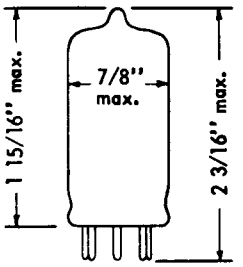
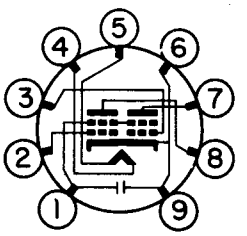
TYPE CK5656

The CK5656 is a heater-cathode type, double tetrode of miniature construction, suitable for push-pull Class A and Class C RF amplifier service up to a frequency of 400 megacycles. The screen grids for the two sections are connected internally and are by-passed to the common cathode terminals by an internal condenser of approximately 15 $\mu\mu f$ capacitance. This terminal arrangement, by reducing the RF impedance between the separate screen grids and cathodes, permits the use of push-pull RF circuits which provide higher input impedance and lower plate circuit losses than other miniature tube types in the 200 to 400 megacycle frequency range.





BOTTOM VIEW

9F

MECHANICAL DATA

ENVELOPE: T-6½ Glass

BASE: Miniature Button 9-Pin

TERMINAL CONNECTIONS:

Pin 1 Grid #2 (Both Units)	Pin 6 Cathode (Both Units)
Pin 2 Grid #1 (Unit #1)	Pin 7 Plate (Unit #2)
Pin 3 Grid #1 (Unit #2)	Pin 8 Plate (Unit #1)
Pin 4 Heater	Pin 9 Cathode (Both Units)
Pin 5 Heater	

MOUNTING POSITION: Any

ELECTRICAL DATA

DIRECT INTERELECTRODE CAPACITANCES: Each Unit *(Without External Shield)* ($\mu\mu$fds)

Grid #1 to Plate	0.06 max.
Grid #1 to All Others Except Plate	3.6
Plate to All Others Except Grid	1.5
Common Screen to Cathode Internal By-pass Condenser (approx.)	15

RATINGS - ABSOLUTE MAXIMUM VALUES - CLASS A1:

Heater Voltage (ac or dc)	6.3±10% volts
Plate Voltage	250 volts
Grid #2 Voltage	165 volts
Plate Dissipation, Each Section	3.0 watts
Grid #2 Dissipation	1.5 watts
Plate Current, Each Section	20 ma.
Heater-Cathode Voltage	100 volts
DC Grid #1 Circuit Resistance, Each Section	100,000 ohms

CHARACTERISTICS AND TYPICAL OPERATION - CLASS A1: (Each Unit)

Heater Voltage (ac or dc)	6.3 volts
Heater Current (Total For Both Units)	0.40 amps.
Plate Voltage	150 volts
Grid #2 Voltage	120 volts
Grid #1 Voltage	−2.0 volts
Plate Resistance (approx.)	60,000 ohms
Transconductance	5800 μmhos
Plate Current	15.5 ma.
Grid #2 Current	2.7 ma.
Grid #1 Voltage (approx.) for Plate Current = 200 μa.	−8.5 volts

RATINGS ABSOLUTE MAXIMUM VALUES - PUSH-PULL CLASS C TELEGRAPHY: (Cont. Service)

(Values are total for both units unless otherwise noted)

Heater Voltage (ac or dc)	6.3±10% volts
Plate Voltage	220 volts
Grid #2 Voltage	165 volts
Negative Grid #1 Voltage	−50 volts
Plate Dissipation, Each Section	2.5 watts
Grid #2 Dissipation	1.5 watts
Plate Current, Each Section	17.5 ma.
Grid #1 Current, Each Section	4.0 ma.
Heater-Cathode Voltage	100 volts
DC Plate Input Power	7.0 watts
DC Grid #1 Circuit Resistance, Each Section	50,000 ohms

Printed in U.S.A.

Tentative Data

RAYTHEON MANUFACTURING COMPANY

RECEIVING AND CATHODE RAY TUBE OPERATIONS

February 15, 1957 NEWTON 58, MASS.

