Running
DVI-1:Centre DVI-2:IMAG Eth1:1Gb Eth2:1Gb
DP-3:Wall
```

M2 HDMI Q3 Server shown as sample

```
03H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:1920x1080 HDMI-2: 1920x1080: Eth1:1Gb Eth2:1Gb
HDMI-3: 1920x1080
```

4.4 Menu structure and navigation

The Q3 media server uses a menu structure which is detailed below, to navigate through the menus:

- ➔ *Press the [Menu] Key*
- ➔ *Press [Left] or [Right] to select the desired function or function group*
- ➔ *Press [Up] or [down] to change a setting*
- ➔ *Press [OK] to accept a setting and commit it*
- ➔ *While in a menu level pressing [Menu] exits that menu level.*

4.4.1 Menu structure

The following menus are available

Output Setup	Set the resolution, frame rate and output state of the individual productions outputs and GUI output.
Frame rate setup	Set the system wide frame rate for the production and GUI outputs.
IP setup	Change the IP settings and DHCP for the Ethernet ports.
Panel lock	Lock the front panel UI.
Headphone	Change the front headphone level.
System Tools	Information about the system hardware, internal case fan test and wipe all.

4.5 Output Setup

To change the resolution of the production outputs and GUI follow the procedure below.

When changing resolutions and framerates, the Ai application will have to be shut down to allow for Ai to control the outputs correctly. You must manually shut down Ai before changing the resolutions.

The Q3Hsoftware will prevent you from making changes with Ai active, a message will appear when Ai is still active:

Ai must be stopped to save changes, press MENU to cancel

Note: There is no need to enter the output setup menu to review the selected resolution of an output. Stay in the top menu and press [Left] or [Right] and the top line will show the output resolutions.

4.5.1 Changing the Output resolution

→ Press the [Menu] Key

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG Eth1:1Gb Eth2:1Gb
HDMI-3:Wall

Output Frame Rate IP Panel Head- System
Setup Setup Setup Lock Phone Tools
```

→ Press [OK] select the "Output Setup" function.

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG Eth1:1Gb Eth2:1Gb
HDMI-3:Wall

Output Output Resolution Refresh State
Setup HDMI-1 1920x1080 60 Hz enabled
```

→ Press [Up] or [Down] to select which output to change

DVI-1/HDMI-1	Production output 1
DVI-2/HDMI-2	Production output 2
DVI-3/HDMI-3	Production output 3
GUI	Graphical User Interface DVI

→ Press [Right] to move to the Resolution field

→ Press [Up] or [Down] to select the desired resolution, see note below

→ Press [OK] to store this data

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG Eth1:1Gb Eth2:1Gb
HDMI-3:Wall

Output Output Resolution Refresh State
Setup HDMI-1 1920x1080 60 Hz enabled
Press OK con confirm changed or Menu to cancel
```

→ Press [OK] to confirm the change and apply it to the output

OR

→ Press [Menu] to exit the menu without saving

Note: See end of the manual for the complete list of resolutions.



Note: When changing the "Resolution" selection Holding the [Up] or [Down] for more than 2 seconds will trigger the value to auto-increment or auto-decrement first in steps of 5 then steps of 10.

Note: System Frequency is set the in the "frame Rate setup" menu. This is done to assure that all outputs are on the same Frame rate for better server performance. See the "Advanced features" section if you need to set individual frame rates.

Note: If a custom EDID is loaded or if ports have been set to a different frame rate the resolution field will show "Custom" Take care before overwriting a Custom EDID as they are not stored in the hardware and could be lost.

Note: In certain cases you may be forced to change the GUI resolution with Ai running. To achieve this press [Identify] when in the "Output setup" menu with the "GUI" selected. This will enable resolution change with Ai running. This may result in Ai becoming unresponsive, restart Ai to resolve this.

4.5.2 Output Frame rate setup

It is possible to run the production outputs and GUI on different frame rates. This can in some cases cause lower server performance or tearing. Avolites strongly advises to keep all the outputs at the same frame rate for the best user experience. See frame rate setup for changing the rate across all outputs.

To set individual ports refresh rates, follow the procedure outlined below.

→ Press the [Menu] Key

```

03H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Output Frame Rate IP Panel Head- System
Setup Setup Setup Lock phone tools
  
```

→ Press [OK] select the "Output Setup" function.

```

03H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Output Output Resolution Refresh State
Setup HDMI-1 1920x1080 60 Hz enabled
  
```

→ Press [Up] or [Down] to select which output to change

DVI-1/HDMI-1	Production output 1
DVI-2/HDMI-2	Production output 2
DVI-3/HDMI-3	Production output 3
GUI	Graphical User Interface DVI

→ Press [Right] + [Right] to move to the "Refresh" field

→ Press [Up] or [Down] to select the desired Rate, see note below

→ Press [OK] to store this data

```

03H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Output Output Resolution Refresh State
Setup HDMI-1 1920x1080 60 Hz enabled
Press OK con confirm changed or Menu to cancel
  
```

→ Press [OK] to confirm the change and apply it to the output

OR

→ Press [Menu] to exit the menu without saving

Note: See end of the manual for the complete list of refresh rates.

Note: When changing the refresh rate selection holding the [Up] or [Down] for more than 2 seconds will trigger the value to auto-increment or auto-decrement first in steps of 5 then steps of 10.

Note: System Frequency is set the in the "Frame Rate Setup" menu. This is done to assure that all outputs are on the same frame rate for better server performance.



Warning: If a custom EDID is loaded or if ports have been set to a different frame rate the resolution field will show "Custom" Take care before overwriting a custom EDID as they are not stored in the hardware and could be lost.

4.5.3 Supported EDID resolutions and refresh rates

The following EDID files are included in the firmware, All EDID files are Progressive scan format also known as non-interlaced scanning.

Resolutions:

720x576, 800x600, 1024x768, 1280x720, 1280x768, 1280x1024, 1360x768, 1400x1050, 1440x900, 1600x900, 1600x1080, 1920x1080, 1920x1200, and 2048x1080

Refresh rates for the above resolutions: 24, 25, 30, 50, 60, and 75hz

Note: For interlaced output signals a non-interlaced EDID can be used with twice the frequency. Generally interlaced scan format is a legacy format with inferior image quality.

4.5.4 Disabling outputs

In some cases it may be useful to disable production outputs. The GUI and the DisplayPort cannot be disabled.

