

# KAGRA ISC

# Electrical Components Layout

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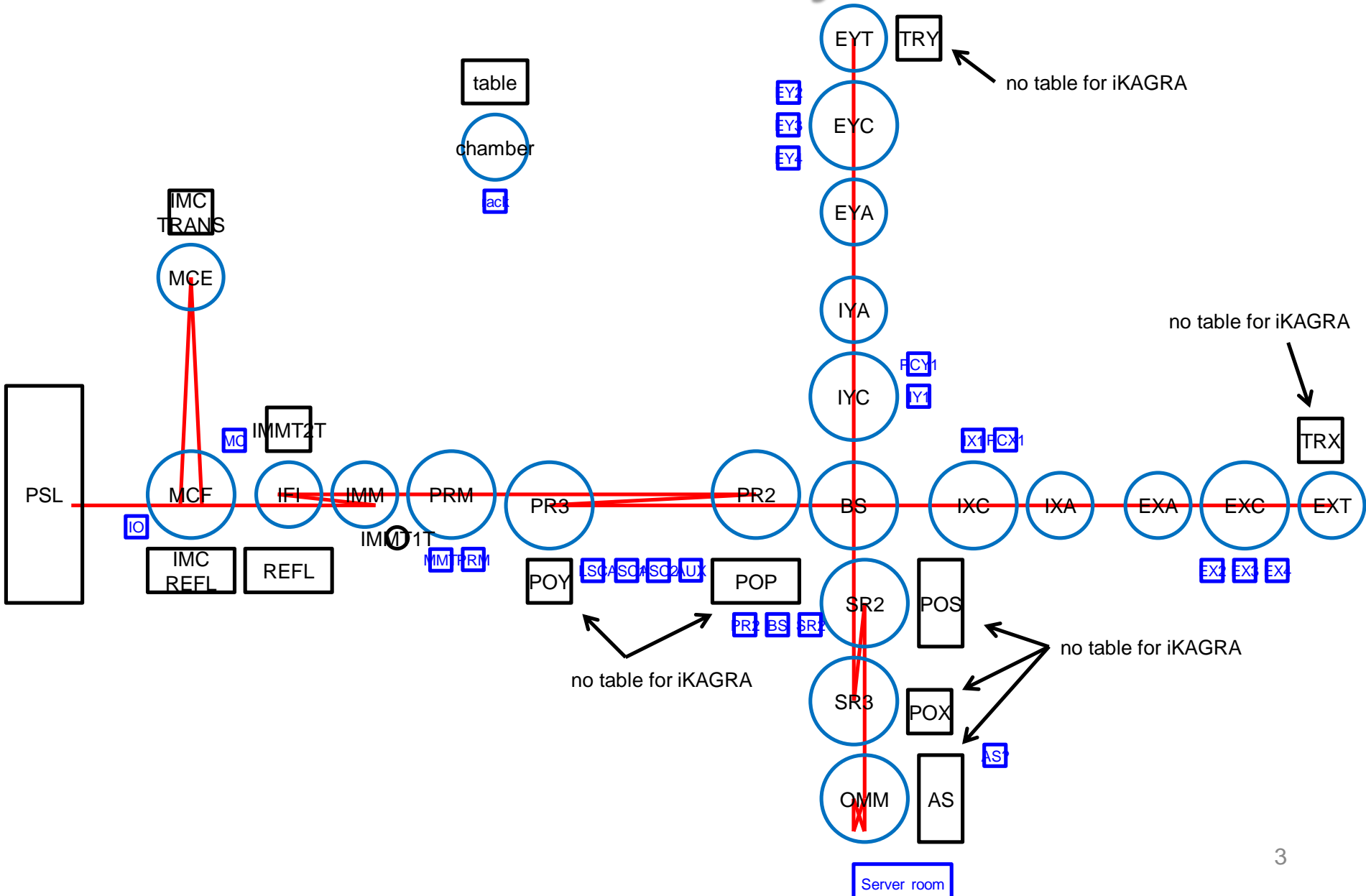
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2017.9.11 Added PDs for RF AM generation

