

# Tube Types Tabulated

## An Invaluable Memory-Jogging List of To-day's Tubes

**T**UBES to the left of them — tubes to the right of them" — we hope there'll be a lull in the volleying and thundering pretty soon. Anyhow it's time to stop for breath and see just what is available in the way of tubes. Hence the table herewith which includes all the regularly-made "standard" types and such special ones as have come to our attention recently.

The tubes have been listed in numerical order to make it easy to find out what kind of tube is meant when an unfamiliar number is encountered. Following the number is a brief description of the tube, its filament rating, the kind of base it has, and the issue of *QST* in which a more complete description can be found. This is the essential information necessary, we believe, to give some sort of mental picture of the tube and to fit it into the general scheme of things.

A word of explanation is necessary about modern receiving-tube groupings. Primarily, the tubes are grouped by the three types of receivers for which they are intended — a.c., dry battery, automobile or 110-v. d.c. — and can be identified by the filament ratings. The a.c. series have filaments marked "2.5 a.c.," some with indirectly-heated cathodes and some with ordinary filaments; the dry battery or air-cell group all have 2.0-volt d.c. filaments (no indirectly-heated cathodes in this group); and the automobile or 110-v. d.c. tubes are equipped with 6.3-volt filaments, indirectly-heated except for a few special types.

In each of the three groups above will be found a screen-grid r.f. amplifier, a screen-grid pentode

r.f. amplifier, screen-grid r.f. amplifier with the variable-mu feature, a screen-grid pentode variable-mu r.f. amplifier, a general-purpose triode (the good old 201-A in various degrees of refinement), a power audio amplifier, a power pentode, and a power amplifier for Class B audio — the latter usually fixed up so it can be used as a regular power audio amplifier instead of Class B and sometimes as a pentode as well. The last three are for feeding the loud-speaker. There will be some exceptions to the above, of course, because this thing has been the result of growth and did not spring into being full-fledged. And in addition there are various types of rectifier tubes for the a.c. sets, transmitting tubes, and special tubes for regulating purposes.

The numbers themselves are the ones by which the tubes are most familiar to us. For the moment we have dropped the somewhat cumbersome "Type '00" system which is necessitated by the fact that some manufacturers use some other figure than "2" or "8" for the three-digit numbers. So in using the table this should be kept in mind — for instance, a "224-A" is the same thing as an Arcturus "124-A" or a De-Forest "424-A." Incidentally, the 224 is now obsolete, the 224-A having replaced it. The only difference between the two is that the latter reaches its operating temperature a great deal more quickly than the 224 did.

While banging this out on the old mill we're breathing a silent prayer that the barrage may let up long enough to make this table useful for a few months at least.

Type No.	Description <sup>1</sup>	Filament <sup>2</sup> Voltage	Base <sup>3</sup>	Remarks <sup>4</sup>
WD-11 WX-12	General-purpose triode (r)	1.1 d.c.	WD 4-pin med. 4-pin	
41	Pentode power amplifier (r)	6.3 a.c. or d.c.*	med. 6-pin	Sept. 1932
42	Pentode power amplifier (r)	6.3 a.c. or d.c.*	med. 6-pin	Sept. 1932
43	Pentode power amplifier (r)	25.0 d.c.*	med. 6-pin	Sept. 1932
44	Variable-mu pentode screen-grid r.f. amplifier (r)	6.3 a.c. or d.c.*	sm. 5-pin with cap	Sept. 1932
46	Double-grid power amplifier (r)	2.5 a.c.	med. 5-pin	May 1932
49	Double-grid power amplifier (r)	2.0 d.c.	med. 5-pin	Aug. 1932
52	Double-grid power amplifier (r)	6.3 d.c.	med. 5-pin	Sept. 1932
55	Twin-diode detector, triode amplifier (r)	2.5 a.c.*	sm. 6-pin with cap	Sept. 1932
56	General-purpose triode (r)	2.5 a.c.*	sm. 5-pin	June 1932
57	Screen-grid pentode r.f. amplifier (r)	2.5 a.c.*	sm. 6-pin with cap	June 1932

*This List Has Been Continued on page 38 to Permit Removing for Permanent Mounting*

