

**RCA TUBE  
HANDBOOK  
HB-3**

**TRANSMITTING  
TUBE  
SECTION**



This section contains data for certain RCA tubes employed in broadcast, television, and communication transmitters, electronic heaters, and other types of electronic equipment requiring tubes capable of handling appreciable power.

*For further Technical Information, write to  
Commercial Engineering, Tube Department,  
Radio Corporation of America, Harrison, N. J.*



# **PRICES<sup>□</sup>** **OF TRANSMITTING TUBE TYPES**

Type	Schedule p <sup>•</sup>	Schedule p <sup>•</sup>	Type	Schedule p <sup>•</sup>	Schedule p <sup>•</sup>
2E24.....	4.65	-	826.....	-	12.50
2E26.....	3.85	-	827-R.....	-	172.50
3B25.....	-	\$ 6.90	828.....	-	13.75
3B28.....	-	8.55	829-B.....	-	16.25
3C33.....	-	21.25	830-B*.....	-	11.50
3E22.....	-	8.30	832-A.....	-	12.90
3E29.....	-	20.25	833-A.....	-	49.50
4-65A.....	-	20.00	834.....	-	14.50
4-125A/4D21.	-	30.25	835*.....	-	19.50
4-250A/5D22.	-	41.25	836.....	-	9.00
4C33.....	-	182.75	837.....	-	5.80
4E27/8001...	-	24.50	838*.....	-	13.75
4E27A/5-125B	-	35.75	841*.....	-	4.35
4X150A.....	-	48.00	842*.....	-	4.05
4X500A.....	-	121.00	843*.....	-	2.60
7C24.....	-	169.00	845.....	-	13.75
8D21.....	-	1300.00	846*.....	-	250.00
9C21.....	-	922.00	849*.....	-	138.00
9C22*.....	-	{1300.00	851*.....	-	340.00
		{1200.00*	857-B.....	-	218.50
9C25.....	-	{1080.00	860*.....	-	34.50
		{980.00*	861*.....	-	178.25
10-Y*.....	3.90	-	862-A*.....	-	{1322.00
203-A*.....	-	13.75			{1287.00*
204-A*.....	-	130.00	865*.....	-	11.50
207*.....	-	240.00	866-A†.....	-	2.10
211*.....	-	13.75	869-B.....	-	138.00
217-C*.....	-	21.17	872-A†.....	-	8.20
575-A.....	-	21.00	880.....	-	540.00
673.....	-	21.00	889-A.....	-	210.50
715-C.....	-	63.00	889R-A.....	-	{295.00
800*.....	-	11.50			{275.00*
801-A*†.....	-	4.85	891.....	-	237.00
802.....	-	4.75	891-R.....	-	{385.00
803*.....	-	24.25			{355.00*
804*.....	-	17.50	892.....	-	237.00
805.....	-	13.50	892-R.....	-	{385.00
806.....	-	34.25			{355.00*
807.....	-	2.50	893-A*.....	-	664.00
808.....	-	10.75	893A-R*.....	-	{1212.00
809.....	-	4.00			{1062.00*
810.....	-	16.25	898-A*.....	-	{1322.00
811-A.....	-	5.00			{1287.00*
812-A.....	-	5.00	1608*.....	-	7.90
813.....	-	18.00	1610*.....	-	2.50
814.....	-	14.25	1613.....	-	2.45
815.....	-	8.20	1614.....	-	2.00
816.....	-	\$ 1.65			

(continued on next page)

APRIL 1, 1953

TUBE DEPARTMENT  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

TRANS. TUBE  
PRICES



## PRICES OF TRANSMITTING TUBE TYPES

Type	Schedule D <sup>a</sup>	Schedule U <sup>a</sup>	Type	Schedule D <sup>a</sup>	Schedule U <sup>a</sup>
1616.....	-	\$ 8.65	5770.....	-	\$ 995.00
1619.....	-	2.50	5771.....	-	543.00
1623.....	-	4.05	5786.....	-	78.00
1624.....	-	4.00	5831.....	-	"
1625.....	-	2.65	5946.....	-	115.00
1626.....	-	1.85	6146.....	4.90	-
5556.....	-	13.50	6159.....	4.90	-
5558.....	-	15.50	6161.....	-	115.00
5561.....	-	40.00	6166.....	-	780.00
5568.....	-	120.00	6181.....	-	750.00
5592.....	-	{ 1229.00	8000.....	-	14.50
5618.....	-	{ 1159.00*	8003.....	-	14.00
5671.....	-	3.60	8005.....	-	8.40
5713.....	-	{ 1250.00	8008.....	-	8.20
5762.....	-	{ 1150.00*	8012-A.....	-	15.50
5763.....	-	176.00	8014-A.....	-	"
		169.00	8025-A.....	-	11.30
		1.75			

- This price list applies only in the United States of America and is subject to change without notice. The price includes Federal Excise Tax, where applicable. All prices are exclusive of any state and local excise, sales and similar taxes.
- Schedule D shows list prices for tube types priced for distribution through dealer and service channels.
- ▲ Schedule U shows user prices for tube types priced for distribution through other than dealer and service channels.
- \* This price applies when a new tube is purchased and a radiator and crate in acceptable condition are returned prepaid to address shown on Return Authorization.
- ♦ Not recommended for new equipment design.
- † For data refer to corresponding types designated 801-A/801; 866-A/866 and 872-A/872, respectively.
- ▲ This price applies when a new tube is purchased and a worn-out tube and shipping container are returned prepaid to address shown on Return Authorization.
- This price applies when a new tube is purchased and a radiator in acceptable condition is returned prepaid to address shown on Return Authorization.
- Price on request.
- Discontinued type. Data sheet has been retained in book for reference purpose only.

