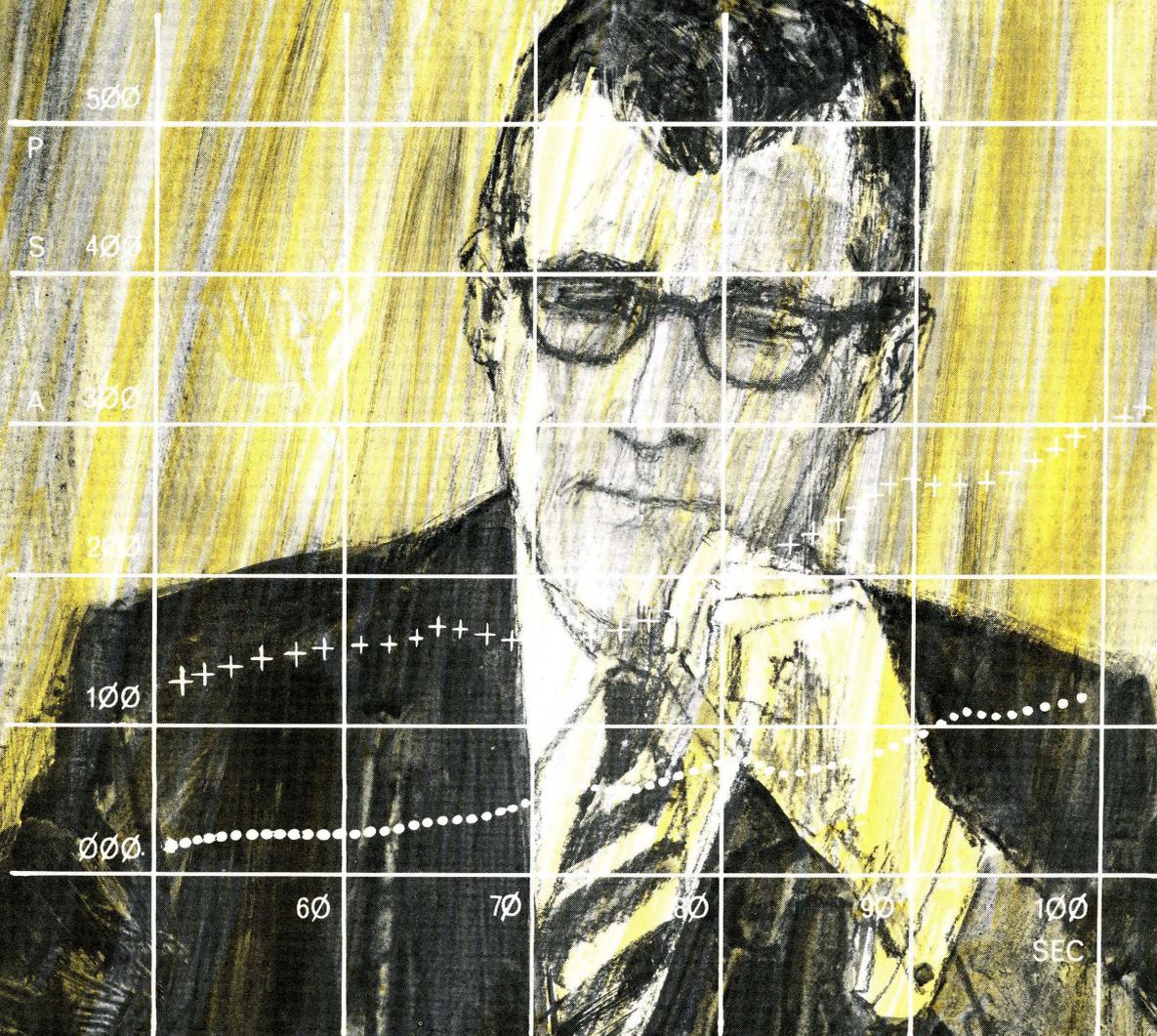


# Introducing the Versatile **MONITOR 8200**

**USER TERMINAL  
TV DISPLAY GENERATOR FOR ALPHANUMERICS AND HIGH RESOLUTION GRAPHICS**



**MONITOR**  
SYSTEMS  
an AYDIN company

# The MONITOR 8200

## Features High Performance Economy Compact Size

CONVERTING COMPUTER LANGUAGE INTO FORM  
DIRECTLY USABLE BY UNMODIFIED COMMERCIAL TV MONITORS, USING CONVENTIONAL INTERLACED-FIELD TELEVISION STANDARDS.

