

February 1, 1984  
POLY.LST

# A NIBBLE BINARY TO POLYCODE CONVERTER

Let:

'Bn' be the 'n'th bit of the binary number 'B' and  
'Pn' be the 'n'th bit of the polycode number 'P'.

Objective: Convert B to P

TRUTH TABLES			MAPS			
B	P	Hex	P3:	B3	P2:	B3
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0000	0000	0		0 0 0 0		0 0 1 1
0001	0001	1				
0010	0011	2		0 0 1 1	0 1 1 0	
0011	0111	3		B0	B0	B0
0100	1111	4		1 1 1 0	1 0 0 0	
0101	1110	5	B2	B2		
0110	1101	6		1 1 0 1	1 1 1 0	
0111	1010	7		----	----	
1000	0101	8		B1	B1	
1001	1011	9				
1010	0110	A	P1:	B3	P0:	B3
1011	1100	B		----		----
1100	1001	C		0 1 1 0		0 1 0 1
1101	0010	D				
1110	0100	E		0 1 0 1	1 1 0 1	
1111	1000	F		B0	B0	B0
			1 1 0 1	0 0 0 0		
			B2	B2		
			1 0 0 0	1 1 0 1		
			----	----		

B1

B1

$$\begin{aligned} /P3 &= /B3*/B2+/B2*/B0+B3*B1*/B0+B3*B2*/B1*B0 \\ /P2 &= /B3*/B2*/B0+/B2*/B1*B0+B2*B1*B0+B3*B2*/B1 \\ /P1 &= /B3*/B2*/B1+B3*/B1*/B0+B3*B1*B0+B2*B1*/B0 \\ /P0 &= /B3*/B2*/B1*/B0+B3*B1+B2*B0 \end{aligned}$$

# DYNAMIC 4-BIT PRESETTABLE POLYCODE COUNTER WITH TERMINAL COUNT TO ZERO

