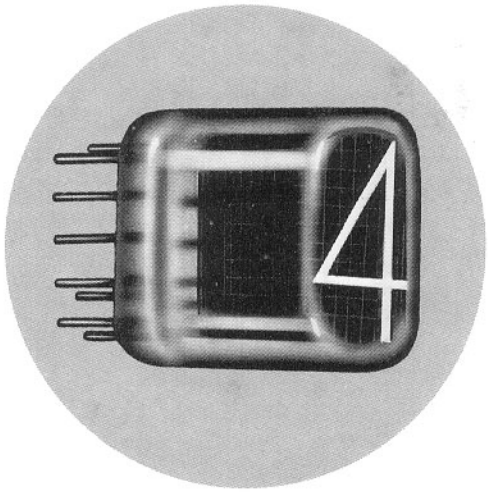
NL-4998 NUMERICAL READOUT TUBE

NL-4998 is a long-life, miniature rectangular Readout tube with .3″ high characters 0-9. This most compact of all Readout tubes combines space saving with the high reliability, high readability, and long life of the neon filled cold cathode discharge tubes. It is particularly suitable where space is limited.



TECHNICAL INFORMATION

Ionization Voltage (Maximum)	170 Vdc
Supply Voltage (Minimum)	170 Vdc
Cathode Current	
Peak (Maximum)	2.5 mA
Average (Maximum)	2.0 mA
Average (Minimum)	1.0 mA
Prebias Limits	65Vto 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	Pins 6 & 12 vertically aligned with pin 6 on top

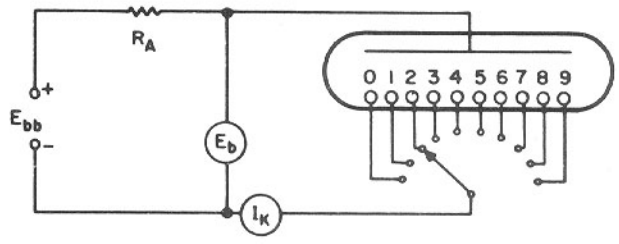
Recommended Operating Conditions:

Supply Voltage (Ebb)	200V	250V	300V
Corresponding Anode Resistors (RA)	36K	75K	110K

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

PIN CONNECTIONS

Pin No.	Character
1	2
2	3
3	4
4	5
5	6
6	Internal Connection
7	7
8	8
9	9
10	0
11	Anode
12	1
13	Internal Connection



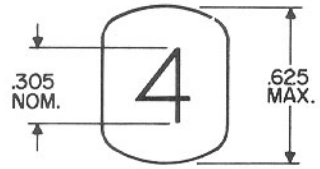
TEST CONDITIONS

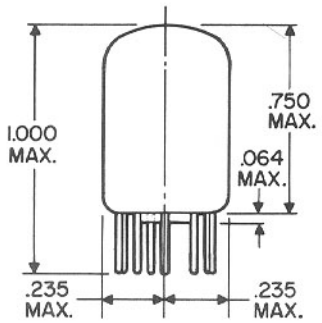
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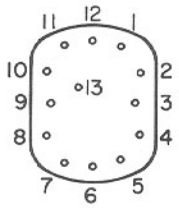
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a varian subsidiary
GENEVA, ILLINOIS, 60134
TELEPHONE 312 232-4300
TWX 910 237-1685

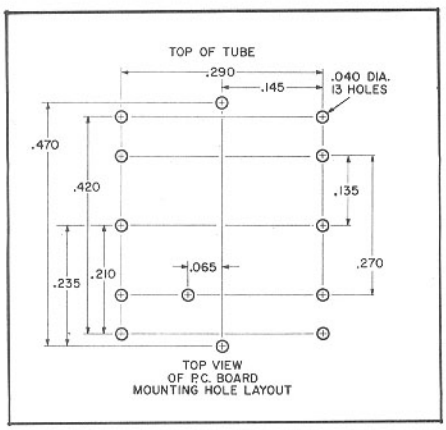
NL-4998 NUMERICAL READOUT TUBE

OUTLINE DRAWING

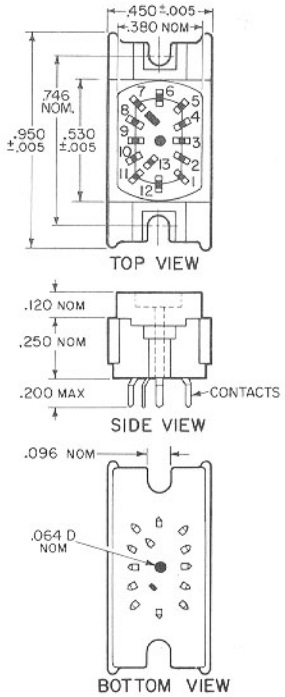




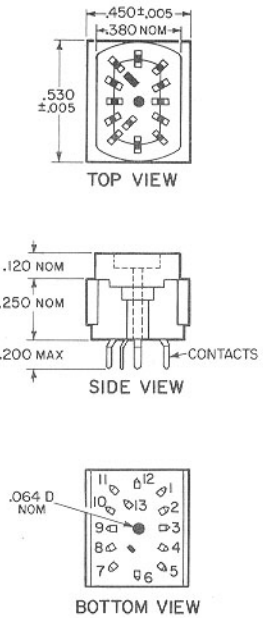




RTS-32



RTS-33



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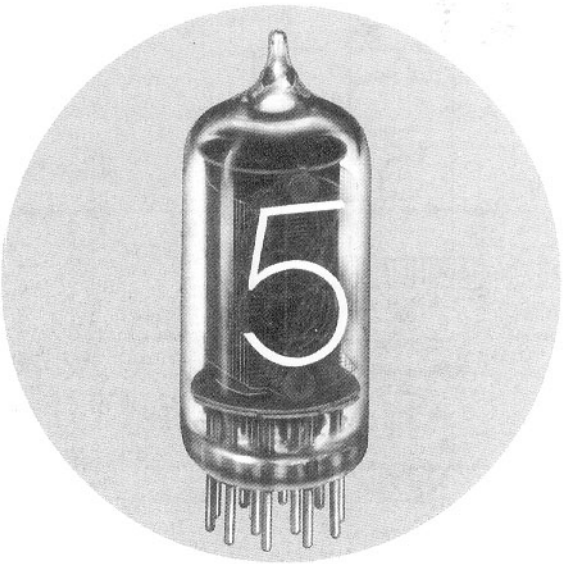
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NL-840/8754, NL-841, NL-842, NL-843 & NL-848
NUMERICAL READOUT TUBES

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.

