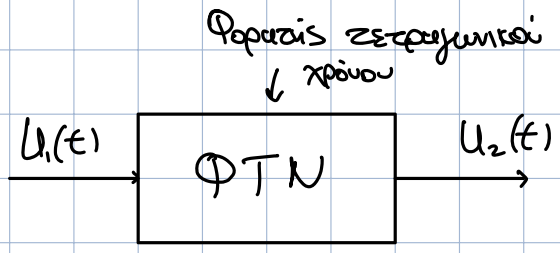
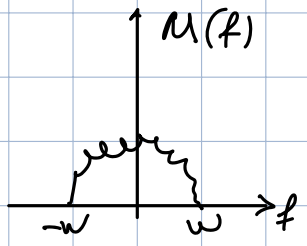
Κεφ 2-3 Ιδιότητες Μονάδες (Ραδιόφωνο)
Κεφ 5 Ιδιότητες Μονάδες (Τηλεπικοινωνιών)

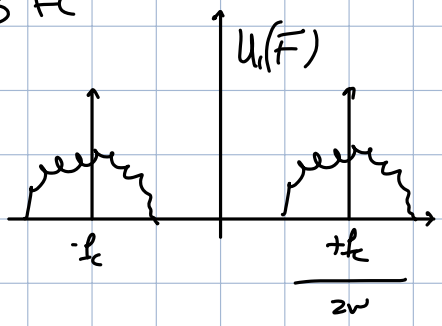
Άσκηση:

