

SURPLUS RADIO EQUIPMENT

described by B. Carter

In this series of articles it is intended to describe units that have (a) immediate application, after some modification perhaps, in the amateur world, and (b) to list the contents of those units that can best become sources of valuable components. This month's unit with very little modification may be of use to many amateurs as it is purchased.

RECEIVER TYPE R1147A (10D/13123)

THIS unit was designed to operate in the 200 Mcs region and can be modified to suit amateur 144 Mcs coverage. The chassis and case are built of aluminium sprayed with zinc, the lid and base are hinged to expose the LF valves on the top and the acorn valves through the IF screens underneath.

Power supplies are external to the unit and the connections may be unnecessarily complicated since the unit was designed for local and remote control. Should it be considered necessary the RF stages (V1 and V2) may be removed by unfastening the four 4 BA screws, two top and two bottom of the sub-panel, and removing the screws around the edge of the chassis which will now only just get through the hole in the panel. The 4-pin W plug 10H/391 will, of course, have to be unscrewed and so will the coil L1 from the shaft of the "Aerial" socket, it is advisable to remove all the valves during this operation. At this stage of demolition all the front panel appendages may be unfastened as well as all the chassis screws (not forgetting those hidden by the shock absorbers) and then the rest of the "insides"

will squeeze out through the base door. The tuning dial is marked for only a small angle as this is the maximum effective movement of the butterfly capacitors (C2 and C12), the viewing aperture may be in an awkward position but the dial can be turned around after removal of the 4 BA screws that are close to the 2 BA screws. A variety of knobs and cranks have been fitted to the central spindle, the tangential spindle is for cable attachment in connection with remote control.

V1 VR95 954 10E/95B holder 10H/342
V2 VR59 955 10E/11452 holder 10H/341
V3 VR95 954 10E/95B holder 10H/342
V4 VR99 954 10E/95B holder 10H/342
V5 VR55 EBC33 10E/11401 holder 10H/493
V6 VR56 EF36 10E/11402 holder 10H/493
V7 VR56 EF36 10E/11402 holder 10H/493
Lamp 5A/1428 Holder 10A/11272 Glass 10A/11270 "Volume Increase" Knob 10A/12797
4 Lid Clips 10A/3371 4 Shock Mountings Type 6, 3 lbs. 10A/9720 Switch SL 10F/13358 Slow Motion Drive 10J/71

COMPONENT LIST

Resistors

R1 200K Ω 10C/11692
R2 5K Ω 10C/11682
R3 10K Ω 10C/27
R4 100K Ω 10C/11691
R5 5K Ω 10C/11682
R6 20K Ω 10C/32
R7 50K Ω 10C/11687
R8 500K Ω 10C/129B
R9 100K Ω 10C/11691
R10 10K Ω
R11 100K Ω 10C/11691
R12 100K Ω 10C/11691
R13 10K Ω
R14 100K Ω 10C/11691
R15 1M Ω 10C/1308
R16 1K Ω 10C/11678
R17 30K Ω 10C/10140
R18 100K Ω 10C/11691

R19 1K Ω 10C/11678
R20 10K Ω 10C/27
R21 1M Ω 10C/130
R22 100K Ω 10C/11691
R23 2M Ω 10C/131
R24 100K Ω 10C/11691
R25 5K Ω 10C/11682
R26 500K Ω 10C/129
R27 500 Ω Pott. 10C/628
R28 100 Ω 10C/53

Capacitors

C1 3 μ F 10C/10301
C2 Vari. Cap. Part of 10C/625
C3 Trimmer. Part of 10C/625
C4 .002 μ F 10C/8010
C5 .002 μ F 10C/8010
C6 5 μ F 10C/3393

