

ATWATER KENT

RADIO

ELECTRICAL VALUES

OF

RESISTORS and CONDENSERS

IN

ALL RECEIVERS

1924-1932

INCLUSIVE

This Service Manual supplement contains a numerical list, with values, of all Atwater Kent condensers and resistors in receivers produced up to and including 1932.

It also includes simplified parts-list tables, with values, for each model. In using these tables, please note the following:—

1—The value of each part is printed in **heavy type** under the part number. The value is given in ohms unless otherwise specified. In cases where a resistor is tapped, the total over-all resistance is given. This also applies to tapped windings on audio transformers.

2—Tubular resistors are not listed in the table for each model. To find the value of a tubular resistor it is necessary to refer to page 7,

which contains a complete list of tubular resistors with resistance values and identifying color.

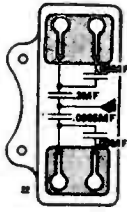
3—In these tables we give only the part number and code marking of by-pass and filter condensers. To find the values inside these condensers, it is necessary to refer to pages 2, 3 and 5. Owing to production changes, there are a few exceptions to the listing of by-pass condensers in the tables.

4—In the list of flexible and wire-wound resistors, we show illustrations of the early-style resistors that were actually used in the sets. In many cases the resistors supplied for replacement are of late-style with die-cast lugs. Replacement resistors are usually furnished without leads.

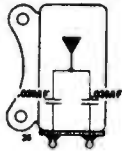
Printed in U. S. A. Copyright December, 1932, by Atwater Kent Mfg. Co.

ATWATER KENT RADIO

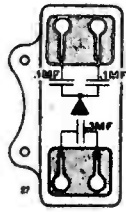
VALUES OF BY-PASS CONDENSERS (Continued)



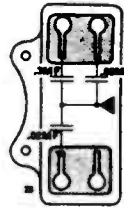
21440
H-40
400-Volts



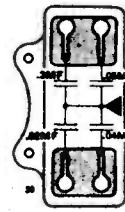
21450
B-10
450-Volts



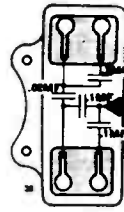
22050
H-41
200-Volts



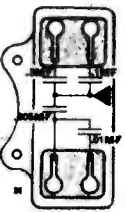
23310
H-42
Superseded by
21180



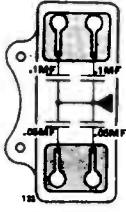
23330
H-43
200-Volts



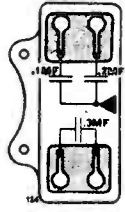
23590
H-44
200-Volts



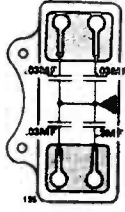
23610
H-45
400-Volts



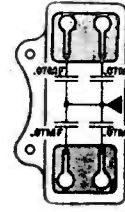
27120
H-46
400-Volts



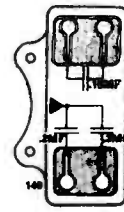
27140
H-47
200-Volts



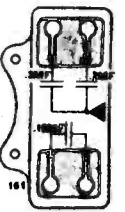
27580
H-48
200-Volts



29560
H-49
400-Volts



30290
H-50
Superseded by
30310



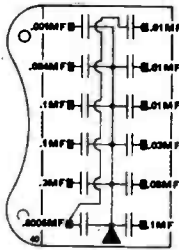
30310
H-51
200-Volts

NOTES

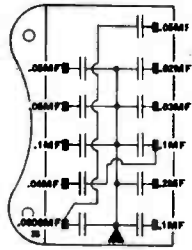
- In B-1, H-1, and H-9, the two top condensers are 150 volts; the two bottom condensers are 400-volts. In H-20, all four condensers are 400-volts. H-20 may be used in place of B-1, H-1, or H-9, but do not use B-1, H-1, or H-9 in place of H-20.
- In 15263, the .3 MF condenser is 150-volts; the .075 MF is 400-volts.

- In 15770, the .12 MF condenser is 400-volts; the others are 150-volts.
- In 15780, the .2 MF condenser is 400-volts; the others are 150-volts.
- In 18233, the .1 MF condensers are 150-volts; the others are 400-volts.
- In 18745, the .3 MF condenser is 150-volts; the others are 400-volts.
- In 18350, the top-right and lower-left condensers are 150-volts; the others are 400-volts.

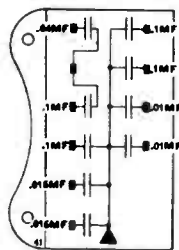
MULTIPLE TYPE BY-PASS CONDENSERS



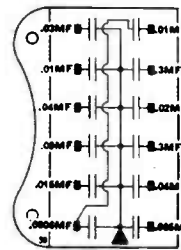
20830
J-1, J-2
200-Volts



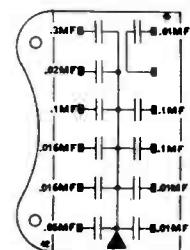
22570
J-3
200-Volts



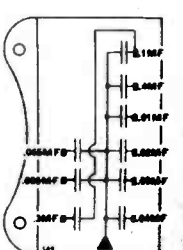
23140
J-4
200-Volts



24250
J-5
200-Volts

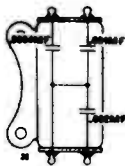


25690
J-6
200-Volts

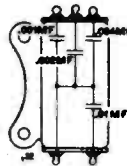


28140
J-7
200-Volts

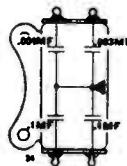
TONE CONTROL CONDENSERS



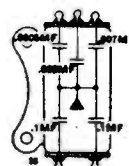
15870
B-7
100-Volts



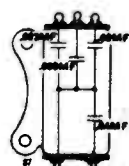
16490
B-6
100-Volts



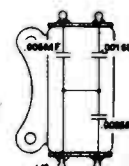
20010
B-8
100-Volts



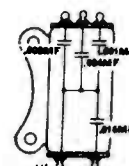
21250
B-9
200-Volts



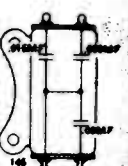
21530
B-11
200-Volts



27390
B-14
200-Volts





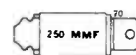






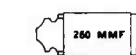


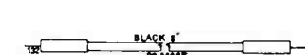


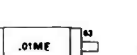

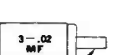



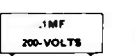


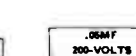

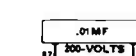
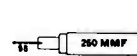

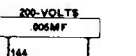

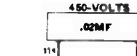



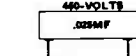








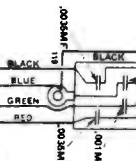

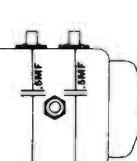
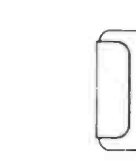
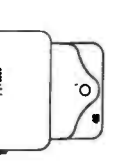


29690
B-15
200-Volts




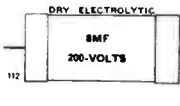
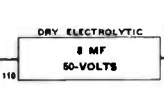
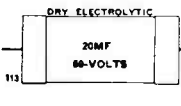
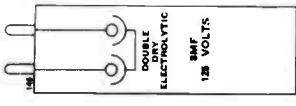

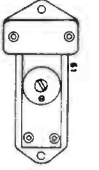
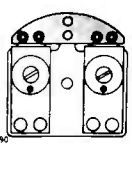
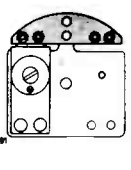
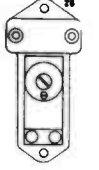

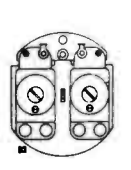
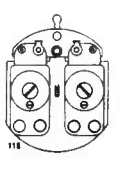
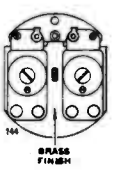
30270
B-16
200-Volts

VALUES OF FIXED CONDENSERS AND DRY ELECTROLYTICS

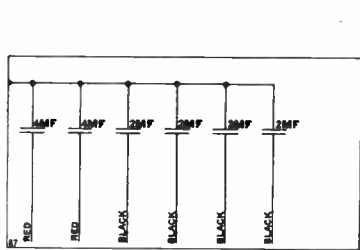
							
†4465	†8112	†8241	†8590	†8593	†9598	†14072	†14861
							
†15540	†15792	†15919	†16088	†16323	†16360	16788	
							
†22365	†22366	†22350	†223282	‡26040	26050	‡26490	26550
							
26660	†26670	26690	26820	†27130	27630	†27640	†27650
							
28040	28130	29030	29360	†29890	‡30240	30250	
							
†17440 7 plates. Copper washers, or letter A.	†17470 4 plates. "X" scratched on fibre, or letter F.	†17974 4 plates. Aluminum washers; or letter G.	†21160 4 plates. Black washers, or letter B.	†22220 3 plates. Brass washers or letter C.	†25650 6 plates. Black washers, or letter D.	†26440 4 plates. Black washers, or letter E.	†30260 Letter E stamped on washer.
							
†23411	‡21624 K-4	‡23260 K-1	†26620 K-5	*29550 K-6			

‡ 500-Volts.
† 450-Volts.
‡ 200-Volts.
* 100-Volts.

