

526

TECHNICAL INFORMATION

BULLETIN NO. 153.

17-7-46

(TYPE)

TECHNICAL DESCRIPTION AND ADJUSTMENT PROCEDURE

COVERING 5-VALVE DUAL-WAVE RECEIVERS

MODEL 526.

(Roller dial)

Drawing No. 775.

RECEIVER

COLLIER & BEALE LTD.

WELLINGTON

17th July 1946

526

Ref.No.	Qty.	Type or Value	Class or Cat. No.	Description or Function.
COILS:				
L 1		Type 784	Iron cored	Broadcast Antenna Coil.
L 2		" 786	Air "	Short Wave " "
L 3		" 184	" "	Broadcast Osc. Coil.
L 4		" 186	" "	Short Wave " "
T 1)		3-30 mmfd. Trimmers	Postage stamp type variable	High Frequency Alignment Trimmers.
T 2)				
T 3)				
T 4)				
IFT 1	1	No.14-1 455 Kc/s.	Iron cored.	I.F. Transformer TR5540-3.
IFT 2	1	No.14-2 " "	" "	" " TR5540-4.
Gang		Defiance B.S.2. 2 Sect. 356 mmfd. per section.	Variable	Main tuning condenser.
SW 1	1	S.P.S.T.	On-off	Switch.
SW 2	1	4-pole D.T.	Wafer type	Wave-change Switch SW 5283.
SP 1	1	^{or 1500Ω} F4 1250 ohm Field 5000 ohm Transformer	Energised	5" Loudspeaker.

COLLIER & BEALE LIMITED,
66, GHUZNEE STREET,
WELLINGTON, C.2.

17th July, 1946.

COMPONENT PARTS LIST COVERING 5V DUAL-WAVE
MODEL 526.

Ref.No.	Qty.	Type or Value.	Class or Cat. No.	Description or Function.
<u>CONDENSERS:</u>				
C 1		25 mfd. 25V.	Tubular Electrolytic	Audio Filter By Pass.
C 2		10 " 450V.	" "	H.T. Filter.
C 3		10 " "	" "	" "
C 4		8 " "	" "	Audio By Pass Filter.
C 5		.1 " 600V.	" Paper	R.F. By Pass H.T.
C 6		.1 " "	" "	R.F. By Pass Screens.
C 7		.1 " "	" "	R.F. By Pass Cathode.
C 8		.05 " "	" "	A.V.C. By Pass.
C 9		.02 " "	" "	" "
C 10		.01 " "	" "	Audio Coupling.
C 11		.01 " "	" "	Audio Coupling.
C 12		.004 " "	Mica	Tone Correction.
C 13		.004	"	Fixed Padder S.W.
C 14		1000 mmfd Padders		Var. Padder S.W.
C 15		600 " "		" " B.C.
C 16		.00025 mfd.	Mica	Tone Control Neg. feedback type.
C 17		.00025 mfd.	"	Det. Plate R.F. By Pass.
C 18		.0001 mfd.	"	Osc. Grid Coupling.
C 19		.0001 "	"	Diode Load R.F. By Pass.
C 20		1 mmfd. approx.	C&B Special	Neutralising Cond.
<u>RESISTORS:</u>				
R 1		10 megohm $\frac{1}{2}$ watt	Carbon	Det. Grid Bias.
R 2		1 " "	"	A.V.C. Decoupler.
R 3		1 " "	"	" "
R 4		1 " "	"	" Bleeder.
R 5		.5 meg. Potentiometer	" Variable	Volume Control.
R 6		- ditto -	" "	Tone Control incorporating S1
R 7		250,000 ohm. $\frac{1}{2}$ watt	"	Det. Plate Load.
R 8		50,000 " "	"	Osc. Grid Leak.
R 9		50,000 " "	"	R.F. Filter Vol. Control.
R 10		10,000 " 1 "	"	Screen Dropper.
R 11		500 " $\frac{1}{2}$ "	"	R.F. Suppressor (Beam Power) Tube)
R 12		300 " 1 "	"	Output Tube Bias.
R 13		150 " $\frac{1}{2}$ "	"	R.F. & I.F. Cathode Bias.
R 14		50 " $\frac{1}{2}$ "	"	Osc. Grid Suppressor.

With an accurate signal generator set at some convenient high frequency, say 1400-Kc/s, and with the gang condenser set at the correct position as indicated by the dial scale, the oscillator trimmer should be adjusted for maximum output. With this adjustment made, the mixer trimmer may then be adjusted.

With these adjustments satisfactorily made, the receiver should be aligned or "padded" at the low frequency end of the band, this adjustment taking place at approximately 600-Kc/s. The most satisfactory way of adjusting the padding condenser is to use a highly damped signal generator, to avoid the necessity of constantly "rocking" the tuning mechanism, to ensure the optimum adjustment that provides maximum output. The most suitable highly damped source is generally available in the variety of electrical disturbances that constitute the usual background of a radio receiver when connected to an antenna. The receiver, therefore, should preferably be tuned to a frequency of 600-Kc/s., making sure that no station carrier wave is present, and the padding condenser adjusted for maximum noise output. After satisfactory adjustment of the padding condenser, it is wise again to re-check the high frequency oscillator trimmer condenser, this latter adjustment only being necessitated if a considerable movement of the padding condenser has taken place.

