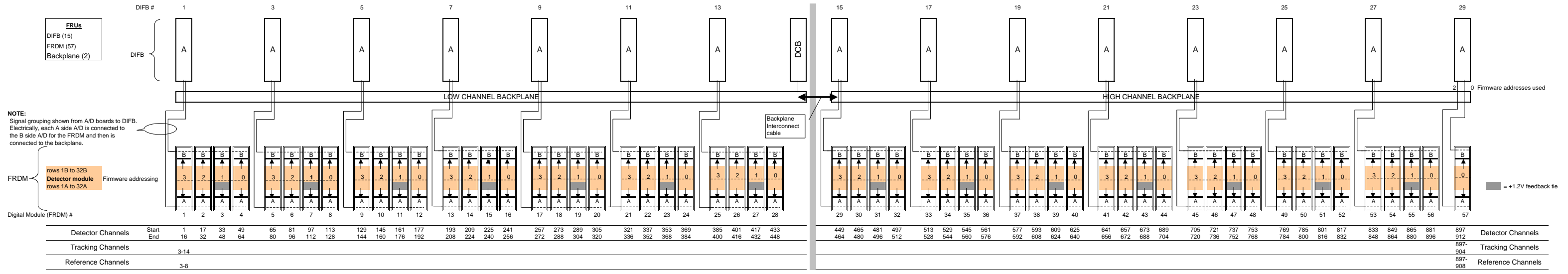
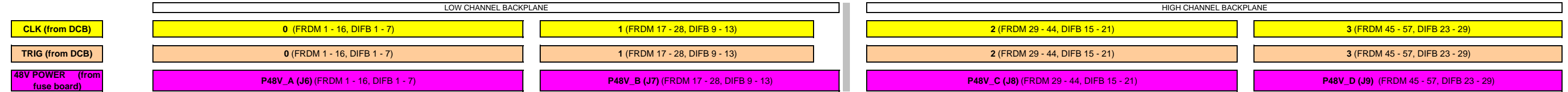


# VCT HDAS (HALO) DAS/Detector Block Diagram

VCT DAS/Detector shown at 12 o'clock  
Looking from the Table side of the Gantry

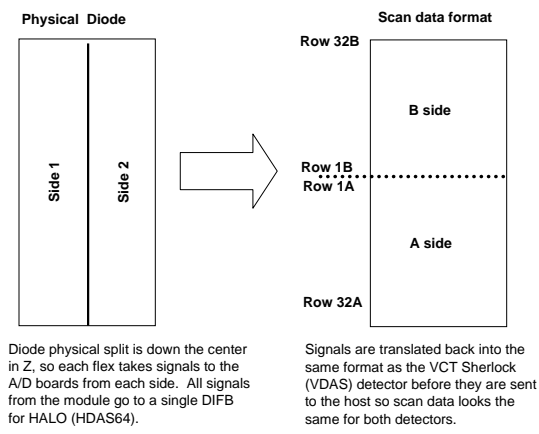


## Backplane Signal Mapping (same scale as above diagram)



DCB signals Clk and Trig are split into 4 outputs (0-3) for signal load reduction on the DCB  
48V input power from the 48V fuse board is split into 4 inputs (A-D) for current handling.

## HALO Detector Diode



**What does this impact?**  
Any issue will be either in the module or single DIFB. There is only a single DIFB for every 4 digital modules for HALO (HDAS). Still analyze the scan data the same way for both detectors (VDAS and HDAS). The data sorting occurs on the DIFBs then is sent to the DCB in the same format for both detectors. A flex failure would show up as an 8 ch x 64 row issue for HALO instead of the 16 ch x 32 row pattern for Sherlock.

## Special information for decoding firmware addressing if seen in error messages:

Error messages should give digital module number, but if board number is not given, use the mapping above, firmware addressing, and the table and information below to decode.

Errors on the FRDMs are reported by the DIFBs. FRDMs are also referred to as Digital Modules. ASIC errors will be reported by DIFB # and ASIC number. As each DIFB handles 8 A/D cards, it can report errors for FRDM ASICs 0 - 63. This is decoded by firmware addressing of the A/D cards.

**Example DIFB error:**  
260132728  
DIFB(s) failed to write an ASIC register  
Board: 11  
ASIC: 13

Reported ASIC #	FRDM FW Address
0 - 15	0
16 - 31	1
32 - 47	2
48 - 63	3

DIFB #11 reported an ASIC error.  
ASICs are on the A/D cards in the FRDM (Digital) modules  
Each DIFB talks to 8 A/D boards. Two A/Ds per digital module.  
Each A/D board has 8 ASICs.  
ASIC number 13 is the 14th ASIC that DIFB #11 talks to.  
DIFB #11 talks to FRDMs 21-24 but actually addresses them in reverse physical numbered order of 24-21.  
The first addressed FRDM is #24. This is seen in the block diagram above showing firmware address 0 on board number 24.