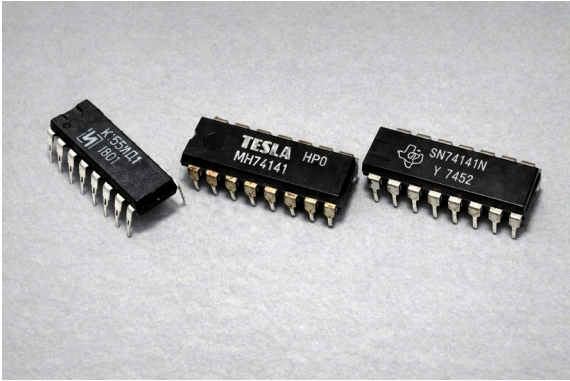
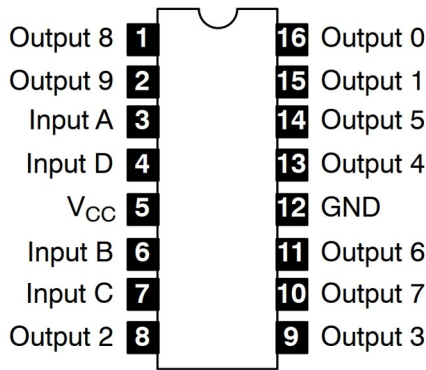


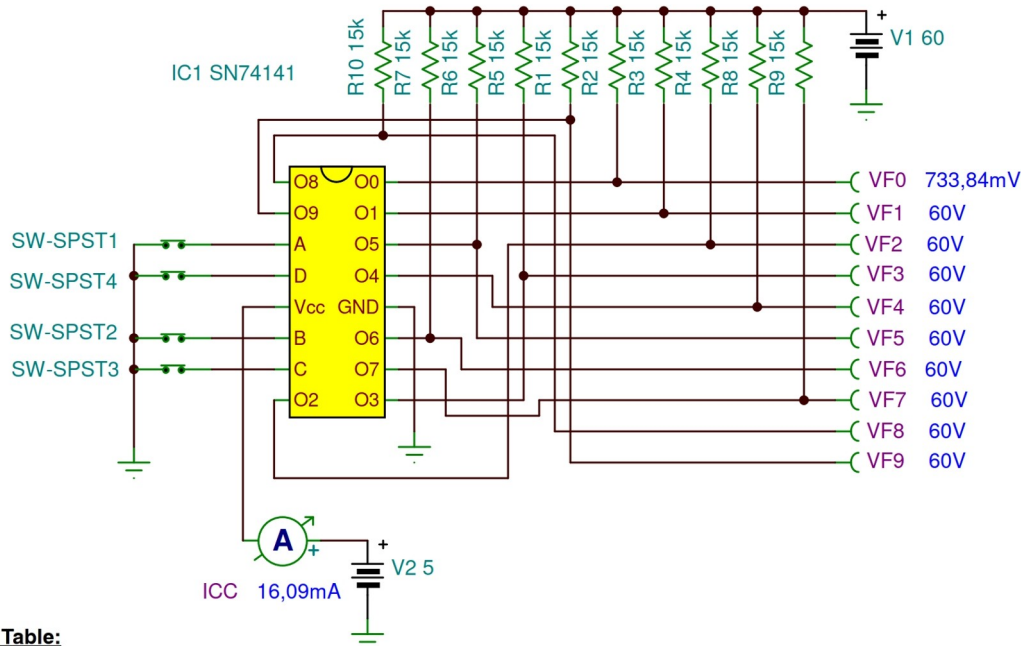
SN74141 BCD- to- Decimal Decoder/Driver SPICE Macro Model

The SN74141 is designed specifically to drive cold-cathode indicator tubes. Full decoding is provided for all possible input states. For binary inputs 10 through 15, all the outputs are off. This model is valid for the following devices: MH74141, K155ID1, μ PB74141.

Pin Connection Diagram



Typical DC Characteristics



Function Table:

Input				Output ON †
D	C	B	A	
L	L	L	L	0
L	L	L	H	1
L	L	H	L	2
L	L	H	H	3
L	H	L	L	4
L	H	L	H	5
L	H	H	L	6
L	H	H	H	7
H	L	L	L	8
H	L	L	H	9
H	L	H	L	NONE
H	L	H	H	NONE
H	H	L	L	NONE
H	H	L	H	NONE
H	H	H	L	NONE
H	H	H	H	NONE

H = HIGH Level, L = LOW Level

† All other outputs are OFF

Since these decoder circuits have become quite rare and expensive, it may be advantageous to use multiplexed control for the Nixie tubes. In this configuration, only a single decoder is required. The cathodes are connected in parallel to the decoder outputs, while the anodes are switched to 170–180 V through a resistor using a high-voltage NPN/PNP transistor pair. A six-digit display therefore needs a total of ten control signals: four for the decoder inputs and six for enabling the individual Nixie tubes. The multiplexing frequency should be in the range of 50–150 Hz.