

2-Bit Multiplier scratch work/design

Truth Table

On the instructions

		B ₁ , B ₀		P ₀	
		00	01	11	10
A ₁ , A ₀		00	0	0	0
		01	0	1	1
		11	0	1	1
		10	0	1	0

Key:

$$\textcircled{1} \quad P_0 = A_0 B_0$$

$$\textcircled{s} \quad P_1 = \overline{B}_1 B_0 A_1 + A_1 \overline{A}_0 B_0 + \overline{A}_1 A_0 B_1 + B_1 \overline{B}_0 A_0$$

$$\textcircled{\square} \quad P_2 = A_1 \overline{A}_0 B_1 + B_1 \overline{B}_0 A_1$$

$$\textcircled{0} \quad P_3 = A_1 A_0 B_1 B_0$$