### User Features

- **CAPACITY**—Standard 5 x 7 character: 32 Alphanumeric Characters per line, 24 lines per page. Optional 7 x 9 character: 24 characters per line, 16 lines per page.
- **LOW RESOLUTION GRAPHICS**—128 x 64 dot array—optional.
- **HIGH RESOLUTION GRAPHICS**—256 x 240 dot array—optional.
- **EDIT CONTROL**—Cursor Manipulation. Graphic Cursor—Optional.
- **ALPHANUMERIC REPERTOIRE**—49 Symbols, Modified ASCII. EBCDIC —Optional.
- **I/O OPTIONS**—Data Communication: 1200, 2400, 4800, 9600, or 40,800 baud; Computer Interface: 200,000 bytes/sec.; Line Printer; Teletype; Keyboard; Light Pen.

### Design Features

**DISPLAYS** bright, flicker-free alphanumeric and graphic images

**ACCEPTS** character codes from a computer, keyboard, or communications link

**STORES** character codes and graphic images in a magnetic-core memory

**DECODES** characters into dot matrices, line by line

**GENERATES** standard TV sync, or slaves to an external sync source

**TRANSMITS** composite TV display signal to remote or nearby monitors

**RETRANSMITS** stored data to computer or peripherals

**REFRESHES** the TV image by continuous scanning of its memory

**INTERFACES** with a variety of peripheral options, including a light pen and a hard-copy printer

### OPTIONAL HIGH RESOLUTION DISPLAY

With expanded memory, the 8200 displays high-resolution graphic data in dot-matrix form, simultaneously with high-density alphanumeric information

Display data produced by the 8200 may be superimposed on full-gray-scale TV pictures similar to those from a conventional closed-circuit TV system. Conventional TV auxiliary equipment such as video tape recorders and video distribution systems may be used in conjunction with the unit.

### ADDITIONAL DISPLAY SYSTEMS

Other items in MONITOR's TV display line include the versatile 16-channel Model 8300 Graphic Display Processor which contains a built-in general-purpose computer, and the ultra-high-performance 20-channel MONITOR 8500 Digital Display Generator. Also available is the MONITOR 8100 direct-writing graphic processor which utilizes a conventional analog CRT instead of TV technology.

### TYPICAL APPLICATIONS

- Airline Reservations
- Computer Aided Design
- Computer Aided Instruction
- Management Information
- Retrieval
- User Terminal
- Hospital Inventory
- Medical Records Retrieval

