



6524

TWIN BEAM POWER TUBE

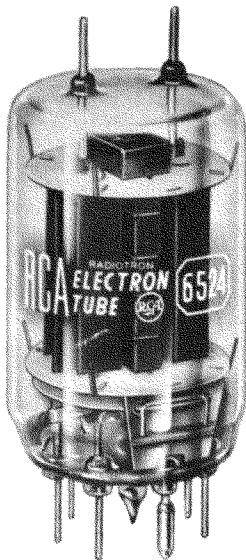
Small Size
Sturdy Structure

High Power Sensitivity
45 Watts Input (ICAS) at 470 Mc
85 Watts Input (ICAS) up to 100 Mc

3-9/16" Max. Length
1-11/16" Max. Diameter

TENTATIVE DATA

RCA-6524 is a small, sturdy, twin beam power tube intended primarily for use as a push-pull rf power amplifier or as a frequency tripler in fixed and mobile equipment operating in the uhf range between 450 and 470 megacycles per second. At lower frequencies in the vhf range, it can be operated with higher plate voltage and plate input to give increased power output. The 6524 is also useful as an af power amplifier and modulator.



The 6524 has a maximum plate dissipation rating of 25 watts under ICAS conditions in modulator service and in cw service. In the latter service, it can be operated with full input to

100 Mc and with reduced input to 470 Mc. In class C telegraphy and frequency-modulated service at 462 Mc under ICAS conditions, the 6524 can deliver a power output of approximately 20 watts; and as a tripler to 462 Mc, it can deliver about 8 watts.

Because of its high power sensitivity and high efficiency, the 6524 can be operated with relatively low plate voltage to give large power output with small driving power.

The excellent efficiency obtainable with the 6524 in push-pull service with circuits of the conventional line type, even at the maximum frequency of 470 Mc, is made possible by several design features. Included among these is the balanced, compact structure of the beam power units which have low interelectrode capacitances, close electrode spacing, and a cathode common to

the two units. Rf losses are minimized by the use of short, heavy, internal leads and high-conductivity seals. Use of a single cathode common to the two units, instead of a cathode for each unit, reduces cathode inductance to a negligible value. Furthermore, input degeneration is prevented by the balanced arrangement of the units in push-pull service.

DATA

Electrical:

Heater, for unipotential Cathode:

Voltage (AC or DC)	6.3 ± 10% volts
Current	1.25 amperes

Transconductance (Each Unit)

for dc plate volts = 200, dc grid-No.2 volts = 200, and dc plate ma. = 50. . .	4500	μmhos
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Mu-Factor, Grid No.2 to Grid No.1

(Each Unit) for dc plate volts = 200, dc grid-No.2 volts = 200, and dc plate ma. = 50.	8.5
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Direct Interelectrode Capacitances (Each Unit):*

Grid No.1 to plate	0.11 max.	μf
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2 (pins 1 & 7), and heater	7	μf
Plate to cathode & grid No.3 & internal shield, grid No.2 (pins 1 & 7), and heater	3.4	μf

Mechanical:

Mounting Position.	Any
Maximum Overall Length	3-9/16"
Seated Length.	3" ± 1/8"
Maximum Diameter	1-11/16"
Bulb	See <i>Dimensional Outline</i>
Bulb Terminals (Two)	See <i>Dimensional Outline</i>
Base	Medium-Button Septar 7-Pin (JETEC No.E7-20)
Weight (Approx.)	3 oz
Bulb Temperature (At hottest point).	210 max. °C
Cooling: Free circulation of air around the tube is required. In addition, some forced-air cooling will generally be required to prevent exceeding the specified maximum bulb temperature.	

AF POWER AMPLIFIER & MODULATOR--Class AB₂[†]

Values are on a per-tube basis

CCS^o ICAS^{oo}

Maximum Ratings, Absolute Values:

DC PLATE VOLTAGE	500 max.	600 max.	volts
DC GRID-No.2 (SCREEN) VOLTAGE.	300 max.	300 max.	volts
DC GRID-No.2 SUPPLY VOLTAGE	400 max.	400 max.	volts
MAX.-SIGNAL DC PLATE CURRENT**.	150 max.	150 max.	ma
MAX.-SIGNAL PLATE INPUT**.	70 max.	85 max.	watts



AF POWER AMPLIFIER & MODULATOR (Cont'd)

	CCS ^o	ICAS ^{oo}	
MAX.-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

Typical CCS Operation:

DC Plate Voltage	400	500	volts
DC Grid-No.2 Voltage▲ . . .	200	200	volts
DC Grid-No.1 (Control-Grid) Voltage:			
From fixed-bias source . .	-23	-26	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage. . .	72	70	volts
DC Plate Current:			
Zero-signal value.	25	20	ma
Max.-signal value.	145	116	ma
DC Grid-No.2 Current:			
Zero-signal value.	0.1	0.1	ma
Max.-signal value.	10	10	ma
DC Grid-No.1 Current:			
Max.-signal value.	2.4	2.6	ma
Effective Load Resistance (Plate to plate)	7100	11100	ohms
Max.-Signal Driving Power (Approx.)◆	0.1	0.1	watt
Max.-Signal Power Output (Approx.)	39	40	watts

