RYERSON UNIVERSITY

Multi Camera High Definition TV Studio and Rogers Communications Centre Tour

School Of Radio and Television Arts

Ryerson University

Plan For Evening

- Highlight – HDTV Studio
- Brad Fortner - Other Items On Tour
- Richard Grunberg – Paper
- Break – Refreshments by Applied Electronics
- Tours will start at 8:00 with 2 groups leaving every five minutes
- Posters Of Tour Stops In Break Area (RCC-361)
- Coats will be in RCC-364
  - 20 Volunteers this evening
- 45 minute tour - All tours expected to be completed by 9:10 pm.
- Tours will finish in HDTV studio approx 8:50 pm.
- Facilities will close at 9:15 pm.

Plan For Evening

- HDTV Studio – First or fifth tour stop

Plan For Evening

- HDTV Studio – First or fifth tour stop
- TV Studio B and C
  - Monitor Wall Designs + EFP Cameras

Plan For Evening

- HDTV Studio – First or fifth tour stop
- TV Studio B and C
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- Digital Cinema – DALSA

Plan For Evening

- HDTV Studio – First or fifth tour stop
- TV Studio B and C
  - Monitor Wall Designs + EFP Cameras
- Digital Cinema – DALSA
- Surround Sound Facility

Plan For Evening

Panasonic DVCPRO DVCPRO HD

FINAL CUT PRO VIDEO EDITING

Adobe

To keep up with the day-to-day demands of Ryerson's Communication and Design programs, the Rogers Communications Centre operates fourteen G5 Apple Final Cut Pro complete with DVCPro VTR's. Combined these systems represent the largest Canadian installation of educational non-linear video editing systems equipped with DVCPro in a single location. These systems provide a totally digital production environment employing Apple's Final Cut Studio, Adobe's After Effects and Photoshop CS. The Suites are interconnected to two 1080i High Definition Editing Suites via Apple's X-SAN system which handles the terabytes of storage required for the HDTV media and workflow.

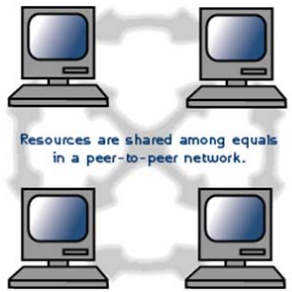
RYERSON UNIVERSITY
ROGERS COMMUNICATIONS CENTRE

- HDTV Studio – First or fifth tour stop
- TV Studio B and C
  - Monitor Wall Designs + EFP Cameras
- Digital Cinema – DALSA
- Surround Sound Facility
- Video Editing
  - News and Craft Editing

Plan For Evening

VIRAL MEDIA PRACTICUM PROJECT

With a growing adoption of multi megabit speed DSL Internet connections in the home, the use of peer-to-peer networking for the distribution of media content is growing. BitTorent, is a popular form of peer-to-peer distribution that is capable of distributing very large media files by sharing the distribution among many computers. A BitTorent client gathers parts of the file from a number of different computers on the Internet while simultaneously the sharing parts it has collected with other computers on the network.



PodCasting, known more generically as MicroCasting, is evolving into a specialty form of broadcasting that can be distributed by this method. The Viral Media Practicum Project is a student research project which is exploring peer-to-peer network distribution by methodologies that include BitTorrent, RSS and GPL software.

RYERSON UNIVERSITY
ROGERS COMMUNICATIONS CENTRE

- HDTV Studio – First or fifth tour stop
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- Surround Sound Facility
- Video Editing
  - News and Craft Editing
- Peer To Peer Content Distribution
  - Viral Media Project

Plan For Evening

- HDTV Studio – First or fifth tour stop
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- Video Editing
  - News and Craft Editing
- Peer To Peer Content Distribution
  - Viral Media Project
- Access Grid Collaborative Platform
  - AccessGrid @ Ryerson

Plan For Evening

PANDUIT

Education

case study

Inside this issue...

Ryerson University

Location:
Toronto, Canada

Vertical Market:
Education

Application:
10 Gb/s Video Multimedia Labs

www.panduit.com

Canada's Top Technology University Installs First 10 Gigabit Network Cabling for Multimedia Labs

Ryerson University (Toronto, Canada) has been one-step ahead of technology ever since they installed their first IBM computer for direct access information system (dubbed "DAISY") in 1963. They've come a long way since DAISY as they are now providing multi-gigabit desktop capabilities to their media students in the Rogers Communications Centre.

