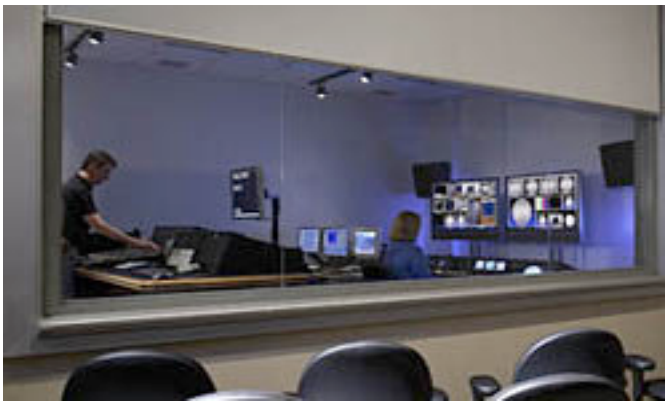
# Victory Fellowship Overview of facilities

## VCF Control Room



**The control room**

**The TV control room handles operations for broadcasts in the TV studio.**

- Front Row: Graphics), Director/Vision, Mixer Producer/auxiliary
- Back Row: Audio, Prompter and Executive producer
- ample room exists behind the rear deck for additional participants
- The Vision Mixer desk is a Ross Crossover 12 I/p HDSDI broadcast mixer Camera control
- Video playback is via a Doremi Nugget HD recorder and play out device.
- Primary video monitoring is an eight way Evertz Multiviewer.
- Yamaha 02R audio mixer accommodates up to 48 inputs, configured to output 8 mono or 4 stereo groups
  - 2 Telos Hybrid telephone interface
  - Clearcom IFB
  - Source equipment includes Denon CD player, DVD recorder Tascam MiniDisc and both Sennheiser hard line and wireless microphones.
  - Communication throughout the facility is provided by a Telex/RTS BTR-800 System
  - Routing of digital and analogue signals is via a Blackmagic 32x32 HDSDI router
- The main program is recorded onto a Sony XDCAM EX30 HDSDI recorder.
- All monitoring, cameras, players, cap generator are viewed on an Evertz MVP multiviewer.
- There are two EX3 HD studio cameras one positioned at the rear of the auditorium and the other on a robotic crane fully remote controlled from ground level.
- Each corner of the studio is wired for extra EX3 HD cameras are any other broadcast camera that's installed.

- From each of the extra locations there is multimode mode fiber optics, which is terminated in the studio. This is for a third party dry hire to basically plug and play from there own external set up as in for example “Outside broadcast unit.” Using the facility with say 9 cameras basically will plug their fiber optic converter into the control room which allow the addition of the extra cameras without the necessity for extra cables.
- External feeds such as Satellite feeds and DVD playout are also routed to the vision mixer for special day ingests from third parties.

- The Yamaha audio desk in the control room is used for all local sources including the main sources from the front of house mixer and this AES EBU signal is embedded with the HDSDI video from the vision mixer and routed to the main record device PMW-EX30 Sony recorder.
- Simultaneously the program out signal is also recorded onto a Sony and Pioneer DVD recorder for back up and front of house sales.

## Sound Studio

The Whisper room is an isolated voice-over booth. Students can record their audio directly into their Final Cut Pro project via the Final Cut voice over tool or they can use one of the other programs to record their audio and import it into their project. The audio can also be sent through the router to any location in the studio.

## Non-linear Editing Suites

There are a number of Non Linear editing stations producing indents, trailers and finished programmed for transmission on scheduled basis. Final Cut Pro is the preferred software as it’s the industry standard. All completed programs and graphic sequences are sent directly over the Gbit network to the Doremi HD recorder and with a weekly schedule play out the relevant sequence depending on what’s happening in Victory.

**Attached to this overview is the schematic of video/control system.**

All 42” Panasonic HD screens which are situated in strategic positions throughout the centre are all fed with a HD full 1080! Video signal.

# 7767VIP8-HSN, 7767VIP8-HSN-G and 7767VIP8-SN

*VIP™ Eight Input Video Monitoring & Display*

The 7767VIP8 signal monitoring module simultaneously accepts, auto-detects, analyzes and displays eight synchronous or asynchronous HD/SD/Analog video signals. A ninth input is a computer graphic input for display of a dynamic background image. Displaying up to WUXGA (1920x1200) resolution, the 7767VIP8 module fits conveniently into Evertz® universally installed 7800FR frame, and provides a cost-effective & space-efficient signal monitoring & display solution.

The 7767VIP8 module is VistaLINK® -capable, offering remote monitoring, control and configuration capabilities via Simple Network Management Protocol (SNMP). This product feature offers another solution to manage operations including signal monitoring and module configuration from SNMP -capable control systems (Manager or NMS) locally or remotely.


## Features & Benefits

### Video Inputs
- Up to eight auto-sensing HD/SD/NTSC/PAL inputs (same BNC)
- Accepts either 4:3 or 16:9
- Auto-detects 525/625 format SD inputs (single frame rate conversion)
- Computer graphic input (DVI-I up to UXGA resolution) source is used for background display or for cascading multiple VIP™ modules together
  Also can be used in place of the last video input as a scaled source.

### Audio Inputs
- Handles embedded, discrete unbalanced AES/EBU, and balanced analog audio via break-out panel
- VU/PPM level indicators

### Video Output
- One DVI-I output - Drive a single DVI-D and a single RGBHV (VGA-type) display simultaneously with the same content up to WUXGA (1920x1200 resolution)
- One selectable HD/SD serial digital (BNC) video output, also carrying same content as DVI-I output or select from input
- Minimal processing delay (~1 frame)
- Optional fiber output (-G option)
- Optional support for "portrait" display via 2430GDAC-WARP
- Thumbnails of any or all selected inputs to VistaLINK® PRO Thumbnail Server (or equivalent)

### Graphics
- User-configurable tally indicators and configurable UMD static and/or dynamically updated text, background colors
- User-configurable borders
- LTC input drives digital clock display
- Count-up or down timer displays (GPI triggered)

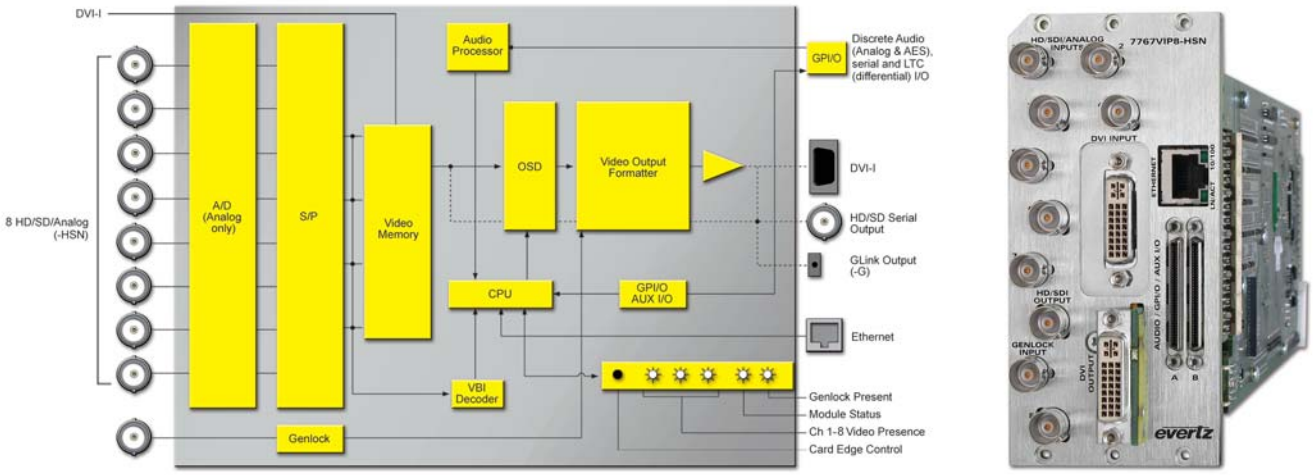
### Signal Monitoring
- Extensive list of user-configurable signal fault conditions with "logic" settings
- Detects frozen video (patent pending) and black video
- User-configurable fault condition alert messages per video input with configurable background colors, opacities, thresholds and duration settings
- Closed caption presence detection
- WSS detection

