PHOTOFACT* Folder

*TRADE MARK

ARVIN MODELS 241P, 244P, 2410P (Ch. RE-244, RE-254, RE-255, RE-256, RE-259) BATTERY-LINE OPERATED

ARVIN MODELS 241P, 244P, 2410P (Ch. RE-244, RE-254, RE-255, RE-256, RE-259) BATTERY-LINE OPERATED

ARVIN MODELS 241P, 244P, 2410P (Ch. RE-244, RE-254, RE-255, RE-256, RE-259) BATTERY-LINE OPERATED

ARVIN MODEL 2410P

TRADE NAME	Arvin, Models 241P, 244P, 2410P (Ch. RE-244, RE-254, RE-256, RE-259)
MANUFACTURER	Noblitt-Sparks Industries, Columbus, Indiana
TYPE SET	Three Power Operated Portable Superheterodyne Receiver with Loop Antenna
TUBES (FOUR)	Types, 1R5 Converter, 1U4 IF Amp., 1S5 Det.-AVC-AF, 1LB4 Power Output
POWER SUPPLY	110-120 Volts AC-DC or 6 Volts "A" Supply and 67.5 Volts "B" Supply
RATING	.1 Amp. @ 117 Volts AC or 55 MA @ 6 Volts DC and 7.5MA @ 67.5 Volts DC
TUNING RANGE—BROADCAST	540-1600KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

There are reference holes on dial backplate. These are in order from top to bottom; low freq. end limit, 600KC, 1400KC and high freq. end limit. To set dial pointer turn tuning cap. fully closed and set top edge of dial pointer across center of low freq. calibration hole.

Use battery power when available. If AC power is used, use an isolation transformer when available. If not, connect a .1 MFD capacitor in series with low side of the signal generator and B-.

Loop should be maintained in same relative position to chassis as when receiver is in cabinet.

Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.05 MFD	High side to large stator of tuning cap. Low side to B-.	455KC	Tuning cap. fully open.	Across voice coil	A1,A2, A3,A4	Adjust for maximum output. If AC power is used without an isolation transformer reduce dummy ant. to 200 MMFD to reduce hum modulation.
2		Loop	1400KC	1400KC reference hole.	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3		"	"	Tune for maximum output.	"	A6	Adjust for maximum output.
4		"	600KC	"	"	A7	If sensitivity is weak bend plates of tuning cap. for maximum output. Repeat Steps 2, 3 and 4 until no further improvement can be made.

HOWARD W. SAMS & CO., INC. • 2924 East Washington Street • Indianapolis 7, Indiana

PARTS LIST AND DESCRIPTIONS

ARVIN
MODEL 2410P

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		ARVIN PART No.	STANDARD REPLACEMENT		
1	Converter	1R5	1R5	7AT	
2	IF Amp.	1U4	1U4	6AR	
3	Det.-AVC-AF	1S5	1S5	6AU	
4	Power Output	1LB4	1LB4	5AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	ARVIN PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	SOLAR PART No.	SPRAGUE PART No.	
5A	20	150	A21815	AF84D20A	UP4CJ65	DY-304	EL-351	▲ Filter
B	40	150						◪ "
C	100	10						Fil. Bypass
6	.05	400	C20068-503	484-05	DT4S5	ST-4-05	TC-15	Line Filter
7	.05	400	C20068-503	484-05	DT4S5	ST-4-05	72P1	Line Isolation
8	.002	600	C20069-202	684-002	DT6D2	ST-6-002	TC-22	Output Plate Bypass
9	.002	600	C20069-202	684-002	DT6D2	ST-6-002	TC-22	Audio Coupling
10	.002	600	C20069-202	684-002	DT6D2	ST-6-002	TC-22	" "
11	.01	400	C20068-103	484-01	DT4S1	ST-4-01	TC-11	AF Screen Bypass
12	.05	200	C20067-503	484-05	DT2S5	ST-4-05	TC-15	Fil. Bypass
13	.05	200	C20067-503	484-05	DT2S5	ST-4-05	TC-15	RF Bypass Pwr. Supply
14	.05	200	C20067-503	484-05	DT2S5	ST-4-05	TC-15	AVC Filter
15	.01	400	C20068-103	484-01	DT4S1	ST-4-01	TC-11	Converter Screen Bypass
16	.05	200	C20067-503	484-05	DT4S5	ST-4-05	TC-15	Converter Fil. Bypass
17	100	500	C20065-101	1468-0001	5W5T1	MO.5-31	1FM-31	AF Plate Bypass
18	100	500	C20065-101	1468-0001	5W5T1	MO.5-31	1FM-31	Diode RF Filter
19	250	500	C20065-251	1468-00025	5W5T25	MO.5-325	1FM-325	IF Grid Filter
20	100	500	C20065-101	1468-0001	5W5T1	MO.5-31	1FM-31	Osc. Grid Cap.
21	100	500	C20065-101	1468-0001	5W5T1	MO.5-31	1FM-31	RF Bypass

