

CB412 Digital/Analog Caption Data Bridge

Standard Definition NTSC EIA-608B caption data bridge used to Bridge closed captions from a source video to a master video signal. Also capable of re-locating captions on screen.

The Model CB412 Caption Data Bridge offers a simple means of maintaining a continuous two field Line 21 data service when processing of the encoded video signal is required. It has provision for processing either Analog or Digital video signals. The Data Bridge is capable of bridging between two non-synchronous video inputs. It extracts the Line 21 data from the Source signal and inserts it into Line 21 of the Master signal. Vertical caption position can be restricted via a GPI input. This allows broadcasters the ability to re-position captions so they do not interfere with graphics or emergency alert crawls appearing at the top or bottom of the picture.

ANALOG SOURCE VIDEO INPUT CHARACTERISTICS

Video Input Level	1.0v p-p, Back Porch nominally at Ground
Input Impedance	75 Ohms
Input Return Loss	>= 40dB to 5 MHz.
Input S/N Ratio	Unit will function down to 25 dB ratio (CCIR weighted) with typically one error per row at that level

ANALOG MASTER VIDEO INPUT CHARACTERISTICS

Video Input Level	1.0v p-p, Back Porch nominally at Ground
Video Input Circuit	Terminated except in by-pass mode
Input Impedance	75 Ohms
Input Return Loss	>= 40dB to 5 MHz.

ANALOG MASTER VIDEO OUTPUT CHARACTERISTICS

Video Output Level	1.0V p-p Nominal, Out 1 bypass protected
Insertion Gain	Unity, ± 2 IRE
Output Impedance	75 Ohms nominal
Output Return Loss	30dB to 5 MHz
Output DC Level	0V, ± 50 mV at back porch level
Clamp Type	Keyed-back porch
Frequency Response	± 0.1 dB, 50KHz to 5MHz; +0.1dB, -0.5dB 5MHz to 8MHz
Line Tilt	Less than 1%
Field Tilt	Less than 1%
Differential Gain	0.5% at 1V p-p 10-90% APL
Differential Phase	0.25 degrees at 1V p-p 10-90%APL
Signal-to-Random-Noise Ratio	65dB or greater CCIR weighting
Spurious Signals	At least 60dB down (up to 5MHz); At least 40dB down (above 5MHz)
Keying Transients	Less than 2 IRE units

DIGITAL SOURCE VIDEO INPUT CHARACTERISTICS

Video Input Level	800 mV p-p $\pm 10\%$
Input Impedance	75 Ohms
Input Return Loss	>= 18dB, 1-270 MHz
Input S/N Ratio	Unit will function down to 25 dB ratio (CCIR weighted) with typically one error per row at that level

DIGITAL MASTER VIDEO INPUT CHARACTERISTICS

Format	270 Mbits/s component. Complies with SMPTE 259M and CCIR 656.
Video Input Level	800 mV p-p $\pm 10\%$, Out 1 bypass protected
Input Impedance	75 Ohms
Input Return Loss	>= 18dB, 1-270 MHz
Input S/N Ratio	Unit will function down to 25 dB ratio (CCIR weighted) with typically one error per row at that level

DIGITAL MASTER VIDEO OUTPUT CHARACTERISTICS

Format	270 Mbits/s component. Complies with SMPTE 259M and CCIR 656.
Output Impedance	75 Ohms
Output Level	800 mV p-p $\pm 10\%$
Output Return Loss	>= 18dB, 1-270 MHz.
Output Jitter	< 300 pS

FRONT PANEL DISPLAY

Power (On/Off)	Push-button switch with integral circuit breaker. White band indicates Off state.
Power	LED lit when power is on.
Source Video Analog	LED lit when analog source video is present.
Source Video Digital	LED lit when digital source video is present.
Master Video Encode On	Push-button switch controls bypass state. LED lit for non-bypassed state.
Master Video Analog	LED lit when analog master video is present.
Master Video Digital	LED lit when digital master video is present.
Reset	Flush Push-button switch, resets the data bridge.

REAR PANEL CONNECTORS

Source Video Analog	BNC connector, internal 75 Ohm termination
Source Video Digital	BNC connector, internal 75 Ohm termination
Master Video Analog In	BNC connector, internal 75 Ohm termination when not by-passed.
Master Video Analog Out 1	BNC connector, external termination required, provides unity gain output. bypass protected,
Master Video Analog Out 2	BNC connector, external termination required, provides unity gain output. not bypass protected,
Master Video Digital In	BNC connector, internal 75 Ohm termination when not by-passed.
Master Video Digital Out 1	BNC connector, external termination required, provides unity gain output. bypass protected,
Master Video Digital Out 2	BNC connector, external termination required, provides unity gain output. not bypass protected,
GPI	RJ45 connector.
RS232	RJ12 connector.
Power	Standard non-captive 3-wire line cord, 6 feet long.

PHYSICAL CHARACTERISTICS

Height	1.75 inches (4.45 cm)
Width	19 inches (48.3 cm)
Depth	5 1/4 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	100 - 240 VAC \pm 10%
Line Current	0.15 A maximum
Input Power	15 W maximum
Circuit Breaker	0.4 A trip current. In Power On/Off switch.