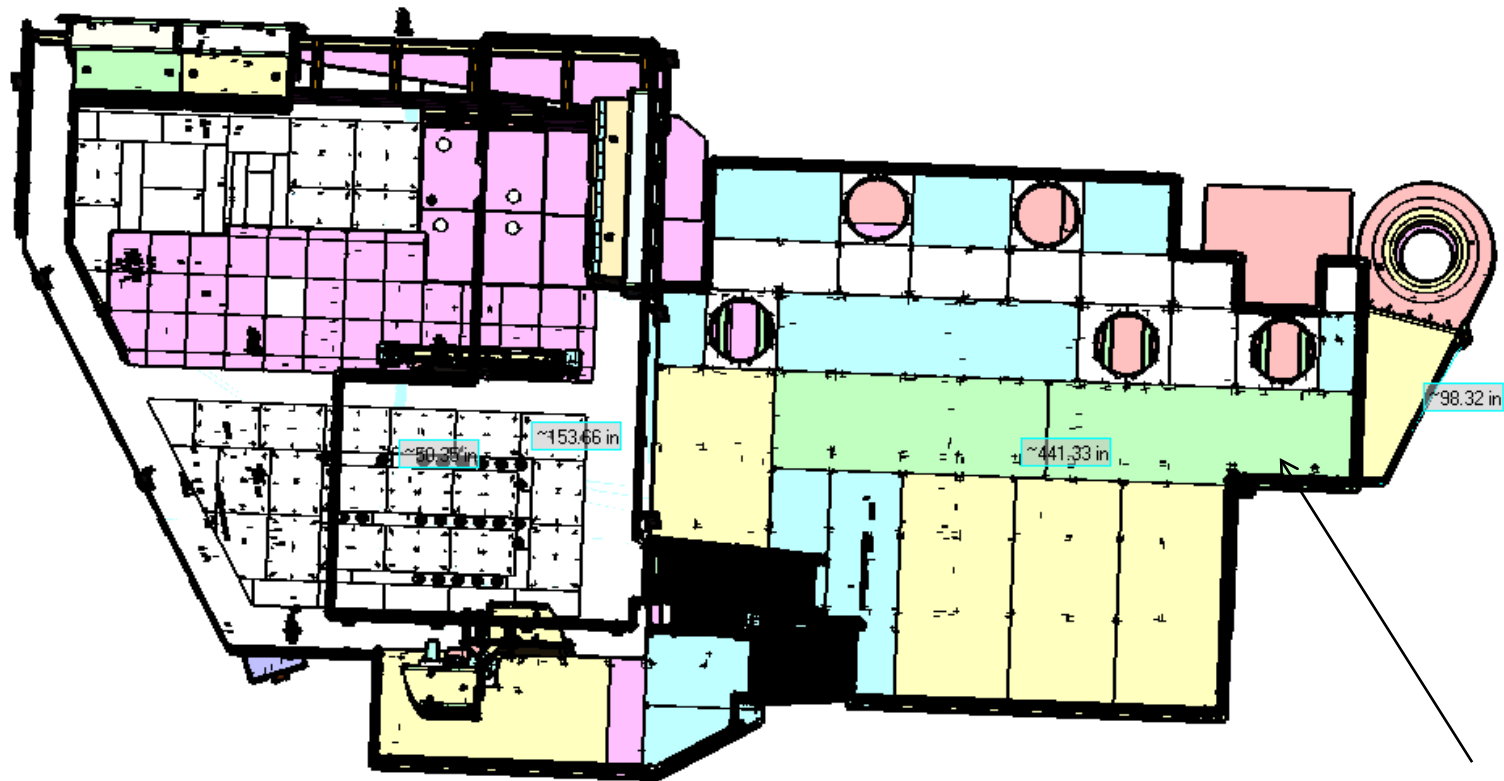

SHMS "pivot-patch" cable run

Experiments: NPS, LAD(?), CGEN(?)

