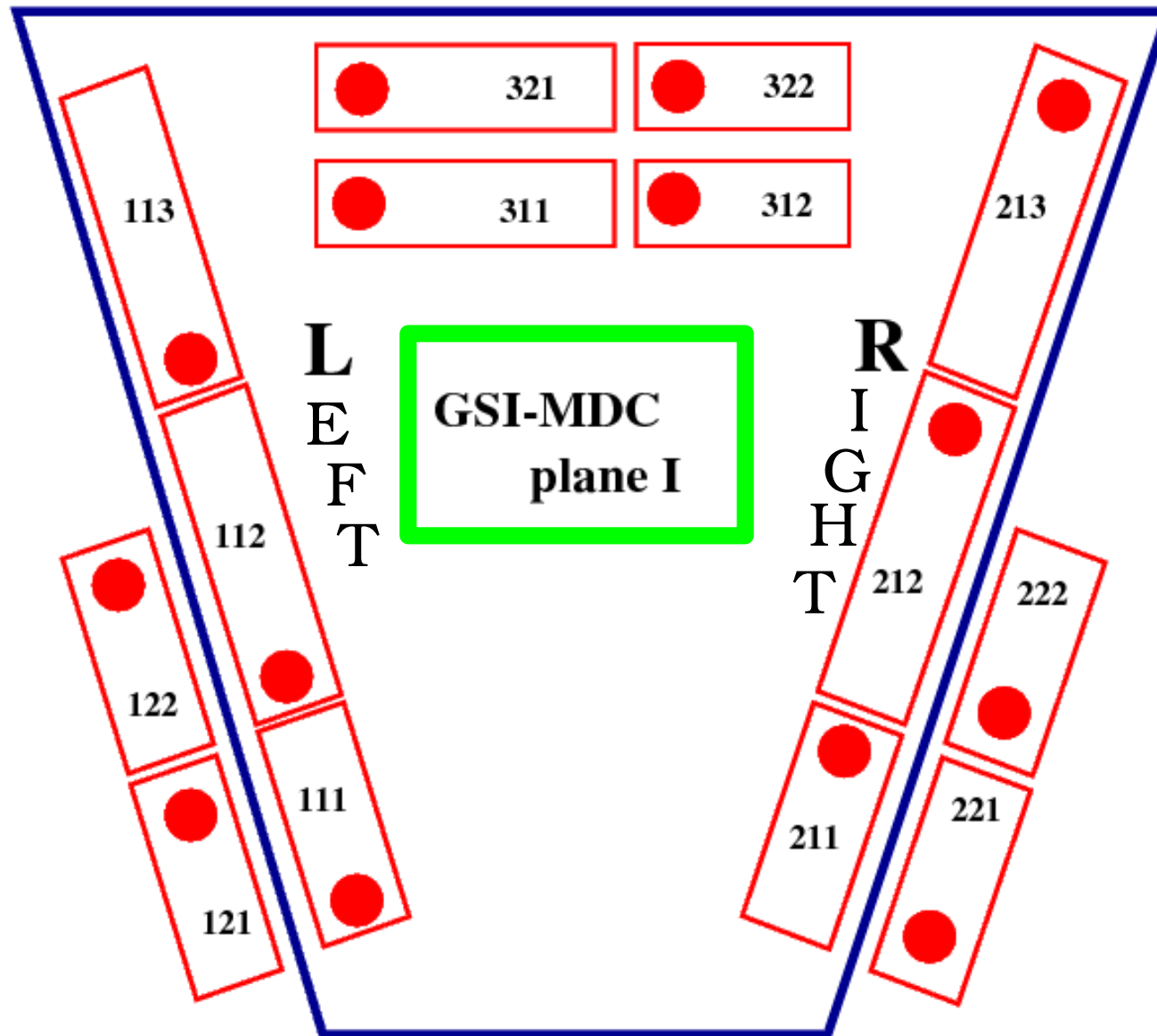
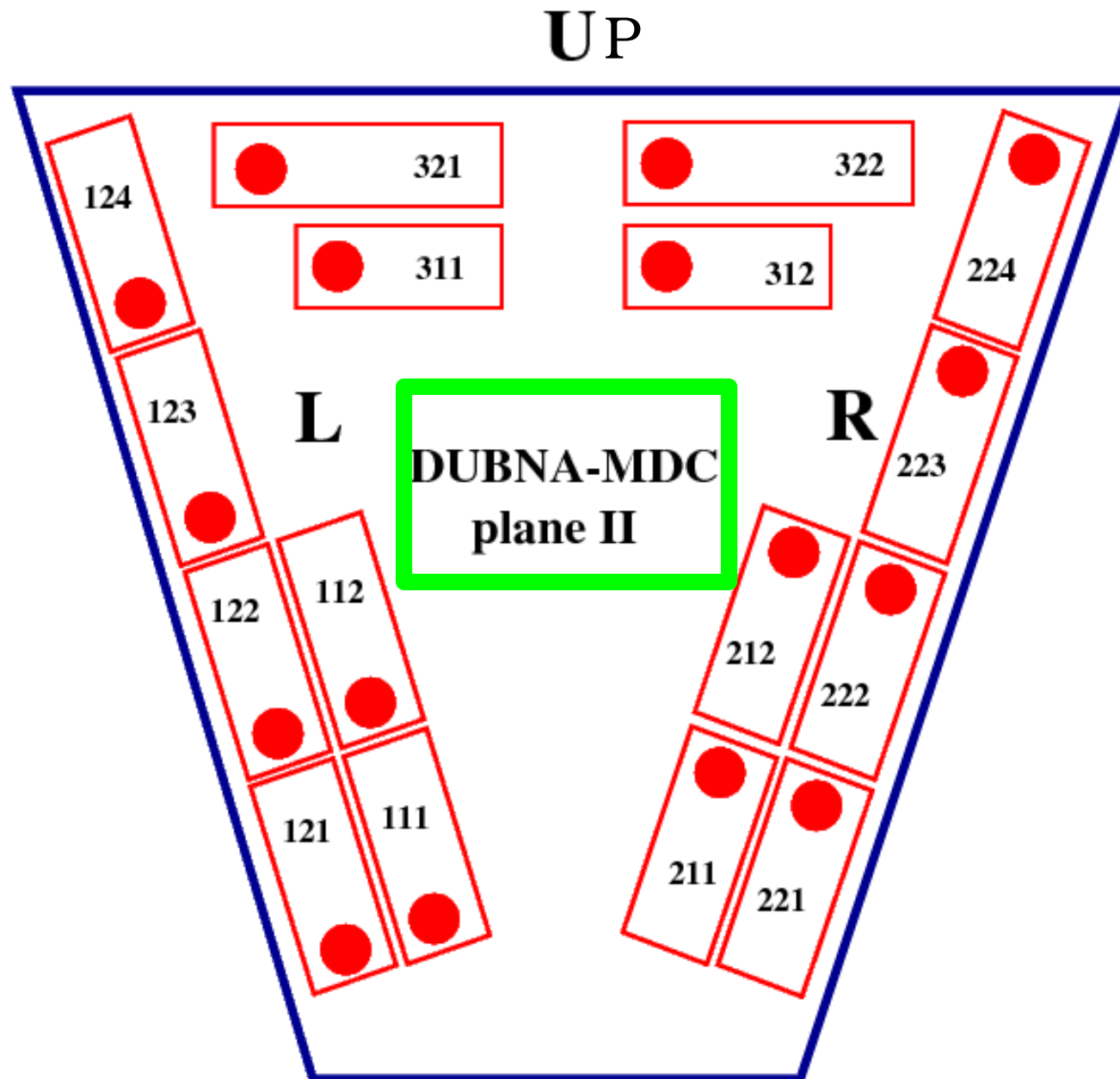


