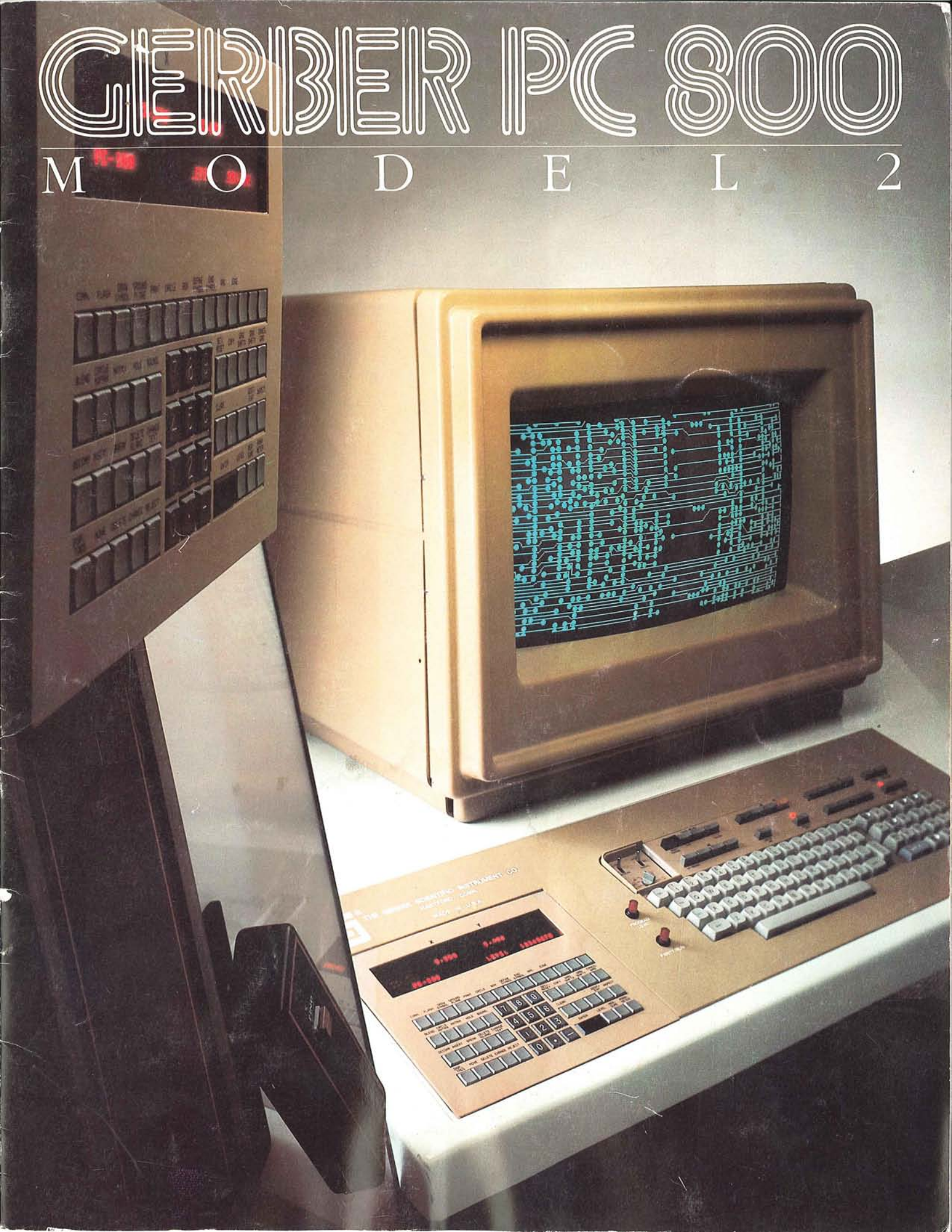