CONTROLS

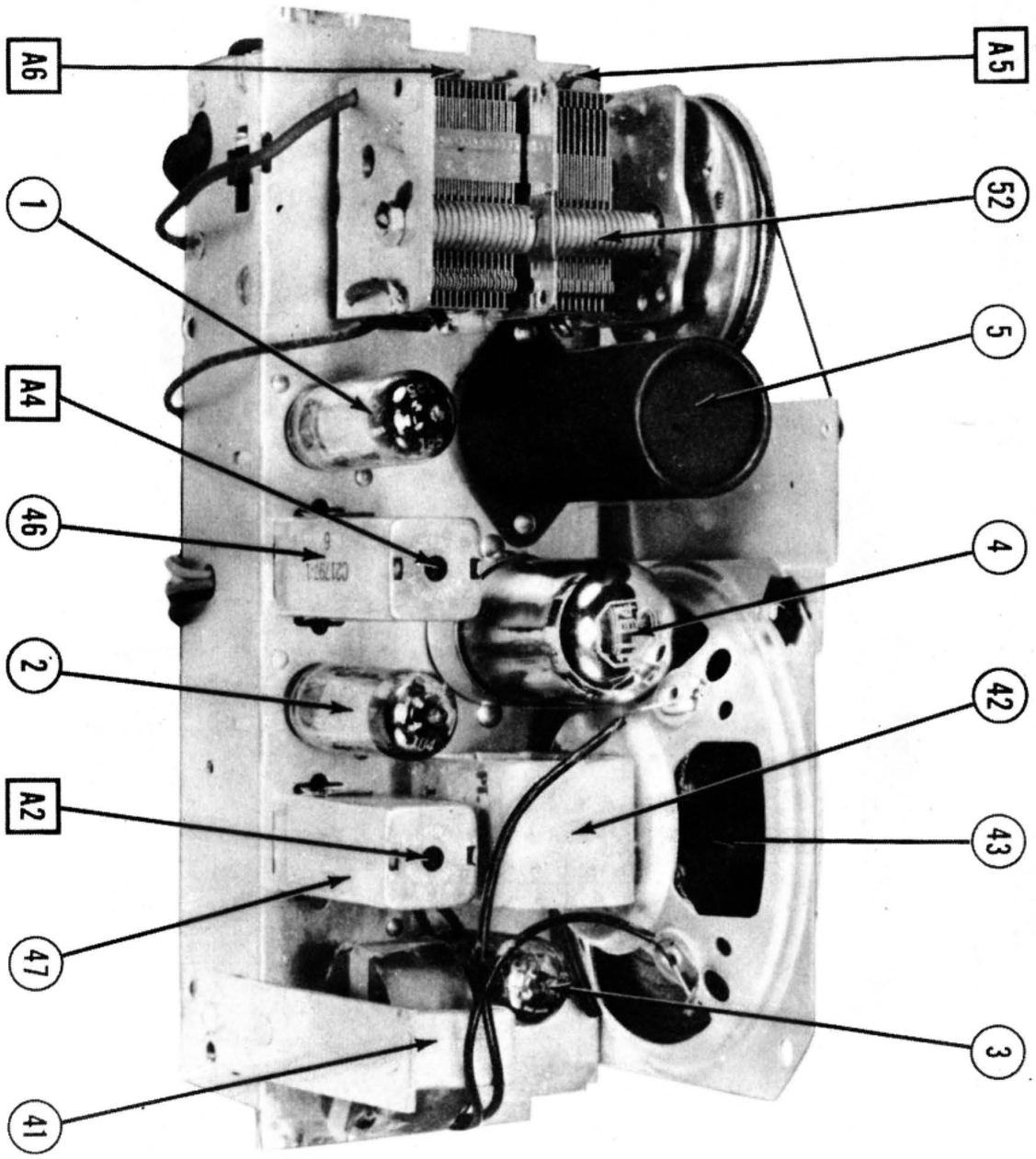
ITEM No.	RATING		REPLACEMENT DATA			INSTALLATION NOTES
	RESIST-ANCE	WATTS	ARVIN PART No.	IRC PART No.	CLAROSTAT PART No.	
22A	1 Meg.	½	C21782	D13-137	AM-63-Z	Volume Control
B	Shaft		Not Req.	E	KSS-3	Attach to 22A per instructions
C	Switch		" "	42	SW-A2	" " " " "

