

TECHNICAL INFORMATION

BULLETIN No. 130.

(TYPE)

"CROMWELL" MODEL 6-L.S.E. RECEIVER. 13 Feb. 1940

RECEIVER

COLLIER & BEALE LTD.

WELLINGTON

6255

COMPONENT LEGEND FOR "CROMWELL" MODEL 6-LSE RECEIVER.

(Refer Blue-Print No. 285 attached)

CONDENSERS:

C-1	25-mfd.	Decoupling Condenser (1st audio amplifier)
2)	8 "	Filter Condensers (power supply)
3)		
4)		
5	.25 "	R.F. By-pass (H.T. supply)
6	.25 "	Decoupling condenser (1st audio stage)
7	.25 "	Screen By-pass (R.F. stages)
8	.1 "	Cathode By-pass (I.F. stages)
9	.1 "	Screen by-pass (1st audio stage)
10	.1 "	Cathode by-pass (R.F. stage)
11	.05 "	Bias filter output stage
12	.05 "	A.V.C. Filter
13	.01 "	" "
14	.01 "	Audio Coupling Condenser (1st stage)
15	.01 "	" " " (2nd ")
16	.004 "	H.T. by-pass (oscillator supply)
17	.001 "	Fixed Padding Condenser (H.F. band)
18	.00025"	High-frequency Audio Filter (output stage)
19	.0001 "	Tone Control Condenser (output stage)
20	.0001 "	High-frequency Filter (1st audio stage)
21	.0001 "	Diode load by-pass
22	2,000-mmfd.	Oscillator grid condenser
23	550 "	Variable padding condenser (H.F. band)
T-1 to)		Variable padding condenser (B.C. band)
T-6.)		H.T. Alignment Trimming
		Capacitors.

RESISTORS:

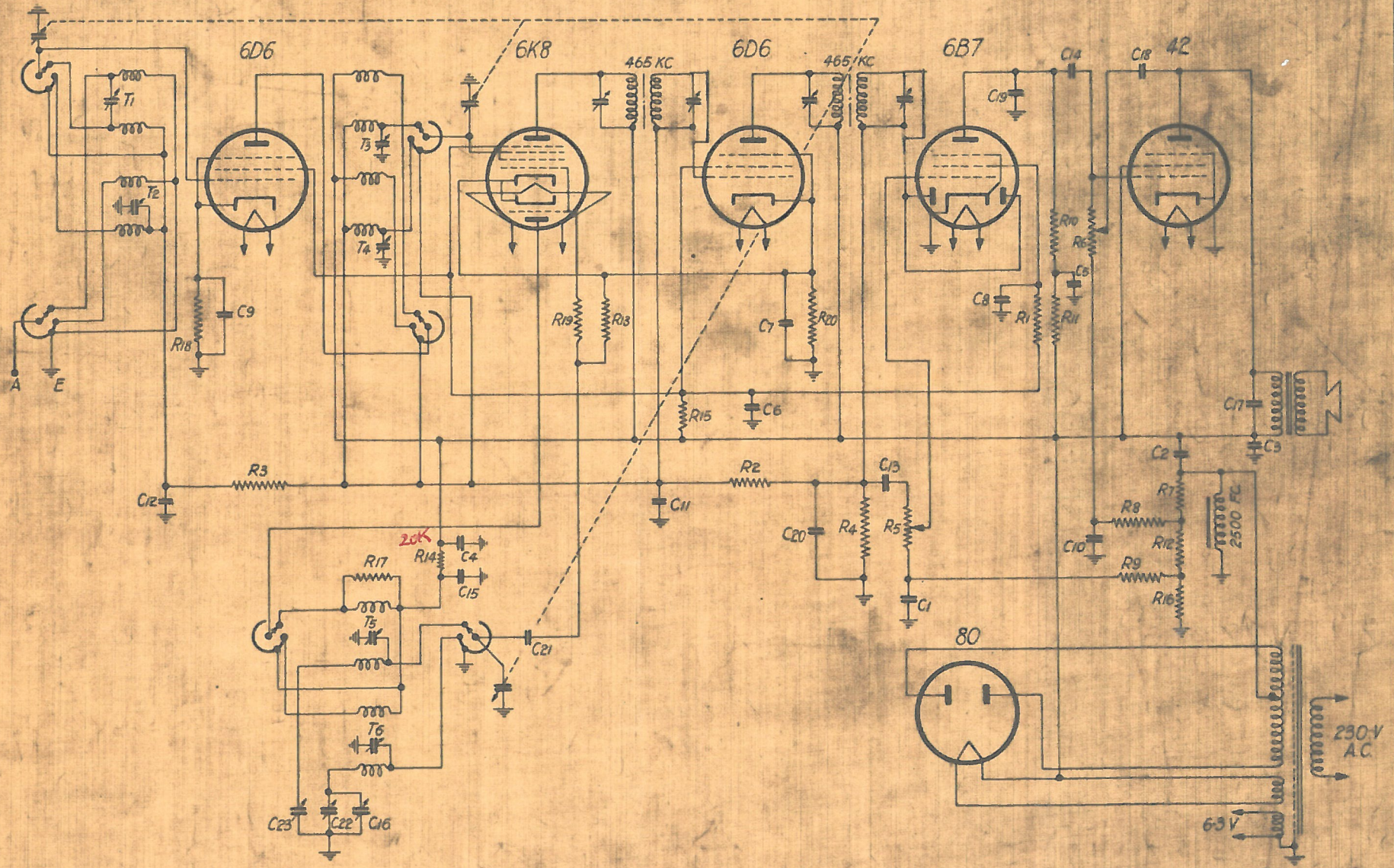
R-1	1-megohm	Screen Dropping Resistor (1st audio stage)
2	1 "	A.V.C. Filter
3	.5 "	" "
4	.5 "	Diode load
5	.5 "	Volume Control
6	.5 "	Tone Control
7	.5 "	Bias Potentiometer (section)
8	.5 "	Bias filter (output stage)
9	.5 "	Bias filter (1st audio stage)
10	.25 "	Plate load resistor (1st audio stage)
11	100,000-ohm.	Decoupling resistor (1st audio stage)
12	65,000 "	Bias potentiometer (section)
13	50,000 "	Oscillator grid leak
S-14	20,000-ohm.	Oscillator Plate Dropping Resistor
15	15,000 "	Screen Dropping Resistor
16	10,000 "	Bias Potentiometer (section)
17	1,000 "	Feed-back Equalising resistor (broadcast band)
18	600 "	Cathode Bias Resistor (1st I.F. stage)
19	200 "	Grid Suppressor (oscillator stage)
20	150 "	Cathode Bias Resistor (R.F. & I.F. stages)

