

## International Radio Corp.

**Model:** F Kadette Jr.

**Chassis:**

**Year:** Pre March 1934

**Power:**

**Circuit:**

**IF:**

**Tubes:**

**Bands:**

### Resources

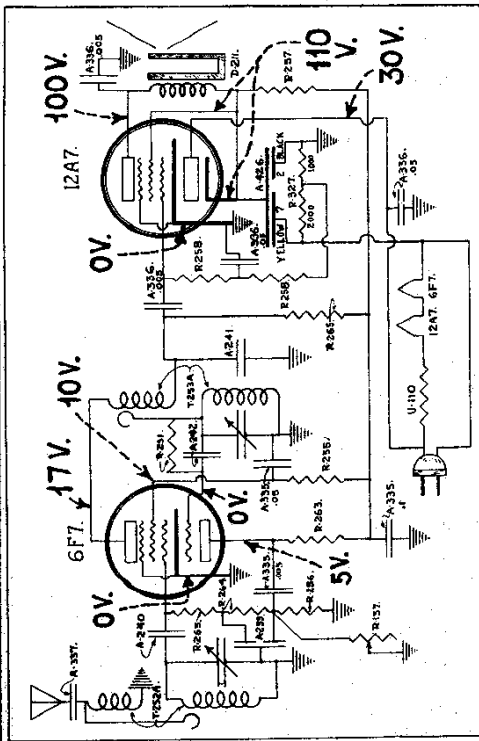
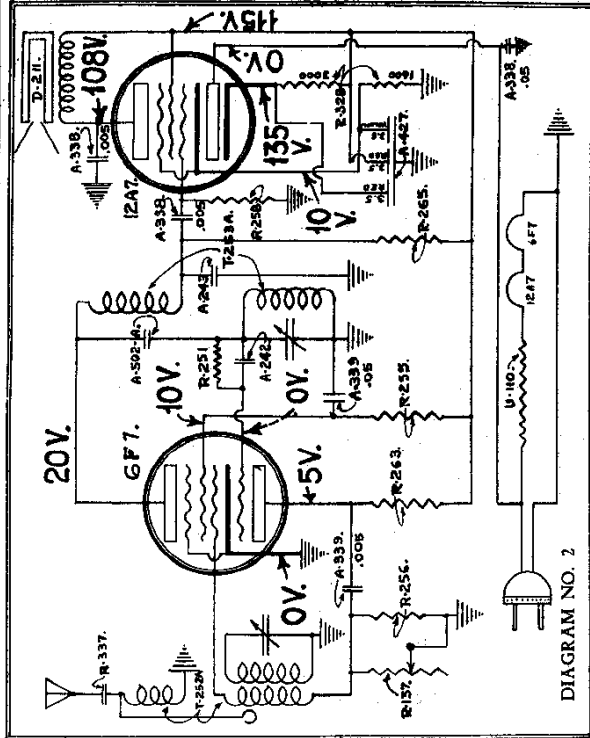
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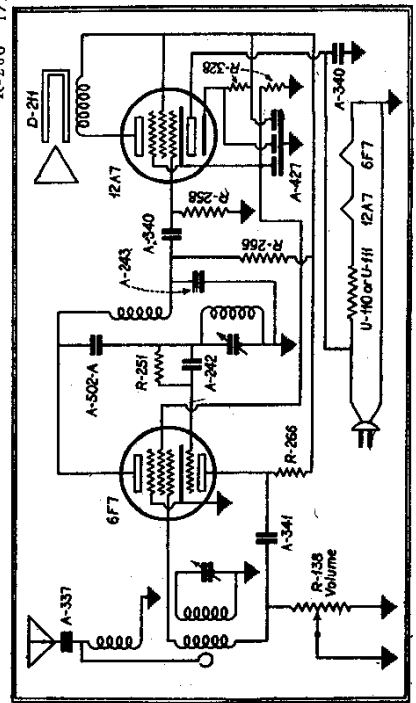
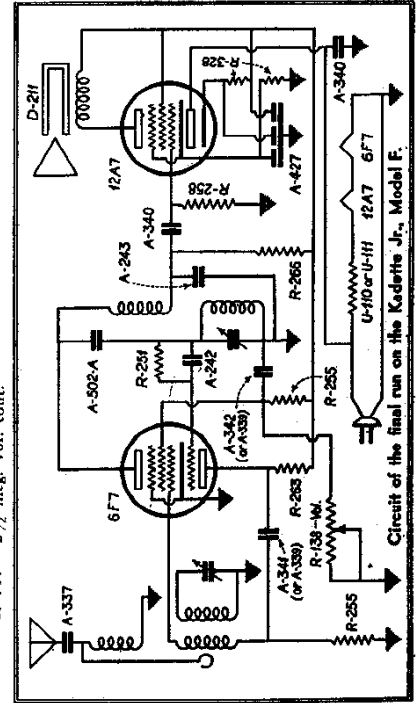
INTERNATIONAL RADIO CORP.

