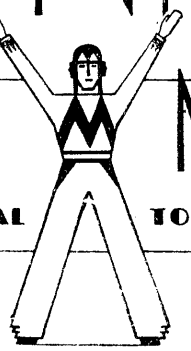
# MARCONIPHONE



## SERVICE MANUAL

PRIVATE AND CONFIDENTIAL TO THE TRADE ONLY

## MODEL 382 4 VALVE ALL-WAVE RECEIVER FOR A.C. OR D.C. MAINS




OCT.
1936
1937 SERIES
NUMBER FIVE
PART NO. 26045

# SPECIFICATION

## VOLTAGE RANGE

200 to 250 volts, D.C. or A.C.
25 to 60 cycles (A.C.).

## POWER CONSUMPTION

Approximately 78 watts radio.

## FUSES

This instrument is protected with two 1·25 amp. fuses which are accessible when the mains plug is removed from the back of the cabinet. Use only fuses coded with a yellow spot for replacement. (Part No. 19850A.)

## SPEECH OUTPUT

Approximately 2 watts (undistorted).
Anode dissipation of N31 output valve, 8 watts.

## WAVELENGTH RANGES

| | | | |
|---|---|---|---|
| Short Waves | ... ... ... ... | 16·5 to 50 | metres. |
| Medium Waves | ... ... ... ... | 200 to 580 | metres. |
| Long Waves | ... ... ... ... | 750 to 2,000 | metres. |

## DIMENSIONS

| | | |
|---|---|---|
| Height | ... ... ... ... ... | 16½ inches. |
| Width | ... ... ... ... ... | 19 inches. |
| Depth | ... ... ... ... ... | 11 inches. |

## WEIGHT

39 lb. nett.
51 lb. gross.

## VALVES

| | | |
|---|---|---|
| Marconi X31 (met.) | ... ... ... | Frequency Changer. |
| ,, W31 (met.) | ... ... ... | I.F. Amplifier. |
| ,, D41 (met.) | ... ... ... | Diode Detector and A.V.C. Rectifier. |
| ,, N31 | ... ... ... ... | Output Pentode. |
| ,, U30 | ... ... ... ... | H.T. Rectifier. |
| ,, 304 | ... ... ... ... | Barretter. |

## LOUDSPEAKER

No. 24460D.
High flux density permanent magnet loudspeaker with elliptical cone.

| | | |
|---|---|---|
| D.C. resistance of speech coil | ... ... | 4 ohms. |
| Impedance at 800 cycles | ... ... | 5 ohms. |

# CIRCUIT DESCRIPTION

### Aerial Coupling

The coupling circuit L14, C30, L1, C2 has a low impedance at the I.F. frequency (465 Kc.) but gives a constant degree of coupling over all the tuning ranges. Centre tapped L4 provides for doublet aerial connexion if required. On medium and long waves a capacity (C3) coupled band pass input circuit is used (L21 is an image rejector) but on short waves a single tuned circuit L5, TC1, VC2 is used before the first valve.

### Frequency Changer

The X31 triode-hexode has tuned grid oscillator circuits and the reaction coil coupling which includes R4 and C9 ensures constancy of beat frequency. The first I.F. transformer is in the anode circuit of this valve, and the mixer grid is connected down to the A.V.C. line.

### I.F. Amplifier

The usual four I.F. tuned circuits are associated with the pentode W31 which is A.V.C. controlled. The intermediate frequency is 465 Kc.

### Detector and A.V.C.

The D41 double diode is fed from the secondary of the second I.F. transformer, the signal diode direct, and the A.V.C. diode via C13. Delay voltage is developed across R16 (cathode bias for V4) and is applied by coupling the cathodes of V3 and V4 together and connecting the A.V.C. diode load R8 down to H.T.— The A.V.C. filter network is R7, C11, R1. The signal channel is very completely filtered by L19, L20, C14 and C15, and the L.F. output is fed from the diode load R9 via C16 to the volume control VR1.

### Output Pentode

High efficiency output pentode N31 is fed from the volume control and is coupled to the loudspeaker via the output transformer T1. Tone correction is supplied by C21, whilst C22 and C23 are switched across the anode to provide tone control.

### H.T. Rectifier

The U30 is connected as a single wave rectifier with CK1 and electrolytic condensers C26 and C25 providing smoothing. On D.C. the rectifier operates as a low resistance.

### Barretter

The 304 type barretter is of the hydrogen-ion variety which maintains the current at a practically constant value over the whole mains voltage range. The heaters of all the valves and the pilot lamps are in series with this barretter.

### Mains Input

A completely filtered and fused mains input circuit is provided, with double pole ON-OFF switch. **The chassis of this receiver is connected to one side of the mains, and care must be taken when servicing to avoid touching the chassis and, above all, to avoid contacting an earth wire on to it.** The earth socket is connected to the centre point of the mains filter condensers C27, C29.

## ERECTION OF AERIALS

Good reception depends on the aerial, and this is especially true in the case of short wave reception. Where trouble is experienced from interference the Marconiphone All-Wave Static-Free aerial is recommended. The All-Wave Static-Free aerial is not only anti-static on all wavebands but is also more efficient than a normal aerial. For hints on erection, consult the instruction book supplied with the equipment.

Provision has been made in the receiver for the connexion of a doublet aerial, a type which often gives considerably improved signal to noise ratio on the short wavebands. The lengths of the two poles of the doublet should be 15 feet 3 inches or 43 feet 6 inches. For further particulars, see Model 534 Service Manual.

## DISMANTLING

### REMOVAL OF CHASSIS

1. Remove back and knobs.

2. Remove earth lead screwed to tag at left-hand bottom corner of cabinet and uncleat and unsolder loudspeaker wires.

NOTE.—The loudspeaker wires are sufficiently long to allow the chassis to be withdrawn far enough for examination.

3. Disassemble mains switch from cabinet.

4. Remove the wooden feet of the cabinet, and the four fixing screws which are thus uncovered. The chassis can now be withdrawn.

### REMOVAL OF LOUDSPEAKER

1. Disconnect leads.

2. Remove four screws and withdraw speaker.

## PRELIMINARY TESTS

The following tests, if systematically carried out, will help in locating a fault in the receiver :—

| | |
|---|---|
| Resistance between mains input pins, 150 ohms. | Disconnect receiver from mains, and with the switch on, measure with an ohmmeter across the mains input pins on the receiver. |
| Pins to earth socket—infinity. | Infinity reading suggests blown fuses, valve or pilot lamp, faulty CK2, CK3, or S3. A value of less than infinity between earth socket and pins indicate that C27 or C29 needs replacement. |
| Voltage between top terminal V2 (W31) and chassis 195 to 245 volts, according to mains voltage. | Absence of voltage at this point indicates fault in the H.T. supply circuit, V5, CK1, or possibly faulty IFT1 primary. See continuity table, page 8. |
| L.F. Test. | In the case of the radio gram results on gramophone but not radio indicates a fault in V1, V2, V3 or associated circuits. The table model L.F. side may be tested by removing the earth lead, turning the volume control full up, and contacting one side of the fixed condenser on to the centre tag of the volume control VR1, the other end of the condenser being held in the fingers. A loud hum indicates that the L.F. side and loudspeaker is O.K. |
| Radio circuit test. Insert an insulated end of aerial into L1, 2, 3 can, and then into L4, 5, 6 can. | Results from a medium wave local station should be obtained with both of these tests. Absence of results indicates in the first test fault in coupling circuit, L4, C30, L1, or C2, and in the second fault in the first band-pass circuit and/or coupling circuit. |
| Emission test of V1. Voltage between metallizing and chassis, 0·8 volts. | This voltage is taken with aerial disconnected. If the X31 is not working correctly this value may be a little higher. Also check readings given in the valve table, page 7. |

## CORD DRIVE

Use only a superior flax fishing line having a breaking strain of approximately 42 lb. Approximate length of cord 48 inches.

