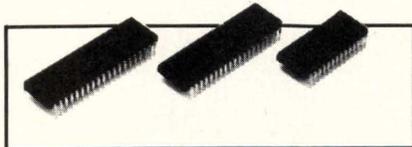


Keyboard encoder family simplifies hardware/software requirements



The KR9600 is an improved, single 5-V power supply version of the industry standard KR3600. The 9601 adds caps-lock and auto-repeat, while the 9602 is designed for detached keyboards and provides serial data output. The encoders automatically scan, debounce, and encode up to 90 single pull, single throw switches. They provide selectable n-key or two-key rollover. The 9600 and 9601 provide a parallel, TTL-compatible data output of up to 10 bits, as well as four operation modes in a 40-pin package. The 9602 comes in a 28-pin package. **Standard Microsystems Corp.**, 35 Marcus Blvd, Hauppauge, NY 11788. **Circle 309**

Fast FIFO saves power without losing speed

TTL compatible, 67L401 has a fall-through time of 4 μ s, yet consumes no more than 110 mA. The 5-MHz FIFO accommodates differing data rates, easing communications between computers and peripherals. The memory is organized as 64 words x 4 bits and can be cascaded to expand word and bit dimensions. Designed for asynchronous operation, it features structured pinouts, with outputs directly opposite inputs. The 16-pin chip, in 100s, is priced between \$15.50 and \$16.76 each. **Monolithic Memories, Inc.**, 2175 Mission College Blvd, Santa Clara, CA 95050. **Circle 310**

Semicustom gate array operates at high speed and low power

Combining current mode logic with ECL 10K/10KH I/O cells, the HE2000 array is suited for mini, supermini, peripheral, and test instrument applications. It offers the functional equivalent of 2000 logic gates on a chip and has typically demonstrated internal gate delays of 300 ps while consuming 3.1 W. The HE2000 consists of 539 cells: 399 CML internal cells, 96 ECL to CML receivers, and 64 CML to ECL drivers. Nonrecurring engineering costs

are approximately \$40,000, including 10 working prototypes. **Honeywell Digital Products Center**, 1150 E Cheyenne Mountain Blvd, Colorado Springs, CO 80906. **Circle 311**

Nonvolatile memory family expands with 5-V RAM

The NCR 52002 NVRAM is a byte-wide device that operates from a single 5-V power supply. The 2-Kbit chip consists of a 256 x 8 RAM array with duplicate EEPROM array for backup. Typical access time is less than 300 ns. Maximum access times for commercial and military use are 300 and 450 ns, respectively. Number of possible store cycles is guaranteed to be at least 10^4 with one-year data retention. Each store cycle takes only 10 ms. Price is \$18.70 each in quantities of 100. **NCR Corp, Microelectronics Div.**, 8181 Byers Rd, Miamisburg, OH 45342. **Circle 312**

Small PROMs figure in random logic replacement

The 82S130A/131A are configured as 512 words of 4 bits and are function and pin compatible with industry standard 2-Kbyte PROMs. The 126A/129A are 256 words of 4 bits and carry 2 chip-enable inputs. The 23A and 123A have 32 words of 8 bits and carry 1 active-low chip-enable input. All parts have a 50-percent increased performance over their predecessors. Packaging options include plastic and ceramic DIPs. Prices range from \$1.25 to \$6.95 in quantities of 100. **Signetics Corp.**, 811 E Arques Ave, PO Box 409, Sunnyvale, CA 94086. **Circle 313**

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Circuit modem meets Bell 212A and CCITT specs

A 28-pin CMOS device forms the heart of a full-duplex, 1200-bit/s modem. The MP7223 requires a crystal-controlled clock, filters, and a line interface to emulate various modems. It uses phase shift keying modulation and digital demodulation. The chip is divided into three sections: demodulator, modulator, and timing control circuitry. A synchronized digital phase-locked loop maintains the basic timing and initiates all phase shift detection operations. Prices range from \$15 to \$27, depending on quantity. **Micro Power Systems, Inc.**, 3100 Alfred St, Santa Clara, CA 95050. **Circle 314**

Dynamic RAMs feature 100-ns and 250-ns access times

Organized in 65,536 single-bit words, the F4164 family of 64-Kbit devices operates on a single 5-V source. The chips have low capacitance, TTL-compatible inputs that employ overshoot and antistatic protection to ensure data and address input integrity. With an unlatched output at cycle end, the unit allows for page boundary extension and 2-D chip selection. Operation modes include random write or read, read/write, read/modify/write, and page cycles. In 100s, the prices range from \$11 to \$13. **Fairchild Camera and Instrument Corp, Microprocessor Div.**, 450 National Ave, Mountain View, CA 94024. **Circle 315**

Logic circuits combine transceivers with latches

Two circuits—the ZX74HCT/LS646 for transmitting noninverted data and the 648 for inverted data—ease high speed multiplexed data transmission. Maximum propagation delay is 25 ns and 80 mA is the quiescent supply current. Both are fully TTL equivalent, providing a 12-mA drive current at 0.4 V and 24 mA at 0.5 V. Each chip features two D-type flipflop latches and offers six control inputs: output enable, direction, two clocks, and two data-source selections. Devices are priced at \$4.25 in 100-unit lots. **Zytrex Corp.**, 750 E Arques Ave, Sunnyvale, CA 94086. **Circle 316**