HEALTHCARE SOLUTIONS

MEDICAL IMAGING APPLICATIONS AND TECHNOLOGY
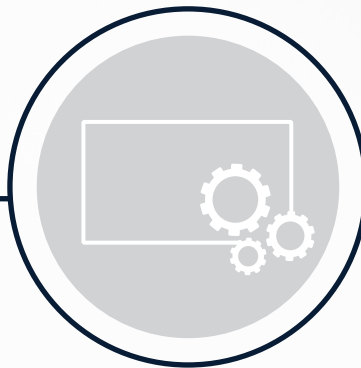
ENGINEERING CONFIDENCE

tvONE is a leading designer and manufacturer of state-of-the-art video processors for the medical market. We strive to live up to our motto of "We Engineer Confidence," something we have been doing since 1984.
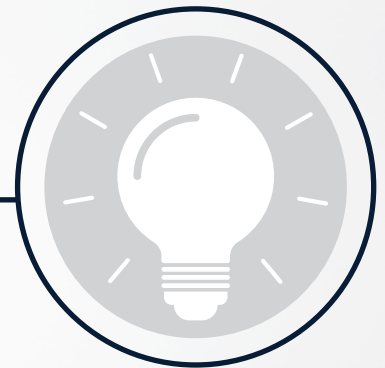
GLOBAL REACH

A global network of resellers, users and technical expertise to support your project from the start.

INTEGRATED SOLUTIONS

Unique platforms providing integrated video playback, processing, and signal distribution products.

POWERFUL DESIGN

From concept to reality, whatever the scale, design starts here.

GLOBAL REACH

Our in-house research & development teams are dedicated to developing and deploying reliable, high performance medical imaging technology as well as creating a user-friendly look & feel. Our healthcare solutions are manufactured in house at our ISO9001 accredited factories in both the USA and UK.

Whether you are searching for an off the shelf solution or are looking for a custom, bespoke offering, you can trust in tvONE.

WE UNDERSTAND
THE DEMANDS OF HEALTHCARE

We have many decades of proven experience collaborating with medical professionals who trust us with their clinical video processing in a wide variety of healthcare environments. We work globally with healthcare institutions, specialist system integrators and even create custom solutions for some of the biggest names in the field of healthcare imaging.

INHOUSE DESIGN

Our solutions are designed inhouse at our two, United Kingdom based, Research and Development Centers of Excellence meaning that we have full control over our solutions with our core expertises including mechanical design, PCB layout, firmware, interface, and testing. In addition to creating our off-the-shelf solutions, our teams are also experts in creating custom solutions and configurations on request.

INHOUSE MANUFACTURING

Our global PCB manufacturing centre is based in the UK where our purchasing, pick and place, assembly and test teams work within an ISO9001 environment. We also have an assembly facility at our US headquarters. Wherever you kit is lovingly built, every piece of gear is treated the with the same care with a 100% test regime at every stage of manufacture.

LOGISTICS EXPERTISE

Our specialist purchasing and logistics teams pride themselves in their high levels of professionalism and they manage our component purchases to ensure quick deliveries in addition to supporting our leading 5-year parts and labor warranties. We are also very agile and even during the recent global crisis we were still able to ship globally within two weeks of receiving an order.

FAST, RELIABLE SUPPORT

Our Customer Support Teams provide global support from their hubs in the US, UK, and Asia. They support projects from commissioning through to full life support. Thee whole team understand the importance or support of the healthcare market, are highly skilled and have access to a wide range of equipment to trace any faults and have full access to our R&D teams.

FLEXIBLE DELIVERY OPTIONS

Many of our healthcare customers do not need a full, custom solution but instead demand specific requirements and our teams are skilled at dealing with this type of request frequently. From small adaptations, custom configurations, or specific logistic requirements we can offer you a unique service including access to our compliance teams.