1. Tie one end of the cord on to the right-hand anchor tag on the pointer carriage, and fully engage the condenser vanes.
2. Hold the pointer carriage so that the pointer is about $\frac{3}{8}$ inch from the end of the transparent scale " channels," and take the cord round the right-hand pulleys and then round the tuning drive spindle (anti-clockwise) six complete turns.
3. Now take cord through the gap in the collar on the tuning spindle and round one more anti-clockwise turn.
4. Take cord round the left-hand pulleys and tie the end on to the remaining anchor point on the pointer carriage so that the pivoted pulley support tensions the cord an adequate amount.
5. Tune in a station at approximately 350 metres and adjust pointer to read correctly by slackening the two anchor tag fixing screws.

## H.F. TESTS AND ADJUSTMENTS

Instability, insensitivity or poor selectivity indicate that the alignment of the tuned circuits is not correct. If a coil or other component associated with the H.F. or I.F. side of the receiver has been replaced or repaired, or if wiring has been disarranged, all circuits must be realigned.

To do this the following apparatus is required. An oscillator or signal generator capable of tuning from 16·8 to 1,950 metres suitably screened and with an attenuator, and an output meter. The E.M.I. Service equipment is eminently suitable. Alternatively an 0 to 2 A.C. voltmeter may be used as an output meter.

In carrying out the following operations it is important that the input to the receiver from the oscillator should be kept low, and progressively reduced as the circuits are brought into line, so that

the reading on the output meter does not exceed approximately 50 mW. or 0·5 volt. The output meter should be connected to Anode V4 (N31) and chassis via 1 mfd. condensers. The 0–2 voltmeter must only be connected across the speech coil of the loudspeaker.

### I.F. Alignment.

Adjust receiver to MW, tone control fully anti-clockwise, volume control fully up and gang condenser at minimum. Inject the signal between V1 grid (via a 0·1 mfd. condenser) and chassis.

IMPORTANT.—Remember that the chassis of this receiver is " live " and it may be advisable (particularly if your oscillator has a permanent earthing connexion) to include a 0·1 mfd. condenser in **both** oscillator leads for all ganging operations.

1. Adjust oscillator accurately to 465 kc.
2. Adjust TC11, TC12, TC13 and TC14 for maximum output.
3. Repeat the adjustment of the above trimmers **in the same order** until no further adjustment is required.

### Medium Waves

Connect oscillator leads to aerial and earth sockets via a dummy aerial.

1. Set oscillator to 200 metres, and tune receiver to this signal.
2. Adjust TC4 and TC2 in that order for maximum.
3. Set receiver and oscillator to 550 metres and adjust TC8, at the same time " rocking " the gang condenser.
4. Repeat operations 1, 2 and 3.
5. Tune oscillator to 350 metres, tune in receiver and set pointer to read this wavelength accurately on the wave scale.

### Long Waves

1. Set oscillator to 800 metres and receiver to same wavelength (by the tuning scale).
2. Adjust TC9 and TC5, in that order, for maximum.
3. Tune oscillator and receiver to 1,950 metres, and adjust TC10, at the same time " rocking " the gang condenser.
4. Repeat operations 1, 2 and 3.

### Short Waves

Adjust tone and volume controls as for I.F. ganging, and connect oscillator to aerial socket (via a 400-ohm resistance) and earth sockets.

1. Set receiver to 16·8 metres by the tuning scale, and carefully adjust TC6 for maximum output on a 16·8 metre signal from the oscillator.
2. Alter oscillator to 20 metres, tune in signal on receiver and adjust TC1, at the same time " rocking " the gang condenser.
3. Set oscillator to 50 metres, tune in on receiver and adjust the inductance of L5 for maximum output by moving the loop of wire inside the coil former towards or away from the chassis.
4. Repeat operations 1, 2 and 3 to check correctness of trimmer settings.

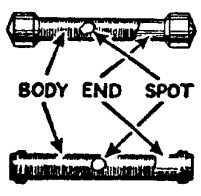
### WIRE COLOUR CODE.

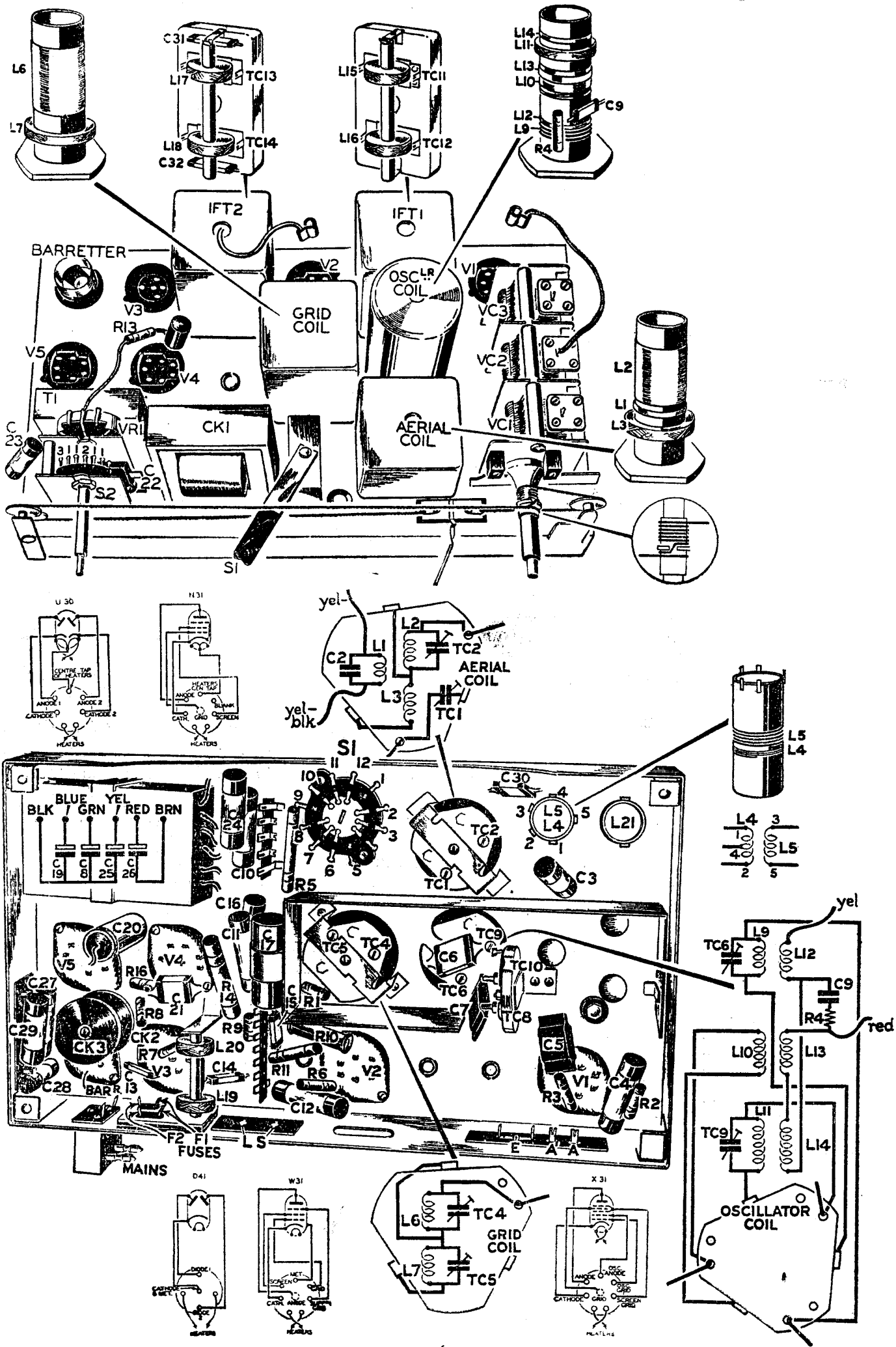
| | |
|---|---|
| H.T. positive (+) ... ... ... | Red. |
| Anodes of valves when not direct to H.T. + ... ... ... ... | Red/Yellow. |
| Screening grids when not direct to H.T. + ... ... ... ... | Red/Black. |
| Grid circuits ... ... ... ... | Green. |
| Mains ... ... ... ... ... | Orange. |
| Heaters, filaments and cathodes ... | Brown. |
| Earth ... ... ... ... ... | Black. |
| General purpose colour ... ... | Yellow. |