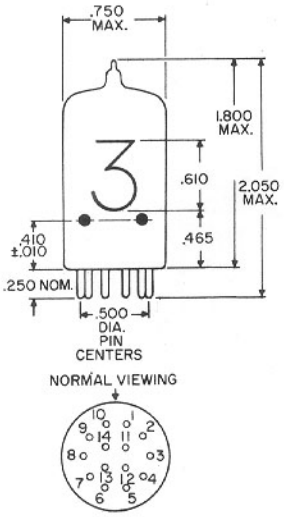
Supply Voltage (Ebb)	170Vdc	250Vdc	300Vdc
Numeral Resistor (Rk)	10KΩ	43KΩ	62KΩ
Decimal Point Resistor (Rd)	72KΩ	330KΩ	500KΩ

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

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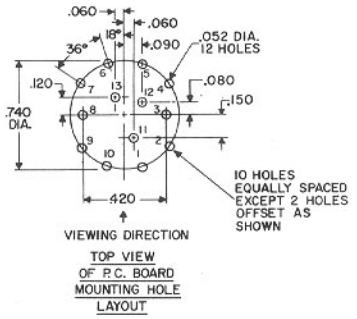
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NL-840/8754, NL-841, NL-842, NL-843 & NL-848
NUMERICAL READOUT TUBES

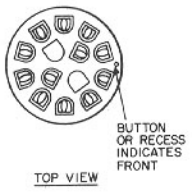


Pin Number	NL840	NL841 NL842	NL-843	NL-848
1	7	7		7
2	5	5		5
3	8	8		8
4	Anode	Anode	Anode	Anode
5	1	1		1
6	4	4	+	4
7	2	2	-	2
8	6	6		6
9	9	9		9
10	3	3		3
11	Int. Conn.	Decimal Pt.	No Conn.	L.Dec.Pt.
12	No Pin	No Pin	No Pin	R.Dec.Pt.
13	0	0	Int. Conn.	0
14	Int. Conn.	Int. Conn.	Int. Conn.	Int. Conn.

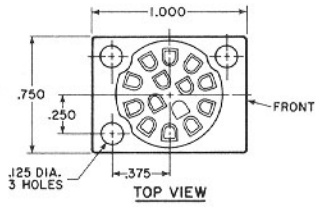
PRINTED CIRCUIT MOUNTING HOLE LAYOUT
- TOP VIEW -



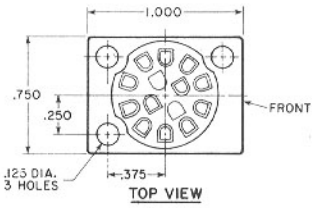
TOP VIEW
OF P.C. BOARD
MOUNTING HOLE
LAYOUT



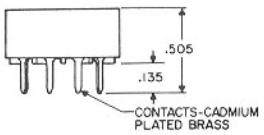
TOP VIEW



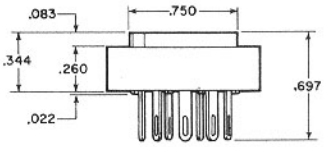
TOP VIEW



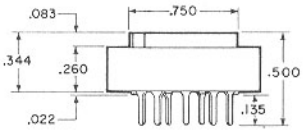
TOP VIEW



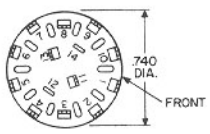
SIDE VIEW



SIDE VIEW

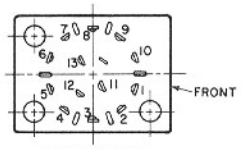


SIDE VIEW



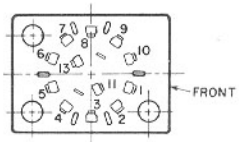
BOTTOM VIEW

RTS-14



BOTTOM VIEW

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



BOTTOM VIEW

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

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NL-844, NL-845, NL-846 & NL-847 NUMERICAL READOUT TUBES

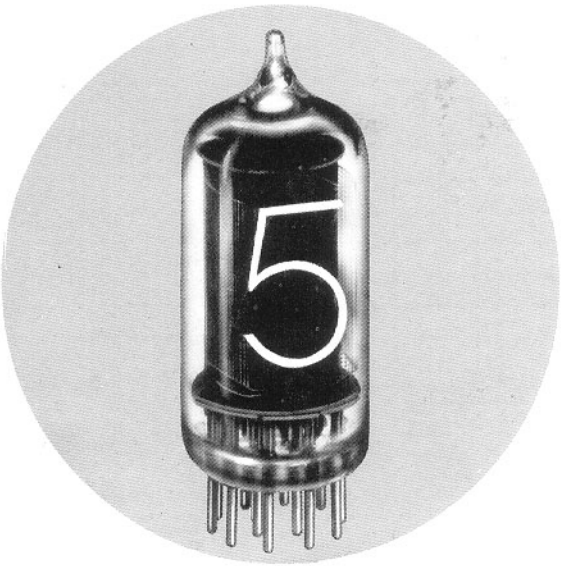
National Electronics Readout Tubes **NL-844, NL-845, NL-846, NL-847** are long-life, sideviewing, neon glow, numerical display tubes. They are similar in design and construction to the **NL-840** series. The **NL-844, NL-845, NL-846,** and **NL-847** have much narrower, more intense character lines for higher contrast, sharper characters, and greater readability.

NL-844 is a 10 character display tube, numerals **0 to 9.**

NL-845 is a 10 character display tube, numerals **0 to 9,** with an independent decimal point to the left of the numerals.

NL-846 is a 10 character display tube, numerals **0 to 9,** with an independent decimal point to the right of the numerals.

NL-847 is a 2 character display tube, "+" and "—."



TECHNICAL INFORMATION

Ionization Voltage (Maximum)	170 Vdc
Supply Voltage (Minimum)	170 Vdc
Cathode Current	
Peak (Maximum)	4.5 mA
Average (Maximum)	4.0 mA
Average (Minimum)	2.0 mA
Decimal Point Current	
Average (Maximum)	0.7 mA
Average (Minimum)	0.3 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-844 - 847

Supply Voltage (Ebb)	170V	250V	300V
Anode Resistor (RA)	7K	33K	50K

NL-845 - NL-846

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

Supply Voltage (Ebb)	170V	250V	300V
Anode Resistor (RA)	7K	30K	47K

(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:

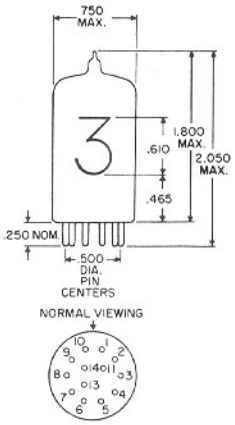
Supply Voltage (Ebb)	170V	250V	300V
Numeral Resistor (RN)	7K	33K	50K
Decimal Point Resistor (RD)	52K	270K	390K

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

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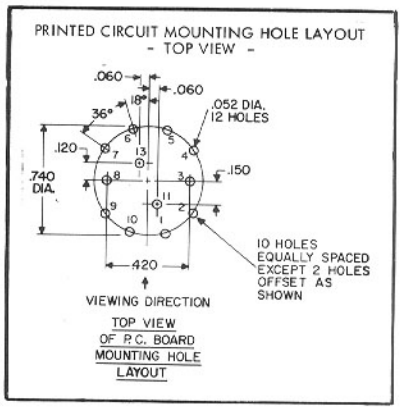
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TWX 910 237-1685

