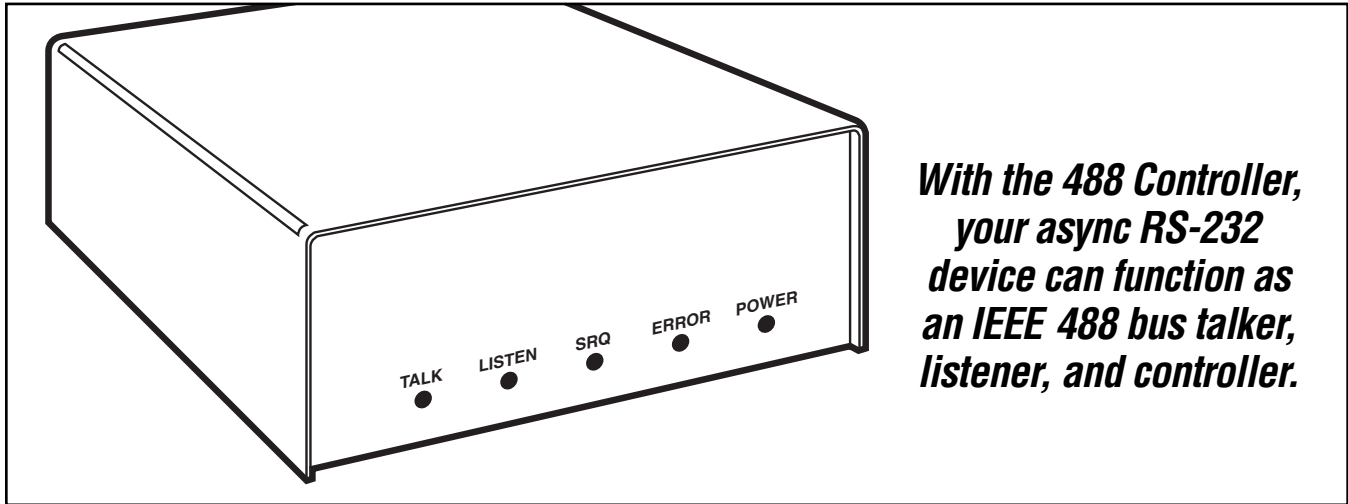




BLACK BOX[®]

NETWORK SERVICES

488 CONTROLLER



With the 488 Controller, your async RS-232 device can function as an IEEE 488 bus talker, listener, and controller.

Key Features

- ▶ **Provides full IEEE 488-1978 bus implementation including advanced capabilities.**
- ▶ **Connects up to 14 IEEE-488 devices to an RS-232 host.**
- ▶ **Interprets high-level commands sent from the computer's serial port.**
- ▶ **Also functions either as a transparent IEEE to serial converter or as a serial-to-IEEE pass-through controller.**
- ▶ **Async serial port can be either RS-232 or RS-422.**

With the 488 Controller, you can control up to 14 IEEE-488-bus instruments from any RS-232 async device. The async serial port handles both RS-232 and RS-422. The 488 Controller converts a host RS-232 or RS-422 computer into an IEEE 488 bus talker, listener, and controller.

Interpreting simple high-level commands sent from the computer's serial port, the 488 Controller performs the necessary, and usually complex, bus control and handshaking. The commands and protocols are similar to those used by the Hewlett-Packard[®] HP-85 computer.

The Controller can function transparently in four ways:

- As a serial-to-IEEE-488 converter, the 488 Controller receives data from a serial host, then automatically performs the bus sequences necessary to send this data to the IEEE 488 device. If

desired, data can be requested from the IEEE 488 device and returned to the host. In this configuration, the 488 Controller allows an RS-232 host computer to control up to 14 IEEE 488 devices.

- As an IEEE-488-to-serial converter, the 488 Controller is a peripheral to an IEEE 488 controller. Data received from the controller is sent to the serial device and data received from the serial device is buffered for transmission to the IEEE 488 Controller. The 488 Controller can inform the host, by the

