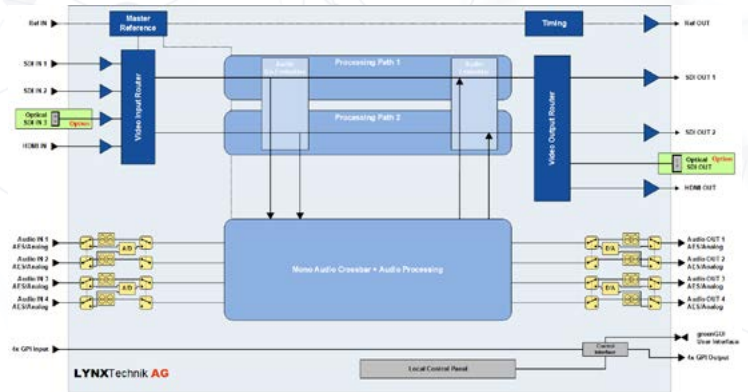


GM 6825

greenMachine[®] callisto+



Description

The greenMachine callisto+ platform provides for simultaneous processing of up to two individual SD/HD/3G SDI signals. The hardware itself is a powerful general-purpose audio and video processing appliance that can perform many different functions using one of the available greenMachine configurations (constellations), i.e. 2CUPXD.

The user can select and license just the constellation, or multiple constellations required at the point of order and can switch between these licensed constellations at any time. Additionally, they may purchase licenses for additional constellations in the future. As all constellations are pre-installed, unlicensed constellations can be deployed for testing and proof of system concept but will show watermarks at the outputs.

Fiber SFP options are available for one SD/HD/3G SDI input and output. The Nova controller (full remote control) is included in the basic framework.

Features

- 2x 3G general purpose A/V processing appliance
- Internal input and output signal routers
- Compatible with available greenMachine callisto+ constellations
- 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
- 2x electrical SD/HD/3G SDI inputs. Level A and Level B DL
- 2x electrical SD/HD/3G SDI outputs. Level A and Level B DL
- 1x HDMI input (1.4b) and 1x HDMI output (1.4b) up to 3G
- 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 Ethernet LAN fiber connection (basic or CWDM)
- Optional redundant power protection
- Optional 19" rack frame
- Nova controller included: Full remote control using greenGUI control software
- Full SNMP V2 support

Supported SDI Formats

SDTV Formats	525 / 59.94Hz 625 / 50Hz		
HDTV Formats	1080i / 50Hz	1080p / 30Hz	720p / 29.97Hz
	1080i / 59.94Hz	1080psf / 23.98Hz	720p / 30Hz
	1080i / 60Hz	1080psf / 24Hz	720p / 50Hz
	1080p / 23.98Hz	1080psf / 25Hz	720p / 59.94Hz
	1080p / 24Hz	720p / 23.98Hz	720p / 60Hz
	1080p / 25Hz	720p / 24Hz	
	1080p / 29.97Hz	720p / 25Hz	
3GBit/s Formats	1080p / 50Hz		
Level A	1080p / 59.94Hz 1080p / 60Hz		

