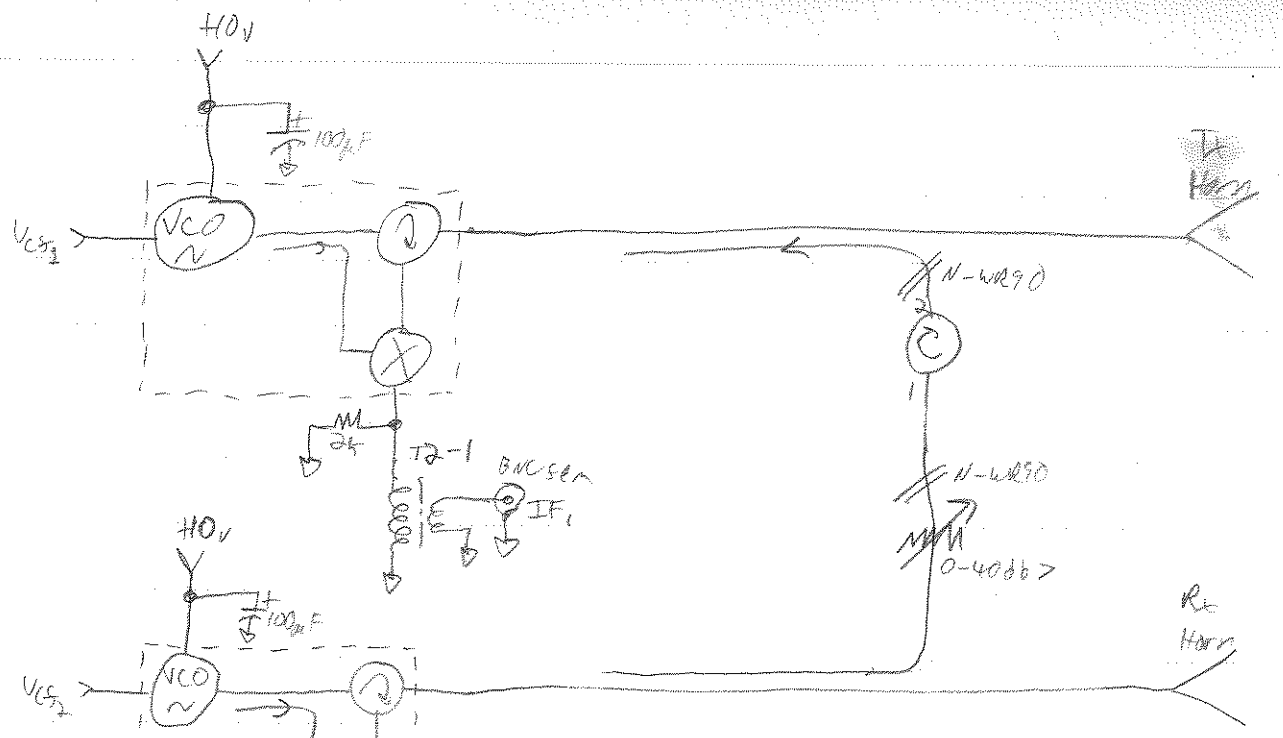
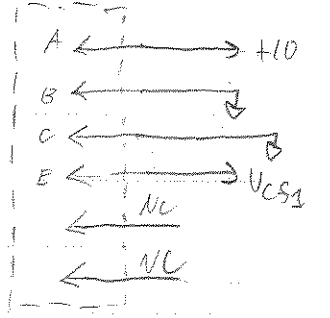


