

SPARTON RADIO

THE SPARKS-WITHINGTON COMPANY

CHASSIS TYPE 4E3

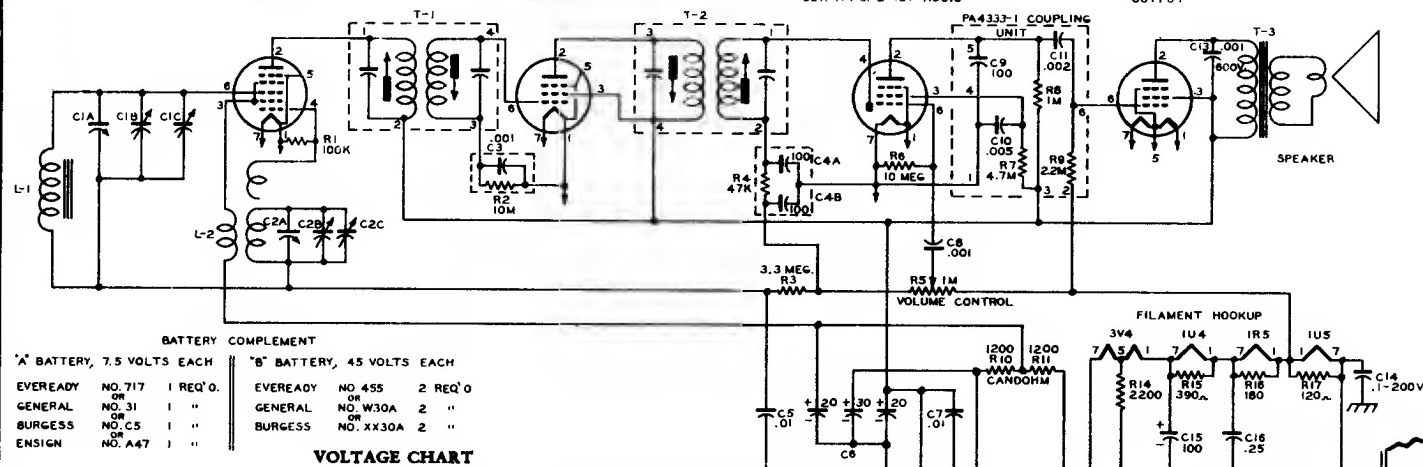
MODELS 301, 305 & 309

1R5
OSC. CONV.

1U4
I.F. AMP

1U5
DET. A.V.C. & 1ST AUDIO

3V4
OUTPUT



BATTERY COMPLEMENT

'A' BATTERY, 7.5 VOLTS EACH

'B' BATTERY, 45 VOLTS EACH

EVEREADY NO. 717 1 REQ'D.
GENERAL NO. 31 1 "
BURGESS NO. C5 1 "
ENSIGN NO. A47 1 "

EVEREADY NO. 455 2 REQ'D.
GENERAL NO. W30A 2 "
BURGESS NO. X30A 2 "
OR NO. A47 1 "

VOLTAGE CHART

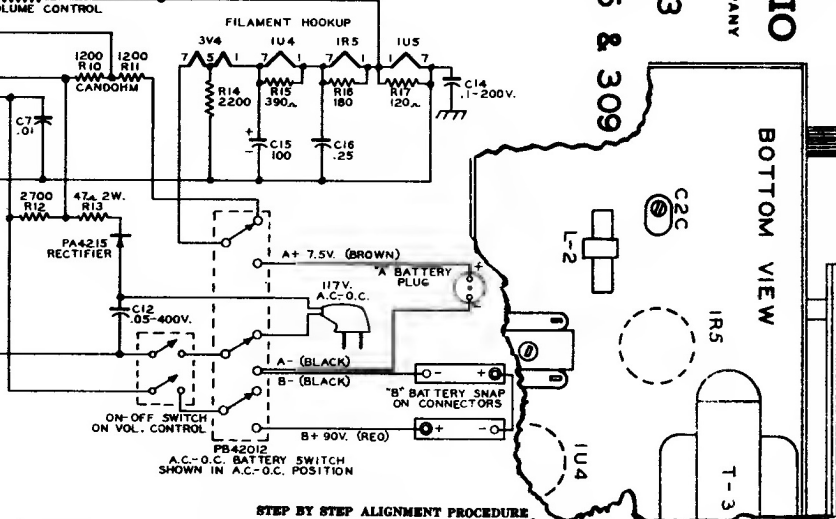
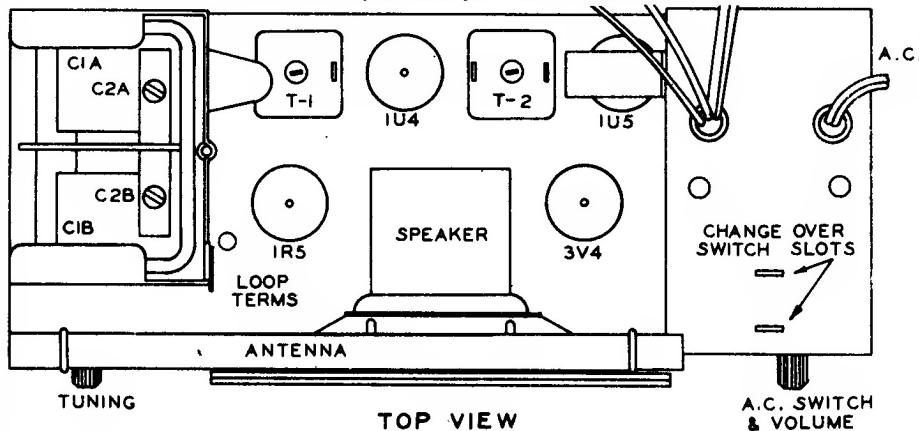
Line Voltage: 117 Volts AC

Position of volume control: Full with set tuned to quiet channel.

TUBE	FUNCTION	Voltage of Sockets Prongs to -B See Prong Nos. on schematic.						
		No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7
1R5	Osc. Converter	1.37	93	60	**	1.37	0	2.7
1U4	I.F. Amplifier	2.7	93	93	0	2.7	0	4.1
1U5	Det. A.V.C. & 1st Audio	1.37	15	11.5	0	0	0	0
3V4	Output	4.1	93	93	0	5.9	0	7.5

All DC measurements made with 20,000 ohms per volt voltmeter. All AC voltages made with rectifier type voltmeter.

** Cannot be measured with 20,000 Ohms per volt voltmeter.



STEP BY STEP ALIGNMENT PROCEDURE

OPERATION	ALIGNMENT OF	GENERATOR CONNECTED TO	DUMMY ANTENNA	GENERATOR FREQUENCY	TUNING COND. SETTING	TRIMMER	REMARKS
1.	I.F.	Pin #6 1R5 Tube	.1 Mfd. Cond.	456 KC.	Open	Slug T-2 Top & Bottom	Peak accurately
						Slug T-1 Top & Bottom	Peak accurately
2.	Osc.	Separate Loop	*	1620 KC.	Open	C2B Osc.Tr.	Peak accurately
3.	R.F.		*	1500 KC.	1500 KC.	C2A Ant.Tr.	Peak accurately
4.	Repeat Operation #3.						
5.	Check calibration at 600 KC., 1000 KC. and 1500 KC.						
6.	Check Operations #1 to #6 inclusive.						

* Use driver loop. The generator must be connected to the dummy loop antenna and not to the loop of the receiver for R.F. alignments. Trimmer C2C as shown on schematic is preset at factory and only on certain conditions will have to be moved. However, should it become necessary to adjust this trimmer on the bottom of the gang a cutout in the chassis base has been provided.