# Scope and Disclaimer

- Draw rough layout of electrical components (RF distribution, PD/QPDs, servo boards) for KAGRA ISC
- Cameras and picomotors are not included
- Components for ISS, ALS, and OMC are very uncertain
- “AS rack” is currently not on the rack list
- JGW-D1402908 ones are used also for iKAGRA
- References:
  - JGW-D1402908 (IMC servo topology)
  - JGW-D1402984 (Cabling around PSL+IMC)
  - JGW-D1100425 (electronics racks layout)
  - JGW-D1402831 (what’s inside electronics racks)
  - JGW-T1402982 (list of ISC detection ports)
  - Wiki/OutputTables (list of output tables)

# KAGRA Layout



# List of EOMs, PDs, QPDs

Underline: also for iKAGRA  
[ ]: may be omitted

- EOM (fPMC)
- EOM (fIMC, f2)
- EOM (f1, f3)
- EOM (f1, f3)

PMCR (fPMC, DC)

PMCT (DC)

REFCAVR (fIMC, DC)

REFCAVT (DC)

IP A (DC)

IP B (DC)

RFAMDLINE (fIMC, DC)

RFAMR (DC)

RMAMT (DC)

IMCT (DC)

[IMCT A (DC)]

[IMCT B (DC)]

IMCTVAC A (DC)

IMCTVAC B (DC)

REFLVAC (f1, f2, DC)

REFLVAC A (f1, f2, DC)

REFLVAC B (f1, f2, DC)

IMMT2TVAC (DC)

IMMT2TVAC A (DC)

IMMT2TVAC B (DC)

IMMT1TVAC (DC)

[POYVAC (f1, f2, DC)]

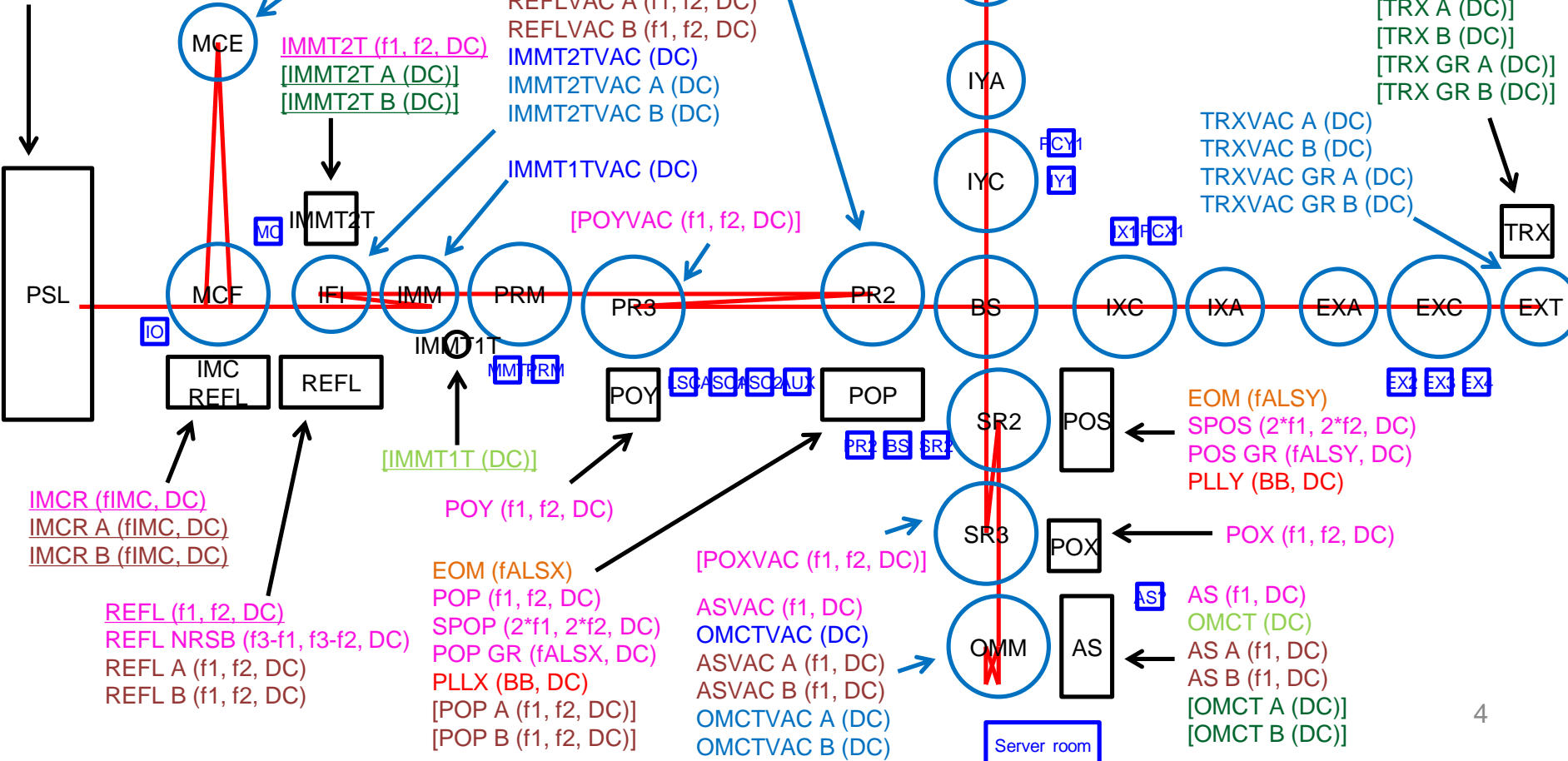
TRYVAC A (DC)  
TRYVAC B (DC)  
TRYVAC GR A (DC)  
TRYVAC GR B (DC)

