



ELECTRONIC TUBE REFERENCE

DM160

Tuning Indicator electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TUNING INDICATOR

Directly heated subminiature voltage indicator designed for visual indication of flip-flop state and other low-power logic conditions.

GENERAL CHARACTERISTICS

BASE DESIGNATION	Subminiature wire-leaded	BASE PINS	–
NOMINAL HEATER	1 V / 30 mA	PARALLEL HEATER	– / –
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Tuning Indicator	
AMPLIFICATION FACTOR	5
MAXIMUM PLATE VOLTAGE	65 V
MAXIMUM CATHODE CURRENT	0.75 mA
<i>Directly heated luminous voltage/state indicator section; Philips data give 750 uA maximum indicator current and 585 uA typical anode current.</i>	

Valvo DM160/6977 is a subminiature voltage-indicator tube designed to show the switching state of flip-flop circuits and to mount directly in printed wiring. It uses a 1.0 V directly heated cathode and a visible luminous strip.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1963 Philips Electron Tubes Handbook V3

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1963 PHILIPS ELECTRON TUBES HANDBOOK V3

Section 1 · Tuning Indicator

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	1 V	Chauffage: direct par C.A. ou C.C.; Vf= 1.0V
Heater current	30 mA	Heizung : direkt durch Wechsel- oder If= 30 mA
Heater current	30 mA	If = 30 24-36 mA
Plate voltage	50 V	Va = 50 V
Plate current	585 mA	Ia = 585 430-740 250 µA
Heater voltage	1 V	Vf = 1.0 Veff

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	50 V	Va = 50V



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1965 Nixie Valvo

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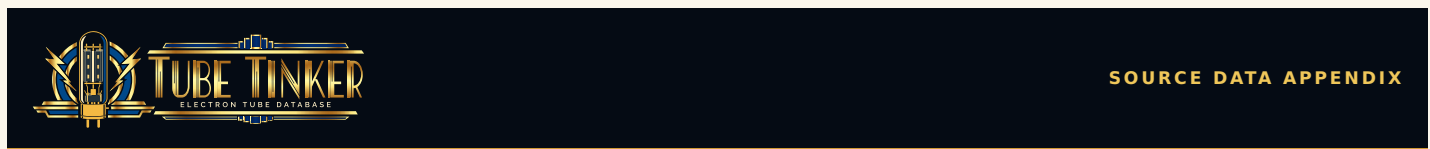
1965 NIXIE VALVO

Section 1 · Tuning Indicator

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	1 V	Direct AC or DC heater; +/-5% absolute limit

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater current	30 mA	Nominal; published tolerance +/-6 mA
Guaranteed life	10000 h	Average over 100 tubes
Failure factor	1.5 permille/1000h	Published reliability factor
Isolation resistance	100 MOhm	Between two electrodes at 50 V
Luminous strip length	11 mm	Approximate

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Operating supply voltage	50 V	AC heater operating data
Series/grid resistor	100 kOhm	Published operating circuit
Maximum anode supply voltage	—100 V	Absolute value
Maximum electrode voltage at zero current	—100 V	Absolute value
Maximum electrode voltage	—65 V	Absolute value
Maximum indicator current	—0.75 mA	Absolute value; 750 uA
Grid resistor	0.1–1 MOhm	Absolute limits



SOURCE OPERATING CONDITIONS

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1969 Nixie Valvo

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1969 NIXIE VALVO

Section 1 · Tuning Indicator

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Maximum electrode voltage	—65 V	Absolute value
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Grid resistor	0.1–1 MOhm	Absolute limits



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1999 Philips 0-D

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1999 PHILIPS 0-D

Section 1 · Tuning Indicator

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode voltage	50 V	—
Anode current	585 uA	—
Grid voltage at brightness 20	-3 V	—
Maximum no-load anode voltage	100 V	—
Maximum negative grid voltage	50 V	—