

The HD-0615 Keyboard Encoder is a 16 line to four-bit parallel encoder intended for use with manual data entry devices such as calculator or typewriter keyboards. In addition to the encoding function, there is a Strobe output and a Key Rollover output which energises whenever two or more inputs are energised simultaneously. Any four-bit code can be implemented by proper wiring of the input lines. Inputs are normally wired through the key switches to the +5.0V power supply. Full typewriter encoding up to eight bits can be accomplished with two Encoder circuits by the use of double pole key switches or single pole switches with two isolation diodes per key. Outputs will interface with all popular DTL and TTL logic families. The circuit is packaged in a hermetic 24-pin dual in-line package and operates over the temperature range of 0°C to + 75°C.

TRUTH TABLE																					
INPUTS																OUTPUTS					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4	Σ	K_{RO}
L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	M	H	H	H	H	M
M	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	M	H	H	H	L	M
L	M	L	L	L	L	L	L	L	L	L	L	L	L	L	L	M	L	M	H	L	M
L	L	M	L	L	L	L	L	L	L	L	L	L	L	L	L	M	L	M	H	L	M
L	L	L	M	L	L	L	L	L	L	L	L	L	L	L	L	M	H	L	M	H	M
L	L	L	L	M	L	L	L	L	L	L	L	L	L	L	L	M	H	L	M	H	M
L	L	L	L	L	M	L	L	L	L	L	L	L	L	L	L	M	H	L	M	H	M
L	L	L	L	L	L	M	L	L	L	L	L	L	L	L	L	M	H	L	M	H	M
L	L	L	L	L	L	L	M	L	L	L	L	L	L	L	L	M	H	L	M	H	M
L	L	L	L	L	L	L	L	M	L	L	L	L	L	L	L	M	H	L	M	H	M
L	L	L	L	L	L	L	L	L	M	L	L	L	L	L	L	M	H	L	M	H	M
L	L	L	L	L	L	L	L	L	L	M	L	L	L	L	L	M	H	L	M	H	M
L	L	L	L	L	L	L	L	L	L	L	M	L	L	L	L	M	H	L	M	H	M
L	L	L	L	L	L	L	L	L	L	L	L	M	L	L	L	M	H	L	M	H	M
L	L	L	L	L	L	L	L	L	L	L	L	L	M	L	L	M	H	L	M	H	M
L	L	L	L	L	L	L	L	L	L	L	L	L	L	M	L	M	H	L	M	H	M
ANY TWO OR MORE HIGH																X	X	X	X	L	L

ELECTRICAL CHARACTERISTICS

	PARAMETER	SYM.	LIMITS			UNITS	TEST CONDITIONS
			MIN	TYP	MAX		
D.C.	Input Current	"1" I_{IH}			17	mA	$V_{IH} = +5.0V$
	Output Voltage	"0" V_{OL}		+0.2	+0.4	V	$V_{IH} = +4.5V$ $I_{OL} = 10mA$ $V_{IH} = +3.5V$ $I_{OL} = 3.2mA$
		"1" V_{OH}	+2.4	+4.0			$V_{IL} = \text{Open Circuit, } I_{OH} = -240 \mu A$
	Power Supply Current	Operating I_{CC}			52	mA	One Input at +5.25V
A.C.		Maximum I_{CCM}			88	mA	All Inputs at +5.25V
	Skew Time (Note 1)	T_{SK}	80	200	ns		$T_{CASE} = 75^{\circ}C$ $V_{CC} = V_{IH} + 5.0V$ $C_L < 50pF$