POPVAC (f1, f2, DC)  
POPVAC A (f1, f2, DC)  
POPVAC B (f1, f2, DC)

TRY (DC)  
TRY GR (DC)  
[TRY A (DC)]  
[TRY B (DC)]  
[TRY GR A (DC)]  
[TRY GR B (DC)]

TRX (DC)  
TRX GR (DC)  
[TRX A (DC)]  
[TRX B (DC)]  
[TRX GR A (DC)]  
[TRX GR B (DC)]

TRXVAC A (DC)  
TRXVAC B (DC)  
TRXVAC GR A (DC)  
TRXVAC GR B (DC)



IMCR (fIMC, DC)  
IMCR A (fIMC, DC)  
IMCR B (fIMC, DC)

REFL (f1, f2, DC)  
REFL NRSB (f3-f1, f3-f2, DC)  
REFL A (f1, f2, DC)  
REFL B (f1, f2, DC)

POY (f1, f2, DC)  
EOM (fALSX)  
POP (f1, f2, DC)  
SPOP (2\*f1, 2\*f2, DC)  
POP GR (fALSX, DC)  
PLLX (BB, DC)  
[POP A (f1, f2, DC)]  
[POP B (f1, f2, DC)]

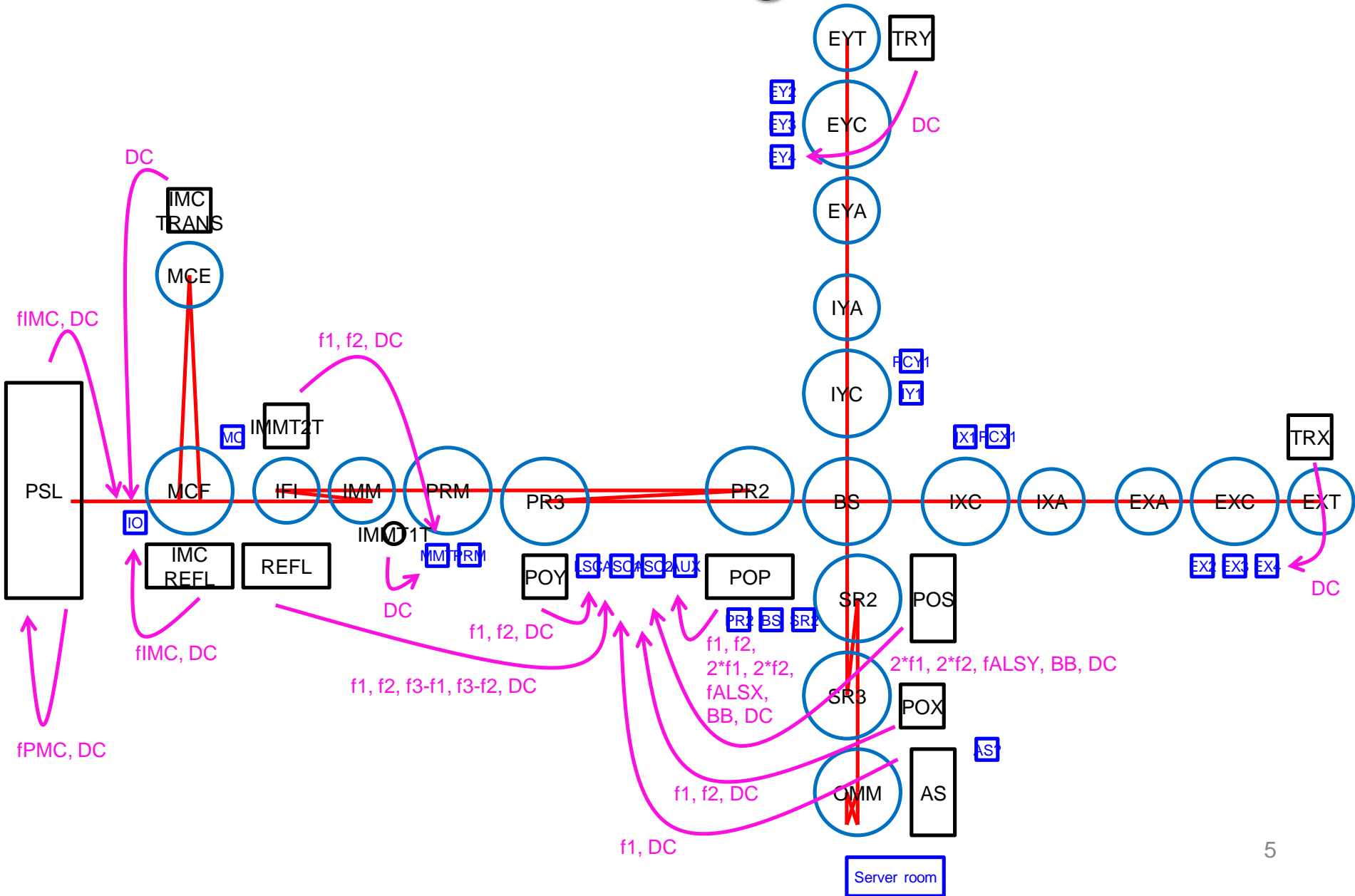
[POXVAC (f1, f2, DC)]  
ASVAC (f1, DC)  
OMCTVAC (DC)  
ASVAC A (f1, DC)  
ASVAC B (f1, DC)  
OMCTVAC A (DC)  
OMCTVAC B (DC)

EOM (fALSX)  
SPOS (2\*f1, 2\*f2, DC)  
POS GR (fALSX, DC)  
PLLY (BB, DC)

