

CORIO[®] **matrix** and CORIO[®] **matrix** mini

4K modular matrix routers from 2 x 2 to 60 inputs or 24 outputs with scaling, format conversion, audio management and more



The world's most advanced 4K modular multi-format AV matrix with a proven pedigree and uncompromised performance in mission critical environments

CORIOmatrix solves your most challenging AV problems

CORIOmatrix and CORIOmatrix mini are modular systems created for today’s mixed signal environments. When faced with the challenge of combining a wide range of signal types, CORIOmatrix makes the integration simple with flawless 4K performance.

Conquer the AV, Broadcast & IP landscape	Seamlessly mix and match AV, broadcast and IP signals within a single chassis.
Mix and match your content	tvONE’s up/down and cross conversion makes your format, aspect ratio and resolution independent, simplifying your installs.
Manage the unusual	CORIOmatrix supports resolutions from 4K down to 640 x 480 including custom resolutions for LED wall support and unique medical and military resolutions.
Future proof your investment	Our award-winning CORIO® scaling engine supports all current and legacy formats plus it’s simple to add new I/O modules as you need them. CORIOmatrix adapts to your requirements and removes growing pains!
Do more with less	Eliminate system design complexity, headaches and control nightmares with unlimited I/O flexibility while having complete confidence in your inputs and outputs with fully integrated monitoring. Save space and power too!
Set and forget	CORIOmatrix adapts and adjusts to real-time changes in the working environment. Plug and play any signal type, anytime, with complete confidence.

What CORIOmatrix users say:

Some CORIOmatrix users include; Olympus Medical, The European Commission, Bosch, AGI and Wartsila - all depend on rock solid performance backed with source and display independence.



Wartsila

“In our world, we are running a mixture of broadcast and AV signals in parallel. The CORIOmatrix is perfect as it enables us to switch between the two seamlessly, especially the HD-SDI output this is quite unique. We also have a range of other sources - Apple TV, media players, SDI cameras, etc. The integrated multiviewer and its ability to combine scaling saves space, time and complexity - if we had to do this without the CORIOmatrix we would need to integrate a whole load of small little boxes.”

Matthew Hodkinson,
Senior Design Engineer UK



Audio General Inc. — AGI

“We’re very happy with the CORIOmatrix, it solves numerous problems especially mixing 4:3 and 16:9 signals – it eliminates wiring complexity and simplifies overall control of an installation. With CORIOmatrix the upgrade was NO PROBLEM!”

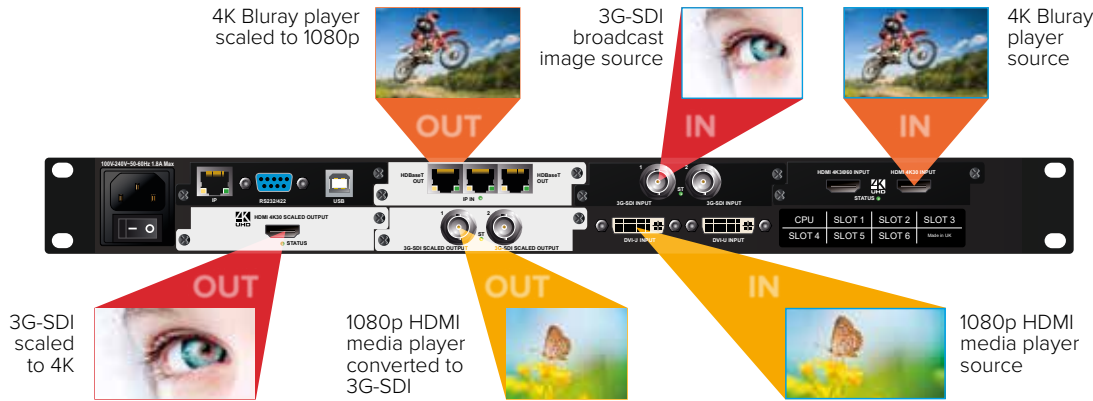
David Spiegel,
Owner

Flexibility and dependability guaranteed!

