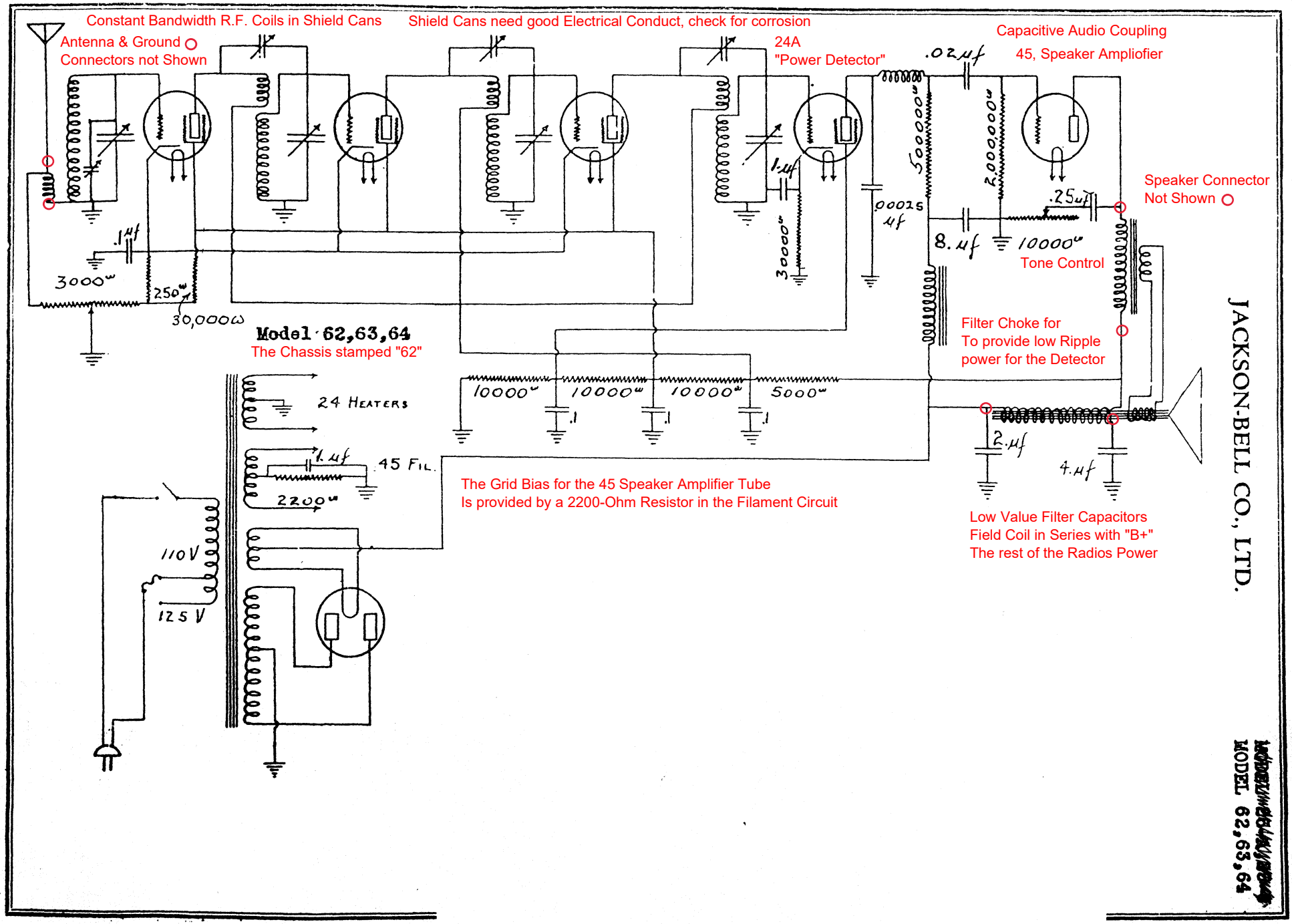
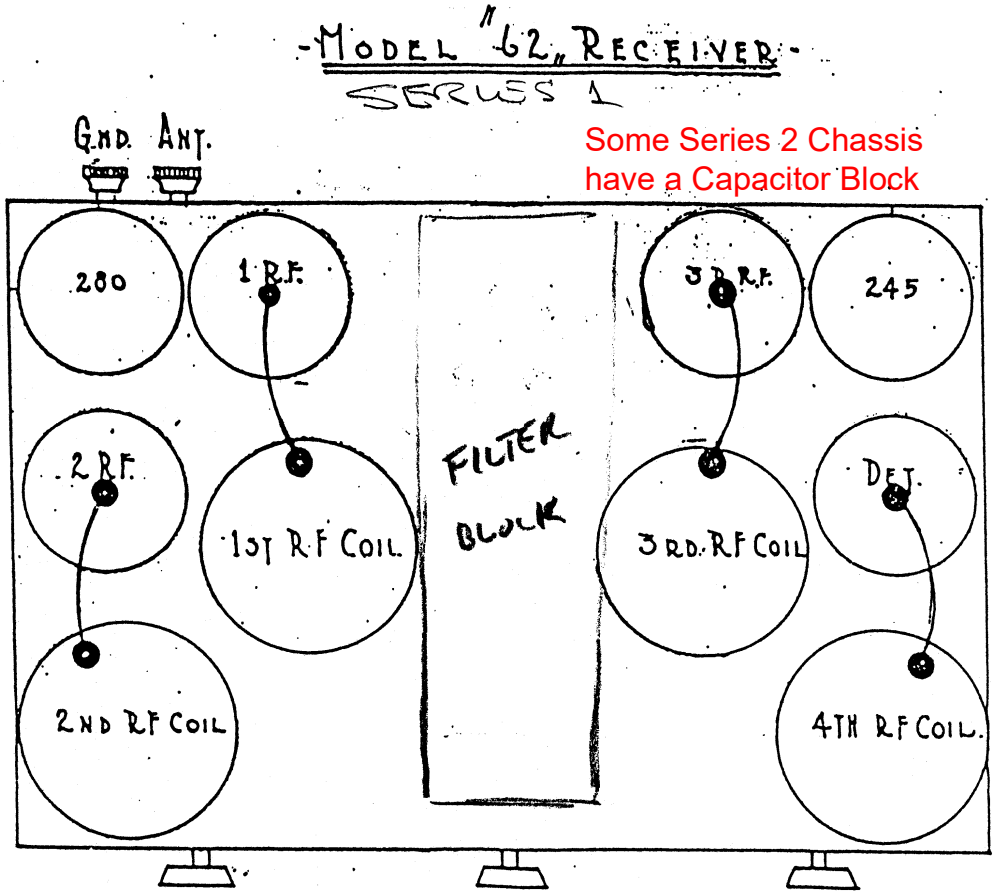
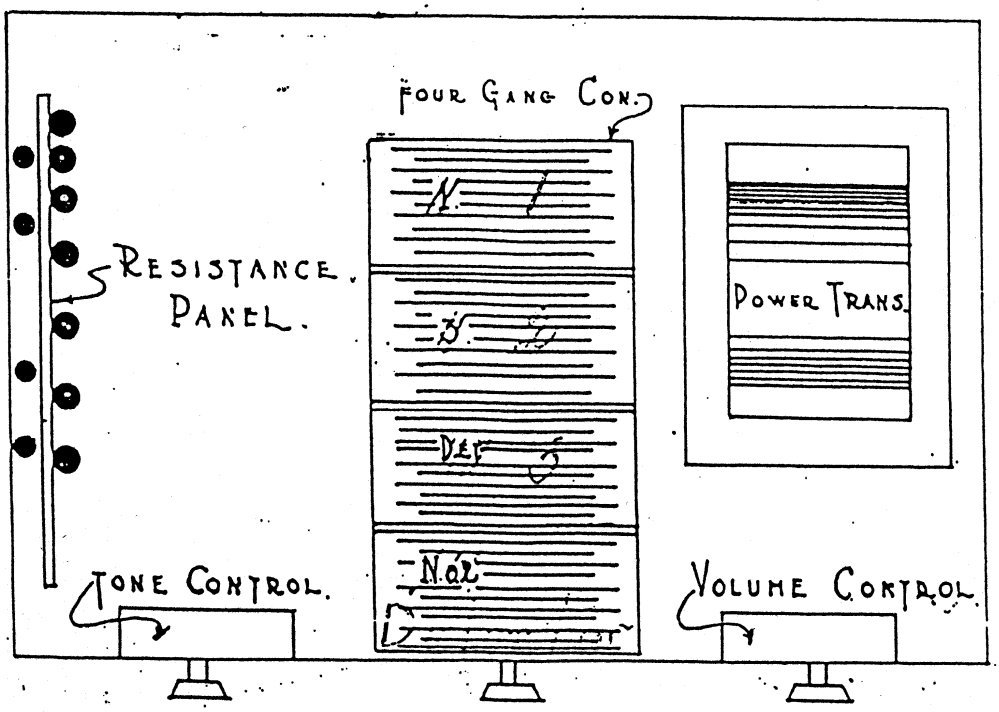
JB-Model-62 Version Comparisons & Notes 24AUG2026RAG

