



SYSTEM
INTEGRATION

News Studios London



C2S MEDIA
CONCEPT 2 SOLUTION

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THE BRIEF

Fully HD-capable studios located in the heart of central London, AP's new facility needed to be state-of-the-art. They wanted to provide a real-life cityscape backdrop rather than green-screen, with a number of different-sized studios. The twelfth floor at New Zealand House gave the perfect aspect, overlooking London's most recognisable landmarks, including Buckingham Palace, Pall Mall, Trafalgar Square, the London Eye, the Houses of Parliament, Westminster and Big Ben.

AP commissioned C2S to design, build and maintain a five-studio news, play-out and edit facility, with multi-camera, single-camera and robotic-camera studios



Central London Studios / Associated Press

SPECIFICATION

- HD infrastructure with multi-definition Evertz video processing and Evertz 962 video router
- Sony HXC-100 Triax cameras and Sony HDC-P1 cameras on Bradley Engineering robotic heads
- Three individual control rooms (studio 1/studio 2/studios 3, 4 and 5), with Ross Video vision mixers and graphics, a combination of Soundcraft and Allen & Heath audio mixers, Bradley Engineering robotic controller, Grass Valley T2 DDRs and Sony HVR-1500 VTs
- Apple Final Cut Pro 7 workstations with Sony HVR-1500 ingest/record VTs and the ability to play out/record directly to and from transmission
- Custom-designed and fabricated technical furniture
- Custom-designed studio furniture with flexibility to personalise based on client requirements
- Remote colour temperature switchable LED studio lighting
- Five HD-SDI fibre in and five HD-SDI out, to and from AP switching facility to send and receive from anywhere in the world



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Broadcast News Studios & Facilities



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THE BRIEF

Phoenix CNE TV needed a London operation in order to supply local content for their Mandarin and Cantonese language channels in Europe. They wanted to supply advertising, news and entertainment that was tailored to a regional audience, so needed studios and automated playout all on a file-based workflow.

Integration for this turnkey project was entirely managed and delivered by the C2S systems team. The project included a four-camera studio with virtual 3D set, a chroma studio with robotic camera, a play-out system with capacity for six channels and a plus-one redundancy path, as well as management and set-up of satellite incoming distribution feeds for re-broadcast.

With the systems and furnishings delivered in phases, various elements were pre-assembled in WTS' Leeds workshop.

C2S custom-made furniture was also supplied for both on-set news desks and off-set operation desks in technical areas.

Based in Richmond, London, the new operation went live in July 2012.



Broadcast News Studios & Facilities / Phoenix CNE TV London

SPECIFICATION

- Sony HXC-100 HD triax camera channels
- Evertz timing and router
- Miranda multiviewers and distribution
- Ross Carbonite 2 vision mixer
- Orad Virtual Reality studio system
- Autocue production servers
- Yamaha LS9-32 audio mixer
- Playbox ingest/TX/MAM systems
- Playbox traffic and scheduling
- Ericsson SAT RX system
- JVC/Tektronix HQ monitoring



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The logo for 'joiz' is displayed in a large, white, lowercase, sans-serif font against a dark background.

joiz

SYSTEM
INTEGRATION

IPTV
Studios



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THE BRIEF

Joiz TV, a youth-culture IPTV channel based in Switzerland, was a start-up operation and needed facilities. Joiz TV briefed the C2S team to design, build and install two studio spaces with a central control room and equipment area.

Joiz required a three-camera robotic VR studio and a single camera live-shot presentation area within the communal office, to allow flexible options and cut-aways for promos, live and magazine programmes



IPTV Studios / Joiz TV

SPECIFICATION

STUDIO A

- Three Sony BRC-H700 HD PTZ dome cameras with custom ceiling suspensions
- Three-wall and floor green-screen with CYC rail
- Flexible lighting grid solution using Photon Beard cool lighting
- Floor monitoring

CONTROL ROOM

- For-A HVS-350 HD visionmixer with VR integration and multiviewer
- For-A/Brainstorm multi-cam 3D VR software and hardware processing solution
- Custom Mac-based playout and ingests server solution
- Yamaha O1V audio mixer and associated out-board equipment
- Reidel talkback solution including digital wireless belt packs

