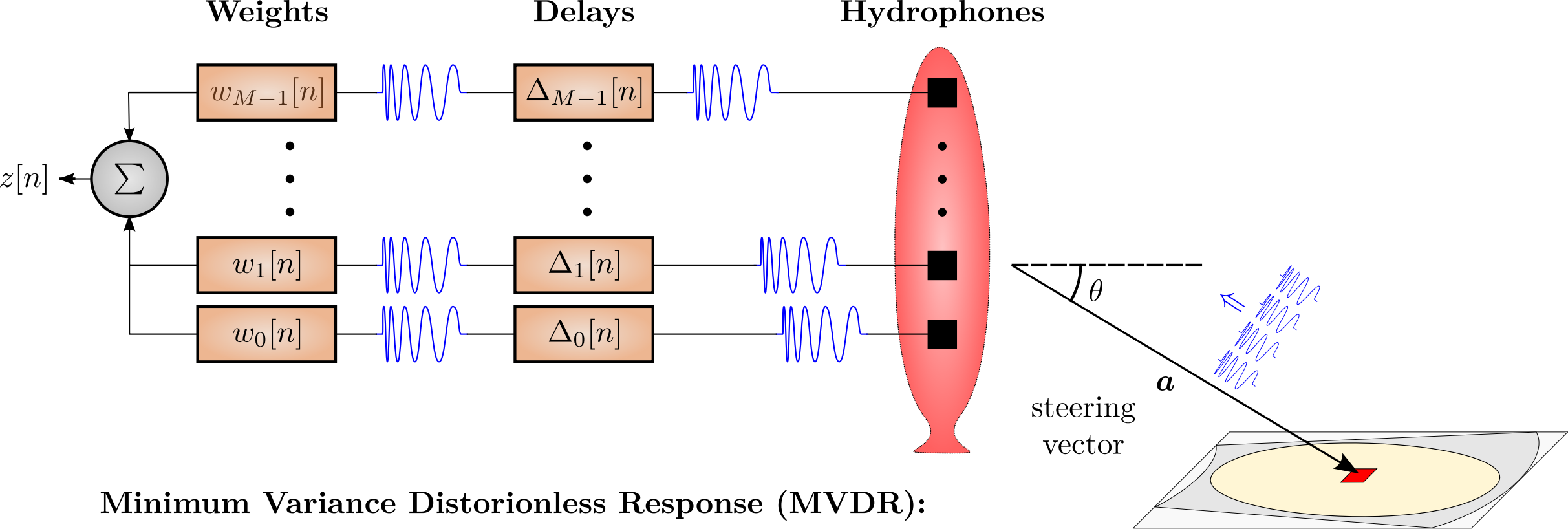

Minimum Variance Distorionless Response (MVDR):

$$z[n] = \boldsymbol{w}^H[n]\boldsymbol{x}[n] \qquad \text{where} \qquad \boldsymbol{w}[n] = \frac{\boldsymbol{R}^{-1}[n]\boldsymbol{a}}{\boldsymbol{a}^T\boldsymbol{R}^{-1}[n]\boldsymbol{a}} \qquad \text{and} \qquad \boldsymbol{R} = E\{\boldsymbol{x}[n]\boldsymbol{x}^H[n]\}$$

which is the solution to:

$$\min_{\boldsymbol{w}} E\{|z[n]|^2\} \qquad \text{subject to} \qquad \boldsymbol{w}^H[n]\boldsymbol{a} = 1$$

Optimization criteria:
Minimize beamformer output power

Constraint:
Unit gain in the look direction