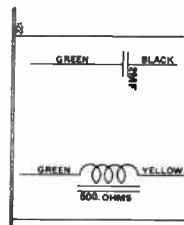
DRY ELECTROLYTICS AND TRIMMERS

								
22397	22472	22646	23479	23981				
								
17230 10 to 85 MMF	17240 70 to 225 MMF	18150 45 to 115 MMF	19330 25 to 150 MMF	20190 25 to 190 MMF	20340 30 to 250 MMF	24760 30 to 125 MMF	27860 30 to 140 MMF	30110 20 to 130 MMF

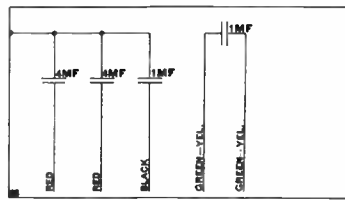
VALUES OF FILTER CONDENSER ASSEMBLIES



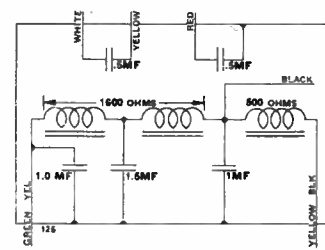
8875 and 9505



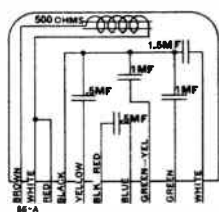
9511



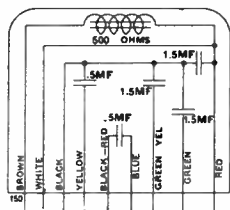
9704



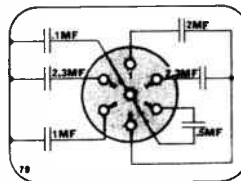
13315 (Late Type)



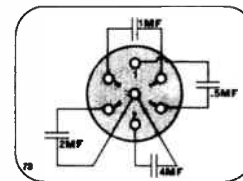
14247



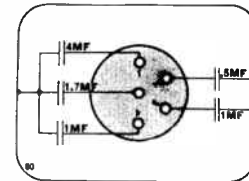
14256



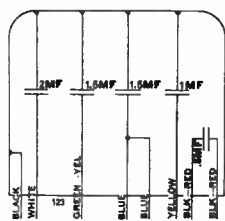
14340
A-3



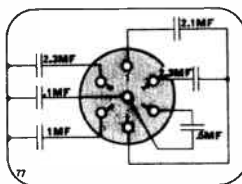
14710
C-1



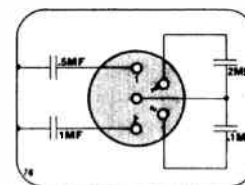
14720
D-2



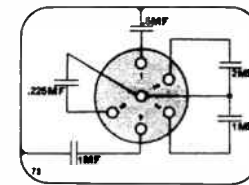
14743



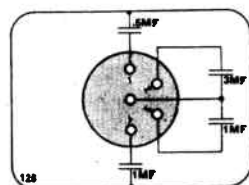
14880
E-1



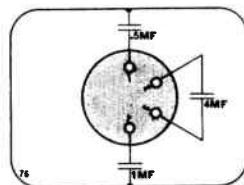
15480
A-5



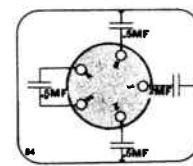
15850
C-7



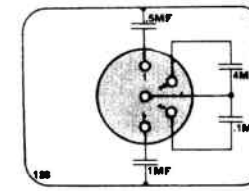
16520 (Early Type)
A-6



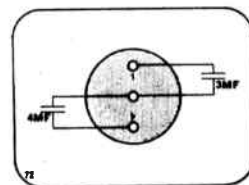
16520 (Late Type)
D-3



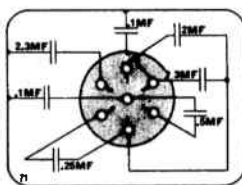
17159
C-6



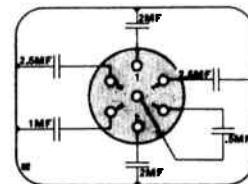
17480
E-3



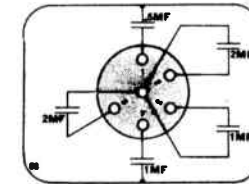
20370
F-1



21520
A-7



25130
F-3



25190
F-4

ATWATER KENT RADIO

VALUES OF ELECTROLYTIC CONDENSERS

19060, superseded by 22538.

23146, 8MF, 475 volts. Yellow paint.

19728, superseded by 23146.

23394, superseded by 22538.



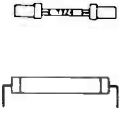


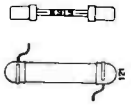
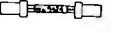
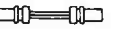

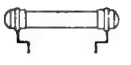
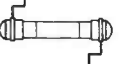
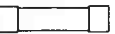

20049, 24MF, 120 volts.

23498, 4MF, 475 volts. Green paint.

22538, 8MF, 475 volts. Yellow paint.

23481, 12MF, 475 volts. Red paint.

VALUES OF EARLY-TYPE TUBULAR RESISTORS

PART NO.	RESISTANCE	USED AS	USED IN MODELS	ILLUSTRATIONS (1/3 FULL SIZE)	SUPERSEDED BY
4782	2 megohms	Grid leak	20-4640 & 24	15892
4814	2 megohms	Grid leak	Board sets		YELLOW PAPER UNDER GLASS 15892
7639	2 megohms	Grid leak	20-7570 & 21		WHITE GLASS 15892
7724	.1 megohm	A.F. grid resistor	12-4910		BLUE PAPER UNDER GLASS 16282
8195	2 megohms	Grid leak	{ 20-7960, 30, 32, 33, 35, 36, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 52, 53, 56 & 57 }		15892
8796	12,500 ohms	No. 1 R.F. resistor	50		YELLOW GLASS ---
8919	.1 megohm	Detector plate resistor	"B" power unit, 36, early 37 & 38		GREEN PAINT ---
9424	12,500 ohms	{ 1st-A.F. plate resistor. Detector plate resistor.	{ 36, 37, 38, 40, 42, 43, 44, 45, 52, 56 & 57 41 }		15941 OR 16472
13047	65,000 ohms	Detector plate resistor	Late 37 & 38, 40, 42, 43, 44, 45, 52, 56 & 57		15592
13901	5000 ohms	1st-R.F. plate resistor	41		---
14565	65,000 ohms	Detector plate resistor	46, 47 & 53		BLACK PAINT 15592
14575	12,500 ohms	1st-A.F. plate resistor	46, 47 & 53		RED PAINT 15941 OR 16472
15286A	6000 ohms	Bleeder resistor	Early 55		ALL PURPLE 16330
15286B	4000 ohms	Bleeder resistor	Early 55		PURPLE BAND 16295

ATWATER KENT RADIO

VALUES OF 1/2, 1, and 1 1/2 WATT TUBULAR RESISTORS

(When replacing a tubular resistor, use a resistor of the same value and size.)

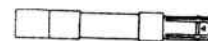


These three illustrations are full size.

RESISTANCE IN OHMS	RESISTANCE IN MEGOHMS	IDENTIFYING COLOR	1/2 WATT SIZE	1 WATT SIZE	1 1/2 WATT SIZE
3,300	.0033	GREEN AND RED	26410	19346	—
4,000	.004	GREEN AND BLUE	—	18049	—
5,000	.005	BLUE AND YELLOW	28050	—	—
6,000	.006	PURPLE	—	20151	28770
7,500	.0075	YELLOW	—	15544	—
10,000	.01	MAROON	20950	15545	27210
12,500	.0125	{ PURPLE AND YELLOW PURPLE AND RED RED	—	15941	—
			—	16472	—
			—	15802	—
15,000	.015	{ GRAY AND YELLOW GRAY AND GREEN	20960	22211	27220
			—	21784	—
20,000	.02	BLACK AND RED	23120	15891	28030
30,000	.03	GRAY	20970	15285	29710
40,000	.04	{ WHITE BLACK AND YELLOW	26160	16724	28750
			—	16725	—
50,000	.05	BLACK, YELLOW AND RED	—	22407	—
65,000	.065	{ BLACK BLACK AND GREEN	21040	15592	—
			—	17558	—
100,000	.1	{ BLUE RED AND BLUE	—	15287	—
			20980	16282	28760
250,000	.25	RED AND YELLOW	20920	19581	—
500,000	.5	BLACK AND PURPLE	20930	19649	—
800,000	.8	RED AND GRAY	23130	20223	—
900,000	.9	GREEN AND YELLOW	23170	—	—
1,000,000	1	BLUE AND GRAY	21050	—	—
2,000,000	2	GREEN	20940	15892	—



No. 21143 Plug suppressor
Used in Models 81 & 91
RESISTANCE 15,000 OHMS



No. 21144 Distributor suppressor
Used in Models 81 & 91
RESISTANCE 15,000 OHMS

ATWATER KENT RADIO

VALUES OF FLEXIBLE AND WIRE-WOUND RESISTORS

Part No. and Ohms	Illustrations 1/3 Full Size
3849 4	
4011 200	
4497 10	
4662 20	
4690 10	
4879 600	
4949 600	
4953 10	
4960 2.5 & 2.5	
4977 600	
8092 500	
8126 1	
8190 180 & 270	
8225 500	
8256 1.5	
8284 865	

Part No. and Ohms	Illustrations 1/3 Full Size
8303 1	
8308 5	
8310 20	
8439 350	
8599 5	
8627 1.5	
8915 800, 800, 800, 800, 1800 & 5000	
8996 800	
9434 10 & 10	
9515 1700, 1100, & 5000	
9597 25 & 25	
9691 1100	
9692 1750	
9781 425	

Part No. and Ohms	Illustrations 1/3 Full Size
9782 425	
9788 400	
(Superseded by 13604)	
13128 625	
13138 550	
13289 2200	
13296 1500	
(Superseded by 16253)	
13303 550	
13323 0.3	
13324 0.05	
13369 3000	
13383 1500	
(Superseded by 16253)	
13538 625 and 2200	
13604 400	
13645 28	
13755 21	

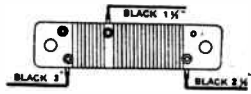
ATWATER KENT RADIO

VALUES OF FLEXIBLE AND WIRE-WOUND RESISTORS (Continued)

Part No.
and Ohms

Illustrations
1/2 Full Size

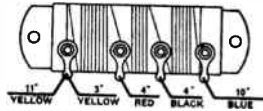
13756
500 and
2200



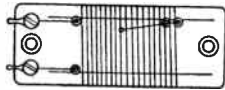
13961
4



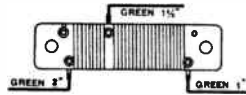
14039
235, 125
and 175



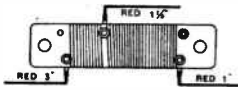
14041
242



14427
625 and
1000



15063
550 and
1000

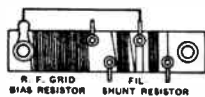


15272
1050



(Superseded by 15660)

15274
160 & 30
(30-ohm has
tap at 15)

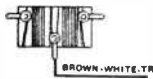


(Superseded by 16988 and 17077)



15297, 6000 ohms

15547
15 and 15



(Superseded by 17077)

15660
1050

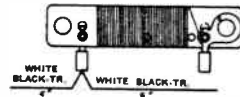


December, 1932.