Originally known as Ryerson Institute of Technology in 1948 and renamed Ryerson University in 2002, the institution was founded as an experimental postsecondary school for technical learning. It has stayed on the forefront of technological advances for all their degrees – varying from education to nursing to media arts. In 1992, the Rogers Communications Centre was opened to enhance educational and professional efforts in broadcasting, broadband and new media technology in education. In this three-story, 140,000-square-foot structure are four TV studios, including the first three-camera HDTV television studio in a Canadian school, 40 audio production spaces, four radio production suites, five electronic newsrooms with over 120 seats, and multiple, multi-seat computer labs for visual computing and editing.

"We have an ever-expanding curriculum," states Dr. Paul Hearty, Ph.D., Director, Rogers Communications Centre and Associate Dean, Faculty of Communication & Design, Ryerson University. "To accomplish our learning goals, we need to stay on the leading edge of technology. We rely on our cabling infrastructure to give us the flexibility and the capability to allow this," Hearty adds. In doing so, the Rogers Communications Centre was recently recabled with Category 6 as the overall end-to-end cabling solution, with the addition of 200 drops of Augmented Category 6 cable and connectivity to deliver 10 Gigabit bandwidth capability to the video computer labs.

- HDTV Studio – First or fifth tour stop
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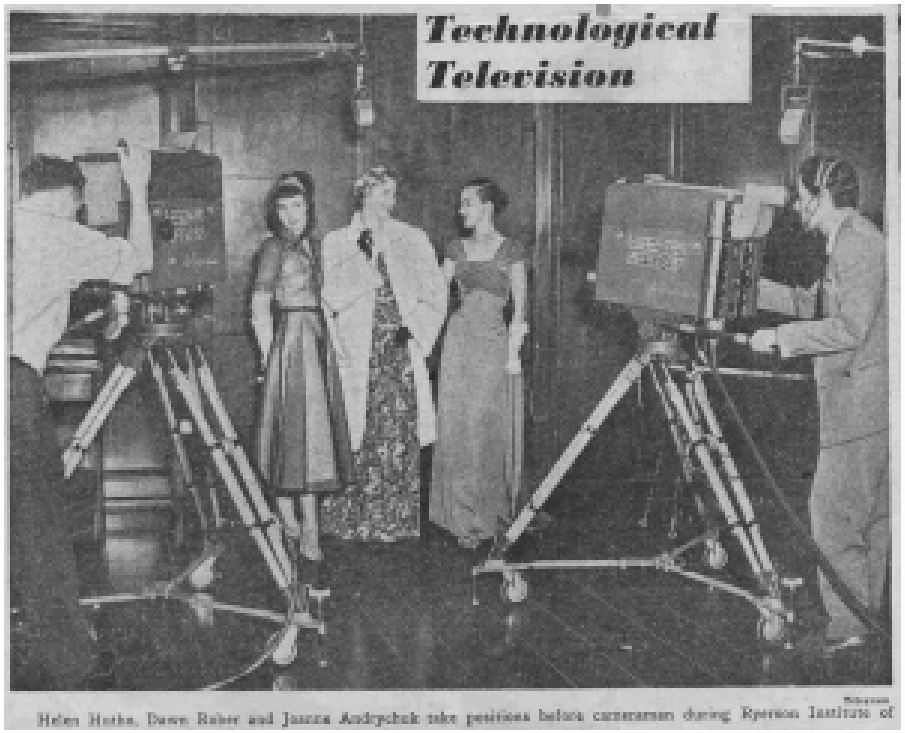
- Peer To Peer Content Distribution
  - Viral Media Project
- Access Grid Collaborative Platform
  - AccessGrid @ Ryerson
- 10 Gigabit Network Cabling
  - Augmented Cat 6 Cable

