

The 7645 is a miniature twin tetrode designed for use in communication equipment as a frequency multiplier and for special amplifier service. The 7645 is identical in characteristics to the 6939 except that the bulb is reduced in height and the internal neutralization is removed. As a tripler it can deliver an actual plate power output of 1.5 watts CCS and 1.75 watts ICAS. Maximum ratings apply to 500 Mc.

The 7645 features a frame grid construction which results in improved performance and reliability.

GENERAL CHARACTERISTICS

MECHANICAL

Max. Bulb Temperature	225°C
Max. Overall Length	2-3/16 inches
Max. Seated Height	1-15/16 inches
Max. Diameter	7/8 inch
Base	Noval, 9 pin, JETEC E9-1

ELECTRICAL

Cathode Indirectly heated, oxide coated

	<u>Parallel</u> ¹	<u>Series</u> ¹
Heater Voltage	6.3	12.6 volts
Heater Current	0.6	0.3 amp

Direct Interelectrode Capacitances

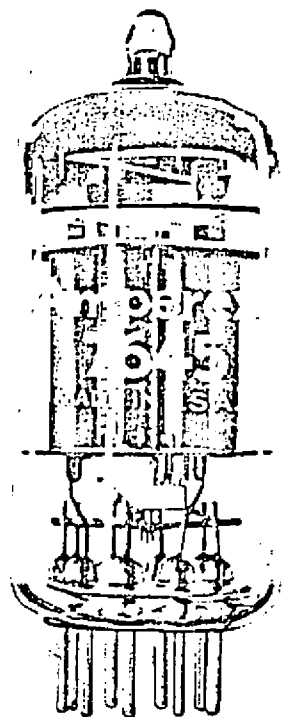
	<u>Each Unit</u>	<u>Both Units Push-Pull</u>
Output	1.6	0.95 pf
Input	6.4	3.8 pf
Plate to Grid No. 1	0.15	pf

Amplification Factor (Each Unit)

Grid No. 2 to Grid No. 1 ($E_b = E_{c2} = 150 \text{ V}; I_b = 25 \text{ ma}$)	31
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Mutual Conductance (Each Unit)

($E_b = E_{c2} = 150 \text{ V}; I_b = 25 \text{ ma}$)	10, 500 micromhos
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Amperex

1. Occasional operation at 6.7 V or 7.0 V with parallel connected heaters (11.4 or 14.0 V with series connection) is possible with battery supply (mobile operation).

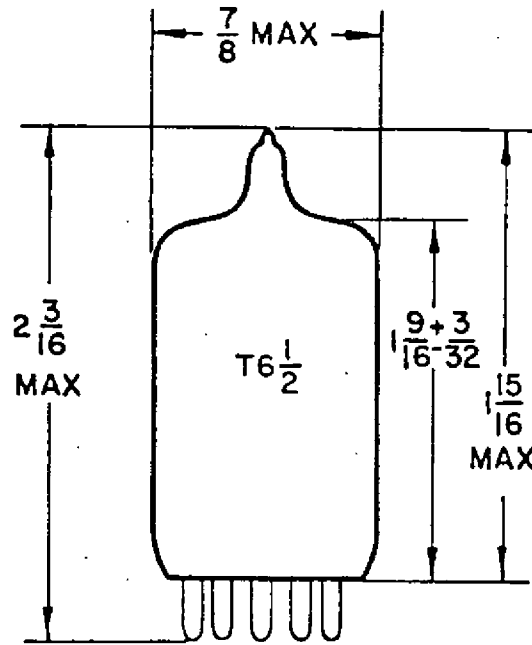
FREQUENCY MULTIPLIER AND TRIPLER
 MAXIMUM RATINGS, ABSOLUTE VALUES
 (FREQUENCY UP TO 500 MC)

	<u>CCS</u>	<u>ICAS</u>
Plate Voltage	250	250 volts
Plate Current	2x30	2x40 ma
Plate Dissipation	2x2.75	2x3.5 watts
Plate Input Power	2x3.6	2x4.5 watts
Grid No. 2 Voltage	200	200 volts
Grid No. 2 Dissipation	2x1.5	2x1.75 watts
Grid No. 1 Voltage	-100	-100 volts
Grid No. 1 Dissipation	2x0.1	2x0.12 watts
Grid No. 1 Current	2x3	2x4 ma
Cathode Current	2x35	2x40 ma
Voltage Between Cathode and Heater	±100	±100 volts

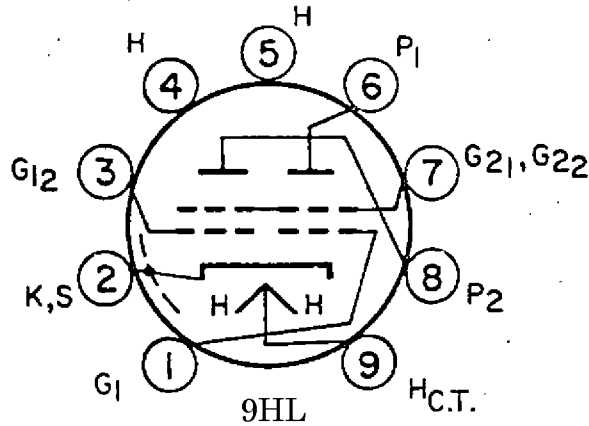
TYPICAL OPERATION

	<u>CCS</u>	<u>ICAS</u>
Frequency	166.6-500	166.6-500 Mc
Plate Voltage	170	200 volts
Grid No. 2 Voltage	150	185 volts
Grid No. 1 Resistance ²	100	100 k ohms
Plate Current	2x20	2x20 ma
Grid No. 2 Current	10.0	11.0 ma
Grid No. 1 Current	2x1.0	2x1.0 ma
Driving Power ³	1.1	1.1 watt
Plate Input Power	2x3.4	2x4.0 watts
Plate Dissipation	2x2.65	2x3.1 watts
Grid No. 2 Dissipation	2x0.75	2x1.0 watts
Output Power	1.5	1.75 watts
Useful Power in Load	1.2	1.4 watt
Circuit Efficiency	80	80 %

2. Each section.
 3. Includes circuit losses.



6-2



PIN CONNECTIONS

- 1- CONTROL GRID, UNIT NO.1
- 2- CATHODE & BEAM PLATES
- 3- CONTROL GRID, UNIT NO.2
- 4- HEATER
- 5- HEATER
- 6- PLATE, UNIT NO.1
- 7- SCREEN GRID
- 8- PLATE, UNIT NO.2
- 9- HEATER CENTER TAP

