

Specifications — MAV Series Matrix Switchers

Video

Routing

| | |
|--|---|
| MAV 62 | 6 x 2 matrix |
| MAV 84 RCA | 8 x 4 matrix |
| MAV 128 RCA | 12 x 8 matrix |
| MAV 168 Series | 16 x 8 matrix |
| MAV 1616 Series | 16 x 16 matrix |
| MAV 2412 Composite Video, MAV 2412 Composite Video and Audio | 24 x 12 matrix |
| MAV 2424 Composite Video, MAV 2424 Composite Video and Audio | 24 x 24 matrix |
| MAV 3216 Composite Video, MAV 3216 Composite Video and Audio | 32 x 16 matrix |
| MAV 3232 Composite Video, MAV 3232 Composite Video and Audio | 32 x 32 matrix |
| Gain | Unity |
| Bandwidth | 150 MHz (-3dB), fully loaded |
| | 0 - 10 MHz no more than 0.1dB to -0.1dB |
| | 0 - 30 MHz no more than 0.5dB to -0.5dB |
| Phase between I/Os | <1.28° at 3.58 MHz |
| Differential phase error | 0.1% at 3.58 MHz and 4.43 MHz |
| Differential gain error | 0.1° at 3.58 MHz and 4.43 MHz |
| Max. propagation of delay | 5 ns typical (± 1 ns) |
| Crosstalk | -50dB @ 5 MHz |
| Switching speed | 200 ns (max.) |

Video input

Number/signal type

| | |
|--|--|
| MAV 62 Composite Video | 6 composite video |
| MAV 62 S-video | 6 S-video |
| MAV 84 RCA | 8 composite video |
| MAV 128 RCA | 12 composite video |
| MAV 168/1616 Series | 16 RGsB, RsGsBs, component video (Y, R-Y, B-Y), HDTV, S-video, composite video |
| MAV 2412/2424 Composite Video or Composite Video and Audio | 24 composite video |
| MAV 3216/3232 Composite Video or Composite Video and Audio | 32 composite video |

Connectors

| | |
|--|--|
| MAV 62 Composite Video | 6 BNC female |
| MAV 62 S-video | (6) 4-pin mini DIN female |
| MAV 84/128 RCA | 8 or 12 RCA female |
| MAV 168/1616 Series | 16 x 1, 2, or 3 BNC female |
| MAV 2412/2424 Composite Video or Composite Video and Audio | 24 BNC female |
| MAV 3216/3232 Composite Video or Composite Video and Audio | 32 BNC female |
| Nominal level | 1V p-p for Y of component video and S-video, and for composite video |
| | 0.7V p-p for RGB |
| | 0.3V p-p for R-Y and B-Y of component video, and for C of S-video |
| Minimum/maximum levels | Analog: 0.5V to 2.0V p-p with no offset |
| Impedance | 75 ohms |
| Return loss | <-30dB @ 5 MHz |
| Maximum DC offset | 1.5V |
| External sync (genlock) | 0.3V to 0.4V p-p |

Video output

Number/signal type

| | |
|---|--|
| MAV 62 Composite Video | 2 composite video |
| MAV 62 S-video | 2 S-video |
| MAV 84 RCA | 4 composite video |
| MAV 128 RCA | 8 composite video |
| MAV 168 Series | 8 RGSB, RsGsBs, component video (Y, R-Y, B-Y), HDTV, S-video, composite video |
| MAV 1616 Series | 16 RGSB, RsGsBs, component video (Y, R-Y, B-Y), HDTV, S-video, composite video |
| MAV 2412 Composite Video or Composite Video and Audio | 12 composite video |
| MAV 2424 Composite Video or Composite Video and Audio | 24 composite video |
| MAV 3216 Composite Video or Composite Video and Audio | 16 composite video |
| MAV 3232 Composite Video or Composite Video and Audio | 32 composite video |

Connectors

| | |
|--|-----------------------------------|
| MAV 62 Composite Video | 2 BNC female |
| MAV 62 S-video | (2) 4-pin mini DIN female |
| MAV 84/128 RCA | 4 or 8 RCA female |
| MAV 168/1616 Series | (8 or 16) x 1, 2, or 3 BNC female |
| MAV 2412/2424 Composite Video or Composite Video and Audio | 12 or 24 BNC female |
| MAV 3216/3232 Composite Video or Composite Video and Audio | 16 or 32 BNC female |

Nominal level 1V p-p for Y of component video and S-video, and for composite video
0.7V p-p for RGB
0.3V p-p for R-Y and B-Y of component video, and for C of S-video