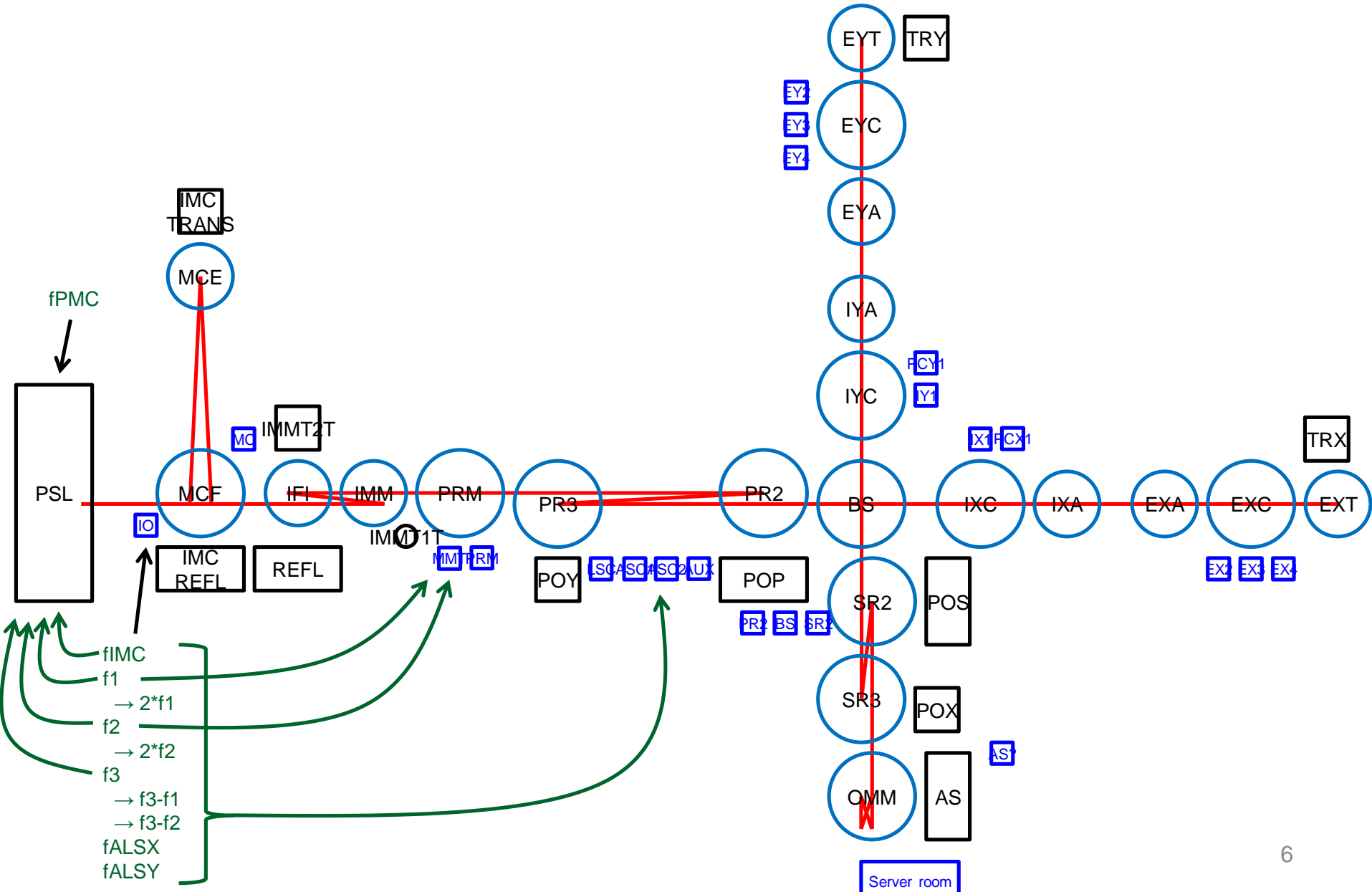
POX (f1, f2, DC)

AS (f1, DC)  
OMCT (DC)  
AS A (f1, DC)  
AS B (f1, DC)  
[OMCT A (DC)]  
[OMCT B (DC)]

