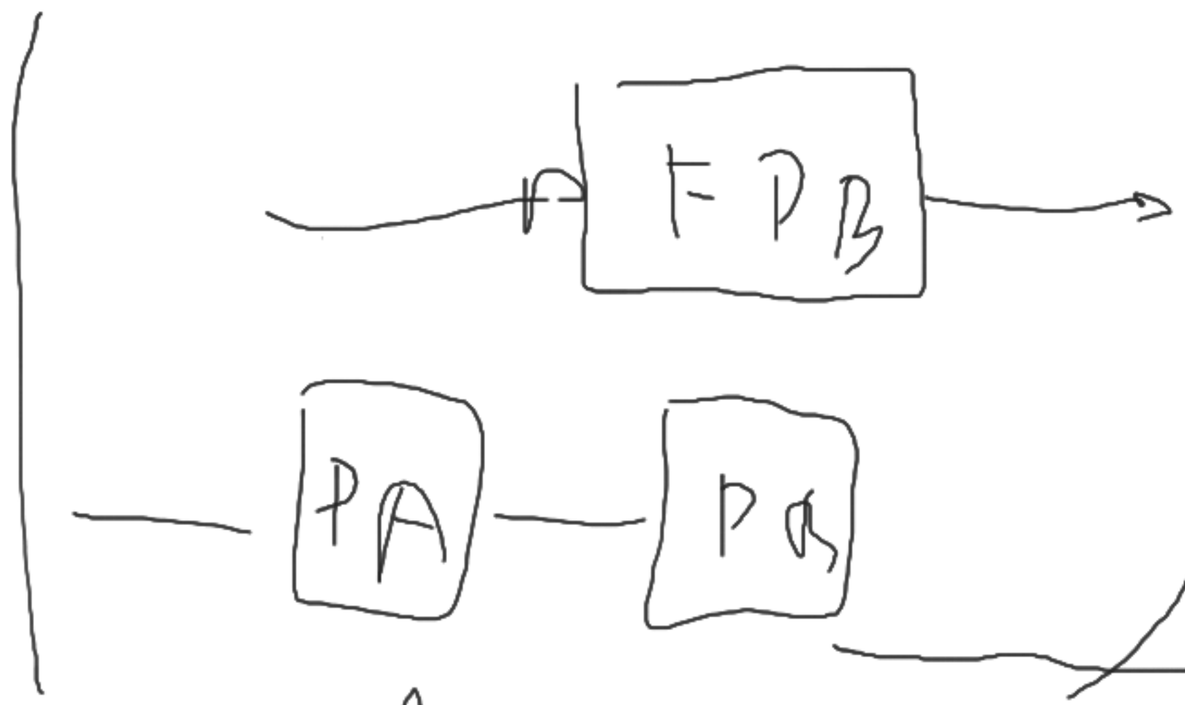