To disable a DVI or HDMI production output follow the procedure below;

→ Press the [Menu] Key

```
03H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Output Frame Rate IP Panel Head- System
Setup Setup Setup Lock phone Tools
```

→ Press [OK]

```
03H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Output Output Resolution Refresh State
Setup HDMI-1 1920x1080 60 Hz ENABLED
```

→ Press [Up] or [Down] to select which output to change

DVI-1/HDMI-1	Production output 1
DVI-2/HDMI-2	Production output 2
DVI-3/HDMI-3	Production output 3

→ Press [Right] + [Right] + [Right] to move to the "State" field

→ Press [Up] or [Down] to select "Enabled" or "Disabled",

→ Press [OK] to store this data

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Output Output Resolution Refresh State
Setup HDMI-1 1920x1080 60 Hz DISABLED
Press OK Press OK to save changes or Menu to cancel
```

OR

→ Press [Menu] to exit the menu without saving

4.6 System frame rate setup

To change the frame rate of the system follow the procedure below

4.6.1 Changing the System frame rate

→ Press the [Menu] Key

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Output Frame Rate IP Panel Head- System
Setup Setup Setup Lock phone Tools
```

→ Press [Right] to select the "Frame rate setup" function and press [OK].

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Frame Rate System refresh
Setup 50 Hz
```

→ Press [Up] or [Down] to select the desired Frame rate

→ Press [OK] to store this data

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Frame Rate System refresh
Setup 60Hz
Press OK to save changes or Menu to cancel
```

→ Press [OK] to confirm the change and apply it to the outputs

OR

→ Press [Menu] to exit the menu without saving

Note: When changing the frame rate selection holding the [Up] or [Down] for more than 2 seconds will trigger the value to auto-increment or auto-decrement first in steps of 5 then steps of 10.

Note: the Q3 Server performs better if all outputs are on the same frame rate, therefore the frame rate setting is system wide, including the GUI.

Changing the frame rate will cause the Q3H to update all outputs to the new frame rate and previously selected resolution

Warning: If a custom EDID is loaded or if ports have been set to a different frame rate the Frame rate field will show "Custom"
Take care before overwriting a Custom frame rate



4.7 IP setup

The two Ethernet ports are identical in capacity and use, by default DHCP is enabled. The IP setup menu allows DHCP to be enabled and disabled, IP address, mask and gateway address to be set

To change the IP settings of the Q3 media server follow the procedure below.

4.7.1 DHCP

- ➔ Press the [Menu] Key
- ➔ Press [Right] + [Right] to select the "IP setup" function

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Output Frame Rate IP Panel Head- System
Setup Setup Setup Lock Phone Tools
```

- ➔ and press [OK]

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
IP Setup DHCP IP address: IP Mask: Gateway:
Port 1 On 192.168.000.001 225.225.225.000 192.168.000.100

Press OK to save changes or Menu to cancel
```

- ➔ Press [Up] or [Down] to select the Ethernet port
- ➔ Press [Right] to select the DHCP field
- ➔ Press [Up] or [Down] to select "Off" or "On",
- ➔ Press [OK] to confirm the change and apply.

OR

- ➔ Press [Menu] to exit the menu without saving

Note: If DHCP is enabled the IP address cannot be set manually.

Note: If DHCP is enabled the IP address shown will be the last known IP address if windows is not yet active.

4.7.2 Changing the IP address, Mask and Gateway

Note: If DHCP is enabled the IP address cannot be set manually, disable DHCP first to set the IP address, mask and gateway manually.

The procedure for setting the IP address, Mask and Gateway is as follows;

- Press the [Menu] Key
- Press [Right] + [Right] to select the "IP setup" function

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Output Frame Rate IP Panel Head- System
Setup Setup Setup Lock phone info
```

- and press [OK]

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
IP Setup DHCP IP address: IP Mask: gateway:
Port-1 On 192.168.000.001 225.225.225.000 192.168.000.001

Press OK to save changes or Menu to cancel
```

- Press [Up] or [Down] to select the Ethernet port
 - Press [Right] + [Right] to select the first Octet of the "IP address" field
 - Press [Up] or [Down] to change the Octet value, hold for auto increment
 - Press [Left] or [Right] move to the next Octet
 - Press [OK] to confirm the change and apply it to the port
- OR
- Press [Menu] to exit the menu without saving

Note: All 4 Octets can be edited and then confirmed in one go.

Note: Windows has to be active for the change to take effect. If windows is not active a message will appear indicating the last known IP data is shown.

Note: When changing the "IP address", "IP mask" or "Gateway" selection Holding the [Up] or [Down] for more than 2 seconds will trigger the value to auto-increment or auto-decrement first in steps of 5 then steps of 10.

4.8 Panel Lock

4.8.1 Enabling the panel lock code

- Press the [Menu] Key
- Press [Right] three times to select the "Panel Lock" function

```
03H:00014  Centre  TC 24:60:60:25  Ai:Running
HDMI-1:Centre HDMI-2:IMAG:  Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Output  Frame Rate  IP      Panel  Head-  System
Setup   Setup         Setup   Lock   phone  Tools
```

- and press [OK]
- Press [Right] or [Left] to select the digit that you want to change
- Use [Up] or [Down] to change the digit value

```
03H:00014  Centre  TC 24:60:60:25  Ai:Running
HDMI-1:Centre HDMI-2:IMAG:  Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Panel      Digit 1 Digit 2 Digit 3 Digit 4
Lock      0      0      0      0
          Use 0000 to disable Panel lock
```

Once all digits are correct:

- press [OK] to save the code and lock the panel
- Or
- Press the [Menu] key to exit the function

Note: Code 0000 disables the panel lock feature

Note: Wipe-All clears (disables) the Lock code

Note: Code 2000 overrides any set code, please do not share this info on social media, if you want to help out a fellow user, pm them or call.