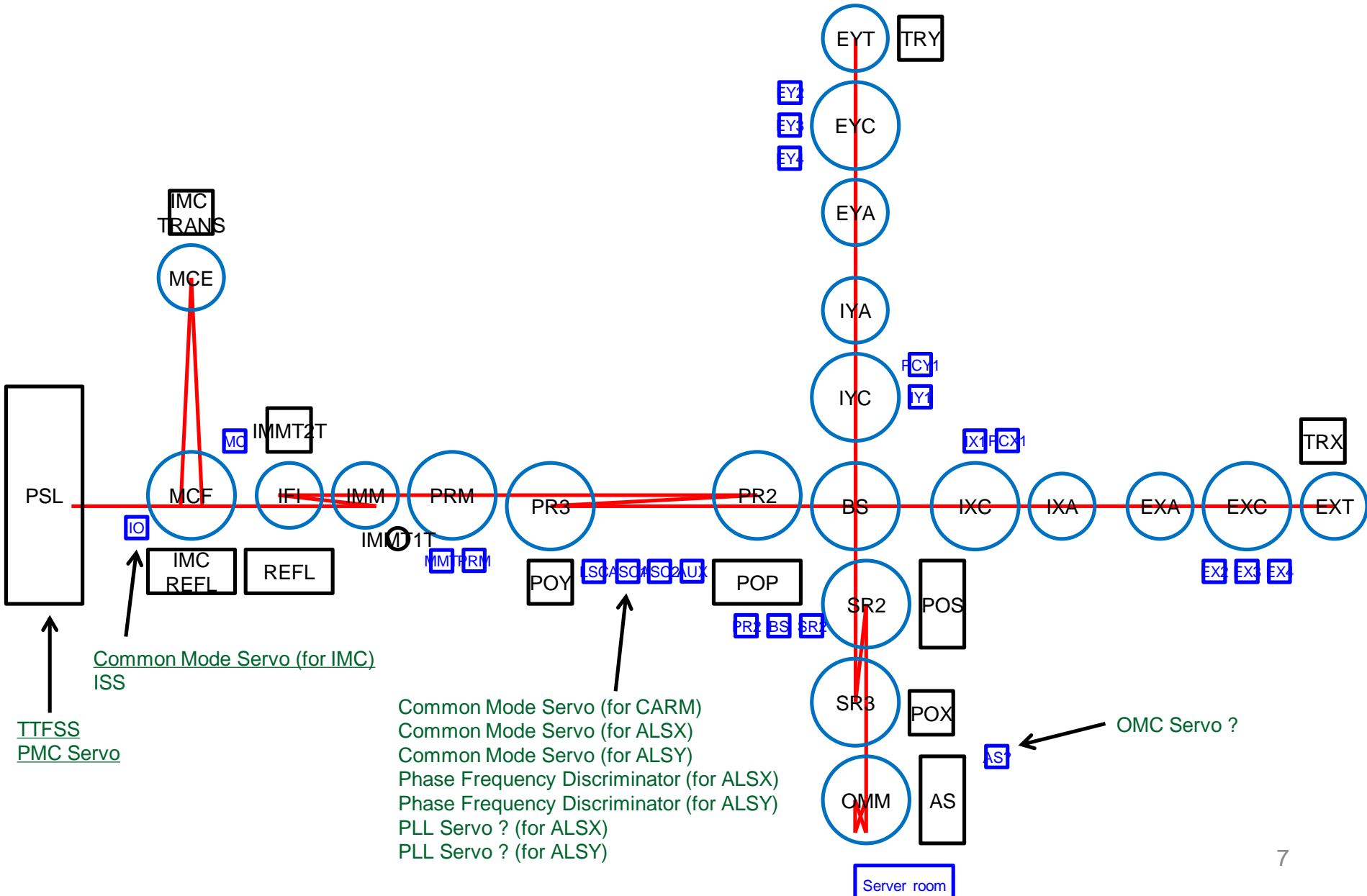
# Where Do Signals Go



# RF Generation and Distribution

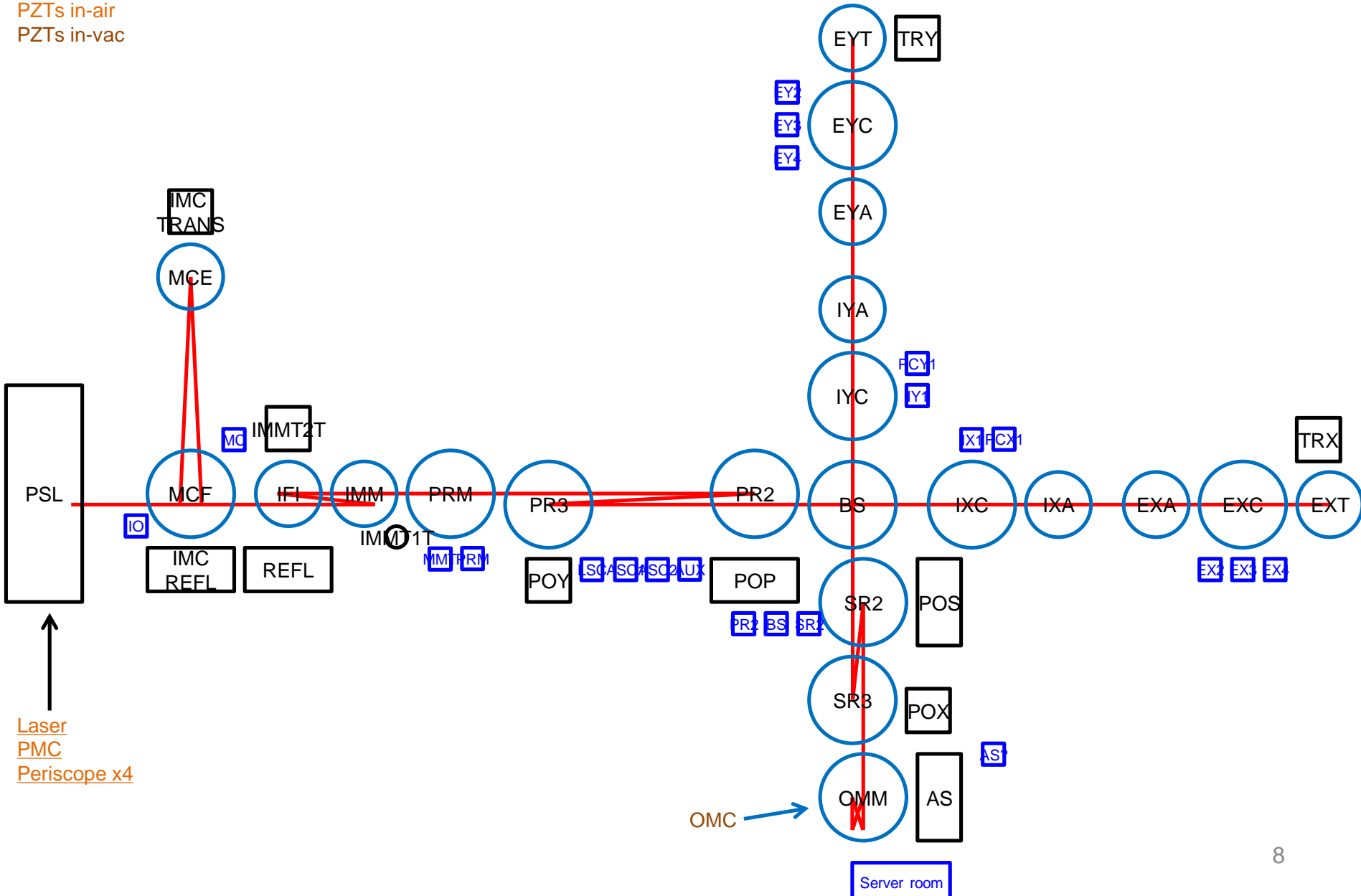


# List of Servo Boards



# List of PZTs

PZTs in-air  
PZTs in-vac





# List of Picomotors

picomotors in-air  
picomotors in-vac