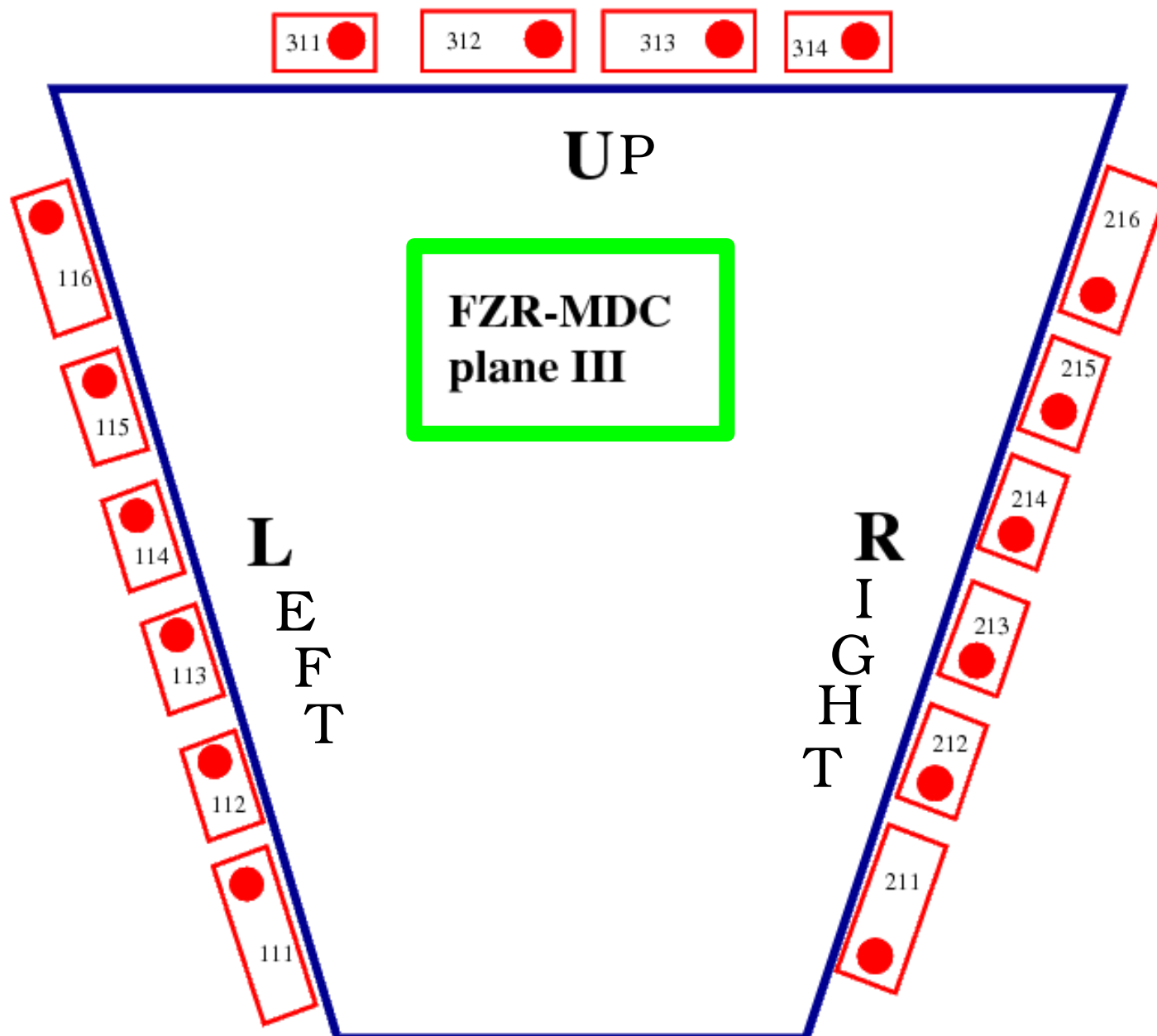
**INFORMATION
FOR
MOUNTING NEW CABLES
ON MDC**

