



# 8670 ETHERNET I/O BOARD

## Windows & Linux Compatible



### Summary

Ethernet I/O PCB is used to interface with various Digital and Analog Inputs/Outputs. The PCB is designed to interface with host computers via the Ethernet Interface.

### Benefits

- Eliminates "special" I/O chassis by distributing I/O to each device
- Logistics support is simplified by device commonality
- Ethernet interface simplifies system design

### Key Features

- Sharp System on Chip – ARM 720T RISC Processor, Serial Interface Engine, Color LCD Controller, Touch Screen Interface
- 10/100 BaseT Interface
- 64MB SDRAM
- Up to a 4GB Compact Flash
- I/O
  - 32 Digital Inputs (DI)
    - De-bounce circuitry provided for switch inputs
    - Open (float) or grounded inputs
  - 32 Digital Inputs/Outputs (DI/O)
    - User programmable inputs or outputs in groups of eight
    - Inputs range from 0 to 5.0V
    - Outputs range from 0 to 3.3V
    - 24mA maximum input/output current
  - 8 x 12-bit Analog to Digital Converters (ADC)

- Each capable of converting an analog signal to a 12-bit signed digital word
- Updated at a 100kSPS maximum rate
- Ranges of input voltages are available from -10V to +10V
- 8 x 12-bit Digital to Analog Converters (DAC)
  - Each capable of converting 12-bits of unsigned parallel digital data to an analog signal
  - Updated at a 100kHz maximum rate
  - Ranges of output voltages are available from -10V to +10V with a output current rating of 5mA maximum
- 32 high current Digital Outputs (DO)
  - Each capable of sinking 100mA maximum
  - User selectable voltage (+5, +15, or +28 VDC) in groups of eight
  - Open collector outputs
- 4 Optical Encoder input ports
  - Each capable of converting encoder inputs (channel A and B) to up and down clocks
  - Decoded on board using the USB device
- 1 serial port (TIA/EIA-232 and TIA/EIA-562 standards)

### Software

- Board Support Package (BSP) providing drivers, sample application code, Libraries, and diagnostics
  - Ethernet I/O PCB
    - ARM Linux 2.6 Kernel
    - Fully Functional Desktop (Requires LCD )
    - Fully Functional TCP/IP Protocol Stack
    - MS Visual C++ and Linux C++ Libraries for implementing custom application



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- Host Interface (Linux & Windows Compatible)
  - Controller S/W Package that accepts input from multiple Boards

### Applications

Allows the user to quickly implement a control panel application for:

- Training Equipment
- Instrumentation
- Motion detection
- Data Acquisition
- Control systems
- Security
- Automation
- Robotics

### Implementation

- Host Interface
  - Connect to host computer running Windows or Linux
  - Up to 250 control panels can be connected on a single Ethernet Subnet
  - Interface cable up to 100 meters
- Pictured below is a simulated Control Panel designed using the 8670 Ethernet I/O board.



### Physical Characteristics

Ethernet I/F:	10/100BaseT
Data Transfer:	10/100Mb/sec
Addressing:	8-bit (127 Max. devices)
Board Access Time:	12 MHz maximum
Power Requirements:	+5.0VDC @ 5.00A +15.0VDC @ 1.00A -15.0VDC @ 0.5A +28.0VDC @ 3.00A External Power Supply must be used.
Temperature Range:	0 to 70 C operating -20 to 85 C storage
Relative Humidity Range:	20% to 80% non-condensing
Cooling:	Convection
Dimensions:	4.50" x 5.50" x 1.2"
MTBF:	87000 Hrs
MTTR:	Less then 15 Minutes

### Ordering Information

- Call: 1-972-991-5322 • Fax: 1-972-991-5352
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