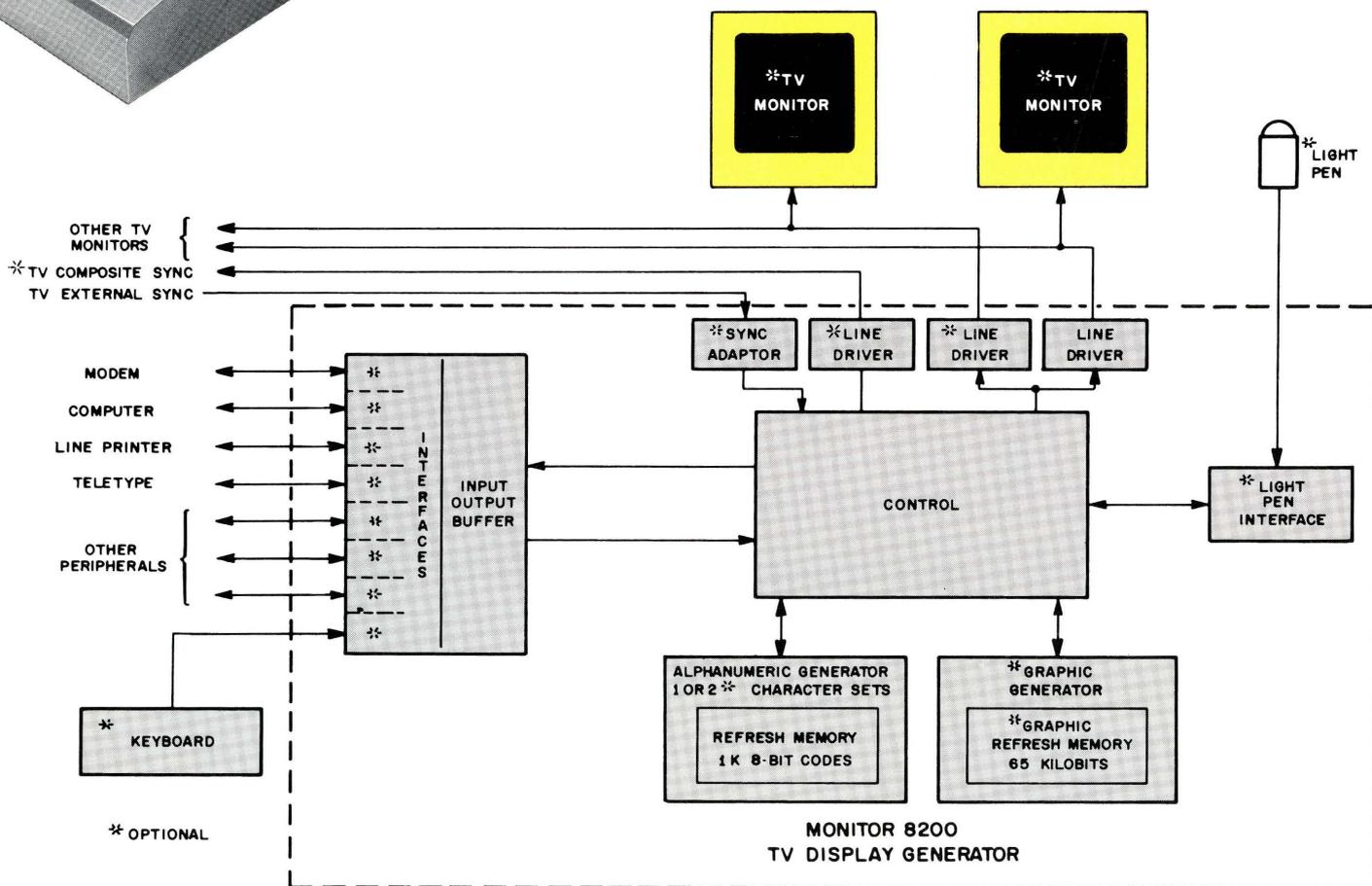
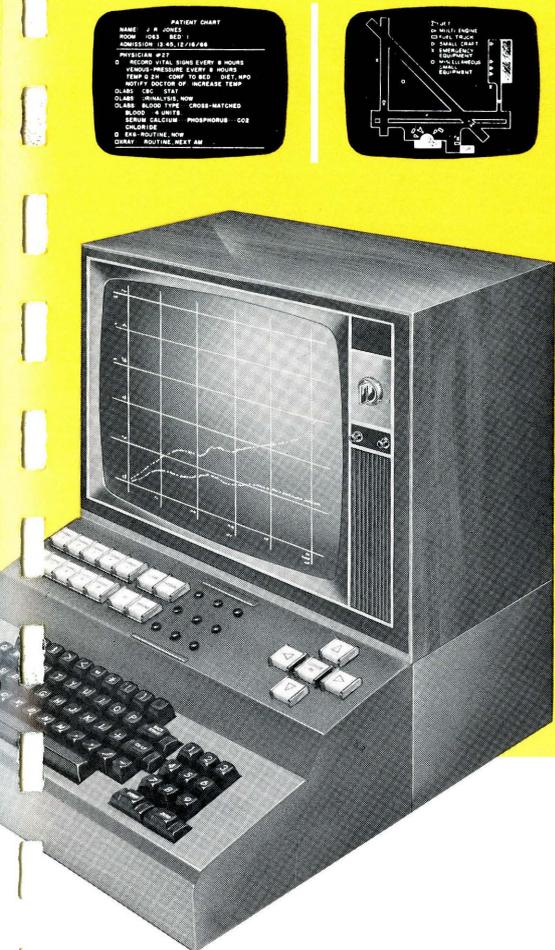
**FUNCTIONAL DESCRIPTION** The MONITOR 8200 TV Display Generator as depicted in the block diagram converts coded inputs into standard TV signals for transmission to one or more monitors. Provisions are made for slaving to an external sync source or vice versa.

A variety of optional input/output interfaces is available, served by an I/O buffer. An optional keyboard and light pen permit dialogue with an operator. A cursor symbol may be repositioned on the display by either the operator or the external computer or other data source, and used as a reference for subsequent operations.

The control contains the timing logic and conversion circuitry required for operation of all other elements. It also includes a TV sync generator.

The alphanumeric generator contains a refresh memory which holds a complete page of data, or up to 1024 characters, symbols, and control codes. The entire page is read 60 times per second. Each 8-bit character is decoded line-by-line into a dot matrix by use of an internal non-destructive-readout memory. Operation is synchronous with the TV scan, so that the TV image is constantly refreshed. The two fields of a TV frame contain identical data.

Graphics capability is provided optionally either by alternate use of the alphanumeric refresh memory, or by a separate graphic refresh memory. In the latter case, the high resolution graphics (256 x 240) which is made available simultaneously with the alphanumeric character generator, permits high-quality presentation of sophisticated formats. Complex images may be synthesized and annotated, and line drawings may be dimensioned.



