SIRIUS DATA INPUT/OUTPUT CARDS USER GUIDE

Contents

1 Introduction

1.1 The Data range

Currently the data cards are available as balanced input and balanced output only. They are based on the Sirius asynchronous AES/EBU input / output card range, hence operate in the same way as these cards, using the same cross point cards and database configuration options. More cards may be added to the range depending on demand.

This manual should be read in conjunction with the main Sirius manual and the standard AES/EBU card manual may also provide some additional insight into this product.

The range of data input and output signal cards can be summarized as follows:

- 4794: 8 channel data input card,
- 4798: 8 channel data output card, for use with 4794 input cards

There are also four builds of connector panel, or 'spine card', to accompany the i/o cards:

- 1763: 50 way D type plug for 16 balanced inputs on upper half of 7U frame, and for all inputs on a 4U and 16U frame
- 1766: 50 way D type socket for 16 balanced outputs on upper half of 7U frame, and for all outputs on a 4U and 16U frame
- 1770: 50 way D type plug for 16 balanced inputs on lower half of 7U frame only
- 1771: 50 way D type socket for 16 balanced outputs on lower half of 7U frame only.

The spine cards fitted with a single D type connector must be fitted into the correct section of the 4U, 7U or 16U frame to function.

Finally, the user must match the data cards against the crosspoints being used, remembering that data may pass through any higher bandwidth crosspoint, as follows:

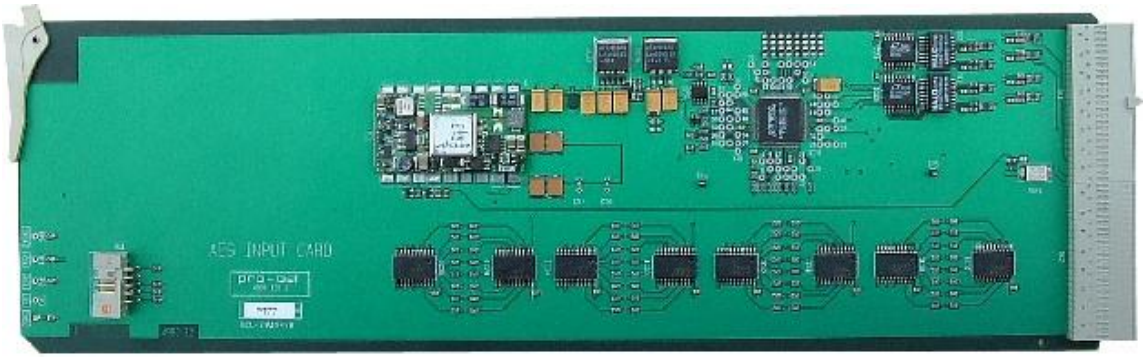
- 3906: 128x32 HDTV crosspoints for use in a 4U or 7U frame
- 3907: 128x32 SDV crosspoints for use in a 4U or 7U frame
- 4907: 128x64 AES crosspoints, when used in a 4U frame
- 4907: 128x32 AES crosspoints, when used in a 7U frame

The rules for matching these components are given in the next section.

- 3909: 256x64 HDTV crosspoints, for use in a 16U frame
- 3909: 256x64 SDV crosspoints for use in a 16U frame
- 4909: 256x64 AES crosspoints for use in a 16U frame