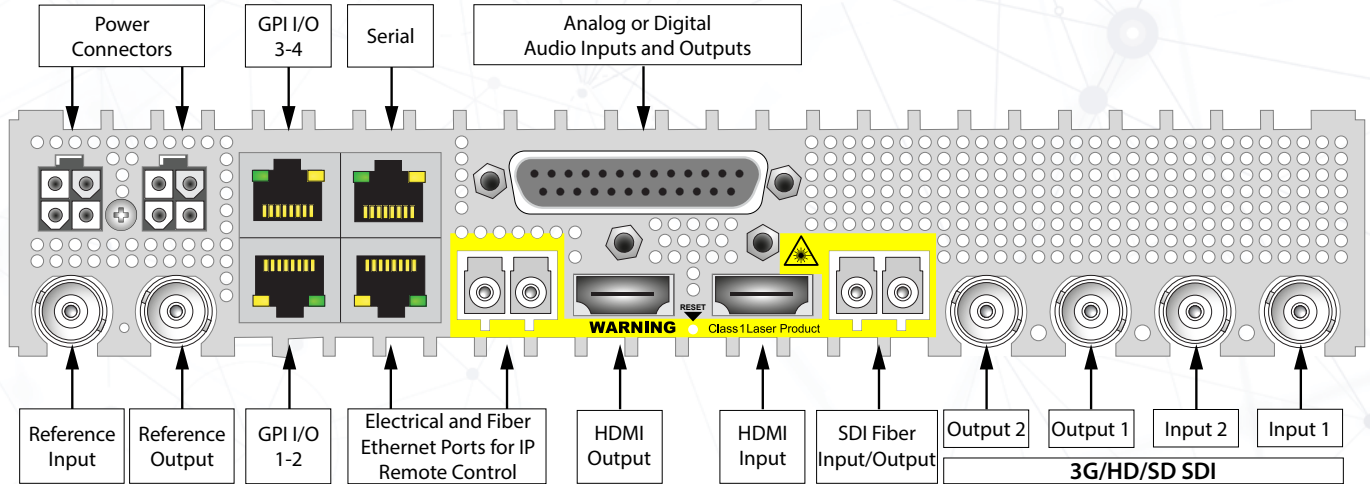
Constellation

GMC-2CUPXD

2 Channel 3G SDI Up/Down/Cross Converter

A broadcast quality 3G SDI Up/Down/Cross converter 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...

Hardware Specifications



SDI Inputs	2x 3G SDI video on 75 Ohm BNC connector - SMPTE, 292M, 424M, 259M with automatic video format and standard detection		GPI I/O	<ul style="list-style-type: none"> • 4x general purpose inputs (RJ45 Connector) • 4x general purpose outputs (RJ45 Connector)
	Return Loss:	>15dB from 5MHz to 1.5GHz, >10dB from 1.5GHz to 3GHz	Reference Input	<ul style="list-style-type: none"> • 1x analog video reference on 75 Ohm BNC connector • Analog bi-level (SDTV) or tri-level (HDTV) auto detect
	Automatic cable EQ (Belden 1694A):	340m@270Mbit/s, 150m@1.5Gbit/s, 110m@2.97Gbit/s	Reference Output	<ul style="list-style-type: none"> • 1x analog video reference on 75 Ohm BNC connector
SDI Output	Analog bi-level (SDTV) or ri-level (HDTV), cross lock capability		Serial Data	EIA/ETA RS232C / RS422 /RS 485 (selectable through greenGUI) - RJ45 connector ESD protection for up to 16kV
	Timing jitter:	< 0.2 UI @ 270Mbit/s, < 1.0 UI @ 1.5Gbit/s, < 2.0 UI @ 2.97Gbit/s	Audio I/O	4x input and 4x output on Sub-D 25 female connector
	Alignment jitter:	< 0.2 UI @ 270Mbit/s, < 0.2 UI @ 1.5Gbit/s, < 0.3 UI @ 2.97Gbit/s		Analog: input impedance >10k Ohm, Output Impedance 150 Ohm
	Return Loss:	>15dB from 5MHz to 1.5GHz, >10dB from 1.5GHz to 3GHz		Analog I/O full scale level: selectable 12, 15, 18, 20, 22, 24 dBu
HDMI	<ul style="list-style-type: none"> • 1x Input 10 bit HDMI 1.4b (up to 3G) • 1x Output 10 bit HDMI 1.4b (up to 3G) 		Power	12VDC @ 45W nominal (supports 7 - 24VDC input range)
Ethernet (LAN)	1x 10/100/1000 BaseT RJ45 Connector			2x power connections for redundant power supply
Optical I/O (Optional)	1x 3G SDI SFP Transceiver (SMPTE 297M - 2006)		Mechanical	W: 218mm (1/2 19"), H: 44mm (1.75"), D: 225mm (8.86") - including connectors.
Optical Ethernet (Optional)	IEEE 802.3z 1000Base-X Gbit/s Ethernet over Fiber at 1 Gbit/s (125 MB/s)			Weight: 1.28kg (2.82lb)
			Ambient	Temperature: 5°C to 40°C (41°F to 104°F) maintaining specification
				Humidity: 90% maximum, non-condensing

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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 power supplies.

Note: Two power supplies can be mounted onto one RFR 6000. Please see more information in the RFR 6000 quick reference guide.



One greenMachine in Rack Mount



RXT 6001 19" Rack Extension for RFR 6000

The greenMachine is ideally suited for standalone applications but this powerful processing platform reaches its full potential when used within a system design.

