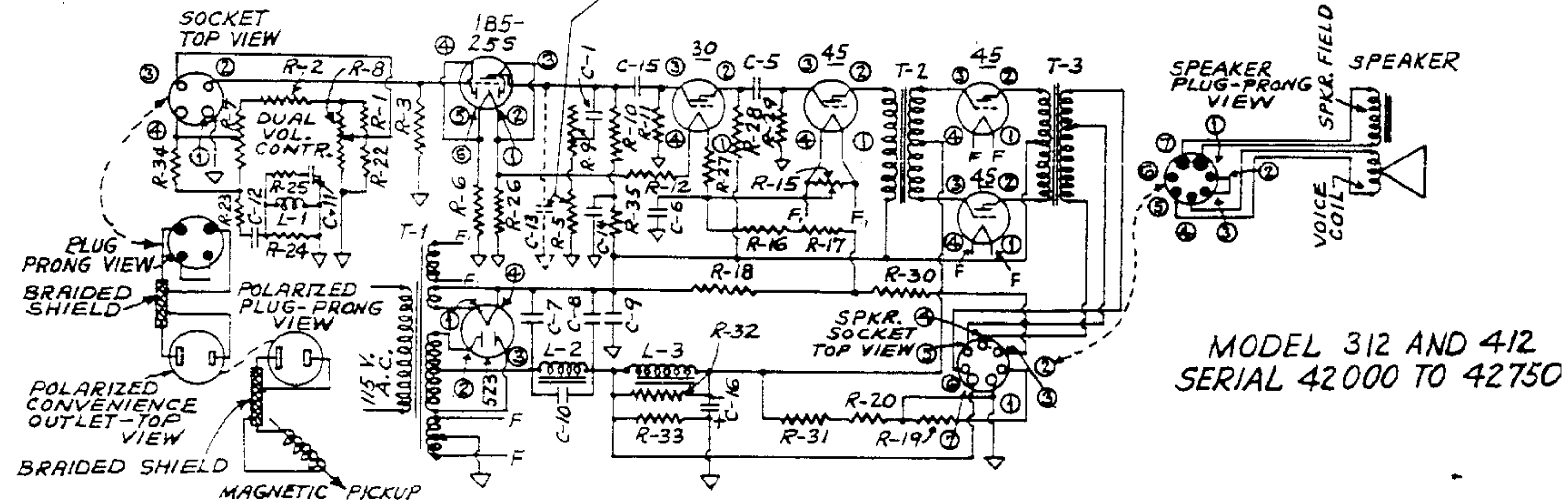


MODEL 312, 412  
SERIAL 42,000 to 42,750  
MODEL 312, 412  
SERIAL 42,750 and up

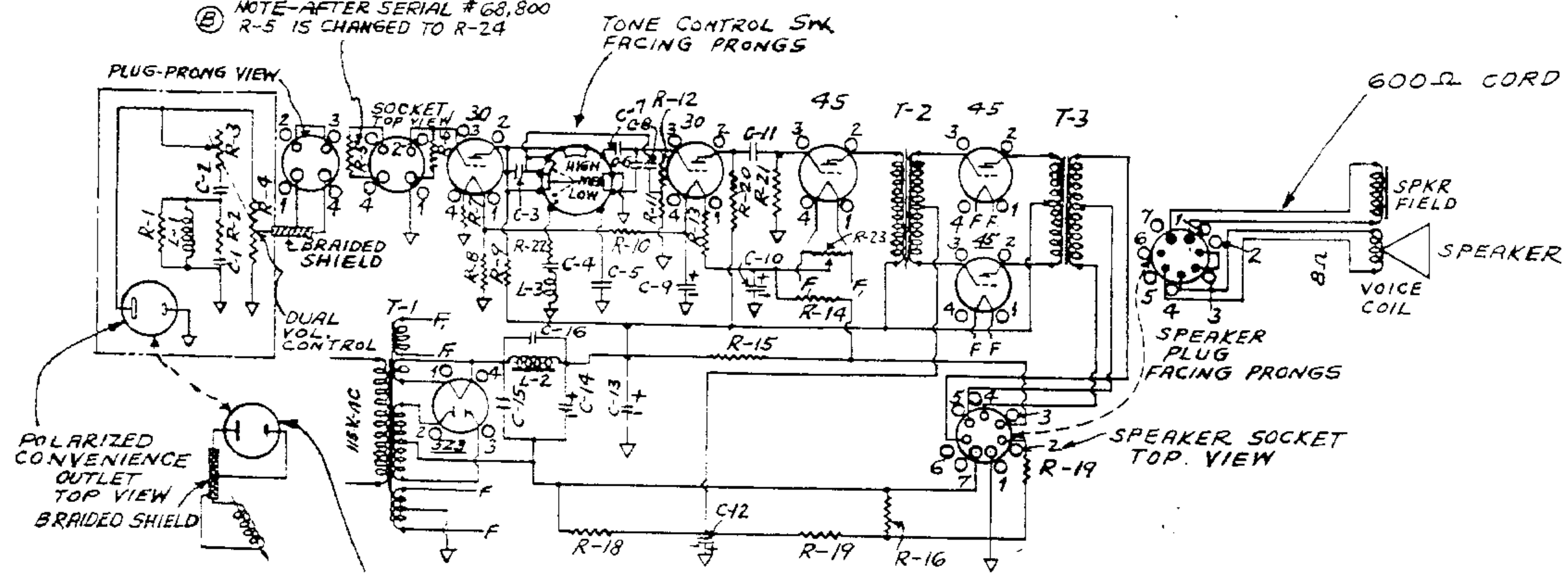
THE RUDOLPH WURLITZER CO.

