



**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

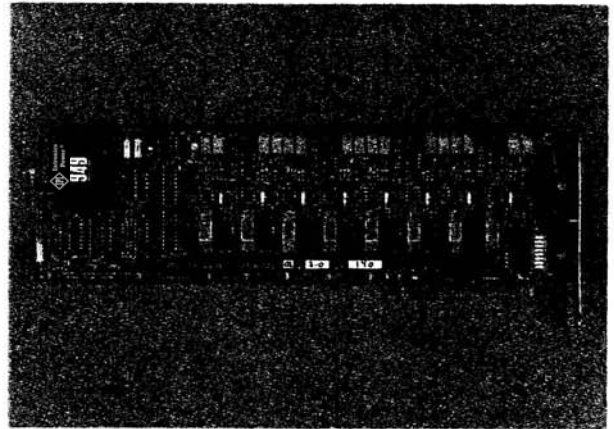
The RTI-802 analog output board, an IBM-compatible member of the RTI® Interface family, comes in two versions: a 4-channel (RTI-802-4 board) and an 8-channel board (RTI-802-8) for high-channel capacity applications. The analog outputs are user selectable for 0 to 10V or $\pm 10V$ and are protected from 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 Ranges¹

0 to +10V, ±10V @2mA

D/A Resolution

12 Bits (4096 Counts)

Analog Output Accuracy

±0.02%

D/A Input Codes¹

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

¹Jumper selectable.

Specifications subject to change without notice.

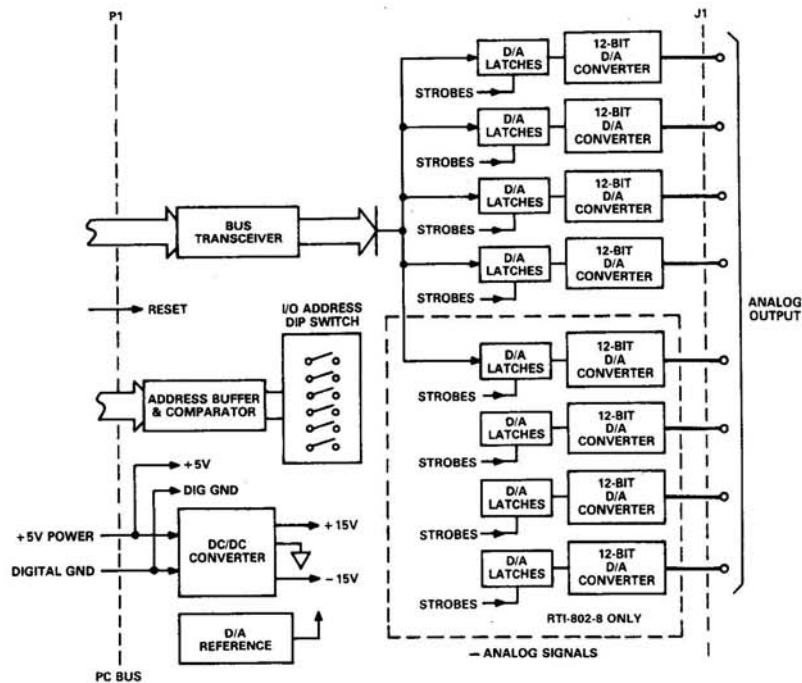


Figure 1. RTI-802 Block Diagram