

Model 442

Battery Operated Portable Radio Receiver



Specifications

Frequency Range:

540 to 1525 kilocycles

I.F.:

470 kilocycles

Tubes:

Type	Position
1A7G	1st Det. and Osc.
1N5G	I.F.
1H5G	2nd Detector
1C5G	Output

Batteries Required:

(Portable) "A": 1 or 2 #6 dry cells or alternative of new type 1.4 V. dry batteries such as E.R. #742; Burgess #4FAP or #4FH; General #4VF.

"B": 2 batteries 45 volt such as E.R. #762; Burgess #5308; General #V30B.

(Fixed) "A": Same as for portable with additional alternatives of E.R. #A-1300 Aircell or the Burgess #1018 heavy duty dry battery; or one section of six volt storage battery (see note).

"B": 2 batteries, 45 volt, such as E.R. #385; Burgess #2308; General #3041.

Important Note:

See Schematic (overleaf) for location resistor (3.0 ohms) to be connected in positive "A" lead when using one section six volt storage battery.

Current Consumption:

"A" 250 mils.

"B" 10.5 mils.

Power Output:

180 milliwatts

A.V.C.:

On Type 1A7G 1st Detector

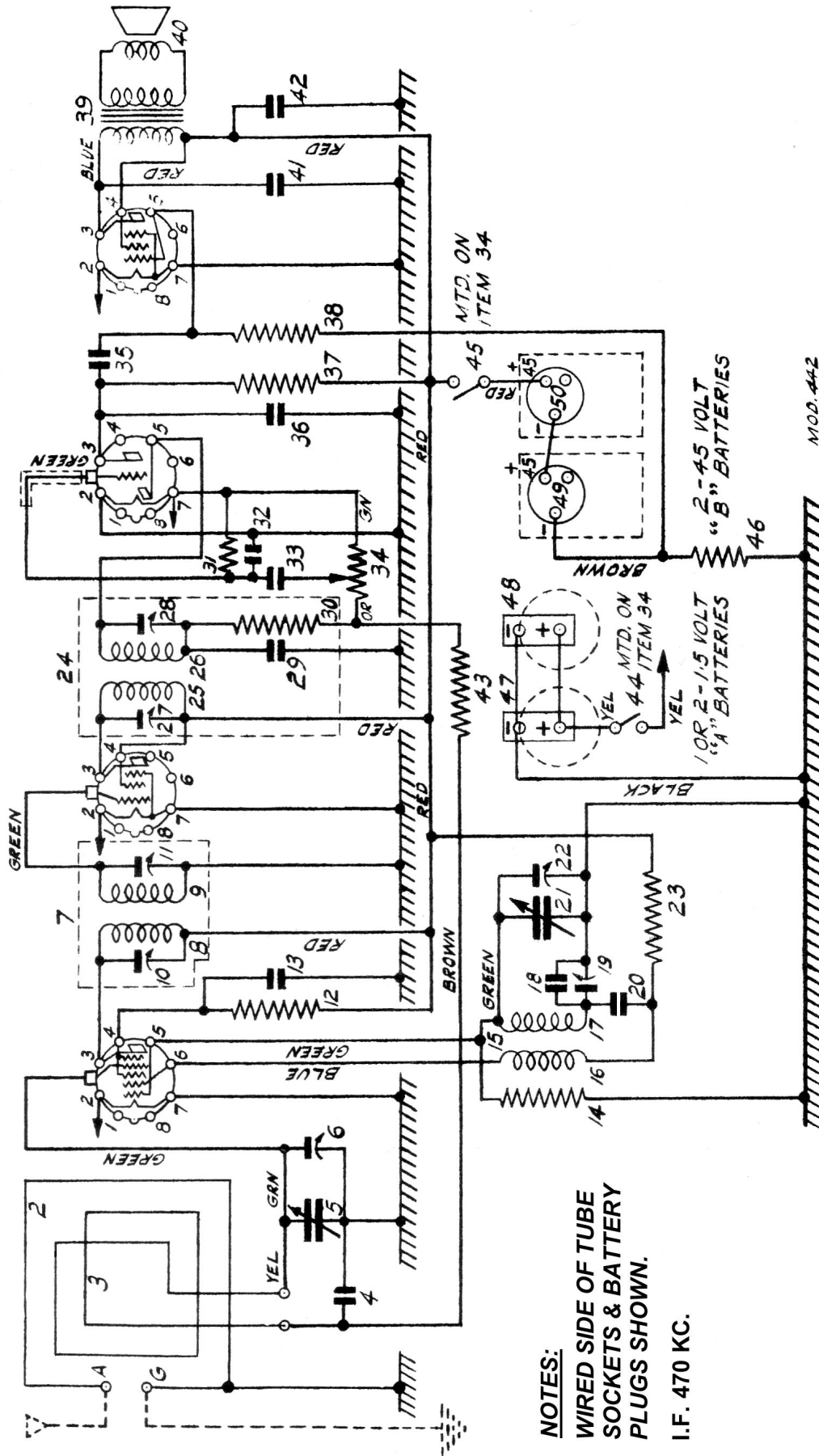
Antenna:

Built-in loop with provision for external antenna and ground.

