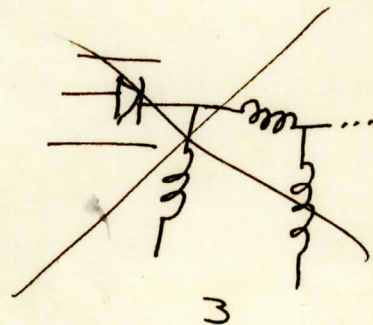
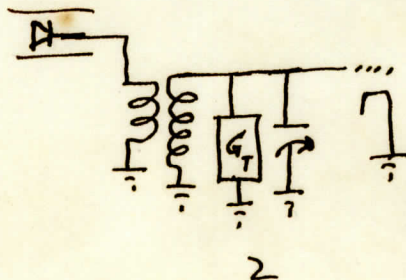
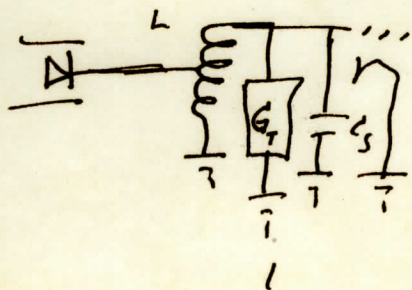
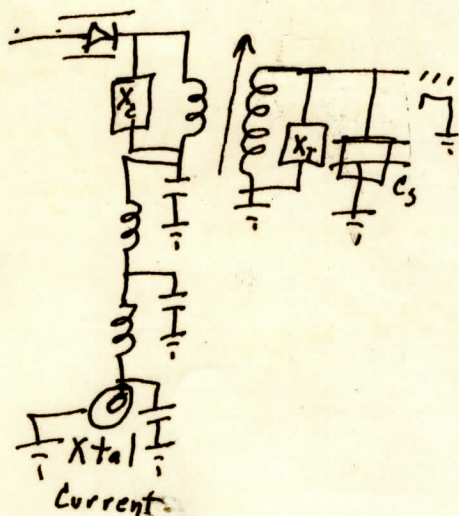


I.F. input ckt.



Probably use #2 for ease of coupling adj.
complete ckt



$X_L = 375 \Omega$ (1F imp. Σ from
'Radar Sys. + Comp.' P-725)
 $X_T \approx 2500 \Omega$ for 6AK5

$$\frac{Z_1}{Z_2} = \frac{f_1^2}{f_2^2}$$

$$\frac{10^4}{Z_2} = \frac{36^2}{36^2}$$

$$10^4 \times \frac{9}{36} = 36^2 \times Z_2$$

$$Z_2^2 = \frac{10^4 \times 9}{36} = \frac{10^4}{4} = 2500 \Omega$$

II - I.F. Amp

A. ~~Preamp + Amp separated + connected~~
~~by Co-ox-~~

B. Specs - 1.60 mc center freq.

~~2.5~~ band width 25 mc

should be $\frac{24}{\gamma} = \frac{4}{.08 \times 10^{-6}} = 50 \text{ mc.}$

γ probably cannot be made greater than
.08 μs - (dist res. of ^{39.3}~~38.2~~ ft)

$\frac{2}{\gamma} = 25 \text{ mc}$ shoot for this for it will give
reasonable separation -

$$\beta = 25 \text{ mc.}$$

Gain should be 120 db

IV

2. Widen Video B

T = pulse length

I.F. $f = 30 \text{ mc/s}$

$$\begin{array}{r} 48 \\ 125 \overline{) 60.0} \\ \underline{500} \\ 100 \end{array}$$

From Radiation Lab series optimum $B = \frac{1.2}{T}$

however variations from this by a factor of 2 reduces rec. pwr. by only $\frac{1}{2}$ db. (neglecting pulse fidelity)

B for $T = .07 \mu s$ keeping B as narrow as possible to eliminate possibility of IF entering Video

$$B = \frac{.6}{.07 \mu s} = 8.57 \text{ mc/s}$$

for optimum $\frac{1.2}{.07 \mu s} = 17.2 \text{ mc/s}$

Repeat assuming C_s of 5707

$\frac{1}{12 \times 10^{-27}} = .58 \Omega$
 $= 10 \mu V$ also for 6AK5

$$G\beta = \frac{gm}{2\pi C} = \frac{7 \times 10^{-3}}{6.3 \times 10^{-11}} = 1.11 \times 10^8 = 111 \text{ mc/s}$$

90
 8 Stage Gain = $\frac{111}{11.2} = 9.9 = 20 \log 9.9 \text{ db} = 19 \text{ db}$
 $\frac{6}{114 \text{ db}}$