



## NEW PRODUCTS

### KEYBOARD

A high quality keyboard switch recently developed is said to have the action and touch of a fine typewriter. Designed particularly for use in alphanumeric keyboards for the control of computers and other electronic equipment, the switch is characterized by high reliability and ease mounting and soldering. The design lends itself readily to flow soldering techniques. The switch is available as either mechanical or reed and with either one or two switching levels. The mechanical switch, KBSM-1, is a wipe-action design which insures minimum contact "bounce," less than 10 milliseconds. The reed unit, KBSR-1, is a single-level dry-reed type keyboard switch, similar in design to the mechanical switch except that contacts are hermetically sealed in glass and actuated by a moving permanent magnet. "Touch" of the reed type switch is identical to the mechanical type and offers the additional reliability and minimum "bounce" inherent in a reed switch. The KBSR-2 is a double level reed type switch similar in design to the KBSR-1 except for the second level. The mechanical switch pressure contacts are made of beryllium; the sliding contact employs stainless steel. The reed switch contacts are noble metal. Raytheon Co., Burlington, Mass.

Circle No. 228 on Inquiry Card

### MAGNETIC DISK PACKS

Magnetic disk packs, after extensive research, development and testing, have been transferred from pilot plant to full production, according to the manufacturer. Each unit is designed, tested and guaranteed to function with IBM 1311, IBM 2311, and compatible equipment. The 10 coated surfaces in the disk pack each have 203 tracks of information. It is capable of storing up to 14.5 million bits with access time in the 75-85 millisecond range. The pack

rotates at either 1500 rpm or 2400 rpm. Maximum weight of the disk pack, complete with cover, is 10 pounds and dimensions are 4 inches in height by 14.6 inches in diameter. Units are shipped in sculptured and ribbed styrofoam containers. Additional protection is provided by a vented hub assembly and Lexam top and bottom covers. Caelus Memories, Inc., San Jose, California.

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### DATA SYSTEMS

Miniature data systems for applications where digital displays and other Binary Coded Decimal (BCD) outputs are required include a 16-channel multiplexer, a sample-and-hold amplifier and a 13-bit BCD, 80-Khz analog-to-digital converter, all mounted on a compact connector block. Named "Minivertor," the new device is pre-wired, assembled, tested, and ready to use, it costs under \$1,900. The data system is one of several new instruments Raytheon is assembling from standard M Series analog and digital IC Modules at its Computer Operation in Santa Ana, California. The data systems can be purchased in various case sizes and with controls, digital power supplies, and displays. The complete M Series Logic System, including cases and accessories, is compatible with the Minivertor system. This allows expansion to an unlimited number of channels and inclusion of other logic and data processing functions. Raytheon Computer, Santa Ana, California.

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### MOS ANALOG SWITCH

An MOS 6-channel analog switch featuring a low ON resistance is well-suited as a basic switching element for airborne or ground instrumentation, telemetry or other analog or digital data transmission applications. Designated the 3701, the

new device includes gate protection to minimize handling problems and by providing a lower  $r_{on}$ , typically 300 ohms, to give higher current carrying capability and reduced signal division with the output load resistor. A sixth channel makes use of all package pins and to make it possible to reduce package count in large multiplex systems. The device is characterized by low input and output leakage current, typically 10 picoamperes and 100 picoamperes respectively, and may be operated over a temperature range of  $-55^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ . Prices: \$40.00 each for quantities up to 25; \$32.00 each for quantities of 25-99; and \$26.80 each for 100-999. The device is available in a 14-lead flat package. Fairchild Semiconductor, Mountain View, Calif.

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### DIGITAL DATA SIMULATOR

A fully programmable 900-bit digital data simulator which provides either parallel or serial outputs at clock rates to 10 Mhz is in production. The heart of the SRC Model 900-SP is a tiny plastic programming pin which makes it possible to program 900 bits on a colorful pin board just 7 inches by 13 inches. The programming pin is actually a linear octal switch. It comes in eight discrete lengths, each an octal increment (0 through 7). To program a binary 1-0-1, for example, a number 5 pin is simply inserted into the appropriate hole in the plugboard. (Octal five is the equivalent of the three binary bits 1-0-1). Not only have three binary bits been quickly and easily programmed, but a readable program is presented at the front panel since the heads of the pins are permanently embossed with the octal value. A front panel switch provides either serial or parallel operation. In the parallel mode, 9 bits per clock pulse are available at nine convenient front panel BNC connectors. In the serial mode, one bit of output data per clock pulse appears at the serial BNC connector. Ten front panel thumbwheel switches make it simple to vary word length, words per cycle, provide a floating synch pulse, and insert a 9 bit word of overriding data. Magnitude of the output data can be adjusted from one