

RADIO VALVE CO. OF CANADA LTD.

TORONTO, CANADA

Electronic Tube 5961- Preliminary Technical Information

The 5961 is a metal pentagrid converter similar to the 6SA7. It is designed for dependable operation under conditions of shock and vibration usually found in aircraft and mobile applications.

TECHNICAL INFORMATION

GENERAL

Electrical Data

Cathode - Coated Unipotential

Heater Voltage (AC or DC)	6.3 volts
Heater Current	0.3 amp.

Mechanical Data

Envelope - Metal shell MT-8
Base - Small Wafer Octal 8-pin 88-21
Maximum Overall Length - 2 5/8" 8-1
Maximum Seated Height - 2 1/16"
Maximum Diameter - 1 5/16"
Mounting Position - Any

Direct Interelectrode Capacitances

* Signal Grid to Mixer Plate	0.16 uuf max.
* Signal Grid to Osc. Plate	0.15 uuf max.
* Osc. Grid to Plate	0.06 uuf max.
* Grid #3 to all other electrodes	9.5 uuf
* Grid #1 to all other electrodes	7.0 uuf
* Plate to all other electrodes	12.0 uuf
Grid #1 to shell and all electrodes except cathode	4.4 uuf
Grid #1 to Cathode	2.6 uuf
Cathode to shell and all electrodes except G#1	5.0 uuf

* Shell connected to cathode.

Maximum and Minimum Ratings are Design Center Values

CONVERTER SERVICE

Plate Voltage	300 max. volts
Grids #2 & #4 Voltage	100 max. volts
Grids #2 & #4 Supply Voltage	300 max. volts
∅ Grid #3 Voltage	0 min. volts
Plate Dissipation	1.0 max. watt
Screen Dissipation	1.0 max. watt
Total Cathode Current	14 max. ma.

Where the cathode is not directly connected to the heater the heater cathode potential should be kept as low as possible.

Maximum Vibration Output

50 RMS Millivolts

This output is measured across a load resistor of 10,000 ohms as the tube is vibrated with a total sinusoidal motion of 0.08 inches at 25 cycles per second.

Conditions of Test:

Heater Voltage	6.3 volts
Plate Voltage	250 volts
G#1 and G#3 Voltage	-3.4 volts
G#2 & G#4 Voltage	100 volts
G#5 & Shell Voltage	0 volts

CHARACTERISTICS:

	<u>Self-Excitation ϕ</u>		<u>Separate Excitation</u>		
Plate Voltage	100	250	100	250	volts
Grids #2 & #4 Voltage	100	100	100	100	volts
Grid #3 Voltage	0	0	-2	-2	volts
Grid #1 Resistor	20,000	20,000	20,000	20,000	ohms
Plate Res. (approx.)	0.5	1.0	0.5	1.0	megohm
Conversion Transconductance	425	450	425	450	umhos
Conversion Transconductance	2	2	2	2	umhos
Approx. at G#3 of -35 volts					
Plate Current	3.3	3.5	3.3	3.5	ma
Grids #2 & #4 Current	8.5	8.5	8.5	8.5	ma
Grid #1 Current	0.5	0.5	0.5	0.5	ma
Total Cathode Current	12.3	12.5	12.3	12.5	ma

Oscillator Characteristics +

Oscillator Transconductance	4500 micromhos
Oscillator Amplification Factor	13
Oscillator Plate Current	27 ma

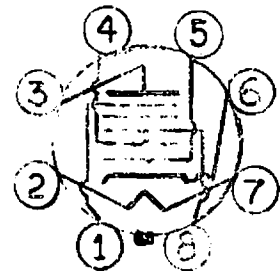
ϕ Characteristics are approximate only and are shown for a Hartley circuit with approximately 2 volts peak in the cathode circuit.

+ Approximate values under the following conditions: Grid #1 #3 and shell at 0 volts;
Grids #2, #4 and plate at 100 volts.

BASE CONNECTIONS

Pin 1	Shell, Grid #5
Pin 2	Heater
Pin 3	Plate
Pin 4	Grids #2 & #4
Pin 5	Grid #1
Pin 6	Cathode
Pin 7	Heater
Pin 8	Grid #3

BASING DIAGRAM



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BOTTOM VIEW
(8R)