Mixed signal support – Up/Down/Cross Conversion

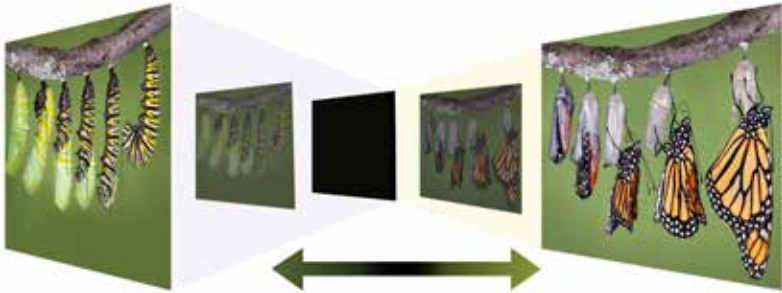
Whatever the source or format, it’s easy to mix and match your content using tvONE’s low latency CORIO® scal-ers featuring the widest range of resolutions with full control of frame rate, aspect ratio and frame/field handling.

Example:



Clean and fast switching or fade-through-black

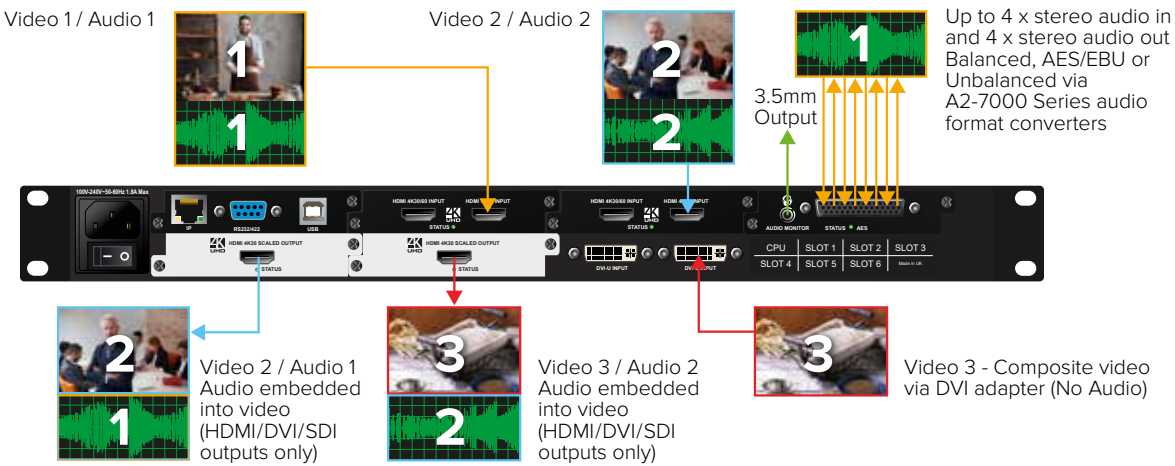
CORIOmatrix delivers a dependable visual experience whatever your source with instant, flawless switching or fade-through-black.



Audio routing

Deliver full audio flexibility with audio following video or easily select independent audio and video sources.

Example:



Fully modular systems – anything in, anything out

CORIOmatrix (4RU) and CORIOmatrix mini (1RU) can accept a huge number of I/O configurations allowing complex functionality to be quickly and simply configured to meet your exact needs. CORIOmatrix is 100% dependable helping you to eliminate show stopping “AV moments” while also being whisper quiet for in-room installs.

COMING SOON

INPUT MODULES

Streaming media and 4K playback

NEW

Dual 4K HDMI

NEW

Quad 2K HDMI

NEW

Dual Long Reach 1080p HDBaseT

Dual DVI Universal

Dual 3G-SDI broadcast

NEW

Quad 3G-SDI broadcast

HD-SDI broadcast

Audio routing

EASY CONTROL

3rd party control

CORIOmatrix web UI

Input only (not audio)

Input only (not audio)

Input only (not audio)

Input only (not audio)

External audio analog or digital

CORIOmatrix Streaming Media & 4K Playback Module

The Streaming Module is a powerful addition to the CORIOmatrix family that allows steaming inputs as well as playback of local media from internal storage or USB3.0 devices. The module is quite simply a game changer and adding this module opens up a world of new possibilities for your CORIOmatrix deployments. Create simpler systems, eradicate wires, make powering-up really simple and ease your control pain by using a single device.