### Auxiliary Inputs
- RS-232/RS-422 communication port Interface to common UMD protocols -TSL, Image Video
- 20 assignable general purpose inputs, 8 general purpose outputs

### Physical
- Number of slots - 3
- Genlock reference loop input for proper timing - 1 NTSC/PAL
- Fast power-cycle time (< 30 seconds)

### Network Management
- Built-in VistaLINK® support for remote monitoring and control via SNMP (using VistaLINK® PRO)
- The 7767VIP module does not require a 7700FC VistaLINK® Frame Controller
- A direct Ethernet connection to the network for VistaLINK® operations must be provided by user
- Screen configurations via Maestro-VIP™ GUI software (included)
- Web browser interface allows for simple configuration without the need for additional software

## 7767VIP8 Block Diagram & Rear Panel




## Specifications

**Digital Video Inputs:**

| | |
|---|---|
| Standard: | Auto-sensing HD-SDI (SMPTE 292M, SD-SDI (SMPTE 259M-C) |
| Number of Inputs: | Up to 8 |
| Connector: | BNC IEC 61169-8 Annex A |
| Equalization: | Automatic to 100m (Belden 1694A) |
| Return Loss: | > 15dB up to 270Mb/s |
| Embedded Audio: | SMPTE 272M-A, SMPTE 299M |

**Composite Analog Video Inputs:**

| | |
|---|---|
| Standard: | NTSC (SMPTE 170M), PAL (ITU624-4) |
| Number of Inputs: | Up to 8 |
| Connector: | BNC IEC 61169-8 Annex A |
| Signal Level: | 1V nominal |
| DC Offset: | 0V ±0.1V |
| Input Impedance: | 75Ω |
| Return Loss: | 40dB up to 5MHz |

**Background (Computer) Video Input:**

| | |
|---|---|
| Standard: | Auto-detecting, VESA (DVI-I, for DVI and RGBHV inputs) |
| Number of Inputs: | 1 |
| Connector: | DVI-I (Female) |
| Input Resolution: | 640x480 (VGA) to 1600x1200 (UXGA) |
| Signal Level: | 1V nominal |

**Discrete Digital AES Audio Inputs:**

| | |
|---|---|
| Standard: | SMPTE 276M |
| Number of Inputs: | 4 AES per video input |
| Connector: | Dual SCSI (F) |
| Resolution: | 24-bit |
| Sampling Rate: | 48kHz |
| Impedance: | 75Ω unbalanced |

**Discrete Analog Audio Inputs:**

| | |
|---|---|
| Number of Inputs: | 12 balanced stereo audio pairs |
| Connector: | Dual SCSI (F) |
| Input Impedance: | 20 kΩ minimum (differential) |
| Sampling Frequency: | 48kHz |
| Peak Signal and Common Mode Level: | 30dBu |

**Display Video Output:**

| | |
|---|---|
| Standard: | VESA (DVI-I) up to WUXGA (1920x1200) |
| Number of Outputs: | 1 |
| Connector: | DVI (with DVI to RGBHV Adapter) |
| Video: | 1V p-p RGB or 0.7V p-p VGA, 60Hz refresh |
| Impedance: | 75Ω |

**Serial Video Output:**

| | |
|---|---|
| Standard: | Selectable HD/SD serial monitoring output (720p, 1080i, 625i, 525i) |
| Number of Outputs: | 1 |
| Connector: | BNC IEC 61169-8 Annex A |
| Signal Level: | 800mV nominal |
| DC Offset: | 0V ±0.5V |
| Rise & Fall Time: | 200ps nominal (HD), 740ps nominal (SD) |
| Overshoot: | < 10% of amplitude |

**Genlock Input:**

| | |
|---|---|
| Type: | NTSC/PAL color black |
| Level: | 1V p-p nominal |
| Connector: | BNC IEC 61169-8 Annex A |

**General Purpose Interface I/O (GPI/GPO):**

| | |
|---|---|
| Type: | |
| GPI: | 20 Opto-isolated, active low with internal pull-ups to +5V |
| GPO: | 8 Relay closure to ground |
| Connector: | Breakout panel TBlocks via SCSI connection to dual SCSI (F) |
| Input Signal: | Closure to ground |

**Data Input/Output Serial Port:**

| | |
|---|---|
| Number of Ports: | 1 RS-232 or 1 RS-422 |
| Connector: | Breakout panel TBlocks via SCSI connection to dual SCSI (F) |
| Baud Rate: | Up to 1Mbaud |
| Format: | Configurable for various UMD interfaces |

**Ethernet:**

| | |
|---|---|
| Network Type: | Fast Ethernet 100 Base-TX 1EEE 802.3U standard for 100Mb/s baseband CSMA/CD local area network |
| Connector: | RJ-45 |

**Electrical:**

| | |
|---|---|
| Voltage: | +12V DC |
| Power: | < 39W |
| Safety: | CSA Listed, complies with EU safety directives |
| EMI/RFI: | Complies with FCC Part 15, Class A EU EMC Directive |

**Physical:**

| | |
|---|---|
| 350FR: | 3 |
| 7700FR-C: | 3 |
| 7800FR: | 3 |

## Ordering Information

| | |
|---|---|
| **7767VIP8-HSN** | Up to eight asynchronous HD/SD/NTSC/PAL inputs with embedded audio, one background DVI-I (DVI-D or RGBHV with adapter) input. Single DVI-I (DVI-D or RGBHV with adapter) or one serial monitor output. Includes VistaLINK® VLPRO-C software configuration tool, GPI/O break-out panel (BHP-AUX) and Maestro-VIP™ display layout GUI. |
| **7767VIP8-HSN-G** | Up to eight asynchronous SD/NTSC/PAL inputs with embedded audio, one background DVI-I (DVI-D or RGBHV with adapter) input. Single DVI-I (DVI-D or RGBHV with adapter) or one serial monitor output. Includes VistaLINK® VLPRO-C software configuration tool, GPI/O break-out panel (BHP-AUX) and Maestro-VIP™ display layout GUI. |
| **7767VIP8-SN** | Up to eight asynchronous SD/NTSC/PAL inputs with embedded audio, one background DVI-I (DVI-I or RGBHV with adapter) input. Single DVI-I (DVI-D or RGBHV with adapter) or one serial monitor output. Includes VistaLINK® VLPRO-C software configuration tool, GPI/O break-out panel (BHP-AUX) and Maestro-VIP™ display layout GUI. |

| | |
|---|---|
| **Ordering Options** | Rear Plate must be specified at time of order<br>Eg: Model +3RU |