NOTE: CONDENSER C-13 & RESISTOR R-5 ADDED AFTER SERIAL # 4274



MODEL 312 AND 412  
SERIAL 42000 TO 42750

NOTE-AFTER SERIAL # 68,800  
R-5 IS CHANGED TO R-24



MODEL 312 AND 412 SERIAL 42750 & UP

ITEM	PART NO.	VALUE	REMARKS
RESISTORS			
R-1	20750	500,000 OHMS	-20% 1/4 WATT
R-2	21939	50,000 "	-10% 1/4 "
R-3	21938	100,000 "	-10% 1/4 "
R-5	21200	10,000 "	-10% 1/4 "
R-6	21623	50 "	-10% 1/4 "
R-7		15,000 "	
R-8	21600	1,500,000 "	DUAL V.C. REAR SECT.
R-9	21063	500,000 "	DUAL V.C. PANEL SECT.
R-10	21622	172,000 "	tone CONTROL
R-11	20738	250,000 "	-20% 1/4 WATT
R-12	21621	150 "	-20% 1/4 "
R-15	20445	20 "	-10% 1/2 "
R-16		450 "	HUM CONTROL
R-17		5,000 "	VOLTAGE DIVIDER
R-18	20606	800 "	" "
R-19		2,500 "	" "
R-20		2,000 "	" "
R-22	21938	100,000 "	-10% 1/4 WATT
R-23	21999	800 "	-10% 1/4 "
R-24	21998	35,000 "	-10% 1/4 "
R-25	20787	5,000 "	-10% 1/4 "
R-26	21994	1,200 "	- 5% 1 "
R-27	21988	500 "	-10% R.D.
R-28	21997	50,000 "	-10% 1/2 WATT
R-29	20266	75,000 "	-10% 1/4 WATT
R-30	21987	775 "	- 5% R.D.
R-31	21996	300 "	-10% 1 WATT
R-32	21995	1,250 "	-10% 1 "
R-33	21986	1,575 "	- 5% R.D.
R-34	21998	35,000 "	-10% 1/4 WATT
R-35	22014	30,000 "	-10% 1/4 "
CONDENSERS			
C-1	21737	.03 MFD	-20% 400 VOLTS
C-5	21736	.1 "	-20% 400 "
C-6	21546	16. "	150 "
C-7&	21547	4. "	600 "
C-8		6. "	500 "
C-9	21720	25. "	450 "
C-10	21738	.3 "	-10% 200 "
C-11	20257	.004 "	MICA 10%-20%
C-12	21990	.25 "	-10% 200 VOLTS
C-13	22241	.002 "	MICA 10%-20%
C-14	21989	.5 "	-20% 400 VOLTS
C-15	21993	.05 "	-20% 400 "
C-16	21546	16. "	150 "

TRANSFORMERS			
T-1	21549		POWER
T-2	21548		AUDIO INPUT
T-3	21551		AUDIO OUTPUT
CHOKES			
L-1	21693	WDG 1,500 OHM DC	AIR CORE
L-2	21550	WDG 148 OHM DC	POWER FILTER
L-3	21552	WDG 1,400 OHM DC	DIAS FILTER

VOLTAGES AND CURRENTS OF MODEL #660-AMPLIFIER. ALL MEASUREMENTS MADE WITH LINE VOLTAGE 115-VOLTS. ALL VOLTAGES MEASURED WITH 1000-OHMS PER VOLT VOLTMETER

AVERAGE PLATE VOLTAGE MEASURED FROM PLATE TO FILAMENT:-

OUTPUT	-45	295-VOLTS D.C.
DRIVER	-45	235-VOLTS D.C.
	-30	168-VOLTS D.C.
	1B5	115-VOLTS D.C.

AVERAGE PLATE CURRENT:-

OUTPUT	-45	37.0 M.A. D.C.
DRIVER	-45	27.5 MAA. D.C.
	-30	2.2 M.A. D.C.
	1B5	.7 M.A. D.C.

AVERAGE GRID VOLTAGE MEASURED FROM GRID - TO FILAMENT

OUTPUT	-45	60-VOLTS D.C.
OUTPUT	-45	60-VOLTS D.C.
DRIVER	-45	38-VOLTS D.C.