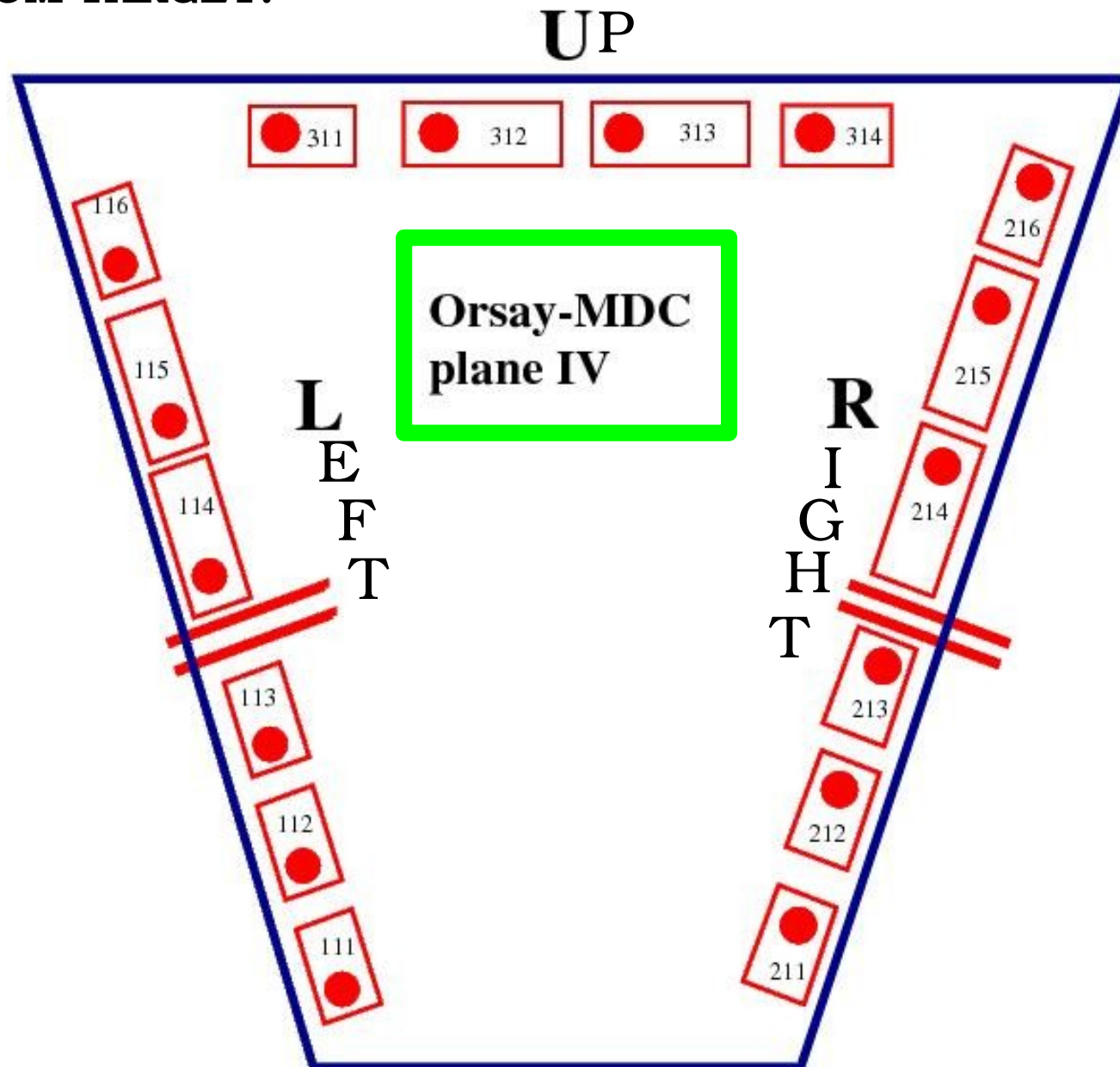
VIEW FROM TARGET!

