

IQBDDAD Dual Channel Digital Audio Distribution Amplifier



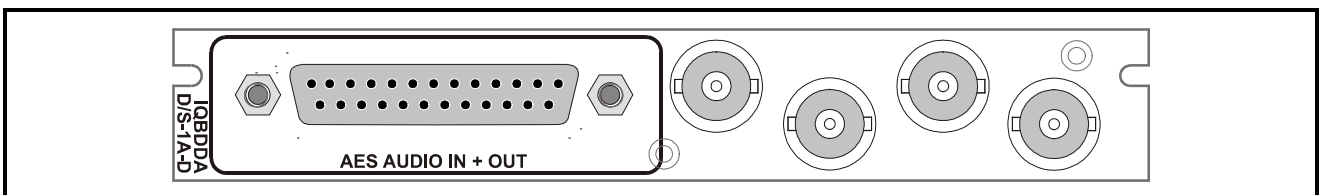
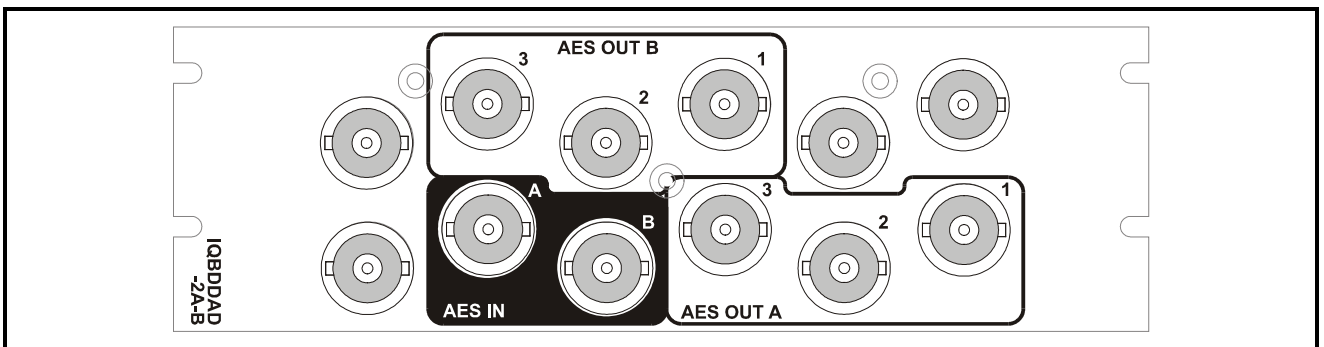
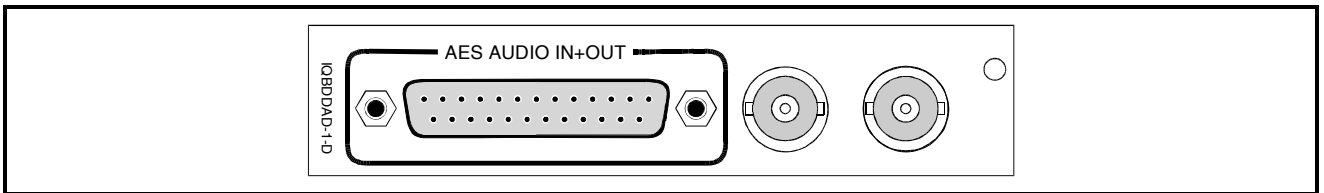
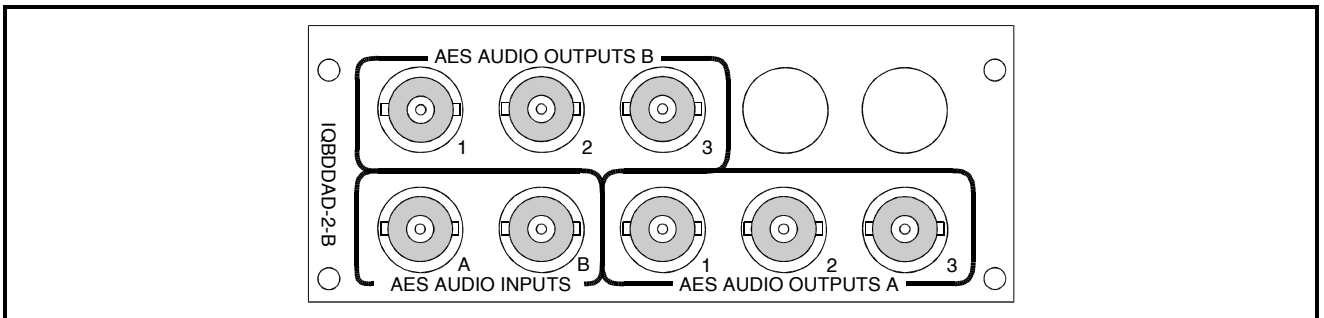
Module Description