**Rear Plate Suffix**

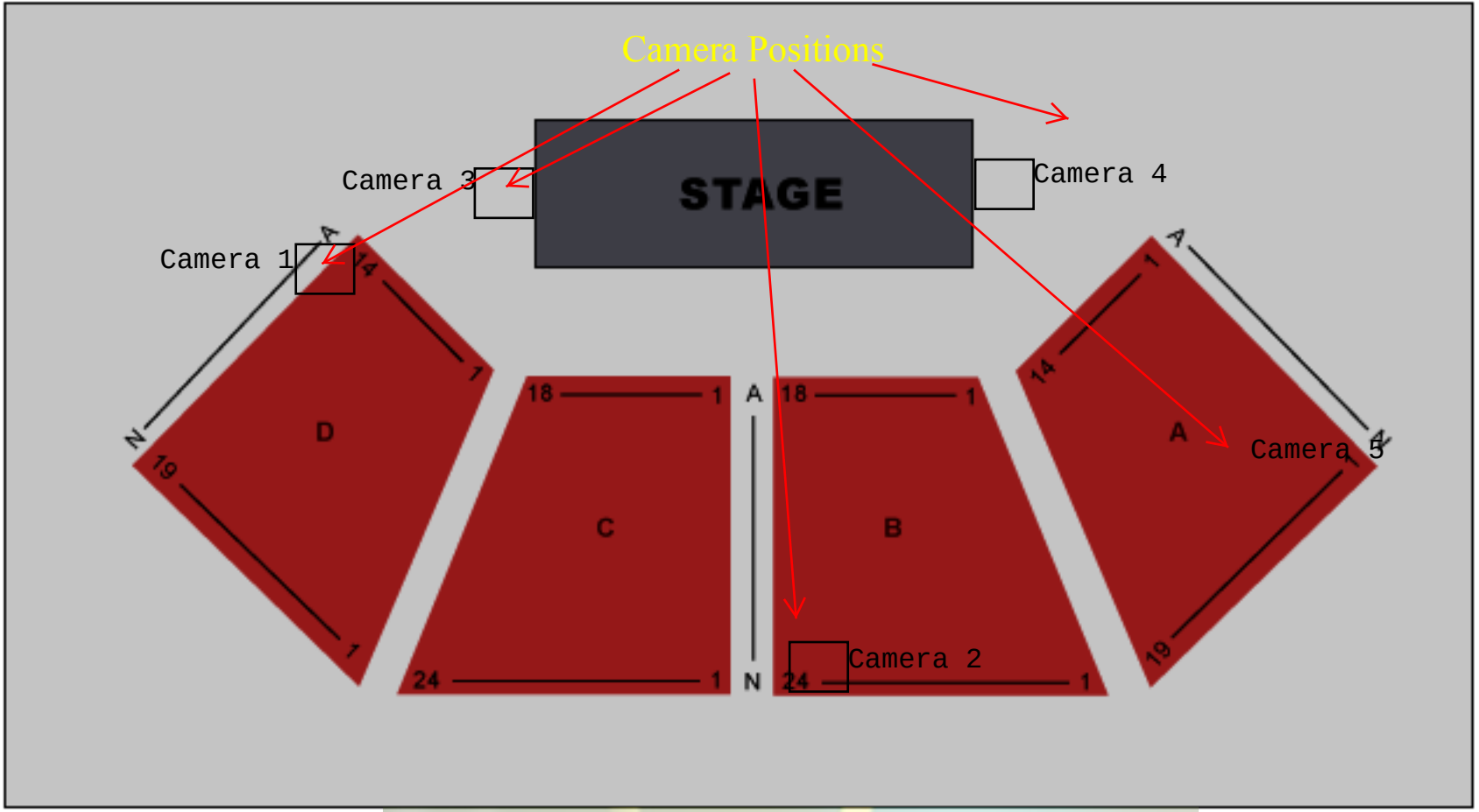
| | |
|---|---|
| **+3RU** | 3RU Rear Plate for use with 350FR, 7700FR-C or 7800FR Multiframe |
| **+SA** | Rear Plate for Standalone |

**Accessories**

| | |
|---|---|
| **2430GDAC** | GLink to DVI converter (extender requires -G module) |
| **2430GDAC-WARP** | GLink to DVI converter (extender and portrait mode display, requires -G module) |
| **7767VIP-AI-U** | Discrete unbalanced AES/EBU audio input (4 AES per video input) support with breakout panel |
| **7767VIP-AI-BAL** | Discrete balanced analog audio input support with breakout panel |
| **3000MKT-AUX** | Dual BHP-AUX auxiliary GPI/O and serial break-out panel rack mounting kit |

**Enclosures**

| | |
|---|---|
| **350FR** | 3RU Portable Multiframe which holds up to 7 single slot modules |
| **7700FR-C** | 3RU Multiframe which holds up to 15 single slot modules |
| **7800FR** | 3RU Multiframe which holds up to 15 single slot modules |
| **S7702FR** | Standalone enclosure |




- TIERED SEATING

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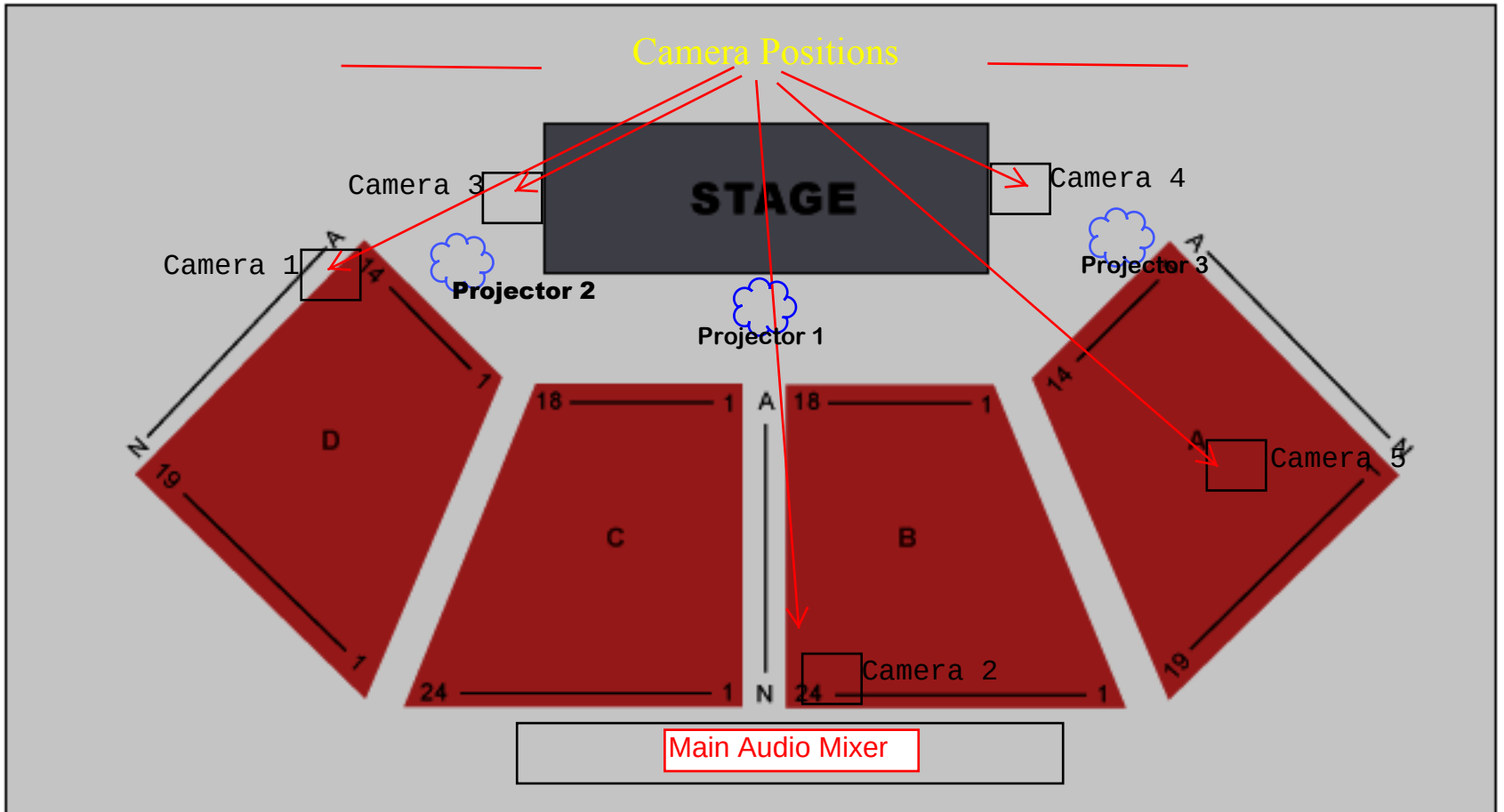


