SIRIUS CROSSPOINT CARDS USER GUIDE

Contents

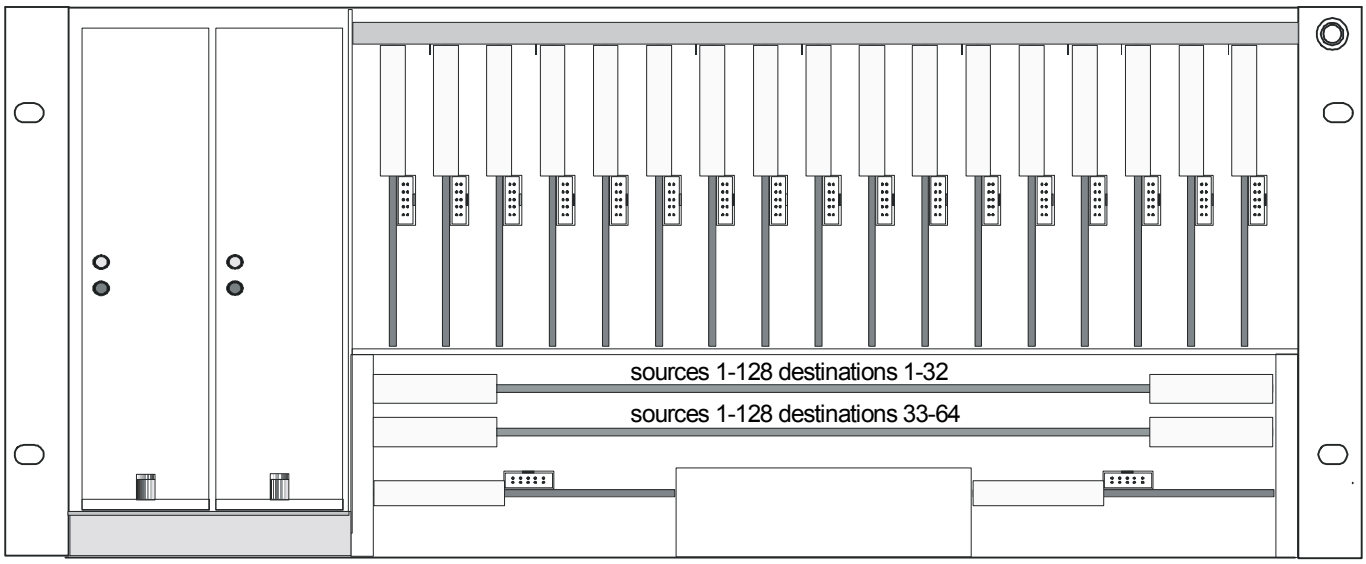
1 4U & 7U Frames

1.1 The 3912 HD Crosspoint Card

The 3912 High Definition Video crosspoint card fits into a Sirius 4U or 7U frame and provides 128x32 crosspoints for routing any digital signals up to 1.485 Gb/s. This crosspoint card will therefore work in conjunction with the Sirius HD, SDV and AES cards, as well as the analogue converter, or 'hybrid' cards. Routers may be constructed to function in a mixed analogue/digital environment, with eight-channel modularity.

