RCA

obsolete 4/62

6264

6264

UHF MEDIUM-MU TRIODE

"PENCIL TYPE" WITH EXTERNAL PLATE RADIATOR

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:			
Voltage (AC or DC):			
Under Transmitting Conditions		6.0 ± 10%	volts
Under Standby Conditions		6.3 max.	volts
Current at 6.0 volts		0.280	amp
Amplification Factor		40	
Transconductance, for dc plate current of 18.5 milliamperes and dc plate voltage of 200 volts		6800	μmhos

Direct Interelectrode Capacitances:

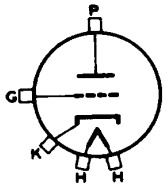
	With External Shield▲	*Without External Shield*	
Grid to Plate	1.5	1.75	μμf
Grid to Cathode	–	2.95	μμf
Plate to Cathode	–	0.07 max.	μμf

Mechanical:

Terminal Connections:

H: Heater

K: Cathode Cylinder (Adjacent to heater-lead terminals)



G: Grid Flange (Between glass sections)

P: Plate Cylinder (With integral radiator)

Mounting Position	Any	
Dimensions and Terminal Connections	See Dimensional Outline	
Radiator	Integral part of tube	
Cooling:		

In many applications, the 6264 does not require forced-air cooling. The radiator in combination with a connector having adequate heat conduction capability will generally provide adequate cooling under conditions of free circulation of air. The cooling must be sufficient to limit the plate-seal temperature to 175°C. When conditions do not provide adequate circulation of air, provision should be made to direct a blast of cooling air from a small blower through the radiator fins. The quantity of air should be sufficient to limit the plate-seal temperature to 175°C. See curves.

Incoming Air Temperature	40 max.	°C
Plate-Seal Temperature (Measured on Plate Seal)	175 max.	°C
Weight (Approx.)	24 grams (0.85 oz)	
Socket for Heater Leads	Cinch No.54A16325, or equivalent	

▲ A flat plate shield 1-1/4" diameter located parallel to the plane of the grid flange and midway between the grid flange and the radiator plate terminal. The shield is tied to the cathode.

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UHF MEDIUM-MU TRIODE

RF POWER AMPLIFIER AND OSCILLATOR--Class C Telegraphy

*Key-down conditions per tube without amplitude modulation**

	CCS#	ICAS##	
Maximum Ratings, *Absolute Values:*			
*For Pressures Down to 46 mm of Hg***			
DC PLATE VOLTAGE	330 max.	400 max.	volts
DC GRID VOLTAGE	-100 max.	-100 max.	volts
DC PLATE CURRENT	40 max.	50 max.	ma
DC GRID CURRENT	25 max.	25 max.	ma
DC CATHODE CURRENT	55 max.	70 max.	ma
PLATE INPUT	13 max.	22 max.	watts
PLATE DISSIPATION	8 max.	13 max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	90 max.	90 max.	volts
Heater positive with respect to cathode	90 max.	90 max.	volts
Typical Operation as Oscillator in Cathode-Drive Circuit at 500 Mc:			
DC Plate Voltage	300	350	volts
DC Grid Voltage†	-25	-30	volts
DC Plate Current	35	35	ma
DC Grid Current (Approx.)	11	13	ma
Useful Power Output (Approx.)	5●	6●	watts
Typical Operation as RF Power Amplifier in Cathode-Drive Circuit at 500 Mc:			
DC Plate Voltage	300	350	volts
DC Grid Voltage†	-42	-45	volts
DC Plate Current	35	40	ma
DC Grid Current (Approx.)	13	15	ma
Driver Power Output (Approx.)	2.4	3	watts
Useful Power Output (Approx.)	7.5●	10●	watts
Maximum Circuit Values (CCS or ICAS Conditions):			
Grid-Circuit Resistance	0.1 max.		megohm

FREQUENCY MULTIPLIER

	CCS#	ICAS##	
Maximum Ratings, *Absolute Values:*			
*For Pressures Down to 46 mm of Hg***			
DC PLATE VOLTAGE	300 max.	350 max.	volts

* Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.

#, ##, **, †, ●: See next page.

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UHF MEDIUM-MU TRIODE

DC GRID VOLTAGE	−125 max.	−140 max.	volts
DC PLATE CURRENT	33 max.	45 max.	ma
DC GRID CURRENT	15 max.	15 max.	ma
DC CATHODE CURRENT	45 max.	55 max.	ma
PLATE INPUT	9.9 max.	15.8 max.	watts
PLATE DISSIPATION	6 max.	9.5 max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	90 max.	90 max.	volts
Heater positive with respect to cathode	90 max.	90 max.	volts

Typical Operation as Tripler to 510 Mc in Cathode-Drive Circuit:

DC Plate Voltage	300	350	volts
DC Grid Voltage†	−110	−122	volts
DC Plate Current	26	36.5	ma
DC Grid Current (Approx.)	4.1	5.8	ma
Driver Power Output (Approx.)	2.75	4.5	watts
Useful Power Output (Approx.)	2.1●	3.4●	watts

Maximum Circuit Values (CCS or ICAS Conditions):

Grid-Circuit Resistance	0.1 max.	megohm

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	Note	*Min.*	*Max.*	
Heater Current	1	0.260	0.300	ma
Grid-to-Plate Capacitance	–	1.50	2.0	μμf
Grid-to-Cathode Capacitance	–	2.50	3.40	μμf
Plate-to-Cathode Capacitance	–	–	0.07	μμf
Plate Current	1,2	13	24	ma
Transconductance	1,2	5400	8200	μmhos
Useful Power Output	3,4	6.5	–	watts

Note 1: With 6.0 volts ac or dc on heater.