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	ARVIN PART No.	IRC PART No.	
23	100KΩ	½	C-20060-104	BTS-100K	Br.-Blk.-Yl. Osc. Grid
24	470Ω	½	C-20060-471	BTS-470	Yl.-Vi.-Br. Filament String
25	6800Ω	½	C-20060-682	BTS-6800	Blue-Gray-Red Conv. Screen
26	3.3 Meg.	½	C-20060-335	BTS-3.3 Meg.	Or.-Or.-Grn. IF Grid
27	3.3 Meg.	½	C-20060-335	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
28	4.7 Meg.	½	C-20060-475	BTS-4.7 Meg.	Yl.-Vi.-Grn. Bias
29	10 Meg.	½	C-20060-106	BTS-10 Meg.	Br.-Blk.-Blue AF Grid
30	4.7 Meg.	½	C-20060-475	BTS-4.7 Meg.	Yl.-Vi.-Grn. AF Screen
31	680KΩ	½	C-20060-684	BTS-680K	Blue-Gray-Yl. AF Plate Load
32	4.7 Meg.	½	C-20060-475	BTS-4.7 Meg.	Yl.-Vi.-Grn. Output Grid
33	10 Meg.	½	C-20060-106	BTS-10 Meg.	Br.-Blk.-Blue Feedback-See Note
34	680Ω	½	C-20060-681	BTS-680	Blue-Gray-Br. Fil. String
35	820KΩ	½	C-20060-824	BTS-820K	Gray-Red-Br. Bias
36	1850Ω	10	A21816	ABA-2000	Fil. Dropping
37	2200Ω	½	C-20060-222	BTS-2200	Red-Red-Red Fil. Bleeder
38	1800Ω	1	C-20070-182	BTA-1800	Br.-Gray-Red Filter
39	68Ω	2	C-20060-680	BW-½-68	Blue-Gray-Blk. Surge Limiter
40	100Ω	1	C-20070-101	BW-1-100	Br.-Blk.-Br. Rect. Ballast

Note-Used only in early production.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		ARVIN PART No.	STANCOR PART No.	THORDAR'N PART No.	MERIT PART No.	
	PRI.	SEC.	PRI.	SEC.					
41	12KΩ	3.3Ω	280Ω	.3Ω	AC-21799-1		T22S48‡	A-2999‡	‡Drill one new mounting hole.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			ARVIN PART No.	JENSEN PART No.	QUAM PART No.	
42	FIELD PM	VC IMP. 3.3Ω	C21768	ST-113* Mod. P4-X	4A15*	*Drill one new mounting hole.
43	CONE DIA. 4"	VC DIA. 9/16"				