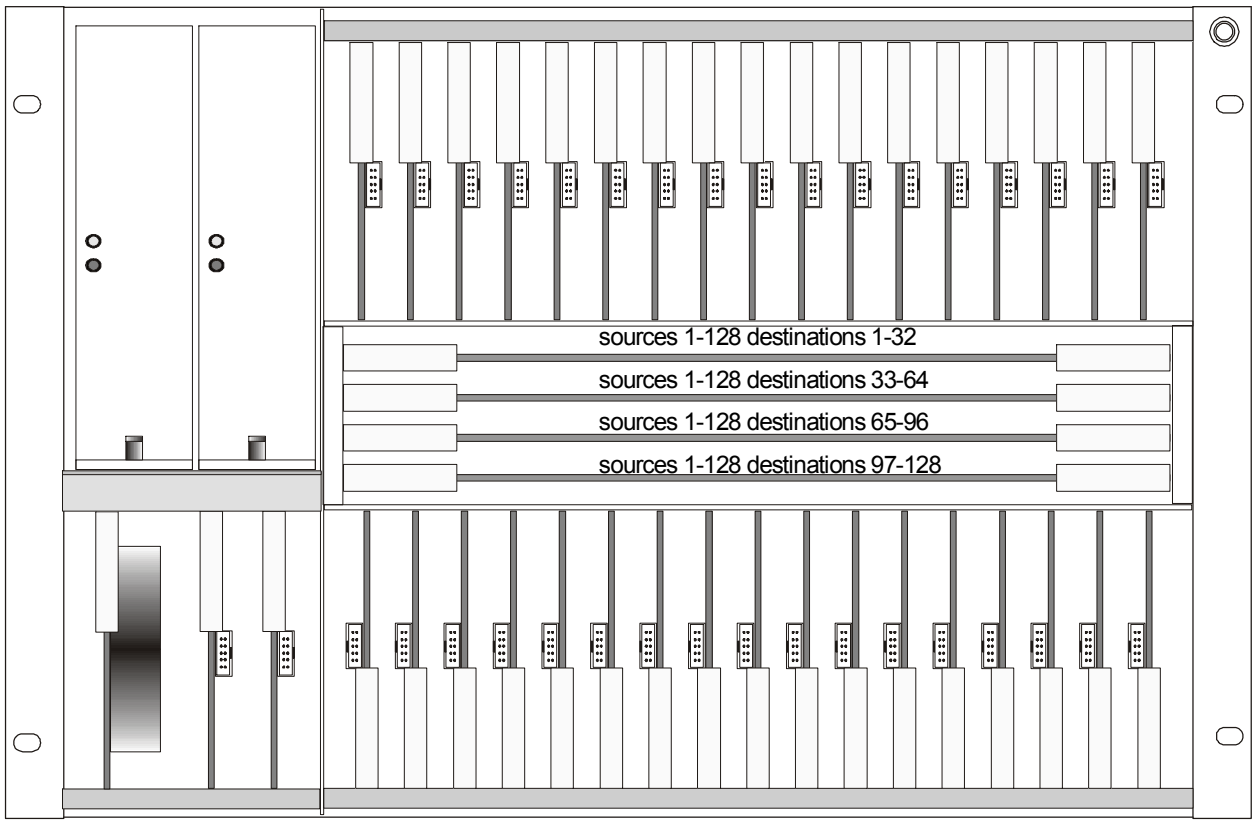
1.1.1 4U Frame

The location and function of 3912 crosspoint cards in a 4U frame are as follows:



1.1.2 7U Frame

The location and function of 3912 crosspoint cards in a 7U frame are as follows:



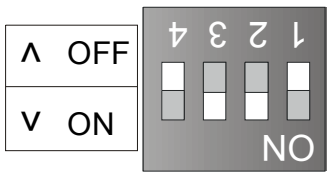
There are no user adjustments or settings on the 3912 card. LED indications show the presence of the three power rails. All power rails are derived from the 48V Sirius PSUs and converted locally. On the 3912 card, one converter supplies 3.3V and 2.5V and the other supplies 1.2V. There are four test points, 0V, 1.2V, 2.5, and 3.3V. If necessary, check rails and LED's.

One crosspoint chip is fitted to the card, with a capacity of 144x144.

1.2 The 4911 AES Crosspoint Card

The 4911 AES crosspoint card is designed for use in a 4U Sirius frame equipped with 4999 combined I/O cards to create a balanced AES 128x128 router, but may also be used in other configurations where cost-effective digital audio routing is required. The card is used in conjunction with any of the Sirius AES I/O card family, allowing routers to be constructed with balanced or unbalanced connectors, for use in synchronous or asynchronous environments. The user must refer to the Sirius AES I/O card user guide for a full description of the signal formats.

