

TECHNICAL INFORMATION

COVERING

DUAL WAVE RECEIVER TYPE 729

COLLIER & BEALE Ltd., WELLINGTON

TYPE SET—A.C. Superhetrodyne.

TUBES (Seven)—7B7 R.F. Amp., 7S7 Converter, 7B7 I.F. Amp., 7C6 Det.-A.F., 7C5 Power Output, 7Y4 Rectifier, 6U5 Tuning Indicator.

POWER SUPPLY—230 v. A.C. Rating, 50 watts.

TUNING RANGE—Broadcast, 535-1500 K.C., Shortwave, 6-20 M.C.

ALIGNMENT INSTRUCTIONS

To set pointer, fully mesh variable condenser and set pointer at last reference mark at left end of dial. Set volume control at maximum and keep output from signal generator no higher than necessary to obtain output reading. Use insulated alignment tool for adjusting.

Dummy Antenna	Signal Generator Coupling	Sig. Gen. Frequency	Band Switch Position	Radio Dial Setting	Output Meter	Adjust	Remarks
0.1 μ fd.	High side to pin No. 6 (grid) of 7S7	455 Kc.	B.C.	High freq. end	Across voice coil	A1, A2, A3, A4.	Adjust for maximum output
R.M.A. Standard	High side to ant. Terminal	1400 Kc.	"	1400 Kc.	"	C26	" "
"	"	1400 Kc.	"	1400 Kc.	"	C27 & 28	" "
"	"	600 Kc.	"	Rock Variable	"	C22	" "
"	"	18 Mc	S.W.	18 Mc.	"	C29	" "
"	"	18 Mc	"	18 Mc.	"	C30 & 31	" "
"	"	1400 Kc.	B.C.	1400 Kc.	"	C27 & 28	" "

CAPACITORS

Ref. No.	Cap.	Volts
C1	40 μ fd.	450
C1A	40 μ fd.	450
C2	25 μ fd.	35
C3	8 μ fd.	450
C4	8 μ fd.	450
C5-9	0.1 μ fd.	600
C10-13	0.05 μ fd.	600
*C13A	0.02 μ fd.	600
C14-16	0.01 μ fd.	600
*C17	0.004 μ fd.	mica
*C17A	0.002 μ fd.	mica
C18	0.002 μ fd.	mica
C19	500 μ fd.	mica
C20	2000 μ fd.	padder
C21	100 μ fd.	mica
C22	600 μ fd.	padder
*C23-25	250 μ fd.	mica
C26-31	3-30 μ fd.	trimmer
C32	50 μ fd.	mica
C33	5 μ fd.	ceramic
C34	1 μ fd.	gimmick

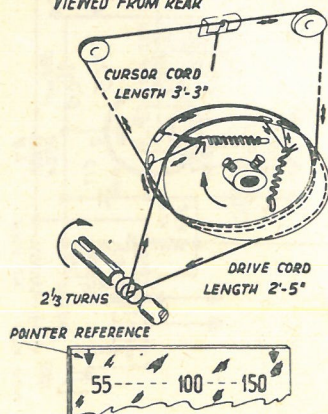
MISCELLANEOUS

Ref. No.	Res., Pri.	Res., Sec.	Volts
786	0.4 ohm	0.03 ohm	
785	17.5 ohm	2.57 ohm	
486-1	—	0.03 ohm	
485-1	—	2.4 ohm	
186	0.45 ohm	0.03 ohm	
185-1	2.1 ohm	2.5 ohm	
729-1	6.75 ohm	6.75 ohm	
729-2	6.75 ohm	6.75 ohm	
CH957	52 ohm		
TR5566	230	350 aside	2 x 6.3
SP1	8 in. P.M. speaker		
TR5541	Output trans. 5,000 ohm—2.3 ohm		
SW1-SW4	4 Pole 2-position SW5283 S.P.		
SW5	S.P.S.T. switch attached to R5		

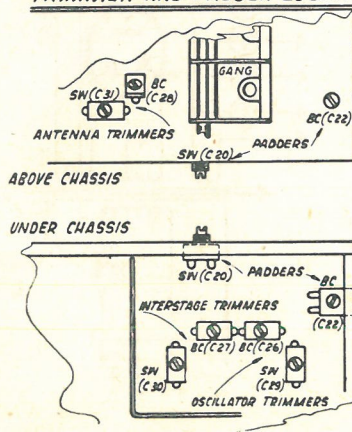
* In receivers of Serial Nos. 85801 to 86029, 86051 to 86198, and 86201 to 86223, R3 was 1 Meg. R10 500K, R14 50K, C17 0.001 μ fd. and C23 100 μ fd. while C13A and C17A had not been incorporated.

RESISTORS

Ref. No.	Res.	Watts
R1	10 meg	$\frac{1}{2}$ watt
R2	5 meg	$\frac{1}{2}$ watt
*R3	2 meg	$\frac{1}{2}$ watt
R4	1 meg	$\frac{1}{2}$ watt
R5-6	500K ohm	pot.
R7-9	250K ohm	$\frac{1}{2}$ watt
*R10	100K ohm	$\frac{1}{2}$ watt
R11-13	50K ohm	$\frac{1}{2}$ watt
R12	50K ohm	1 watt
*R14	10K ohm	$\frac{1}{2}$ watt
R15	30K ohm	2 watt
R16	27K ohm	2 watt
R17	25K ohm	$\frac{1}{2}$ watt
R18	5K ohm	$\frac{1}{2}$ watt
R19-19A	2K ohm	$\frac{1}{2}$ watt
R20	1.5K ohm	5 watt
R21	750 ohm	$\frac{1}{2}$ watt
R22	500 ohm	$\frac{1}{2}$ watt
R23	300 ohm	$\frac{1}{2}$ watt
R24	250 ohm	1 watt
R25-26	200 ohm	$\frac{1}{2}$ watt

DIAL STRINGING ARRANGEMENT
VIEWED FROM REAR

TRIMMER AND PADDER LOCATIONS



ALIGNMENT

Simplification of the wave-switching has been achieved in this receiver by special series arrangements of broadcast and short-wave coils.

