



# Callisto

## Signal Acquisition and Filtering Unit



### Features

- Hard drive (SSD): 128, 256, or 512 GB Memory (snapshot): 32 or 64 GB DDR3 DRAM Memory (embedded): 4 GB DDR3 DRAM
- Front interfaces (11): 4 SFP+, 1 QSFP+, 1 CFP, sync I/O, ref I/O, Lemo
- -Optical I/O: 155M-2.7G (via SFP); 9.9G-11.7G (via SFP+); 40GbE (via QSFP+ or CFP); 39.8G-44.6G (via CFP); 100GbE-OTU4 (via CFP)
- -Electrical I/O: Synchronization and reference clock I/O; time code input
- Rear interfaces (eleven): Four QSFP+, two 1GbE RJ45, four USB, one VGA
- COTS embedded computer (CentOS, Intel i7 processor, 4GB memory)
- Mahlet software and GUI
- Optional rackmount kit (2 width extenders, with or without rails)

Callisto is a compact 1U unit for real-time data acquisition, filtering, and routing. 100GbE can be filtered on an individual packet and load balance routed to 8x10GbE. Additionally, 2x10GbE are used for non-IP traffic. Optional features enable a separate 10GbE to be used for sampled packet data, with a user provisioned sampling rate of 10:1 to 100,000:1

The Callisto front panel has eleven sockets. In the 10GbE input mode (Callisto 2.5) the 4x10GbE inputs are active. In the 100GbE input mode (Callisto 3.0) the CFP Input is active.

In the rear panel four QSFP+ are used as outputs. The two QSFP Ports closest to the chassis center are the 8 dedicated 10GbE outputs, the third QSFP is available for growth and the fourth QSFP is used for non-IP traffic and sampled traffic output. The two 1GbE RJ45 (one for media storage and one for system and component control), four USB, and one VGA.

The COTS embedded computer, which runs CentOS, has an Intel i7 processor and 4 GB of memory.

### Applications

#### Callisto 2.0

- 4x10GbE Input
- 10x10GbE Output
- Input IP Filter
- Output Steering based on HASH or Protocol
- Non-IP traffic Steered to 2 dedicated outputs.

#### Callisto 2.5

- 4x10GbE Input
- 8x10GbE Output
- Input IP Filter
- Output Steering based on HASH or Protocol
- Non-IP traffic dropped.
- Input traffic VLAN tagged for input tracking
- Support up to 100K IP Filters

#### Callisto 3.0

- 1x100GbE Input
- 8x10GbE Output
- Output Steering based on HASH or Protocol
- Non-IP traffic Steered to 2 dedicated outputs
- Support sampled packet output

## Specifications

<b>Product Type</b>	Callisto: 1U signal acquisition and filtering unit for up to 115 Gb/s		
<b>Processor</b>	In COTS embedded computer (control system)	Intel i7	
<b>Hard Drive</b>	2.5-inch SATA solid state drive (SSD)	128, 256, or 512 GB	
<b>Memory</b>	DDR3 DRAM	32 or 64 GB total	
	Embedded computer—DDR3 DRAM	4 GB	
<b>Data Rates</b>	Up to 115 Gb/s of user-configurable throughput; maximum rate is dependent on such factors as data format and system variables.		
<b>Data Format (I/O)</b>	Multiple interfaces are provided to support multiple user-configurable data formats, as shown below.		
	<p><b>Optical (6 ports)</b> 1 CFP with up to 10 electrical channels @ 12.5 Gb/s</p> <p>1 QSFP+ with up to 4 electrical channels @ 12.5 Gb/s 4 SFP+ @ 12.5 Gb/s (level I / II power)</p> <p><b>Electrical (5 ports)</b> 2 synchronization I/O 2 reference clock I/O</p> <p>1 timecode input</p>	<p><b>Data formats</b> 40 or 100 GbE (the latter requires a 10x10G interface) through OTU4 39.8—44.6Gb/s STM256</p> <p>40Gb/s SFP: 155 Mb/s—4.25 Gb/s (1 GbE; OC3—48 / STM1—16; OTU1) SFP+: 8.5 Gb/s or 9.9—11.7 Gb/s (10 GbE; OC192 / STM64; OTU1e/1f; OTU2/2e/2f)</p> <p><b>Data formats</b> DC coupled, 0 to 1 V, rising edge AC coupled, 1 V peak to peak, 155.52 MHz or 10 Mhz or recovered clock 1 pps, GPS, or IRIG-B</p>	
<b>Panel Features &amp; Access</b>	<p><b>Location</b></p> <p>Front</p> <p>Rear</p>	<p><b>Description</b></p> <p>6 transceivers 4 SMAs 1 Lemo</p> <p>4 transceivers 7 other connectors</p>	<p><b>Detail</b></p> <p>I/O with multiple options: 0 to 1 CFP; 0 to 1 QSFP+; 0 to 4 SFP+ I/O: 2 synchronization; 2 reference clock I/O: 1 timecode input</p> <p>System: 4 QSFP+ (to connect to the WSU1 for mass storage) Control: 2 1GbE, 4 USB, 1 VGA</p>
<b>Connectors and Cabling</b>	Connectors are listed under Panel Features & Access (above). For cabling, consult EDT for purchase options.		
<b>Power</b>	Supply Consumption	AC input: 90 to 264 V, 47 or 63 Hz TBD	
<b>Optional Accessories</b>	Rackmount kit	2 width extenders (one for each side), with or without rails	
<b>Physical</b>	<p><b>Approximate maximum</b></p> <p>With width extenders</p> <p>Without width extenders</p> <p>* This length measurement increases to 19.00 inches if the front CFP bay and the rear power supply handle are included.</p>	<p><b>Weight</b></p> <p>11.30 lbs. (no transceivers)</p> <p>10.00 lbs. (no transceivers)</p>	<p><b>Dimensions</b></p> <p>16.75* x 19.0 x 1.75 in. (1U)</p> <p>16.75* x 13.5 x 1.75 in. (1U)</p>
<b>Environmental</b>	<p>Temperature (operating / non-operating)</p> <p>Humidity (operating / non-operating)</p> <p>Altitude (operating / non-operating)</p>	<p>0° to 50° C / -40° to 70° C</p> <p>8% to 90% (non-condensing) / 5% to 95% (non-condensing)</p> <p>4,600 m / 15,000 m</p>	
<b>System and Software</b>	System comes preloaded with software. For versions, see <a href="http://www.edt.com">www.edt.com</a> .		