When used in a 4U frame the full 128x64 crosspoint capacity of the 4911 is accessible, however, * when used in the 7U frame only 32 of the card outputs are available. If the user wishes to mix video and audio routing in a 4U frame, the AES crosspoint card must be configured to use only 32 of it's outputs, therefore allowing it to be used in the same frame as a video crosspoint card. The crosspoint card is fitted with a configuration DIP switch in order to select the appropriate mode of operation, the switch and configuration table appear on the card as follows:



S2	S1	Frame size	Available outputs	Input and output modules
ON	ON	7U	32	Separate
ON	OFF	4U	32	Separate
OFF	ON	4U	64	Combined
OFF	OFF	4U	64	Separate

There are several important points to note when configuring the crosspoint card:

- The DIP switch is mounted upside-down with respect to the silk-screening where S1 is the right most switch
- Switch positions 3 and 4 are not used
- Switch positions 1 and 2 must match positions 3 and 4 on the host control card 4-way DIP switch (see Section 5.8 of the Sirius user guide)

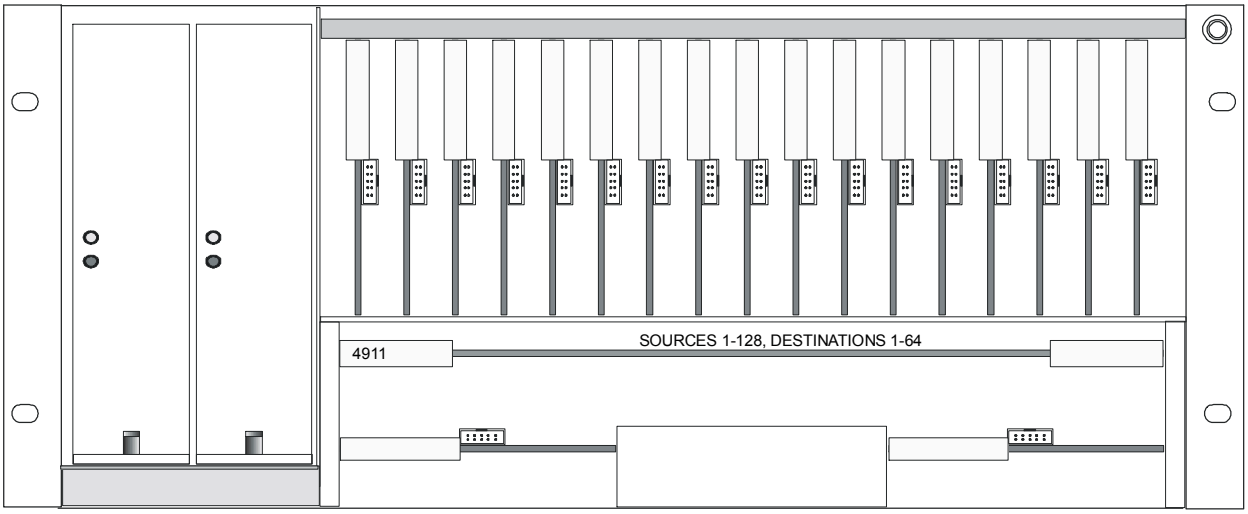
The following table summarizes all the possible configurations using the 4911 crosspoint card:

Connector type	Frame size	Input cards	Output cards	Number of 4907 Crosspoint cards	Max router size
Balanced	4U	16x4998 combined i/o		2	128x128
		8x4998 combined i/o		1	128x64
		8x4992/3	8x4996	1	64x64
		8x4992/3	4x4996	1*	64x32
	7U	16x4992/3	16x4996	4	128x128
			12x4996	3	128x96
			8x4996	2	128x64
			4x4996	1	128x32
Unbalanced	4U	8x4992/3	8x4996	1	64x64
		8x4992/3	4x4996	1*	64x32
	7U	16x4992/3	16x4996	4	128x128
			12x4996	3	128x96
			8x4996	2	128x64
			4x4996	1	128x32

