green**Machine**®

callisto
Dual Channel Universal Video and Audio Processing Platform

The greenMachine callisto is a dual channel universal video and audio processing platform that can process video signals up to 3Gbit.

As a standalone piece of hardware, callisto has a very basic set of functions that allow a fundamental configuration (e.g. IP settings) and I/O signal monitoring. Additional processing functionality can be added by installing the required APPs that can be purchased on the LYNX Technik AG greenStore.

green**Store**™

www.lynx-technik-greenstore.com

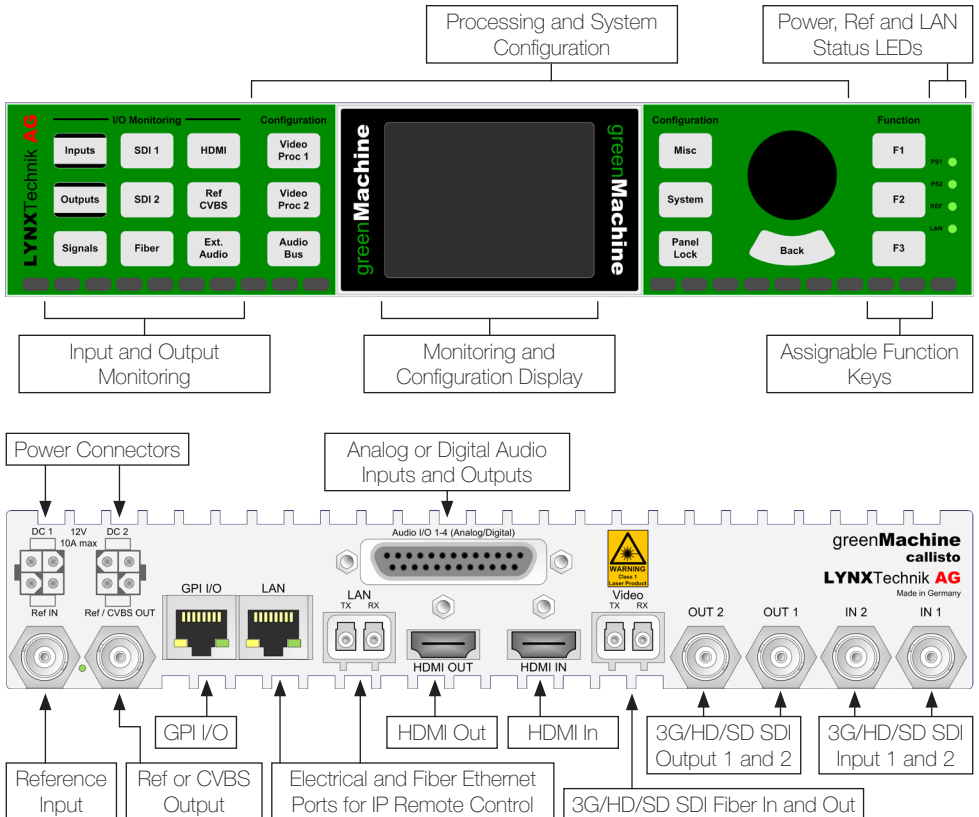**LYNX**Technik **AG**

www.lynx-technik.com

UNPACKING THE greenMachine callisto

The greenMachine callisto comes with the following items:

WHAT'S IN THE BOX?

- ✅ **1x greenMachine callisto**
- ✅ **1x external power supply (RPS 6120)**
- ✅ **1x power cord (EU, UK or US)**
- ✅ **1x Quick Reference Guide**
- ✅ **1x Warranty Card**

HARDWARE OVERVIEW

Processing and System Configuration

Power, Ref and LAN Status LEDs

Input and Output Monitoring

Monitoring and Configuration Display

Assignable Function Keys

Power Connectors

Analog or Digital Audio Inputs and Outputs

GPI I/O

Reference Input

Ref or CVBS Output

HDMI Out

HDMI In

Electrical and Fiber Ethernet Ports for IP Remote Control

3G/HD/SD SDI Output 1 and 2

3G/HD/SD SDI Input 1 and 2

3G/HD/SD SDI Fiber In and Out

GETTING STARTED

Step 1: IP SETTINGS OF THE greenMachine callisto

By default the IP setting of the greenMachine is set to DHCP. If you have a DHCP server, simply connect the greenMachine to your network with the DHCP server and an IP address will automatically be assigned to the greenMachine.

If you want to set the IP address manually, you can easily do this via the front control panel. Press the "System" button (middle button to the right of the display) and access the IP settings menu with the push encoder.
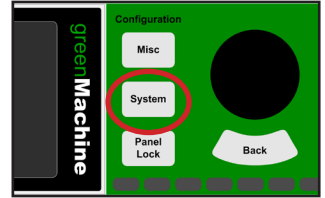
1. Change the "IP Mode" from DHCP to Static.
2. Set the static IP Address in the "IP Address" menu.
3. Confirm the IP address settings after adjusting the last digits.