UP



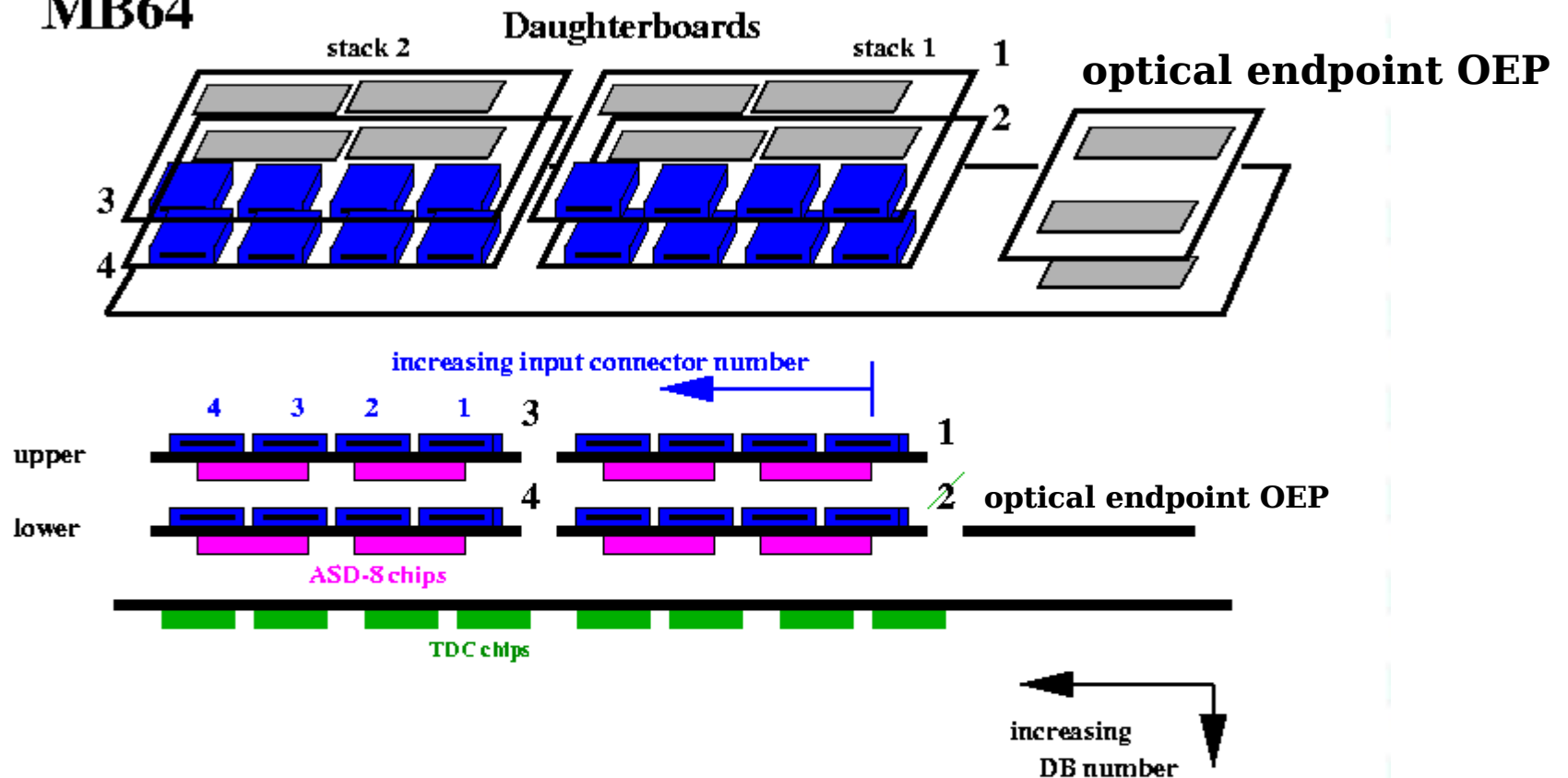
VIEW FROM TARGET!

VIEW FROM TARGET!

VIEW FROM TARGET!

Relation FPC # - DB16 # / FPC connector #:

MB64



naming: MBname - DB# - Connector#, [abc]-[1...6]-[1...4]

MBname: a=left(1),right(2),up(3)

b=MB-layer, looking from target [1...3]

c=MB number per layer (increasing with incr. strip number)

222 = right side, 2nd MB layer on MDC frames, MB number 2

3140203 = MB-name 314 (upper side, 1st MB-layer, 4th MB)

DB# 2 (first lower DB, next to driver card)

FPC connector# 3

PLANE: **I**

SECTOR: _____

MBO	DBO	DBO #	OEP #
111 (hex 0)	1		
	2		
MBO #	3		
	4		
112 (hex 1)	1		
	2		
MBO #	3		
	4		
	5		
	6		
113 (hex 2)	1		
	2		
MBO #	3		
	4		
	5		
	6		
121 (hex 3)	1		
	2		
MBO #	3		
	4		
122 (hex 4)	1		
	2		
MBO #	3		
	4		

MBO	DBO	DBO #	OEP #
211 (hex 5)	1		
	2		
MBO #	3		
	4		
212 (hex 6)	1		
	2		
MBO #	3		
	4		
	5		
	6		
213 (hex 7)	1		
	2		
MBO #	3		
	4		
	5		
	6		
221 (hex 8)	1		
	2		
MBO #	3		
	4		
222 (hex 9)	1		
	2		
MBO #	3		
	4		

MBO	DBO	DBO #	OEP #
311 (hex A)	1		
	2		
MBO #	3		
	4		
	5		
	6		
312 (hex B)	1		
	2		
MBO #	3		
	4		
321 (hex C)	1		
	2		
MBO #	3		
	4		
	5		
	6		
322 (hex D)	1		
	2		
MBO #	3		
	4		

MBO # has 4 digits

DBO # has 4 digits

OEP # has 3 digits

PLANE: **II**

SECTOR: _____

MBO	DBO	DBO #	OEP #
111 (hex 0)	1		
	2		
MBO #	3		
	4		
112 (hex 1)	1		
	2		
MBO #	3		
	4		
121 (hex 2)	1		
	2		
MBO #	3		
	4		
122 (hex 3)	1		
	2		
MBO #	3		
	4		
123 (hex 4)	1		
	2		
MBO #	3		
	4		
124 (hex 5)	1		
	2		
MBO #	3		
	4		

