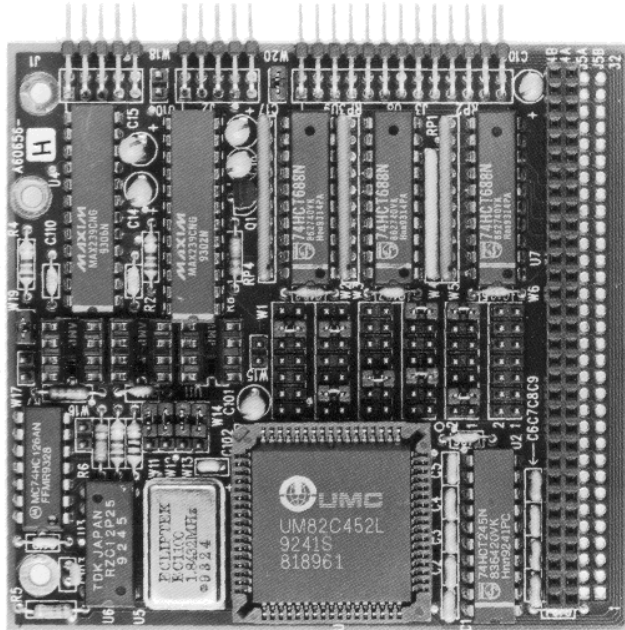


MiniModule™/SSP

Dual-serial and parallel port expansion module



- Two PC-compatible RS232C serial ports
- One PC-compatible bidirectional parallel port
- RS422 or RS485 option on one serial port
- Compact PC/104™ form-factor
- Low power, rugged, and reliable
- Wide operating temperature range

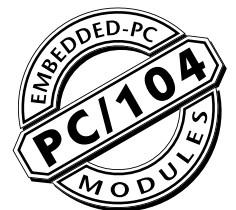
The MiniModule/SSP expansion module provides two serial ports and one parallel port in a compact, low power, PC-compatible unit designed to stack directly with Ampro's Little Board™ and CoreModule™ family products.

Because of its compatibility with standard PC serial and parallel ports, the MiniModule/SSP is supported by virtually all operating systems, drivers, utilities, and applications for serial and parallel port control, data transfer, and communications.

Enhanced Features

In addition to its standard PC-compatible features, the MiniModule/SSP provides several enhancements intended for use in embedded applications:

- **RS485 multi-drop option:** one serial port can also be configured for RS485 differential pair operation. Like RS422, RS485 provides more reliable data transmission than does RS232C. RS485 is used when bidirectional or multi-drop sharing of a single wire pair is desired. Multi-drop operation requires specialized software algorithms to assure that only one node transmits at a time.
- **RS422 option:** one serial port can be configured for RS422 differential pair operation. RS422 is useful in applications requiring long cable lengths (up to 4000 feet), high data rates (up to 57.6K bps), or in electrically noisy environments. Full-duplex operation is supported.
- **Bidirectional parallel port operation:** the parallel port provides bidirectional data lines. This is useful for programmable digital I/O, when the port is not needed for printer connection.
- **Interrupt sharing:** multiple ports, on one or several modules, can share a single bus interrupt signal. This permits interrupt-based operation of more ports than would normally be possible in a standard PC environment.



SPECIFICATIONS

GENERAL

- I/O port addressing: each port independently configurable to any 8-bit boundary
- Interrupt options:
 - Each port independently configurable to IRQ2-IRQ7
 - All ports provide PC/104-style interrupt sharing option

SERIAL PORTS

- Standard PC-compatible COM port (82C50 equivalent)
- Programmable interface characteristics:
 - 5-, 6-, 7-, or 8-bit characters
 - Even, odd, or no parity
 - 1, 1-1/2, or 2 stop bits
- Data rates:
 - RS232C: 50 to 19.2K bps
 - RS422 and RS485: 50 to 57.6K bps

PARALLEL PORT

- Standard PC-compatible parallel printer port
- Bidirectional data lines

ORDERING INFORMATION

When ordering, refer to the following model numbers:

- **MMX-SSP-K-51** Development Kit, MiniModule/SSP, stackthrough bus
- **MMX-SSP-Q-51** MiniModule/SSP, stackthrough bus (Quantity Orders)
- **CBL-SSP-Q-01** Cable set for MiniModule/SSP (2 serial and 1 parallel)
- **ACC-422-Q-01** RS422/485 upgrade kit

The Development Kit includes: MiniModule/SSP with stackthrough bus, cable set, RS422/485 upgrade kit, and technical manual. Quantity orders include only the module.

Please contact your local Ampro representative or Ampro Sales Administration for ordering information.

MECHANICAL AND ENVIRONMENTAL

- **Size:** 3.6 × 3.8 × 0.9* in. (90 × 96 × 23 mm)
* Includes stackthrough pins. See PC/104 Specification for stacking and other dimensions.
- **PC/104:**
 - 8-bit stackthrough bus
 - Two mounting holes
- **Power requirement (typical):** 100 mA at +5V ±5% (±9V for RS232C generated onboard)

- **Operating environment:**
 - 0° to 70° C temperature, standard; extended temperature screening available by special order
 - 5% to 95% relative humidity, non-condensing
- **Storage temperature:** -55° to +85° C
- **Weight:** 3.4 oz. (96 gm)

NOTE: Contact Ampro regarding custom configurations and special order options.