4.9 Headphone level

To change the headphone level follow the procedure below

4.9.1 Changing the headphone level

- Press the [Menu] Key
- Press [Right] four times OR [Left] twice to select the "headphone" function

```
03H:00014  Centre  TC 24:60:60:25  Ai:Running
HDMI-1:Centre HDMI-2:IMAG:  Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Output  Frame Rate  IP      Panel  Head-  System
Setup   Setup         Setup   Lock   phone  Tools
```

- and press [OK]

```
03H:00014  Centre  TC 24:60:60:25  Ai:Running
HDMI-1:Centre HDMI-2:IMAG:  Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
          HeadPhone level: 050 %
```

- Press [Up] or [Down] to select the desired level
- OR
- Press [Menu] to exit the menu without saving

Note: The headphone level is derived from the rear audio output. The rear audio out is set to unity gain from the PC out. To change the rear audio out level change the windows audio settings



Warning: People who listening to headphones at high volume can suffer tinnitus (ringing in the ears) and irreversible hearing loss.

4.10 System Tools

To information about the hardware follow the procedure below

4.10.1 System information

- Press the [Menu] Key
- Press [Right] five times OR [Left] once to select the "System Tools"

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Output Frame Rate IP Panel Head- System
Setup Setup Setup Lock Phone Tools
```

- and press [OK]

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
System Intake Internal Wipe Test fans @ full
Tools Temp 21 C Temp 23 C All Disabled
Firmware date August 6 2018 Serial No Q3-0001
```

- Available Information;

Intake temp	Air temperature just behind the internal fans
Internal Temp	Air temperature at the rear of the server
Firmware date	Date the firmware was released
Serial number	Serial number of the server

- Press [Menu] to exit the menu without saving

4.10.2 Fan test

The internal case fans can be tested with the following procedure.

- Press the [Menu] Key
- Press [Right] five times OR [Left] once to select the "System Tools"

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Output Frame Rate IP Panel Head- System
Setup Setup Setup Lock Phone Tools
```

- and press [OK]

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
System Intake Internal Wipe Test fans @ full
Tools Temp 21 C Temp 23 C All Disabled
Firmware date August 6 2018 Serial No Q3-0001
```

- Press [Up] or [Down] to select "Enabled" or "Disabled".

OR

- Press [Menu] to exit the menu without saving

Note: The fan test will be cancelled automatically when you leave this menu

Note: The temperature can vary from server to server by several degrees.

4.10.3 Wipe all.

In order to quickly restore the factory settings for the parameters listed below, follow the procedure.



Warning: All Custom EDID setup data will be lost, make sure you have copy of the custom EDID file on the server content drive or personal USB stick

- Press the [Menu] Key
- Press [Right] five times OR [Left] once to select the "System Tools"

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Output Frame Rate IP Panel Head- System
Setup Setup Setup Lock Phone Tools
```

- and press [OK]

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
System Intake Internal Wipe Test fans @ full
Tools Temp 21 C Temp 23 C All Disabled
Firmware date August 6 2018 Serial No Q3-0001
```

- Press [Left] to select the "Wipe-all"
- Press [OK] to select Wipe-all

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
System Intake Internal Wipe Test fans @ full
Tools Temp 21 C Temp 23 C All Disabled
Press OK to reset to Factory settings or menu to cancel
```

- Press [OK] to confirm
- OR
- Press [Menu] to exit the menu without saving

Note: Wipe all will revert all hardware settings to factory defaults

- System frame rate 60Hz.
- DVI and HDMI Production outputs Enabled 1920x1080p @60
- DisplayPort Enabled
- GUI 1920x1080p 60Hz.
- DHCP enabled on all ports.
- Headphone Level 50%.
- Panel Lock Disabled.

4.11 Output capacity licencing

The MK2 Q3 Servers (Q3 and Q3HPro) use a licencing system to set the maximum production port resolutions. This is fixed at the factory and part of the AvoKey licensing system. The server hardware knows which license it has been given at the factory. If the license key and the hardware do not match a warning message is displayed shortly after power up, and the production outputs are disabled