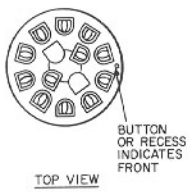
NL-844, NL-845, NL-846 & NL-847 NUMERICAL READOUT TUBES

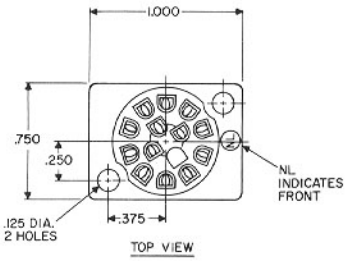


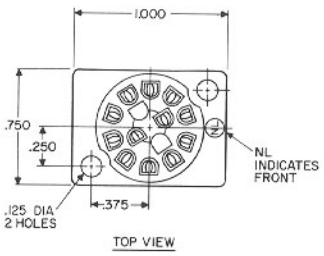
Pin Connections

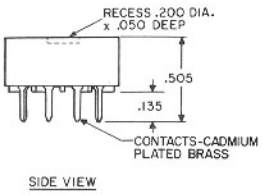
Pin Number	NL844	NL-845 NL-846	NL-847
1	7	7	
2	5	5	
3	8	8	
4	Anode	Anode	Anode
5	1	1	
6	4	4	+
7	2	2	-
8	6	6	
9	9	9	
10	3	3	
11	Int. Conn.	Decimal Pt.	No Conn.
12	No Pin	No Pin	No Pin
13	0	0	Int. Conn.
14	Int. Conn.	Int. Conn.	Int. Conn.

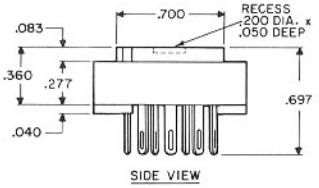


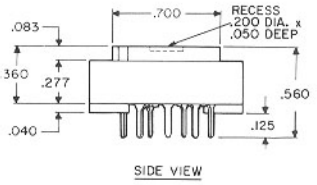


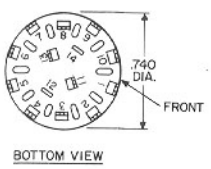




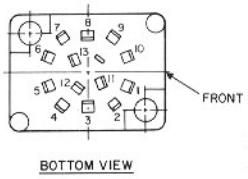




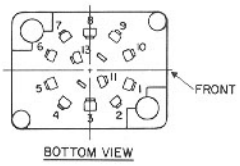




RTS-14



RTS-16 (MIL SPEC Material)
RTS-17 (Commercial Grade)



RTS-19 (MIL SPEC Material)
RTS-20 (Commercial Grade)

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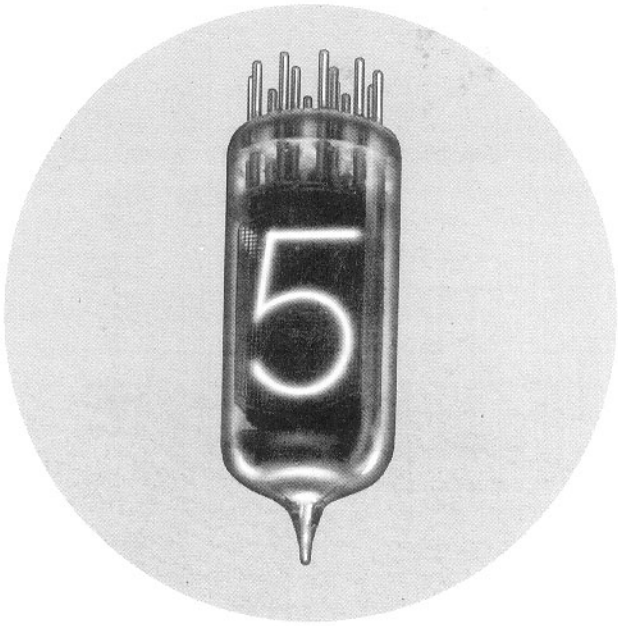
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NL-874, NL-875, NL-876, NL-877 & NL-884 NUMERICAL READOUT TUBES

National Electronics Readout tubes **NL-874, NL-875, NL-876,** and **NL-884** are long-life, sideviewing, neon glow, numerical display tubes with inverted characters. 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 and the inverted construction allows location of circuitry near top of cabinet to make optimum use of panel spacing, providing an attractive display.



NL-874 is a 10 character display tube, numerals **0 to 9.**

NL-875 is a 10 character display tube, numerals **0 to 9** with an independent decimal point to left of the numerals.

NL-876 is a 10 character display tube, numerals **0 to 9** with an independent decimal point to the right of the numerals.

NL-877 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.**

NL-884 is a 2 character display tube, symbols + and —.

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 (Base up) with pins 1 & 10 in front

Recommended Operating Conditions:

NL-874 - NL-884

Supply Voltage (Ebb)	170V	250V	300V
Anode Resistor (RA)	8.2K	43K	62K

NL-875 - NL-876

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

Supply Voltage (Ebb)	170V	250V	300V
Anode Resistor (RA)	8.2K	35K	52K

(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.

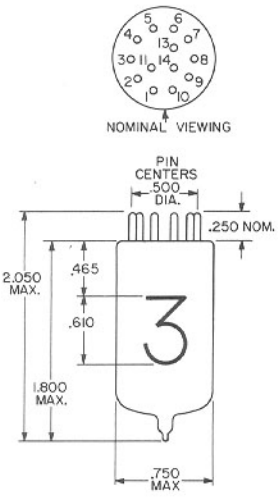
Supply Voltage (Ebb)	170V	250V	300V
Numeral Resistor (RN)	10K	43K	62K
Decimal Point Resistor (RD)	72K	330K	500K

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

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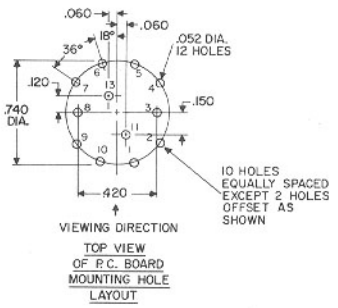
NL-874, NL-875, NL-876, NL-877 & NL-884 NUMERICAL READOUT TUBES



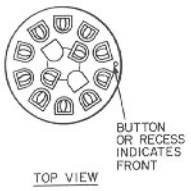
Pin Connections

Pin Number	NL-874	NL-875 NL-876	NL-884
1	7	7	
2	5	5	
3	8	8	
4	Anode	Anode	Anode
5	1	1	
6	4	4	+
7	2	2	-
8	6	6	
9	9	9	
10	3	3	
11	Int. Conn.	Decimal Pt.	No Conn.
12	No Pin	No Pin	No Pin
13	0	0	Int. Conn.
14	Int. Conn.	Int. Conn.	Int. Conn.