The IQBDDAD dual channel digital audio distribution amplifier can receive digital audio from either up to 150 m of AES approved cable for balanced inputs or up to 500 m of RG59B for unbalanced inputs. Up to 3 outputs are provided for each input channel.

The digital audio sample rate may be 32, 44.1 or 48 kHz and is automatically selected.

RollCall™ control provides remote input lock detection and sample rate reporting.

REAR PANEL VIEWS



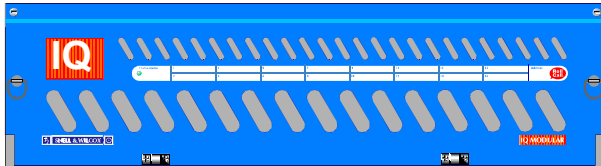
Versions of the module cards available are:

IQBDDAD-2-B	I/O connections via BNC connectors	Double width module
IQBDDAD-1-D	I/O connections via 25 way 'D' connector	Single width module
IQBDDAD-1A-D	I/O connections via 25 way 'D' connector	Single width module
IQBDDAD-2A-B	I/O connections via BNC connectors	Double width module

Note that there are two styles of rear panels available. They are not interchangeable between the two styles of enclosures. However, the cards may be fitted into any style of enclosure.

'A' Style Enclosure

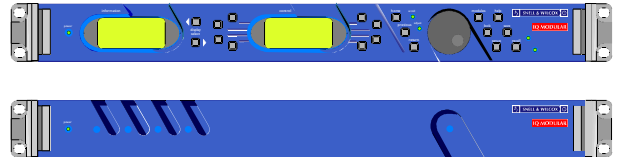
Rear panels **with** the suffix A may only be fitted into the 'A' style enclosure shown below.



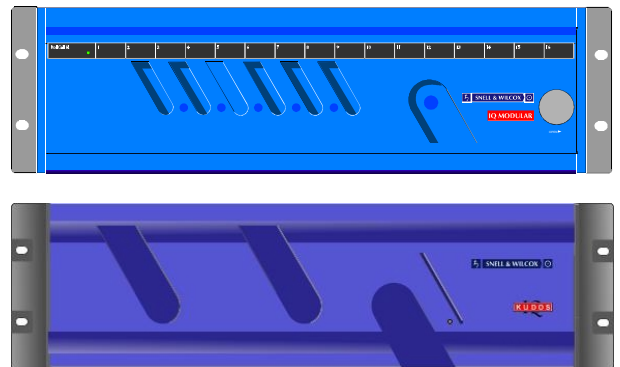
(Enclosure order codes IQH3A-E-O, IQH3A-E-P, IQH3A-N-O, IQH3A-N-P)

'O' Style Enclosures

Rear panels **without** the suffix A may only be fitted into the 'O' style enclosures shown below.