Dual Channel

Up to 1080p/60

Up to UHD/4K

16Gb or 128Gb on-board storage for video/still playback.

1Gb E Input for Streaming Media

USB for video/still playback (0.5A Power) Class 10 USB or better recommended

OUTPUT MODULES

NEW

4K HDMI Scaled

Dual DVI-U Scaled

Dual HDBaseT Scaled

Dual 3G-SDI

Dual DVI Monitoring

Multiviewer monitoring

DVI Universal Adapters

HDMI

CV

YC (S-Video)

Analog PC

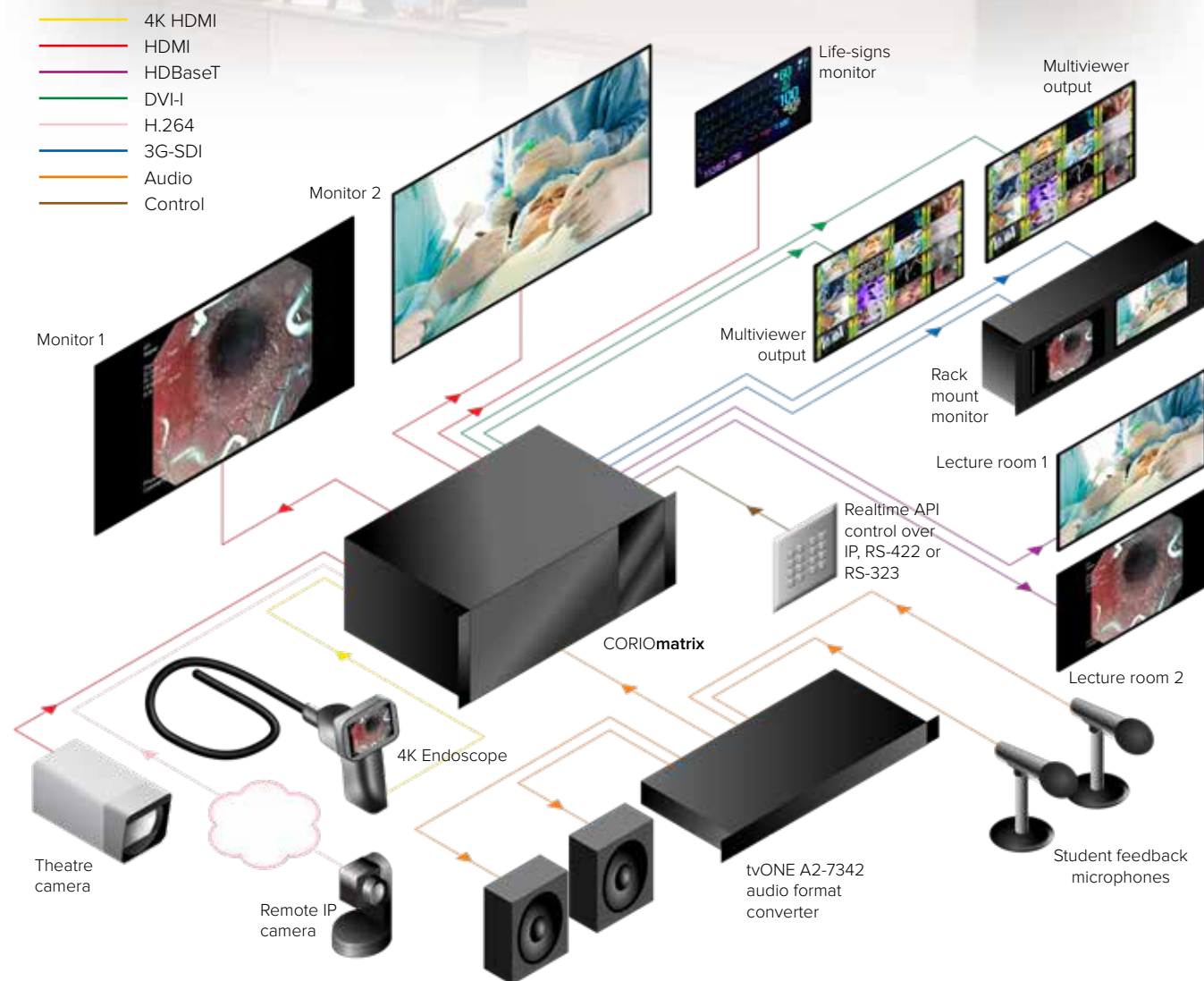
YPbPr/YUV

Analog RGBHV