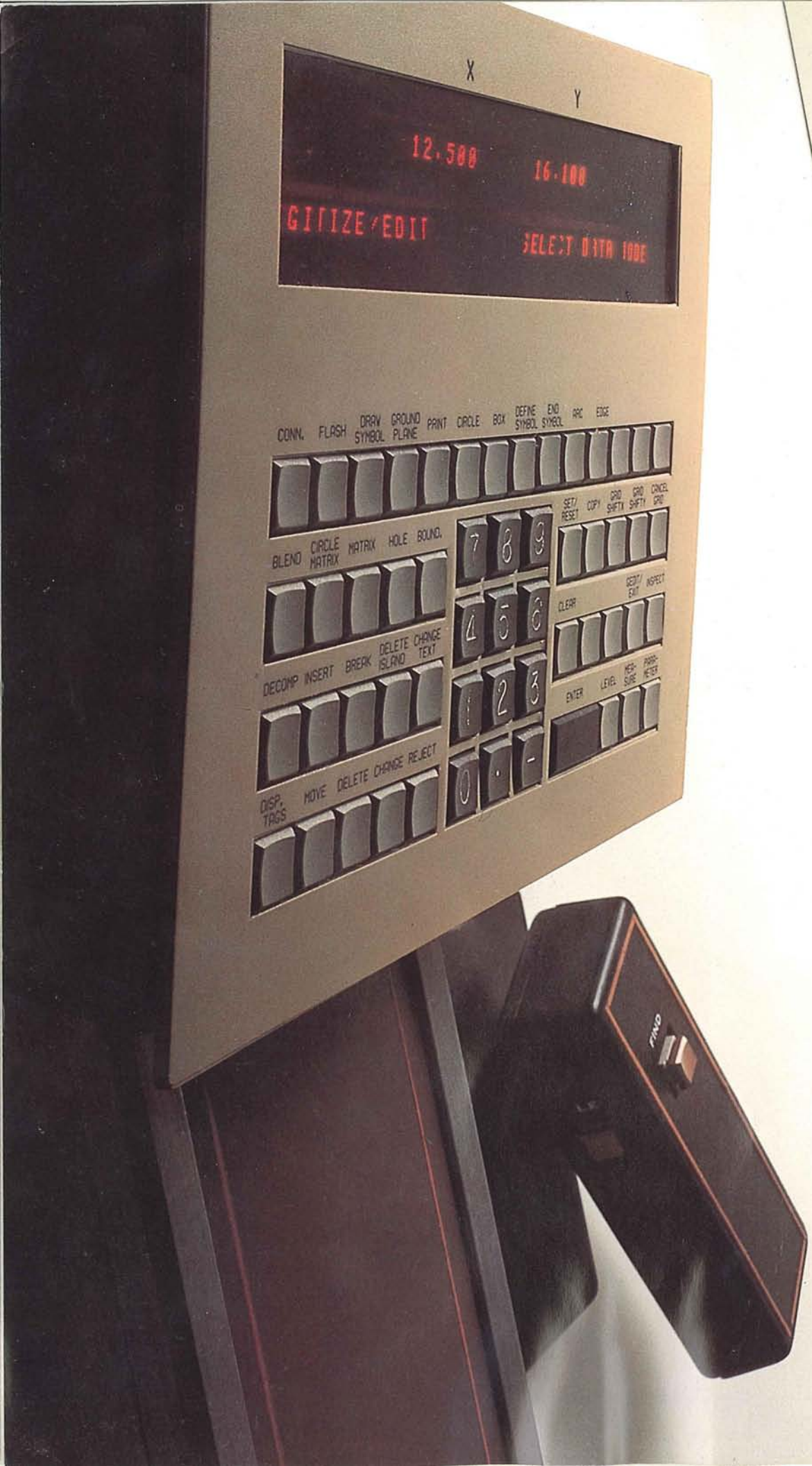
GERBER PC 500