Ryerson - Established 1948

School Of Photography
School Of Radio
Among Founding Schools At Ryerson

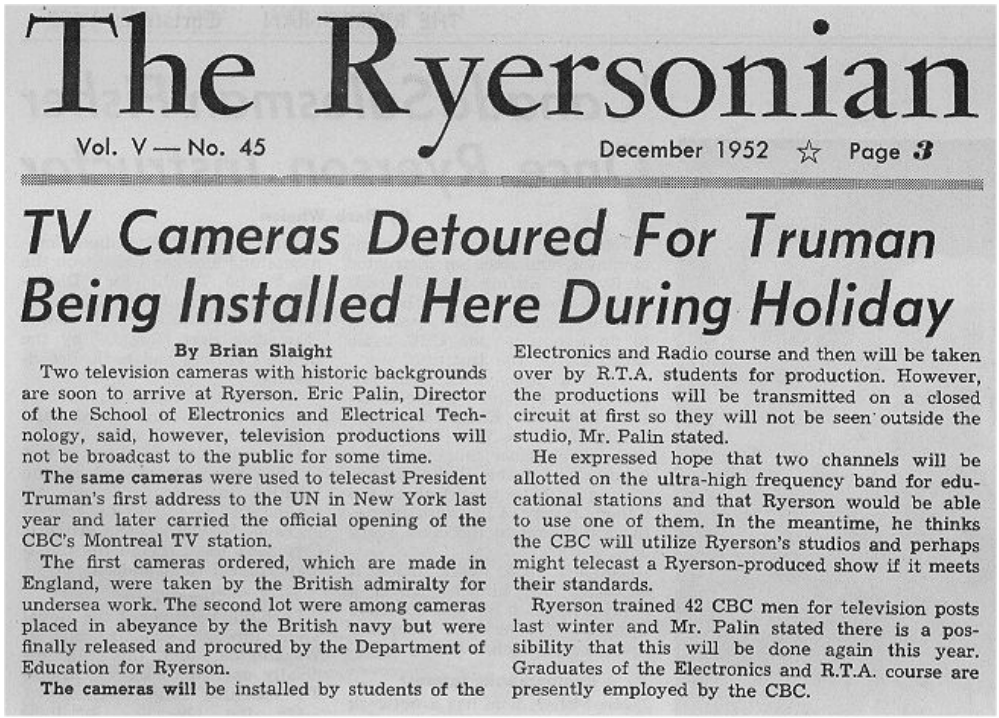
Long History With Television Medium



Helen Hutka, Dawn Raiser and Joanna Andrychuk take positions before cameramen during Ryerson Institute of

1949 – First TV Studio Production In Canada

Long History With Television Medium



The Ryersonian

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TV Cameras Detoured For Truman Being Installed Here During Holiday

By Brian Slaight

Two television cameras with historic backgrounds are soon to arrive at Ryerson. Eric Palin, Director of the School of Electronics and Electrical Technology, said, however, television productions will not be broadcast to the public for some time.

The same cameras were used to telecast President Truman's first address to the UN in New York last year and later carried the official opening of the CBC's Montreal TV station.

The first cameras ordered, which are made in England, were taken by the British admiralty for undersea work. The second lot were among cameras placed in abeyance by the British navy but were finally released and procured by the Department of Education for Ryerson.

The cameras will be installed by students of the Electronics and Radio course and then will be taken over by R.T.A. students for production. However, the productions will be transmitted on a closed circuit at first so they will not be seen outside the studio, Mr. Palin stated.

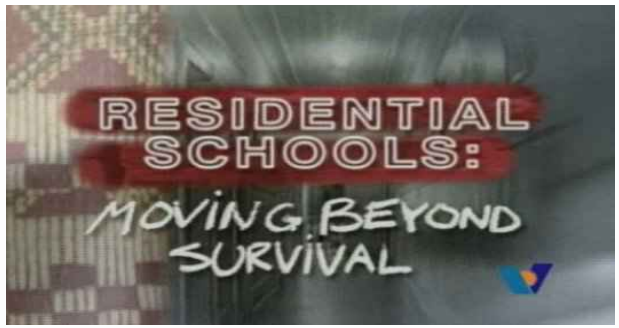
He expressed hope that two channels will be allotted on the ultra-high frequency band for educational stations and that Ryerson would be able to use one of them. In the meantime, he thinks the CBC will utilize Ryerson's studios and perhaps might telecast a Ryerson-produced show if it meets their standards.

Ryerson trained 42 CBC men for television posts last winter and Mr. Palin stated there is a possibility that this will be done again this year. Graduates of the Electronics and R.T.A. course are presently employed by the CBC.

