MIDAS-Micro (DAQ Unit)

Software Defined Radio Platform **Version DXP-2N200SRX2 (Revision 1.0)**

MIT HAYSTACK OBSERVATORY

MIDAS-Micro DAQ Unit (Millstone Data Acquisition System) data acquisition unit is an integrated software radio platform using commercial off the components. These software radio platforms have been developed as prototype systems for testing and software development for the RAPID project. The DXP-2N200S variant of MIDAS-Micro uses a single N200 radio from Ettus corporation in combination with analog RF interface electronics, a Logic Supply ML100G-10 computer, a Jackson Labs MINI-JLT GPS unit, a low EMI DC/DC power supply, and power distribution and control electronics and cables. The unit is capable of powering external LNA units in antennas such as SKALA, incorporates EMI filtering on data and power lines, and provides a pair of GPS locked of frequency references which may be injected into the RF signal paths for use in calibration.

MIDAS-Micro DAQ Unit / DXP-2N200SRX2 Specification

Frequency Coverage	**50 to 860 MHz (RX only)**
RF Bandwidth	**10 MHz max (dual channel)**
System Processor	**Dual Core Intel i3-5010U CPU @ 2.1 GHz**
System Memory	**8 GB LP-DDR3 RAM**
System Interface	**Ethernet (1 Gbase-T) or WiFI (802.11N)**
Data Storage	**256 GB Internal SSD, up to 4 TB external SSD**
Frequency Stability	**1E-12 over 24 hours with calibrators active**
Power Consumption	**12V DC @ 3.0A (typical)**
Operating Temperature	**-20 to 50C (integrated thermal shutoff)**
Dimensions (L x W x H)	**42 cm x 39 cm x 17 cm**
Unit Weight	**11.5 kg**

MIT Haystack Observatory
99 Millstone Road
Westford, MA 01886 USA
(781) 981-5400 (info@haystack.mit.edu)

RAPID Radio Array of Portable Interferometric Detectors