

DC GRID-No.2 (SCREEN-GRID) VOLTAGE●	750 max	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE	-1000 max	volts
DC PLATE CURRENT	350 max	ma
DC GRID-No.1 CURRENT	75 max	ma
PLATE INPUT	1200 max	watts
GRID-No.2 INPUT	35 max	watts
PLATE DISSIPATION	400 max	watts

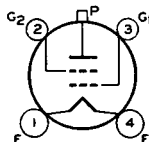
Key-down conditions per tube without amplitude modulation. Amplitude modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.

● Grid-No.2 voltage must not exceed 2000 volts under key-up conditions.

POWER TETRODE

Thoriated-tungsten-filament type used as rf power amplifier and oscillator. May be used with full input up to 15 Mc. For operation at 30 Mc, plate voltage and plate input should be reduced to 78 per cent of maximum ratings; at 60 Mc, to 55 per cent. Requires Small four-contact socket and may be mounted in vertical position only, base up or down. *OUTLINE 31, Outlines Section.* Plate shows no color when tube is operated at maximum CCS ratings. The 865 is used principally for renewal purposes.

865



FILAMENT VOLTAGE (AC/DC)	7.5	volts
FILAMENT CURRENT	2.0	amperes
TRANSCONDUCTANCE (For plate current of 18 milliamperes)	750	μmhos
AMPLIFICATION FACTOR (Approx.)	150	
DIRECT INTERELECTRODE CAPACITANCES:		
Grid No.1 to plate (With external shielding)	0.10 max	μf
Grid No.1 to filament and grid No.2	8.5	μf
Plate to filament and grid No.2	8.0	μf

RF POWER AMPLIFIER AND OSCILLATOR—Class C Telegraphy# and

RF POWER AMPLIFIER—Class C FM Telephony

Maximum CCS Ratings:

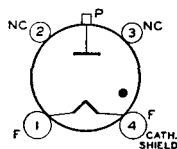
DC PLATE VOLTAGE	750 max	volts
DC GRID-No.2 (SCREEN-GRID) VOLTAGE	175 max	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE	-200 max	volts
DC PLATE CURRENT	60 max	ma
DC GRID-No.1 CURRENT	15 max	ma
PLATE INPUT	45 max	watts
GRID-No.2 INPUT	3 max	watts
PLATE DISSIPATION	15 max	watts

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.

HALF-WAVE MERCURY- VAPOR RECTIFIER

Coated-filament type used in power supply of transmitting and industrial equipment. Maximum peak inverse anode volts, 10,000; maximum average anode amperes, 0.25. Requires

Small four-contact socket and may be mounted in vertical position only, base down. *OUTLINE 41, Outlines Section.*



866-A

FILAMENT VOLTAGE (AC)°	2.5	volts
FILAMENT CURRENT	5.0	amperes
PEAK TUBE VOLTAGE DROP (Approx.)	15	volts

° Filament voltage must be applied at least 15 seconds before the application of anode voltage.

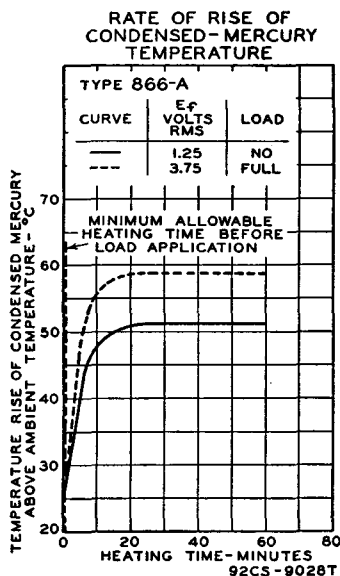
HALF-WAVE RECTIFIER

Maximum Ratings: (For power-supply frequency of 60 cps):

PEAK INVERSE ANODE VOLTAGE.....	2500 max	5000 max	10000 max	volts
ANODE CURRENT:				
Peak.....	2 max	1 max	1 max	amperes
Average*.....	0.5 max	0.25 max	0.25 max	ampere
Fault, for duration of 0.1 second maximum .	20 max	20 max	20 max	amperes
CONDENSED-MERCURY-TEMPERATURE RANGE● .	20 to 80	20 to 70	20 to 60	°C

* Averaged over any interval of 30 seconds maximum.

● Operation at $40^{\circ} \pm 5^{\circ}\text{C}$ is recommended.



