



Powerful Uncompressed Multi-Channel D1-D5 Video Server

# ProntoServer



Uncompressed Multi-Channel  
Video Disk Recording  
with RAID Protection

- ▶ Multi-channel uncompressed video server with shared storage
- ▶ Up to 4 video channels at 8bit / 3 video channels at 10bit
- ▶ D1-D5 multi-standard video I/O
  - NTSC 720/960 x 486
  - PAL 720/960 x 576
- ▶ Progressive D1 (60 Hz; 480p) mode
- ▶ Compressed 1080i/720p HDTV modes
- ▶ 4+ hours of shared and partitioned disk storage
- ▶ RAID3 data protection for trouble-free unsupervised 24 hour operation
- ▶ Hot swap and hot standby with auto recovery support
- ▶ YUV/4:2:2 and 4:2:2:4 modes
- ▶ Streamer mode operation for digital video, embedded video and auxiliary data
- ▶ Up to 4 digital AES/EBU stereo audio channels per video channel
- ▶ Audio slip-sync
- ▶ Broadcast automation ready
- ▶ Clip management, partitioning and non-linear play-list
- ▶ 3:2 MoviePlay pulldown of 24 fps material
- ▶ Two RS.422 interfaces per video channel for VTR master control and VTR emulation
- ▶ Digital serial D1/YUV & D5/YUV I/O
- ▶ Analog component and composite monitoring outputs with switchable overlay for each video channel
- ▶ LTC I/O
- ▶ 10/100 Mbit/s Ethernet, U2W-SCSI and Fibre-Channel host interfaces
- ▶ Easy-to-use control software

## ProntoServer

**The ProntoServer is a powerful multi channel, shared storage D1-D5 disk recording system. It can handle up to 4 simultaneous uncompressed SDTV data streams with 270 MB/s . In order to allow for safe and trouble-free unsupervised operation, the ProntoServer can be equipped with RAID3 disk units. Hot standby with automatic recovery and hot swap options are available for applications that require uninterrupted 24 hour operation. The modular concept and various options allow customer-tailored configurations for a wide range of applications such as:**

- ◆ **TV broadcast commercial insertion server**
- ◆ **Digital animation studio browser and preview server**
- ◆ **A-B-C roll non-linear editing VTR replacement**
- ◆ **TV broadcast graphics server with key channel**
- ◆ **Long broadcast program delay for multiple time zones**
- ◆ **Multiple channel repeat program server**
- ◆ **Telecine realtime long form program buffer**

### Video Standards

The ProntoServer provides standard TV formats such as D1 and D5 (true 16:9 aspect ratio) rasters at 50 and 60 Hz as well as the optional progressive 480p format. All of these formats are stored uncompressed. Easy management of the various formats becomes possible by partitioned concurrent storage. Size and format of the partitions are user selectable.

### Shared Storage

The shared storage allows all video channels running in the same video raster to access partitions with the corresponding format. Write access to selected areas of the disks can be enabled/disabled, thus protecting the material on the disks from unauthorized overwriting.

### RAID3 Data Protection

The standard configuration uses a striped data organisation (RAID0). A RAID3 system configuration is available for audio and video in critical applications, that

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can not afford loss of data in case of a disk drive failure. This configuration includes special RAID3 controllers and redundant parity drives, such that a disk drive failure will not affect the proper operation of the server.

### Hot Swap & Hot Standby Support

The hot swap option allows to change (failed) disk drives without interference during normal operation and without the need to power down the system.

The hot standby option takes care of automatically activating an already installed spare disk drive in place of a failed one. A recovery process will be started automatically.

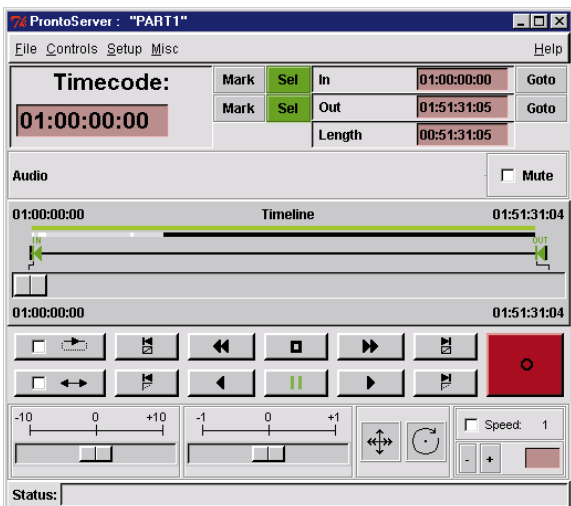
### Streamer Mode Operation

With the optional streamer mode operation the incoming SDI data stream can be recorded including the digital field blanking interval. This enables storing of embedded audio, VITC and other auxiliary data together with the video data.

### Compressed 1080i/720p HDTV (HD360) Mode

With the HD360 option the ProntoServer becomes an affordable multi-channel, shared storage HDTV disk recording system (HD360 Server). It can handle several simultaneous compressed HDTV data streams with 360 Mbit/s (a.k.a. HD360).