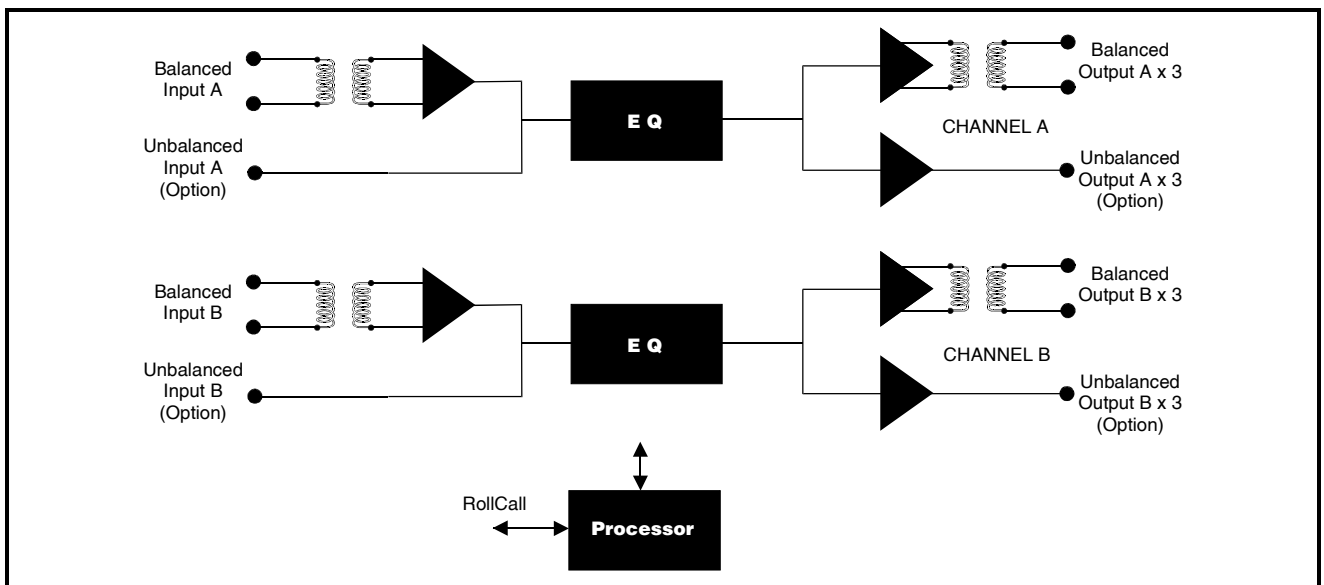


(Enclosure order codes IQH1S-RC-O, IQH1S-RC-AP, IQH1U-RC-O, IQH1U-RC-AP, Kudos Plus Products)



(Enclosure order codes IQH3N-O, IQH3N-P)

BLOCK DIAGRAM



Features

- Equalization for 150 m of AES cable or 500 m of RG45 cable (unbalanced)
- Automatic 32, 44.1 and 48 kHz operation
- 2 transformer coupled balanced Inputs
- Optional 2 transformerless unbalanced inputs
- 3 reclocked transformer coupled balanced outputs per channel input
- Optional 3 reclocked transformerless unbalanced outputs per channel input
- Unbalanced version is Dolby E compliant
- Channel status monitoring
- RollCall reporting of input lock

TECHNICAL PROFILE

Features**Signal Inputs**

Digital Audio Input..... 2 Channel (2 Stereo Pairs)
 Balanced 25 way D
 Unbalanced -B (Optional) BNC

Standards AES3-1992

Signal Outputs

Digital Audio..... 6 x (3 per channel pair) Serial
 Digital (Balanced) –D
 6 x (3 per channel pair) Serial
 Digital (Unbalanced) –B

Standards AES3-1992

Card Edge Controls

None

Functions Available via RollCall™ Only

Input Lock Detect Detects presence of input
 (32, 44.1, 48 kHz only)

Input Sample Rate Detect .. Automatic 32, 44.1, 48 kHz
 detection

Channel Status Monitor..... Displays Channel Status
 Information

Specifications

Input Cable Length..... Balanced, > 150 m of AES3 Cable
 Unbalanced, 500 m of RG59 or
 Equivalent

Output level..... Balanced 3 V pk to pk typical
 Unbalanced 1 V \pm 0.1 V pk to pk

Equalization Mode Automatic

Insertion Delay..... <600 ns

Re-clocking..... Yes

Power Consumption

Module Power Consumption
 2W max

EMC Performance Information

Environment Commercial and light industrial E2

Peak Mains Inrush Current following a 5 second mains
 interruption
 No mains input

