

RCA Transmitting Tubes

AMPLIFICATION FACTOR*	24	
PLATE RESISTANCE (Approx.)*	4000	ohms
DIRECT INTERELECTRODE CAPACITANCES:		
Grid to plate	1.3	μf
Grid to cathode and heater	2.0	μf
Plate to cathode and heater	0.42	μf

* For radiosonde applications in which the heater is supplied from batteries and the equipment-design requirements of minimum size, light weight, and high efficiency are the primary considerations even though the average life expectancy of the 6026 in such service is only a few hours.

* Plate-supply volts, 120; cathode resistor, 220 ohms, plate milliamperes 12.

OSCILLATOR—Class C Telegraphy

Maximum CCS Ratings:

DC PLATE VOLTAGE	150 max	volts
DC GRID VOLTAGE	-50 max	volts
TOTAL CATHODE CURRENT	40 max	ma
DC GRID CURRENT	10 max	ma
PLATE INPUT	3.3 max	watts
PLATE DISSIPATION	3.0 max	watts
PEAK HEATER-CATHODE VOLTAGE	0 max	volts

Typical Operation as an Oscillator at 400 Mc:

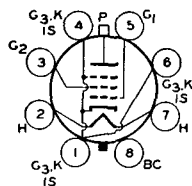
DC Plate Voltage	135	volts
Grid Resistor	1300	ohms
DC Plate Current	20	ma
DC Grid Current (Approx.)	9.5	ma
Useful Power Output	1.25	watts

BEAM POWER TUBE

6146

Small, sturdy, glass-octal heater-cathode type used as af power amplifier and modulator and as rf power amplifier and oscillator. May be used with full input up to 60 Mc and with

reduced input up to 175 Mc. Class C Telegraphy maximum plate dissipation, CCS 20 watts, ICAS 25 watts.



HEATER VOLTAGE (AC/DC)	6.3 $\pm$ 10%	volts
HEATER CURRENT	1.25	amperes
TRANSCONDUCTANCE*	7000	μmhos
MU-FACTOR, Grid No.2 to Grid No.1*	4.5	
DIRECT INTERELECTRODE CAPACITANCES:		
Grid No.1 to plate	0.24 max	μf
Grid No.1 to cathode, grid No.3, grid No.2, internal shield, base sleeve, and heater	13.5	μf
Plate to cathode, grid No.3, grid No.2, internal shield, base sleeve, and heater	8.5	μf

* Plate and grid-No.2 volts, 200; plate milliamperes, 100.

AF POWER AMPLIFIER AND MODULATOR—CLASS AB₂

Maximum Ratings:	CCS		ICAS		
DC PLATE VOLTAGE	600 max		750 max		volts
DC GRID-NO.2 (SCREEN-GRID) VOLTAGE	250 max		250 max		volts
MAXIMUM-SIGNAL DC PLATE CURRENT [■]	125 max		135 max		ma
MAXIMUM-SIGNAL PLATE INPUT [■]	62.5 max		90 max		watts
MAXIMUM-SIGNAL GRID-NO.2 INPUT [■]	3 max		3 max		watts
PLATE DISSIPATION [■]	20 max		25 max		watts
PEAK HEATER-CATHODE VOLTAGE:					
Heater negative with respect to cathode	135 max		135 max		volts
Heater positive with respect to cathode	135 max		135 max		volts
BULB TEMPERATURE (At hottest point)	220 max		220 max		°C

Typical Operation (Values are for 2 tubes):

DC Plate Voltage	400	500	600	600	750	volts
DC Grid-No.2 Voltage*	175	175	165	190	165	volts
DC Grid-No.1 (Control-Grid) Voltage	-41	-44	-44	-48	-46	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage	95	102	97	109	108	volts