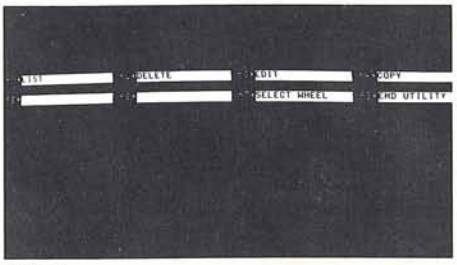
MODEL 2




X
Y
12.500
16.100
CONN.
FLASH
DRAW SYMBOL
GROUND PLANE
PRINT
CIRCLE
BOX
DEFINE SYMBOL
END SYMBOL
ARC
EDGE
BLEND
CIRCLE MATRIX
MATRIX
HOLE
BOUND.
DECOMP
INSERT
BREAK
DELETE ISLAND
CHANGE TEXT
DISP. TAGS
MOVE
DELETE
CHANGE
REJECT
SET/ RESET
COPY
GRID SHIFT X
GRID SHIFT Y
CANCEL GRID
CLEAR
EDIT/ EXIT
INSPECT
ENTER
LEVEL
MEASURE
PARAMETER
FIND

PC-800 Model 2... creating the database

Using a non-technical person to digitize a PCB layout enables the designer to spend more time creating rather than hand-taping artwork. Further, digitizing can be done faster and with far greater accuracy than hand-taping. The operator uses common terms and simple procedures, English language commands, and step-by-step instructions displayed on the graphics terminal. A component can be placed, modified or moved without having to redraw the entire layout. Once digitized, the layout is contained on a stable, environmentally secure floppy disk. The problems of storage, temperature change, and mishandling of artwork are eliminated. The results are faster design-to-manufacturing turnaround time, more accurate artwork masters, and better control of engineering standards.

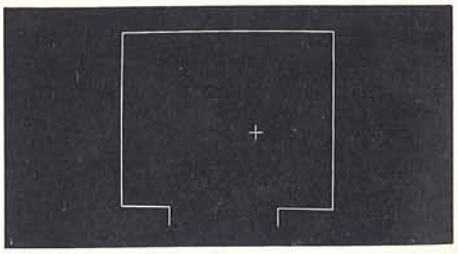


Menu

Interactive prompting

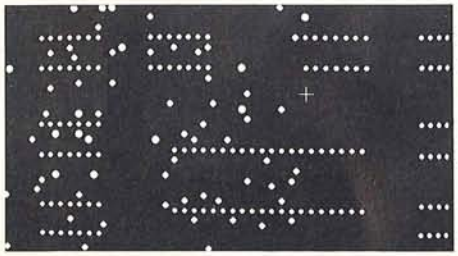
The first step to achieving a higher level of productivity begins with the flick of a switch. Depending on the operational mode, simple instructions in a convenient menu-type format appear on the console display. The next step is to select the grid spacing in either English or metric units, and the system will do the rest. The PC-800 Model 2 will automatically center coordinates. The operator is now ready to trace the PC layout and convert the information into a database for processing and output generation. Through interactive prompting, the system guides the operator through each stage of the artwork generation process.

Digitizing analog or digital PCB layouts is easily accomplished with the digitizer cursor and data entry keypad. The digitizer keypad is used to define and enter line widths, pad sizes, and other design parameters with dedicated keys for all major system commands. A three-line alphanumeric display provides a continuous readout of X and Y coordinates and the system command being used.



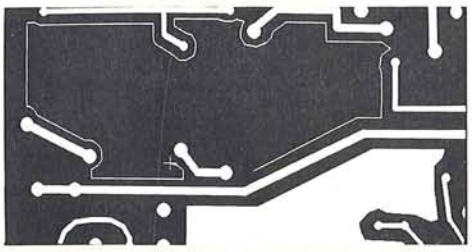
PC board outline

There is no need for programming. The digitize/edit software is contained on a single floppy disk. And the need to recreate symbols is eliminated. The operator can call up and place frequently used symbols or configurations from the symbol library at the touch of a button. Turnaround time is reduced, accuracy is greatly improved, and operator productivity is enhanced.



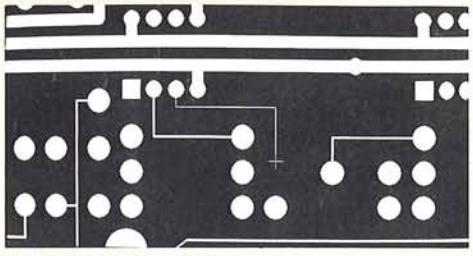
Pad positioning

Two things occur during digitizing. A record of the PCB layout is built up on the job disk, and the drawing is constructed on the console video display. Up to eight, separate levels of data can be entered on a single-sided, dual-density disk with 512K bytes of storage. The operator can use any level for any purpose. For example, the interconnections of a PC layout can be digitized and filed on the job disk as Level 1; the silkscreen mask can be digitized and filed as Level 2. A second solder mask to prevent solder runover on the interconnection side of the board can be digitized and filed on Level 3.