1953 – Permanent TV Studio Established

Digital Video - HDTV

1999/2000 – HDTV Student Produced Drama In Canada



2001 – First 1080i HDTV end-to-end broadcast in Canada

2001 – ATSC Transmitter Test With CDTV

2002 - 1080i Electronic Field Production Established

RYERSON UNIVERSITY

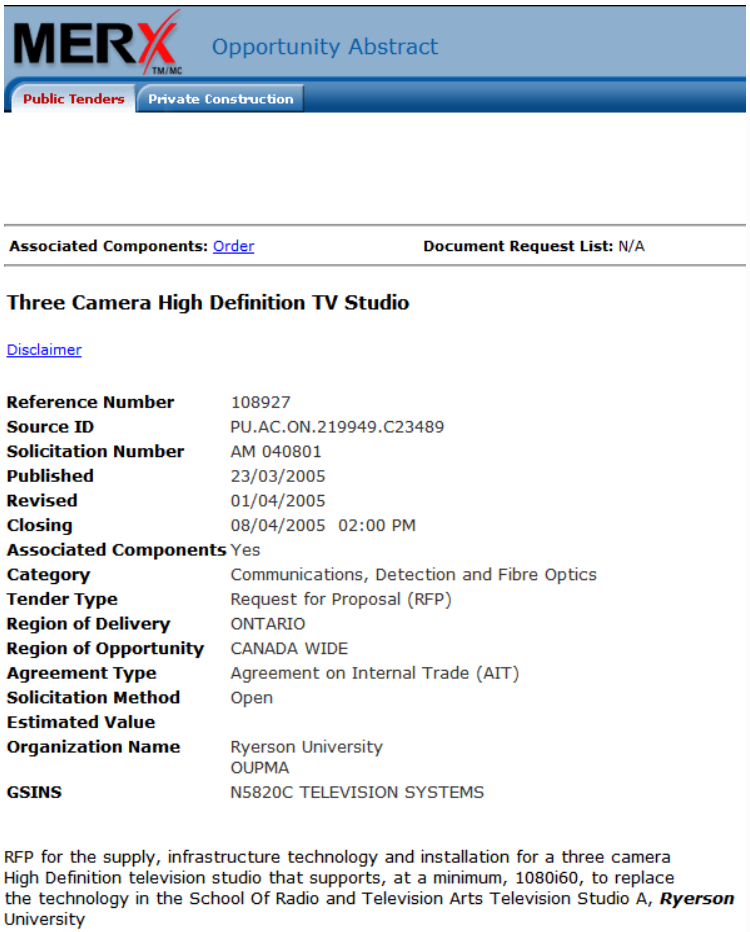
Multi Camera High Definition TV Studio

School Of Radio and Television Arts
Ryerson University

Design Process - Goals

- To upgrade and build a modern multipurpose television studio
- Provide for modern television production workflows
- Provide for teaching and learning activities
- Provide for an “academic workflow” where teaching and learning activities would apply to all four TV studios in the Centre

Design Process - RFP



MERX Opportunity Abstract

Public Tenders | Private Construction

Associated Components: Order **Document Request List:** N/A

Three Camera High Definition TV Studio

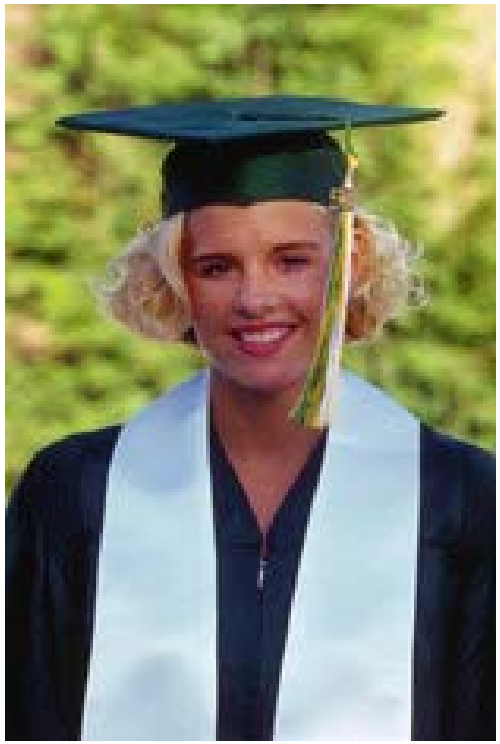
Disclaimer

Reference Number	108927
Source ID	PU.AC.ON.219949.C23489
Solicitation Number	AM 040801
Published	23/03/2005
Revised	01/04/2005
Closing	08/04/2005 02:00 PM
Associated Components	Yes
Category	Communications, Detection and Fibre Optics
Tender Type	Request for Proposal (RFP)
Region of Delivery	ONTARIO
Region of Opportunity	CANADA WIDE
Agreement Type	Agreement on Internal Trade (AIT)
Solicitation Method	Open
Estimated Value	
Organization Name	Ryerson University OUPMA
GSINS	N5820C TELEVISION SYSTEMS

RFP for the supply, infrastructure technology and installation for a three camera High Definition television studio that supports, at a minimum, 1080i60, to replace the technology in the School Of Radio and Television Arts Television Studio A, ***Ryerson*** University

- Internal Meetings 60+ hours
  - ✓ Key Faculty
  - ✓ Deans Office
  - ✓ Academic Admin Staff
  - ✓ Operational Staff
  - ✓ Tech Support Staff
- 8 Drafts
- Public Tender
- HDTV studio was one of three studios upgraded during summer of 2005