MBO	DBO	DBO #	OEP #
211 (hex 6)	1		
	2		
MBO #	3		
	4		
212 (hex 7)	1		
	2		
MBO #	3		
	4		
221 (hex 8)	1		
	2		
MBO #	3		
	4		
222 (hex 9)	1		
	2		
MBO #	3		
	4		
223 (hex A)	1		
	2		
MBO #	3		
	4		
224 (hex B)	1		
	2		
MBO #	3		
	4		

MBO	DBO	DBO #	OEP #
311 (hex C)	1		
	2		
MBO #	3		
	4		
312 (hex D)	1		
	2		
MBO #	3		
	4		
321 (hex E)	1		
	2		
MBO #	3		
	4		
	5		
	6		
322 (hex F)	1		
	2		
MBO #	3		
	4		
	5		
	6		

MBO # has 4 digits

DBO # has 4 digits

OEP # has 3 digits

PLANE: **III**

SECTOR: _____

MBO	DBO	DBO #	OEP #
111 (hex 0)	1		
	2		
MBO #	3		
	4		
	5		
	6		
112 (hex 1)	1		
	2		
MBO #	3		
	4		
113 (hex 2)	1		
	2		
MBO #	3		
	4		
114 (hex 3)	1		
	2		
MBO #	3		
	4		
115 (hex 4)	1		
	2		
MBO #	3		
	4		
116 (hex 5)	1		
	2		
MBO #	3		
	4		
	5		
	6		

MBO	DBO	DBO #	OEP #
211 (hex 6)	1		
	2		
MBO #	3		
	4		
	5		
	6		
212 (hex 7)	1		
	2		
MBO #	3		
	4		
213 (hex 8)	1		
	2		
MBO #	3		
	4		
214 (hex 9)	1		
	2		
MBO #	3		
	4		
215 (hex A)	1		
	2		
MBO #	3		
	4		
216 (hex B)	1		
	2		
MBO #	3		
	4		
	5		
	6		

MBO	DBO	DBO #	OEP #
311 (hex C)	1		
	2		
MBO #	3		
	4		
312 (hex D)	1		
	2		
MBO #	3		
	4		
	5		
	6		
313 (hex E)	1		
	2		
MBO #	3		
	4		
	5		
	6		
314 (hex F)	1		
	2		
MBO #	3		
	4		

MBO # has 4 digits

DBO # has 4 digits

OEP # has 3 digits

PLANE: **IV**

SECTOR: _____

MBO	DBO	DBO #	OEP #
111 (hex 0)	1		
	2		
MBO #	3		
	4		
112 (hex 1)	1		
	2		
MBO #	3		
	4		
113 (hex 2)	1		
	2		
MBO #	3		
	4		
114 (hex 3)	1		
	2		
MBO #	3		
	4		
115 (hex 4)	1		
	2		
MBO #	3		
	4		
116 (hex 5)	1		
	2		
MBO #	3		
	4		

MBO	DBO	DBO #	OEP #
211 (hex 6)	1		
	2		
MBO #	3		
	4		
212 (hex 7)	1		
	2		
MBO #	3		
	4		
213 (hex 8)	1		
	2		
MBO #	3		
	4		
214 (hex 9)	1		
	2		
MBO #	3		
	4		
215 (hex A)	1		
	2		
MBO #	3		
	4		
216 (hex B)	1		
	2		
MBO #	3		
	4		

MBO	DBO	DBO #	OEP #
311 (hex C)	1		
	2		
MBO #	3		
	4		
312 (hex D)	1		
	2		
MBO #	3		
	4		
	5		
	6		
313 (hex E)	1		
	2		
MBO #	3		
	4		
	5		
	6		
314 (hex F)	1		
	2		
MBO #	3		
	4		

