

PETs

Paragon Embedded Telemetry System

The Paragon Embedded Telemetry System (PETs) is a reference design for the development and deployment of rugged, highly reliable telemetry devices.

PETs design is a radio/infrastructure independent platform, including digital and analog I/O, local display and local serial communications.



OVERVIEW

The Paragon Embedded Telemetry System (PETs) is a hardware and software reference platform that provides a base platform for developing high reliability, rugged telemetry systems. The PETs Model 1 reference board is shown above.

The heart of the PETs concept is radio independence. This gives telemetry systems the ability to work multiple with networks, and gives users negotiating power with potential data carrier services. The ability to quickly adapt to new networks and radios is achieved through Paragon's proprietary software interface, the Telemetry Abstraction Layer™ (TAL™). The TAL™ provides a consistent and easy to use interface for application software. The TAL™ automatically determines the radio and network connection for the system and automatically adapts the PETs device to operate properly on power up.

PETs was designed for low power operation right from the start, making it excellent for battery and solar powered applications in extremely remote areas.

RESULTS

- Radio / Network independence
- Battery / Solar Power Operation
- Highly configurable design
- Solid code base
- TAL™ (Telemetry Abstraction Layer™)
- Complete documentation, increasing its ROI

PETs™

Paragon Embedded Telemetry System™

Telemetry with a 'Tude™

Paragon will customize PETs to meet your unique telemetry requirements. Call us for a proposal.

www.paragoninnovations.com



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Model 1 Controller Features

- Radio independent operation
- Dual radio power supplies (5.0 V @ 1A, 3.2V @ 1A)
- Direct radio connections
 - Sierra Wireless SB555, SB508, & SB519
 - Karley Wireless card
- Indirect radio connection
- Any RS-232 or logic level serial interface, up to 230 kbps
- SPI Serial Interface
- Dallas 1-Wire® Serial Interface
- I2C Serial Interface
- RS-232 auxiliary serial port, up to 115 kbps
- Logic level serial port up to 230 kbps
- 8 Ultra-bright LEDs with power saving operation
- Ambient light sensor
- Incandescent lamp control and status monitor
- Accelerometer +/- 20g, 60Hz BW
- Battery level monitoring
- Precision temperature monitor
- 8 Input push buttons
- Real time clock
- Non-volatile RAM memory
- Data FLASH for large blocks of non-volatile memory
- 16x2 Alphanumeric LCD Display
- Operation to 8MHz
- Dual Batteries, with automatic switch over
- In-circuit programmable program memory
- Auxiliary power operation from off-the-shelf 5 volt power supplies

TAL™ Features

- Radio detection
- Network detection
- Send datagram
- Receive datagram
- Detect radio status
- Round trip data integrity mode
- Radio power control

Available Hardware Features

- Digital I/O points
 - Up to 40 input or output positions
 - 16 inputs configurable as interrupt / wake up ports
- Analog I/O points
 - Up to 10 analog inputs
 - 12 bit resolution +/- 1/2 LSB accuracy
 - 200 kps maximum sample rate
- Precision comparator
- Real time clock
 - 9 independent timer / counters
 - 8 Capture register inputs
 - 8 PWM outputs
- Dual serial ports
 - Async. operation up to 230 kbps
 - Sync. operation up to 8 Mbps
- Motor control PWM ready
- Brown out protection circuitry
- 6µS wake-up
- Magnetic Strip reader (credit card / drivers license / etc.)
- Barcode reader
- Private wireless LAN bridge