Version 1



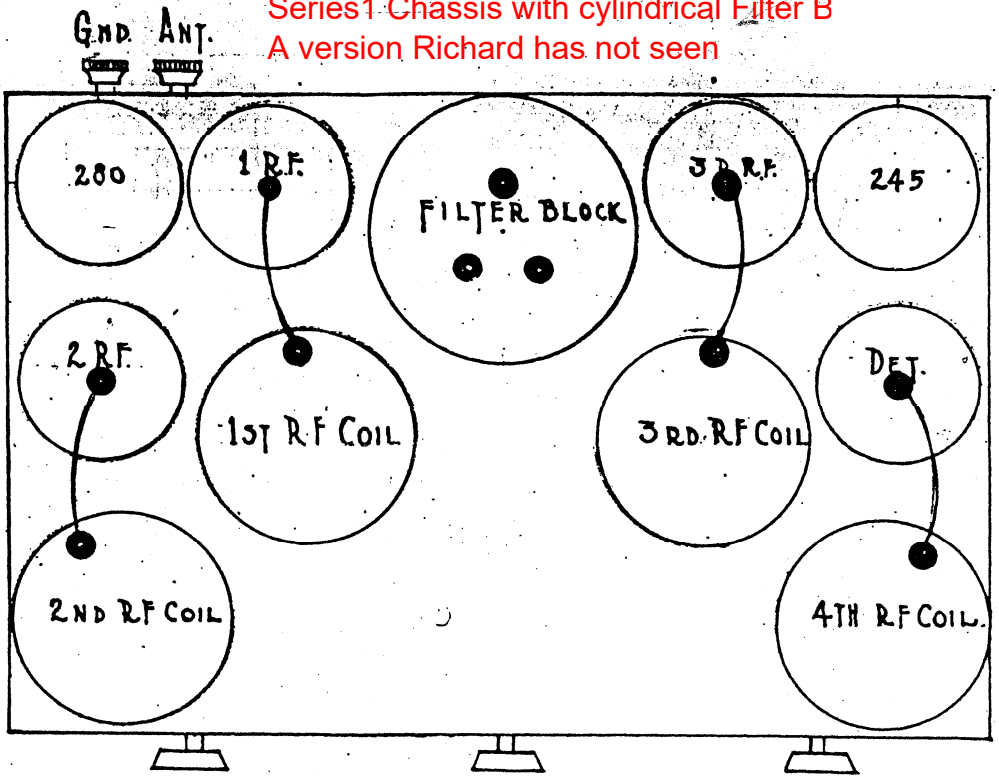
Version 1 Chassis, a Chassis Richard has seen

