

# MODIFICATIONS to CIVILIAN WAR-TIME RECEIVERS

The following notes have been received from manufacturers and indicate ways in which War-time Civilian Receivers of their make differ from the standard designs described on pages iv and v of last month's "Service Engineer."

## U3 (COSSOR)

### AC Model

(1) A 47,000 ohms anti-modulation hum resistor is fitted across A and E terminals.

(2) Aerial and oscillator coils L1, L2, L3, L4 are not fitted with dust-iron cores. Should C5 be renewed, tracking of the oscillator section may sometimes be improved by softening wax securing oscillator coil L3 and altering its position slightly.

(3) IF transformer coupling coil Lx not included.

(4) IF transformers are adjusted to a frequency of 462.5 kcs. The iron core adjustments are all accessible without removing chassis. The connections are colour coded as follows:—

1st.—IF transformer (centre can, No. MC11572):—

Blue lead to junction of C7, R2, R8, R7.

Black lead to grid cap of V2.

Brown lead to V1 anode.

Orange lead to HT line.

2nd.—IF transformer (end can, No. MC11573):—

Orange lead to HT.

Brown lead to V2 anode.

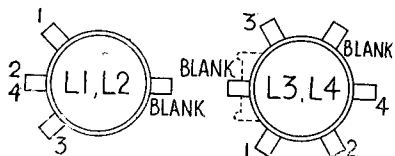
Black lead to MR1.

Blue lead to R10 Vol. Con. and junction of R11, R12.

(5) Metallising of V2 and V1 is taken to E.

(6) Tags of coils are not numbered, but sketches below indicate appropriate connections:—

Aerial coupling and tuning coils L1, L2 (top of chassis): (1) to C1; (2) and (4) to C2, R2; (3) to V1 grid cap, and C19, C20.



Oscillator tuning and reaction coils L3, L4 (under chassis): (1) to V1, V2 screens, and R4, C6; (2) to V1 oscillator anode; (3) to junction

of R3, C5; (4) to V1 grid and C21, C22.

(7) Resistance R14 is composed of two 2,200 ohm resistors in parallel.

(8) Capacitor C1 is mounted on group board: R1, C2, R3, C5 are in slightly different positions.

(9) Mains transformer primary tappings are behind V4 rectifier valve (Cossor 43IU or equivalent).

## U4 (HMV), U4A (MARCONIPHONE) AC Model

(1) In majority of production C11 and C12 are returned to "earthy" end of L8 and not to chassis.

(2) L1, L2, L3 and L4 are dust-cored.

## U5 (FERGUSON)

IF transformers are air-cored with mica trimmers.

## U8, U31, U33, U34, U37, U39 AC Model

(1) Coils.—Adjustment of aerial and oscillator inductances at the low frequency end of the band is not necessary. They are closely adjusted at the factory and then sealed.

In the IF coils, the secondary adjusting core is the top one of the two in each can. The detector is connected to a tap on L8 to reduce damping.

The loudspeaker is mounted with the transformer on right-hand side viewed from back of set.

(2) Condensers.—C16, C17, C18 may be three wet electrolytics, three dry, or a combination of the two types.

When wet types are used: C17 and C18 may be any valve between 8 and 32 mfd, 350v; C18 is mounted on the chassis between V3 and the variable condenser; C16 and C17 are on a bracket on top of the mains transformer.

C3, C8 and C9 are each 103 pfd.

C4 is 97 pfd.

C15 is under the chassis below V3.

(3) Resistances.—R14 is made up of two 2,200 ohms, 1 watt resistors in parallel; R15 is two 4,700 ohm 1-watt resistors in parallel.

## U8, U14, U31, U33, U34, U37, U39 Battery Model

(1) Coils.—Adjustment of aerial and oscillator coils at low-frequency end of the

band is not necessary. The signal diode is connected to a tap on L8 to reduce damping.

(2) Condensers.—C3, C10, C11 are each 103 pfd. C4 is 97 pfd. C17 is mounted under the chassis below V4.

(3) Lead Colours.—HT negative is yellow; leads to output transformer for both valve anode and HT are green. Lead colours may change, however, as the wire supply position changes.

U8 (PHILIPS).—See above.

## U9 (PYE)

### AC and Battery Models

(1) 1st IF transformer is unscreened.

(2) The IF tuning capacities are of 140 pfd.

(3) Adjustment of 1st IF (which should not be necessary) can be made by slight movement of top winding and bottom section of lower winding. Seal with suitable dope.

(4) Adjustment of 2nd IF is by adjustable dust cores.

(5) Adjustment of aerial coil by upper section of winding.

(6) Adjustment of oscillator coil by layer turns at side of main winding.

(7) Speaker impedance, 3-4 ohms.

## U14 (FERRANTI)

### AC Model

(1) Primary coil L1 of the aerial coil is omitted, but a spare tag connected to the earth end of the coil is provided for the aerial connection.

(2) IF transformers are variable-capacity tuned.

(3) In ganging there is no need to adjust the core of the aerial coil which has been semi-permanently set.

Battery Model:—See U8.

U18 (INVICTA).—See U9.

## U21 (PHILCO)

(1) L1 and L2 have adjustable dust cores.