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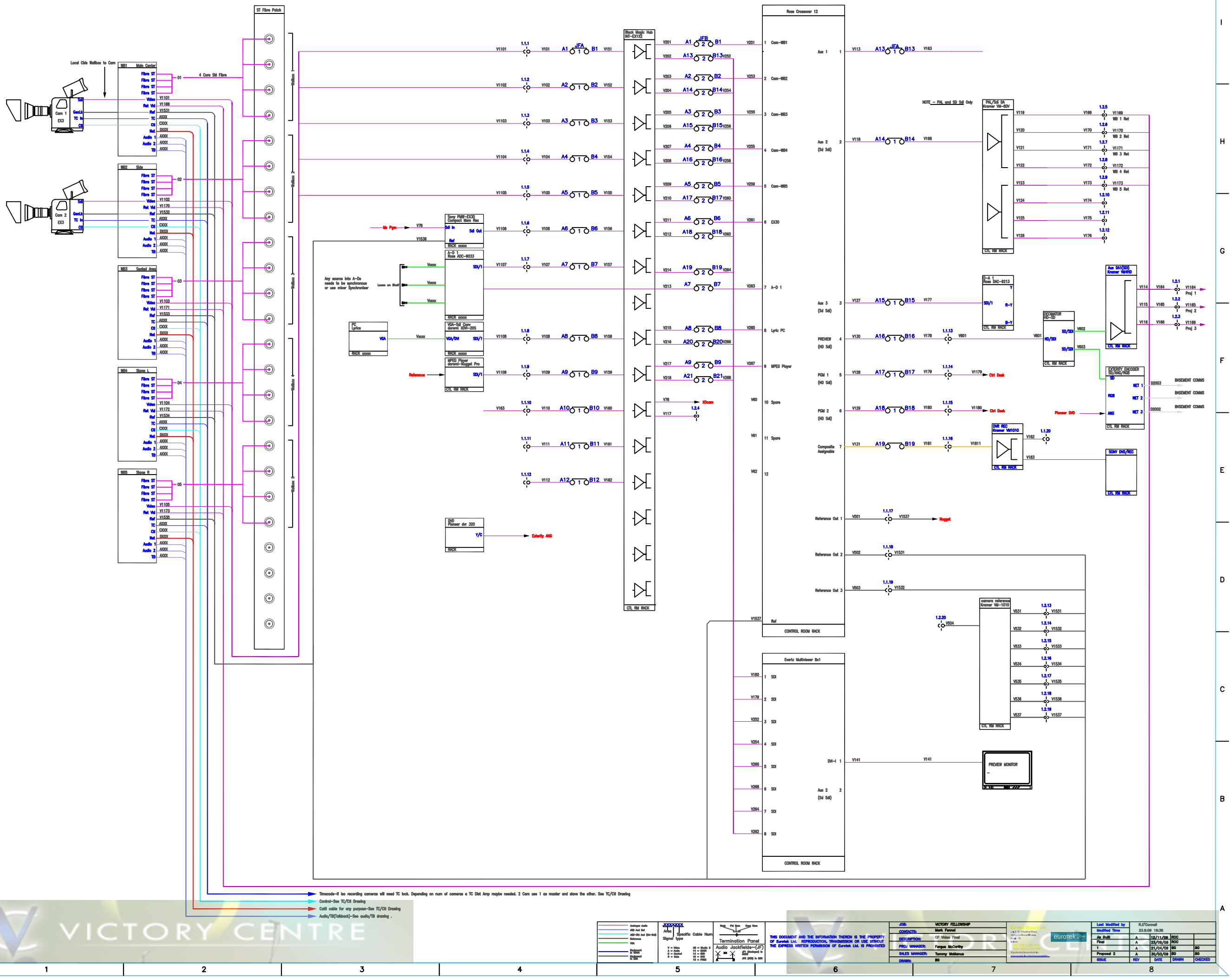
ST Fibre Patch
Local Cbls Wallbox to Cam
WB1 Main Center
WB2 Side
WB3 Seated Area
WB4 Stage L
WB5 Stage R
4 Core SM Fibre
Cam 1
Cam 2
EX3
Fibre ST
Video
Ref Vid
Ref
TC
Ctl
Net
Audio 1
Audio 2
TB
AXXX
CXXX
DXXX
Blade 1
Blade 2
Blade 3
Blade 4
Blade 5
Shark Mogic Hub
INT-CX12
Rosa Crossover 12
Aux 1
Aux 2
(Sd Sdi)
Aux 3
PREVIEW
(HD Sdi)
PGM 1
PGM 2
Composite
Assignable
Com-WB1
Com-WB2
Com-WB3
Com-WB4
Com-WB5
EX30
A-D 1
Lyric PC
MPEG Player
Spare
CONTROL ROOM RACK
Mic Pgm
Any source into A-Ds
needs to be synchronous
or use mixer Synchronizer
Sony PWR-EX30
Compact Mem Rec
Sdi In
Sdi Out
Ref
Rosa ADC-8033
SDI/1
VGA-Sdi Conv
doremi ASM-205
VGA/DVI
MPEG Player
doremi Nugget Pro
Reference
PC
Lyrics
VGA
DVD
Pioneer dvr 333
Y/C
Exterity AVG
XDcam
Nugget
PAL/Sdi DA
Kramer VM-80V
NOTE -- PAL and SD Sdi Only
WB 1 Ret
WB 2 Ret
WB 3 Ret
WB 4 Ret
WB 5 Ret
CTL RM RACK
D-A 1
Rosa DAC-9213
R-Y
B-Y
Aux DA1(SD)
Kramer VM-6HD
DECIMATOR
HD-SDI
SD/SDI
HD/SDI
EXTERITY ENCODER
HD/AVG/REC
SD
RGB
ANC
NET 1
NET 2
NET 3
D2003
D2002
BASEMENT COMMS
Pioneer DVD
DVR REC
Kramer VM1010
SONY DVD/REC
camera reference
Kramer VM-1010
Everlz MultiViewer 8x1
DM-1
PREVIEW MONITOR
Timecode-If loo recording cameras will need TC lock. Depending on num of cameras a TC Dist Amp maybe needed. 2 Cam use 1 as master and slave the other. See TC/Ctl Drawing
Control-See TC/Ctl Drawing
Cat6 cable for any purpose-See TC/Ctl Drawing
Audio/TB(Talkback)-See audio/TB drawing .
Termination Panel
Audio Jack/Fields-(JF)
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PROJ MANAGER: Fergus McCarthy
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DRAWN: BG
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Last Modified by: R.O'Connell
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1 A 21/04/09 BG BG
Proposed 2 A 30/03/09 BG BG
ISSUE REV DATE DRAWN CHECKED

ROSS VISION MIXER

# Features

**Standard Product Features**

- 12 HD-SDI inputs
- 10 input multi-viewer
- 1 HD-SDI preview output
- 2 HD-SDI program outputs
- 3 independent Aux bus outputs
- Multi-Definition support:
- Standard Definition 480i/59.94, 576i/50 (both at 4:3 and 16:9)
- High Definition 1080i/59.94, 1080i/50, 720p/59.94, 720p/50 (HD support not available on SD models)
- 2 channels of 2D DVEs
- 4 up/down converters with independent frame synchronizers: SD to 1080i, 1080i to SD, 720p to SD, 720p to 1080i
- New conversion/frame sync bus mode allows for application of converter/syncronizer to be applied to a bus. This allows for numerous sources to be converted or syncronized by a single converter/syncronizer.
- 4 channels of Media Store supporting: TGA stills and TGA sequential animations
- 2 versatile wipe generators with support for: diamond, circle, and diagonal wipes - Pattern multiplication and pattern rotation - soft edges and matte filled borders
- Superb, patented UltraChrome™ chroma keyer
- Color wash generator and dedicated Aux bus color generator
- 100 event memory system with CrossOver exclusive MemoryAI™ recall to preview
- FlexiClean™ assignable clean feed output selectable on Auxbus
- Sync generator with 3 Independent black burst or tri-level sync outputs
- Reference input (internally terminated): black burst or tri-level sync
- Editor port (RS-422)
- GPI port offering 24 inputs
- Tally port supporting 8 tallies
- Ethernet port with FTP support for media store channels
- High speed USB port for software upgrades and Media Store loading
- Rack mount chassis
- High quality 30-Bit RGB user themeable backlit PanelGlow buttons
- Tough metal construction
- Universal 100-240 V AC power supplies
- Locking power retainers

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| PMW-EX30 |
| --- |
| An HD SxS PRO compact memory recorder for an Evolving Era of HD |

**XDCAM EX - New Generation HD Recording System**

Offering two SxS PRO memory card slots, a 3.5inch high resolution LCD screen and a wide range of analogue and digital interfaces including HD-SDI input, the PMW-EX30 has been designed to be the ideal companion to not only the existing EX line up of camcorders, but also as a low-cost HD recorder for the live event and entry-level studio market.