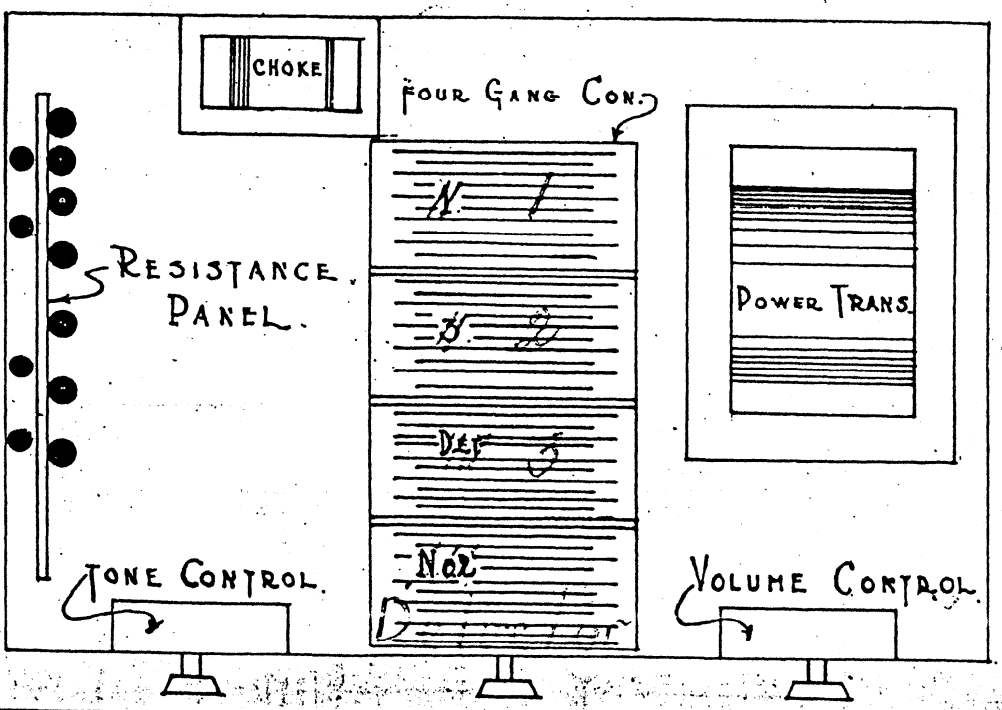




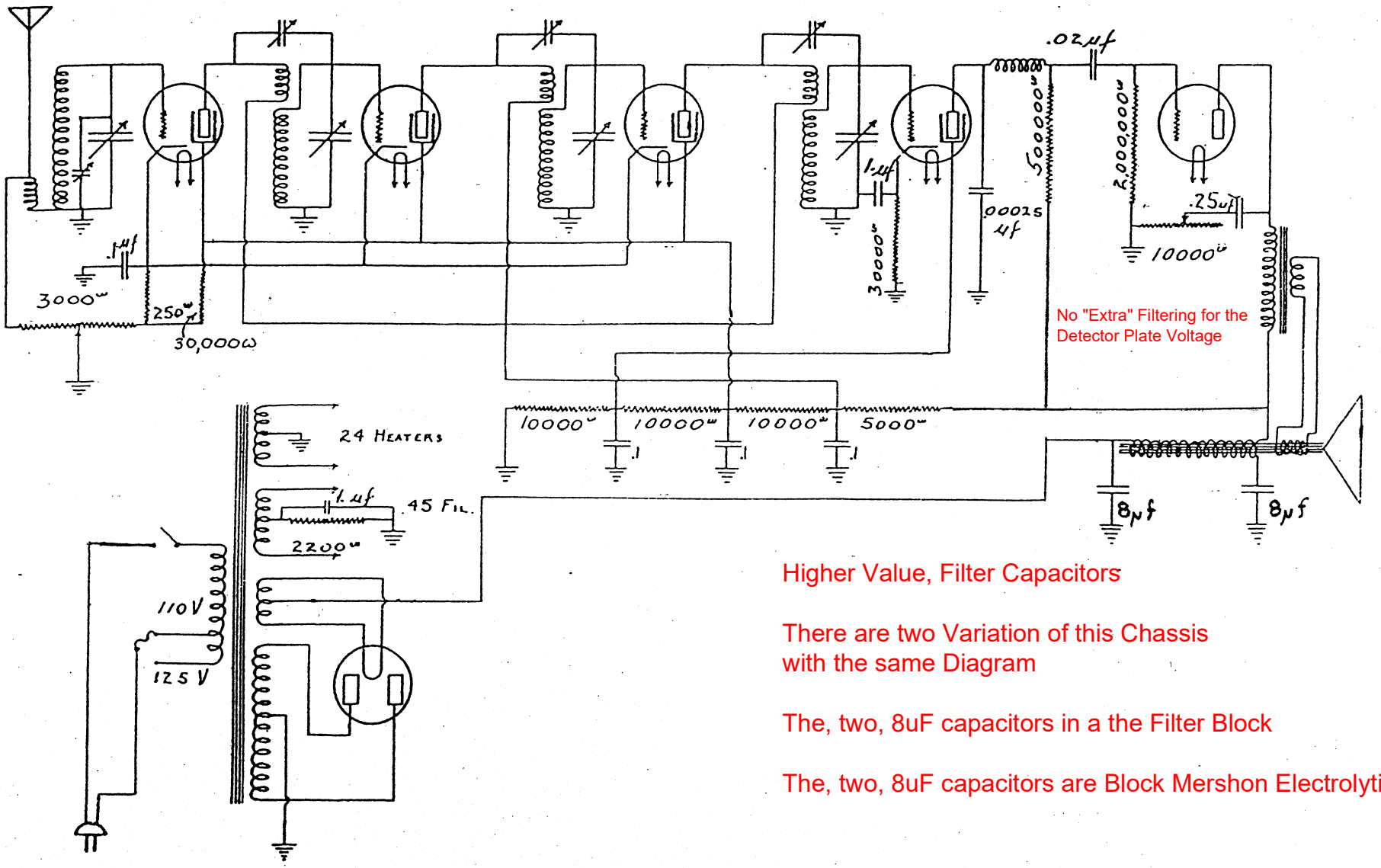
-Model "62" Receiver-

Series1 Chassis with cylindrical Filter B
A version Richard has not seen





Version 2