A typical setup consists of the HD360 Server and one Panasonic HDTV compression/decompression unit, AJ-HDP500, per channel. Each of the server channels of the HD360 Server replaces one D5 recorder. Thus, it provides a HDTV disk recording solution with costs and playing/recording times which - up to now - have only been available for standard definition TV.



Video Device Controller: Main Menu

### Virtual Video File System

The virtual video file system (vvfs) allows you to access clips on the ProntoServer from UNIX or NT hosts as if they were stored locally on the host. No plug-ins are needed. Applications that read from the file system or write to it can transparently access data on the ProntoServer. This way, you can directly render to the ProntoServer, for instance. Also, format and color space conversions are implicitly handled by the vvfs for all supported file types.

### Software Features and Control Interfaces

Each of the server channels can be operated and controlled individually via the following interfaces:

- ◆ The VGUI (Video Graphical User Interface) provides convenient and user-friendly control from the local console of the ProntoServer as well as from a remote host via network.
- ◆ The built-in webserver allows setup and configuration of the ProntoServer using a standard browser. This includes video modes, audio setup, sync modes, video partitions, and many more.
- ◆ Furthermore, the remote shell (rsh) and remote copy (rcp) programs additionally enable ProntoServer control and image transfer to and from remote workstations.
- ◆ The ClipManager supports easy-to-use audio/video clip administration as well as non-linear play list generation.
- ◆ The RS-422 9-pin serial connection provides remote control via edit-controllers using the Sony protocol. Odetics and Louth protocol extensions are available for broadcast automation applications.

### Stereo Audio Channels

Up to 4 AES/EBU stereo audio channels can be added to each video channel. The audio data is stored on additional audio disks providing more flexibility such as slip-syncing.



Rear View of 4 Channel ProntoServer

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# Specifications

<b>General</b>		
Number of channels	up to 4 at 8bit / 3 at 10bit	
TV-standards	D1 525/59.94, 625/50 D5 525/59.94, 625/50 HD1125/59.94 compressed HD750p/59.94 compressed	
Recording Time	4+ hours	
Data protection	RAID0 or RAID3 (optional)	
	<b>Input</b>	<b>Output</b>
<b>Video</b> (per channel)		
Serial Digital 4:2:2 8/10bit	BNC with loop through	BNC
Analog Composite		BNC
Analog Y/C (S-VHS)		4-pin MiniDIN
Analog Component (RGB, YUV)		3xBNC
<b>Reference Input</b>	525/59.94 Hz and 625/50 Hz	
Software Switchable Analog and Digital Ref. with Programmable Delay	1 Frame	
Digital Serial Sync	BNC	
Analog Composite Sync	BNC	
<b>Audio</b> (per video channel)		
Audio in Video, 2/4x2 Digital Channels	BNC (Video In)	BNC (Video Out)
2x2 Digital Channels AES/EBU	2xXLR female or unbal. BNC instead of XLR	2xXLR male or unbal. BNC instead of XLR
<b>Timecode</b> (per video channel)		
Longitudinal	XLR female	XLR male
<b>Data Control</b>	RJ-45, 10/100BaseT	
Ethernet	SC/optical fibre, DB-9/copper	
Fibre Channel	1x68-pin HD, 40 MB/s, single-ended	
UltraWide-SCSI	2xDB 9-pin female, 38.4 kbps	
Serial RS-422 (per video channel)	1xDB-25, female	
GPI		
<b>Enclosure</b>	110/220VAC, up to 2x400W	
Power	19"x7RUx23", base unit	
Dimensions	19 x4RUx18", extension unit	

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# Product Line

## ProntoServer

Uncompressed multi-channel digital video server with shared storage for 1 - 4+ hours of SDTV-D1-D5 including:

Up to 4 video channels; digital serial I/O (NTSC/PAL); analog and digital genlock inputs; RS-422 interfaces for VTR remote control and VTR emulation; analog monitoring outputs with software switchable control and timecode overlay; ProntoServer operation software; control software VGUI with file import and export functions; built-in webserver for configuration and control; disk recorder protocol emulation software.

## ProntoServer RAID

Uncompressed multi-channel digital video server with shared, RAID protected storage for 1 - 4+ hours of SDTV-D1-D5 with hot swap, hot standby and automatic recovery.

# Major Options

## PS2-EAudio4

Audio option for PS2 series providing 2x4 digital embedded audio channels and approx. 120 min. of shared, slip-syncable audio storage.

## PS4-Audio4/LTC

Audio option for PS4 series providing 4x4 digital AES/EBU audio channels and approx. 240 min. of shared, slip-syncable audio storage.

## PS2-Audio4/LTC

Audio option for PS2 series providing 2x4 digital AES/EBU audio channels and approx. 120 min. of shared, slip-syncable audio storage.

## PS-CineManager

Cine tool to manage 24Hz film data by applying 3:2 pull-down for playback and removing it for record.

## PS4-EAudio4

Audio option for PS4 series providing 4x4 digital embedded audio channels and approx. 240 min. of shared, slip-syncable audio storage.

## PS-ClipManager

Clip list and play list management software, to enable seamless non-linear playback of clips and clip data base management.

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