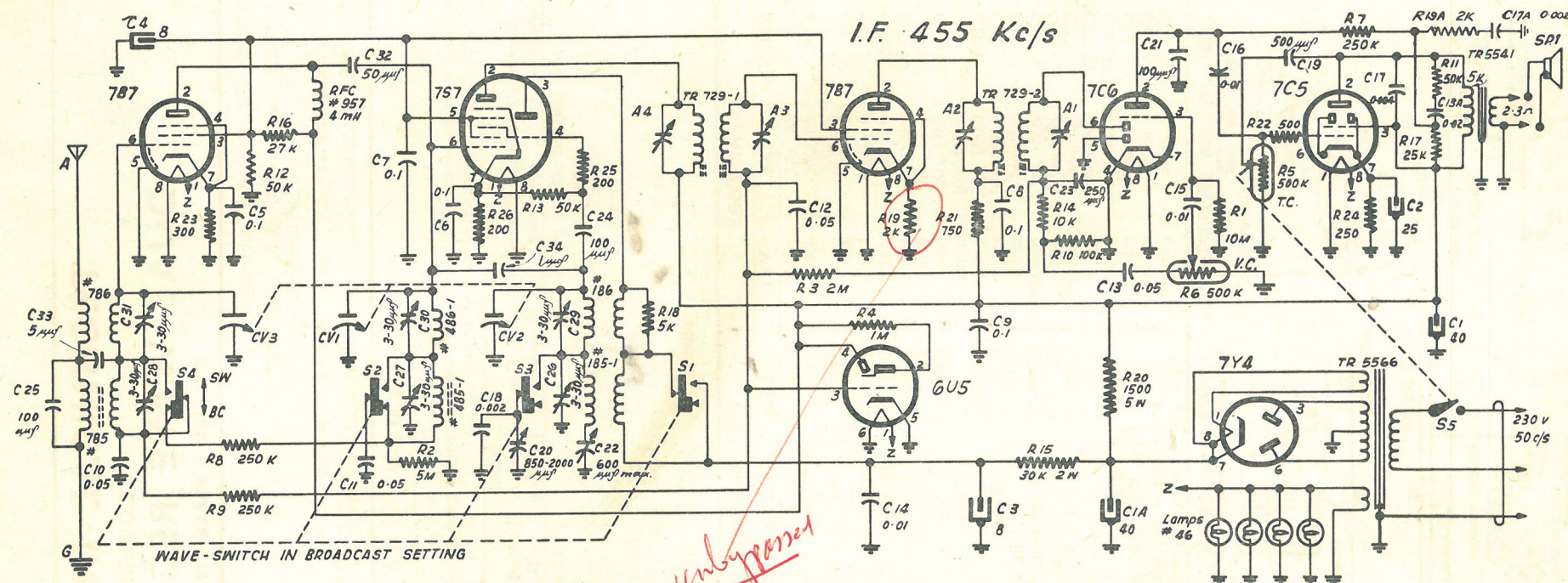
Attention is directed to the need of re-peaking the BC interstage and antenna trimmers after finishing the normal SW alignment, as resonant circuits of the two bands are partly interdependent.

Should it prove necessary to alter the SW oscillator trimmer, this change will effect the BC oscillator frequency, necessitating realignment.

BASS AND TREBLE COMPENSATION

Equalization has been achieved by the use of capacitors C13A and C17A which modify the magnitude of inverse-feedback voltage according to frequency.

I.F. 455 Kc/s



SCHEMATIC DIAGRAM MODEL 729

VOLTAGE READINGS

Use	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
R.F.	7B7	6.3 AC	240	100	3.2	—	0	3.2	—
Conv.	7S7	6.3 AC	240	162	—5	100	0	2.2	—
I.F.	7B7	—	240	100	6.3	—	0	6.3	6.3 AC
Det.-AF.	7C6	—	87	0	—	—	0	—	6.3 AC
Output Rect.	7C5	—	218	240	—	0	0	12	6.3 AC
Rect.	7Y4	350	—	310 AC	—	—	310 AC	350	—
Eye	6U5	6.3 AC	15	0	240	—	—	—	—

RESISTANCE READINGS

Use	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
R.F.	7B7	—	250K	50K	300 ohm	—	1.6 meg	300 ohm	—
Conv.	7S7	—	250K	50K	50K	50K	1.6 meg	200 ohm	—
I.F.	7B7	—	250K	50K	2K	—	1.5 meg	2K	—
Det.-AF.	7C6	—	250K	10 meg	—	—	100K	—	—
Output Rect.	7C5	—	250K	250K	—	500K	500K	250 ohm	—
Rect.	7Y4	250K	—	28 ohm	—	—	280 ohm	250K	250K
Eye	6U5	—	1.2 meg	1.5 meg	250K	—	—	—	—

1. D.C. voltage measurements are at 2,000 ohm. per volt—A.C. voltage measured at 1,000 ohm per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative. Bandswitch in B.C. position.

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 the condition of filter capacitors.

Noted in chngs of internal of val - beam forming plate of 7C5
slide plates of 7C6

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