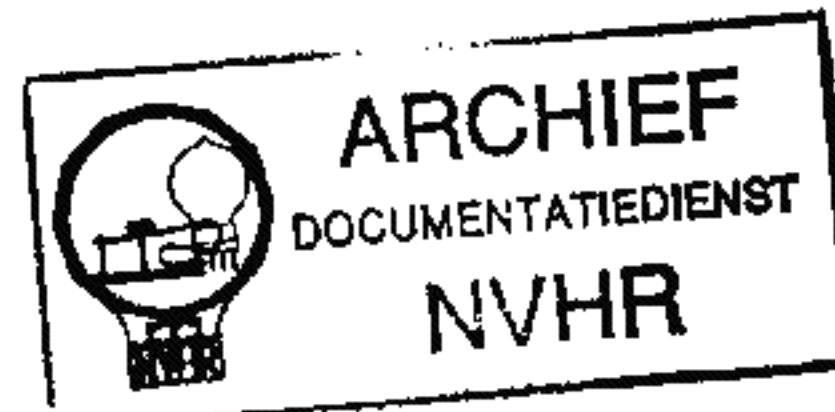


MODEL 46, 47, 53
Data

ATWATER KENT MFG. CO.

Ned. Ver. v. Historie v/d Radio



Model 46, 47 and 53 Receivers

General Description

Model 46 is similar to Model 43, except that the power unit is enlarged to provide adequate plate supply for the 171A-type tubes used in the 2nd A.F. stage. Also, the voltage regulator is not used, and the condensers in the power unit are contained in a separate replaceable section. Model 53 is a Model 46 with a type F-2C electro dynamic speaker mounted in a twenty six inch high metal cabinet.

Model 47 is similar to Model 46, but has four stages of R. F. amplification, with double R. F. transformers, thus providing greater sensitivity and selectivity.

The continuity tests given on page 103 may be applied to the receiver chassis of Models 46 and 53. The same tests may be applied to Model 47, with additional tests for the 4th R.F. socket contacts, which should give the same readings as the 2nd and 3rd R.F. sockets.

Special instructions for servicing the power unit in these three models are given below

Power Units in Models 46, 47 and 53

Apply the continuity test given in the table on page 104. If any one of the condensers is shorted or leaky, replace the condenser assembly. If the power transformer, filter-choke or output transformer is defective, replace the main sealed container, salvaging all other parts.

Replacing Condenser Assembly

Release panel assembly from power unit and remove panel-mounting strip by taking out the machine screw at each end. Unscrew two bolts holding the condenser assembly retaining-spring and take out the spring and supporting strip. Cut the three leads (white, blue, and green-yellow tracer), which connect between the condenser assembly and the transformer-choke assembly, at about the mid-point of each lead. Unsolder black lead from ground lug. Unsolder yellow lead and two black-red tracer leads from panel terminals. Unsolder leads at contacts of speaker-plug socket and socket 2Aa. Pull these leads up an inch or so through the hole in the socket-mounting angle, and push the cable to one side