Type No.	Description <sup>1</sup>	Filament <sup>2</sup> Voltage	Base <sup>3</sup>	Remarks <sup>4</sup>
58	Variable-mu screen-grid pentode r.f. amplifier (r)	2.5 a.c.*	sm. 6-pin with cap	June 1932
82	Full-wave mercury-vapor rectifier (r)	2.5 a.c.	med. 4-pin	May 1932
83	Full-wave mercury-vapor rectifier (r)	5.0 a.c.	med. 4-pin	Sept. 1932
85	Twin-diode detector, triode amplifier (r)	6.3 d.c.*	sm. 6-pin with cap	Sept. 1932
89	Triple-grid power amplifier (r)	6.3 d.c.*	sm. 6-pin with cap	Sept. 1932
112-A	General purpose triode (r)	5.0 d.c.	med. 4-pin	
120	Triode power amplifier (r)	3.0 d.c.	sm. 4-pin	
171-A	Triode power amplifier (r)	5.0 d.c.	med. 4-pin	
199	General-purpose triode (r)	3.0 d.c.	sm. 4-pin	
200-A	Triode detector (r)	5.0 d.c.	med. 4-pin	
201-A	General-purpose triode (r)	5.0 d.c.	med. 4-pin	
203-A	100-watt oscillator and power amplifier (t)	10.0 a.c.	lge. 4-pin	
204-A	250-watt oscillator and power amplifier (t)	11.0 a.c.	special	
210	Triode power amplifier (r) and 75-watt oscillator (t)	7.5 a.c.	med. 4-pin	Sept. 1926
211	Modulator and 75-watt oscillator (t)	10.0 a.c.	lge. 4-pin	
217-A	Half-wave rectifier, 1500v. (t)	10.0 a.c.	lge. 4-pin	
217-C	Half-wave rectifier, 3000v. (t)	10.0 a.c.	lge. 4-pin with cap	
222	Screen-grid r.f. amplifier (r)	3.3 d.c.	med. 4-pin with cap	Dec. 1927
224-A	Screen-grid r.f. amplifier (r)	2.5 a.c.*	med. 5-pin with cap	June 1929
226	Triode amplifier (r)	1.5 a.c.	med. 4-pin	
227	General purpose triode (r)	2.5 a.c.*	med. 5-pin	
230	General purpose triode (r)	2.0 d.c.	sm. 4-pin	July 1930
231	Triode power amplifier (r)	2.0 d.c.	sm. 4-pin	July 1930
232	Screen-grid r.f. amplifier (r)	2.0 d.c.	med. 4-pin with cap	July 1930
233	Pentode power amplifier (r)	2.0 d.c.	med. 5-pin	June 1931
234	Variable-mu pentode screen-grid r.f. amplifier (r)	2.0 d.c.	med. 4-pin with cap	July 1932
235	Variable-mu screen-grid r.f. amplifier (r)	2.5 a.c.*	med. 5-pin with cap	May 1931
236	Screen-grid r.f. amplifier (r)	6.3 d.c.*	sm. 5-pin with cap	July 1931
237	General-purpose triode (r)	6.3 d.c.*	sm. 5-pin	July 1931
238	Pentode power amplifier (r)	6.3 d.c.*	sm. 5-pin with cap	July 1931
239	Variable-mu pentode screen-grid r.f. amplifier (r)	6.3 d.c.*	sm. 5-pin with cap	Feb. 1932
240	Triode voltage amplifier (r)	5.0 d.c.	med. 4-pin	Apr. 1927
245	Triode power amplifier (r)	2.5 a.c.	med. 4-pin	June 1929
247	Pentode power amplifier (r)	2.5 a.c.	med. 5-pin	June 1931
250	Triode power amplifier (r) and modulator (t)	7.5 a.c.	med. 4-pin	Apr. 1928
280	Full-wave rectifier (r)	5.0 a.c.	med. 4-pin	
281	Half-wave rectifier (r and t)	7.5 a.c.	med. 4-pin	
841	Triode voltage amplifier (r and t)	7.5 a.c.	med. 4-pin	July 1929
842	Triode modulator (t)	7.5 a.c.	med. 4-pin	July 1929
843	Triode power amplifier and oscillator (t)	2.5 a.c.*	med. 5-pin	
844	Screen-grid power amplifier (t)	2.5 a.c.*	med. 5-pin with cap	
845	Triode modulator (t)	10.0 a.c.	lge. 4-pin	Nov. 1929
849	Triode 450-watt oscillator or r.f. amplifier; 100-watt modulator (t)	11.0 a.c.	special	Handbook