Creating ground plane

All data entered into the system can appear on the display for immediate reference, regardless of the assigned level. While digitizing the layout, it is a simple task to locate an element with the cursor, then modify or delete it at any time. Using the digitizer keypad, the operator can fit a curve between two line segments, create a pad or series of pads, or create a character reference designator.



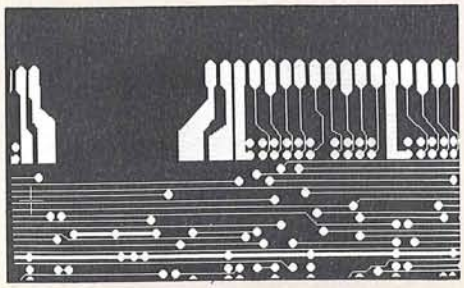
Interconnecting pads

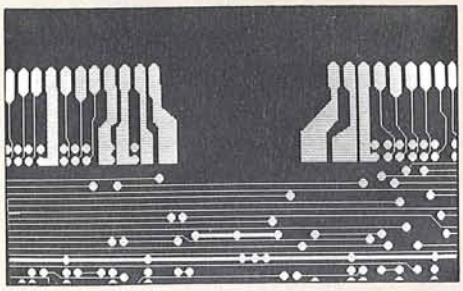
PC-800 Model 2... optimizing the design

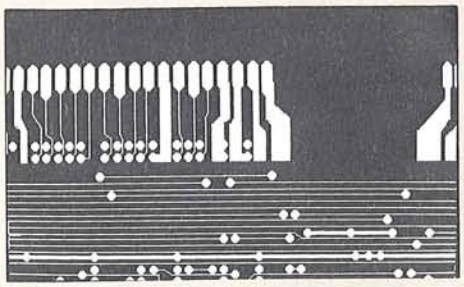
Move the console cursor control arm and pan the entire design. Push a button and zoom in on a single element. For closer inspection, touch another button and magnify an element until it fills the screen. The PC-800 Model 2 is a "command post" to rework a previous design or edit a design in progress. Function keys and simple controls allow the operator to interact directly with the system minicomputer to optimize the design and enhance the quality of the output generated.

Data manipulation

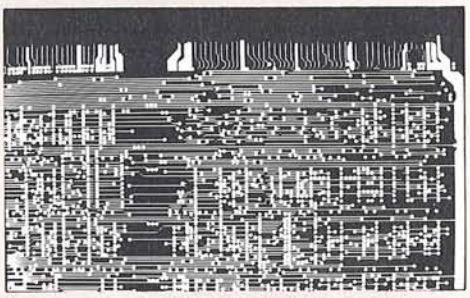
Once the PCB layout has been converted to a digital database, it can be interactively edited. The entire design can be called up on the screen, and by using the cursor control arm the operator can pan—move from side-to-side, top-to-bottom—to view a graphic representation of the database. At the touch of a button the operator can repeat the process with each level of digitized data on the floppy disk.

