

B&K-PRECISION's new digital probe offers more than logic



Model DP-50

- Reveals pulse presence to 50MHz
- Priced at only \$50
- Multi-family, compatible with TTL, DTL, RTL, CMOS, MOS, and HINIL
- Clearly displays in-circuit logic activity
- Memory mode to "freeze" pulse display
- Pulse mode to "stretch" short pulses
- 2 megohm input impedance
- Typically detects pulses to 10 nanoseconds
- Overload and reverse polarity protected

The new B&K-PRECISION DP-50 50MHz digital probe simplifies the troubleshooting and analysis of all digital circuits by clearly displaying in-circuit logic activity and pulse presence.

This compact instrument includes every important logic probe feature and more. Three bright LED indicators display pulse presence and high- and low-logic states. Unlike ordinary logic probes, the DP-50 digital probe will continue to indicate *pulse presence* to 50MHz.

Available for immediate delivery at your local distributor.

BK PRECISION
DYNASCAN
CORPORATION

6460 West Cortland Street
Chicago, Illinois 60635 • 312/889-9087
In Canada: Atlas Electronics, Ontario

CIRCLE 58 ON FREE INFORMATION CARD

Radio Shack Model TRS-80 Computer



CIRCLE 110 ON FREE INFORMATION CARD

SPECIFICATIONS

Z-80 based CPU; 4K bytes RAM; BASIC in 4K ROM; integrated 53-key ASCII keyboard; 500 baud cassette interface; 12-inch monitor displays 16 lines × 64 characters (32 characters selectable); interspersed graphics (128 horizontal by 48 vertical); 21 general commands with 14 functions, plus special commands including array and strings. Price: \$599.95.

THE TANDY CORPORATION (1400 ONE TANDY Center, Fort Worth, TX 76102) appears to have become a serious competitor in the field of small computer systems. The Radio Shack *model TRS-80* (based on the popular Z-80 microprocessor) is rapidly becoming a standard item in homes and offices. Educators are also finding it both affordable and practical for instructing students in basic computer programming.

The *model TRS-80* is available either with Level 1 BASIC with 4K RAM (\$599.95), or with Level 2 BASIC and 16K RAM (\$789). Included are such accessories as a 12-inch video monitor, cassette recorder and an easy-to-follow user's manual. A game tape (*Blackjack* and *Backgammon*) is also included.

The operator's manual itself is impressive—the style is witty, comprehensive, informative, and an excellent introduction to the world of computer programming.

Although the complete three-piece *model TRS-80* package is recommended as a system, the keyboard terminal alone is available for \$400. Its video output can be fed to any video monitor (even a simply converted TV set), and data can be transferred into a good-quality portable cassette recorder. The video display provides 16 lines of 64 characters each.

The modular construction of the *model TRS-80* system allows for future expansion as peripheral equipment becomes available. The keyboard terminal circuit board is designed to accommodate 16K RAM and Level 2 BASIC to handle more involved computer requirements, such as advanced string manipulation and peripheral control.

In the home, the Level 1 BASIC system would be ideal for recipes, bookkeeping, filing and even games (many already available from other sources). For educators, the system's applications could include keeping records of grades, familiarizing students with how a computer operates and for visual instruction.

Small business applications for the *model*

TRS-80 include record- and inventory-keeping.

With Level 2 BASIC, data exchange with the cassette is faster, and the system provides for more flexible software for alphanumeric data handling and improved graphics. Level 2 BASIC is required for such peripheral equipment as a printer or floppy-disc recorder.

Using the TRS-80

As uncrated from the box, the *model TRS-80* Level 1 system is ready-to-go in minutes. The three units (keyboard, video monitor and cassette player) are interconnected with cables (provided), and initial starting and testing instructions are simple to follow.

By following the instructions, it soon became apparent that the sample system was in excellent working order. The keyboard is especially responsive and comfortable.

The 16-line, 64-character-per-line video display is bright and sharply defined. The 12-inch video monitor makes the characters quite readable even at a considerable distance, an advantage for classroom instruction.

After an extended period of familiarization, we developed an involved program to test the computer: It performed flawlessly. Occasionally, in the interval between commanding the computer to transfer data to the cassette and commanding the cassette to return the data to memory, a small glitch developed—the information did not always return. This usually caused no particular problem, however, since a blinking video signal constantly alerts you as to the status of the data transfer. If the blinking stops, this means a bit error has occurred and the transfer must be repeated.

If the error occurs during a data transfer from the terminal to the tape, you will not realize it until you attempt to reload the cassette data back into memory; this process will also erase the program presently in the memory. Thus, it is advisable to record the data on two or three tapes first before reloading the computer memory to check the tape. This routine precautionary step will prevent much anguish later if for any reason (including power-line spikes, incorrect cassette volume-control playback settings, loose connections, or operator error) the data did not transfer.

All things considered, the Level 1 *model TRS-80* appears to be an excellent computer system; and, as system needs grow, the *model TRS-80* can grow with them. R-E

Electra Bearcat model 250 Programmable Scanner



CIRCLE 111 ON FREE INFORMATION CARD

THE *MODEL BC-250 BEARCAT* IS THE LATEST addition to the programmable, frequency-continued on page 36