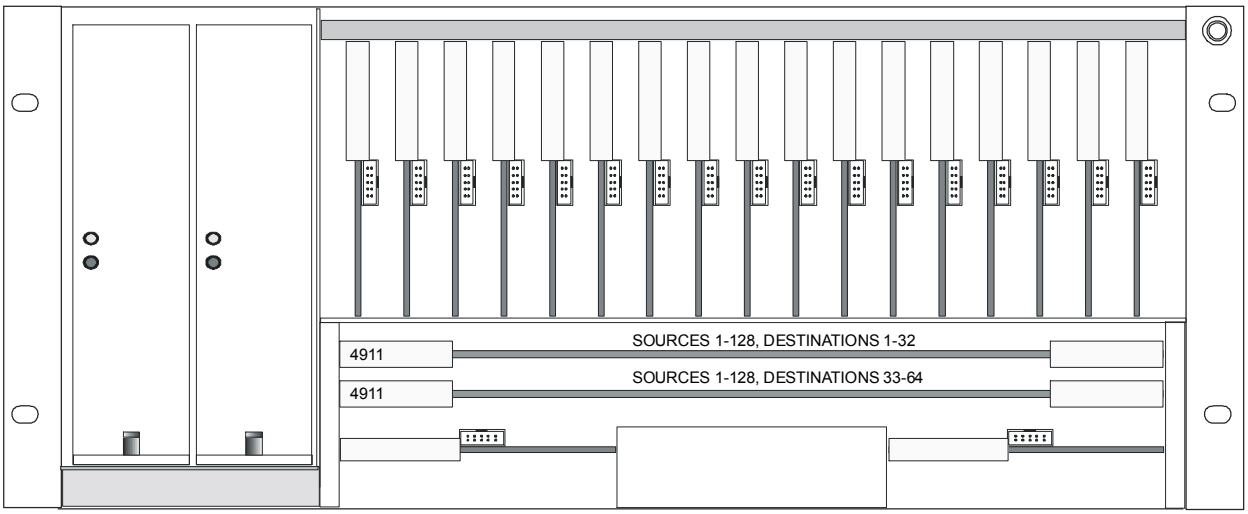
*in this configuration the 4911 crosspoint card is switched to use only 32 of its outputs, and may therefore be used in conjunction with a video crosspoint card for a multi-level system. See DIP switch setting table.

The location and function of 4911 crosspoint cards in a 4U frame are as follows:

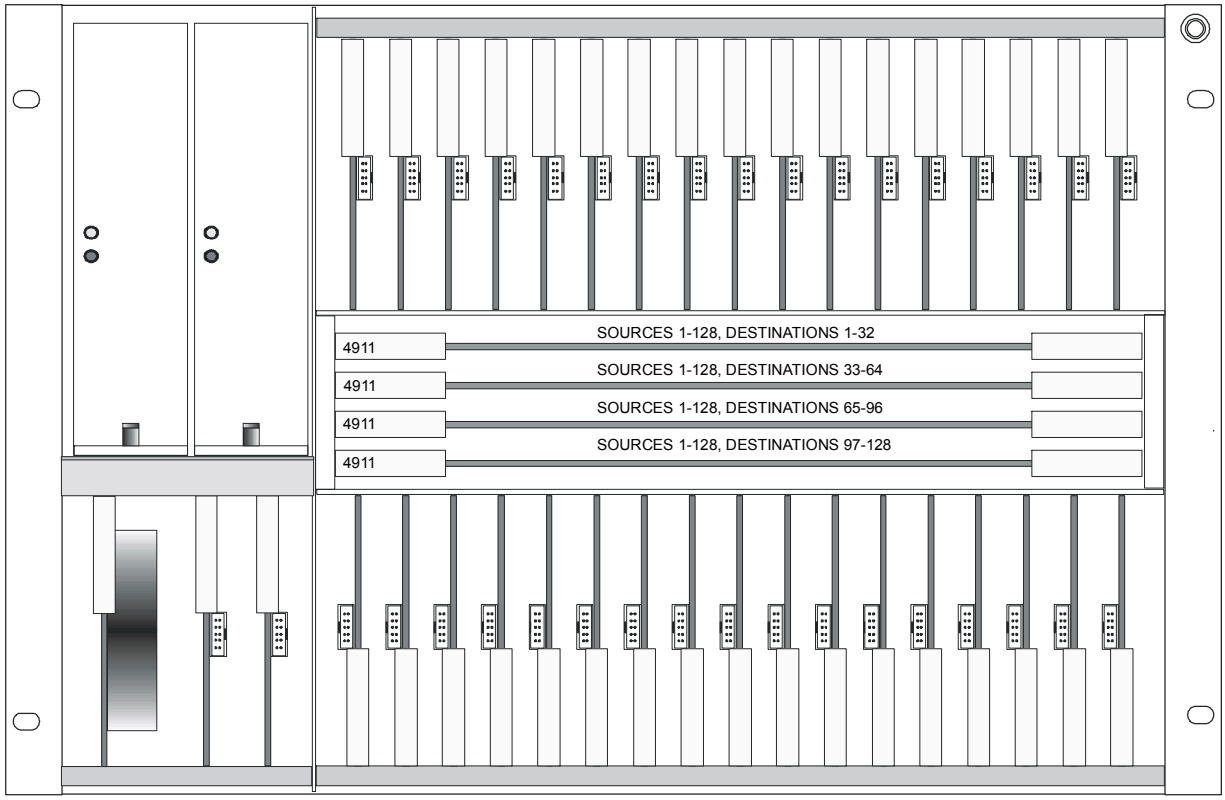
Configured to use 64 outputs:



Configured to use 32 outputs:



The location and function of 4911 crosspoint cards in a 7U frame are as follows:



Apart from the 4 way DIP switch, there are no user adjustments or settings on the 4911 card. LED indications show the presence of the three power rails. All power rails are derived from the 48V Sirius PSUs and converted locally. On the 4911 card, one converter supplies 3.3V and 2.5V and the other supplies 1.2V. There are four test points, 0V, 1.2V, 2.5, and 3.3V. If necessary, check rails and LED's.

