2 Bit ALU USING CMOS LOGIC

I | OPERATIONS

I0| A<B (COMPARATOR)
I1| A=B (COMPARATOR)
I2| A>B (COMPARATOR)
I3| A XOR B (SUM)o = (SUB)o
I4| A XOR B XOR Co (SUM)1
I5| A1B1 + (A XOR B)Co (CARRY)
I6| A XOR B XOR Bo (SUB)1
I7| A1'B1 + (A XOR B)'Bo (BORROW)
I8| AoBo (Po) (MULTIPLIER)
I9| AoB1 XOR A1Bo (P1) (MULTIPLIER)
I10| AIB1 XOR C1 (P2) (MULTIPLIER)
I11| A1B1C1 (P3) (MULTIPLIER)

S1,S0| OPERATIONS

00 | COMPARATER(Yo= a<B, Y1= A=B, Y2= A>B)
01 | ADDER(Yo= (SUM)o, Y1= (SUM)1, Y2= CARRY)
10 | SUBSTRACTOR(Yo= (DIFFERENCE)o, Y1= (DIFFERENCE)1, Y2= BORROW)
11 | MULTIPLIER(Yo= Po, Y1= P1, Y2= P2, Y3= P3) (RESULT= P3 P2 P1 Po)

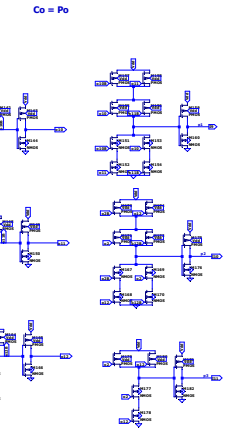
INPUTS

2 Bit ADDER

2 Bit SUBSTRACTOR

2 Bit COMPARATOR

2 Bit MULTIPLIER



OPERATION