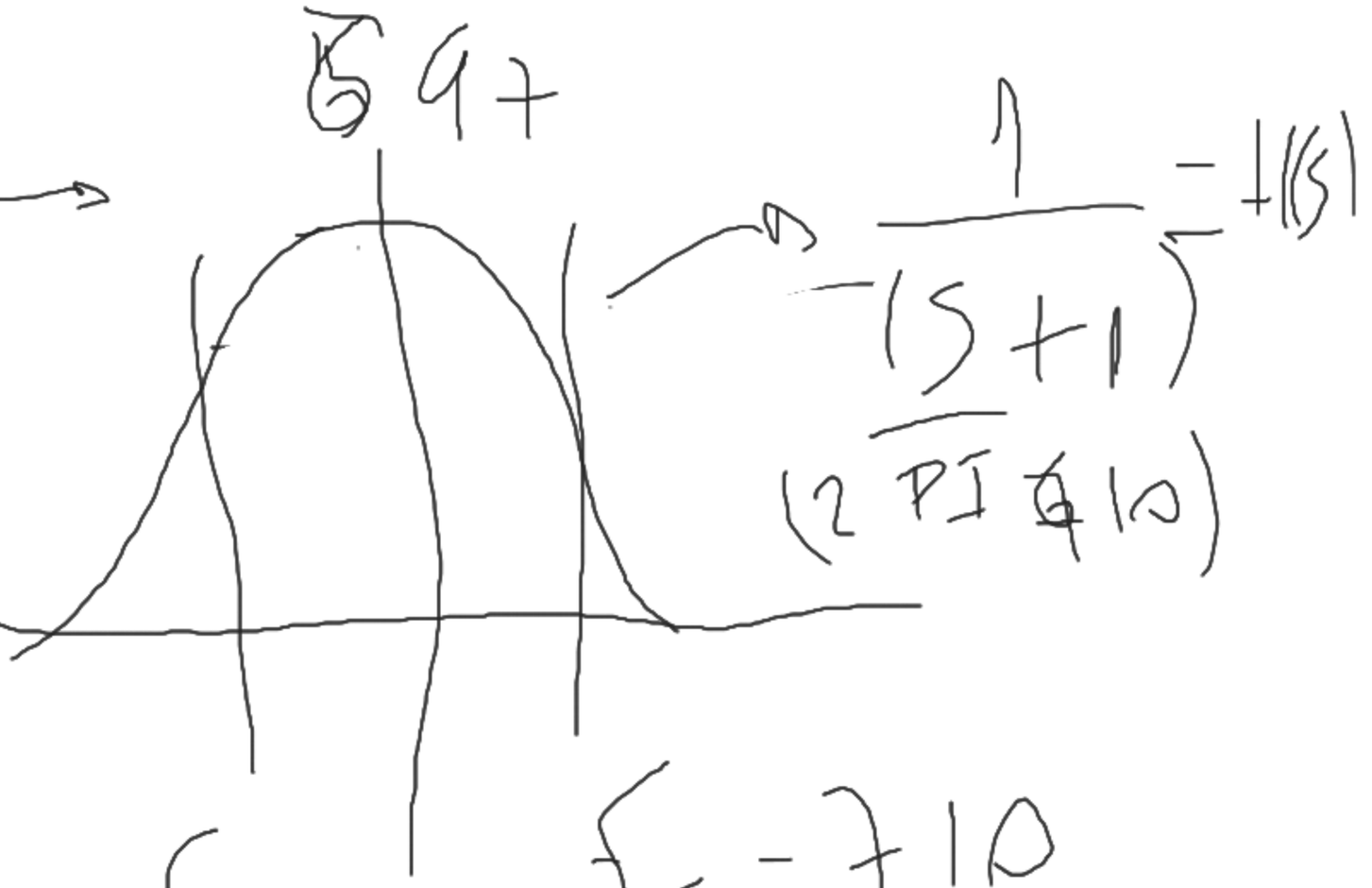




