

TECHNICAL INFORMATION

COVERING

BROADCAST RECEIVER TYPE 518N. "LITTLE JEWEL"

COLLIER & BEALE Ltd., WELLINGTON.

TYPE SET—A.C. Superhetrodyne—self-contained loop antenna. High and low level bass compensation.
TUBES (Five)—6BA6 R.F. Amp., 6BE6 Converter, 6BA6 I.F. Amp., 6AT6 Det. A.F., 6AQ5 Power output.
POWER SUPPLY—230 v. A.C. Rating, 22 watts.
TUNING RANGE—Broadcast, 535-1625 K.C.

ALIGNMENT INSTRUCTIONS

Set volume control at maximum and keep output from signal generator no higher than necessary to obtain output readings.

Dummy Antenna	Signal Generator Coupling	Sig. Gen. Frequency	Band Switch Position	Radio Dial Setting	Output Meter	Adjust	Remarks
.1 mfd.	High side to pin No. 7 (grid) of 6BE6	455 Kc.		High freq. end	Across voice coil	A1, A2, A3, A4.	Adjust for maximum output
.1 mfd.	High side to ant. terminal	455 Kc.		600 Kc.	"	C18	Adjust for minimum output
R.M.A.	" "	1400 Kc.		1400 Kc.	"	C19	Adjust for maximum output
Standard	" "	600 Kc.		Rock Variable	"	C17	Recheck C19 at 1400 Kc. If C19 is changed recheck C17

(Trap)

CAPACITORS

Ref. No.	Cap.	Volts
C1	50mfd	150
C2	50mfd	150
C3	8mfd	150
C4	25mfd	25
C5	.1mfd	400
C6	.05mfd	400
C7	.03mfd	400
C8	.02mfd	400
C9	.01mfd.	400
C10	.005mfd	400
C11	.004mfd	mica
C12	.0005mfd	mica
C13-15	.0001mfd.	mica
C16	.00005mfd	mica
C17	600mmfd	padder
C18	3-30	trimmer
C19-20	Gang trimmers	

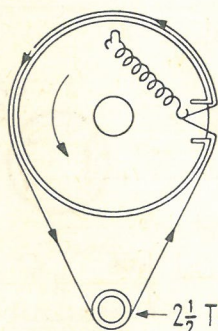
MISCELLANEOUS

Ref. No.	Res., Pri.	Res., Sec.	
193	.6 ohm	5.5 ohm	
793	.04 ohm	3.35 ohm	
953		33 ohm	
518N-1	6.75 ohm	6.75 ohm	
518N-2	6.75 ohm	6.75 ohm	
	Volts	Volts	Volts
	230	115	6.3
	Type	Transformer	
	5" P.M.	5000 ohm	
SW1	S.P.S.T. switch attached to R3		
RE 3412	Rectifier, selenium (Federal, U.S.A.)		

RESISTORS

Ref. No.	Res.	Watts
R1	10 meg	$\frac{1}{2}$
R2	2 meg	$\frac{1}{2}$
R3	.5 meg	Tapped pot.
R4	.47 meg	$\frac{1}{2}$
R5	.1 meg	$\frac{1}{2}$
R6	.1 meg	$\frac{1}{2}$
R7	47,000 ohm	$\frac{1}{2}$
R8	47,000 ohm	$\frac{1}{2}$
R9	20,000 ohm	$\frac{1}{2}$
R10	15,000 ohm	$\frac{1}{2}$
R11	4,700 ohm	$\frac{1}{2}$
R12	4,700 ohm	$\frac{1}{2}$
R13	1,500 ohm	$\frac{1}{2}$
R14	600 ohm	$\frac{1}{2}$
R15	500 ohm	$\frac{1}{2}$

USA RC special



DRUM SHOWN WITH GANG AT MAX. CAP.

When replacing tubes this procedure must be followed to prevent damage to the loop and other delicate parts.

1. Disconnect the power plug from the 230v. supply.
2. Pull the knob and remove the central screw from the right-hand plastic cover.
3. Carefully remove the plastic cover and handle.
4. Lift the loop assembly and tilt it sideways until the tubes are accessible.

* CIRCUIT ALTERATION

Some receivers of this model were connected as shown in inset schematic diagram and could be changed with advantage of higher audio output to connections shown in the main diagram.

SPEAKER

The speaker used in this model is equipped with a low resonance cone suspension and high impedance transformer and should only be replaced with same type.