Minimum/maximum levels 0.5V to 2V p-p

Impedance 75 ohms

Return loss <-30dB @ 5 MHz

DC offset ± 5 mV maximum with input at 0 offset

Switching type Vertical interval

Sync

Input type RGSB, RsGsBs

Output type RGSB, RsGsBs

Genlock connectors

MAV 62, MAV 84/128 RCA, MAV 168/1616
1 BNC female

MAV 2412/2424, MAV 3216/3232
2 BNC female

Standards NTSC 3.58, NTSC 4.43, PAL, SECAM

Input impedance 75 ohms

Output impedance 75 ohms

Max. propagation delay 5 ns

Audio

Routing

| | |
|----------------------|-----------------------|
| MAV 62 | 6 x 2 stereo matrix |
| MAV 84 RCA | 8 x 4 stereo matrix |
| MAV 128 RCA | 12 x 8 stereo matrix |
| MAV 168 audio | 16 x 8 stereo matrix |
| MAV 1616 audio | 16 x 16 stereo matrix |

Specifications — MAV Series Switchers (continued)

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|---|-----------------------|
| MAV 2412 Composite Video with Audio, MAV 2412 Audio | 24 x 12 stereo matrix |
| MAV 2424 Composite Video with Audio, MAV 2424 Audio | 24 x 24 stereo matrix |
| MAV 3216 Composite Video with Audio, MAV 3216 Audio | 32 x 16 stereo matrix |
| MAV 3232 Composite Video with Audio, MAV 3232 Audio | 32 x 32 stereo matrix |

Gain

| | |
|---------------------------------|--|
| 6-, 8-, 12-, 16-input models | Unbalanced output: 0dB; balanced output: +6dB |
| 24- and 32-input models | Unbalanced output: -6dB; balanced output: 0dB |
| Frequency response | 20 Hz to 20 kHz, ± 0.05 dB |
| THD + Noise | 0.03% @ 1 kHz at rated nominal level |
| S/N | >90dB, output 21dBu, balanced, at rated maximum output |
| Crosstalk | <-80dB @ 1 kHz, fully loaded |
| Stereo channel separation | >80dB @ 1 kHz |
| CMRR | >75dB @ 20 Hz to 20 kHz |

Audio input

Number/signal type

| | |
|---|--------------------------------|
| MAV 62 | 6 stereo, balanced/unbalanced |
| MAV 84 RCA | 8 stereo, unbalanced |
| MAV 128 RCA | 12 stereo, unbalanced |
| MAV 168/1616 Series | 16 stereo, balanced/unbalanced |
| MAV 2412/2424 Composite Video with Audio, MAV 2412/2424 Audio | 24 stereo, balanced/unbalanced |
| MAV 3216/3232 Composite Video with Audio, MAV 3216/3232 Audio | 32 stereo, balanced/unbalanced |

Connectors

| | |
|---|--|
| MAV 62 | (6) 3.5 mm captive screw connectors, 5 pole |
| MAV 84/128 RCA | (8 or 12) x 2 RCA female plugs |
| MAV 168/1616 Series | (16) 3.5 mm captive screw connectors, 5 pole |
| MAV 2412/2424 Composite Video with Audio, MAV 2412/2424 Audio | (24) 3.5 mm captive screw connectors, 5 pole |
| MAV 3216/3232 Composite Video with Audio, MAV 3216/3232 Audio | (32) 3.5 mm captive screw connectors, 5 pole |

Impedance >10 kohms unbalanced/balanced, DC coupled

Nominal level -10dBV (316mV)

Maximum level +19.5dBu, (balanced or unbalanced) at 1%THD+N

Input gain adjustment

| | |
|------------------------------|--|
| 6-, 8-, 12-, 16-input models | -15dB to +9dB, adjustable per input via RS-232/422 or front panel |
| 24- and 36-input models . | -18dB to +24dB, adjustable per input by RS-232/422, Ethernet, or front panel |

Audio output

Number/signal type

| | |
|--|--------------------------------|
| MAV 62 | 2 stereo, balanced/unbalanced |
| MAV 84 RCA | 4 stereo, unbalanced |
| MAV 128 RCA | 8 stereo, unbalanced |
| MAV 168 Series | 8 stereo, balanced/unbalanced |
| MAV 1616 Series, MAV 3216 Composite Video with Audio, MAV 3216 Audio | 16 stereo, balanced/unbalanced |
| MAV 2412 Composite Video with Audio, MAV 2412 Audio | 12 stereo, balanced/unbalanced |

MAV 2424 Composite Video with Audio, MAV 2424 Audio
 24 stereo, balanced/unbalanced
 MAV 3232 Composite Video with Audio, MAV 3232 Audio
 32 stereo, balanced/unbalanced

Connectors

MAV 62 (2) 3.5 mm captive screw connectors, 5 pole
 MAV 84/128 RCA (4 or 8) x 2 RCA female jacks
 MAV/MSA 168/1616 (8 or 16) 3.5 mm captive screw connectors, 5 pole
 MAV 2412/2424 Composite Video with Audio, MAV 2412/2424 Audio
 (12 or 24) 3.5 mm captive screw connectors, 5 pole
 MAV 3216/3232 Composite Video with Audio, MAV 3216/3232 Audio
 (16 or 32) 3.5 mm captive screw connectors, 5 pole

Impedance

MAV 84/128 RCA 50 ohms unbalanced; capable of 600 ohms drive
 All other audio models ... 50 ohms unbalanced, 100 ohms balanced

Gain error ±0.1dB channel to channel

Maximum level (Hi-Z) >+21dBu, balanced or unbalanced at stated %THD+N

Maximum level (600 ohm) >+15dBm, balanced or unbalanced at stated %THD+N

NOTE 0dBu = 0.775 volts (rms).