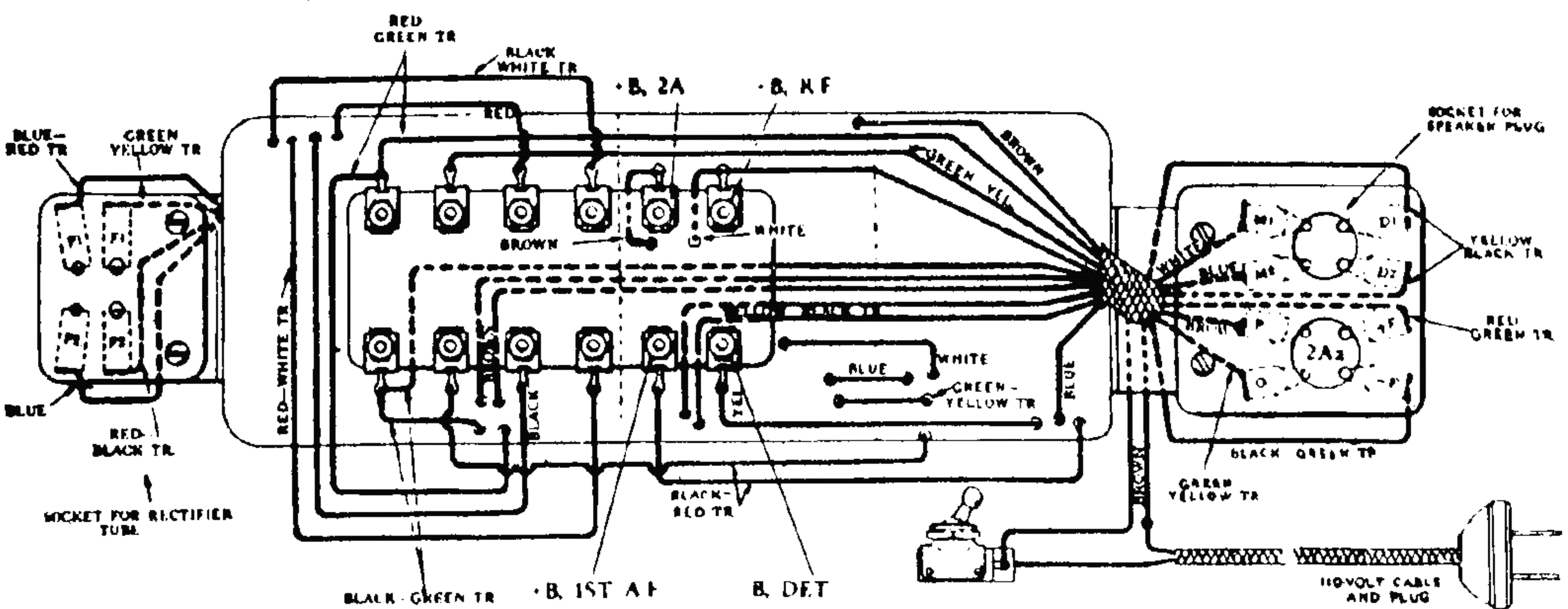
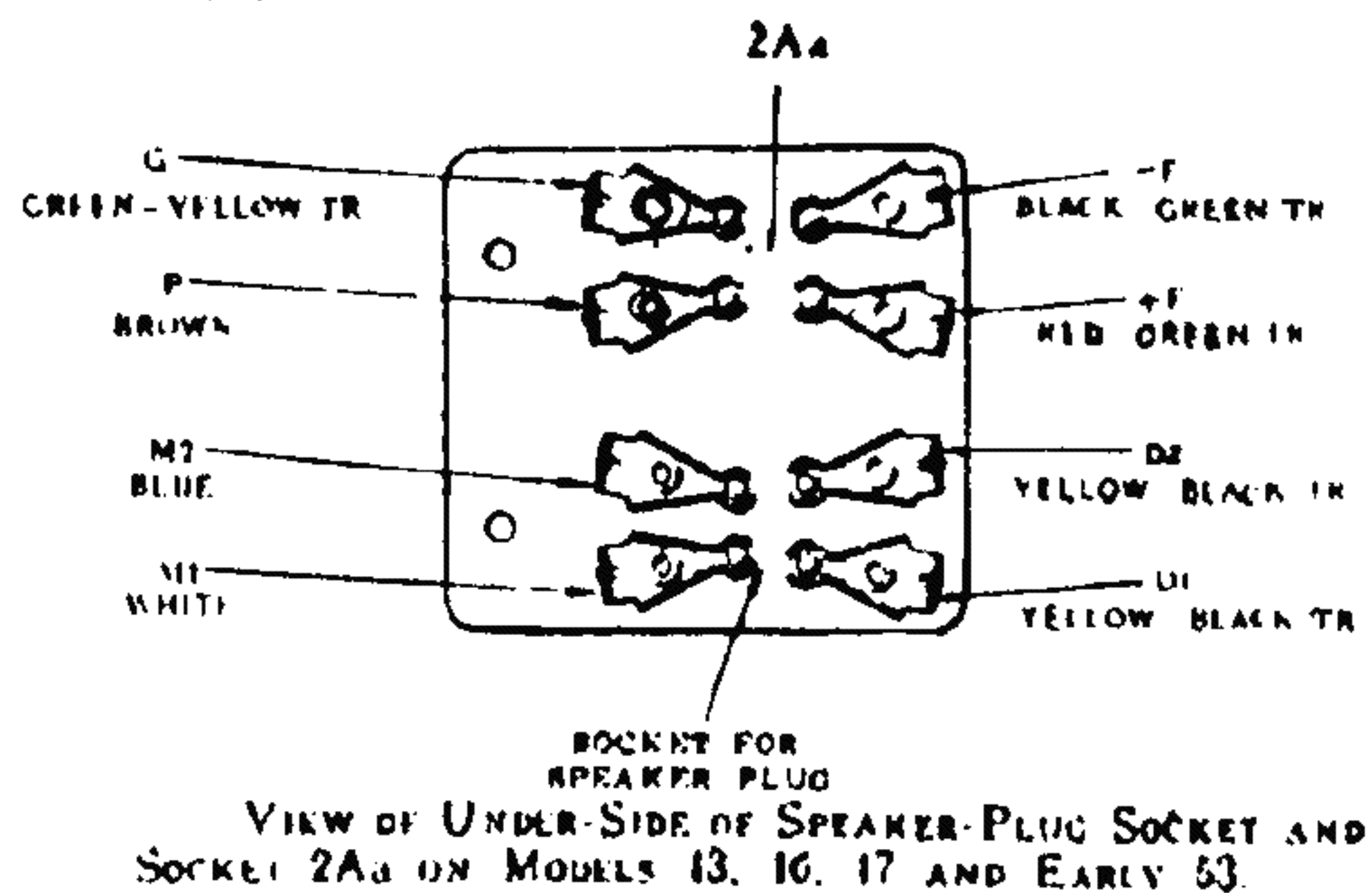
of the unit to allow room for removal of the condenser assembly. Take-out the assembly, pulling the blue M2 lead up through the cable covering.

