



SIERRAVIDEO

Specifications

Main Frame (SMP-xx and MP-xx MultiViewers)

Frames	
SMP-S-BASE	<p>1RU MultiViewer frame including Power supply and networking card and rear. Offers 5 modular slots for a combination of Video and Audio input/output cards.</p> <p>Using this frame a maximum configuration of 16 inputs to 2 independent MultiView outputs can be achieved. Alternatively, two independent 8x2 and 4x2 MultiViewers can be housed in the frame.</p>
SMP-R-BASE	<p>This frame offers the same functionality as the SMP-S-BASE above but also includes an integral 16x16 HD-SDI router (up to 3G).</p> <p>NOTE: Due to the internal HD- SDI router there are restrictions on the functionality of non-HD-SDI inputs in this frame. Therefore, this frame is only recommended for HD-SDI applications</p>
MP-BASE	<p>3RU MultiViewer frame including Power supply and networking card and rear. Offers 19 modular slots for a combination of Video and Audio input/output cards.</p> <p>Using this frame a maximum configuration of 72 inputs to 2 independent MultiView outputs can be achieved. Alternatively, up to 8 independent 4x2 plus one 8x2 MultiViewer can be housed in the frame.</p>
Inputs	
Video Input Format options	<p>HDMI (with HDCP support)</p> <p>HD-SDI (to 3G)</p> <p>Composite Video</p> <p>YUV Component Video</p> <p>RGBHV (525/625 Lines Video Level)</p>
Video Input specifications	<p>VIP3 or VIP3D Video scaler cards – 4 video inputs per card can accept (with appropriate rears):</p> <p>Digital:</p> <p>SD-SDI (SMPTE259M 270Mb): 525/60, 625/60</p>

	<p>HD-SDI (SMPTE292M, SMPTE424M Level A Mapping):</p> <p>HDMI up to 1920x1200@60Hz</p> <p>Analog:</p> <p>Composite (CBVS 1V P-P), limited to 2 inputs per card: PAL, PAL-M, NTSC, NTSC-4.43, SECAM</p> <p>YUV Component (using RMP-AN4 rear max of 2 inputs per card)</p> <p>RGBHV at 525/625 Lines Video level (using RMP-AN4 rear max of 2 inputs per card)</p>
Embedded audio inputs	<p>Embedded audio derived from SDI or HDMI (up to 16 channels per source)</p> <p>Dolby E meter segment metadata level metering (when using optional VIP3D scaler card)</p>
External audio inputs	<p>Optional External audio input cards can be chosen to support:</p> <p>Up to 32 pairs (64 channels) of AES/EBU (AIP32A)</p> <p>Up to 32 channels of Analog audio (AIP32D)</p> <p>Up to 32 channels of either AES/EBU or Analog audio (AIP32AD)</p>
LTC	SMPTE-12M unbalanced. >0.5Vpp
Outputs	
Up to 1080p/60Hz or 3G MultiViewer output	<p>The MPX-MVC-3G MultiViewer Controller card is used when you don't need to exceed an output resolution of 1080p/60Hz or 3G.</p> <p>There is a choice of 2 MultiViewer output rears to accompany this card. Both of these provide 2 independent outputs and a RJ-45 port for control of the MultiViewer:</p> <p>RMP-MVC-3G:</p> <ul style="list-style-type: none"> • 2 independent outputs • Each output offers both HDMI and HD-SDI (BNC) in parallel • Output resolutions of up to 1080p/60Hz or 3G are supported <p>RMP-MVC-DVI-3G:</p> <ul style="list-style-type: none"> • 2 independent outputs • Each output offers both DVI-D and HD-SDI (1.0/2.3 mini connectors) in parallel • Output resolutions of up to 1080p/60Hz or 3G are supported
Up to 4K/30Hz or 6G MultiViewer output	<p>The MPX-MVC-6G MultiViewer Controller card is used when you need up to 4K/30Hz or 6G output resolutions.</p> <p>The following output rear accompanies this card.</p> <p>RMP-MVC-6G:</p> <ul style="list-style-type: none"> • 2 independent outputs • Each output offers both HDMI and HD-SDI (1.0/2.3 mini connectors) in parallel • Output resolutions of up to 4K/30Hz or 6G are supported • RJ-45 port for control of the MultiViewer • STP cage for future use for fibre outputs.
Audio	1 x Analog Stereo audio monitor output is provided via front panel mounted headphone socket (6.35mm), with delay compensation. This may be

