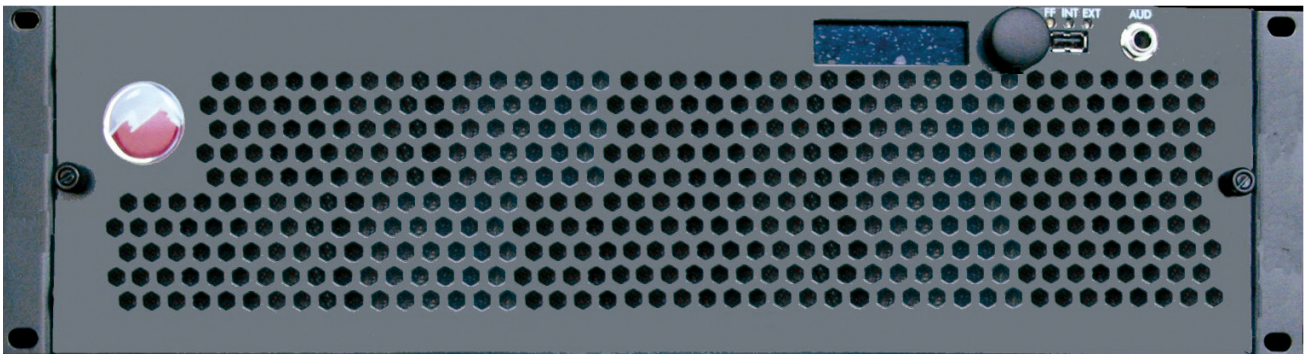
SIERRA VIDEO

A KRAMER COMPANY

4K

MP-XX MULTIVIEWER

FULLY FEATURED MODULAR MULTIVIEWER WITH UP TO 72 VIDEO INPUTS AND MULTIPLE MULTIVIEWER INSTANCES



The MP-xx is a high quality, innovative MultiViewer designed for the serious AV and Broadcast user. These high resolution, multiformat devices provide considerable flexibility having full audio support, browser configuration and control, together with sophisticated alarms reporting.

FEATURES

CONTROL

- Front panel menu for system health monitoring and IP setup.
- Comprehensive user-friendly Browser control and configuration via LAN. Remote protocol also available for control from third party control systems.

MULTIPLE MULTIVIEWER INSTANCES

- As the MP-xx has up to 20 modular slots it is able to support multiple MultiViewer instances by adding additional output cards to give up to 9 independent Multiviewers in the same 3RU MP-xx frame.

SUPERIOR IMAGE QUALITY

- Ultimate image quality using state-of-the art image processing algorithms for de-interlacing and scaling.
- HDMI MultiViewer outputs up to 4K/30Hz output resolution for use with the highest quality displays.
- SDI outputs supporting up to 6G (4K/30Hz) output resolution.
- Genlocked inputs for flicker-free and full frame operation.

COMPREHENSIVE ALARMS AND ON-SCREEN STATUS

- Alarms for video, audio and metadata with outputs to tallies, GPIs/GPOs, LAN and SNMP traps, allowing connection of the MP-xx with external monitoring systems.
- Under Monitor Displays (UMDs) via keyboard, LAN or serial cable supporting TSL and Open protocol.
- Clock display receiving time information via NTP network protocol or LTC.
- Teletext, subtitles, AFD, WSS, VITC decoding and monitoring.