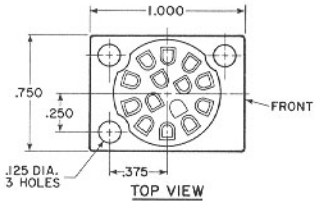
PRINTED CIRCUIT MOUNTING HOLE LAYOUT
- TOP VIEW -



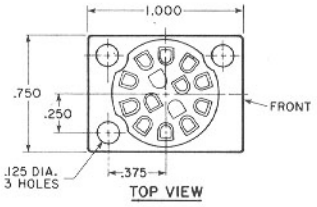
TOP VIEW OF P.C. BOARD MOUNTING HOLE LAYOUT



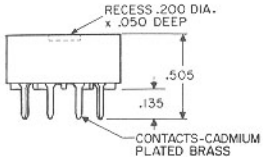
TOP VIEW



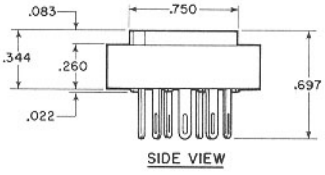
TOP VIEW



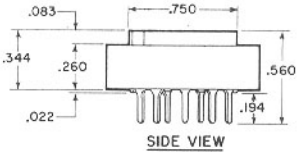
TOP VIEW



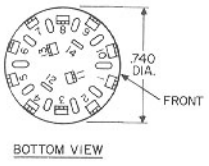
SIDE VIEW



SIDE VIEW

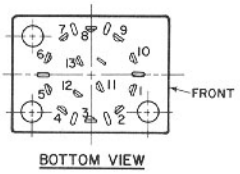


SIDE VIEW



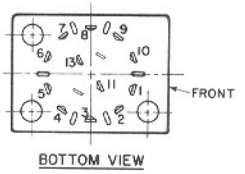
BOTTOM VIEW

RTS-14



BOTTOM VIEW

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



BOTTOM VIEW

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

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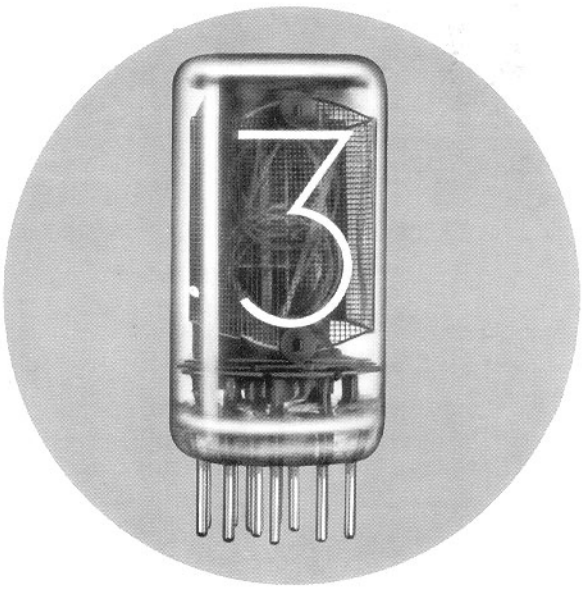
GENEVA, ILLINOIS, 60134

TELEPHONE 312 232-4300
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NL-900, NL-901, NL-902, NL-903, NL-904, NL-905, NL-906, NL-907, & NL-908 NUMERICAL READOUT TUBES

National Electronics tipless sideviewing Readout Tubes are long life, neon glow, numerical display tubes. The sideview configuration, small height and light weight allow flexible imaginative packaging. The short seated height (1.375 Max.) and small envelope diameter (.750 Max.) allow optimum use of panel space to provide an attractive display.

NL-900 is the **NL-840** with tip eliminated, giving a shorter seated height and is interchangeable with the **NL-840.**



Type Numbers and Characters

Type Number		Characters
Upright	Inverted	
NL-900	NL-904	(0-9)
NL-901	NL-905	(0-9), LH Dec.
NL-902	NL-906	(0-9), RH Dec.
NL-903	NL-903	+ and −
NL-908	NL-907	(0-9), L & RH Dec.

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-900 - NL-903 - NL-904

Supply Voltage (Ebb)	170V	250V	300V
Anode Resistor (RA)	8.2K	43K	62K

NL-901 - NL-902 - NL-905 —

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

Supply Voltage (Ebb)	170V	250V	300V
Anode Resistor (RA)	8.2K	35K	52K

(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.

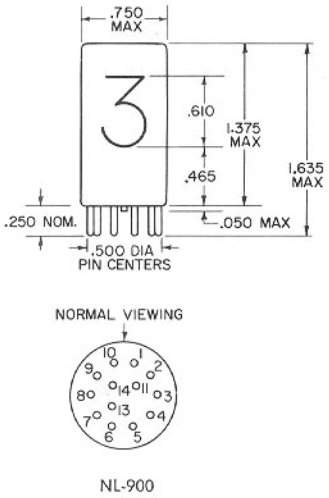
Supply Voltage (Ebb)	170V	250V	300V
Numeral Resistor (RN)	10K	43K	62K
Decimal Point Resistor (RD)	72K	330K	500K

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

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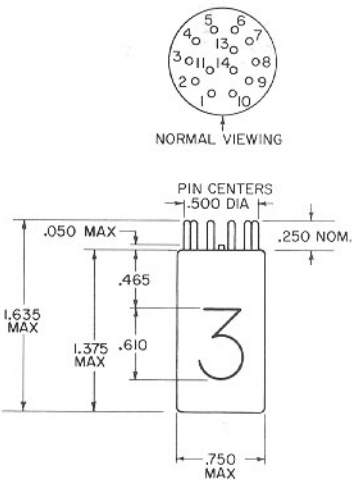
NL-900, NL-901, NL-902, NL-903, NL-904, NL-905, NL-906, NL-907, & NL-908 NUMERICAL READOUT TUBES



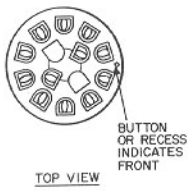
NL-900

Pin Connections

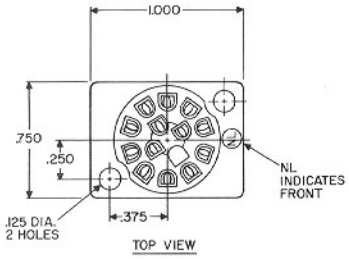
Pin Number	NL-900 NL-904	NL-901 NL-902 NL-905 NL-906	NL-903	NL-907 NL-908
1	7	7		7
2	5	5		5
3	8	8		8
4	Anode	Anode	Anode	Anode
5	1	1		1
6	4	4	+	4
7	2	2	-	2
8	6	6		6
9	9	9		9
10	3	3		3
11	Int. Conn.	Decimal Pt.	No Conn.	L. Dec. Pt.
12	No Pin	No Pin	No Pin	R. Dec. Pt.
13	0	0	Int. Conn.	0
14	Int. Conn.	Int. Conn.	Int. Conn.	Int. Conn.



