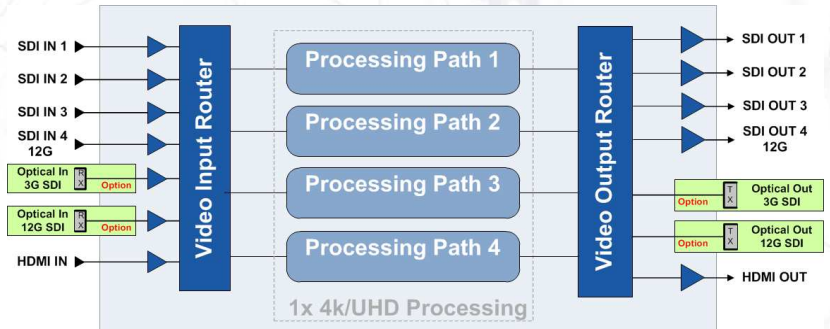


GM 6840

greenMachine[®] titan

greenMachine titan



Features

- 4x 3G or 1x 4k/UHD general purpose A/V processing appliance
- Internal input and output signal routers
- Compatible with all downloadable APPs in the greenStore[®]
- Integrated control panel with color display for live image monitoring, audio level meters, status indication and menu driven control interface
- Small footprint: 1RU high x half 19" rack width
- 3x electrical SD/HD/3G SDI inputs. Level A and Level B DL
- 3x electrical SD/HD/3G SDI outputs. Level A and Level B DL
- 1x electrical SD/HD/3G/6G/12G SDI Input. Level A and Level B DL
- 1x electrical SD/HD/3G/6G/12G SDI Output. Level A and Level B DL
- 1x 4k/UHD HDMI input (1.4b) and 1x 4k/UHD HDMI output (1.4b)
- 1x Analog reference input and output (bi-level or tri-level sync)
- 1x Electrical LAN I/O connection
- 4x Balanced analog audio or digital AES Audio inputs
- 4x Balanced analog audio or digital AES Audio outputs
- 4x GPI inputs and 4x GPI outputs
- 1x Optional SDI Fiber I/O (basic Fiber or CWDM): SD/HD/3G
- 1x Optional 12G SDI Fiber I/O (basic 1310nm): HD/3G/6G/12G
- 1x Optional Ethernet LAN Fiber connection (basic or CWDM)
- Optional redundant power protection
- Optional 19" rack frame
- Full remote control using greenGUI control software
- Full SNMP V2 support

Description

The greenMachine approach is unique. The hardware itself is a powerful general purpose audio and video processing appliance that is custom configured using a selection of APPs which are purchased and downloaded from the greenStore[®].

The greenMachine titan platform provides for simultaneous processing of up to four 3G SDI signals or a single 4k/UHD SDI signal.

Input for 4k/UHD can be either 4x 3G SDI (Quad Link) or 12G SDI (Single Link). Conversion between Single Link and Quad link 12G SDI signals is possible using greenMachine APPs.

Without any APPs installed the hardware has no real functionality aside from very rudimentary setup functions for basic configuration like IP settings and I/O signal monitoring as well as conversion between SDI and HDMI or Fiber.

Get the full story at www.green-machine.com

APPs

(Examples only - many more are available at the greenStore[®])



Frame Synchronizer This utilizes robust "gywheel" synchronization that will accommodate a wide variety of low quality asynchronous SDI sources. All embedded audio is extracted and delayed automatically to match the video processing delay. Audio is free from disturbances even when dropping and adding frames...



Embed/De-embed A high quality multi-format audio embedder and de-embedder application which can embed and / or de-embed up to 16 mono audio channels in the SDI channel. The embedder can also embed DolbyE signals which in conjunction with the Frame Synchronizer APP will always maintain the Guardband...



Scaler / Video Converter A broadcast quality conversion APP that provides a multitude of conversion and scaling possibilities. The powerful input cropping functionality enables a full Region of Interest (ROI) selection and in addition, the output image size can be adjusted...



Audio Processing This provides a multitude of audio processing functionality. Each mono audio channel has gain adjustments, mute and inversion, stereo to mono mix-down plus silence and overload monitoring and a 1kHz test signal generator...

For more details and to see the complete portfolio of APPs available, please visit:
www.lynx-technik-greenstore.com

Options

RFR 6000 - 1RU 19" Rack Mount Chassis

Rack mounting hardware which can accommodate one or two greenMachines in 1RU of rack space which also securely mounts the primary and redundant power supplies.



RPS 6120 - Redundant Power Supply

A second external in line power supply for redundant power protection.



Fiber Options

The titan is equipped with three SFP sockets which can accommodate a variety of plug in SFP fiber I/O options. Two sockets are for SDI connectivity and the other is for Ethernet. Fiber options can be added at any time.