General:

Back removable for battery replacement; trimmers accessible by tipping set; long battery cable provided for use of heavy-duty batteries if desired.

1A7G CONVERTER 1N5G 1.-F. AMPLIFIER IH5G 2ND DETECTOR A.V.C. & 1ST A.-F. AMPLIFIER IC5G OUTPUT AMPLIFIER



NOTES:
WIRED SIDE OF TUBE
SOCKETS & BATTERY
PLUGS SHOWN.
I.F. 470 KC.

Schematic Diagram - Model 442 Receiver

MODEL 442 RADIO RECEIVER

REPLACEMENT PARTS LIST

Item	Description	Part No.	Item	Description	Part No.
1-3	Loop (2 Pri., 3 Sec.)	K-4699	39	Output Transformer	K-3873-4
4	Capacitor .05 mf. 200 V.	K-2227-8	40	Voice coil (& diaphragm)	K-4593
5	Gang, Ant. Section 441.7 mmf	K-4740	41	Capacitor .005 mf. 400 V)	K-2228-5
6	Trimmer 1.5-10 mmf.	K-4793-2	42	D.E. 16 mf.150 volt	K-4698-1
7-11	1st I-F Assy. (Complete)	K-4738	43	Resistor 2 meg.	K-2226-1
	(Coils K-4739; Trimmer K-2134-1)		44-45	Battery switch(part item 34)	K-4754
12	Resistor, 75,000 ohms	K-2226-27	46	Resistor 800 ohms	K-2226-76
13	Capacitor .1 mf. 200 volt	K-2227-9	47-48	"A" Battery Plugs	K-4781
14	Resistor, 200,000 ohms	K-2226-67	49-50	"B" Battery Plugs	K-4780
15-17	Oscillator coil complete	K-4697		<u>Miscellaneous</u>	
	(16 Plate; 17 Grid)			Sockets	K-1924-1
18	Capacitor 400 mmf. Mica	K-1611-24		Tube Shield	K-4759-1
19	Trimmer; 45-115 mmf.	K-3860-4		Tube Shield Cap	K-4759-2
20	Capacitor .002 mf. 200 volt	K-2227-1		Tube Shield Grid Clip	K-4759-3
21	Gang.Osc.section 441.7 mmf.	K-4740		Dial pulley & disc	K-4766
22	Trimmer; 10-55 mmf.	K-4793-1		Dial Cord	K-4636
23	Resistor, 10,000 ohms	K-2226-10		Dial Cord Spring	K-4487
24-30	2nd. I-F Assy. (Complete)	K-4545		Dial Scale	K-4773
	(Coils K-4548, Trimmer K-2932-1			Grid Clip	K-3030-2
	Includ.100 mmf.Item 29 & 50,000 ohm.Res.			A & G Term. Strip	K-3749-1
	K-2226-10 Item 30)			Portable cabinet	K-4702
31	Resistor 10 meg	K-2226-24		Knob, plain	K-4762-1
32	Capacitor 100 mmf. mica	K-1611-2		Knob, indicating	K-4762-2
33	Capacitor .01 mf.200 volt	K-2227-6		Felt washer	K-2491-4
34	Volume control 1/2 meg.	K-4754		B Battery Plug	K-4780
35	Capacitor .01 mf.200 volt	K-2227-6		A Battery Plug	K-4781
36	Capacitor 100 mmf. mica	K-1611-2		Chassis screws 3-5/8"	K-1687-29
37	Resistor 1.0 meg.	K-2226-2		Chassis spacer	K-2931-19
38	Resistor 2.0 meg.	K-2226-1		Loudspeaker (less 0.7)	

REALIGNING DETAILS

I.F.-- With .1 mf. capacitor in generator lead, set to 470 K.C. Connect input to type 1A7G converter grid and adjust I-F trimmers, items 10, 11, 27 and 28.

R.F.-- (a) With gang closed, red indicators at each side of dial should be parallel with two horizontal lines at centre of dial.

(Important) - When aligning for portable use, see that cabinet side containing loop is in place and securely fastened.

(b) Do not connect generator lead direct to receiver. Using "null" position (turning receiver until weakest point of signal generator radiation is heard) and with generator at 1300 K.C., align items 22 and 6. Set generator to 600 K.C. and align item 19 rocking gang at the same time.

(c) Recheck at 1300 K.C., rocking gang while readjusting item 6.

NOTE: When making R-F alignment for this model, where external heavy batteries and an antenna and ground connection are to be used, it is not necessary that the antenna side be closed. The loop is permanently connected to the A and G terminals, for in this manner it constitutes the antenna R-F transformer.

SOCKET VOLTAGES

Filaments	1.4	1N5G - 1C5G Screens)	84
1A7G Grid	1.6	1A7G - 1N5G Plates)	
1C5G Grid	7.8	1H5G - Plate	6
Oscillator Anode	70	1C5G - Plate	80
1A7G Screen	31		

D.C. RESISTANCE OF COILS

Output transformer primary	- 570 ohms
Output transformer secondary	- Less than 0.5
First I-F Primary	- 16.0
First I-F Secondary	- 16.0
Second I-F Primary	- 16.0
Second I-F Secondary	- 16.0
Oscillator Coil Primary	- 1.0
Oscillator Coil Secondary	- 6.75