

APR • ClipStore™ MX



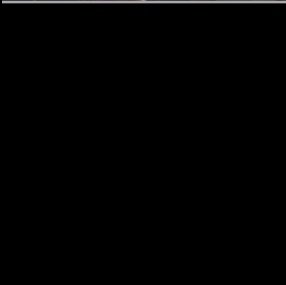
**VIDEO+AUDIO
STORAGE & PLAYBACK**



**UNCOMPRESSED
HD VIDEO**



**UNCOMPRESSED
SD VIDEO**



**10-BIT DIGITAL VIDEO
24-BIT DIGITAL AUDIO**



Accom

APR/ClipStoreMX Multi-Definition Digital Disk Recorder

With over two decades of expertise in digital video disk recording technology, Accom proudly presents the APR™/ClipStore™MX Multi-Definition Digital Disk Recorder

APR/ClipStoreMX represents the newest generation of digital disk recorders from Accom, utilizing state-of-the-art video/audio processing hardware combined with the very latest disk drive technology. Since the processing and storage hardware is completely uncompressed — with awesome 10-bit resolution for digital video and 24-bit resolution for 8-track digital audio — the quality of recording and playback is at the highest level possible.

APR/ClipStoreMX features available RAID-5 parity-protected disk storage and provides the most wide-ranging feature set of any professional digital disk recorder on the market today — including an extremely attractive price, thanks to the newest technology from Accom. Video and audio recording capability is a standard feature, providing capture and storage of pristine, uncompressed digital video+audio content in either HD or SD. The AES/EBU digital audio features eight audio tracks with 48kHz sampling and 24-bit resolution, and supports both discrete AES/EBU audio input/output as well as embedded digital audio. APR/ClipStoreMX provides real-time playback of captured and rendered material, and is operationally plug-and-play — so there's no steep learning curve, and there's no need to configure boards, load software or partition a drive. Featuring "movie-based" storage and a unique graphical user interface that runs on almost any network web browser, a simple click of the mouse allows users to immediately organize, load and play any stored media. It's that easy and that flexible! Whether you're working in HD, SD or both, the APR/ClipStoreMX is the perfect uncompressed real-time video+audio storage solution, especially if you work in any of the following environments where uncompressed video quality is of the highest importance:

- **Television Production**
- **Editing / Post Production**
- **Animation Creation**
- **Graphics / Special Effects Creation**
- **Film Telecine**
- **Media Encoding**
- **Digital Cinema**
- **Scientific Visualization**
- **Video Compression Research**

MULTI FORMAT / MULTIPLE APPLICATIONS

For standard-definition video, APR/ClipStoreMX captures video in both 525 and 625 line standards with flawless 10-bit uncompressed quality. For high-definition, video can be captured in 1920x1080 or 1280x720 resolution, with all popular frame rates supported including both interlaced and progressive frames. Whether creating or presenting animations and special effects for live broadcast, editing for television, or recording and playing movies in post production, APR/ClipStoreMX sets the standard for reliable, high-quality performance. By a wide margin, the APR/ClipStoreMX disk recorder provides the perfect uncompressed recording solution for HD and SD VTR replacement in a variety of applications.

VIEWER ON YOUR DESKTOP

The NetPanel™ user interface for APR/ClipStoreMX features a video viewer window that is integrated right into the user interface, providing a real-time video output right on the operator's desktop. This viewer displays the main digital video output from APR/ClipStoreMX, which is handy when the main serial digital interface (SDI) video output is not conveniently available. This feature eliminates the need for an extra video picture monitor in many facility installations.



APR/ClipStoreMX System

VTR DDR TRANSFERS

The APR/ClipStoreMX disk recorder features two RS422 serial control ports that support both Sony and Louth VDCP protocols. One RS422 port is a "master" port for frame-accurate control over an external VTR. The other port is a "slave" port to allow control over APR/ClipStoreMX from an external edit controller. The convenient built-in Auto Edit feature allows you to capture media from videotape into the disk recorder for editing tasks, graphics creation, effects work and media encoding — or Auto Edit can be used to transfer finished projects from APR/ClipStoreMX to videotape for archiving or client distribution.

