

### ***EU declaration of conformity***

We certify that this apparatus conforms to the requirements of the EMC and Low Voltage Directives. Emissions EN 55103-1, susceptibility EN 55103-2 and safety EN 60950-1 2002.

10 February 2009



### ***Warranty***

The ISIS Group 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. ISIS Group's policy states that all repairs are only conducted by an authorized representative of the company. As a result any unauthorized 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.

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*The ISIS Group*  
119 E. McKnight Way Grass Valley, CA 95949  
Phone: 530-477-2984 Fax: 530-477-2986  
Internet: [www.isis-group.com](http://www.isis-group.com) Email: [info@isis-group.com](mailto:info@isis-group.com)



***MiniBlox***<sup>TM</sup>

**4261D 3G HD-SD quad AES audio  
embedder**

*Inserts four balanced AES audio pairs from any  
group within a 270Mb/s HD or SDI signal*

**User Manual**

**Latest information available at:**

**[www.isis-group.com](http://www.isis-group.com)  
[www.miniblox.com](http://www.miniblox.com)**

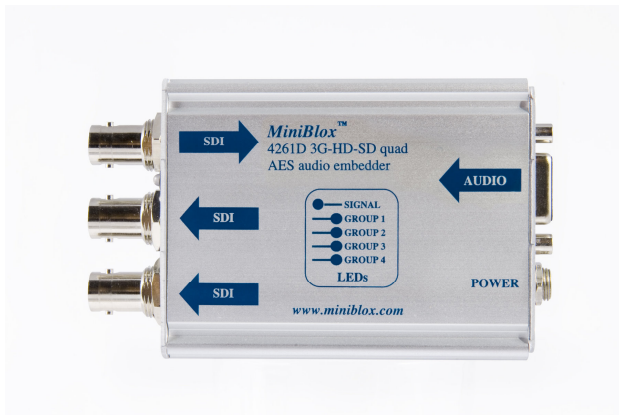
## MiniBlox™ - solutions in a box

### General description

The 4261D 3G-HD-SD quad AES audio embedder inserts four balanced AES audio streams (8 audio channels) into the ancillary data space of an SDI signal. Audio can be inserted into any two embedded audio groups. AES inputs can be sample rate converted to a 48kHz rate synchronised to the video.

Conversion may be bypassed for compatibility with Dolby® streams. Two units can be cascaded to enable embedding into all four available groups (16 audio channels).

The unit requires an external power supply or a rack mounting frame. A 1RU frame is available which takes up to 5 units and a 2RU that takes up to 14. Audio XLR breakout cables and external power supplies are also available.



### Key 4261D features

- Automatic 3G, HD, or SD SDI standard detection
- Inserts four balanced AES audio streams into any two groups
- Internal sample rate converters for 48kHz AES synchronous with video input
- LEDs show group status and input signal presence
- Automatic input cable equalization
- 2 re-clocked SDI outputs
- Compact and rugged design
- Optional XLR breakout cable
- Optional external power supply
- Optional rack mounting frames with central power supplies

### Specifications

#### Video input

3G	SMPTE 424M & 424M-AB (2.97 & 2.967Gb/s) 1080p 60/59.94/50
HD	SMPTE 259M (1.485 & 1.435Gb/s) 1080i 60/59.94/50 1080p/pfs 30/29.97/25/24/23.98 720p 60/59.94/50/30/29.97/25/24/23.98
SD	SMPTE 259M-C (270Mb/s) 525i 59.94 625i 50
Connector	75Ω BNC
Return loss	>15dB to 1.5GHz >10dB 1.5 to 2.97GHz
Cable equalization	3G to 100m, HD to 230m, SD to 250m (Belden 1694A)

#### Video output

Standards	As input
Format	As input
Number	2
Connector	75Ω BNC
Jitter	<0.2ui peak-to-peak
Return loss	>15dB to 1.5GHz >10dB 1.5 to 2.97GHz

#### Analog input

Inputs	Balanced analog
Number	4 balanced
Connector	15-pin female sub-D
Type	Transformer coupled
Sample rate	32-96kHz
Conversion	AES converted to 48kHz synchronous with video (selected by dipswitch)

Standard	AES3
Impedance	110Ω
Input level	3.5v p-p ±5%
Breakout cable (optional)	4 female XLRs

#### Audio embedding

Standard	SMPTE 299M and 272M-C
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#### Power

Voltage	6-12V DC
Current	810mA @ 6V
Power connector	Locking 2.5mm jack connector (center +v)

#### Other

LEDs	Show power, signal presence & group status
Temperature range	5°C to 40°C
Dimensions	3 1/4" x 2 1/2" x 1 1/8" (excluding connectors)
Weight	9oz

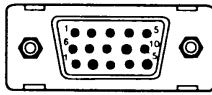
We reserve the right to change technical specifications without prior notice.