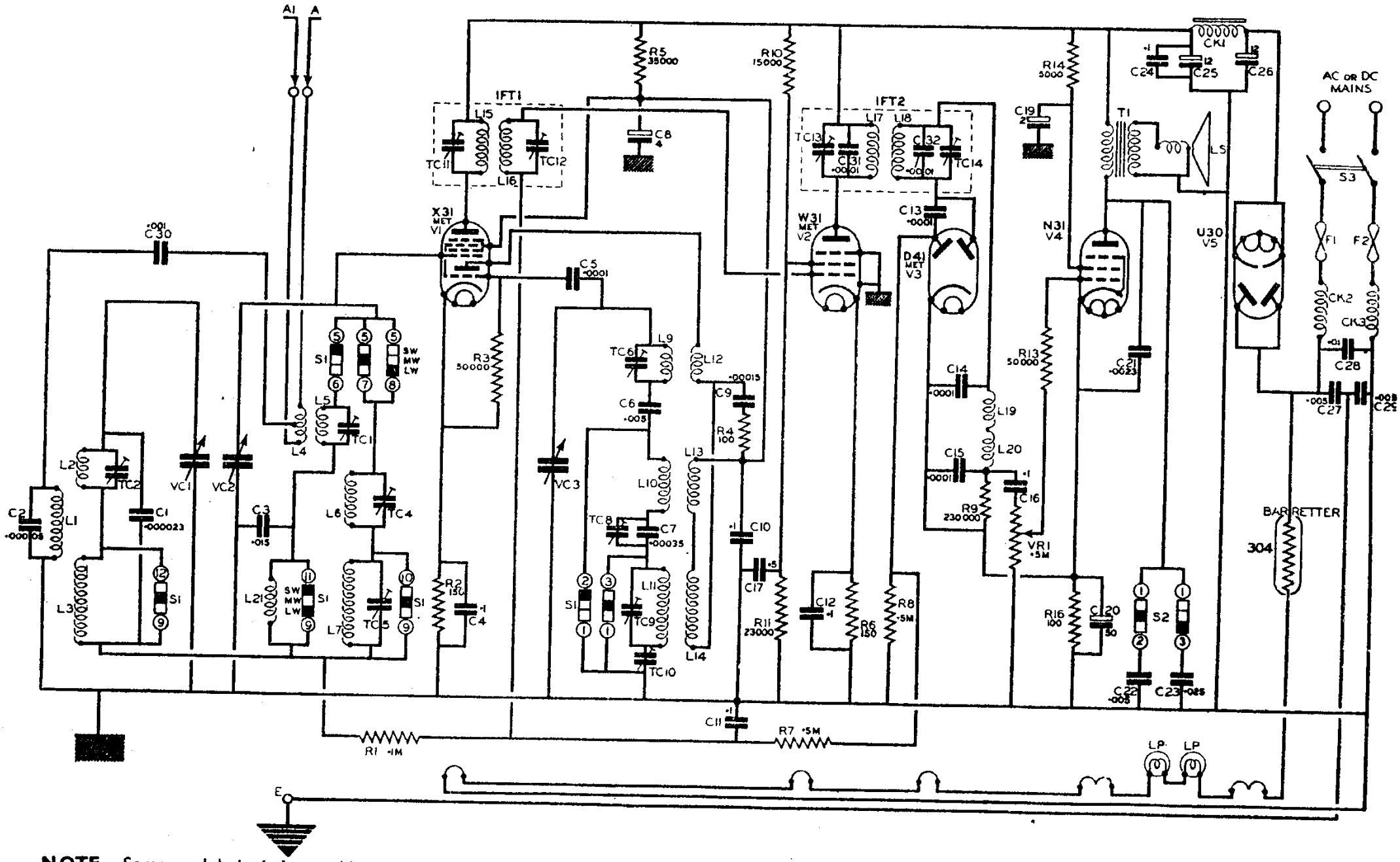
Yellow will be used for leads not falling in the general code, and when stocks of any colour are temporarily exhausted in the factory.

### RESISTANCE COLOUR CODE.

| BODY AND END Colours. (1st and 2nd figures.) | SOPT Colours. (Additional 0's.) |
|---|---|
| 0 Black. | ·0 Black. |
| 1 Brown. | 0· Brown. |
| 2 Red. | 00· Red. |
| 3 Orange. | 000· Orange. |
| 4 Yellow. | 0,000· Yellow. |
| 5 Green. | 00,000· Green. |
| 6 Blue. | |
| 7 Violet. | |
| 8 Grey. | |
| 9 White. | |




L6
L7
C31
L17
TC13
L18
TC14
C32
L15
TC11
L16
TC12
L14
L11
L13
L10
L12
L9
C9
R4
IFT2
IFT1
BARRETTER
V2
OSC COIL
LR
V1
GRID COIL
V3
RI3
VC3
V5
V4
VC2
L2
T1
L1
L3
C 23
VR1
CK1
AERIAL COIL
VC1
C 22
S2
S1
yel
L2
L1
TC2
C2
AERIAL COIL
L3
yel-blk
TC1
L5
L4
S1
BLUE
YEL
BLK
GRN
RED
BRN
C 19
C 8
C 25
C 26
C24
C10
R5
C30
L5
L4
L21
TC2
TC1
C3
C16
C11
C17
C20
V5
V4
R16
C27
R14
C 21
R8
C29
CK3
CK2
R9
R10
R7
L20
V3
C14
R11
R6
V2
C28
BAR
C 13
L19
C12
F2
F1
FUSES
L 5
MAINS
TC5
TC4
C6
TC9
TC10
TC6
C7
TC8
C5
V1
C4
R3
R2
E
A
A
yel
TC6
L9
L12
C9
R4
red
L10
L13
L11
TC9
L14
OSCILLATOR COIL
L6
TC4
GRID COIL
L7
TC5