IMPORT / EXPORT

Don't let the attractive low cost of APR/ClipStoreMX fool you — this machine has a feature set that will satisfy even the most demanding applications. Since APR/ClipStoreMX is built upon the Microsoft® Windows® XP operating system, the included Import/Export utility easily interfaces

NETPANEL CONTROL

Graphics creation and effects work for live television broadcast, production and post-production require complex interactions with a collaborative, multi-user workflow. The APR/ClipStoreMX disk recorder has been designed specifically for today's highly networked production environment, providing access to all users with control through the unique, browser-based NetPanel™ user interface. NetPanel is an OS-independent HTML/Java2 applet that runs from Microsoft® Internet Explorer™, Netscape® or Safari® web browsers on any Windows, Macintosh, Irix or Linux networked computer (current Java-2 plug-in is required). You can mix Windows, Irix, Macintosh and Linux workstations on the same network as the APR/ClipStoreMX, with control over the disk recorder from any of these remote workstations. NetPanel provides simple and easy machine control, movie filing and management, along with system setup and configuration. NetPanel can also run on the APR/ClipStoreMX platform itself for stand-alone operation (user-supplied VGA monitor with at least 1280x1024 resolution is required).



NetPanel™ web browser based User Interface

APR/ClipStoreMX with a network of graphics rendering computers and film printers without concern for proprietary file formats. This feature eliminates the need for complex transfer scripting or specialized programming skills. The Import utility can monitor up to five user-defined "watch folders" for the arrival of single-frame image files. As soon as the first image file arrives, the Import utility goes to work by automatically creating a movie having the same name as the image file, and inserts the frame into that movie. The remaining frames arriving in the import directory are then automatically inserted into the same movie. This import process typically runs faster than the rendering operation that's creating the image files, therefore providing a ready-to-play uncompressed real-time movie immediately after rendering is finished.

On the export side of the equation, while APR/ClipStoreMX is busy recording real-time input video into a stored movie, the Export utility can transfer individual frames from that movie (or from any other stored movie) to any computer, disk drive or film printer on the local computer network. For both import and export, all popular image file formats are supported, such as DPX, SGI, RGB, TGA, TIF and PSD — just to name a few. Both the Import and Export utilities support audio WAV files.

ENCODE TO YOUR HEART'S CONTENT

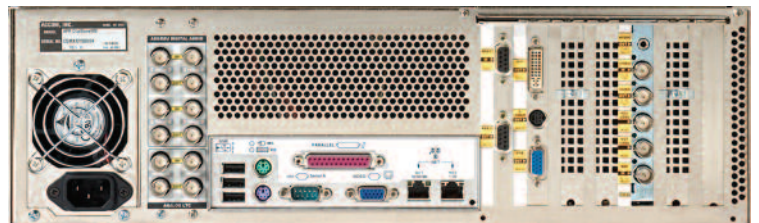
The APR/ClipStoreMX disk recorder also features Windows® Media 9 Series™ Encoding capability. This feature allows recorded footage to be conveniently encoded for remote delivery for a variety of needs. HD and SD digital dailies can be created, DVD content can be authored, or web video streams can be produced directly from APR/ClipStoreMX. Customizable encoding profiles allow movies to be delivered in a range of file sizes — from ultra efficient VHS quality, up to completely uncompressed — for production review, web trailers or DVD content.

ETHERNET API

APR/ClipStoreMX features an application programming interface (API) available through the standard Gigabit Ethernet port. This API provides the ability to control all attributes of APR/ClipStoreMX via remote shell (rsh) and remote login (rlogin) commands, and provides image transfer capabilities via remote copy (rcp) commands. Users of the APR/ClipStoreMX disk recorder and third-party vendors with programming skills can create user-defined applications and scripts to control all aspects of the disk recorder, including image transfer with external computer graphics equipment. This Ethernet API is built upon the same API used in an earlier Accom DDR product, WSD/2Xtreme. Applications designed for the WSD/2Xtreme will seamlessly operate on the APR/ClipStoreMX disk recorder.

LARGE STORAGE CAPACITY

APR/ClipStoreMX comes standard with a minimum 2 hours:15 minutes of real-time HD storage capacity when recording uncompressed 1920x1080/60i HD video+audio. This equates to well over 13 hours when recording 525 or 625 SD video+audio. Since disk drive technology advances rapidly, larger storage capacities may be available — so be sure to visit www.accom.com for the latest storage capacity information.



