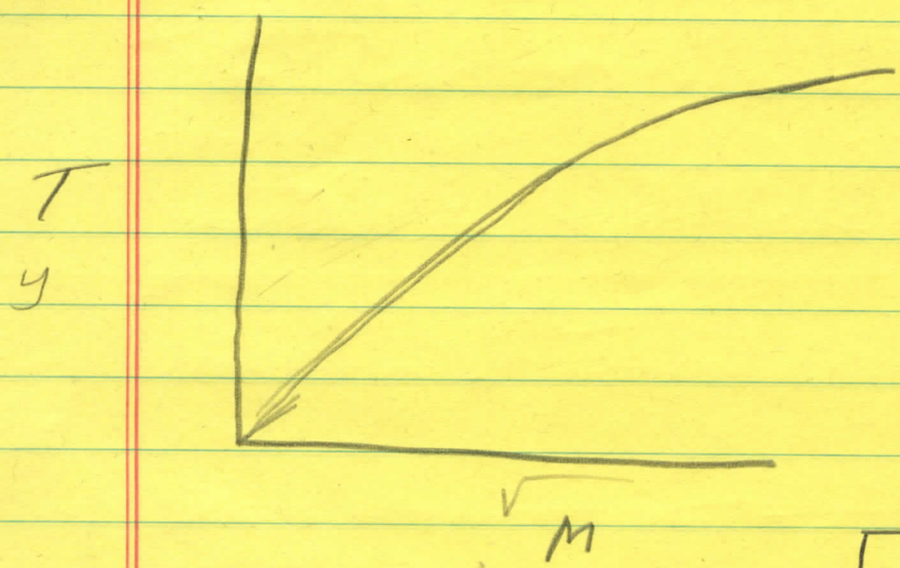
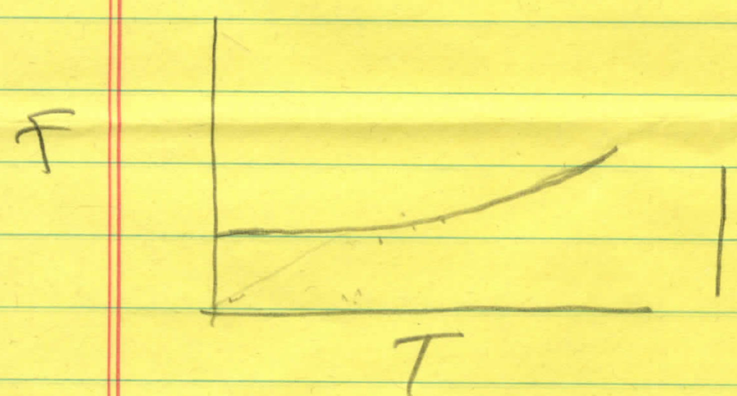
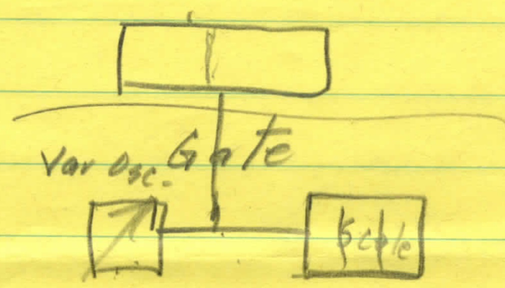
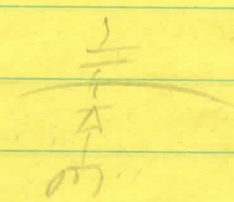

