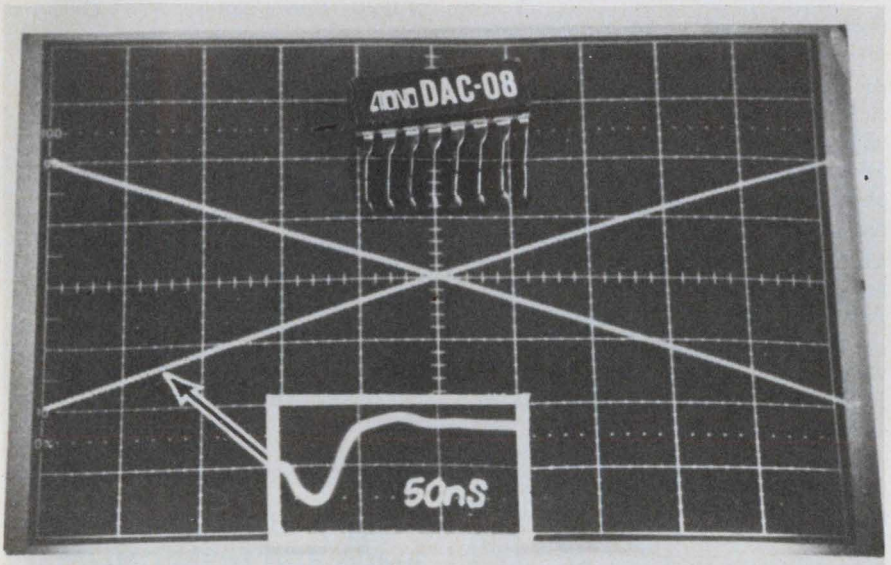
new products

8-bit IC DAC settles fast and has adjustable threshold



Precision Monolithics, 1500 Space Park Dr., Santa Clara, CA 95050. (408) 246-9225. P&A: See text.

Four monolithic, 8-bit, digital-to-analog converters not only settle to within 0.19% accuracy in 125 ns but have programmable threshold levels. The monoDAC-08 units made by Precision Monolithics, have a control pin that permits programming of the threshold voltage over a −10 to +13 V range.

These units can also handle any logic family that has logic swings within a −10 to 18 V range. Thus the converters are compatible with TTL, DTL, MOS, CMOS, HNIL and ECL and have full noise immunity. An input current of only 30 μA maximum (3 μA typical) allows interfacing to logic families that have low current capabilities.

The converters have two output pins, for the normal and complementary output signals, respectively. Thus either normal or inverted logic systems can be used. Both outputs have a high compliance that permits the output to float −10 to +18 V from ground with no effect on circuit linearity. Thus, the DAC-08 can drive a load resistor to produce an output voltage without the usually needed op amp.

There are four versions of the DAC-08 available, each with different linearity specs. But all have guaranteed 8-bit monotonicity. The prime commercial version, the DAC-08EZ, operates over the 0-to-70-C range, settles in 85 ns typical (125 ns max) and has a 0.19% maximum linearity error (±0.5 LSB over 0 to 70 C).

The propagation delay for any bit, or for all bits changing at once, is 30 ns typical and 45 ns max. This delay time doesn't vary with either temperature or input current changes. The DAC-08EZ also has a low glitch—only 4 LSB at the major carry point.

Power requirements for any of the converters are flexible—both the V^+ and V^- supplies can range from 4.5 to 18 V—and the power consumption is low. Typical current drain for a 2-mA output is only 2.5 mA from the V^+ supply and 6.5 mA from the V^-—provided they are set at +5 and −15 V, respectively. The total power consumption is only 110 mW and remains almost constant for any logic level input combination.

When purchased in 100-unit quantities, the DAC-08EZ costs $7.95 and is housed in a 16-pin, hermetic, ceramic DIP. The 08CZ has 7-bit linearity and costs $6.50. An 8-bit MIL version, the 08Z costs $12.95 while another MIL unit, the 08AZ, has 9-bit linearity and costs $20. All units have 8-bit monotonicity and are available from stock.

CIRCLE NO. 307

99-key encoder clocks itself

Electronic Arrays Inc., 550 E. Middlefield Rd., Mountain View, CA 94043. (415) 964-4321. EA2000: $15 (100); 6-8 wks.

A full four-mode 99-key encoder —the EA2000—generates its own clock signal on the chip. It is completely programmable, generating a 10-bit output word for each of the 99 keys and four modes. On-chip circuitry also provides N-key rollover and key-bounce protection. The EA2000 interfaces with keyboards without requiring diode isolation for each key. The device is fully TTL-compatible without external components, and requires only +5 and −12 V power supplies. The EA2000 comes in a 40-pin ceramic or silicone-molded DIP. A pre-programmed version, the EA2007, provides encoding for standard ASCII and EBCDIC keyboards.

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