\* OPTIONAL

# SPECIFICATIONS

## DISPLAY FORMAT

**TV Raster.** Standard EIA RS-170 525-line TV with two-interlaced fields, 30 frames/second. Identical information in both fields provides effective refresh rate of 60/second and vertical resolution of 1 part in 240. Dot-matrix presentation with 256 dots per TV line. Bright, flicker-free images.

## ALPHANUMERIC

**Character matrices.** Standard set 5 dots horizontal by 7 line-pairs vertical. Optional large set in lieu of, or in addition to, standard set, 7 dots horizontal by 9 line-pairs vertical.

**Repertoire** (each size). 26 alphabetic symbols, 10 numerals, 12 symbols (punctuations), cursor symbol. Modified ASCII. Optionally EBCDIC.

**Page Structure.** For 5 × 7 characters, 32 per horizontal row by 24 rows, automatically refreshed from a 1K × 8 magnetic-core memory. For optional 7 × 9 characters, 24 per row by 16 rows.

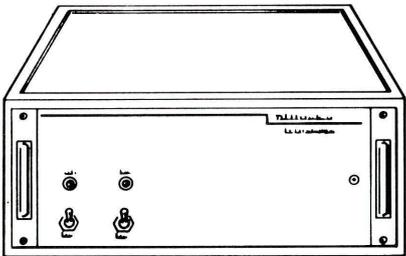
**Blink.** Any or all characters or words on a display page may be programmed to blink at one-second intervals to attract viewer attention.

**LOW-RESOLUTION GRAPHICS** (optional). 8,192-bit refresh memory in standard alphanumeric generator alternately usable for full-raster 128 × 64 dot array, by program or switch mode selection.

**HIGH-RESOLUTION GRAPHICS** (optional). Logic and separate 65,536-bit graphic refresh memory available for full-raster 256 × 240 dot array superimposed on character page of simultaneously operating alphanumeric generator.

## TV SIGNALS

**COMPOSITE VIDEO.** Per EIA RS-170 via 75-ohm terminated coaxial line for presentation to standard TV monitors. Second output with independent driver optional. May be mixed with other video having common sync.



**COMPOSITE SYNC** (optional). Per EIA RS-170 via 75-ohm terminated coaxial line for monitoring or use by external equipments.

**EXTERNAL SYNC** (optional). Horizontal and vertical drive signals for slaving 8210 to external system, e.g. CCTV. Other forms of sync per special order.

## I/O INTERFACES (each optional)

Unless otherwise specified, all levels are 0, +3.5 volts or as ordered.

**MODEM.** Bit serial at 1200, 2400, 4800, 9600, or 40,800 baud as ordered. Half or full duplex. Signals compatible with EIA RS-232.

**COMPUTER.** 8-bit bytes asynchronously up to 200,000/sec. ASCII character subset and control codes where applicable. Input from computer, or optionally input and output to computer. Request-acknowledge control. Computer per order.

**LINE PRINTER.** Character-serial transfer, display at a time or with word length as ordered. Buffer register also optional.

**TELETYPE.** Character-serial transfer in ASCII codes. Input, output, or both as ordered.

**KEYBOARD.** Characters, function codes, and character cursor control from MONITOR 8240 Display Editor keyboard, or equivalent.

**OTHER PERIPHERALS.** On special order.

## LIGHT PEN (optional)

**PEN.** Convenient sensor detects symbol on face of TV monitor.

**INTERFACE.** Coordinates of symbol determined and transmitted via Computer Interface as program interrupt for initiation of suitable subroutine. Alternatively, the light pen may be used to reset the character cursor.

**IMAGE DRAWING.** In conjunction with

the optional graphic cursor feature of the optional keyboard, the Light Pen may be used to draw computer-generated lines or curves between prescribed points.

## SELF TEST

**OPERATE/TEST SWITCH** (rear mounted). Automatically produces test patterns of characters.

## CONFIGURATION

**Basic Unit** with capacity for all options except graphic refresh memory mounts in desk top instrument case 9½" high × 19" wide by 22" deep. When removed from the case the unit may be mounted in an EIA standard 19" relay rack (8¾" panel height). Weight: 45 lbs.

**Graphic Refresh Memory:** 11½" high × 19" wide by 22" deep for desk top, or 10½" panel height for rack mounting. Weight: 65 lbs.

**Maintenance.** Packaged for ready access to all components for monitoring and replacement.

**Technology.** High-reliability integrated circuits used throughout.

## ENVIRONMENT

(other ranges on special order)

**TEMPERATURE.** 50°F to 115°F operating.  
—10°F to 250°F storage.

**HUMIDITY.** To 95%, without condensation. No special cooling required.

## POWER INPUT

**COMMERCIAL LINE.** 115 volt ± 10%, 60 Hz.

For additional information contact:

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