Similar to the Version 1, except as noted



Higher Value, Filter Capacitors

There are two Variation of this Chassis
with the same Diagram

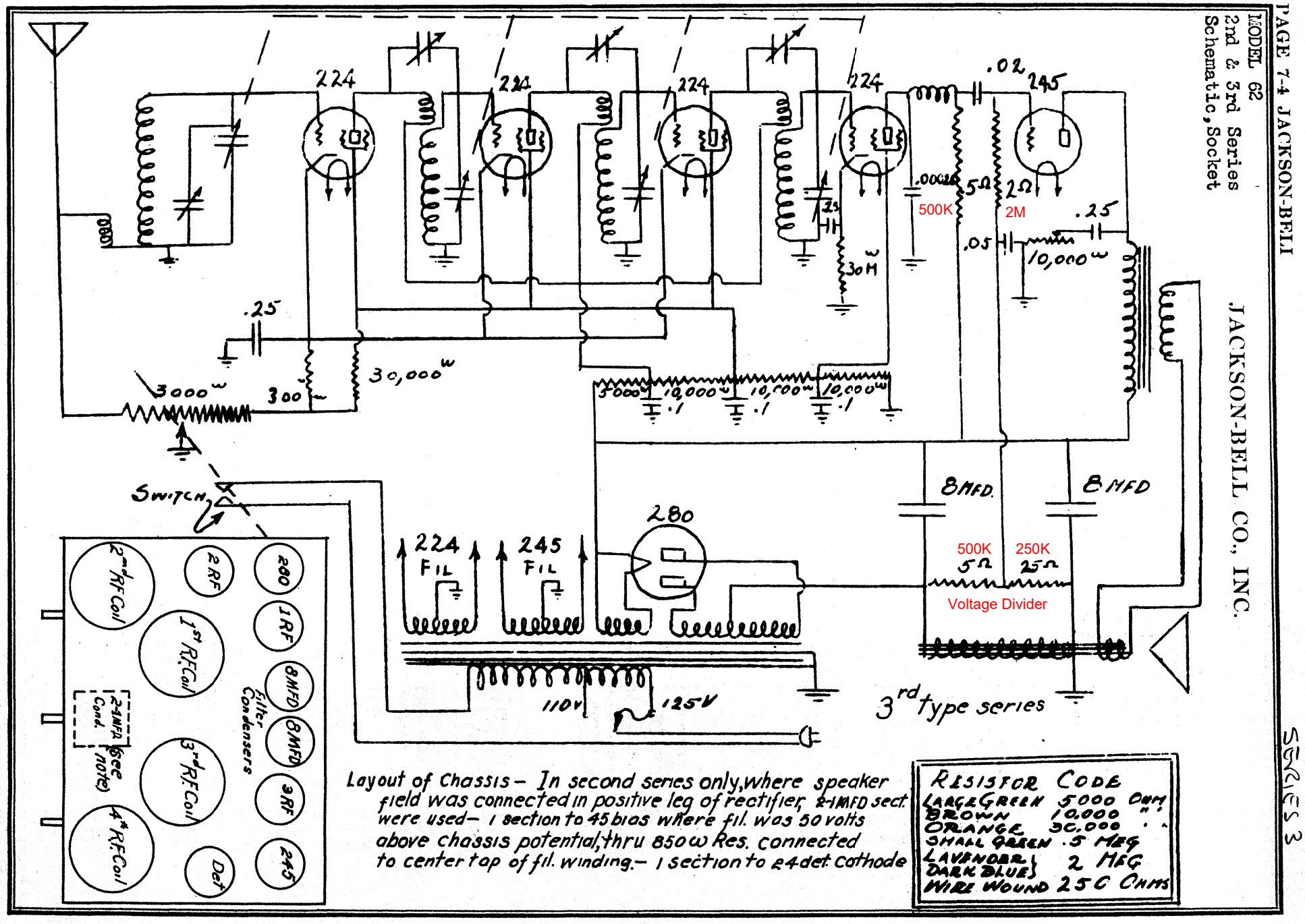
The, two, 8uF capacitors in a the Filter Block