Step 2: DOWNLOADING AND INSTALLING THE greenGUI

In order to activate and use the APPs, you will need to install the greenGUI which is available for Windows and Mac. You can download the greenGUI from our homepage:

www.lynx-technik.com > Support > Download Area > greenGUI

After you have downloaded the greenGUI, install it and connect the computer to the same IP network as the greenMachine is connected to. The greenMachine will automatically be detected by the greenGUI and connected.

## Step 3: LOADING THE APPS TO THE greenMachine

If you have already purchased APPs on the greenStore, you will have received a license key file (ends with .lxl). Go to the APPs menu in the greenGUI and select the "Load Licenses" function on the greenStore tab. Select the license key file and press import.
Note: The APP purchase is based on the serial number of at least one greenMachine. In order for the APP activation to work, the greenMachine(s) for which they were purchased need(s) to be connected to the network.

Step 4: BUILDING A CONSTELLATION

To start building a constellation (group of APPs), go to the "Constellation Editor" which you can find in the "APPs" menu of the greenGUI.

Note: If you have purchased a greenMachine callisto bundle (e.g. DualFS, DualUPXD, Dual Transport, or similar) you can skip this step and continue with step 5.
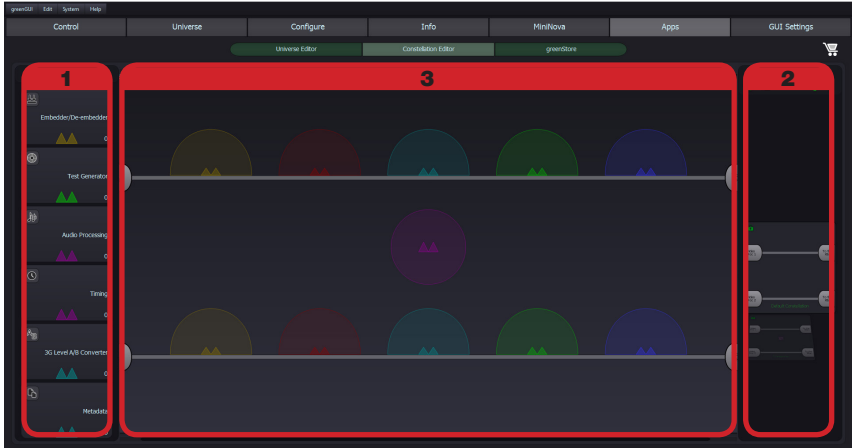
On the far left of the editor you will find a list of all the processing APPs that are available for the greenMachine callisto including the number of purchased APPs.

On the far right you will find a rolodex with all available constellations including the templates for the greenMachine callisto bundles.
To start a new constellation from scratch, press the "+" symbol at the top of the rolodex.
To rename a constellation, double click on the name in the rolodex (default name "New Constellation").

The center area of the constellation editor shows the details of the constellation selected in the constellation rolodex. **2**

The color coded notches on each path are where the APPs from the APPs list **1** can be dragged and dropped. The APPs can be dropped to the notches with the same color.
Multiple APPs can be added to a single notch.

Step 5: DEPLOYING A CONSTELLATION TO A **greenMachine**

To deploy a constellation to a greenMachine, go to the "Universe Editor", which you can find in the "APPs" menu of the greenGUI.
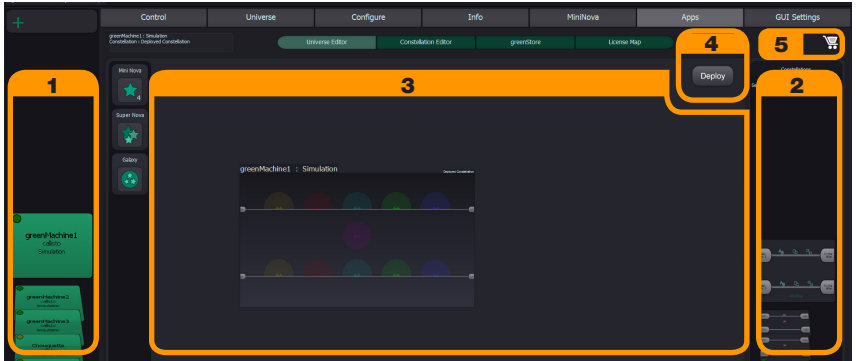
1 On the left hand side is a rolodex with all the greenMachines that are within the greenUniverse (i.e. connected to the network).

2 On the far right of the Universe Editor you will find a rolodex with all available constellations.

3 The center area graphically represents all the greenMachines within the universe. To deploy a constellation, simply drag and drop the constellation from the rolodex **2** onto the greenMachine(s).

4 At the top right of the center area you will find the "Deploy" button. Once you have dropped the constellation onto a greenMachine, the "Deploy" button will be highlighted in two possible colors:

Deploy **Green:** This indicates that you have all APPs available to deploy the constellation(s). Simply click the "Deploy" button.

