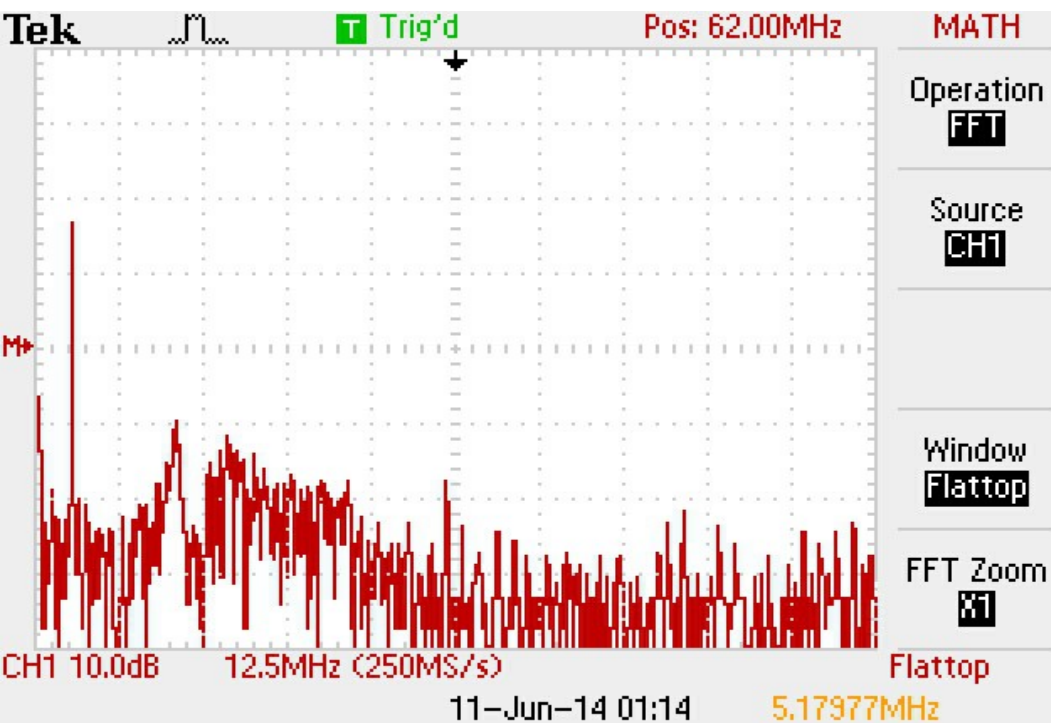
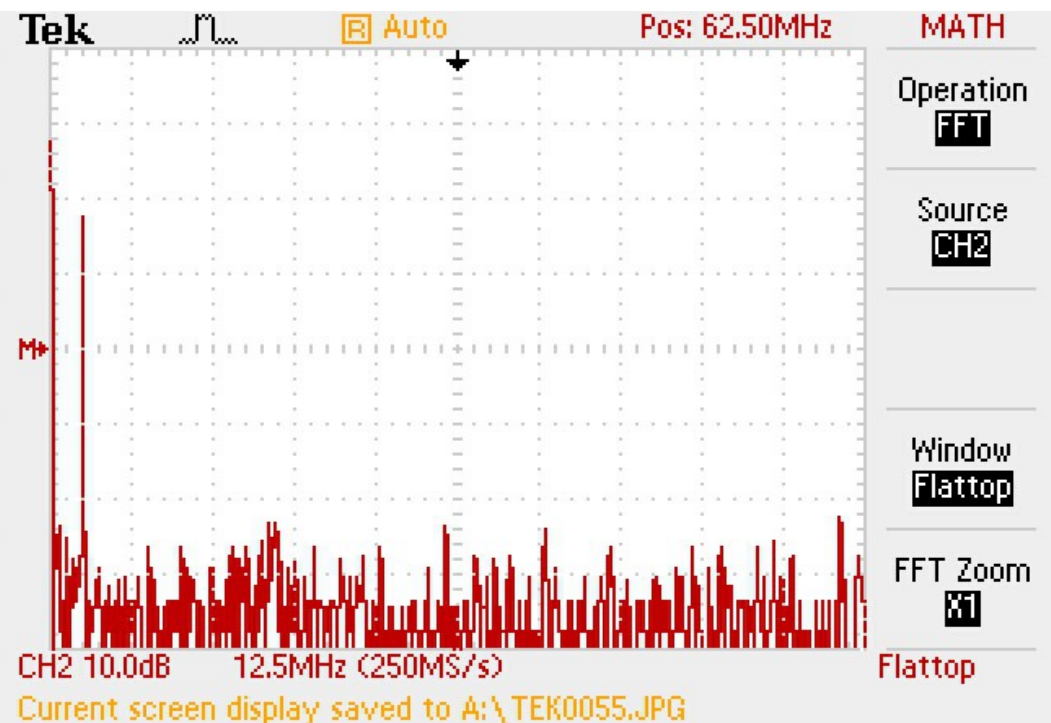