TX/LO

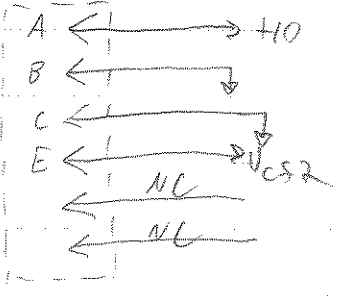


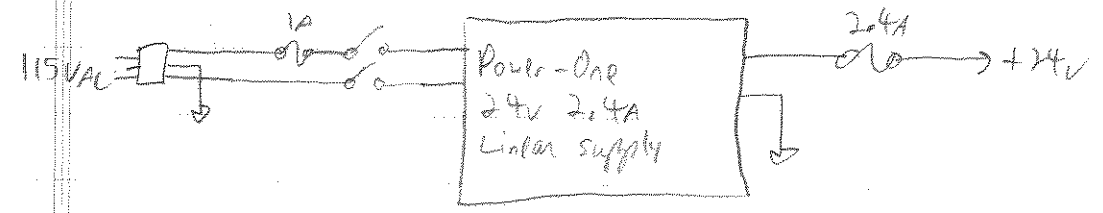
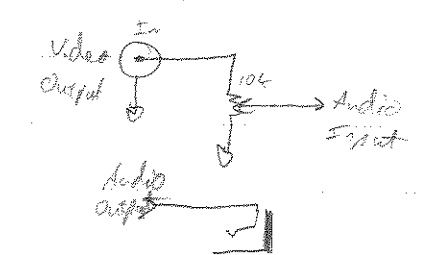
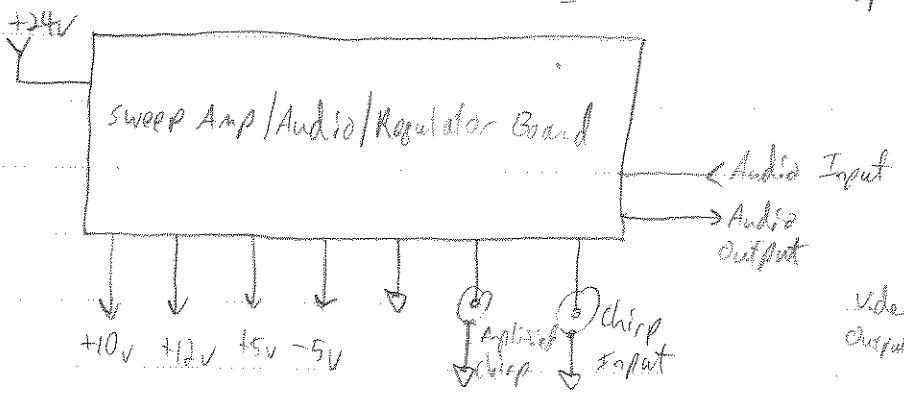
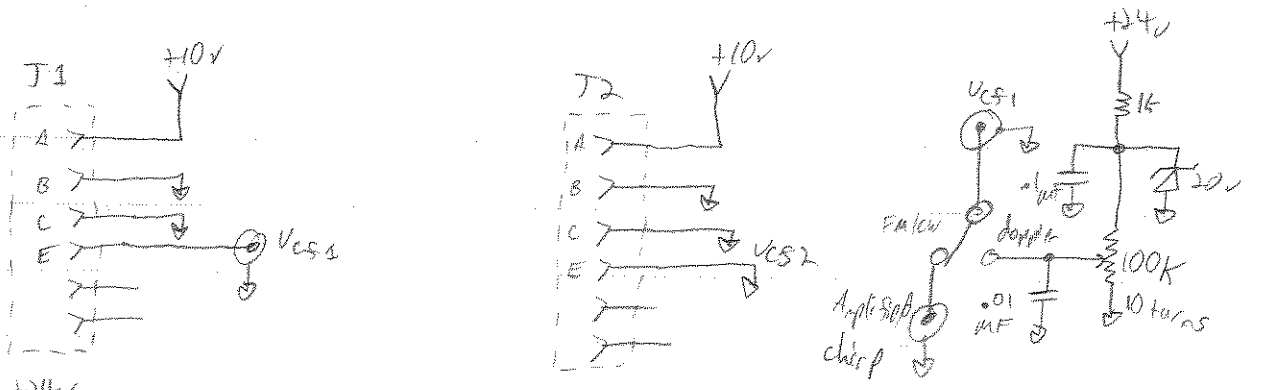
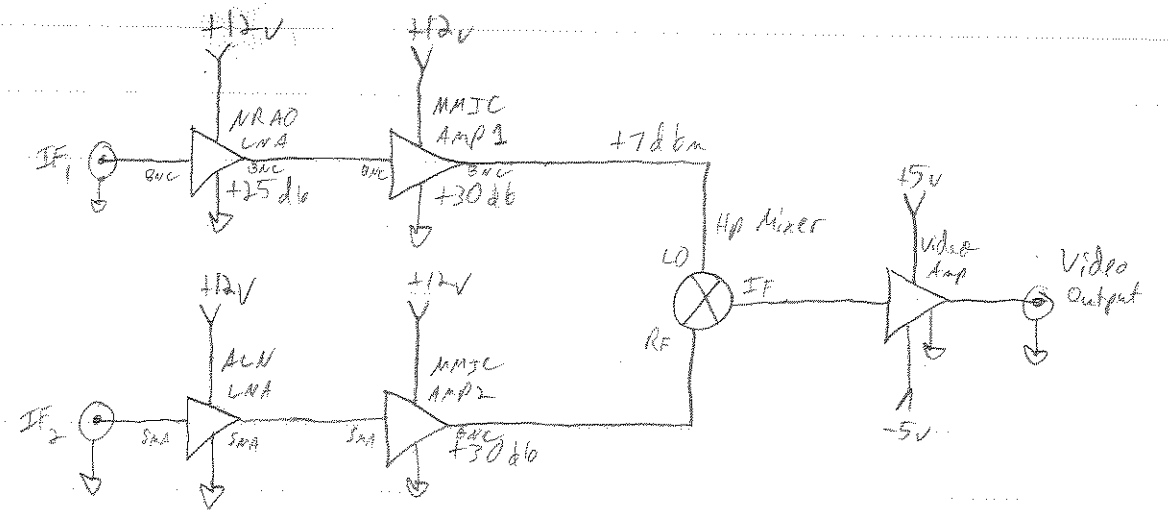
RX/IF