$$H(s) = \frac{1}{\frac{s}{5} + 1}$$

f_{c_1} f_c $f_{c_2} = 710$

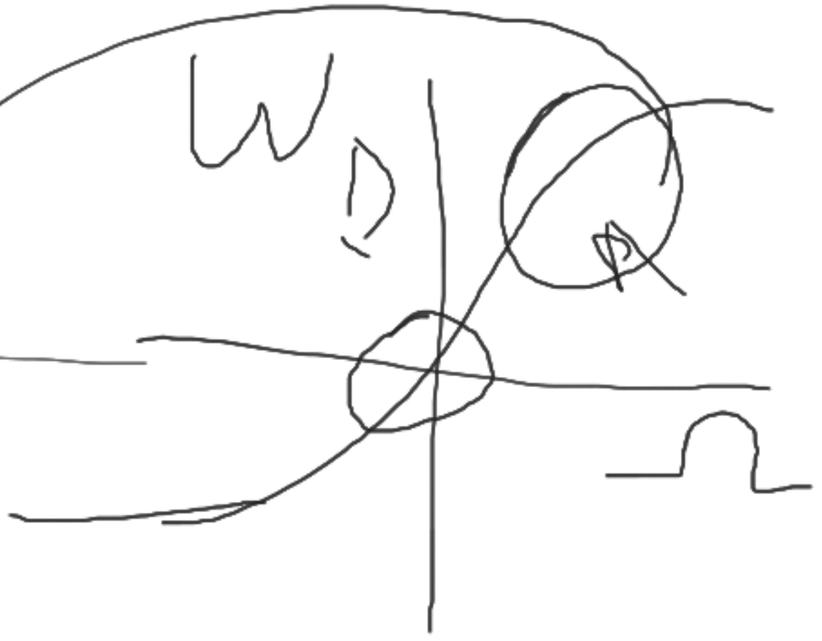
590

$$= \frac{1}{(\quad)} \cdot \frac{1}{(\quad)}$$

$$H(s) = \frac{1}{(s^2 + s + 1)} \rightarrow H(z)$$

$$H(z) = H(s)\Big|_{s = \frac{2}{T}\frac{(z^{-1} - 1)}{(z^{+1} + 1)}} = \frac{a_0 + a_1 z^{-1} + \dots}{1 + b_1 z^{-1} + \dots}$$

Warping



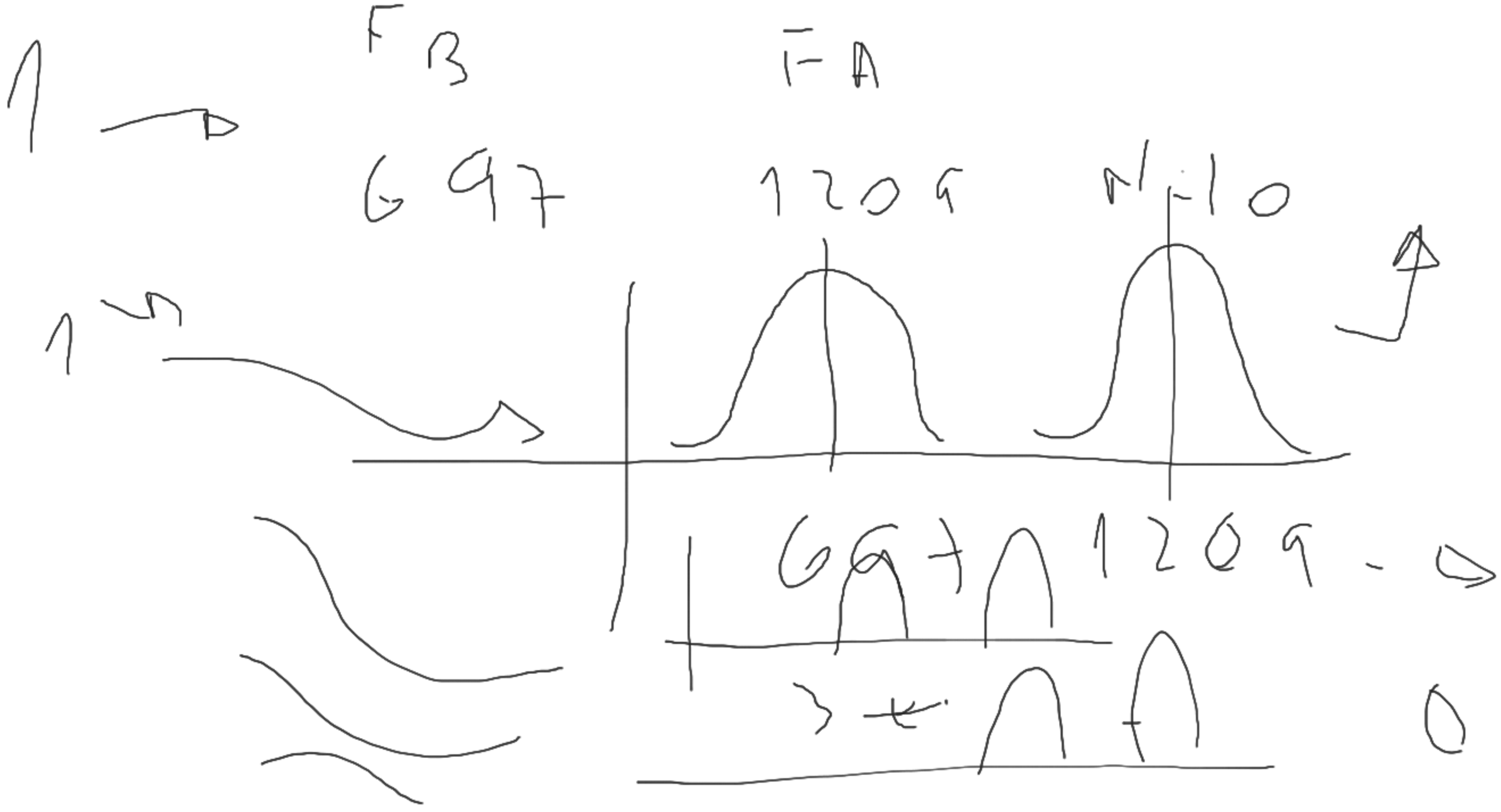
$$H(z) = H(s)\Big|_{s = \frac{2}{T}\frac{(z-1)}{(z+1)}}$$