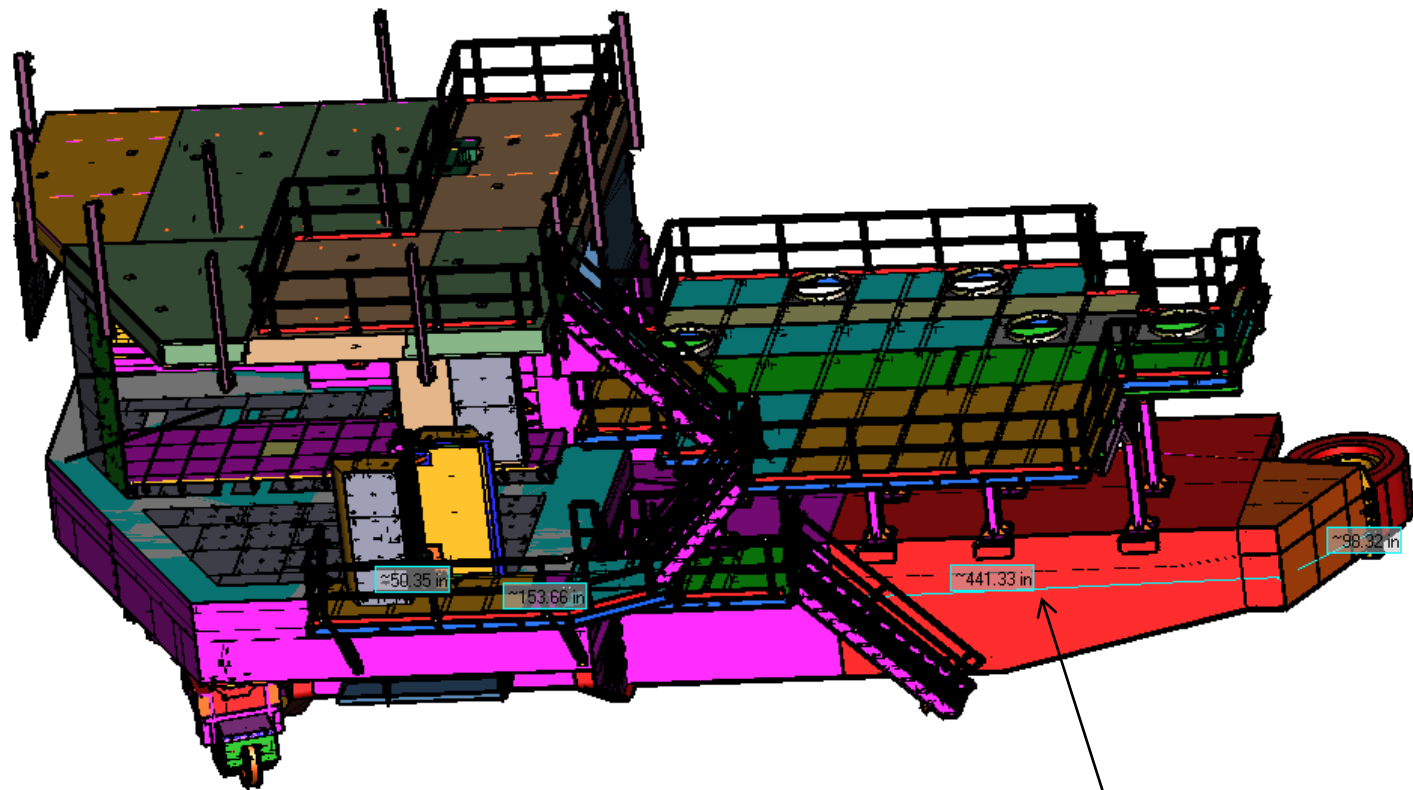
- Run from pivot around the carriage to beam-left to under-floor of electronics hut is roughly 65--75'
 - Radiation is significant concern (_do_ need a robust bunker somewhere..)
 - Probably do _not_ want to run cables along beam-right side of carriage (radiation damage)
- Assume beam-left (large angle) side of carriage
→ Assume patch panel in front of carriage?