The, two, 8uF capacitors are Block Mershon Electrolytic

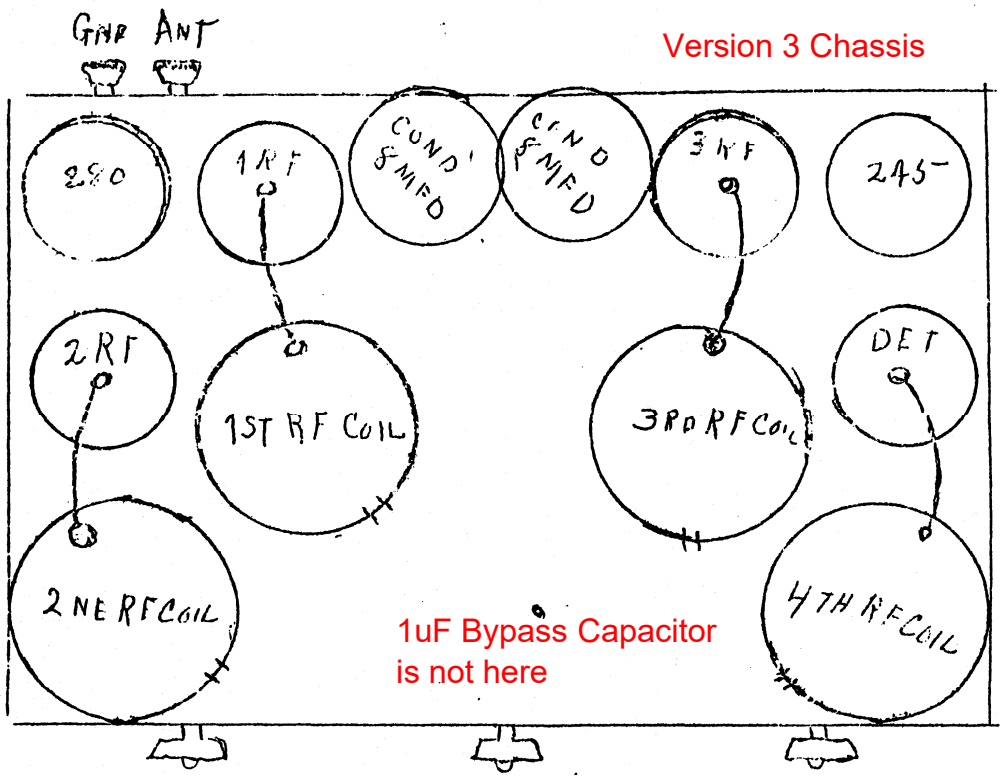
SERIES 2

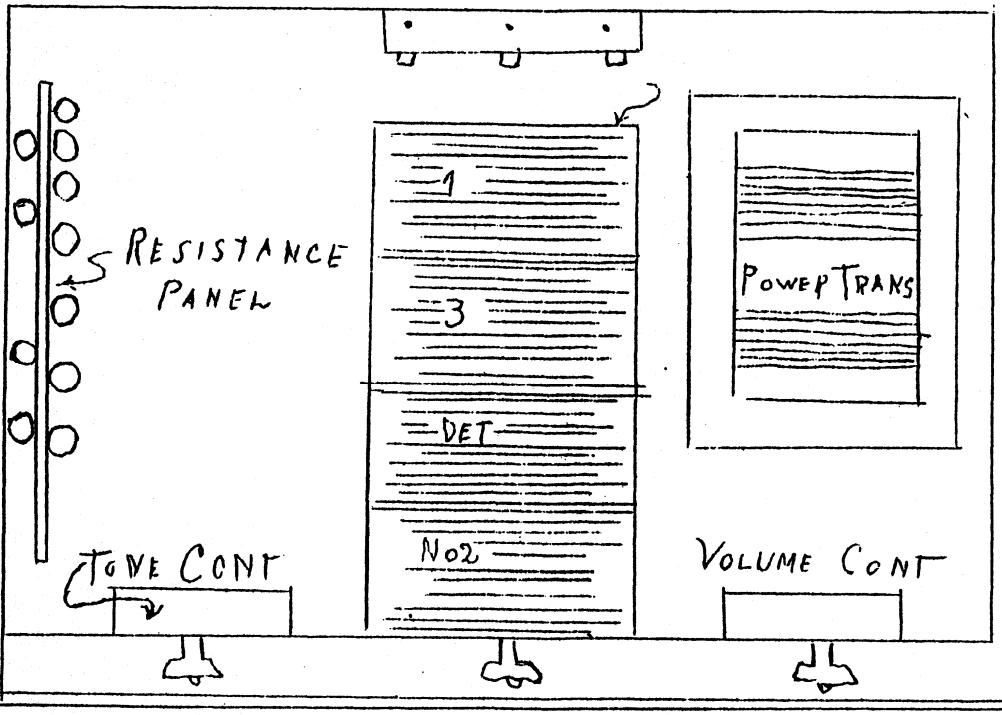
Version 3, "Improved Version"

Power Supply Changes, Speaker Field Coil in C.T. of Power Transformer return. Providing a Negative Voltage for '45' Grid Bias



SERIES 3

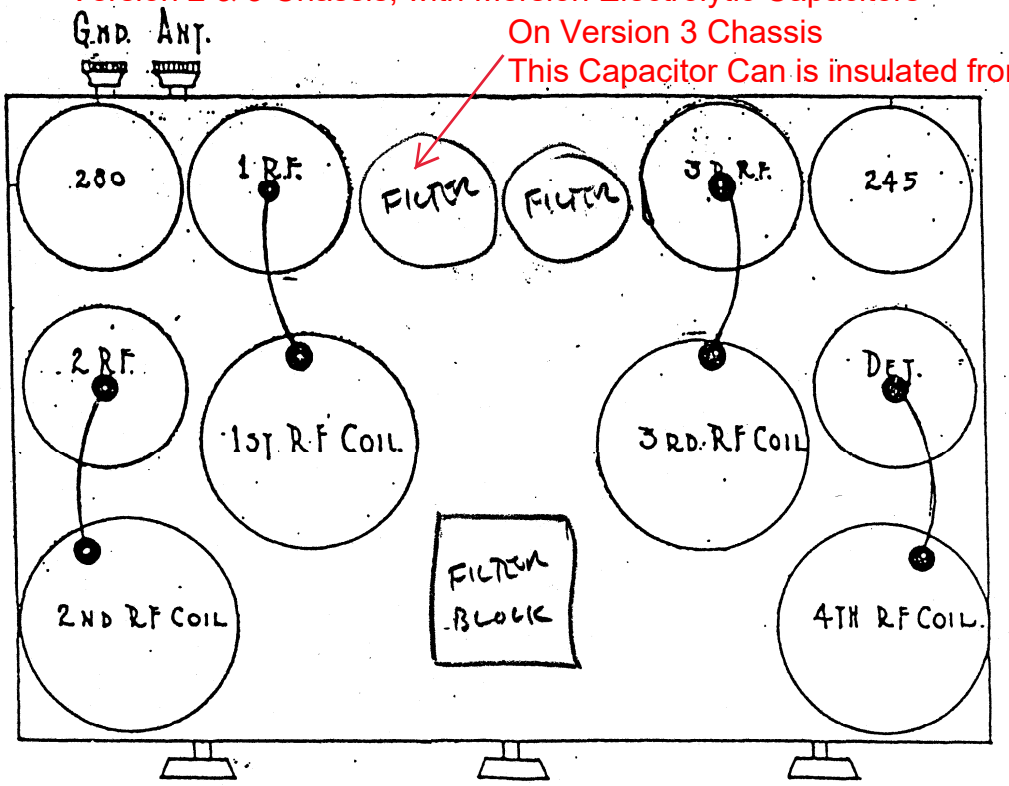

GND ANT
250
1 RF
COND 8 MFD
COND 8 MFD
3 RF
245-
2 RF
1ST RF COIL
3RD RF COIL
DET
2 NE RF COIL
4TH RF COIL
Version 3 Chassis
1uF Bypass Capacitor
is not here


