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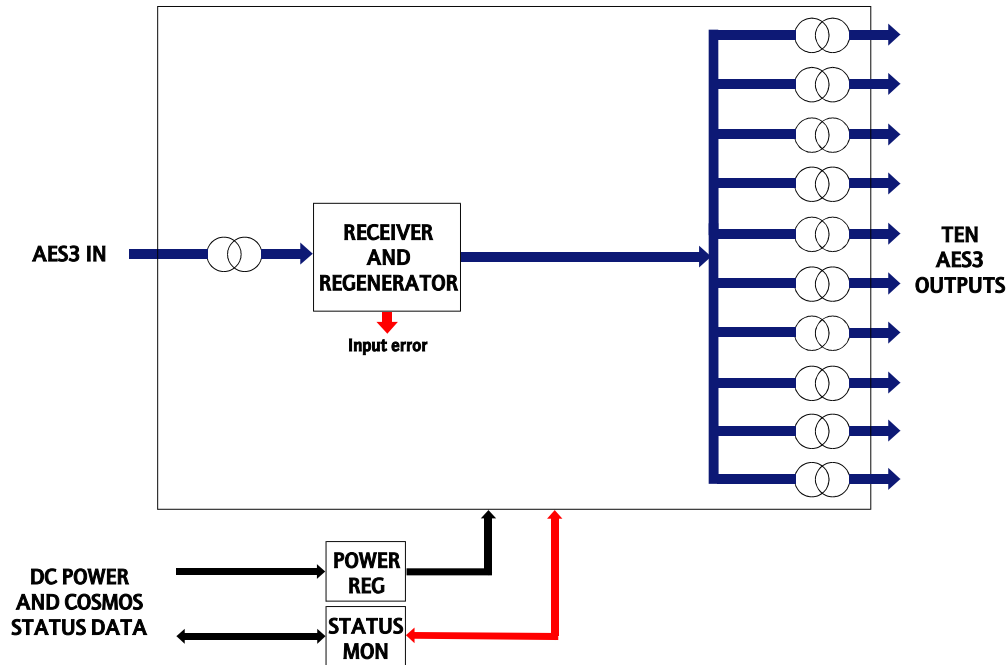
1 Introduction

The 4401 digital audio distribution amplifier (DA) provides five or ten outputs from one digital audio input. The module may be used in the 1050 3U and 1051 1U ICON modular product rackframes.

Both unbalanced and balanced rear connectors are available. A 30mm rear panel for unbalanced outputs provides all ten outputs whilst a five output 20mm rear panel is provided for unbalanced outputs where space saving is important. The rear connector for balanced outputs uses 'D' type multi-connectors and only requires 20mm rack space for all ten outputs.

Characteristics of the 4401 are:

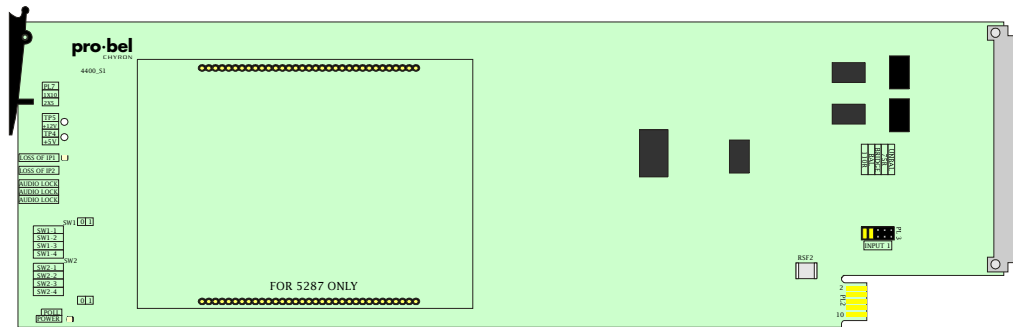
- one transformer coupled digital audio input
- 110Ω balanced, 75Ω unbalanced or high impedance
- five or ten outputs, unbalanced capacitively coupled or balanced transformer coupled
- compatible with Pro-Bel COSMOS status monitoring



The 4401 digital audio distribution amplifier

2 Installation

The 4401 digital audio dual DA fits in the 1050 3U and 1051 1U ICON modular product rackframes. It is used with either the K4401.2U 20mm rear panel for balanced digital audio I/O or the K4401.3U 30mm and K4401.2U 20mm rear panel for unbalanced digital audio I/O.