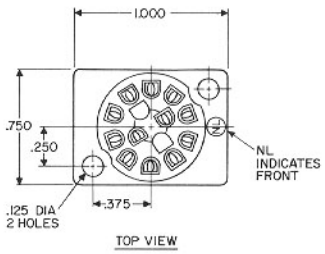
NL-904



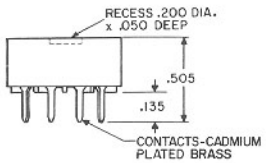
TOP VIEW



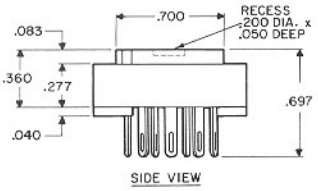
TOP VIEW



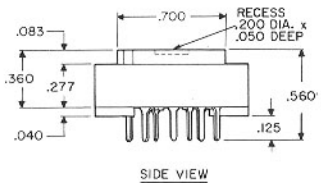
TOP VIEW



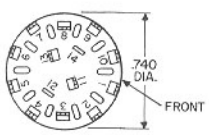
SIDE VIEW



SIDE VIEW

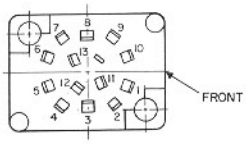


SIDE VIEW



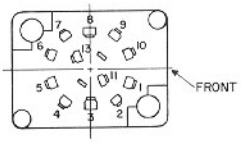
BOTTOM VIEW

RTS-14



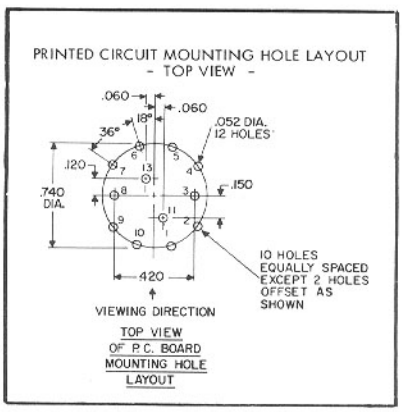
BOTTOM VIEW

RTS-16 (MIL SPEC Material)
RTS-17 (Commercial Grade)



BOTTOM VIEW

RTS-19 (MIL SPEC Material)
RTS-20 (Commercial Grade)



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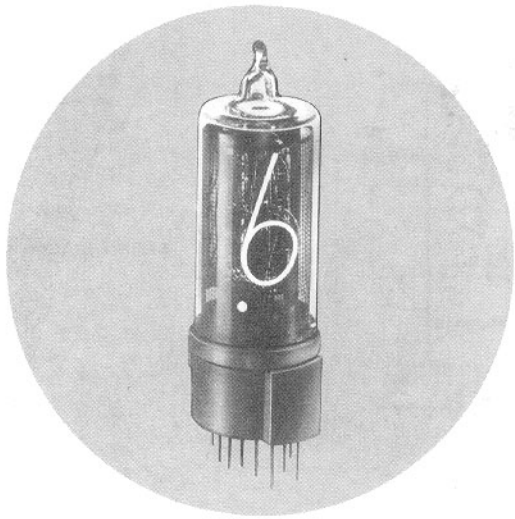
NL-940 AND NL-940S NUMERICAL READOUT TUBES

NL-940 is an ultra-long life cold cathode numerical display tube. It displays characters 0 through 9 and an independently operable right or left hand decimal point.

The short seated height (1.50″ max.) and small diameter make this tube ideal for use in smaller modern digital intruments.

The **NL-940** is designed to operate equally well in the dc mode or in the high peak current low duty mode of strobe or time share.

The **NL-940S** is identical to the NL-940 with the leads cut to 0.175″ ± .015″ for use with the RTS-44 socket.



TECHNICAL INFORMATION

Ionization Voltage (Maximum)	170 Vdc
[1]Supply Voltage (Minimum)	170 Vdc
Cathode Current	
[2]Peak (Maximum) strobe only	20 ma
Average (Maximum)	5.0 mA
Average (Minimum)	2.3 mA
Decimal Point Current	
Average (Maximum)	0.5 mA
Average (Minimum)	0.1 mA
Prebias Limits	+ 60Vdc to +120Vdc
Temperature Limits	—20°C to +55°C
(Reduced Life)	—40°C to +70°C
Life (Dynamic)	200,000 Hours
Weight	0.3 oz.
Mounting Position	Vertical with pins 6 & 7 in front

Recommended Operating Conditions:

(a) No decimal point or decimal point operated only in conjunction with another character.

Supply Voltage (E_{bb})	170Vdc	200Vdc	250Vdc	300Vdc
Anode Resistor (Rp)	10KΩ	18KΩ	33KΩ	47KΩ

(b) When the decimal point is to be operated separately, with or without another character it is recommended an individual decimal point resistor be used in addition to the resistor in the anode circuit. See Figure 1.

Supply Voltage (E_{bb})	170Vdc	200Vdc	250Vdc	300Vdc
Anode Resistor (Rp)	10KΩ	18KΩ	33KΩ	47KΩ
Decimal Point Resistor (Rd)	100KΩ	180KΩ	330KΩ	470KΩ

Strobe or Time share Operation:

In typical strobed or time share application the same numeral cathodes of all the tubes are tied in parallel, and the anodes are strobed sequentially. See Figure 2. The strobing is above the visual flicker rate so the visual indication is normal. Since the "on" duty is 10% or less, a higher than normal peak current is used to provide for normal brightness. The NL-940 tubes are designed and constructed so no extraneous glow is visible under these high peak current conditions.

Using the tube voltage drop vs. peak anode current curves (Figure 4) the proper anode resistor for any particular supply voltage can be calculated.

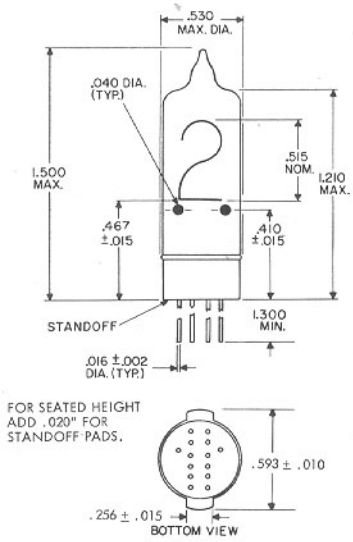
Note: [1]Use of the highest voltage available with the appropriate resistor is recommended.

[2]Maximum pulse duration 5 milliseconds with maximum duty cycle of 10%.