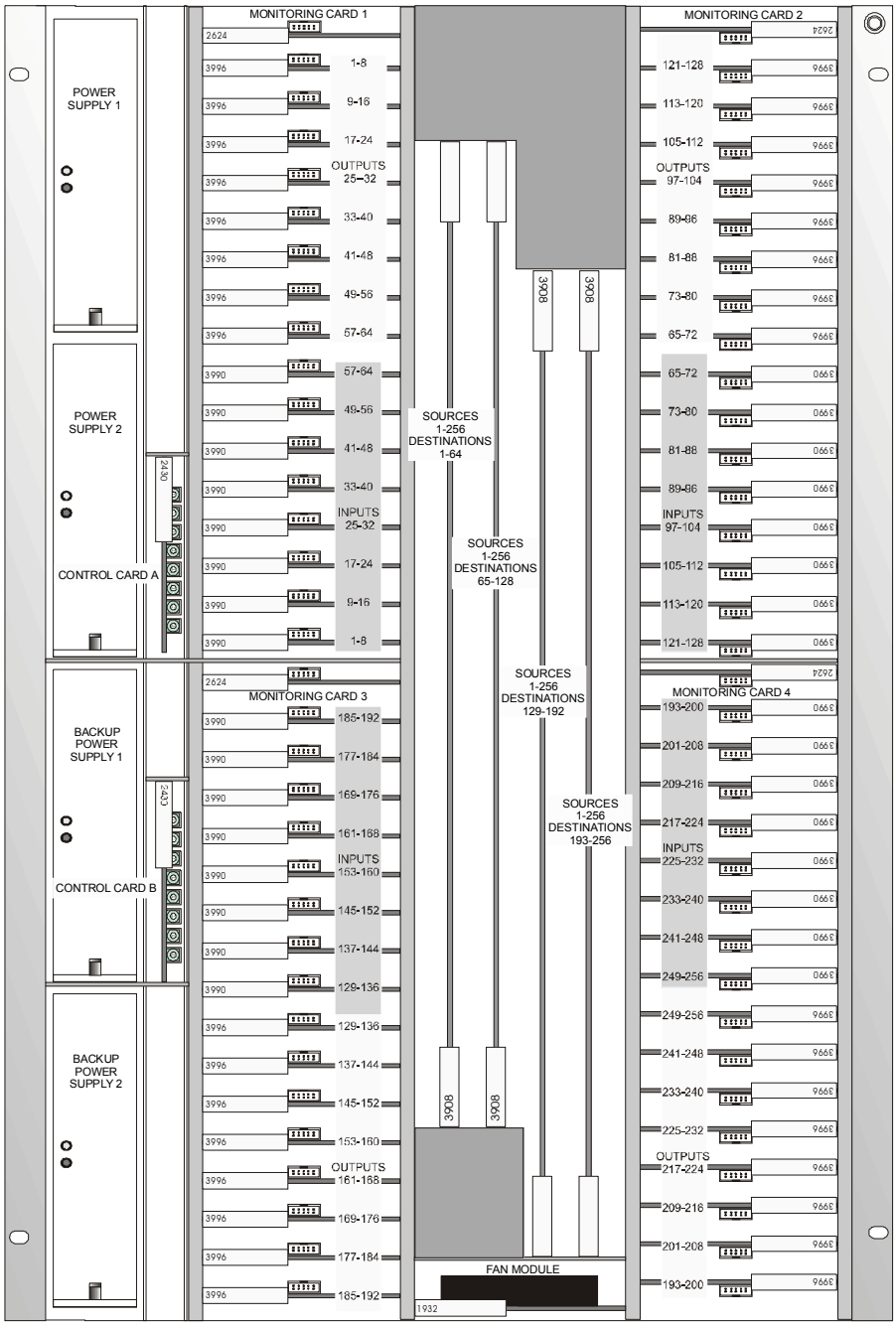
2 16U Frame

2.1 The 3908 HD Crosspoint Card

The 3908 High Definition Video crosspoint card fits into a Sirius 16U frame and provides 256x64 crosspoints for routing any digital signals up to 1.485 Gb/s. This crosspoint card will therefore work in conjunction with the Sirius HD, SDV and AES cards, as well as the analogue converter, or 'hybrid' cards. Routers may be constructed to function in a mixed analogue/digital environment, with eight-channel modularity.

On the 3908 card, one converter supplies 3.3V and 2.5V and the other supplies 1.2V. There are four test points, 0V, 1.2V, 2.5, and 3.3V. If necessary, check rails and LED's.