(2) Metallising of V1 and V2 and mains transformer primary screen are taken to E.

(3) Mains voltage range is 195-250.

(4) Speaker impedance, 4-6 ohms.

## U28 (FITON)

Aerial and oscillator coils in both types are air cored.

On the AC model, a 10,000 ohm resistor is used as grid stopper on the output valve.

U30 (PAMPHONIC).—See U9.

U31 (MRG).—See U8.

U33 (ROBERTS).—See U8.

U34 (RGD).—See U8.

U37 (GRAVES).—See U8.

U39 (NH RADIO).—See U8.

# KEY to MAKERS' CODE

For the assistance of retailers and engineers when servicing War-time Civilian Receivers and obtaining replacement valves and components, we here give the key to the code numbers on valves and sets. This information is for trade use only.

CLAIMS for free replacement under guarantee of any valve in the War-time Civilian Receivers must be made on the valve manufacturer, whose name can be identified by reference to the final number of code marking on the valve, as follows:—

..... 1	Cossor
..... 2	Ediswan
..... 3	Ferranti
..... 4	GEC (Osram)
..... 5	Marconiphone
..... 6	Mullard
..... 7	STC (Brimar)

All applications for such replacements must be made in conjunction with a properly completed BVA replacement form.

## MAKERS OF SETS

Name and Address of Manufacturer	Code Reference
Ace Radio, Ltd., Central Equipment Factory, Wadsworth Road, Perivale, Middlesex	U40
Aren Radio and Television, Ltd., 25, Ferry Road, Teddington	U38
A. J. Balcombe, Ltd., 52, Tabernacle Street, EC42	U11
Burndept, Ltd, West Street, Erith	U12
Bush Radio, Ltd, Power Road, Chiswick, W4	U1
Beethoven Electric Equipment Co, Ltd, Chase Road, North Acton	U36
Central Equipment, Ltd, Wadsworth Road, Perivale, Middlesex	U13
A. C. Cossor, Ltd, Cossor House, Highbury Grove, N5	U3
Decca Record Co., Ltd, 1-3, Brixton Road, SW9	U26
Dulci Co, Dulci Works, Tower Road, Pound Lane, Willesden	U27
E. K. Cole, Ltd, Green Park Hotel, Aston Clinton, Bucks	U2
Felgate Radio, Ltd, Felgate House, Studland Street, Hammersmith	U15
Ferguson Radio Corporation, Ltd, 105, Judd Street, WC1	U5
Ferranti, Ltd, Hollinwood, Lancs.	U14
R. N. Fitton, Ltd, Radio Works, Hutchinson Lane, Brighouse	U28
General Electric Co, Ltd, Magnet House, Kingsway, WC2	U6
Gramophone Co, Ltd, Head Office, Hayes, Middlesex	U4
J. G. Graves, Ltd, Hallamsgate Works, Crooks Road, Sheffield	U37

Hale Electrical Co, Ltd, Broad Lane, Stamford Road, Tottenham, N.17	U16
Halcyon Radio, Ltd, Sterling Works, Dagenham, Essex	U17
Invicta Radio, Ltd, Radio Works, Parkhurst Road, N7	U18
Kolster-Brandes, Ltd, Foots Cray, Sidcup, Kent	U32
Lissen, Ltd (Ever Ready), Bowman's Place, Holloway, N7	U19
McMichael Radio, Ltd, Wexham Road, Slough, Bucks	U20
Mains Radio Gramophones, Ltd, Norton Gate Works, Manchester Road, Bradford	U31
Marconiphone Co, Ltd, Head Office, Hayes, Middlesex	U4A
Murphy Radio, Ltd, Welwyn Garden City, Herts.	U7
N H Radio Products, Ltd, 88, Vyse Street, Birmingham	U39
Pamphonic Radio, Ltd, Radio Works, Cambridge	U30
Philco Radio and Television Corporation, Ltd, Donington House, Norfolk Street, Strand, WC2	U21
Philips Lamps, Ltd, Century House, Shaftesbury Avenue, WC	U8
Pilot Radio, Ltd, 31-33, Park Royal Road, NW10	U22
Plessey Co, Ltd, Vicarage Lane, Ilford, Essex	U23
Portadyne Radio, Ltd, Gorst Road, North Acton, NW10	U29
Pye, Ltd, Radio Works, Cambridge	U9
R M Electric, Ltd, Majestic Works, Second Avenue, Team Valley Estate, Gateshead	U25
Radio Gramophone Development Co, Ltd, Pale Meadow Print Works, Hospital Street, Bridgworth, Salop	U34
Regentone Products, Ltd, 3-4, The Broadway, Edmonton, N9	U24
Roberts Radio Co, Ltd, 35-37, Creek Road, East Molesey, Surrey	U33
R S C Radio, Ltd, 39a, Welbeck Street, W1	U35
Solectric, Ltd, Sparton Works, Plantation Road, Amersham	U41
Ultra Electric, Ltd, Western Avenue, Acton, W3	U10
Vidor, Ltd, West Street, Erith	U12A
Whiteley Electrical Radio Co, Ltd, Victoria Street, Mansfield, Notts	U42