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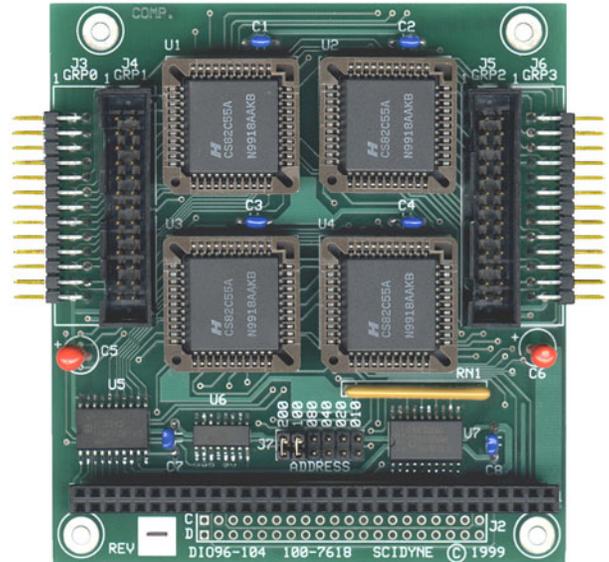
FEATURES

- 96 digital Input/Output channels
- Uses industry standard 82C55A chips
- Supports Input, Output, and Strobed I/O operations
- Low power CMOS design
- Single +5V power requirement

APPLICATIONS

- Automated Test Equipment
- Industrial Automation
- Process Control
- Embedded SCADA Systems

PRODUCT DESCRIPTION

The DIO96-104 is an 8-bit PC/104 peripheral providing 96 TTL/CMOS compatible digital Input/Output channels. The channels are organized as four 24-bit groups. Each group is controlled by a separate 82C55A peripheral interface chip which further segments its 24 channels into three 8-bit ports. This industry standard device offers very flexible configuration including software programmable port directions and strobed handshaking. All channels default to high impedance inputs during system reset. Pull-up and pull-down resistors are absent allowing the user's circuitry to individually dictate how each channel will be handled during reset and input modes. The four groups use a corresponding 26-position I/O header for all external wiring. The headers also include connections to the hosts +5V and GND for powering external circuitry.

The DIO96-104 occupies 16 consecutive locations within the host computers I/O map. The starting address is jumper selectable for any value between 0x000 through 0x3f0. The module conforms to the PC/104 (IEEE-996) standard and operates on a single +5V power supply.

BENEFITS

The DIO96-104 meets the needs of digital I/O intensive applications providing double the number of channels offered by other designs. The 96 channels can be configured to operate as either inputs, outputs, or bi-directional data buses under full software control. Four 82C55A chips ensure simple programming and extremely versatile operations.

Input/Output Header Connections (One Group per Header)			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	PA7	2	PA6
3	PA5	4	PA4
5	PA3	6	PA2
7	PA1	8	PA0
9	PB7	10	PB6
11	PB5	12	PB4
13	PB3	14	PB2
15	PB1	16	PB0
17	PC7	18	PC6
19	PC5	20	PC4
21	PC3	22	PC2
23	PC1	24	PC0
25	+5V Unfused	26	GND

Simplified Block Diagram
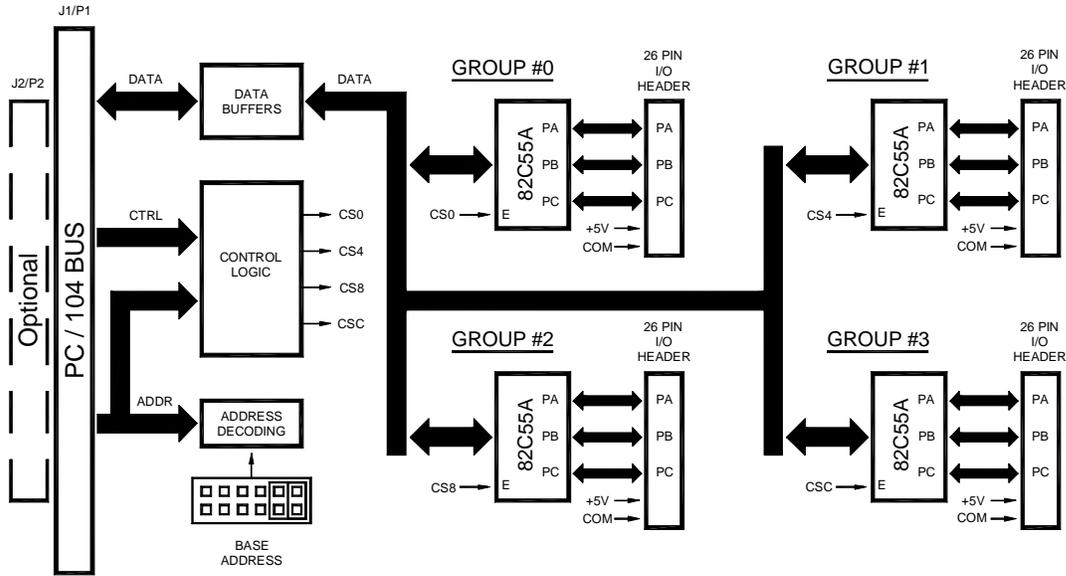
SPECIFICATIONS

Digital I/O:

General: 96 non-isolated digital I/O channels arranged as four 24-bit groups with each group consisting of three 8-bit ports. Each group is controlled by a separate 82C55A peripheral interface chip and supports operating modes 0, 1, and 2. Interrupts are not supported.

Input level:
Low: -0.5Vdc minimum, 0.8Vdc maximum
High: 2.0Vdc minimum, 5.5Vdc maximum

Output level:
Low: 0.0Vdc minimum, 0.4Vdc maximum
High: 3.0Vdc minimum, Vcc - 0.4Vdc maximum
Current: ±2.5mA maximum per channel

I/O connections: Four 26-Position IDC type headers, one I/O group per header

Addressing: 8-bit PC/104 bus. Occupies any consecutive 16-byte block in host's I/O map, jumper selectable between 0x000 through 0x3f0

Power requirement: +5Vdc ±10% @ 7mA typical, external circuitry excluded

Dimensions: PC/104 compliant (IEEE-996), 3.550"W x 3.775"L
8-bit stack-through, 16-bit stack-through compatible with optional J2/P2 connector

Environmental: Operating temperature: 0° to 70°C Standard. Extended temperature version available
Non-condensing relative humidity: 5% to 95%

Ordering information:
100-7618,	DIO96-104, High-Density Digital Input/Output module for PC/104 bus
104-0025,	Optional 20 position J2/P2 stack-through connector
100-7625/26,	IDC-STB / 26, IDC ribbon cable to Screw-Terminal Board, 26-position
100-7632,	XIO-RO8, External eight channel Relay Output Board