

The TT2500 is a dynamic graphics terminal system

It is a Terminal

because it can be connected to any computer; it includes a keyboard and a CRT text display.

It is a Graphics Terminal

because it also includes a display scope on which your computer can draw.

It is Dynamic

because the pictures on its display scope can be moved, changed and replaced with amazing smoothness and rapidity.

It is a System

because each of these components is a module controlled by a computer at the heart of the TT 2500.

It is a System

because new modules can be added and old ones removed or duplicated.

Technical data

Graphic Display

Display area	5½" x 5½"
Resolution	512 x 512
Write speed	1,900,000 points/sec.

Text Display

Lines	30
Character/line	72
Character set	256 programmable
Character resolution	8 x 16 dot matrix (characters contiguous)

Control Computer

Word length	16 bits
Cycle time	264 nano seconds
Control memory	1K expandable to 4K
Main memory	4K expandable to 64K
Registers	8 working 32 scratchpad 16 deep push-down stack

Interface

Data transfer	VSASCII/RS 232
Data rate	15 rates 110 to 9,600 BAUD.

Power

Voltage	115/230V ± 10%
	47 to 440 HZ
Power	250 watts max.

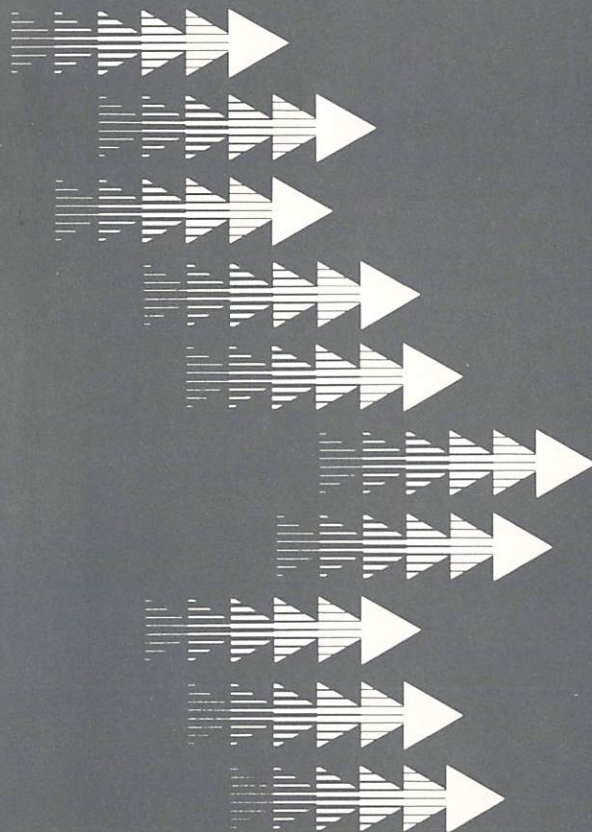
Prices

from \$5,950.00

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TT2500

a graphics
terminal system



Notes on design decisions for the TT2500

The dynamic graphics

Our fundamental decision was to build a machine for dynamic graphics. We are sure that graphics is the trend of the future as part of the movement towards personal computation. The time will come when a computer without graphics will seem as impersonal as an IBM card. In the meantime, we are acutely aware of a present need for graphics in many areas of computer usage. *Education* is the most immediate in our view. But so many areas spring to mind that there is no point in listing them.

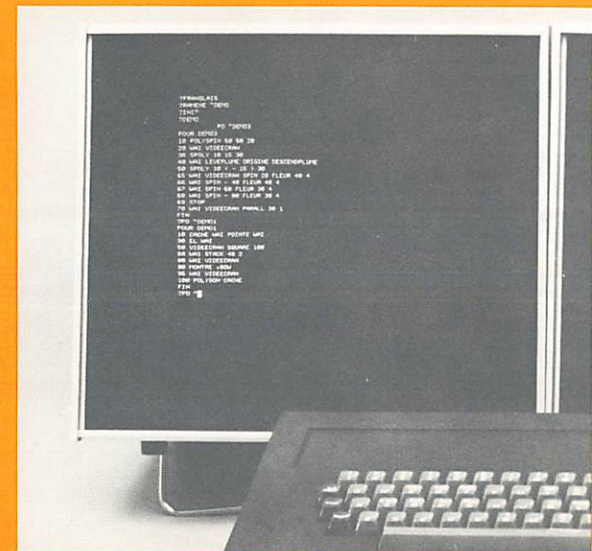
The option of *dynamic* graphics is more controversial. Relatively inexpensive terminals can produce *static* pictures with finer *detail* than our machine. And in some applications, this is exactly what is needed. But, in other uses, especially the educational ones which weigh heavily in our choice, the capability of *animation* is priceless. And so, we chose to use a *refreshing* system rather than storage tubes or plasma panels.



The TT2500 Processor

Although we chose dynamism over detail as the primary quality of our display, we obviously wanted to keep as much detail as possible. This led us to design our own computer rather than using a ready-made micro-processor. Our machine is fast (260 nano-seconds) and has special instructions to allow very rapid computation of pictures by exploiting some novel mathematical ideas about how to represent graphics data in computer memory.

The computer is designed to make I-O operations as simple as possible so that it is particularly easy to add more devices to the system. This feature and the speed of the processor make us believe that the machine has a future in the areas of music synthesis and process control.



The Text Display

We decided to put in some de luxe features since we already had the computational capacity. These include fully programmable fonts; contiguous 16x8 dot characters with no spaces between characters or lines. Contiguity means that characters can be combined into larger characters or symbols or even diagrams. Of course in normal use, the separation space is treated as part of the character.

The decision to use separate screens for text and graphics followed from the policies of maximizing graphical capacity. Of course, separation does not preclude putting up words as labels of diagrams.



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