Dieter’s

Nixie Tube Data Archive

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If you have more datasheets, articles, books, pictures or other information about Nixie tubes or other display devices please let me know.
Thank you!

Document in this file	Raytheon datasheet – Numerical Indicator Tubes – ‘Datavue’
Display devices in this document	CK1916, CK1917, CK1918, CK8754

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RAYTHEON

DATAVUE* NUMERICAL INDICATOR TUBES

CK8754 CK1917 CK1916 CK1918

Raytheon DATAVUE* types CK8754, CK1916, CK1917, and CK1918 are gas-filled, cold-cathode, numerical indicator tubes, using a common anode and ten cathodes in the shape of numerals, "0" through "9" and decimal points as described below. The tubes are designed as direct in-line, side-view readout devices in decimally coded read-out applications such as basic counter and computer circuits. Their all-electronic design provides high speed operation with low-power drain requirements. These types feature high reliability, ultra-long life, wide angle viewing, brightness, stability and rugged construction.

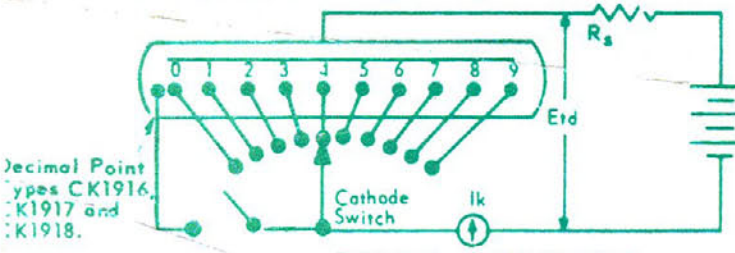
Type CK1916 displays 0 to 9 numerals with a decimal to the left of numerals.
Type CK1917 displays 0 to 9 numerals with a decimal to the right of numerals.
Type CK1918 displays 0 to 9 numerals with decimal points to the left and right of numerals.

ELECTRICAL DATA

ABSOLUTE RATINGS	Units
Minimum dc supply voltage	170 volts
Maximum dc ionization voltage	170 volts
Maximum peak cathode current (Pulse operation only)	3.5 ma
Maximum dc cathode current	3.5 mA
Minimum dc cathode current	1.5 mA
Maximum dc cathode bias voltage	120 volts
Minimum dc cathode bias voltage	50 volts
Temperature Range (1)	-20°C to +55°C
Reduced Life Temperature Range (2)	-65°C to +85°C

TYPICAL OPERATION (See Figure 1)	
●Supply voltage	170 volts dc
●Anode series resistor (±1%)	8.2K ohms
Minimum cathode current	1.5 mAdc
Maximum cathode current	3.5 mAdc
Cathode current, nominal	2.50 mAdc
Maximum decimal point current	0.7 mAdc
Minimum decimal point current	0.1 mAdc
Tube voltage drop at Ik = 2.50 mAdc	147 volts dc
Life Expectancy (dynamic)	200,000 hours

● Use of highest available supply voltage with appropriate anode resistor is recommended.



TYPE CK8754

Ebb	R_s
170 Vdc	8.2 Kohm
250 Vdc	43.0 Kohm
300 Vdc	62.0 Kohm

FIGURE 1. BASIC CIRCUIT

Types CK1916, CK1917 and CK1918:

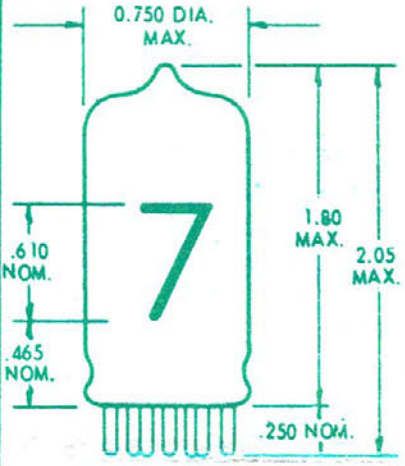
	E_{bb}	R_s		R_k†		R_d†
When the decimal point is operated only when another character is ON:	170 Vdc	8.2	Kohm			
	250 Vdc	35	Kohm			
	300 Vdc	52	Kohm			
When the decimal point may be operated with or without another character being ON, individual cathode resistors should be used, with no resistor in the anode circuit.	170 Vdc			10	Kohm	72 Kohm
	250 Vdc			43	Kohm	330 Kohm
	300 Vdc			62	Kohm	500 Kohm

† R_d is decimal point resistor; R_k is resistor for each individual cathode.

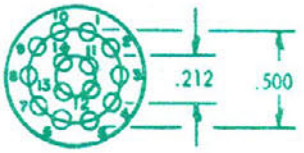
MECHANICAL DATA

Envelope . . . . . T5½ Glass
Base . . . . . Miniature, Special
Weight . . . . . 0.5 oz.

OUTLINE



NORMAL VIEWING



BASING

PINS: 0.040 DIA. TYP.

TERMINAL CONNECTIONS

	CK8754	CK1916 CK1917	CK1918
1	K7	K7	K7
2	K5	K5	K5
3	K8	K8	K8
4	Anode	Anode	Anode
5	K1	K1	K1
6	K4	K4	K4
7	K2	K2	K2
8	K6	K6	K6
9	K9	K9	K9
10	K3	K3	K3
11	Int. Conn.	Dec.Pt.	Dec. Pt. Left
12	No Pin	No Pin	Dec. Pt. Right
13	K0	K0	K0
14	Int. Conn.	Int.Conn.	Int.Conn.