Easily bridge the broadcast, AV and IP landscape with a platform designed for your 24/7 mission critical challenges

CORIOmatrix advantages:

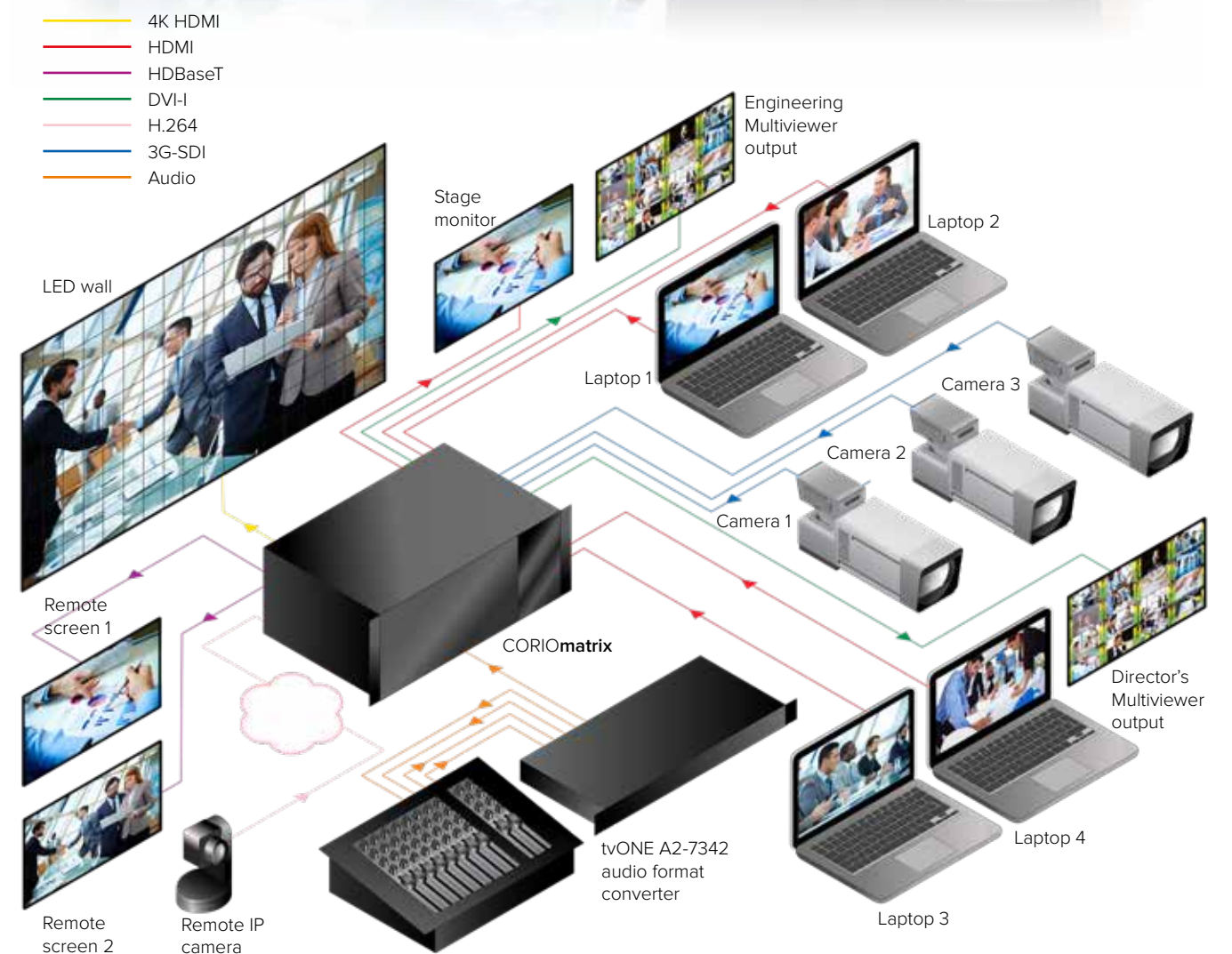
- Proven pedigree in mission critical installations
- High quality 4K video with ultra low latency
- Fully integrated format conversion and scaling
- Fit-for-purpose color management (4:4:4, 4:2:2 and 4:2:0)
- Integrated monitoring multiviewer – have absolute confidence in your inputs and outputs
- Optional video extension capability for remote sources and displays