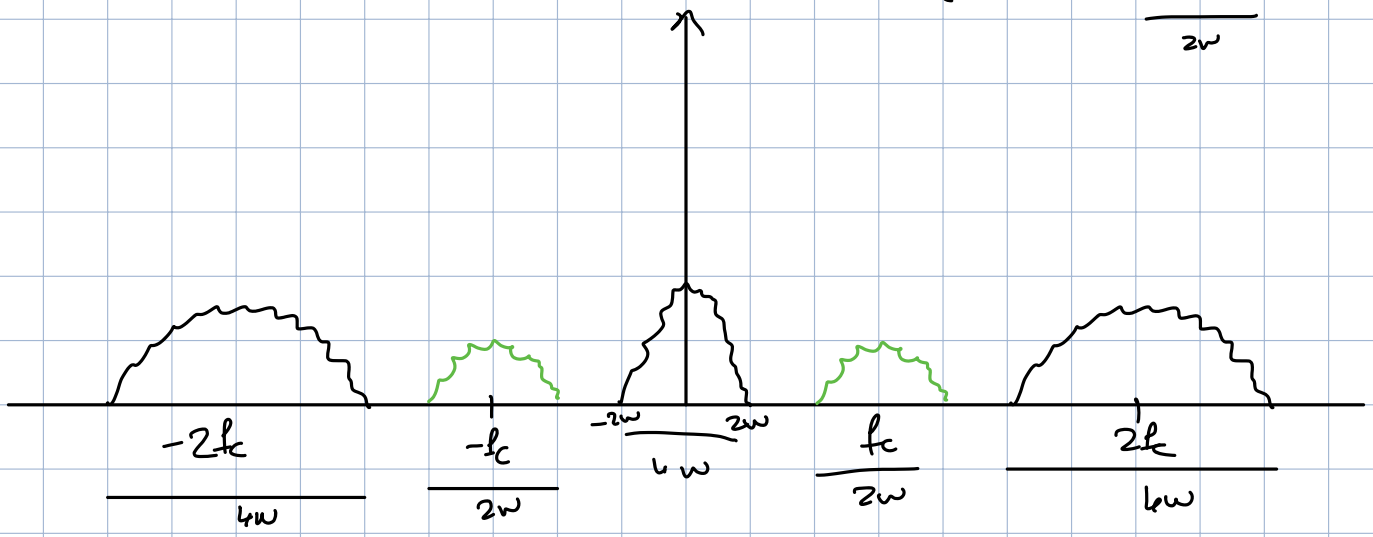




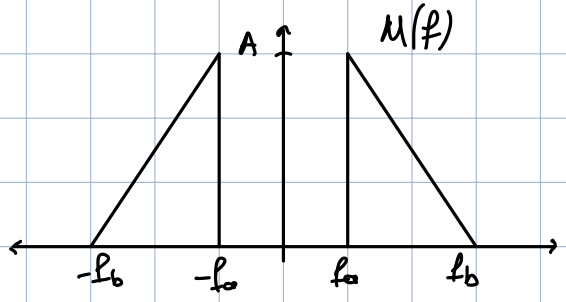
$$U_1(t) = A_c\left[1 + k_a\, m(t)\right]\cos(2\pi f_c t) \rightarrow \text{DSB FC}$$

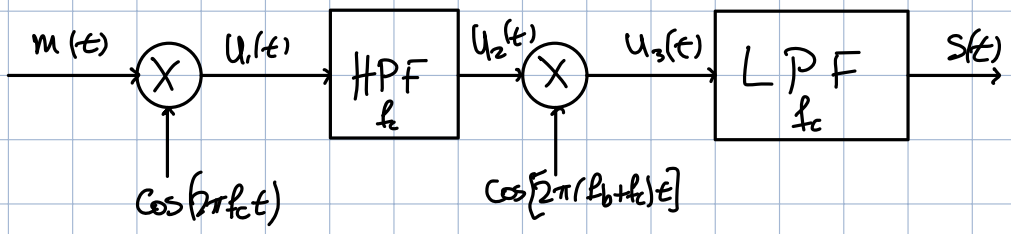
$$U_2(t) = a_1 U_1(t) + a_2 U_1^2(t)$$



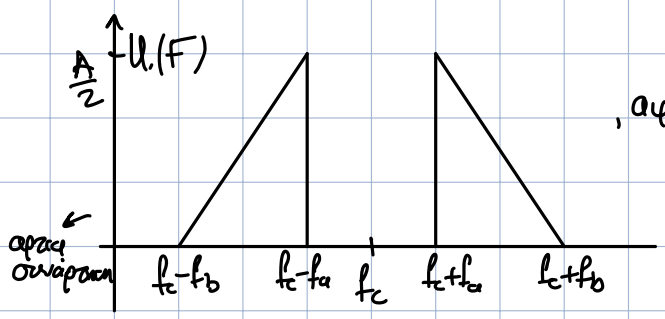


Άσκηση:

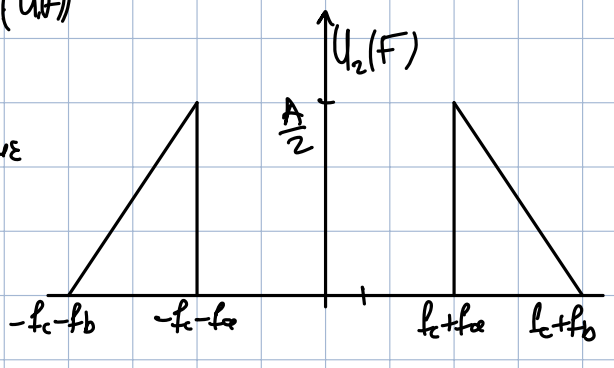


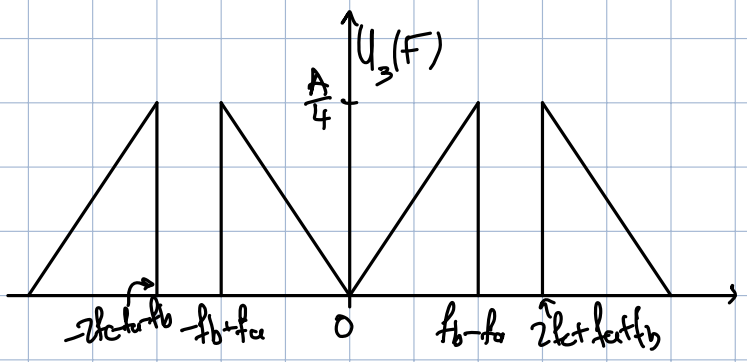


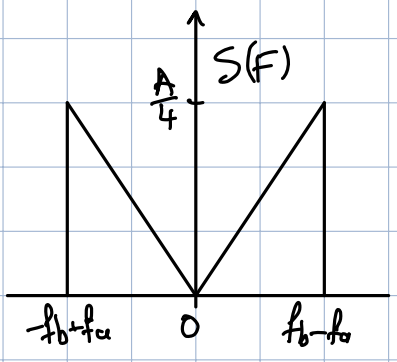
για ευκολία κάναμε μόνο για δεξιό πλευρικό (USF)



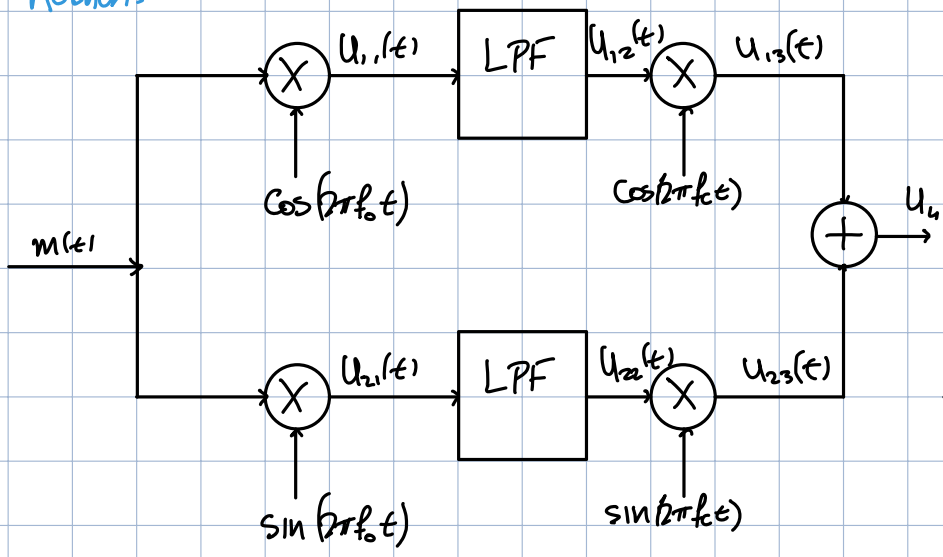
, αφού έχουμε HPF: f_c

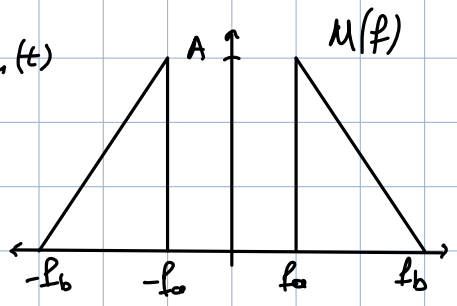






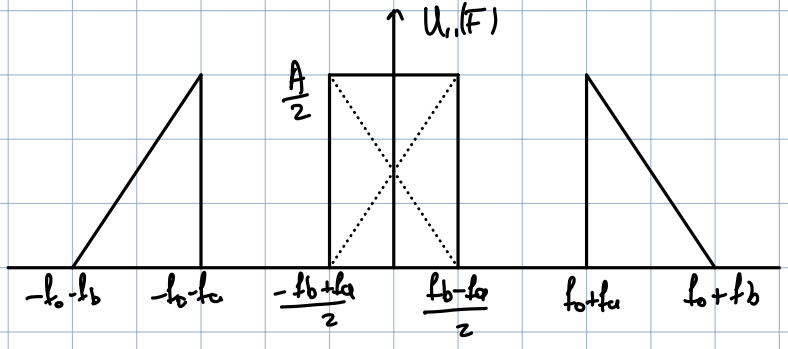
Άσκηση:

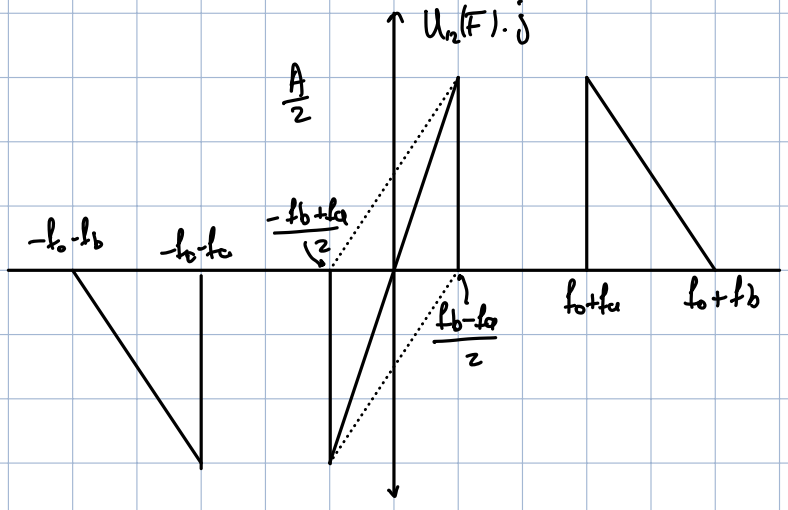




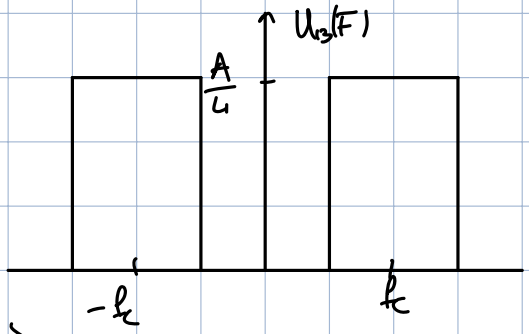
$$f_{LPF} = \frac{f_b - f_a}{2}$$

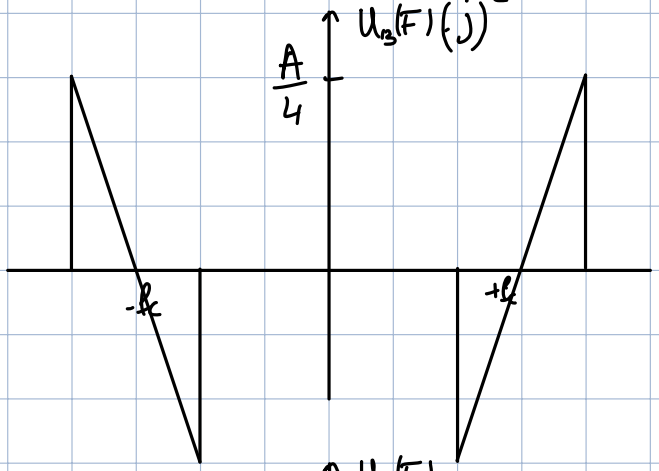
$$f_0 = \frac{f_a + f_b}{2}$$

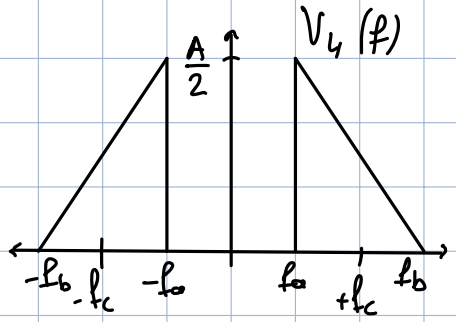


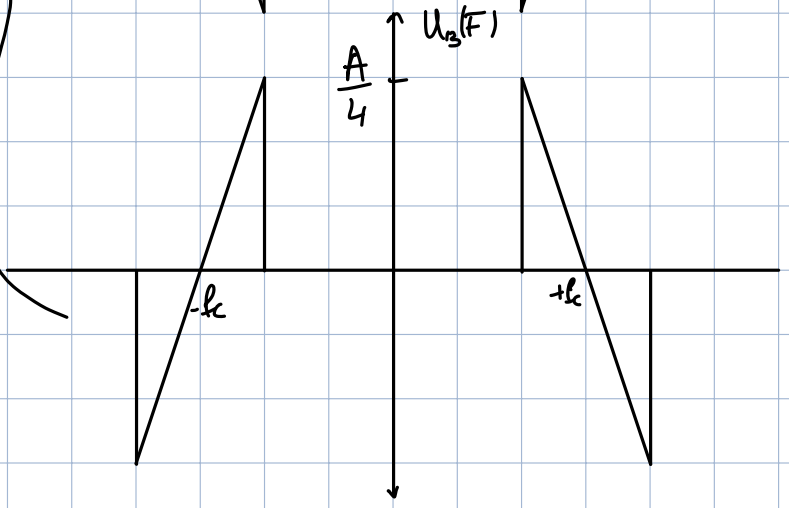


αρα έχουμε και σταθερό LPF, τότε καταλήγουμε στα $U_{22}(F)$ και $U_{12}(F)$ καταλήγουμε $\frac{-f_b+f_a}{2} < F < \frac{f_b-f_a}{2}$