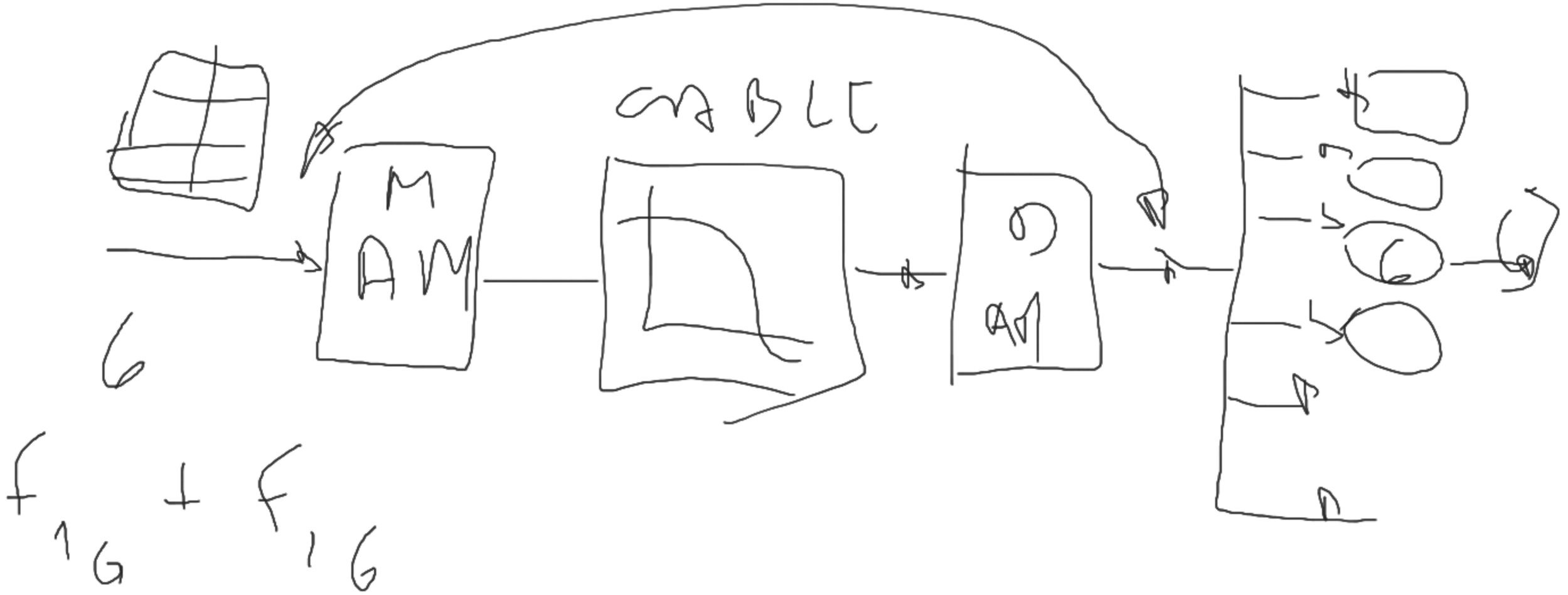
$f_D = 100\,Hz$ PREWarping

Pre-warping

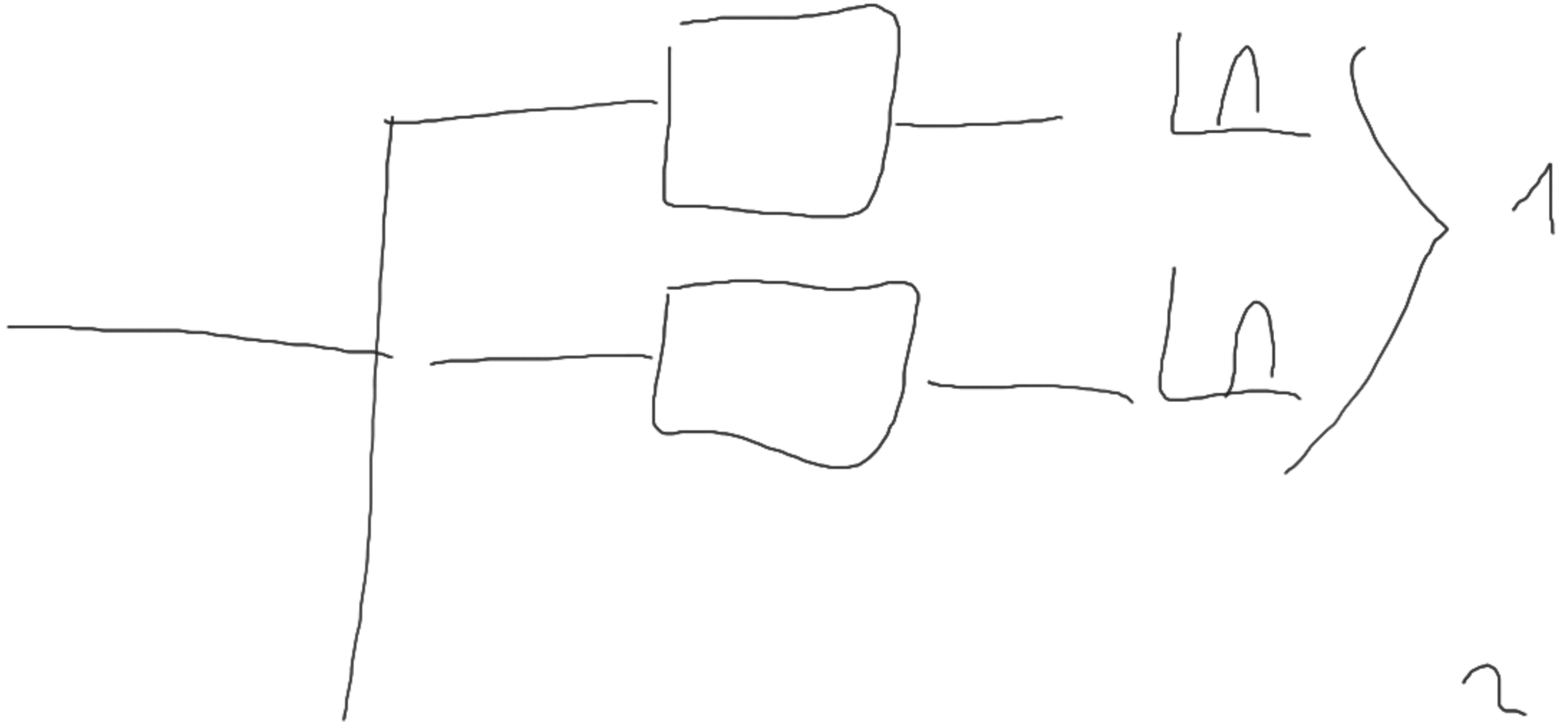
$$\Omega_A = \frac{2}{T_s} \tan\left(\omega_b \frac{T_s}{2}\right)$$

$$f_{c_D} = 100\,Hz \rightarrow \Omega_A = \frac{2}{44000} \tan\left(100\pi \frac{1}{44000}\right)$$


F B
F A
697
1209
1209



$f_{1G} + f_{1G}$


1
2
h