R F COILS

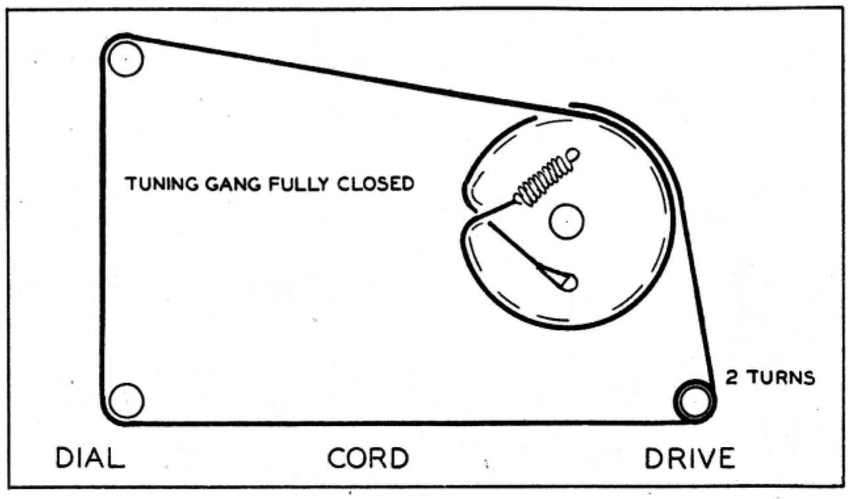
ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	ARVIN PART No.	MEISSNER PART No.	
44	Loop Ant.		1.5Ω	AC21795		Specify cabinet color when ordering
45	Osc. Coil	1.7Ω	7.2Ω	AC21796-1	14-1060	
46	Input IF	25.3Ω	25.3Ω	C21797-1	16-6668	