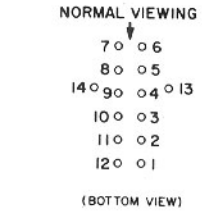
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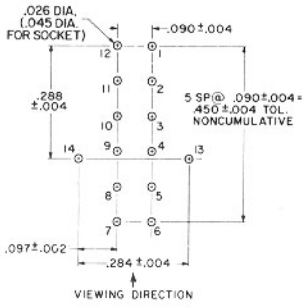
NL-940 AND NL-940S NUMERICAL READOUT TUBES



OUTLINE DRAWING



BASING DIAGRAM

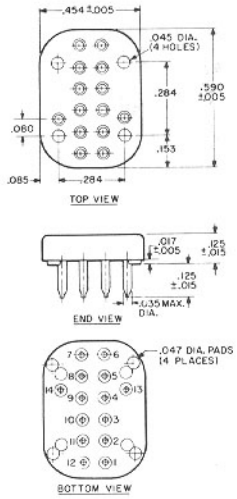


PRINTED CIRCUIT
MOUNTING HOLE LAYOUT
TOP VIEW

Pin	Connections
1	NUMERAL 1
2	NUMERAL 2
3	NUMERAL 3
4	NUMERAL 4
5	NUMERAL 5
6	NUMERAL 6
* 7	ANODE
8	NUMERAL 7
9	NUMERAL 8
*10	ANODE
11	NUMERAL 9
12	NUMERAL 0
13	RT. DEC. PT.
14	LFT. DEC. PT.

*Connected internally.

PIN CONNECTIONS



RTS-44 SOCKET

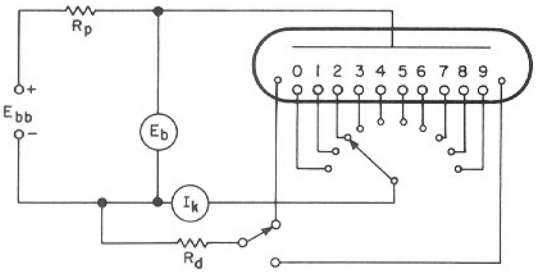
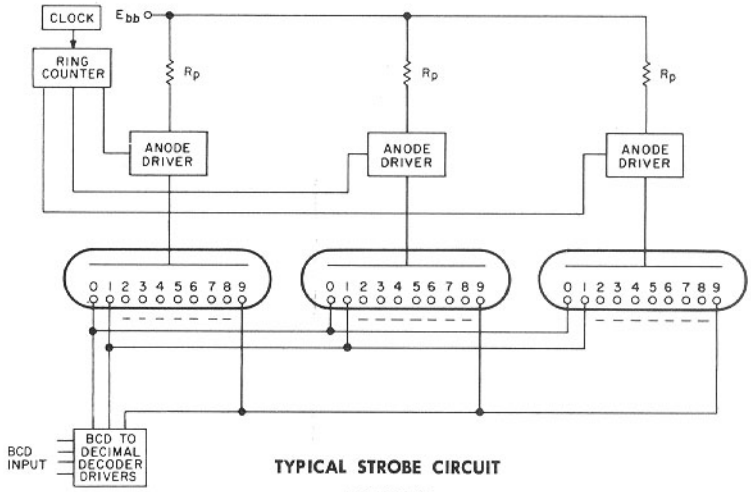
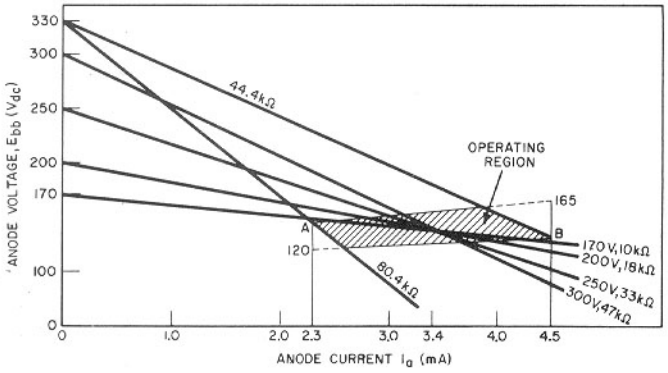


FIGURE 1



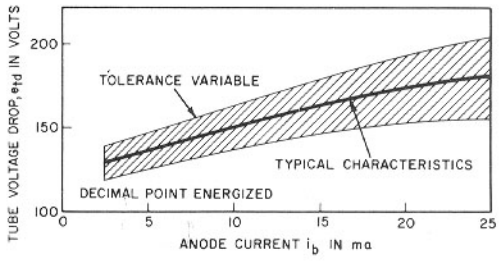
TYPICAL STROBE CIRCUIT

FIGURE 2



TUBE CHARACTERISTICS – dc

FIGURE 3



TUBE CHARACTERISTICS — STROBE

FIGURE 4

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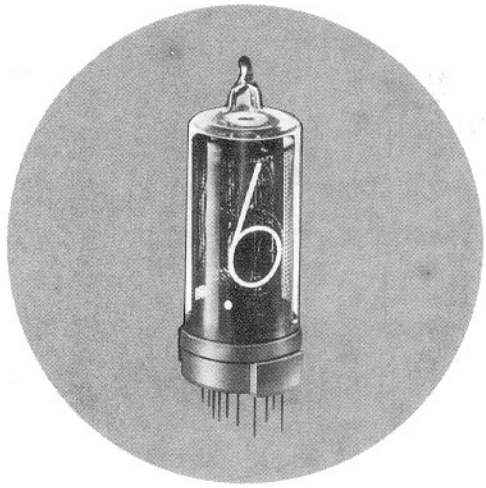
NL-950 AND NL-950S NUMERICAL READOUT TUBES

NL-950 is an ultra-long life cold cathode numerical display tube. It displays characters 0 through 9 and an independently operable right or left hand decimal point.

The short seated height (1.350″ max.) and small diameter make this tube ideal for use in smaller modern digital intruments.

The **NL-950** is designed to operate equally well in the dc mode or in the high peak current low duty mode of strobe or time share.

The **NL-950S** is identical to the NL-950 with the leads cut to 0.175″ ± .015″ for use with the RTS-44 socket.



TECHNICAL INFORMATION

Ionization Voltage (Maximum)	170 Vdc
[1]Supply Voltage (Minimum)	170 Vdc
Cathode Current	
[2]Peak (Maximum) strobe only	20 ma
Average (Maximum)	5.0 mA
Average (Minimum)	2.3 mA
Decimal Point Current	
Average (Maximum)	0.5 mA
Average (Minimum)	0.1 mA
Prebias Limits	+ 60Vdc to +120Vdc
Temperature Limits	—20°C to +55°C
(Reduced Life)	—40°C to +70°C
Life (Dynamic)	200,000 Hours
Weight	0.3 oz.
Mounting Position	Vertical with pins 6 & 7 in front

Recommended Operating Conditions:

(a) No decimal point or decimal point operated only in conjunction with another character.

Supply Voltage (E_{bb})	170Vdc	200Vdc	250Vdc	300Vdc
Anode Resistor (Rp)	10KΩ	18KΩ	33KΩ	47KΩ

(b) When the decimal point is to be operated separately, with or without another character it is recommended an individual decimal point resistor be used in addition to the resistor in the anode circuit. See Figure 1.

Supply Voltage (E_{bb})	170Vdc	200Vdc	250Vdc	300Vdc
Anode Resistor (Rp)	10KΩ	18KΩ	33KΩ	47KΩ
Decimal Point Resistor (Rd)	100KΩ	180KΩ	330KΩ	470KΩ

Strobe or Time share Operation:

In typical strobed or time share application the same numeral cathodes of all the tubes are tied in parallel, and the anodes are strobed sequentially. See Figure 2. The strobing is above the visual flicker rate so the visual indication is normal. Since the "on" duty is 10% or less, a higher than normal peak current is used to provide for normal brightness. The NL-950 tubes are designed and constructed so no extraneous glow is visible under these high peak current conditions.

