

Specification

SDI input	
Standards	SMPTE 259M 270Mb/s 525/625 SDI
Connector	75Ω BNC
Signal level	800mV p-p ±10%
Return loss	>15dB up to 270MHz
Cable equalisation	>350m automatic (Belden 8281)
Re-clocked SDI output	
Standards	SMPTE 259M 270Mb/s 525/625 SDI
Connector	75Ω BNC
Signal level	800mVp-p ±10%
DC offset	±100mV
Return loss	>15dB up to 270MHz
Analogue output	
Standards	PAL (B, D, G, H, I), PAL N, NTSC USA & Japan
Format	Composite
Connectors	75Ω BNC
Signal level	1Vp-p
DC offset	±50mV
Return loss	>36dB to 5.5MHz
Cable drive	Up to 800m (Belden 8281)
Test patterns	Colour bars and blackburst (SDI input required)
Frequency response	Flat to 5.5MHz, -3dB at ≈ 6MHz
Differential gain	<0.3%
Differential phase	<0.5°
Delay	<10ns
Input	10-bit 4:2:2
Quantization	10-bit DAC
Power	
Voltage	6-12V DC
Current	300mA at 6V
Power connector	Locking 2.5mm jack connector (centre +ve)
Other	
LEDs	Show power and signal presence
Temperature range	0°C to 40°C
Dimensions	63.5mm x 84mm x 30mm (excluding connectors)
Weight	245g
<i>We reserve the right to change technical specifications without prior notice. E&OE.</i>	

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User Guide



4424 SDI to composite analogue 10-bit DAC

270Mb/s 525/625 SDI input with broadcast quality multi-standard PAL/NTSC composite analogue

www.miniblox.com

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



Warranty

DTL Broadcast 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.

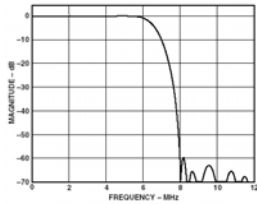


Fig 1 Internal luminance output filter

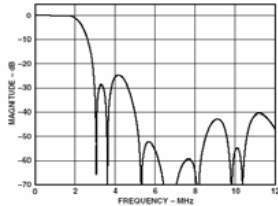


Fig 2 Internal chrominance filter

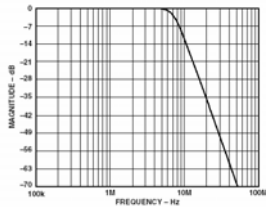


Fig 3 DAC output filter

DTL MiniBlox™ - solutions in a box

General description

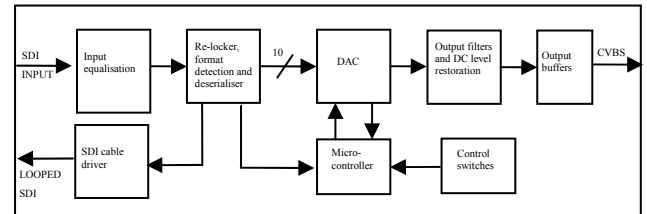
The 4424 is a broadcast quality 270Mb/s SDI to composite analogue converter. It has a re-clocked SDI output. 525 or 625 SDI input is automatically detected. Switches on the end of the unit control the output of the built in test patterns and blanking of information in the vertical interval.

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

Main features

- SDI to composite analogue DAC
- Automatic 270Mb/s 525/625 detection
- 4x over-sampling
- 10-bit DAC
- VBI control
- Automatic input cable equalisation to over 350m
- Re-clocked SDI output
- Built in colour bar & blackburst generator (requires an SDI input)
- 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 an SDI output (if required).
- Connect the 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. Red indicates the input signal is absent.
- 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 MiniBlox unit. The bracket should first be fixed vertically to any surface. The MiniBlox can then be lowered onto the dovetail part of the bracket with the front endplate uppermost to retain it.

Switch settings

Switch	OFF	ON
1	NTSC Japan or PAL N	
2	Blank VBI	
3	Enable test patterns	
4	Colour bars	Blackburst
5 & 6	Not used	

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

- Switch 1 should only be on if NTSC Japan or PAL N outputs are required.
- Switch 2 blanks the information in the vertical interval for the analogue output.
- Switch 3 enables the test patterns (SDI input is still required).
- Switch 4 selects between colour bars and blackburst output when switch 3 is on.
- Switches 5 & 6 are not used.

Technical information and specifications

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 has a -3dB cut off at $\approx 6\text{MHz}$.

Figure 2 shows the internal chrominance filter on the DAC which has a -3dB cut off at $\approx 2\text{MHz}$.

Figure 3 shows the external output filter response implemented before the cable drivers this has a -3dB cut off at $\approx 6.75\text{MHz}$.