



**Intronics  
Power®**

# IBM PC/XT/AT Compatible Analog Output Board

## RTI-802

### FEATURES

- 4 or 8 Analog Output Channels
- 12-Bit Resolution
- 0 to +10V or  $\pm 10V$  Output Range

### GENERAL

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

### SOFTWARE

- Callable Machine Language Routines for Digital I/O
- High Level Language Support
  - BASIC, PASCAL, C, FORTRAN and TURBO
  - PASCAL running under PC-DOS
- Calibration Routines

### APPLICATIONS

- Precision Voltage Outputs
- Position and Motion Control
- Generate Set-Point Values for Loop Controllers

### GENERAL DESCRIPTION

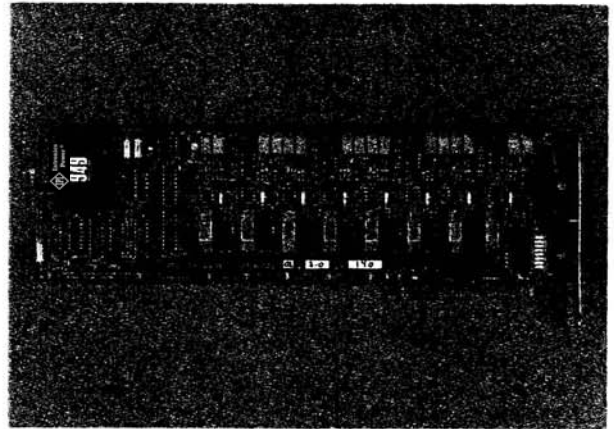
The RTI-802 analog output board, an IBM-compatible member of the RTI® Interface family, comes in two versions: a 4-channel (RTI-802-4 board) and an 8-channel board (RTI-802-8) for high-channel capacity applications. The analog outputs are user selectable for 0 to 10V or  $\pm 10V$  and are protected from shorts to ground. There is one 12-bit D/A converter per channel for maximum update rates.

The RTI-802 maps into the I/O channel structure as 4 consecutive bytes, addressable to any unoccupied 4-byte boundary via a DIP switch. The board contains a dc/dc converter and is powered from a PC's +5V supply. It installs in one of the long slots in the IBM PC/XT/AT.

Typical applications for the RTI-802 include direct control valve positioning or as a stimuli in test applications, utilizing a variable voltage output. The board can also be used for analog control in a process or laboratory application where material transfer rates, fluid flow, power consumption, motor speed, temperature levels, etc., are to be controlled. In a supervisory control applications, the generated analog outputs are used to provide set points to analog loop controllers.

RTI is a registered trademark of Analog Devices, Inc.

\*IBM PC/XT/AT is a trademark of International Business Machines Corp.



### ANALOG OUTPUT

The RTI-802 contains four or eight 12-bit D/A converters which produce a constant analog output voltage proportional to the digital code.

### BUS INTERFACE

The RTI-802 is mapped into the PC bus I/O channel structure as 4 consecutive bytes, DIP switch selectable to any unoccupied 4 byte boundary.

### POWER SUPPLY

The PC bus +5V supply is all that is required to power the RTI-802 board. An on-board dc/dc converter translates the +5V bus supply into a low noise, isolated  $\pm 15V$  power required for the analog circuitry.

### ACCESSORIES

Accessories available include ribbon cables and screw termination panels. These cards can be interfaced to Analog Devices 3B family of signal conditioning products to isolate the analog output.

# SPECIFICATIONS (typical @ 25°C with nominal supply voltage unless otherwise noted)

## ELECTRICAL

Number of Analog Output Channels

RTI-802-4 4

RTI-802-8 8

Analog Voltage Ranges<sup>1</sup>

0 to +10V, ±10V @2mA

D/A Resolution

12 Bits (4096 Counts)

Analog Output Accuracy

±0.02%

D/A Input Codes<sup>1</sup>

Binary, Two's Complement

Differential Nonlinearity

±1LSB max

Output Settling Time (Converter Only)

20µs (to ±1/2LSB, 10V Step)

Temperature Coefficients

Gain

±15ppm/°C of Full-Scale Range

Offset

±25µV/°C

Output Protection

Short-to-Ground, Continuous

## SYSTEM CONFIGURATION

Bus Resource Utilization

Occupies One Long Slot in the IBM Expansion Bus

Address

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

Compatibility

IBM, Compaq, or Other IBM-Compatible Backplanes

## PHYSICAL/ENVIRONMENTAL

I/O Connector

26-Pin Male Ribbon Cable

Dimensions

13.8" (35cm) × 5" (12.72cm) × 1" (2.54cm)

Operating Temperature Range

0 to +70°C

Storage Temperature Range

-25°C to +85°C

Relative Humidity

Up to 90% (Noncondensing)

## POWER

Power Consumption

+5V dc @ 0.5 amp

## NOTES

<sup>1</sup>Jumper selectable.

Specifications subject to change without notice.

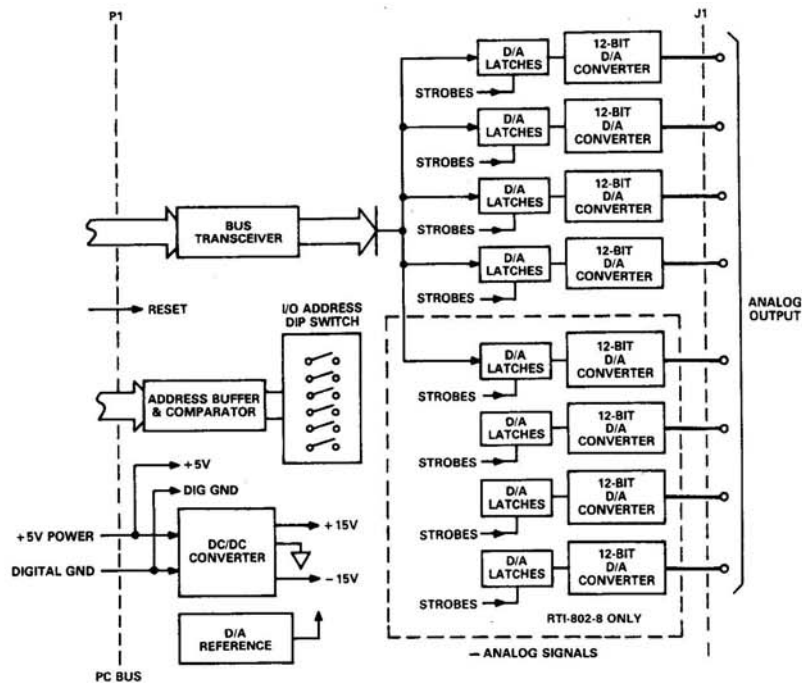


Figure 1. RTI-802 Block Diagram