### INFORMATION ON PURCHASING ABOVE TYPES

Information as to where RCA transmitting tubes can be purchased may be obtained from our regional office nearest you or from Tube Department, Radio Corporation of America, Harrison, N.J.

APRIL 1, 1953

TUBE DEPARTMENT  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

TRANS. TUBE  
PRICES



## TRANSMITTING TUBE GUIDE

### FOR EQUIPMENT DESIGN ENGINEERS

*When choosing tube types, the equipment designer should refer to the RCA PREFERRED TYPES LIST and its companion list—TYPES NOT RECOMMENDED for NEW EQUIPMENT DESIGN—both of which appear in the General Section.*

NOTE: The Max. Ratings shown in this Guide are given for Continuous Commercial Service, unless otherwise noted. Tube types marked with \* may also be operated in Intermittent Commercial and Amateur Service at higher ratings as shown on their data pages.

MAX. PLATE INPUT WATTS	MAX. PLATE VOLTS	MAX. PLATE DISSIPATION WATTS	FILAMENT VOLTS	TYPE
<b>CLASS A AMPLIFIERS, AF</b>				
<b>(1) Triodes</b>				
7.5	350	7.5	4.5	5556
20	600	20	7.5	801-A
28	400	25	6.3	*807**
75	1250	75	10.0	211
100	1250	100	10.0	845
150	1250	100	10.0	845**
<b>(2) Tetrodes</b>				
149	3000	65	6.3	4-65A**
290	3000	125	5.0	4-125A/4D21**
625	4000	250	5.0	4-250A/5D22**
<b>(3) Pentodes</b>				
5.0	300	5	6.0	5618**
5.1	300	5	3.0	5618**
15	500	15	6.3	*802
<b>(4) Beam Power Tubes</b>				
10	300	10	6.3	2E24
10.5	300	10	6.3	2E26
35	400	20	6.3	*6146**
35	400	20	12.6	*6159**
40	375	21	6.3	*1614**
60	600	20	6.3	*6146**
60	600	20	12.6	*6159**
75	2000	75	5.0	4E27/8001
100	600	30	6.3	829-B□**
100	600	30	12.6	829-B□**
225	1750	70	10.0	*828**
<b>CLASS B AMPLIFIERS, AF</b>				
<b>(1) Triodes</b>				
42	600	20	7.5	801-A
75	750	25	6.3	*809, *1623
85	1250	35	7.5	800
150	1000	60	10.0	830-B
150	1500	50	7.5	*808
165	1250	45	6.3	*811-A, *812-A
220	1250	100	10.0	203-A, 211
225	1250	75	10.0	*8005
315	1500	125	10.0	805
330	1350	100	10.0	8003
425	2500	125	10.0	*810, *8000
500	3000	150	5.0	*806
** Class AB <sub>1</sub> operation. * With triode connection.    □ Push-Pull Type.				
* Natural cooling. ** ICAS Ratings only.				



## TRANSMITTING TUBE GUIDE

### FOR EQUIPMENT DESIGN ENGINEERS

MAX. PLATE INPUT WATTS	MAX. PLATE VOLTS	MAX. PLATE DISSIPATION WATTS	FILAMENT VOLTS	TYPE
CLASS B AMPLIFIERS, AF—(Continued)				
(1) Triodes—(Continued)				
600	3000	250	11.0	204-A
1125	3000	300	10.0	*833-A*
1200	3000	600	11.0	5786
1600	4000	400	10.0	*833-A**
5500	5000	2000	12.6	7C24
8700	6200	3000	12.6	5762
10500	10000	3500	☆	891-R
12000	8500	5000	11.0	889-A
12000	8500	5000	11.0	889R-A
12000	12500	4000	☆	892-R
20000	15000	5000	☆	891
20000	15000	7500	22.0	207
20000	15000	7500	☆	892
40000	10500	15000	12.6	880
40000	11500	17500	6.0	9C25
45000	12500	22500	7.5	5771
60000	15000	20000	19.5	9C22
90000	15000	40000	19.5	9C21
90000	15000	25000	11.0	5671
90000	15000	50000	11.0	5770
(2) Super-Power Beam Triode				
300000	10500	135000	6.0	5831
(3) Tetrodes				
198	3000	65	6.3	4-65A§
390	3000	125	5.0	4-125A/4D21§
710	4000	250	5.0	4-250A/5D22§
(4) Pentodes				
325	4000	125	5.0	4E27A/5-125B§
(5) Beam Power Tubes				
30	400	10	6.3	2E24§
30	400	10	6.3	2E26§
54	600	25	2.5	1624§
60	400	20	6.3	*815□, §
60	400	20	12.6	*815□, §
60	600	25	6.3	*807§
60	600	25	12.6	*1625§
62.5	600	20	6.3	*6146§
62.5	600	20	12.6	*6159§
360	2250	100	10.0	*813§

MAX. PLATE INPUT WATTS	MAX. PLATE VOLTS	MAX. PLATE DISSIPATION WATTS	FILAMENT VOLTS	MAX. FREQ.† Mc.	TYPE
CLASS B AMPLIFIERS, RF Telephony					
(1) Triodes					
14	350	10	4.5	6	5556
30	600	20	7.5	60	801-A
37.5	750	25	6.3	60	*809, *1623
50	1250	35	7.5	60	800
* See NOTE on first page of this GUIDE. † For rated max. plate input and voltage. □ Push-Pull Type.      § Class AB <sub>2</sub> operation.					
☆ See data pages for this type. * Natural cooling. ** Forced-air cooling.					