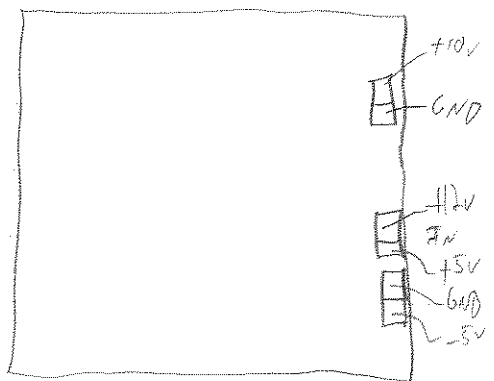
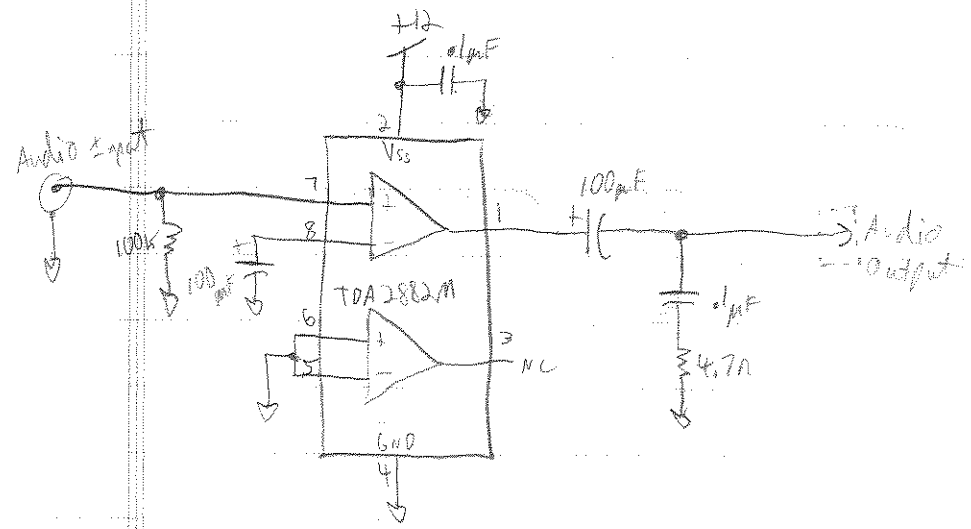
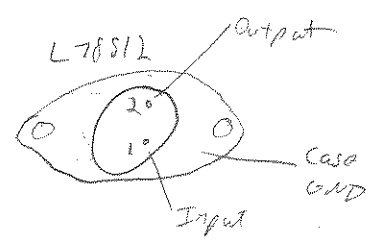
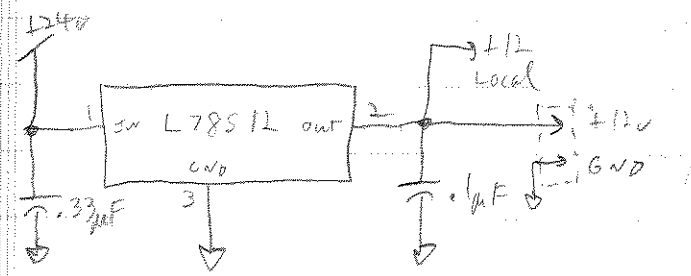
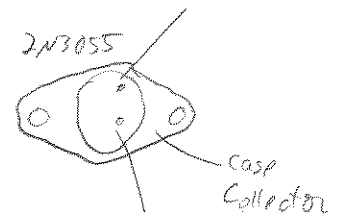
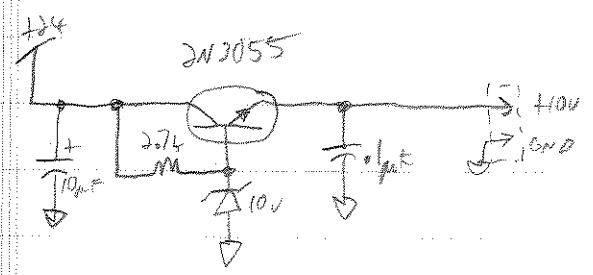
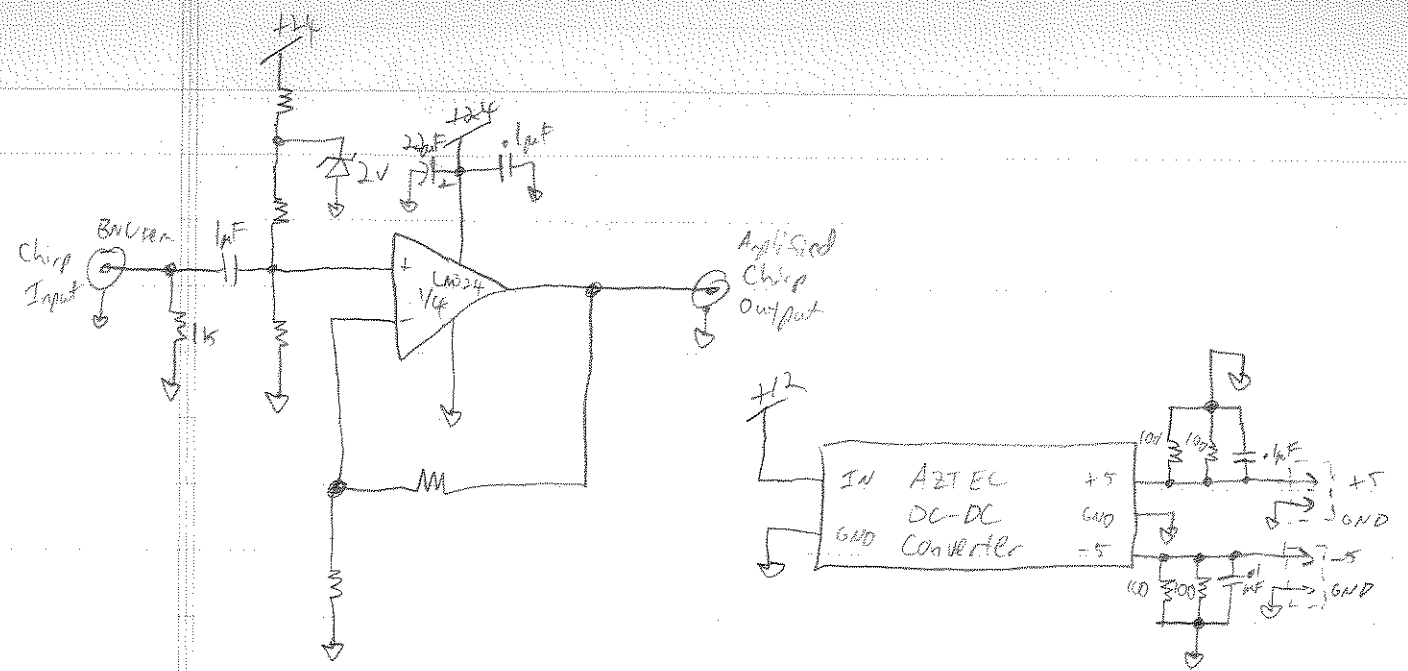
P1