MODEL F Kadette Jr. (Four types) Schematic, Parts List



- DIAGRAM NO. 1
- A-239 dual .00025 mfd.
  - A-240 .00025 mfd.
  - A-241 .0001 mfd.
  - A-242 .00025 mfd.
  - A-335 values on diagram.
  - A-336 values on diagram.
  - A-337 .001 mfd.
  - A-426 values on diagram.
  - R-137 2 1/2 meg. vol. cont.
  - R-251 1/2 meg.
  - R-255 1 1/4 meg.
  - R-256 2 meg.
  - R-257 50 M ohms.
  - R-258 1 meg.
  - R-263 3 meg.
  - R-265 1/4 meg.
  - R-327 2000-1000 ohm.
  - A-243 .005 mfd grid coupling
  - A-340 .05 mfd line bypass
  - A-341 .005 mfd
  - A-342 .005 mfd
  - A-346 .007 mfd
  - R-138 1 3/4 meg.
  - R-266 175 M ohms

- DIAGRAM NO. 2
- R-251 1/2 meg.
  - R-255 1 1/4 meg.
  - R-256 2 meg.
  - A-243 .00025 mfd.
  - A-337 .001 mfd.
  - A-338 values on diagram.
  - A-339 values on diagram.
  - A-427 values on diagram.
  - A-502A 18 mfd. coupling.
  - R-137 2 1/2 meg. vol. cont.



The circuit diagram of the third type of the Kadette Jr., Model F.

Circuit of the final run on the Kadette Jr., Model F.

**MODEL F Kadotte Jr.  
Voltage, Condensers,  
Notes**

**INTERNATIONAL RADIO CORP.**

**POWER CORD**

Please refer to the circuit diagram. It will be noted there is a 330 ohm resistance in series with the tube filaments. This resistance is contained in the power cord and causes the cord to become quite warm when the set is in operation. This heat is not dangerous as the resistance wire is enclosed in a layer of asbestos, however, the cord should be kept out in the open to allow the heat generated to radiate. *The power cord should not be shortened as this would decrease the resistance and the filament voltage would rise to the point where the tubes would burn out rapidly.*

**Voltage Readings**

The following voltage readings are approximate when set is operated on a 115 volt AC line with volume control in full on position.

Readings taken with a 1000 ohm per volt 300 volt D. C. voltmeter. Readings taken from socket prongs to chassis which is B-. The circuit diagrams show two different circuits, one having the filter in the negative leg and the latest having the filter in the positive leg. The Muter metal covered resistance above the 12A7 socket in the first circuit has only 3 lugs while in the latest circuit it has 4. By noticing this part you may easily distinguish between the two types.

**FIRST CIRCUIT**

6F7		12A7	
Pentode plate .....	17	Pentode plate .....	100
Pentode screen .....	10	Pentode screen .....	110
Triode plate .....	5	Rectifier cathode .....	110
Triode grid .....	0	Rectifier plate .....	-30
Cathode .....	0	Pentode cathode .....	0

**Second Circuit**

6F7		12A7	
Pentode plate .....	20	Pentode plate .....	108
Pentode screen .....	10	Pentode screen .....	115
Triode plate .....	5	Rectifier cathode .....	135
Triode grid .....	0	Rectifier plate .....	0
Cathode .....	0	Pentode cathode .....	10