## TRANSMITTING TUBE GUIDE

### FOR EQUIPMENT DESIGN ENGINEERS

MAX. PLATE INPUT WATTS	MAX. PLATE VOLTS	MAX. PLATE DISSIPATION WATTS	FILAMENT VOLTS	MAX. FREQ. # Mc.	TYPE
<b>CLASS B AMPLIFIERS, RF Telephony—(Continued)</b>					
75	1250	50	7.5	100	834
90	1000	60	10.0	15	830-B
110	1250	75	10.0	60	•8005
150	1250	100	10.0	15	203-A, 211
150	1350	100	10.0	30	8003
185	1500	125	10.0	30	805
185	2000	125	10.0	30	•810
190	2000	125	10.0	30	•8000
225	3000	150	5.0	30	•806
400	2500	250	11.0	3	204-A
450	3000	300	10.0	30	•833-A*
600	4000	400	10.0	20	•833-A**
3300	5000	2000	12.6	110	7C24
6000	12500	4000	☆	1.6	892-R
7500	8500	5000	11.0	50	889-A
7500	8500	5000	11.0	40	889R-A
15000	15000	10000	22.0	1.6	207
15000	15000	10000	☆	1.6	892
26000	11500	17500	6.0	30	9C25
32000	10500	20000	12.6	25	880
33000	12500	22500	7.5	25	5771
<b>(2) Tetrodes</b>					
1200	3500	800	7.5	110	827-R
<b>(3) Pentodes</b>					
15	500	10	6.3	30	•802
60	1250	40	7.5	15	•804
180	2000	125	10.0	20	803
<b>(4) Beam Power Tubes</b>					
30	400	20	6.3	125	•815□
30	400	20	12.6	125	•815□
37.5	600	25	6.3	60	•807
37.5	600	25	12.6	60	•1625
75	1250	50	10.0	30	•814
105	1250	70	10.0	30	•828
150	2000	100	10.0	30	•813
<b>CLASS B AMPLIFIERS, Television Service</b>					
<b>(1) Triodes</b>					
560	1600	250	6.3	900	6161
6500	3700	3000	12.6	216	5762
<b>(2) Tetrodes</b>					
3500	2000	2000	12.0	900	6181
22000	6000	10000	5.0	216	6166
<b>CLASS C AMPLIFIERS, RF Telephony</b>					
<b>(1) Triodes, Plate Modulated</b>					
14	350	7	4.5	6	5556
17.5	350	10	7.5	8	10-Y
23	325	14	6.3	80	•1614*
30	500	13.5	7.5	60	801-A

\* See NOTE on first page of this GUIDE.

■ For rated max. plate input and voltage.

□ Push-Pull Type.

☆ See data pages for this type.

\* Natural cooling.

\*\* Forced-air cooling.

\* With triode connection.



## TRANSMITTING TUBE GUIDE

### FOR EQUIPMENT DESIGN ENGINEERS

MAX. PLATE INPUT WATTS	MAX. PLATE VOLTS	MAX. PLATE DISSIPATION WATTS	FILAMENT VOLTS	MAX. FREQ.* Mc.	TYPE
<b>CLASS C AMPLIFIERS, RF Telephony—(Continued)</b>					
<b>(1) Triodes, Plate Modulated—(Continued)</b>					
50	600	17.5	6.3	60	*809, *1623
50	800	27	6.3	500	*8025-A**
60	800	30	7.5	250	*826*
75	800	40	7.5	250	*826**
80	800	40	10.0	15	830-B
80	1000	23	7.5	60	800
100	1000	35	7.5	100	834
115	1000	30	6.3	30	*811-A, *812-A
135	1250	35	7.5	30	*808
160	1000	50	10.0	60	*8005
170	800	130	6.3	1200	5588
175	1000	67	10.0	15	203-A, 211
220	1100	67	10.0	30	8003
220	1250	85	10.0	30	805
270	1300	167	6.3	900	6161
335	1600	85	10.0	30	*810, *8000
500	2500	110	5.0	30	*806
550	2000	167	11.0	3	204-A
835	2500	200	10.0	30	833-A*
1000	2500	400	11.0	160	5786
1250	3000	270	10.0	20	*833-A**
3750	4000	1300	12.6	110	7C24
5000	5000	2000	12.6	30	5762
6000	6000	3000	11.0	50	889-A
6000	6000	3000	11.0	40	889R-A
10000	10000	2500	☆	1.6	892-R
10000	10000	6600	22.0	1.6	207
10000	10000	6600	☆	1.6	892
26000	9000	11500	6.0	30	9C25
36000	10500	12000	12.6	25	880
40000	10000	15000	7.5	25	5771
50000	12500	14000	19.5	5	9C22
50000	12500	28000	19.5	15	9C21
55000	12500	17000	11.0	10	5671
60000	12500	33000	11.0	20	5770
<b>(2) Super-Power Beam Triode, Plate Modulated</b>					
250000	10500	135000	6.0	☆	5831
<b>(3) Triodes, Grid Modulated</b>					
60	1000	40	6.3	500	*8025-A**
190	2000	125	10.0	30	*8000
<b>(4) Tetrodes, Plate Modulated</b>					
16	400	6.7	6.3	30	*802‡
20	400	8	12.6	20	837‡
80	1000	27	7.5	15	*804‡
250	1600	85	10.0	20	803‡
270	2500	45	6.3	50	4-65A
380	2500	85	5.0	120	4-125A/4D21
675	3200	165	5.0	75	4-250A/5D22
1200	3000	550	7.5	110	827-R
1650	1600	1300	12.0	900	6181
10000	5000	6600	5.0	30	6166
<b>(5) Tetrodes, Grid Modulated</b>					
1200	3500	800	7.5	110	827-R

\* See NOTE on first page of this GUIDE.  
 ‡ For rated max. plate input and voltage.  
 ☆ See data pages for this type.