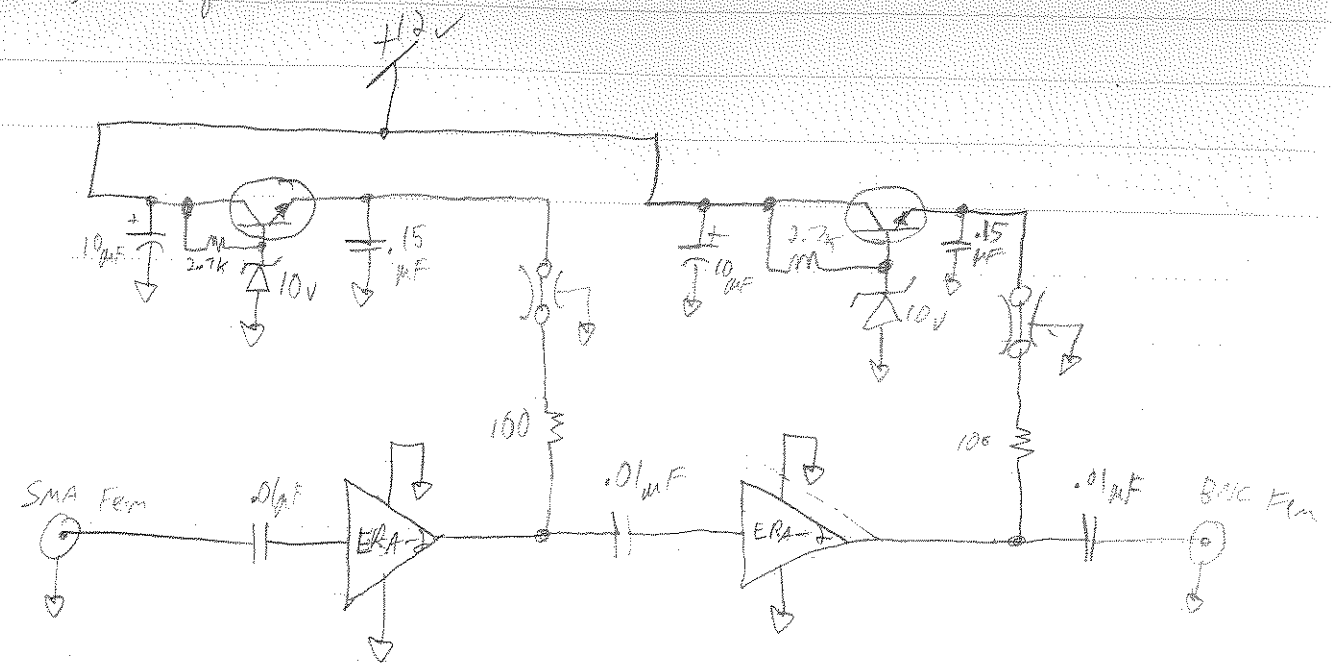
P2



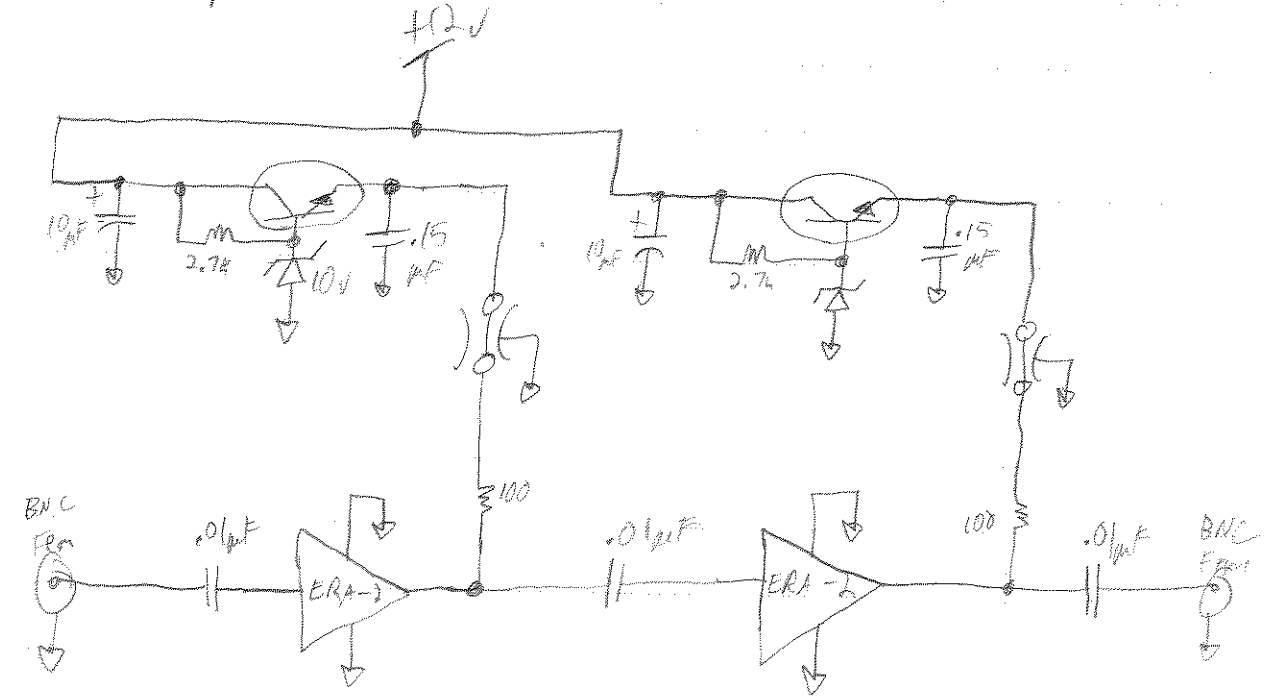




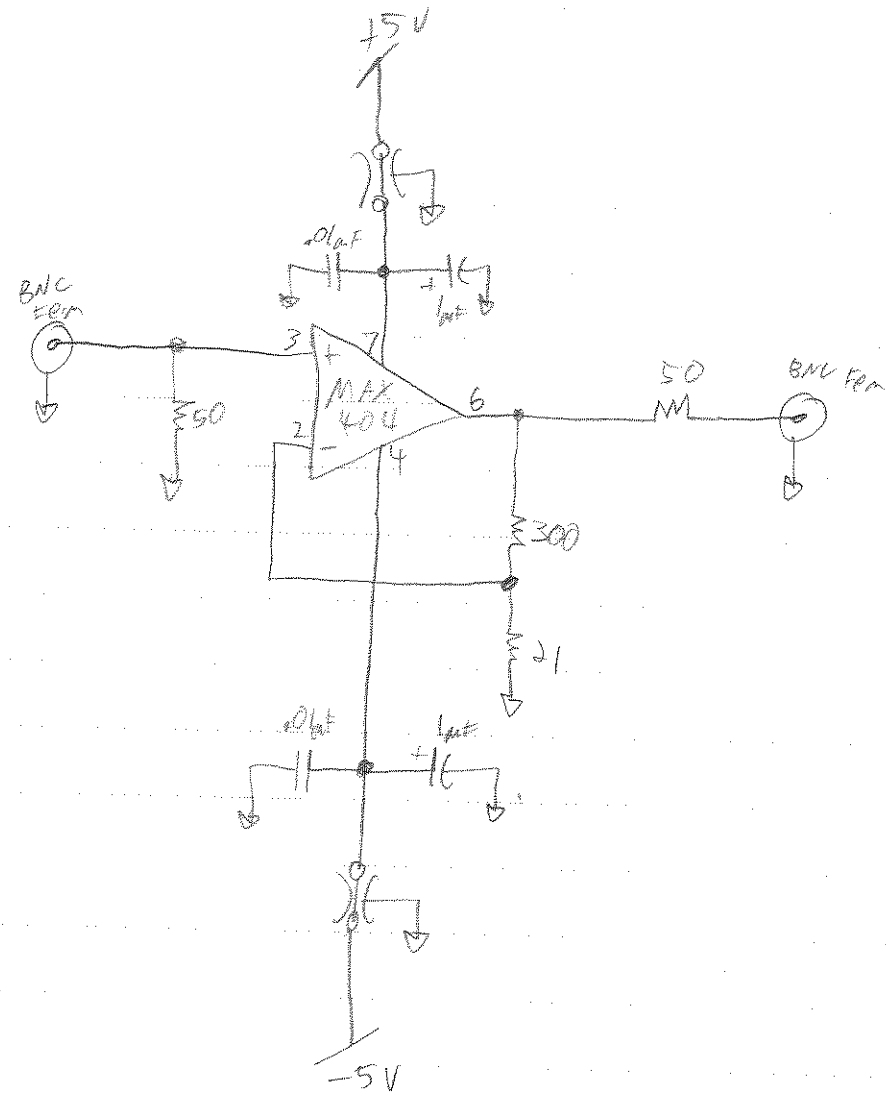
MMIC Amp 1

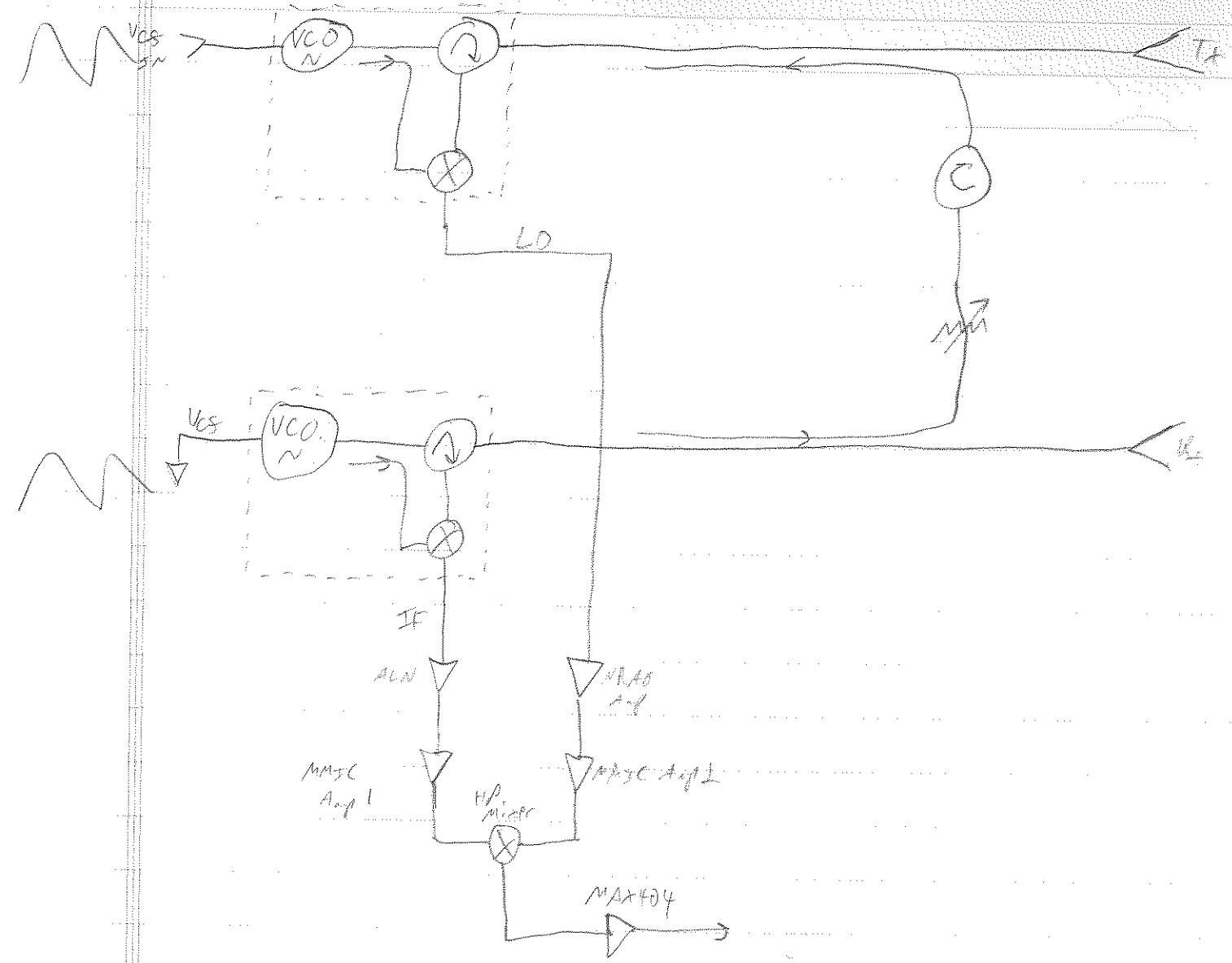


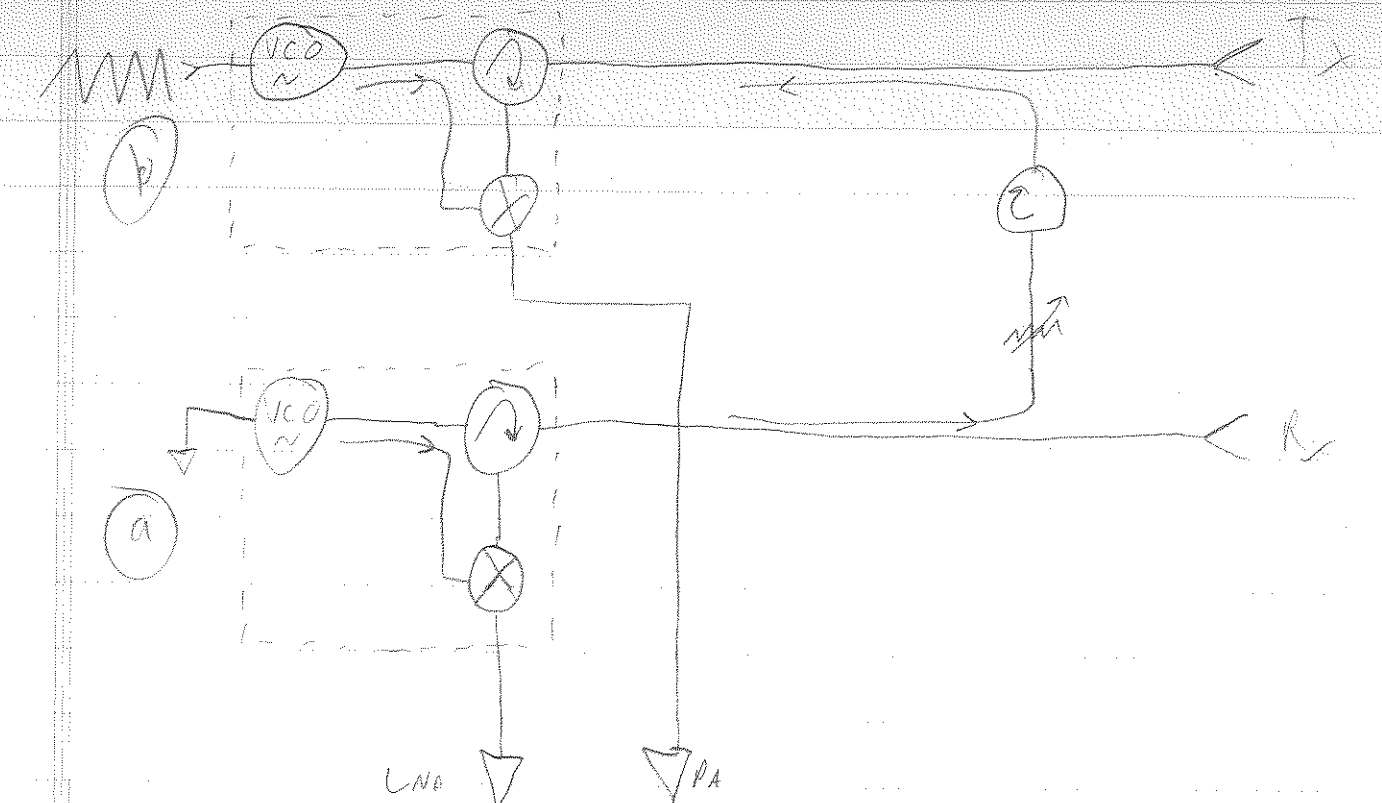
MMIC Amp 2



Video Amp







- FMCW Radar - 1st string solution
- What is FMCW Radar?
- What are the design problems?
- Gumplexers: Frequency converters with an Attitude

Critical path is biggest problem. Don't know complexity target.

- What is a Gumplexer?
- What does a Gumplexer have to do with FMCW Radar?
- What are the Gumplexer limitations? → test-jig
- Why is a Gumplexer not a good FMCW Radar?
- FMCW Radar on a short string Budget
- Ideal FMCW Radar design
- Expensive: Special microwave parts.
 - no matter how much I speak, I still could not get rid of critical path problems
- Critical path management → use low loss cable.