With the ability to dub to other HD formats such as HDV, XDCAM HD or HDCAM and with the addition of down-conversion of HD content to SD formats including DVCAM, the PMW-EX30 offers an ideal solution for those customers wanting to integrate XDCAM EX footage into a wide range of existing SD or HD tape-based or non-linear workflows.

Along with all these features, the recorder offers the same thumbnail operation and clip access as the camcorders, including the card copy function.

The PMW-EX30 is a highly versatile and affordable compact recorder for many different applications.

This product comes with the full PrimeSupport package. That's fast, hassle-free repairs, a helpline offering expert technical advice, and a free loan unit while yours is repaired. Plus the peace of mind that Sony is looking after your equipment – and your business.

# Features

**New Nonlinear Recording Media, "SxSPRO" - For Greater Efficiency, Operability, and Reliability**

The XDCAM EX range adopts the SxS PRO memory card for its recording media, which Sony and SanDisk Corporation jointly developed specifically for professional content creation applications. The SxS PRO memory card is an ultra-compact nonlinear medium that uses flash memory with a number of key features:

- Compatible with ExpressCard3/4 interface slot which is common on modern Windows PCs and Macs
- Uses PCI Express interface and achieves an extremely high "read" speed of 800 Mb/s*
- Large storage capacity: SBP-8 (8 GB) and SBP-16 (16 GB) memory cards are available
- Can record up to 70 minutes of HD video and audio (using one 16-GB memory card)
- Compact size: approx. 75 × 34 × 5 mm (excluding the projecting parts) - half the size of the older PC Card standard
- Low power consumption
- Highly reliable: can resist shocks (up to 1500 G) and vibrations (up to 15 G)

*This data-transfer speed is a theoretical value. Actual data-transfer speed depends on the file type and the performance of the PC.

**1920 x 1080 HD Recording Using the "MPEG-2 Long GOP" Codec**

The PMW-EX30 deck records 1920 x 1080 HD images using the "MPEG-2 Long GOP" codec, which conforms to the MPEG-2 MP@HL compression standard. "MPEG-2 Long GOP" is a mature codec - also adopted by the XDCAM HD and HDV 1080i series of products - which enables users to record stunning-quality HD video and audio with highly efficient, reliable data compression.

**Selectable Bit Rates**

The PMW-EX30 deck offers a choice of bit rates - either 35 Mb/s (HQ mode) or 25 Mb/s (SP mode) - depending on the desired picture quality and recording time. The HQ mode supports both 1920 x 1080 and 1280 x 720 resolutions. The SP mode supports 1440 x 1080 resolution at 25 Mb/s, which provides compatibility with HDV 1080i products.

Footage recorded in this SP mode can be seamlessly integrated into HDV-compatible editing systems by transferring the stream from the deck via the i.LINK™ (HDV™) interface. It can also be recorded on XDCAM HD's optical disc through the use of the supplied Clip Browser software.

### Long Recording Time

Utilising a mature and highly efficient compression format together with high performance SxS memory cards, the PMW-EX30 can record superb quality HD images for an exceptional 70 minutes* on a single 16Gb SxS card. As the PMW-EX30 features two memory card slots, this recording time is easily doubled to 140 minutes (with two 16Gb cards) and when recording across two cards, the transition is seamless without any frame loss. This feature makes the PMW-EX30 an ideal recorder for a wide variety of content production applications, such as HD live events and studio operation

*When recording in HQ (35 Mb/s) mode, recording time may be more than the above specified figure depending on the actual bit rate that is adopted during VBR encoding.

### Wide range of HD interfaces

HD-SDI input/output, i-link(HDV), input/output, component output and an HDMI output for low-cost monitoring. This makes the PMW-EX30 a very versatile unit for not only use as a traditional edit machine, but also as a cost effective HD-SDI recorder either on location or in the studio.

### SD Downconversion

Down-converted SD outputs for interoperability with SD edit environments - SD-SDI, i.LINK (DVCAM), component, S-Video and composite. This allows footage to be acquired in HD, then downconverted for SD post production whilst retaining the HD rushes for archive purposes.

### DC 12V Operation

Offers DC operation in the field. Useful for HD minicam and other field-based acquisition applications

### Built in 3.5inch LCD Monitor Screen

The PMW-EX30 has a high resolution 1920 x 640 LCD screen for reviewing clips and thumbnails. This allows easy viewing of your content with no delay

### Multiple-format Recording - 1080/720 and Interlace/ Progressive Switchable Operation

The PMW-EX30 deck offers a wide array of recording formats for multiple content creation applications. Recording mode is switchable between 1920 x 1080, 1280 x 720, and 1440 x 1080 resolutions. Frame rate is also selectable from interlace and progressive - 59.94i, 50i and native 23.98P*.

In addition, 59.94P and 50P progressive recording is available in 1280 x 720 mode. The SxS PRO memory card can simultaneously hold multiple files of any of these recording formats, allowing for flexible use of the memory card.

*In 1440 x 1080/23.98P (SP) mode, images are handled as 23.98P and recorded as 59.94i signals through means of 2-3 pull-down.

### Adjustable Audio Input Volume

Both CH1 and CH2 audio input can be simply adjusted from the rotary dials on the front panel. Two channels of analogue audio on phono connectors can be recorded along with the picture signal. In addition embedded audio is supported

### Additional Information

Only SxS memory cards are guaranteed for use with the XDCAM EX. USB based memory cards cannot be used with the XDCAM EX range. USB based memory cards might work with the XDCAM EX range in some cases, but Sony does not guarantee that all the functions will operate. The performance of USB based memory cards can vary.

# Benefits

The PMW-EX30 expands the XDCAM EX product range by offering a compact recorder which in many ways operates in the same way as a traditional tape-based VTR, with many analogue and digital video interfaces along with the newer IT based interfaces such as USB and i.LINK. The product therefore can operate in either video or IT mode depending the customer's requirements.

### Enhanced Workflow

Innovative solid state recording and playback with SxS PRO ExpressCard memory cards offers the following benefits:

- Compatible with industry-standard ExpressCard interface available on most modern laptops
- No time lost to tape loading
- Small, high capacity recording media offering over 2 hours of continuous HD content across 2 x 16GB cards.
- Enhanced interoperability with HDV and XDCAM plus SD down-conversion, so ready to use immediately with most existing NLE, either in HD or SD
- No need to worry about accidentally overwriting precious content
- Write and Re-Writable media with no degradation in picture quality
- Thumbnail images representing key scenes can be browsed and instantly accessed using LCD colour screen
- No frantic fast-forward/rewinding to find the clips you want to review

- Non-proprietary media manufacture
- Supplied with Clip Browser Software for viewing and copying clips to HDD, DVD or Blu-ray Disc.

### Wide Range of Interfaces available

The deck features a wide range of both analogue and digital interfaces including HD-SDI input offering real flexibility

- HD-SDI In/Out
- Embedded Audio & TC
- HDMI Out
- i.LINK
- HDV In/Out
- DV Out (Down-Conversion)
- USB 2.0 (operates as SxS PRO card reader/writer)
- Component Out (Y/Pb/Pr)
- HD & SD (Down-conversion) selectable
- S-Video & Composite Out
- Analogue Audio In/Out
- Headphone Out

### The PMW-EX30 offers the most compact HD-SDI recorder available from Sony

- The recorder can be used either vertically or horizontally with the supplied stand
- Ideal for use in edit suites and also small OB vans/ENG vans where space is limited
- 12v input also offers flexibility on location