COLLIER & BEALE LIMITED,
66 GUYENNE STREET,
WELLINGTON, C. Z.
13th February, 1940

SCHEMATIC DIAGRAM OF MODEL 6L5E RECEIVER

1938
P. 140

(940)



Does E understand Cap?

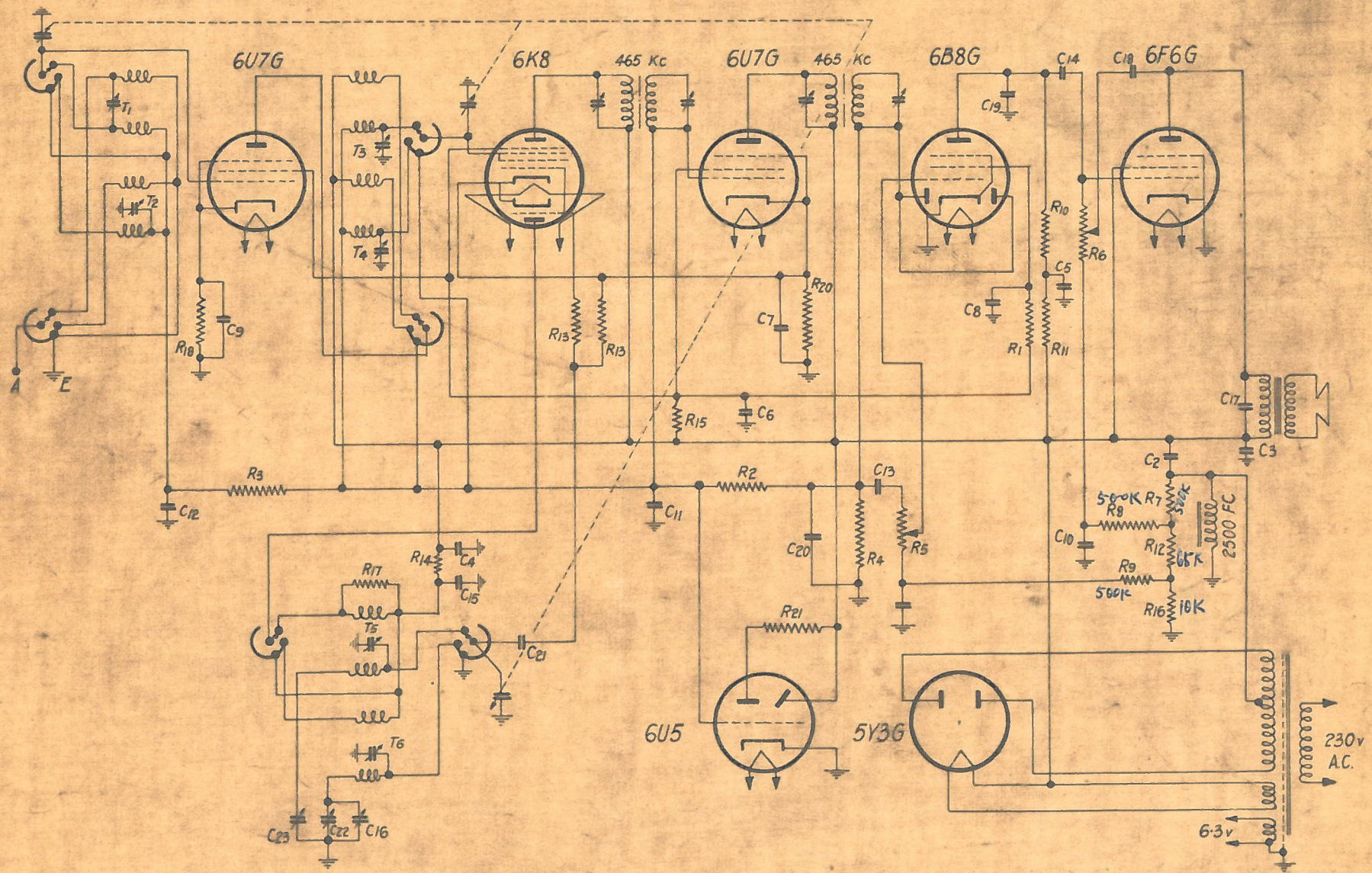
DWG No 285

Feb 1940

MODEL 6L.S.E. RECEIVER
SCHEMATIC DIAGRAM

(octal-based tubes)
& magnifying

1938-39
? 1440



IF. 465 Kc/s

DWG. N° 288A

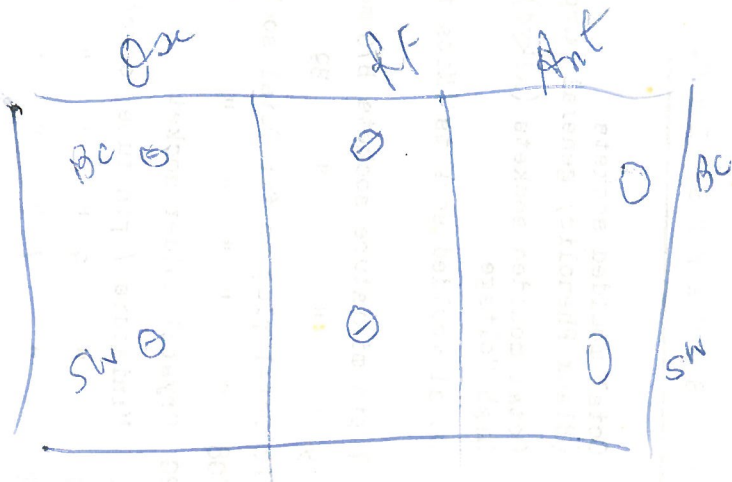
COMPONENT DATA ON TYPE 6 L.S. RECEIVER.

Series 1

Condensers.

C. 1	S.W. Aerial Coupling Condenser	30 - 50 mmfd
C. 2	R.F. Section S.W. Trimmer	30 - 50 mmfd.
C. 3	Interstage S.W. Trimmer	30 - 50 mmfd
C. 4	Oscillator S.W. Trimmer	30 - 50 mmfd
C. 5) C. 6) C. 7)	3 gang Tuning Condenser	.00037 mfd.
C. 8) C. 10)	S.W. Padding Condenser	
C. 9	Broadcast Padding Condenser	
C. 11	2B7 R.F. Plate Filter	.00025 mfd.
C. 12	Diode Load by-pass	.00025 mfd.
C. 13	A.V.C. Filter	.01 - .02 mfd.
C. 14	R.F. Cathode by-pass	.1 mfd.
C. 15	Main H.T. to ground	.1 mfd.
C. 16	Oscillator and 1st Detector Cathode by-pass	.25 mfd.
C. 18	Screens to ground	.25 mfd.
C. 19	A.V.C. Filter	.01 - .02 mfd.
C. 20	2B7 Screen by-pass	.05 mfd.
C. 21	2B7 Audio Plate Filter	.25 mfd.
C. 22	Grid Bias Filter	.1 mfd
C. 23	Tone Control	.05 mfd.
C. 24	Coupling Condenser	.01 mfd.
C. 26	Oscillator grid condenser	.00025 mfd.
C. 27	Dry Electrolytic Condenser	8 mfd.
C. 28	Wet Electrolytic Condenser	8 mfd.

