*Specification*

SDI input

Standards	SMPTE 259M 270Mb/s 525/625 SDI
Connector	75Ω BNC
Signal level	800mV p-p ±10% (terminated)
Return loss	>18dB to 270MHz
Cable equalisation	Up to 100m automatic (Belden 8281)

Analogue outputs

Format	Composite, YUV, RGB(S) & YC
Standards	PAL (B, D, G, H, I), PAL M, NTSC USA & Japan
Connectors	75Ω BNC
Signal level	1V p-p ±10%
DC offset	±100mV
Cable drive	Up to 800m

Performance

Frequency response	Flat to 5.5MHz, -3dB at ≈ 6MHz
Differential gain	<0.3%
Differential phase	<0.5°
Delay	<10nS
Data path	8-bit 4.2.2
Quantization	10-bit DAC

Power

Voltage	6-12V DC
Current	350mA at 6V
Power connector	Locking 2.5mm jack connector (centre +ve)

Other

LED	Shows power and signal presence
Temperature range	0˚C to 40˚C
Dimensions ex BNC	63.5mm x 84mm x 30mm (excluding connectors)
Weight	180g

We reserve the right to change technical specifications without prior notice. E&OE.

MediaBlox™

User Guide
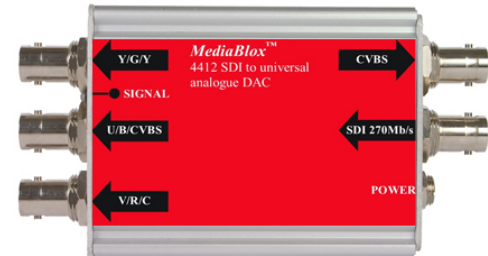
4412 SDI to universal analogue monitoring DAC

270Mb/s 525/625 SDI input with multi-standard PAL/NTSC composite, YUV, RGB(S) or YC analogue outputs

www.kezvale.co.uk

EU declaration of conformity

We certify that this apparatus conforms to the requirements of the EMC and Low Voltage Directives. Emissions EN55103-1, susceptibility EN55103-2 and safety EN60950-1 2002.

15 July 2005

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Warranty

kezvale Ltd warrants this unit against defects in materials and workmanship for a period of one year from the date of shipment. At its option, the company will repair or replace products that prove to be defective during the warranty period, provided they are returned to the company with advance notification and with freight prepaid. Repairs may only be conducted by an authorised representative of the company. As a result any unauthorised repair or attempted repair will automatically void the warranty.

When a distributor supplies the company's products, that distributor should be approached initially if there are any warranty problems.

The company makes no other warranties, express or implied, as to the merchantability, fitness for a particular purpose, or otherwise. The company's liability for any cause, including breach of contract, breach of warranty, or negligence, with respect to products sold by it, is limited to repair or replacement by the company, at its sole discretion. This remedy is exclusive. In no event shall the company be liable for any incidental or consequential damages, including loss of profits.
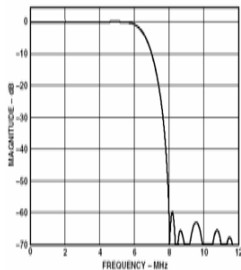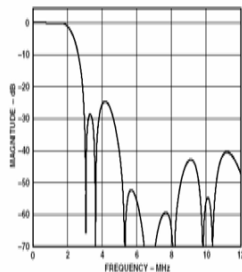
Fig 1 Internal luminance output filter
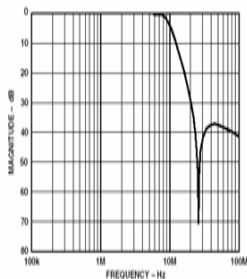

Fig 2 Internal chrominance filter

Fig 3 DAC output filter

General description

The 4412 is a monitoring quality 270Mb/s SDI to universal analogue converter.

The analogue output is set to YUV & composite (CVBS), RGB & CVBS, RGBS, or YC & CVBS via switches on the end of the unit. These switches also control the output of a built in colour bars test pattern.

It is housed in an extremely compact and rugged aluminium case ideally suited to both studio and portable applications.

Main features

- SDI to universal analogue DAC
- Composite, component YUV, RGB(S) & YC outputs
- 270Mb/s 525/625 operation
- 10-bit DAC
- Pedestal control
- Built in colour bar generator
- Compact and rugged design
- Locking connector for PSU

Functional block diagram
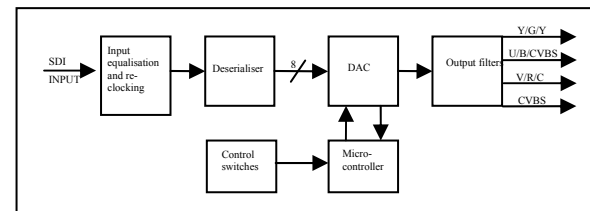
Installation and operation

The unit is simple to use and install.

- Set the dipswitches by referring to the table and description below or the table on the rear of the unit.
- Connect a valid 270Mb/s SDI input
- Connect analogue output.
- Apply power to the unit either via the locking power connector from the external power supply or 1U rack frame, or by sliding into the 2U rack mounting frame with central power supplies.
- The LED will be green when there is power and a valid 270Mb/s SDI signal present.
- The switch settings can be altered whilst the unit is powered and the changes are implemented immediately.
- The mounting bracket supplied can be used to install a MediaBlox unit. The bracket should first be fixed vertically to any surface. The MediaBlox can then be lowered onto the dovetail part of the bracket with the front endplate uppermost to retain it.

Switch settings

The default switch setting on delivery is all switches in the off position.

- Switches 1&2 set the output analogue video format. For correct operation of the unit the analogue output format must match the input SDI format.
- Switch 3&4 set the output format of the analogue composite or component output.
- Switch 5 is unused on this unit.
- Switch 6 controls the output of the colour bar test pattern. When in the off position the converted signal will be present on the outputs. When in the on position the colour bars signal will be present on the outputs. To ensure correct operation of this feature a valid 270Mb/s SDI signal must be applied to the input.

Switch	1	2
PAL I	OFF	OFF
PAL M	OFF	ON
NTSC USA	ON	OFF
NTSC Japan	ON	ON
Switch	**3**	**4**
YUV+CVBS	OFF	OFF
RGB+CVBS	OFF	ON
RGBS	ON	OFF
YC+2CVBS	ON	ON
Switch	**OFF**	**ON**
5	Not used	
6	Colour bars	

Technical information and specifications

The unit uses a 10-bit DAC with an 8-bit data path.

The following graphs show the filters that are applied to the analogue output signals on the unit.

Figure 1 shows the internal Luminance filter on the DAC which as a -3dB cut off at ≈ 6MHz.

Figure 2 shows the internal chrominance filter on the DAC which has a -3dB cut off at ≈ 2MHz.

Figure 3 shows the external output filter response implemented before the outputs. This filter has a -3dB cut off at ≈ 9MHz.