Rough cable count:

NPS	1200 cables
LAD	< 600 cables?
CGEN	< 600 cables



Patch panel here?
(next to small crane)

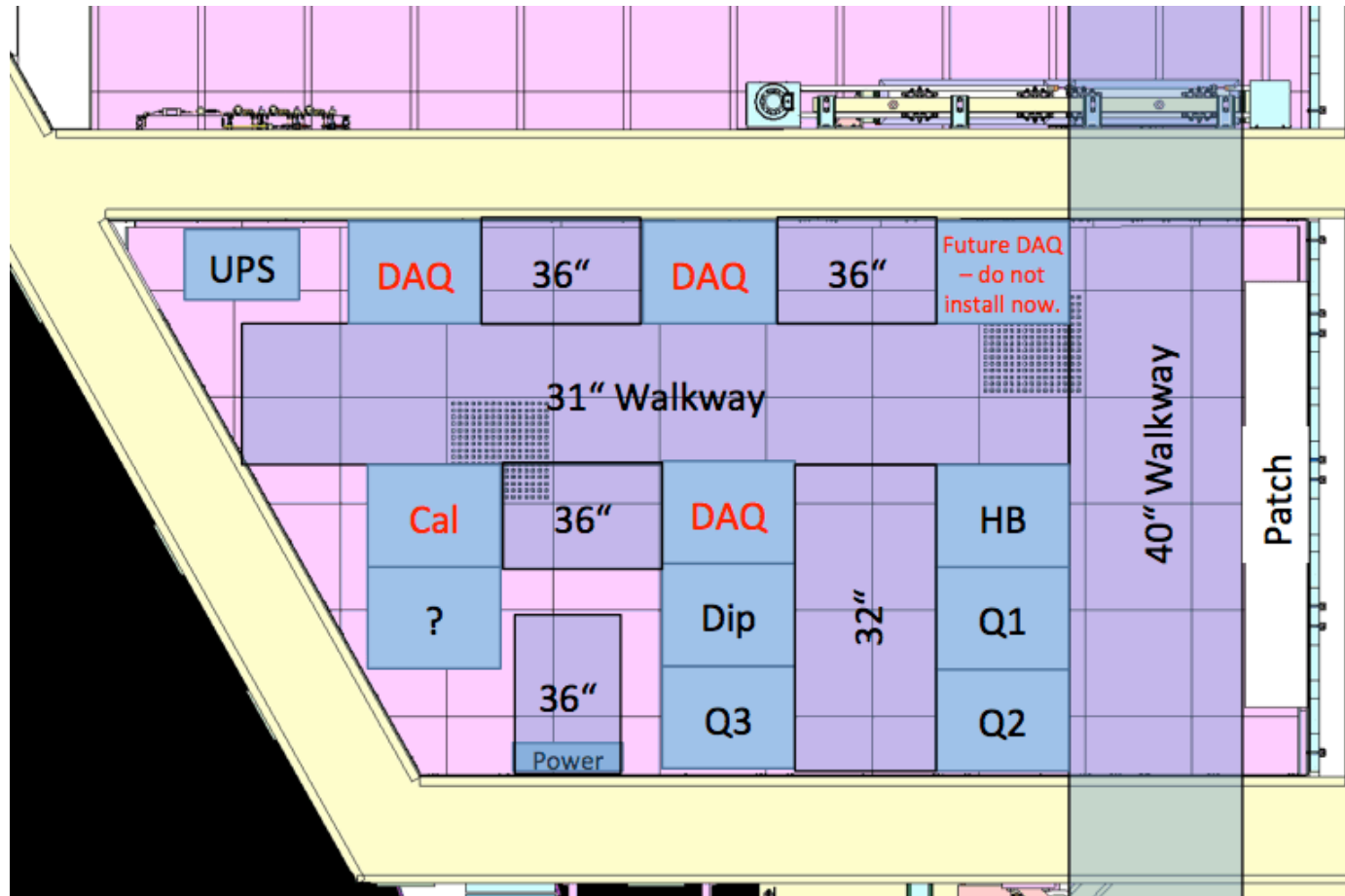


Cable run here?



Penetrations into
SHMS electronics
hut

Use 1 DAQ space for patch for all 1200 signal cables
flashADC will require 5 crates, so likely 1 and 2/3 rack space
Could in principle try to use 3 red slots for DAQ (1 empty, 1 half empty)
and future DAQ along wall



SHMS "pivot-patch" cable run

Experiments: NPS, LAD(?), CGEN(?)