Noise Reduction with Ferrites

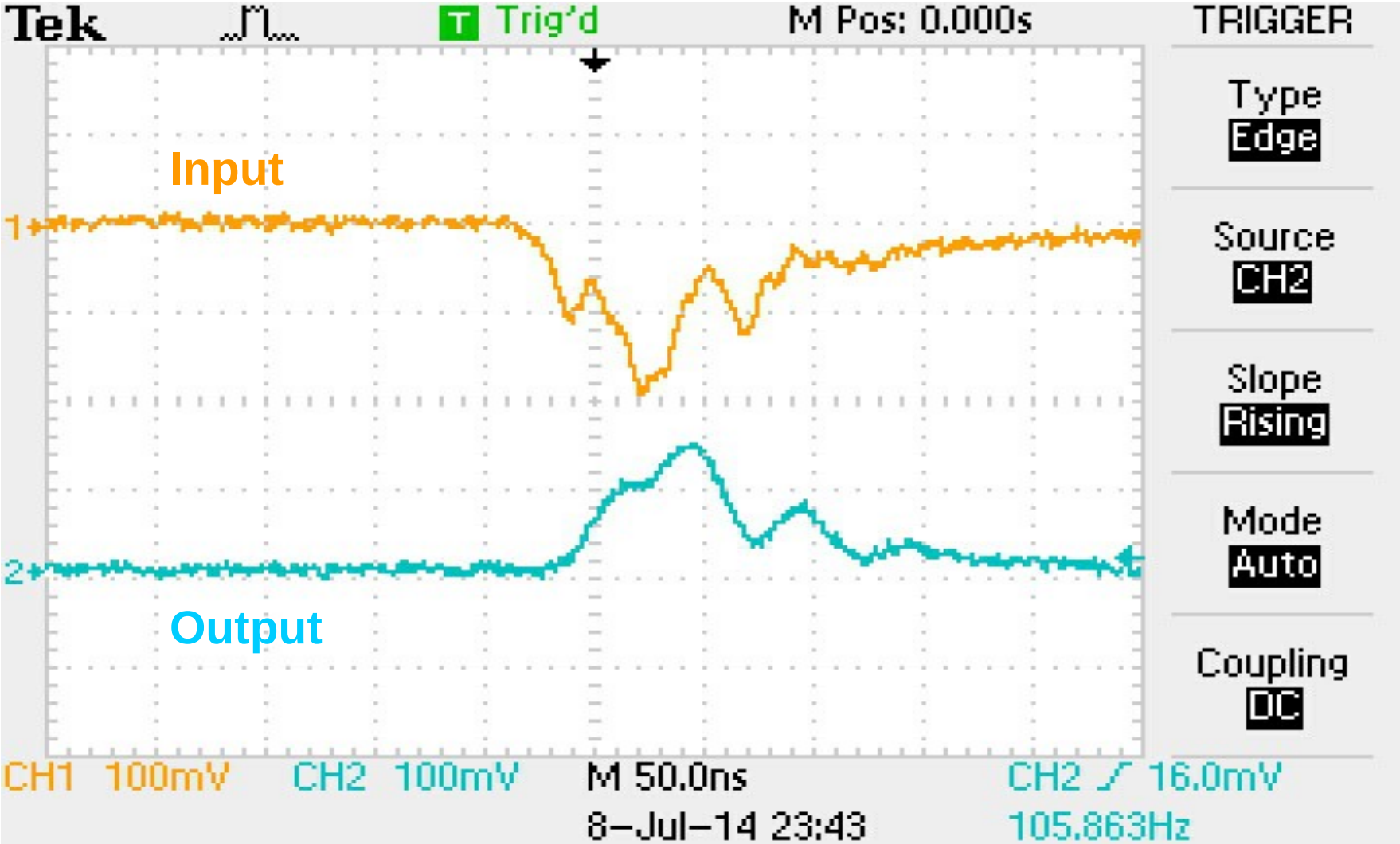
Without Ferrites



With Ferrites



