Port 1		Cavity		Port 2
$egin{aligned} a_1^{ ext{in}} & \longrightarrow \ a_1^{ ext{out}} & \longleftarrow \end{aligned}$	$\kappa_1$	$\longleftarrow a \longrightarrow \ H = \hbar \omega_0 a^\dagger a$	$\kappa_2$	$\overset{\longleftarrow a_2^{ ext{in}}}{\longrightarrow a_2^{ ext{out}}}$