Typical ICAS Operation:

DC Plate Voltage	500	600	volts
DC Grid-No.2 Voltage▲ . . .	200	200	volts
DC Grid-No.1 (Control-Grid) Voltage:			
From fixed-bias source . .	-25	-26	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage. . .	76	76	volts
DC Plate Current:			
Zero-signal value.	25	21	ma
Max.-signal value.	145	135	ma
DC Grid-No.2 Current:			
Zero-signal value.	0.1	0.1	ma
Max.-signal value.	10	13	ma
DC Grid-No.1 Current:			
Max.-signal value.	2.9	3.3	ma
Effective Load Resistance (Plate to plate)	8900	11400	ohms
Max.-Signal Driving Power (Approx.)◆	0.1	0.1	watt
Max.-Signal Power Output (Approx.)	50	57	watts

Maximum Circuit Values (CCS or ICAS):

Grid-No.1-Circuit Resistance:◆			
With fixed bias.	30000 max.	ohms	
With cathode bias.	Not recommended		

PLATE-MODULATED PUSH-PULL RF POWER AMPLIFIER-- Class C Telephony

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

Values are on a per-tube basis

	CCS ^o	ICAS ^{oo}	
Maximum Ratings, Absolute Values:			
For max. plate voltage and max. plate input above 100 Mc, see Rating Chart I			
DC PLATE VOLTAGE	400 max.	500 max.	volts
DC GRID-No.2 (SCREEN) VOLTAGE.	300 max.	300 max.	volts
DC GRID-No.2 SUPPLY VOLTAGE	400 max.	400 max.	volts

DC GRID-No.1 (CONTROL-GRID) VOLTAGE.	-200 max.	-200 max.	volts
DC PLATE CURRENT	125 max.	125 max.	ma
DC GRID-No.1 CURRENT	4 max.	4 max.	ma
PLATE INPUT.	45 max.	55 max.	watts
GRID-No.2 INPUT.	2 max.	2 max.	watts
PLATE DISSIPATION.	13.5 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

Typical Operation up to 100 Mc:

DC Plate Voltage	400	500	volts
DC Grid-No.2 Voltage (Approx.)◆	200	200	volts
From an adjustable series resistor having max. value of	45000	45000	ohms
DC Grid-No.1 Voltage▲ . . .	-61	-61	volts
From combination employing grid resistor of . . .	6200	6200	ohms
with fixed bias of . . .	-45	-45	volts
DC Plate Current	100	100	ma
DC Grid-No.2 Current (Approx.)	7	7	ma
DC Grid-No.1 Current (Approx.)	2.5	2.5	ma
Driving Power (Approx.)..	0.2	0.2	watt
Power Output (Approx.)◆. .	31	40	watts

Typical Operation at 462 Mc:

DC Plate Voltage	300	300	volts
DC Grid-No.2 Voltage (Approx.)◆	200	240	volts
From an adjustable series resistor having max. value of	45000	25000	ohms
DC Grid-No.1 Voltage▲ . . .	-60	-60	volts
From combination employing grid resistor of . . .	15000	15000	ohms
with fixed bias of . . .	-45	-45	volts
DC Plate Current	75	95	ma
DC Grid-No.2 Current (Approx.)	4	5.5	ma
DC Grid-No.1 Current (Approx.)	1	1	ma
Driver Power Output (Approx.)	7	7	watts
Useful Power Output (Approx.)●●	9	12	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance‡	30000 max.	30000 max.	ohms
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PUSH-PULL RF POWER AMPLIFIER & OSCILLATOR-- Class C Telegraphy□

and

PUSH-PULL RF POWER AMPLIFIER--Class C FM Telephony

Values are on a per-tube basis

	CCS ^o	ICAS ^{oo}	
Maximum Ratings, Absolute Values:			
For max. plate voltage and max. plate input above 100 Mc, see Rating Chart II			
DC PLATE VOLTAGE	500 max.	600 max.	volts
DC GRID-No.2 (SCREEN) VOLTAGE.	300 max.	300 max.	volts
DC GRID-No.2 SUPPLY VOLTAGE	400 max.	400 max.	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE.	-200 max.	-200 max.	volts
DC PLATE CURRENT	150 max.	150 max.	ma
DC GRID-No.1 CURRENT	4 max.	4 max.	ma
PLATE INPUT.	70 max.	85 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

Typical Operation up to 100 Mc:

DC Plate Voltage	500	600	volts
DC Grid-No.2 Voltage (Approx.) [⊕] . .	200	200	volts
From an adjustable series resistor having max. value of	40000 [■]	40000 [■]	ohms
DC Grid-No.1 Voltage [■] . . .	-44	-44	volts
From grid resistor of . .	12000	12000	ohms
From cathode resistor of	330	330	ohms
DC Plate Current	120	120	ma
DC Grid-No.2 Current (Approx.)	8	8	ma
DC Grid-No.1 Current (Approx.)	3.7	3.7	ma
Driving Power (Approx.) [†] . .	0.2	0.2	watt
Power Output (Approx.) [‡] . .	46	56	watts