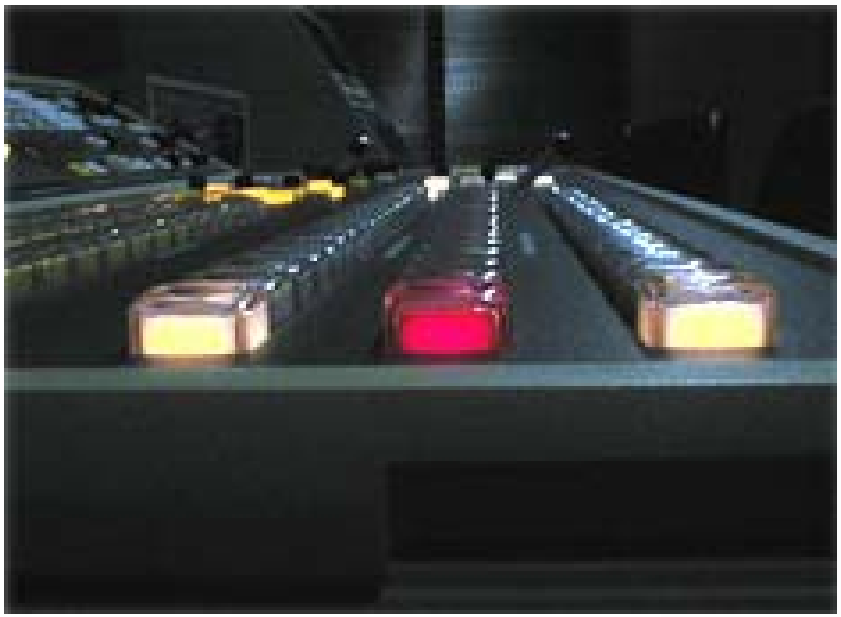
Key Criteria – HDTV Studio



Given societal need, long life of studio, and Schools mandate, the choice was made to build an HDTV studio

- Minimum 1080i
- Multiformat (if possible and where possible)
- Integrated into rest of Rogers Communications Centre Facility
  - Production Trunklines
  - HDTV Editing Facilities
  - Graphics (CG) System
  - Other TV Studios

Key Criteria – HDTV Studio



HDTV Switcher

- Modern Functionality
- 2 M/E Operation
- Full Size Control Panel
- Operationally similar to other TV Studio Switchers

Key Criteria – HDTV Studio

Studio Monitor Wall

- 20 Sources
- Up conversion and cross conversion to 1080i from all known HD, SD and PC video formats
- Mixture of HD an SD formats on monitor wall
- HD and SD outputs

Key Criteria – HDTV Studio

Ryerson University's Old Cameras and Pedestals

- Quality camera pedestals suitable for HDTV Production
- Pedestals that could be manipulated easily by student population

Key Criteria – HDTV Studio

Lens Selection

- Appropriate Focal Length For Studio
- Minimal “Breathing”

Key Criteria – HDTV Studio

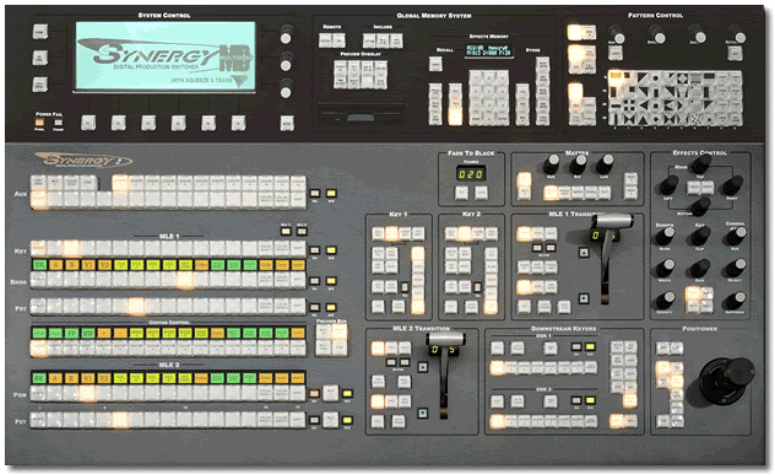
HDTV Level Monitoring And Switching At Key Production Positions