## Technical Specifications

| General | |
|---|---|
| Storage temperature | -20 to +60°C (-4 to +140°F) |
| Recording format Video | Video MPEG-2 Long GOP HQ mode: VBR, maximum bit rate: 35 Mb/s, MPEG-2 MP@HL SP mode: CBR, 25 Mb/s, MPEG-2 MP@H14 Audio Linear PCM (2ch, 16-bit, 48-kHz) |
| Recording frame rate | NTSC setting HQ mode: 1920 x 1080/59.94i, 23.98P(*1), 1280 x 720/ 59.94P SP mode: 1440 x 1080/59.94i PAL setting HQ mode: 1920 x 1080/50i, 1280 x 720/ 50P SP mode: 1440 x 1080/ 50i |
| Recording/Playback time | HQ mode Approx. 50 min. with SBP-16 (16 GB) memory card. Approx. 25 min. with SBP-8 (8 GB) memory card[br]SP mode Approx. 70 min. with SBP-16 (16 GB) memory card. Approx. 35 min. with SBP-8 (8 GB) memory card |
| Mass | Approx. 2.0 kg (4 lb 6 oz) (body) Approx. 2.4 kg (5 lb 4 oz) with AC adaptor and stand |
| Dimensions (W x H x D) | Approx. 210 x 88 x 200 mm (8 3/8 x 3 1/2 x 7 7/8 inches) |
| Power requirements | DC 12 V |
| Power consumption | Approx. 12 W |
| Operating temperature | 5 to +40°C (+32 to +104°F) |

| Signal inputs/outputs | |
|---|---|
| Composite output | BNC(x1), 1.0 Vp-p, 75 ohms unbalanced |
| S-Video output | Y: 1.0 Vp-p, 75 ohms unbalanced, sync negative |
| Component output | BNC (x 3), Y: 1.0 Vp-p, 75 ohms, Pb/Pr: 0.7 Vp-p, 75 ohms |
| Audio input | RCA type (CH-1, CH-2) |
| Audio output | RCA type (CH-1, CH-2), -10 dBu (reference level), 47 kohms |
| HD-SDI input | BNC (x 1) |
| SDI output | BNC (x 1), HD-SDI/SD-SDI selectable |
| HDMI output | Type A 19-pin (x 1) |
| i.LINK input/output | IEEE1394, 6pin (x 1), HDV stream input/output, DVCAM stream output, S400 |
| USB | Mini-B (x 1), USB 2.0 High-speed |
| Headphone output | Stereo mini-jack (x 1), 16 O, 30 mW |
| DC input | DC jack |

| LCD panel | |
|---|---|
| LCD panel | 3.5-inch(*2) type color LCD monitor, approx. 921000 effective pixels, 640 (H) x 3 (RGB) x 480 (V), 16:9, hybrid type |

| Media slot | |
|---|---|
| Type | ExpressCard/34 (x 2) |
| Interface | ExpressCard compatible |

| Supplied Accessories | |
|---|---|
| | AC Adaptor |
| | IR Remote Commander unit |
| | USB cable |
| | Stand |
| | Operation manual |
| | XDCAM EX Clip Browsing software |

# SONY EX3 Camera

| General Specifications | Detail: |
|---|---|
| Mass | Approx. 1.9 kg (4 lb 2 oz) (without lens)<br>Approx. 3.6 kg (7 lb 9 oz)<br>(with lens, lens hood, eye piece, BP-U30 battery, one SxS PRO memory card) |
| Power Requirements | DC 12 V |
| Power Consumption | Approx. 13.5 W (while recording, LCD viewfinder On) |
| Operating Temperature | 0 to +40 °C (+32 to +104 °F) |
| Storage Temperature | -20 to +60 °C (-4 to +140 °F) |
| Humidity | 10 to 90% (relative humidity) |
| Continuous Operating Time | Approx. 210 min. w/BP-U60 battery<br>Approx. 100 min. w/BP-U30 battery |
| Video Recording Format | MPEG-2 , 4:2:0 Long GOP<br>HQ mode: VBR, maximum bit rate: 35 Mb/s, MPEG-2 MP@HL<br>SP mode: CBR, 25 Mb/s, MPEG-2 MP@H14 |
| Audio Recording | Linear PCM (2ch, 16-bit, 48-kHz) |
| Recording Media | SBP-8/16/32, (GB) SxS Express 34 Cards |
| Recording Frame Rate NTSC model | HQ mode:<br>1920 x 1080/59.94i/29.97P/23.98P<br>1280 x 720/59.94P/29.97P/23.98P<br>SP mode:<br>1440 x 1080/59.94i |
| Recording Frame Rate PAL model | HQ mode:<br>1920 x 1080/50i, 25P<br>1280 x 720/50P, 25P<br>SP mode:<br>1440 x 1080/50i |
| Recording/Playback time | HQ Mode<br>Approx. 100 min with SBP-32 (32 GB) memory card**<br>Approx. 50 min with SBP-16 (16 GB) memory card<br>Approx. 25 min with SBP-8 (8 GB) memory card<br>SP Mode<br>Approx. 140 min with SBP-32 (32 GB) memory card**<br>Approx. 70 min with SBP-16 (16 GB) memory card<br>Approx. 35 min with SBP-8 (8 GB) memory card |

| Inputs/Outputs Specifications | Detail: |
|---|---|
| Genlock In | BNC x1, 1.0 Vp-p, 75 Ω |
| TC IN | BNC x 1, 1.0 Vp-p, 75Ω |
| Audio In | CH-1/CH-2: XLR 3-pin (female) x 2, line/mic/mic +48 V selectable |
| Test Out | NA |
| SDI Out | BNC x 1<br>(HD/SD switchable)<br>HD-SDI: SMPTE 292M (w/embedded audio)<br>SD-SDI: SMPTE 259M (w/embedded audio) |
| Composite Video Out | BNC x 1, 1.0 Vp-p, 75 Ω |
| Component Out | Mini D (x 1) Y: 1.0 Vp-p, 75 Ω, Pb/Pr: 0.7 Vp-p, 75 Ω |
| S-Video Out | Y: 1.0 Vp-p, 75 Ω unbalanced, sync negative |
| Audio Out | RCA type(CH-1,CH-2), -10 dBu (reference level), 47 k Ω |
| TC Out | BNC x 1, 1.0 Vp-p, 75 Ω |
| Earphone | Mini-jack x 1 (rear: stereo) |
| Monitor Speaker | YES |
| DC In | Concentric DC Jack 11 to 17V |

| | |
|---|---|
| DC Out | NA |
| Lens Conector | Double hot-shoe |
| Remote | 8-pin |
| i.Link | IEEE 1394, 4-pin x 1, HDV stream input/output, S400 |
| USB | Mini-B (x 1), USB 2.0, for High-speed MPEG-2 data transfer |

| **Camera Section Specifications** | **Detail:** |
|---|---|
| Optical System | F1.6 prism |
| Built-In Optical Filters | OFF: Clear, 1: 1/8ND, 2: 1/64ND |
| Slow Shutter | 2-, 3-, 4-, 5-, 6-, 7-, 8-, 16-, 32-, and 64-frame accumulation |
| Slow & Quick Motion Function | 23.98p/30p<br>1080P Mode: 1~30fps variable in single frame increments<br>720P Mode: 1 ~ 60fps variable in single frame increments<br>25p<br>1080P Mode: 1~25fps variable in single frame increments<br>720P Mode: 1 ~ 50fps variable in single frame increments |
| Sensitivity (2000 lx, 89.9% reflectance) | F10 (typical) (1920 x 1080/59.94i mode) |
| Minimum Illumination | 0.14 lx (typical) (1920 x 1080/59.94i mode, F1.9, +18 dB gain, with 64-frame accumulation) |
| Gain Selection | -3, 0, 3, 6, 9, 12, 18dB |
| Smear Level | no smear (CMOS) |
| S/N Ratio | 54 dB (Y-typical) |
| Horizontal Resolution | 1000 TV lines or more (1920 x 1080i mode) |
| Effective Picture Elements | 1920(H) x 1080(V) |
| Pickup Device | 3-Chip 1/2 inch type Exmor CMOS |

| **Monitoring Specifications** | **Detail:** |
|---|---|
| Viewfinder | 3.5-inch* type color LCD monitor: approx. 921000 effective pixels, 640 (H) x 3 (RGB) x 480 (V), 16:9 |
| Built-In LCD Monitor | 3.5-inch* type color LCD monitor: approx. 921000 effective pixels, 640 (H) x 3 (RGB) x 480 (V), 16:9 |

| **Lens Specifications** | **Detail:** |
|---|---|
| Lens Mount | EX mount, SONY 1/2-inch bayonet w included adapter |

| **Included Lens Specifications** | **Detail:** |
|---|---|
| Zoom Ratio Selectable | 14x (optical), servo/manual |
| Focal Length | f = 5.8 to 81.2 mm (equivalent to 31.4 to 439 mm on 35 mm lens) |
| Iris | F1.9 to F16 and Close, auto/manual selectable |
| Maximum Relative Aperture | 1: 1.9 |
| Focus | AF/MF/Full MF selectable, 800 mm to ∞ (MACRO OFF)<br>50 mm to ∞ (MACRO ON, Wide), 735 to ∞ (MACRO ON, Tele) |
| Image Stabilizer | ON/OFF selectable, shift lens |
| Filter Thread | M77 mm, pitch 0.75 mm (on lens) |

| **Built-In Microphone Specifications** | **Detail:** |
|---|---|
| Capsule Type | Omni-directional stereo electret condenser microphone. |

