

# 15th Annual Product of the Year Awards

**F**rom the thousands of products introduced in 1990, *Electronic Products* has chosen the most outstanding. The selections are based on significant advances in technology or its application, a decided innovation in design, or a substantial gain in price-performance.

As usual, picking winners was made difficult by the many impressive products announced during the year. Here, then, are the 1990 award winners.

**Model TM26D02VC2AA TFT Color LCD**

Hitachi America, Electron Tube Division  
Schaumburg, IL

**Model PM3580 Logic Analyzer**

Philips Test & Measurement Group  
John Fluke Mfg. Co., Inc.; Everett, WA

**PC 232 Intelligent Connector**

Anico Research Co.; New Milford, CT

**MT43C4257 Three-Port RAM**

Micron Technology, Inc.; Boise, ID

**PR6C Power Receiver**

Varian Associates; Palo Alto, CA

**AL1210 Track and Hold Amplifier**

Acculin, Inc.; Natick, MA

**MD-2100 2-1/2 in. Disk Drive**

Areal Technology, Inc.; San Jose, CA

**DP 100 Multimeter**

Analogic Corp.; Peabody, MA

**HP 48SX Calculator**

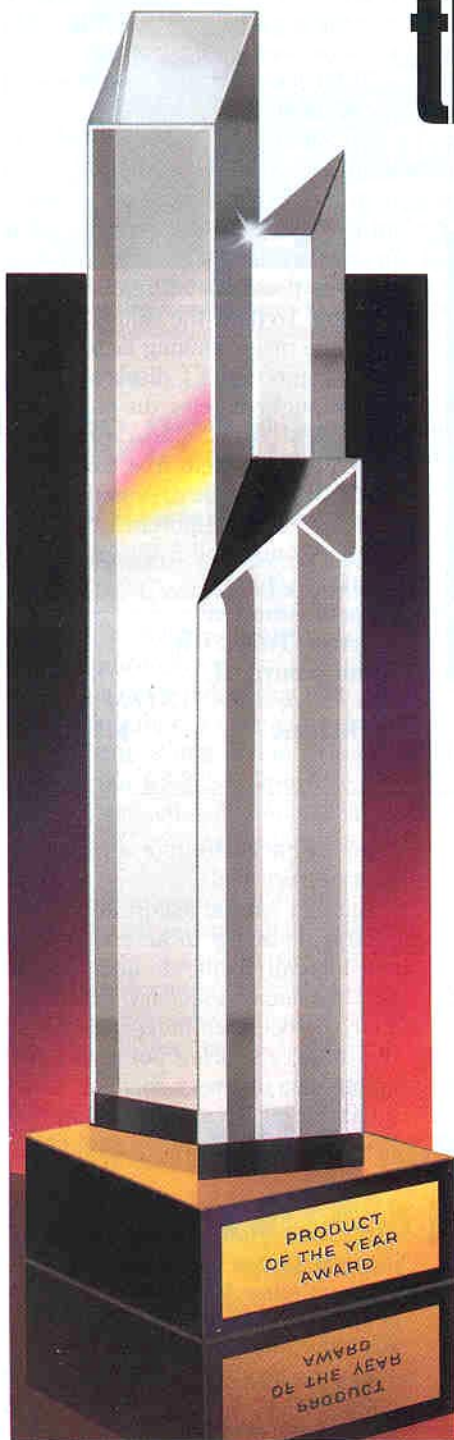
Hewlett-Packard Co.; Corvallis, OR

**ADV7141 RAMDAC**

Analog Devices, Inc.  
Norwood, MA

**EL470 RAMDAC**

Edsun Laboratories, Inc.  
Waltham, MA



## Product of the Year



The Philips PM 3580 logic analyzer from Fluke speeds logic analysis by reducing state and timing measurements to one probe connection.

ysis, and up to 2 Kbytes of memory per channel. Pop-up menus, VGA graphics, boundary-scan test (IEEE 1149.1) implementation for servicing the analyzer, a parallel printer port for hard-copy output, and an RS-232-C port round out PM 3580's outstanding features. (PM 3580/30, 32 channels of 50-MHz state, 32 channels of 100-MHz timing, and 1 Kbyte of memory, \$4,250; PM 3585/90, 96 channels of 50-MHz state, 96 channels of 200-MHz timing, 2 Kbytes of memory, \$10,950.)

**John Fluke Mfg. Co., Inc.**  
Everett, WA

*Product Information*  
800-443-5853, ext. 77  
EEM FILE 2900

► CIRCLE 702

## An RS-232-C interface inside a connector

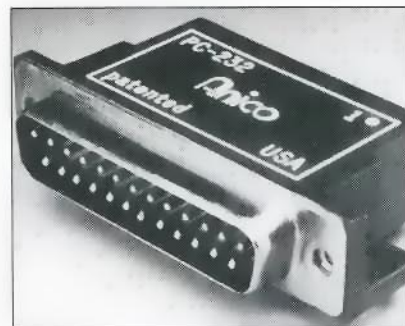
*D-subminiature connector contains all the circuitry needed for RS-232-C communications*

**A**D-subminiature connector does not normally conjure up images of product innovation. But the PC-232 intelligent connector from Anico changes that notion by incorporating an RS-232-C interface circuit that's functionally equivalent to an RS-232-C communications board for a PC.

The extensive use of hybrid and chip-on-board technologies enabled the company to squeeze the RS-232-C communications subsystem into the connector, which measures 2 x 1.2 x 0.5 in. Any computer, instru-

ment, or peripheral requiring an RS-232-C interface but short on space can use the PC-232 connector. Only an address decoder has to be added to the interface circuit for operation.

Able to operate with any 8-, 16-, or 32-bit microprocessor, the connector accepts programmed instructions from the microprocessor and converts parallel data to serial data for transmission. It also converts coded data to microprocessor-readable code. Circuitry inside the connector includes a UART, line drivers and receivers, and a dc/dc converter.



No larger than a D-subminiature connector, the PC-232 intelligent connector contains all the circuitry needed to interface microprocessors.

The 24-pin connector requires +5 V for operation. (\$23 ea/1,000.)

**Anico Research, Inc.**  
New Milford, CT

*Andrew Thompson* 203-350-9559  
EEM FILE 2100

► CIRCLE 703

## Video DRAM has one random and two serial access ports

*Second serial port extends VRAM functionality*

**A**triple-port DRAM introduced by Micron Technology extends the functionality of the dual-port video RAM in a way that promises to be widely useful, and

that we expect will become an industry standard. In addition to the 256-K x 256-bit port of a normal dynamic RAM, the part has two identical 512 x 4-bit serial access ports. Each of

these works like the normal serial access port on a VRAM, with bidirectional transfers between a serial register and any row of the DRAM array taking a normal DRAM access cycle—160 ns for the 80-ns part.

The serial ports can step data in or out of the register at 25 ns for each nibble. The control signals for the serial ports are like those in a normal VRAM, with one additional pin