$$x(k+1) = A_d\, x(k) + B_d\, v(k)$$

$$\begin{bmatrix} V_{C,k+1} \\ I_{L,k+1} \end{bmatrix} = \underbrace{\begin{bmatrix} a_{d1} & a_{d2} \\ a_{d3} & a_{d4} \end{bmatrix}}_{2\times 2} \underbrace{\begin{bmatrix} V_{C\alpha} \\ I_{f\alpha} \end{bmatrix}}_{2\times 3} + \begin{bmatrix} b_{d1} & b_{d2} \\ b_{d3} & b_{d4} \end{bmatrix} \begin{bmatrix} V_{i\alpha} \\ I_{L\alpha} \end{bmatrix}$$

$$V_{C,k+1} = \underbrace{\underbrace{[a_{d1}\ a_{d2}]}_{A_{dV}}}_{1\times 2} \underbrace{\begin{bmatrix} V_{C\alpha} \\ I_{f\alpha} \end{bmatrix}}_{2\times 1} + \underbrace{\underbrace{[b_{d1}\ b_{d2}]}_{B_{dV}}}_{1\times 2} \underbrace{\begin{bmatrix} V_{i\alpha} \\ I_{L\alpha} \end{bmatrix}}_{2\times 1}$$

1×1 $\qquad$ 1×1

$A_d = F$

$B_d = H : 1\times 2$

$V_{ref} = V_{ref\alpha}$