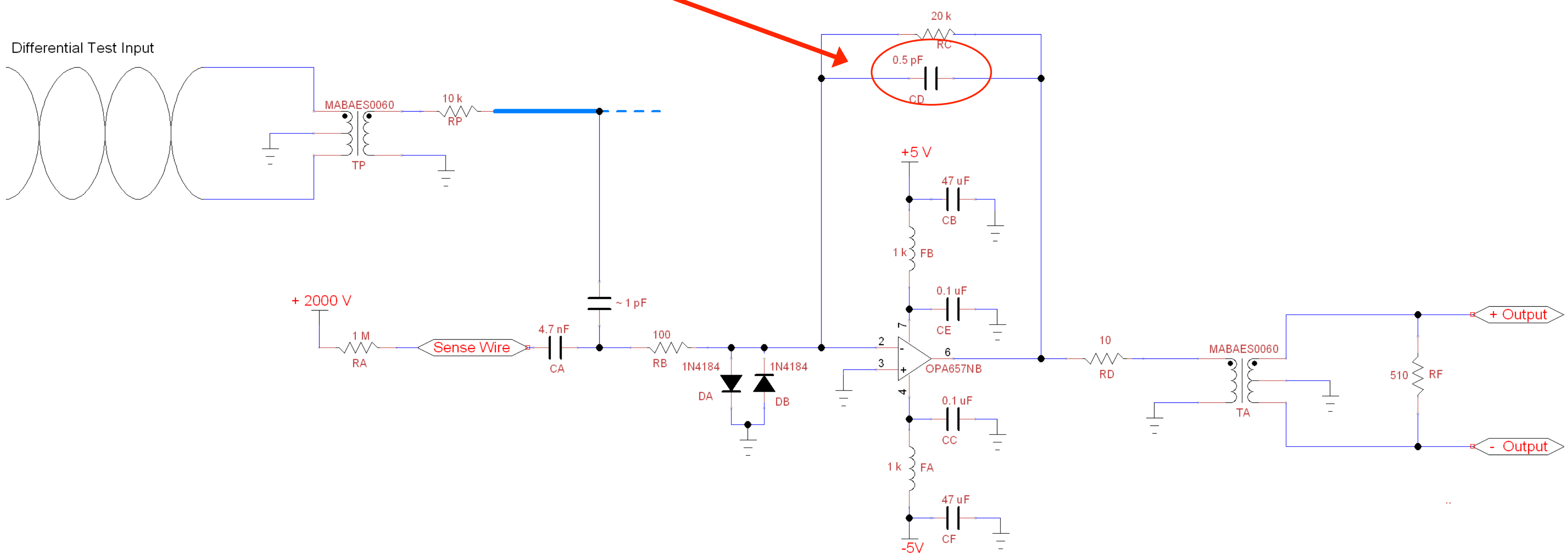
Project sequence	Project	Number needed	Number completed	Project finished
1	Epoxy G10 slats to wire plates	8	8	✔
2	Epoxy G10 slats to spacer plates	8	8	✔
3	Sand preamp cards to correct size	48	0	
4	Sand HV cards to correct size	48	0	
5	Attach HV capacitors to preamp card, test preamp card	48	1	
6	Epoxy preamp and HV bias cards to wire plates	8	0	
7	(a) Bolt together wire and spacer plates, (b) attach wheels, (c) move to Physical Science Building (PSB)	8	0	
8	In PSB clean-room: (a) string carbon-tube wires and in-between field wires, (b) HV test and fix problems, (c) string remainder of sense and field wires, (d) close detector, flow gas, bias HV and LV, test, (f) fix problems	8	0	
9	Prepare MWPCs for shipment to JLab	8	0	