FLEXIBLE

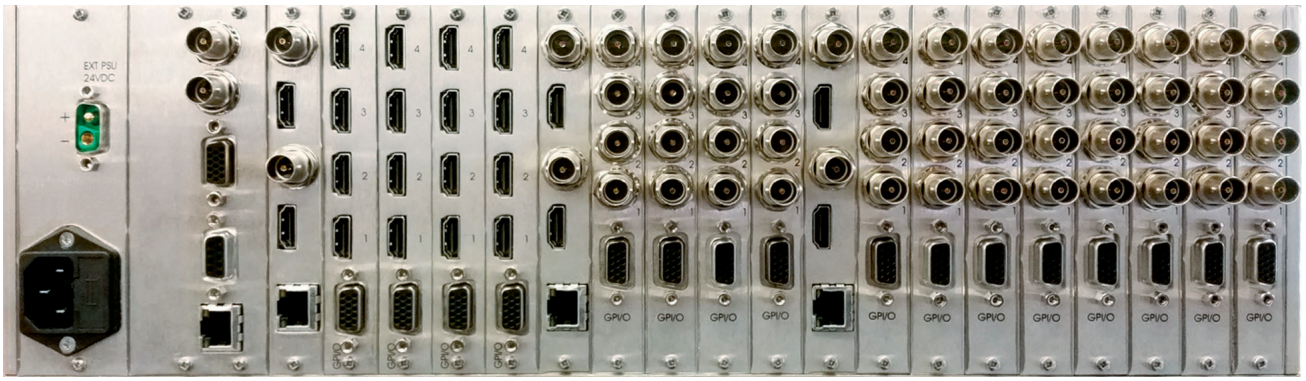
- Up to 72 video inputs - choose from 3G/HD/SD-SDI, HDMI, RGBHV (525/625 lines Video level), YUV & Composite.
- The perfect solution for compact monitoring in smaller OB vans, editing suites, master control or digital playout facilities.
- Fully customizable display tiles allowing picture-in-picture on a chosen background, graphical, plain color or external video source.

AUDIO

- Up to 1152 channels of embedded audio may be displayed as industry standard bargraphs with a choice of scales/ballistics and a loudness display option.
- Up to 576 channels of external audio, analog or digital (AES/EBU) may be displayed with optional cards.
- Optional VIP-3D scaler card offers metering (but not decoding) of Dolby E metadata.
- Audio monitoring via SDI and HDMI.
- Front Panel 1/4 Inch Jack for audio monitoring.

ROBUST AND RELIABLE

- 3RU compact lightweight modular design, ideal for OB vans and other space restricted installations.
- Intelligent fan control to regulate system temperature.
- Redundant Power Supply via optional External 1RU POWER-XX (Includes Frame, PSU and cable to connect to MP-xx).
- All audio/video input/output cards are hot-swappable.



1. SDI INPUT (RMP-SD4)

- 4 x BNC
- 1 x D Type (GPI/O 8 in 4 out)
- Input 1 & 2 also accept composite

2. HDMI INPUT (RMP-HM4)

- 4 x HDMI with HDCP support
- 1 x D Type (GPI/O 8 in 4 out)

3. LOOP THROUGH INPUT (RMP-SL4)

- 4 x DIN 1.0/2.3 Inputs
- 4 x DIN 1.0/2.3 Active Loop through outputs
- 1 x D Type (GPI/O 8 in 4 out)

4. ANALOG INPUT (RMP-AN4)

12 x Din 1.0/2.3 inputs supporting up to 4 inputs such as:

- 2 x RGBHV (525/625 lines Video level) + 2 x 3G/HD/SDI/Composite Inputs
- 4 x Component Video (RGB/YUV)
- 4 x 3G/HD/SDI/Composite Inputs
- 1 x D Type (GPI/O 8 in 4 out)

5. COMPOSITE VIDEO INPUT (RMP-CV4)

- 4 x BNC. All can support Composite Video simultaneously
- 1 x D Type (GPI/O 8 in 4 out)

6. HDMI AND BNC INPUT (RMP-HM2)

- 2 x HDMI video inputs
- 2 x BNC 3G/HD/SDI/Composite Inputs
- 1 x D-type GPI/O (8 in, 4 out)

7. MULTIVIEWER OUTPUT (RMP-MVC-3G)

- 2 x Independent HDMI Outputs each with a parallel HD-SDI output supporting up to 1080p/60Hz, 3G output resolutions.
- 1 x RJ45 Ethernet

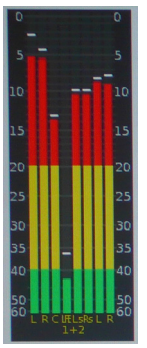
8. MULTIVIEWER OUTPUT (RMP-MVC-6G)

- 2 x Independent HDMI Outputs each with a parallel HD-SDI output supporting up to 4K/30Hz, 6G output resolutions.
- 1 x RJ45 Ethernet