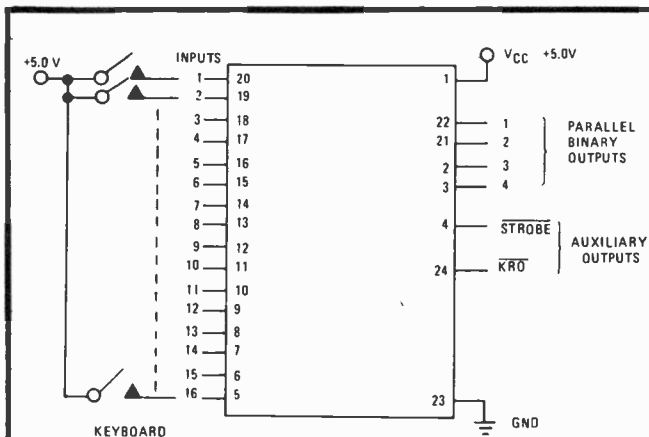


Figure 1. GENERAL CONFIGURATION FOR ENCODING TWO TO SIXTEEN KEYS

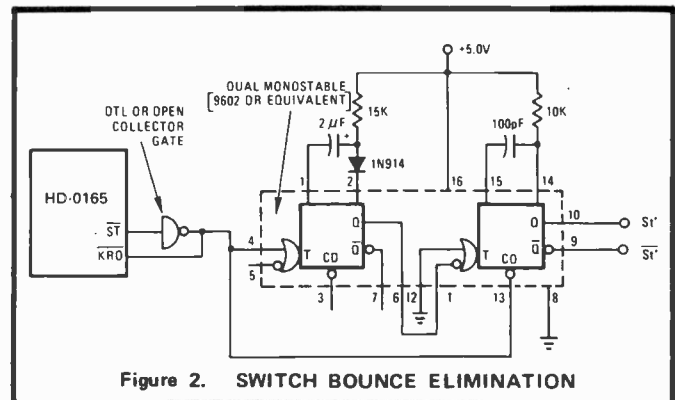


Figure 2. SWITCH BOUNCE ELIMINATION

THE ENCODER IS AVAILABLE FROM PRONTO ELECTRONICS, ADDRESS PAGE 39, FOR £8.10 inc.

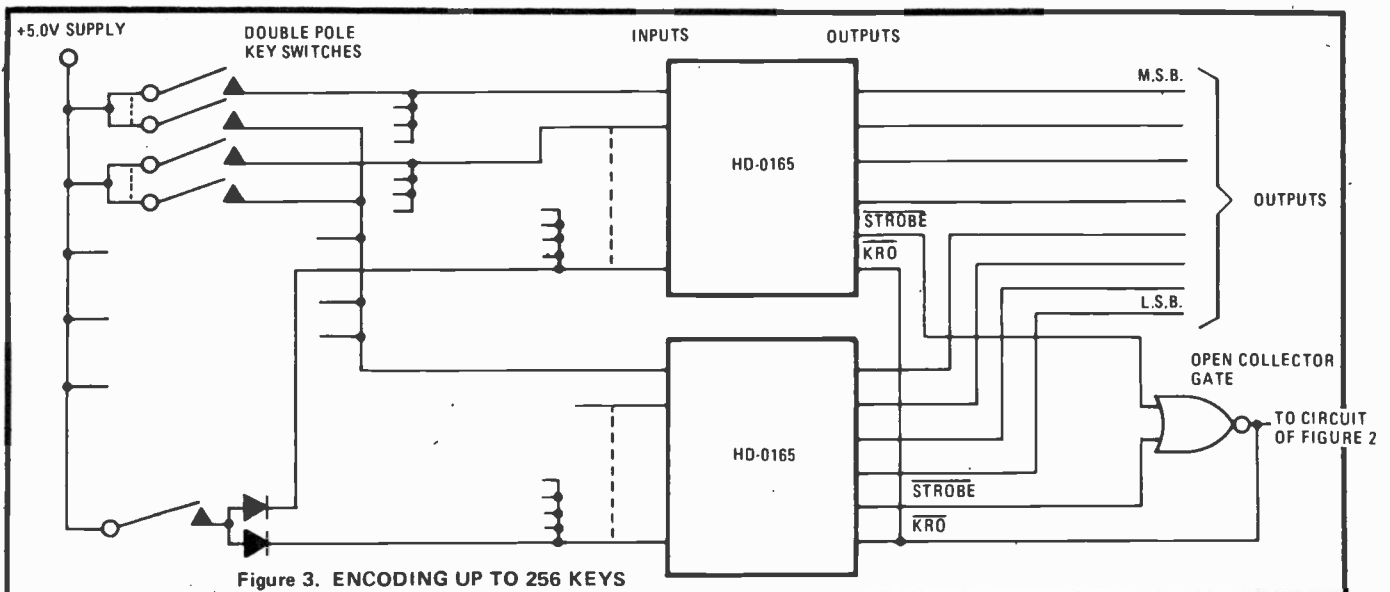


Figure 3. ENCODING UP TO 256 KEYS