47	Output IF	25.3Ω	24.2Ω	C27797-2	16-6669	

BATTERIES

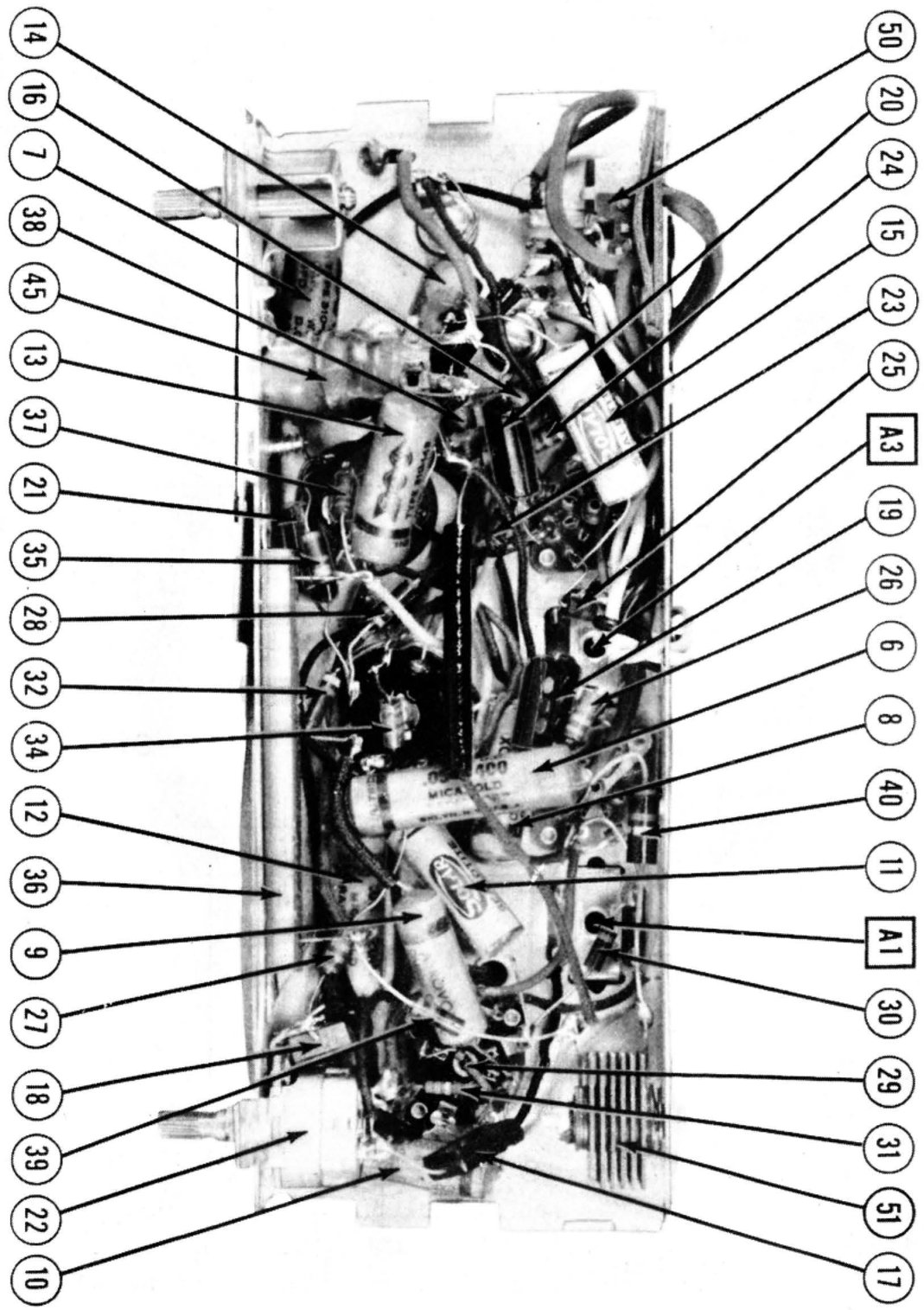
ITEM No.	VOLTAGE	ARVIN PART No.	REPLACEMENT DATA						INSTALLATION NOTES
			EVEREADY			BURGESS			
			"A"	"B"	"A-B"	"A"	"B"	"A-B"	
48	6V "A"		950			2R			4 Used in series
49	67.5V"B"			467			XX45		