Part No.
and Ohms

Illustrations
1/2 Full Size

15670
1050



(Superseded by 15660)

15720
425



(Superseded by 15830)

15747
2



15810
1050



(Superseded by 16320)

15820
1050



(Superseded by 16320)

15830
425



15904
160



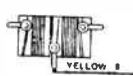
(Superseded by 16988)

16055
1050



(Superseded by 15660)

16056
15 & 15



(Superseded by 17077)

16077
19



16081
0.6



16175
160



(Superseded by 16988)

16176
8.5 & 11.5

(Superseded by 16302)

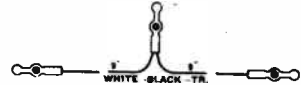
Part No.
and Ohms

Illustrations
1/2 Full Size

16253
1500



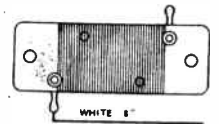
16280
8 & 8



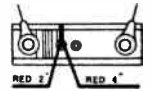
16290
11 & 11



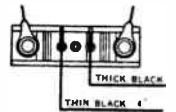
16295
4000



16299
11.5



16302
8.5 & 11.5



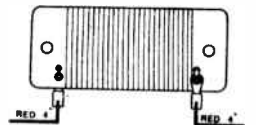
16320
1050



16322
4



16330
6000



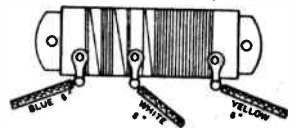
16340
850



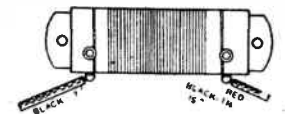
16350
200



16432
35 & 250



16433
680



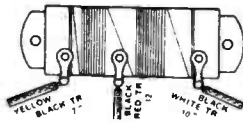
ATWATER KENT RADIO

VALUES OF FLEXIBLE AND WIRE-WOUND RESISTORS (Continued)

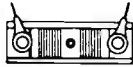
Part No. and Ohms

Illustrations 1/3 Full Size

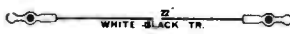
16434
300 & 300



16522
22.5



16610
19



16638
1050

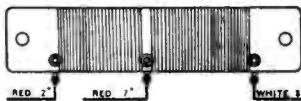


(Superseded by 15660)

16639
8500



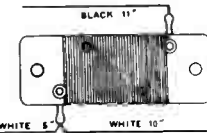
16641
3000 & 4000



16643
2000



16644
4000



(Superseded by 16295)

16759
1050



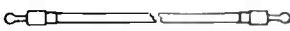
(Superseded by 15660)

16768
115



(Superseded by 16987)

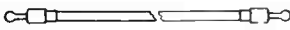
16840
22



16850
11



16860
35



16868
160 & 850



(Superseded by 16988 and 16989)

Part No. and Ohms

Illustrations 1/3 Full Size

16872
1500 & 1050



(Superseded by 16253 and 15660)

16905
3000 & 3000



(Superseded by 17041)

16987
115



1st Type



2nd Type

16988
160

16988 was also made in flexible type, but only the 2nd type is now supplied.



1st Type



2nd Type

16989
850



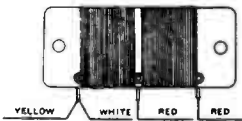
(Superseded by 16340)

17016
1050



(Superseded by 15660)

17041
3000 & 3000



17077
5 & 5



(Now Rubber Covered)

17090
1200



Part No. and Ohms

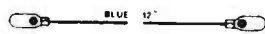
Illustrations 1/3 Full Size

17155
7.5 & 7.5

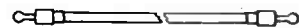


(Superseded by 17077)

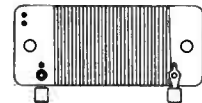
17299
2



17380
425



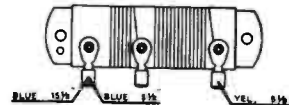
17610
4000



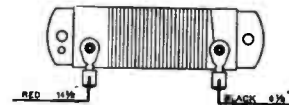
18236
1



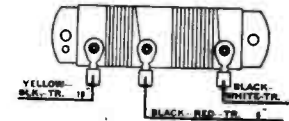
18354
35 & 250



18355
645



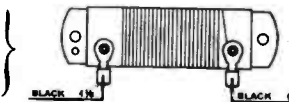
18356
300 & 300



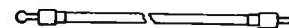
18520
70



19180
1100
19180X
600



19190
3300



(Superseded by 19346 tubular)

19610
.452



19820
48



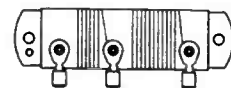
19830
8



19840
35



19850
60 & 160



(Superseded by 25980 and 25990)

VALUES OF FLEXIBLE AND WIRE-WOUND RESISTORS (Continued)

Part No. and Ohms	Illustrations 1/2 Full Size	Part No. and Ohms	Illustrations 1/2 Full Size	Part No. and Ohms	Illustrations 1/2 Full Size
20040 100		22660 6000		25850 2500	
20050 355				25950 200	
20120 800		23780 550		25980 110	
20140 6400		23840 8, 8 & 8		25990 50 & 60	
20150 8000		(Superseded by 26360)		26360 8, 8 & 8	
20320 200		24340 8000		27930 500	
20380 1500		24450 6400		28470 3000	
20520 670		24470 4000		28950 160	
21030 2000		24530 2500		29220 300	
21420 250		24980 300		30030 .352	
		25720 35			
		25840 300			

INSULATORS FOR WIRE-WOUND RESISTORS

No. 13306 Fibre insulator



No. 16147 Fibre insulator



No. 17232 Fibre insulator



RESISTANCE VALUES OF R. F. AND I. F. CHOKES

8062, superseded by 8232.	16286, superseded by 17254.	17420, superseded by 18220.	19250, 130 ohms.
8232, 35 ohms.	16659, 70 ohms.	17820, superseded by 18220.	19571, 79 ohms.
8660, 36 ohms.	17015, 89 ohms.	18160, 75 ohms.	20307, 84 ohms.
13482, superseded by 13668.	17254, 1.4 ohms.	18220, 70 ohms.	22494, 2.9 ohms.
13668, 25 ohms.	17390, 350 ohms.	19210, 66 ohms.	26510, 2.7 ohms.
15271, 38 ohms.	17410, 46 ohms.		

ATWATER KENT RADIO

VALUES OF PARTS IN MODELS
20, 24, 30, 32, 33, 35, 48, 49 and 50

	20-4640 24-4920	20 No. 7570	20 No. 7960	Early 30	Late 30 and 48	32	33 and 49	Early 35	Late 35	50
RESISTORS										
R.F. rheostat resistor	4690	4690	4690	4690	4690	8308	4690	4690	4690	8599
Detector rheostat resistor	4690	4690	8310	8310	8310	8310	8310	10	10	5
Fixed A.F. filament resistor	10	10	20	20	20	20	20	20	20	8310
Detector grid bias resistor			8303	8256	8256	8256	8256	8126	8126	8627
Detector grid leak			1	1.5	1.5	1.5	1.5	1	1	1.5
1st-R.F. plate resistor	15892	15892	15892	15892	15892	15892	15892	15892	15892	15892
No. 1 grid resistor	2 Mogs.	2 Mogs.	2 Mogs.	2 Mogs.	2 Mogs.	2 Mogs.	2 Mogs.	2 Mogs.	2 Mogs.	2 Mogs.
No. 2 grid resistor	4949	4949	4949	8092	8439	8284	8996	8225	8439	12500
No. 3 grid resistor	600	600	600	500	350	865	800	500	350	
Antenna Choke	4949	4949	4949	8092	8439	8284	8996	8225	8439	
	600	600	600	500	350	865	800	500	350	
	4949	4949	4949	8092	8439	8284	8996	8225	8439	
	600	600	600	500	350	865	800	500	350	
				8232	8232	8232		8232	8232	
				35	35	35		35	35	
A.F. TRANSFORMERS										
No. 1 A.F.T. Part No.	4779	7661	8060	8060	8060	8060	8060	8060	8060	8650
Primary Resistance	1700	1700	1000	1000	1000	1000	1000	1000	1000	1000
Secondary Resistance	3250	3250	7000	7000	7000	7000	7000	7000	7000	7000
No. 2 A.F.T. Part No.	4779	7661	7661	7661	7661	7661	7661	7661	7661	8940
Primary Resistance	1700	1700	1700	1700	1700	1700	1700	1700	1700	1400
Secondary Resistance	3250	3250	3250	3250	3250	3250	3250	3250	3250	7000
FIXED CONDENSERS										
"Single" By-pass	14902	14902	14902	14902	14902	14902	14902	14902	14902	14902
Phone Condenser	.3 MF	.3 MF	.3 MF	.3 MF	.3 MF	.3 MF	.3 MF	.3 MF	.3 MF	.3 MF
Grid Condenser	8241	8241	8241	8241	8241	8241	8241	8241	8241	8590
	.002 MF	.002 MF	.002 MF	.002 MF	.002 MF	.002 MF	.002 MF	.002 MF	.002 MF	.002 MF
	4465	8112	8112	8112	8112	8112	8112	8112	8112	8593
	250 MMF	250 MMF	250 MMF	250 MMF	250 MMF	250 MMF	250 MMF	250 MMF	250 MMF	250 MMF

VALUES OF CHASSIS PARTS IN MODELS
36, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 52, 53, 56 and 57

	44 and 45	36	Early 37	Late 37	Early 38	Late 38	40, 42 52, 56 and 57	** 41	43	46 and 53	47
RESISTORS											
No. 1 grid resistor	8439	8996	8439	8439	8996	8996	8439	8439	8439	8439	8439
No. 2 grid resistor	350	800	350	350	800	800	350	350	350	350	350
No. 3 grid resistor	8225	8996	8439	8439	8996	8996	8439	8439	350	8439	8225
1st-R.F. plate resistor	500	800	350	350	800	800	350	350	350	350	500
1st-R.F. bias resistor	8439	8996			8996	8996					8439
R.F. plate resistor	350	800			800	800					350
Detector grid leak								13901			
Detector cathode resistor								5000			
Filament shunt resistor								13961			
	16253			13369		16253	13369	4			
	1500			3000		1500	3000		13369	13369	16253
	15892	15892	15892	15892	15892	15892	15892	15892	3000	3000	1500
	2 Mogs.	2 Mogs.	2 Mogs.	2 Mogs.	2 Mogs.	2 Mogs.	2 Mogs.	2 Mogs.	15892	15892	15892
									13369	13369	13369
		9597	9597		9597			14039	3000	3000	3000
		50	50		50			535			
A.F. TRANSFORMERS											
No. 1 A.F.T.	8060	8060	8060	8060	8060	8060	8060	8060	14016	14721	14721
Primary resistance	1000	1000	1000	1000	1000	1000	1000	1000	1800	1500	1500
Secondary resistance	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000
No. 2 A.F.T.	7661	7661	7661	7661	7661	7661	7661	14015	14013	14722	14722
Primary resistance	1700	1700	1700	1700	1700	1700	1700	900	1300	1100	1100
Secondary resistance	3250	3250	3250	3250	3250	3250	3250	7000	7000	7000	7000