Note 2: With dc plate voltage of 200 volts, cathode resistor of 100 ± 1% ohms, and cathode bypass capacitor of 1000 μf.

Note 3: With 5.4 volts ac or dc on heater.

Note 4: With plate voltage of 350 volts, grid resistor adjusted to give a dc plate current of 50 milliamperes in a cavity-type oscillator operating at 500 megacycles per second and having an efficiency of about 75 per cent.

* Corresponds to altitude of about 60000 feet.

\# Continuous Commercial Service.

\#\# Intermittent Commercial and Amateur Service.

● This value of useful power is measured at load of output circuit having an efficiency of about 75 per cent.

† From a grid resistor, or from a suitable combination of grid resistor and fixed supply or grid resistor and cathode resistor.

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UHF MEDIUM-MU TRIODE

Outline Drawing and
Cooling-Requirement Curves for the 6264
are the same as shown for Type 6263

OPERATING FREQUENCY

The 6264 can be operated as a frequency multiplier and as an rf power amplifier and oscillator with full ratings at frequencies up to 500 megacycles per second and with reduced ratings at frequencies as high as 1700 megacycles per second.

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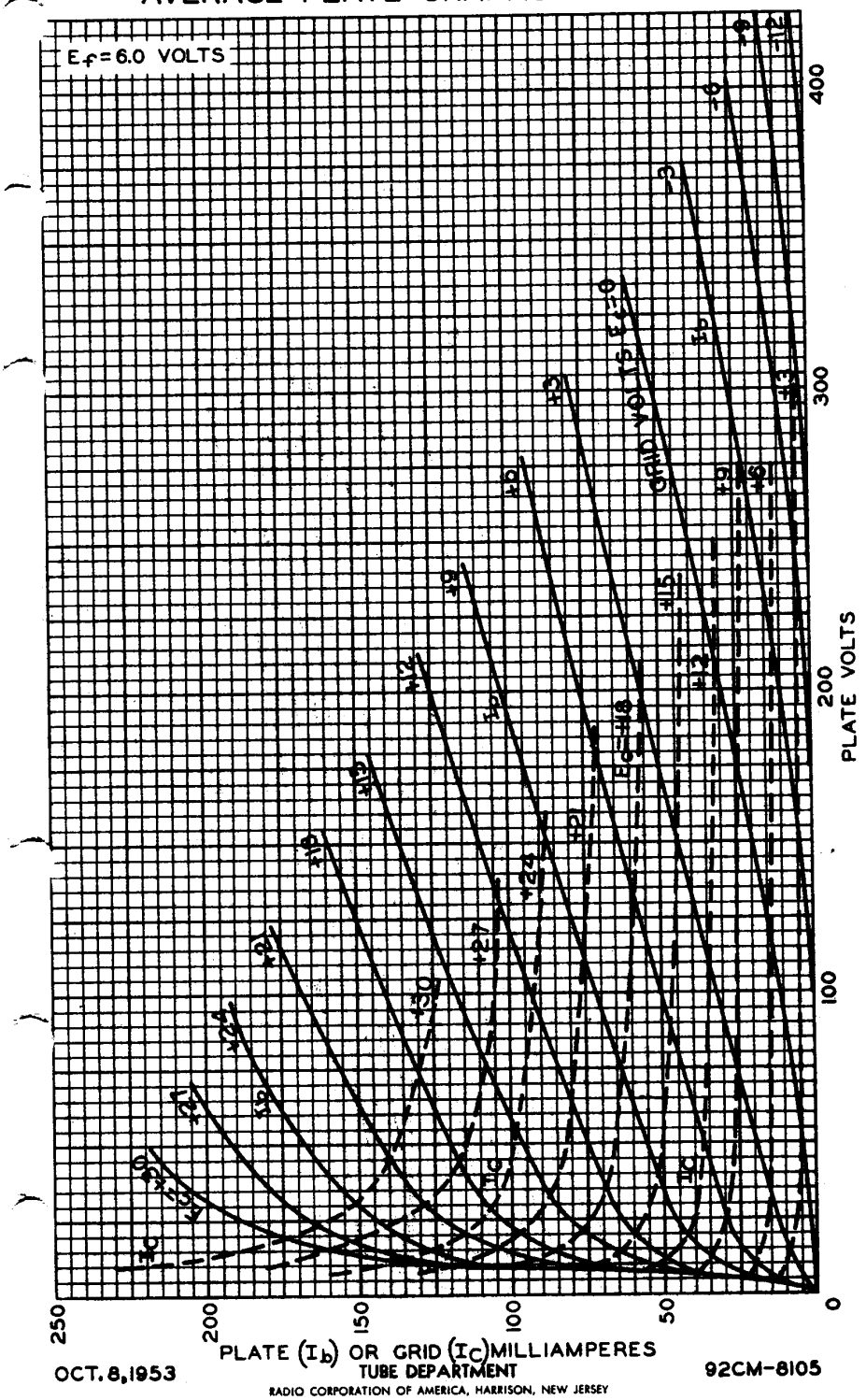
AVERAGE PLATE CHARACTERISTICS