1200 HV cables (NPS-driven others are less)

- RG59 : 0.242" OD; 0.023 lbs/ft
- 72 in² + overhead
- Cable tray: nominal 24" wide 4--6" tall tray
- fills 1--2 penetrations

1200 RG213 cables

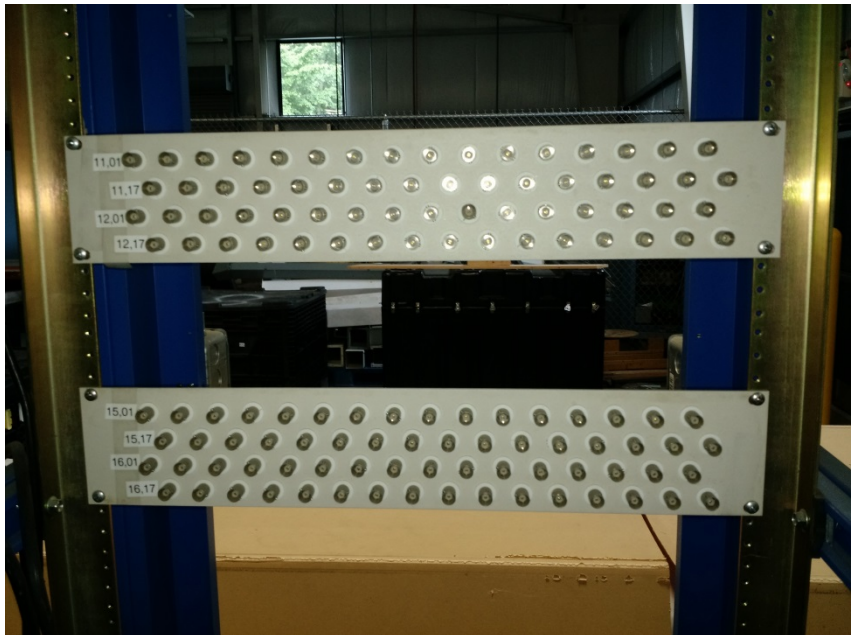
- Diam: 0.405" OD,
- Weight: 0.115 lbs/ft
- Sig Sp: 66%
- Termination of old cables?
- reterminate at least one end -- cost?

- Cable tray:

- 200 in² + overhead
- nominal 30" wide 10" tall tray
- nominal 24" wide 12" tall tray

- fills 3--4 penetrations

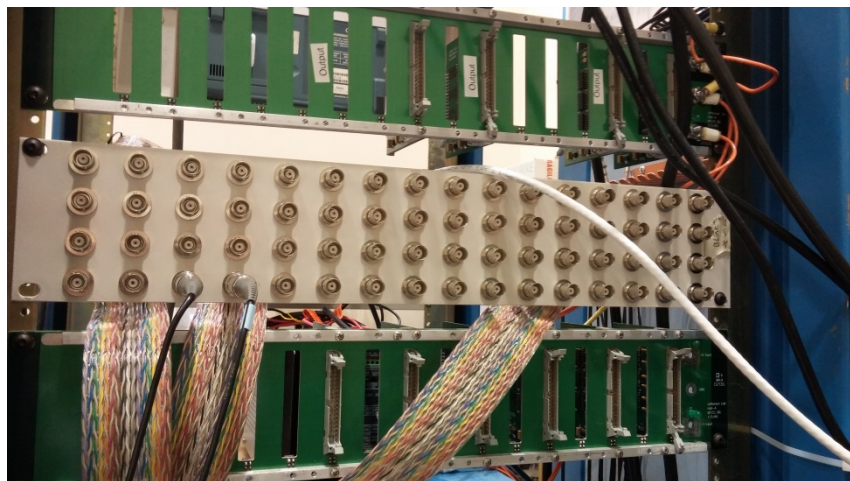
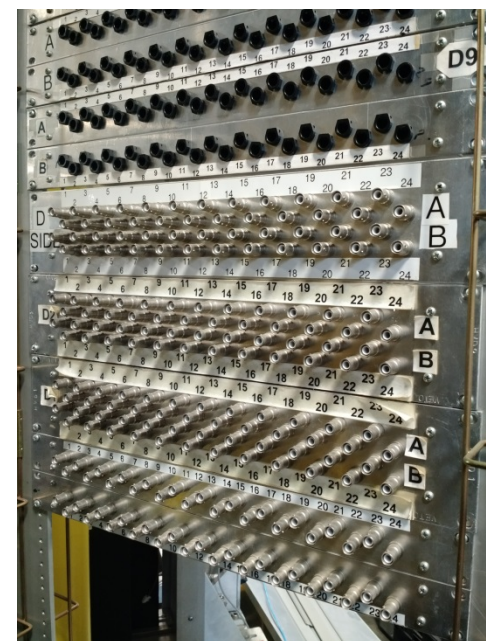
1200 RG58 cables only 1-2 penetrations



