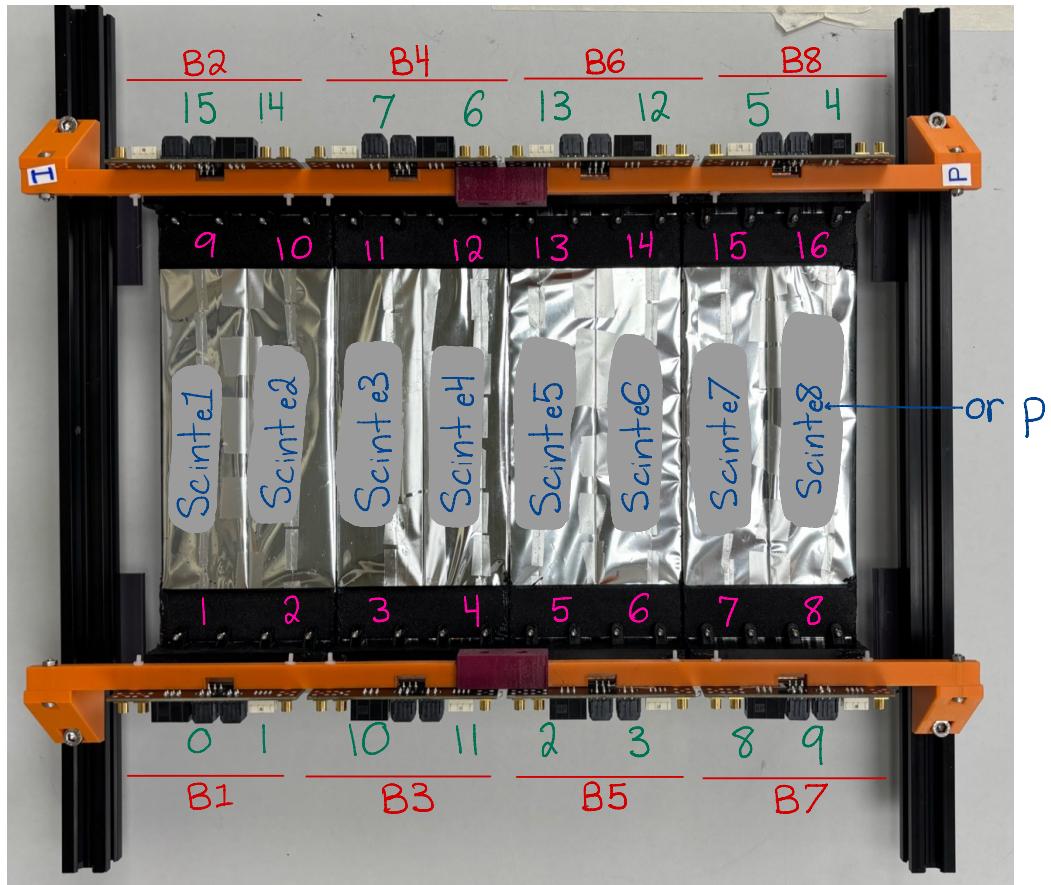
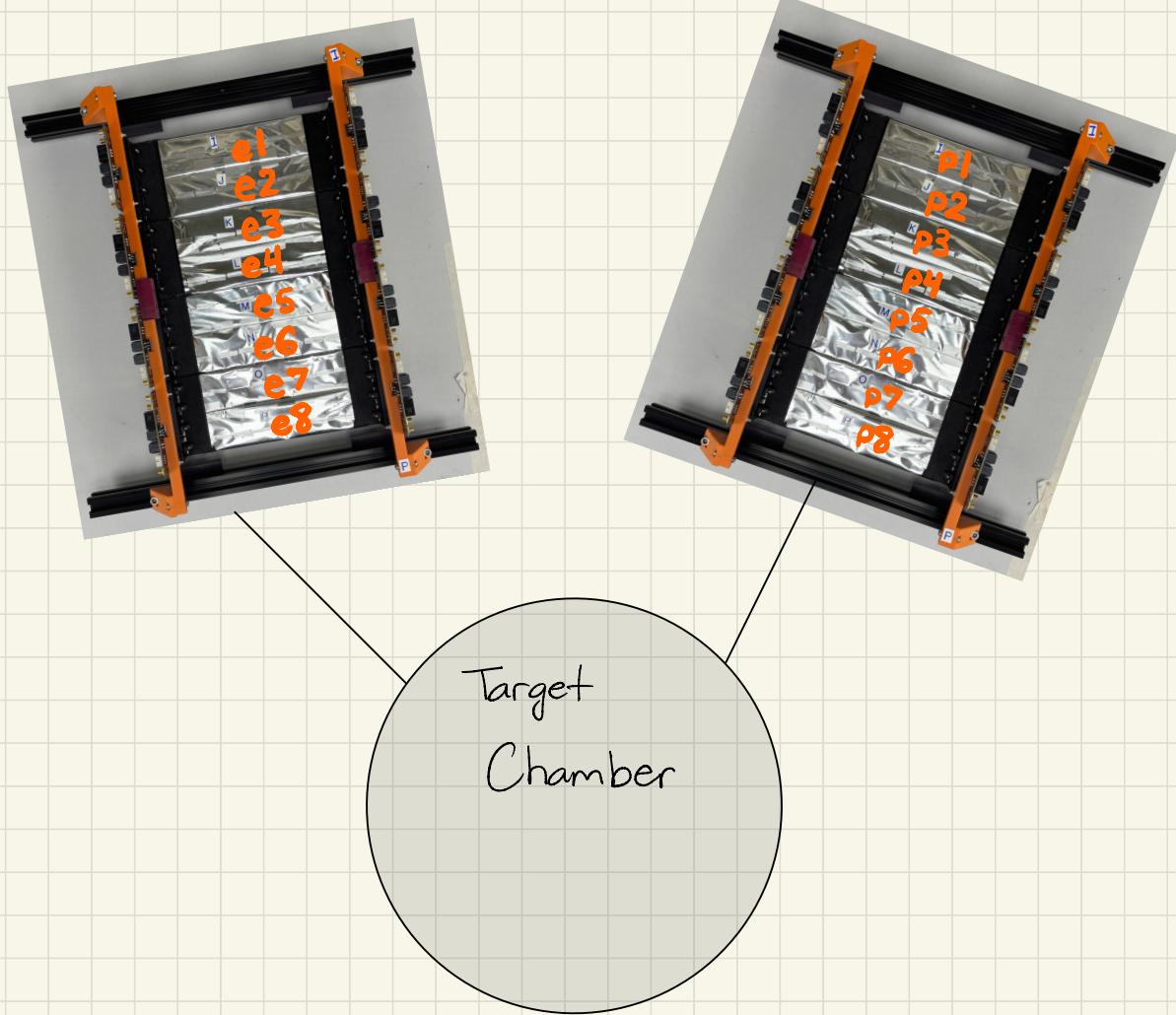