- Shader/VTR Station
- Audio Mixing
- Lighting Control
- Floor Monitor

Key Suppliers & Manufacturers

- Applied Electronics – Design and Installation
- Avitech - Media Command Centers
- AVP – Connecters/Patchfields
- AVID – Disk Recorder
- BDL - Teleprompter Software
- Canon – HDTV Lenses
- DELCO - Cable
- Inscriber - Character Generator
- Ikegami - HDTV Monitors
- Panasonic – Studio Cameras
- Ross Video - Switcher & Conversion Technology
- Sharp - LCD Monitors
- SONY - VTR's & Jib Camera
- Tektronix - HDTV Waveform Rasterizer
- Torpey – Clock Systems
- QTV - Teleprompter Heads
- Videotek – Signal Generators
- Vinten - Camera Pedestals

HDTV Studio Technology



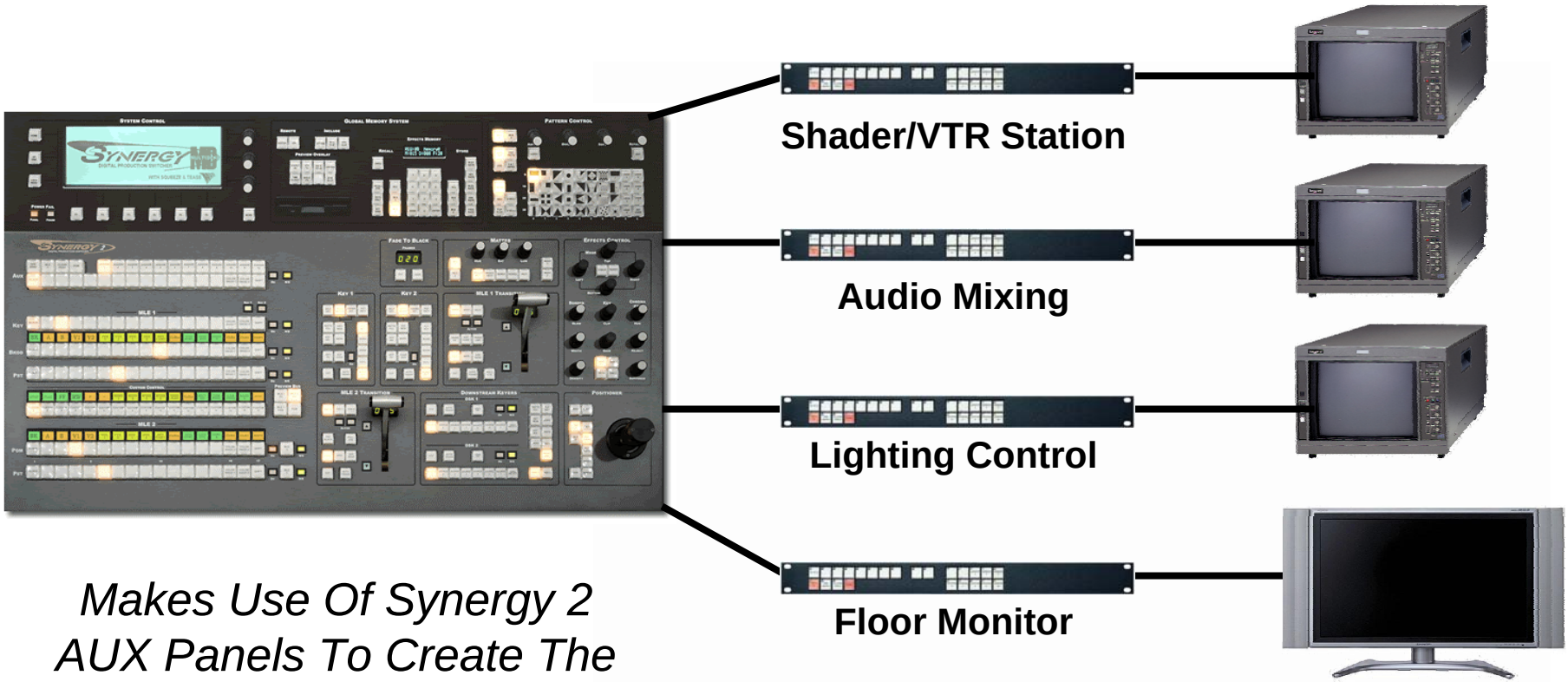
Ross Video Synergy 2
Multi-Definition Switcher

- Fully Featured 2 M/E Switcher
- Provides Modern Functionality
- Full Size Control Panel
- Internal Still Store

The following video formats are supported:

1080i/59.94	SMPTE-274M, SMPTE-292M
720p/59.94	SMPTE-296M, SMPTE-292M
1080i/50	SMPTE-274M, SMPTE-292M
480i/59.94 (SD 525)	SMPTE-125M, SMPTE-259M
576i/50 (SD 625)	ITU-R BT.601-5, SMPTE-259M

