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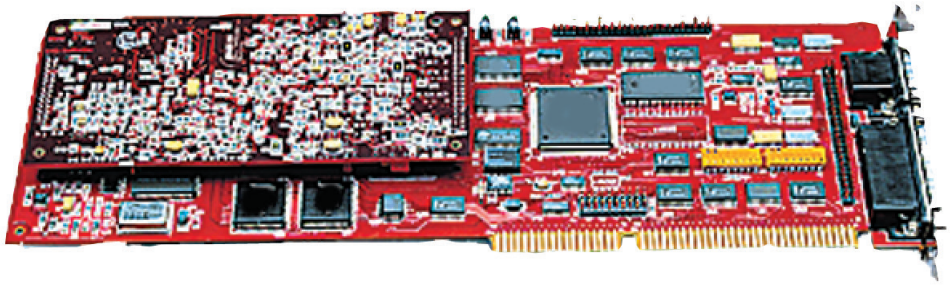
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4422-DA

Telemetry Module

4422-DA is a “Do All” Telemetry Module for the PC/ISA bus. The module’s highly integrated design features all the functions required for telemetry data acquisition. The 4422-DA supports PCM data streams at rates up to 10 Mbps.

The standard features of the 4422-DA include a PCM decommutator/simulator. The decommutator supports variable frame and word length formats. The simulator features dynamic and unique data word generation. It can operate autonomously.

A PCM bit synchronizer and IRIG Time Code Reader option are available. The bit synchronizer accepts all PCM Codes and includes a tape output driver. The time code reader accepts IRIG A or B Time Codes. You can program it to utilize DOS time in the absence of an IRIG Time Source.

You program setup parameters for each function of the 4422-DA via the PC bus. Readback (status) is available over the same bus in a pollable status word.

FEATURES:

- Supports PCM Decommutation
  - Up to 10 Mbps
- Variable Word Length Processing
  - 3 - 16 bits
- 4,096 Words/Frame & 256 Minor Frames
- Subframe Methods
  - SFID, FAC, & URC
- Options
  - Minor Frame IRIG Time Insertion
  - PCM Bit Synchronizer Daughter Card
- Full-fidelity PCM Simulation
  - Up to 10 Mbps

abaco SYSTEMS

4422-DA *Telemetry Module*

Specifications

Performance Decommutator

- Inputs: NRZ-L data & 0° clock
- Input levels: Single-ended TTL & RS-422
- Input data rate: 10.0 bps to 10.0 Mbps
- Word length: Variable (3 to 16 bits) word-by-word basis
- Minor frame length: 2 to 4,091 (words per minor frame)
- Major frame length: Up to 256 minor frames per major frame
- Bit order: MSB/LSB-first (word-by-word basis)
- Frame sync pattern: Up to 64 bits
- Frame sync location: Leading or trailing the frame
- Frame sync strategy: Adaptive mode (search-lock-verify) & burst mode (search-lock)
- Sync error tolerance: 0 to 15 bits (selectable)
- Sync slip window: 1 or 3 bits wide (selectable)
- Data polarity: Normal, inverted, or automatic (detection)
- Subframe sync: FCC (FAC), SFID or URC (optional)
- URC location: May be any 64-bit window within the
- first minor frame not including the last bit in the
- minor frame
- SFID location: Any series of bits not including the last
- bit in the minor frame
- Parallel output (optional): Via 50-pin header
- System Output: PCM data blocks from two 4k x 16 buffers with status word, 4 bytes of time & data.
- Embedded data output of selected bit groups only via external cable

Simulator

- Outputs: Data, 0° & 90° clocks, and minor frame strobes
- Output levels: Single-ended TTL and RS-422
- Output data rate:
  - 64 bps to 10.0 Mbps (NRZ codes)
  - 64 bps to 5.0 Mbps (all other codes)
- PCM codes: NRZ-L/M/S, BIØ-L/M/S, DM-M/S, M^2, RNRZ-L (2^{11}-1 & 2^{15}-1)
- Word length: Variable (3 to 16 bits) word-by-word basis
- Minor Frame Length: 2 to 4,095 words per minor frame
- Major frame length: Up to 256 minor frames per major frame
- Bit order: MSB/LSB-first on a word-by-word basis
- Frame sync pattern: Up to 64 bits
- Subframe sync: FCC (FAC),SFID or URC
- Common words: Based on word location, up to
- 2,048 values
- Unique words: Up to 7 programmable
- Dynamic words: Up to 5 programmable via
- look-up tables

IRIG Time Code Reader (Optional)

- Input format: IRIG A or B
- Carrier (non-real time): 250 Hz to 20 kHz
- Input level: 1 V (peak-to-peak) nominal
- Latency: 2 µs (maximum)
- Outputs: Automatic time tags for PCM data blocks
- Alternate Source: MS-DOS clock

Bit synchronizer (optional): See bit synchronizer data sheet

- 4400-TM (250 bps to 5.0 Mbps)
- 4400-TF (250 bps to 10.0 Mbps)

Mechanical

- Form factor: Single, full size PC/ISA bus module
- Connectors: DB9, DB25 & 50-pin parallel output header

Manufacturing

- Hybrid of standard components & Surface Mount Technology (SMT)

Environmental

- Operating
  - Temperature: 0° to 50°C
  - Humidity: 0% to 90% non-condensing
- Non-Operating (in proper packing)
  - Temperature: -25° to +70°C
  - Humidity: Packing must prevent contact with moisture and contaminants
- Special Handling
  - Standard ESD handling methods are recommended

Customer Support

- Two-year warranty
- Hardware documentation included on CD. Hard copies of the documentation are available upon request.

Ordering information

Model Number	Configuration
4422-DA	Telemetry Module for PC/ISA bus
-B	4400-TM Bit Synchronize option
-F	4400-TF Bit Synchronize option
-I	IRIG Time Code Reader option
-U	Unique Recycling Code option

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