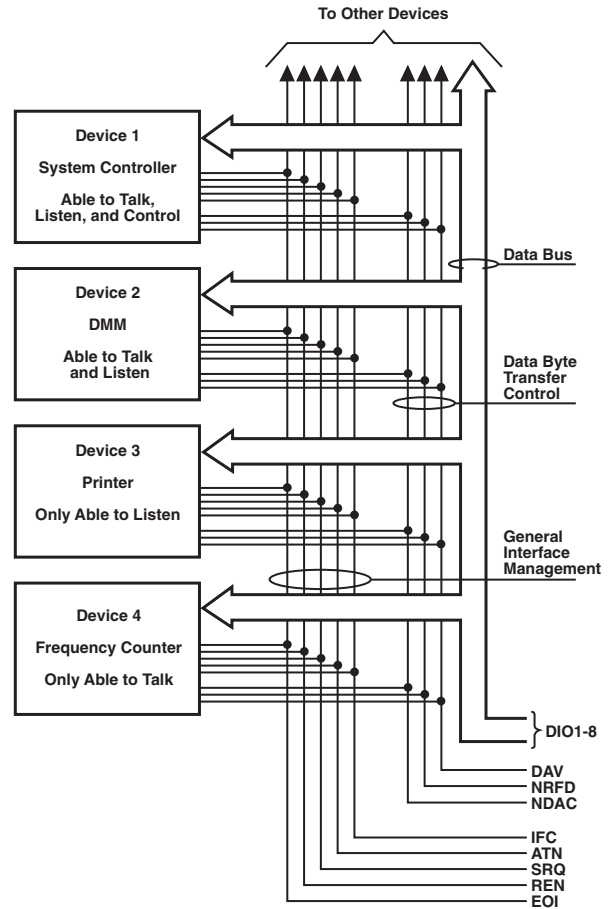
serial poll-status byte, that it has received data from the serial device.

- Configured in Controller Pass-Thru mode to transparently communicate with a single IEEE peripheral, such as a plotter.
- Configured in transparent IEEE Pass-Thru Peripheral mode to allow an IEEE Controller to communicate with an RS-232 device.

Typical Application

Use the 488 Controller as a serial-to-IEEE-488 converter, as an IEEE-488-to-serial converter, to transparently communicate with a single IEEE peripheral, or to allow an IEEE controller to communicate with an RS-232 device.

Control up to 14 IEEE-488-bus devices from any RS-232 async device. The IEEE-488 bus structure is shown in the diagram at right.



Specifications

488 Controller:

IEEE 488-1978 Implementation: C1, C2, C3, C4, and C28 controller subsets; SH1, AH1, T6, TE0, L4, LE0, SR1, RLO, PPO, DC1, DT1, E1

Terminators: Selectable CR, LF, LF-CR, and CR-LF with EOI

Serial Interface:

Character Set: Asynchronous bit serial

Output Voltage:

±5 volts min (RS-232C);
3.5 volts typical (RS-422A)

Input Voltage: ±3 volts min.;
±15 volts max.

Baud Rate: Selectable 110, 300, 600, 1200, 1800, 2400, 3600, 4800, 7200, 9600, 19,200, and 57,600

Data Format: Selectable 7 or 8 data bits; 1 or 2 stop bits; odd, even, mark, space, and no parity on transmit

Duplex: Full with Echo/No Echo

Serial Control: Selectable CTS/RTS or X-ON/X-OFF

Terminators: Selectable CR, LF, LF-CR, and CR-LF

General:

Data Buffer: 32 KB, dynamically allocated

Speed: 110 bps to 57.6 kbps

Interface: IEEE-488; RS-232/RS-422 DCE

Connectors: IEEE-488: (1) female; RS-232/RS-422: (1) DB25 female

Controls: Power switch (external), IEEE and Serial parameters switches (internal), Jumper selection of RS-232 or RS-422 operation (internal)

Certification: FCC, CE

Indicators: (5) LEDs: Talk, Listen, SRQ, Error, and Power

Power: IC027A-R2: 115 VAC, 60 Hz, 7 watts (wallmount); IC027AE-R2: 230 VAC, 50 Hz

Size: 2.7"H x 5.4"W x 7.5"D (6.9 x 13.7 x 19.1 cm)

Weight: 2.5 lb. (1.1 kg); Power supply: 0.9 lb. (0.4 kg)

Technically Speaking

The most common 488 Controller configuration is as the System Controller, controlling several IEEE-bus devices. In this mode, the 488 Controller can perform all of the various IEEE-bus protocols necessary to control and communicate with any IEEE-488-bus devices. As the System Controller in the Active Controller mode, the 488 Controller can use all of the commands available for the Active Controller state, plus control the Interface Clear and Remote Enable lines. The allowed bus commands include: ABORT, LOCAL, REMOTE, LOCAL LOCKOUT, CLEAR TRIGGER, ENTER OUTPUT, PASS CONTROL, SPOOL, PPOLL, PPOLL CONFIG, PPOLL DISABLE, PPOLL UNCONFIG, SEND, RESUME.

Ordering Information

ITEM	CODE
488 Controller.....	IC027A-R2
IEEE-488 Cable	
9643M 6.6-ft. (2-m)	EXN02M
9644M 13.1-ft. (4-m)	EXN04M