Insert a new condenser assembly, reversing above procedure. Insulate the joints on the blue, white, and green-yellow tracer leads which connect the condenser assembly to the transformer-choke assembly.

Replacing Transformer-Choke Assembly

Unsolder leads from socket plates at both ends of container and remove these sockets. Unsolder primary winding leads at points where they connect to the toggle switch and to one side of the 110-volt cable respectively. Release panel assembly from unit. Unscrew panel-mounting strip and condenser-retaining spring. Pull the primary leads, the yellow-black tracer output leads and the brown P2Aa lead (No. 18 wire) up through the cable covering. Cut the three leads (white, blue, and green-yellow tracer) which connect the transformer-choke assembly and the condenser assembly. Cut each lead at about the mid-point. Unsolder the six filament winding leads, the brown +B, 2A lead, and the white +B, R.F. lead from terminals on panel assembly. Unsolder black lead from ground lug. Remove the condenser and panel assemblies.

Substitute a new transformer-choke assembly, mount the salvaged parts and connect exactly like the original, reversing procedure outlined above.



SHOWING CONNECTIONS AND APPROXIMATE POSITION OF LEADS FROM SEALED CONTAINER IN POWER UNIT FOR MODELS 46, 47 AND 53

This view shows the panel assembly moved to the left of its normal position. The replaceable condenser assembly is in the right hand end of the container. A black lead from the condenser assembly and a green lead from the transformer assembly are connected to a ground lug under the left hand panel mounting angle. In some units of this type the two leads to D1 and D2 are red (No. 18 wire) instead of yellow with black-tracer.