APR/ClipStoreMX Rear Panel

SPECIFICATIONS

STANDARD FEATURES

Uncompressed High-Definition (HD) and Uncompressed Standard-Definition (SD) Digital Disk Recorder Platform
 SDTV 10-Bit YUV 4:2:2 SDI Video I/O (525/625)
 HDTV 10-Bit YUV 4:2:2 SDI Video I/O (formats below)
 Available RAID-5 Video Storage
 Mirrored Digital Audio Storage
 8 Individual audio tracks (4 stereo pairs)
 AES/EBU, 24-Bit resolution with 48kHz sampling
 Accommodates AC-3 and Dolby-E Bit Streams
 Embedded and discrete AES/EBU digital audio I/O
 Analog Monitoring: unbalanced, line-level on 3.5mm audio connector
 Independent record/edit of each audio track
 Driver support for ASIO applications
 LTC Timecode In/Out
 VITC Timecode In/Out
 VANC and HANC Data record and playback
 Windows XP operating system with NT File System (NTFS)
 QuickTime™ compliant movie-based storage
 NetPanel HTML/Java-2 graphical user interface with integrated viewer
 (2) RS422 ports for VTR control and edit
 (1) "10-T/100-T" and (1) "10-T/100-T/1000-T Gigabit" Ethernet Ports
 Application Programming Interface (API) including rcp, rsh and rlogin
 Import / Export Utility for automatic import of image files and export to popular image files including RGB, TIF, TGA, SGI, YUV, PNG, JPG, PSD, DPX etc.
 Windows Media Series 9 Encoding with user-defined profiles
 Normal, looping and ping-pong play repeat modes
 Auto Edit for frame-accurate VTR loading and archiving
 Vertical interpolator for smooth slow motion playback
 Variable play mode with field/frame access
 CineAdd 3:2 pulldown playback
 Timecode Offset stored with each movie
 Poster image stored with each movie
 Segment list play
 Analog HD Tri-Level or Composite Analog SD reference (terminating)
 Built-in video test patterns and audio tones
 Windows keyboard and mouse on PS/2
 ShuttlePRO™ hardware controller from Contour Design®

SUPPORTED VIDEO FORMATS

All Uncompressed with 10-Bit Resolution
 High Definition 4:2:2 YUV
 1920x1080: /60i /59.94i /50i
 1920x1080: /30p /29.97p /25p /24p /23.98p
 1920x1080: /30psF /29.97psF /25psF /24psF /23.98psF
 1280x720: /60p /59.94p
 Standard Definition 4:2:2 YUV
 720x486 (525): /59.94i (ITU-R/BT.601-4)
 720x576 (625): /50i (ITU-R/BT.601-4)

DIGITAL VIDEO INPUT	(1)	F	BNC
High-Definition: SDI SMPTE 292M (10-bit at 1.5 Gb/s)			
Standard-Definition: SDI SMPTE 259M (10-bit at 270 Mb/s)			

DIGITAL VIDEO OUTPUT	(1)	F	BNC
High-Definition: SDI SMPTE 292M (10-bit at 1.5 Gb/s)			
Standard-Definition: SDI SMPTE 259M (10-bit at 270 Mb/s)			

DIGITAL AUDIO INPUT	(4)	F	BNC
AES/EBU 48kHz at 24-bit resolution 8-tracks (4 stereo pairs) Embedded in HD and SD SDI input video streams			

DIGITAL AUDIO OUTPUT	(4)	F	BNC
AES/EBU 48kHz at 24-bit resolution 4-Tracks (4 stereo pairs) Embedded in HD and SD SDI output video streams			

ANALOG AUDIO MONITORING OUTPUT	(1)	F	3.5mm
Unbalanced, line-level at 0 dBm 2-Tracks (1 stereo pair) User selectable to monitor any stereo output pair			

LTC I/O

LTC Input, balanced	(1)	F	BNC
LTC Output, balanced	(1)	F	BNC

ANALOG REFERENCE INPUT	(1)	F	BNC
Tri-level HD or Composite Analog SD, Terminating			

COMPLIANCE

TUV (United States and Canada), BSMI, VCCI, GS Mark and CE Mark certifications
 EN-55103-01 and EN-55103-02

DATA / CONTROL

RS422 Serial Control, Sony and Louth VDCP protocols			
Master Port	(1)	F	9D
Slave Port	(1)	F	9D
VGA Output (minimum 1280x1024 resolution required for NetPanel, up to 1920x1200 resolution supported):	(1)	F	15D
10-T/100-T Ethernet	(1)	F	RJ-45
10-T/100-T/1000-T (Gigabit) Ethernet	(1)	F	RJ-45
USB 2.0 Hi-Speed "Series A" Receptacle	(3)	F	USB-A
QWERTY Keyboard	(1)	F	PS/2
Mouse	(1)	F	PS/2

CHASSIS PHYSICAL & ELECTRICAL

Rack-Mount Configuration Dimensions:
 W = 19.0 in / H = 5.25 in / D = 25.0 in
 W = 48.3 cm / H = 13.3 cm / D = 63.5 cm
 Maximum Weight: 50 lbs. (22.7 kg.)
 Power: <500 Watts / 100-240 VAC / 50-60Hz (Auto-sensing power input)



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