\*\* Forced-air cooling.  
 † With tetrode connection.  
 \* Natural cooling.



# TRANSMITTING TUBE GUIDE

FOR EQUIPMENT DESIGN ENGINEERS

MAX. PLATE INPUT WATTS	MAX. PLATE VOLTS	MAX. PLATE DISSIPATION WATTS	FILAMENT VOLTS	MAX. FREQ. ■ Mc.	TYPE
<b>CLASS C AMPLIFIERS, RF Telephony—(Continued)</b>					
<b>(6) Pentodes, Plate Modulated</b>					
11.5	275	7	6.3	45	1613
16	400	6.7	6.3	30	•802
20	400	8	12.6	20	837
80	1000	27	7.5	15	•804
250	1600	85	10.0	20	803
380	3200	85	5.0	75	4E27A/5-125B
<b>(7) Pentodes, Grid Modulated</b>					
15	500	10	6.3	30	•802
16	500	12	12.6	20	837
60	1250	40	7.5	15	•804
180	2000	125	10.0	20	803
<b>(8) Beam Power Tubes, Grid Modulated</b>					
30	400	20	6.3	125	•815□
30	400	20	12.6	125	•815□
37.5	600	25	2.5	60	1624
75	1250	50	10.0	30	•814
105	1250	70	10.0	30	•828
150	2000	100	10.0	30	•813
<b>(9) Beam Power Tubes, Plate Modulated</b>					
20	400	6.7	6.3	125	•2E24
20	400	6.7	6.3	125	•2E26
22	600	10	6.3	200	•832-A□
22	600	10	12.6	200	•832-A□
23	325	14	6.3	80	•1614
37.5	500	16.5	2.5	60	1624
40	325	13.5	6.3	125	•815□
40	325	13.5	12.6	125	•815□
40	475	16.5	6.3	60	•807
40	475	16.5	12.6	60	•1625
45	480	13.3	6.3	60	•6146
45	480	13.3	12.6	60	•6159
67.5	600	21	6.3	200	•829-B□,*
67.5	600	21	12.6	200	•829-B□,*
90	560	30	6.3	15	□3E22□
90	560	30	12.6	15	□3E22□
90	600	28	6.3	200	•829-B□,**
90	600	28	12.6	200	•829-B□,**
120	1000	34	10.0	30	•814
135	1000	47	10.0	30	•828
240	1600	67	10.0	30	•813
250	3000	65	5.0	75	4E27/8001
<b>(10) Beam Power Tubes, Suppressor Modulated</b>					
110	2000	75	5.0	75	4E27/8001

• See NOTE on first page of this GUIDE.

■ For rated max. plate input and voltage.

□ IMS Ratings only—see data pages for this type.

\* Natural cooling.

\*\* Forced-air cooling.

□ Push-Pull Type.





## TRANSMITTING TUBE GUIDE

### FOR EQUIPMENT DESIGN ENGINEERS

MAX. PLATE INPUT WATTS	MAX. PLATE VOLTS	MAX. PLATE DISSIPATION WATTS	FILAMENT VOLTS	MAX. FREQ. # Mc.	TYPE
<b>CLASS C AMPLIFIERS, Television Service</b>					
<b>(1) Triodes, Bias Modulated</b>					
560	1600	250	6.3	900	6161
6500	3700	3000	12.6	216	5762
<b>(2) Tetrodes, Bias Modulated</b>					
3500	2000	2000	12.0	900	6181
10000	6000	6000	3.2	300	8D21 □
22000	6000	10000	5.0	216	6166
<b>CLASS C AMPLIFIERS, RF Telegraphy</b>					
<b>(1) Triodes</b>					
6.25	250	5	12.6	30	1626
14	350	10	4.5	6	5556
27	450	15	7.5	8	10-Y
42	600	20	7.5	60	801-A
75	750	25	6.3	60	*809, *1623
75	1000	40	6.3	500	*8025-A**
95	1000	45	7.5	250	*826*
100	1250	35	7.5	60	800
125	1000	60	7.5	250	*826**
125	1250	50	7.5	100	834
150	1000	60	10.0	15	830-B
175	1250	45	6.3	30	*811-A, *812-A
200	1500	50	7.5	30	*808
220	1250	100	10.0	15	203-A, 211
240	1250	75	10.0	60	*8005
250	1000	200	6.3	1200	5588
315	1500	125	10.0	30	805
330	1350	100	10.0	30	8003
400	1600	250	6.3	900	6161
450	1500	250	3.3	220	5713
500	2000	125	10.0	30	*810, *8000
600	3000	150	5.0	30	*806
690	2500	250	11.0	3	204-A
1250	3000	300	10.0	30	833-A*
1500	3000	600	11.0	160	5786
1800	4000	400	10.0	20	*833-A**
5500	5000	2000	12.6	110	7C24
8700	6200	3000	12.6	30	5762
15000	10000	4000	☆	1.6	891-R
16000	8500	5000	11.0	40	889R-A
16000	8500	5000	11.0	50	889-A
18000	12000	6000	☆	1.6	891
18000	12500	4000	☆	1.6	892-R
30000	15000	10000	22.0	1.6	207
30000	15000	10000	☆	1.6	892
40000	11500	17500	6.0	30	9C25
50000	11500	17500	11.0	50	5592
{ 60000	{ 10500	{ 20000	{ 12.6	{ 25	{ 880
{ 67500	{ 15000	{ 22500	{ 7.5	{ 1.5	{ 5771
{ 60000	{ 12500			{ 25	
{ 67500	{ 15000			{ 1.6	
<p>* See NOTE on first page of this GUIDE.</p> <p>☆ For rated max. plate input and voltage.</p> <p>□ Push-Pull Type.</p> <p>* Natural cooling.</p> <p>☆ See data pages for this type.</p> <p>** Forced-air cooling.</p>					