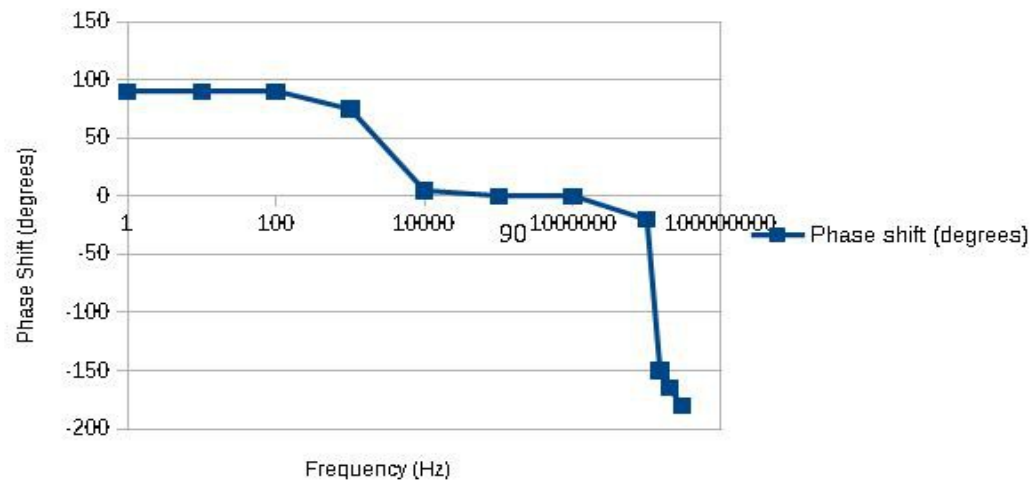
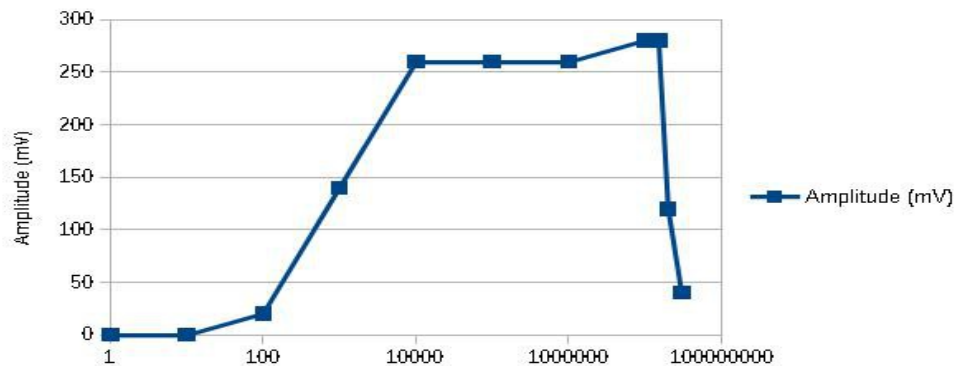
Still having trouble with signal quality...