```
Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
License mismatch Please restart the server
```

This situation can arise when the internal Q3Hcontroller board has been exchanged or if a second licence key is fitted from another Q range server.

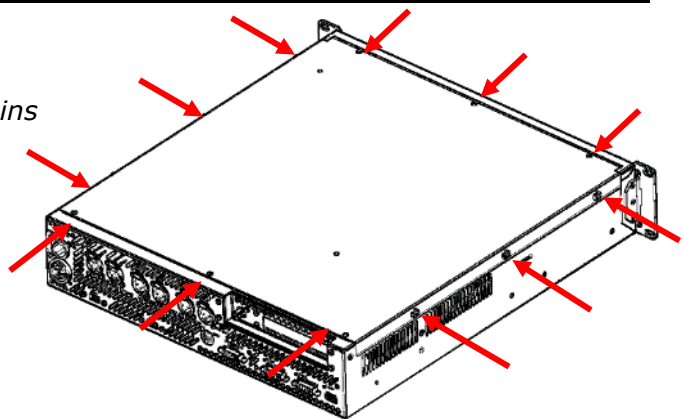
In order to match the internal hardware with the licence on the AvoKey follow the procedure below.

You will need full access to top, of the server

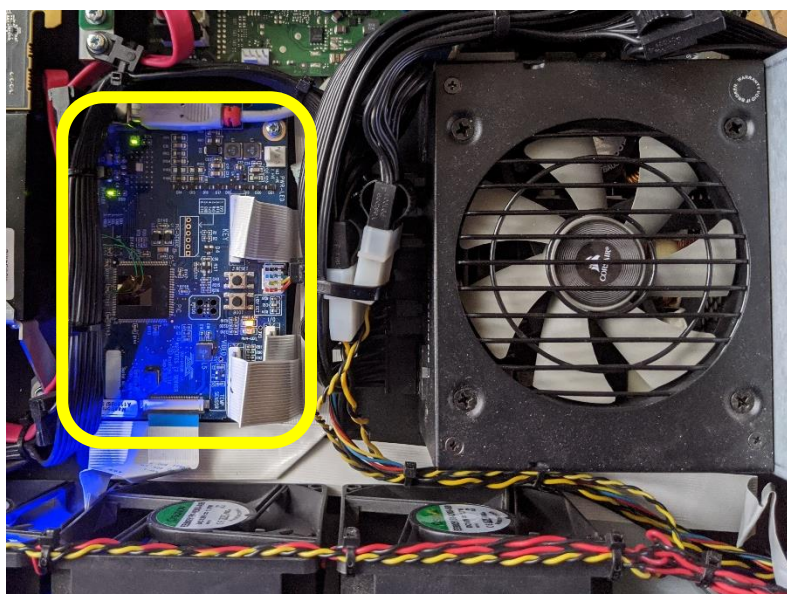
You will need a PZ1 and PZ2 screwdriver,

4.11.1 Server type matching

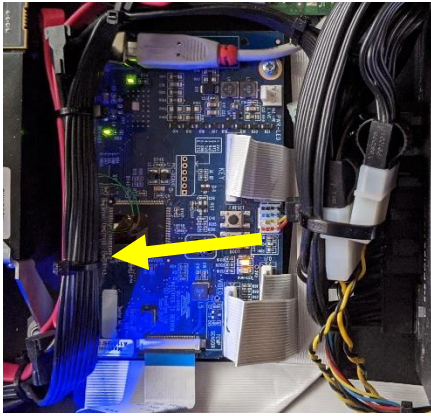
- Disconnect the server from mains and other systems.
- Remove the lid, this is fixed on the sides (6 screws) and the top of the server (6 screws)



- Locate the R2 MB PCB near the front of the server

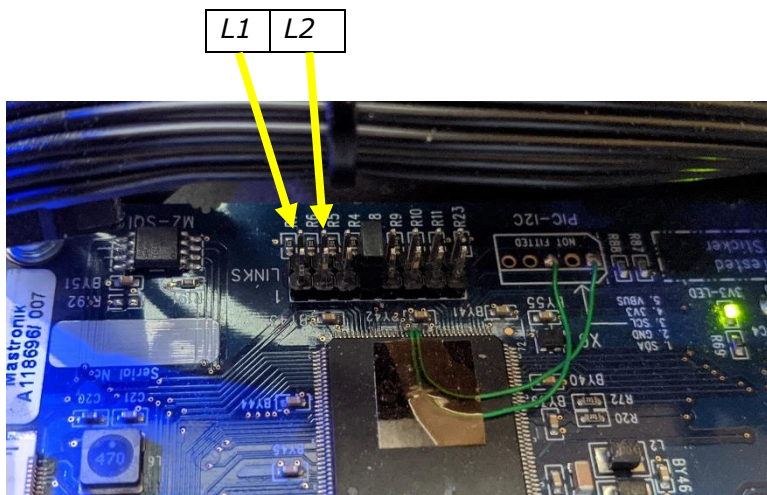


➔ *Locate the Jumpers*



Set the jumper links as follows

<i>Product</i>	<i>SN code</i>	<i>L1</i>	<i>L2</i>
<i>Q3 MK2 HDMI</i>	<i>Q3H</i>	<i>Not fitted</i>	<i>Not fitted</i>
<i>Q3Pro MK2 HDMI</i>	<i>Q3P</i>	<i>Fitted</i>	<i>Not fitted</i>



Note: Setting the jumper wrong will not damage the server, however it will prevent the production ports from being enabled. The selected type and the licence need to match

- ➔ *Close the Server and fix the lid*
- ➔ *Start the server up and allow to boot into Ai, this will match the hardware to the license*
- ➔ *The server is now ready to use.*

4.12 Screen order management

The Q3 media server has specific software that assures the correct screen order for the outputs. This order is required for Ai to render the outputs efficiently.

The screen order is as follows:



or



Note: The Windows ident of the screens may not be sequential, this is acceptable for Ai Media servers with only one GPU card.

Note: Manual screen order setup is not permitted and will be automatically reset to the factory screen order by the Q3HOS and software.

4.13 Custom DVI port EDID



Although we strongly recommend to only use the build in EDID data, it is possible to load a custom EDID to any DVI or HDMI port.

Be aware that this can render the server in-operative, requiring a Wipe all or in rare cases an OS recovery.

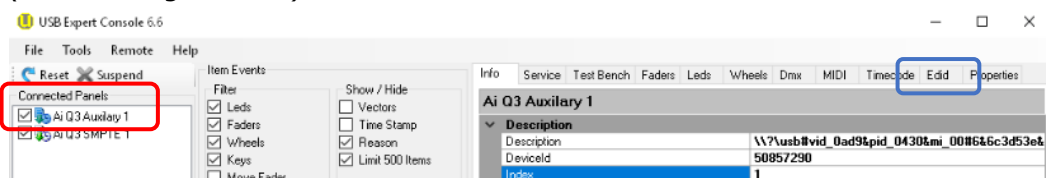
In order to assure that the correct output order is maintained in the OS the Q3 media server has special software that constantly monitors and corrects the output order.

For this to work the EDID data is specially adjusted by the firmware so that the software can identify each port reliably.