MBO # has 4 digits

DBO # has 4 digits

OEP # has 3 digits

TO DO – Mounting new cables

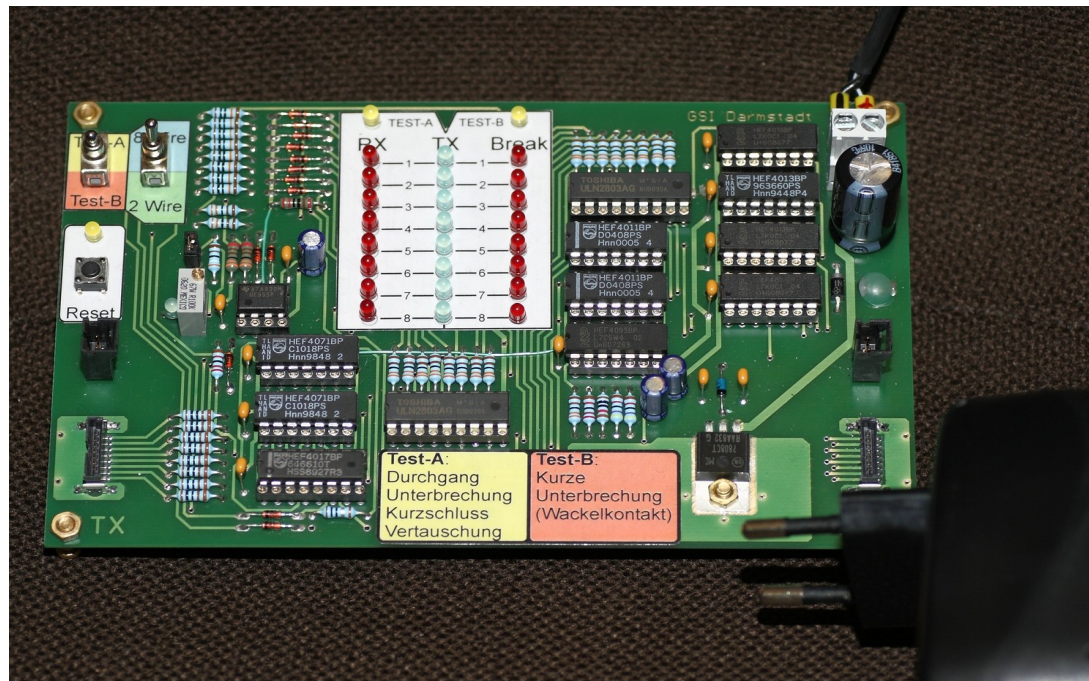
- 1. Read this manual carefully!**

TO DO – Mounting new cables

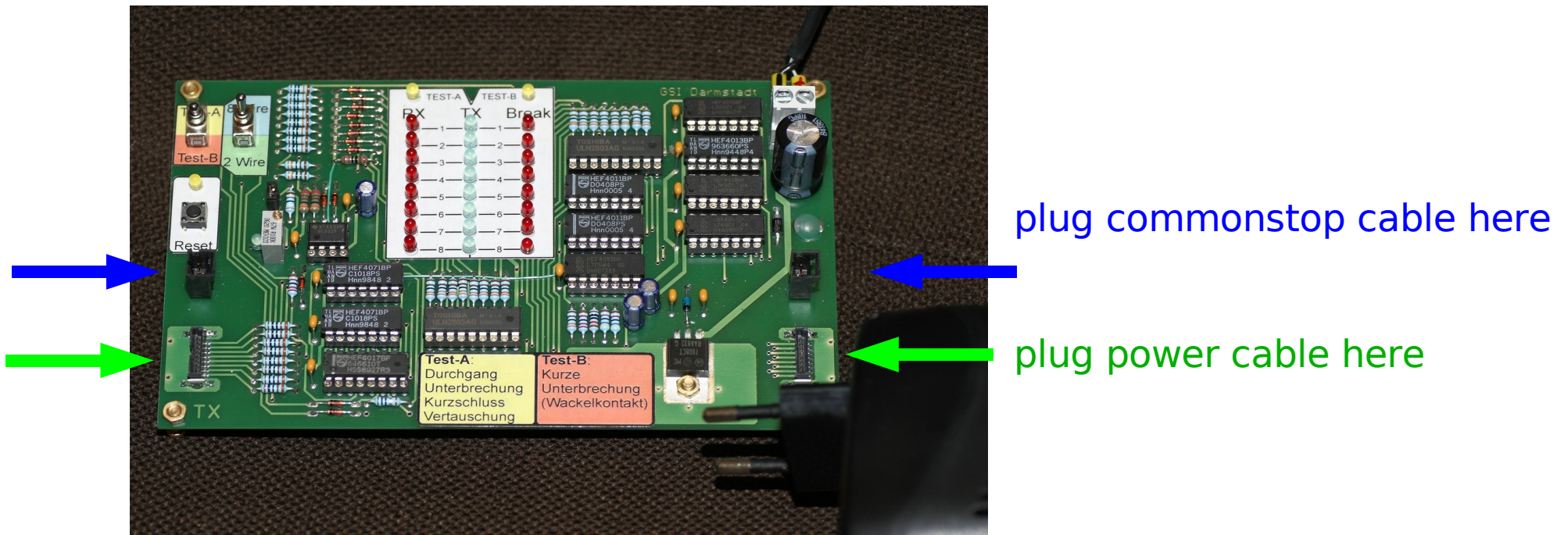
2. Read this manual carefully!

TO DO – Mounting new cables

**3. ALL CABLES (CommonStop andPower)
HAVE TO BE TESTED BEFORE MOUNTING!
USE TORSTEN'S BOARD!**



How to test cables



- Select 2-wire for CommonStop, 8-wire for power cable
- Test A: check that for each green led the corresponding and only the corresponding red led (left-hand side) is on
- Test B: move and twist cables to some extend, check that (for the corresponding leds) no red leds on the right-hand side are on

TO DO – Mounting new cables

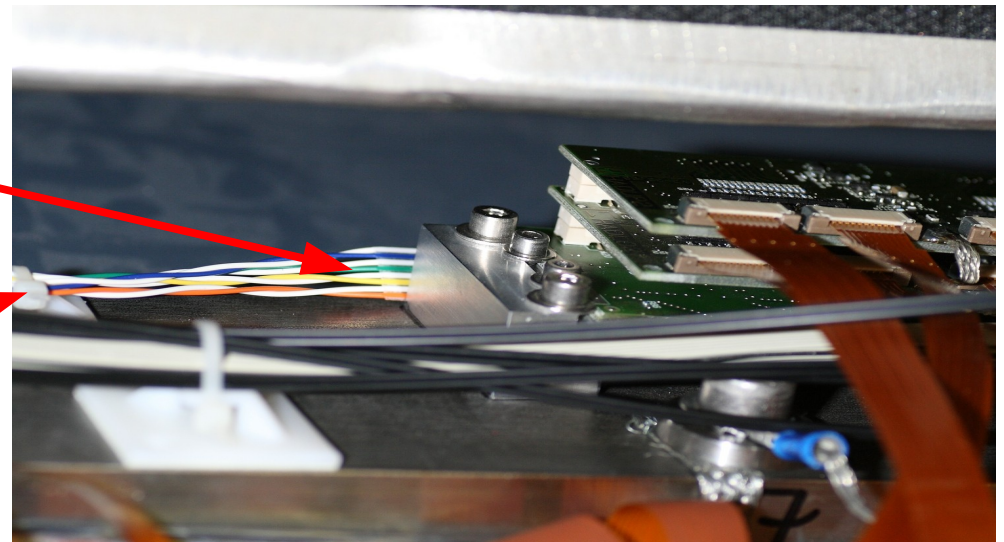
**The material you need:
cables, tools, ...
can be found in the dolly in the cave**