**CIRCUITS 3 AND 4**

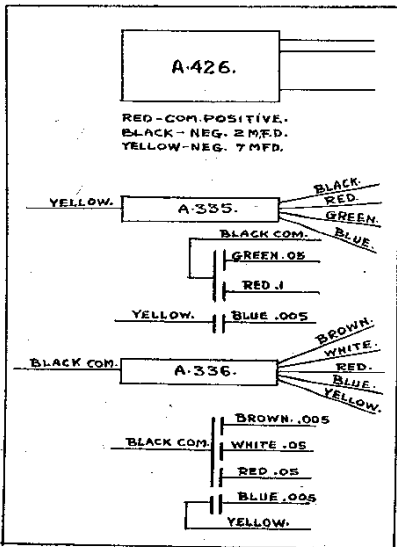
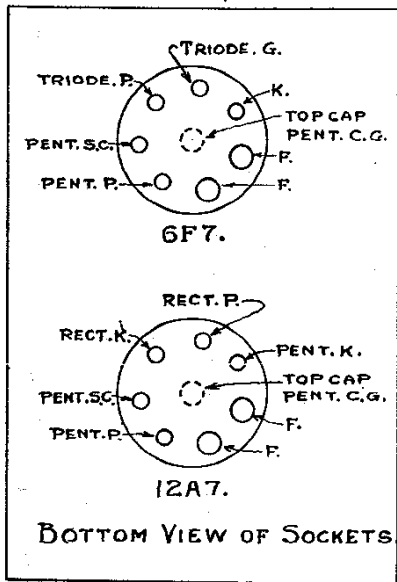
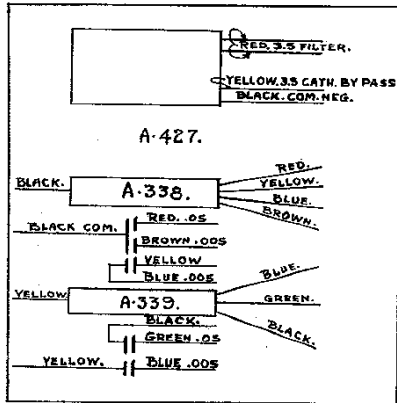
6F7		12A7	
Pentode plate .....	33	Pentode plate .....	107
Pentode screen .....	10	Pentode screen .....	115
Triode plate .....	5	Rectifier cathode .....	135
Triode grid .....	0	Rectifier plate .....	0
Cathode .....	0	Pentode cathode .....	10

**INSTRUCTIONS FOR BALANCING AND ALIGNING**

Adjustments have been carefully made at the factory and should not need to be changed unless it has been necessary to replace a coil or the adjustments have been tampered with. The trimmers on the variable condenser may be adjusted by ear. However, greater accuracy may be had by using an oscillator and output meter. If this equipment is not available a weak broadcast signal may be substituted for the oscillator signal and adjustments made for greatest volume.

If an oscillator is to provide the signal for balancing it should be coupled to the antenna wire on the receiver and an output meter should be connected from the 12A7 pentode plate to chassis. The output meter may consist of a 0-5 or 0-10 volt AC meter with a .1 mfd. condenser inserted in one lead.

It will be noted there are three trimmer screws on each section of the variable condenser. Adjust the condenser so the leading edge of the condenser rotor is at the middle of the first split stator section. The dial reading for this setting is about 25. Tune the oscillator to this frequency which is approximately 1000 KC. Adjust the two diagonally opposite trimmer screws for maximum output. Then in succession change the condenser setting to center of 2nd and 3rd sections re-balancing in same manner for maximum output not re-trimming preceding split plates. Then re-seal with wax.



