OCTAGON SYSTEMS
• 6510 W. 91st Ave • Westminster CO 80031 • USA
• Embedded rugged computers
• –40° to 85° C
• Embedded operating systems
• COTS—high reliability
* PH: 303-430-1500 * FAX 303-412-2050

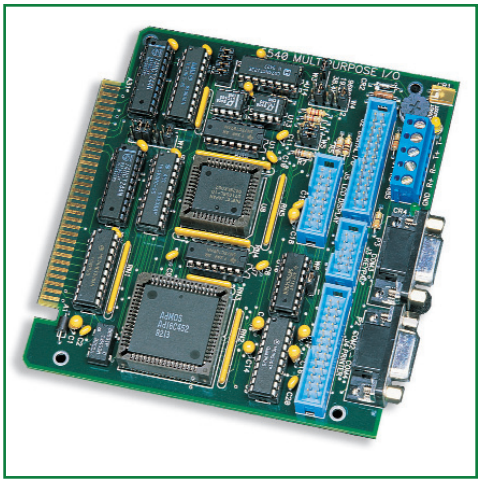
Multifunction expansion card

The 5540 is a low-power Micro PC expansion card that provides two serial ports, an LPT port, and 24 channels of digital I/O. The serial ports both provide RS–232, and one can also be configured for RS–422/485. The LPT port provides standard LPT capability and can be configured as LPT1 or LPT2. Separate connectors allow the LPT capability to be used to directly drive keypads or LCD displays. All digital I/O channels are TTL compatible. These lines will interface with logic devices, switch inputs, LEDs, and industry-standard opto module racks. The lines are grouped into three ports of eight lines each. These ports can be programmed as inputs or outputs on a port-wide basis.

Octagon has a variety of opto modules and termination boards for easy access for field wiring. Use isolator modules when driving or receiving signals from high voltage and/or high current devices. Opto–isolation also eliminates ground loops and significantly reduces the chance that noise will invade the system.

Micro PC cards plug into any ISA expansion slot or Micro PC card cage. The Octagon family of Micro PC controllers, expansion cards, and card cages provide a complete solution for applications in transportation, security, military, communications, distributed control, point-of-sale, ticketing machines, weighing equipment, and other similar applications.

The 5540 will withstand high shock and vibration, and operates in temperature ranges from –40° to +85° C. This rugged expansion card will provide years of reliable service in the most challenging environments.



Octagon products are designed and manufactured under the supervision of an ISO 9001-2000 certified quality management system.

Features

PORTS:

- Two serial ports
- One parallel port
- 24 digital I/O lines
- Keypad port
- LCD display port
- LED to indicate any port access

LPT PORT:

- Jumper-configurable as LPT1 or LPT2
- 26-pin connector; mates with VTC–5 cable for direct connection to parallel equipment

KEYPAD:

- Accepts 16–position matrix keypads
- Shares LPT signals; cannot be used simultaneously with LPT port

Serial ports:

- Jumper-configurable as COM2/3 or COM3/4
- RS–232 on both ports; RS–422/485 available on COM3
- 5-, 6-, 7-, 8-bit word lengths, 1, 1.5 or 2 stop bits, and baud rates up to 38.4K for RS–232
- DB–9 connectors for RS–232
- Separate connector for RS–422/485; changing resistor allows baud rate up to 76.8K
- Jumper-selectable full or half duplex for RS–422/485
- Jumper-selectable termination for RS–422/485
- Intel 8250 compatible

Digital I/O:

- 24 lines of TTL level digital I/O
- Software configurable in groups of eight lines as inputs or outputs
- Sink or source 2.5 mA
- When driving opto modules, output can sink 15 mA at 1.0V
- All lines pulled high with a 10KΩ resistor
- Jumper-selectable base addresses of 100h, 110h, 120h, 130h, 140h, 150h, 160h, or 170h
- 26-pin connector, mates directly with opto module racks or termination blocks

LCD display:

- Drives up to four-line by 40-character LCD displays
- Backlighting capability for displays
- Shares LPT signals; cannot be used simultaneously with LPT port

Environmental & power:

- –40° to 85° C operating
- –50° to 85° C nonoperating
- 5% to 95%, RH, noncondensing
- 40g shock, 5g vibration, 3 axis
- Size 4.5" x 4.9" Micro PC form factor
- 5V ± 5% at 170 mA typical

Ordering information

#3116 5540 multifunction card

Typical Configurations

Several terminal boards are available for a 5540 multifunction card. For applications requiring medium voltage inputs or outputs, the ITB–8/16 or ITB–16/8 level conversion board provides a medium-voltage, high-current interface. Medium-voltage logic, up to 28V, is used to convert these voltage levels to TTL levels used by the 5540. You can connect lamps, small solenoids and relays.

An STB–26 is a terminal board for the digital I/O lines. When heavy-duty loads and inputs (up to 3A and 260V AC or DC) are required, the 5540 digital I/O lines can interface with the MPB series opto module racks. The opto modules have the advantage of providing 4000V of isolation between the high-voltage systems and the 5540.

The digital I/O can also be used to drive higher-performance keypads or LCD displays. The DP– or LCD–IFB boards provide the interface for these devices.

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