



The IQDAVM accepts a serial 4:2:2 input to provide up to four equalized and re-clocked outputs, three monitoring composite outputs and four embedded audio analog outputs. On-screen audio 'confidence' displays of four embedded audio channels are provided on the -M version.

IQDAVM

Video and Audio Monitoring Encoder

Does this module suit your application?

- Up to four re-clocked serial 4:2:2 outputs
- Three monitoring composite PAL/NTSC/PAL-N outputs
- Four analog audio outputs or 2 stereo pairs
- Balanced audio output level adjustable +12 dBu to +24 dBu for 0 dB FS input (-D version)
- Unbalanced audio output level adjustable 1 Volt pk-pk to 4.5 Volts pk-pk into >50 k ohm, for 0 dB FS input (-B version)
- Audio selection from any embedded channel pair
- 20-bit digital-to-analog audio conversion, -95 dB THD+N typical (Full Scale)
- Audio polarity invert
- Embedded audio presence indication
- On screen display of audio level and status (-M versions only)
- Non-audio ancillary data presence indication
- EDH error detection and reporting
- Test signal generator (Color Bars/Black and -20 dBFS Tone/Silence)
- Automatic 525/625 line detection and no valid signal indication
- Card edge and RollCall remote control

Why should you choose this module?

- The on-screen monitoring function of the four audio channels is via familiar bar-graph displays. By using a combination of color bands and text a large amount of information may be conveniently viewed via the composite video monitoring output
- Balanced audio output level adjustable +12 dBu to +24 dBu for 0 dB FS input (-D version)
- Unbalanced audio output level adjustable 1 Volt pk-pk to 5 Volts pk-pk in to 1 k ohm, for 0 dB FS input (-B version)
- 20-bit digital-to-analog conversion, -95 dB THD+N typical (Full Scale)

Order codes for IQH3A/1A enclosures

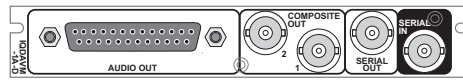
IQDAVM-1A-D
Audio and Video Monitoring Encoder. Balanced Audio.

IQDAVM-1A-D-M
Audio and Video Monitoring Encoder with on-screen display. Balanced Audio.

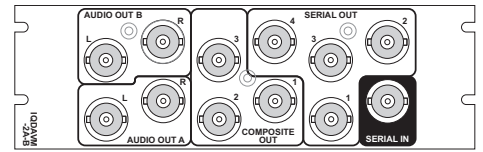
IQDAVM-2A-D
Audio and Video Monitoring Encoder. Balanced Audio.

IQDAVM-2A-D-M
Audio and Video Monitoring Encoder with on-screen display. Balanced Audio.

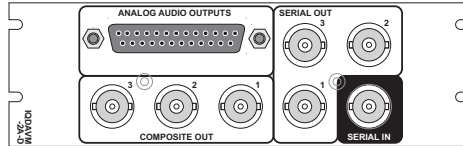
IQDAVM-2A-B
Audio and Video Monitoring Encoder. Unbalanced Audio.