MODEL 47

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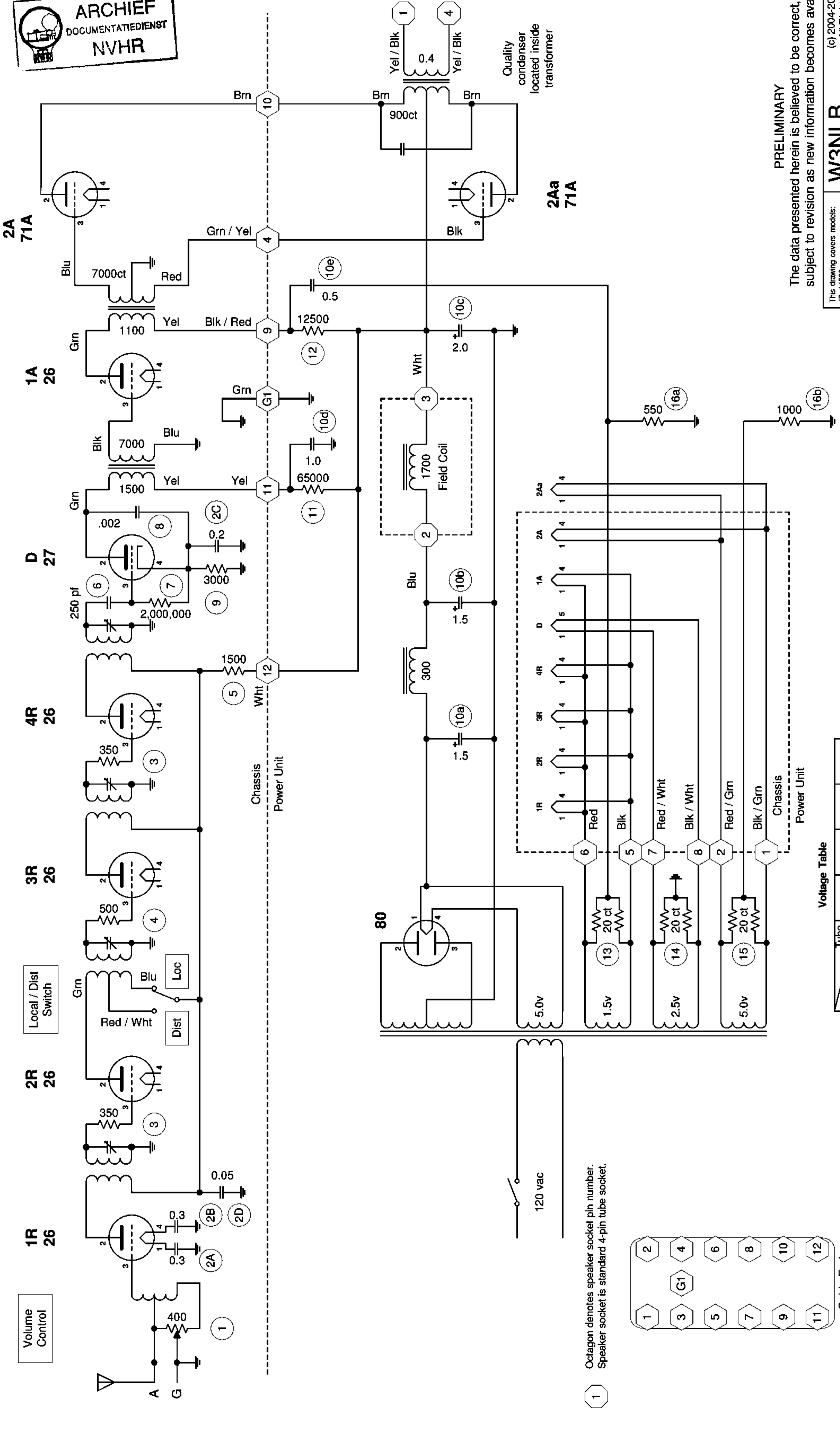
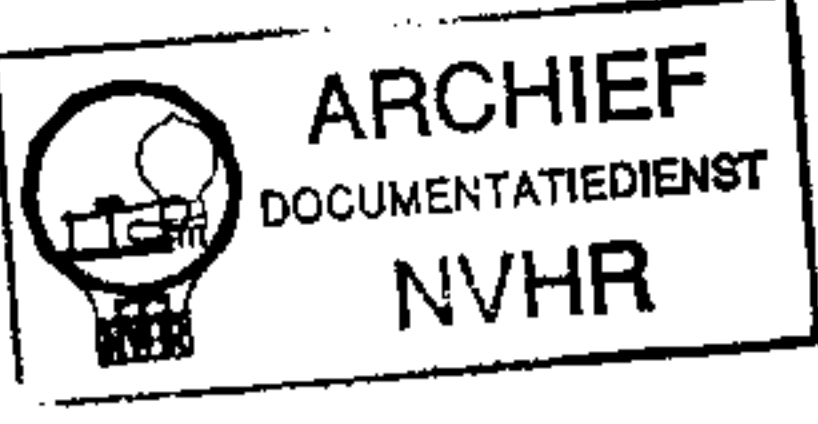
Model 47

SPECIAL NOTE.

Model 47 is similar to Model 46, bearing in mind the notes stated on page 154 and the information specified below. All parts not mentioned in the following list are as stated in connection with Model 46.

1st and 3rd grid suppressors	350 ohms	# 8439	
2nd grid suppressors	500 ohms	# 8225	
R-f plate resistor	1500 ohms	# 16253	
R-f and 1st a-f bias	550 ohms	# 15063) single unit tapped
2nd a-f bias	1000 ohms	# 15063	
Speaker field	1700 ohms	# 15629	

The above mentioned units are used in the Model 47, in place of whatever equivalent units are stated as being used in Models 46 and 53 and the balance of the units listed in connection with Models 46 and 53 may be interpreted as being used in Model 47.



