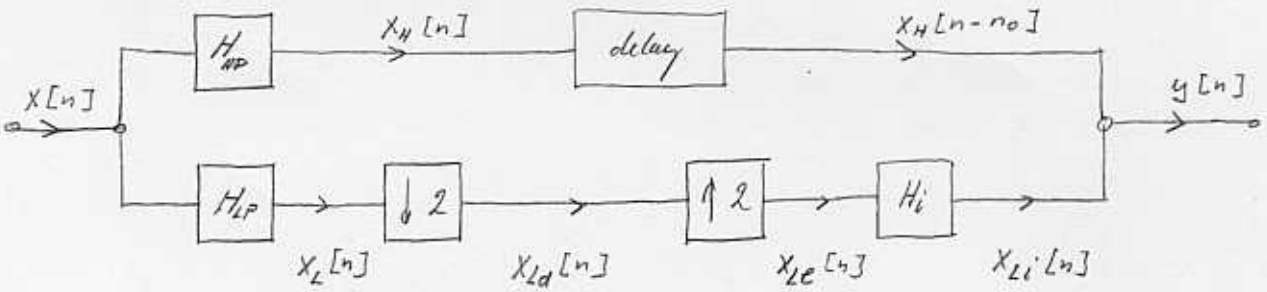
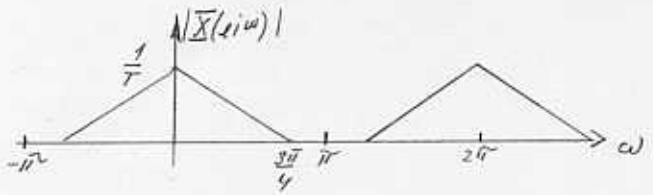
I - sig 2 øvelse 15



n_0 giver $x_H[n]$ en forsinkelse, der svarer til forsinkelsen i op- og nedsampling og interpolationsfilteret H_i.

$$H_{LP}(e^{j\omega}) = \begin{cases} 1 & \text{for } |\omega| \le \frac{\pi}{2} \\ 0 & \text{for } \frac{\pi}{2} < |\omega| < \tilde{\pi} \end{cases} \qquad H_{HP}(e^{j\omega}) = \begin{cases} 1 & \text{for } \frac{\pi}{2} < |\omega| < \tilde{\pi} \\ 0 & \text{for } |\omega| \le \frac{\pi}{2} \end{cases}$$

$$H_i(e^{j\omega}) = \begin{cases} 2 & \text{for } |\omega| \le \frac{\pi}{2} \\ 0 & \text{for } \frac{\pi}{2} < |\omega| < \tilde{\pi} \end{cases}$$



Skitser $|\underline{X}_L(e^{j\omega})|$, $|\underline{X}_{Ld}(e^{j\omega})|$, $|\underline{X}_{Le}(e^{j\omega})|$, $|\underline{X}_{Li}(e^{j\omega})|$ og $|\underline{X}_H(e^{j\omega})|$