**NOTE.**—Some models include an additional ·0005 mfd. condenser (C35) wired between the anodes and the cathodes of V5.

# VALVE TABLE

Values given are ± 10 per cent. and are taken on 225-volt A.C. mains. Voltages will vary in proportion with the voltage of the mains on which the receiver is operating. Receiver set to M.W. and tuned to a point of no reception unless otherwise stated.

| | V1 (X31) | V2 (W31) | V3 (D41) | V4 (N31) | V5 (U30) |
|---|---|---|---|---|---|
| Anode/Chassis, Volts ... ... ... ... ... ... | Osc.* 50 (70) Mxr. 220 | 220 | — | 210 | — |
| Screen/Chassis, Volts ... ... ... ... ... ... | 50 (70*) | 115 (90*) | — | 180 | — |
| Cathode/Chassis, Volts ... ... ... ... ... | 0·8 (0·6*) | 1·5 (0·5*) | 4·25 | 4·25 | 235 |
| Heater, Volts (A.C. or D.C.) ... ... ... ... | 15 | 15 | 4 | 30 | 30 |

* On a strong local station.
Total H.T. feed, 69 mA.
Current through heaters of all valves, barretter and pilot lamps, 0·33 A.
Voltage across barretter, 90 to 140 volts, according to mains voltage.
Voltage across U30 on D.C., approximately 12 volts.
Voltage across two pilot lamps, approximately 9 volts.

# CONTINUITY CHECKS

Readings ± 20 per cent.

| Components. | Measured. | Switch. | Resistance. |
|---|---|---|---|
| L1 ... ... ... ... | Across ends ... ... ... ... ... ... | | 14 ohms. |
| L2 & L3 ... ... ... | Fixed vanes VC1 and contact 9 S1 ... ... ... | M.W.<br>L.W. | L1, 2·5 ohms.<br>L1 + L2, 24 ohms. |
| L4 ... ... ... ... | Aerial sockets ... ... ... ... ... ... | — | 0·7 ohm. |
| L5, L6 and L7 ... ... | Top terminal V1 (X31) and contact 9 S1 ... ... | S.W.<br>M.W.<br>L.W. | L5, 0·1 ohm.<br>L6, 2·4 ohms.<br>L6 + L7, 19·0 ohms. |
| L9, L10, L11 ... ... | Across ends ... ... ... ... ... ... | — | L 9, 0·1 ohm.<br>L10, 5·75 ohms.<br>L11, 4·5 ohms. |
| L12, L13, L14 ... ... | Osc. anode and screen socket V1 (X31) ... ... | — | 6·0 ohms.<br>L12, 1·0 ohm.<br>L13, 2·0 ohms.<br>L14, 3·0 ohms. |
| L15, L17 ... ... ... | Anode V1 (X31) and anode V2 (W31) ... ... | — | 8·5 ohms.<br>L15, 5·25 ohms.<br>L17, 3·25 ohms. |
| L16, R1, L5... ... ... | Grid V1 (X31) and V2 (W31) ... ... ... | — | 100,000 ohms.<br>(L16, 5·25 ohms.) |
| L18, L19, L20, R9, R16 ... | Diode anode V3 (D41) and chassis ... ... | — | 0·23 megohm.<br>L18, 3·5 ohms.<br>L19, 130 ohms.<br>L20, 130 ohms. |
| L21 ... ... ... | Across ends ... ... ... ... ... ... | M.W. | 0·3 ohm. |
| R8, R7, L16 ... ... | Grid V2 (W31) and chassis ... ... ... ... | — | 1·0 megohm. |
| R13, VR1 ... ... ... | Grid lead V4 (N31) and chassis ... ... ... | — | 50,025 ohms. to 0·55 megohm according to position of VR1. |
| CK1, L17 ... ... ... | Anode V2 (W31) and cathode socket V5 (U30) ... | — | 245 ohms. (CK1, 240 ohms.). |
| CK2 ... ... ... | One mains input pin and anode socket V5 (U30)... | ON | 3·5 ohms. |
| CK3 ... ... ... | Other mains input pin and chassis ... ... ... | ON | 3·5 ohms. |
| T1 Primary, L17 ... ... | Anode V2 (W31) and anode V4 (N31) ... ... | — | 450 ohms. |
| T1 Secondary ... ... | Disconnect loudspeaker lead ... ... ... | — | 0·7 ohm. |
| L.S. Speech Coil ... ... | Across ends ... ... ... ... ... ... | — | 4 ohms. |

# SPARE PART LIST

## MODEL 382

| Part No. | Description. | Parts per Inst. | Finish. | Retail List Price. £ s. d. | Per |
|---|---|---|---|---|---|
| | **Instructions.** | | | | |
| 80303 | Warning and valve position label... | 1 | — | 0 0 9 | Doz. |
| 25289 | Instruction card | 1 | — | 0 0 6 | Each. |
| 22291 | Short wave guide | 1 | — | 0 0 6 | ,, |
| | **CABINET PARTS AND FITTINGS.** | | | | |
| — | **Cabinet** | 1 | Pol. | 4 5 0 | Each. |
| 8195 | Rubber feet | 4 | — | 0 0 8 | Doz. |
| 25275A | Wire mesh | 1 | AnBrSpec | 0 3 9 | Each. |
| 80299 | Felt for wire mesh, top or bottom | 4 | — | 0 0 6 | Doz. |
| 80301 | Felt for wire mesh, sides | 4 | — | 0 0 3 | ,, |
| 80308 | Felt for escutcheon, top or bottom | 2 | — | 0 0 3 | ,, |
| 80309 | Felt for escutcheon, sides | 2 | — | 0 0 1 | ,, |
| 14922 | Insert nut, for loudspeaker | 4 | CB | 0 1 4 | Each. |
| 81252 | Screen paper | 1 | — | 0 0 1 | ,, |
| 24873 | Bracket, for cabinet back | 4 | CdP | 0 0 1 | ,, |
| 8602 | Screw, securing brackets | 8 | — | 0 0 2 | ,, |
| 25276B | Cabinet back, complete with barretter cowl | 1 | — | 0 3 6 | ,, |
| 19896 | Screw } securing cabinet back | 4 | ParB | 0 0 1 | ,, |
| 19895 | Washer } securing cabinet back | 4 | ParB | 0 0 4 | Doz. |
| 19214D | S3—Mains On/Off switch | 1 | BzSp | 0 3 9 | Each. |
| 14697 | Nut | 1 | WN | 0 0 11 | Doz. |
| 21238 | Switch plate | 1 | CdP | 0 0 1 | Each. |
| 19875 | Switch escutcheon | 1 | BzSp | 0 0 6 | ,, |
| 25286A | Wave change escutcheon | 1 | — | 0 0 6 | ,, |
| 25279 | Spring clip } securing escutcheon | 2 | BzSp | 0 0 1 | ,, |
| 9545 | Screw } securing escutcheon | 2 | WN | 0 0 3 | Doz. |
| 25288 | Felt, for escutcheon | 1 | — | 0 0 6 | ,, |
| | **LEADS, PLUGS, CLEATS, ETC.** | | | | |
| 19867B | Mains socket | 1 | — | 0 2 6 | Each. |
| 19867 | Base moulding | 1 | — | 0 1 3 | ,, |
| 19870A | Spring contact | 2 | — | 0 0 1 | ,, |
| 11228 | Screw } | 4 | WN | 0 0 4 | Doz. |
| 15159 | Tag } securing spring contacts to base moulding | 2 | — | 0 0 3 | ,, |
| 3165 | Washer, S.P. } | 1 | — | 0 0 2 | ,, |
| 19868 | Cap moulding | 1 | — | 0 1 0 | Each. |
| 11430 | Screw, securing cap moulding to base moulding | 4 | WN | 0 0 4 | Doz. |
| 19063D | Mains lead | 1 | — | 0 1 6 | Each. |
| 25297A | Switch earth lead, with one tag | 1 | — | 0 0 3 | ,, |
| 15159 | Tag | 1 | — | 0 0 3 | Doz. |
| 25296A | Loudspeaker lead | 1 | — | 0 0 4½ | Each. |
| 17614 | Bracket, securing earthing leads | 1 | WN | 0 0 2 | ,, |
| 8602 | Screw, securing bracket to cabinet | 1 | WN | 0 0 2 | Doz. |
| 11228 | Screw, securing leads to bracket | 1 | WN | 0 0 4 | ,, |
| 16289B | Plug, black | 1 | — | 0 0 2 | Each. |
| 16289J | Plug, yellow | 2 | — | 0 0 2 | ,, |
| 18889A | Carton, for mains lead and plugs | 1 | — | 0 0 1 | ,, |
| | **CONTROLS.** | | | | |
| 25278B | Knob—" Volume " (inner) | 1 | ChF | 0 0 6 | Each. |
| 25277A | Knob—Tone (outer) | 1 | — | 0 0 6 | ,, |
| 25278A | Knob—" Tuner " (inner) | 1 | ChF | 0 0 6 | ,, |
| 25277 | Knob—Tuning (outer) | 1 | — | 0 0 6 | ,, |
| 11773 | Grub screw, securing inner knob | 2 | WN | 0 0 5 | Doz. |