## Audio inputs

When used with the optional XLR breakout cable, inputs are as shown below.

XLR	Input
IN A1	First group selected - Pair 1
IN A2	First group selected - Pair 2
IN A3	Second group selected - Pair 1
IN A4	Second group selected - Pair 2

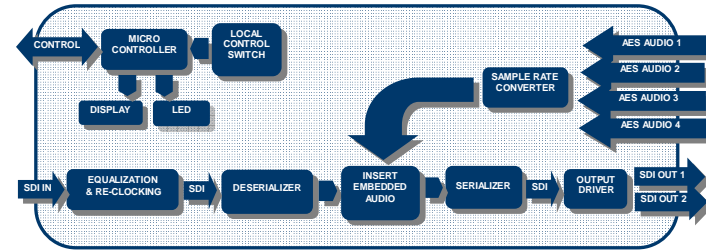
The pin out of the 15 pin sub-D connector is as shown below:



15 pin sub-D connector viewed looking in to pins of plug

Pin	Input	Signal
1	Second group selected - Pair 2	+
2	Second group selected - Pair 1	Shield
3	First group selected - Pair 2	+
4	First group selected - Pair 1	Shield
5	Not used	NA
6	Second group selected - Pair 2	-
7	Second group selected - Pair 1	+
8	First group selected - Pair 2	-
9	First group selected - Pair 1	+
10	Not used	NA
11	Second group selected - Pair 2	Shield
12	Second group selected - Pair 1	-
13	First group selected - Pair 2	Shield
14	First group selected - Pair 1	-
15	Not used	NA

## Functional block diagram



## Installation and operation

The 4261D 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 breakout cable (when this option has been ordered).
- Connect a valid SDI input and AES inputs. See the audio input section for connecting to the AES breakout cable or to a 15-pin male sub-D connector (not supplied).
- AES inputs may be synchronous or asynchronous, and of any sample rate up to 96kHz. Alternatively if the sample rate converters are bypassed they must be 48kHz and synchronous to the video input.
- Connect SDI outputs (if required).
- Apply power to the unit either via the locking power connector from the external power supply or 1RU rack frame, or by sliding into the 2RU rack mounting frame with central power supplies.
- On power-up the unit will perform a short (3 second) self test. The group LEDs will flash while this is in progress.
- The signal LED will be green when there is power and a valid SDI signal present or red when there is power but no SDI signal.
- Two group LEDs will light corresponding to the groups selected by the dipswitches (default on delivery groups 1&2). The LED will be green if the unit is receiving a valid video signal and successfully embedding audio from that group. The LED will otherwise be red. Orange LEDs indicate which groups are already present in the SDI stream.
- The switch settings can be altered while the unit is powered and the changes are implemented immediately. Switch 1 is used to toggle through all possible pairs of groups into which to insert audio.
- 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.

## Switch settings

Switch	OFF	ON
1	Toggle audio group A	
2	Toggle audio group B	
3	Cascade	Overwrite
4	24-bit SD	20-bit SD
5	DS1	DS2
6	SRC on	SRC bypass

- Switches 1 & 2 are used to select the two groups into which the audio samples are inserted. Toggling switch 1 or 2 will cycle through all possible groups with the group selected shown on the LEDs. The group settings are stored in EEPROM and are therefore retained even after the unit has been powered down.
- Switch 3 determines whether existing audio packets are deleted from the video signal. When the switch is off, new audio packets are appended without deletion of existing packets allowing two units to be connected in cascade.
- Switch 4 controls the bit depth of the embedded audio for SD SDI only (audio depth is always 24 bit in 3G & HD). When the switch is off, extended audio packets are multiplexed into the video signal (24 bit audio). When the switch is on, extended audio packets are not included (20 bit audio).
- Switch 5 selects between embedding on data stream one or two when embedding to a 3G Level B signal.
- Switch 6 is used to bypass the sample rate conversion.