

H.M.V. TYPE 200

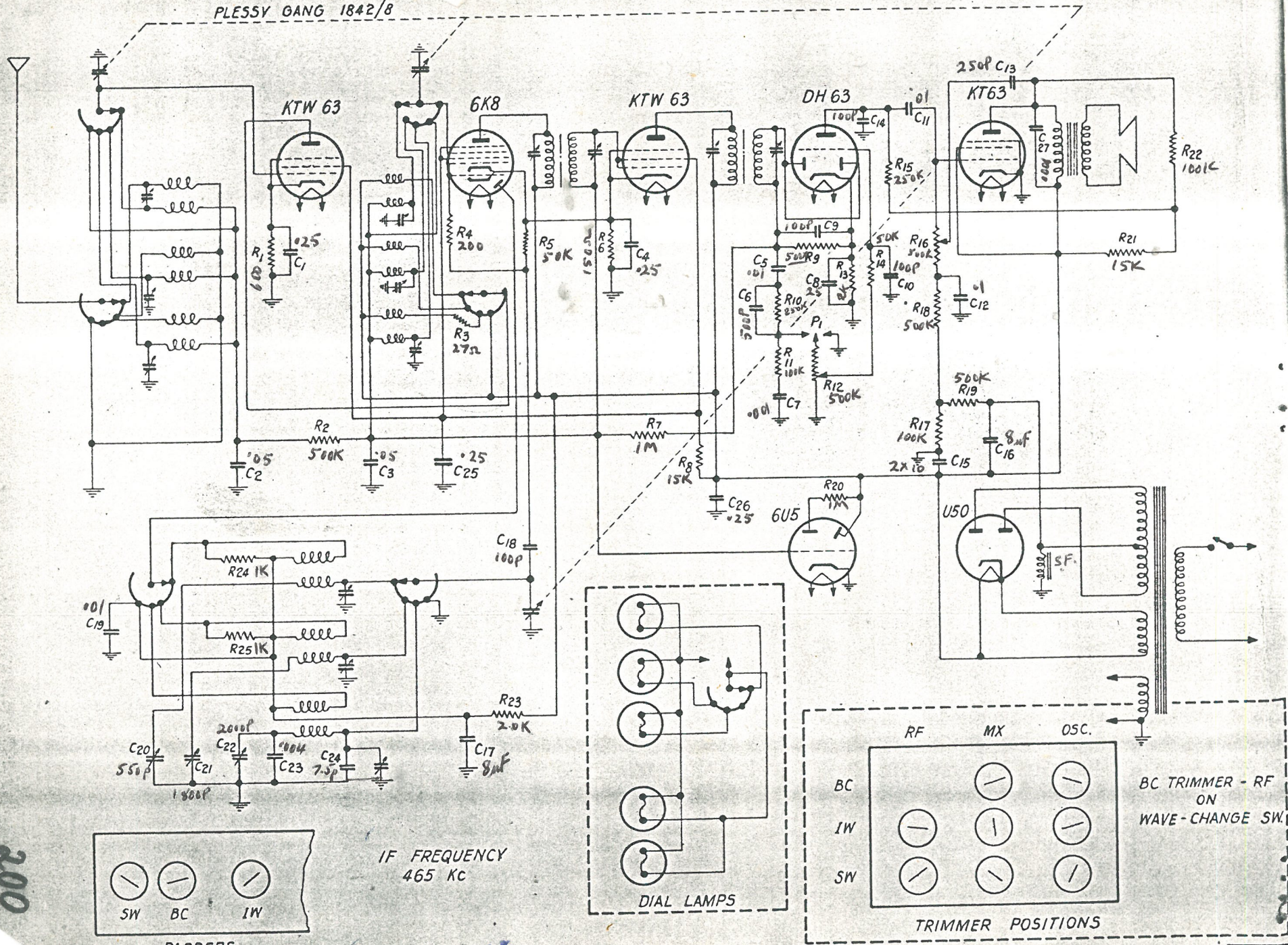
(~~SB 200~~)

3 Bands

(1940)

recently mfd by C & B.

PLESSY GANG 1842/8



IF FREQUENCY
465 Kc

PADDERS

DIAL LAMPS

TRIMMER POSITIONS

BC TRIMMER - RF
ON
WAVE-CHANGE SW.

TECHNICAL INFORMATION

BULLETIN NO. 145

(TYPE)

MODEL 200 H.M.V. 7-VALVE ALL WAVE RECEIVER.

RECEIVER

COLLIER & BEALE LTD.