OLs
dual zone



BC
ped ⊙
SW
ped ⊙

⊙ ← special
SW.
aerial trimmer

(2.5V value)

6LS series 1 (3-7-34)

(2)

Resistances.

- R. 1 .5 Megohm A.V.C. Bias Filter
- R. 2 600 ohm R.F. Bias Resistance
- R. 3 15,000 ohms)
- R. 4 15,000 ohms) Screen voltage Potentiometer
- R. 5 75 - 100,000 ohm Grid Leak.
- R. 6 300 ohm Bias Resistance.
- R. 7 1 megohm A.V.C. Bias Filter
- R. 8 1 megohm 2B7 Screen Resistance
- R. 9 Audio Plate Filter .1 megohm
- R. 10 .25 megohm 2B7 Plate Load resistance
- R. 11 1 megohm Grid Leak
- R. 12 .5 megohm Grid Bias Filter
- R. 13 75,000 ohm Grid Bias Potentiometer
- R. 14 .5 megohm Grid Bias Potentiometer
- R. 15 .5 megohm Volume Control. Diode Load Resistance
- R. 16 .1 megohm Tone Control.
- R 17 10,000

VOLTAGE DETAILS.

Measured with .25 megohm Voltmeter.

Line Voltage, 230v. 50 cycle.

Speaker field, 130 volts.

Main H.T. 240 v.

R.F., I.F., and 1st Detector Screens 90v.

2B7 Screen 8 v.

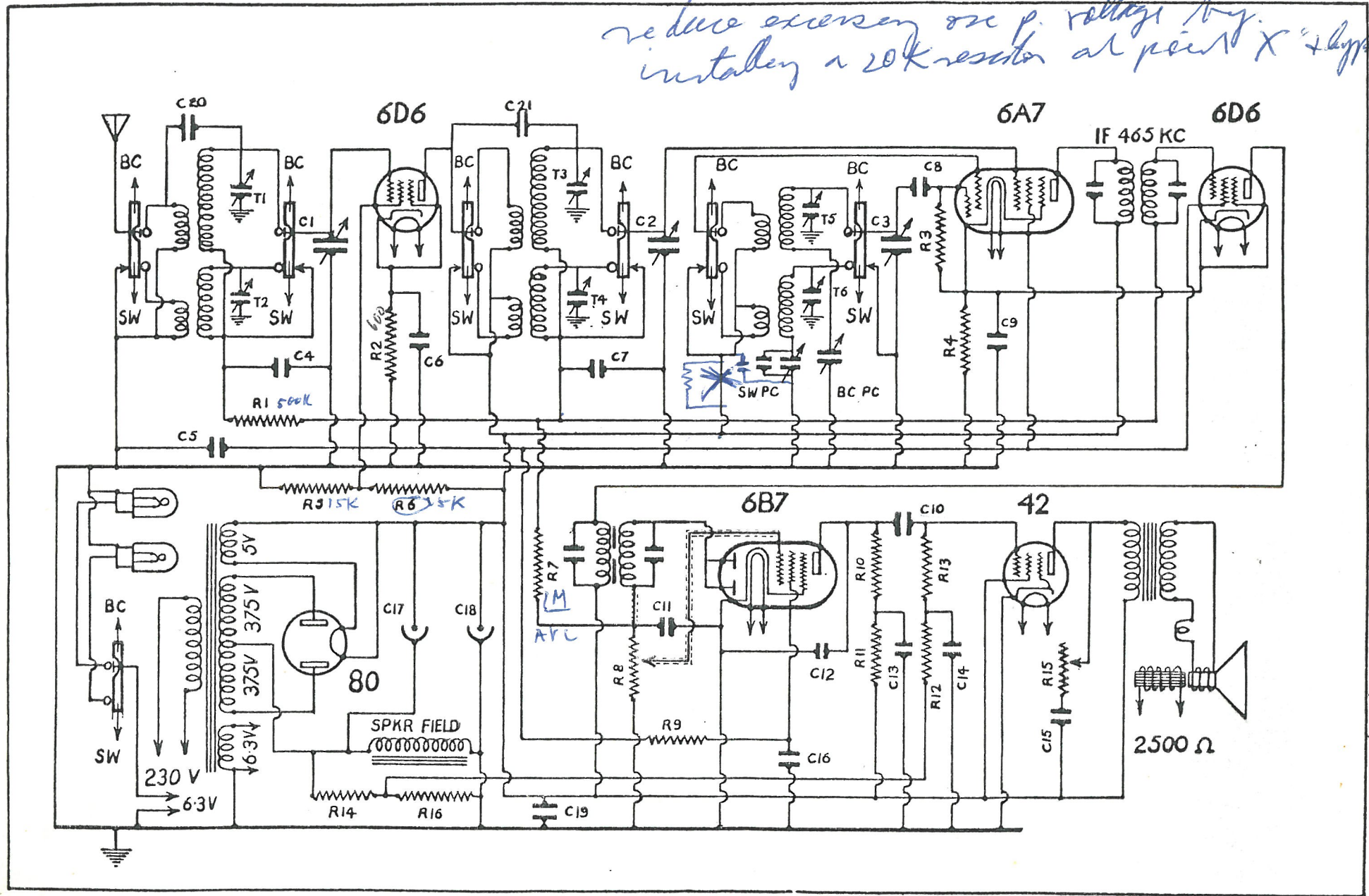
2B7 Plate, 50 v.