The adjustment of the short-wave band should be undertaken in an identical manner to that described above, the only requirement being the exercise of greater care in the adjustment of the oscillator trimmer condenser, which in this case, will be found to be quite critical. The same remarks in regard to the avoidance of altering trimmer adjustment, if the performance of the receiver is satisfactory, apply in this band as well, and in the event of dial readings being appreciably out, movement of the pointer should be suspected and adjustment made accordingly. In certain cases unequal stretching of the dial operating cord can produce fair discrepancies in dial reading, and in such cases, the remedy is quite simply and necessitates only the repositioning of the cursor on the dial operating cord.

The average test figures for model 526 receiver are as tabulated :-

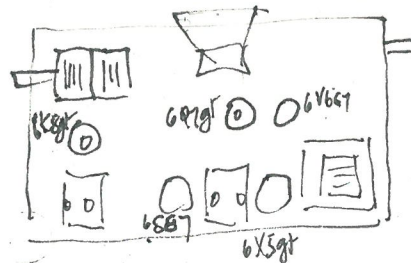
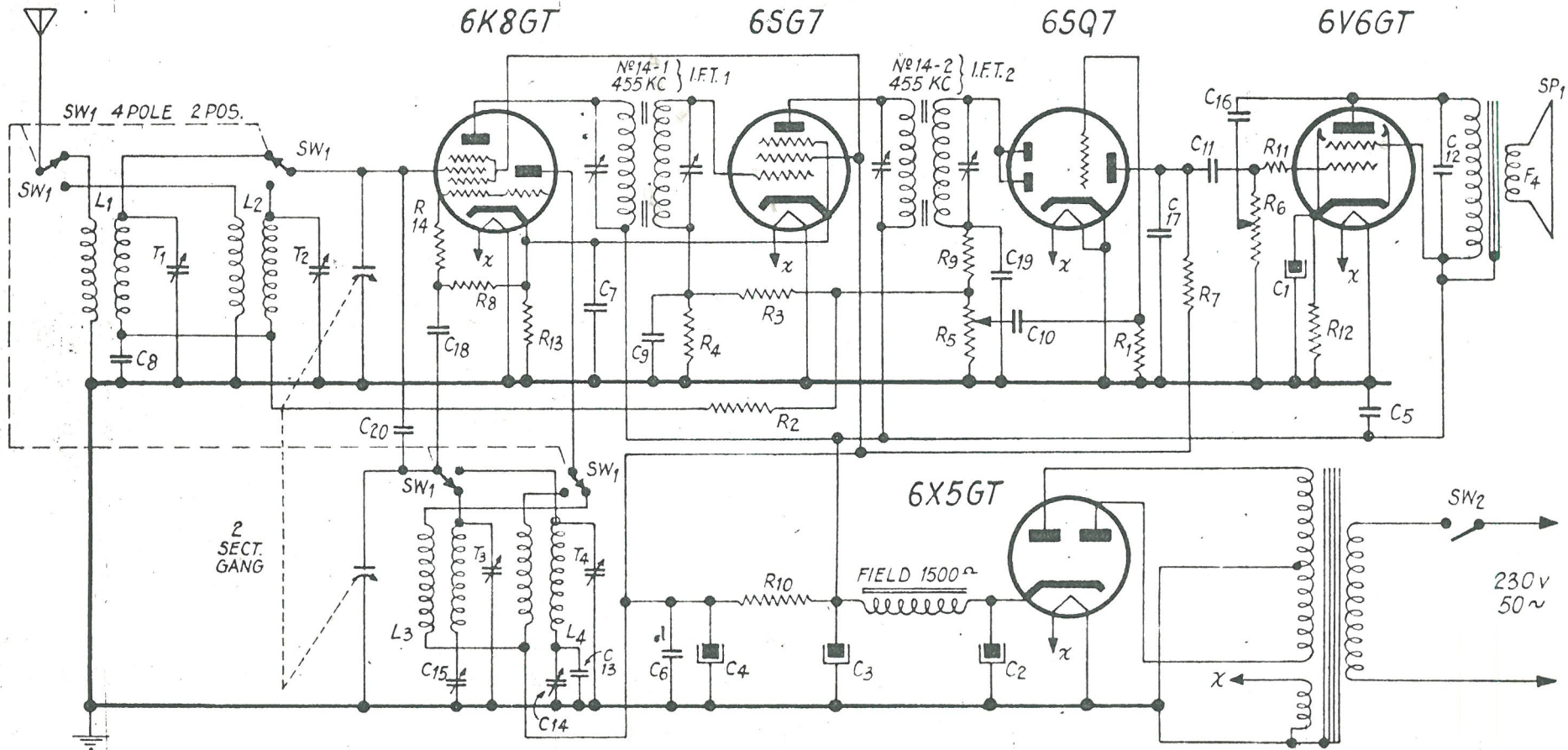
In each case the stated input at each position produces 50 microvolts output when terminated in a 3 ohm resistor.

<u>Position.</u>	<u>Signal Generator Input.</u>
2nd Stage I.F.	2250 Microvolts
1st " "	53 "
1400 Kc/s.	8 "
1000 " "	8 "
600 " "	8 "
18 Mc/s.	8 "
15 " "	13 "
12 " "	20 "
10 " "	30 "
7 " "	53 "

5V. DUAL-WAVE RECEIVER MODEL 526

FREQ. RANGE 535-1600 K/C., 6.5-19 M/C.

SCHEMATIC DIAGRAM



DRAWING №.....775

DATE.....10.7.46

APPLIES TO SERIAL №s.....