| Part No. | Description. | Parts per Inst. | Finish. | Retail List Price. £ s. d. | Per |
|---|---|---|---|---|---|
| | **LOUDSPEAKER.** | | | | |
| 24460D | **Loudspeaker,** with earthing lead ... ... ... ... ... ... | 1 | — | 1 0 0 | Each. |
| 24763A | Magnet ... ... ... ... ... ... ... ... ... ... ... | 1 | — | 0 12 0 | ,, |
| 24460B | Cone chassis ... ... ... ... ... ... ... ... ... ... | 1 | CdP | 0 2 6 | ,, |
| 25134 | Stud } securing magnet to cone chassis ... ... ... ... | 4 | WN | 0 0 9 | Doz. |
| 11627 | Nut } | 4 | WN | 0 0 6 | ,, |
| 24461B | Speech coil and cone ... ... ... ... ... ... ... ... | 1 | — | 0 3 0 | Each. |
| 19585 | Card washer } | 2 | — | 0 0 1 | Doz. |
| 25205 | Washer plate } securing spider of cone to studs on cone chassis | 1 | WN | 0 0 1½ | Each. |
| 19687 | Nut } | 2 | AcD | 0 0 2 | Doz. |
| 25206 | Cone mounting ring (thin) ... ... ... ... ... ... ... | 1 | — | 0 0 2 | Each. |
| 25203 | Cone mounting ring (thick) ... ... ... ... ... ... ... | 1 | — | 0 0 2 | ,, |
| 25204 | Felt ... ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 1½ | ,, |
| 25202 | Dust bag ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 4½ | ,, |
| 15161 | Tag (on earthing lead) ... ... ... ... ... ... ... | 1 | — | 0 0 6 | Doz. |
| 11212 | Screw } securing loudspeaker to insert nuts in bane ... ... | 4 | WN | 0 0 2 | ,, |
| 3167 | Washer, S.P. } | 4 | — | 0 0 2 | ,, |
| | **RADIO UNIT** | | | | |
| 25100C | **Radio Unit** ... ... ... ... ... ... ... ... ... | 1 | — | 8 5 0 | Each. |
| 11208 | Screw } | 4 | WN | 0 0 8 | Doz. |
| 10173 | Spring washer } securing radio unit ... ... ... ... ... | 4 | — | 0 0 2 | ,, |
| 3531 | Washer } | 4 | WN | 0 0 2 | ,, |
| | **INDUCTANCES.** | | | | |
| 25181A | L1—M.W. and L.W. coupling coil<br>L2—M.W. aerial coil<br>L3—L.W. aerial coil ... ... ... ... ... ... ... | 1 | — | 0 3 6 | Each. |
| 25116A | L4—S.W. coupling coil<br>L5—S.W. grid coil ... ... ... ... ... ... ... | 1 | — | 0 1 6 | ,, |
| 25177 | Wood plug ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 1 | ,, |
| 24114 | Screw, securing L4-L5 to plug ... ... ... ... ... ... | 2 | AcD | 0 0 3 | Doz. |
| 11280 | Screw } | 1 | AcD | 0 0 2 | ,, |
| 3165 | Washer, S.P. } securing plug to chassis ... ... ... ... ... | 1 | — | 0 0 2 | ,, |
| 11637 | Nut } | 1 | AcD | 0 0 6 | ,, |
| 25181B | L 6—M.W. grid coil<br>L 7—L.W. grid coil ... ... ... ... ... ... ... ... | 1 | — | 0 2 9 | Each. |
| 23921D | L 9—S.W. oscillator coil<br>L10—M.W. oscillator coil<br>L11—L.W. oscillator coil<br>L12—S.W. anode coil<br>L13—M.W. anode coil<br>L14—L.W. anode coil ... ... ... ... ... ... ... | 1 | — | 0 3 3 | ,, |
| 25130A | L15—Primary 1st I F.T.<br>L16—Secondary 1st I.F. ... ... ... ... ... ... ... | 1 | — | 0 2 3 | ,, |
| 25130B | L17—Primary 2nd I F.T.<br>L18—Secondary 2nd I F.T. ... ... ... ... ... ... ... | 1 | — | 0 2 0 | ,, |
| 25118 | Clip } | 4 | — | 0 0 9 | Doz. |
| 11248 | Screw } securing L15-L16 and L17-L18 ... ... ... ... | 4 | — | 0 0 7 | ,, |
| 3165 | Washer, S.P. } | 4 | — | 0 0 2 | ,, |
| 25135A | L19 and L20—Choke coils... ... ... ... ... ... ... ... | 1 | — | 0 2 0 | Each. |
| 25116C | L21—Band-pass coupling coil ... ... ... ... ... ... ... | 1 | — | 0 1 0 | ,, |
| 25177 | Wood plug ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 1 | ,, |
| 24114 | Screw, securing L21 to plug ... ... ... ... ... ... ... | 2 | AcD | 0 0 9 | Doz. |
| 11280 | Screw } | 2 | AcD | 0 0 2 | ,, |
| 3165 | Washer, S.P. } securing plug to chassis ... ... ... ... ... | 2 | — | 0 0 2 | ,, |
| 11637 | Nut } | 2 | AcD | 0 0 6 | ,, |
| 25103A | CK1—Smoothing choke ... ... ... ... ... ... ... ... | 1 | — | 0 7 6 | Each. |
| 10606 | Screw, P.K., securing CK1 ... ... ... ... ... ... ... | 4 | — | 0 0 7 | Doz. |