BASS COMPENSATION

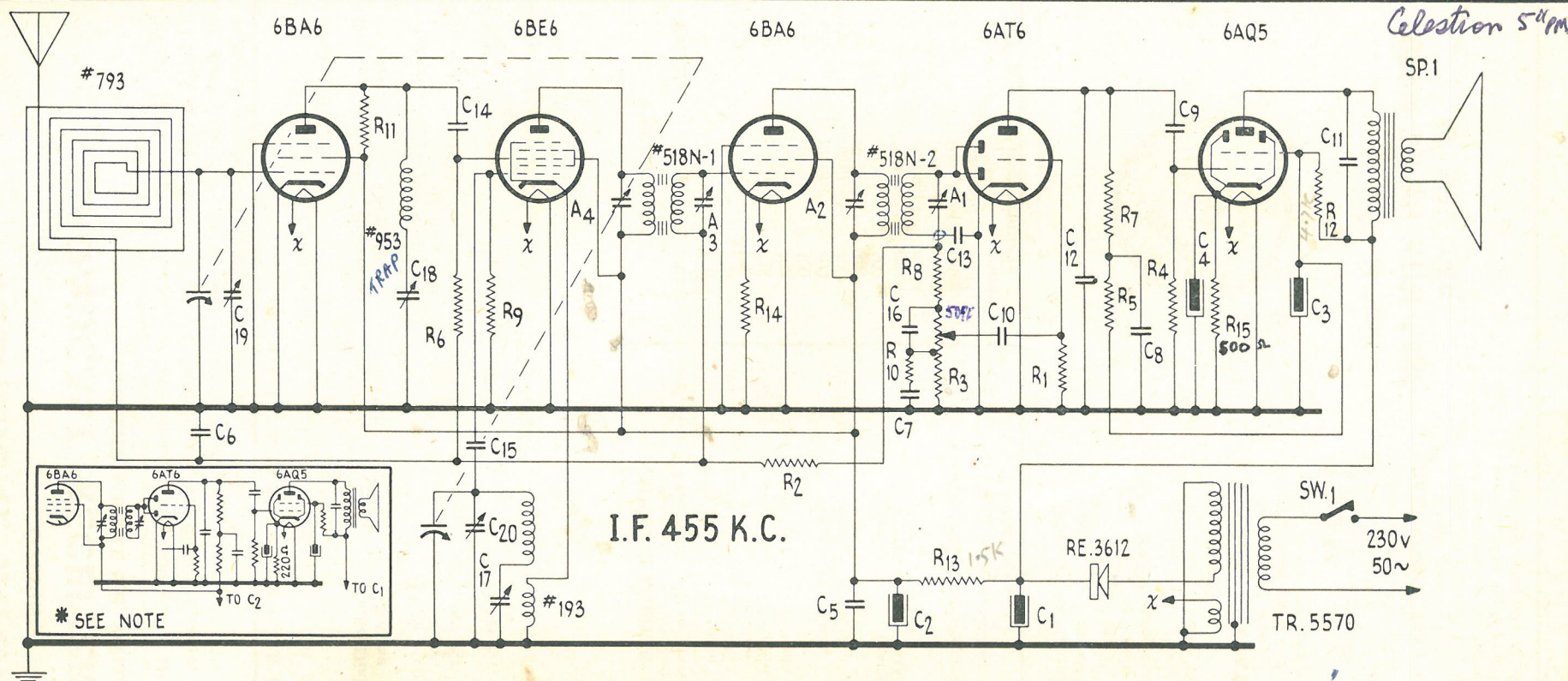
High-level compensation has been obtained in this receiver by means of R5 and C8, while low-level compensation is obtained by use of a tapped potentiometer in conjunction with C7, C16 and R10. By use of both high and low level bass compensation, an unusually good tonal reproduction is obtained.

Treble boost C16 = 50pF (at low volume)

see films 15-8 for US (W) model H125 + 126
model H127 (N.R.) apparently uses miniature tubes

500/1/49/108

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SCHEMATIC DIAGRAM MODEL 518N "LITTLE JEWEL"

VOLTAGE READINGS

Use	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
R.F.	6BA6	O	O	O	6.3 a.c.	70	94	O	
Conv.	6BE6	-5.5	O	O	6.3 a.c.	85	94	O	
I.F.	6BA6	O	O	O	6.3 a.c.	85	94	3	
Det-AF.	6AT6	O	O	O	6.3 a.c.	O	O	58	
Output	6AQ5	O	6.75	O	6.3 a.c.	113	113	O	

RESISTANCE READINGS

Use	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
R.F.	6BA6	2.5 meg	O	O	O	250 K	250 K	O	
Conv.	6BE6	20 K	.6 ohm	O	O	250 K	250 K	2.6 meg	
I.F.	6BA6	2.5 meg	O	O	O	250 K	250 K	600 ohm	
Det-AF.	6AT6	10 meg	O	O	O	.55 meg	.55 meg	400 K	
Output	6AQ5	.5 meg	500 ohm	O	O	250 K	255 K	.5 meg	

1. D.C. voltage measurements are at 2,000 ohm per volt—A.C. voltage measurements at 1,000 ohm per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Nominal Tolerance on component value make possible a variation of $\pm 10\%$ in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.
6. Resistance readings in B+ circuits may vary widely according to condition of filter capacitors.

note use of U.S. 7-pin miniature tubes

6AQ5 cathode is 20 pin 2005 use 470K see note #