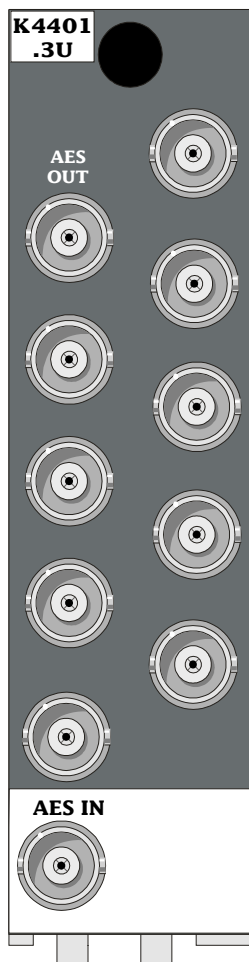


The 4401 digital audio DA

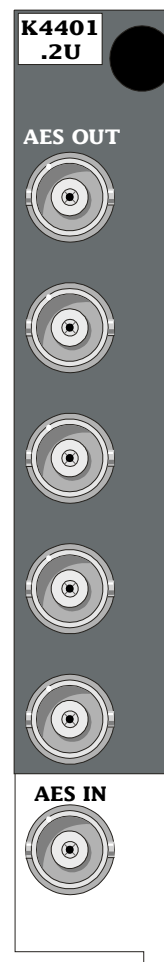
For module and rear connector installation please refer to the appropriate ICON rackframe section of the manual.

2.1 Signal I/O

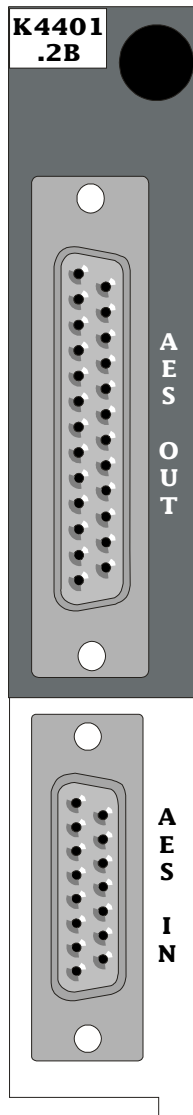
The K4401.3U and K4401.2U panels are equipped with BNC connectors for unbalanced digital audio inputs and outputs, whilst the K4401.2B panel is equipped with 15 way and 25 way 'D' type connectors to accommodate balanced digital audio inputs and outputs.



The K4401.3U rear panel
for unbalanced I/O



The K4401.2U rear panel
for unbalanced I/O



The K4401.2B rear panel for balanced AES I/O

Signal I/O (AES OUT)			
Pin	Function	Pin	Function
1	O/P1-	14	OP6-
2	O/P1+	15	OP6+
3	GND	16	GND
4	O/P2-	17	O/P7-
5	O/P2+	18	O/P7+
6	O/P3-	19	O/P8-
7	O/P3+	20	O/P8+
8	GND	21	O/P9-
9	O/P4-	22	O/P9+
10	O/P4+	23	GND
11	GND	24	O/P10-
12	O/P5-	25	O/P10+
13	O/P5+		

Signal I/O (AES IN)			
Pin	Function	Pin	Function
1	N/C	9	N/C
2	GND	10	N/C
3	N/C	11	GND
4	N/C	12	N/C
5	GND	13	I/P +
6	I/P -	14	GND
7	N/C	15	N/C
8	GND		

