

# Dieter's Nixie Tube Data Archive

This file is a part of Dieter's Nixie- and display tubes data archive

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	ETL datasheet: GS10H tube
Display devices in this document	GS10H

# Bi-directional 10-way Selector Dekatron with Routing Guides

# GS10H

Although the seated height of this tube is less than  $1\frac{1}{2}$ " , the electrical characteristics are similar to the Dekatrons with phenolic bases.

## Limit Ratings

Maximum counting rate	5000 p.p.s.
Maximum anode current	370 $\mu$ A
Minimum anode current	250 $\mu$ A
Minimum supply voltage (normal room illumination)	380 V
Maximum potential difference between electrodes other than anode	140 V
Maximum cathode output voltage	28 V

## Characteristics

Running voltage at 310 $\mu$ A	187 V nominal
--------------------------------	---------------

## Recommended Operating Conditions for a maximum counting rate of 4000 p.p.s.\*

**Cathode resistors	82 K $\Omega$
***Anode resistor	820 K $\Omega$
Supply voltage, with 1% anode resistor	475 V $\pm$ 10%
with 5% anode resistor	475 V $\pm$ 5%
Guide Bias	+ 35 V
Forced resetting pulse	- 120 V
Double Pulse Circuit, Fig. 2	
Pulse amplitudes	- 70 $\pm$ 7 V
Pulse durations	80 $\pm$ 5 $\mu$ S
Integrated Pulse Circuit, Fig. 1	
Input pulse amplitude	- 145 $\pm$ 15 V
Input pulse duration	75 $\mu$ S min. 1/3f secs max.
Continuous Sine Wave Circuit, Fig. 3	
Amplitude	55 $\pm$ 15 V r.m.s.

\* The manufacturers will design circuits to suit individual cases where the counting rate exceeds 4 kps.

\*\* Each cathode must have a return path to the negative rail via 82 K $\Omega$ , even though an output pulse is not required.

\*\*\* To reduce the effect of stray capacity to a minimum, it is essential that the anode resistor be wired not more than  $\frac{1}{4}$ " (5 mm) from the anode tag on the valve holder.

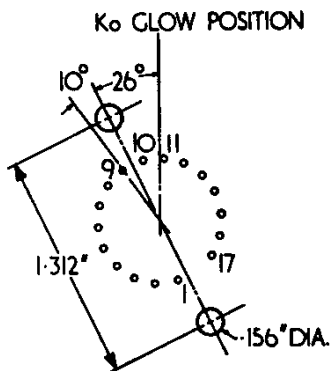
# GS10H

## Bi-directional 10-way Selector Dekatron with Routing Guides

### Mechanical Data

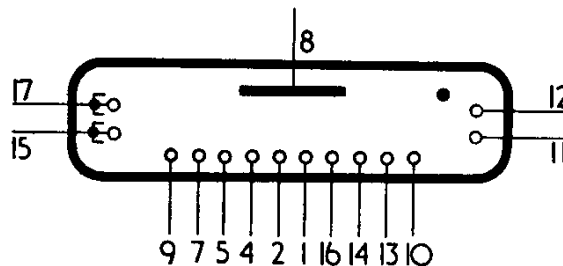
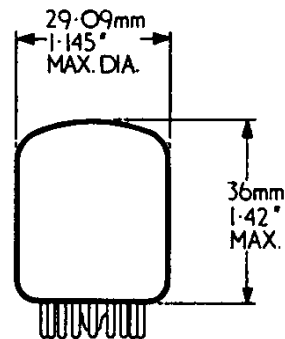
Mounting position	Any
Alignment	For visual indication the tube is viewed through the dome of the bulb.
Base	Cathode 1 is aligned with pin 9 $\pm 3^\circ$ .
Escutcheon	B17A
Valveholder, printed circuit	N79368
Valveholders, tags	E.T.L. code HFD 13534
	A.E.I. type VH26/1703
	E.T.L. code HFD 13045

Valveholder connections and fixing (under-chassis view).