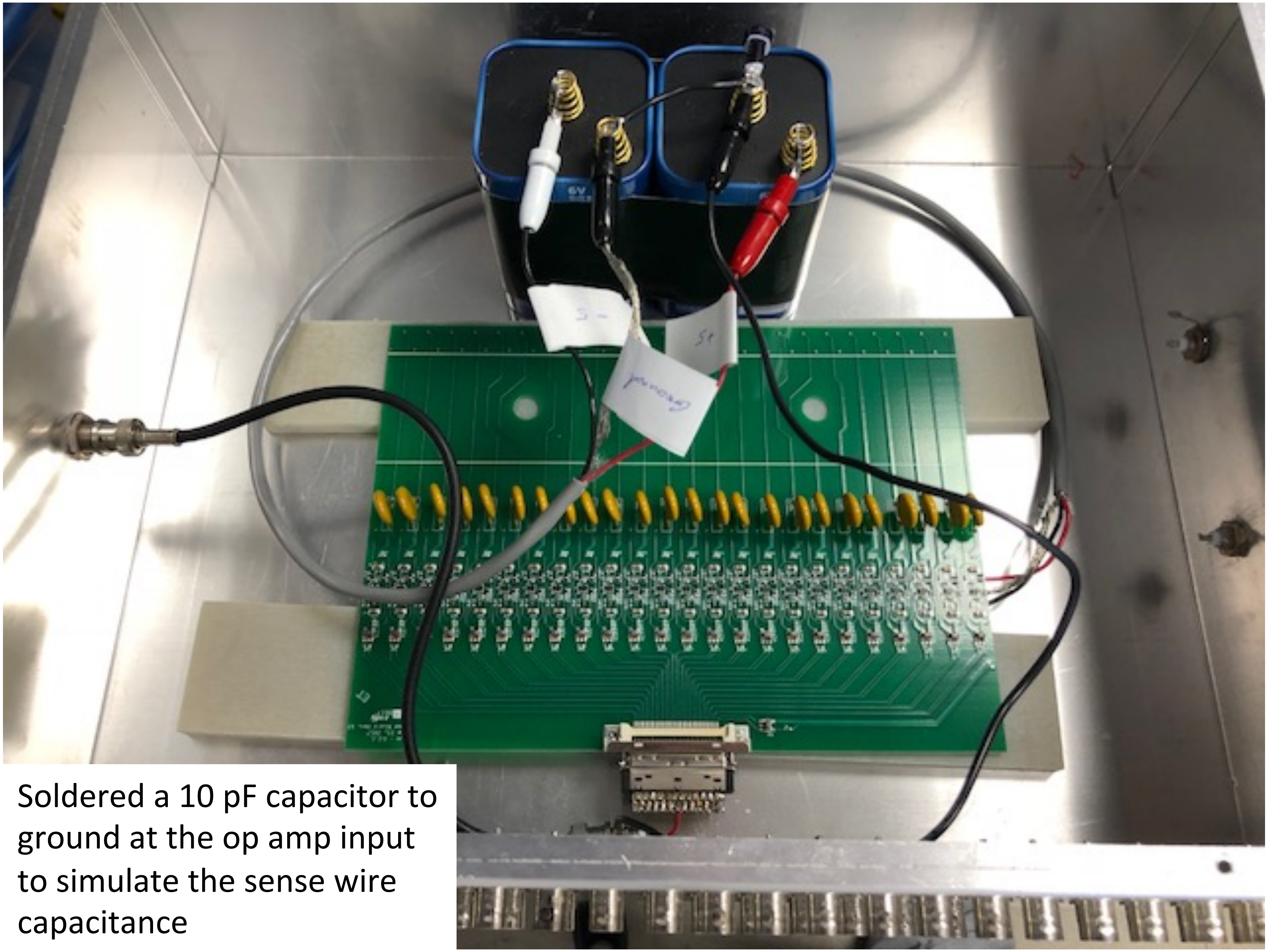
$1/(2\pi R_F C_F) = \sqrt{(GBP/(4\pi R_F C_D))}$ from T.I. application note

