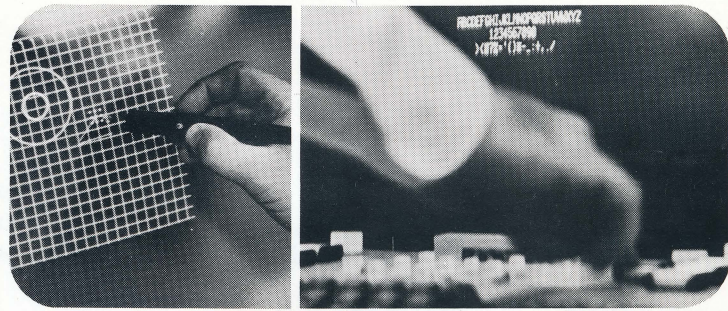


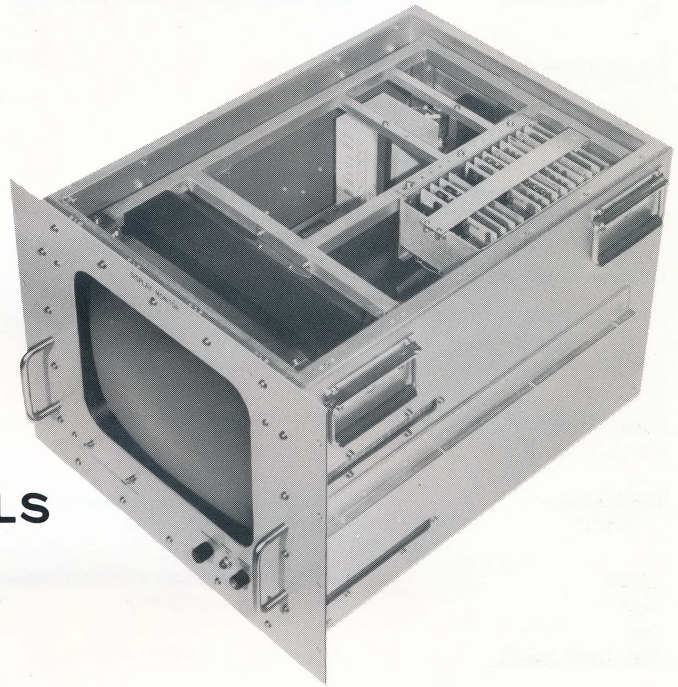
# MONITOR DISPLAYS

an AYDIN company



Data Sheet  
8012

## MODEL 8012 RUGGEDIZED CRT DISPLAY FOR COMPUTER GRAPHIC TERMINALS



The MONITOR Model 8012 CRT Display is a direct-writing, alphanumeric/graphic computer output display. Characters, dots, vectors, circles, arcs or conics may be displayed. Gamma correction and delay time cancellation are provided so that special circuits are not required in the appropriate generators. The tube is protected from phosphor burns as a result of failure in the deflection circuitry or absence of input signal. Up to 1,000 characters may be displayed at a refresh rate of 60 Hz; the writing rate is 50,000 inches/second. A complete line of character, vector, circle, and arc generators are available from MONITOR to work with this unit. The unit is designed to meet the E.M.I. and environmental requirements of the military.

### DESIGN FEATURES

- Single Magnetic Coil Deflection
- All Silicon Solid State Circuitry
- Large Display Area (8" x 10")
- Zero Differential Delay Interface for Faithful Reproduction of Characters, Vectors, and Conics.
- Gamma Correction
- Phosphor Protection
- Pincushion Correction
- Low Power Consumption
- Rack Mounting
- Ruggedized Unit

### SPECIFICATIONS

#### Cathode Ray Tube

Size and Type	15" with P31 phosphor and shielded bonded faceplate
Display Area	8" x 10"
Linearity	±1%
Pincushioning	±2%
Light Output	50 foot-lamberts
Writing Speed	50,000 inches/second
Line Width	0.020"

#### Z-Axis

Input Sensitivity	+3V for full intensity
Input Impedance	75-ohm termination is standard

Rise Time	50 nsec
Gamma Correction	Light output is linear with respect to input voltage
Delay Time	Zero differential delay of the z-axis with respect to the X and Y signal

#### Major Deflection

Input Sensitivity	5V for full scale deflection
Input Impedance	75-ohm termination is standard
Large Signal Response	15 kHz
Small Signal Response	500 kHz @-3db
X-Y Phase Shift	Less than 1 line separation @ 10 kHz
Settling Time	50 Microseconds to 0.25% for full screen deflection
	3 Microseconds to 0.25% for 0.5" deflection



### Minor Deflection

Input Sensitivity	5V p-p for 0.5 inch deflection
Input Impedance	75-ohm termination is standard.
Frequency Response	1 MHz @-3db
X-Y Differential Phase Shift	Less than 1 line separation @ 1 MHz

### Inputs: (BNC Connectors, rear)

1. Z-input Major Deflection
2. X-input Minor Deflection
3. Y-input Major Deflection
4. Y-input Minor Deflection
5. Z-input

### Operator Controls: (Front)

On/Off  
Focus  
Intensity

Power Requirements	200V $\pm$ 10% 3 phase 400 Hz / $\pm$ 5%, 300 watts
Environment	0°C - 50°C operating temperature.  Meets the shock and vibration requirements of MIL-STD-167
Size, basic chassis.	14-1/2"W x 12-7/8"H x 25"D
Weight	70 lbs.
Size with Front Panel & Mask	19"W x 14"H x 25"D
Weight	75 lbs.
Size with Front Panel & Mask and Case	19"W x 15-3/4"H x 25"D
Weight	95 lbs.
Available Options	8012P CRT with position generator  8012-CP CRT with position generator and character deflection generator

### OPTION P, POSITION GENERATOR FOR 8012 CRT

#### Functional Description

The input signal lines accept positioning address information and strobe it into two digital to analog converters which produce the x and y positioning voltages. These positioning

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voltages are applied to the CRT deflection amplifiers. The position generator will display 512 addressable positions; 32 (x) positions and 16 (y) positions.

### Specifications

Inputs:	Compatible with TTL logic levels (positive logic) x position - 5 bit parallel word y position - 4 bit parallel word position strobe pulse (negative transition)
Settling Time	2 microseconds
Accuracy	$\pm$ 0.5% of full scale

### OPTION C, CHARACTER DEFLECTION GENERATOR FOR A 8012 CRT WITH OPTION P.

#### Functional Description

Input signal lines accept character stroke information and strobe it into storage registers. Each stroke of a character can be composed of the following:

x, 2x, sign (x), y, 2y, sign (y), z', z''

The output of the storage registers are converted to analog voltages by function generators. These voltage levels are summed and integrated by output drivers.

The length of an x or y stroke is 1/16".

The intensity levels are decoded and presented to the cathode of the CRT as intensity modulation voltages. One of four intensity levels (including blank) can be specified for each stroke of the character. The outputs of the character deflection drivers are summed with the positioning voltages in the CRT deflection amplifiers for the display of text information.

### Specifications

Inputs	Compatible with TTL logic levels (positive logic)  8 bit parallel character stroke format  x, 2x, sign (x) y, 2y, sign (y) z', z'' character strobe pulse (negative transition)
Speed	500 kHz stroke writing rate

Monitor Displays reserves the right to change specifications without notice.

**MONITOR DISPLAYS**  
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