Type No.	Description <sup>1</sup>	Filament <sup>2</sup> Voltage	Base <sup>3</sup>	Remarks <sup>4</sup>
850	100-watt screen-grid r.f. amplifier (t)	10.0 a.c.	lge. 4-pin with cap	
851	1000-watt triode amplifier and oscillator (t)	11.0 a.c.	special	
852	100-watt triode oscillator and amplifier (t)	10.0 a.c.	med. 4-pin with sp. bulb connec.	May 1927
860	100-watt screen-grid amplifier (t)	10.0 a.c.	med. 4-pin with sp. bulb connec.	Sept. 1928
861	500-watt screen-grid amplifier (t)	11.0 a.c.	special	Feb. 1929
864	General-purpose triode, non-microphonic (r)	1.1 d.c.	sm. 4-pin	
865	7.5-watt screen-grid amplifier (t)	7.5 a.c.	med. 4-pin with cap	Apr. 1929
866	Half-wave mercury-vapor rectifier (t)	2.5 a.c.	med. 4-pin with cap	Feb. 1929
868	Phototube		sm. 4-pin	
871	Half-wave mercury-vapor rectifier (t)	2.5 a.c.	sm. 4-pin with cap	
872	Half-wave mercury-vapor rectifier (t)	5.0 a.c.	lge. 4-pin with cap	
874	Voltage regulator		med. 4-pin	Jan. 1927
876	Current regulator		mogul	
886	Current regulator		mogul	
896	Current regulator		std. lamp-base	

#### SPECIAL TYPES

DeForest 571	500-watt oscillator and r.f. amplifier (t)	11.0 a.c.	special	Large-size 852
DeForest 575	Half-wave mercury-vapor rectifier (t)	5.0 a.c.	lge. 4-prong	12,500 v. inv. peak
ER-LA	Pentode power amplifier (r)	6.3 d.c.	med. 5-prong	May 1932
Triad sp. 210	Special 210 for ultra-high frequencies (t)	7.5 a.c.	med. 4-prong with cap	June 1932
Speed 295	Detector-power amplifier (r)	2.5 a.c.*	med. 5-prong with cap	Sept. 1932
Wunderlich	Detector	2.5 a.c.*	med. 5-prong with cap or med. 6-prong	Sept. 1932
Recto-bulb R3	Half-wave mercury-vapor rectifier	10.0 a.c.*	med. 4-prong with cap	
Recto-bulb R4	Half-wave mercury-vapor rectifier	5.0 a.c.*	med. 4-prong with cap	

#### WESTERN ELECTRIC TRANSMITTING TUBES<sup>5</sup>

211-D	Modulator and 50-watt oscillator (t)	10.0 a.c.	lge. 4-prong	
212-D	Modulator and 250-watt oscillator (t)	14.0 a.c.	special	
242-A	Modulator and 50-watt oscillator (t)	10.0 a.c.	lge. 4-prong	(Similar to UV-211)
248-A	Modulator and 50-watt oscillator (t)	10.0 a.c.	lge. 4-prong	(Similar to 211-D)
251-A	1000-watt oscillator (t)	10.0 a.c.	special	
261-A	Modulator and 50-watt oscillator (t)	10.0 a.c.	lge. 4-prong	(Similar to 242-A)
270-A	Modulator and 300-watt oscillator or amplifier (t)	10.0 a.c.	special	
276-A	Modulator or 50-watt oscillator and amplifier (t)	10.0 a.c.	lge. 4-prong	
279-A	Modulator or 1000-watt oscillator and amplifier (t)	10.0 a.c.	special	

<sup>1</sup> (r) receiving; (t) transmitting.

<sup>2</sup> \* Indirectly-heated cathode. In general, any tube marked with \* can be used on either a.c. or d.c. filament supply.

<sup>3</sup> sm., small; med., medium; lge., large.

<sup>4</sup> Dates refer to the issue of *QST* in which a more complete description of the tube will be found.

<sup>5</sup> Western Electric transmitting tubes listed are available to amateurs for radio-telephone use only.