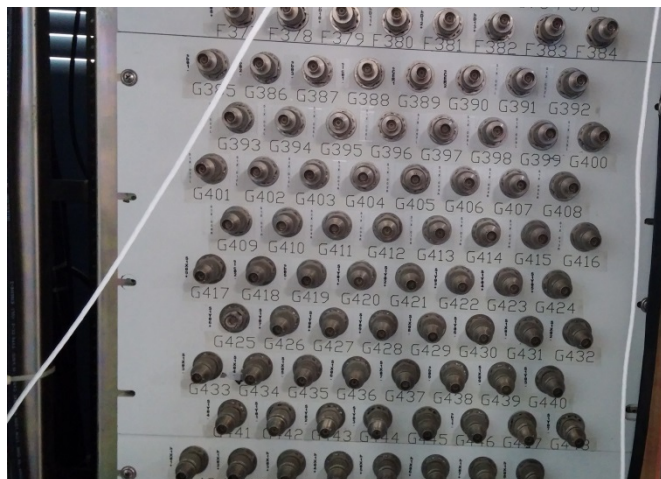
High density BNC patch



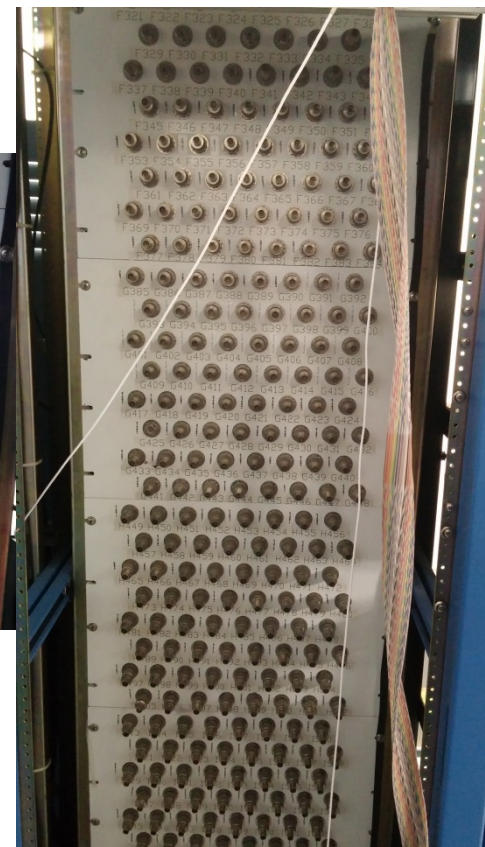
High density HV breakout panel (BETA weldment in ESB)



Like this 64 cables on 3.5 inch high panel
Can fit over 1200 cables in one rack



like HMS: Here can fit at best
5 times 64 cables in rack



Hall C HV Count

Total Hall C (negative) HV count:

813 ch (Older CAEN units: 13 crates, 64ch/crate)

336 ch (New CAEN units: 2 crates: 192ch +144ch)

Channels presently allocated to the spectrometers:

HMS is using a (nominal) 200 channels

SHMS is using a (nominal) 400 channels

There are at least a few more of the older CAEN (64ch) crates kicking around site that are not included in the above count. (Those crates are in use in the EEL/ESB for test-beds, staging, etc.)

Not all of the older crates and not all of the older cards are functioning, so you may wish to subtract 10--20% off the 'old crate' channel count for contingency.

Need to decide where we want the HV mainframes.

In electronics hut or as in 6-GeV era in counting house?

Consensus seems to be that the most generic solution for Hall C would be to have:

Patch panel at front of SHMS deck, to accommodate 1200 channels

Cable runs at beam-left (large-angle) side of SHMS

Use penetrations into SHMS electronics hut

Try to fit in one rack a patch panel for 1200 connectors (→ regular BNC)

To do:

Do we need more HV mainframes (can fit up to 240 channels in one caen mainframe)

Where do we plan to have the HV mainframes – in CH or electronics hut?

Work this plan out in more detail to see if everything fits

Get buy-in from Thia & Steve