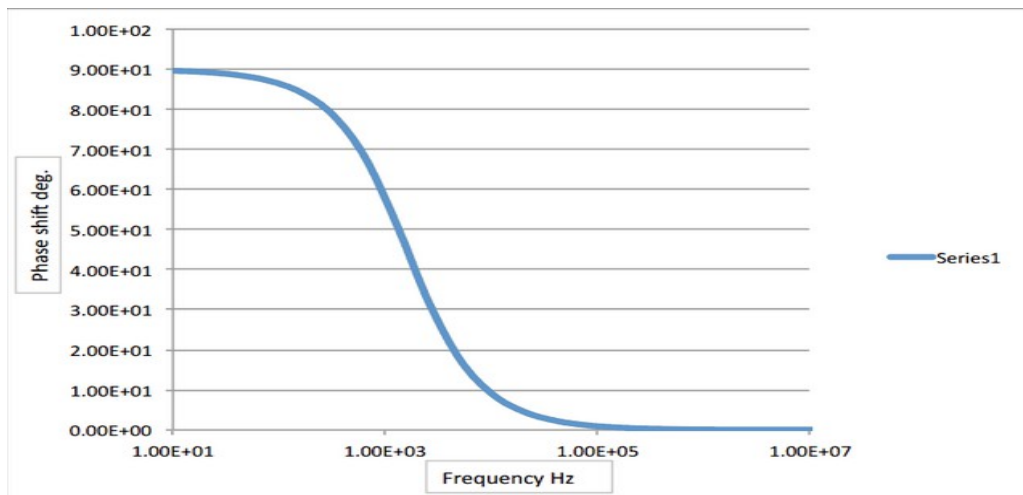
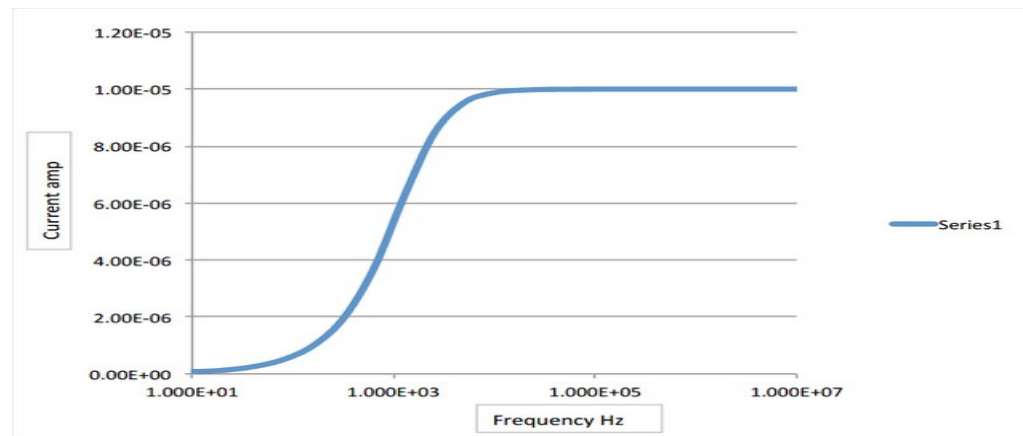
Assessment of TIA Frequency Response

Freq.(Hz)	Amplitude (mV)	Phase shift (degrees)
1	~0	90
10	~0	90
100	20	90
1000	140	75
10000	260	5
100000	260	0
1000000	260	0
10000000	280	-20
15000000	280	-150
20000000	120	-165
30000000	40	-180

Observed Response



Theoretical Response



- Amplifier bandwidth appears to be a significant limiting factor in electronics performance
 - The amplifier performs well between 1kHz and 10-15 MHz, giving an overall amplifier bandwidth of 10-15 MHz
 - For comparison, the calculated value of the bandwidth is 13 MHz with the component values used.
- Higher bandwidth op amp were ordered and should arrive within days
- These should give an amplifier bandwidth of ~40 MHz