

Why Use Multiport Serial Boards?

Multiport serial boards are installed in the slots inside a PC. Slots are available for ISA, PCI, PCI-X, and PC/104 busses, with each board providing one or more serial ports. Today, multiport serial boards are commonly used for controlling external devices for different applications, including industrial automation, building automation, CNC machines, and more. They can also connect to computer servers for the purpose of monitoring and controlling the server from a remote location. The boards were once used mainly to connect many terminals and/or modems to serial ports.

Multiport boards use different types of external connectors, including DB9, DB25, and RJ45, to connect devices (modems, terminals, etc.) to a computer. Each physical device is connected to its own serial port, and since the space on the external part of the board is limited, there is often not enough room to fit all of the serial port connectors on the board. To solve this problem, the connectors are often on the ends of "octopus" cables that connect to the board. Another option is to use an external box (which could be rack mountable) that is connected by a cable to the multiport serial board.

What Benefits Should Multiport Boards Provide?

Flexibility. Most multiport serial board vendors allow users to begin with a small-range system with 8 ports, and then expand up to 128 ports, depending on business growth. In addition, users have different options for control boards (PCI or ISA), connection modules (rackmount or desktop), and COM port interface (RS-232 or RS-422). Any combination of these options can be used in one system.

Speed. Many board vendors develop their own proprietary chip that is integrated with a dedicated processor, enabling the board to transmit-and-receive data at up to 921 Kbps full duplex across all ports simultaneously. This is two to four times faster than the speed available using standard UART technology.

Reliability. Along with providing a fast throughput speed and reduced load on the host system CPU, the multiport serial board vendor should also produce boards that are reliable. By designing boards with a long MTBF (Mean Time Before Failure), users can be assured that the multiport serial board will provide many years of uninterrupted service.

Efficiency. Many multiport serial boards use 128-byte FIFOs, which is larger than the standard 16550 UART. Experience has shown that 128 bytes is enough to keep data from getting backed up at the serial controller level, while still conserving CPU resources.

Moxa's MSB Benefits

- You get true flexibility, with the best choice of bus platform, connector type, COM port interface, and connection module.
- Choose from various bus interfaces: ISA, PC/104, PCI, PCI-X, and PCI Express.
- Highest performance that meets all speed-demanding and data intensive communication applications.
- Choose from a variety of connection cables and boxes for RS-232/422/485.
- Drivers for many different operating systems: DOS, Windows, Linux, UNIX
- 128-byte FIFO and on-chip H/W, S/W flow control