As a consequence when a custom EDID is uploaded to a specific port it is adjusted for this.

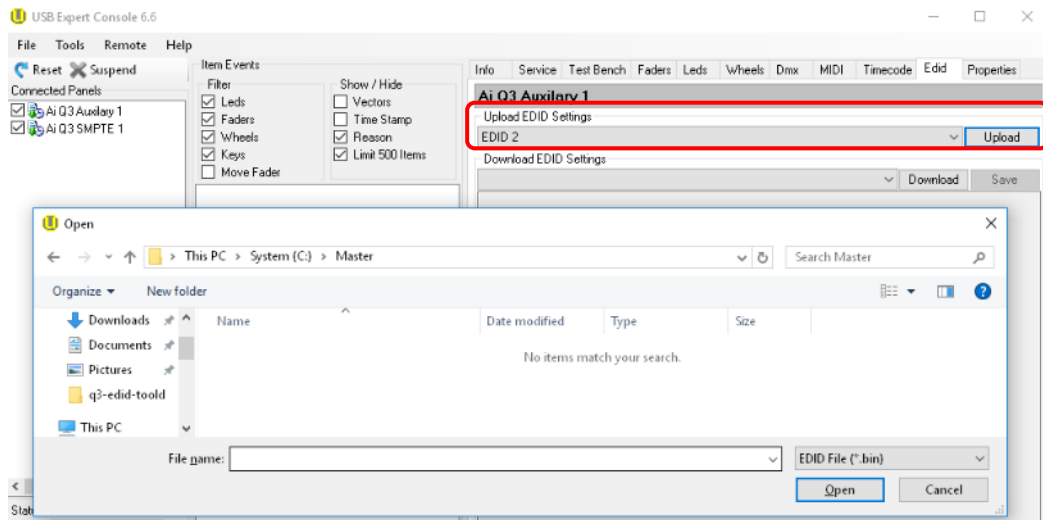
4.13.1 Loading a custom EDID.

- ➔ In windows open USB expert (in windows "Start" type USB)
- ➔ In USB expert in the "connected panels" window Select "Ai Q3HAuxiliary 1" (Red rectangle below)



- ➔ Then select the EDID tab on the right (Blue rectangle above)
- ➔ Select which port you want to load the EDID to, following the table below

USB Expert Output	Q3HMK1 DVI & DP	Q3-MK2 HDMI
1	GUI	GUI
2	DVI-1	HDMI-1
3	DVI-2	HDMI-2
4	NA (DP)	HDMI-3



- ➔ When the EDID Bin file has been selected press "Open" and then "Upload".
- ➔ The EDID will be uploaded during which all outputs will go black.

Note: Performing a wipe all will remove the custom EDID. The EDID is not stored in the server.

Important: Do not use EDID emulation for custom EDID, as this can lead to unexpected results needing a Factory reset or an OS recovery procedure.



Warning: Loading an incompatible EDID may result in an inoperative output or server. A Wipe all may recover from this, if not a full OS recovery will be required.

4.14 OS recovery

The Q3 media server has the ability to re-install the operating system and Ai with minimal user intervention. The whole process takes about 15 minutes. We particularly advice rental houses to use this feature in order to assure a clean media server for every job with known settings.

4.14.1 OS recovery

The following procedure re-installs the OS and Ai, and all data that is contained on the C drive.



Warning: Make sure to back up any user files on drive C before doing this procedure

- ➔ Backup user's data that is on drive C
- ➔ Shut the server down
- ➔ Insert the supplied Recovery USB stick in the server front USB socket
- ➔ Start the server and Press F12 to enter the Boot menu
- ➔ In the boot menu select the option to enter UEFI: Sandisk, Partition 2
- ➔ This will automatically start the installation, Follow the prompts on screen

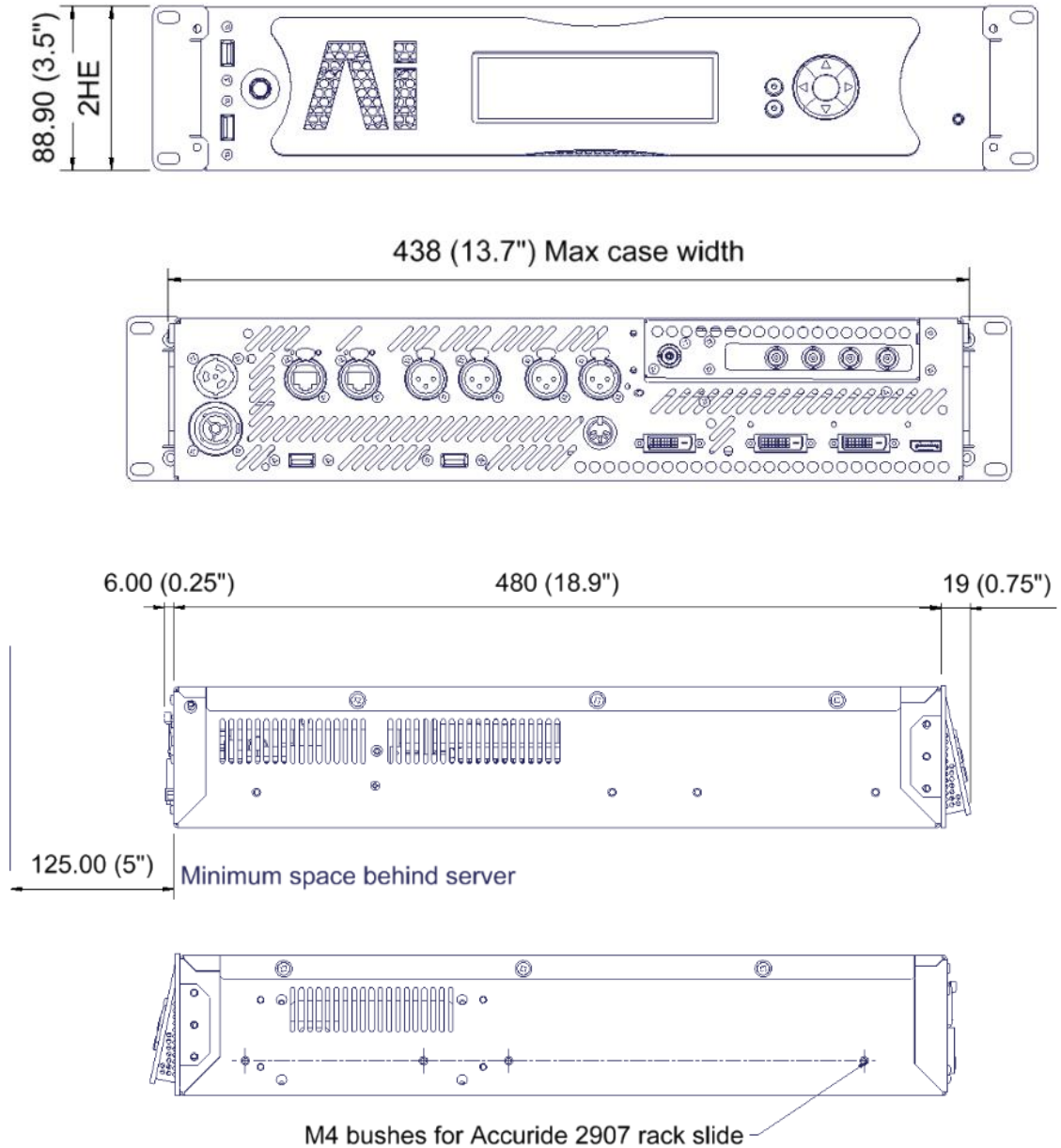
Note: The above instruction assumes that the recovery stick is the supplied one and therefore shows up as "UEFI: Sandisk, Partition 2", other sticks will have a different name, but will always have UEFI: name Partition 2

5. Hardware specification.

5.1 Hardware specification

5.1.1 Dimensions

Shipping box dimensions: 655mm x 600mm x 290mm (25.8" x 23.7" x 10.7")



5.1.2 Weight

- Approximate product weight 11 Kg / 24.3 lbs
- Approximate product weight Boxed as shipped 12.5 Kg / 27.6 lbs

5.1.3 Electrical

- The minimum and maximum voltage ratings are: 90-240V AC $\pm 10\%$