STUDIO B

- Sony HXC-100 camera, tripod-mounted in soft-set area
- Open window shots
- Barrel lighting grid solution using Photon Beard cool lighting
- Floor monitoring

CENTRAL AREA

- Evertz 32x32 HD router
- Evertz 7000 series interface equipment and SPG system
- Custom automation and control of mixers and play-out
- Fibre interfacing for incoming and outgoing streams



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SYSTEMS INTEGRATION

HD Studio



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THE BRIEF

With an advanced equipment specification, the truck commissioned by North Star Equipment for Thai National Broadcaster MCOT was to be the first truck of its quality and size in Thailand. The brief detailed a six-camera OB truck with three operation areas separated by sliding doors, enough space for several operators, and air-conditioning to protect equipment from overheating in the tropical Thai climate.

C2S carried out the integration and coachwork, as well as supplying the truck itself, for local broadcast equipment supplier North Star Equipment, who were awarded the SI contract. The system was designed, built and pre-assembled in our workshop, ready for export, with final assembly completed on-site in Thailand.

“The C2S Systems team has the project management expertise and the ability to supply every element of the build to a very high standard rather than outsourcing. We needed this to ensure the highest quality truck was delivered to MCOT at the best possible price,” said Gia Radioas, International Relations Director at North Star Equipment.



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Six-Camera OB Truck / MCOT, Thailand

SPECIFICATION

KEY EQUIPMENT

- Four Panasonic AK-HC3500 HD cameras
- Snell 2ME 40-input Kahuna vision mixer
- Back-up For-A HVS-300HS vision mixer
- Custom emergency changeover
- Two Panasonic AJ-HPD2500 P2 machines
- One Sony MSW-M2000P DigiBeta machine
- Harris Inscribe graphics
- Snell Pyxis 722 AES audio and 362 HD video matrix
- Tektronix 7200 waveform monitoring with engineering analysis
- Snell video and audio processing, distribution, conversion, embedding and de-embedding with RollCall control
- SSL C10HD main audio mixer
- Yamaha DM1000 back-up audio mixer
- DK audio monitoring and loudness measurement
- TC Electronic FX and audio processing
- Telex/RTS 322 communications matrix

COACHWORK

- Mercedes Axor 1824LLnr chassis
- Height 3.8m Length 8.5m Width 2.5m
- Outer truck body: aluminium-skinned composite frame for acoustic and thermal protection
- Three operating areas, with six-seat production area
- Separate access doors for audio and engineering
- Electronically operated sliding doors between areas
- 63-Amp three-phase input with ISO transformer and AVRs
- Clean, safe power from rack-mounted central distribution unit
- LED interior lighting
- Tropical specification AC units
- Seven on-board automatic cable reels
- Motorised external awnings to shade main doors
- Hydraulic jacks with digital level indication and control



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Studio Production Complex



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THE BRIEF

Build a studio complex in one of the world's most active earthquake zones to provide 100% availability 24/7

The first challenge here was design. The customers requirement was to be able to be on air 24/7 regardless. The system even had to be seismically rated to withstand earthquakes. The complex consisted of 5 HD studios with 24 cameras, 10 edit suites, 2 audio rooms, 2 PCRs and a large MCR.

Every studio has internal built in redundancy in both audio and video and the large studios and PCRs can be exchanged with a single switch. For added security all mission critical devices are under control of a unified control and monitoring system.

The system was completed and went on air on time and now broadcasts 24/7 without interruption, even by earthquakes!



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Studio Production Complex /QVC, Japan

SPECIFICATION

KEY EQUIPMENT

- Snell Modular Infrastructure
- Snell RollMap Control and Monitoring Solution
- Snell Sirius 840 512 x 512 HD-SDI router
- Snell Pyxis Video, Audio and RS422 Routing System
- Ikegami camera with Shotoku Robotic Control
- Sony 7000X Vision Switcher Solution
- Quantel SQ Server based high-speed production system
- 24 Robotic Cameras, including 2 x Crane Cam, 2 x Ceiling Rail Cam
- Full Automation
- Omneon Playout Server
- Quantel Production System
- 40 x Snell IQ Modular Infrastructure Frames
- 240 Input Evertz MVIP Multi Viewer
- 10 x Evertz Modular Frames (DSK & VIP)
- Indoor and Outdoor CCTV Camera System
- Custom Designed Studio Control System
- Quantum LTO Archive
- 12 x Viz RT Graphics Servers
- Fibre Optical network for all studio interconnects

SYSTEMS INTEGRATION

New 8-Camera Studio



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THE BRIEF

As part of CNBC Asia's planned programming changes and move to 16:9 as a global broadcast format, their Hong Kong Studio required a complete makeover.