ELECTRICAL DATA (Cont'd)

RATINGS ABSOLUTE MAXIMUM VALUES - PUSH-PULL CLASS C TELEGRAPHY INTERMITTENT "PUSH-to-TALK" SERVICE:

(Values are total for both units unless otherwise noted)

Heater Voltage (ac or dc)	6.3±10% volts
Plate Voltage	250 volts
Grid #2 Voltage	165 volts
Negative Grid #1 Voltage	−50 volts
Plate Dissipation, Each Section	3.5 watts
Grid #2 Dissipation	1.8 watts
Plate Current, Each Section	25 ma.
Grid #1 Current, Each Section	4.0 ma.
Heater-Cathode Voltage	100 volts
DC Plate Input Power	11 watts
DC Grid #1 Circuit Resistance, Each Section	50,000 ohms

CHARACTERISTICS AND TYPICAL OPERATION - PUSH-PULL CLASS C 225 MEGACYCLE RF AMPLIFIER

INTERMITTENT "PUSH-to-TALK" SERVICE:

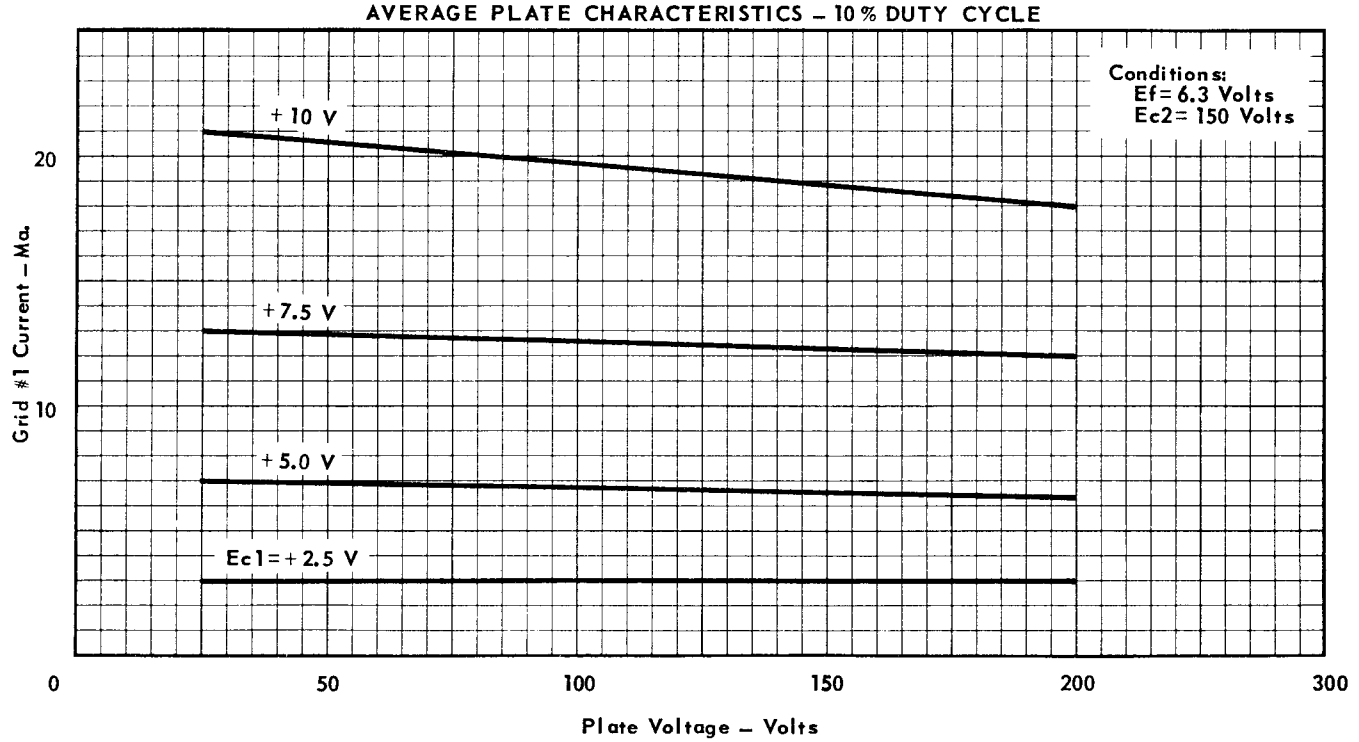
(Values are total for both units unless otherwise noted)

Heater Voltage (ac or dc)	6.3 volts
Heater Current	0.40 amps.
Plate Voltage	220 volts
Grid #2 Voltage (approx.)●	110 volts
DC Grid #1 Voltage	−15 volts
or Separate Grid #1 Resistance for Each Section■	5,000 ohms
Peak RF Grid #1 to Grid #1 Voltage	50.0 volts
Plate Current	45 ma.
Grid #2 Current	10.5 ma.
Grid #1 Current, Each Section	3.0 ma.
DC Plate Input Power	10 watts
Useful RF Power Output, 225 Mc.	4.6 watts

