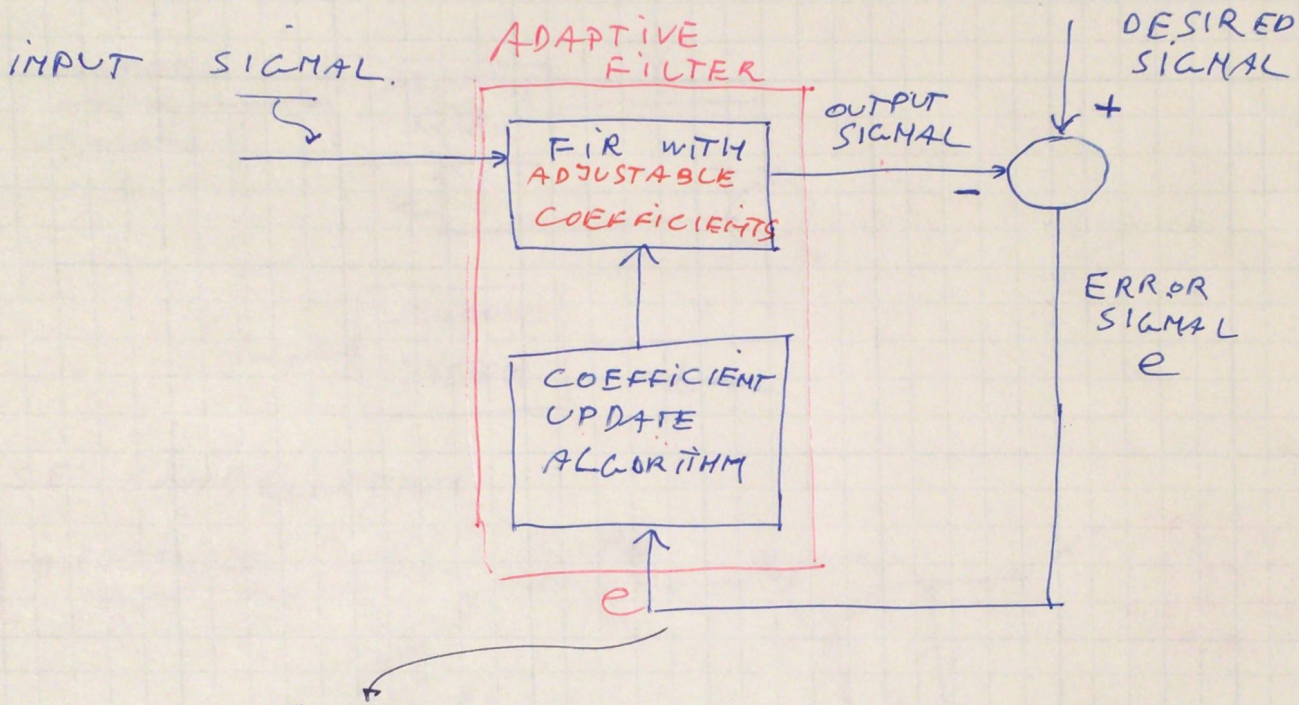


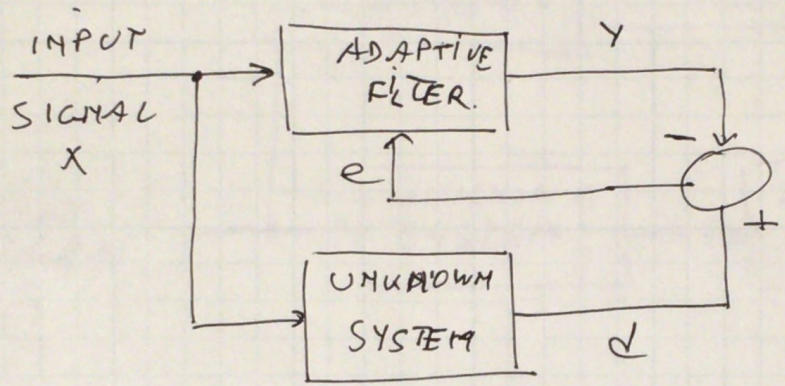
PURPOSE: $e \to 0$

$$E[e^2(n)] \sim 0$$

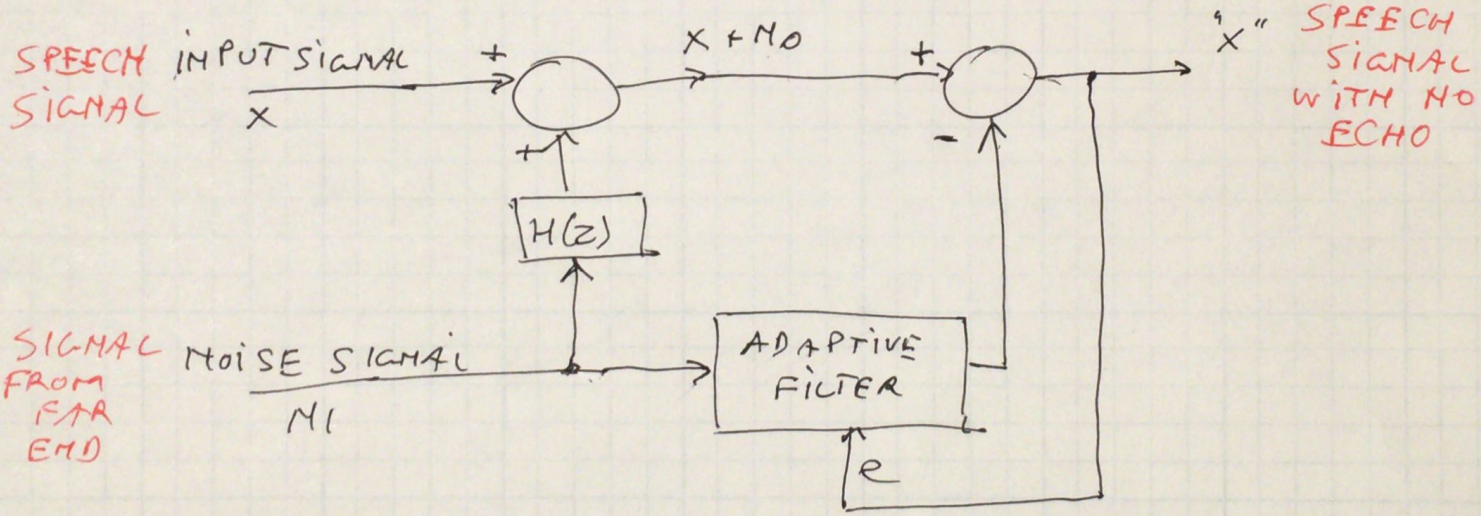
WHY?