Typical Operation as Amplifier at 462 Mc:[•]

DC Plate Voltage	300	300	volts
DC Grid-No.2 Voltage (Approx.) [⊕] . .	200	250	volts
From an adjustable series resistor having max. value of	60000	20000	ohms
DC Grid-No.1 Voltage [■] . . .	-31	-38	volts
From grid resistor of . .	12000	12000	ohms
From cathode resistor of	240	240	ohms
DC Plate Current	120	150	ma
DC Grid-No.2 Current (Approx.)	3	6	ma
DC Grid-No.1 Current (Approx.)	2.6	3.2	ma
Driver Power Output (Approx.)	7	7	watts
Useful Power Output (Approx.) ^{••}	16	20	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance [†]	30000	30000 max.	ohms
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From an adjustable series resistor having max. value of	30000	20000	ohms
DC Grid-No.1 Voltage [■] . . .	-148	-148	volts
From grid resistor of . .	51000	51000	ohms
DC Plate Current	90	110	ma
DC Grid-No.2 Current (Approx.)	5	6.5	ma
DC Grid-No.1 Current (Approx.)	2.9	2.9	ma
Driver Power Output (Approx.)	4	4	watts
Useful Power Output (Approx.) ^{••}	7	8.5	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance ^{††}	60000 max.	60000 max.	ohms
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CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	Note	Min.	Max.	
Heater Current	1	1.175	1.325	amp
Mu-Factor, Grid No.2 to Grid No.1 (Each Unit). .	1, 2	7	10	
Direct Interelectrode Capacitances (Each Unit):				
Grid No.1 to plate . . .	3	-	0.11	μf
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2 (pins 1 & 7), and heater . .	3	5.8	8.2	μf
Plate to cathode & grid No.3 & internal shield, grid No.2 (pins 1 & 7), and heater	3	2.6	4.2	μf

Note 1: With 6.3 volts ac on heater.

Note 2: With dc plate voltage of 200 volts, dc grid-No.2 voltage of 200 volts, and dc plate current of 50 ma.

Note 3: With no external shield.

* With no external shield.

† Subscript 2 indicates that grid-No.1 current flows during some part of the input cycle.

o Continuous Commercial Service.

oo Intermittent Commercial and Amateur Service.

** Averaged over any audio-frequency cycle of sine-wave form.

▲ Preferably obtained from a separate source or from the plate-voltage supply with a voltage divider.

◆ Driver stage should be capable of supplying the specified driving power at low distortion to the No.1 grids of the AB₂ stage. To minimize distortion, the effective resistance per grid-No.1 circuit of the AB₂ stage should be held at a low value. For this purpose, the use of transformer coupling is recommended. In no case, however, should the total dc grid-No.1-circuit resistance exceed 30000 ohms.

● Obtained preferably from a separate source modulated with the plate supply, or from the modulated plate supply through a series resistor. It is recommended that this resistor be adjustable to permit obtaining the desired operating plate current after initial tuning adjustments are completed.

■ Connected to a 400-volt tap or suitable voltage divider across the plate-supply voltage.

★ Obtained from a combination of grid-No.1 resistor with either fixed supply or cathode resistor. The combination of grid-No.1 resistor and fixed supply has the advantage of not only protecting the tube from damage through loss of excitation but also of minimizing distortion by bias-supply compensation.

⊕ At 100 Mc, useful power output measured at load of output circuit is approximately 29 watts CCS and 36 watts ICAS.

•• This value of useful power is measured at load of output circuit.

FREQUENCY TRIPLER--Class C

Values are on a per-tube basis
CCS^o ICAS^{oo}

Maximum Ratings, Absolute Values:

For max. plate voltage and max. plate input above 100 Mc, see Rating Chart III

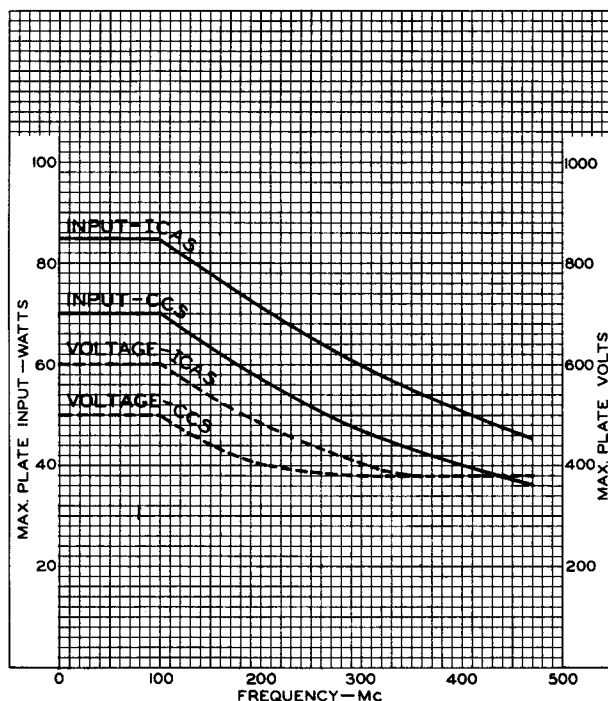
DC PLATE VOLTAGE	400 max.	400 max.	volts
DC GRID-No.2 (SCREEN) VOLTAGE. .	300 max.	300 max.	volts
DC GRID-No.2 SUPPLY VOLTAGE	400 max.	400 max.	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE. .	-200 max.	-200 max.	volts
DC PLATE CURRENT	100 max.	115 max.	ma
DC GRID-No.1 CURRENT . . .	4 max.	4 max.	ma
PLATE INPUT.	36 max.	45 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

Typical Operation as Tripler to 462 Mc:

DC Plate Voltage	300	300	volts
DC Grid-No.2 Voltage (Approx.) [⊕]	220	250	volts

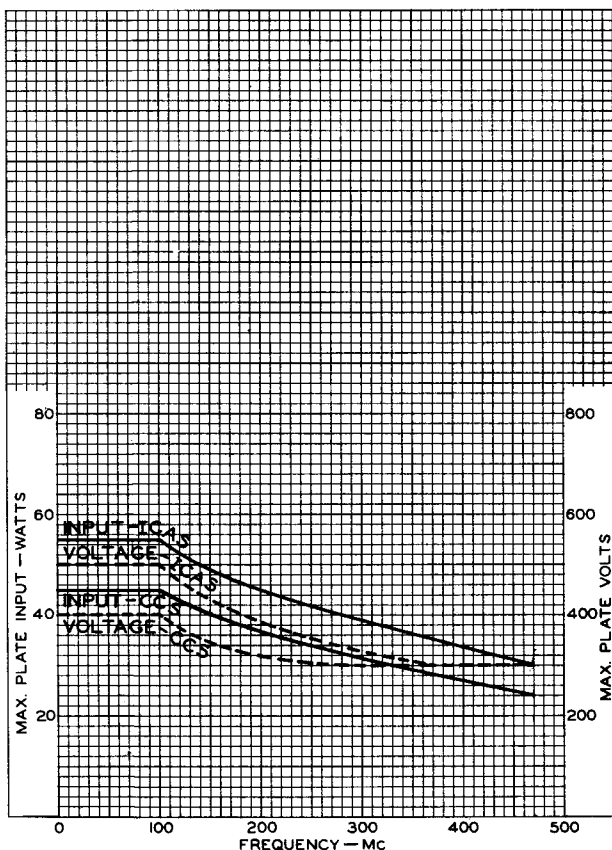


- † When grid No.1 is driven positive, the total dc grid-No.1-circuit resistance should not exceed the specified value of 30000 ohms. If this value is insufficient to provide adequate bias, the additional required bias must be supplied by a cathode resistor or fixed supply.
- Key-down conditions per tube without amplitude modulation. Amplitude modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.
- ⊙ obtained preferably from a separate source, or from the plate-supply voltage with a voltage divider, or through a series resistor. A series grid-No.2 resistor should be used only when the 6524 is used in a circuit which is not keyed. It is recommended that this resistor be adjustable to permit obtaining the desired operating plate current after initial tuning adjustments are completed. 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.
- ⊞ At 100 Mc, useful power output measured at load of output circuit is approximately 43 watts CCS and 52 watts ICAS.
- Typical operation as an oscillator at 462 Mc is the same as that shown for amplifier service except that the useful power output measured at load of output circuit is approximately 9 watts CCS and 13 watts ICAS.
- †† When grid No.1 is driven positive, the total dc grid-No.1-circuit resistance should not exceed the specified value of 60000 ohms. If this value is insufficient to provide adequate bias, the additional required bias must be supplied by a cathode resistor or fixed supply.



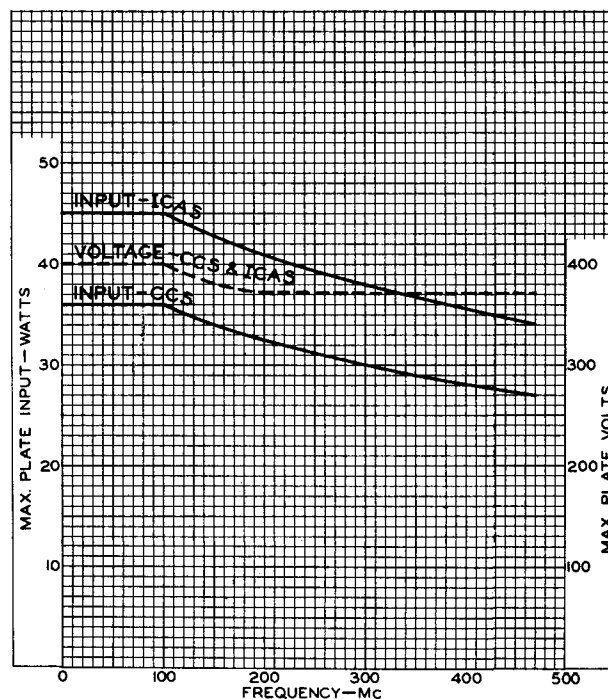
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Rating Chart II for Type 6524 in Class C Telegraphy Service.