2 Data card details

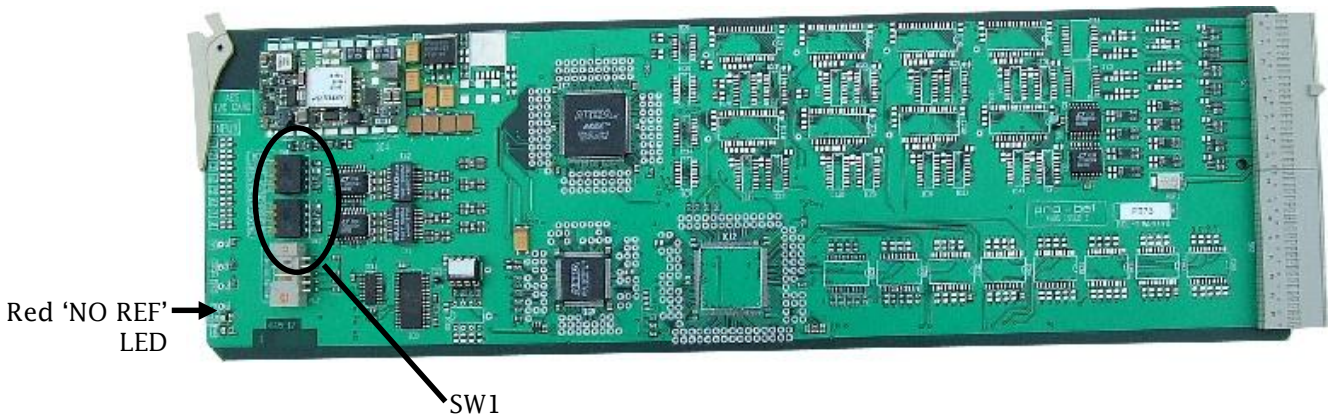
2.1 4794 input card



This card only functions in an ‘asynchronous’ mode. Eight channels of data, up to 8Mbit/S may be connected to the card via a balanced connector. There are no user adjustments, switches or indications available on this card.

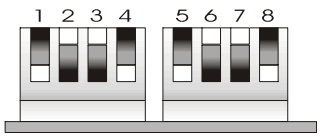
Data will be transparently passed .

2.2 4798 output card



Provides eight channels of data output, switch selectable to be synchronous or asynchronous (should be used in asynchronous mode for data). When used in conjunction with the 4794 cards.

SW1 selects the mode of operation as follows:



Front view:

Switch number = channel number

UP = Asynchronous DOWN= Synchronous

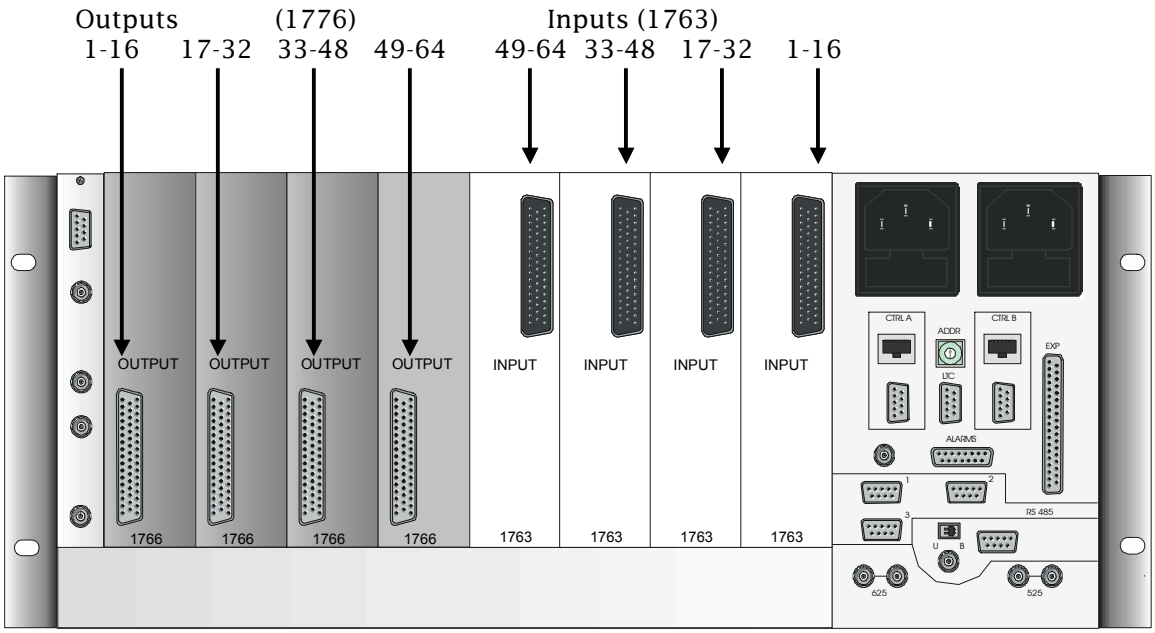
All switches should be set UP for Asynchronous operation for data applications

A single red LED on the card front edge indicates that no AES reference is present. It is irrelevant for data applications whether or not there is an AES reference.