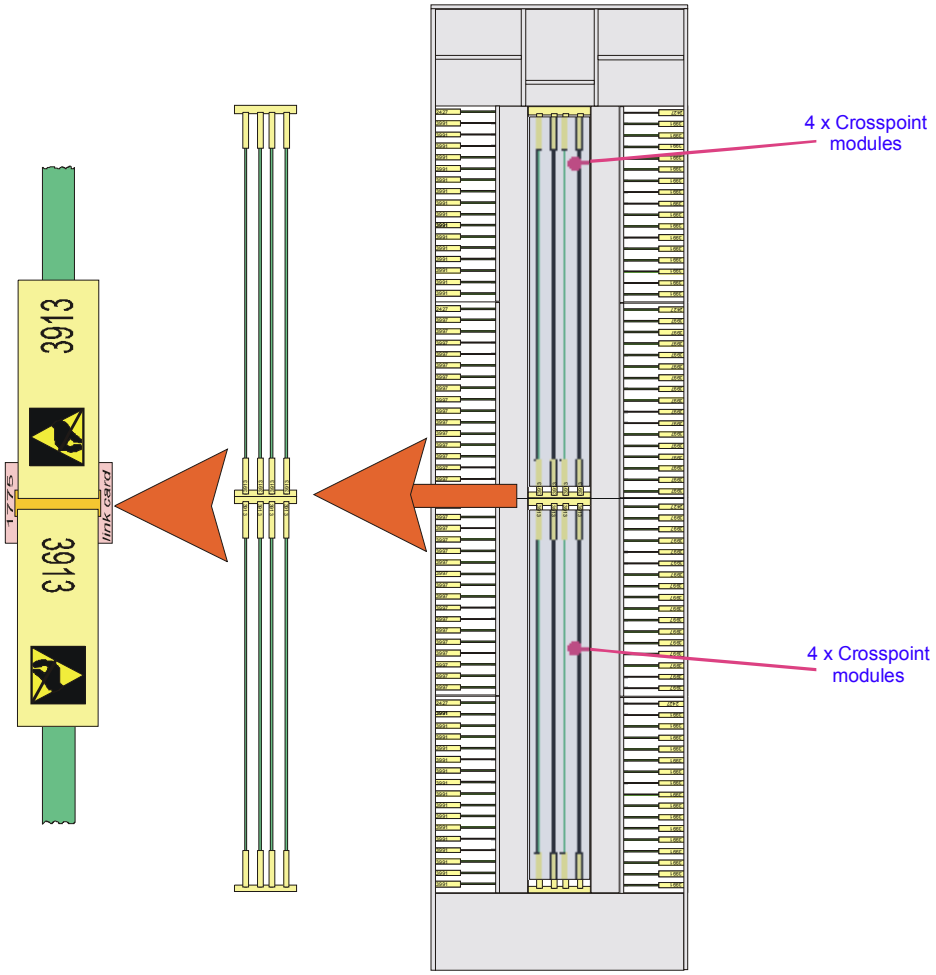
The location and function of 3908 Crosspoint Cards in a 16U frame are as follows:


MONITORING CARD 1
MONITORING CARD 2
MONITORING CARD 3
MONITORING CARD 4
POWER SUPPLY 1
POWER SUPPLY 2
BACKUP POWER SUPPLY 1
BACKUP POWER SUPPLY 2
CONTROL CARD A
CONTROL CARD B
SOURCES 1-256 DESTINATIONS 1-64
SOURCES 1-256 DESTINATIONS 65-128
SOURCES 1-256 DESTINATIONS 129-192
SOURCES 1-256 DESTINATIONS 193-256
FAN MODULE
OUTPUTS 25-32
INPUTS 25-32
OUTPUTS 97-104
INPUTS 97-104
OUTPUTS 161-168
INPUTS 161-168
OUTPUTS 217-224
INPUTS 225-232