92CM-8347

Rating Chart I for Type 6524 in Plate-Modulated Class C Telephony Service.



92CM-8349

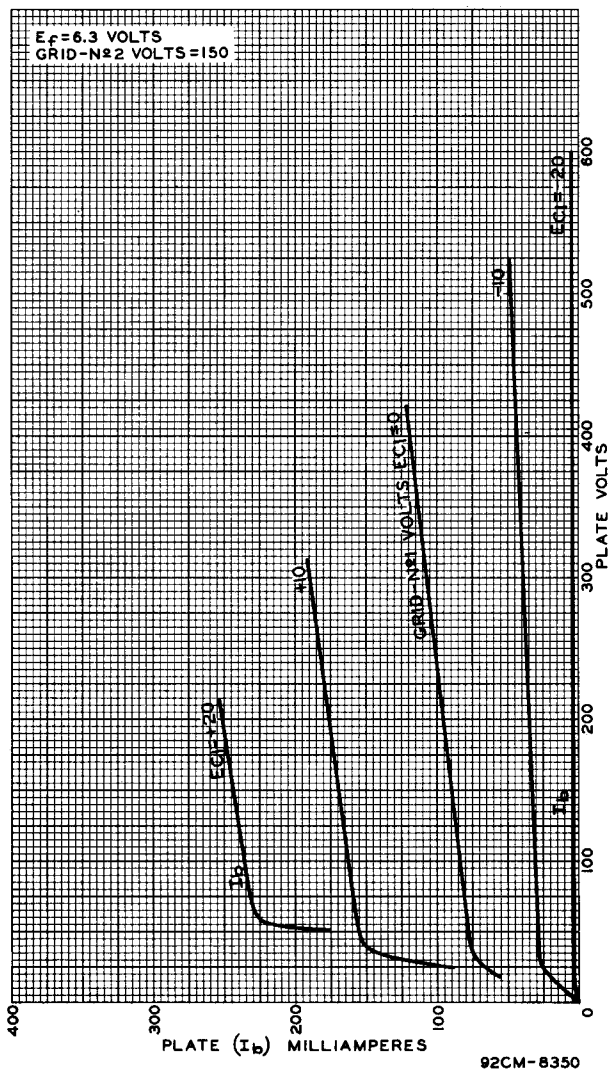
Rating Chart III for Type 6524 in Class C Tripler Service.



OPERATING CONSIDERATIONS

The *maximum ratings* in the tabulated data for the 6524 are limiting values above which the serviceability of the 6524 may be impaired from the viewpoint of life and satisfactory performance. Therefore, in order not to exceed these absolute ratings, the equipment designer has the responsibility of determining an average design value for each rating below the absolute value

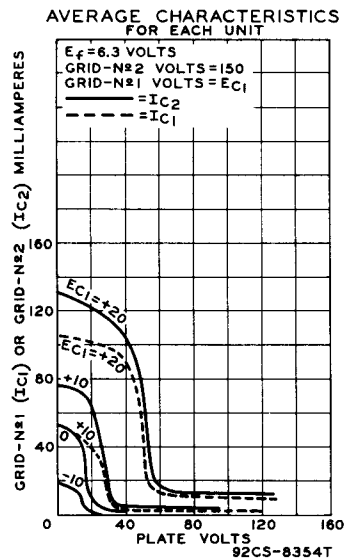
manner as other ratings. The temperature should be measured at the hottest point on the bulb with the tube operating in the completely assem-



Average Plate Characteristics for Each Unit of Type 6524.

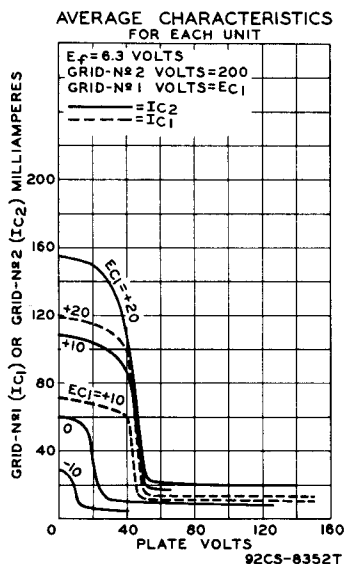
of that rating by an amount such that the absolute values will never be exceeded under any normal condition of supply-voltage variation, load variation, or manufacturing variation in the equipment itself.