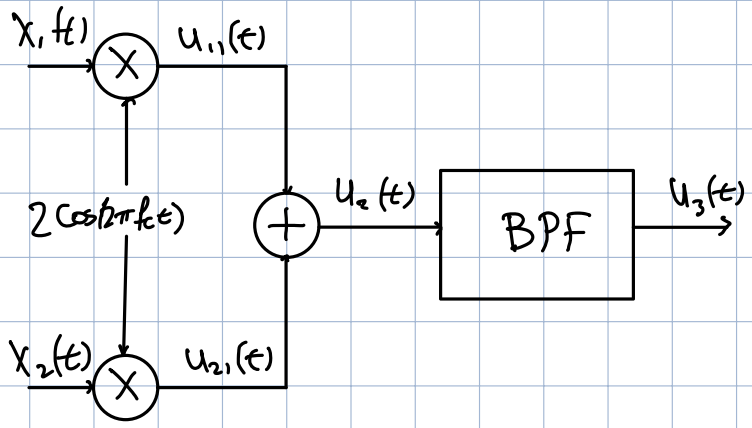

$U_{R3}(F)$
$\frac{A}{4}$
$-f_c$
f_c

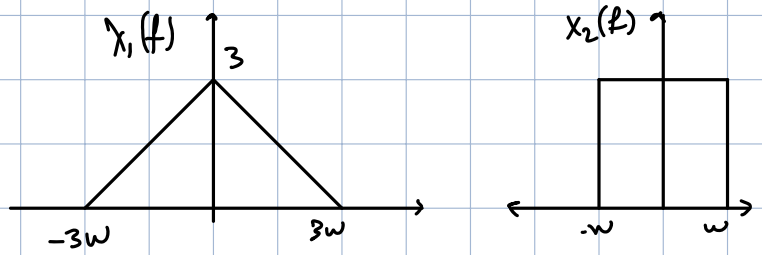

$U_{R3}(F)(j)^2$
$\frac{A}{4}$
$-f_c$
$+f_c$

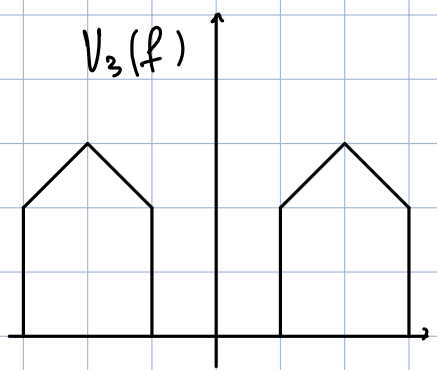

$V_4(f)$
$\frac{A}{2}$
$-f_b$
$-f_c$
$-f_a$
f_a
$+f_c$
f_b


$U_{R3}(F)$
$\frac{A}{4}$
$-f_c$
$+f_c$

Λύση:







$V_3(t) = \text{sinc}^2 \dots$