The **SuprDupr**© is a complete computing system with multiple analog and digital interfaces and on-board peripherals. It is intended as a general purpose controller for a wide variety of industrial, educational and scientific applications, including motion control and data acquisition. A single assembly, measuring 3" x 3.5" offers the following functions.

External Connections

Seven connectors are provided for access to the features and functions of the SuprDupr©.

RS-232 A DB-9 connector is provided for direct connection with a PC or other RS-232 source, including additional SuprDupr©s. Up to 16 may be connected in multi-drop fashion.

LCD A 16-pin IDC connector is wired to match standard displays available from a variety of vendors, such as Epson, Sharp and Seiko.

Micro-DIN A standard PS2 keyboard connector allows the use of an off-the-shelf 110 key ASCII keyboard.

External memory bus A 34-pin IDC connector brings out all the control signals required for parallel read/write access of up to 500 kilobytes of external memory. Alternately, all or some of these signals may be used as general purpose I/O lines. They may also be configured to be IDE-bus-compatible for interfacing with a wide selection of mass storage, communication and display products developed for the IDE bus.

General purpose I/O A second 34-pin IDC connector provides access to 32 signals made up of analog and digital I/O, as well as timers, counters and interrupts, plus connections to the on-board +5 volts and ground.

Analog output amplifier A 4-pin Molex connector gives access to the two analog drivers.

Power supply A screw-type terminal block accepts input power.

Memory

There are several types of both volatile and non-volatile random access memory on the SuprDupr©.

Processor There is 48 KB of one-time-programmable (OTP)ROM, and 1 KB of RAM contained within the plug-in SuprChip© module. Some, none or all of this memory may be used by the SuprDupr©, depending on mode selection criteria.

RAM A 32-pin socket accepts up to 256 KB RAM in DIP package form.

EPROM A 32-pin socket accepts up to 256 KB EPROM, parallel EEPROM or flash memory.

Serial EEPROM An 8-pin socket accepts serial EEPROMs with up to 256 KB of on-board programmable non-volatile memory.

Mass storage External memory of any desired form or size may be addressed and controlled through either or both the parallel memory bus or the high speed serial interface. Memory types planned for standard access include IDE disk drives, PCMCIA-bus devices, as well as the memory cards used in digital cameras.

Firmware

Command interpreter An on-board command interpreter provides an easy to use, yet powerful control language that is optimized for motion control and programmable logic functions.

Real-time operating system A true multi-tasking operating system operates in the background to support time-critical functions such as servo control and time stamped data collection and control.

Floating point BASIC A true floating-point BASIC interpreter is being ported to the SuprDupr©. It is a full implementation of a well-known and powerful general purpose programming language.

System monitor and debugger All system I/O, memory and operating registers are accessible through the built-in monitor. Memory and control lines may be interrogated and modified.

Utilities A library of standard BIOS functions is provided on-board the SuprChip©.