3 Rear panel connector layouts

3.1 Data cards in a 4U frame

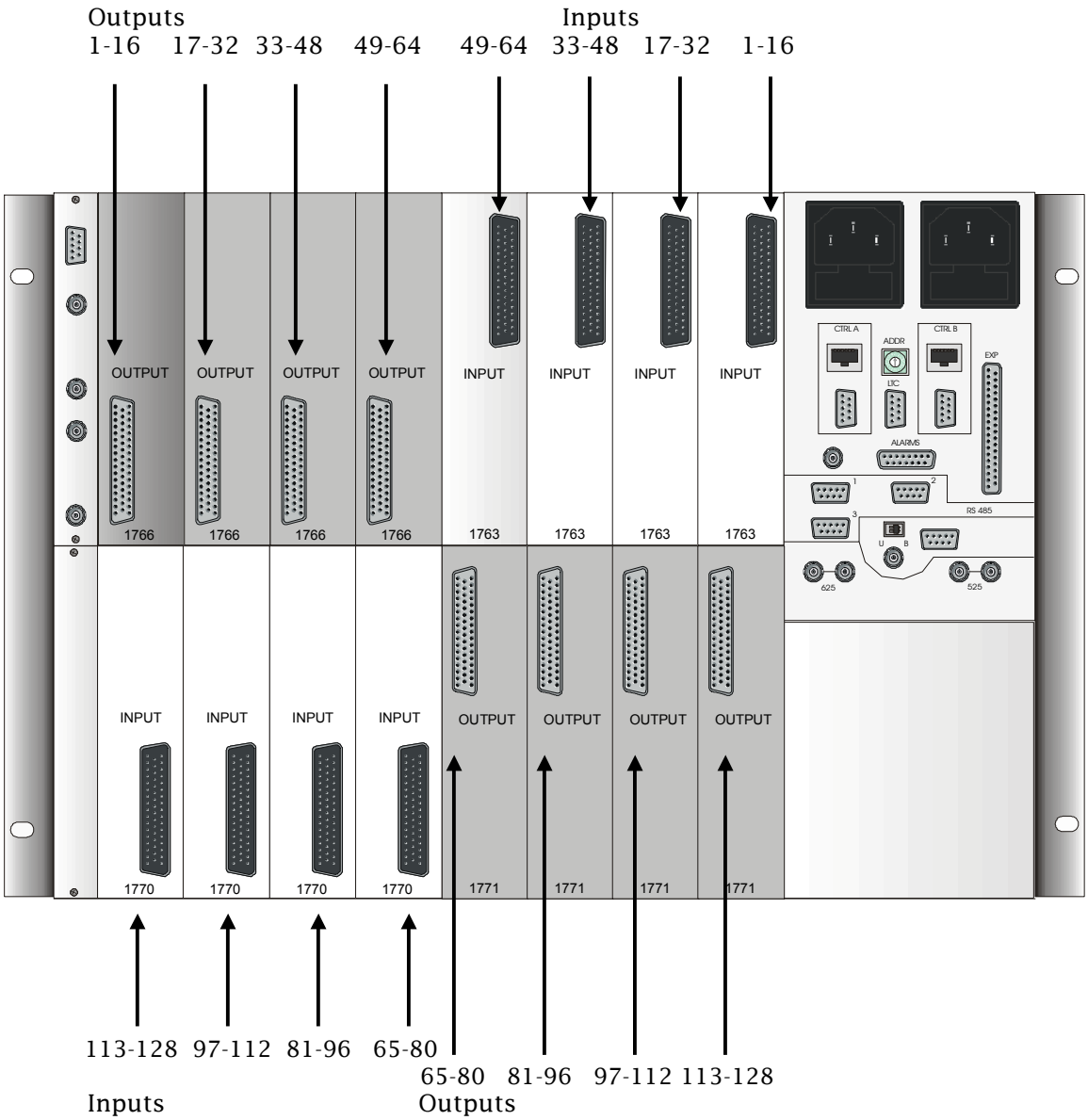
When viewed from the rear, the D type connectors on a 4U frame fully equipped with separate data input and output cards, will be allocated as follows. The spine card number is also indicated:



The above configuration shows a 'square' router with the same number of inputs as outputs, however it is possible to 'trade' extra inputs for outputs in this frame, in which case the connector types will change as appropriate. See Section 3 of the main Sirius user guide.