The equation predicts C_F = 0.3 pF

We used 0.5 pF

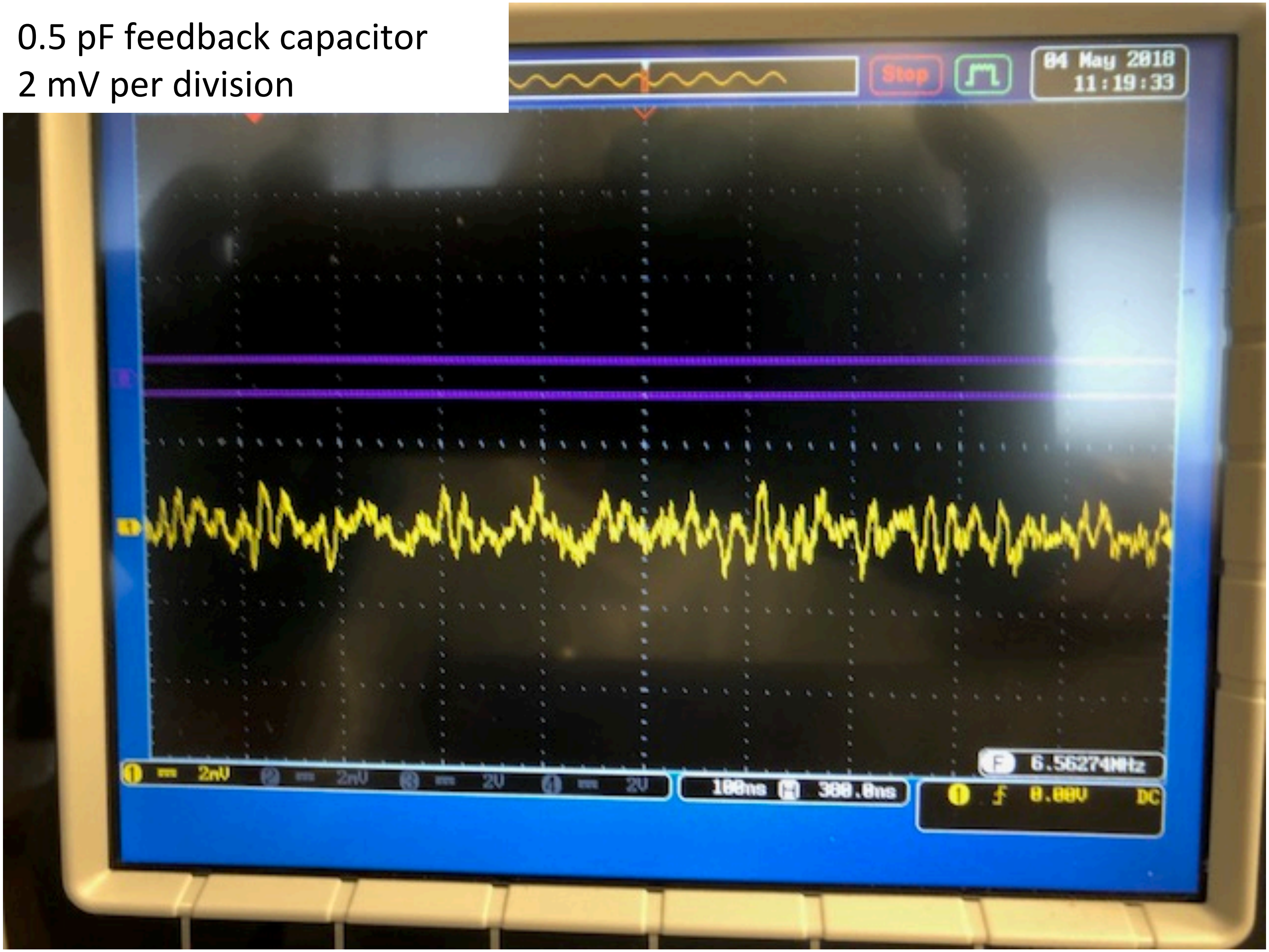


Title Sense Channel Circuit		
Author Bobby Johnston UMass MENP		
File C:\Users\Bobby\Desktop\Sense_Schematic		Document
Revision 12	Date June 19, 2017	Sheets 1 of 1