R.F. Cathode 3.8 v.

I.F. and 1st Detector Cathode 3.8 v.

series 2
 R15, 16, 17
 = bias bias
 chain
 R15 = 50K
 R16 = 75K
 R17 = 10K

reduce excessive osc p. voltage by installing a 20K resistor at point X & bypass a



CROMWELL "DUAL-WAVE" SERIES 2 6.3V Filament

579

note: iron core 2nd 11T why is spkr field coil shown twice?

Cromwell "Dial-Wave"

March 1936

PARTS CONDENSER DETAILS,

- T. 1)
T. 2)
T. 3)
T. 4) High Frequency Alignment Condensers.
T. 5)
T. 6)
- C. 1)
C. 2) 3-Gang Variable Condenser, 450 Mmfd.
C. 3)
- C. 4 .05 Mfd. A.V.C. Filter
C. 5 .25 Mfd. Screen By-Pass
C. 6 .1 Mfd. R.F. Bias By-Pass
C. 7 .05 Mfd. A.V.C. Filter
C. 8 .00025 Mfd. Oscillator Grid Condenser (Note :- In later Models
this has been changed to .0001 Mfd.)
C. 9 .25 Mfd. 1st Detector and I.F. Bias By-pass.
C.10 .01 Mfd. Audio Coupling Condenser
C.11 .0001 Mfd. Diode Load By-Pass.
C.12 .0001 Mfd. R.F. Plate Filter
C.13 .25 Mfd. Audio Plate Filter.
C.14 .1 Mfd. Audio Grid Filter.
C.15 .05 Mfd. Tone Control
C.16 .1 Mfd. 6B7 Screen By-Pass.
C.17) 8 Mfd. Filter Condensers.
C.18)
C.19 .25 Mfd. H.T. By-Pass.