CUSTOM SOLUTIONS

We often build custom solutions for healthcare equipment manufacturers and systems integrators. Throughout the process you will have full access to a Product Manager as well as our leading R&D and Test engineers. Our bespoke systems can include unique functionality, custom hardware, branded firmware and software and packaging.
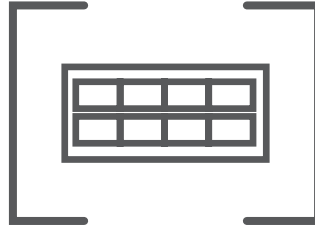
OUR TECHNOLOGY STRENGTHS

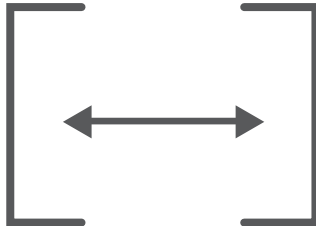### VIDEO PROCESSING
OR's, teaching facilities

MULTI-WINDOW PROCESSING
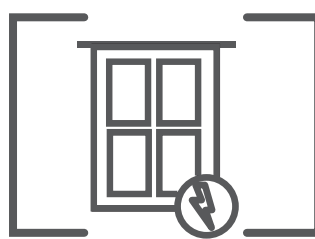Consultation areas, monitoring

MATRIX ROUTING
Low latency monitoring
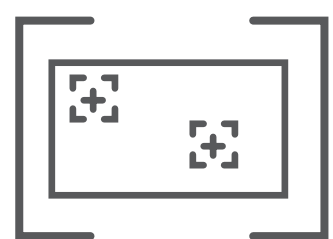
EXTEND SWITCH DISTRIBUTE
Fiber (galvanic) extension

RACKING & POWER
Small device racking, reliable DC power

MEDIA SERVERS
Interactive mapping

Our healthcare range includes a variety of solutions including a range video processors, matrices, and multi-window viewers. Being CORIO based, all our solutions are designed in our own R&D centres and manufactured inhouse meaning we have full control over everything.

Bridging AV, IP, and Broadcast

Our resolution table handles everything from 640 x 480 right up 3841 x 2160 across a host of connectors from HDMI 2.0, HDMI 1.4, H.265 & H.264 IP streams, video and still media and 3G-SDI broadcast. What is more, we can also manage a whole host of legacy inputs including HD-15 (VGA), RGBHV, S-Video and Composite Video for total flexibility.

Informed Output Presentation

With guaranteed low latency, we can take the clinical viewing experience to the next level with multi-source windowing, logo insertion, branded background stills or animations, and for keying or real-time data overlays.

Bespoke Connectivity

If you have a specialised connectivity request, we can help you. Our inhouse R&D teams have successfully fulfilled many custom requests including dual/quad link inputs, 3D sources, highly complex resolutions, specialised color spaces and metadata management.
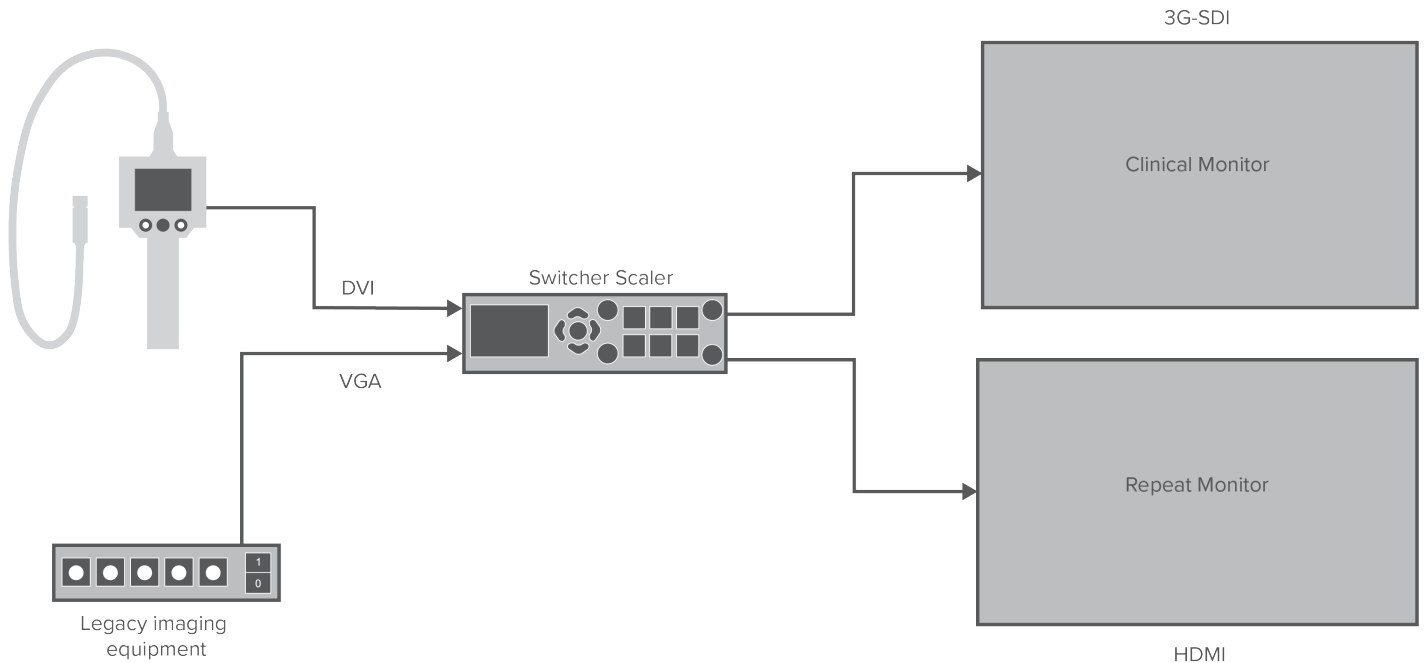
Seamless, Secure Control