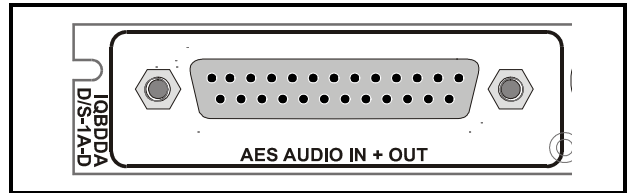
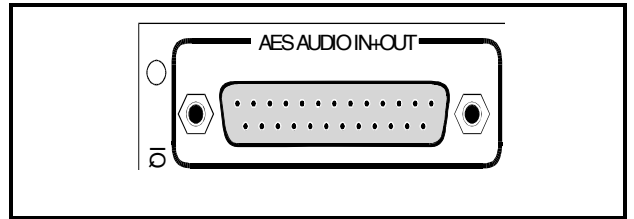
Performance Information.... No performance degradations or
 cable length limitations

INPUTS AND OUTPUTS

(-D versions)

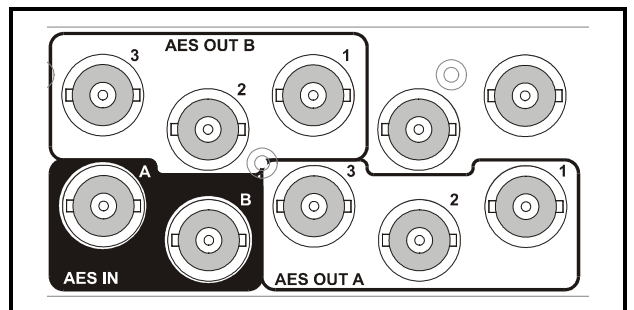
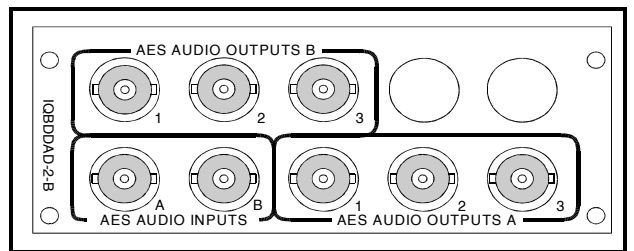
All AES input and output connections are made via this 25 way female D-type connector.

For connection data consult the tables on page 5.



(-B versions)

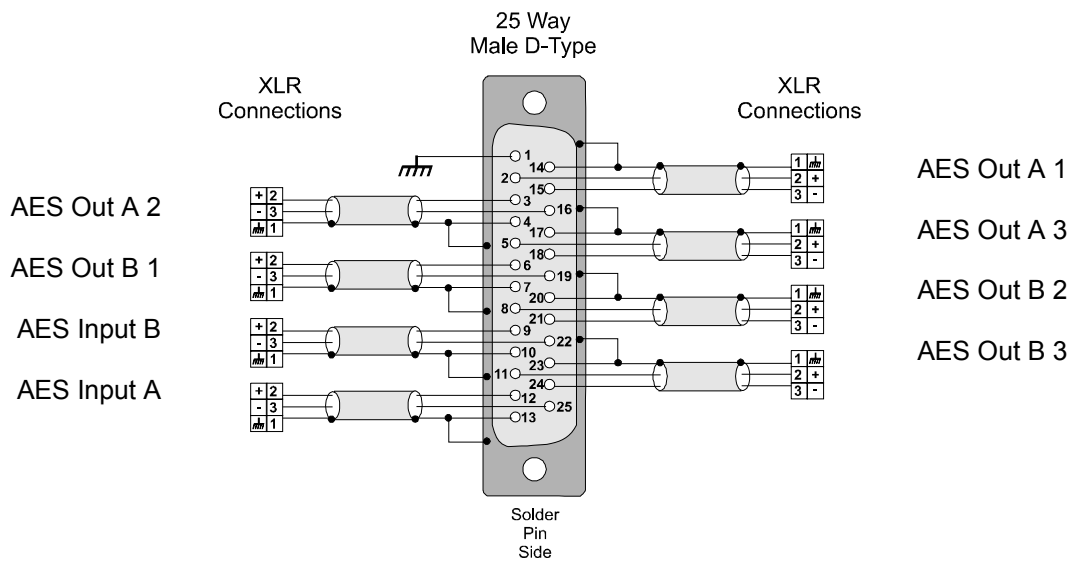
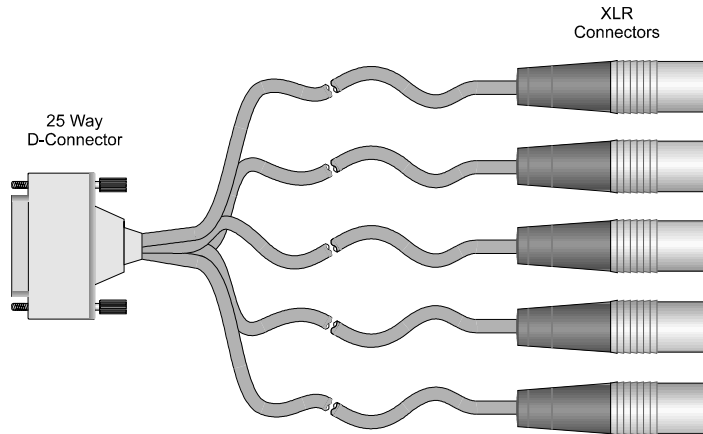
All AES input and output connections are made via these BNC connectors.