The *maximum bulb temperature* of 210°C is a tube rating and is to be observed in the same



Average Characteristics for Each Unit of Type 6524.

bled equipment with all covers in place, and delivering the maximum output under the highest ambient-temperature conditions and the most severe operating cycle for which the equipment



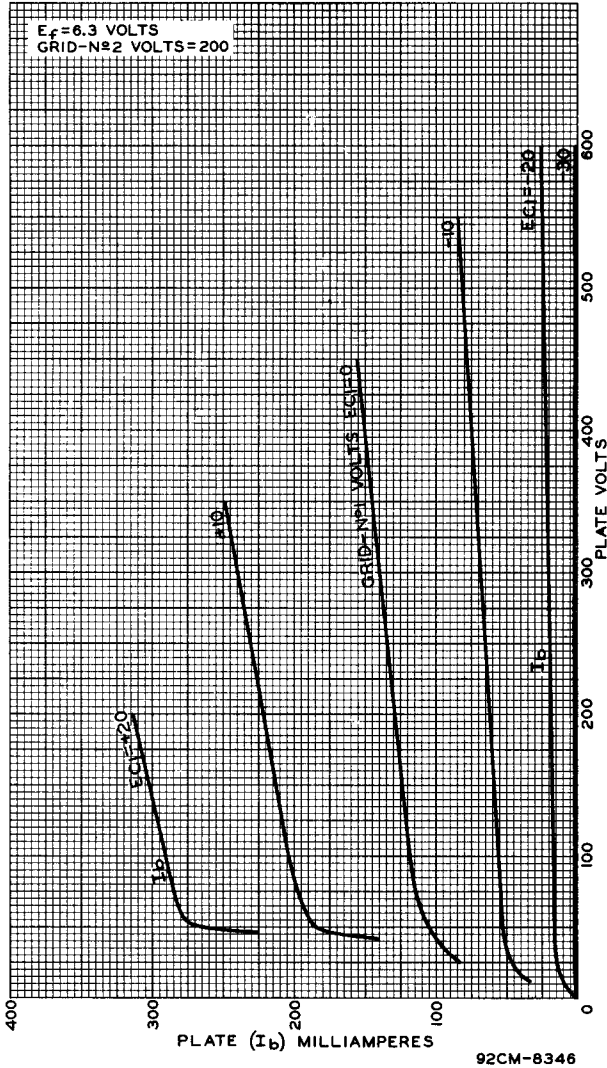
Average Characteristics for Each Unit of Type 6524.

is designed. The temperature may be measured with temperature-sensitive paint, such as Tempilaq. The latter is made by the Tempil Corporation, 132 W. 22nd Street, New York 11, N.Y., in the form of liquid and stick.

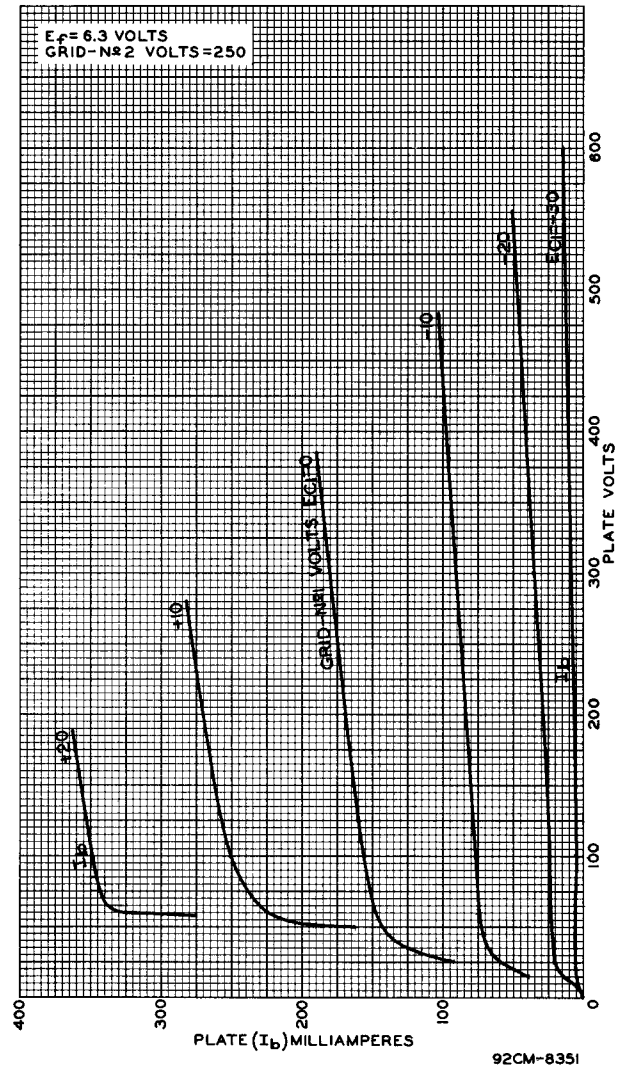


Operation of the 6524 at frequencies above 100 Mc requires reduction in the applied plate voltage and plate input as shown by the Rating Charts I, II, and III. In using these charts, it is to be noted that the maximum plate input that can be applied to the 6524 operating

A protective device, such as a fuse, should be used to protect not only the plates but also the No.2 grid against overload. In order to prevent excessive plate-current flow and resultant overheating of the tube, the plate circuits should be fused. Similarly, a fuse in the lead



Average Plate Characteristics for Each Unit of Type 6524.



