



Intronics
Power®

IBM PC/XT/AT™ Compatible Digital Input/Output Board

RTI-817

FEATURES

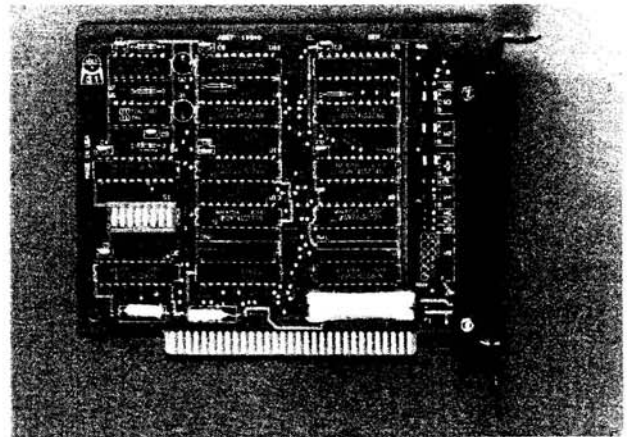
- 24 Channels of Digital Input/Output
- Three 8-Bit Groups Independently Selectable for I/O
- Interrupt Generation on Change of State
- Compatible to 16 and 24 Position Solid-State Relay Subsystems

GENERAL

- Compatible to IBM PC/XT/AT or Equivalent
- Optional Screw Termination Panels

APPLICATIONS

- Parallel Data Transfer to PC
- Digital I/O Control
- AC or DC Monitoring and Control of Voltages
- Relay Control



GENERAL DESCRIPTION

An IBM-compatible member of the RTI™ Interface family, the RTI-817 is a 24-channel (bit) input and output board that plugs into one of the expansion slots in the IBM PC/XT/AT. The board can be used with TTL low-level input/output circuitry or with solid-state relay subsystems (16- or 24-channel versions) to provide 2500V isolation for interfacing with high-level ac and dc signals.

The 24-channel capability of the RTI-817 is divided into three ports (or groups) with 8 bits per group. These eight bit ports can be configured for either a digital input or output function.

There are two unique features associated with the RTI-817: an eight-bit latching capability and an interrupt on change of state. The latching capability is software or hardware selectable. It stores the state of eight digital input lines in a register which can then be read from the PC data bus. Interrupt generation occurs when one of the eight digital input channels changes state in a single port. This feature frees up the PC to do other activities since there is no need to poll the digital input port for an event to occur.

The RTI-817 can be installed in either a long or short slot in the IBM PC/XT/AT. The board maps into the I/O channel address structure as 4 consecutive bytes, addressable in an unoccupied 4-byte boundary using a DIP switch. The board operates from the bus +5V power source.

Typical applications of the RTI-817 include sensing and control of high-level signals, sensing low-level (TTL) switches or signals, driving indicator lights or controlling recorders, and parallel data transfer (via software) to computers or panel meters.

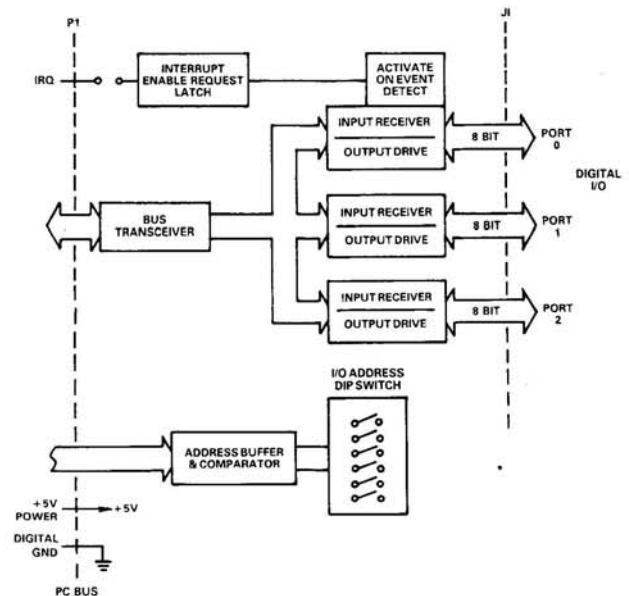


Figure 1. RTI-817 Block Diagram

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SPECIFICATIONS (typically at +25°C and nominal power supply voltage unless otherwise specified)

DIGITAL INPUT AND OUTPUT

NUMBER OF CHANNELS

24, Selectable in 8-Bit Groups or Ports
Inputs or Outputs

I/O CONFIGURATION¹

TTL Compatible

INPUT SPECIFICATION

$V_{IH} = 2.0V$ min
 $V_{IL} = 0.8V$ max
 $I_{IL} = 1.5mA$ max
 $I_{IH} = 20\mu A$ max

OUTPUT SPECIFICATIONS

$V_{OH} = 2.4V$ min
 $V_{OL} = 0.5V$ max
 $I_{OL} = 23mA$
 $I_{OH} = 3.6mA$ max

MAXIMUM APPLIED VOLTAGE

7V dc

ISOLATION VOLTAGE

N/A

SYSTEM CONFIGURATION SPECIFICATIONS

Bus Resource Utilization

Occupies One Short or Long Slot in IBM Expansion Bus.
Use of Interrupt Channel is Optional

Address

Switch Selectable I/O Locations (4 Consecutive Bytes in
512 Byte Block)

Digital Input Monitoring Modes

Interrupt Line Required for Use as System Priority Interrupt

Compatibility

IBM, Compaq, or Other IBM-Compatible Backplane

PHYSICAL/ENVIRONMENTAL SPECIFICATIONS

I/O Connector

50-Pin Male Ribbon Connector

Dimensions

5 7/8 in. (14.4 cm.) × 5 in. (17.2 cm.) × 1 in. (2.54 cm.)

Operating Temperature Range

0°C to +70°C

Storage Temperature Range

-25°C to +85°C

Relative Humidity

Up to 90% (Non-Condensing)

POWER

Power Consumption

+5V dc @ 0.5A max

NOTES

¹Polarity inverted for solid-state relay compatibility (active low) such as OPTO-22 or equivalent.

Specifications are subject to change without notice.