

## Standard Definition SDI, Analog Video\* and Audio\* Signal Monitor



The Monitor Scope MS601AX is compact, low power On Screen Display (OSD) device with a built in XVGA display which is an ideal alternative to, and/or replacement for broadcast measuring devices in production or engineering environments. Especially where repetitive monitoring or measurements need to be made. Areas such as, master control, pre or post production, editing and graphics suites, remote sites and OB vehicles. Indeed anywhere serial digital signals or multi-format measurement is required.

Options are made with drop in cards, so it couldn't be easier. The MS601AX unit is capable of SD SDI analysis, measurement and monitoring. With the addition of "option cards" the unit is able to cover CAV\* (component analog video) YcrCb\*, RGB\*, composite video\* and audio\* in its embedded, AES/EBU and analog formats.

Capability with the optional audio DAC\* to provide stereo audio balanced outputs from the selected input (AES, Analog or Embedded).

### Features and Functions

- Inputs:
  - 2 SD SDI CCIR 601 (SMPTE 259M) with reclocked outputs.
  - 2 Composite (PAL & NTSC) video inputs\*.
- 525 and 625 auto sensing.
- Contains patent applied proprietary 10 bit processing designs.
- Built in high definition XVGA colour LCD for picture, data and waveform displays.
- On screen digitally generated analyser, waveform and vectorscope displays.
- Error detection and handling (EDH/CRC) (SMPTE RP 165).
- Error logging.
- Gamut indicator on front panel.
- Poly™ illegal colour display and alarm in RGB domain.
- Full field line select, Mag line select set up and recall with or without cursors.
- Cursor measurement and readouts for V, timing and phase and amplitude.
- Outputs: CAV (YCrCb), RGB and composite in vision displays.
- Nine factory set display modes are stored in memory.
- HFT™ hands free timing.
- RS232 remote control\*.
- Mains or 12vdc powered or internal battery.

*This product contains proprietary patented designs.*

**\* Features available as options  
(see options list below)**

# TECHNICAL SPECIFICATION

## INPUTS

**Serial digital inputs.** BNC connectors. Input impedance 75 ohms. Max d.c. +/- 10V.

SMPTE 259M, ITU-R BT.601/656 serial component. 800mV pp. +/-10% auto equalised up to 300 metres.

**Serial digital outputs.** BNC connectors. Output impedance 75 ohms. Equalised versions of the serial digital inputs.

**External ref input.** BNC connector with loop through output. Return loss better than 40dB. Zin of 22k. Max dc +/- 3 volts.

**Composite inputs\*.** 2 x BNC connectors with loop through outputs. Return loss better than 40dB. Zin of 22k. Max dc +/- 3 volts.

**Component inputs\*.** 3 x BNC connectors with loop through outputs. Return loss better than 40dB. Zin of 22k. Max dc +/- 3 volts. YCrCb or RGB.

## OUTPUTS

Serial digital outputs. BNC connectors. 800mV to 75 ohms.

Hi Res output\*. 15 pin high density D socket. Analog 0.7V R, G, B and H and V sync.

Composite output. BNC connector. 1V to 75 ohms.

Component outputs. BNC connectors. 1V to 75 ohms. YCrCb or RGB.

## AUDIO\*

4 x Analog balanced inputs. Zin 22K.

2 x AES/EBU digital audio inputs @ 48KHz, 44.1KHz or 32KHz. Zin 200R.

4 x Analog balanced outputs, line level.

## REMOTE CONTROL\*

9 pin D socket for GPI, data up/down load and remote control.

## DISPLAY AREAS

Waveform cutout boxes 38uS x 512 lines or 19uS x 256 lines or 9.5uS x 128 lines.

Horizontal and vertical positions are menu selectable.

Text cutout box 38uS x 32 lines at top or bottom of frame.

Audio cutout boxes 3.6uS x 512 lines at left and right of frame.

## WAVEFORM MONITOR

Resolution Full 10 bit processing. Display resolution 512 x 512.

Response Flat is unprocessed digital data stream.

Low Pass is -3db @ 1.5MHz, -60db @ 6.75MHz.

Sensitivity 1volt encoded video reads 1 volt on screen. Totally digital processing guarantees accuracy. Mag is x 4 gain.

Timebase H, 2H, 3H and Hmag, which is selectable to x5 or x10.

V, 2V, Line select and Vmag, selectable to 2,4,8,16 or 32 lines.

Line select is a fully sampled and bright display.

Chop provides parade and overlay displays.

## POWER

10 to 14V d.c. to 4 pin XLR. Pin 1 = ground, pin 4 = +12V @ 2A max.

Can also be powered by the optional internal battery pack.

## VECTOR MONITOR

Video Traditional component or composite (option) display.

Digital component accuracy 0.2%. Bandwidth 3.375MHz.

Composite accuracy 1%. Bandwidth 1.0MHz.

Audio Stereo phase display of left or right audio pair.

Phase accuracy 2 deg. Display compression 30db.

Gamut Poly™ display of RGB signal shows up illegal colours.

## AUDIO MONITOR\*

Accuracy Better than 0.1db over full scale range.

Characteristics BBC Type 2, Digital, Nordic, VU EBU, DIN and expand

## PHYSICAL

**DIMENSIONS:** - 215mm x 133mm x 185 mm.

**WEIGHT:** - 2.9Kg.

**WARRANTY:** - 1 Year.

Extendable free on registration: - To 2 Years

By using the service area of our web site

<http://www.hamlet.co.uk/serv.html>

## ORDERING INFORMATION

### MS601AX

SD SDI analyser, waveform, vectorscope.

\* Features available as options (see options list below)

### Options

MS-SDIO	SD SDI video output of picture with trace data
MS-ANIN	Analog video inputs card for composite, component YCrCb or RGB signals
MS-AUDIN	Audio input card for analog, embedded & AES/EBU
MS-POL	Audio Polar phase display option - requires MS-AUDIN
MS-VDAC	Video DAC of the selected digital input
MS-ADAC	Audio DAC of the selected audio - requires MS-AUDIN
MS-SRM	Single unit rack kit
MS-RC	Remote control using RS232
MS-BP	Built-in Battery Pack for portable use
MS-SCC	Soft carry case
MS-AMU	Audio monitoring unit
MS-SHS	Stereo Headphone socket adapter

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