C7 5 μ F 10C/3393
C8 .002 μ F 10C/8010
C9 50 μ F 10C/10568
C10 .002 μ F 10C/8010
C11 50 μ F 10C/10568
C12 Vari. Cap. Part 2 of 10C/625
C13 Trimmer. Part 2 of 10C/625
C14 50 μ F 10C/10568
C15 .002 μ F 10C/8010
C16 .002 μ F 10C/8010
C17 .002 μ F 10C/8010
C18 5 μ F 10C/3393
C19 .002 μ F 10C/8010
C20 5 μ F 10C/3393
C21 .002 μ F 10C/8010
C22 .002 μ F 10C/8010
C23 .002 μ F 10C/8010

C24 5 μ F 10C/3393	C39 .002 μ F 10C/8010	C "Supply" 10H/392
C25 .002 μ F 10/C8010	C40 .25 μ F 10C/8382	P "Phones" 5C/590
C26 10C/3396	C41 .05 μ F 10C/9629	BFO "BFO" 5C/590
C27 5 μ F 10C/3393	C42 .005 μ F 10C/964	AE "Aerial" 10H/160
C28 50 μ F 10C/	C43 .1 μ F 10C/10165	X "Earth" —
C29 500 μ F 10C/626	C44 2.0 μ F 10C/8275	Socket 10H/159 fits
C30 .005 μ F 10C/11697	<i>Transformers</i>	
C31 .002 μ F 10C/8010	T1 1 F.T. 10K/12173	10H/160
C32 .01 μ F 10C/3419	T2 " 10K/12174	Socket 5C/591 fits
C33 .05 μ F 10C/19629	T3 " 10K/12175	5C/590
C34 .25 μ F 10C/8382	T4 " 10C/661	L1 } Input 10C/602
C35 .25 μ F 10C/8382	T5 Output 10K/162	L2 }
C36 .003 μ F 10C/3394	<i>Plugs and Sockets</i>	
C37 .001 μ F trimmer	A 10H/391	L3 }
10C/827	B "Remote Control"	L4 } Osc. 10C/603
C38 500 μ F 10C/626	10H/393	L5 }
		L6 BFO note 10C/604

See Circuit on facing page.

BIRMINGHAM INEXPENSIVE TELEVISOR

Through the courtesy of Mr. C. J. Shears, G3DNA, of Bletchley, Bucks. and U.E.I. Corpn., 138, Grays Inn Road, W.C.1, we are enabled to give details of the use of the RF27 Unit in the "Inexpensive Televisor" for the reception of the Sutton Coldfield transmissions.

No constructional modifications are required, and it is necessary only to carry out alignment adjustment as follows:—