## SPARE PART LIST—*continued*

| Part No. | Description. | Parts per Inst. | Finish. | Retail List Price. £ s. d. | Per |
|---|---|---|---|---|---|
| | **INDUCTANCES**—*continued* | | | | |
| 16840E | CK2 and CK3—Filter coil assembly ... ... ... ... ... ... | 1 | — | 0 2 9 | Each. |
| 16840B | CK2 or CK3—Filter coil ... ... ... ... ... ... ... | 2 | — | 0 1 3 | ,, |
| 25173 | Spacer ... ... ... ... ... ... ... ... ... ... | 2 | — | 0 0 6 | Doz. |
| 24878 | Screw ... ... ... ... ... ... ... ... ... ... | 1 | AcD | 0 0 1 | Each. |
| 6461 | Washer ... ... ... ... ... ... ... ... ... ... | 1 | WN | 0 0 1 | Doz. |
| 3166 | Washer, S.P. ... ... ... ... ... ... ... ... ... | 2 | — | 0 0 2 | ,, |
| 11628 | Nut ... ... ... ... ... ... ... ... ... ... | 1 | WN | 0 0 4 | ,, |
| 11628 | Nut } securing filter coil assembly to chassis ... ... | 1 | WN | 0 0 4 | ,, |
| 3166 | Washer, S.P. } | 1 | — | 0 0 2 | ,, |
| 25130C | IFT 1—1st I.F. transformer, complete with L15, L16, TC11 and TC12 ... | 1 | — | 0 5 0 | Each. |
| 25119C | Screen ... ... ... ... ... ... ... ... ... ... | 1 | — | 0 1 0 | ,, |
| 25130D | IFT 2—2nd I.F. transformer, complete with L17, L18, TC13, TC14, C31 and C32 ... ... ... ... ... ... ... ... ... | 1 | — | 0 6 6 | ,, |
| 25119D | Screen ... ... ... ... ... ... ... ... ... ... | 1 | — | 0 1 0 | ,, |
| 3166 | Washer, S.P. } securing I.F. transformers .... ... ... ... | 4 | — | 0 0 2 | Doz. |
| 11628 | Nut } | 4 | WN | 0 0 4 | ,, |
| 24355B | T1—Output transformer ... ... ... ... ... ... ... ... | 1 | — | 0 5 6 | Each. |
| 8777 | Screw, P.K., securing T1 ... ... ... ... ... ... ... ... | 2 | — | 0 0 6 | Doz. |
| | **RESISTANCES.** | | | | |
| 19202L | R 1—100,000 ohms. ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | Each. |
| 19202AB | R 2— 150 ohms. ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 19202J | R 3— 50,000 ohms. ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 19202AA | R 4— 100 ohms. ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 5786G | R 5— 35,000 ohms. ... ... ... ... ... ... ... ... | 1 | — | 0 1 1 | ,, |
| 19202AB | R 6— 150 ohms. ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 19202N | R 7—500,000 ohms. ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 19202N | R 8—500,000 ohms. ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 19202M | R 9—230,000 ohms. ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 19105AX | R10— 15,000 ohms. ... ... ... ... ... ... ... ... | 1 | — | 0 2 0 | ,, |
| 17541AA | R11— 23,000 ohms. ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 19202J | R13— 50,000 ohms. ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 5786AL | R14— 5,000 ohms. ... ... ... ... ... ... ... ... | 1 | — | 0 1 1 | ,, |
| 17541AC | R16— 100 ohms. ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 25120A | VR1 and S2—Volume control and tone switch assembly ... ... ... | 1 | — | 0 8 6 | Each. |
| 18300CL | VR1—Volume control, with nut ... ... ... ... ... ... | 1 | — | 0 5 0 | ,, |
| 25190B | S2—Tone switch ... ... ... ... ... ... ... ... | 1 | — | 0 2 9 | ,, |
| 11704 | Washer ... ... ... ... ... ... ... ... ... ... | 2 | — | 0 0 4 | Doz. |
| 4400 | Nut ... ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 2 | Each. |
| 25133 | Spacer, for bracket ... ... ... ... ... ... ... ... | 1 | WN | 0 0 9 | Doz. |
| 24100 | Screw } | 1 | WN | 0 0 7½ | ,, |
| 17304 | Tag } | 1 | — | 0 0 3 | ,, |
| 3166 | Washer, S.P. } securing spacer ... ... ... ... ... | 1 | — | 0 0 2 | ,, |
| 11628 | Nut } | 1 | WN | 0 0 4 | ,, |
| 10606 | Screw, P.K., securing assembly ... ... ... ... ... ... ... | 2 | — | 0 0 7 | ,, |
| | **CONDENSERS.** | | | | |
| 22164E | C1—0·000023 mfd. ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | Each. |
| 22170A | C2—0·00005 mfd. ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 18146L | C3—0·015 mfd. ... ... ... ... ... ... ... ... | 1 | — | 0 1 0 | ,, |
| 25172 | Clip } securing C3 ... ... ... ... ... ... | 1 | CdP | 0 0 1 | ,, |
| 12619 | Screw, P.K. } | 1 | — | 0 0 6 | Doz. |
| 21766D | C4—0·1 mfd. ... ... ... ... ... ... ... ... | 1 | — | 0 1 4 | Each. |
| 22330BF | C5—0·0001 mfd. ... ... ... ... ... ... ... ... | 1 | — | 0 1 6 | ,, |
| 22005S | C6—0·005 mfd., S.L. ... ... ... ... ... ... ... ... | 1 | — | 0 1 9 | ,, |
| 22330AL | C7—0·00035 mfd. ... ... ... ... ... ... ... ... | 1 | — | 0 2 6 | ,, |
| 25273A | C8—4 mfd., electrolytic (with C19, C25 and C26) ... ... ... | 1 | — | 0 9 6 | ,, |
| 25126 | Strap } securing electrolytic condenser block ... ... ... | 1 | CdP | 0 0 1½ | ,, |
| 8777 | Screw, P.K. } | 2 | — | 0 0 6 | Doz. |