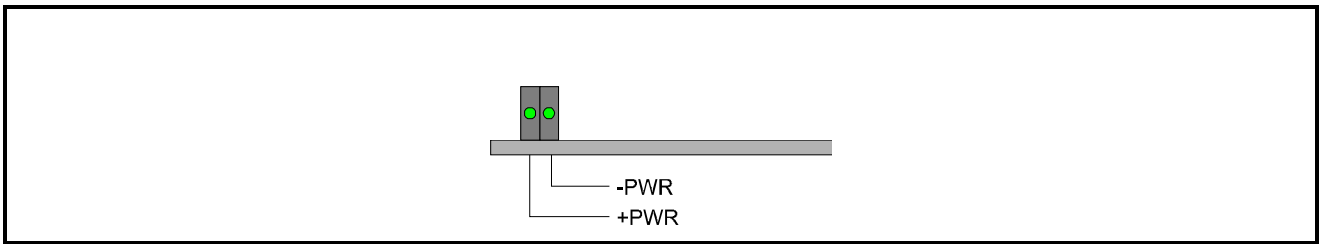
Connection Details

25 Way D Connector Pin Number	Description	Ribbon Cable Strand Number	Standard Pin Assignment
1		1	CHASSIS
14	AES OUT A 1 Gnd	2	GND1
2	AES OUT A 1 +	3	1+
15	AES OUT A 1 -	4	1-
3	AES OUT A 2 +	5	2+
16	AES OUT A 2 -	6	2-
4	AES OUT A 2 Gnd	7	GND2
17	AES OUT A 3 Gnd	8	GND3
5	AES OUT A 3 +	9	3+
18	AES OUT A 3 -	10	3-
6	AES OUT B 1 +	11	4+
19	AES OUT B 1 -	12	4-
7	AES OUT B 1 Gnd	13	GND4 (CH)
20	AES OUT B 2 Gnd	14	GND5
8	AES OUT B 2 +	15	5+
21	AES OUT B 2 -	16	5-
9	AES IN B +	17	6+
22	AES IN B -	18	6-
10	AES IN B Gnd	19	GND6
23	AES OUT B 3 Gnd	20	GND7
11	AES OUT B 3 +	21	7+
24	AES OUT B 3 -	22	7-
12	AES IN A +	23	8+
25	AES IN A +	24	8-