Basic 3G SDI Video Fiber Transmitter		Power	
OH-TX-1-Y-LC/ST/SC	SDI Fiber TX SFP - LC / SC or ST -1310nm	-5dBm	
3G SDI Video Fiber Receiver		Sensitivity	
OH-RX-1-LC/ST/SC	SDI Fiber RX SFP - LC / SC or ST (1270-1610nm)	-16dBm	
Basic 3G SDI Video Fiber Transceiver		Power / Sensitivity	
OH-TR-1-LC	SDI Fiber Transceiver Singlemode (1310nm)	-5dBm	-18dBm
OH-TR-0-850-MM	SDI Fiber Transceiver Multimode (850nm)	-5dBm	-15dBm
12G SDI Video Fiber Transceiver		Power / Sensitivity	
OH-TR-12-LC	12G SDI Fiber Transceiver, Singlemode (TX 1310nm)	-5dBm	-12dBm
OH-TX-12-LC	12G SDI Fiber Transmitter, Singlemode (1310nm)	(TX, TR)	(RX, TR)
OH-RX-12-LC	12G SDI Fiber Receiver, Singlemode		
Support 1.5G/3G/6G and 12G SDI			
CWDM SDI Video Fiber Transmitter (TX) and Transceiver (TR)		Power / Sensitivity	
OH-TR-4-XXXX	SDI Video Fiber Transceiver SFP CWDM (singlemode)	-1dBm	-20dBm
OH-TX-4-XXXX	18 wavelengths available according to ITU T G692.2 1270nm through 1610nm. XXXX = wavelength		(TR only)
Basic Ethernet Fiber Transceiver		Power / Sensitivity	
OH-TR-51	Ethernet Fiber Transceiver, Singlemode - 1310nm	-3dBm	-21dBm
CWDM Ethernet Fiber Transceiver		Power / Sensitivity	
OH-TR-54-XXXX	Ethernet Fiber Transceiver SFP CWDM (singlemode) 18 wavelengths available according to ITU T G692.2 1270nm through 1610nm. XXXX = wavelength	0dBm	-21dBm

For greenMachine the following regulatory and safety standards apply:

CE: EN 55103-1/1996, EN 55103-2/1996, EN 60950-1/2006
Following the provisions of 2004/108/EC and 2006/95/EC directives.

FCC: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15, Subpart B of the FCC Rules.

The RPS 6120 power supply (EAT1011H-120) complies with the following safety standards: UL, CCC, PSE



Specifications

SDI Inputs	3x 3GSDI video on 75 Ohm BNC connector - SMPTE 292M, 424M, 259M with automatic video format and standard detection
	Return Loss: >15dB from 5MHz to 1.5GHz >10dB from 1.5GHz to 3GHz
	Automatic cable EQ (Belden 1694A): 340m@270Mbit/s, 150m@1.5Gbit/s, 110m@2.97Gbit/s
12GSDI Input	1x 12GSDI video on 75 Ohm BNC connector - SMPTE 292M, 424M, 259M, 2081, 2082 with automatic video format and standard detection
	Return Loss: same as 3GSDI: >7dB to 6Gbit/s >4dB to 12Gbit/s
HDMI Input / Output	1x 10 bit HDMI 4k/4K/1.4b
Optical I/O (Optional)	1x 3GSDI SFP Transceiver (SMPTE 292M - 2006) 1x 12GSDI SFP Transceiver (SMPTE 292M, 424M, 2081 2082) - no SD SDI (270Mbit)
Ethernet (LAN)	1x 10/100/1000 BaseT RJ45 Connector
Optical Ethernet (Optional)	IEEE 802.3z 1000Base-X Gbit/s Ethernet over Fiber at 1 Gbit/s (125 MB/s)
GPI I/O	4x general purpose inputs + 4x general purpose outputs - RJ45 Connectors
Reference Input	1x analog video reference on 75 Ohm BNC connector
	Analog bi-level (SDTV) or tri-level (HDTV) auto detect
SDI Output	3x SDI video on 75 Ohm BNC connector (SMPTE 292M, 424M, 259M)
	Timing jitter: < 0.2 UI @ 270Mbit/s < 1.0 UI @ 1.5Gbit/s < 2.0 UI @ 2.97Gbit/s
	Alignment jitter: < 0.2 UI @ 270Mbit/s < 0.2 UI @ 1.5Gbit/s < 0.3 UI @ 2.97Gbit/s
	Return Loss: >15dB from 5MHz to 1.5GHz >10dB from 1.5GHz to 3GHz
12GSDI Output	1x 12GSDI video on 75 Ohm BNC connector - SMPTE 292M, 424M, 259M, 2081, 2082
	Return Loss: same as 3GSDI: >7dB to 6Gbit/s >4dB to 12Gbit/s
Serial Data	EIA/EIA RS232C / RS422 / RS485 (selectable through greenGUI) - RJ45 connector
	ESD protection for up to 16kV
Reference Output	1x analog video reference on 75 Ohm BNC connector
	Analog bi-level (SDTV) or tri-level (HDTV), cross lock capability
Audio I/O	4x input and 4x output on Sub-D 25 female connector
	Analog: input impedance >10k Ohm, Output Impedance 150 Ohm
	Analog I/O full scale level: selectable 12, 15, 18, 20, 22, 24 dBu
	Digital: AES3 balanced transformer isolated; Digital output level: 4V peak to peak nom
Power	12VDC @ 45W nominal (supports 7 - 24VDC input range)
	2x power connections for redundant power supply
Mechanical	W: 218mm (1/2 19"), H: 44mm (1.75"), D: 225mm (8.86") - including connectors
	Weight: 1.4kg (3.09lb)
Ambient	Temperature: 5°C to 40°C (41°F to 104°F) maintaining specification
	Humidity: 90% maximum, non-condensing
Model #	GM6840 EU - (EAN# 4250479325050)
	GM6840 UK - (EAN# 4250479325067)
	GM6840 US - (EAN# 4250479325074)
Includes	greenMachine, primary power supply and AC power cord, Sub-D 25 audio adapter PCB and quick reference guide (APPs not included - purchased separately from greenStore®)