## TRANSMITTING TUBE GUIDE

### FOR EQUIPMENT DESIGN ENGINEERS

MAX. PLATE INPUT WATTS	MAX. PLATE VOLTS	MAX. PLATE DISSIPATION WATTS	FILAMENT VOLTS	MAX. FREQ. ■ Mc.	TYPE
<b>CLASS C AMPLIFIERS, RF Telegraphy—(Continued)</b>					
<b>(1) Triodes—(Continued)</b>					
100000	17000	20000	19.5	5	9C22
100000	15000	25000	11.0	10	5671
150000	17000	40000	19.5	15	9C21
150000	17000	50000	11.0	20	5770
<b>(2) Super-Power Beam Triode</b>					
650000	16000	150000	6.0	☆	5831
<b>(3) Tetrodes</b>					
25	500	10	6.3	30	•802‡
32	500	12	12.6	20	837‡
120	1250	40	7.5	15	•804‡
250	1250	150	6.0	500	4X150A
345	3000	65	6.3	50	4-65A
350	2000	125	10.0	20	803‡
500	3000	125	5.0	120	4-125A/4D21
1250	4000	250	5.0	75	4-250A/5D22
1500	3500	800	7.5	110	827-R
1800	4000	500	5.0	120	4X500A
2500	2000	2000	120.0	900	6181
10000	6000	6000	3.2	300	8D21 □
18000	6600	10000	5.0	30	6166
<b>(4) Pentodes</b>					
7.5	300	5	6.3	100	5618••
7.5	300	5	3.0	100	5618••
17.5	350	10	6.3	45	1613
25	500	10	6.3	30	•802
32	500	12	12.6	20	837
120	1250	40	7.5	15	•804
350	2000	125	10.0	20	803
500	3000	125	5.0	75	4E27A/5-125B
<b>(5) Beam Power Tubes</b>					
15	300	12	6.0	175	5763
30	500	10	6.3	125	2E24
30	500	10	6.3	125	•2E26
35	375	21	6.3	80	•1614
36	750	15	6.3	200	•832-A □
36	750	15	12.6	200	•832-A □
54	600	25	2.5	60	1624
60	400	20	6.3	125	•815 □
60	400	20	12.6	125	•815 □
60	600	25	6.3	60	•807
60	600	25	12.6	60	•1625
67.5	600	20	6.3	60	•6146

• See NOTE on first page of this GUIDE.  
 ■ For rated max. plate input and voltage.  
 ☆ See data pages for this type.

•• ICAS Ratings only.  
 ‡ With tetrode connection.  
 □ Push-Pull Type.



## TRANSMITTING TUBE GUIDE

### FOR EQUIPMENT DESIGN ENGINEERS

MAX. PLATE INPUT WATTS	MAX. PLATE VOLTS	MAX. PLATE DISSIPATION WATTS	FILAMENT VOLTS	MAX. FREQ. ■ Mc.	TYPE
<b>CLASS C AMPLIFIERS, RF Telegraphy—(Continued)</b>					
<b>(5) Beam Power Tubes—(Continued)</b>					
90	750	30	6.3	200	•829-B□, •
90	750	30	12.6	200	•829-B□, •
100	600	35	6.3	200	□3E22□
100	600	35	12.6	200	□3E22□
120	750	40	6.3	200	•829-B□, ••
120	750	40	12.6	200	•829-B□, ••
180	1250	50	10.0	30	•814
200	1250	70	10.0	30	•828
300	2000	75	5.0	75	4E27/8001
360	2000	100	10.0	30	•813
MAX. PLATE INPUT WATTS	MAX. PLATE VOLTS RMS	MAX. PLATE DISSIPATION WATTS	FILAMENT VOLTS	MAX. FREQ. ■ Mc.	TYPE
<b>CLASS C AMPLIFIERS or OSCILLATORS, Self-Rectifying</b>					
<b>(1) Triodes</b>					
125	1750	45	6.3	30	Δ811-A
145	1750	45	6.3	30	812-A
240	1750	75	10.0	60	8005
295	2800	100	10.0	30	813
330	1500	100	10.0	30	8003
450	2500	125	10.0	30	8000
1500	4250	600	11.0	160	5786
4900	7000	3000	12.6	30	5762
MAX. PLATE INPUT WATTS	MAX. PLATE VOLTS	MAX. PLATE DISSIPATION WATTS	FILAMENT VOLTS	MAX. FREQ. ■ Mc.	TYPE
<b>CLASS C AMPLIFIERS or OSCILLATORS—</b>					
<b>With Separate, Rectified, Unfiltered, Single-Phase, Full-Wave Plate Supply</b>					
175	1125	45	6.3	30	Δ811-A, 812-A
240	1125	75	10.0	60	8005
330	1200	100	10.0	30	8003
360	1800	100	10.0	30	813
500	1800	125	10.0	30	8000
1500	2700	600	11.0	160	5786
8600	5600	3000	12.6	30	5762
<b>MISCELLANEOUS SERVICES</b>					
See data pages for each type.					
(1) CONTROL AMPLIFIER.....					3C33
(2) PLATE-PULSED OSCILLATOR.....					4C33
(3) PLATE-PULSED OSCILLATOR & AMPLIFIER.....					5946
(4) PULSE AMPLIFIER & MODULATOR.....					{ 3E29
(5) FIXED-TUNED UHF OSCILLATOR.....					{ 715-C
(6) FREQUENCY MULTIPLIER.....					{ 5794
					{ 5618
					{ 5763
• See NOTE on first page of this GUIDE. ■ For rated max. plate input and voltage. Δ Not recommended as oscillator in this class of service. □ IMS Ratings only—see data pages for this type.					
* Natural cooling. ** Forced-air cooling. □ Push-Pull Type.					