Eliminate complexity, simplify control – experience pain-free audio and video distribution

CORIOmatrix advantages:

- The widest range of input and output types simplifies your operation
- Mix and match your source seamlessly with clean switching or fade-through-black
- Guaranteed lip sync with our ultra-low latency solution
- Easily extend your video using HDBaseT or SDI on both inputs and outputs
- Integrated monitoring multiviewer for total control and confidence
- Eliminate “AV moments” with proven CORIOmatrix dependability
- Custom resolution support for challenging LED wall integration
- Whisper-quiet for in-room operation



CORIOmatrix Family



Specifications

Computer Input		C3-310	C3-340
Digital DVI/HDMI (HDCP compliant)		Up to 10 via Universal DVI	Up to 30 via Universal DVI
Digital HDMI (HDCP compliant)		Up to 16 via Quad HDMI	Up to 60 via Quad HDMI
Analog		Up to 10 via Universal DVI	Up to 30 via Universal DVI
Analog Format		RGBHV, RGB, YPbPr	
Analog Sync		TTL Level, 10K Ω , Pos or Neg	
RGB Level Range		0.5-2.0 Vp-p	
Scan Rate Detection		Automatic	
Analog Signals		PC to 1920x1080, HD to 1080p60	
DVI Signals		PC to 1920x1200, HD to 1080p60	
Max Horiz Scan Rate		150kHz	
Computer Compatibility		PC, Workstations	
Outputs		C3-310	C3-340
Digital DVI/HDMI (HDCP compliant)		Up to 10 via Universal DVI	Up to 24 via Universal DVI
Digital HDMI (HDCP compliant)		Up to 10 via HDBaseT	Up to 24 via HDBaseT
Analog		Up to 10 via Universal DVI	Up to 24 via Universal DVI
Analog format		RGBHV, RGBS, RGsB, YPbPr	
R-G-B Level		0.7 Vp-p	
DVI Signals		PC to 1920x1200, HD to 1080p60	
Analog Signals		PC to 1920x1080, HD to 1080p60	
3G-HD-SDI		HD to 1080/60p	
Settings Memory		Non-Volatile	
Conversion Technology		Proprietary – CORIO*2	
Color		RGB/DVI/HDMI/YPbPr 24-bit 4:4:4, SDI 20-bit 4:2:2 Quad inputs (HDMI & 3G-SDI) 4:2:0 4K input module (4:2:0)	
Max. Sampling Rate		300MHz	
Firmware Memory		Flash, Upgradeable via micro-SD	
De-Interlacing (NTSC, PAL, 1080i)		Pixel-level Motion Adaptive	
Video Comb Filter		Adaptive	
Film (NTSC, 1080i)		3:2 Pull-down	
Video Adjustments		Contrast, Brightness	
Audio Support			
Digital/Analog		48kHz PCM	
De-embed/embed		SDI & HDMI-I/O via DVI with optional Audio module with AES break-out. HDBaseT output	
Video Resolutions supported (HDMI, DVI, YPbPr, SDI)			
720p (1280x720)		(23.98, 24, 25 SDI only), 29.97, 30, 50, 59.94, 60Hz	
1035i (1920x1035)		59.94, 60Hz	
1080i (1920x1080)		50, 59.94, 60Hz	
1080p (1920x1080)		23.98, 24, 25, 29.97, 30Hz	
1080p (1920x1080)		50, 59.94, 60Hz (not 4x HD-SDI input module)	
4K (3840x2160p)		23.98, 24, 25, 29.97, 30Hz (4K input module only)	