Average Plate Characteristics for Each Unit of Type 6524.

at any given frequency must be chosen, depending on circuit efficiency, so that the plate-dissipation rating of the 6524 will not be exceeded.

The rated plate voltage and grid-No.2 voltage of the 6524 are high enough to be dangerous to the user. Care should be taken during adjustment of circuits, especially when exposed circuit parts are at high dc potential.

When a new circuit is tried or when adjustments are made, it is advisable to reduce the plate voltage and grid-No.2 voltage.

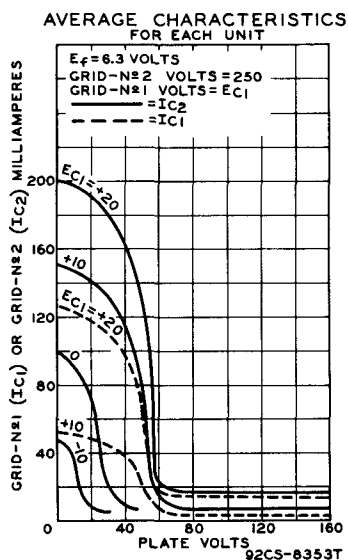
to the No.2 grid should remove the grid-No.2 voltage when the dc grid-No.2 current reaches a value slightly higher than normal.

The base pins of the 6524 fit the standard transmitting seven-contact socket designed for use with the septar 7-pin base, such as Johnson No.122-248.

Shielding of the 6524 in rf service is required for stable operation. A convenient method of shielding is to mount the socket approximately 5/8" beneath a hole in the chassis plate so that

when the 6524 is inserted in the socket, the internal shield (see *Dimensional Outline*) of the tube will be close to the edge of the hole and in the same plane as the chassis plate. This arrangement provides an effective shield to isolate the grid-No.1 circuits from the plate circuits.

The connections to the plate terminals should have sufficient flexibility to allow for mechanical tolerances on the plate terminals (see *Dimensional*



Average Characteristics for Each Unit of Type 6524.

Outline) and also for thermal expansion and other movements of associated circuits to prevent subjecting the plate-terminal seals to any strain. Connectors should be designed to facilitate heat conduction and to avoid losses caused by poor contact. The connectors should never be soldered directly to the plate terminals.

The plates show no color when the 6524 is operated at maximum plate-dissipation rating. During tuning adjustments, or when the load is removed from the tube, precautions should be taken to limit the plate dissipation to the rated maximum value.

The cathode should preferably be connected to one side of the heater. When, in some circuit designs, the heater is not connected directly to the cathode, precautions must be taken to hold the peak heater-cathode voltage to the maximum values shown in the tabulated data.

Grid No.2 is common to the two units of the 6524. When the grid-No.2 voltage is obtained from a separate source, the plate voltage should be applied before or simultaneously with the

grid-No.2 voltage. Otherwise, with voltage on grid No.2 only, its current would be large enough to cause excessive grid-No.2 dissipation even though some protective bias is employed. When the grid-No.2 voltage is obtained from a voltage divider or through a series resistor from the plate supply, it is recommended that the resistor be adjustable so that the plate current of individual tubes can be adjusted to maintain the desired input. By thus compensating for the normal plate-current variation between tubes, the dc plate input can be held constant to provide more uniform power output and better performance. A dc milliammeter should be used in the grid-No.2 circuit so that its current may be measured and the dc power input determined.

The grid-No.2 current is a very sensitive indication of plate-circuit loading. When the amplifier is operated without load, the grid-No.2 current rises excessively, often to a value which damages the tube. Therefore, care should be taken when tuning the 6524 under no-load or lightly loaded conditions to prevent exceeding the grid-No.2 input rating of the tube. In this connection, reduction of the grid-No.2 voltage will be helpful.

