STRATEGIC TECHNOLOGY
SYSTEMS INCORPORATED
A Smiths Industries Aerospace Company

Serial Link Interface Card (SLIC)

Product Description

The Serial Link Interface Card (SLIC) provides a programmable serial interface which can be used with any host computer having the industry standard Personal Computer Memory Card International Association (PCMCIA) Type II Adapter.

The SLIC is designed for applications requiring serial interface capabilities beyond that found with the host computer. Applications include:

- Adding MIL-STD-188 compatible serial ports to a laptop or notebook computer.
- Off-loading of communications protocols from the host.
- Implementing communications protocols not available with the host.

In addition to the PCMCIA interface to the host, the SLIC contains a programmable processor, memory, and two independent serial ports. The SLIC includes on-board bootstrap software which allows user designed software to be downloaded from the host into RAM and executed. Each serial port can be configured individually under software control to provide either synchronous or asynchronous operation.

The SLIC is the ideal way to interface a notebook or laptop computer to standard military communications equipment using the MIL-STD-188 interface. Applications requiring portable or mobile systems can be easily configured using a notebook computer, the SLIC, and any existing communications equipment, such as the STU III Secure Telephone, tactical RF equipment, encryption equipment, or any RS-232 or MIL-STD-188 compatible equipment.

Features

- Two Independent Programmable Serial Communication Ports
- Supports MIL-STD-188-114A or RS-232C
- On-Board Processor and memory
- User Software can be programmed or downloaded
- PCMCIA Type II compatible
- Supports Multiple Cards in a single Host

SLIC Technical Description

The SLIC consists of three major functions, a processor, a serial interface, and a PCMCIA interface.

Processor Subsystem

The SLIC Processor Subsystem contains a 68B09 microprocessor operating at 2MHz.

It includes 4KB of ROM and 56KB of RAM. A portion of the ROM contains a bootstrap loader. The ROM can also be used for custom software at time of manufacture. The RAM is available for user application software downloaded from the host and for data buffering between the host and the serial ports.

The Processor Subsystem incorporates a programmable timer/ parallel port. The timer is available for user software support. The parallel port is used within the SLIC for internal control functions such as SLIC hardware reset and timer interrupts.

Serial Interface Subsystem

The Serial Interface Subsystem contains two (2) serial communications ports configurable under software control for RS-232C or MIL-STD-188C. Each port supports asynchronous, bisynchronous, and synchronous protocols required by X.25. The ports are implemented using a Z8530 Serial Communications Controller. The serial I/O signals are available on the SLIC from the PCMCIA feature connector. An adapter cable, supplied with the SLIC, converts the PCMCIA feature connector to a standard 25-pin male (DB-25P) RS-232 connector for each serial port.

SLIC To Host Interface Subsystem (PCMCIAInterface)

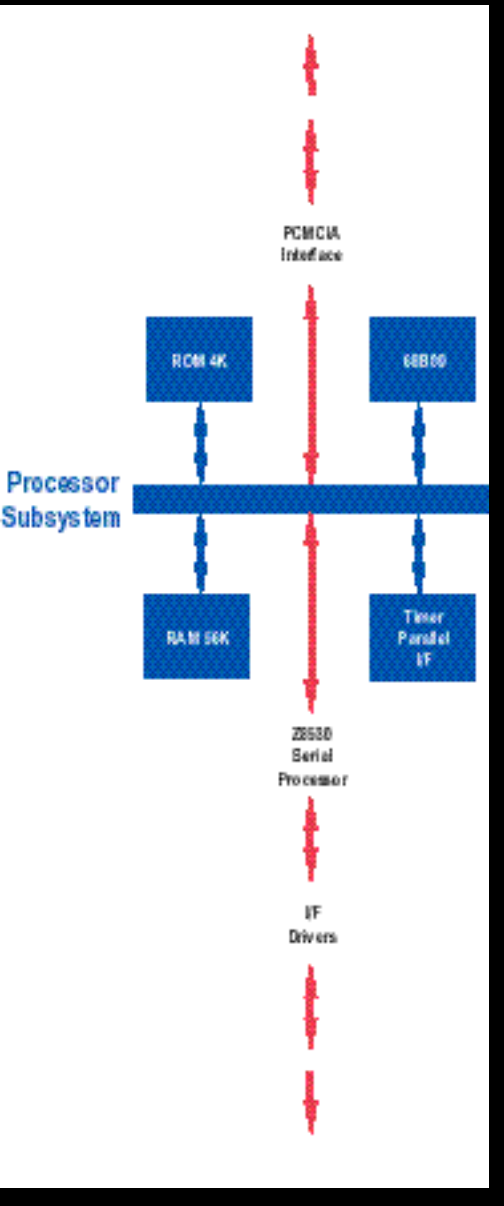
The PCMCIA Interface provides an I/O mapped parallel interface to the host computer. This interface can be mapped into any legal I/O address through the use of the PCMCIA Socket Services.

The SLIC/Host data interface is implemented using First-In-First-Out (FIFO) buffers. This implementation permits either highly efficient block transfers of data between the host and the SLIC or byte-by-byte data transfers.

Two status registers are provided at the interface. One provides status information to the SLIC while the other provides status information to the Host. These status registers provide FIFO handshaking between the SLIC and the Host in block transfer applications as well as the status of the Host and SLIC interrupts.

The Host can interrupt the SLIC by writing to a specific address within the SLIC's PCMCIA interface, which activates the FIRQ interrupt. The SLIC interrupts the Host by writing to a specific address in the PCMCIA interface which generates an IRQ interrupt. The IRQ can be mapped into any Host interrupt using the PCMCIA Socket Services Facility.

SLIC Functional Block Diagram



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