



Hewlett-Packard's new CRT terminal: the intelligent next step.

Although we've been manufacturing computers and peripherals for about 10 years, we are just now introducing our first HP-manufactured cathode ray tube (CRT) terminal.

It's fair to ask why.

Our designers felt that recent technological advances—specifically in microprocessors and semiconductor random access memories (RAMs)—had great potential for terminal applications. At the same time, our computer business has generated a customer demand for time-share terminals. We have manufacturing experience in CRT displays, keyboards, and power supplies, coupled with high-volume production experience.

Drawing on these resources, we knew we could make a better terminal at a competitive price.

Our first entry, the HP 2640A, offers special conveniences and capabilities that are useful for time-share applications as well as more sophisticated data entry environments.

It has an *intelligent memory* with 4K RAMs that automatically eliminates blank spaces at the end of the line. Consequently it can store as many as 50 short lines with a standard 1K-byte memory and more than three full pages with the expanded 8K-byte memory. Lines are viewed 24 at a time on a 5- by 10-inch screen.

It has a *high resolution display*, easier to read than any CRT terminal we've ever seen. Each character is well resolved on a 7- by 9-dot matrix; each is well formed, thanks to the 2640's dot-

shifting capability (it makes a curve look like a curve); and each is centered on a 9 by 15 cell that allows distinct separation between characters and lines. It can handle four plug-in 128-character sets *concurrently*, including a line drawing set and a math set with sub- and superscripts and Greek letters.

$$z(t) = \epsilon(t) \int_0^1 \int_0^1 y^2 \ln 2 \pi \theta \delta \theta \delta y$$

shifting capability (it makes a curve look like a curve); and each is centered on a 9 by 15 cell that allows distinct separation between characters and lines. Inverse video, underlining, blinking, and half-bright displays are possible in all sets, and sets may be mixed in adjacent characters.

It has *comprehensive editing capability*. The 2640 can operate character-by-character in completely interactive mode; or touch a switch, and it can transmit a block at a time. In block mode, you can prepare and edit text off-line before transmission to the computer, thus significantly reducing computer time. And you save a lot of your own time through such standard editing features as character and line insert or delete; cursor addressability and positioning control; scrolling; programmable protected fields; and eight special function keys for user-defined routines.

It has *pop-in modularity and expandability*. Push the TEST key, for example, and the 2640 checks its own RAMs, firmware, and display, then signals NO GO if service is required. Pop-in modularity makes it easy to replace logic boards when needed, without tools. The terminal's computer-like structure has 14 powered slots to accommodate a wide choice of pop-in options, memory additions, peripheral interfaces...and the capacity to handle new developments as they come along. The 2640A price is \$3,000*.

The cardiorespirograph: a new way to keep the newborn healthy.

Ask almost any American to name the nation's greatest health problem and he's likely to say cancer or heart disease. Another answer is more surprising: Estimates are that each year in the U.S. alone some 50,000 newborn suffer permanent brain damage and another 50,000 die immediately after birth. Although most are high-risk neonates—either premature or low-weight infants—a large number are apparently healthy and normal...until disaster strikes.

Most neonatologists contend that many of these tragedies can be prevented by specially-trained perinatal medical teams using intensive care techniques. The point has already been conclusively demonstrated in the growing number of hospitals that operate well-staffed intensive care nurseries.

For distressed neonates, the greatest need is to monitor their respiration and heart rate continuously because a dramatic change in either requires an immediate response by the medical team. It's also important that the physician know the correlation between heart rate and respiration: an accurate diagnosis of the child's specific condition may well depend on it.

Now, HP introduces the cardiorespirograph, a new instrument for monitoring the newborn. Based on patient monitoring techniques evolved at HP during the last decade, the cardiorespirograph fills three important needs in caring for distressed infants.

First, it continuously monitors heart rate and respiration, displays each digitally, and sounds an alarm when either falls outside the limits set by the medical team. Using adhesive electrodes that are easily and quickly applied to the neonate, the instrument measures beat-to-beat heart rate and thus makes available valuable variability information that is not seen in averaged heart rate values. Respiratory status is further monitored by a respiration waveform. This, measured through impedance changes, portrays the new-

born's pulmonary status in more detail than a mere rate index.

Second, it continuously records these two vital parameters, thus giving the physician an objective documentation of the effectiveness of therapy and of the infant's progress throughout a period of crisis. Finally, it provides a detailed record of the correlation between heart rate and respiration, a valuable diagnostic aid. The cardiorespirogram is sufficiently sensitive to help detect and differentiate between various life-threatening abnormalities such as asphyxiation, inflammatory cerebral diseases, cardiopulmonary disorders and respiratory distress syndrome.

The Model 78250A Cardiorespirograph is priced at \$4765* and is completely compatible with HP's extensive line of modular patient monitors. In the hands of a skilled perinatal medical team, the cardiorespirograph not only helps prevent disaster in the nursery but also helps reduce the frequency of permanent damage to distressed neonates.



For more information on these products write to us. Hewlett-Packard, 1504 Page Mill Road, Palo Alto, California 94304.

*Domestic USA prices only.

00540

Mail to: Hewlett-Packard, 1504 Page Mill Road, Palo Alto, CA 94304
Please send me information on:

- HP 2640A CRT Terminal
 HP 78250A Cardiorespirograph

Name _____ Title _____

Company _____

Address _____

City _____ State _____ Zip _____

HEWLETT  **PACKARD**

Sales and service from 172 offices in 65 countries.
Palo Alto, California 94304