ATWATER KENT RADIO

VALUES OF CHASSIS PARTS IN MODELS

36, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 52, 53, 56 and 57 (Continued)

	44 and 45	36	Early 37	Late 37	Early 38	Late 38	40, 42 52, 56 and 57	** 41	43	46 and 53	47
FIXED CONDENSERS											
"Double" by-pass	15158	15158	15158	15158	15158	15158	15158	15157	15158	15158	15158
Speaker filter condenser	14902 3 MF	14902 3 MF	14902 3 MF	14902 3 MF	14902 3 MF	14902 3 MF	14902 3 MF				
Phone condenser	9598 .002 MF	9598 .002 MF	9598 .002 MF	9598 .002 MF	9598 .002 MF	9598 .002 MF	9598 .002 MF	14072 .002 MF	9598 .002 MF	9598 .002 MF	9598 .002 MF
Grid condenser	8112 250 MMF	8112 250 MMF	8112 250 MMF	8112 250 MMF	8112 250 MMF	8112 250 MMF	8112 250 MMF	8112 250 MMF	8112 250 MMF	14861 250 MMF	14861 250 MMF
VOLUME CONTROL											
Volume control resistor	13320 13604 400	9490 *	9510 400	13020 400	13020 400	13020 400		13550 400	13320 400		13320 400

*Early 36 used a condenser type volume control No. 9561. In late 36, the volume control has two resistors, No. 9781 and 9782, each 425 ohms.

**In Model 41, the detector filament by-pass and the volume control condenser is No. 13956.

VALUES OF PARTS IN POWER UNITS FOR MODELS

36, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 52, 53, 56 and 57

FOR VALUES IN BY-PASS AND FILTER CONDENSERS, SEE PAGES 2 AND 5

	Type "R" B Power Unit	Early 36	Late 36	Early 37	Late 37	Early 38	Late 38	40, 42, 52, 56 and 57	41	44 and 45	43	46 and 53	47
RESISTORS													
Detector plate resistor	8919 .1 Meg	8919 .1 Meg	8919 .1 Meg	8919 .1 Meg	15592 65000	8919 .1 Meg	15592 65000	15592 65000	15941 12500	15592 65000	15592 65000	15592 65000	15592 65000
1st-A.F. plate resistor		15941 12500	15941 12500	15941 12500	15941 12500	15941 12500	15941 12500	15941 12500	15941 12500	15941 12500	15941 12500	15941 12500	15941 12500
R.F.-1st-A.F. bias		9515 1100	9691 1100	9691 1100	13128 625	13138 550	13303 550	13538 625	13756 500	14427 625	14427 625	14427 625	15063 550
2nd-A.F. bias		9515 ② 1700	9692 1750	9692 1750	13289 2200	9692 1750	13289 2200	13538 2200	13756 ③ 2200	14427 ③ 1000	14427 ③ 1000	14427 ③ 1000	15063 ③ 1000
Load resistor	8915 ①	5000						13645	14041	13755	13645		
Line voltage regulator								28 ④	242	21 ⑤	28		
Filament shunt resistor		9434 20	9434 20	9434 20	9434 20	9434 20	9434 20	9434 20	9434 20	9434 20	9434 20	9434 20	9434 20
Filament shunt potentiometer		9486 20											
Detector filament series res.		13323 .3											
R.F.-1st-A.F. filament series res.		13324 .05											
FILTER CHOKES													
No. 1 choke ohms		400	400	400	1600	1600	1600	1600	1350	90	1400	300	300
No. 2 choke ohms		400	400	400	1600	1600	1600	1600	1350	90	1400	300	300
Speaker choke ohms		500	500	500	500	500	500	500	550	550	500		
FILTER CONDENSER													
(Replaceable type only)		8875	9505	9704	13315	13315	13315	13315	17159	⑥ 14247		14743	14743
OUTPUT TRANSFORMER													
Primary resistance											1000	900	900
Secondary resistance											7	4	4
SPEAKER FIELD COIL													
Speaker field resistance											14361	15629	15629
											2500	1700	1700

①—See drawing of 8915 on Page 8. ②—These three resistors are combined in one unit No. 9515. ③—The 2nd-A.F. bias and the R.F.-1st-A.F. bias are combined in one unit, and the number of the complete unit is listed. ④—Used only in Models 42 and 52. ⑤—Used only in Model 44. ⑥—This is the output choke in Model 41. ⑦—Early 53 uses No. 14361, 2500 ohms. Late 53 uses No. 15631, 1700 ohms. No. 15631 is long and narrow. ⑧—In 40-F, 42-F, and 44-F, the replaceable condenser unit is No. 14256.

ATWATER KENT RADIO

VALUES OF PARTS IN MODELS 55, 55-F, 60, 61, 66, and 67

	Early 55	Late 55	Early 55-F	Late 55-F	Early 60	Late 60	Early 61	Late 61	66	Early 67	Late 67
RESISTORS											
Bleeder resistor	16330		16330		16295		16295	16295			
Bleeder resistor No. 1	6000		6000		4000		4000	4000			
Bleeder resistor No. 2		16295		16295		17041				16641	
1st-R.F. bias resistor		4000		4000		6000				7000	
2nd-R.F. bias resistor		16989		16989		15660				15660	
3rd-R.F. bias resistor		850		850		1050				1050	
R.F. bias resistor					16253	16253				15660	
1st-A.F. bias resistor					1500	1500				1050	
2nd-A.F. bias resistor							16299	16299			
2nd-A.F. grid filter resistor							11.5	11.5			
1st or 2nd-R.F. filament res.							16322	16322			
Detector and A.F. filament res.							4	4			
Filament series resistor No. 1	16988	16988	16988	16988	16988	16988				16987	
Filament series resistor No. 2	160	160	160	160	160	160				115	
A.F. filament shunt resistor										16639	
3rd Filament shunt resistor										8500	
Filament shunt resistor	15660	15660	15660	15660	15660	15660	16322	16322		16643	
Dial-light resistor	1050	1050	1050	1050	1050	1050	4	4		2000	
Volume Control											
Wire-wound section											
Carbon section											
Condensers											
Double phone condenser	15792		15792		15792		16323			16082	16082
Detector grid condenser	.002 MF		.002 MF		.002 MF		.002 MF			.002 MF	.002 MF
Local-distance switch condenser		16788		16788		16788	16088	16088		16088	16088
Filter Condenser	14340	14340	14720	14720	14340	14340	14710	14710	14880		
R.F. by-pass	15262	15262	15262	15262							
R.F. by-pass No. 1	H-1	H-1	H-1	H-1							
R.F. by-pass No. 2					15262	15262	15262	15262	15262	15262	15262
Detector by-pass					H-1	H-1	H-1	H-1	H-1	H-1	H-1
Line condenser					16233	16233	15262	15262	16233	16461	16461
NO. 1 A. F. T.					H-4	H-4	H-1	H-1	H-4	H-6	H-6
Primary resistance	15263	16745	15263	16745	15263	16745	15263	16745	16745	16462	16462
Secondary resistance	H-2	H-7	H-2	H-7	H-2	H-7	H-2	H-7	H-7	H-5	H-5
2nd A.F. Input Transformer		16828		16828							
Primary resistance		B-5		B-5							
Secondary resistance											
2nd A.F. Output Transformer											
Primary resistance	1500		1500		1500		1500			1500	1500
Secondary resistance	7000		7000		7000		7000			7000	7000
Filter Chokes											
No. 1 choke	300	300	300	300	300	300	45	45		250	
No. 2 choke	2500	2500	2500	2500	2500	2500	45	45		2500	
Field Coil											
Field resistance	15635	15635	15629	15629	15635	15635	15854	15854	15854	15863	15863
	1100	1100	1700	1700	1100	1100	700	700	700	8	8

VALUES OF PARTS IN MODEL 60-C, 3rd TYPE

RESISTORS

Volume control.....	17736	
Resistance of screen section.....		6000
Resistance of antenna section.....		2500
R.F. bias resistor.....	17380	425
1st-R.F. bias resistor.....	16320	1050
1st-A.F. bias resistor.....	16320	1050
Filament shunt resistor.....	17077	10
Dial light resistor.....	17299	2

AUDIO TRANSFORMERS

Input A.F. transformer.....	15520	
Primary resistance.....		2000
Secondary resistance.....		6000
Output A.F. transformer.....	15530	
Primary resistance.....		300
Secondary resistance.....		.1

FILTER CHOKE

Filter choke assembly.....	15450	
Resistance of No. 1 choke.....		600
Resistance of No. 2 choke.....		6000

FIELD COIL

Speaker field coil.....	17551	1100
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CONDENSERS*

Filter condenser assembly.....	15480	
R.F. by-pass No. 1.....	15790	(H-21)
R.F. by-pass No. 2.....	15770	(H-15)
R.F. by-pass No. 3.....	15780	(H-17)
Detector by-pass.....	15640	(H-16)
Stopping or compensating condenser.....	15540	8 MMF

VALUES OF PARTS IN MODELS 70, 72, 74, 75, and 76
(TYPE L, F, P, H, D, and Q CHASSIS)