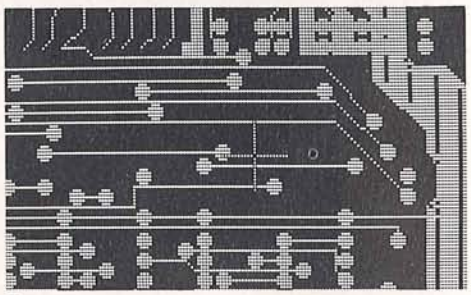






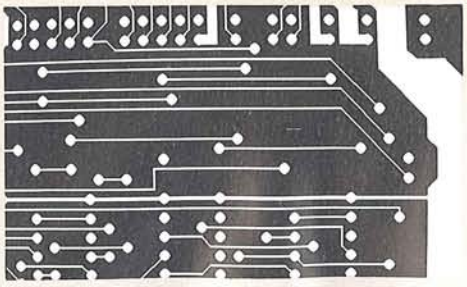
Pan





Zoom

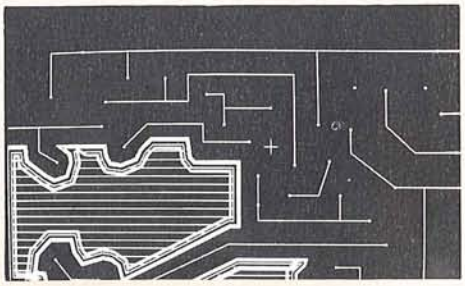
The operator can set the cursor on an element of the design then zoom in on an area for closer inspection. A special magnify switch allows the operator to regenerate a zoomed image with high resolution to enhance detail. If necessary, a DELETE command is entered through the keyboard and the selected data is instantly removed from the database without affecting other data.

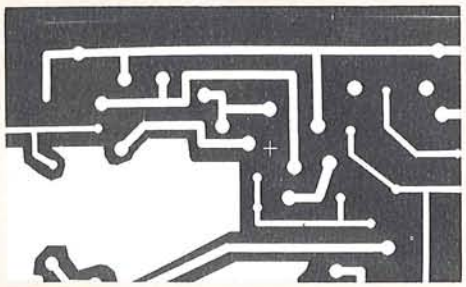


Magnify

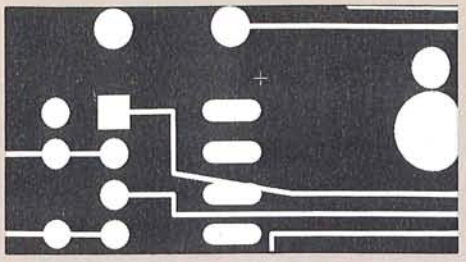
To verify data, a pushbutton command DRAW AT WIDTH will display design elements in their true width to permit inspection of artwork clearances before photoplotting.

Selected data can be moved graphically, or the parameters of the data can be easily changed. New points can be inserted between existing points in a connect. Ground plane borders and holes can be edited. Or, a ground plane or connect can be broken down into a series of elements for easier editing manipulation.

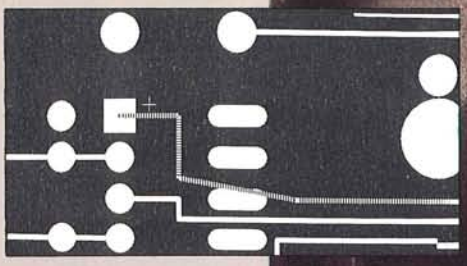




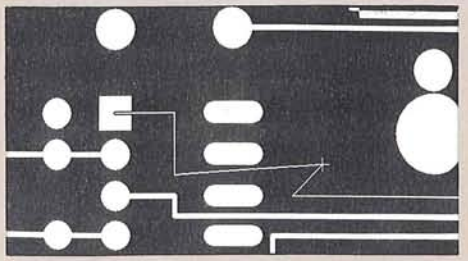
Draw at width



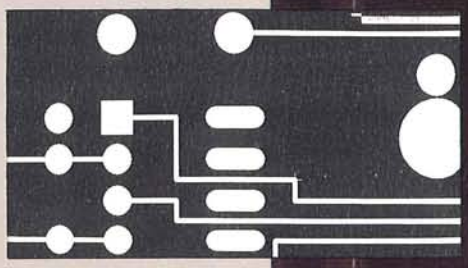
1. **Line through pad**



2. **Find line**



3. **Rubber-band line**



4. **Locate new position**

Elements can be added as well as altered or deleted. The Rubber-Band Line feature, for example, allows the operator to draw a line segment between predetermined positions with the graphic cursor. As the cursor moves on the display screen, the line segment automatically stretches to follow it.

A unique editing feature of the PC-800 Model 2 is the ability to edit selectively. The large, raster-scan display allows the operator to selectively delete or change a single element without having to redraw the entire design. It's a built-in time-saving feature, particularly when viewing and editing dense configurations.