RMP-A32

A range of Analog and AES input and output cards use the rear module RMP-A32.
These provide additional flexibility for audio monitoring in many different environments:

- AIP32A Analog Audio Input Card, 32ch
- AIP32D Digital Audio Input Card, 32ch
- AIP32AD Analog Audio, 32ch and Digital Audio, 32ch input card
- AOP32D Digital Audio Output Card, 32ch

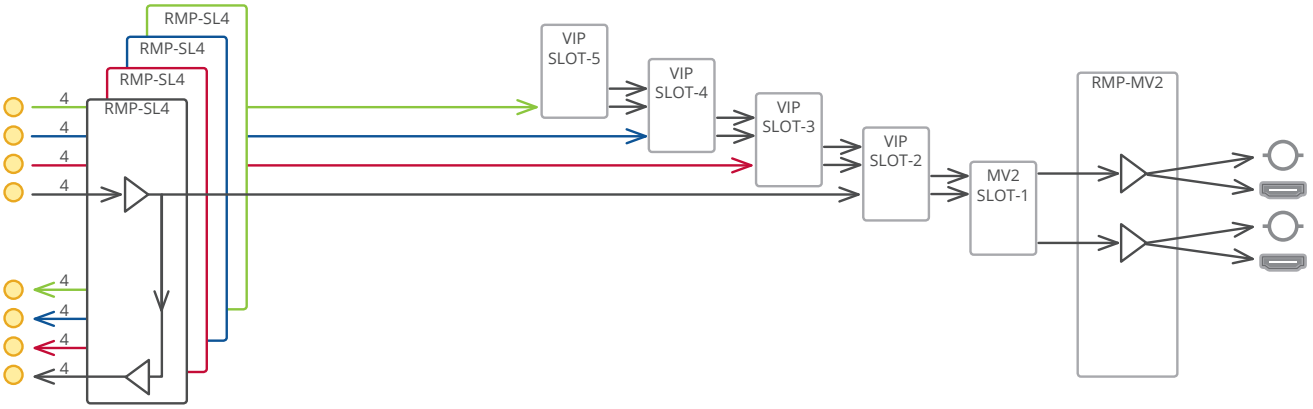


In additional to Analog, AES and Embedded monitoring capability the VIP-3D card features optional DolbyE level metering. Smart metering automatically detects presence of DolbyE or PCM and highlights accordingly. The meter shows peak and RMS levels from the Dolby Metadata.

The MP-xx platform is modular and offers a choice of video and audio input cards and rears. There are 20 card slots in the MultiViewer. Two of these are reserved for the Control card and Output card with their associated rear modules. The product is fully modular and cards may be added or swapped at a later date. A range of rear modules allows for complete flexibility in choice of I/O format. This makes the MP-xx extremely flexible for a wide range of application markets.

The audio input cards provide great capability in Studios and OB to visualize multiple audio sources. In small OB environments, where space and cost is at a premium, the loop through rears (RMP-SL4) mean DAs or router outputs may be avoided.

MP-XX MULTIVIEWER



SPECIFICATIONS

SIGNAL INPUTS

VIDEO

- VIP3 – 4 video inputs per card:
  - SD-SDI (SMPTE259M 270Mb): 525/60, 625/60
  - HD-SDI (SMPTE292M, SMPTE424M Level A Mapping):
  - SD-Analog: Composite (CBVS 1V P-P), limited to 2 inputs per card: PAL, PAL-M, NTSC, NTSC-4.43, SECAM
  - HDMI input: up to 1920x1200@60Hz

EMBEDDED AUDIO

- Embedded audio derived from SDI (up to 16 channels per source)
- HDMI
- Dolby E meter segment metadata level metering (optional using VIP-3D card)

EXTERNAL AUDIO

- Via optional audio input cards:
  - AIP32A – Analog (32 channels/card)
  - AIP32D – AES/EBU (32 pairs (64 channels)/card with SRC (32kHz-192kHz re-sampled to 48kHz)
  - AIP32AD – Analog (32 channels/card) and AES/EBU (32 pairs/64 channels)/card with SRC (32kHz-192kHz re-sampled to 48kHz)

