

Hamlet® MonitorScope™

MS9000

3U half rack Multiformat, Waveform, Vector and Audio Monitor.



Measurement and monitoring of all HD, SD and Composite signals. Embedded, AES audio External reference included.
Uses Patented “all digital” processing.

The MonitorScope MS9000 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. The MS9000 is a modular instrument so it is easy for the user to upgrade at any time. Optional module to show signals on a DVI/XVGA external monitor (1024 x 768 @ 60Hz digital or analogue monitor, via a DVI-I socket).

The MS9000 unit is capable of HD SDI, SD SDI and composite video signals and audio in its embedded, or AES/EBU formats. For analysis, measurement and monitoring. There is a headphone socket on the front so the decoded audio can be monitored.

This product contains proprietary patented designs.

Features and Functions

Main Unit

- The first modular 3U half rack HD, SD, Composite measuring instrument
- High resolution quality 6.5" XVGA TFT display
- Data and gamut analysis, time code logging of assigned errors
- Easy access to full waveform and vector functionality: Parade (YCrCb), 2H, H, Hmag, 2V, V, Vmag, Full field line select, Bow tie, Ext - ref, HFT™ - (Hands Free Timing™) and Filtering
- V, H and Phase cursors for accurate measurement & reporting
- Coloured displays of waveforms, vectors, audio bar graphs and phase display
- Select audio source, bar graph type, peak hold, de-emphasis
- Split tile layout, picture display in 4:3 or 16:9
- Audio output jack
- Three input module slots
- Operator and factory store and recall presets
- Patented proprietary 10 bit processing of all signals
- Computer remote IP control via, up/downloads data via USB/RJ45
- 12 VDC powered, battery pack, mains adapter included

Module Options:

HD/SD*

- Input BNC.
- Loop Out BNC.
- Ext Ref. / AES input BNC.
- Auto sensing of HD and SD formats.
- Audio decode.

SD/Composite*

- Input BNC.
- Loop Out BNC.
- Ext Ref. / AES input BNC.
- Audio decode.

Other Options*:

- Hard carry case available to hold the unit and its option modules.
- Soft carry case to hold the unit and its option modules.
- RJ45
- DVI/XVGA output module (1024 x 768 @ 60Hz digital or analogue monitor, via a DVI-I socket)

TECHNICAL SPECIFICATION

INPUTS WITH SDI-CST MODULE

INPUT

BNC connector.

Input impedance 75 ohms. Max d.c. +/- 10V.
SMPTE 259M serial digital at 800mV p/p.
Auto equalised up to 350 metres of cable at 270mb/s. PAL
or NTSC composite video 0.5 to 2.0V p/p.

SDI output.

BNC connector. Output impedance 75 ohms. Equalised
version of the serial digital input.

Ext-ref / AES input.

BNC connector. Input impedance 75 ohms. Max dc +/- 3
volts. Video 0.5 to 2.0V p/p.
Digital Audio min 150mV p/p, max 3V p/p conforming to
S/PDIF, AES3, IEC60958 or EIAJ CP1201.

INPUTS WITH HD-SD MODULE

SD/HD digital input.

BNC connector. Input impedance 75 ohms.
Max d.c. +/- 10V.
SMPTE 259M serial digital at 800mV p/p.
SMPTE 292M high definition serial digital at 800mV p/p.
Auto equalised up to 350 metres of cable at 270mb/s.
Auto equalised up to 140 metres of cable at 1.485Gb/s.

SD/HD digital output.

BNC connector. Output impedance 75 ohms. Equalised
version of the serial digital input.

Ext-ref / AES input.

BNC connector. Input impedance 75 ohms. Max dc +/- 3
volts. Video 0.5 to 2.0V p/p.
Digital Audio min 150mV p/p, max 3V p/p conforming to S/PDIF,
AES3, IEC60958 or EIAJ CP1201.

WAVEFORM MONITOR

Response Flat is +/- 0.5% 50Hz to 5.5MHz.
Low Pass is -3db @ 1.5MHz, -60db @ 6.75MHz.
Timebase H, 2H and Hmag (x5). V, 2V and Vmag.
Line select is any line from the frame.
Parade is a 3H display of input or filter parade.

VECTOR MONITOR

Video Traditional component or composite display.
Component accuracy 0.2%. Bandwidth 3.375MHz.
Composite accuracy 1%. Bandwidth 1.3MHz.

AUDIO MONITOR

Audio Stereo phase display of left or right audio pair.
Phase accuracy 2 deg.

OUTPUTS

Optional Output to DVI or X VGA monitor, (1024 x 768 @ 60Hz
digital or analogue monitor, via a DVI-I socket.)
Audio output jack, USB's and RJ45

DISPLAY

High resolution quality 6.5" X VGA TFT display

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AUDIO MONITOR

Accuracy Better than 0.1db over full scale range.
Characteristics BBC, EBU, Digital, DIN, Nordic and VU.

AUDIO MONITORING OUTPUT

3.5mm stereo jack.

ENVIRONMENT

Indoor and Out door use, 5 to 45 deg.C. Ambient to 2,000m.
Max humidity 80% to 31 deg.C decreasing to 50% at 40 deg.C.
Overvoltage category 2. Pollution degree 1.

POWER

10 to 14V d.c. to 4 pin XLR. Pin 1 = ground, pin 4 = +12V @ 0.5A
max.

Can also be powered by the optional internal battery pack.

PHYSICAL

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

WEIGHT: - 2.9Kg.

WARRANTY: - 1 Year.

Extendable free on registration: - To 2 Years

AVAILABLE MODULES*

High Definition/Standard Definition Serial Digital input module (all
current standards using one BNC) with embedded audio decoder.
HD/SD SDI loop out BNC and Ext reference in BNC. {MF- HD/SD}.

Standard Definition SDI and Analog composite module, with
embedded audio decoder. {MF - SD/CST}.

ORDERING INFORMATION

MS9000 MonitorScope

For operational areas where engineering features are required. On
screen SDI analyser, waveform, vectorscope

At least one input module required

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

OPTIONS

MS - chassis	MonitorScope chassis
MS - HD/SD	HD and SD SDI input module
MS - SD/CST	SD SDI and Composite input Module
MS - DVI	DVI/XVGA output module