RESISTORS	L, F, P	H	D	Q
Volume control...	16270	17270	16630	16010
Resistance of screen section...	5600	.1 Meg**	6000	.1 Meg
Resistance of antenna section...	2500	.25 Meg	2500	2500
Phonograph volume control (P).....	19077			
Bleeder resistor No. 1.....	500			
Bleeder resistor No. 2.....	16330			
R.F. bias resistor.....	6000			
1st-R.F. bias resistor.....	17090			
1st-2nd R.F. bias resistor.....	1200			
1st-2nd R.F. filament resistor.....	16350			
2nd-R.F. bias resistor.....	200			
3rd-R.F. bias resistor.....	16320		16860	
3rd R.F. filament shunt resistor.....	1050		35	
Detector-A.F. filament resistor.....				16290
1st-A.F. bias resistor.....				22
I.F. bias resistor.....				16280
Dial light resistor.....				16
Filament shunt resistor.....			16850	
Filament series resistor No. 1.....			11	
Filament series resistor No. 2.....			16322	16610
A.F. filament shunt resistor.....			4	19
			16840	
			22	
				16081
				.6
	16320	16320	16322	
	1050	1050	4	
		17380		
		425		
	18236	18236		
	1	1		
	17077	17077		
	10	10		
			18355	
			645	
			18354	
			285	
			18356	
			600	

AUDIO TRANSFORMERS

No. 1 A.F. transformer.....	17070	15960
Primary resistance.....	1500	1600
Secondary resistance.....	6000	7000

	L, F, P	H	D	Q
2nd-A.F. input transformer.....	15520	17280	16640	18020
Primary resistance.....	2000	1900	1100	1000
Secondary resistance.....	6000	5500	7000	7000
Output filter choke.....				350
Output transformer.....	16390	16390	16390	
Primary resistance.....	300	300	300	
Secondary resistance.....	.1	.1	.1	

FILTER CHOKE

Filter choke assembly.....	16680*	17290	16890
Resistance of No. 1 choke.....	560	500	45
Resistance of No. 2 choke.....	3000	6000	45
Resistance of No. 3 choke.....		100	
Resistance of output choke.....			100

FIELD COIL

Speaker field coil.....	16410	16410	17020
	1100	1100	650

CONDENSERS

Filter condenser assembly.....	15850*	15850	14710
R.F. by-pass No. 1.....	15790*	17360	16940
H-21.....	15770	H-27	H-22
H-15.....	15780	15262	15262
H-17.....	15780	16745	16880
H-13.....	17370	H-23	H-20
H-26.....	15262	H-20	
H-20.....	15262	H-20	
H-16.....	15640		
Tone control condenser.....	16490	16490	15870
B-6.....	B-6	B-7	B-7
Stopping or compensating condenser.....	15540	16360	16360
8 MMF.....		11 MMF	11 MMF
Detector grid condenser.....	16088	16088	16088
250 MMF.....		250 MMF	250 MMF
1st-I.F. stopping condenser.....	17440		
500 MMF.....			
1st-detector plate condenser.....	17470		
200 MMF.....			
2nd-detector or 2nd-I.F. stopping cond.....	17974		
200 MMF.....			

*In type L chassis below 6234881, the filter condenser is No. 15480.
In type F chassis, the filter condenser is No. 16520, and filter choke is No. 16260.
In type F chassis above 5802586, R.F. by-pass No. 1 is No. 15262.

**In type H chassis, the .25 meg section of the control is in the grid circuit of the 1st-I.F. tube. In type H-1 chassis, the .1 meg section of the control is in the plate circuit of the I.F. tubes. In type H-2 chassis, the .1 meg section controls the screen voltage of the I.F. tubes.

ATWATER KENT RADIO

VALUES OF PARTS IN MODELS 82-D, 84-D, 87-D, and 228-D

	228-D and 1st Type		84-D	87-D
	82-D	2nd Type 82-D		
RESISTORS				
Volume control	23228 .5 MEG.	23228 .5 MEG.	23228†† .5 MEG.	21816 *
Filament series resistor No. 1	25980 .110	25980 .110	25980 .110	25980 .110
Filament series resistor No. 1A	25990 .110	25990 .110	25990 .110	25990 .110
Filament series resistor No. 2	19840 .35	19840 .35	19840 .35	19840 .35
Filament series resistor No. 3				26360 .24
2nd-A.F. filament shunt resistor	19820 .48	19820 .48	19820 .48	19820 .48
R.F.-I.F. bias resistor				23780 .550
1st-detector bias resistor				21030 .2000
I.F. bias resistor	19830 .8	19830 .8	19830 .8	
1st-A.F. bias resistor				16320 .1050

AUDIO TRANSFORMERS

Audio input transformer	19870	19870	19870	23760
Primary resistance	1500	1500	1500	500
Secondary resistance	7000	7000	7000	1000
Audio output transformer	19697	19697	19697	24040
Primary resistance	500	500	500	450
Secondary resistance	.25	.25	.25	.04

*The volume control in 87-D is a dual type. The wire-wound section is 5000 ohms and controls the screen voltage. The carbon section is 2500 ohms and controls the antenna input.

**The phone condenser is used only in early type 84-D and in these sets, by-pass No. 3 is 19710.

†The tone-control condenser is used only in late type 84-D.

††In early type 84-D, the volume control is No. 19040, .5 meg.

	228-D and 1st Type		84-D	87-D
	82-D	2nd Type 82-D		
FILTER CHOKE				
Filter choke unit	19770 .30	19770 .30	19770 .30	19770 .30
FIELD COIL				
Field coil	19860 .1200	19860 .1200	19860 .1200	19860 .1200
CONDENSERS				
Electrolytic filter condenser	20049 24 MF	20049 24 MF	20049 24 MF	20049 24 MF
By-pass No. 1	19690 H-32	19690 H-32	19690 H-32	23590 H-44
By-pass No. 2	19150 H-29	15262 H-20	19150 H-29	15770 H-15
By-pass No. 3	20350 H-36	20350 H-36	20350** H-36	23610 H-45
By-pass No. 4				15262 H-20
Tone control condenser	16490 B-6	16490 B-6	16490† B-6	21530 B-11
R.F. screen by-pass				23250 .01 MF
I.F. stopping condenser	21160 200 MMF	21160 200 MMF	17440 500 MMF	21160 200 MMF
Phone condenser**			17440 500 MMF	
2nd-detector-1st A.F. coupling condenser		23250 .01 MF		
Oscillator grid condenser				21160 200 MMF

VALUES OF PARTS IN MODELS 81, 81-B, 81-C, 91, 91-B, and 91-C

	Model 81, 81-B, and 81-C	Model 91, 91-B, and 91-C
	RESISTORS	
Volume control	21496 .65 MEG	21496 .65 MEG
Distributor suppressor (long)	21144 15000	21144 15000
Plug suppressor (short)	21143 15000	21143 15000
CONDENSERS		
Condenser for ignition filter	21624 (2) .5 MF	21624 (2) .5 MF
Generator condenser	23260 1 MF	23260 1 MF
Electrolytic condenser	22538 8 MF	22472 8 MF
Multiple by-pass condenser	23140 J-4	25690 J-6
R.F. by-pass condenser		26040 (3) .02 MF

	Model 81, 81-B, and 81-C	Model 91, 91-B, and 91-C
	Ist-R.F. grid circuit by-pass	23250 .01 MF
Phone condenser	21160 200 MMF	17440 500 MMF
Control coupling condenser	21160 200 MMF	26440 200 MMF
Tracking condenser		26050 800 MMF
Oscillator grid condenser		21160 200 MMF
Audio input transformer	22810	26280
Primary resistance	2000	300
Secondary resistance	6000	250
Audio output transformer	22830	22830
Primary resistance	450	450
Secondary resistance	.02	.02
Field coil	22440 3	22440 3

VALUES OF PARTS IN MODELS 82-Q, 84-Q, 85-Q and 228-Q

	82-Q 1st Type	82-Q 2nd Type and 228-Q	84-Q	85-Q
Volume control.....	16122 ..1 MEG.	16122 ..1 MEG.	19040 ..5 MEG.	16122 ..1 MEG.
Filament series resistor.....	19610 .452	19610 .425	19610 .452	19610 .452

	82-Q 1st Type	82-Q 2nd Type and 228-Q	84-Q	85-Q
R.F. by-pass No. 2....	15262 H-20	15262 H-20	19150 H-29	19150 H-29
R.F. by-pass No. 3....	19150 H-29	19160 H-30	15262 H-20	15262 H-20
R.F. by-pass No. 4....	15262 H-20		16461 H-12	15262 H-20
R.F. by-pass No. 5....				15262 H-20
Tone control condenser.....	16490 B-6	16490 B-6	16490* B-6*	16490 B-6

AUDIO TRANSFORMERS

Audio input transformer....	23510	23510		23440
Primary resistance.....	1450	1450		1450
Secondary resistance.....	6000	6000		6000
Audio output transformer....	19697	19697	19697	19697
Primary resistance.....	500	500	500	500
Secondary resistance.....	.25	.25	.25	.25

SMALL FIXED CONDENSERS

R.F.-1st-detector stopping cond....	21160 200 MMF	21160 200 MMF	17974* 270 MMF	21160* 200 MMF
Oscillator grid condenser.....	21160 200 MMF	21160 200 MMF		21160 200 MMF
I.F. stopping condenser.....	21160 200 MMF	21160 200 MMF	17440 500 MMF	21160 200 MMF
Phone condenser...	17440 500 MMF	17440 500 MMF	17440 500 MMF	17440 500 MMF
2nd-detector-1st-A.F. coupling cond....		23250 .01 MF		
Oscillator plate filter condenser.....		23250 .01 MF		

CONDENSERS

Filter condenser (electrolytic).....	23146 8 MF	23146 8 MF	23146 8 MF	22538 8 MF
R.F. by-pass No. 1....	21170 H-37	15262 H-20	19560 H-31	19980** H-34

*Used only in late type sets.