AVERAGE FILAMENT VOLTAGE:-

OUTPUT	-45	2.5-VOLTS A.C.
OUTPUT	-45	2.5-VOLTS A.C.
DRIVER	-45	2.5-VOLTS A.C.
	-30	2.0-VOLTS D.C.
	-1B5	2.0-VOLTS D.C.

AVERAGE SPEAKER FIELD VOLTAGE. 600-OHMS SPEAKER FIELD VOLTAGE MEASURED FROM #1-CONTACT TO #1-CONTACT ON SPEAKER SOCKET 75-VOLTS. 2,500-OHMS SPEAKER FIELD VOLTAGE MEASURED FROM #3-CONTACT TO #1-CONTACT ON SPEAKER SOCKET 162-VOLTS D.C.

THE RUDOLPH WURLITZER CO.

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MODEL 312,412  
SERIAL 42,000  
to 42,750

ITEM	PART NO.	VALUE	REMARKS
RESISTORS			
R-1	21998	35,000 OHMS	-10% 1/4 WATT
R-2	22783	7,000 "	-10% 1/4 WATT
R-3	22765	12,000 "	DUAL V.C. REAR SECT.
R-4		150,000 "	DUAL V.C. PANEL SECT.
R-5	20266	75,000 "	-10% 1/4 WATT
R-6	20788	250,000 "	-20% 1/4 "
R-7	20755	65 "	-5% 1/4 "
R-8	22523	2,000 "	-5% 1 "
R-9	20728	250,000 "	-20% 1/4 "
R-10	22755	65 "	-5% 1/4 "
R-11	20728	250,000 "	-20% 1/4 "
R-12	21939	50,000 "	-10% 1/4 "
R-13		550 "	VOLTAGE DIVIDER
R-14		3,915 "	" "
R-15	22766	1,385 "	" "
R-16		1,575 "	" "
R-17		2,500 "	" "
R-18	22750	800 "	-10% 1/2 WATT
R-19	21619	2,300 "	-10% 10 "
R-20	21447	50,000 "	-10% 1/2 "
R-21	20855	150,000 "	-10% 1/4 "
R-22	22526	20,000 "	-10% 1/4 "
R-23	20445	20 "	HUM CONTROL
R-24	20855	150,000 "	-10% 1/4 WATT
CONDENSERS			
C-1	22502	.004 MFD	-10% MICA
C-2	20665	.25 "	-10% 200 VOLTS
C-3	22753	.006 "	-10% 400 "
C-4	21993	.05 "	-20% 400 "
C-5	22759	.0001 "	-10% MICA
C-6	22758	.001 "	-10% "
C-7	22241	.002 "	-10% -20% MICA
C-8	21736	.1 "	-20% 400 VOLTS
C-9	22754	12. "	150 WORKING VOLTS
C-10	22754	12. "	150 " "
C-11	21736	.1 "	-20% 400 VOLTS
C-12	22754	12 "	150 WORKING VOLTS
C-13	21720	25 "	450 " "
C-14	22325	6 "	500 " "
C-15		4 "	600 " "
C-16	22774	.2 "	-10% 200 VOLTS

TRANSFORMERS

T-1	21549	POWER
T-2	22764	AUDIO INPUT
T-3	22760	AUDIO OUTPUT

CHOKES

L-1	21693	AIR CORE
L-2	21550	POWER FILTER
L-3	21693	AIR CORE

VOLTAGES AND CURRENTS OF MODEL #661 AMPLIFIER.  
ALL MEASUREMENTS MADE WITH 115-VOLT LINE VOLTAGE.  
ALL VOLTAGES MEASURED WITH 1000-OHM PER VOLT METER.

AVERAGE PLATE VOLTAGE MEASURED FROM PLATE TO FILAMENT -:

OUTPUT	-45	290-VOLTS D.C.
DRIVER	-45	230-VOLTS D.C.
	-30	140-VOLTS D.C.
	-30	80-VOLTS D.C.

AVERAGE PLATE CURRENT:\*

OUTPUT	-45	34.0 M.A.	D.C.
DRIVER	-45	32.0 " "	" "
	-30	3.2 " "	" "
	-30	2.8 " "	" "

AVERAGE GRID VOLTAGE MEASURED FROM GRID - TO FILAMENT

OUTPUT	-45	59-VOLTS D.C.
DRIVER	-45	32-VOLTS D.C.

AVERAGE FILAMENT VOLTAGE:-

RECTIFIER	-5Z3	5.0-VOLTS A.C.
OUTPUT	-45	2.5-VOLTS A.C.
DRIVER	-45	2.5-VOLTS A.C.
	-30	2.0-VOLTS D.C.

600-OHM SPEAKER FIELD VOLTAGE MEASURED FROM #1 CONTACT TO #7 CONTACT ON SPEAKER SOCKET, 78 VOLTS D.C.  
2500-OHM AUXILIARY SPEAKER FIELD VOLTAGE MEASURED FROM #1 CONTACT TO #3 CONTACT ON SPEAKER SOCKET, 162 VOLTS D.C.