Our devices are based on our propriety designs and run own our own operating firmware and software, so you are not at risk of the perils of running your medical procedures through a PC based system. Our control set ups are secure (HTTPS) and our real-time API options include RESTful, WebSocket and CLI protocols. We also offer secure mobile apps (Android and IOS).

CASE
STUDIES

SIGNAL MANAGEMENT

3G-SDI

Clinical Monitor

DVI

Switcher Scaler

VGA

Repeat Monitor

HDMI

1
0

Legacy imaging
equipment

Overview

A global healthcare system integrator wanted a seamless, off- the-shelf solution to convert both analog and digital AV signals into their 3G-SDI Operating Room backbone. High-quality video and low latency performance were key, as was offering flexibility for the surgeon to be able to hook up any AV or broadcast equipment to their clinical monitoring and repeat monitor simultaneously, even unique legacy equipment.
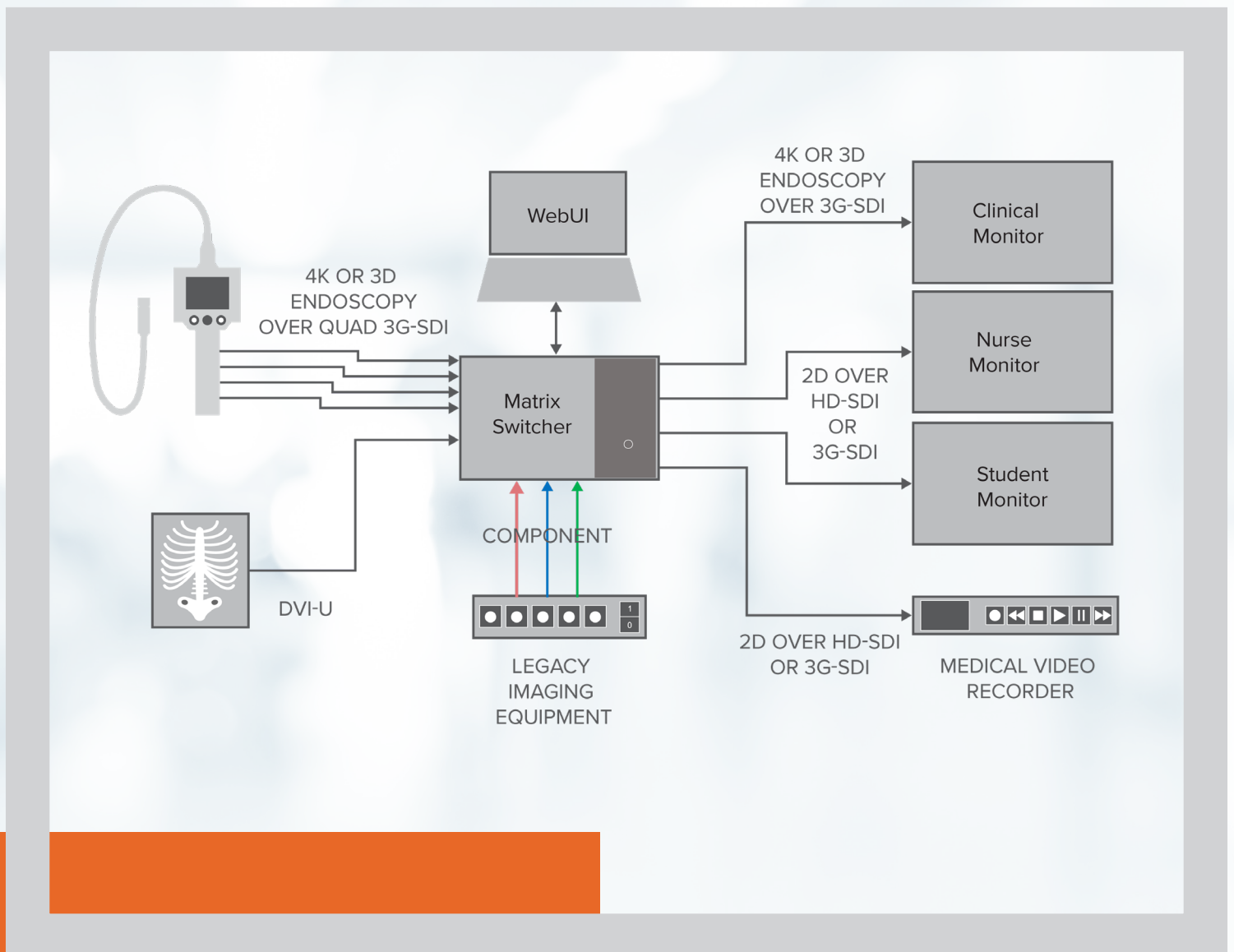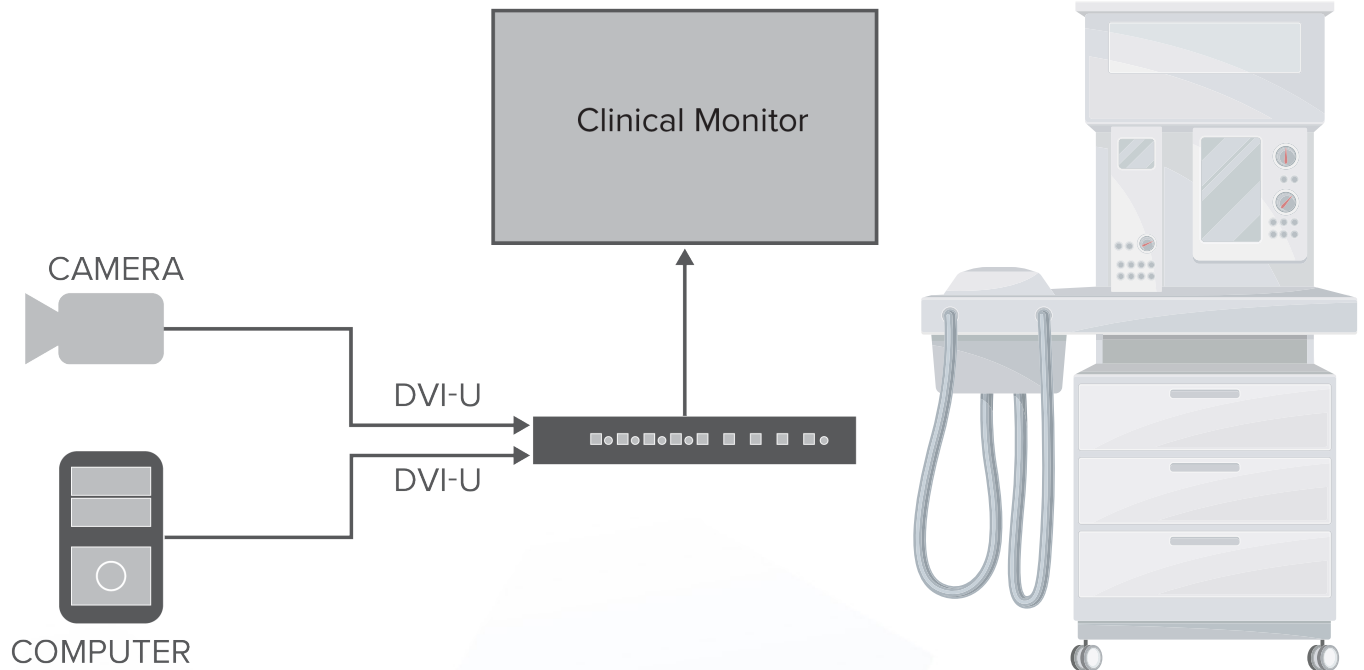
Solution

A CORIO powered C2-2855 Universal Scaler PLUS was chosen as the perfect solution to feed a DVI or HDMI feed from an endoscopic camera, with the option of connecting legacy gear, to a 3G-SDI clinical grade monitor with a repeat HDMI output available for non-clinical monitoring, recording, or feeding directly to a student audience.