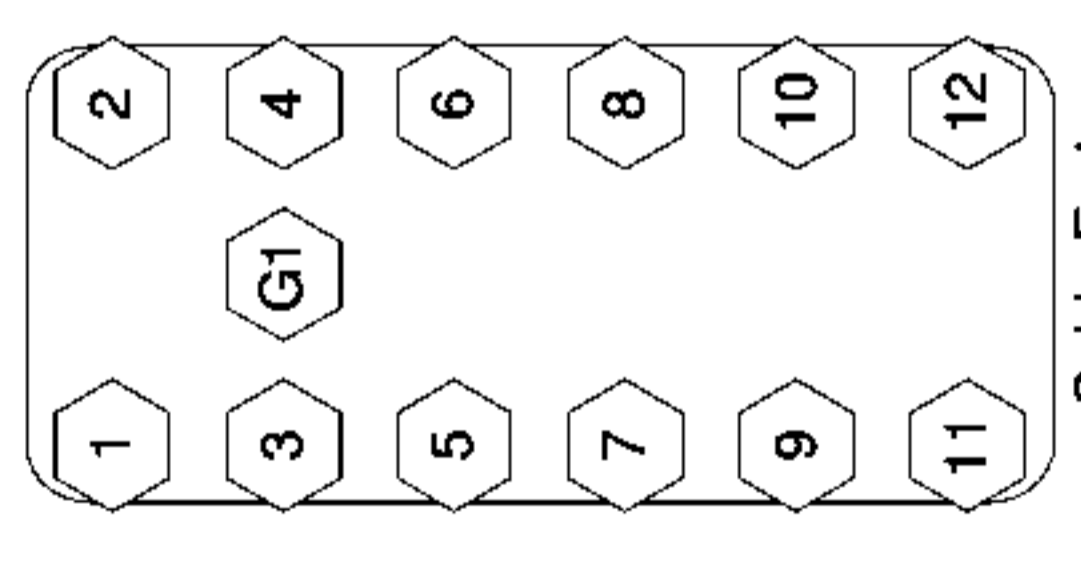
PRELIMINARY
The data presented herein is believed to be correct, but is subject to revision as new information becomes available.

This drawing covers models: 47-14500		W3NLB		(c) 2004-2007 W3NLB All Rights Reserved	
Drawn by: Leigh Bassett W3NLB	Size: B	FSCM NO: AK14500SCH	Atwater Kent Model 47 14500 Schematic Diagram		
Date: 03 Apr. 2007	SCALE	1 OF 1			

NOTE
This schematic is 11 x 21 inches. The 300 dpi GIF should print legibly on 8 1/2 x 11 or 8 1/2 x 14 paper.

Element	1-4R	D	1A	2A
Tube	1-4R	D	1A	2A
Plate	60-65	24	81	81
Grid	-2		-4.8	-9.7

All voltages measured from tube-F with volume at maximum. Taken with 1000 ohm-per-volt meter at 120 volt line. Reduce by 5% for 110 volt line.



1 Octagon denotes speaker socket pin number.
Speaker socket is standard 4-pin tube socket.

REF	PART NO.	VALUE	DESCRIPTION
1	13604	400	Volume control
2A	15158	0.3 / 200v	RF filament bypass
2B	15158	0.3 / 200v	RF filament bypass
2C	15158	0.2 / 400v	Detector cathode bypass
2D	15158	0.05 / 400v	RF B+ bypass
3	8439	350	2R & 4R grid resistor
4	8225	500	3R grid resistor
5	16253	1500	RF plate circuit resistor
6	14861	250 pfd / 500v	Det. grid condenser
7	15892	2 Meg	Det. grid leak
8	9598	0.002 / 500v	Phone condenser
9	13369	3000	Detector cathode resistor

The following components are located in the Power Unit

10a	14743	1.5 / 450v ¹	Filter condenser #1
10b	14743	1.5 / 450v ¹	Filter condenser #2
10c	14743	2.0 / 450v ¹	Filter condenser #3
10d	14743	1.0 / 350v ¹	Detector filter condenser
10e	14743	0.5 / 350v ¹	1st AF bypass condenser
11	15592	65,000	Detector plate resistor
12	15941	12,500	1st AF plate resistor
13	9434	20 ct	RF-1st AF filament shunt resistor
14	9434	20 ct	Detector filament shunt resistor
15	9434	20 ct	2nd AF filament shunt resistor
16	15063	550 & 1000	RF-1st AF bias & 2nd AF bias

Notes
1 - Removable condenser block.

REV	DATE	DESCRIPTION	REVISIONS
D	03 Apr 2007	Corrected RF grid resistor descriptions in p/	