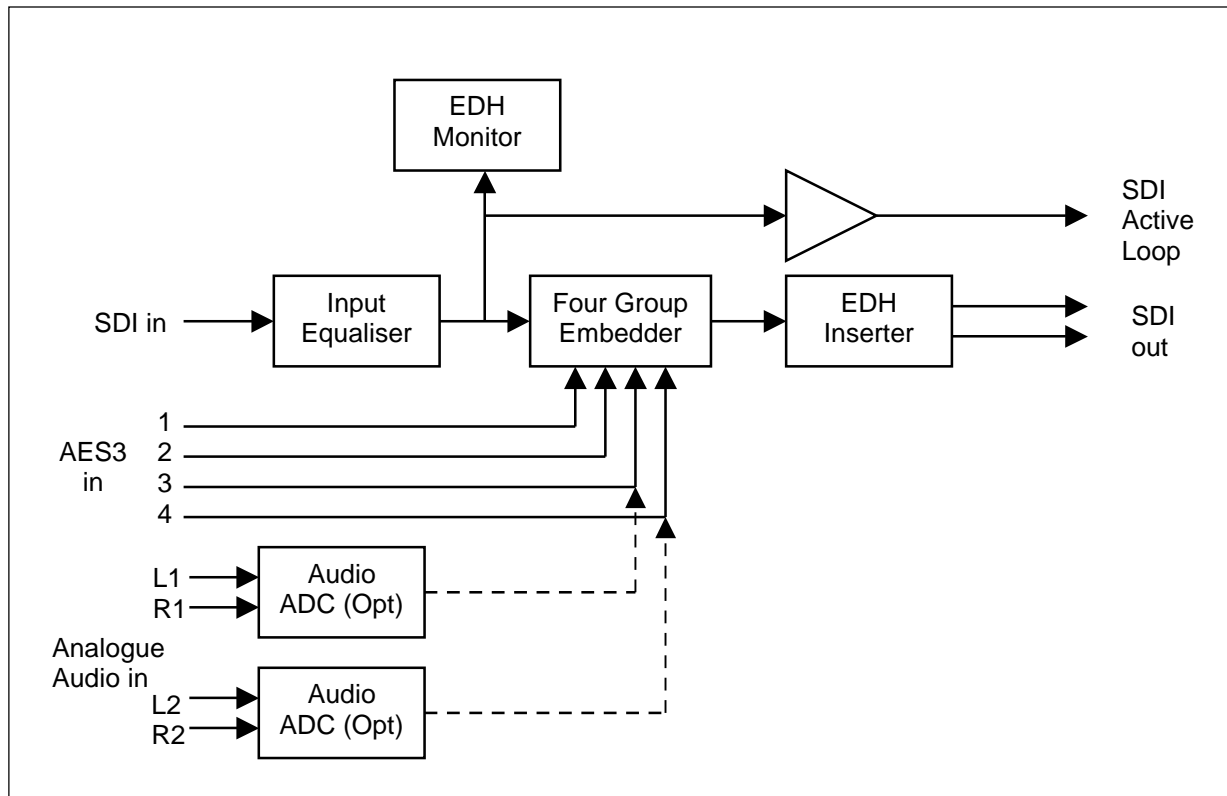


FEATURES

- Embeds maximum of 4 AES3 signals into 2 groups of component video data stream to SMPTE 259-C.
- Handles synchronous or asynchronous audio
- 525/625 line operation
- Balanced or unbalanced AES3 audio interfaces
- SMPTE 272M- ACD or continuous embedding
- Checks and adds EDH.
- COSMOS equipped
- 20 or 24 bit embedding
- Conversion locked to AES3 or serial digital input

FUNCTIONAL BLOCK DIAGRAM



ORDERING INFORMATION

ICO-4425-3xyz Two group audio embedder, 30mm
Where
x = number of stereo analogue audio inputs, 0, S (single), D (double)
yz = full scale digital level in dBu, 15, 18, 24 (00 if no analogue inputs
fitted)

