

## PC-Based Multimode (SOQPSK) Telemetry Demodulator, Receiver, Decom, Simulator, Timecode



### Features

- PC-based PCI bus full size card with RF receiver, bit synchronizer, data decommutator, simulator, and IRIG time code reader
  - Using 32 bit/66 MHz PCI bridge
  - Transfers data in scatter gather mode
- RF receiver
  - L Band or S Band coverage
  - Selective tuning with 100 kHz tuning steps
  - 4 IF band widths; 0.5 to 20 MHz
  - Processes SOQPSK and PCM/FM
  - NRZ codes: 315 kbps to 20 Mbps (SOQPSK) 160 Kbps to 10 Mbps (PCM/FM)
  - Codes can be NRZ-L, RNRZ-L (fwd) per IRIG STD 106, programmable
- Data decommutator
  - PCM input rate up to 20 Mbps
  - Accepts RS-422 or TTL input data and clock
  - Onboard minor frame time tag
  - Word select mode: Any or all words from the format can be steered to this PCM output
- Simulator
  - Regenerates playback archived PCM data at programmable rates of up to 20 Mbps
  - Random number generator: PRN (n=15)
- IRIG-B time code reader
  - Accepts IRIG AC or DC time in
  - Time tags incoming PCM minor frames
  - Provide IRIG time to the PC
- Windows compatible driver software included
- Supported by third party data analysis software

### Description

The RMDS-300S combines the functions of RF Receiver, Bit Synchronizer, Data Decommutator and Simulator into a single full size PCI Bus card. The card can be installed in a Desk Top PC for preflight or lab test. The RF Receiver has L or S band coverage (customer specified at time of order) and can demodulate both SOQPSK and PCM/FM. RF Frequency tuning is in 100 kHz steps. There are four IF Bandwidths from 0.5MHz to 20MHz that are automatically selected as a function of bit rate and modulation type. The demodulated RF signal is input to the Bit Sync that provides clock reconstruction and data recovery. Data rates up to 20 Mbps (SOQPSK) and 10Mbps (PCM/FM) can be processed. Recovered PCM data and clock outputs are provided via RS422 and TTL drivers.

The Bit Sync output is also internally connected to the on card Data Decommutator. The Data Decommutator provides full IRIG Frame Synchronization and data Decommutation. The Decom accepts PCM data at rates up to 20 Mbps from either an external source or the on-card Bit Sync. The Decom external data and clock inputs are programmable for RS-422 (20 Mbps – 120 ohm) or TTL (10 Mbps – 10K ohm).

Decommutated data words and frame time tags are made available via the PCI bus for analysis, archival, and monitoring. A Parallel Output Port provides the customer with the Frame Data and control signals. The customer can Cherry Pick any or all desired words from the Frame.

A DB25 connector is used for each the Parallel Output Port (top of card) and the I/O port (rear of card on rear I/O plate). The rear I/O plate is also equipped with two SMA connectors, one for the RF Receiver input (Antenna) and one input for future expansion.

### Applications

- Data analysis
- Data archival
- Flight test instrumentation

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### RMDS-300S Datasheet

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