4k (4096x2160p)		23.98, 24, 25, 29.97, 30Hz (4K input module only)	
Video Inputs		C3-310	C3-340
Television Standards		NTSC, PAL, PAL-M/N	NTSC, PAL, PAL-M/N
Composite Video		Up to 10 via Universal DVI	Up to 30 via Universal DVI
YC (S-Video)		Up to 10 via Universal DVI	Up to 30 via Universal DVI
YUV /YPbPr		Up to 10 via Universal DVI	Up to 30 via Universal DVI
SD/HD-SDI		Up to 16 via BNC	Up to 60 via BNC
SD/HD/3G-SDI		Up to 16 via BNC	Up to 30 via BNC
3G-SDI		Up to 16 via BNC	Up to 60 via BNC
Video Outputs		C3-310	C3-340
Television Standards		NTSC, PAL, PAL-M/N	NTSC, PAL, PAL-M/N
Composite Video		Up to 10 via Universal DVI	Up to 24 via Universal DVI
YC (S-Video)		Up to 10 via Universal DVI	Up to 24 via Universal DVI
YUV /YPbPr		Up to 10 via Universal DVI	Up to 24 via Universal DVI
SD/HD/3G-SDI		Up to 10 via BNC	Up to 24 via BNC
HDBaseT		Up to 10 via RJ45	Up to 24 via RJ45
4K30 HDMI		Up to 5 via HDMI	Up to 12 via HDMI
3G/HD/SD-SDI			
SMPT259M-C		270Mbps < 0.1UI jitter	
(SD-SDI Video)		525/625Line	
SMPT292M		1.485/1.4835Gbps < 0.2 UI jitter	
(HD-SDI Video)		720p, 1035i, 1080i, 1080p	
SMPT242M		2.97/2.967Gbps < 0.3 UI jitter	
(3G-SDI Video)		1080p 60/59.94	
SMPT272M-2004		4 Stereo 24bit Audio Channels	
(SD-SDI Audio)			
SMPT299M-2004		4 Stereo 24bit Audio Channels	
(3G/HD-SDI Audio)			
Control Methods			
RS-232		via D9 Female Connector	
IP Interface		RJ45 Connector	
Web UI		Browser	
Warranty			
Limited Warranty		5 Years Parts and Labor	
Regulatory Compliance			
Main unit & Modules		FCC, CE, RoHS, UL	
Mechanical			
Size (H x W x D)		1.75"x19.0"x13.25"/15.25" (45x482x336/383mm) (C3-310) 7.0"x19.0"x13.1" (178x482x334mm) (C3-340)	
Weight (Net)		Approx. 5Kg (11.03 lbs) (C3-310) Approx. 15Kg (33 lbs) (with redundant PSU) (C3-340)	
Environmental			
Operating Temperature		0° to +40°C (+32° to +104°F)	
Operating Humidity		10% to 85%, Non-condensing	
Storage Temperature		-10° to +70° C (+14° to +158° F)	
Storage Humidity		10% to 85%, Non-condensing	
MTBF		Approximately 50,000 hours (C3-310) Approximately 35,000 hours (C3-340)	
BTU		427 BTU/hr - fully populated (C3-310) 1024 BTU/hr (C3-340)	
Fan Noise		0-35°C = 37.7dB(A) Min @ 1m 40°C = 50.6dB(A) Max @ 1m (C3-310) 40°C = 46.6dB(A) Max @ 1m (C3-340)	
Power			
Internal Power Supply		110v to 240v auto-detecting	
Redundancy		Optional Internal Hot Swap PSU (C3-340 only)	
Consumption (fully populated)		125 watts maximum (C3-310) 300 watts maximum (C3-340)	
Accessories Included			
1x Operations Manual			
1x Power cable		US, UK, Euro or AU	
Control Software		WebUI, no software required to install	