

## DAMS-NT *DigiTrak*

### Rack-Mount Satellite Demodulator for GOES, METEOSAT, & MTSAT



#### Description:

The Microcom DAMS-NT DigiTrak demodulator chassis enables users to receive Data Collection System (DCS) messages directly from GOES satellites. Optional configurations will also demodulate METEOSAT and MTSAT satellite signals. The *DigiTrak* demodulator is the same modern Digital Signal Processing (DSP) based technology that is used by NOAA at both the primary GOES DCS receive site at the Wallops Command & Data Acquisition (WCDA) station the backup site at NOAA's Satellite Operation Facility (NSOF).



The same rack based system (see picture to the left) is also deployed at the USGS's Emergency Data Distribution Network (EDDN) located at the Earth Resources Earth Resources Observation Systems (EROS) Data Center in Sioux Falls, South Dakota.

The **DAMS-NT DigiTrak** cage system provides users with flexible system configuration options. Each chassis may can provide a maximum of forty demodulators (channels). When combined with Microcom's rack-mount Dual Pilot Control Module (DPCM),

a single rack system can support up to six **DAMS-NT DigiTrak** units capable of simultaneously receiving messages on up to 240 channels.

The **DAMS-NT DigiTrak** cage consists of four major components:

- The cage itself with integral backplane and dual power supplies.
- The Input Interface Module (IIM) is located in the right-most card slot. The IIM provides signal conditioning and AGC functions before distributing the GOES DCS spectrum to the demodulator cards.

- The Network Interface Multiplexer (NIC-MUX) card is located in the left-most card slot. The NIC-MUX receives the GOES DCS message data and signal quality statistics from the demodulator cards, buffers the information, and delivers it to the host computer via a TCP/IP interface.
- From one to ten quad motherboards (QMBs) are located in the middle slots. Each QMB contains up to four **DigiTrak** demodulators. A fully populated cage has forty **DigiTrak** demodulators.

All plug-in cards and the redundant power supplies are hot swappable. The DAMS-NT cage also accepts an IRIG-B time code input to synchronize the time tagging of received messages to within one millisecond. To support future enhancements, all programmable components within the **DAMS-NT DigiTrak** are field upgradeable ensuring minimal downtime when applying future updates.

#### Key Features:

- No post-processing latency. Messages can be received with less than 0.25-second separation.
- Message time stamping to the millisecond. Carrier, symbol sync, frame sync and measurement end times are all reported.
- Amplitude measurements to 0.01 dB.
- Frequency measurements (start & end) to  $\pm 0.1$ Hz.
- Front panel 4-character alphanumeric display for each demodulator.
- Front panel test and diagnostic port on each card.
- Hot-swappable components.

#### Specifications:

**Compatibility:** GOES 100 BPS  
GOES 300 & 1200 BPS, CS1 & CS2  
METEOSAT and MTSAT

**Power:** 120 VAC, 60 Hz  
120 Watts (fully loaded)

**Case Size:** 19" W X 10.5" H X 15" D

**Weight:** 25 lbs. (fully loaded)

#### Options:

- Specify number of QMBs (4 demods per QMB).
- 240 VAC Operation