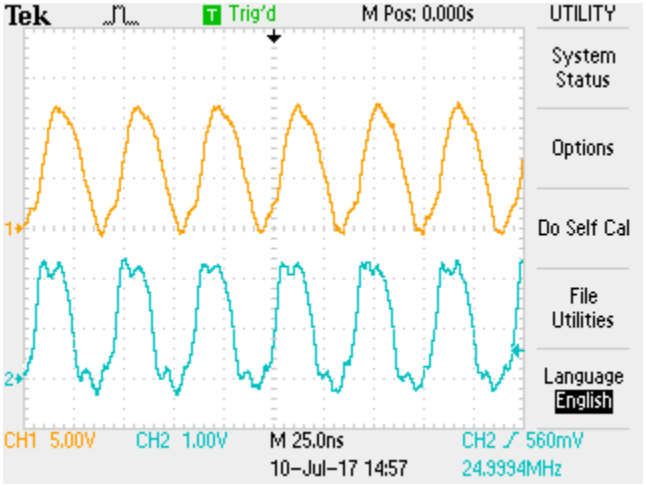
Breadboard Setup

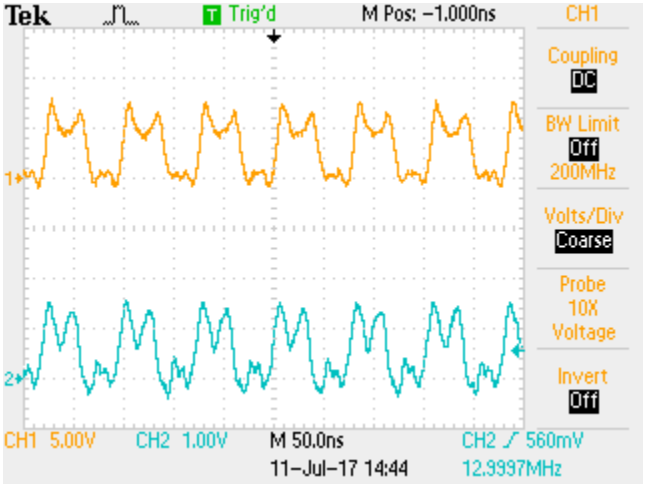
Was excited to see good 25MHz square wave initially – until chip went up in smoke!



- Single chip mounted on SOIC-to-DIP adapter pcb and plugged into classic breadboard
- Same circuit configuration
- Lab signal generator input (to all 4 amps)
- Power +15/-10 V
- Different parasitics, better/worse?

Breadboard Setup Pics

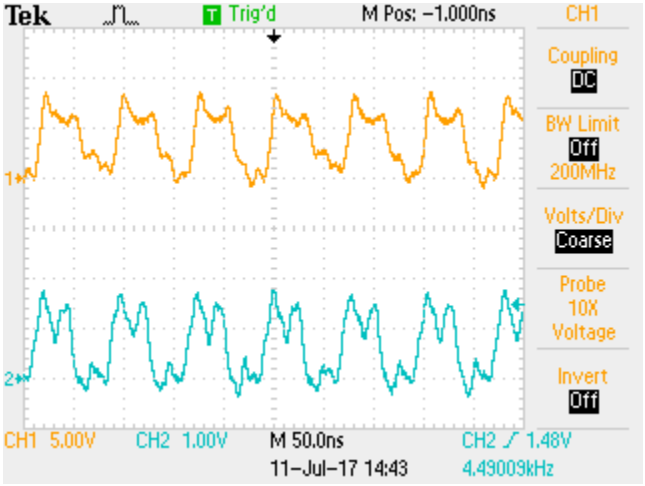
Output 6X, 0 – 6.0Vp, (maybe)



Input 0 -1.0V p

Please excuse the terrible input waveforms – generator cable terminations were not working!