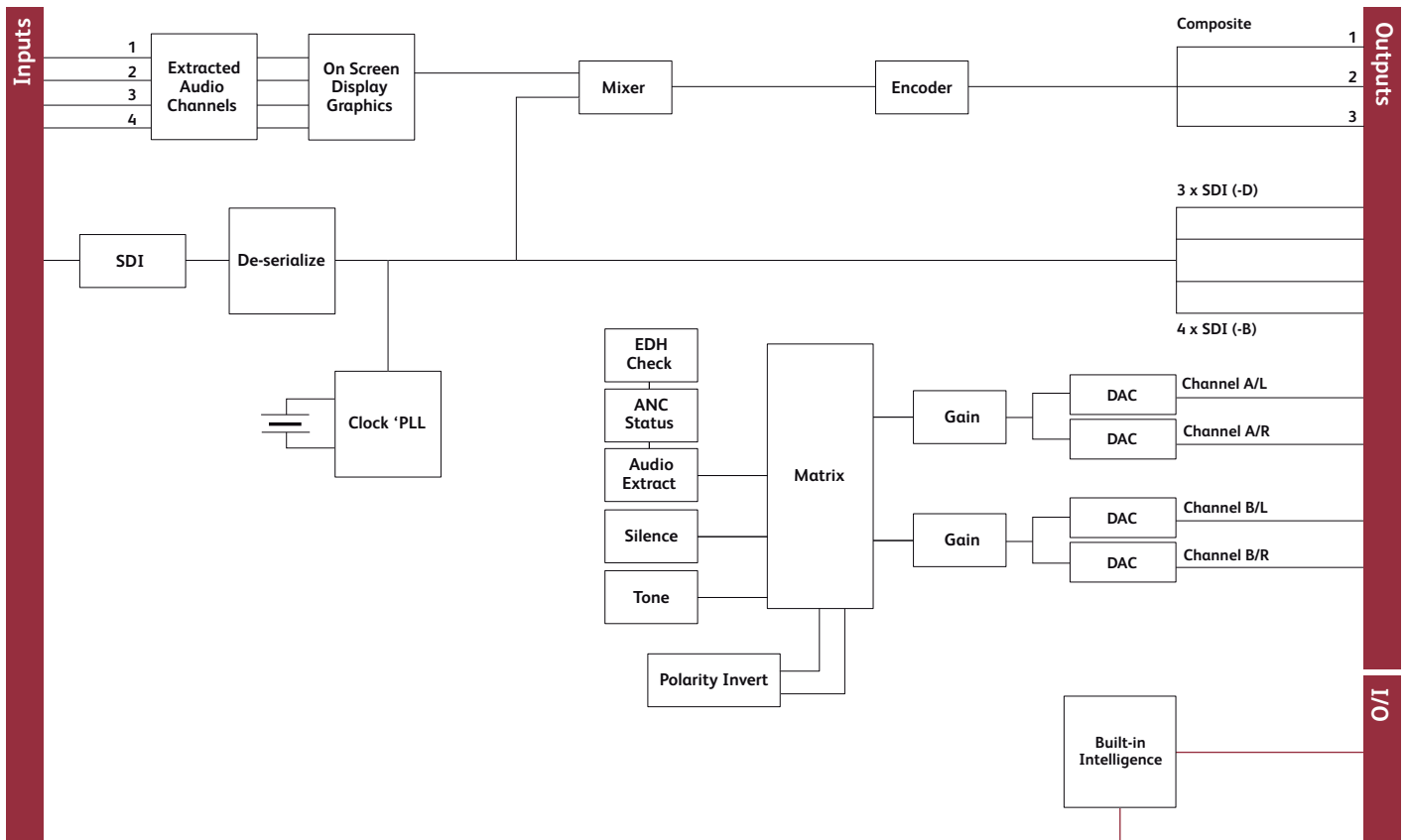
IQDAVM-1A-D



IQDAVM-2A-B



IQDAVM-2A-D



Block Diagram for IQDAVM-1A-D

Technical Specification

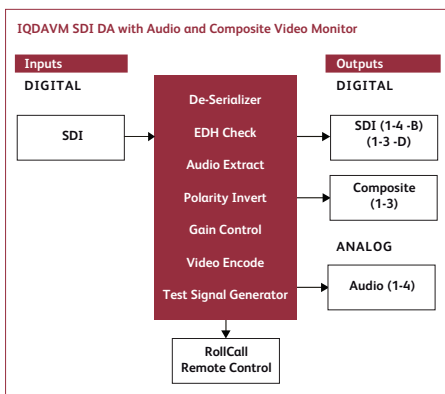
Inputs and Outputs

Signal Inputs

Serial digital Standards	1 x SDI via BNC connector SMPTE 259M-C-1997 SMPTE 272M-A-1994
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Signal Outputs

Serial digital Standards	4 (-B version) 3 (-D version) x SDI via BNC connectors SMPTE 259M-C-1997 SMPTE 272M-A-1994
Composite video Standards	3 at standard level via BNC connectors PAL/NTSC/PAL-N
Analog audio	2 Stereo pairs Balanced via 25 way (-D version, broadcast level) or unbalanced via BNC (-B versions, low level)



Card Edge and RollCall Controls

Card Edge Controls (also available via RollCall)

OSD audio monitoring	On/Off (-M versions only)
OSD text	On/Off (-M versions only)
Pattern Standard	Color Bars Pattern On, off Line standard = 625: PAL/ PAL-N Line standard = 525: NTSC
Pedestal Local	On/Off (NTSC Only) Local/Remote Control
EDH reset	Resets error flags
Audio channel select	Any Embedded Channel Pair

Indicators

Power	O.K.
Input	Loss
Audio presence	On selected pairs
EDH	Present; Error-Minute: Error-Hour

Functions Available via RollCall Only

Headroom (-D)	Adjustable from +12 to +24 dB
Level (-B)	Adjustable from 1.0 V to 4.5 V pk-pk
Analog output gain A/B	Adjustable ± 6 dB in 0.2 dB steps

Display Information

Default pattern selection	Color Bars or black (Default used on input loss)
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Default audio selection	Tone or silence (Default used on extraction fail or input loss)
Polarity	Invert polarity of extracted audio pair
Logging	Input Loss; Input Line Standard; EDH error. Presence of extracted audio, low-level audio and silence
Standard detection	Auto 525/625 line rate detection
Audio gain control	Independent for each output pair
Chroma bandwidth	1.6 MHz or 2 MHz
Pedestal	On, off (NTSC only)
Non-audio HANC data	Presence indication

Specifications

SDI input return loss	Better than -15 dB at 270 MHz
Input cable length	>200 m of PSF1/2
SDI output return loss	Better than -15 dB at 270 MHz
Composite video output	1 V pk-pk into 75 ohm (EBCU Bars)
Internal processing	8-bit composite encoding with 9-bit oversampled DAC's
Video Signal	
Luminance frequency response	0 – 4 MHz $+0.1$ dB, -0.5 dB
Chrominance frequency response	1.6 MHz or 2 MHz (selectable) – 6 dB
Video signal/noise ratio	Better than -68 dB (weighted – flat field) Better than -62 dB (weighted – ramp)
Differential phase	$<2^\circ$
Differential gain	$<1\%$
Processing delay	Approx. 2 μ s

Audio Signal

THD+N at 24 dBu	Better than -80 dB (0 dBFS, 1 kHz)
Linear freq. response	$+0.1$ dB, -0.3 dB (20 Hz to 20 kHz w.r.t. 1kHz)
Conversion Sampling	20-bit 48 kHz Synchronous to D1 video stream
Dynamic range	Better than 100 dB (Balanced)
Dynamic range	Better than 98 dB (Unbalanced)
Output level (balanced)	Level Adjustable $+12$ dBu to $+24$ dBu, $\pm 5\%$
Output level (unbalanced)	Adjustable 1 V pk-pk to 4.5 V pk-pk into >50 k ohm, for 0 dB FS input, $\pm 5\%$
Output impedance (balanced)	25 ohm Nominal
Output impedance (unbalanced)	75 ohm Nominal

For more details on enclosure types please refer to datasheet IQH3A.



Technical Specification cont...

Power Consumption

Module power consumption	8.5 W max (balanced versions)
	6.5 W max (unbalanced versions)

Company policy is one of continuous product improvement. Specifications are therefore provisional and subject to change without notice. All other trademarks mentioned herein are duly acknowledged.