RESISTANCE PANEL
1
3
DET
No2
POWER TRANS
TONE CONT
VOLUME CONT

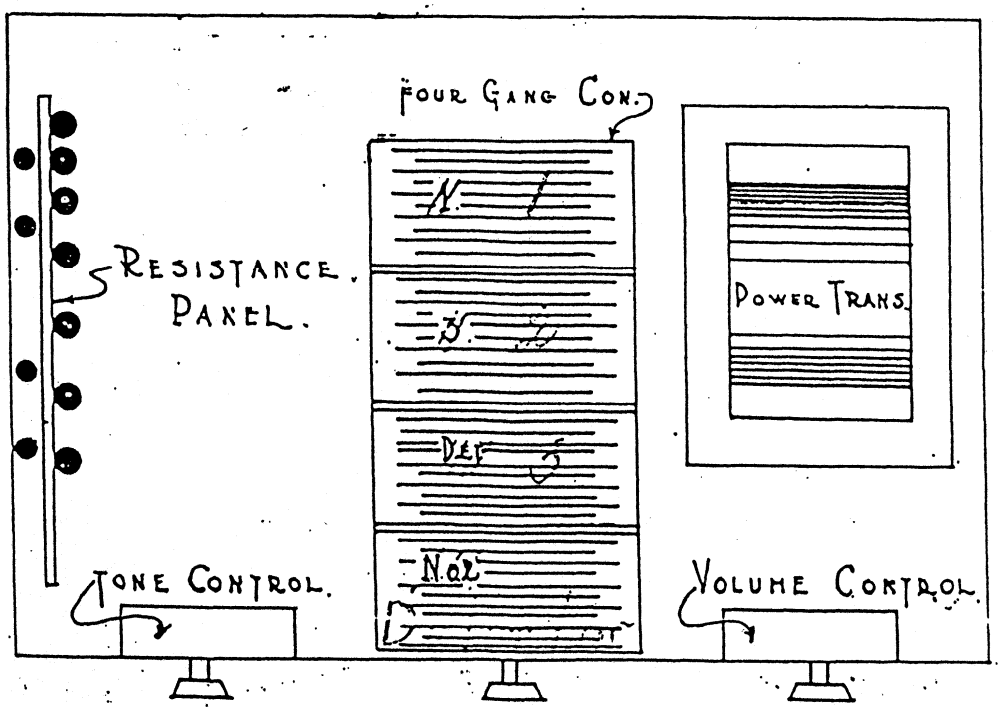
Model "62" Receiver

Version 2 & 3 Chassis, with Mersion Electrolytic Capacitors

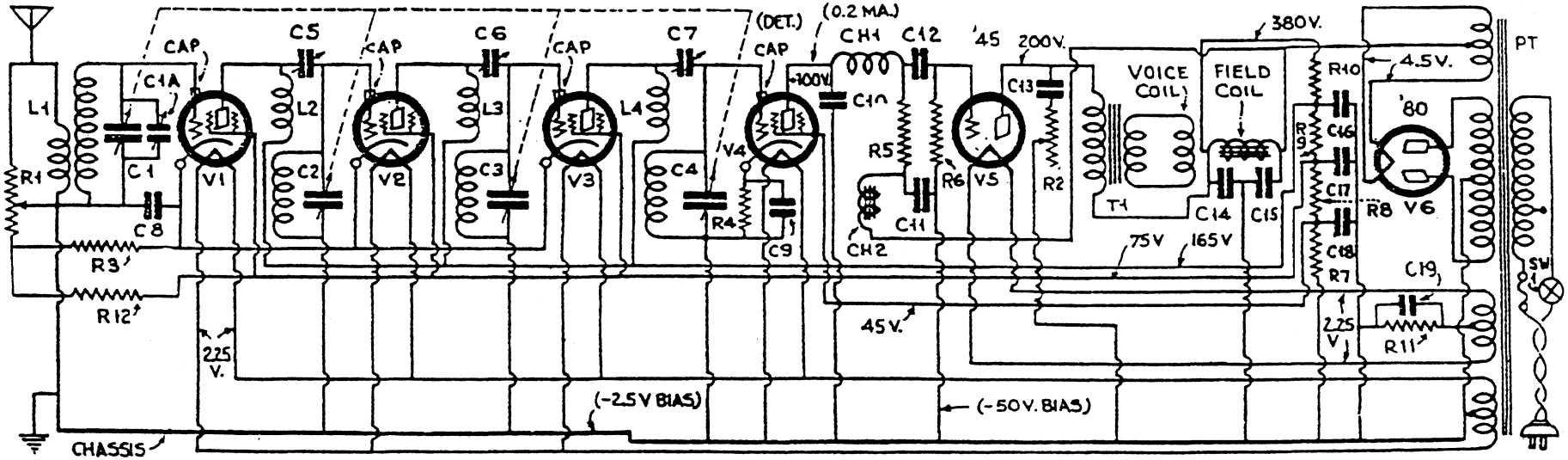
On Version 3 Chassis
This Capacitor Can is insulated from the Chassis



If no 'Filter Block'
Never seen by Richard



For Reference
Version1 Chassis
Market Penetration was so large (Nationwide. Worldwide)
"Radio Craft" magazine did an Article!