T
y
√M

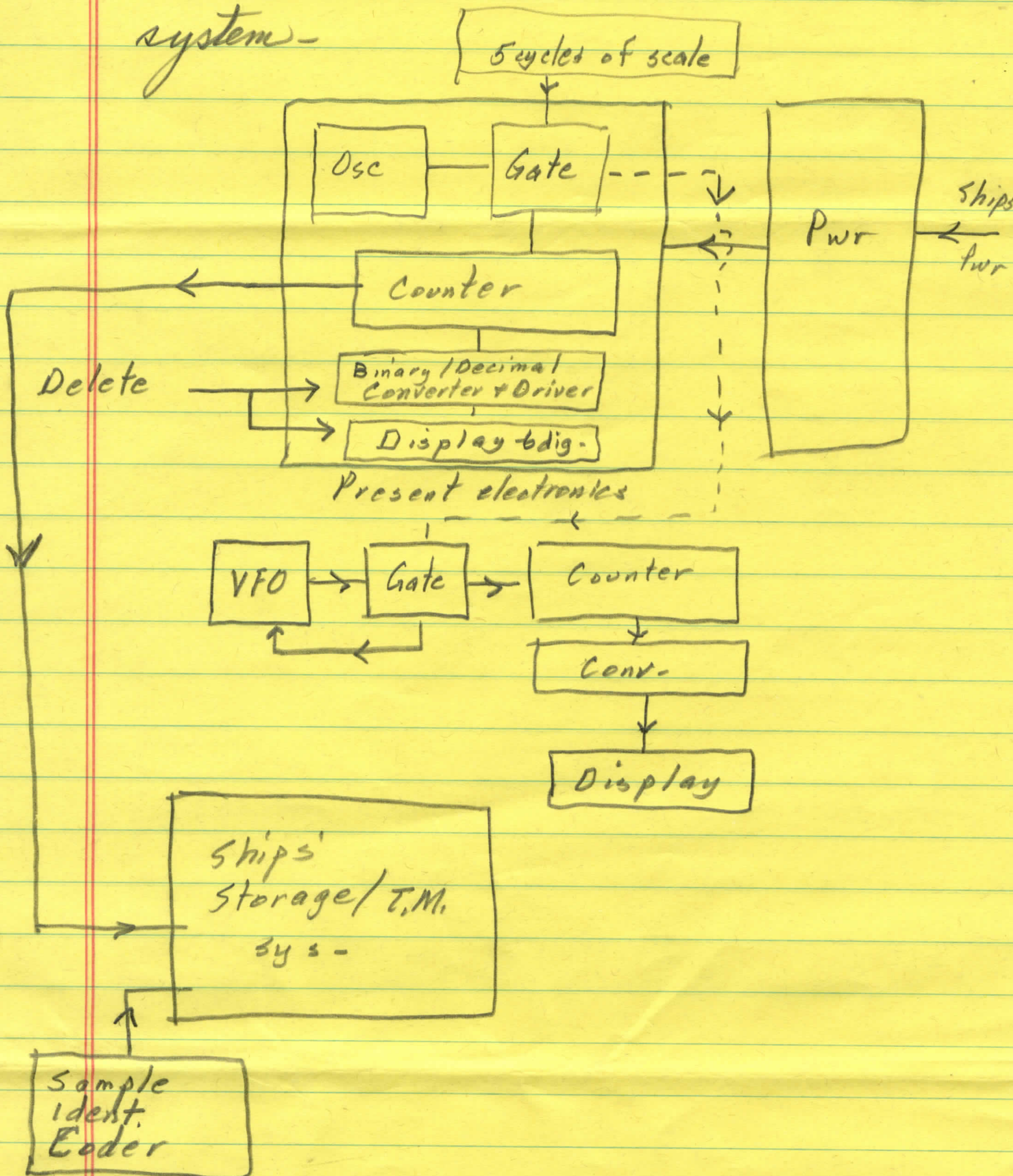

F
T


Var Osc.
Gate
Scope



Appendix

~~better operation~~ more suitable operational arrangement will result. A block diagram is shown of the proposed system.



8

Appendix

The present binary counter would feed directly into a storage/T.M. down link in parallell c̄ an identification encoder which ties ~~unm~~ the time code to a specific sample. All samples would have a prenumbered ident. code on the package. Time information of the required resolution could then be analyzed by a suitable ~~program~~ means on earth & the ~~p~~ sample mass determined to the requisite precision at the same time a relatively low accuracy (1%) direct readout would be available immediately to the operator.

~~Mass~~

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Appendix

as follows - ~~If~~ Until actual experience is gained in flight it seems unlikely that we will be able to provide a ~~calibration~~ ground calibrated scale. Since the mass is related to ~~time as~~ scale period as follows

$F = \frac{1}{2\pi\sqrt{LC}}$

$\tau = 2\pi\sqrt{\frac{2m}{c}}$

$K\tau^2$

$M = K\tau^2$ and we are ~~see~~ reading ~~time~~ period it will be necessary to vary the constant K, hopefully by a small amount - this is equivalent to varying the frequency of the oscillator - For this reason a separate variable frequency oscillator (VFO) will be used. ~~To save~~ Existing gate signals will be used to accumulate the cycles of this osc. as a function of the period of the scale. At the same time the frequency of this oscillator must increase as the square of the period. This will be accomplished by well known ~~variable~~ voltage variable circuits. Calibration then consists of cycling the scale $\bar{s}$ added mass and setting the osc. freq- such that