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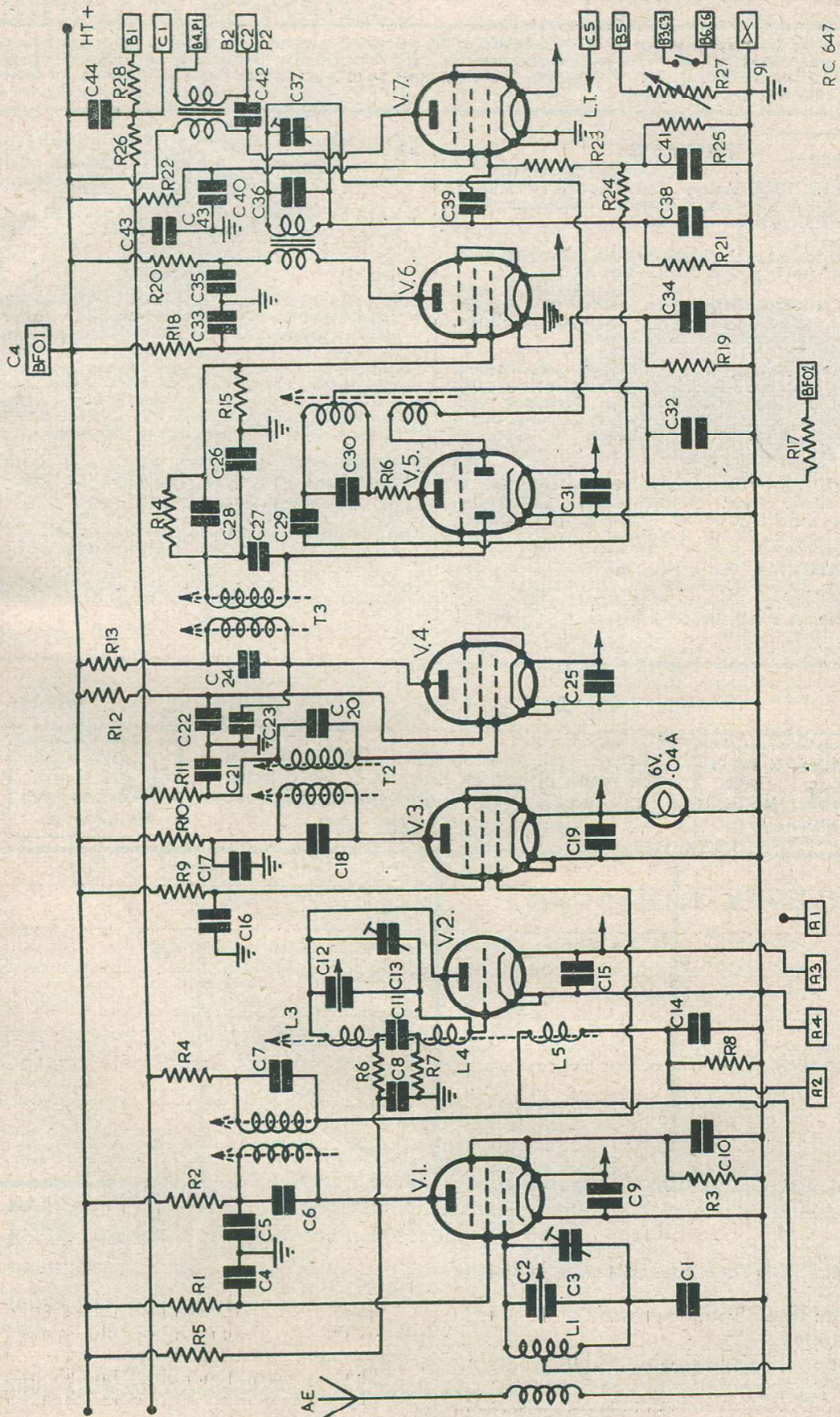
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- (1) Tune the IFT's to between 6.8 and 7 Mcs. (Screw in cores). Next adjust the oscillator coil padding capacitor for maximum noise. This capacitor is situated beneath the chassis, near the coil.
- (2) The mixer coil padding capacitor, also beneath chassis near coil, is next tuned to maximum capacity—indicated when the black lines are together.
- (3) The RF padding capacitor, also below chassis, is similarly tuned.
- (4) Next adjust the main tuning assembly for maximum capacity.
- (5) Short the aerial input to chassis to prevent 7 Mcs breakthrough, and then adjust the IF's to maximum noise level.
- (6) Remove aerial short, and connect dipole to aerial input jack.
- (7) Now adjust the variable trimmer of oscillator section, situated at rear of unit above gang capacitor, for maximum noise level, and leave.
- (8) Likewise adjust the trimmer of mixer section, situated in centre above gang, also for maximum noise.
- (9) Next adjust the trimmer above RF section of gang until the carrier of the sound channel is heard. This should peak with the gang almost at maximum capacity. The RF adjustment is rather critical and should be carefully made.
- (10) Now peak aerial input trimmer on front of unit.
- (11) Next tune main gang to about quarter capacity, when the video channel should be heard.
- (12) Final trimming can now be carried out, going over all trimmers in turn, as mentioned above, for maximum signal response, but the oscillator trimmer below chassis should NOT again be touched. The IF's will still, of course, require "staggering" for video use.



RC 647

Circuit of the R1147A Receiver.