SPECIFICATION

Inputs

Video

One, serial digital video to SMPTE 259M-C (270Mb/s)

Impedance

75•

Return loss

>15dB, 10MHz to 300MHz

Equalisation

Up to 100m Belden 8281, PSF1/2 or equivalent

Audio

Four, AES serial digital audio,
balanced, 110• to AES3-1992 or
unbalanced, 75• to AES3-id (jumper selectable)

Sample rate

48KHz

**Analogue
inputs**

Balanced, +15 to +24dBu for FSD. Link
selectable high impedance/600R
25 way D socket balanced/BNC,
unbalanced

Connector

Outputs

Two, serial digital video to SMPTE 259M-C with embedded
audio (20 or 24 bit) SMPTE272M-ACD

Impedance

75•

Return loss

>15dB, 10MHz to 300MHz

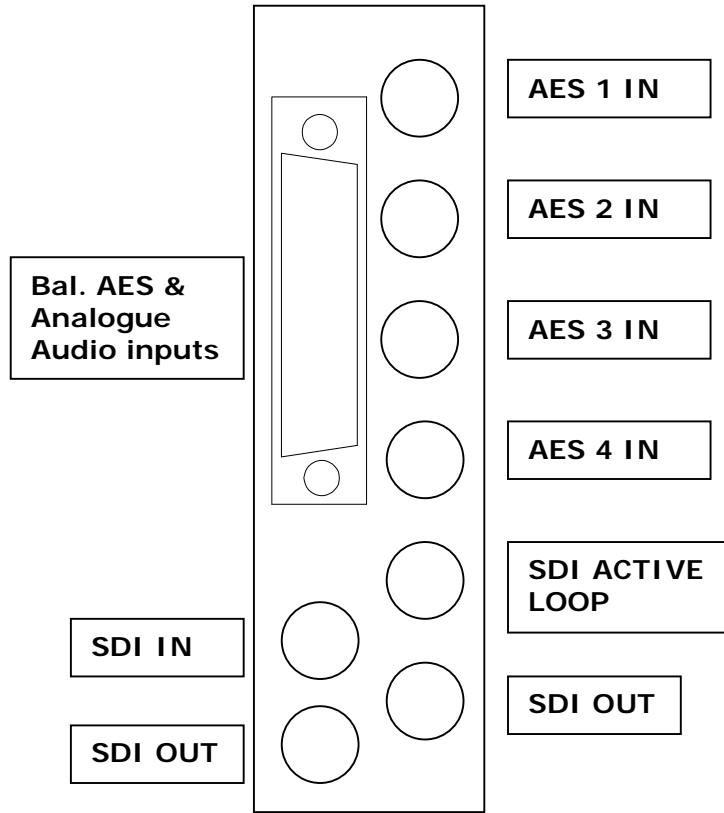
Added EDH

Buffered looping input

Front panel
monitoring

Audio—AES inputs or ADC outputs monitored as analogue
stereo via 3.5mm jack

REAR PANEL LAYOUT



Balanced AES3 and Analogue Audio Pin-out (D25 socket)

Pin No.	Connection
1	AES 1 -
2	AES 1 +
3	Digital ground
4	AES 3 -
5	AES 3 +
6	Debug_TX
7	Debug_RX
8	Gnd
9	Analogue 1 A -
10	Analogue 1 A +
11	Analogue ground
12	Analogue 2 A -
13	Analogue 2 A +
14	AES 2 -
15	AES 2 +
16	Digital ground
17	AES 4 -
18	AES 4 +
19	Monitor R
20	Monitor L
21	Analogue 1 B -
22	Analogue 1 B +
23	Analogue ground
24	Analogue 2 B -
25	Analogue 2 B +

DIAGNOSTIC LEDs

Label	Colour	Description	Normal State
AES1 & AES2	Red Green	AES input error AES input OK	Green
AES3 & AES4	Red Green Off	AES input error AES input OK Analogue input	Green/Off
PLL (ADC)	Red Green	PLL not locked PLL locked	Green
EDH	Red Green Off	EDH errors on input Input EDH good No EDH on input	Green
Video Present	Green	SDI video input present	Green
Video Error	Red	Video input error	Off
Reset	Red	DSP in reset state	Off
C'N EBED	Red	Cannot Embed (Group already in use)	Off
Power OK	Green	All power rails correct	Green

FRONT EDGE SWITCHES

Individual embedding mode switches for **Group A** and **Group B** inputs.

