

MAGNI[®]

MM-410 Series Rasterizing Waveform/Vector Monitor

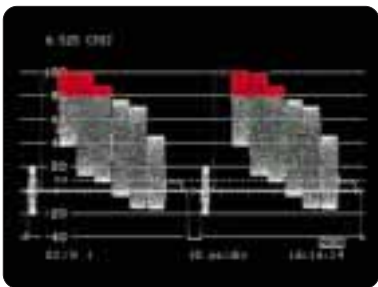
Split
Screen
Display



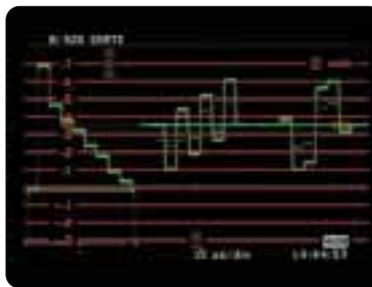
Component
Vector



Waveform
Limit Line



Component
Video
Parade



Rasterizing Waveform Monitor/Vectorscope with 10 Bit Digital Precision and Analog CRT Display Quality

An excellent alternative to the analog monochromatic CRT monitors! Magni's patented raster technology with 10 bit signal processing provides accurate waveform and vector displays on a standard color picture monitor. It allows storage of acquired waveforms, with superior display accuracy as the raster-based display is not subject to CRT errors.

The engineer's choice for applications that support multiple formats! The MM-410 Series monitors are dual standard (NTSC and PAL) and multi-format (Beta, MII, S-Video, EBU, GBR). Separate A and B channels provide for easy transitions between Composite and Component monitoring.

The MM-410 loop through inputs can be configured for:

- Two Composite or one Composite and one S-Video
- One Composite and one 3 wire Component

For video professionals who need basic monitoring and quality performance! Features include a unique split screen mode, providing picture, waveform, and vector on a single display. Video operators will appreciate the unique peak video over limit region identified in red. Other features, like the SCH and Blanking graticule, make advanced measurements easy for the experienced engineer. User friendly front panel control and 10 memory pre-sets provide instant set-up recall such as Composite parade of filters or Component waveform parade. Magnification and line select modes, enable viewing of VITS and vertical blanking interval.

An indispensable tool in video production! On-screen read out of SCH phase and color frame indicator. Simultaneous display of both A and B channels provides for easy camera timing and color matching required when:

- Setting and balancing camera levels
- Checking time base correctors
- Assuring color fidelity and timing for editing

Its compact 1 RU low power design fits the smallest editing suites or ENG vans.



The MM-410 Rasterizing Waveform/Vector Monitor

Component, Composite, and S-Video waveform monitor and vectorscope

On-screen matrix display of picture, waveform and vector

High equivalent sampling rate and 10 bit signal processing provide precise, CRT-like raster display

Applications

Professional quality, general purpose composite waveform monitor and vectorscope combination for studio and transmission applications

Affordable Component and Composite video monitoring for multimedia non-linear editing and TV studio production applications

Adaptable to DV and SDI monitoring, with an external DV/SDI-to-Component/Composite converter



On-Screen Menus

Raster scan on-screen color displays provide picture, waveform, vector, and measurement screens on commonly available picture monitors, eliminating the size constraints and errors of direct view monochrome analog CRTs.

Magni's patented "Adaptive Graticule" technology provides different graticules and color capabilities for individual measurements, eliminating the clutter and associated problems of internal and external graticules required by analog CRTs.

Furthermore, standard video format on-screen displays provide a routable video signal for distribution within or outside of the television facility.