CROSSOVER

This brochure outlines the features of the Ross CrossOver 6 and CrossOver 12 Compact Production Switchers

CrossOver 6

CrossOver 12

CrossOver 16

You might also be interested in the:

## CrossOver 16

- 16 Source Buttons
- 12 External Inputs
- 10 Input Multi-Viewer for cost-effective monitoring of sources
- 6 Internally Generated Sources
- 3 Keyers
- 2 2D DVEs
- 4 Frame Syncs with Up / Down Conversion
- Dual Animation Stores with Dedicated Alpha
- Media Transitions
- Superb UltraChrome™ Chroma Keyer
- Sync Generator with 3 Independant Outputs
- 100 Event Memory System with MemoryAI™
- Powerful Macro System

... and much, much more!

For the latest information on the complete line of CrossOver Compact Production Switchers visit www.rossvideo.com /crossover/crossover_overview.html

## CrossOver Care

Ross Video has a complete range of technical services available to ensure that your CrossOver installation is a success.

**Operational Training** is available either at Ross headquarters or on-site at your location. Experienced Ross operators will teach your staff to get the most out of your new system, and enhance your productions.

**Commisioning** is a service to help get your CrossOver properly configured and installed. This service is performed by factory trained Ross technical staff.

**Technical Training** can be provided at Ross Video or on-site at your location. Technical training will teach your engineering staff the technical details of the system you have purchased. Signal flow, system configuration and routine maintenance procedures are some of the topics covered.

CrossOver comes standard with a 1 year comprehensive warranty. **Extended Warranties** on the CrossOver production switcher are available for an annual fee.

**Technical** advice is available simply by telephone, fax or email to Ross Video - **free for the life of your system.**

ROSS
Live Production Technology

Visit www.rossvideo.com for the latest information on the complete line of Ross products and services

**CrossOver** Compact Production Switchers

**Vision QMD & Octane** Production Switchers

**XPression** 3D HD CG & Motion Graphics

**openGear** Terminal Equipment

**SoftMetal** Video Servers

**OverDrive** Automated Production Control System

CROSSOVER


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Ogdensburg, NY, USA 13669 0880




CROSSOVER

COMPACT Multi-Def PRODUCTION SWITCHERS

ROSS
Live Production Technology

# Professional Grade

## Compact, Tough, and Powerful

Ideal for use in space-limited studios and edit suites, OB production vans, houses of worship, entertainment and sports venues or even as an emergency back up for a primary production switcher, the Ross Video CrossOver series feature the same tough components and comprehensive design philosophy that goes into our premiere Vision product line. CrossOver enables the creation of sophisticated, professional grade productions in a compact package.

### Standard Features:

- CrossOver 12:
  12 HD-SDI Inputs and 3 Keyers
  CrossOver 6:
  6 HD-SDI Inputs and 2 Keyers
- 10 Input Broadcast Quality Multi-Viewer
- 3 Aux Bus Outputs
- 2 2D DVEs
- 4 Frame Syncs with Up / Down Conversion
- Dual Animation Stores with Dedicated Alpha
- Superb, Patented UltraChrome™ Chroma Keyer
- Circle Wipes and Pattern Rotation
- Color Wash Generator
- Sync Generator with 3 Independent Outputs
- Editor Port, Tallies, Ethernet, USB and GPI
- Rack Mount Chassis
- Durable Positioner (CrossOver 12)
- 30-Bit User-Themeable Panel Glow Buttons
- Tough Metal Construction
- Legendary Ross Fader, Guaranteed for Life

### Optional Features:

- XPression Live CG
- LiveEDL
- CleanSwitch Audio
- In-Desk Mounting Kit
- SD-Only Versions Available (upgradeable to MD)
- Analog Conversion Package
- EditSet.HD Linear Editing Package
- Redundant Power

**A durable solution for professional applications.**

PATTERN SELECT BUTTONS
Quickly execute popular transitions.

DIRECT ACCESS TO STORE and RECALL MEMORIES
Quick, 2-click selection for easy and rapid usage.

HIGHLY VISIBLE MENU
Intuitive Auto-Follow Menu.

DURABLE METAL JOYSTICK
Position wipes, patterns and washes.


CrossOver 12 shown

PANEL GLOW
User-Adjustable for various lighting environments.

TRUE NEXT TRANSITION AREA
Rapid selection of all keyers with full preview.

FLEXIBLE KNOBS
Continuously rotatable push button multi-purpose knobs.

LEGENDARY ROSS FADER
Robust and guaranteed for life.

# Budget Sensitive

## High Value Features at an Affordable Price

The CrossOver production switcher is a budget sensitive solution. With the level of functional sophistication offered by CrossOver, there is no need to compromise on production quality or switcher durability. Broadcast-quality live production in a space and budget conscious platform.

### High Value:

- Choice between 6 and 12 Input Configurations
- Tiny 2RU Production Engine
- True Next Transition Style Operation
- Effortless Full Previews
- Up to 3 Keyers for “Two-Box” Interviews with Lower Third and Background
- Sophisticated Productions using Dual Animation Stores
- Flexible Independent Aux Outputs
- 100 Event Memory System with MemoryAI™
- Full Featured Pattern Generator
- Patented Chroma Keyer Technology
- 10 Input Multi-Viewer for cost-effective monitoring of sources
- Dual Redundant Power Option for Mission Critical Applications
- Robust and Durable Materials will Stand the Test of Time and Mobility
- Desktop, Rack, or In-Desk for Optimal Convenience
- Rack Mounted Chassis Suitable for Professional Equipment Room Integration
- Cost-Saving SD Models Available
- Lifetime Guarantee on Fader