The plan to move production of the prime morning slot live programme Squawk Box to Hong Kong also required an upgrade in facilities.

C2S Asia Pacific provided a turnkey solution, including live set design and build and new studio and broadcast facility integration. The whole eight-camera HD studio was completed within four weeks from access to site to on-air transmission.

C2S supplied all infrastructure, video playback and technical monitoring systems. Two Sony HSC-100R HD cameras on Telemetrics robotic heads were added to the existing four Sony SD cameras, and two PTZ cameras were also installed.

A Snell HD Vega router and HD IQ infrastructure supports a video system utilizing a Ross Carbonite 2M Vision switcher and Aja Ki Pro for video playback and recording.

Sennheiser wireless microphone and IEM systems interface to a Yamaha LS9 audio mixer which in turn is fully integrated with a central Telex intercom matrix in Singapore, via IP connections.

A custom-built console was designed by WTS to meet the requirement that, if necessary, one Studio Director can operate it. The studio set design and build was also provided by C2S to give a fresh modern look to CNBC's programming.

The feed from Hong Kong is transmitted via fibre to contribute to the main feed from CNBC Asia's headquarters in Singapore.



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New 8-Camera Studio / CNBC Hong Kong

SPECIFICATION

KEY EQUIPMENT

- Sony HD and SD broadcast cameras
- Telemetrics robotic PTZ heads
- Ross Carbonite 2M vision switcher
- Snell vega router
- Snell IQ infrastructure
- Evertz reference system
- Aja Ki Pro video recording and playback
- Yamaha LS9 audio Mixer
- Sennheiser wireless microphones and IEM
- Phabrix testing and measurement
- Autoscript autocue



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SYSTEMS
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New 3-Camera Studio



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THE BRIEF

The University of Macau (UM) was relocated to a new campus in Hengqin Island in Southern Guangdong Province with the creation of eight faculties, including a Faculty of Social Sciences.

C2S provided a turnkey solution Creative Media Lab for educational use as well as content creation and live transmission, providing all equipment and integration along with construction of a broadcast-standard studio floor.

A live broadcast studio with cyclorama, green screen and lighting grid was equipped with Sony PMW F5 cameras on Vinten pedestals fitted with Autocue teleprompters.

The studio's main video components include a NewTek TriCaster 860 with ChyronHego IP graphics, and routing, processing and multi-viewer systems from Blackmagic Design.

A PreSonus StudioLive audio mixer with Sennheiser wireless microphones and Shure IEM systems provide audio facilities for broadcast.

Additionally, a second stills studio has been supplied with a number of Canon and Sony cameras. Wireless camera systems and portable recording devices from Teradek and Sound Devices have also been supplied for EFP purposes.

Eight Editing, voice-over and colour-correction suites provide post-production facilities, supported by a custom-designed, cloud-based Content Distribution Network for long-term storage and retrieval.



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New 3-Camera Studio / University of Macau

SPECIFICATION

KEY EQUIPMENT

- Sony Cine 4K cameras
- Canon cinema cameras
- Vinten pedestal system
- NewTek Tricaster 860 production system
- Blackmagic 4K production studio with router
- ChyronHego CG
- Teradek encoding and transmission system
- CND cloud streaming services
- PreSonus digital audio console
- Sennheiser wireless microphones and IEM
- Autocue teleprompter
- ETC lighting panel



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SYSTEMS
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HD News Studios