• Double Coherent FMCW Radar using Gunnplexers

• not possible to make FMCW Radar using just

1 Gunnplexer - because

• Two Gunnplexers utilizing parasitic antenna coupling.

• One is fixed will do one of the highest possible sweep freq of the other

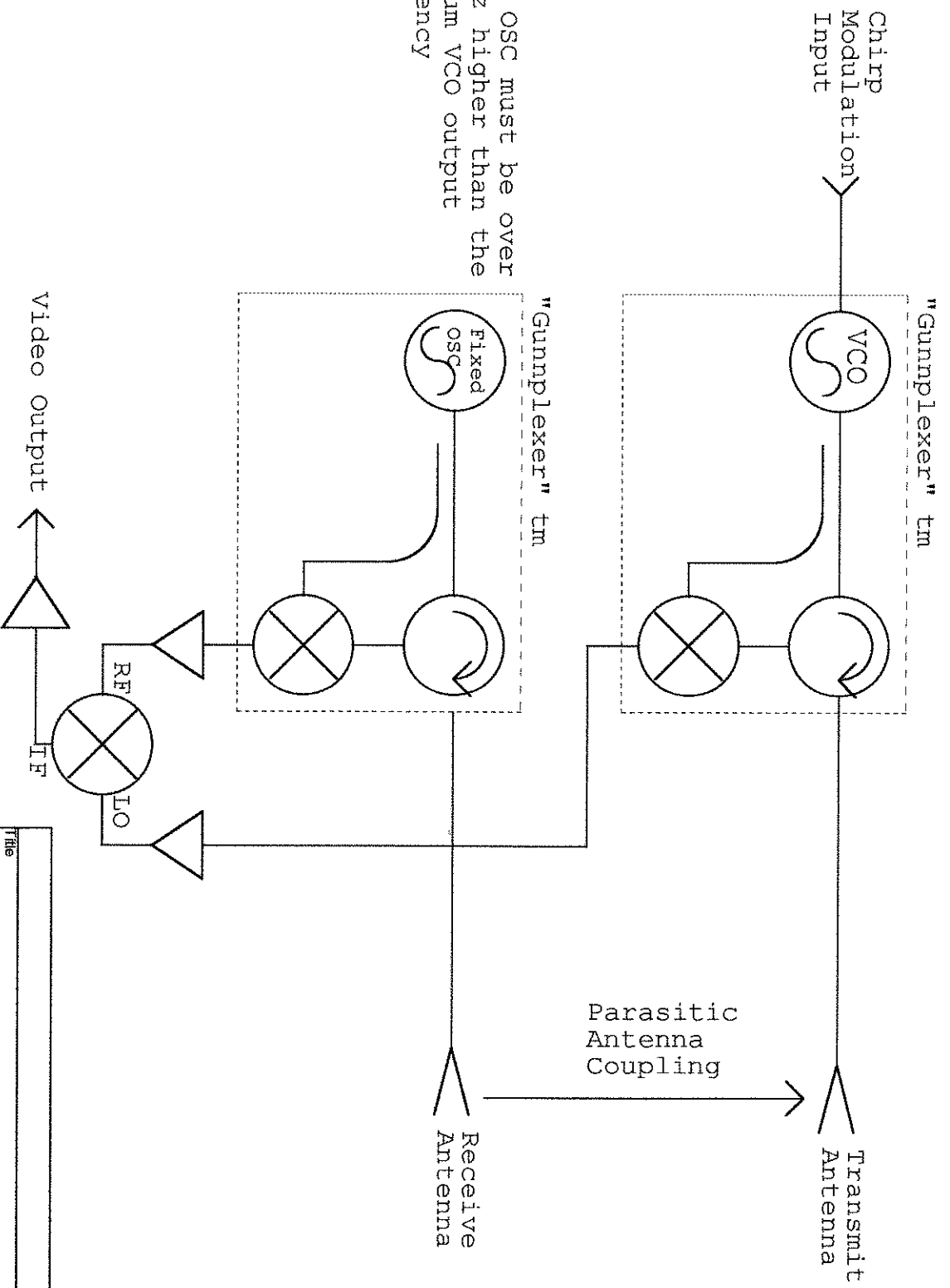
• @ is coupled into (b)

• the IF out of (b) is the diff between (b) and (a)

• the IF out of (a) is the diff between the reflected RF from targets and (a)

• the diff between IF@ and IF(b) is the Range Information

• hence a FMCW Radar uses no microwave serial parts, and a low freq RGS delay line.



Title		Double Coherent FMCW Radar System, Design By: Gregory L. Charvat	
Size	Document Number	Rev	
A	1	1.0	

Date: Thursday, August 02, 2001 Sheet 1 of 1