edt
a HEICO company

# SNAP1

**Signal acquisition and playback unit for up to OTU4**


## Features

- Unit for real-time acquisition / playback / storage of data up to OTU4; works with WSU1 to form WRAP100G system
- Hard drive (SSD): 256 GB or 1 TB
- Memory (snapshot): 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, 4 GB memory)
- EDT software and GUI
- Optional rackmount kit

## Description

The SNAP1 is a 1U record-playback unit that snapshots up to OTU4 at full line rates to an internal SSD (1TB or 256 GB), or to external nonvolatile memory via USB or 1GbE. Snapshot memory of 64 GB is available.

For longer record-playback times, the unit pairs with a WSU1 to form a WRAP100G (115 Gb/s 9.8 TB recorder). Two WRAP100Gs provide synchronous recording and playback.

Supported data types include clearbit; ethernet packet capture with interpacket idles; and aligning, deframing, and decoding for ethernet, SDH / SONET, and OTU.

SNAP1 front panel sockets include six optical (four SFP/+s, one QSFP+, and one CFP), supporting...

- 155M–2.7G (via SFP)
- 9.9G–11.7G (via SFP+)
- 40GbE (via QSFP+ or CFP)
- 39.8G–OTU4 (via CFP)

...and five electrical: four SMA (synchronization I/O and reference clock I/O), and one Lemo (time code input).

Rear-panel sockets include four QSFP+ (to link to the WSU1), two 1GbE RJ45 (one for media storage and one for system and component control), four USB, and one VGA.

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

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

## 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 | | 256 GB or 1 TB | |
| **Memory** | Snapshot – DDR3 DRAM<br>Embedded computer – DDR3 DRAM | | 64 GB<br>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)** | Multiple interfaces are provided to support multiple user-configurable data formats, as shown below. | | | |
| | **Optical (6 ports)**<br>1 CFP with up to 10 electrical channels @ 12.5 Gb/s<br><br>1 QSFP+ with up to 4 electrical channels @ 12.5 Gb/s<br>4 SFP/+ @ 12.5 Gb/s (level I / II power) | | **Data formats**<br>40 or 100 GbE (the latter requires a 10x10G interface) through OTU4<br>39.8–44.6Gb/s STM256<br>40Gb/s<br>SFP: 155 Mb/s–4.25 Gb/s (1 GbE; OC3–48 / STM1–16; OTU1)<br>SFP+: 8.5 Gb/s or 9.9–11.7 Gb/s<br>(10 GbE; OC192 / STM64; OTU1e/1f; OTU2/2e/2f) | |
| | **Electrical (5 ports)**<br>2 synchronization I/O<br>2 reference clock I/O<br>1 timecode input | | **Data formats**<br>DC coupled, 0 to 1 V, rising edge<br>AC coupled, 1 V peak to peak, 155.52 MHz or 10 Mhz or recovered clock<br>1 pps, GPS, or IRIG-B | |
| **Recording Times** | Recording times are dependent upon such factors as data format and memory options, as shown below. | | | |
| | **Data format / memory option**<br>40GbE / 64 GB snapshot memory<br>100GbE / 64 GB snapshot memory | | **SNAP1 alone**<br>About 12.4 seconds<br>About 5.9 seconds | **SNAP1 with WSU1**<br>About 30 minutes<br>About 11 minutes |
| **Panel Features & Access** | **Location**<br>Front<br><br><br>Rear<br><br> | **Description**<br>6 transceivers<br>4 SMAs<br>1 Lemo<br>4 transceivers<br>7 other connectors | **Detail**<br>I/O with multiple options: 0 to 1 CFP; 0 to 1 QSFP+; 0 to 4 SFP/+<br>I/O: 2 synchronization; 2 reference clock<br>I/O: 1 timecode input<br>System: 4 QSFP+ (to connect to the WSU1 for mass storage)<br>Control: 2 1GbE, 4 USB, 1 VGA | |
| **Connectors and Cabling** | Connectors are listed under Panel Features & Access (above). For cabling, consult EDT for purchase options. | | | |
| **Power** | Supply<br>Consumption | | AC input: 90 to 264 V, 47 or 63 Hz<br>TBD | |
| **Optional Accessories** | Rackmount kit | | 2 width extenders (one for each side), with or without rails | |
| **Physical** | **Approximate maximum**<br>With width extenders<br>Without width extenders<br>* This length measurement increases to 19.00 inches if the front CFP bay and the rear power supply handle are included. | | **Weight**<br>11.30 lbs. (no transceivers)<br>10.00 lbs. (no transceivers) | **Dimensions**<br>16.75* x 19.0 x 1.75 in. (1U)<br>16.75* x 13.5 x 1.75 in. (1U) |
| **Environmental** | Temperature (operating / non-operating)<br>Humidity (operating / non-operating)<br>Altitude (operating / non-operating) | | 0° to 50° C / -40° to 70° C<br>8% to 90% (non-condensing) / 5% to 95% (non-condensing)<br>4,600 m / 15,000 m | |
| **System and Software** | System comes preloaded with software. For versions, see www.edt.com. | | | |

# Ordering Options

- Hard drive (SSD): **256 GB** / 1 TB
- Connectors – front-panel transceivers:
  **0** or 1 CFP; **0** or 1 QSFP+; **0** to 4 SFP/+
- Rackmount kit: 2 width extenders + **0** / 2 rails

**Bold** is default. **Ask** about custom options.

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