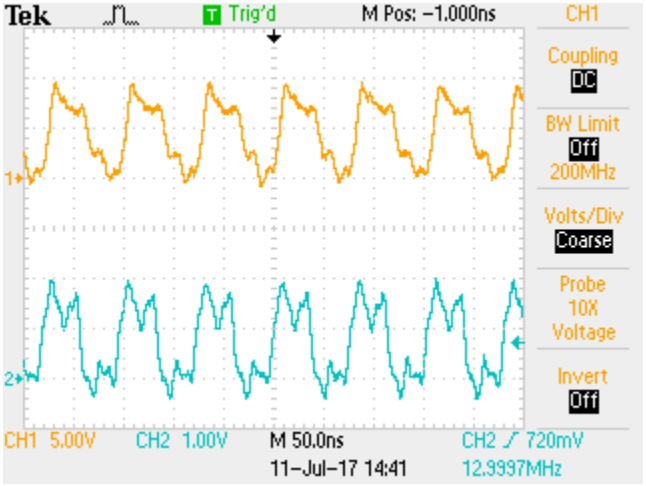
Output 6X, 0 – 7.2Vp, (maybe)



Input 0 -1.2V p

Breadboard Setup Pics

Output 6X, 0 – 8.4Vp, (maybe)

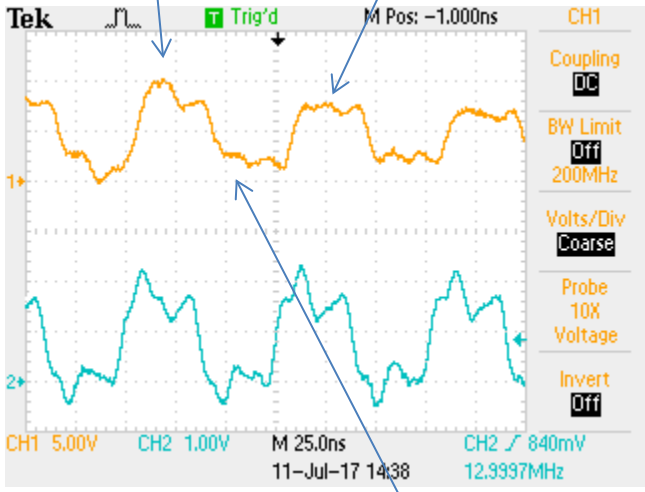


Input 0 -1.4V p

Output 6X, 0 – 9.6Vp, (sometimes)
Else limited 2.5V to 7.0V

Normal amplitude

Reduced amplitude
Positive offset



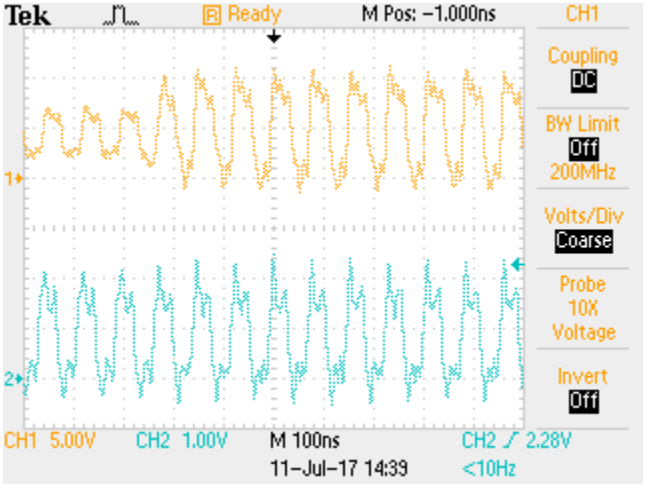
Input 0 -1.6V p

Again starts struggling
with falling edge step!

Breadboard Setup Pics

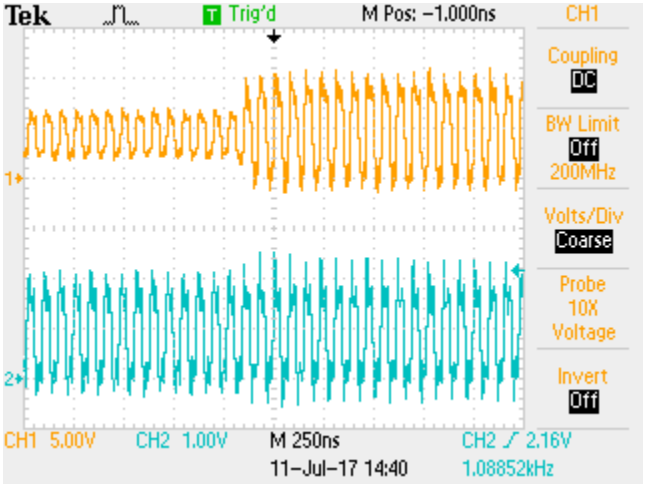
Shrunk timescales to capture (trigger on) saturation/oscillation