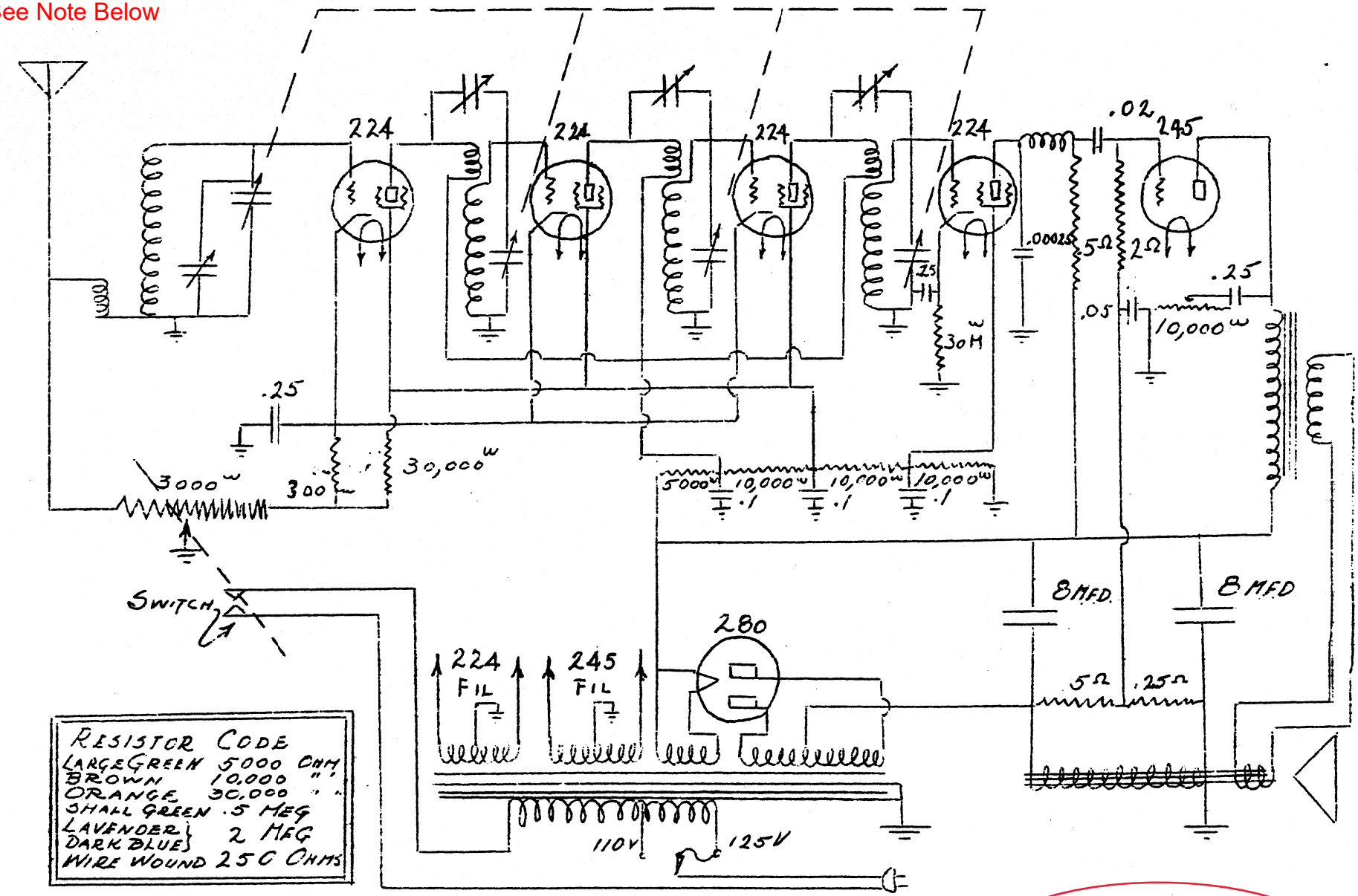


The schematic circuit of the Jackson-Bell "Model 62' The large filter capacities are provided by dry electrolytic condensers.

Following are the values used in this set: Volume-control resistor R1, 3,000 ohms; R2, 10,000 ohms; R3, 250 ohms; R4, 30,000 ohms; R5, 0.5-megohms; R6, 2 megohms; R7, R8, R9, 10,000 ohms; R10, 5,000 ohms; R11, 2,200 ohms: R12, 30,000 ohms.

Condensers C5, C6, C7, 7 mmf.: C8, C16, C17, C18, 0.1-mf.; C9, C19, 1.0 mf.; C10, .00025-mf.; C11, 8 mf.; C12, .02-mf.; C13, .25-mf.; C14, 2 mf.; C15, 4 mf.

For Reference
See Note Below



Version 3

MODEL-62
IMPROVED 1-22-31
Jackson-Bell Note!!!

TJ

Factory Information, here for Reference

We have seen Radios with Chassis Number above 120,000 that have previous Circuit Versions

MODEL 62
2nd & 3rd Series
SERVICE NOTES
FOR SERIAL NO. 120,000 AND UP

If it should become necessary to resonate the radio frequency circuit, proceed as follows:-

Set the dial at about 20 degrees and set all coupling condensers at approximately one full turn to the left of the maximum capacity adjustment. With a grid dip oscillator, check all circuits for resonance, making connection to the caps on top of the screen grid tubes. The tubes should be cold when this is done. If it is necessary to move any of the coupling condensers more than one-half turn in order to obtain resonance, adjustment of capacity in that particular stage should be made by bonding the split rotor plate of the variable condenser. This does not apply to the antenna stage where the condenser on the coil does not affect coupling. When resonance has been obtained at this point, the dial should be shifted to 90, and all stages again checked with a grid dip meter. Here all capacity adjustments must be made by bending plates, being careful not to disturb the position of that portion of the split plate which was active when the first adjustment was made.

VOLTAGE AND CURRENT VALUES:

With the volume control at maximum, the following readings should be obtained, with an allowable variation of 10%:-

R.F. Plate voltage	160	
R.F. Screen Grid Voltage	75	
R.F. Grid Bias	2.5	
R.F. Plate current	2.5M	
245 Plate Voltage	225	
245 Plate current	50	
245 Bias	50	V.
Detector Screen Grid Voltage	50	"
Detector Bias	5	"
Detector Plate Current	.2	M (No signal in Receiver)
Detector Plate Voltage	100*	

*This reading will be obtained with a 500,000 ohm volt-meter as found in a Jewell 199 test set. This reading is subject to considerable variation with meters of various resistances, as the voltage at this point is measured through a 500,000 ohm resistor. The voltage at the opposite end of the resistor should be 250.

JACKSON - BELL COMPANY

SERVICE NOTES - MODEL 62

STARTING AT SERIAL NUMBER 120,000.

* * * *

We have seen Radios with Chassis Number above 120,000 that have previous Circuit Versions

CIRCUIT:

The radio frequency circuit consists of three stages of tuned R.F. amplification using type '24 screen grid tubes. Gain and selectivity across the broadcast band are practically constant. The primary coils mounted at the upper ends of the secondaries of the radio frequency transformers transfer energy at the lower radio frequencies while coupling at the higher frequencies is through the seven micro-microfarad condensers mounted between the primary and secondary of each radio frequency transformer. The antenna coil also carries one of these condensers to compensate for the capacity of the primary coils and coupling condensers in the other R.F. circuits. The detector is a linear power detector, using a type '24 screen grid tube, and is resistance coupled to a single '45 audio output tube.

R.F. CIRCUIT ADJUSTMENTS:

Radio frequency gain is controlled by the 7 MMF condensers on the second, third and fourth coils. Any change in the capacity of these condensers results in a change in the resonant frequency of their associated circuits. Therefore, whenever one of these is changed, it is necessary to change all others a corresponding amount to maintain resonance.

