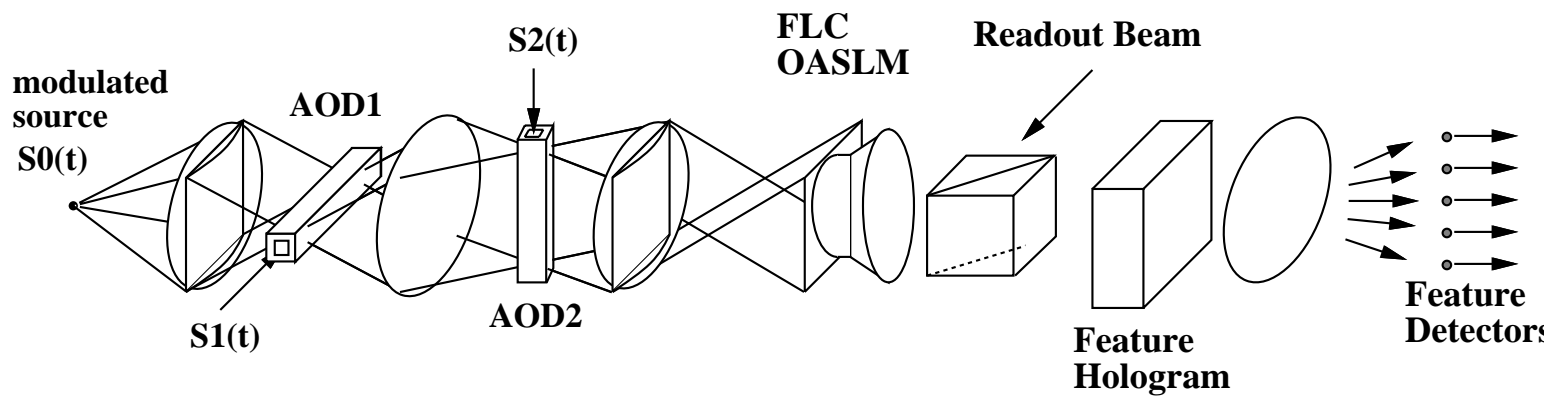


Throughput of Radar Target Recognition System



**Architectural
Potential**

**Experimentally
Demonstrated**

$N=3$

Number of Inputs

$B=10^8-10^9 \text{ Hz } (2 \times 10^7)$

Input Bandwidth

$B_0 = 10^4 \text{ Hz}$

Output Bandwidth– FLC SLM limited

$B_0 = 10 \text{ Hz}$

Output Bandwidth– Hughes SLM limited

$M=m \times m = 10^6 \quad (5 \times 10^4)$

Fan-out

$k = \lg P / m = \lg(B/B_0) / m$

Algorithmic Inefficiency

$Mk = 2 \times 10^4 \quad (4 \times 10^3)$

Including algorithmic inefficiency

$Q=1000 \quad (10)$

Number of stored Holograms

$NBMk + QB_0 Mk' = 7 \times 10^{14}$
 (3×10^{11})

Computational Throughput