

Specification

Balanced input	
Type	Transformer coupled
Standard	AES3-2003
Connector	9 way D-type socket
Signal level	2-7V p-p
Impedance	110Ω
Max cable length	>250m (at Fs=48kHz)
Sample frequency (Fs)	32 – 96kHz
Return loss	>32dB (0.1 to 6 MHz)
Unbalanced input	
Standard	AES-3id-2001 (SMPTE 276M)
Connector	BNC
Signal level	1Vp-p ± 20%
Impedance	75Ω
Max cable length	>1000m (at Fs=48kHz)
Sample frequency (Fs)	32 – 96kHz
Return loss	>32dB (0.1 to 6 MHz)
Analogue outputs	
Number	One balanced & one unbalanced stereo audio pair
Levels	-6 to +27dBu balanced (10k load) -14 to +20dBu unbalanced
Impedance	50Ω balanced 110Ω unbalanced
Connector	9 way D-type socket
Quantisation	Up to 24-bit
Frequency response	20Hz to 20kHz ± 0.05dB (24dBu, Fs=48kHz)
Power	
Voltage	6-12V DC
Current	300mA at 6V
Power connector	Locking 2.5mm jack connector (centre +ve)
Other	
LEDs	Power and signal presence
Temperature range	0°C to 40°C
Dimensions	63.5mm x 84mm x 30mm (excluding connectors)
Weight	150g
<i>We reserve the right to change technical specifications without prior notice. E&OE.</i>	

DTL Broadcast Ltd, Johnson's Estate, Silverdale Road, Hayes, Middlesex, UB3 3BA, UK
Phone: +44 (0) 20 8813 5200 Fax: +44 (0) 20 8813 5022
Internet: www.dtl-broadcast.com support@dtl-broadcast.com

DTL MiniBlox™



User Guide



4610 AES-EBU to analogue audio DAC

Converts balanced (AES3) or unbalanced (AES-3id) AES-EBU
to analogue stereo audio

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.

DTL MiniBlox™ - solutions in a box

General description

The 4610 audio DAC accepts balanced or unbalanced AES-EBU and converts it to balanced and unbalanced analogue audio.

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

Main features

- Balanced AES3 input on a 9 way D-type socket or unbalanced AES-3id input on a BNC
- Balanced and unbalanced analogue outputs on a 9 way D-type socket
- 24-bit DAC resolution
- Operates at all sample rates from 32 to 96 kHz
- Output level continuously adjustable to cover all commonly used levels
- Transformer coupled balanced input for good common mode performance
- Automatic de-emphasis filtering
- Compact and rugged design
- Locking connector for PSU

Installation and operation

AES inputs

The 4610 provides inputs for both balanced and unbalanced AES-EBU signals. The unbalanced input is via a BNC connection which is internally terminated at 75Ω. The balanced input is made via a 9 way D-type (see table opposite for pin connections) and is internally terminated at 110Ω. Sample rates of up to 96 kHz and resolutions of up to 24 bit are supported.

Automatic de-emphasis

By default the 4610 automatically applies appropriate de-emphasis filtering depending on the sample rate and emphasis information in the channel 1 status bit of the AES signal. To disable de-emphasis, simply connect pin 9 of the AES IN D-type to ground. (See table opposite.)

Analogue outputs

Both balanced and unbalanced analogue outputs are provided by the 4610 Audio DAC. Two potentiometers control the level of these analogue outputs in the range of +4 to +27dBu for balanced, and -4dB to +20dB for unbalanced. Additionally, there is an option to attenuate the outputs by approximately 10dB, which enables the unit to cover all international standard levels for balanced and unbalanced analogue audio. Connect pin 7 of the ANALOGUE OUTPUT D-type to ground for left channel attenuation and pin 9 to ground for right channel attenuation.

Power

Power should be applied 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. An alternative power source can be used to power the unit as long as the input power is within the range stated in the specification.

LED

On power-up the unit will perform a short self test. The LED will flash red whilst this is in progress. After completion of the self test the led will light red if no signal is present or green if a valid signal is present.

If a signal has been detected but is found not to contain uncompressed PCM data the led will flash green and red alternately to indicate that an incompatible signal is present.

Mounting

The mounting bracket supplied can be used to install the 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.

D type pin connections

Connections to a 9 way D type plug (not supplied) should be made as follows:

AES IN	
1 AES +	6 AES -
2 GND	7 GND
3 GND	8 GND
4 NC	9 Disable de-emphasis*
5 GND	

ANALOGUE OUT	
1 Left+	6 Left-
2 Left unbalanced	7 Left attenuation†
3 Right+	8 Right-
4 Right unbalanced	9 Right attenuation†
5 GND	

* Connect to ground to disable de-emphasis

† Connect to ground to attenuate signal by 10dB

Suggested break-out cable connections