Valveholder requires 1.0" dia. hole in chassis.

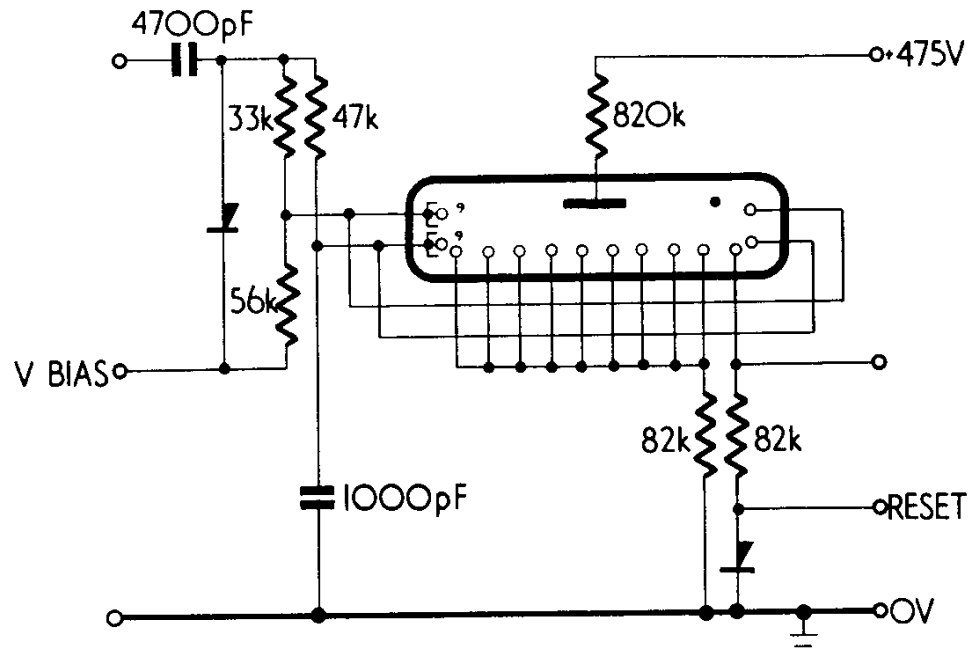
Pin 1	Cathode 6
2	Cathode 5
3	Do not connect
4	Cathode 4
5	Cathode 3
6	Do not connect
7	Cathode 2
8	Anode
9	Cathode 1



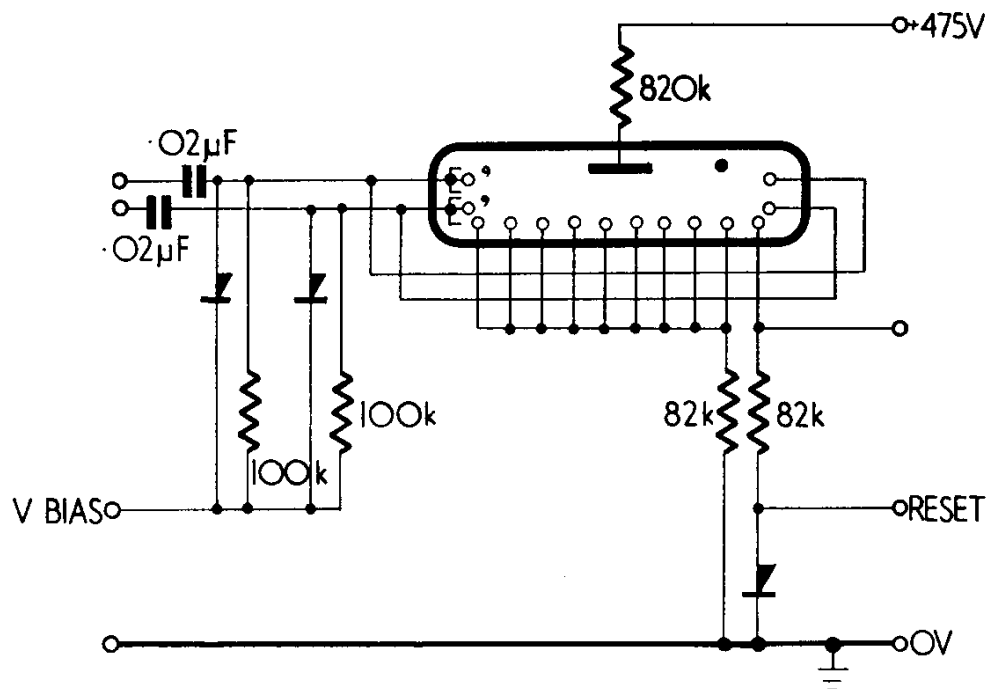
Pin 10	Cathode 0
11	Routing Guide 2
12	Routing Guide 1
13	Cathode 9
14	Cathode 8
15	Commoned Guide 2
16	Cathode 7
17	Commoned Guide 1

