

## DE241A Closed Caption Display Decoder with Activity Monitor

Standard Definition NTSC EIA-608B decoder used to display closed captions that have been encoded into a video signal.

The Model DE241A is a multi-standard, broadcast quality Closed Caption Display Decoder capable of processing closed caption data in Line 21 of an NTSC signal or Line 22 of a PAL signal. It decodes CAPTION, TEXT, or XDS information transmitted in either field. The decoder generates the appropriate display format and keys it into the output video. In addition to its normal Decoding modes, the decoder also provides two Line 21 Activity display modes. The decoder can monitor the incoming video for activity in all data channels. The Activity status can be displayed on the Monitor outputs and/or on the front panel LEDs. The DE241A conforms to the FCC display requirements of the Television Decoder Circuits Act of 1990 and includes the extended characters and attributes defined in the Recommended Practice For Line 21 Data Service, EIA-ANSI 608B.

### INPUT VIDEO CHARACTERISTICS

Video Input Level	1.0 Vp-p nominal
Video Input Variation	0.7 to 1.4 Vp-p
Input Impedance	75 Ohms
Input Return Loss	>35dB to 5MHz with external load having a 40dB return loss
Input Signal-To-Random	Functions to 25dB ratio (CCIR NOISE RATIO weighted) with typically one error per row at that level

### OUTPUT VIDEO CHARACTERISTICS

Video Outputs	2 provided
Video Output Level	1.0 Vp-p nominal
Video Output Variation	0.7 to 1.4 Vp-p
Insertion Gain	Unity $\pm$ 0.5%
Output Impedance	75 Ohms nominal
Output Return Loss	30dB to 5MHz
Output DC Level	0V $\pm$ 50mV at back porch
Clamp Type	Keyed back porch
Frequency Response	$\pm$ 0.1 dB, 50KHz to 5 MHz; +0.1 dB, -0.5 dB 5 MHz to 8 MHz
Line Tilt	Less than 1%
Field Tilt	Less than 1%
Signal-To-Random Noise Ratio	65 dB or greater CCIR weighting
Spurious Signals	-60 dB down up to 5 MHz; - 40 dB down above 5 MHz
Character Video	90 Units (adjustable)
Character Background Level	10 Units (adjustable)

### FRONT PANEL CONTROLS AND DISPLAYS

Power (On-Off)	Push-button power switch with reset. White bar indicates status.
Display On	Push-button switch enables decoder display. Lights indicator LED
Display Select	Push-button switch selects CAPTIONS, TEXT or XDS. Lights LED.
LED Activity	Push-button switch changes LED display mode.

### REAR PANEL CONNECTORS

Video Input	BNC connector for 75 Ohm video signal at 1 Vp-p nominal level.
Monitor Video Outputs 1,2	BNC connectors, unity gain video output (75 Ohm source impedance) with TEXT or CAPTIONS.
R,G,B	BNC connectors providing the color video signals at 0.7V level.
Box	BNC connector providing the key pulse signal at 3.0 V level.
Remote	DB9 female connector for remote switch.
120 V 60 Hz Line Cord	Standard captive 3-wire line cord. 5 feet long.

### PHYSICAL CHARACTERISTICS

Height	1.75 inches (4.45 cm)
Width	19 inches (48.3 cm)
Depth	51/4 inches (13.3 cm)
Mounting	Designed for rack mounting.
Weight	3 lbs. (1.36 kg)
Operating Ambient	0 C to +50 C

### POWER REQUIREMENTS

Line Frequency	47-440 Hz
Line Voltage	117 VAC $\pm$ 10%
Line Current	0.07 A maximum
Input Power	10 W maximum
Circuit Breaker	0.1 A trip current. In Power On/Off switch.