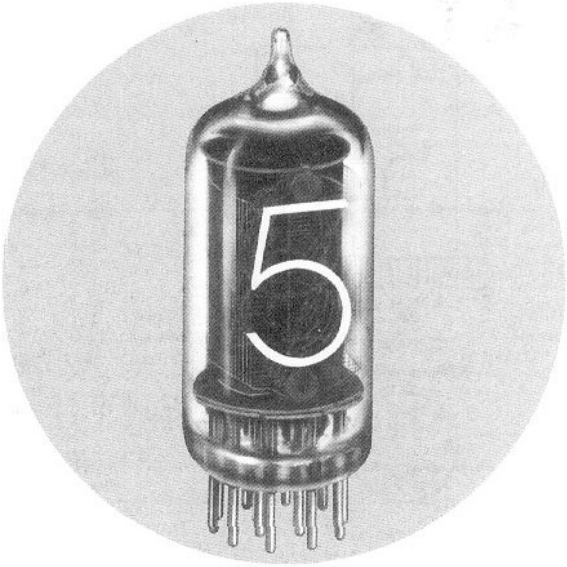
NL-840/8754, NL-841, NL-842, NL-843 & NL-848
NUMERICAL READOUT TUBES

National Electronics Readout tubes **NL-840, NL-841, NL-842, NL-843** and **NL-848** are ultra-long life cold cathode numerical display tubes. The side view configuration, small height and light weight allow flexible imaginative packaging. A maximum envelope width of .750″ allows less than .800″ center to center spacing to make optimum use of panel spacing providing an attractive display.



NL-840 is a 10 character display tube, numerals **0 to 9.**

NL-841 is a 10 character display tube, numerals **0 to 9** with an independent decimal point to the left of the numerals.

NL-842 is a 10 character display tube, numerals **0 to 9** with an independent decimal point to the right of the numerals.

NL-843 is a 2 character display tube, symbols + and —.

NL-848 is a 10 character display tube, numerals **0 to 9** with independent decimal points to the left and right of the numerals. Write for technical data.

TECHNICAL INFORMATION

Ionization Voltage (Maximum)	170 Vdc
Supply Voltage (Minimum)	170 Vdc
Cathode Current	
Peak (Maximum)	3.5 ma
Average (Maximum)	3.0 mA
Average (Minimum)	1.5 mA
Decimal Point Current	
Average (Maximum)	0.5 mA
Average (Minimum)	0.2 mA
Prebias Limits	+50V to +120V dc
Temperature Limits	−20°C to +55°C
(Reduced Life)	−65°C to +85°C
Life (Dynamic)	200,000 Hours
Weight	0.3 oz.
Mounting Position	Vertical with pins 1 & 10 in front

Recommended Operating Conditions:

NL-840 - NL-843

Supply Voltage (Ebb)	170Vdc	250Vdc	300Vdc
Anode Resistor (Rp)	8.2KΩ	43KΩ	62KΩ

NL-841 - NL-842

(a) When the decimal point is to be operated only while another character is on:

Supply Voltage (Ebb)	170Vdc	250Vdc	300Vdc
Anode Resistor (Rp)	8.2KΩ	35KΩ	52KΩ

(b) When the decimal point is to be operated with or without another character it is recommended individual cathode resistors be used with no resistor in the anode circuit.

Supply Voltage (Ebb)	170Vdc	250Vdc	300Vdc
Numeral Resistor (Rk)	10KΩ	43KΩ	62KΩ
Decimal Point Resistor (Rd)	72KΩ	330KΩ	500KΩ

Note: Use of the highest voltage available with the appropriate resistor is recommended.

Printed in U.S.A. 7/69

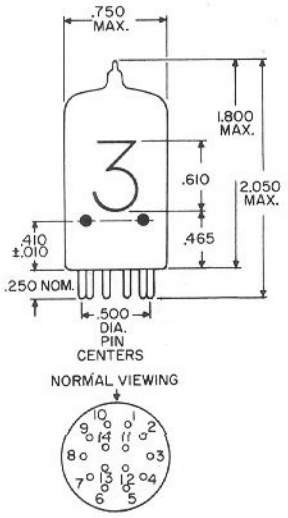
NATIONAL ELECTRONICS, INC.

a varian subsidiary

GENEVA, ILLINOIS, 60134

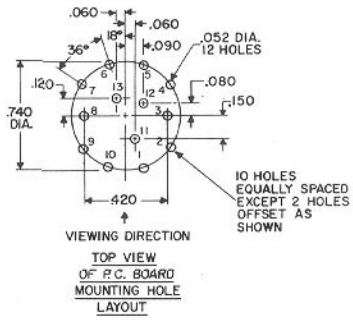
TELEPHONE 312 232-4300
TWX 910 237-1685

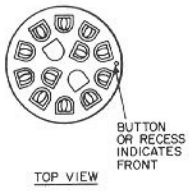
NL-840/8754, NL-841, NL-842, NL-843 & NL-848
NUMERICAL READOUT TUBES

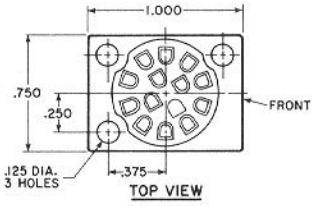


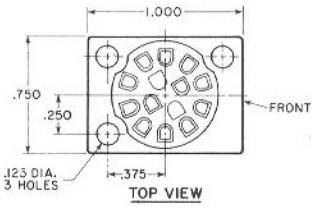
Pin Number	NL840	NL841 NL842	NL-843	NL-848
1	7	7		7
2	5	5		5
3	8	8		8
4	Anode	Anode	Anode	Anode
5	1	1		1
6	4	4	+	4
7	2	2	-	2
8	6	6		6
9	9	9		9
10	3	3		3
11	Int. Conn.	Decimal Pt.	No Conn.	L.Dec.Pt.
12	No Pin	No Pin	No Pin	R.Dec.Pt.
13	0	0	Int. Conn.	0
14	Int. Conn.	Int. Conn.	Int. Conn.	Int. Conn.

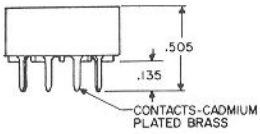
PRINTED CIRCUIT MOUNTING HOLE LAYOUT
- TOP VIEW -

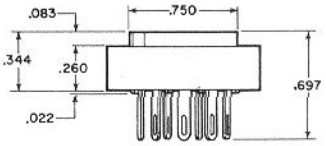


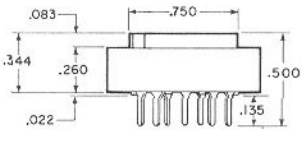


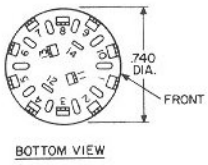




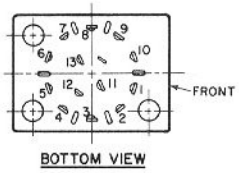




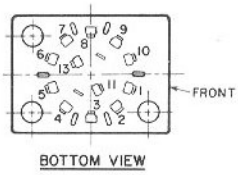




RTS-14



RTS-47 (MIL SPEC Material)
RTS-48 (Commercial Grade)



RTS-49 (MIL SPEC Material)
RTS-50 (Commercial Grade)

NATIONAL ELECTRONICS, INC.

a varian subsidiary

GENEVA, ILLINOIS, 60134

TELEPHONE 312 232-4300
TWX 910 237-1685