	<p>assigned a stereo pair from any of the non-Dolby audio sources in the first MultiViewer instance.</p> <p>For each independent MultiViewer output, up to 4 pairs (8 channels) of audio may be selected from any of the non-dolby audio sources for embedding onto the HDMI and SDI video Outputs.</p>
Optional Audio output card	<p>Optional audio output card:</p> <p>AOP32D - AES/EBU (up to 32 pairs (64 channels) per card)</p>

Video output Standards supported

	HDMI output	With embedded audio	Slaved SDI output	With embedded audio
720p50 (1280x720@50Hz)	Yes	Yes	Yes	Yes
720p59.94 (1280x720@59.94Hz)	Yes	Yes	Yes	Yes
720p60 (1280x720@60Hz)	Yes	Yes	Yes	Yes
1080i 50 (1920x1080@50Hz)	Yes	Yes	Yes	Yes
1080i 59.94 (1920x1080@59.94Hz)	Yes	Yes	Yes	Yes
1080i 60 (1920x1080@60Hz)	Yes	Yes	Yes	Yes
1080p50 (1920x1080@50Hz)	Yes	Yes	Yes	Yes
1080p59.94 (1920x1080@59.94Hz)	Yes	Yes	Yes	Yes
1080p60 (1920x1080@60Hz)	Yes	Yes	Yes	Yes
2160p25 4K/25Hz (3840x2160@25Hz)	Yes (MVC-6G only)	Yes (MVC-6G only)	Yes (MVC-6G only)	Yes (MVC-6G only)
2160p29.97 4K/29.97Hz (3840x2160@29.97Hz)	Yes (MVC-6G only)	Yes (MVC-6G only)	Yes (MVC-6G only)	Yes (MVC-6G only)
2160p30 4K/30Hz (3840x2160@30Hz)	Yes (MVC-6G only)	Yes (MVC-6G only)	Yes (MVC-6G only)	Yes (MVC-6G only)
XGA (1024x768@60Hz)	Yes			
1600x1200@60Hz	Yes			

Latency

	<p>Processing delay varies from 2-3 fields for interlaced video inputs, 2-3 frames for progressive video inputs, depending on timing relationship between the input and output.</p>
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Alarms	
Video inputs	Loss of sync, loss of luminance, freeze frame
Audio inputs	Loss of embedded or external audio, over-level, out of phase channel pairs
Metadata inputs	Loss of VITC (SDI only), loss of V-Chip (composite only), teletext (analog only), subtitles, video non-sync detection
Alarm indication	Visual (in display), GPI, LAN, SNMP traps
Metadata	
Decoding/monitoring	Teletext (WST) subtitles (ITU-R BT.653-3) SD-SDI only OP-47 subtitles, SD- HD- 3G-SDI AFD driving aspect ratio (SMPTE 2016-2007), SD- HD- 3G-SDI WSS driving aspect ratio (ETSI EN 300 294), composite only D-VITC timecode display (SMPTE-12M-2008 VITC), SD-SDI only ATC timecode display (SMPTE-12M-2008 ATC), SD- HD- 3G-SDI CEA-608 closed captions. (Line 21 CEA-608 for composite NTSC or SD-SDI, and SMPTE334-2 CDP packets (CEA-608 only) for SD- HD- 3G-SDI)
GPI I/O	
Global port	8 inputs / 4 outputs per MultiViewer (assignable).
Video I/P card port	8 inputs / 4 outputs per video I/P card (assignable).
Audio Meter Scales and Ballistics	
NORDIC:	Overall dynamic range: 54dB (+12 to -42dB) Attack time: 10mSec Decay time: 1.7Sec per 20dB decay
DIN PPM:	Overall dynamic range: 55dB (+5 to -50dB) Attack time: 10mSec Decay time: 1.5Sec per 20dB decay
BBC PPM:	Overall dynamic range: 24dB +3dB down "Mark 1" (+12 to -12dB) Attack time: 10mSec Decay time: 2.8Sec per 24dB decay (from "Mark 7" to "Mark 1")
VU:	Overall dynamic range: 23dB (+3 to -20dB) Attack time: 300mSec Decay time: 300mSec per 20dB decay
VU EXT:	Overall dynamic range: 60dB (+10 to -50dB) Attack time: 300mSec Decay time: 300mSec per 20dB decay
AES/EBU:	Overall dynamic range: 60dB (0 to -60dB) Attack time: < 5ms Decay time: 1.5Sec per 20dB decay
Phase Correlation Display	
	Attack time: 0.4Sec for zero to ± 1 deviation Decay time: 0.4Sec for ± 1 to zero deviation Input dynamic range: 45dB Minimum input level: -45dBu