Single phase with the following connections:
Phase, Neutral and PE (protective earth)
- Mains frequency 50-60hz $\pm 10\%$
- Power consumption Max 275W , 4~2.8A (110~240V AC)

5.1.4 Environmental

- Do not operate the Q3 media server if the humidity and ambient temperature cause condensation on or inside the product, allow the product to dry first before connecting to the mains supply.
- Max humidity is 95% relative humidity non-condensing
- Operating temperature range 0-40 °C or 32-104°F
- Storing temperatures -15- 50°C or 5-122°F
- A minimum of 125 mm open space needs to be left behind the server
- Nominally the server can produce 270W of heat resulting in a surface temperature of 45 degrees C on the back panel
- The airflow through the server is front to back.
- Airflow, the server requires a nominal airflow of cfm and a maximum airflow of

5.1.5 Conformity

The Q3 media server has passed the following test.

<i>BS EN 55032:2015</i>	Electromagnetic compatibility of multimedia equipment. Emission requirements.
<i>BS EN 55103-2:2009</i>	Electromagnetic compatibility. Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Immunity
<i>BS EN 0065:2014+A11:2017</i>	Safety requirements Audio, video and similar electronic apparatus

See appendix B for declaration of conformity and certificate of origin.

Note: In certain cases Avolites can provide further information if local regulations require this

6. Installing Optional Cards

The Q3H can have one Capture card and one Genlock input card. Instructions for the capture card fitting are given below, instructions for the Genlock option are shipped with eh option.

Avolites advises the user to purchase the server with the correct option as this allows us to test the full solution

6.1 Installing optional capture card

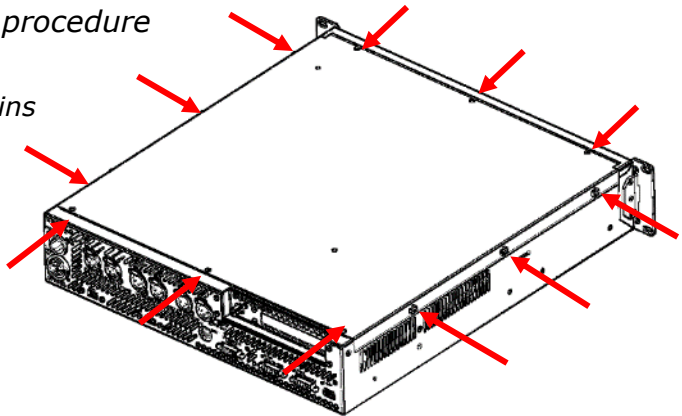
Avolites strongly advises to only fit capture card obtained from Avolites as they will have been tested to be compatible and have the correct firmware. You will receive all the correct parts to mount the card to assure it can tour. The relevant part numbers are given below in appendix A.

You will need full access to top, front and back of the server

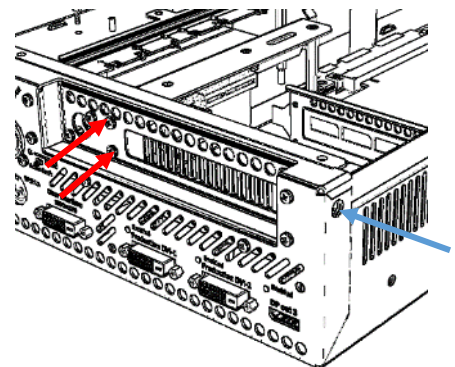
You will need a PZ1 and PZ2 screwdriver,

6.1.1 Installing capture card procedure

- Disconnect the server from mains and other systems.
- Remove the lid, this is fixed on the sides (6 screws) and the top of the server (6 screws).

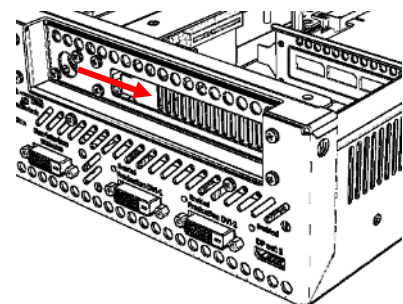


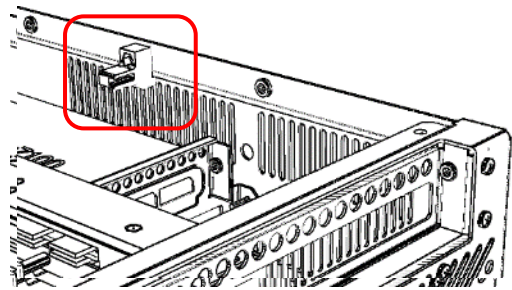