Control/remote — switcher

Serial control port

MAV 62 RS-232, 9-pin female D connector
 All other models RS-232 or RS-422, 9-pin female D connector

Baud rate and protocol

MAV 62, MAV 84/128 RCA, MAV 168/1616
 9600, 8-bit, 1 stop bit, no parity
 MAV 2412/2424, MAV 3216/3232
 9600, 19200, 38400, or 115200 baud; 8-bit; 1 stop bit; no parity

Serial control pin configurations 2 = TX, 3 = RX, 5 = GND

Ethernet control port (24- and 32-input models)
 1 RJ-45 female connector

Ethernet data rate (24- and 32-input models)
 10/100Base-T, half/full duplex with autodetect

Ethernet protocol (24- and 32-input models)
 ARP, ICMP (ping), TCP/IP, Telnet, HTTP, SMTP

Program control Extron’s control program for Windows®
 Extron’s Simple Instruction Set™ – SIS™
 24- and 32-input models: Microsoft Explorer, Netscape Navigator, Telnet

General

Power 100VAC to 240VAC, 50/60 Hz, internal, autoswitchable
 MAV 168/1616 S-video/Component Video Series 40 watts
 MAV 168/1616 Series (other than S-video or composite) .. 65 watts
 MAV 2412/2424 Series ... 2 (primary and redundant) ... 100 watts
 MAV 3216/3232 Series ... 2 (primary and redundant) ... 120 watts
 All other models 15 watts
 Temperature/humidity Storage -40° to +158°F (-40° to +70°C) / 10% to 90%, non-condensing
 Operating +32° to +104°F (0° to +40°C) / 10% to 90%, non-condensing
 Rack mount Yes (MAV 62 requires an optional 1U rack shelf, part #60-190-01)
 Enclosure type Metal

Specifications — MAV Series Switchers (continued)

Enclosure dimensions

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|--|---|
| MAV 62 | 1.75" H x 8.75" W x 9.5" D (1U high, half rack width) 4.4 cm H x 22.2 cm W x 24.1 cm D |
| MAV 84/128 RCA, MAV 168/1616 audio only, MAV 168/1616 composite .. | 3.5" H x 17.0" W x 9.4" D (2U high, full rack width) 8.9 cm H x 43.2 cm W x 23.9 cm D (Depth excludes connectors and controls. Width excludes rack ears.) |
| MAV 168/1616 S-video .. | 5.25" H x 17.0" W x 9.4" D (3U high, full rack width) 13.3 cm H x 43.2 cm W x 23.9 cm D (Depth excludes connectors and controls. Width excludes rack ears.) |
| MAV 168/1616 component | 7.0" H x 17.0" W x 9.7" D (4U high, full rack width) 17.8 cm H x 43.2 cm W x 24.6 cm D (Depth excludes connectors and controls. Width excludes rack ears.) |
| MAV 2412/2424 Series, MAV 3216/3232 Series | 8.75" H x 17.0" W x 12.25" D (5U high, full rack width) 22.2 cm H x 43.2 cm W x 31.1 cm D (Depth excludes connectors and controls. Width excludes rack ears.) |

Shipping/product weight

| | |
|--------------------------|---|
| MAV 62 | 6 lbs (3 kg)/3.3 lbs (1.5 kg) |
| MAV 84/128 RCA | 15 lbs (7 kg)/8.9 lbs (4.0 kg) DIM weight 25 lbs |
| MAV 168/1616 2U models . | 15 lbs (7 kg)/9.4 lbs (4.3 kg) DIM weight 25 lbs |
| MAV 168/1616 3U models . | 18 lbs (9 kg)/11.9 lbs (5.4 kg) DIM weight 25 lbs |
| MAV 168/1616 4U models . | 22 lbs (10 kg)/14.4 lbs (6.5 kg) DIM weight 25 lbs |
| MAV 2412/3216 Series .. | 24 lbs (11 kg)/19.4 lbs (8.8 kg) DIM weight TBD |
| MAV 2424/3232 Series ... | 26 lbs (12 kg)/17.5 lbs (7.9 kg) DIM weight TBD |

Vibration ISTA/NSTA 1A in carton (International Safe Transit Association)

Listings UL, CUL

Compliances

| | |
|-------------------------|---|
| MAV 84/128 RCA | CE, FCC Class A & B, VCCI, AS/NZS, ICES |
| MAV 2412/2424/3216/3232 | CE, FCC Class A, VCCI, AS/NZS, ICES |
| All other models | CE |

MTBF 30,000 hours

Warranty 3 years parts and labor

NOTE Specifications are subject to change without notice.

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