## SPARE PART LIST—*continued*

| Part No. | Description. | Parts per Inst. | Finish. | Retail List Price. £ s. d. | Per |
|---|---|---|---|---|---|
| | **CONDENSERS**—*continued* | | | | |
| 22170AC | C 9—0·00015 mfd.... ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | Each. |
| 16316A | C10—0·1 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 21766D | C11—0·1 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 1 4 | ,, |
| 21766D | C12—0·1 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 1 4 | ,, |
| 22170B | C13—0·0001 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 22001B | C14—0·0001 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 22001B | C15—0·0001 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 21766D | C16—0·1 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 1 4 | ,, |
| 16316G | C17—0·5 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| — | C19—2·0 mfd., electrolytic (see C8). | | | | |
| 21553F | C20—50·0 mfd., electrolytic (12V) ... ... ... ... ... ... | 1 | — | 0 2 6 | Each. |
| 22005K | C21—0·0023 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 1 6 | ,, |
| 22005A | C22—0·005 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 1 6 | ,, |
| 21766K | C23—0·025 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 1 0 | ,, |
| 21766D | C24—0·1 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 1 4 | ,, |
| — | C25—12·0 mfd., electrolytic (see C8). | | | | |
| — | C26—12·0 mfd., electrolytic (see C8). | | | | |
| 16316H | C27—0·005 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | Each. |
| 16316A | C28—0·01 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 16316H | C29—0·005 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 22005Q | C30—0·001 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 1 6 | ,, |
| 22170B | C31—0·0001 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 22170B | C32—0·001 mfd. ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 22001E | C35—0·0005 mfd. .... ... ... ... ... ... ... ... | 1 | — | 0 0 9 | ,, |
| 23922G | TC1 and TC2—Twin pre-set condenser ... ... ... ... ... | 1 | — | 0 1 6 | ,, |
| 23922E | TC4 and TC5—Twin pre-set condenser ... ... ... ... ... | 1 | — | 0 1 6 | ,, |
| 23922F | TC6 and TC9—Twin pre-set condenser ... ... ... ... ... | 1 | — | 0 2 0 | ,, |
| 24027 | Adjusting screw ... ... ... ... ... ... ... ... | 3 | AcD | 0 0 3 | Doz. |
| 11220 | Screw } securing twin pre-set condensers ... ... ... | 3 | WN | 0 0 2 | ,, |
| 3166 | Washer, S.P. } | 3 | — | 0 0 2 | ,, |
| 12640G | TC8 and TC10—Twin pre-set condenser ... ... ... ... ... | 1 | — | 0 2 0 | Each. |
| 11743 | Adjusting screw ... ... ... ... ... ... ... ... | 1 | AcD | 0 0 8 | Doz. |
| 11221 | Screw } | 2 | WN | 0 0 1 | ,, |
| 3166 | Washer, S.P. } securing TC8-TC10 ... ... ... ... ... | 2 | — | 0 0 2 | ,, |
| 11628 | Nut } | 2 | WN | 0 0 4 | ,, |
| 22530F | TC11 and TC12—Twin pre-set condensers (in I.F.T. 1) ... ... ... | 1 | — | 0 1 6 | Each. |
| 22530F | TC13 and TC14—Twin pre-set condensers (in I.F.T. 2) ... ... ... | 1 | — | 0 1 6 | ,, |
| 25067 | Adjusting screw ... ... ... ... ... ... ... ... | 4 | AcD | 0 0 6 | Doz. |
| 25140B | **VC1, VC2 and VC3**—Three-gang condenser ... ... ... ... | 1 | — | 0 13 6 | Each. |
| 17359 | Earth spring ... ... ... ... ... ... ... ... ... | 5 | — | 0 0 6 | Doz. |
| 16234 | Rivet, securing earth spring ... ... ... ... ... ... | 3 | — | 0 0 1 | ,, |
| 25043 | Stop pin ... ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 6 | ,, |
| 25137 | Bracket ... ... ... ... ... ... ... ... ... ... | 1 | CdP | 0 0 3 | Each. |
| 14791 | Screw } securing bracket to condenser ... ... ... ... | 2 | WN | 0 0 4 | Doz. |
| 3166 | Washer, S.P. } | 2 | — | 0 0 2 | ,, |
| 21236 | Rubber, bush } | 3 | — | 0 0 1 | Each. |
| 1022 | Washer | 3 | WN | 0 0 2 | Doz. |
| 3166 | Washer, S.P. | 2 | — | 0 0 2 | ,, |
| 3167 | Washer (large) } securing three-gang condenser ... ... ... | 1 | — | 0 0 2 | ,, |
| 11628 | Nut | 2 | WN | 0 0 4 | ,, |
| 11627 | Nut (large) } | 1 | WN | 0 0 6 | ,, |
| | **CONDENSER DRIVE AND TUNING DETAILS.** | | | | |
| 24833G | Condenser drive mechanism ... ... ... ... ... ... ... | 1 | — | 0 3 6 | Each. |
| 24833A | Base ... ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 6 | ,, |
| 25144 | Inner spindle ... ... ... ... ... ... ... ... ... | 1 | — | 0 0 6 | ,, |
| 25143A | Outer spindle ... ... ... ... ... ... ... ... ... | 1 | CP | 0 1 3 | ,, |
| 3658 | Ball ... ... ... ... ... ... ... ... ... ... | 3 | — | 0 0 2 | Doz. |
| 24832 | Washer ... ... ... ... ... ... ... ... ... | 2 | — | 0 0 1 | Each. |
| 24834 | Ring ... ... ... ... ... ... ... ... ... ... | 1 | WN | 0 0 9 | Doz. |
| 11328 | Screw } securing ring to base ... ... ... ... ... | 4 | WN | 0 0 2 | ,, |
| 25092 | Spring } | 4 | — | 0 0 6 | ,, |
| 11320 | Screw } securing drive mechanism to condenser ... ... | 2 | WN | 0 0 1½ | ,, |
| 3166 | Washer, S.P. } | 2 | — | 0 0 2 | ,, |

| Part No. | Description. | Parts per Inst. | Finish. | Retail List Price. £ s. d. | Per |
|---|---|---|---|---|---|
| | **CONDENSER DRIVE AND TUNING DETAILS**—*continued* | | | | |
| 25150B | Scale support bracket, R.H., with pulley | 1 | — | 0 1 6 | Each. |
| 25151B | Scale support bracket, L.H., with arm and two pulleys | 1 | — | 0 1 9 | ,, |
| 11187 | Screw, P.K. } securing brackets to chassis | 6 | — | 0 0 8 | Doz. |
| 6250 | Washer } securing brackets to chassis | 6 | WN | 0 0 5 | ,, |
| 24813A | Cursor guide | 1 | CdP | 0 0 9 | Each. |
| 8777 | Screw, P.K. } securing cursor guide | 2 | — | 0 0 6 | Doz. |
| 2855 | Washer } securing cursor guide | 2 | WN | 0 0 1 | ,, |
| 24811A | Cursor | 1 | — | 0 0 10½ | Each. |
| 25155A | Pointer | 1 | BEn Local | 0 0 6 | ,, |
| 11248 | Screw } | 2 | WN | 0 0 7 | Doz. |
| 3165 | Washer, S.P. } securing pointer to cursor | 2 | — | 0 0 2 | ,, |
| 25154 | Nut plate } | 1 | WN | 0 0 9 | ,, |
| 12156A | Tag and eyelet, for cord | 2 | — | 0 0 1 | Each. |
| S515 | Cord | — | — | 0 0 1 | Yard. |
| 14225 | Spring | 1 | — | 0 0 1 | Each. |
| 25160A | Scale frame | 1 | CdP | 0 2 0 | ,, |
| 11219 | Screw } securing scale frame | 4 | WN | 0 0 3 | Doz. |
| 4875 | Washer } securing scale frame | 4 | AcD | 0 0 4 | ,, |
| 25158A | Diffuser | 1 | — | 0 1 0 | Each. |
| 11219 | Screw } securing diffuser | 4 | WN | 0 0 3 | Doz. |
| 1088 | Washer } securing diffuser | 4 | WN | 0 0 3 | ,, |
| 25170A | Scale | 1 | — | 0 6 9 | Each. |
| 24844 | Rubber strip | 4 | — | 0 0 3 | Doz. |
| 25164 | Clamp } | 4 | WN | 0 0 5 | ,, |
| 25157 | Clamp, rubber } securing scale | 4 | — | 0 0 4½ | ,, |
| 11219 | Screw } securing scale | 4 | WN | 0 0 3 | ,, |
| 1088 | Washer } securing scale | 4 | WN | 0 0 3 | ,, |
| 10340 | Washer, S.P. | 4 | — | 0 0 2 | ,, |
| 22238A | Lampholder | 2 | — | 0 0 9 | Each. |
| 25210A | Lamp | 2 | — | 0 0 8 | ,, |
| 25298A | Lamp wiring | 1 | — | 0 0 4½ | ,, |
| | **SWITCHES.** | | | | |
| 21491E | S1—Wave change switch, complete with fixing nut and S.P. washer | 1 | — | 0 3 6 | Each. |
| 25147 | Bracket | 1 | CdP | 0 0 3 | ,, |
| 8777 | Screw, P.K., securing bracket | 4 | — | 0 0 6 | Doz. |
| 25284B | Switch arm | 1 | — | 0 0 6 | Each. |
| 13387 | Screw, securing switch arm | 2 | WN | 0 0 3 | Doz. |
| 25190B | S2—Tone switch (see VR1 and S2) | 1 | — | 0 2 9 | Each. |
| 19214D | S3—Mains On/Off switch (see cabinet fittings) | 1 | BzSp | 0 3 9 | ,, |
| | **VALVE HOLDERS, PANELS, SCREENS, ETC.** | | | | |
| 18180 | Valve panel, five-pin | 1 | — | 0 0 1 | Each. |
| 18181 | Valve panel, cover, five-pin | 1 | — | 0 0 4 | ,, |
| 18182 | Valve panel, seven-pin | 4 | — | 0 0 4 | ,, |
| 18183 | Valve panel, cover, seven-pin | 4 | — | 0 0 4 | ,, |
| 17503 | Valve leg clip | 33 | — | 0 0 1 | ,, |
| 16357 | Rivet, securing valve holders | 10 | — | 0 0 2 | Doz. |
| 25271A | Barretter holder | 1 | — | 0 0 9 | Each. |
| 18297 | Rivet, securing barretter holder | 2 | — | 0 0 1 | Doz. |
| 21807C | A. and E. panel | 1 | — | 0 0 3 | Each. |
| 13803 | Rivet | 2 | — | 0 0 3 | Doz. |
| 21346A | L.S. connecting panel, with two tags | 1 | — | 0 0 1½ | Each. |
| 10400 | Tag | 2 | — | 0 0 1 | Doz. |
| 13810 | Rivet | 1 | — | 0 0 3 | ,, |
| 25111 | Fuse penel | 1 | — | 0 0 2 | Each. |
| 25112 | Backing panel | 1 | — | 0 0 2 | ,, |
| 25113 | Plate | 1 | — | 0 0 1½ | ,, |
| 19850A | Fuse | 3 | — | 0 0 6 | ,, |