Group A fed by AES 1 and AES 2.

Group B fed by AES 3 or Analogue 1 and AES 4 or Analogue 2.

If ADCs fitted for Group B, analogue inputs are selected automatically.

When only a single AES signal is fed into Group A or Group B the 4425 normally inserts a silent AES signal into the unused channel. This may not be compatible with some extractors and in this case the single input mode, switch positions c,d,e may be used. In this mode the single input (AES 1 or AES 3) is copied into the unused AES channel.

Group A has this mode available for embedded groups 1, 2 and 3, Group B for 2, 3 and 4.

Switch Position		Embed in..	Embedding method
0		Group 1	SMPTE 272M
1		Group 2	SMPTE 272M
2		Group 3	SMPTE 272M
3		Group 4	SMPTE 272M
4		Group 1	24bit extended
5		Group 2	24bit extended
6		Group 3	24bit extended
7		Group 4	24bit extended
8		Group 1	every line
9		Group 2	every line
a		Group 3	every line
b		Group 4	every line
Single Input Mode	c	Group 1(A) / 2(B)	SMPTE 272M
	d	Group 2(A) / 3(B)	SMPTE 272M
	e	Group 3(A) / 4(B)	SMPTE 272M
f		Don't Embed	none

Note: Group No. cannot be same for A and B

ADC Mode Switch

Selects clock source for analogue to digital converters (and forces group B to AES).

0	AES 1
1	AES 2
2	AES 3
3	AES 4
4	Video input clock
5	Do not use
6	Do not use
7	Do not use
8	Do not use
9	Do not use
a	Do not use
b	Do not use
c	Do not use
d	Do not use
e	Do not use
f	Embed AES instead of analogue audio

Headphone Select Switch

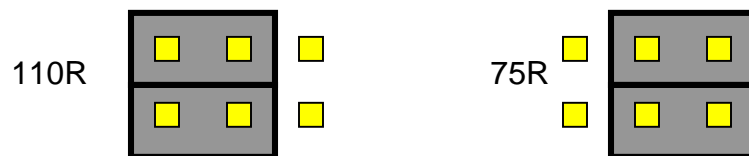
Card edge 3.5mm jack and D25, pins 19 & 20

0	AES 1
1	AES 2
2	AES 3 or Analogue 1
3	AES 4 or Analogue 2

LINKS and HEADERS

PL1 – PL4 AES input termination

Two shorting links are always required on the 4 2x3 headers to select the termination of the digital audio. When both links go across towards the rear of the unit a 75 ohm termination and the unbalanced input is selected. When both links go across towards the unit front the 110 ohm balanced input is selected.



PL9 Local/remote

Short top 2 pins for local control – all configuration controlled on switches and links.
Short bottom 2 pins – SW1-3 and EDH link only set startup condition – Cosmos can override settings.

PL11 EDH

In upper position the card will add EDH to output serial video.

LK1-4

Adds resistor across analogue audio input to terminate in 600 ohms.

PL 6/7/8/20

Factory use only

COSMOS STATUS MONITORING AND CONFIGURATION

The following parameters are monitored and controlled: -

- Group number(s) to embed
- Embedding mode
- 20/24 bit embedding
- Analogue/AES inputs (Group B)
- ADC synchronisation mode
- EDH insertion On/Off

- ADC 1/2 present
- ADC 3/4 present

The following parameters are monitored

- SDI input present
- SDI input status
- 525/625
- EDH detected
- EDH full field status
- EDH active picture status
- AES input present (x4)
- AES input status (x4)
- Card identity
- Power status