C.20) High Frequency Couplings, made up of plate and grid leads,
C.21) in insulated sleeve.
- R. 1 .5 Meg. A.V.C. Filter
R. 2 600-Ohm. R.F. Bias
R. 3 50,000-Ohm. Oscillator Grid Leak
R. 4 150-Ohm. 1st Detector and I.F. Bias (Note:- In Later Models,
this has been changed to 300-Ohms.)
R. 5 15,000-Ohm. Screen Dropping
R. 6 15,000-Ohm. Screen Bleeder
R. 7 1 Meg. A.V.C. Filter
R. 8 .5 Meg. Diode Load - Volume Control. (Note:- Later Models
have been changed, and have a type of volume control
identical to that fitted to previous "Daventry" and
"Gloucester" Receivers. This is not shown in circuit
diagram attached).
R. 9 1 Meg. Screen Dropping
R.10 .25 Meg. Plate Load
R.11 .1 Meg. Audio Plate Filter
R.12 .5 Meg. Audio Grid Filter
R.13 1 Meg. Grid Leak
R.14 .5 Meg. Bias Potentiometer
R.15 .1 Meg. Tone Control
R.16 75,000-Ohm. Bias Potentiometer.
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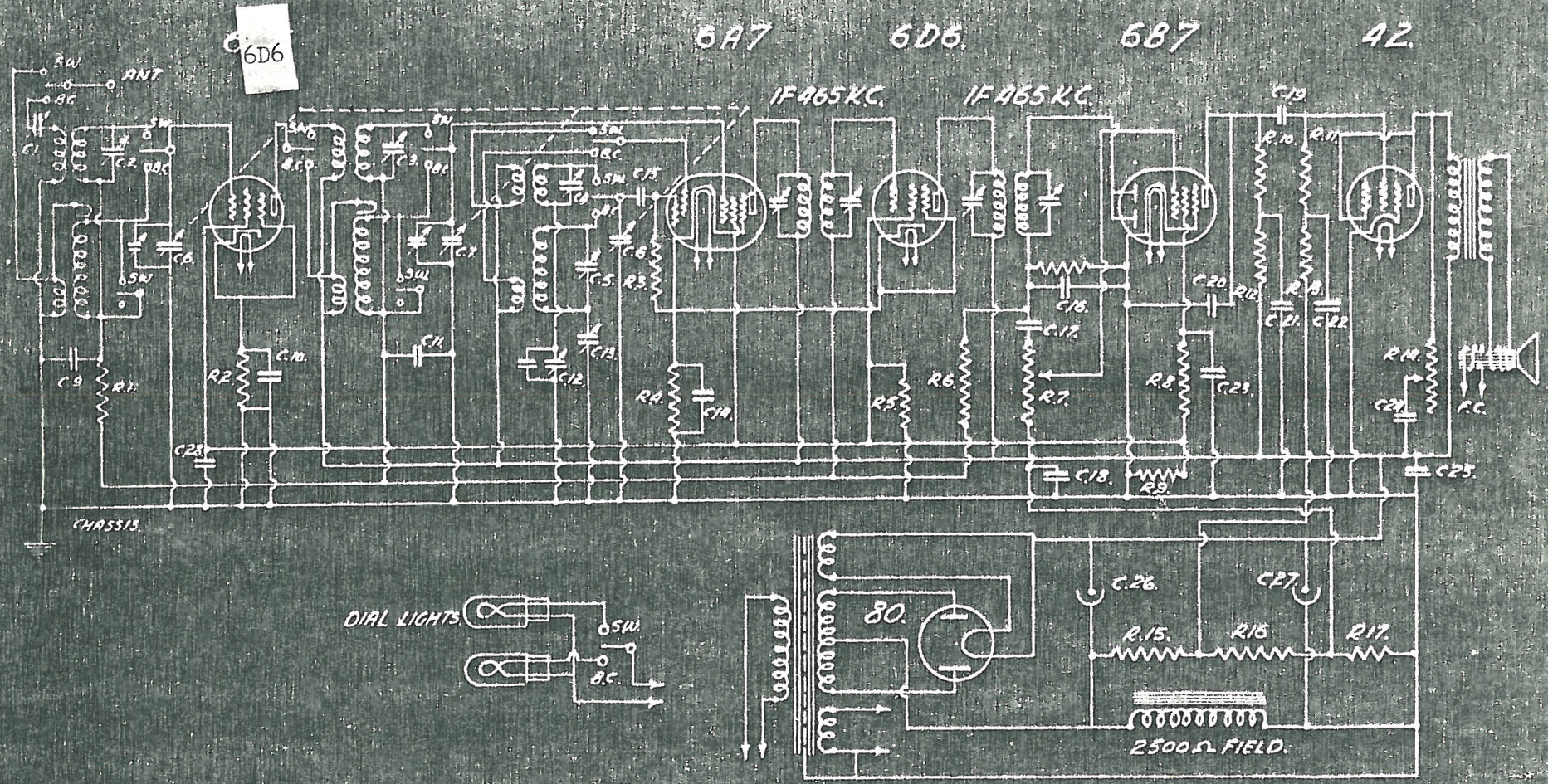
Note:
 Series 1
 used
 2.5 volt tubes
 225Kc
 3-7-34

Series 2
 = 6.3 volts
 May 1935
 465Kc

*reduce
 osc plate
 voltage*

*Stella
 S3
 almost
 identical*

TYPE 6 L.S. RECEIVER SERIES 2.



SPARE