

PROSTREAM 8000



ProStream™ 8000 Digital Mosaic System

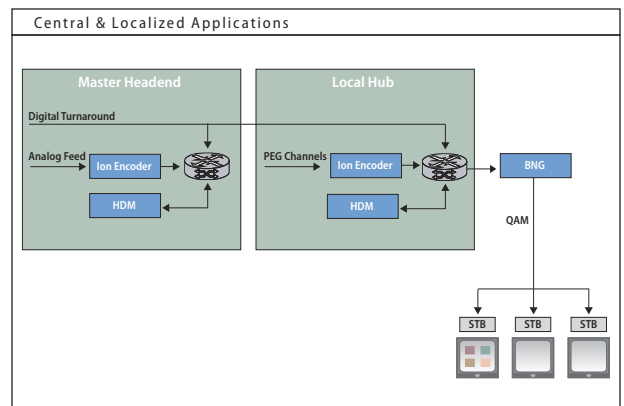
Product Description

Harmonic's ProStream™ 8000 Digital Mosaic Solution, the world's first all-digital mosaic generation system, enables operators to generate a navigation screen with multiple SD video thumbnails and a still image or video elementary stream as a background. The solution provides a simple, flexible and cost-effective IP-based architecture for national/local channel navigation, on-demand promotions, in-band messaging services, sports/news split-screens and more. By receiving and producing content through Gigabit Ethernet (GbE) I/O interfaces, mosaic video output can be generated without additional decoders or encoders. The ProStream 8000 is deployed with top middleware clients and integrates easily into any set-top box environment.

The system is a single rack unit (1-RU) PC-based platform that decodes and resizes embedded videos to produce video tiles or thumbnails. It also constructs a single MPEG/IP transport stream that includes a single video stream, up to 20 audio channels and the associated metadata.

The ProStream 8000 is managed via a simple Web-based application that enables dynamic construction of the output by connecting to the platform and downloading the active configuration or loading a saved configuration. All updates to the layout, size and number of video thumbnails are instantly applied to the ProStream 8000 output, enabling the operator to design the output in real time. The ability to copy and paste existing thumbnails speeds up deployment of new layouts. In addition, the configuration may be fine-tuned in offline mode and saved for loading at another time.

The ProStream 8000 can also embed custom metadata associated with each thumbnail. The standard SPTS metadata output includes the thumbnail positioning and associated MPEG structure of each embedded video and audio channel. Two thousand characters of additional program-specific information may also be added for decoding at the subscriber's set-top-box.



Key Applications

- Channel Summary** - The ProStream 8000 creates a new user experience by allowing viewers to simultaneously review their favorite channels or themes and then go directly to their channel of choice. The solution allows the operator to showcase channel groups such as VOD services, sports, news and pay-per-view movies.
- Local/Regional Customization** - Utilizing the ProStream 8000 solution as part of an all digital architecture increases service customization. For example, national feeds can be picked up by regional ProStream 8000 systems and channel overlays constructed at each hub, or national news can be overlaid with local news. And, these services can be managed from the regional or national facility.
- Digital Radio** - Since many alternate audio channels can be sent within the SPTS program, the ProStream 8000 can become a digital "radio station" for your subscribers. While an advertising or promotional video or graphic is in the visual background, CD-quality audio programmed by the local radio stations or the system operator is delivered to the listener.

Benefits of the Harmonic Digital Mosaic System

- Flexibility – Easily configured from a third-party middleware server via XML file, scheduled layout changes allow a truly dynamic output that changes with the viewing demographics.
- Cost Effectiveness – The ProStream 8000 offers a completely integrated, high-value solution.
- Ease of Management – The application can be managed onsite or remotely.
- Customized Performance – Individually pre-processing each MPEG stream (source video streams and output video stream) creates an appealing digital mosaic.
- Drop-In Installation – Native GbE IP ports plug seamlessly into existing media networks and also provide a dedicated network interface for remote management.

Inputs

Standard Gigabit Ethernet input interface (IEEE802.3z)

Full line rate support (400 Mbps MPEG packets)

Multicast IP/UDP

Outputs

Standard Gigabit Ethernet input interface (IEEE802.3z)

Full line rate support (400 Mbps MPEG packets)

Multicast IP/UDP

Control Interfaces

Ethernet	100/1000BaseTX
Connector	RJ-45
Protocols	HTTP, XML configuration, Telnet, Command Line Interface

Video Inputs

Embedded Thumbnails	Up to 12 SD videos or up to 3 HD videos
Encoding Standard	MPEG-2 MP@ML MPEG-2 TS over UDP/IP, SPTS or MPTS

Dynamic resizing, positioning, video quality pre-processing, decoding resolution, cropping

Video Output

Format	NTSC or PAL
Encoding Bit Rate	2.5 to 10 Mbps
NTSC Resolutions	720x480, 704x480, 640x480, 544x480, 480x480, 352x480, 240x480
PAL Resolutions	720x576, 544x576, 480x576, 352x576, 352x288
Aspect Ratios	4:3, 16:9

Audio Inputs

Audio Standards	MPEG Layer II Dolby Digital (AC-3)
Number of Inputs	Up to 20 audio streams
Operating Mode	Pass-Through

Output Background

Video	Still Image (bmp format) .mpv (MPEG Elementary Stream) Multicast Video Source
Audio	MPEG Layer II Dolby Digital (AC-3) Multicast Audio Source

Data Insertion

PSI/SI generation and insertion

Metadata in XML format

Ports

Rear	Two RJ-45, one 9-pin serial, two USB 2.0, video, PS/2 mouse, PS/2 key board, ID push button with blue/amber LED, RJ-45 for optional DRAC 4/1 management controller
Front	Two USB 2.0, ID push button with blue/amber LED, 15-pin video, system power on/off button

Environmental

Operating Temperature Range	50° F to 95° F 10° C to 35° C
Storage Temperature Range	-40° F to 149° F -40° C to 65° C
Relative Humidity	20-80% non-condensing (operating) 5-95% non-condensing (storage)
Regulatory	FCC Class A (U.S. only) ICES Class A (Canada) CE Mark (EN 55022 Class A, EN 55024, EN 61000-3-2, EN 61000-3-3) VCCI Class A (Japan) BSMI Class A (Taiwan) C-Tick Class A (Australia/New Zealand) SABS Class A (South Africa) CCC Class A (China) MIC Class A (Korea) UL 60950 CAN/CSA C22.2 No. 60950 EN 60950

Physical Specifications

Input Voltage	100/220 VAC (Line frequency: 50-60Hz)
Typical Power Consumption	550 W
Power Display	Front panel LED
Redundant Power	Hot-plug redundant
Cooling	Redundant fans
Dimensions (WxHxD)	19" x 1.69" x 30" 48.3 cm x 4.3 cm x 76.2 cm
Mounting	EIA Standard 19" rack, 1-RU

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