Example of Connection Details to XLR Connectors



CARD EDGE CONTROLS

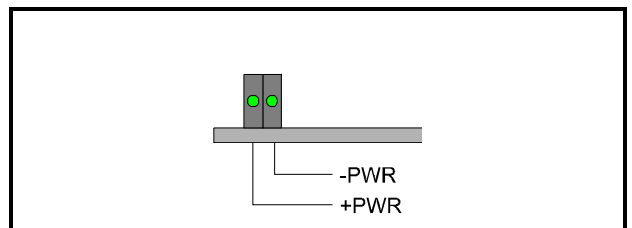


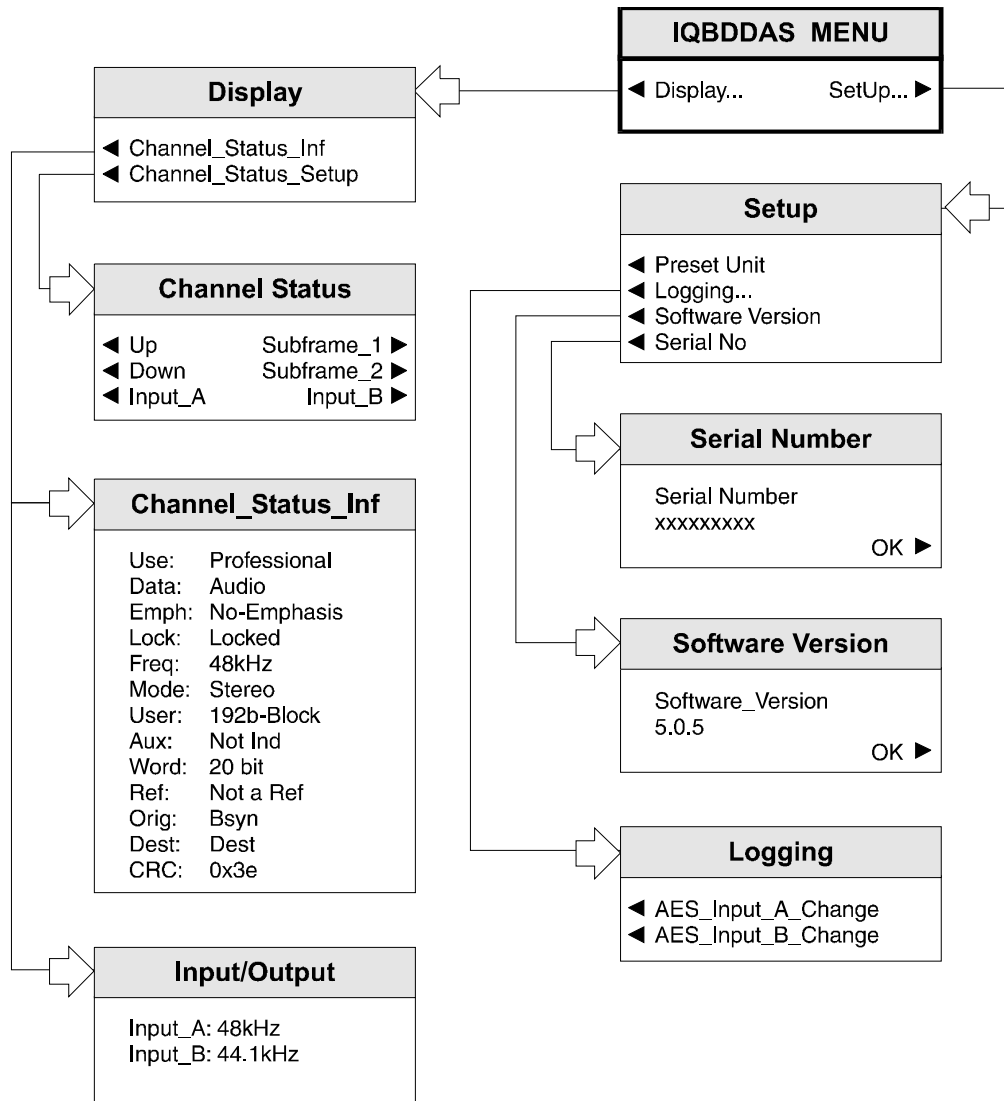
Adjustment of the settings of the **IQBDDAD** is available either via card edge controls and/or via a more comprehensive remote control system using RollCall™

LED INDICATORS

Power

These two indicators are illuminated when the positive and negative supplies are present.





***IQBDDAD
Menu System***

OPERATION FROM AN ACTIVE CONTROL PANEL

The card may be operated with an active control panel via the RollCall™ network.

