

# Specifications — Matrix 12800 Series

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## Video— wideband/video BMEs

Routing .....	32 x 16 or larger matrix up to 128 x 128, depending on the configuration
Gain .....	Unity
Bandwidth	
Wideband models .....	375 MHz (-3 dB), fully loaded
0 - 10 MHz .....	No more than +0.1 dB to -0.1 dB
0 - 130 MHz .....	No more than +4 dB to -25 dB
Video models .....	150 MHz (-3 dB), fully loaded
0 - 10 MHz .....	No more than +0.1 dB to -0.1 dB
0 - 130 MHz .....	No more than +0.5 dB to -0.5 dB
Phase between I/Os.....	<1.28° at 3.58 MHz
Differential phase error .....	0.1%, 3.58 to 4.43 MHz
Differential gain error .....	0.1°, 3.58 to 4.43 MHz
Max. propagation of delay.....	5 ns typical (±1 ns)
Crosstalk.....	-80 dB @ 1 MHz, -62 dB @ 10 MHz, -52 dB @ 30 MHz
Switching speed .....	200 ns (max.)

## Video input— wideband/video BMEs

Number/signal type	
Wideband models .....	Up to 128 (varies with configuration) RGBH , RGBS, RGsB, RsGsBs, component video, S-video, composite video
Video models .....	Up to 128 (usable quantity varies with configuration) component video, S-video, composite video
Connectors .....	128 female BNC (usable quantity varies with model)
Nominal levels.....	1 Vp-p for Y of component video and S-video, and for composite video 0.7 Vp-p for RGB and for R-Y and B-Y of component video 0.3 Vp-p for C of S-video
Minimum/maximum levels.....	Analog: 0.5 V to 1.5 Vp-p with no offset
Impedance.....	75 ohms
Return loss.....	<-30 dB @ 5 MHz

## Video output— wideband/video BMEs

Number/signal type.....	Up to 128 (varies with configuration) RGBH , RGBS, RGsB, RsGsBs, component video, S-video, composite video
Connectors .....	128 female BNC (usable quantity varies with model)
Nominal levels.....	1 Vp-p for Y of component video and S-video, and for composite video 0.7 Vp-p for RGB and for R-Y and B-Y of component video 0.3 Vp-p for C of S-video
Maximum level.....	2 Vp-p
Impedance.....	75 ohms
Return loss.....	-25 dB to input section @ up to 50 MHz
DC offset.....	±10 mV typical with input at 0 offset
Switching type.....	Triple-Action™
Slew rate .....	>200 V/ms

## Sync— sync BME

Input and output types .....	Software configurable for RGBHV or RGB
Sync connectors .....	Up to 128 female BNC (usable quantity varies with configuration)
Input level .....	0.5 V to 5 Vp-p (4 Vp-p nominal)
Output level .....	5 Vp-p
Gain .....	AGC to TTL: 4.0 V to 5.0 Vp-p
Input impedance .....	Inputs 1 - 32: 510 ohms or 75 ohms, switchable Inputs 33 - 128: 510 ohms

# Specifications — Matrix 12800 Series, cont'd

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Output impedance .....	75 ohms
Horizontal frequency.....	15 kHz to 150 kHz
Vertical frequency.....	30 Hz to 150 Hz
Polarity.....	Positive or negative (follows input)

## Audio— audio BME

Routing .....	16 x 16 up to 128 x 128 mono or stereo matrix (in increments of 16), balanced/unbalanced
Gain (selectable per output) .....	Unbalanced output: 0dB (as shipped), or -6 dB (jumper-selectable) Balanced output: +6 dB (as shipped), or 0 dB (jumper-selectable)
Frequency response .....	20 Hz to 20 kHz, $\pm 0.05$ dB
THD + Noise.....	0.03% @ 20 Hz to 20 kHz, +15 dBu input, +21 dBu output
S/N.....	>85 dB, balanced, at rated maximum output
Crosstalk.....	<-70 dB @ 20 Hz to 20 kHz fully loaded
Stereo channel separation .....	>70 dB @ 20 Hz to 20 kHz
CMRR.....	>+75 dB, 20 Hz to 20 kHz

