

*Features:*

- 16-bit RISC Processor Based Design
- 60 KB Program Memory
- 2 KB RAM
- 4 K-bit F-RAM for Non-Volatile Parameter Storage
- 8 Signal-conditioned Analog Inputs, 12-bits resolution



- 16 digital I/O lines
- 1 Analog Output, 12-bits resolution
- 12-bit LED Driver
- RS-422 Serial Interface
- Ethernet Interface
- 6 NO/NC Relay Contacts



The Model 1465 Processor Board is based on the TI MSP430F249 microcontroller. The microcontroller has a full set of peripherals including 60 KB of Program Memory, 2 KB of RAM, two UART's, 8-channel 12-bit ADC, and up to 48 lines of digital I/O.

In addition to these peripherals, the board contains an Ethernet processor, 4 K-bit F-RAM for Non-Volatile parameter storage, analog signal conditioning, a LED driver chip, and six NO/NC relays.

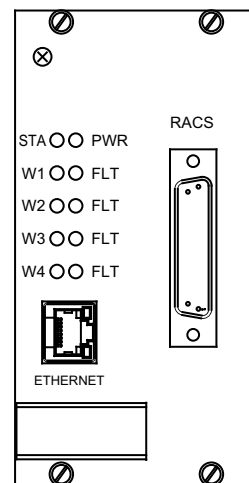
The Ethernet processor is a module that contains the TCP/IP stack and supports 10/100 Mbps communications. The Ethernet processor ties to the control computer via an Ethernet Switch, and allows for control messages from the computer and status messages to the computer.

A 12-bit LED driver allows for up to 12 independent LED's. The number of LED's on the board depends on the application. Each LED is controlled by firmware and indicates device status.

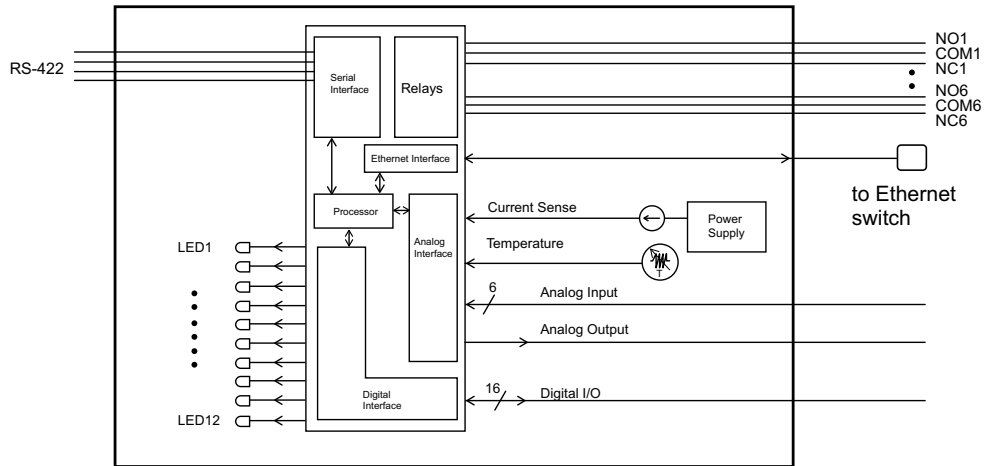
The six relays are output only. The relays are under processor control and mirror the status indicated by the on-board LED's.

The board is used the DSP Card Cage, Power Amplifiers, and CBC/LNA. The hardware is identical for all three; the firmware is tailored to the application.

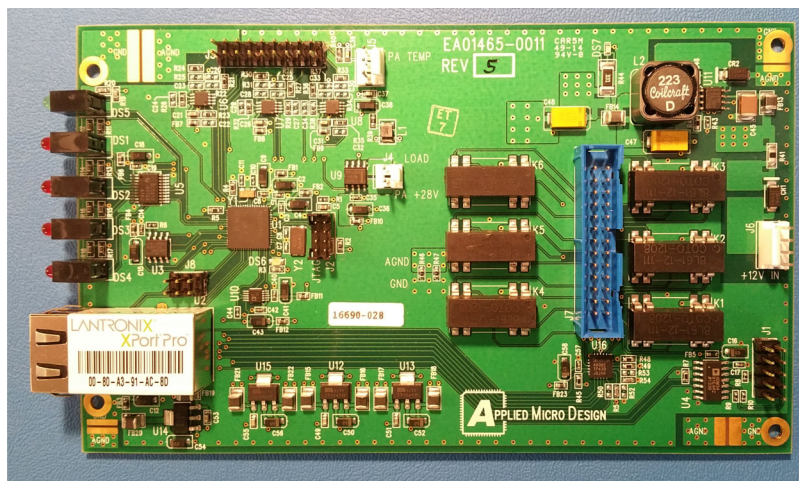
rev 1 2015



Card Cage Configuration



Control Board Block Diagram



### Specifications

Voltage: 9 V – 15 V DC  
 Current: 350 mA nominal (current is a function of L.E.D. state, relay state, and Ethernet)  
 Reverse Polarity Protection: Yes

### Memory

Program Memory: 60 KB  
 RAM: 2 KB  
 F-RAM : 4 K-bit  
 Analog Inputs: 1 current, 1 temperature, 6 uncommitted  
 Analog Output: 1 channel, 0 – 5 volts

### Digital I/O

I/O Lines: 16  
 Voltage Level: 0, 3.3 v

### Relays

Number of Relays: 6  
 Relay Type: 1 Form C  
 Contact Rating: 3 W DC Max

### LED Driver

Number of LED's: 12  
 Current: 50 mA each, continuous

### Ethernet Module

Network Interface: 10Base-T and 100Base-T  
 Indicator LED: Link and Activity  
 Connector: RJ-45  
 Protocols: TCP/IP, UDP/IP, SNMPv2, TFTP, FTP, DHCP