# TRANSMITTING TUBE GUIDE

## FOR EQUIPMENT DESIGN ENGINEERS

MAX. AV. PLATE AMPERES	MAX. PEAK PLATE AMPERES	MAXIMUM PEAK INVERSE PLATE VOLTS	FILAMENT VOLTS	TYPE
<b>RECTIFIERS</b>				
<b>(1) Half-Wave, Mercury-Vapor</b>				
0.125	0.5	7500 20-60*	2.5	816
0.25	1.0	{ 5000 25-70* }	2.5	866-A
		{ 10000 25-60* }		
0.5	2.0	2000 25-70*	2.5	866-A
1.25	5.0	{ 5000 20-70* }	5.0	{ 872-A }
		{ 10000 20-60* }		{ 8008 }
1.75	7.0	10000 20-60*	5.0	{ 575-A }
1.5	6.0	15000 20-50*		{ 673 }
2.5 <sup>°</sup>	10 <sup>°</sup>	{ 10000 30-60* } <sup>°</sup>	5.0	869-B
		{ 20000 30-40* }		
5.0▲	20▲	10000 30-60* ▲	5.0	869-B
5.0▲	20▲	15000 30-50*		
2.5	15	{ 2000 30-80* }	5.0	5558
		{ 5000 30-60* }		
4.0	16	10000 25-50*	5.0	5561
6.4	40	3000 40-80*		
10	40	{ 10000 25-65* }	5.0	857-B
		{ 22000 30-40* }		
Where two ratings are given for any type, better temperature control is required for the higher voltage rating.				
<b>(2) Half-Wave, Gas</b>				
0.5	2.0	4500	2.5	3825
0.5	2.0	5000 }	2.5	3828
0.25	1.0	10000 }		
<b>(3) Half-Wave, High-Vacuum</b>				
0.15	0.6	7500	10.0	217-C
0.25	1.0	5000	2.5	836
0.13	0.8	6000	2.5	1616
<sup>°</sup> In-Phase Operation ▲ Quadrature Operation				



## F.C.C. POWER RATINGS\* OF RCA TRANSMITTING TUBES

"The maximum rated carrier power of a standard broadcast transmitter shall be determined as the sum of the applicable power ratings of the vacuum tubes employed in the last radio stage. The approved power ratings of vacuum tubes for operation in the last radio stages of broadcast transmitters are fixed as set out in the following tables:"

**TABLE A**  
*High-Level Modulation  
or Plate Modulation in the  
Last Radio Stage*

Power Rating (watts)	Tube Type
50	808
75	203-A
	211
	838
	850
	860
125	4-125A/ 4D21
	803
	805
	810
250	204-A
	806
	861
350	849
500	833-A
750	851
1000	846
5000	207
	891
	892
	892-R
10000	858
	893A-R
25000	9C22
	5671
40000	862-A
	898-A

**TABLE B**  
*Low-Level Modulation  
or Last Radio Stage Operating  
as Linear Power Amplifier*

Power Rating (watts)	Tube Type
25	203-A
50	803
	806
	810
75	204-A
125	833-A
	849
250	851
500	846
2500	207
	892
	892-R
5000	858
10000	893A-R
25000	862-A
	898-A

**TABLE D**  
*Grid Modulation  
in the Last Radio Stage  
(Operating Efficiency 35%)*

Power Rating (watts)	Tube Type
2500	892

\* From Federal Communications Commission's "Standards of Good Engineering Practice Concerning Standard Broadcast Stations (550-1600 kc).", Section 8, Revision of Oct. 30, 1947 and Supplement of Sept., 1949. Ratings apply only for tubes used in the last radio stage of standard broadcast transmitters and may not be applicable to any other service.

← Indicates a change.



## TRANSMITTING TUBE RATINGS vs. OPERATING FREQUENCY

The MAXIMUM RATINGS given for each type on its data pages apply only when the type is operated at frequencies lower than some specified value which depends on the design of the type. As the frequency is raised above the specified value, the radio-frequency currents, dielectric losses, and heating effects increase rapidly. Most types can be operated above their specified maximum frequency provided the plate voltage and plate input are reduced in accordance with the information given in the following tabulation.

TUBE TYPE	OPERATING FREQUENCY <i>Megacycles per second</i>	MAXIMUM PERMISSIBLE PERCENTAGE OF MAXIMUM RATED PLATE VOLTAGE & PLATE INPUT		
		TELEPHONY		TELEGRAPHY
		Class B, Class C Grid or Suppressor Modulated	Class C Plate- modulated	Class C
2E24 & 2E26	125 150 160 175	— — — —	100 83 75 68	100 83 75 68
3E22	15	—	100	100
4-65A	50	—	100	100
4-125A/ 4D21	120 150 200 250	— — — —	100 84 64 —	100 80 64 56
4-250A/ 5D22	75 100 120	— — —	100 75 62	100 72 62
4C33	625	Plate-Pulsed Oscillator 100		
4E27/ 8001	75 120 150	100 90 80	100 75 50	100 75 50
4E27A/ 5-125B	75	—	100	100
4X150A	500	—	—	100
4X500A	120	—	—	100
7C24	110	100	100	100
8D21	300	100	—	100
9C21	15 20 25	— — —	100 88 81	100 82 70
9C22	5 12 25	— — —	100 90 81	100 84 70
9C25	30 50 75 100	100 93 87 80	100 87 74 61	100 87 74 61

← Indicates a change.