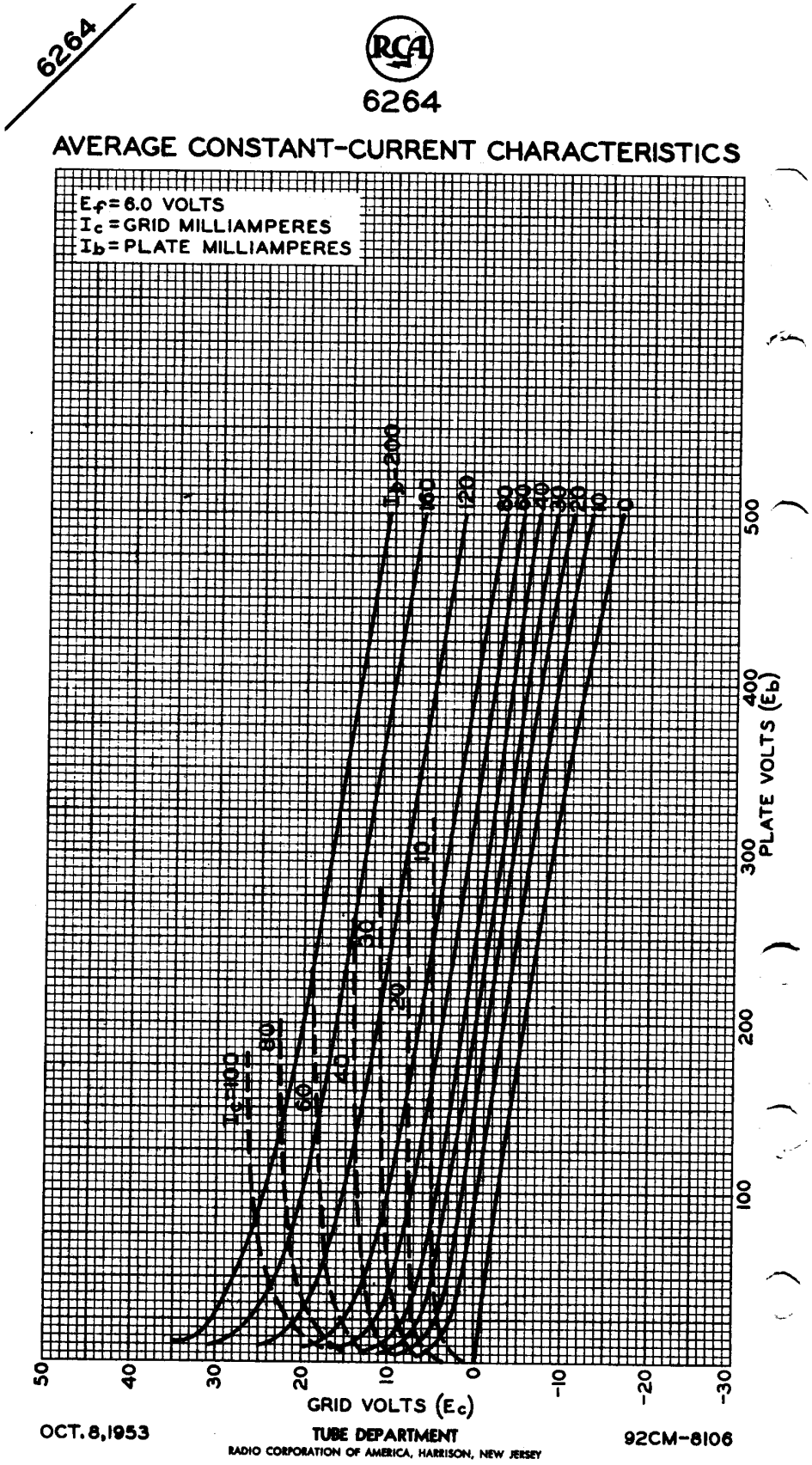
OCT. 8, 1953

TUBE DEPARTMENT

92CM-8105

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

6264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AVERAGE CONSTANT-CURRENT CHARACTERISTICS
E_f = 6.0 VOLTS
I_c = GRID MILLIAMPERES
I_b = PLATE MILLIAMPERES
PLATE VOLTS (E_b)
GRID VOLTS (E_c)
OCT. 8, 1953
TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY
92CM-8106