**In late 85-Q, R. F. by-pass No. 1 is 21170, H-37.

VALUES OF PARTS IN MODEL 93 SHORT-WAVE CONVERTER

RESISTORS

	Part No.	Value
Antenna resistor.....	25720	.35
Bleeder resistor No. 1 or No. 2.....	24450	.6400
Bleeder resistor No. 3.....	21030	.2000
I.F. bias resistor.....	16320	.1050

CONDENSERS

Electrolytic condenser No. 1.....	22538	8 MF
Electrolytic condenser No. 2.....	23146	8 MF
R.F. by-pass.....	15262	—
Compensating condenser.....	16360	11 MMF

	Part No.	Value
Oscillator tracking condenser No. 1....	25650	300 MMF
Oscillator tracking condenser No. 2....	22365	.0025MF
Oscillator tracking condenser No. 3....	22366	.0035 MF
Antenna condenser.....	22220	100 MMF
S.W. detector grid condenser.....	22220	100 MMF
Detector-I.F. stopping condenser.....	21160	200 MMF
Oscillator plate condenser.....	17440	500 MMF
Converter coupling condenser.....	21160	200 MMF

FILTER CHOKE

Filter choke unit.....	25810	180
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ATWATER KENT RADIO

VALUES OF PARTS IN MODELS 80, 82, 83, 84, 85, 86, 87, and 89

	80	82	83	84 Early Type	84 Late Type	85 Early Type	85 Late Type	86	87	89
Volume control	20840 6000	20990 550	22330 6000	19040 5 MEG	20180 3500	19040 5 MEG	20030 550	23410 550	22650 3500	23228 5 MEG
RESISTORS										
Bleeder resistor No. 1		20150 8000		16330 6000	16330 6000	16330 6000	20150 8000	20150 8000	22660 6000	20150 8000
Bleeder resistor No. 2		20140 6400		16330 6000	17610 4000	16330 6000	16330 6000	20140 6400	22660 6000	20150 8000
Bleeder resistor No. 3		20050 355			18520 70		20050 355	16320 1050	20040 100	21030 2000
Bleeder resistor No. 3A								23780 550	17380 425	16320 1050
Bleeder resistor No. 4	20040 100	20040 100	20040 100				20040 100	20050 355		17380 425
Bleeder resistor No. 5		20150 8000					20150 8000	20150 8000		20150 8000
Bleeder resistor No. 6		20120 800					20120 800	20120 800		20120 800
Bleeder resistor No. 7		20520 670					20520 670	20520 670		17610 4000
1st-detector bias resistor	21030 2000		21030 2000	19346 3300	20380 1500					
1st-detector plate resistor					20320 200					
I.F. bias resistor				16320 1050		16320 1050				
A.F. bias resistor								21420 250	21420 250	
Filter resistor		19180 1100		19180 1100	19180 1100	19180 1100	19180 1100	19180 1100		
Filament shunt resistor	17077 10	17077 10	17077 10	17077 10	17077 10	17077 10	17077 10	17077 10	17077 10	17077 10
Dial light resistor								18236 1	18236 1	18236 1
AUDIO TRANSFORMERS										
A.F. Input transformer										
Primary resistance									21670 2000	21670 2000
Secondary resistance									1800	1800
A.F. output transformer*										
Primary resistance	19697 500	19697 500	19697 500	19697 500	19697 500	19697 500	19697 500	21672 500	21370 450	21370 450
Secondary resistance	.25	.25	.25	.25	.25	.25	.25	.25	.05	.05
FILTER CHOKE UNIT										
No. 1 choke, ohms								21680 480	21680 480	
No. 2 choke, ohms								1500	1500	
No. 3 choke, ohms								90	90	
FIELD COIL										
Field coil resistance	18870 2000	18870 2000	18870 2000	18870 2000	18870 2000	18870 2000	18870 2000	18870 2000	21260 1100	21260 1100
CONDENSERS										
Filter condenser unit, paper and foil type			20370 F-1				20370 F-1	20370 F-1	21520 A-7	21520 A-7
Filter condenser No. 1 (electrolytic)	23146 8 MF	23146 8 MF		23146 8 MF	23146 8 MF	23146 8 MF				
Filter condenser No. 2 (electrolytic)	22538 8 MF	22538 8 MF		22538 8 MF	22538 8 MF	23146 8 MF				

*In late type 83 and 85 the output transformer is enclosed in a metal case; part No., less case, is 21672.
In late type 87 and 89 the output transformer is enclosed in a metal case; part No., less case, is 21693.

ATWATER KENT RADIO

VALUES OF PARTS IN MODELS 80, 82, 83, 84, 85, 86, 87, and 89 (Continued)

	80	82	83	84 Early Type	84 Late Type	85 Early Type	85 Late Type	86	87	89
Filter condenser No. 3 (electrolytic).....			22538 8 MF			22538 8 MF	22538 8 MF	22538 8 MF		
By-pass condenser No. 1.....		21180 H-38		19160 H-30	19160 H-30	19160 H-30	19980 H-34	21170 H-37		21440 H-40
By-pass condenser No. 2.....		15262 H-20		19150 H-29	19150 H-29	19150 H-29	19990 H-35	23330 H-43		22050 H-41
By-pass condenser No. 3.....		21170 H-37		15262 H-20	15262 H-20	15262 H-20	15262 H-20	15262 H-20		21430 H-39
Tone control condenser.....		21250 B-9			16490 B-6	16490 B-6	20010 B-8	20010 B-8	21530 B-11	21530 B-11
Quality condenser.....										21450 B-10
Multiple type by-pass.....	20830 J-1, J-2		20830 J-1, J-2						22570 J-3	

SMALL FIXED CONDENSERS

Oscillator grid condenser.....	21160 200 MMF	21160 200 MMF	21160 200 MMF		17440 200 MMF		21160 200 MMF	21160 200 MMF	21160 200 MMF	21160 200 MMF
I.F. stopping condenser.....	21160 200 MMF	21160 200 MMF	21160 200 MMF	17440 500 MMF	17440 500 MMF	17440 500 MMF	21160 200 MMF			
Phone condenser.....				17440 500 MMF	17440 500 MMF	17440 500 MMF	17440 500 MMF			
A.F. grid condenser.....									22220 100 MMF	22220 100 MMF

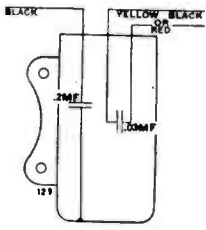
VALUES OF PARTS IN MODELS 90, 92, 94, 96, 99, 228, and 567

	90 and 567	92 and 228	94	96-F, 1st and 2nd Type 96	96 3rd Type	99 1st and 2nd Types	99-F and 3rd Type 99
Volume control.....	20840 6000	23228 .5 MEG	22650 3500	23228 .5 MEG	23228 .5 MEG	23228 .5 MEG	23228 .5 MEG
Tonebeam adjustment potentiometer.....				22152 40000	22345 8000	22152 40000	22344 14000
RESISTORS		24340	24470	24340	24340	24340	24340
Bleeder resistor No. 1.....		8000	4000	8000	8000	8000	8000
Bleeder resistor No. 2.....		24450 6400	24450 6400	24450 6400	18520 70	24340 8000	
Bleeder resistor No. 3.....		23780 550	18520 70	17380 425	18520 70	24340 8000	16320 1050
Bleeder resistor No. 4.....	20040 100	20040 100		20050 355	21420 250	21030 2000	20040 100
Bleeder resistor No. 5.....		17380 425		20040 100	25850 2500	23780 550	20050 355
Bleeder resistor No. 6.....		24340 8000		24340 8000		20040 100	24470 4000
Bleeder resistor No. 7.....		21030 2000		21030 2000		24340 8000	25950 200
Bleeder resistor No. 8.....					24450 6400	20120 800	25840 300
Bleeder resistor No. 9.....						24530 2500	
1st-detector bias resistor.....	21030 2000		21030 2000		16320 1050		
R.F. bias resistor.....			19820 48				
1st-A.F. bias resistor.....							24470 4000
A.F. bias resistor.....				24980 300	25840 300	21420 250	

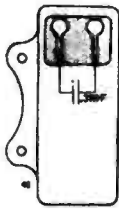
ATWATER KENT RADIO

VALUES OF BY-PASS CONDENSERS

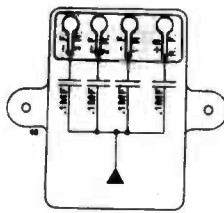
Numbers in circles refer to note on page 3.



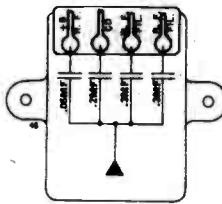
13956
200-Volts



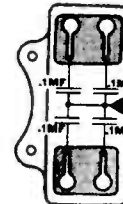
14902
450-Volts



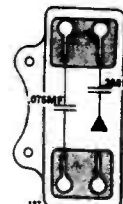
15157
450-Volts



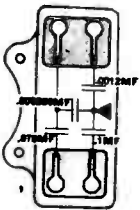
15158
.3MF, 200-Volts
2 & .05, 400-Volts