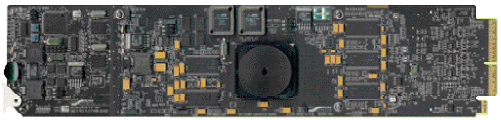
HDTV Studio Technology



Makes Use Of Synergy 2 AUX Panels To Create The Four Independent HDTV Switching Locations

Conversion Technology

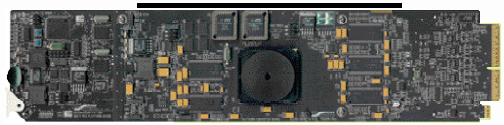
Analogue To SDI Conversion



Ross Video ADC-8033 Analog Component to SDI Converter

Ross Video ADC-8032 Analog Composite to SDI Converter

SDI To HDSDI Up Conversion

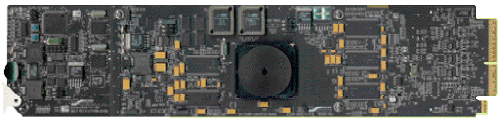


Ross Video UDC-8225 Cross-Converter (3 Cards 2 Up – 1Down)

The UDC-8225 is a universal cross-converter it can provide SDI to HDSDI up-conversion, HDSDI to SDI down-conversion, as well as HD to HD cross-conversion.

Conversion Technology

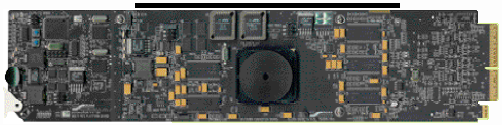
Analogue To SDI Conversion



Ross Video ADC-8033 Analog Component to SDI Converter

Ross Video ADC-8032 Analog Composite to SDI Converter

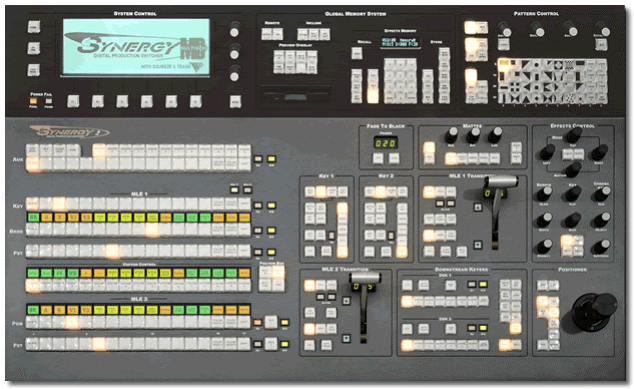
SDI To HDSDI Up Conversion



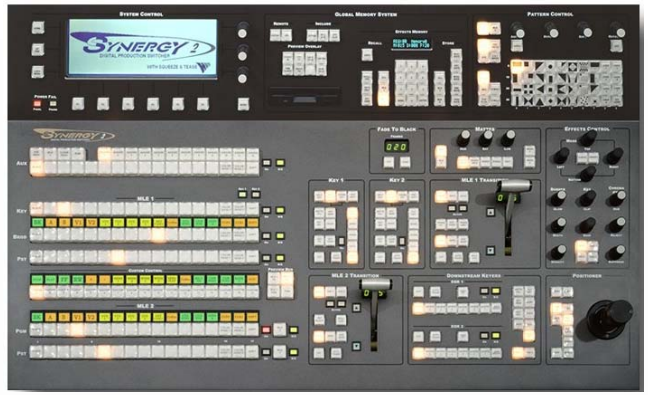
Ross Video UDC-8225 Cross-Converter (3 Cards 2 Up – 1Down)

Ross Video SFS-8221 Frame Synchronizer For HDSDI Sources

Installed Switching “Family”



Synergy 2 Multi-Definition TV A -HDTV



Synergy 2 SD TV B-SDI

Synergy 1 SD TV C-SDI

Studio Monitor Wall

Ikegami HTM-2005R CRT HDTV Monitor

SHARP LC-45GD4U Liquid Crystal Television

Avitech Media Command Center

Three Technologies Make Up The Monitor Wall

“Dual Personality” Monitor Wall

Ikegami HTM-2005R
CRT HDTV Monitor

- Traditional CRT Based Program/Preview Monitor
- A SMPTE phosphor CRT
- 4*3 Aspect Ratio Screen
- SD Capable
- Displays HDTV Signals Letterboxed