LTC

- SMPTE-12M unbalanced. >0.5Vpp

SIGNAL OUTPUTS

- 2 x Independent HDMI outputs with support for HDCP encrypted material supporting resolutions;
  - XGA (1024x768@60Hz)
  - 720p60 (1280x720@60Hz)
  - 720p50 (1280x720@50Hz)
  - SXGA (1280x1024@60Hz)
  - SXGA (1280x1024@50Hz)
  - SXGA+ (1400x1050@60Hz)
  - 1080p50 (1920x1080@50Hz).
  - 1080p60 (1920x1080@60Hz)
  - 2160p30 (3840×2160@30Hz) (Via MPX-MVC-6G card and RMP-MVC-6G rear)
  - 2 x SDI outputs supporting resolutions
  - 1080p50 (1920x1080@50Hz).
  - 1080p60 (1920x1080@60Hz)
  - 2160p30 (3840×2160@30Hz) (Via MPX-MVC-6G card and RMP-MVC-6G rear)
- 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.

AUDIO

- One analog audio monitor output via front panel mounted headphone socket (6.35mm), with delay compensation, may be assigned from any audio source. Embedded audio may be de-muxed from both the HDMI and SDI video inputs.
- Optional audio output cards:
  - AOP32D - AES/EBU (32 pairs (64 channels)/card)

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. Also loss of Dolby E when using VIP-3D input cards
- Metadata inputs – Loss of VITC (SDI only), loss of V-Chip (composite only), teletext (analog only), subtitles, video non-sync detection

SPECIFICATIONS

- Alarm indication – Visual (in display), outputs to tallies, 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

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

MECHANICAL

- 3U high 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.
- Outline Dimensions~: 440mm(W) x 455mm(D) x 132mm(H)
- Weight: 10.5kg (full frame)

POWER

- 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

- Temperature 0°C to 40°C Humidity 70% max

I/O CARDS

- Video
  - VIP3: 4 x video inputs – either composite (only 2 inputs), SD/HD-SDI, or HDMI
  - VIP3D: 4 x video inputs – either composite (only 2 inputs), SD/HD-SDI, or HDMI with Dolby (R) E decoding.
- Video Rear Modules:
  - RMP-SD4 – 4 x BNC inputs, each of which can support up to 3G HD-SDI. Up to 2 of these BNC can be also used to support analog Composite Video inputs.
  - RMP-SL4 – 4 x 3G HD-SDI inputs - each with a local loop. The rear module features 8 connectors (4 x inputs and 4 x local loops) on a choice of either 1.0/2.3 connectors or Micro BNCs.
  - RMP-HM4 – 4 x HDMI inputs.
  - RMP-HM2 – 2 x HDMI inputs and 2 x BNC inputs. The BNC inputs can support up to 3G HD-SDI or analog Composite Video.
  - RMP-AN4 – 4 x Analog inputs supporting either 4 x Component Video, or 2 x RGBHV and 2 x Composite Video.
  - RMP-CV4 – 4 x BNC inputs, each of which can support analogue Composite Video or up to 3G HD-SDI
  - RMP-MVC-3G - 2 x independent HDMI Video outputs each paired with a parallel BNC SDI output, both supporting up to 1080p/60Hz, 3G-SDI. RJ45 connector for Ethernet control.
  - RMP-MVC-6G - 2 x independent HDMI Video outputs each paired with a parallel Micro BNC SDI output, both supporting up to 2160p/30Hz (4K/30Hz), 6G-SDI. RJ45 connector for Ethernet control.
- Audio
  - AIP32A – 32 Channel Analog Audio input card
  - AIP32D – 32 Channel Digital Audio input card
  - AIP32AD – 32 Channel Analog + 32 Channel Digital Audio input card
  - AOP32D – 32 Channel Digital Audio output card

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

OTHER REARS

- Power input rear:
  - 1x IEC AC power socket
  - 1x 2-pole DC power socket
- Network rear:
  - 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

2902-000903

2902-000902