I/O and Network Cards	
Network Card	MPX-NET: Network card for SMP-xx/MP-xx Frames. This is included as standard with the frames.
Video Input	VIP3: 4 x video inputs per card (formats as described in the video signal inputs section earlier in the specifications) VIP3D: As above but with added support for metering but not decoding of Dolby® E metadata
Video Output	MPX-MVC-3G: Provides two independent outputs up to 1080p/60Hz or 3G resolutions. MPX-MVC-6G: Provides two independent outputs up to 4K/30Hz or 6G resolutions.
Audio Input	AIP32A: up to 32 channels of analog audio inputs AIP32D: up to 32 AES/EBU pairs (64 channels) of digital audio inputs AIP32AD: up to 32 channels of analog, or digital, audio inputs
Audio Output	AOP-32D: up to 32 AES/EBU pairs (64 channels) of digital audio outputs
Rear Modules	
Network rear	RMP-NET: Network rear for SMP-xx/MP-xx Frames. This is included as standard with the frames and features: 1x BNC for reference input 1x BNC for timecode input 1x 15 way 'D' connector GPI I/O port 1x RS232/RS422 port for UMD tally via TSL 1x RJ45 auxiliary Ethernet (LAN) port
Video Inputs	
RMP-HM4	4 x HDMI inputs
RMP-SD4	4 x HD-SDI inputs (on BNCs) (Up to 2 of these can alternatively be used for Composite Video inputs.)
RMP-HM2	2 x HDMI inputs 2 x HD-SDI inputs (on BNCs or mini 1.0/2.3)
RMP-CV4	4 x Composite/HD-SDI inputs (on BNCs) (All can accept either HD-SDI or Composite Video inputs.)
RMP-AN4-1023	Analog rear providing: 2 x RGBHV (video level) or YUV 2 x HD-SDI All via 1.0/2.3 mini connectors
RMP-AN4-MBNC	Analog rear providing: 2 x RGBHV (video level) or YUV 2 x HD-SDI All via Micro BNC connectors
RMP-SL4-1023	4 x Looping HD-SDI inputs. 4 x Inputs + 4 x loops provided via 8 x 1.0/2.3 mini connectors
RMP-SL4-MBNC	4 x Looping HD-SDI inputs. 4 x Inputs + 4 x loops provided via 8 x Micro BNC connectors
RMP-SR4-1023	This rear is only for use with the SMP-R-BASE integrated router frame. It provides: 4 x HD-SDI Router/MultiViewer inputs 4 x HD-SDI router outputs via 8 x 1.0/2.3 mini connectors
RMP-SR4-MBNC	This rear is only for use with the SMP-R-BASE integrated router frame. It provides: 4 x HD-SDI Router/MultiViewer inputs 4 x HD-SDI router outputs Via 8 x Micro BNC connectors

