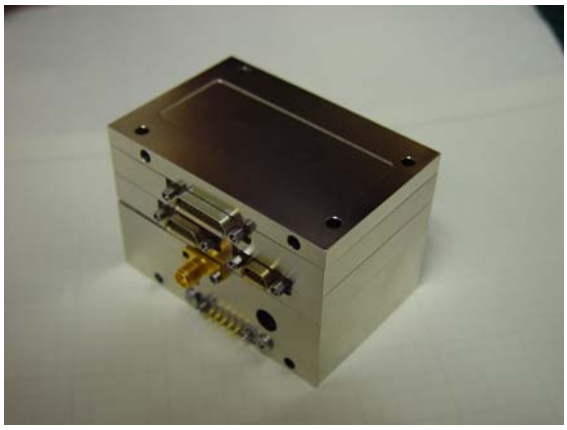
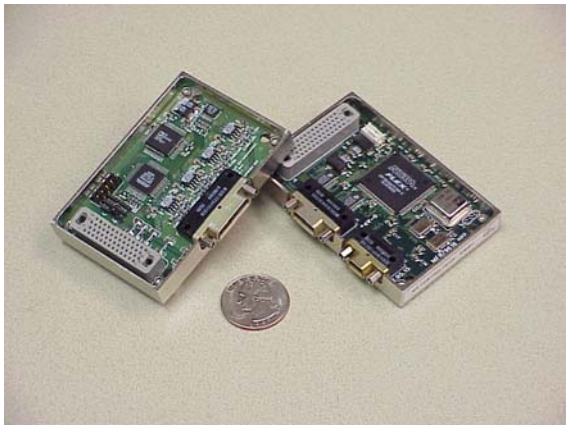
NM STATE Physical Science Laboratory

Telemetry Products & Solutions

PSL MV

PCM ENCODER SYSTEM





PSL's MV PCM Encoder System provides flexible, modular, economical flight-capable instrumentation system features in a 2"x3" footprint. The MV supports IRIG 106 data formats at rates up to 20 Mbits/second.

A basic MV encoder system consists of

- Base/Power Supply/Pre-modulation filter (includes system lid)
- Control deck, with dual RS232 outputs (user-programmable via RS-232 port)
- Input and/or function decks as determined by instrumentation requirements

Input modules currently available include

- Analog (8 differential inputs)
- Signal Conditioning Analog (4 differential inputs)
- Parallel Digital
- Serial Digital

Additional modules for other input types and special functions (e.g., timers, command decoder, signal conditioners, etc.) also can be developed and integrated into the encoder "stack" to simplify payload fabrication, reduce avionics size, and improve overall instrumentation and avionics system reliability. Please contact PSL at TelemetryProducts&Solutions@psl.nmsu.edu for pricing, availability, and/or your specific requirements.

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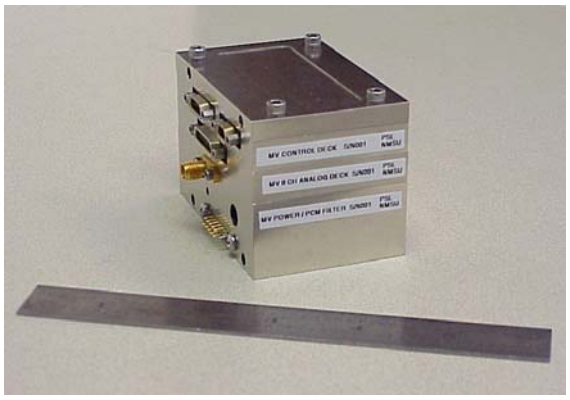

The PSL MV PCM encoder supports

- Bit rates up to 20 Mbit/second
- Word length: 8-16 bits/word
- Output code: NRZ-L, M,S;
  BiØ-L,M,S;
  RNRZ (L=7 or L=15);
  convolutional NRZ-M (L=7, inverted G2 term);
  BiØ convolutional NRZ (inverted G2 term)
- Power requirements:
  - Nominal voltage input: +28 VDC with a range of +16 to +40 VDC
  - Typical input current varies with the number and type of decks required for each application
  - Power input is fully isolated with polarity, over voltage, and supply voltage filtering protection
- Operational temperature range: -20 to +60°C standard. Systems may be qualified to perform over extended ranges to -50 to +70°C
- Physical Dimensions: 2" X 3" footprint (without connectors); minimum height with one input deck is 1.935"; each additional deck adds 0.375"
- Vibration: Qualified to NASA Sounding Rocket levels (19.2 Grms, 5 Hz - 2 KHz). Many modules have provided flawless performance over multiple flight/recovery cycles. Successfully flown at levels up to 30G thrust.

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PSL MV

PCM Encoder Price List

Prices shown valid 1 July 2007

Telemetry Products & Solutions

PS1	**Base/PwrSply/Filter** - Provides mounting base, pre-modulation filtering, and power for all decks in the encoder stack (req'd for each system)	**$ 4,464**
CR1	**Control/RS232 Deck** - PCM format control/programming via RS-232 port on deck. Also provides two RS-232 inputs (req'd for each system)	**$ 2,523**
AS1	**Analog Deck** - 16 single-ended inputs (10 bit A/D, 0/+5v)	**$ 2,037**
AD1	**Differential Analog Deck** - Eight differential inputs (12 bit A/D, 0/+5v)	**$ 2,721**
AP1	**Signal Conditioning Analog Deck** - Four programmable differential 12-bit A/D converters. Gain/offset input range available allow input ranges of 0-5v, 0-10v, 0-30v, 0-60v,±2.5v, ±5v, ±15v, and ±30v	**$ 3,126**
BC1	**Bridge Completion Deck** – Completes and converts eight strain gauge bridge circuits (12 bit A/D)	**$ 2,986**
DP1	**Parallel Digital Deck** - One parallel 16-bit digital input per deck	**$ 1,792**
DS1	**Serial Digital Deck** - Four synchronous serial digital inputs per deck	**$ 1,792**
CD1	**Command Decoder Deck** - Decodes 5Kb/s PCM/FSK & provides dual RS-232 and one parallel output	**$ 2,172**
CB1	**Clock Buffer Deck** - Provides eight individually buffered, programmable encoder clock outputs	**$ 2,172**
Configuration Service (required for initial or modified system delivery)		**$ 837**

- New MV decks for signal conditioning or special functions can typically be developed within 6-8 weeks at an approximate cost of $15-20K. Actual cost will be dependent on complexity and/or requirements.

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