## Audio input— audio BME

Number/signal type.....	16 to 128 (in increments of 16) mono or stereo, balanced/unbalanced
Connectors .....	(16 to 128) 3.5 mm captive screw connectors, 5 pole
Impedance.....	>10k ohms unbalanced/balanced, DC coupled
Nominal level .....	+4 dBu (1.23V), 0 dBu (0.775 V), -10 dBV (316 mV), -20 dBV (100 mV)
Maximum level.....	+21.5 dBu, (balanced or unbalanced) at 1%THD+N
Input gain adjustment .....	-24 dB to +9 dB, adjustable per input via RS-232 control or front panel

**NOTE** 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV  $\approx$  2 dBu

## Audio output— audio BME

Number/signal type.....	16 up to 128 (in increments of 16) mono or stereo, balanced/unbalanced
Connectors .....	(16 to 128) 3.5 mm captive screw connectors, 5 pole (quantity varies with configuration)
Impedance.....	50 ohms unbalanced, 100 ohms balanced
Gain error .....	$\pm 0.1$ dB channel to channel
Maximum level (Hi-Z) .....	>+26.0 dBu, balanced at 1%THD+N
Maximum level (600 ohm).....	>+24.0 dBm, balanced at 1%THD+N

## Control/remote — switcher

Serial control port.....	RS-232 or RS-422, female 9-pin D connector
Baud rate and protocol.....	9600 baud, 8 data bits, 1 stop bit, no parity
Serial control pin configuration .	2 = TX, 3 = RX, 5 = GND
Ethernet control port.....	1 female RJ-45 connector
Ethernet data rate.....	10/100Base-T, half/full duplex with autodetect
Ethernet protocol.....	ARP, ICMP (ping), IP, TCP, HTTP, SMTP, Telnet
System intercommunications .....	2 RJ-45 connectors
Remote key pad control .....	(2) 5 mm, 5-pole captive screw connectors
Program control.....	Extron control/configuration program for Windows® Extron Simple Instruction Set (SIS™) Microsoft® Internet Explorer®, Netscape® Navigator®, Telnet

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## General

Power*	2 (positive-negative), 100 VAC to 240 VAC, 50-60 Hz; internal Matrix 12800 wideband: 150 watts at 115 VAC, 60 Hz Matrix 12800 sync: 100 watts at 115 VAC, 60 Hz Matrix 12800 audio: 300 watts at 115 VAC, 60 Hz *A redundant power supply is available.
Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Cooling	Fan, air flows from front to sides
Mounting	
Rack mount	Yes
Enclosure type	Metal
Enclosure dimensions	17.5" H x 17.0" W x 16.0" D (10U high, full rack wide) 44.4 cm H x 43.2 cm W x 40.6 cm D (Depth excludes connectors. Width excludes rack ears.)
Product weight	
Matrix 12800 wideband	57.4 lbs (26.0 kg)
Matrix 12800 sync	54.0 lbs (24.5 kg)
Matrix 12800 audio	43.9 lbs (19.9 kg)
Shipping weight	
Matrix 12800 wideband	76.7 lbs (35 kg)
Matrix 12800 sync	73.3 lbs (34 kg)
Matrix 12800 audio	66 lbs (30 kg)
DIM weight, international	77 lbs (35 kg)
Vibration	ISTA 1A in carton (International Safe Transit Association)
Regulatory compliance	
Safety	CE, c-UL, UL
EMI/EMC	CE, C-tick, FCC Class A, ICES, VCCI
Warranty	3 years parts and labor

**NOTE** All nominal levels are at  $\pm 10\%$ .

**NOTE** Specifications are subject to change without notice.

7.6-092109-D7 -111612