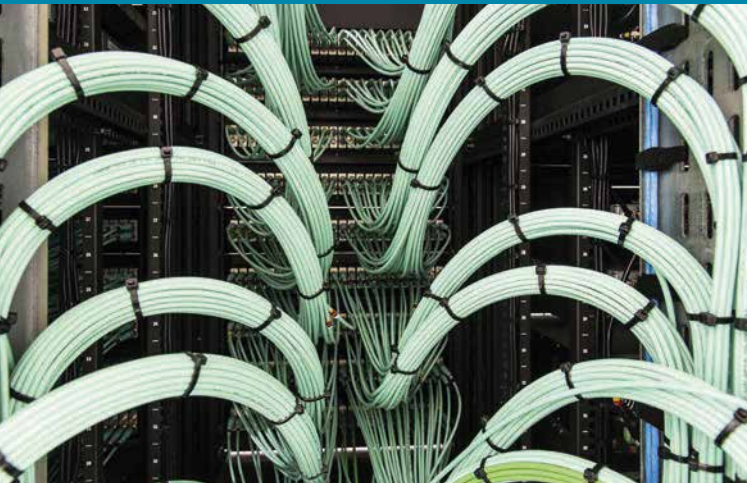
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THE BRIEF

PT Trans Media Corporation is one of the biggest media companies in Indonesia. In partnership with Turner Broadcasting Asia Pacific Inc, Trans Media launched CNN Indonesia, a 24-hour news channel, in March 2015.

C2S was commissioned by Trans Media to design, supply and integrate the studio, infrastructure and playout facilities for this major channel at Trans TV headquarters in central Jakarta.



HD News Studios / CNN Indonesia

SPECIFICATION

KEY EQUIPMENT

- Sony HDC 1700 Broadcast Cameras
- Jimmy Jib Crane
- Sony MVS 6530 3M/E Vision Switcher
- Evertz Router, Multiviewer and System Glue
- Evertz Reference System
- Snell Conversion
- SSL C10 HD Audio Mixer
- Evertz Master Control Switcher
- VIZrt Graphics
- Sennheiser Wireless Microphones
- Leader Video Measurement
- Autoscript Autocue
- Telex Intercom and IEM



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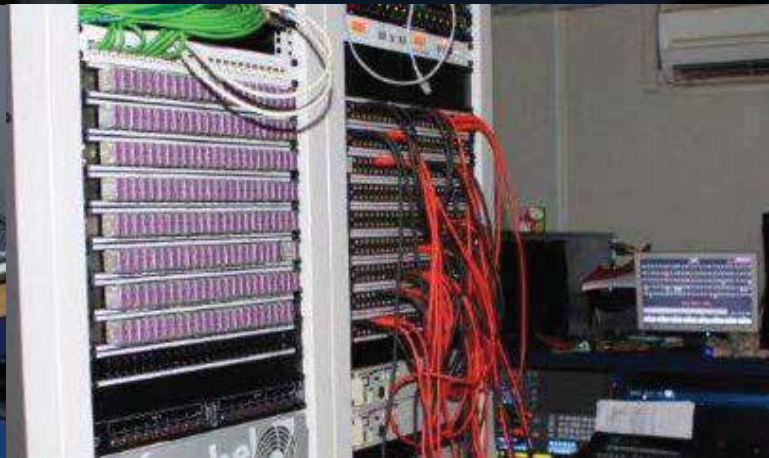


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Drama & Sports Broadcast Studios



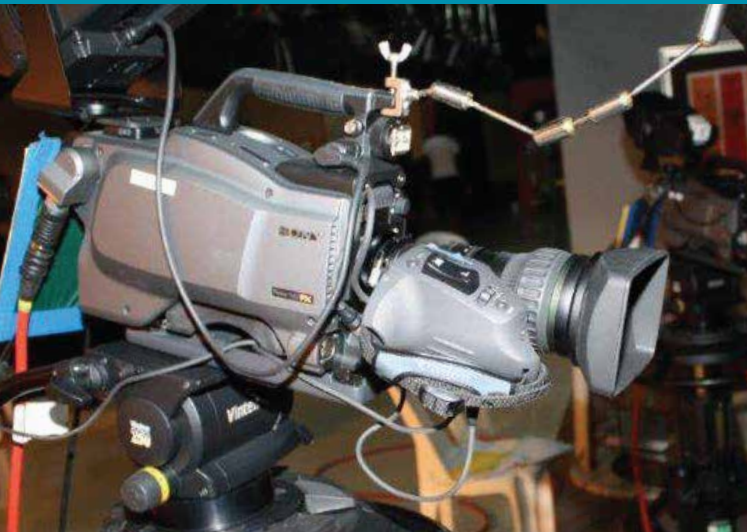
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THE BRIEF

SuperSport's new Nigerian operation was set-up to increase coverage of Nigerian Sports. They needed a new studio complex and asked the systems integration team at C2S to design, build and install it for them.

