

# WSU1

Mass storage unit – pairs with SNAP1 to form WRAP100G (115 Gb/s recorder)



The WSU1 (pictured on the bottom) is a mass storage unit which requires a SNAP1 (on the top) for data acquisition. Together, the two units are called a WRAP100G system.

## Description

The WSU1 is a 1U mass storage unit that transfers data at rates up to 115 Gb/s. It pairs with a SNAP1 acquisition unit for record-playback times of about 11 minutes at 115 Gb/s.

The two units together form a 115 Gb/s 9.8 TB recorder (WRAP100G). Two WRAP100Gs provide synchronous recording and playback.

For supported data types, see the SNAP1 datasheet.

The WSU1 has four removable WSM1 storage modules. Each module provides nonvolatile SLC NAND flash memory of 2.45 TB (9.8 TB total) and 60,000 record-erase cycles at read-write rates of 3.6 GBytes/second (14.4 GB/s total). Four additional WSM1s can be ordered as a WRAP PACK 100G.

To link to the SNAP1, the WSU1 rear panel has three QSFP+ interfaces (one with two 12.5 Gb/s transceivers and two with four 12.5 Gb/s transceivers each, for 125 Gb/s total). The other rear-panel connectors are two 1GbE RJ45 (one for media storage and one for system and component control), four USB, and one VGA.

A 10 GbE or optional 40 GbE NIC is provided for offloading data.

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

EDT software and GUI are included; a rackmount kit is available.

## Features

- Unit for mass storage; works with SNAP1 to form WRAP100G system
- Four removable storage modules (WSM1s) included; more can be ordered
- Hard drive (SSD): 128, 256, or 512 GB
- Storage (SLC NAND flash): 9.8 TB (2.45 TB per module)
- Memory (embedded): 4 GB DDR3 DRAM
- Read-write rates: 14.4 GB/s (3.6 GB / 60,000 record-erase cycles per module)
- Rear interfaces (ten): Three QSFP+, two 1GbE RJ45, four USB, one VGA
- NIC: 10 GbE or optional 40 GbE for offloading data
- COTS embedded computer (CentOS, Intel i7 processor, 4 GB memory)
- EDT software and GUI
- Optional rackmount kit

## Applications

- High-speed recording and playback
- Telecom testing

## Specifications

Processor	In COTS embedded computer (control system)	Intel i7									
Hard Drive	2.5-inch SATA SSD	128, 256, or 512 GB									
Storage	Nonvolatile SLC NAND flash memory	9.8 TB total (2.45 TB per WSM1 module)									
Memory	Embedded computer – DDR3 DRAM	4 GB									
Data Rates	Up to 115 Gb/s of user-configurable throughput; maximum rate is dependent on such factors as data format and system variables.										
Data Format (I/O)	Three interfaces are provided to connect to the SNAP1, as shown below.										
	<b>Optical (3 ports)</b> 3 QSFP+ transceivers (10 total)	<b>Data format</b> Each QSFP+ supports 12.5 Gb/s									
Recording Times	About 11 minutes at 115 Gb/s (manipulation of stored recordings is not supported).										
Panel Features & Access	<table border="1"> <thead> <tr> <th>Location</th> <th>Description</th> <th>Detail</th> </tr> </thead> <tbody> <tr> <td>Front</td> <td>4 bays for WSM1s</td> <td>Each bay holds one removable SLC WRAP storage module (WSM1)</td> </tr> <tr> <td>Rear</td> <td>10 transceivers 7 other connectors 1 half-height PCIe x8 slot</td> <td>System: 3 QSFP+ (two with four transceivers each; one with two transceivers) Control: two 1GbE RJ45, four USB, one VGA For 10 or optional 40Gb/s NIC</td> </tr> </tbody> </table>	Location	Description	Detail	Front	4 bays for WSM1s	Each bay holds one removable SLC WRAP storage module (WSM1)	Rear	10 transceivers 7 other connectors 1 half-height PCIe x8 slot	System: 3 QSFP+ (two with four transceivers each; one with two transceivers) Control: two 1GbE RJ45, four USB, one VGA For 10 or optional 40Gb/s NIC	
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Connectors and Cabling	Connectors are listed under Panel Features & Access (above). For cabling, consult EDT for purchase options.										
Power	Supply Consumption	AC input: 90 - 264 V, 47 or 63 Hz TBD									
Optional Accessories	Rackmount kit WRAP PACK 100G	2 rails A pack of four additional WSM1 removable storage modules									
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Environmental	Temperature (operating / non-operating) Humidity (operating / non-operating) Altitude (operating / non-operating)	0° to 50° C / -40° to 70° C 8% to 90% (non-condensing) / 5% to 95% (non-condensing) 4,600 m / 15,000 m									
System and Software	System comes preloaded with software. For versions, see <a href="http://www.edt.com">www.edt.com</a> .										

## Ordering Options

- Hard drive (SSD): **128** / 256 / 512 GB
- Panel features (rear): **10** / 40 Gb/s NIC
- Optional accessories:
  - Rackmount kit (2 rails)
  - WRAP PACK 100G (four more WSM1 modules)

For more options, see mezzanine & main board detail. **Ask** about custom options.