Deploy **Red:** This indicates that you are missing at least one APP license that is required for the constellation(s) you want to deploy. Click the Deploy button and two things will happen.
1. The constellation will be deployed with all APPs but the outputs will have a watermark. This way you can evaluate every available APP.
2. The missing APP(s) will be added to the shopping cart. **5** Click onto the shopping cart and follow the instructions to purchase the missing APPs.

LOCAL CONTROL AND MONITORING

The greenMachine callisto has a local control panel which can be used to fully operate and monitor the module when used stand-alone.
The nine push buttons on the left hand side in conjunction with the local display provide everything that is required for a detailed input and output signal monitoring.

"Signals" Button

Press the "Signals" button located on the bottom left of the control panel to view an input and output signals overview on the display. Press the "Signals" button repeatedly to toggle between different information pages.

"Inputs" Button

Press the "Inputs" button to:
1. See more detailed information for all input signals.
2. Illuminate the signal buttons (e.g. SDI 1, SDI 2, Fiber, HDMI, etc.) with colors according to the input signals status.
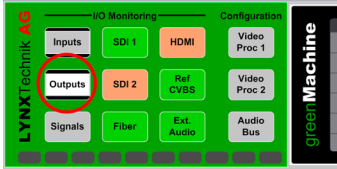

Detailed Signal Information

To get detailed information for a specific input signal, press the correlating signal button (e.g. SDI 1) when in "Inputs" mode and the display will show detailed information for this input. Pressing the same signal button repeatedly to toggle between different signal information pages.

"Outputs" Button

Select the "Outputs" button for monitoring based on the output signals instead of the input signals.

Processing Configuration

Access and control the configuration menus by using the buttons to the immediate left and top right of the display. You can also use the „Back" button underneath the rotary encoder.

The areas on the left and right hand side of the display show the active menu items. Turn the rotary encoder to navigate between these different menu items. The center part of the display will show a preview of the currently highlighted menu item. Pushing the rotary encoder will enter the menu item.

System Settings

The "System" button to the right of the display will access the system settings menu. Within this menu you can adjust the IP settings and panel configuration, reset the processing parameters and/or system settings (excluding IP settings), monitor the module's health parameters or assign presets to the Function Keys, which are located on the far right of the control panel next to the rotary push encoder.
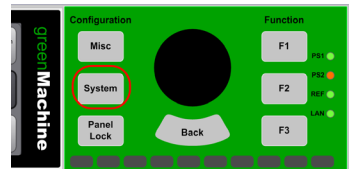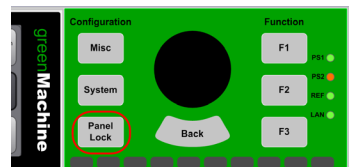

Panel Lock

Pressing and holding the "Panel Lock" button for 3 seconds will lock the processing and system settings for the local control panel. When locked, the "Panel Lock" button will be illuminated red.
Press and hold the "Panel Lock" button for 3 seconds to unlock.
All input and output monitoring functionalities are available in lock mode.

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TECHNICAL SPECIFICATIONS

SDI Input	2x SDI video on 75 Ohm BNC connector
	SMPTE, 292M, 424M, 259M with automatic video format and standard detection
	Electrical Return Loss: >15dB from 5MHz to 1.5GHz, >10dB from 1.5GHz to 3GHz
	Automatic cable EQ (Belden 1694A cable) 340m @ 270Mbit/s, 150m @ 1.5Gbit/s, 110m @ 2.97Gbit/s
HDMI Input	1x 10bit HDMI 1.4a
	24 bit (3x8bit) and 30bit (3x10bit) deep color (R,G,B / Y,Cr,Cb / X,Y,Z)
Optical I/O (Optional)	1x Video SFP Transceiver (SMPTE 297M - 2006)
Reference Input	1x analog video reference on 75 Ohm BNC connector
	Analog bi-level (SDTV) or tri-level (HDTV) auto detect and cross lock capability
SDI Output	2x 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
	Electrical Return Loss: >15dB from 5MHz to 1.5GHz, >10dB from 1.5GHz to 3GHz
HDMI Output	1x 10bit HDMI 1.4a
	24 bit (3x8bit) and 30bit (3x10bit) deep color (R,G,B / Y,Cr,Cb / X,Y,Z)
Ref / CVBS Output	1x analog video reference on 75 Ohm BNC connector
	Analog bi-level (SDTV) or CVBS video: 525/59.94Hz, 625/50Hz
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 nominal
Power	Max. 12VDC @ 25W 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: 1.1kg (2.43lb)
Ambient	Temperature: 5°C to 40°C (41°F to 104°F) maintaining specification
	Humidity: 90% maximum, non-condensing

Visit our website for additional information
and the latest news on LYNX Technik AG products.