- Locate the secondary capture card fixing screws (Red arrow) on the back and loosen them by about 5 full turns. The screws are captive so there is no need to remove it.



- Locate the primary card fixing screw (Blue arrow) through the side of the server and loosen it by about 5 full turns. The screw is captive so there is no need to remove it.

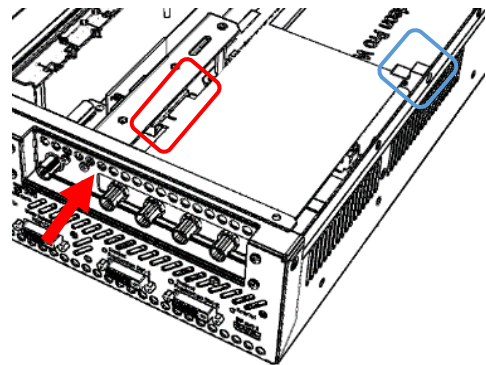
- Remove the Capture card slot cover by sliding it toward the RH side of the case by 10mm and then remove it.





→ Fit the supplied capture card brace and fix to the side of the server with the supplied screws, make sure that the nut is on the inside of the server.

→ Unpack the Capture card and engage it into the server PCI slot and capture card secondary fixing (Red Arrow), then angle it up to engage the Primary fixing



→ Assure that the card is held by the brace, (Blue rectangle in diagram)

→ Tighten the Primary card fixing screw, through the side of the server

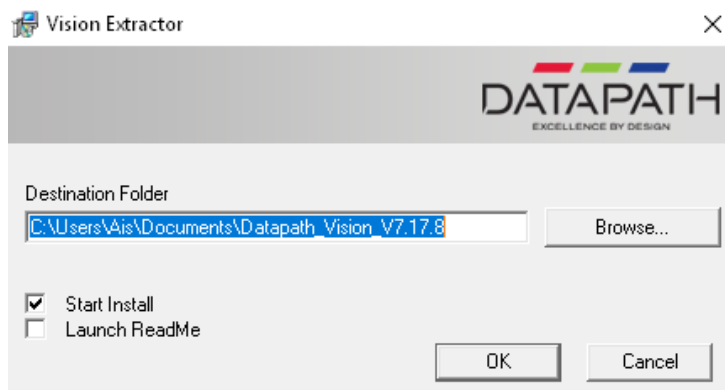
→ Tighten the two secondary card fixings from the back

→ Refit the lid (6 screws on the side, 6 screws on the top)

→ Re-connect the server and test the capture card installation

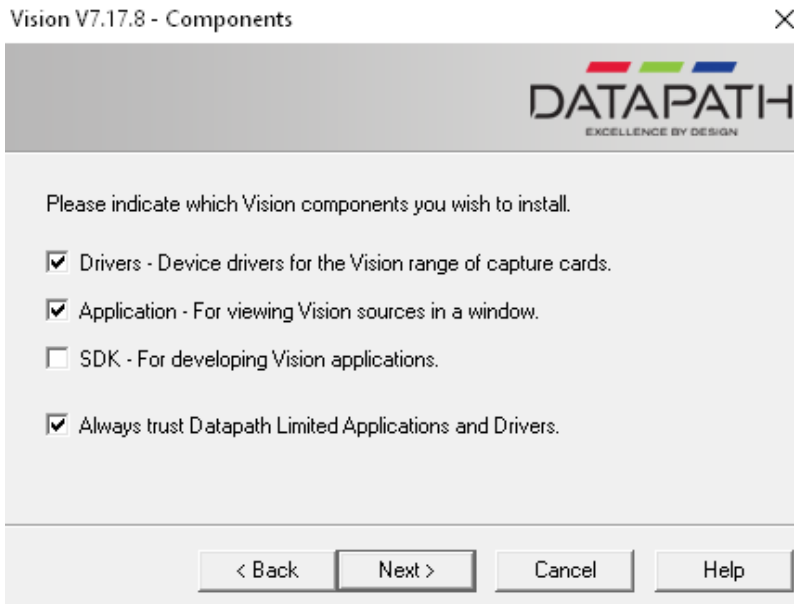
→ The software for the capture card must now be installed, the drivers are stored in the C:\master\datapath directory

→ Open the desired folder and run the Vision installer

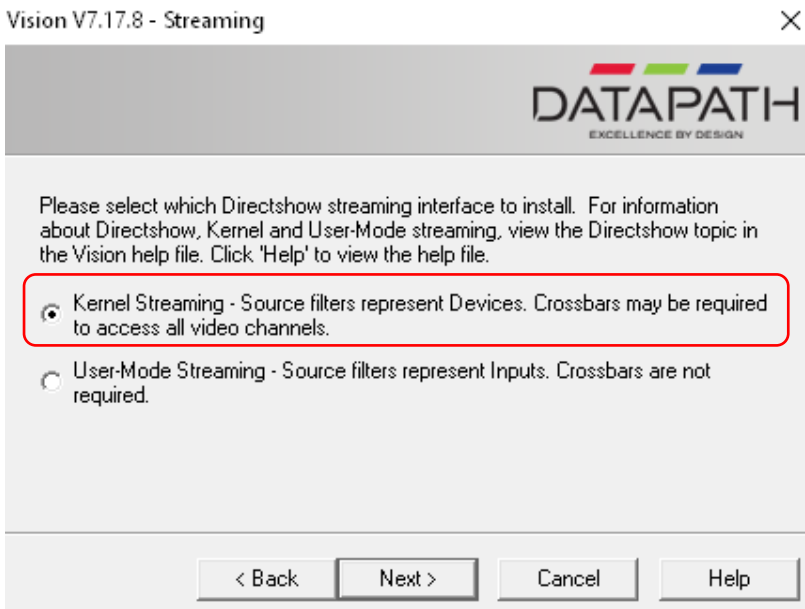


→ Ensure that the Destination folder for the installer is within the C drive (system)

→ Follow the prompts in the installation wizard



- When the installation wizard which Vision components you wish to install ensure that Drivers, Application and Always trust Datapath are selected



- When the installation wizard asks which Directshow streaming interface you wish to install ensure Kernel Streaming is selected
- Complete the install and restart the server
- Test the input card.

6.2 Installing optional Genlock card

Avolites strongly advises to only fit Genlock card obtained from Avolites as this will have been tested to be compatible and have the correct firmware. You will receive all the correct parts to mount the card to assure it can tour. The part numbers are given below. The kit will contain a set of instruction to fit this card.

7. Appendix

7.1 Appendix A: Sales part numbers

At the time of writing this manual the following part numbers are active for the Q3 media server family:

M1796-1103 AI Q3HCore server

Optional capture cards:

M1796-1110 Ai Q3 Server Dual SDI Capture

M1796-1111 Ai Q3 Server Single DVI capture