APRIL 1, 1953

TUBE DEPARTMENT  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

RATINGS vs  
FREQ. 1



# TRANSMITTING TUBE RATINGS vs. OPERATING FREQUENCY

TUBE TYPE	OPERATING FREQUENCY <i>Megacycles per second</i>	MAXIMUM PERMISSIBLE PERCENTAGE OF MAXIMUM RATED PLATE VOLTAGE & PLATE INPUT		
		TELEPHONY		TELEGRAPHY
		Class B, Class C Grid or Suppressor Modulated	Class C Plate- Modulated	Class C
10-Y	8 Not recommended for operation at frequencies above 8 Mc.	—	100	100
203-A	15 30 80	100 88 70	100 80 50	100 80 50
204-A	3 10 30	100 84 69	100 75 50	100 75 50
207	Same as for Type 892			
211	Same as for Type 203-A			
800	60 100 180	100 90 79	100 80 55	100 80 55
801-A	60 75 120	100 93 78	100 80 50	100 80 50
802	30 55 100	100 88 76	100 77 55	100 77 55
803	20 40 60	100 86 80	100 77 60	100 77 60
804	15 35 80	100 88 76	100 75 50	100 75 50
805	30 45 80	100 90 77	100 82 55	100 82 55
806	30 50 100	100 90 78	100 80 50	100 80 50
807	60 80 125	100 90 75	100 80 55	100 80 55
808	30 60 130	— — —	100 75 50	100 75 50
809	60 70 120	100 93 75	100 88 50	100 88 50
810	30 60 100	100 88 80	100 70 50	100 70 50

APRIL 1, 1953

TUBE DEPARTMENT  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

RATINGS vs  
FREQ. 1



## TRANSMITTING TUBE RATINGS vs. OPERATING FREQUENCY

TUBE TYPE	OPERATING FREQUENCY <i>Megacycles per second</i>	MAXIMUM PERMISSIBLE PERCENTAGE OF MAXIMUM RATED PLATE VOLTAGE & PLATE INPUT		
		TELEPHONY		TELEGRAPHY
		Class B, Class C Grid or Suppressor Modulated	Class C Plate- Modulated	Class C
811-A*	30	—	100	100
	60	—	89	89
	80	—	70	70
	100	—	55	55
812-A <sup>□</sup>	30	—	100	100
	60	—	89	89
	80	—	70	70
	100	—	55	55
813 <sup>▲</sup>	30	100	100	100
	60	88	75	75
	120	76	50	50
814	30	100	100	100
	50	90	80	80
	75	85	64	64
815	125	100	100	100
	175	85	80	80
	200	75	70	70
826	250	—	100	100
	300	—	80	80
827-R	110	100	100	100
828	30	100	100	100
	50	90	80	80
	75	80	65	65
829-B	200	—	100	100
	250	—	89	89
830-B	15	100	100	100
	30	87	77	77
	60	74	54	54
832-A	200	—	100	100
	250	—	89	89
833-A, with natural cooling				
	30	100	100	100
	50	98	90	90
	75	94	72	72
833-A, with forced-air cooling				
	20	100	100	100
	50	97	83	83
	75	93	65	65
<p>* In Self-Rectifying Amplifier Service, and in Amplifier Service with Separate, Rectified, unfiltered, Single-Phase, Full-Wave Plate Supply, the 811-A has the same maximum permissible percentages as those shown for Class C Telegraphy.</p> <p>□ In Self-Rectifying Oscillator or Amplifier Service, and in Amplifier or Oscillator Service with Separate, Rectified, unfiltered, Single-Phase, Full-Wave Plate Supply, the 812-A has the same maximum permissible percentages as those shown for Class C Telegraphy.</p> <p>▲ In Self-Rectifying Oscillator or Amplifier Service, and in Amplifier or Oscillator Service with Separate, Rectified, unfiltered, Single-Phase, Full-Wave Plate Supply, the 813 has the same maximum permissible percentages as those shown for Class C Telegraphy.</p>				

← indicates a change.

APRIL 1, 1953

TUBE DEPARTMENT  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

RATINGS vs  
FREQ. 2





# TRANSMITTING TUBE RATINGS vs. OPERATING FREQUENCY

TUBE TYPE	OPERATING FREQUENCY <i>Megacycles per second</i>	MAXIMUM PERMISSIBLE PERCENTAGE OF MAXIMUM RATED PLATE VOLTAGE & PLATE INPUT		
		TELEPHONY		TELEGRAPHY
		Class B, Class C Grid or Suppressor Modulated	Class C Plate- Modulated	Class C
834	100	100	100	100
	170	89	80	80
	350	73	53	53
835	20	100	100	100
	40	85	80	80
	100	70	50	50
837	20	—	100	100
	40	—	76	76
	60	—	62	62
838	30	100	100	100
	60	85	75	75
	120	70	50	50
841 & 843	6	100	100	100
	15	96	90	90
	30	90	80	80
846	50	100	100	100
	100	82	75	75
	150	73	60	50
849	Same as for Type 20A-A			
851	3	100	100	100
	7	88	75	75
	15	76	50	50
860	Same as for Type 838			
861	20	100	100	100
	30	90	82	82
	60	75	53	53
862-A	Same as for Type 898-A			
865	15	100	100	100
	30	90	78	78
	60	78	55	55
880		<i>Voltage</i>	<i>Input</i>	
	25	100	100	100
	50	80	72	75
	75	68	56	62
	100	60	45	50
889-A	50	100	100	100
	100	85	75	75
	150	72	50	50
889R-A				<i>Volt.</i> <i>Input</i>
	40	100	100	100
	65	85	78	87
	100	72	60	73
→ 891	1.6	—	—	100
	7.5	—	—	75
	20	—	—	50
→ 891-R	1.6	—	—	100
	7.5	—	—	75
	20	—	—	50

→ indicates a change.