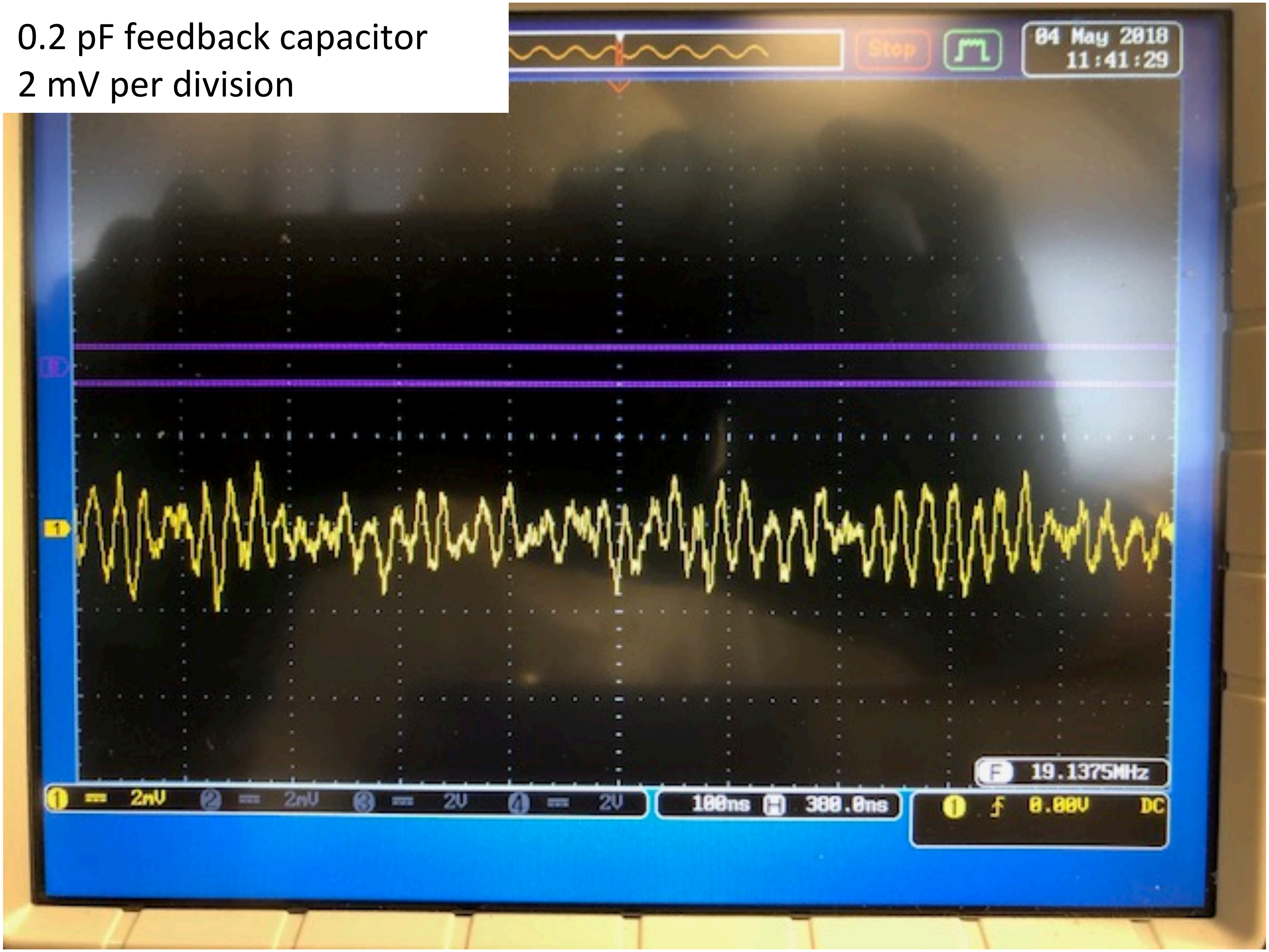


Soldered a 10 pF capacitor to ground at the op amp input to simulate the sense wire capacitance