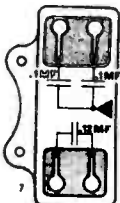
15262 ①
B-1, H-1
H-9, H-20



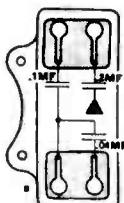
15263
B2-H-2
②



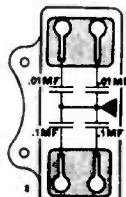
15640
H-16
400-Volts



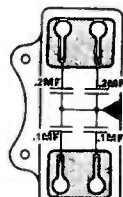
15770
H-15
③



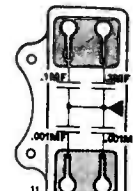
15780
H-17
④



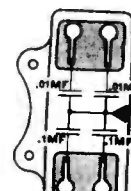
15790
H-18, H-21
400-Volts



15837
B-3
Superseded by
16233



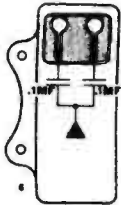
16060
H-24
Superseded by
18350



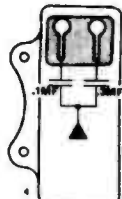
16233
H-4, H-10
⑤



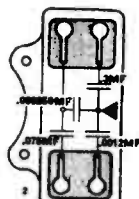
16318
450-Volts



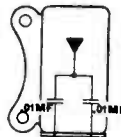
16461
H-6, H-12
400-Volts



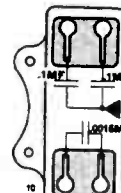
16462
H-5, H-11
400-Volts



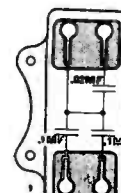
16745
H-7, H-8, H-13
⑥



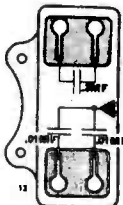
16828
B-5
450-Volts



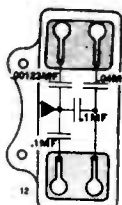
16880
H-23
400-Volts



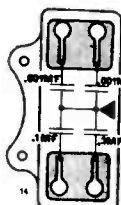
16940
H-22
400-Volts



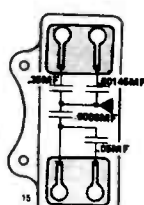
17360
H-27
400-Volts



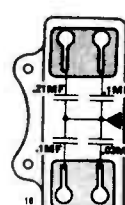
17370
H-25, H-26
400-Volts



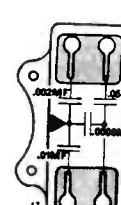
18350
H-28
⑦



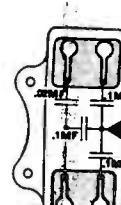
19150
H-29
400-Volts



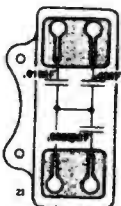
19160
H-30
400-Volts



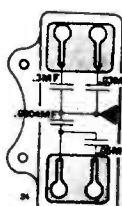
19560
H-31
400-Volts



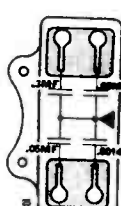
19690
H-32
400-Volts



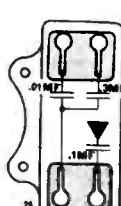
19710
H-33
400-Volts



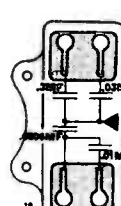
19980
H-34
400-Volts



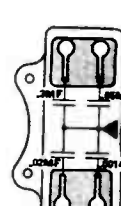
19990
H-35
400-Volts



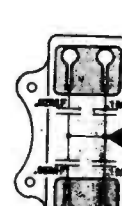
20350
H-36
400-Volts



21170
H-37
400-Volts



21180
H-38
400-Volts



21230
H-39
400-Volts

ATWATER KENT RADIO

VALUES OF PARTS IN MODELS 90, 92, 94, 96, 99, 228, and 567 (Continued)

	90 and 567	92 and 228	94	96-F, 1st and 2nd Type 96	96 3rd Type	99 1st and 2nd Types	99-F and 3rd Type
Filter resistor.....		19180 1100	19180 1100				
Filament shunt resistor.....	17077 10	17077 10	17077 10	17077 10	17077 10	17077 10	17077 10
AUDIO TRANSFORMERS							
Audio input transformer						21670	21670
Primary resistance.....						2000	2000
Secondary resistance.....						1800	1800
Audio output transformer	19697	19697	21672	21672	21672	21693	21693
Primary resistance.....	500	500	500	500	500	450	450
Secondary resistance.....	.25	.25	.25	.25	.25	.07	.07
FILTER CHOKE UNIT							
No. 1 choke, ohms.....				24930 480	24930 480	21680 480	21680 480
No. 2 choke, ohms.....				90	90	90	90
No. 3 choke, ohms.....						1500	1500
FIELD COIL	18870	18870	18870	18870	18870	21260	18870*
Field coil resistance.....	2000	2000	2000	2000	2000	1100	2000
CONDENSERS							
Filter condenser unit, paper and foil type.....			20370 F-1	15850† C-7	15850 C-7	21520 A-7	21520** A-7
Filter condenser No. 1 (electrolytic).....	23146 8 MF	23146 8 MF	22538 8 MF	22538 8 MF	22538 8 MF		
Filter condenser No. 2 (electrolytic).....	22538 8 MF	22538 8 MF					
Dry electrolytic condenser.....		22397†† 8 MF					22646 8 MF
By-pass condenser No. 1.....				15262 H-20	22050 H-41	21440 H-40	21440 H-40
By-pass condenser No. 2.....				23330 H-43	23330 H-43	22050 H-41	22050 H-41
By-pass condenser No. 3.....				21170 H-37	21170 H-37	15262 H-20	15262 H-20
By-pass condenser No. 4.....						21430 H-39	15262 H-20
Tone control condenser.....		20010 B-8	20010 B-8	20010 B-8	20010 B-8	21530 B-11	21530 B-11
Quality condenser.....						21450 B-10	21450 B-10
Multiple type by-pass.....	20830 J-1, J-2	24250 J-5	24250 J-5				
SMALL FIXED CONDENSERS							
R.F.-1st-detector stopping condenser.....				21160 200 MMF	21160 200 MMF		
Oscillator grid condenser.....	21160 200 MMF	21160 200 MMF	21160 200 MMF	21160 200 MMF	21160 200 MMF	21160 200 MMF	21160 200 MMF
I.F. stopping condenser.....	21160 200 MMF	21160 200 MMF	21160 200 MMF				
Phone condenser.....		17440 500 MMF		17440 500 MMF	17440 500 MMF		
A.F. grid condenser.....						22220 100 MMF	22220 100 MMF
Control grid condenser.....					22220 100 MMF		
Grid circuit by-pass condenser.....	26490 .07 MF		26490 .07 MF				
Control plate by-pass condenser.....		23250 .01 MF		23250 .01 MF	23250 .01 MF		

*Field coil in 99-F is 21260, 1100 ohms.
**Filter condenser for 99-F is 25130, F-3.

†Filter condenser for 96-F is 25190, F-4.
††22397 is used only in 92-F.

VALUES OF PARTS IN MODELS

188, 260, 469, 469-D, 469-Q, 480, 558, 558-D, 558-Q, 612, 627, and 812

	1st Type 188	2nd Type 188	1st and 2nd Type 260	3rd Type 260	1st Type 469	2nd Type 469	469-D 558-D	469-Q 558-Q	480	558	612	627	812
CONTROLS													
Volume control.....	23228 .5 Meg	23228 .5 Meg	23228 .5 Meg	23228 .5 Meg	23228 .5 Meg	23228 .5 Meg	23228 .5 Meg	23482 .5 Meg	23376 5 Meg	23228 .5 Meg	23228 .5 Meg	23228 .5 Meg	23228 .5 Meg
Tonebeam adjustment.....			26540 15000	29020 20000	27190 8000	29020 20000			27190 8000		29020 20000		29020 20000
Silencing adjustment.....		28220 20000		28220 20000		28220 20000	28220 20000			28220 20000	28220 20000		28220 20000
RESISTORS													
Bleeder resistor No. 1.....		24450 6400					29220 300			24450 6400			
Bleeder resistor No. 2.....						24470 4000							
Bleeder resistor No. 3.....				20520 670				20380 1500					
Bleeder resistor No. 4.....	20380 1500				20380 1500						20380 1500		
R.F.-I.F. bias resistor.....		28950 160				20040 100	20050 355		20040 100	21420 250			25950 200
R.F.-I.F. bias resistor No. 1.....	20040 100		17380 425	20040 100	20040 100				25950 200				20040 100
R.F.-I.F. bias resistor No. 2.....	21030 2000		25950 200	20040 100					23780 550				20380 1500
2nd-I.F. screen resistor.....													28470 3000
1st-detector bias resistor.....	16320 1050	16320 1050	20120 800	25950 200	16320 1050	16320 1050		16320 1050	16320 1050	25950 200	16320 1050	16320 1050	25950 200
2nd-I.F. bias resistor.....			20040 100							20040 100			20040 100
2nd-I.F. bias resistor No. 1.....								16320 1050					
2nd-I.F. bias resistor No. 2.....								24470 4000					
Oscillator plate resistor.....						23780 550							
Oscillator plate compensating resistor.....								23780 550					
Control bias resistor No. 1.....		21030 2000		20380 1500		16320 1050	19820 48			21030 2000	16320 1050		16320 1050
Control bias resistor No. 2.....		25850 2500				24470 4000	19820 48			25850 2500	24470 4000		
A.F. bias resistor.....	25840 300				25840 300				25840 300				
1st-A.F. bias resistor.....			21030 2000										
Driver bias resistor.....										16320 1050			20380 1500
2nd-A.F. bias resistor.....		21420 250	21420 250	25950 200		25950 200	28950 160						
Screen resistor.....		24470 4000							24470 4000				
Filter resistor.....	19180 1100	27930 500							27930 500			27930 500	
Filament shunt resistor.....	17077 10	17077 10	17077 10	17077 10	17077 10	17077 10			17077 10	17077 10	17077 10	17077 10	17077 10
Filament series resistor.....								30030 352					

ATWATER KENT RADIO

VALUES OF PARTS IN MODELS

188, 260, 469, 469-D, 469-Q, 480, 558, 558-D, 558-Q, 612, 627, and 812 (Continued)

	1st Type 188	2nd Type 188	1st and 2nd Type 260	3rd Type 260	1st Type 469	2nd Type 469	469-D 558-D	469-Q 558-Q	480	558	612	627	812
AUDIO TRANSFORMERS													
Audio input transformer		28490	26940	26940	26950	26940	29380	29390	27760	28200	28670		29960
Primary resistance		1900	1900	1900	2600	1900	2000	650	2500	1300	450		230
Secondary resistance		1700	1700	1700	6000	1700	6000	350	6000	1400	400		130
Audio output transformer	21672	21672	21693	21693	21693	21693	30020	23701	21693	19697	28630	19697	28630
Primary resistance	500	500	450	450	450	450	100	500	450	500	200	500	200
Secondary resistance	.25	.25	.05	.05	.05	.05	.08	.04	.05	.25	.03	.25	.03
FILTER CHOKES													
Resistance of 1st choke			26960	26960	26970	26970	29370		26970		29410		28640
Resistance of 2nd choke			160	160	550	550	30		550		160		70
			1500	1500							550		1500
SPEAKER FIELD COIL													
Speaker field resistance	18870	18870	21260	21260	21260	21260	19860		21260	18870	*	18870	*
	2000	2000	1100	1100	1100	1100	1200		1100	2000	*	2000	*
FILTER CONDENSERS													
Electrolytic filter No. 1	22538 8 MF	22538 8 MF	22538 8 MF	22538 8 MF	22538 8 MF	22538 8 MF			22538 8 MF	22538 8 MF	23498 4 MF	22538 8 MF	23498 4 MF
Electrolytic filter No. 2	22538 8 MF	22538 8 MF	22538 8 MF	22538 8 MF	22538 8 MF	22538 8 MF			22538 8 MF	22538 8 MF	22538 8 MF	22538 8 MF	22538 8 MF
Electrolytic filter No. 3											22538 8 MF		23481 12 MF
Electrolytic filter No. 4											22538 8 MF		22538 8 MF
Filter condenser unit (paper and foil type)	26620 .7 MF	26620 .7 MF			26620 .7 MF	26620 .7 MF			26620 .7 MF				
Dry electrolytic condenser							23981 8 MF	22472 8 MF			23479 20 MF		23479 20 MF
BY-PASS CONDENSERS													
Multiple type by-pass	24250 J-5	28140 J-7					28140 J-7		28140 J-7		24250 J-5		
By-pass No. 1			23330 H-43	23330 H-43	23330 H-43	23330 H-43		15262 H-20	15262 H-20		15262 H-20		15262 H-20
By-pass No. 2			15262 H-20	15262 H-20	15262 H-20	15262 H-20		23330 H-43		23330 H-43			23330 H-43
By-pass No. 3			22050 H-41	27140 H-47	23330 H-43	22050 H-41		27580 H-48		27140 H-47			27140 H-47
By-pass No. 4			27120 H-46	27120 H-46	21450 B-10	21450 B-10		15262 H-20		27120 H-46			27120 H-46
By-pass No. 5										15262** H-20			15262** H-20
TONE CONTROL CONDENSER													
	20010 B-8	28040 .005 MF	21530 B-11	21530 B-11	27390 B-14	21530 B-11	27390 B-14	21530 B-11	27390 B-14	28040 .005 MF	30270 B-16	28040 .005 MF	30270 B-16
SMALL FIXED CONDENSERS													
Antenna condenser									27130 500 MMF				
R.F. bias by-pass										26660 .1 MF			
R.F. grid filter condenser		26820 .05 MF					26820 .05 MF	26820 .05 MF	27630 .01 MF	26820 .05 MF		26820 .05 MF	
R.F.-I.F. bias by-pass		26660 .1 MF										26660 .1 MF	