Using the tube voltage drop vs. peak anode current curves (Figure 4) the proper anode resistor for any particular supply voltage can be calculated.

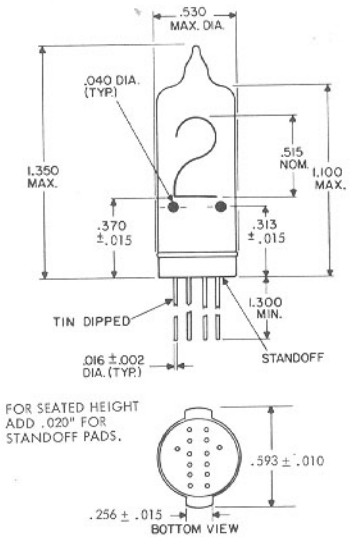
Note: [1]Use of the highest voltage available with the appropriate resistor is recommended.

[2]Maximum pulse duration 5 milliseconds with maximum duty cycle of 10%.

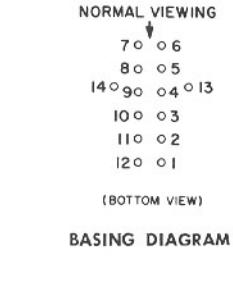
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TWX 910 237-1685

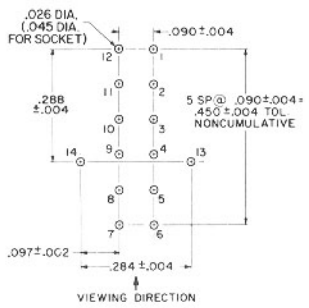
NL-950 AND NL-950S NUMERICAL READOUT TUBES



OUTLINE DRAWING



BASING DIAGRAM

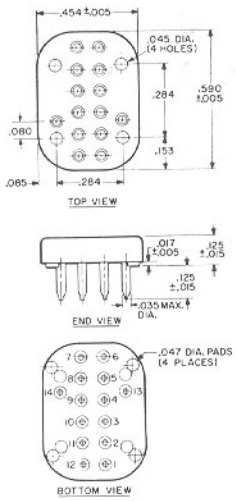


PRINTED CIRCUIT MOUNTING HOLE LAYOUT TOP VIEW

Pin	Connections
1	NUMERAL 1
2	NUMERAL 2
3	NUMERAL 3
4	NUMERAL 4
5	NUMERAL 5
6	NUMERAL 6
* 7	ANODE
8	NUMERAL 7
9	NUMERAL 8
*10	ANODE
11	NUMERAL 9
12	NUMERAL 0
13	RT. DEC. PT.
14	LFT. DEC. PT.

*Connected internally.

PIN CONNECTIONS



RTS-44 SOCKET

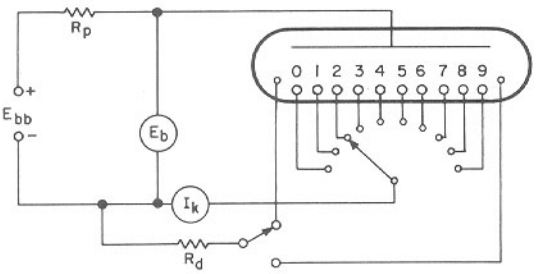
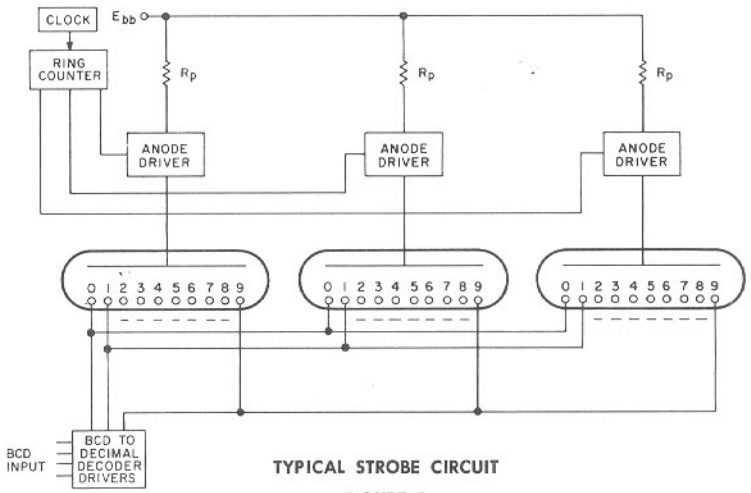
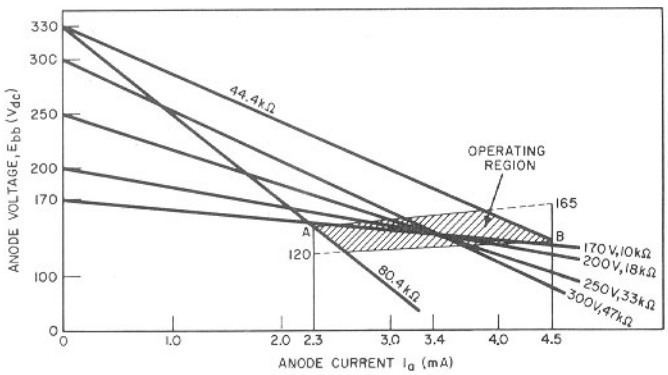


FIGURE 1



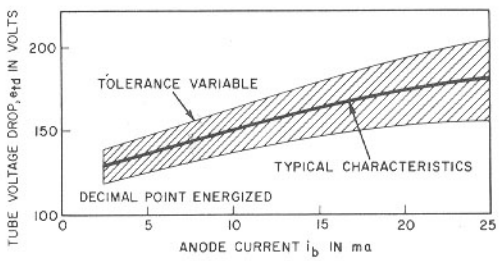
TYPICAL STROBE CIRCUIT

FIGURE 2



TUBE CHARACTERISTICS – dc

FIGURE 3



TUBE CHARACTERISTICS — STROBE

FIGURE 4

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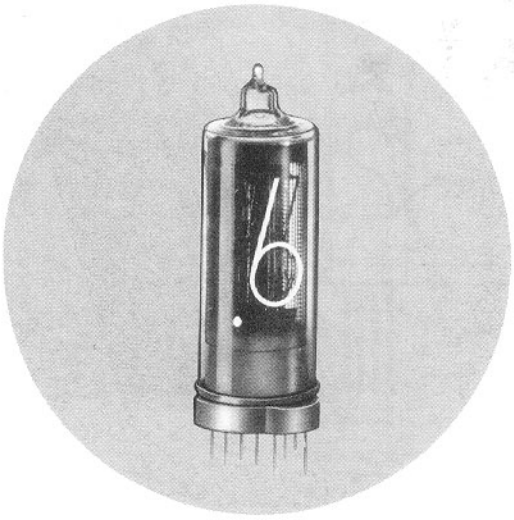
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NL-5750 AND NL-5750S NUMERICAL READOUT TUBES

The **NL-5750** is an ultra long life cold cathode numerical display tube. It has the capability of displaying numerals from 0 through 9. The NL-5750 has two independently operable decimal points, one to the left and one to the right of the numerals. The tube is designed to operate equally well in the normal dc mode or in the high peak low duty mode of a time share strobed application. The high peak current capability (15 ma) allows a clear bright display under low duty cycle conditions.