MISCELLANEOUS

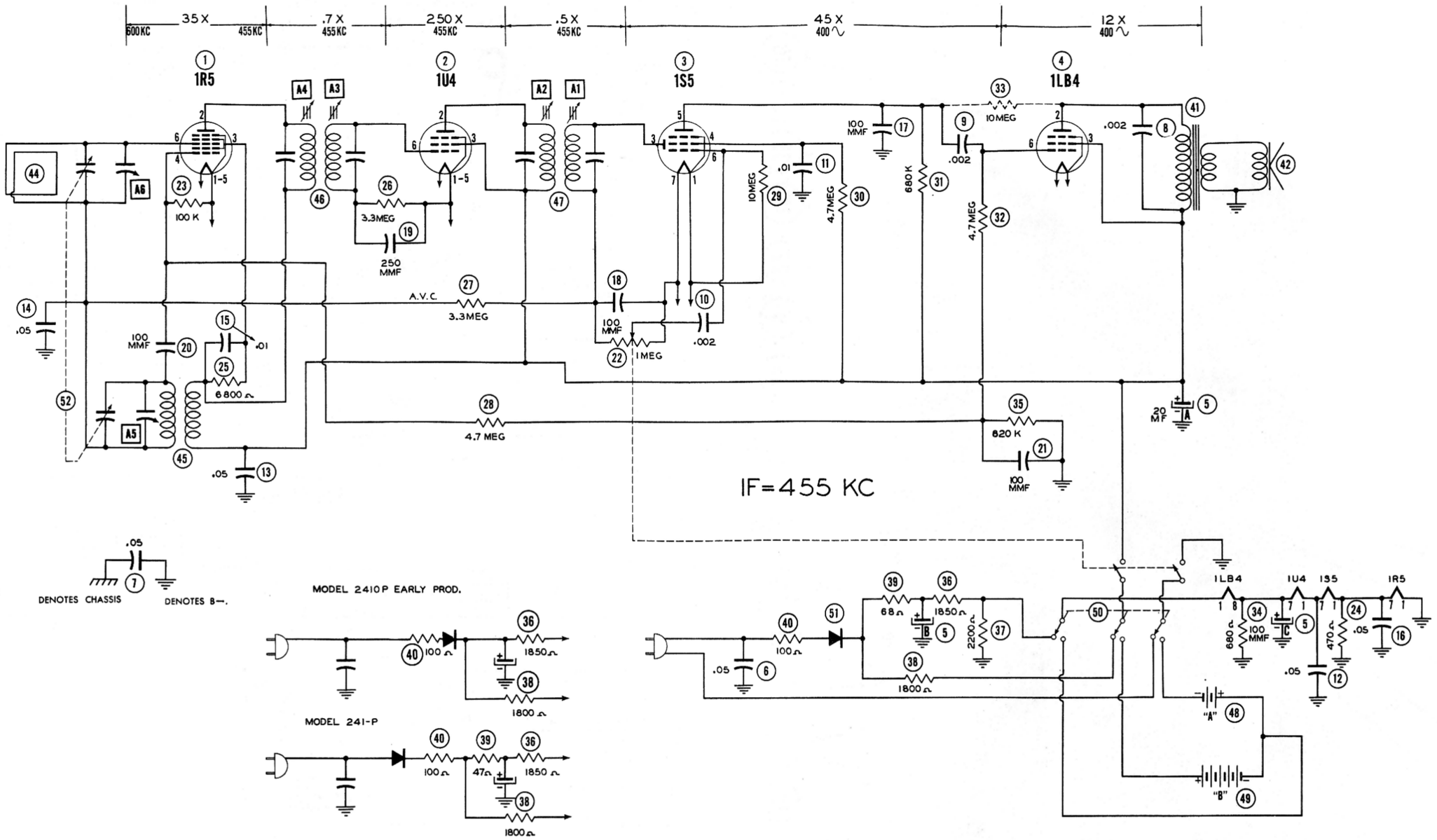
ITEM No.	PART NAME	ARVIN PART No.	NOTES
50	Switch	A21051	AC/DC-Batt.
51	Rectifier	A20207-1	Selenium (75MA)
52	2 Gang Var. Cap.	C19822	(31-496MMF, 27-191MMF)
	Knob	A21764	(Specify Model & Color)
	Dial Pointer	A21783	" " " "



CHASSIS—BOTTOM VIEW



ARVIN MODEL 2410P



VOLTAGE AND RESISTANCE READINGS TAKEN IN AC-DC POSITION.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	1R5	0V.	80VDC	60VDC	-16VDC§	0V.	0V.	1.4VDC	-
2	1U4	2.8VDC	80VDC	80VDC	117VAC	2.8VDC	.2VDC	4.2VDC	-
3	1S5	1.4VDC	0V.	.4VDC	3.8VDC	25VDC	0V.	2.8VDC	-
4	1LB4	5.6VDC	80VDC	80VDC	0V.	0v.	-.1VDC	-.4VDC	4.2VDC

§TAKEN WITH VACUUM TUBE VOLTMETER.

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	1R5	0Ω	4KΩ	4.7KΩ	100KΩ	0Ω	4.3 Meg.	*	-
2	1U4	*	4KΩ	4KΩ	1.3 Meg.	*	3.3 Meg.	*	-
3	1S5	*	INF.	1 Meg.	4.7 Meg.	680KΩ	10 Meg.	*	-
4	1LB4	*	4KΩ	4KΩ	5 Meg.	0Ω	5.5 Meg.	5 Meg.	*

*DO NOT USE OHMMETER TO MEASURE FILAMENT RESISTANCE.

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

FACT STANDARD NOTATION SCHEMATIC

4817-3

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative by shorting AVC to Pin 7 of 1S5.

1 - DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volts.
2 - Socket connections are shown as bottom views.
3 - Measured values are from socket pin to common negative.
4 - Line voltage maintained at 117 volts for voltage readings.
5 - Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
6 - Volume control at maximum, no signal applied for voltage measurements.