“Dual Personality” Monitor Wall

SHARP LC-45GD4U Liquid Crystal Television

- 45” Active Matrix (a-si TFT)
- Super View LCD
- 1,920 x 1,080 Pixels
- NTSC, ATSC (480p, 720p, 1080i)
- Contrast Ratio 800:1
- Industrial Version (Improved Cooling and Power Supply)

Multi-Input LCD Screen

Avitech Media Command Center

- Technology Creates Multi-Input Monitor Wall On LCD Screen
- Provides For Tally & Feed ID
- Allows For Different Monitor Wall Designs Based On Production Type
- Reduces Monitor Wall Size - Places Preview Feeds Side By Side (Not Possible with Letterboxed 9” CRT Monitors)

Shader Station Technology

Ikegami HTM-1505RA CRT HDTV Monitor with Auto Set-up Probe

Panasonic AK-HRP931 Operation Panels

Tektronix WVR7100 Waveform Rasterizer

Three Components Make Up Shader/VTR Station

HDTV Studio Technology

SONY HDW-500 HDCAM VTR's

AVID Media Composer Adrenaline HD

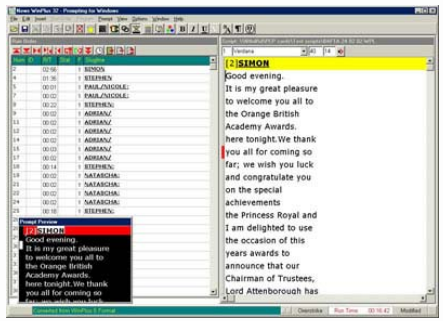
Inscriber Inca Studio High Definition Character Generator

Other New Technologies Included In Control Room

HDTV Studio Technology

Dell Dimension PC StillStore Feeder

Torpey Clocks and Production Timing System



BDL Teleprompter Software

Other New Technologies Included In Control Room

HDTV Studio Cameras

Panasonic AK-HC930P

- CCD - 2/3" One million pixels IT 3CCD
- Total pixels - 1370 x 744
- Effective pixels - 1280 x 720
- Lens mount - Bayonet type
- Sensitivity - F10 at 2000 lux 3200K
- S/N - 54dB (HD) / 62dB (SD)
- Smear - Less than -130 dB

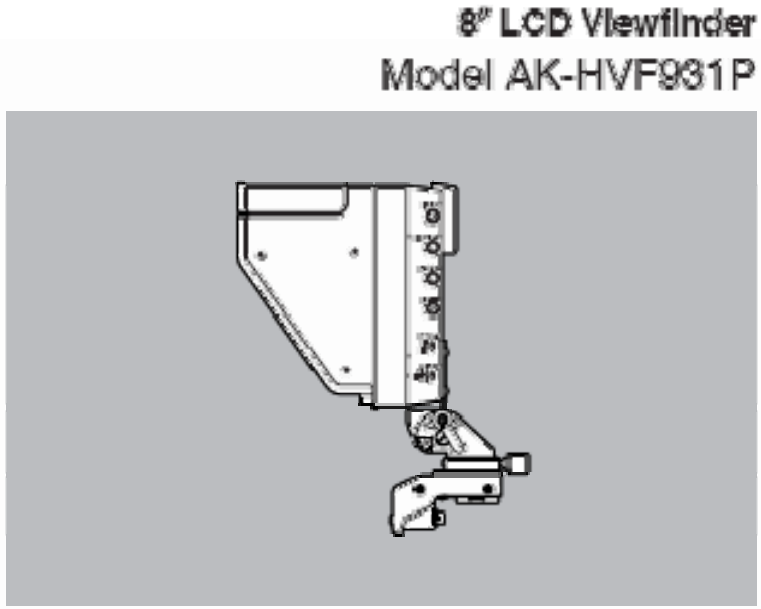
HDTV Studio Cameras

Panasonic AK-HC930P

Canon HJ21x7.5 IASE Lens

HDTV Studio Cameras

Panasonic AK-HC930P



Studio Pedestals

Vinten Osprey Elite
3374-3C (x2)

Vinten Quattro-S
V3850-006

Vinten Vector 60
3806-3

Quattro-S At
Minimum Height

HDTV Studio Jib Camera

SONY 1035i Camera

AJA HD10A - HDTV 10-bit Analog to Digital Converter

HDTV Studio Technology

SCC-2 SIMA NTSC Colour Corrector

Ikegami Portable 10" HDTV Monitors

Vidoetek HD Signal Gen VSG-405HD

Vidoetek SDI Sync Gen VSG-201D

ETC Microvision FX lighting controller

QTV FDP-15“ Teleprompter Heads

Other Technologies Included In HDTV Studio

Questions