3 Sirius Gold 39U Frame

3.1 The 3913 HD, SD, and AES Crosspoint

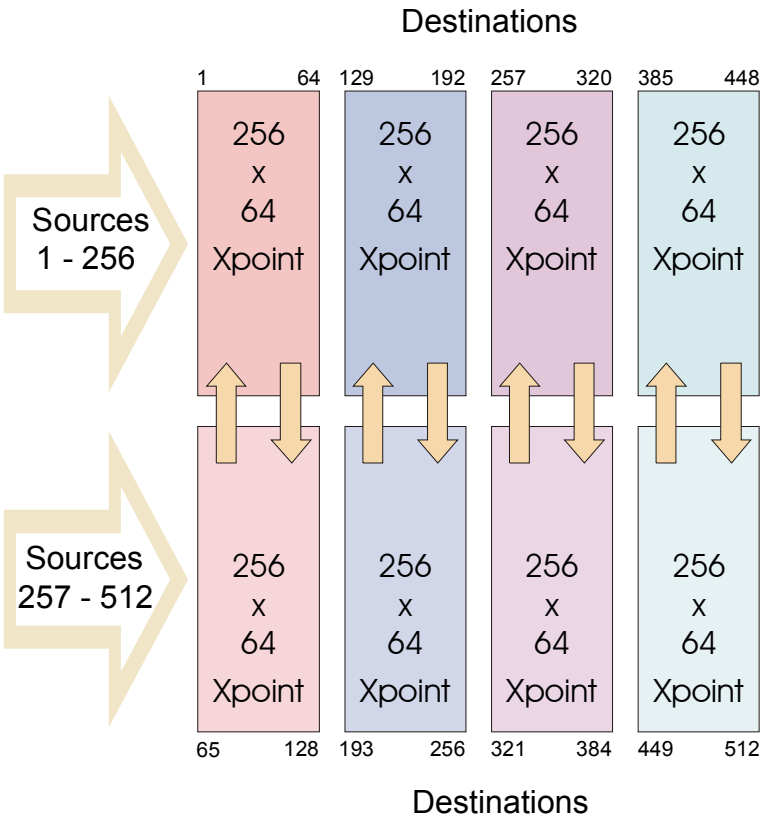
The Crosspoint cards are large PCB's (16U) and care should be taken when handling them both from a physical and an electrostatic point of view.



The Sirius Gold Crosspoints are located in the front middle section of the frame. The graphic illustrates the arrangement. There is one type of crosspoint available: -

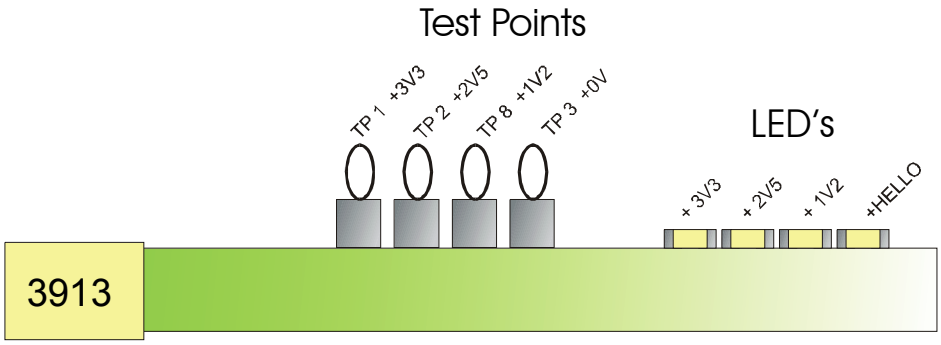
- 3913 HD, SD, and AES Crosspoint

Crosspoints are supplied and fitted in pairs. The graphic illustrates the principle; the two cards are mounted vertically and use a factory fitted link card 1775 to combine them into a single column. To allow the two cards to link easier the bottom card is reverse mounted facing the opposite direction.



Sirius Gold Crosspoint Structure

The crosspoint structure is shown above. The crosspoint cards are as viewed from the front of the frame. Routes that pass between the upper and lower frame pass through both crosspoint cards in the same pair. The system uses four logical 512 x 128 crosspoint cards in four physical pairs.



Edge View of Sirius Gold 3913 Crosspoint

The Sirius Gold 3913 Crosspoint has no user adjustments. The main four test points are easily accessible along the edge for measuring. There are also four LED's which give a visual indication of the three voltage rails: 3V3, 2V5, and 1V2. The "Hello" LED gives an indication of control and polling as it interrogates each card.