*The field coil of the 4-prong speaker is No. 18870, 2000 ohms.
The field coil of the 5-prong speaker is No. 28550, 6500 ohms.

**By-pass No. 5 in late models is No. 29560, H-49.

ATWATER KENT RADIO

VALUES OF PARTS IN MODELS

188, 260, 469, 469-D, 469-Q, 480, 558, 558-D, 558-Q, 612, 627, and 812 (Continued)

	1st Type 188	2nd Type 188	1st and 2nd Type 260	3rd Type 260	1st Type 469	2nd Type 469	469-D 558-D	469-Q 558-Q	480	558	612	627	812
SMALL FIXED CONDENSERS (Continued)													
1st-detector grid filter or screen by-pass.....				26660 .1 MF		26820 .05 MF			27630 .01 MF				
Oscillator-1st-detector coupling condenser.....									26670 .125 MMF				
Oscillator grid condenser.....	26670 .125 MMF	26670 .125 MMF			26670 .125 MMF					26670 .125 MMF		26670 .125 MMF	
Tracking condenser.....	26690 .1450 MMF	26690 .1450 MMF	26690 .1450 MMF	26690 .1450 MMF	26690 .1450 MMF	26690 .1450 MMF	26690 .1450 MMF	26690 .1450 MMF		26690 .1450 MMF	26690 .1450 MMF	26690 .1450 MMF	26690 .1450 MMF
Tracking condenser No. 1.....									23411				
Tracking condenser No. 2.....									25650 .300 MMF				
Oscillator plate filter condenser.....	26820 .05 MF				26820 .05 MF		26670 .125 MMF						
2nd-detector plate-to-grid condenser.....			26820 .05 MF										
2nd-detector-1st-A.F.-coupling condenser.....		23250 .01 MF	23250 .01 MF	23250 .01 MF		23250 .01 MF	23250 .01 MF	23250 .01 MF		27630 .01 MF	23250 .01 MF	27630 .01 MF	23250 .01 MF
Phone condenser.....	17440 .500 MMF	17440 .500 MMF	26670 .125 MMF	17440 .500 MMF	17440 .500 MMF	17440 .500 MMF	22220 .100 MMF	21160 .200 MMF	17440 .500 MMF	17440 .500 MMF	30260 .45 MMF	17440 .500 MMF	30260 .45 MMF
Diode plate condenser.....		30240 .250 MMF		30240 .250 MMF		30240 .250 MMF	30240 .250 MMF			30240 .250 MMF	30240 .250 MMF	30240 .250 MMF	30240 .250 MMF
Control coupling condenser.....					16360 .11 MMF			30240 .250 MMF	27650 .8 MMF				
Control plate by-pass or control bias by-pass.....	23250 .01 MF	26550 .5 MF			26820 .05 MF			26660 .1 MF	27630 .01 MF	26550 .5 MF		26550 .5 MF	
2nd-detector bias by-pass.....			26550 .5 MF										
Screen by-pass or 1st-A.F. screen by-pass.....	26660 .1 MF						26660 .1 MF	26660 .1 MF		26660 .1 MF			
Compensating or stopping condenser.....		16360 .11 MMF							27650 .8 MMF	16360 .11 MMF		16360 .11 MMF	
Stopping condenser (1 green dot, 2 black).....									23282 .50 MMF				
Quality condenser.....			21450 B-10	21450 B-10			26820 .05 MF	21450 B-10			30250 .025 MF		30250 .025 MF
110-volt line condenser.....							29550 2.2 MF						
R.F. or I.F. grid filter condenser, 1st-A.F.—driver coupling condenser, or control filter condenser.....									27630 .01 MF				
R.F. line by-pass.....							26660 .1 MF						
2nd-I.F. screen by-pass.....									29030 .02 MF				
1st-A.F. plate by-pass.....									22220 .100 MMF				

In late type 612 and 812, the audio coupling unit between the 1st-A. F. and driver tubes consists of an audio choke (3000 ohms) in the plate circuit of the 1st-A. F. tube, a coupling condenser (.05 MF) and a driver grid leak (1/2 MEG). These parts are all sealed inside the audio transformer unit together with the audio input transformer. In early type 612 and 812, an audio transformer is used to couple the 1st-A. F. and driver tubes. The primary resistance is 2000 ohms and the secondary is 1800 ohms.

RESISTANCE OF FIELD COILS IN ELECTRO-DYNAMIC SPEAKERS

Model Number of Set	Speaker Type Number	Speaker Part Number	Part No. of Field Coil	Resistance of Field Coil (Ohms)	Model Number of Set	Speaker Type Number	Speaker Part Number	Part No. of Field Coil	Resistance of Field Coil (Ohms)
43	F	9890	14361	2500	82-D**	—	18600	19860	1200
46, 47	F-2	14200	15629	1700	82-Q***	—	18400	—	—
	F-2A	14760			83, 83-F (early type)	—	18100	18870	2000
	F-2C	14300			83, 83-F (late type)	—	24600	18870	2000
53 (Early type)	F-3	13990	14361 (short)	2500	84, 84-F	S	17300	18870	2000
53 (Late type)	F-3	14190	15631 (long)	1700	84-D**	—	18600	19860	1200
55	F-4	14380	15635	1100	84-Q***	—	18400	—	—
	F-4A	14770	15635	1100	85, 85-F (early type)	—	18100	18870	2000
55-C	F-4C	14410	15635	1100	85, 85-F (late type)	—	24600	18870	2000
55-F	F-2	14200	15629	1700	85-Q***	—	19000	—	—
	F-2A	14760	15629	1700	86, 86-F	—	24600	18870	2000
55-F-C	F-2C	14300	15629	1700	87	—	19800	21260	1100
60	F-4	14380	15635	1100	87-D	—	25000	19860	1200
	F-4A	14770	15635	1100	89, 89-F, 89-P	—	19800	21260	1100
60-C	F-4C	14410	15635	1100	90, 90-F	S	17300	18870	2000
60-C, 3rd type	F-4C	14410	17551	1100	91, 91-B, 91-C	—	27900	22440	3
61	F-6	14480	15854	700	92, 92-F	S	17300	18870	2000
	F-6A	14780	15854	700	94, 94-F	—	26300	18870	2000
61-C	F-6C	14490	15854	700	96, 96-F	—	26300	18870	2000
66 (made in console type only)	F-6C	14490	15854	700	99 below 4884901	—	26400	21260	1100
67	F-7	14510	15863	8	99 above 4884901	—	26400	18870	2000
	F-7A	14790	15863	8	99-F	—	26400	21260	1100
67-C	F-7C	14520	15863	8	99-P	—	26400	18870	2000
70 with L chassis	N	16400	16410	1100	188, 188-F	368	28700	18870	2000
70 with F chassis	N	16400	16410	1100	228, 228-F	S	17300	18870	2000
70 with D chassis	N-3	16900	17020	650	228-D**	—	18600	19860	1200
70 with Q chassis	J*	15920	—	—	228-Q***	—	18400	—	—
72 with H chassis	N	16400	16410	1100	260, 260-F	380	28800	21260	1100
74 with L chassis	N	16400	16410	1100	469, 469-F	380	28800	21260	1100
74 with F chassis	N	16400	16410	1100	469-D	—	31600	19860	1200
74 with D chassis	N-3	16900	17020	650	469-Q***	—	31500	—	—
75 with P chassis	N	16400	16410	1100	480, 480-F	380	28800	21260	1100
76 with L chassis	N	16400	16410	1100	558, 558-F	S	17300	18870	2000
76 with F chassis	N	16400	16410	1100	558-D	—	31800	19860	1200
76 with D chassis	N-3	16900	17020	650	558-Q***	—	31700	—	—
76 with Q chassis	J*	15920	—	—	567, 567-F	S	17300	18870	2000
80, 80-F	S	17300	18870	2000	612	324† 326††	30200 30300	18870 28550	2000 6500
81, 81-B, 81-C	—	22600	22440	3	627, 627-F	S	17300	18870	2000
82, 82-F	S	17300	18870	2000	812	336 338††	30400 30600	18870 28550	2000 6500

*The J speaker is an inductor-dynamic with two coils connected in series; resistance of each coil is about 275 ohms. Only three prongs on the four-prong plug are used. See diagram on page 241.

**The speakers in Models 82-D, 84-D and 228-D have a protective lamp mounted on the speaker housing. See diagram on page 307.

***The speakers in Models 82-Q, 84-Q, 85-Q, 228-Q, 469-Q and 558-Q are permanent-magnet electro-dynamics without field coils. In the 469-Q and 558-Q, only three prongs on the four-prong plug are used.

†Type 324 speaker has a hum-bucking coil connected in series with the voice coil.

††In type 326 and 338 speakers, only four prongs on the five-prong plug are used.