The RXT 6001 is a compact and flexible rack extension for RFR 6000. It can be setup to hold up to four RPS A100 power supplies.



RXT 6001 installed in RFR 6000



RPS A100 - AC to DC Power Supply 12V/8A

The RPS A100 AC to DC Desktop power supply unit provides 100 watts of continuous output power. The power supply is equipped with IEC320-C14 AC inlet.



Plugs are available for regions EU, US and UK as well as an option without a power plug (N). When ordering just add the region shorthand at the end of the module name.

ABS Case for greenMachine

The transport case is perfect to keep your greenMachine[®], cables and documents organized and in one place, while also protecting it from environmental influences. With its sturdy design, our ABS Case is the ideal partner to transport your greenMachine[®] whenever it is not wired in a rack, standalone or any other system you can think of.



The hard shell case protects your greenMachine[®] from most impacts in an average, busy work environment, while the inner foam coating prevents it from being scratched by cables, connectors or other equipment that can also be stored inside the case.

Fiber Options

The callisto+ is equipped with two SFP sockets which can accommodate a variety of plug in SFP fiber I/O options. One socket is for SDI connectivity and the other is for Ethernet. Fiber options can be added at any time.



Basic 3G SDI Video Fiber Transmitter & Receiver		Power / Sensitivity	
OH-TX-1-LC/ST/SC	SDI Fiber TX SFP - LC/SC or ST - 1310nm	-5dBm	
OH-RX-1-LC/ST/SC	SDI Fiber RX SFP - LC/SC or ST - 1270 - 1610nm	-16dBm	
3G SDI Video Fiber Transceiver		Power / Sensitivity	
OH-TR-1-LC	SDI Fiber Transceiver, Singlemode - LC - 1310nm	-5dBm	-18dBm
OH-TR-0-850-MM	SDI Fiber Transceiver, Multimode - LC - 850nm	-5dBm	-15dBm
CWDM SDI Video Fiber Transmitter (TX) and Transceiver (TR) (12G variants support 1.5G/3G/6G and 12G SDI)		Power / Sensitivity	
OH-TR-4-XXXX-LC XXXX = Wavelength	SDI Fiber Transceiver, Singlemode - CWDM capable - 40km* - LC 18 wavelengths acc. to ITU T G692.2: 1270nm through 1610nm.	-1dBm	-
Basic Ethernet Fiber Transceiver		Power / Sensitivity	
OH-TR-51-LC	Ethernet Fiber Transceiver, Singlemode - 10km* - LC - 1310nm	-3dBm	-21dBm
CWDM Ethernet Fiber Transceiver		Power / Sensitivity	
OH-TR-54-XXXX-LC XXXX = Wavelength	Ethernet Fiber Transceiver, Singlemode - CWDM capable - 40km* - LC 18 wavelengths acc. to ITU T G692.2 1270nm through 1610nm.	0dBm	-21dBm

* Distance is an approximation. Actual distances achieved can be longer or shorter depending on the type of fiber cable and accumulated optical losses in the fiber link. Determine link losses and perform optical budget calculations to ensure correct operation.

More SFP options are available.

Ordering Information

greenMachine callisto+ Hardware		
GM 6825 EU (N/EU/US/UK)	greenMachine callisto+ (Processor, OS and NOVA) Power plug Variants (please specify when ordering) GM 6825 N Power Supply without Power Cord GM 6825 EU Power Supply with EU Power Cord GM 6825 US Power Supply with US Power Cord GM 6825 UK Power Supply with UK Power Cord	EAN: 4250479328150
greenMachine callisto+ Constellation License		
GMC-2CUPXD	greenMachine callisto+ 2CUPXD constellation: Dual Channel 3G Up/Down/Cross Converter (License only- includes no hardware)	EAN: 4250479328136
Accessories and Power Supply		
RFR 6000	1 RU 19" Rack Mount Chassis	EAN: 4250479324466
RXT 6001	19" Rack Frame Extension for RFR 6000	EAN: 4250479326507
RPS A100 (N/EU/US/UK)	AC to DC Desktop Power Supply Module 12V/8A (with None / EU / US / UK plug)	EAN: 4250479327955

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 A100 power supply (EA11011D-1200) complies with the following safety standards:
UL/cUL 62368-1, TUV EN 62368-1, CB IEC 62368-1, FCC, CE, BSMI, PSE, RCM, IRAM