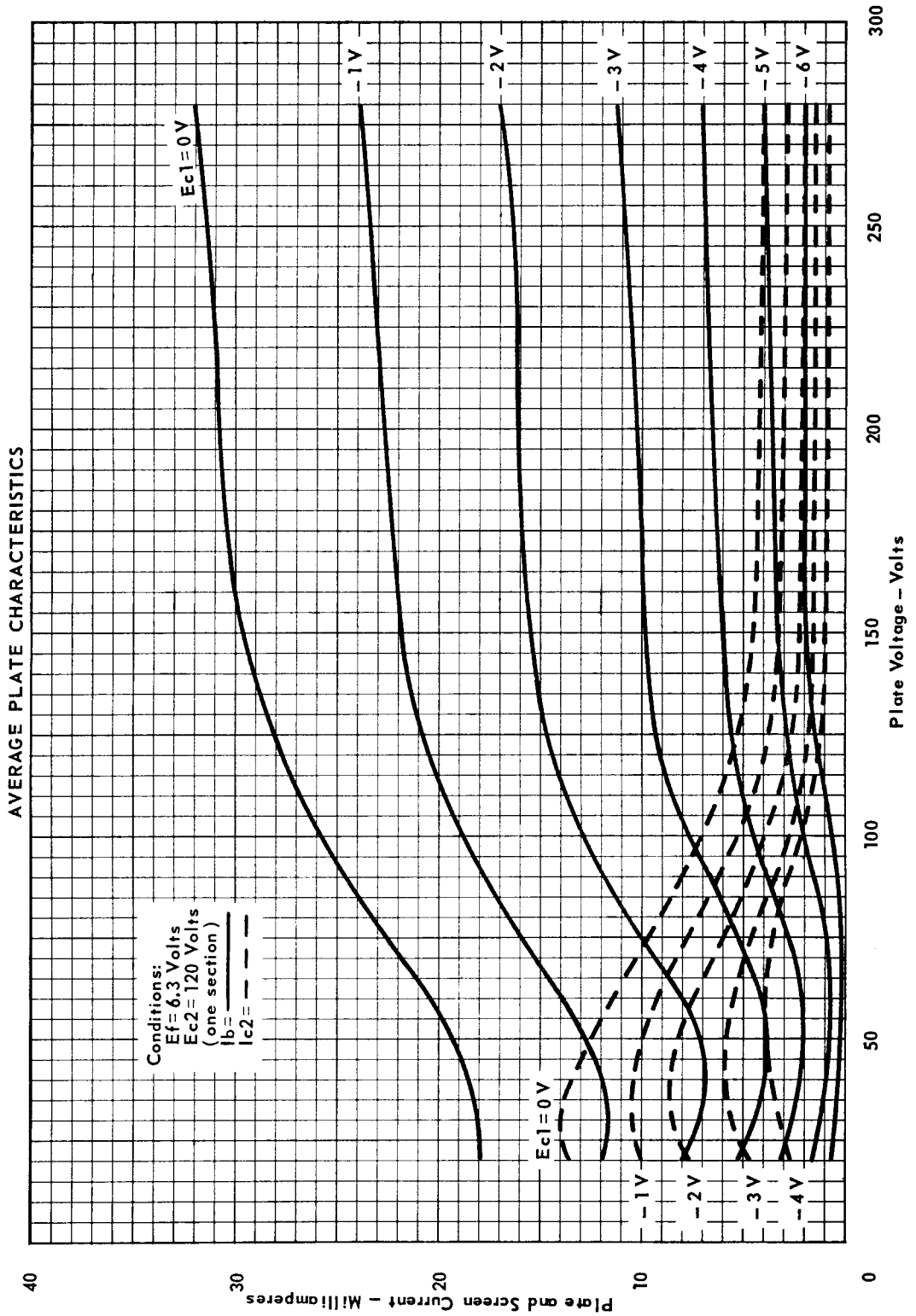
● *Adjust for the required plate current.*

■ *It is recommended that the push-pull RF grid signal be carefully balanced. The use of a separate dc grid resistance for each section from the rectified grid current, provides some compensation for unbalanced RF grid drive voltage.*

AVERAGE PLATE CHARACTERISTICS – 10% DUTY CYCLE



DOUBLE TETRODE



DOUBLE TETRODE

AVERAGE PLATE CHARACTERISTICS – 10% DUTY CYCLE