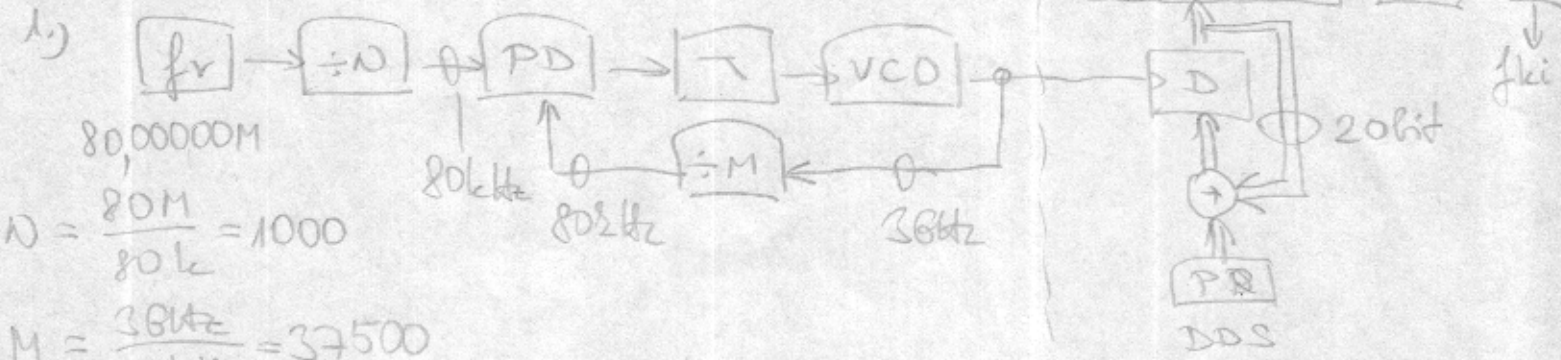


10:46

PLL



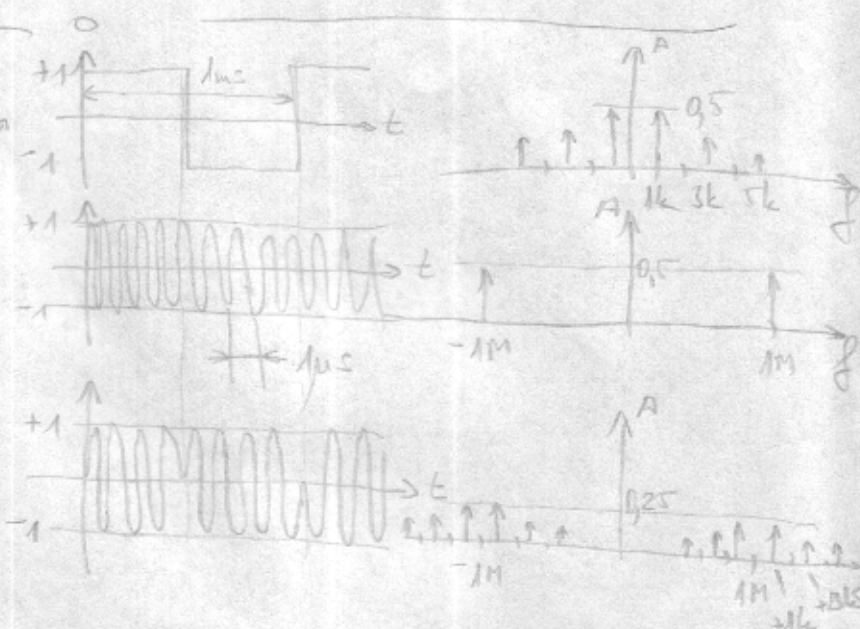
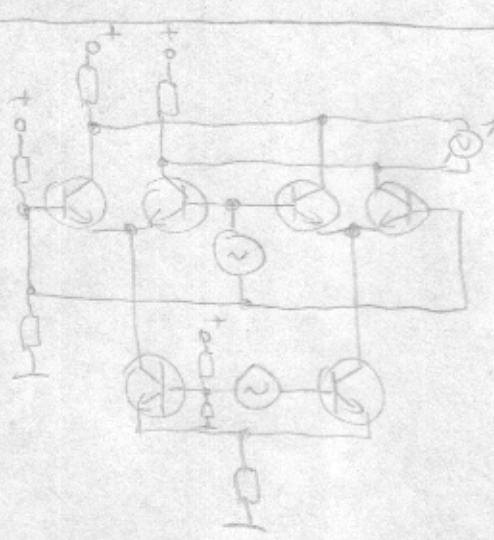
$N = \frac{80M}{80k} = 1000$

$M = \frac{36kHz}{80kHz} = 37500$

$f_{ci} = 36kHz \cdot \frac{PR}{2^{20}} = 876543210 \Rightarrow PR = 306374$

$f_{cu} = 80M \cdot \frac{M}{N} \cdot \frac{PR}{2^{20}} = 80M \cdot \frac{37500}{1000} \cdot \frac{306374}{2^{20}} = 876543045,04 kHz$   
 $\pm 10kHz$  error =  $\pm 110kHz$

2.) 10:52



3.) 11:01