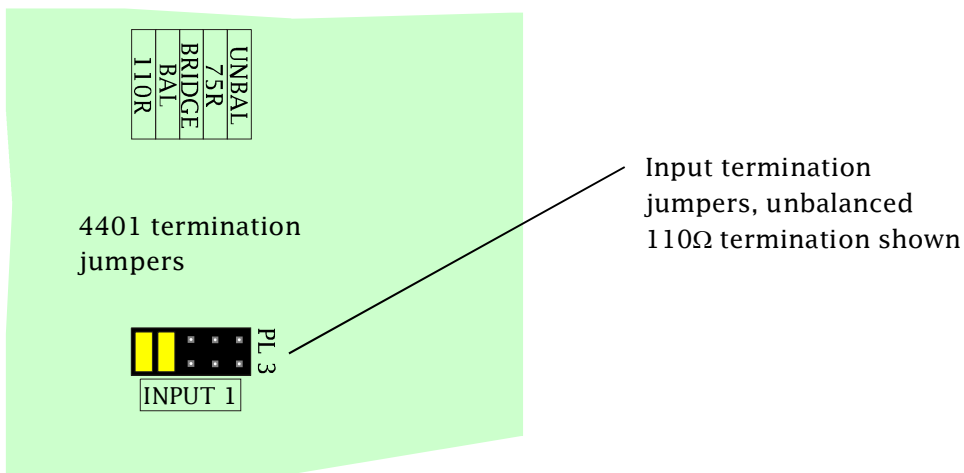
3 Configuration

The 4401 input may be configured for different termination values to increase system flexibility.

3.1 Setting input options

To select the AES input termination options use jumpers PL3 and PL5 as explained in the following table:

AES input termination modes	
PL3 settings	Description
UNBAL	Use with unbalanced input
75R	Use with unbalanced input to terminate signal with 75 Ω
BRIDGE	Selects high impedance termination (Hi-Z)
BAL	Use with balanced input
110R	Use with balanced inputs to terminate signal with 110Ω



4 Status monitoring

The status monitoring circuit will provide the following information to the status monitoring controller:

- module present
- input 1 present
- power OK

In addition, the module is programmed with the following information, which can be read by the status monitoring controller:

- Module type
- Module bar code
- Module issue no

For further details of the Pro-Bel status monitoring system please refer to the COSMOS status monitoring manual.

5 Trouble shooting

The green card edge POWER LED is not lit

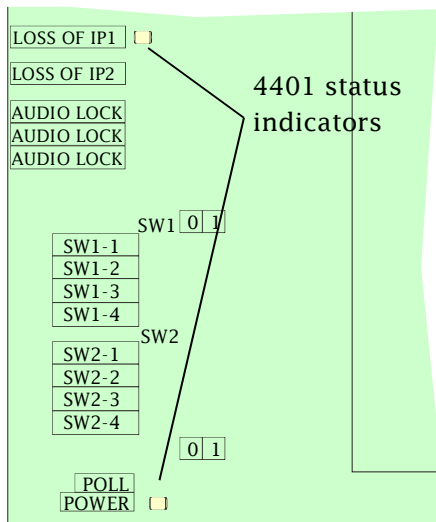
- check the PSU indicator to confirm that there is power to the frame
- check the resettable fuses protecting the card - do this by removing the power to the card for about 30 seconds then restoring the power
- if necessary, refer to the power supply trouble shooting guide in the appropriate ICON rackframe manual section

There are no output signals

- ensure that the green power LED on the front of the main card is lit
- ensure that a valid input is present and that the red loss of input L LED is not lit

The output signal seems corrupted or low level

- check that the input signal is a valid AES 3 digital audio signal
- check that the appropriate terminations have been set



4401 status indicators	
LED label	Meaning when lit
LOSS OF INPUT1	Lights red to show that no input is detected
POWER	Lights green if all voltage rails present

6 Specification

Inputs

Number and type:	1, transformer coupled, balanced to AES3-1992 or unbalanced to AES3id (or SPDIF)
Termination:	High, 75Ω or 110Ω
Sample frequency range	32-54kHz

Outputs

Number and type:	10, balanced transformer coupled AES3-1992 or 10 (5) unbalanced capacitively coupled to AES3id
Impedance	110Ω balanced or 75Ω unbalanced

Temperature range

Operating:	0° to +40°C
Storage:	-10°C to +70°C