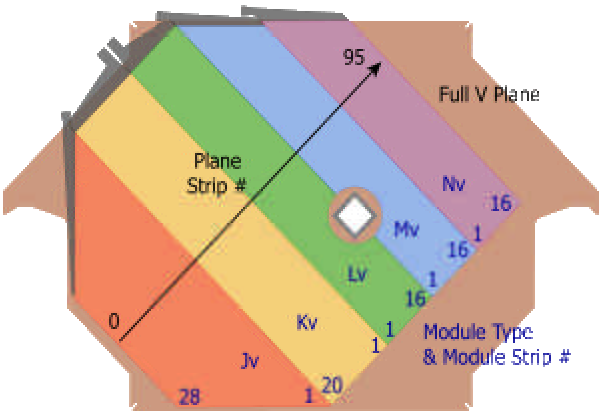
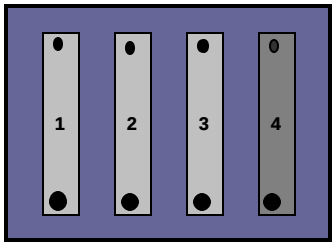
Type 4 Alner Box

Full V Plane - Spectrometer Section

Mappings between
- Module Strip Numbers as assigned on ANL module maps
- Fiber Cable pin-out at module end
- Fiber Cable pin-out at Alner Box end
- Box Fiber Number as assigned for internal threading
- Plane Strip Number as assigned in Offline software





Looking at the Fiber Cable side of the Alner Box
3 cables in, 4th unused - dots show cable polarity

Jv Module

Module Connector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Jv Module Strip #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Box Connector # 1		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Box Fiber #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Plane Strip #		27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0		

Kv Module

Module Connector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Kv Module Strip #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
Box Connector # 2		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Box Fiber #		29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48										
Plane Strip #		47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28										

Lv Module

Module Connector	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Lv Module Strip #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16														
Box Connector # 1		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Box Fiber #		49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64														
Plane Strip #		48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63														

Type 4 Alner Box
Full V Plane Spectrometer Section

Mappings between

Pixel Number
Box Fiber Number
Plane Strip Number
Four D37 Output Cables

Pixel Number

8	7	6	5	4	3	2	1
16	15	14	13	12	11	10	9
24	23	22	21	20	19	18	17
32	31	30	29	28	27	26	25
40	39	38	37	36	35	34	33
48	47	46	45	44	43	42	41
56	55	54	53	52	51	50	49
64	63	62	61	60	59	58	57

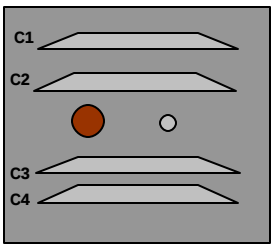
Box Fiber Number

3	58	11	27	36	57	12	28
19	35	43	50	20	4	44	49
41	25	1	33	42	26	34	2
9	52	17	60	10	51	18	59
31	47	23	54	32	48	8	24
15	62	7	39	16	61	53	40
5	21	13	29	6	22	14	30
56	37	45	64	55	38	46	63

Plane Strip Number

25	57	17	1	40	56	16	0
9	41	33	49	8	24	32	48
35	3	27	43	34	2	42	26
19	51	11	59	18	50	10	58
45	29	5	53	44	28	20	4
13	61	21	37	12	60	52	36
23	7	15	47	22	6	14	46
55	39	31	63	54	38	30	62

Red lines in the boxes above show the groups of 4 pixels which are electronically fed to a single output channel



Schematic of back of Alner Box
Four D37, 1 HV 1 Lemo

Only the signal pin numbers are shown, top row, for each connector.
The MUXing combines 4 pixel outputs onto 1 channel.
That one channel is sent, however, to 4 adjacent pins on the output connectors.
Only ONE of these in each group of 4, the one with the lowest pin number, is read out.
Each of the pins read out is indicated by **bold** high-lighting
The other 3 are ignored (and not terminated) indicated by an x below the pin number

Connector C1 Pin #	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
			x	x	x		x	x	x		x	x	x		x	x	x	
Pixel #			**16**	**15**	**8**	**7**	**14**	**13**	**6**	**5**	**12**	**11**	**4**	**3**	**10**	**9**	**2**	**1**
Box Fiber #			19	35	3	58	43	50	11	27	20	4	36	57	44	49	12	28
Plane Strip #			9	41	25	57	33	49	17	1	8	24	40	56	32	48	16	0

Connector C2 Pin #	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
			x	x	x		x	x	x		x	x	x		x	x	x	
Pixel #			**32**	**31**	**24**	**23**	**30**	**29**	**22**	**21**	**28**	**27**	**20**	**19**	**26**	**25**	**18**	**17**
Box Fiber #			9	52	41	25	17	60	1	33	10	51	42	26	18	59	34	2
Plane Strip #			19	51	35	3	11	59	27	43	18	50	34	2	10	58	42	26

Connector C3 Pin #	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
			x	x	x		x	x	x		x	x	x		x	x	x	
Pixel #			**48**	**47**	**40**	**39**	**46**	**45**	**38**	**37**	**44**	**43**	**36**	**35**	**42**	**41**	**34**	**33**
Box Fiber #			15	62	31	47	7	39	23	54	16	61	32	48	53	40	8	24
Plane Strip #			13	61	45	29	21	37	5	53	12	60	44	28	52	36	20	4

Connector C4 Pin #	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
			x	x	x		x	x	x		x	x	x		x	x	x	
Pixel #			**64**	**63**	**56**	**55**	**62**	**61**	**54**	**53**	**60**	**59**	**52**	**51**	**58**	**57**	**50**	**49**
Box Fiber #			56	37	5	21	45	64	13	29	55	38	6	22	46	63	14	30
Plane Strip #			55	39	23	7	31	63	15	47	54	38	22	6	30	62	14	46

This Box uses a single FOUR-to-ONE connector cable.
It is a special cable with 4 connectors on the Box end, and 1 connectors on the Minder end.

This Box feeds 1 Minder board