# Bi-directional 10-way Selector Dekatron with Routing Guides

# GS10H

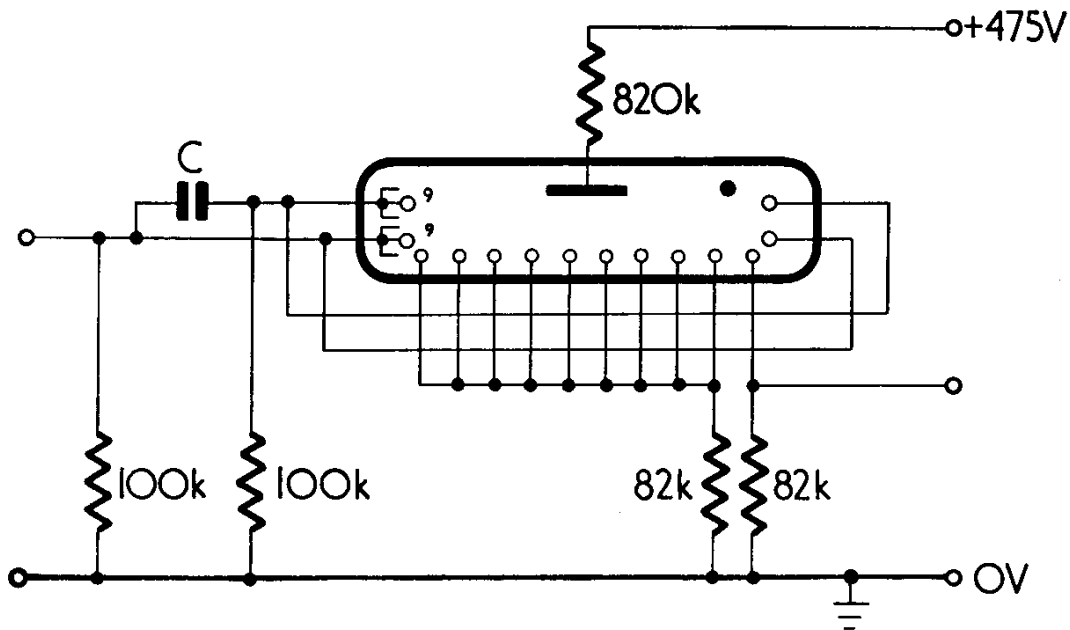


**Fig. 1 Integrated Pulse Drive**



**Fig. 2 Double Pulse Drive**

## GS10H

Bi-directional 10-way Selector  
Dekatron with Routing Guides

f	4 kc/s	2 kc/s	1 kc/s	500 c/s	200 c/s	100 c/s	50 c/s
C	680 pF	·002 $\mu$ F	·005 $\mu$ F	·01 $\mu$ F	·02 $\mu$ F	·05 $\mu$ F	·1 $\mu$ F

**Fig. 3 Sine Wave Drive**

All diodes type 0A202 or equivalent.

Components and Voltages 10% tol. unless specified in data.