

ELECTRONIC TUBE REFERENCE

9A8

Voltage Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

PENTODE-TRIODE

Medium-mu triode and sharp-cutoff pentode for combined VHF television oscillator and mixer service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7AE	BASE PINS	9
NOMINAL HEATER	9 V / 300 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	4000 Ω
TRANSCONDUCTANCE	0.005 S
AMPLIFICATION FACTOR	20
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	1.5 W
MAXIMUM CATHODE CURRENT	14 mA
Triode section.	

SECTION2 Pentode	
PLATE RESISTANCE	400000 Ω
TRANSCONDUCTANCE	0.0062 S
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM SCREEN VOLTAGE	175 V
MAXIMUM PLATE DISSIPATION	1.7 W
MAXIMUM SCREEN DISSIPATION	0.5 W
MAXIMUM CATHODE CURRENT	14 mA
<i>Pentode section; 550-V screen rating is the published no-current condition, with lower current-dependent limits retained as parameters.</i>	

Medium-mu triode and sharp-cutoff pentode for combined VHF television oscillator and mixer service.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 Ferranti Technical Handbook

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

1961 FERRANTI TECHNICAL HANDBOOK

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	100 V	—
Plate Current	14 mA	—
Transconductance	5000 μ S	—
Plate Resistance	4000 ohm	—
Amplification Factor	20 ratio	—

1961 FERRANTI TECHNICAL HANDBOOK

Section 2 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	170 V	—
Screen Voltage	170 V	—
Plate Current	10 mA	—
Screen Current	2.8 mA	—
Transconductance	6200 μ S	—
Plate Resistance	400000 ohm	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Conversion Transconductance	2100 μ S	FrequencyChanger

1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	9 V	—
Heater current	300 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	14 mA	TriodeSection

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	2.5 pF	TriodeSection

1961 TUNG SOL

Section 2 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	5.5 pF	PentodeSection
Output capacitance	3.8 pF	PentodeSection

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-2 voltage maximum	175 V	Ik=14mA
Grid-2 voltage maximum	200 V	Ik<10mA
Grid-2 voltage maximum	550 V	NoCurrent

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Conversion conductance	2200 uS	MixerOperatingPoint1
Conversion conductance	2100 uS	MixerOperatingPoint2



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1963 Amperex Condensed

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

1963 AMPEREX CONDENSED

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	9 V	Section1
Heater current	300 mA	Section1
Electrical reference	See 6BL8 / ECF80	OscillatorMixer

1963 AMPEREX CONDENSED

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Electrical reference	See 6BL8 / ECF80	OscillatorMixer



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1966 Tung Sol Electronic Tubes 2 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	100 V	—
Grid 1 Voltage	-2 V	—
Plate Current	14 mA	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Conversion Conductance	2200 μ S	Mixer

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 2 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	170 V	—
Screen Voltage	170 V	—
Grid 1 Voltage	-2 V	—
Plate Current	10 mA	—
Screen Current	2.8 mA	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Conversion Conductance	2100 μ S	Mixer



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1975 RCA RC30

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

1975 RCA RC30

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Miniature type used as combined oscillator and mixer	9 V	Other;PublishedValue1
Miniature type used as combined oscillator and mixer	0.3 V	Other;PublishedValue2
Miniature type used as combined oscillator and mixer	100 V	Other;PublishedValue3

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Miniature type used as combined oscillator and mixer	-200 V	Other;PublishedValue4
Plate Supply Voltage	650 V	MaximumRating;PublishedValue1
Plate Supply Voltage	550 V	MaximumRating;PublishedValue2
Plate Voltage	250 V	MaximumRating;PublishedValue1
Plate Voltage	250 V	MaximumRating;PublishedValue2
Grid-No	2 V	MaximumRating;PublishedValue1
Grid-No	175 V	MaximumRating;PublishedValue2
Cathode Current	14 mA	MaximumRating;PublishedValue1
Cathode Current	14 mA	MaximumRating;PublishedValue2
Plate Dissipation	1.5 W	MaximumRating;PublishedValue1
Plate Dissipation	1.7 W	MaximumRating;PublishedValue2
Grid-No	2 W	MaximumRating;PublishedValue1
Grid-No	0.5 W	MaximumRating;PublishedValue2
For fixed-bias operation	0.5 megohm	MaximumCircuitValue;PublishedValue1
For fixed-bias operation	0.5 megohm	MaximumCircuitValue;PublishedValue2
For cathode-bias operation	0.5 megohm	MaximumCircuitValue;PublishedValue1
For cathode-bias operation	1 megohm	MaximumCircuitValue;PublishedValue2
Maximum Plate Voltage	250 V	Section1
Maximum Plate Dissipation	1.5 W	Section1
Maximum Cathode Current	14 mA	Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	100 V	Characteristic;PublishedValue1
Plate Voltage	170 V	Characteristic;PublishedValue2
Grid-No.1 Voltage	-2 V	Characteristic
Plate Resistance (Approx.) –	0.4 megohm	Characteristic
Plate Current	14 mA	Characteristic;PublishedValue1
Plate Current	10 mA	Characteristic;PublishedValue2
Grid-No	2 mA	Characteristic;PublishedValue1
Grid-No	2.8 mA	Characteristic;PublishedValue2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	5000 μ S	Section1
Amplification Factor	20	Section1

1975 RCA RC30

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	250 V	Section2
Maximum Screen Voltage	175 V	Section2
Maximum Plate Dissipation	1.7 W	Section2
Maximum Screen Dissipation	0.5 W	Section2
Maximum Cathode Current	14 mA	Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	400000 ohm	Section2
Transconductance	6200 μ S	Section2