SuperSport needed an eight-camera HD studio facility with two studio floors working to a single gallery. In addition, a central control room for incoming feeds and transmission was required, along with a central edit system of three Avid non-linear edit suites and a central production server for creating highlights packages. The central system needed capacity for two additional studios to be added later on.



Broadcast Studios / SuperSport & MNET, Nigeria

SPECIFICATION

STUDIOS

- HD infrastructure, with multi-definition Snell IQ modular video processing and Pyxis HD and analogue audio router
- Sony HXC-100 HD triax cameras
- Sony MVS-6000 vision mixer
- Yamaha M7CL digital audio mixer
- Multiple VTR formats for packages to house standard XDCAM HD using PDW-HD1500 machines linked directly to post-production systems
- Evertz VIP multiviewers for main production stack, Ikegami HD CRT for HQ monitoring
- Custom-designed technical furniture
- Editshare Geevs production server with dedicated sports production software and control

CENTRAL AREA

- Multi-definition Snell IQ modular video processing and Sirius 288x288 3G router with multiple direct fibre interfaces for connection to distant parts of the facility
- Central control room for all engineering and transmission operations
- Telex Cronus intercom system using fibre interconnectivity to other areas within the facility
- Multi-format VTR capability
- Easily upgradable CAR area with capacity for a complete second studio in future
- Editshare central storage and archiving solution



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SYSTEM
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Multi- Production Studio Complex



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THE BRIEF

Sister companies SuperSport and MNET, both prominent African broadcasters, needed a studio complex for production of a new prime-time boxing drama-serial titled “Kona”, as well as front-end presentation coverage of east African sports events for SuperSport. The complex needed to support the two separate production workflows, both completely file-based from acquisition to TX, with shared and adaptable studio space.

The two control rooms were carefully designed by WTS to meet the challenging brief, providing both flexibility and suitability for the different types of production. Control One included a tiered layout for a production team of up to 18 people, working with five VTR/SSD decks, eight HD Sony camera channels, an eight-channel EVS XT3 with two EVS IP Director positions, two channels of graphics, and a separate audio control area.

Control Two is the main control area for “Kona”. The space was designed specifically for a drama team and split into three areas for production, vision and audio.

“It made sense to commission C2S for this project as they built a similar studio complex for us in 2011 in Lagos, Nigeria,” said Andre Venter, Head of SuperSport Africa. “The team has a talent for working under restricted conditions and we’ve always found they rise to a challenge. The build was completed on time and production commenced in early June 2013. We’re very happy with it.”



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Studio Complex / SuperSport & MNET Kenya

SPECIFICATION

KEY ELEMENTS

- Four studio spaces
- Two control rooms
- Four FCP edit suites
- Four Avid Media Composer edit suites
- An Avid Media Composer/Pro Tools final mix suite
- Two quality control stations
- ICR Central ref distribution
- Readiness for MCR and uplink facilities
- Editshare Geevs production server with dedicated sports production software and control

CONTROL ONE

- Ross Carbonite 2M – 24-input 2ME visionmixers
- Sony HXC-100 camera channels
- Sony HQ vision monitoring with Tektronix measurement

- Miranda X-16 multiviewers
- Snell Pyxis HD with Centra Touch control
- Yamaha LS9-32 32-fader audio console
- Snell IQ modular interfacing equipment
- EVS XT3/IP director system with X-store storage and integration to Avid ISIS
- Telos HX6 caller hybrid system

CONTROL TWO

- Ross Carbonite 1 – 16-input 1ME visionmixers
- Sony HXC-100 camera channels
- Sony HQ Vision monitoring with Tektronix measurement
- Snell Pyxis HD with Centra Touch control
- Yamaha LS9-16 16-fader audio console
- Snell IQ modular interface
- EVS NANO XS/IP director system with X-store storage and integration to Avid ISIS