The **NL-5750S** is identical to the NL-5750 with the leads cut to 0.175″ ± .015″ for use in the RTS-44 socket.



TECHNICAL INFORMATION

Ionization Voltage (Maximum)	170 Vdc
[1]Supply Voltage (Minimum)	170 Vdc
Cathode Current	
[2]Peak (Maximum) strobe only	15 ma
Average (Maximum)	3.8 mA
Average (Minimum)	1.8 mA
Decimal Point Current	
Average (Maximum)	0.3 mA
Average (Minimum)	0.1 mA
Prebias Limits	+ 60V dc to +120V dc
Temperature Limits	—20°C to +55°C
(Reduced Life)	—40°C to +70°C
Life (Dynamic)	200,000 Hours
Weight	0.3 oz.
Mounting Position	Vertical with pins 6 & 7 in front

Recommended Operating Conditions: see figure 1.

(a) No decimal point or decimal point operated only in conjunction with another character.

Supply Voltage (E_{bb})	170V dc	250V dc	300Vdc
Anode Resistor (Rp)	9.1KΩ	43KΩ	62KΩ

(b) When the decimal point is to be operated separately, with or without another character it is recommended an individual decimal point resistor be used in addition to the resistor in the anode circuit. See Figure 1.

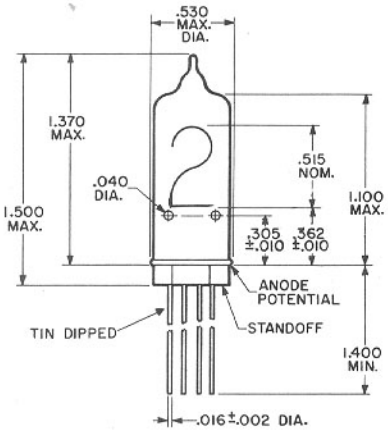
Supply Voltage (E_{bb})	170V dc	250Vdc	300Vdc
Anode Resistor (Rp)	9.1KΩ	43KΩ	62KΩ
Decimal Point Resistor (Rd)	120KΩ	560KΩ	750KΩ

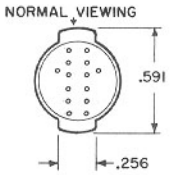
Note: [1]Use of the highest voltage available with the appropriate resistor is recommended.
[2]Maximum pulse duration 5 milliseconds with maximum duty cycle of 10%.

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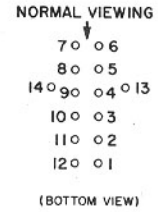
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NL-5750 AND NL-5750S NUMERICAL READOUT TUBES





OUTLINE DRAWING



BASING DIAGRAM

Pin	Connections
1	NUMERAL 1
2	NUMERAL 2
3	NUMERAL 3
4	NUMERAL 4
5	NUMERAL 5
6	NUMERAL 6
* 7	ANODE
8	NUMERAL 7
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*10	ANODE
11	NUMERAL 9
12	NUMERAL 0
13	RT. DEC. PT.
14	LFT. DEC. PT.

*Connected internally.

PIN CONNECTIONS

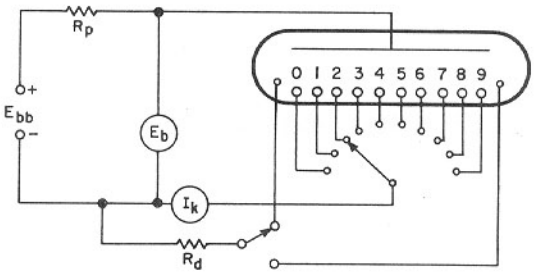
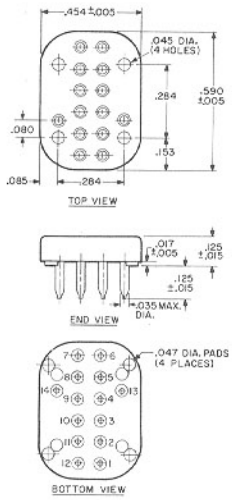
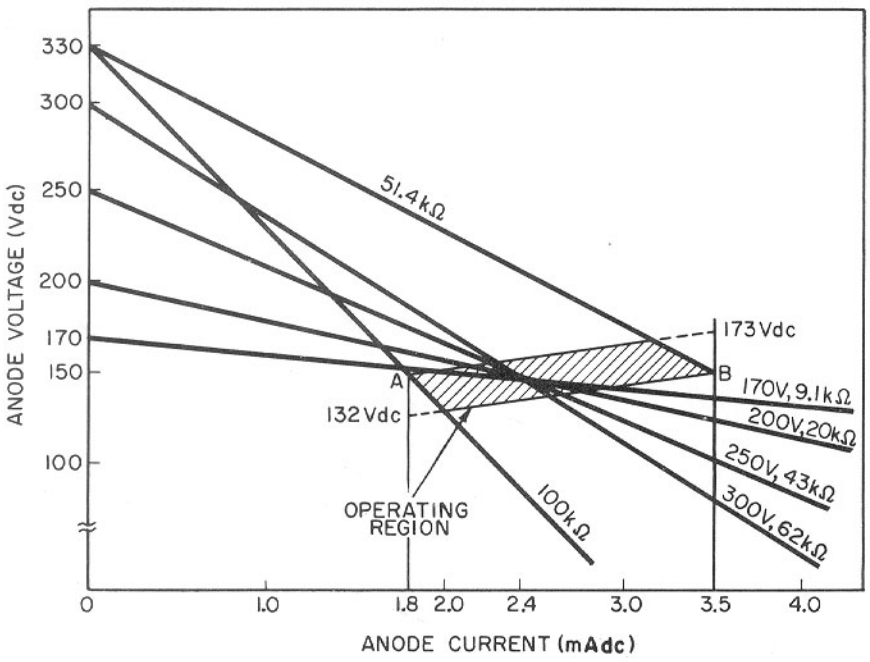


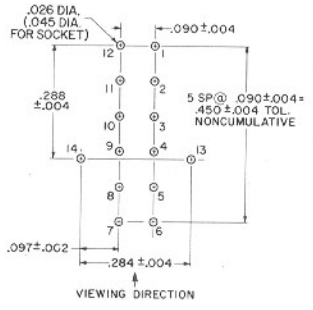
FIGURE 1



RTS-44



TUBE CHARACTERISTICS



PRINTED CIRCUIT MOUNTING HOLE LAYOUT
TOP VIEW

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