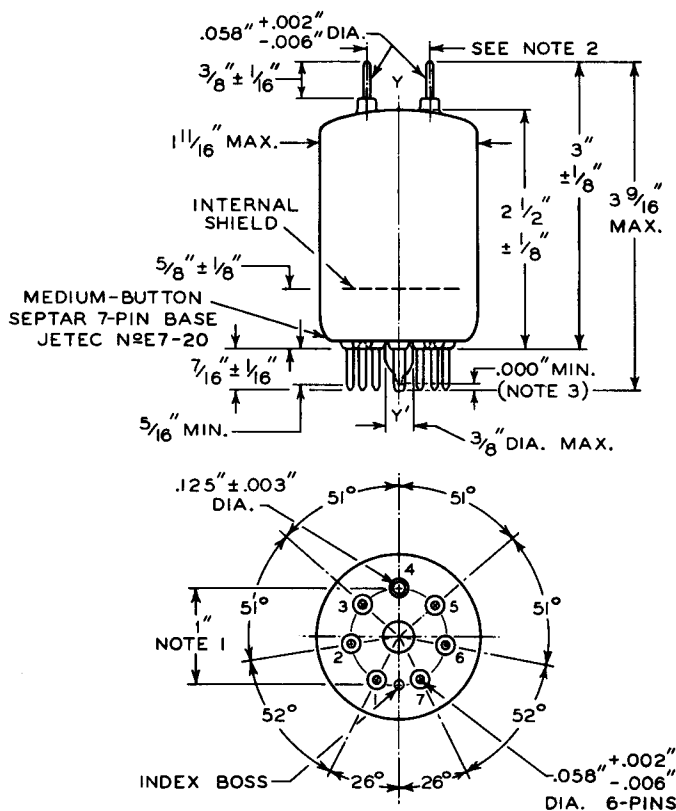
The driver stage for the 6524 in either class C telephony or telegraphy service should have considerably more output capability than the typical driving power shown in the tabulated data in order to permit considerable range of adjustment, and also to provide for losses in the grid-No.1 circuits and the coupling circuits. This recommendation is particularly important near the rated maximum frequency where circuit losses, radiation losses, and transit-time losses increase. These losses have been taken into account in the values of driver power output shown under Typical Operation.

Highest operating efficiency in high-frequency service, and therefore maximum power output, will be obtained when the 6524 is operated under load conditions such that the maximum rated plate current flows at the plate voltage which will give maximum rated input.

In plate-modulated class C amplifier service, the 6524 can be modulated 100 per cent. The grid-No.2 voltage must be modulated simultaneously with the plate voltage so that the ratio of grid-No.2 voltage to plate voltage remains constant. Modulation of the grid-No.2 voltage can be accomplished either by connecting grid No.2 through a separate winding on the modulation transformer to the fixed grid-No.2 voltage supply, or by connecting grid No.2 through an audio-frequency choke of suitable impedance for low audio frequencies to the fixed grid-No.2 supply voltage. The supply end of the choke should be well bypassed to ground.



DIMENSIONAL OUTLINE



92CM-8345R1

BOTTOM VIEW

THE REFERENCE AXIS YY' IS DEFINED AS THE AXIS OF THE BASE-PIN GAUGE DESCRIBED IN NOTE 1.

NOTE 1: ANGULAR VARIATIONS BETWEEN PINS AND VARIATION IN PIN-CIRCLE DIAMETER ARE HELD TO TOLERANCES SUCH THAT PINS WILL ENTER TO A DISTANCE OF 0.375" A FLAT-PLATE BASE-PIN GAUGE HAVING SIX HOLES 0.0800" ± 0.0005" AND ONE HOLE 0.1450" ± 0.0005" ARRANGED ON A 1.0000" ± 0.0005" CIRCLE AT SPECIFIED ANGLES WITH TOLERANCE OF ± 5' FOR EACH ANGLE. GAUGE IS ALSO PROVIDED WITH A HOLE 0.500" ± 0.010" CON-

CENTRIC WITH PIN CIRCLE WHOSE CENTER IS ON THE AXIS YY'.

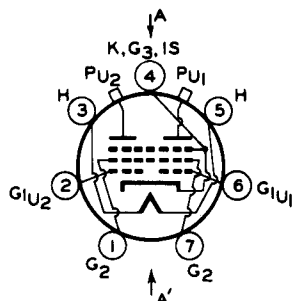
NOTE 2: THE PLATE LEADS WILL ENTER A FLAT-PLATE PLATE-LEAD GAUGE HAVING MINIMUM THICKNESS OF 0.375" AND HAVING TWO HOLES 0.1200" ± 0.0005" WHOSE CENTERS ARE LOCATED AT A DISTANCE OF 0.343" ± 0.001" FROM THE AXIS YY' AND WHOSE AXES ARE PARALLEL TO YY'. THE PLANE THROUGH THESE AXES WILL BE 90° ± 5' FROM THE PLANE THROUGH YY' AND PIN NO.4.

NOTE 3: EXHAUST TIP WILL NOT EXTEND BEYOND THE PLANE WHICH PASSES THROUGH THE ENDS OF THE THREE LONGEST PINS.

SOCKET CONNECTIONS

Bottom View

PIN 1: GRID No.2
PIN 2: GRID No.1 OF UNIT No.2
PIN 3: HEATER
PIN 4: CATHODE, GRID No.3, INTERNAL SHIELD



PIN 5: HEATER
PIN 6: GRID No.1 OF UNIT No.1
PIN 7: GRID No.2
PU1: PLATE OF UNIT No.1
PU2: PLATE OF UNIT No.2

PLANE OF ELECTRODES OF EACH UNIT IS PARALLEL TO PLANE THROUGH AXIS OF TUBE AND AA'

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