TO DO – Mounting new cables

4. Mount CommonStop cables

- CommonStop cables have already been prepared for planes III and IV, sectors 2-5, sectors 1 have to be treated separately they have labels which tell you plane and side of the sector (up, left or right)
- test the cables with Torsten's board!
- Put cables behind the stack of DBOs, far away from the FPC cables
- Fix cables with cable clips between the motherboards (prevents cables from reaching into chamber volume)



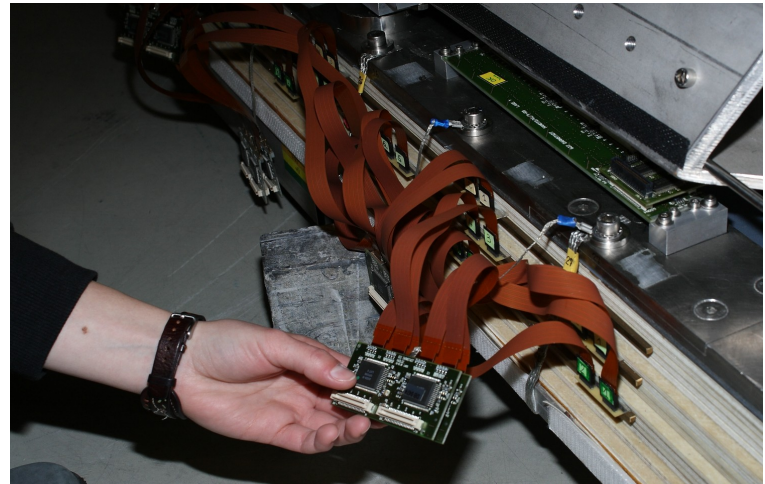
TO DO – Mounting new cables

If you are mounting cables on planes 1, 2 or 4:

(In plane 3 the DBO ground cables are soldered to the chamber on both sides of the DBOs. Therefore it is not possible to remove them.)

5. Remove DBOs from MBOs

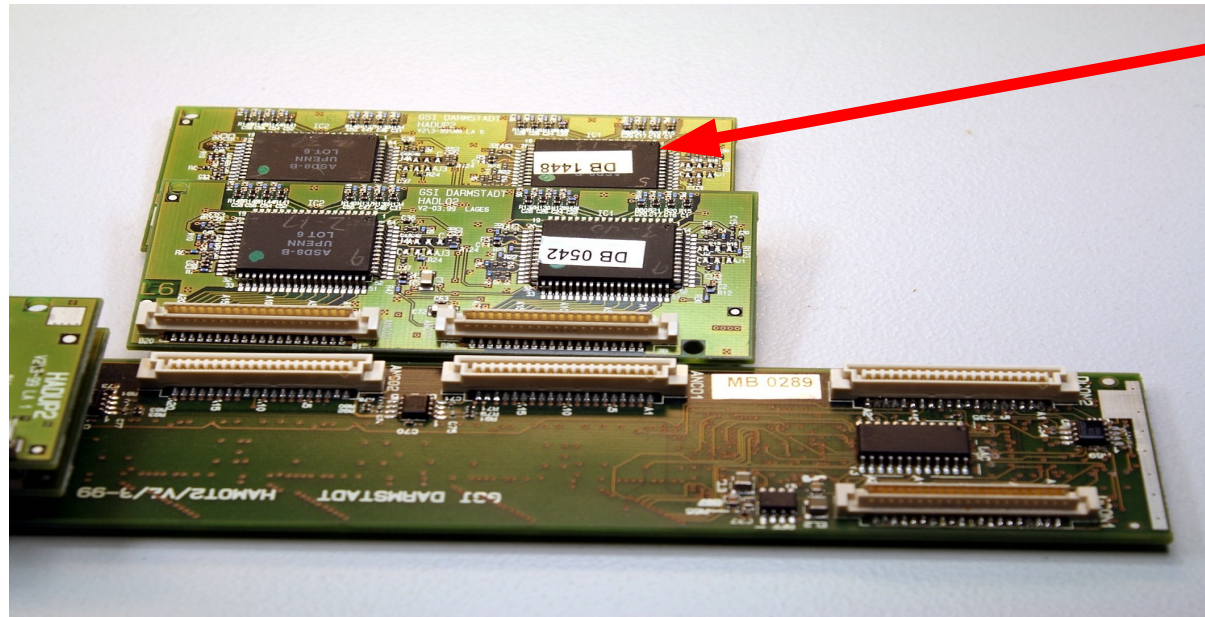
- **do not remove ground cabling,
let DBOs hang on ground cables!**
- **take care of the flexprint cables (FPC)**



TO DO – Mounting new cables

6. Write down DBO numbers in the form if possible, also MBO numbers

- DBO numbers (4 digits) are glued to the bottom of each DBO
- there is a plan which DBO has which position on the stack
- check the number twice, this data is very important for database



TO DO – Mounting new cables

7. Mount power cables

There should be power cables prepared and labeled with information about plane and MBO.