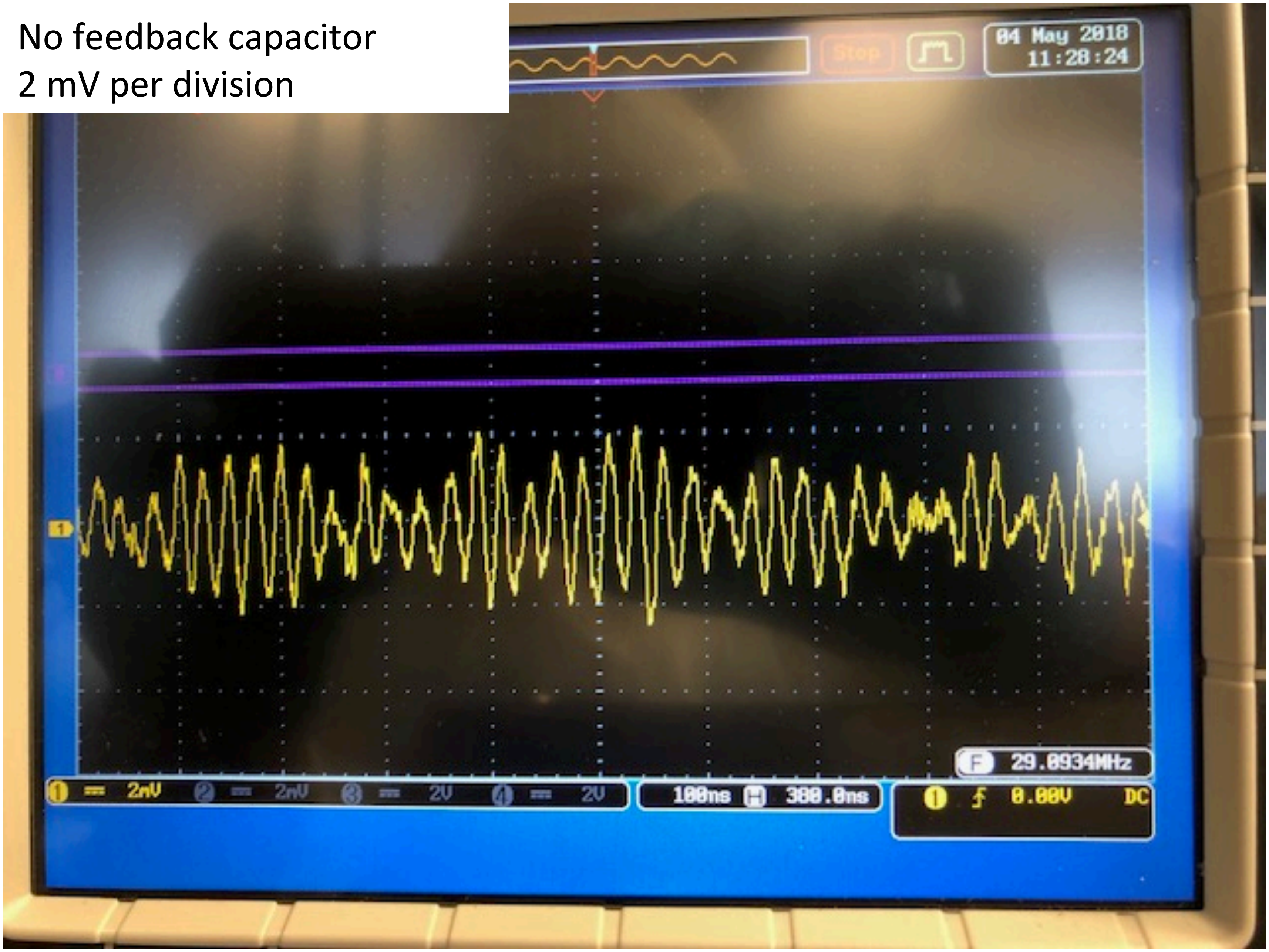
0.5 pF feedback capacitor
2 mV per division



0.2 pF feedback capacitor
2 mV per division



No feedback capacitor
2 mV per division



Conclusion:
- 0.5 pF is probably close to the optimal value for the feedback capacitance
- No need to change electronics

Move ahead with the next stages of construction:
- Size the electronics cards using a belt sander.
- Attach the HV blocking capacitors to the preamp cards
- Test preamp cards
- Epoxy the preamp and HV cards to the wire plates

Proposed analysis

- Standard GlueX ρ^o analysis is fully exclusive? Requires detection of the recoil proton, π^+ and π^- ? Energy to satisfy the trigger requirement comes from the proton, pions, or both.
  - ➢ Because of the requirement for recoil proton detection, the data doesn't go to very low t.
- Look for events with 2 charged tracks going into FCAL, without the recoil proton, where the energy deposited in FCAL is over trigger threshold.
  - ➢ Sometimes pions shower in FCAL, so we would trigger on some fraction, about 50%, of forward going $\pi^+\pi^-$ pairs.
  - ➢ The GlueX data are for proton target, where coherent processes are weak compared to a nuclear target. Nevertheless, in the invariant mass distribution would expect to see:
    1. The low-mass, low-t tail of the ρ^0
    2. Bethe-Heitler e^+e^- pairs, not muon pairs since muons don't shower
    3. $\pi^+\pi^-$ Primakoff events.