RCA Transmitting Tubes

Zero-Signal DC Plate Current.....	33	27	22	28	22	ma
Maximum-Signal DC Plate Current.....	232	242	207	270	240	ma
Zero-Signal DC Grid-No.2 Current.....	1.1	0.7	0.6	1.2	0.3	ma
Maximum-Signal DC Grid-No.2 Current...	18	18	17	20	20	ma
Maximum-Signal DC Grid-No.1 Current...	1.6	1.9	1.1	2	2.6	ma
Effective Load Resistance (Plate to plate)...	3700	4600	6800	5000	7400	ohms
Maximum-Signal Driving Power (Approx.)...	0.2	0.3	0.2	0.3	0.4	watt
Maximum-Signal Power Output (Approx.)...	62	83	90	113	131	watts

Maximum Circuit Values (CCS or ICAS conditions):

Grid-No.1-Circuit Resistance.....	30000† max	ohms
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‡ Averaged over any audio-frequency cycle of sine-wave form.

* Obtained preferably from a separate source or from the plate-voltage supply with a voltage divider.

† For operation at less than maximum ratings, this value may be as high as 100000 ohms.

PLATE-MODULATED RF POWER AMPLIFIER—Class C Telephony

Carrier conditions per tube for use with a maximum modulation factor of 1.0

Maximum Ratings:

	CCS	ICAS	
DC PLATE VOLTAGE.....	480 max	600 max	volts
DC GRID-No.2 VOLTAGE.....	250 max	250 max	volts
DC GRID-No.1 VOLTAGE.....	-150 max	-150 max	volts
DC PLATE CURRENT.....	117 max	125 max	ma
DC GRID-No.1 CURRENT.....	3.5 max	4.0 max	ma
PLATE INPUT.....	45 max	67.5 max	watts
GRID-No.2 INPUT.....	2 max	2 max	watts
PLATE DISSIPATION.....	13.3 max	16.7 max	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode.....	135 max	135 max	volts
Heater positive with respect to cathode.....	135 max	135 max	volts
BULB TEMPERATURE (At hottest point).....	220 max	220 max	°C

Typical Operation:

DC Plate Voltage.....	400	475	600	volts
DC Grid-No.2 Voltage‡.....	150	135	150	volts
From series resistor of.....	33000	51000	56000	ohms
DC Grid-No.1 Voltageδ.....	-87	-77	-87	volts
From grid-No.1 resistor of.....	27000	27000	27000	ohms
Peak RF Grid-No.1 Voltage.....	107	95	107	volts
DC Plate Current.....	112	94	112	ma
DC Grid-No.2 Current.....	7.8	6.4	7.8	ma
DC Grid-No.1 Current (Approx.).....	3.4	2.8	3.4	ma
Driving Power (Approx.).....	0.4	0.3	0.4	watt
Power Output (Approx.).....	32	34	52	watts

Maximum Circuit Values (CCS or ICAS conditions):

Grid-No.1-Circuit Resistance.....	30000† max	ohms
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‡ Obtained preferably from a separate source modulated along with the plate supply, or from the modulated plate supply through a series resistor of value shown.

δ Obtained from grid-No.1 resistor of value shown or from a combination of grid-No.1 resistor with either fixed supply or cathode resistor.

† For operation at less than maximum rated conditions, this value may be as high as 100000 ohms.

RF POWER AMPLIFIER AND OSCILLATOR—Class C Telephony# and

RF POWER AMPLIFIER—Class C FM Telephony

Maximum Ratings:

	CCS	ICAS	
DC PLATE VOLTAGE.....	600 max	750 max	volts
DC GRID-No.2 VOLTAGE.....	250 max	250 max	volts
DC GRID-No.1 VOLTAGE.....	-150 max	-150 max	volts
DC PLATE CURRENT.....	140 max	150 max	ma
DC GRID-No.1 CURRENT.....	3.5 max	4.0 max	ma
PLATE INPUT.....	67.5 max	90 max	watts
GRID-No.2 INPUT.....	3 max	3 max	watts
PLATE DISSIPATION.....	20 max	25 max	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode.....	135 max	135 max	volts
Heater positive with respect to cathode.....	135 max	135 max	volts
BULB TEMPERATURE (At hottest point).....	220 max	220 max	°C