3D ENDOSCOPY

Overview – A global healthcare equipment manufacturer asked for our help to develop a custom video matrix solution capable of using 2D, 3D and 4K images for their minimal invasive surgery solution.

Solution – We designed a completely custom version of the CORIOmatrix utilising Quad 3G-SDI sources to feed with either 3D/4K Endoscopy signals using a unique client-proprietary color space including embedded metadata and using a specific HDR Color Gamut. Along with this capability, it was essential for a wide range of AV inputs, including legacy connectivity, to be seamlessly displayed. The sources can be simultaneously routed to a variety of displays which necessitates best-in-class format conversion and synchronous switching controlled from a Web based interface.

4K OR 3D ENDOSCOPY OVER QUAD 3G-SDI

WebUI

4K OR 3D ENDOSCOPY OVER 3G-SDI

Clinical Monitor

Matrix Switcher

2D OVER HD-SDI OR 3G-SDI

Nurse Monitor

Student Monitor

DVI-U

COMPONENT

LEGACY IMAGING EQUIPMENT

2D OVER HD-SDI OR 3G-SDI

MEDICAL VIDEO RECORDER

Clinical Monitor

CAMERA

DVI-U

DVI-U

COMPUTER

Overview

An international healthcare technology solution provider required an embedded clinical solution for integration into a medical robot. The sources included a camera and PC source and the switcher/scaler hardware needed to be ultra-compact for internal mounting.

Solution

A CORIO powered 1T-C2-750 dual DVI Scaler PLUS which is equipped with has two high quality graphic scalers used to convert HDMI, DVI or HD15 (VGA) to an HDMI equipped clinical monitor. Although the device can display dual windows simultaneously, in this integration the 1T-C2-750 was used only as an ultra low latency video switcher and format converter.
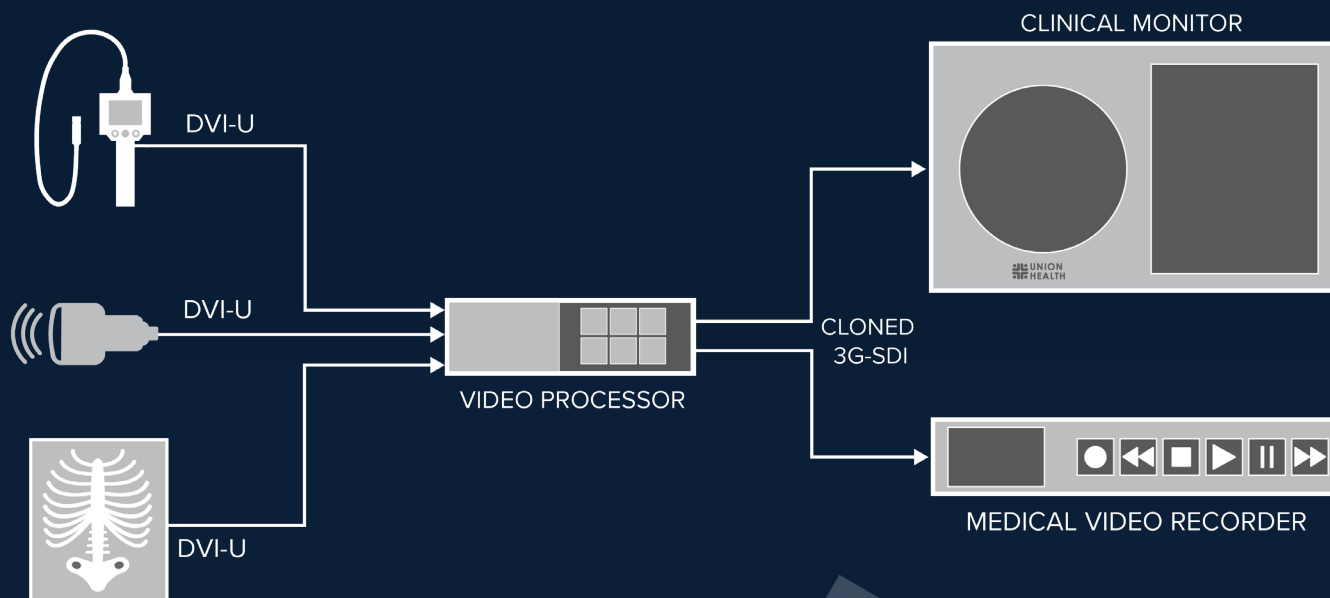
CLINICAL MONITORING