### Professional power at an affordable price.

GPI, TALLY AND EDITOR INTERFACES

CHOICE OF 6 OR 12 SD/HD INPUTS

BUILT-IN SYNC GENERATOR

REDUNDANT POWER OPTION

3 AUX, 1 PREVIEW, 2 PROGRAM

## Specifications

| | CrossOver 6 | CrossOver 12 |
|---|---|---|
| **Multi-Definition** | | |
| Standard Definition | 480i/59.94, 576i/50 (all at 4:3 and 16:9) | 480i/59.94, 576i/50 (all at 4:3 and 16:9) |
| High Definition | 1080i/59.94, 1080i/50, 720p/59.94, 720p/50 | 1080i/59.94, 1080i/50, 720p/59.94, 720p/50 |
| Option | SD only model available (upgradeable to MD) | SD only model available (upgradeable to MD) |
| **Input** | | |
| Inputs | 6 SDI Multi-Definition | 12 SDI Multi-Definition |
| Frame Sync with Up / Down Conversion | 4 Assignable Input or Bus Mode | 4 Assignable Input or Bus Mode |
| Reference | Black Burst or Tri-Level Sync (internally terminated) | Black Burst or Tri-Level Sync (internally terminated) |
| Input Connectors | BNC | BNC |
| Color Signaling | Y:Cb:Cr 4:2:2, 10 bit | Y:Cb:Cr 4:2:2, 10 bit |
| Signaling Interface | SMPTE 292M | SMPTE 292M |
| Signal Loss | >15dB, 5 MHz to 1.5 GHz | >15dB, 5 MHz to 1.5 GHz |
| **Output** | | |
| Outputs | 6 SDI Multi-Definition | 6 SDI Multi-Definition |
| Output Types | 2x PGM, 1x Preview, 3x AUX (w/ clean feed), | 2x PGM, 1x Preview, 3x AUX (w/ clean feed), |
| Reference | 3x GenLock Black Burst or Tri-Level Sync<br>Internally or externally locked | 3x GenLock Black Burst or Tri-Level Sync<br>Internally or externally locked |
| Output Connectors | BNC | BNC |
| Signaling Interface | SMPTE 292M | SMPTE 292M |
| Signal Loss | >15dB, 5 MHz to 1.5 GHz | >15dB, 5 MHz to 1.5 GHz |
| **Interfaces** | | |
| Tally Support | 8 (D-sub 9 connector) | 8 (D-sub 9 connector) |
| Editor Interface | 1 (D-sub 9, RS-422) | 1 (D-sub 9, RS-422) |
| General Purpose Interface | 24 input (1x D-sub 25 connector) | 24 input (1x D-sub 25 connector) |
| Ethernet Management Interface | 10/100Mbps (RJ45 connector) | 10/100Mbps (RJ45 connector) |
| Media Interface | USB 2.0 (on frame) | USB 2.0 (on frame) |
| **Attributes** | | |
| Source Selection Buttons | 6 | 10 |
| User-Adjustable Panel Glow | Yes | Yes |
| Matte Background Color Generator | Yes | Yes |
| Wash / Gradation | Yes (2 colors) | Yes (2 colors) |
| Dissolve | Variable transition rate | Variable transition rate |
| Total Keyers | 3 | 3 |
| Transition Types | Cut, Dissolve, Wipe, DVE | Cut, Dissolve, Wipe, DVE |
| Key Source and Fill | Input, Matte, Wash, Media Store | Input, Matte, Wash, Media Store |
| Key Types | Self, Linear, Chroma, DVE | Self, Linear, Chroma, DVE |
| Chroma Key | Yes | Yes |
| Picture in Picture | Yes | Yes |
| Wipe Patterns | 10 Including Circle | 10 Including Circle |
| Wipe Modifiers | Border, Softness, Multiplication, Rotation, Aspect | Border, Softness, Multiplication, Rotation, Aspect |
| Digital Video Effects | 2D | 2D |
| AUX Buses | 3 | 3 |
| Internal Still and Animation Stores | 2 / 4 | 2 / 4 |
| Display | VFD | VFD |
| Menu Control | 3 Knobs | 3 Knobs |
| Fader | Legendary Ross Fader | Legendary Ross Fader |
| Positional Joystick | N/A | Professional grade |
| **Operating Environment** | | |
| Power | 100-240 V AC | 100-240 V AC |
| Redundant Power | Optional | Optional |
| Temperature | 0-35 C (32-95°F) | 0-35 C (32-95°F) |
| **Mechanical Specifications** | | |
| Panel Dimensions (WxDxH) cm | 40.3 x 27.0 x 7.6 | 40.3 x 27.0 x 7.6 |
| Frame Dimensions (WxDxH) cm | 48.3 x 39.7 x 8.89 | 48.3 x 39.7 x 8.89 |
| Frame Rack Usage | 2RU | 2RU |
| Control Panel Mounting Options | Desktop, Rack, In-Desk | Desktop, Rack, In-Desk |
| Contruction Material | Robust Metal | Robust Metal |
| **Technical Support** | | |
| Included | Free - 24 / 7 | Free - 24 / 7 |

# Nugget PRO™

## HD Video Player

Nugget PRO™

**HD-SDI, SDI, HDMI, DVI Outputs | HD & SD Video Playback**
**4:2:0, 4:2:2 & 4:4:4 12 bit Color Processing | Built-In Video Scaler**

Solid State Drive (SSD) Option Available


The Nugget PRO is the affordable solution for high definition video playback. Its superior resolution HD video is the perfect match for the new generation of projector, LCD and plasma display technologies that feature native resolution far superior to standard definition.

The Nugget PRO plays SD and HD MPEG2 4:2:2 and 4:2:0 files up to 80 Mb/second. Transfer video files to the Nugget PRO's internal drive via Ethernet gigabit. Video clips can be played in their native resolution or converted to any supported output format.

Control via serial RS-422 or Ethernet. DoremiAM software is provided for effortless video clip and play list administration. The Nugget PRO can also play back video from a stored playlist for stand alone operation.

## Broadcast Innovations

**Ideal for Theme Parks, Museums, Retail and Concerts**

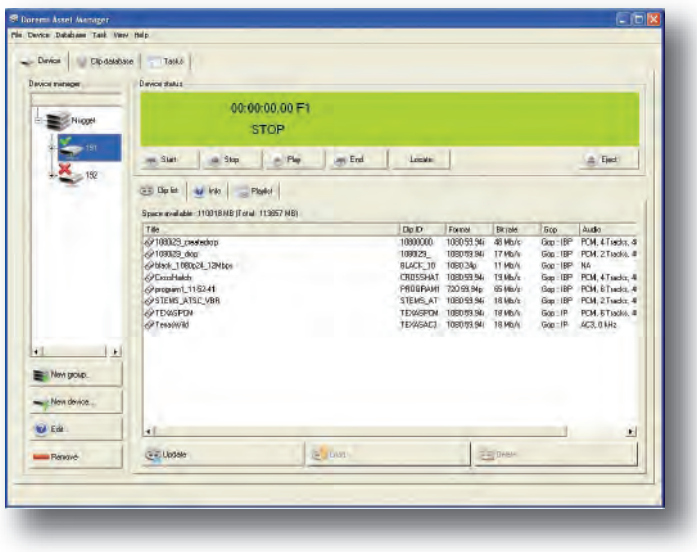
doremi™

Doremi Labs Inc., 1020 Chestnut Street, Burbank, CA 91506 USA P: +1-818-562-1101 www.doremilabs.com

VICTORY CENTRE

Nugget PRO™

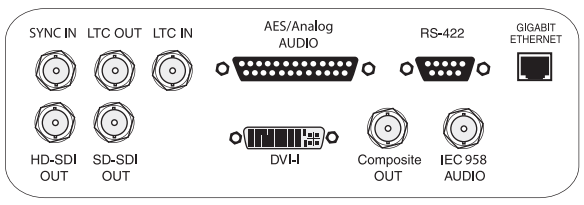
# DoremiAM Software




The easy to use Doremi Asset Manager software seamlessly transfers popular computer video files to the Nugget's internal hard drive via Gigabit Ethernet. Doremi Asset Manager supports the file formats listed below:

Blackmagic Uncompressed
(8bit and 10bit)
YUV Uncompressed
Photo JPEG. MJPEG-A & B
H264
MPEG
Avid DNxHD Codec
WMV
DIVX
XVID
MPEG2
Matrox MPEG2
HDV
DV
DVCPro25
DVCProHD
And Many More

**Rear Panel Pro Version**




NUGGET
HD VIDEO PLAYER

FEATURES
Plays MPEG2 files up to 80Mbits/sec. MPEG2 files reside on one internal drive

INTERFACE
RS-422 Serial
Gigabit Ethernet
Sony P2 and Odetics protocols

AUDIO
Analog 6 channels
AES/EB U 6 channels (NuggetPro) on a DB-25 connector
IEC 958 A udio
Embedded Audio on HD-SDI

NUGGET PRO ADDS:
SDI Out
HD-SDI Out
Sync In (bi / tr i-level)
AES/EBU Audio
LTC In/Out
ATC on HD-SDI

VIDEO OUTPUT
Output Resolution
1080i, 1080p , 720p, 525, 625 plus DVI resolutions
Video Type
Simultaneous Video Outputs
Composite
DVI-D (via DVI-I)
SDI (NuggetPro)
HD-SDI (NuggetPro)
RGB / YPbPr (via D VI-I)
(DVI-I breakout cable required for RGB and YPbPr output. Cable not included.)

VIDEO INPUT
SYNC IN (NuggetPro)

PO WER
100-240VAC 50-60Hz
180W Max

DIMENSIONS
1 Rack Unit 19" x 13" x 1.75"
(483mm x 330mm x 44mm)

RCV2 Remote Controller
The RCV2 9 pin serial controller provides a familiar VTR-like interface for remote control of up to two Nuggets. The RCV2 can also synchronize playback of two Nuggets.

Specifications subject to change without notice.

doremi™

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