MAGNI[®]

MM-410 Rasterizing Waveform/Vector Monitor

Rear Panel Connectors



Specifications

Electrical

VIDEO STANDARDS

NTSC and PAL Composite plus S-Video
EBU, SMPTE, Beta, MII, GBR (WFM only) Component (525/625)

VIDEO INPUTS

Two loop through inputs (input A and B):
Input A configurable for Composite or S-Video
Input B configurable for 3 wire Component, S-Video or Composite
Return loss (75Ω) > 40 dB to 6 MHz

EXTERNAL REFERENCE INPUT

Composite loop through (NTSC/PAL)

PICTURE MONITOR DISPLAY OUTPUTS

Composite and S-Video

DISPLAY

Raster scan on-screen display on standard picture monitor
Waveform, vector, picture or split screen display of all three

READOUT

VITC time code or real time clock (RTC)
SCH frame reference

MEMORY

Memory: 10 recallable blue key memories to store MM-410 configurations and front panel settings

Images: up to 6 recallable waveform/vector images can be stored

WAVEFORM MONITOR

Vertical gain accuracy: +/- 1% with 1.0V input

Vertical MAG: X 2.5 typical

Frequency response: +/- 1% to 6 MHz, +/- 2% to 8 MHz (waveform mode)

Low pass filter response: +/- 1% of DC at 50 kHz, <- 40 dB at fsc

Band pass filter response: +/-1% of DC at fsc attenuation of >25 dB at 2xfsc. 1.5 MHz bandwidth

Transient response:

Pulse to bar ratio: 0.99:1 to 1.01:1 typical

Pulse preshoot/ ringing: <1%

Line time tilt: <1%

DC Restorer

Slow: Typically 12 dB attenuation At 50/60 Hz

Fast: >26 dB attenuation At 50/60 Hz

Timing difference between channels: +/- 5 ns

Sweep timing: Accuracy digitally derived

Time base: 1H (5 μ s/div), 2H (10 μ s/div), 2F

Line select: Displays line 1 through line 262/312

MAG mode: 0.1 μ s/div (1H), 1.0 μ s/div (2H), 2F (approximately x25)

VECTORSCOPE

Display accuracy

Amplitude error: +/- 2%

Phase error: +/- 1.25°

Chroma bandwidth: 700 kHz +/- 100 kHz

Variable phase: 360 degree

Vector MAG: x 2.5 typical

INTERFACES

Ground closure interface

Logic level interface memory recalled for instrument control through memory settings

Mechanical

DIMENSIONS

One rack unit (1RU)

H/W/D:

45 mm (1.75 in)

486 mm (19 in)

432 mm (17 in)

POWER REQUIREMENT

Line voltage: 100 to 240 VAC, 50/60 Hz, 50 VA maximum

OPERATING CONDITIONS

0 to 50° C

90% relative humidity

SAFETY

Tested to meet or exceed UL 1950, CSA 1402C, IEC 950

CE certified

Features

- Multi-format: Composite, S-Video and 3-wire Component
- Multi-standard: NTSC/PAL, 525/625
- Simultaneous Composite and S-Video display outputs for easy routing throughout the facility
- Vector display for Composite and 3 wire Component
- 100 ns/division horizontal resolution with anti-alias CRT simulation display
- Capture and storage of waveform and vector images for signal comparisons
- Ten user defined memories simplify monitoring of specific operational settings
- Line selector provides bright displays of VITS or individual lines
- User-friendly control and interface
- Compact one RU package and low power for cost-effective operation

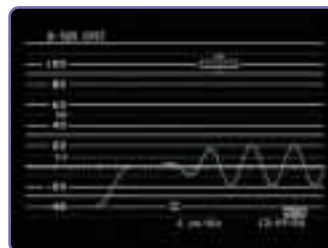


SCH & Blanking Measurement

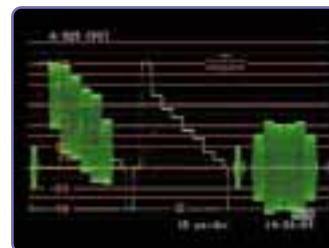
Magni Systems, Inc. has been a leading provider of innovative television test and measurement, and computer graphics-to-video products since 1984. Magni's products provide signal sources and perform monitoring and measuring functions for broadcast stations, cable television, production studios, digital content creators, and video equipment manufacturers worldwide. Magni's technology, innovation and expertise have produced market-leading products which have received two prestigious EMMY awards.



Bright Vertical Interval Displays



Quality Anti-Aliased Waveforms



Filter Parade Display

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MAGNI

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