Overview

A global healthcare solution provider required a small, compact solution that could display two medical video sources over a corporately branded graphic. The output had to be simultaneously viewed on a clinical specification monitor and also be recorded.

Solution

Using a CORIOmaster micro host system, we collaborated with the customer to create several preset views including full screen and dual source window set ups which were programmed onto an integrated front panel for direct control. The dual outputs were cloned to ensure that the viewed output is always recorded for later playback.
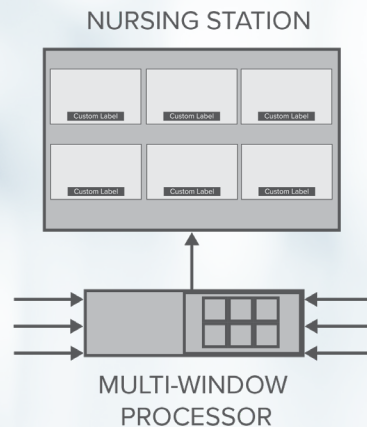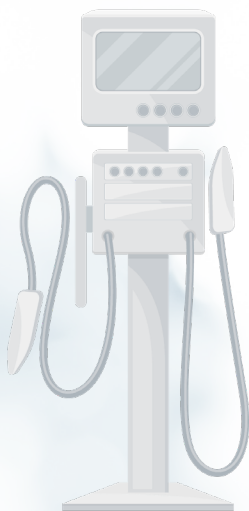
DVI-U

DVI-U

DVI-U

VIDEO PROCESSOR

CLINICAL MONITOR

UNION HEALTH

CLONED 3G-SDI

MEDICAL VIDEO RECORDER

NURSING STATIONS

Overview

A global medical device company wanted to create a multi-screen monitoring station where up to eighteen PC's could be monitored across three displays at three wards based, Nursing Stations for vital sign monitoring.

Solution

A CORIOview multi window viewer host system, was the perfect solution as no configuration is required for set up and the output view is automatically configured for the number of sources being fed into the chassis in addition to having an integrated button panel, colored borders and source labelling. Sized at half-width 1RU, the compact size of the units meant multiple units could be racked in a small space.

NURSING STATION

Custom Label   Custom Label   Custom Label

Custom Label   Custom Label   Custom Label

MULTI-WINDOW
PROCESSOR

AUGMENTED IMAGE GUIDED SURGERY

Overview

This is a growing application, where a live endoscopic feed is overlaid with graphic to guide the surgeon for advanced clinical navigation to increase clinical confidence while reducing the risk of complications and reducing recovery times.

Solution

CORIOmaster2, the most powerful video processor in our line-up, is perfect for this application as it uses high-bandwidth inputs and a high-speed backplane needed for end-to-end 12-G-SDI workflows with class leading low latency performance. A graphic overlay is internally keyed in real-time over the endoscopic view and this view can be fed to the Surgeon's 3D goggles while simultaneously feeding to stand 2D displays and recording the various elements either in a composited view or separately for the fullest flexibility.