APRIL 1, 1953

TELE DEPARTMENT  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

RATINGS vs  
FREQ. 2



## TRANSMITTING TUBE RATINGS vs. OPERATING FREQUENCY

TUBE TYPE	OPERATING FREQUENCY <i>Megacycles per second</i>	MAXIMUM PERMISSIBLE PERCENTAGE OF MAXIMUM RATED PLATE VOLTAGE & PLATE INPUT			
		TELEPHONY		TELEGRAPHY	
		Class B, Class C Grid or Suppressor Modulated	Class C plate- modulated	Class C	
892	1.6	100	100	100	
	7.5	85	85	75	
	20	76	75	50	
892-R	1.6	100	100	100	
	7.5	85	75	75	
	20	76	50	50	
893-A		<i>Volt.</i>	<i>Input</i>	<i>Volt.</i>	<i>Input</i>
	5	100	100	100	100
	20	85	82	80	75
	40	65	73	64	64
893A-R				<i>Volt.</i>	<i>Input</i>
	5	100	100	100	100
	12	86	81	81	75
	25	74	65	65	50
898-A	1.6	100	100	100	
	Not recommended for operation at frequencies above 1.6 Mc.				
1613	45	—	100	100	
	60	—	90	90	
	90	—	85	85	
1614	80	—	100	100	
	120	—	75	75	
1619	45	100	100	100	
	60	93	90	90	
	90	85	77	77	
1623	60	100	100	100	
	70	93	88	88	
	100	80	60	60	
1624	60	100	100	100	
	80	90	80	80	
	125	75	55	55	
1625	Same as for Type 807				
1626	30	—	—	100	
	60	—	—	96	
	90	—	—	93	
5556	6	100	100	100	
	15	85	75	75	
	30	70	50	50	
5588	1200	—	100	100	
	1350	—	90	90	
	1500	—	80	80	
	2000	—	80	80	

MAY 3, 1954

TUBE DIVISION  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

RATINGS vs  
FREQ. 3



## TRANSMITTING TUBE RATINGS vs. OPERATING FREQUENCY

TUBE TYPE	OPERATING FREQUENCY <i>Megacycles per second</i>	MAXIMUM PERMISSIBLE PERCENTAGE OF MAXIMUM RATED PLATE VOLTAGE & PLATE INPUT			
		TELEPHONY		TELEGRAPHY	
		Class B, Class C Grid of Suppressor Modulated	Class C Plate- Modulated	Class C	
5592	50 75 108	— — —	— — —	<i>Volt.</i> 100 85 65	<i>Input</i> 100 100 67
5618	100 165	— —	— —	<i>Volt.</i> 100 100	<i>Input</i> 100 90
5671	10 18 25	— — —	100 88 80	100 88 80	
5713	220	—	—	100	
5762 <sup>▲</sup>	30 110 220	— — —	100 84 52	100 84 52	
For Television Service, see data pages for this type.					
→ 5763	50 175	— —	<i>Volt.</i> 100 100 80	<i>Input</i> 100 100 80	<i>Volt.</i> 100 100 80
5770	20 27 35	— — —	100 88 77	100 88 77	
5771	1.6 25 50	100 100 75	100 100 75	<i>Volt.</i> 120 100 75	<i>Input</i> 112.5 100 75
5786	160	—	100	100	
5831	See data pages for this type.				
5946	1300 2000	Plate-Pulsed Oscillator and Amplifier Service 100 75			
6146	60 120 175	— — —	<i>Volt.</i> 100 67 53	<i>Input</i> 100 79 66	<i>Volt.</i> 100 67 53
See Curve Charts under data for this type.					
6159	Same as for type 6146				
6161	900 1200 1400 1650 2000	— — — — —	100 80 71 62.5 62.5	100 80 71 62.5 62.5	
For Television Service, see data pages for this type.					
<sup>▲</sup> In Self-Rectifying oscillator or Amplifier Service, and in Amplifier or oscillator Service with Separate, Rectified, unfiltered, Single-phase, Full-Wave Plate Supply, the 5762 has the same maximum permissible percentages as those shown for Class C Telegraphy.					
→ indicates a change.					

MAY 3, 1954

TUBE DIVISION  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

RATINGS vs  
FREQ. 3



## TRANSMITTING TUBE RATINGS vs. OPERATING FREQUENCY

TUBE TYPE	OPERATING FREQUENCY <i>Megacycles per second</i>	MAXIMUM PERMISSIBLE PERCENTAGE OF MAXIMUM RATED PLATE VOLTAGE & PLATE INPUT			
		TELEPHONY		TELEGRAPHY	
		Class B, Class C Grid or Suppressor Modulated	Class C plate- Modulated	Class C	
6166	30 220 For Television Service, see data pages for this type.	- -	100 90	100 90	
6181	900 For Television Service, see data pages for this type.	-	100	100	
6524	100 220 470	- - -	<i>Volt. Input</i> 100 100 79 80 75 53	<i>Volt. Input</i> 100 100 79 78 76 51	←
See Curve Charts under data for this type.					
8000	Same as for Type 810				
8001	See 4E27/8001				
8003	30 50	100 90	100 83	100 83	
8005	60 80 100	100 90 83	100 75 60	100 75 60	
8012-A and 8025-A	500 600	100 80*	100 70*	100 70*	
* Maximum permissible percentage of only maximum plate voltage: the maximum plate input may be 100% of its rated value.					

← indicates a change

AUG. 16, 1954

TUBE DIVISION  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

RATINGS vs  
FREQ. 4