MultiViewer outputs	
RMP-MVC-3G	<ul style="list-style-type: none"> Provides 2 independent outputs Each output offers both HDMI and HD-SDI (BNC) in parallel Output resolutions of up to 1080p/60Hz or 3G are supported 1x RJ45 Ethernet (LAN) connector for browser control, NTP clock update and/or remote control of the MultiViewer outputs
RMP-MVC-DVI-3G	<ul style="list-style-type: none"> Provides 2 independent outputs Each output offers both DVI-D and HD-SDI (1.0/2.3 mini connectors) in parallel Output resolutions of up to 1080p/60Hz or 3G are supported 1x RJ45 Ethernet (LAN) connector for browser control, NTP clock update and/or remote control of the MultiViewer outputs
RMP-MVC-6G	<ul style="list-style-type: none"> Provides 2 independent outputs Each output offers both HDMI and HD-SDI (1.0/2.3 mini connectors) in parallel Output resolutions of up to 4K/30Hz or 6G are supported 1x RJ45 Ethernet (LAN) connector for browser control, NTP clock update and/or remote control of the MultiViewer outputs STP cage reserved for future fibre output use
Audio rear	RMP-A32 rear is used to accompany any of the optional Analog or Digital Audio input or output cards. It provides two DB-25 connectors
Front panel	
	Power supply and fan failure LED indicators on front panel 1 x OLED display and control knob 1 x USB type A port 1 x 6.35mm stereo audio socket
Frame Rear Panel (SMP-xx and MP-xx)	
	1x IEC AC power socket 1x 2-pole DC power socket
	1x RJ45 Ethernet (LAN) connector for browser control, NTP clock update and/or remote panel control
Mechanical	
SMP-xx MultiViewer	
Rack Size	1RU
Details	19" Rack Mountable Frame with removable front panel, temperature controlled fan assisted ventilation, 6 card slots, separate rear connector modules and power supply / fan status indicators.
Variants	SMP-Rxx MultiViewer equipped with a front-end 16x16 input video router and a stand-alone 16x16 SDI router capability. SMP-Sxx MultiViewer without internal 16x16 SDI router
Dimensions	445mm(W) x 511mm(D) x 44mm(H)
Weight	6kg (full frame)
MP-xx MultiViewer	
Rack Size	3RU

Details	19" Rack Mounting Frame with removable front panel, temperature controlled fan assisted ventilation, 20 card slots, separate rear connector modules and power supply / fan status indicators.
Dimensions	440mm(W) x 455mm(D) x 132mm(H)
Weight	10.5kg (full frame)
Power	
SMP-xx MultiViewer	
Connectors	AC - Single IEC Mains Socket DC – Single 2-pole DC power socket
Power	Maximum power consumption 204W
Input current rating	2.5A AC, 8.5A DC
Fusing	1x 3.15A Fuse; 5x20mm ceramic body, Anti-surge/Time delay inside IEC socket
MP-xx MultiViewer	
Connectors	AC - Single IEC Mains Socket DC – Single 2-pole DC power socket
Power	Maximum power consumption 576W
Input current rating	7A AC, 24A DC
Fusing	1x 8A Fuse; 5x20mm ceramic body, Anti-surge/Time delay inside IEC socket
Environmental	
Operating Temperature	0°C to 40°C
Relative Humidity	70% max, non-condensing
Ventilation	Fan assisted. Front Inlet, rear exhaust
Compliance	
EMC – Emissions	EU: EN55103-1 USA: 47 CFR: 2009, Part 15, Sub-part B (Class A)
EMC – Immunity	EU: EN55103-1
Safety	EN: EN60950-1 USA: UL1419 (3 rd Edition) – UL File E193966)
Hazardous Material	UK: RoHS-6 – Complies with EU Directive

Backup power supply (POWER-xx)

Front	
	2x Green LED indicator for presence of AC input and DC output per supply fitted
Rear	
	1x 2-pole DC power outlet socket
	3x IEC AC power socket (one for each supply that can be fitted)
	25 way D-type (CN500) into which supplied d-type shell MUST be fitted for DC output to be active

Mechanical	
	1RU Power Supply Outline Dimensions~: 484mm(W) x 351mm(D) x 44mm(H) Weight: up to 11kg with 3x psu fitted (one supplied as standard)
Power	
	Auto sensing 100 – 240 V AC, 50/60Hz switch mode 1kW power supply with 24V DC single rail output.