LOGISTICS, TRAINING AND SUPPORT

Inhouse Design and Manufacturing

- Support for "non-standard" video
- Compact size solutions
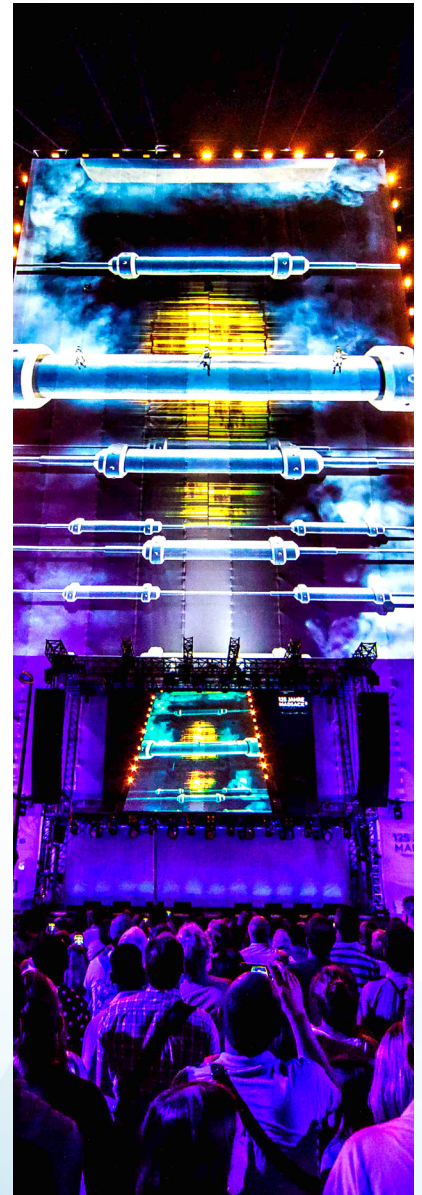- Geared up to support you with custom projects

Logistics

- Long supply life, long MTBF's and long warranties
- Custom packaging and box labels
- Bespoke part numbers for seamless ordering

Support

- Direct R&D engagement
- Face-to-face or virtual training
- Face-to-face or virtual commissioning
- Fast, global customer service

Facilitating all your video playback, processing, and signal distribution needs, enabling user to integrate, connect and engage.

tvONE®

MAGENTA®

GREEN HiPPO™

INTEGRATE

Low latency video processing & windowing

CONNECT

Reliable signal distribution

ENGAGE

Media playback & manipulation

COMPLIMENTARY PRODUCTS

tvONE is a full solution provider and we can collaborate with you to fulfil other critical infrastructure needs within your healthcare installations.

VIDEO DISTRIBUTION

tvONE's Magenta brand of products provide a leading range of reliable and robust video extension solutions and deploy digital video extenders with simplicity and long-term confidence. Choose from a range of cost effective, ultra-high performance and flexible extenders whatever your source or extension method.

IP Encoding	H.264 encoding Magenta encoder 100				
HDMI Extension	HDMI 2.0 Fiber Magenta MG-FB-61x		HDMI 2.0 Active Optical MG-AOC-66x series		HDMI over HDBaseT HD-One series
HDMI Distribution	Splitter MG-DA-612		4 Port DA MG-DA-614		8 Port DA MG-DA-618

RACKING & POWER

tvONE's ONErack family maximizes system reliability, speeds up installs and lengthen product life cycles. Universal or dedicated tvONE solutions: we have you covered with a wide range of elegant and robust racking, power, and cooling solutions. Our unique solutions are designed from the drawing board to be at the very heart of all your installations as well as adding elegant finishing touches.

Accessory Rack Mounting	Universal racking, powering & cooling ONErack		Universal, multi-voltage DC powered solution ONErack Spider

END TO END SOLUTIONS

VIDEO PROCESSING
Powerful, all-in-one videowall processing.

MATRIX SWITCHING
High performance, modular matrix solutions.

MULTI-WINDOW PROCESSING
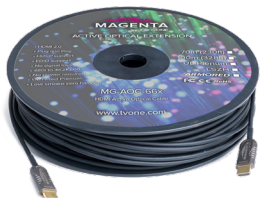Fast, touch-free, intuitive collaboration.

MEDIA SERVERS
Real time media playback and 3D mapping.

RACKING & POWER
Universal mounting, powering and cooling for small devices.

EXTEND SWITCH DISTRIBUTE
Reliable and robust AV connectivity.

tvONE

United States

621 Wilmer Ave
Cincinnati, OH 45226

+1 513 666 4210
sales@tvone.com
www.tvone.com

United Kingdom

Continental Approach
Westwood Industrial Estate
Margate, Kent, CT9 4JG
United Kingdom

+44 (0)1843 873300
sales.europe@tvone.com
www.tvone.com