If it should become necessary to resonate the radio frequency circuit, proceed as follows:-

Set the dial at about 20 degrees and set all coupling condensers at approximately one full turn to the left of the maximum capacity adjustment. With a grid dip oscillator, check all circuits for resonance, making connection to the caps on top of the screen grid tubes. The tubes should be cold when this is done. If it is necessary to move any of the coupling condensers more than one-half turn in order to obtain resonance, adjustment of capacity in that particular stage should be made by bonding the split rotor plate of the variable condenser. This does not apply to the antenna stage where the condenser on the coil does not affect coupling. When resonance has been obtained at this point, the dial should be shifted to 90, and all stages again checked with a grid dip meter. Here all capacity adjustments must be made by bending plates, being careful not to disturb the position of that portion of the split plate which was active when the first adjustment was made.

The receiver is now ready for operation. Too much coupling will be indicated by instability at maximum volume adjustments. If this appears and set is in proper balance, it will be necessary to push the screen grid clip leads into the top of the R.F. can. There should not be a surplus loop in these leads outside of the can.

The receiver may be resonated with or without antenna, as the first tuned circuit is practically unaffected by antenna capacity.

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Refer to the diagram showing location of coils and condensers before attempting to align the radio frequency circuits.

VOLUME CONTROL SYSTEM:

Volume is controlled by the resistance network including a 3000 ohm potentiometer, a 250 ohm fixed R.F. bias resistor and a carbon resistor of 30,000 ohms connected between the screen grid terminal of the voltage divider and one side of the potentiometer. Maximum volume occurs when the grounded potentiometer arm is at the right hand end of the resistance, as drawn in the circuit print. At this point the effective bias on the '24 tubes is produced by the drop across the 250 ohm resistor, which is now connected from R.F. cathodes to ground. As the potentiometer arm is moved toward the left, the R.F. bias resistor is increased, thereby increasing the negative grid bias on these tubes. At the same time, current from the screen grid terminals of the voltage divider flows thru a portion of the potentiometer, adding to the potential drop produced by the plate current flowing thru the bias resistor. At the extreme left end of the control, the antenna is short circuited to ground, and the R.F. plate current is zero, resulting in zero volume. If unable to attain zero volume, check the plate current of the R.F. tubes. If it does not drop to zero, check the resistance network for fault. If zero current does result, but abnormal volume level remains when the control is set at the zero position, the resistance network is O.K., and trouble is undoubtedly in the antenna circuit, or is due to abnormal AC line pick-up, which will usually be connected when a good ground is connected to the set. This is accomplished by an electrostatic shield in the power transformer which by-passes R.F. picked up in the line to ground.

POWER SUPPLY:

The power transformer is wound for 50-60 cycle, 105 to 130 volts. Before installing the receiver, the average line voltage should be checked and the fuse located under a plate at the rear of the chassis should be placed in the clips corresponding to the voltage. For lines under 120 volts, use the 110 volt clip, and the 125 volt clip for lines over 120 volts.

The speaker field is in the negative leg of the filter system. By using this system, bias for the '45 grid comes from the center of the 1/2 and the 1/4 meg resistor in series across the speaker field. As there is approximately 110 volt drop across the speaker field, which is negative with respect to ground, this supplies approximately 50 volts to the grid of the tube and to avoid hum, is by-passed with a .05 MFD condenser.

The 8 MFD condensers indicated in the circuit are of the electrolytic type, and are self healing.

Electrolytic filter condensers cannot be tested by the method usually employed for testing paper condensers. Since these filters normally have a small amount of leakage current, the usual continuity tests will not give accurate results. We recommend, therefore, that these condensers be tested with a source of direct current of approximately 200 volts, with a miliameter and protective resistance in series. At this voltage the leakage current should not exceed one-tenth of a milliampere per microfarad after five minutes. If the condenser under test has not been in use for some time, the

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leakage current may run as high as one milliampere per microfarad at 200 volts when the test voltage is applied. This will gradually taper off to approximately one-tenth of a milliampere per microfarad in five minutes, if the condenser is in good condition.

VOLTAGE AND CURRENT VALUES:

With the volume control at maximum, the following readings should be obtained, with an allowable variation of 10%:-

R.F. Plate voltage, ...	160
R.F. Screen Grid Voltage, ...	75
R.F. Grid Bias, ...	2.5
R.F. Plate current, ...	2.5M
245 Plate Voltage, ...	225
245 Plate current, ...	30
245 Bias, ...	50 V.
Detector Screen Grid Voltage, ...	50 "
Detector Bias, ...	5 "
Detector Plate Current, ...	.2 M (No signal in Receiver)
Detector Plate Voltage, ...	100*

*This reading will be obtained with a 300,000 ohm volt-meter as found in a Jewell 199 test set. This reading is subject to considerable variation with meters of various resistances, as the voltage at this point is measured through a 500,000 ohm resistor. The voltage at the opposite end of the resistor should be 250.

NOTE: Most test sets measure grid bias from grid to filament. This results in erroneous readings when attempting to measure bias in a resistance coupled amplifier, as the grid is grounded through a high resistance, usually several times higher than the meter used in the test kit. Accurate readings can only be obtained therefore, directly across the bias resistance.

FILAMENT VOLTAGES.

R.F. - 2.2	2.25
A.F. - 2.2	2.25
'80 - 4.5	

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RESISTANCE COLOR CODE - CARBON RESISTORS.

1 WATT

300	Ohm	- Wire Wound		
1100	"	- Blue		
2200	"	- Solid Red		
3000	"	- Orange	- Black End	- Red Dot
5000	"	- Green	- " "	- " "
10000	"	- Brown	- " "	- Orange Dot
20000	"	- Red	- " "	- " "
30000	"	- Orange	- " "	- " "
$\frac{1}{4}$	meg	- Red	- Green "	- Yellow "
$\frac{1}{2}$	"	- Green	- Black "	- " "
1	"	- Brown	- " "	- Green "
2	"	- Purple		
1000	ohm	- Brown	- Black "	- Red "
50000	"	- Green	- " "	- Orange "

2 WATT

5000	Ohm	- Green with Black Band and Red Dot
2200	"	- Red
300	"	- R.F. Bias Resistor is Wire Wound.

RADIO FREQUENCY COILS.

Radio frequency coils in this Receiver are wound with 130, and 132 turns on the secondaries. The antenna coil has 132 turns, the second, third and detector coils have 130 turns.