3.2 Data cards in a 7U frame

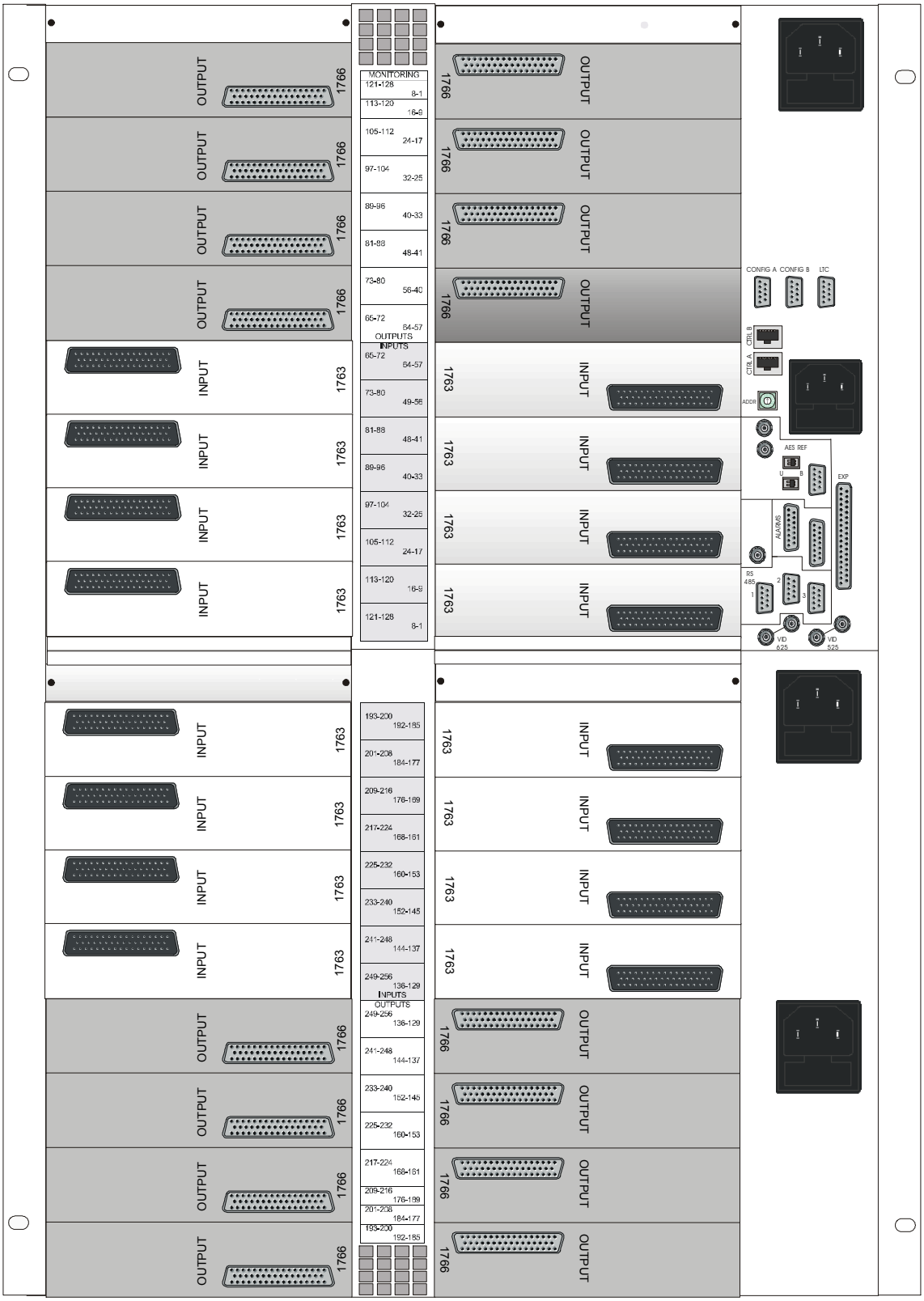
When viewed from the rear, the D type connectors on a 7U frame fully equipped with separate data input and output cards, will be allocated as follows. The spine card number is also indicated:



3.3 Data cards in a 16U frame

When viewed from the rear, the D type connectors on a 16U frame fully equipped with separate data input and output cards, will be allocated as follows. All input spine cards are type 1763, and outputs type 1766:

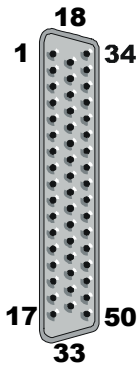
SIRIUS data input/output cards



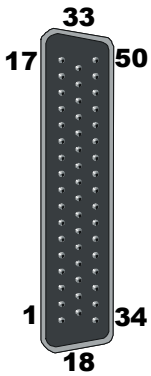
3.4 50 way D type connector pinout

The pin allocations for the 50 way D type plug and socket used for balanced AES connections are as follows:

Output connector 50 way D type socket



Input connector 50 way D type plug



Channel	Function	Pin
1	Signal +	18
	Signal –	2
	Signal GND	34
2	Signal +	35
	Signal –	19
	Signal GND	3
3	Signal +	20
	Signal –	4
	Signal GND	36
4	Signal +	37
	Signal –	21
	Signal GND	5
5	Signal +	22
	Signal –	6
	Signal GND	38
6	Signal +	39
	Signal –	23
	Signal GND	7
7	Signal +	24
	Signal –	8
	Signal GND	40
8	Signal +	41
	Signal –	25
	Signal GND	9
Screen	Chassis GND	1

Channel	Function	Pin
9	Signal +	26
	Signal –	10
	Signal GND	42
10	Signal +	43
	Signal –	27
	Signal GND	11
11	Signal +	28
	Signal –	12
	Signal GND	44
12	Signal +	45
	Signal –	29
	Signal GND	13
13	Signal +	30
	Signal –	14
	Signal GND	46
14	Signal +	47
	Signal –	31
	Signal GND	15
15	Signal +	32
	Signal –	16
	Signal GND	48
16	Signal +	49
	Signal –	33
	Signal GND	17
Screen	Chassis GND	50

Sirius data router breakout cable

Channel	Function	50w Pin	9w
1	Signal +	18	3
	Signal–	2	8
	Signal GND	34	
2	Signal +	35	3
	Signal–	19	8
	Signal GND	3	
3	Signal +	20	3
	Signal–	4	8
	Signal GND	36	
4	Signal +	37	3
	Signal–	21	8
	Signal GND	5	
5	Signal +	22	3
	Signal–	6	8
	Signal GND	38	
6	Signal +	39	3
	Signal–	23	8
	Signal GND	7	
7	Signal +	24	3
	Signal–	8	8
	Signal GND	40	
8	Signal +	41	3
	Signal–	25	8
	Signal GND	9	
Screen	Chassis GND	1	

Channel	Function	50w Pin	9w
9	Signal +	26	3
	Signal–	10	8
	Signal GND	42	
10	Signal +	43	3
	Signal–	27	8
	Signal GND	11	
11	Signal +	28	3
	Signal–	12	8
	Signal GND	44	
12	Signal +	45	3
	Signal–	29	8
	Signal GND	13	
13	Signal +	30	3
	Signal–	14	8
	Signal GND	46	
14	Signal +	47	3
	Signal–	31	8
	Signal GND	15	
15	Signal +	32	3
	Signal–	16	8
	Signal GND	48	
16	Signal +	49	3
	Signal–	33	8
	Signal GND	17	
Screen	Chassis GND	50	

Notes for 9 way connector
Pins 1+4+6+9 to be linked together and taken down to shell on all 9 way connectors
Pin 5+2+7 to be left not connected on all 9 way connectors

Notes for 50 way connector

Pins 1,3,5,7,9,11,13,15,17,34,36,38,40,42,44,46,48,50 to be linked together and taken down to shell

Input cables are 50 way male to 9 way
Output cables are 50 way female to 9 way male

4 Specification

4.1 Data

Inputs	
Number and type:	up to 256 balanced 2 wire (uni-directional), depending on the frame type
Impedance:	110Ω nominal
Sensitivity:	500mV minimum differential
Data rate:	up to 8 Mbit/s
Connectors	50 way D type sockets (16 channels per connector)
Outputs	
Number and type:	up to 256 balanced 2 wire (uni-directional), depending on the frame type
Amplitude:	1.5V minimum differential into 110Ω load