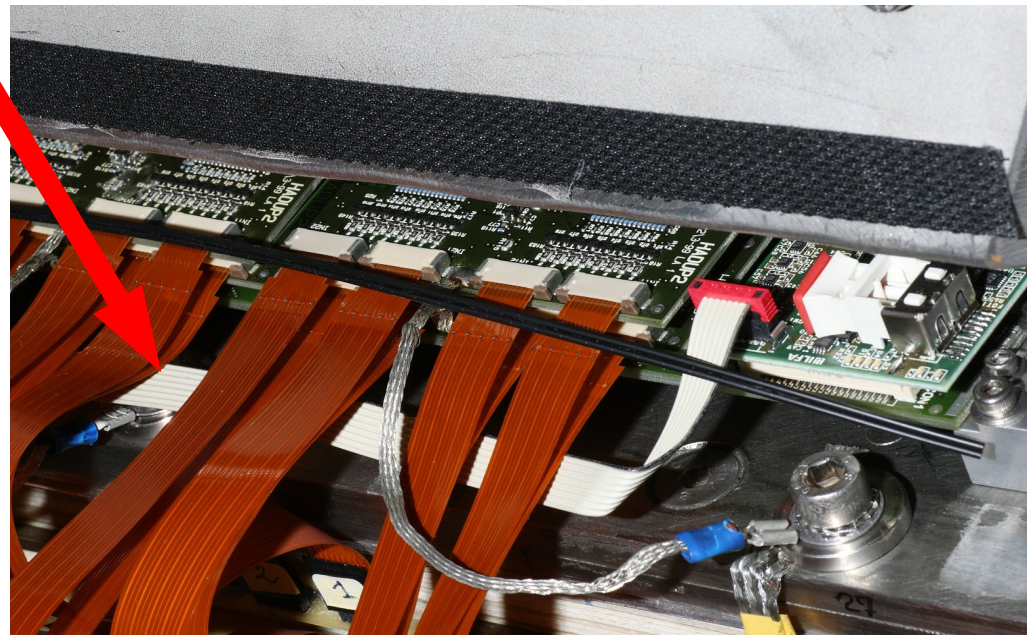
If not, there is an instruction about how to prepare them in the appendix.

- Plane 1, 2 and 4:

- Put power cables between chamber and FPC in front of the MBOs

- Plane 3:

- Put power cables in front of FPC



TO DO – Mounting new cables

8. Mount optical fibres

There should be optical fibres prepared and labeled with information about plane and MBO.

If not, there is an instruction about how to prepare them in the appendix.

- Plane 1, 2 and 4:**

- Put optical fibres between chamber and FPC in front of the MBOs**

- Plane 3:**

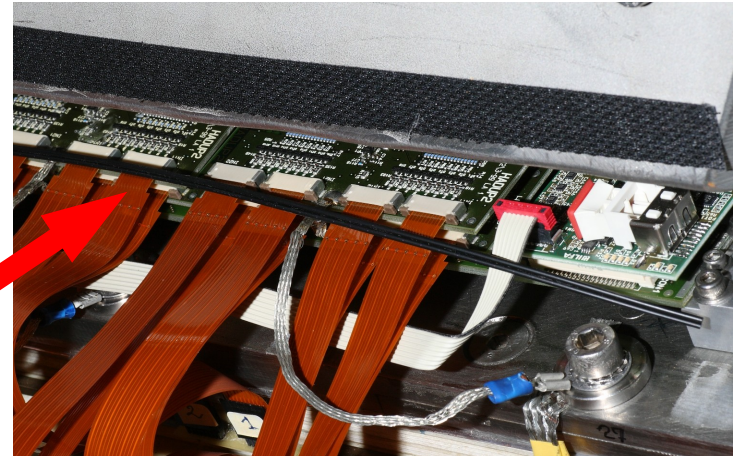
- Put optical fibres in front of FPC**

TO DO – Mounting new cables

... 8. Mount optical fibres

Lay the optical fibres where power cables run.

**If you can connect the optical fibre straight to the oep lay the fibre over the FPC of the MBO where it will be connected to.
Otherwise lay a loop.**



TO DO – Mounting new cables

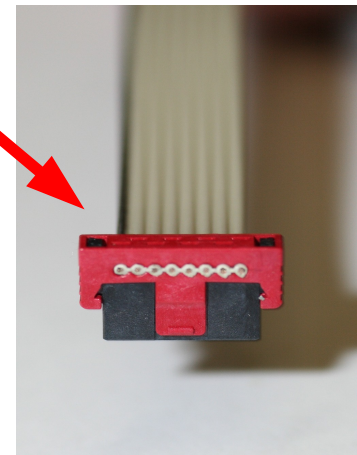
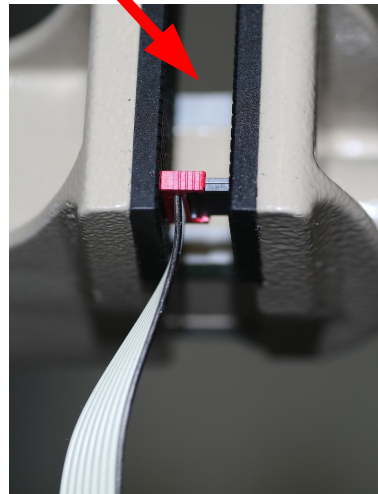
9. Connect DBOs to MBOs.

APPENDIX

How to prepare power cables

PLEASE ASK JAN MICHEL OR KATHRIN GOEBEL FOR ADVICE

- Measure the length of the cable you will need.
- Cut the cables using specific tool.
- Put connectors to the cable.
 - Direction has to be like this on each side:
 - Use bench vice for pressing:
 - label cables (MDC ? MBO ?)



How to prepare optical fibres

PLEASE ASK JAN MICHEL OR KATHRIN GOEBEL FOR ADVICE

- Measure the length of the fibre you will need.
- Cut the cables using specific tool.
- Label fibres (hex number of mbo)