Output 6X, 0 – 9.6Vp, (sometimes)



Input 0 -1.6V p

Output 6X, 0 – 9.6Vp, (sometimes)

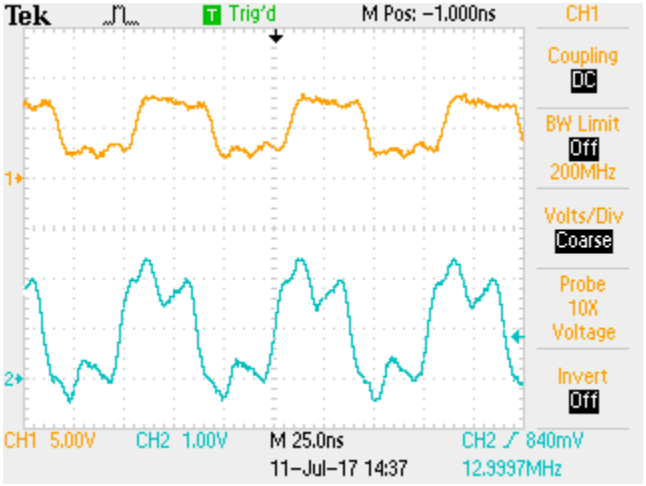


Input 0 -1.6V p

Note – The power supply was temporarily adjusted to +/- 15V to see if headroom was an issue – Results were unchanged!

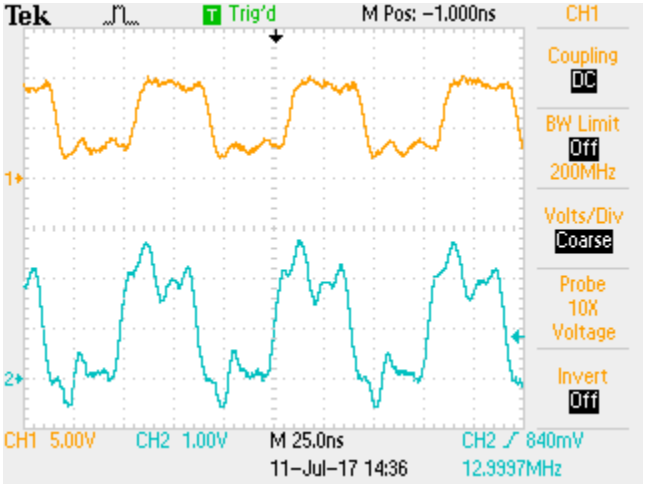
Breadboard Setup Pics

Output 6X, should be 0 – 10.8Vp
Reduced but stable 3V – 8V



Input 0 -1.8V p

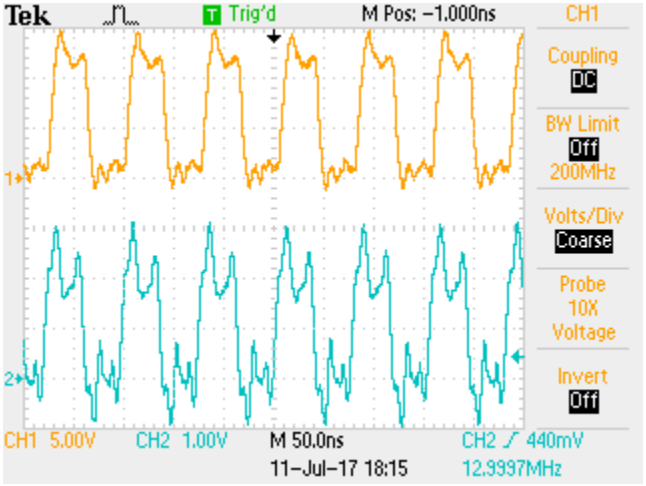
Output 6X, should be 0 – 12.0Vp
Reduced but stable 3V – 9V



Input 0 -2.0V p

Breadboard Setup Pics

Output 6X, should be 0 – 12.6Vp
Snapped back close to correct amplitude and a lot less positive offset!



Input 0 -2.1V p

- For this entire sequence, only the input amplitude was adjusted on the lab generator. No other changes, scope probes weren't even touched!
- What the devil is going on with the amp??