

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.

29 September 2008



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.

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.

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MiniBloxTM

**4261A 3G HD-SD analog audio
embedder**

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

User Manual

Latest information available at:

**www.isis-group.com
www.miniblox.com**

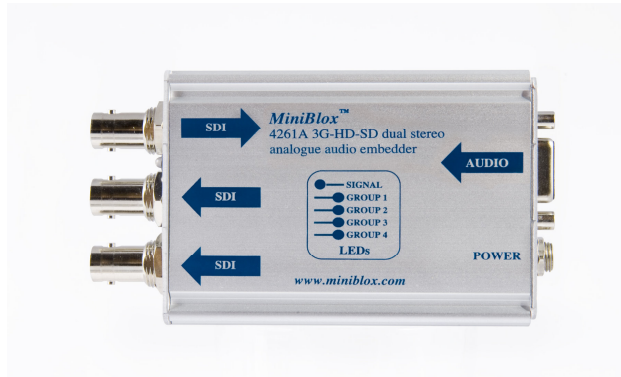
MiniBlox™ - solutions in a box

General description

The 4261A 3G-HD-SD analog audio embedder inserts two balanced stereo analog audio pairs into any group in the ancillary data space of an SDI signal.

The unit automatically detects whether the SDI input is 3G, HD or 270Mb/s SD SDI. Audio conversion employs high quality 24-bit ADCs. Adjustable full scale input levels meet all international standards. There is automatic input cable equalization and two re-clocked SDI outputs are provided. Units can be cascaded to enable embedding into all four available groups.

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 4261A features

- Automatic 3G, HD, or SD SDI standard detection
- Inserts two balanced analog audio stereo pairs into any group
- Replaces or adds to existing audio
- High quality 24 bit audio ADC
- Adjustable full scale input levels to meet all international standards
- 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

Standard	Balanced analog
Number	2 stereo pairs
Impedance	>20kΩ
Connector	15-pin female sub-D
Output level	Adjustable 0dBFS = +12 to +24dBu
Maximum level	+24dBu
Quantization	24 bit
Noise floor	<-90dB (A weighted)
Distortion	<.002% (20Hz-20KHz)
Frequency Response	±0.2dB (20Hz-20KHz)
Crosstalk	<-90dB (20Hz-20KHz)

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

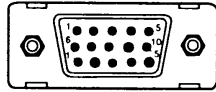
We reserve the right to change technical specifications without prior notice.

Audio inputs

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

XLR	Output
IN A1	Pair 1 - Left
IN A2	Pair 1 - Right
IN A3	Pair 2 - Left
IN A4	Pair 2 - Right

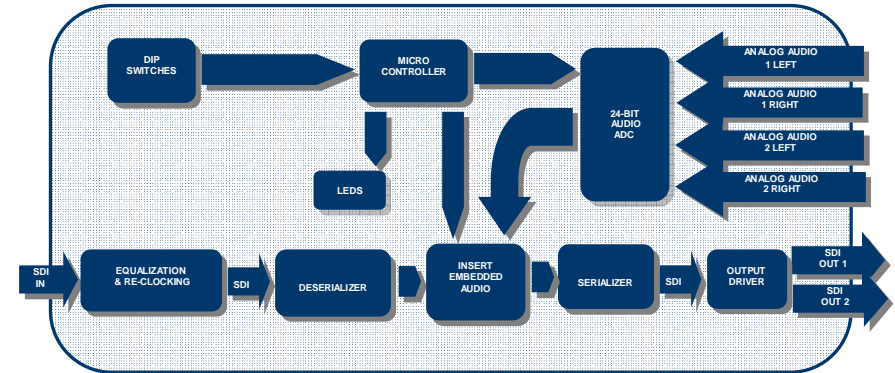
The pin out of the 15 pin sub-D connector is as shown below:



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

Pin	Input	Signal
1	Pair 2 - Right	+
2	Pair 2 - Left	Shield
3	Pair 1 - Right	+
4	Pair 1 - Left	Shield
5	Not used	n/a
6	Pair 2 - Right	-
7	Pair 2 - Left	+
8	Pair 1 - Right	-
9	Pair 1 - Left	+
10	Not used	n/a
11	Pair 2 - Right	Shield
12	Pair 2 - Left	-
13	Pair 1 - Right	Shield
14	Pair 1 - Left	-
15	Not used	n/a

Functional block diagram



Installation and operation

The 4261A 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 analog audio inputs. See the audio input section for connecting to the XLR breakout cable or to a 15-pin male sub-D connector (not supplied).
- 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 valid SDI signal.
- One of the group LEDs will light corresponding to the group selected by the switches. This LED will be green if the unit is receiving a valid video signal and successfully embedding audio. 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.

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	1	2	Switch	OFF	ON
Group 1	OFF	OFF	3	18DBu	24DBu
Group 2	OFF	ON	4*	Custom level	
Group 3	ON	OFF	5	625 lines	525 lines
Group 4	ON	ON	6	Set custom level	
* Overrides switch 3 and selects custom level					

- Switches 1 & 2 set the group from which audio packets are to be extracted.
- Switch 3 selects between analog output levels of 18DBu and 24DBu (when switch 4 is in the OFF position)
- Switch 4 over-rides the switch 3 setting and selects the custom level. This is 20DBu on delivery but can be altered (see below).
- Switch 5 selects whether audio is extracted from data stream one or two when there is a 3G SMPTE 425M level B SDI input present.
- Switch 6 is used to set custom analog output levels. If switch 6 is left on for more than six seconds the unit will enter custom level select mode – all group LEDs will flash red while the unit is in this mode. Refer to the next section for selecting custom levels.

Custom level select mode

To meet all international analog audio full scale output levels the 4262A has a custom analog output level select mode. In this mode it is possible to select any output level between 12DBu and 24DBu in 0.5DBu increments. The default value of the custom level on delivery is 20DBu. Once the value of the custom level is altered it will remain stored in memory until changed again.

To set the analog input level:-

- Activate switch 6; once this has been on for more than six seconds the unit will enter custom level select mode. This can be verified by all four group LEDs on the front of the box flashing red.
- Switch 1-5 will now set the expected analog input level as per the table below.
- To exit the custom level select mode deactivate switch 6, the value on switches 1-5 will be stored in memory. It will be necessary to reset switches 1-5 to the desired settings for normal use.

Switch 1	Switch 2	Switch 3	Switch 4	Switch 5	Level dBu
0	0	0	0	0	12
0	1	0	0	0	12.5
0	1	0	0	1	13
0	1	0	1	0	13.5
0	1	0	1	1	14
0	1	1	0	0	14.5
0	1	1	0	1	15
0	1	1	1	0	15.5
0	1	1	1	1	16
1	0	0	0	0	16.5
1	0	0	0	1	17
1	0	0	1	0	17.5
1	0	0	1	1	18
1	0	1	0	0	18.5
1	0	1	0	1	19
1	0	1	1	0	19.5
1	0	1	1	1	20
1	1	0	0	0	20.5
1	1	0	0	1	21
1	1	0	1	0	21.5
1	1	0	1	1	22
1	1	1	0	0	22.5
1	1	1	0	1	23
1	1	1	1	0	23.5
1	1	1	1	1	24