WELLINGTON

RESISTORS (Contd.)

R-20	1 meg.	Plate load tuning indicator
21	15000 ohm	Negative feed-back potentiometer
22	.1 meg.	" " " "
23	20000 ohm	Oscillator feed
24	1000 "	Feed-back equaliser (B.C. band)
25	1000 "	" " " (I.W. ")

P-1

Pick-up Jack

COLLIER & BEALE LIMITED
 66 GRIZNER STREET
 WELLINGTON C.2
 7th October 1940

Intermediate Frequency Amplifier Alignment. The intermediate frequency used in model 200 is 465 kc/s. and both transformers should be adjusted for maximum output, and in no circumstances should a "staggered" adjustment be used as the "gain" of the whole receiver will be materially affected. Adjustment of these two transformers should be undertaken by first aligning the diode transformer alone, this being accomplished by clipping the signal generator lead on to the grid of the intermediate frequency amplifier tube (KTW-63) and adjusting for maximum output. The generator unit should then be transferred to the grid of the mixer tube (6K8) and the first transformer treated in a similar manner. In this latter adjustment it is desirable to make certain that the wave-band switch is in the "broadcast" position otherwise the comparatively low impedance of the short-wave tuned circuits at this test frequency will place the equivalent of a short circuit across the generator terminals and so make the obtaining of an adequate test voltage difficult. An alternative arrangement - to avoid any possibility of loss in the detector input circuits - is to entirely remove the grid lead from this valve, and to complete the grid circuit temporarily with a fixed resistor of approximately 50,000 ohms resistance.

Signal Frequency Circuits Alignment. Adjustment of the signal frequency circuits, although not difficult, should be undertaken with a fair amount of care, particularly in the setting of the oscillator trimmer condensers and in no case - unless the performance of the receiver is in question, regardless of minor errors in dial reading - should any attempt be made to disturb the factory adjustment. In all cases the broadcast band should be treated first. The order of adjustment is as follows -

With an accurate signal generator set at some convenient high frequency, say 1,500 kc/s. or 1,600 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, both the mixer and R.F. trimmers may then be adjusted, it being noted that the R.F. trimmer of the broadcast band is located under the chassis and mounted on the wave-change switch. Neither of these two latter adjustments is critical nor difficult to perform and very rarely, unless the receiver has been tampered with, will any major variation be required to be made.

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 source, rather than the 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 recheck 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 two remaining wave-bands 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 condensers, which, in the case of the high frequency short-wave band, will be found to be quite critical. The same remark - in regard to the avoidance of altering trimmer adjustments if the performance of the receiver is satisfactory - apply in these bands as well, and in the event of dial

COMPONENT SCHEDULE FOR MODEL 200H.M.V. RECEIVER.CONDENSERS:

C-1	.25 mfd.	Cathode by-pass
2	.05 "	A.V.C. filter
3	.05 "	" "
4	.25 "	Cathode by-pass
5	.01 "	Audio decoupling
6	.0005. "	H.F. audio correction
7	.001 "	L.F. " "
8	.25 "	Cathode by-pass (audio)
9	.0001. "	Diode load by-pass
10	.0001 "	R.F. grid by-pass
11	.01 "	Plate coupling
12	.1 "	Bias filter
13	.00025 "	Tone control
14	.0001 "	R.F. By-pass (A.F. stage)
15	2/10 "	H.T. filter, electrolytic
16	.8 "	" " "
17	.8 "	Oscillator filter, electrolytic
18	.9991 "	Oscillator grid
19	.01 "	Oscillator R.F. by-pass
20	550 mmfd.	B.C. padder
21	1800 "	I.W. "
22	2000 "	S.W. "
23	.004 "	" fixed padder
24	7.5 "	" stabilising
25	.25 "	Screen R.F. by-pass
26	.001 "	Audio output by-pass
27	.001 "	Audio output by-pass

RESISTORS:

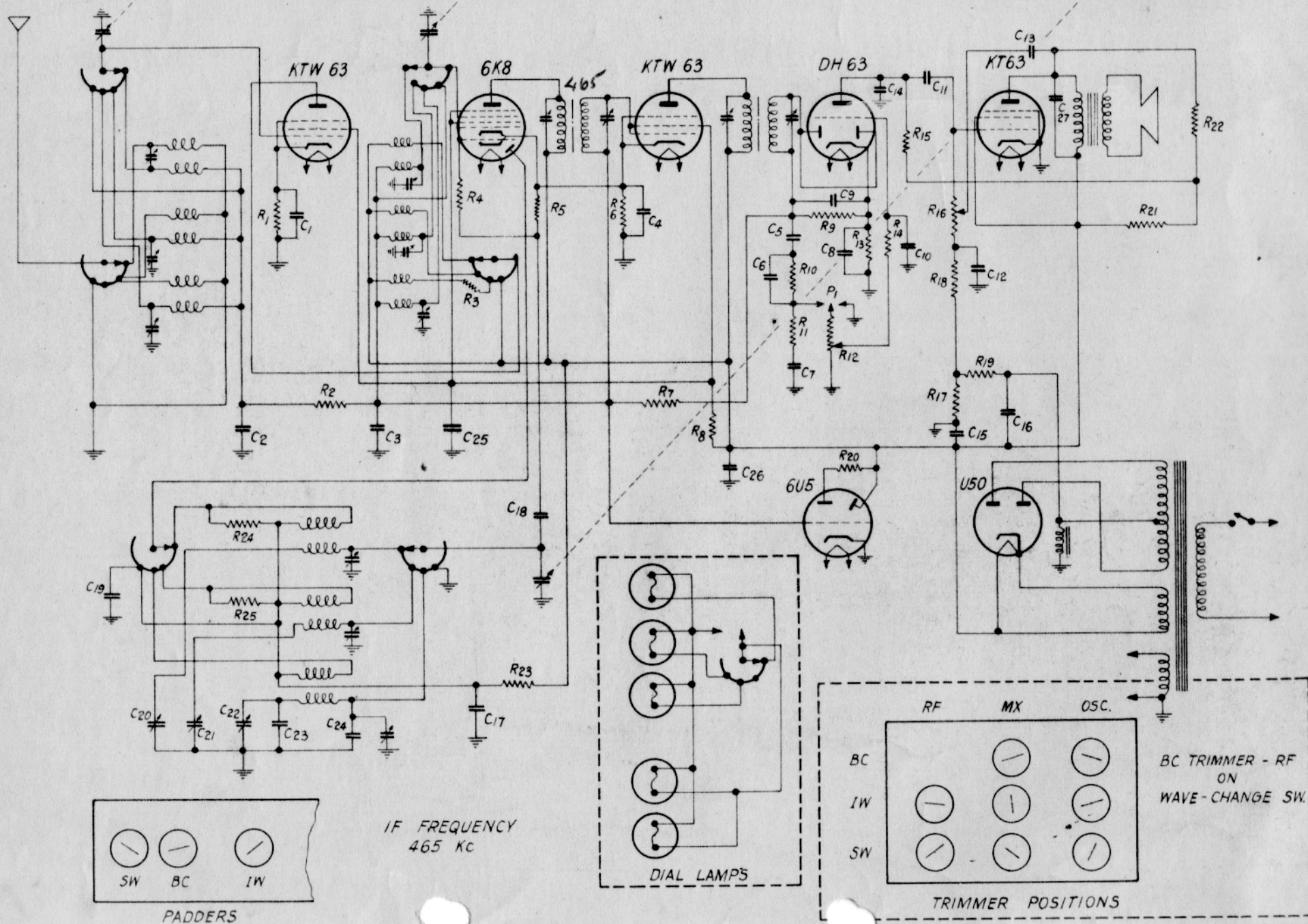
R-1	600 ohm	Bias resistor (1st R.F. stage)
2	.5 meg.	A.V.C. filter
3	27 ohm	S.W. R.F. suppressor
4	200 "	Oscillator grid suppressor
5	50000 "	Oscillator grid leak
6	150 "	Bias resistor I.F. stage
7	1 meg.	A.V.C. filter
8	15000 ohm	Screen feed
9	.5 meg.	Diode load
10	.25 "	H.F. audio correction
11	.1 "	L.F. " "
12	.5 "	Volume control
13	2000 "	R.F. grid suppressor
14	50000 "	R.F. " "
15	.25 "	Plate load
16	.5 "	Tone control
17	.1 "	Bias potentiometer
18	.5 "	Bias filter
19	.5 "	Bias potentiometer.

readings being appreciably cut, 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 simple and necessitates only the repositioning of the cursor on the dial operating cord.

As an aid in servicing the receiver, in the event of failure in any of the components fitted, a component schedule is appended which is to be used in conjunction with the schematic diagram attached.

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66 GHUZNEE STREET
WELLINGTON C.2
7th October 1940.

PLESSY GANG 1842/8



TUBE POSITIONS FOR TYPE 200

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