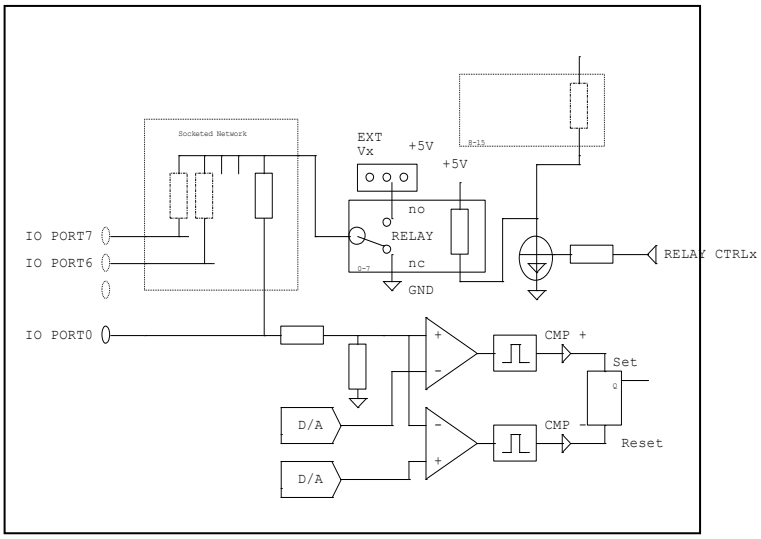
IP Programmable Digital I/O, 32 channels

Features

- Up to 32 I/O pins available by groups of 8 I/O pins
- All I/O can be individually programmed as an input or output via an Altera FPGA
- Direct read-back outputs on any or all outputs
- Open drain VMOSFET can sink up to 1.5A continuously
- Breakdown voltage of 50V
- Wide input voltage range up to +30VDC
- Very low Ron (0.3Ω) for reduced heat dissipation
- Selectable pull-up resistor connected to +5VDC or external voltage source for contact closure sensing
- Selectable pull-down resistor to ground for voltage contact switch sensing
- External voltage reference available
- Resistance selectable hysteresis on each channel
- Variable threshold can be changed by resistance network
- Threshold source can be internal or external selected by jumpers
- Change of state detection can generate IP interrupt
- Integrated Altera logic for custom options
- 8 or 32 MHz clock
- 2 interrupts and 2 slave DMA IP bus lines
- VITA 4 compliant
- 2kbytes of EEPROM are used for board ID and user data storage



Block Diagram and Operational Overview

The **IP-DIO32P** IP board has 32 Altera-based, programmable I/O pins that support voltages of up to +30VDC. The pins can are available in groups of 8 pins. Each output can be read back. Inputs have variable thresholds, and can support contact and switched voltages. All inputs also have resistor network based variable hysterisis. All inputs can have a selectable input voltage reference - +5VDC, ground, and an external reference for other voltage inputs.

A 2kbyte EEPROM is used for the board ID and user data and possible gain error for future software corrections.

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IP-DIO32P

IP Module

Applications:

This is a perfect solution for:

- Control systems

Software Support:

Industry Pack Specifications:

- Meets ANSI/VITA 4-1995
- 8/32 MHz synchronous operation
- Supports ID, 128 byte I/O, interrupt. & 8 Mbyte memory spaces
- 2 Interrupts per module
- Two passive DMA channels are possible.
- Hardware self timed per IP module
- Triggered via system reset and software control
- Jumper or software time-out function
- 5, +/-12 volt reset-able fuse per IP

Mechanical: Environmental:

- Size – VITA 4 compliant
  1.8" x 3.9" or 46 mm x 99 mm
- Power – 1.0 watt
- Vibration – 0.5G, 20-2000 Hz rand
- Shock – 20G, 11 msec, ½ sine
- Weight – tbd
- MTBF – >250,000 hours

Operating Environment:

- Operating temperature
  Commercial: 0 to +70 ºC
  Optional: -25 ºC to +80 ºC
- Non-operating: -40 ºC to +85 ºC
- Airflow requirement – 5 CFM
- Humidity – 5 to 90% (non-cond)
- Altitude – 0 to 10,000 feet

VITA
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Ordering Information:

Part number:	IP-DIO32P	32 bit digital I/O Industry Pack module
	IP-DIO32P-I	same as above at -40º to +85ºC

Optional Accessories

Part number:	CBL-HDR-HRS-50	50 pin cable, 1 meter with HRS connector
	TB-HDR-50	50 pin terminal block

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