Typical Operation as Amplifier up to 60 Mc

DC Plate Voltage.....	500	600	600	750	volts
DC Grid-No.2 Voltage.....	170	150	180	160	volts
From series resistor of.....	36000	51000	43000	56000	ohms
DC Grid-No.1 Voltage [†]	-66	-58	-71	-62	volts
From grid-No.1 resistor of.....	27000	20000	24000	20000	ohms
From cathode resistor of.....	470	470	430	470	ohms
Peak RF Grid-No.1 Voltage.....	84	73	91	79	volts
DC Plate Current.....	135	112	150	120	ma
DC Grid-No.2 Current.....	9	9	10	11	ma
DC Grid-No.1 Current (Approx.).....	2.5	2.8	2.8	3.1	ma
Driving Power (Approx.).....	0.2	0.2	0.3	0.2	watt
Power Output (Approx.).....	48	52	66	70	watts

Typical Operation as Amplifier at 175 Mc

DC Plate Voltage.....	320	400	volts
DC Grid-No.2 Voltage [†]	180	190	volts
From series resistor of.....	13000	20000	ohms
DC Grid-No.1 Voltage [‡]	-51	-54	volts
From grid-No.1 resistor of.....	27000	24000	ohms
From cathode resistor of.....	330	330	ohms
Peak RF Grid-No.1 Voltage.....	64	68	volts
DC Plate Current.....	140	150	ma
DC Grid-No.2 Current.....	10	10.4	ma
DC Grid-No.1 Current (Approx.).....	2	2.2	ma
Driving Power (Approx.).....	3	3	watts
Power Output (Approx.).....	25	35	watts

Maximum Circuit Values (CCS or ICAS conditions):

Grid-No.1-Circuit Resistance..... 30000[†] max ohms

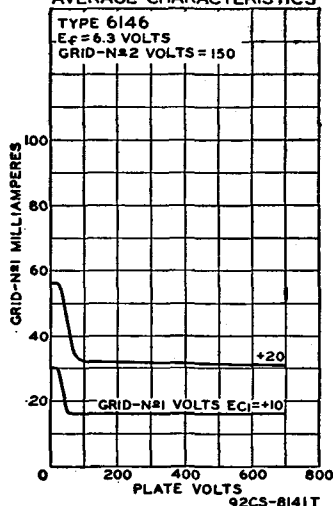
Key-down conditions per tube without amplitude modulation. Amplitude modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.

[†] Obtained preferably from separate source, from plate-voltage supply with a voltage divider, or through series resistor of value shown. Grid-No.2 voltage must not exceed 400 volts under key-up conditions.

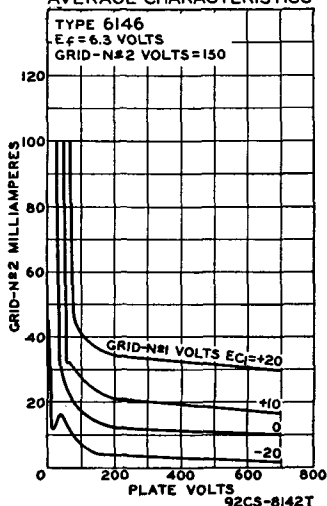
[‡] Obtained from fixed supply, by grid-No.1 resistor, by cathode resistor, or by combination methods.

[†] For operation at less than maximum rated conditions, this value may be as high as 100000 ohms.

AVERAGE CHARACTERISTICS



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OPERATING CONSIDERATIONS

Type 6146 requires Octal socket and may be mounted in any position. Simplified shielding and good performance are facilitated by the base sleeve with separate base-pin connection and the triple base-pin connection for cathode, grid No.3, and internal shield. OUTLINE 17, *Outlines* Section.

For operation at 120 Mc, plate voltage should be reduced to 67 per cent of maximum rating; plate input to 79 per cent. At 175 Mc, plate voltage should be reduced to 53 per cent of maximum rating; plate input to 66 per cent.

Plate shows no color when tube is operated at maximum CCS or ICAS ratings.