M1796-1015 Ai Q3 Server Dual DVI capture

M1796-1116 Ai Q3 Server Quad SDI capture

M1796-1117 Ai Q3 Server Dual DP 4K capture

Optional Genlock input:

M1796-1114 Ai Q3 Server Genlock Option

Cables and accessories

1808-0200 HDMI-Protectors

1808-0210 Neutrik PowerCON True1 source and 1.5M 3x 2.5mm2 Cable

7.2 Appendix D Firmware upgrade procedure

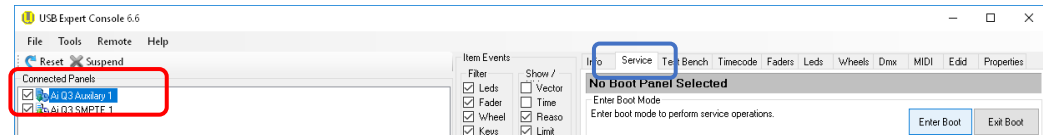
The firmware of the Q3 Server can be updated through the USB expert application. Avolites will advise if this is required.



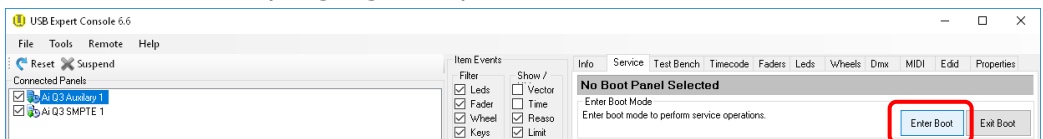
Note: custom EDID data will be lost from the hardware, assure the Custom EDID is backed up on the Content drive or your personal drive

7.2.1 Firmware upgrade

- ➔ In windows open USB expert (in windows "Start" type USB)
- ➔ Then select the "Service" tab on the right (Blue rectangle below)
- ➔ In USB expert in the "connected panels" window Select "Ai Q3HAuxiliary 1" (Red rectangle below)

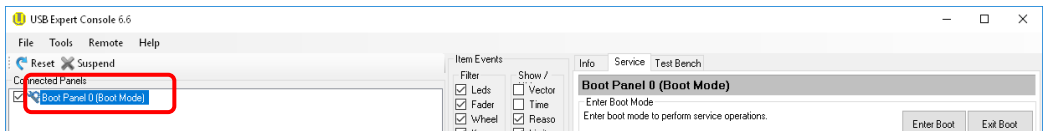


- ➔ With Ai Q3HAuxiliary highlighted, press on "Enter Boot"

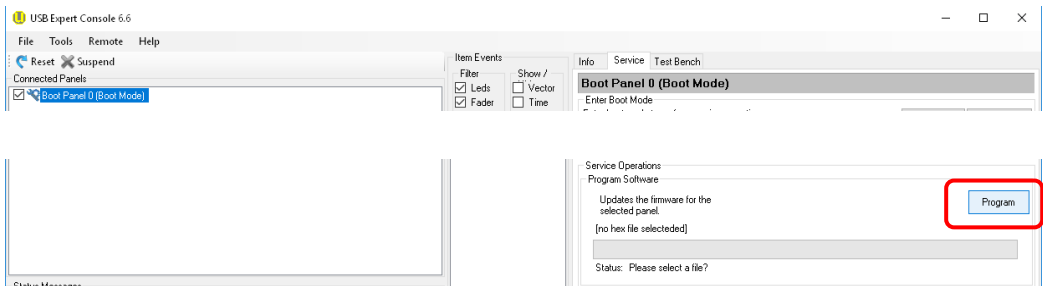


The panel will go in boot mode and change its name in connected panels

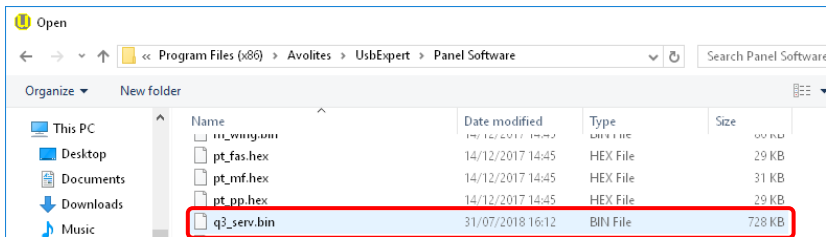
- ➔ Select the Boot Panel 0 (Boot Mode)



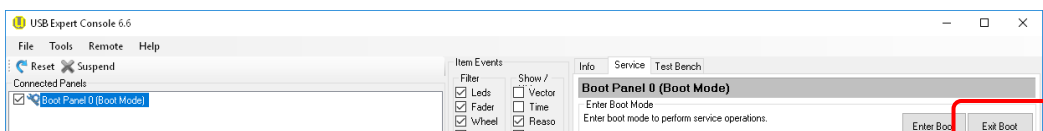
- ➔ Press "Program"



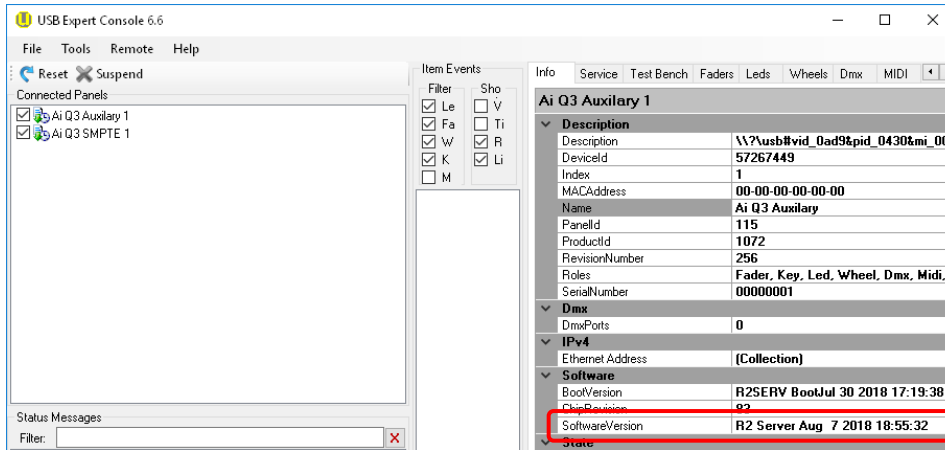
- ➔ Select the correct file from the directory as indicated.



- ➔ The firmware will be uploaded and verified, when this has completed
- ➔ Press "Exit Boot"



- ➔ The panel will restart which will flash the outputs to black, after restart check the version of the firmware in USB expert



- Perform a wipe-all as follows.
- Press the [Menu] Key
- Press [Right] five times OR [Left] once to select the "System Tools"

```

Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
Output Frame Rate IP Panel Head- System
Setup Setup Setup Lock phone Tools
  
```

- and press [OK]

```

Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
System Intake Internal Wipe Test fans @ full
Tools Temp 21 C Temp 23 C All Disabled

Firmware date August 6 2018 Serial No Q3-0001
  
```

- Press [Left] to select the "Wipe-all"
- Press [OK] to select Wipe-all

```

Q3H:00014 Centre TC 24:60:60:25 Ai:Running
HDMI-1:Centre HDMI-2:IMAG: Eth1:1Gb Eth2:1Gb
HDMI-3:Wall
System Intake Internal Wipe Test fans @ full
Tools Temp 21 C Temp 23 C All Disabled
Press OK to reset to Factory settings or menu to cancel
  
```

- Press [OK] to confirm
- OR
- Press [Menu] to exit the menu without saving
- **This completes the firmware update**