1. SYSTEM IDENTIFICATION
2. NOISE CANCELLATION
3. EQUALIZATION
4. ADAPTIVE PREDICTION

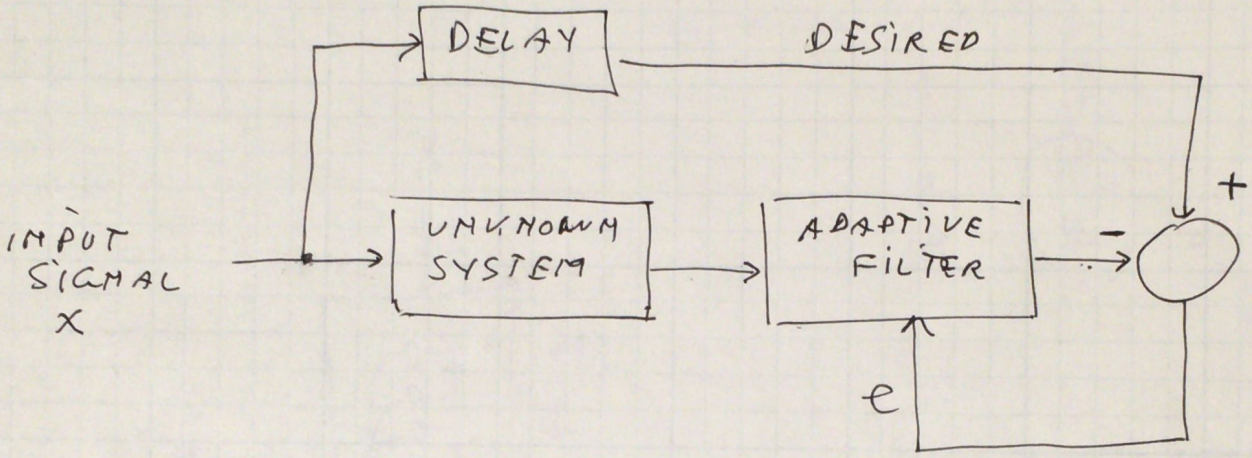
SYSTEM IDENTIFICATION



NOISE CANCELLATION



EQUALIZATION



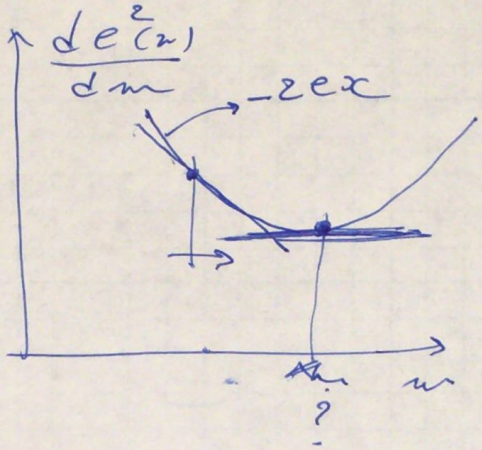
$\underline{w}^T \underline{x}$

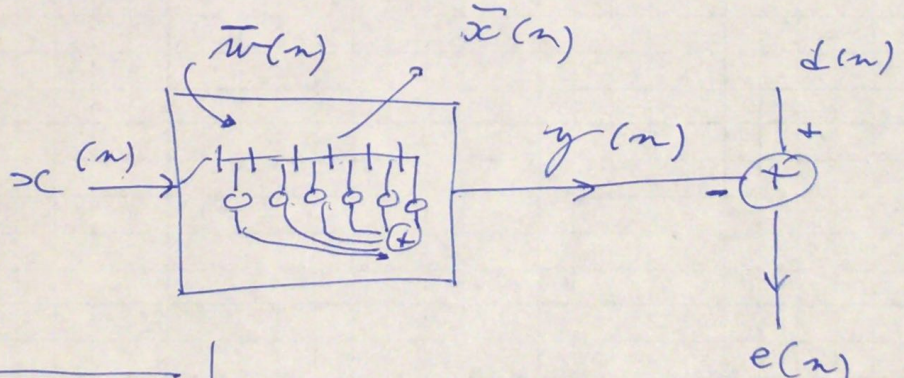
$=$

$\frac{\partial}{\partial \underline{w}} = -2\alpha \underline{x}^T \underline{w}$

$-2\alpha \underline{x}$

$=$





$= y$

$E[e^2(n)]$