## INTERNATIONAL RADIO CORP.

MODEL F Kadette Jr.  
Parts List, Notes

PART No.	NAME	LIST PRICE
A-125	Variable condenser assem. less dial	\$3.00
A-239	Dual .00025 mfd. mica condenser	.35
A-240	.00025 mfd. mica condenser	.20
A-241	.0001 mfd. mica condenser	.20
A-242	.00025 mfd. mica condenser	.20
A-335	.05 mfd. paper condenser	.50
	.1 mfd. paper condenser	
	.005 mfd. paper condenser	.60
A-336	.005 mfd. paper condenser	
	.05 mfd. paper condenser	
	.05 mfd. paper condenser	.15
A-337	.005 mfd. paper condenser	
	.001 mfd. paper condenser	.50
A-338	.005 mfd. paper condenser	
	.005 mfd. paper condenser	.40
A-339	.05 mfd. paper condenser	
	.005 mfd. paper condenser	
A-426	2 mfd. 7 mfd. electrolytic condenser	.90
A-427	3½ mfd., 3½ mfd., 3½ mfd. electrolytic con.	1.00
A-502A	18 mmfd. coupling condenser	.10
B-136	Volume control slider bracket	.05
E-144	Volume control slider with knob	.15
E-233	Calibrated dial strip only	.10
E-234	Dial wheel with calibrated strip	.40
H-22	6F7 socket	.10
H-23	Output socket	.10
H-121	4 prong female socket	.10
I-120	Special volume control screws	.07
R-137	Volume control resistor strip -2½ meg	.20
R-251	½ megohm resistor	.20
R-255	¼ megohm resistor	.20
R-256	2 megohm resistor	.20
R-257	50M ohm resistor	.20
R-258	1 megohm resistor	.20
R-263	3 megohm resistor	.20
R-265	¼ megohm resistor	.20
R-327	2000-1000 ohm metal covered resistor	.25
R-328	3000-1600 ohm metal covered resistor	.25
S-311	Volume control springs	.02
T-252A	Antenna coil assembly	.90
T-253A	R. F. coil assembly	.90
U-110	Power cord (no switch)	1.25
U-111	Power cord (with switch)	2.00
Model F. Cabinet only-less back (specify color)		2.00
Model F Back only (specify color)		.50

## Supplementary Parts Price List

A-243	.0005 mfd. mica condenser	.20
A-340	.05-.005 mfd. paper condenser	.50
A-341	.005 mfd. paper condenser	.50
A-342	.005 mfd. paper condenser	.15
A-346	.007 mfd. paper condenser	.15
D-215	Speaker cone only	.35
D-217	Speaker coil	.70
D-230A	Complete speaker assembly with volume control	3.00
R-138	1¾ meg. volume control strip (2 lugs)	.20
R-266	175 M ohm resistor	.20

## CHANGES IN CIRCUIT

There have been a few minor changes in the circuit since the first sets were produced. Diagram No. 1 shows the original circuit. A few of these were produced and then the circuit was changed so that the 6F7 circuit was the same as in diagram No. 2 while the 12A7 circuit remained the same. The last change is shown in diagram No. 2.

If it is necessary to replace an antenna coil in one of the early sets it is suggested that the latest coils be used and the 6F7 circuit be changed to conform with Diagram No. 2.

It will be noted there are two secondaries on the T252A antenna coil in diagram No. 2. The secondary winding is of "Litz" wire consisting of one heavy strand surrounded by nine fine strands. The heavy strand is separated from the others and connects to the control grid of the 6F7. The nine fine strands are tuned by the variable condenser.

The circuits shown in diagrams Nos. 3 and 4 greatly resemble diagram No. 2 in Service Bulletin F.1. It will be noted however the system of controlling volume has been changed somewhat. Also the values of some condensers and resistors have been changed and some condensers and resistors omitted.

## By Pass Condensers

In ordering parts for your service stock, a saving can be effected in regard to the "fire cracker type" condensers mounted vertically at each side of the speaker. In diagram No. 1 these are Nos. A-335 and A-336.

In diagram No. 2 part No. A-339 is the same as A-335, with the exception that the .1 mfd section (red wire) is omitted. A-338 is the same as A-336 with one .05 mfd section (white wire) left out.

In diagrams Nos. 3 and 4 these "firecrackers" are A-340 and A-341. The A-340 may be made from A-336 by cutting off the brown and white wires. The A-341 may be made from A-335 by cutting off the black, green and red wires.

The A-335 and A-336 condensers may therefore be used for repairs in any of the circuits and it will not be necessary to carry the later numbers in your service stock.