Operating Values:

Circuit
(For circuit figures, refer to
Rectifier Considerations
Section)

<i>Circuit</i> (For circuit figures, refer to <i>Rectifier Considerations</i> Section)	<i>Fig.</i>	<i>Max. Trans.</i> <i>Sec. Volts</i> (<i>RMS</i>) <i>E</i>	<i>Approx. DC</i> <i>Output Volts</i> <i>To Filter</i> <i>E_{av}</i>	<i>Max. DC</i> <i>Output</i> <i>Amperes</i> <i>I_{av}</i>	<i>Max. DC</i> <i>Output KW</i> <i>To Filter</i> <i>P_{dc}</i>
In-Phase Operation					
Half-Wave Single-Phase...	54	7000●	3200	0.25	0.8
		3500▲	1600	0.25	0.4
		1700□	800	0.50	0.4
Full-Wave Single-Phase...	55	3500●	3200	0.5	1.6
		1700▲	1600	0.5	0.8
		800□	800	1.0	0.8
Series Single-Phase.....	56	7000●	6400	0.5	3.2
		3500▲	3200	0.5	1.6
		1700□	1600	1.0	1.6
Half-Wave Three-Phase...	57	4000●	4800	0.75	3.6
		2000▲	2400	0.75	1.8
		1000□	1200	1.5	1.8
Quadrature Operation					
Parallel Three-Phase.....	58	4000●	4800	1.5	7.2
		2000▲	2400	1.5	3.6
		1000□	1200	3.0	3.6

RCA Transmitting Tubes

<i>Circuit</i> (For circuit figures, refer to <i>Rectifier Considerations</i> Section)	<i>Fig.</i>	<i>Max. Trans.</i> <i>Sec. Volts</i> (RMS) <i>E</i>	<i>Approx. DC</i> <i>Output Volts</i> <i>To Filter</i> <i>E_{av}</i>	<i>Max. DC</i> <i>Output</i> <i>Amperes</i> <i>I_{av}</i>	<i>Max. DC</i> <i>Output KW</i> <i>To Filter</i> <i>P_{dc}</i>
Series Three-Phase.....	59	4000* 2000^ 1000□	9600 4800 2400	0.75 0.75 1.5	7.2 3.6 3.6
Half-Wave Four-Phase....	60	3500* 1700^ 800□	4500 2300 1100	0.91* 1.0■ 0.91* 1.0■ 1.82* 2.0■	4.05* 4.5■ 2.07* 2.3■ 1.98* 2.2■
Half-Wave Six-Phase.....	61	3500* 1700^ 800□	4800 2400 1200	0.95* 1.0■ 0.95* 1.0■ 1.90* 2.0■	4.60* 4.8■ 2.30* 2.4■ 2.28* 2.4■

* For maximum peak inverse anode voltage of 10000 volts and maximum average anode current of 0.25 ampere.

^ For maximum peak inverse anode voltage of 5000 volts and maximum average anode current of 0.25 ampere.

□ For maximum peak inverse anode voltage of 2500 volts and maximum average anode current of 0.5 ampere.

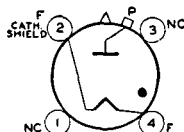
* Resistive load.

■ Inductive load.

HALF-WAVE MERCURY- VAPOR RECTIFIER

872-A

Coated-filament type used in power supply of transmitting and industrial equipment. Maximum peak inverse anode volts, 10,000; maximum average anode amperes, 1.25. Requires



Jumbo four-contact socket and may be mounted in vertical position only, base down. OUTLINE 52, *Outlines* Section.

FILAMENT VOLTAGE (AC)°	5.0	volts
FILAMENT CURRENT	7.5	amperes
PEAK TUBE VOLTAGE DROP (Approx.)	10	volts

° Filament voltage must be applied at least 30 seconds before the application of anode voltage.

HALF-WAVE RECTIFIER

Maximum Ratings (For power-supply frequency of 60 cps):

PEAK INVERSE ANODE VOLTAGE	5000 max	10000 max	volts
ANODE CURRENT:			
Peak	5 max	5 max	amperes
Average ϕ	1.25 max	1.25 max	amperes
Fault, for duration of 0.2 second maximum	50 max	50 max	amperes
CONDENSED-MERCURY-TEMPERATURE RANGE°	20 to 70	20 to 60	°C

ϕ Averaged over any interval of 15 seconds maximum.

• Operation at 40° ± 5°C is recommended.

Operating Values:

<i>Circuit</i> (For circuit figures, refer to <i>Rectifier Considerations</i> Section)	<i>Fig.</i>	<i>Max. Trans.</i> <i>Sec. Volts</i> (RMS) <i>E</i>	<i>Approx. DC</i> <i>Output Volts</i> <i>To Filter</i> <i>E_{av}</i>	<i>Max. DC</i> <i>Output</i> <i>Amperes</i> <i>I_{av}</i>	<i>Max. DC</i> <i>Output KW</i> <i>To Filter</i> <i>P_{dc}</i>
In-Phase Operation					
Half-Wave Single-Phase...	54	7000* 3500^	3200 1600	1.25 1.25	4.0 2.0
Full-Wave Single-Phase...	55	3500* 1700^	3200 1600	2.5 2.5	8.0 4.0
Series Single-Phase.....	56	7000* 3500^	6400 3200	2.5 2.5	16.0 8.0
Half-Wave Three-Phase...	57	4000* 2000^	4800 2400	3.75 3.75	18.0 9.0