# TDC Channel Mapping



- Channel numbers as we see them in Root (add 16 to every pink number for the positron arm), e.g. width 9
- TDC channel assignments
- Board numbers

Scintillators are grouped by electron and positron arms.  
So we have,



Each e# and p# scintillator has two ends, as shown on the last page where they are labelled in pink. They follow the convention of (for ex) X, X+8. These tell you the channels we are reading the data out from. Since 1-8 and 1+8 to 8+8 are already taken, the channels for the positron arm are numbered (for scintillator pY) Y+16, Y+24.

The last numbering only shows up when making/titling root plots. We don't talk about scintillators this way. It's numbering all scintillators 1-16. Scintillators 1-8 are e1-e8, and scintillators 9-16 are p1-p8. If talking about something in reference to a single end of a scintillator like width 9 (w9), that will always be one end of scintillator e1. Numbers 9-16 only refer to the position arm when talking about a whole scintillator. This system is confusing so stick with e1-e8 and p1-p8 instead of scintillator 1-16 whenever possible.

So when reading a root plot name:

e1 - e8	dltdc16_sc01_t_01_09_ns_cut_twc;1
	dltdc16_sc02_t_02_10_ns_cut_twc;1
	dltdc16_sc03_t_03_11_ns_cut_twc;1
	dltdc16_sc04_t_04_12_ns_cut_twc;1
	dltdc16_sc05_t_05_13_ns_cut_twc;1
	dltdc16_sc06_t_06_14_ns_cut_twc;1
	dltdc16_sc07_t_07_15_ns_cut_twc;1
	dltdc16_sc08_t_08_16_ns_cut_twc;1
	dltdc16_sc09_t_17_25_ns_cut_twc;1
	dltdc16_sc10_t_18_26_ns_cut_twc;1
	dltdc16_sc11_t_19_27_ns_cut_twc;1
	dltdc16_sc12_t_20_28_ns_cut_twc;1
	dltdc16_sc13_t_21_29_ns_cut_twc;1
	dltdc16_sc14_t_22_30_ns_cut_twc;1
	dltdc16_sc15_t_23_31_ns_cut_twc;1
	dltdc16_sc16_t_24_32_ns_cut_twc;1

Using the analysis module for 16 scintillators

Looking at scintillator X

Time difference plot

Scintillator ends we are taking the time difference of (ex. time difference along scintillator 1 AKA e1,  $t_{e1q} - t_{e1n}$ )

Units for time differences

With a noise cut (event with width < 20 ns removed)

Time walk corrected