The menus available for this card are shown on page opposite and will appear in the Control display window.

Operational details for the remote control panel will be found in SECTION 1 of the Modular System Operator's Manual.

MENU DETAILS

(see IQ Menu System Opposite)

MAIN MENU

The main or top level menu allows various sub-menus to be selected by pressing the button adjacent to the required text line.

Note that where a menu item is followed by three dots (...) this indicates that a further sub-menu may be selected.

Whenever a menu item is selected the parameters of that selection will be displayed in the Information window of the front panel. Where the selection is purely a mode selection and does not enable a sub-menu, the text will become reversed (white-on-black) indicating that the mode is active. If the mode is not available for selection the text will remain normal.

◀ DISPLAY

This item allows information about the channel status to be seen.

◀ Channel_Status_Inf

If this item **is not selected** the input sampling rate will be displayed.

IQBDDAD Input_A : 48kHz Input_B : 44.1kHz
--

Note that if the input is locked but the sampling rate is not of the recognised standard then "??" will be displayed.

If no input has been detected
 "**" will be displayed.

If this item **is selected** it will display information about the channel status, examples of which are shown below:

Use: Professional/ Consumer
 Data: Audio/Non-Audio
 Emph: No-Emphasis/Not Ind/50/15µs/CCIT J.17
 Lock: Locked/Unlocked
 Freq: 48kHz/44.1kHz/32kHz/Not Ind
 Mode: Stereo/Monaural/2-Channel/Pri/Sec/
 Not Ind
 User: HDLC/192b-Block/User/Not Ind
 Aux: Not Ind/TalkBack/Main Audio
 Word: 24/ bits/23 bits/22 bits/21 bits/20 bits/
 19 bits/18 bits/17 bits/16 bits
 Ref: Not a Ref/Grade 2/Grade 1
 Orig: Bsyn
 Dest: Dest
 CRC: 0x3e

◀ Channel_Status_Setup

Selecting this window will reveal a sub-menu that will allow the channel status information for both inputs sub-frame 1 and 2 to be viewed.

◀ Up	Subframe_1▶
◀ Down	Subframe_2▶
◀ Input_A	Input_B▶

Note that the Up and Down push button selections should be used for this function as the spinwheel will not be operational.

SETUP ▶

This selection reveals a sub-menu that allows the following functions to be set up:

◀ Preset Unit

Selecting this item sets all adjustment functions that include a preset facility, to their preset values. Note that this is a momentary action and the text will not become reversed

◀ Logging

If a logging device is attached to the RollCall™ network, information about various parameters will be reported to the logging device assigned in the Remote Control Interface system. (See Section 1, The RCIF Menu System)

The parameters that may be selected for logging are as follows:

- ◀ AES_Input_A_Change
- ◀ AES_Input_B_Change

◀ Software Version

Selecting this item reveals a display showing the version of the software fitted in the module. Select OK to return to the System Menu.

◀ Serial Number

Selecting this item reveals a display showing the serial number of the module. Select OK to return to the System Menu.

Dolby E Compatibility

Dolby E is an audio format that enables professional broadcast equipment to handle multichannel audio and metadata conveniently and easily. Dolby E allows up to 8 channels of audio and associated metadata to be carried using a standard stereo AES-EBU digital signal.

Snell and Wilcox Ltd. is a member of the Dolby E Partner Program.

It has been verified that the model(s) indicated in the table below will pass 16-bit, 20-bit and 24-bit Dolby E streams transparently in the modes shown.

Product Category	Manufacturer	Model	Test Date	Location	Dolby Engineer	OEM Contact
Modular Audio Products	Snell & Wilcox	IQBDDAD Dual Audio DA	09.08.01	Snell & Wilcox UK	RAF, JYP	Snell & Wilcox Lee Hunt

Product Settings
N/A

Software Revision (If applicable)	Product Serial Number
V5.2.6	

Test Configuration	Number of Audio Bits Passed	Channel Status Bits	Delay (E-E)
DM100 connected directly to input/output of card	24	Passed through	3 AES frames

Compatibility

Level (Fully, Conditionally, Partially)	Reason
Fully	