## SPARE PART LIST—*continued*

| Part No. | Description. | Parts per Inst. | Finish. | Retail List Price. £ s. d. | Per |
|---|---|---|---|---|---|
| | **VALVEHOLDERS, PANELS, SCREENS, ETC.**—*continued.* | | | | |
| 4979 | Fuse clip | 4 | — | 0 0 1 | Each. |
| 19878 | Fuse clip (for spare fuse) | 2 | — | 0 0 8 | Doz. |
| 11221 | Screw } securing fuse panel | 2 | WN | 0 0 1 | ,, |
| 3165 | Washer, S.P. } | 2 | — | 0 0 2 | ,, |
| 25114 | Mains plug body | 1 | — | 0 0 7½ | Each. |
| 19872 | Mains plug pin | 2 | AcD | 0 0 1½ | ,, |
| 18276 | Screw | 2 | AcD | 0 0 6 | Doz. |
| 3165 | Washer, S.P. | 2 | — | 0 0 2 | ,, |
| 15159 | Tag | 2 | — | 0 0 3 | ,, |
| 25146 | Panel } | 1 | — | 0 0 6 | ,, |
| 11220 | Screw } securing mains plug body | 1 | WN | 0 0 2 | ,, |
| 3166 | Washer, S.P. } | 1 | — | 0 0 2 | ,, |
| 22536A | Condenser panel, with four tags | 1 | — | 0 0 3 | Each. |
| 10400 | Tag | 4 | — | 0 0 1 | Doz. |
| 22539 | Backing panel | 1 | — | 0 0 1 | Each. |
| 13810 | Rivet | 2 | — | 0 0 3 | Doz. |
| 24017A | Tag panel, with five tags | 1 | — | 0 0 3 | Each. |
| 25174A | Tag panel, with seven tags | 1 | — | 0 0 3 | ,, |
| 12619 | Screw, P.K., securing tag panels | 4 | — | 0 0 6 | Doz. |
| 18465 | Tag pillar, supporting C30 | 1 | — | 0 0 1½ | Each. |
| 15159 | Tag | 1 | — | 0 0 3 | Doz. |
| 11228 | Screw | 2 | WN | 0 0 4 | ,, |
| 3165 | Washer, S.P. | 2 | — | 0 0 2 | ,, |
| 25132A | Large screen, underside of chassis | 1 | CdP | 0 1 0 | Each. |
| 12619 | Screw, P.K., securing screen | 3 | — | 0 0 6 | Doz. |
| 25184 | Screen, for three-gang condenser | 1 | CdP | 0 0 4½ | Each. |
| 11219 | Screw } securing screen | 2 | WN | 0 0 3 | Doz. |
| 3166 | Washer, S.P. } | 2 | — | 0 0 2 | ,, |
| 21337A | Coil screen, for oscillator coil | 1 | — | 0 1 0 | Each. |
| 24013 | Spacer | 1 | — | 0 0 3 | Doz. |
| 8777 | Screw, P.K., securing screen | 2 | — | 0 0 6 | ,, |
| 25119A | Coil screen, for L1, L2, L3 and L6, L7 | 2 | — | 0 1 0 | Each. |
| 3166 | Washer, S.P. } securing screens | 4 | — | 0 0 2 | Doz. |
| 11628 | Nut } | 4 | WN | 0 0 4 | ,, |
| 25117 | Spacer | 2 | — | 0 0 3 | ,, |
| 25128 | Copper screen | 2 | — | 0 0 1½ | Each. |
| 25129 | Copper screen, for I.F. transformers | 2 | — | 0 0 1½ | ,, |
| 16359 | Rivet, securing copper screens | 9 | — | 0 0 2 | Doz. |
| 19835A | Valve screen, for top of V1 and V2 | 2 | — | 0 0 6 | Each. |
| 19897 | Valve clip, for top of V1 and V2 | 2 | — | 0 0 1 | ,, |
| 21404A | Insulated anode clip for ouput valve | 1 | — | 0 0 4 | ,, |
| 16576 | Long tag | 1 | — | 0 0 3 | Doz. |
| 12619 | Screw, P.K., securing tag | 1 | — | 0 0 6 | ,, |
| 16756 | Insulating bush | 10 | — | 0 0 1 | Each. |
| 16757 | Insulating bush (larger) | 1 | — | 0 0 1 | ,, |

### "FINISH" CODE.

| | | | |
|---|---|---|---|
| AcD | Acid Dip. | ChF | Chrome Filled. |
| AnBrSpec | Antique Brass Special. | CP | Copper Plate. |
| BEn | Black Enamel. | Pol | Polished. |
| BzSp | Bronze Spray. | ParB | Parkerised Black. |
| CB | Camera Black. | WN | White Nickel. |
| CdP | Cadmium Plate. | | |

In order to expedite delivery of spare part orders, please quote :—

1. Model number and serial number.
2. Spare part number, description, and " finish " as given in the above list.
3. Quantity required.

Unless full particulars are quoted, delay in the execution of orders must inevitably result.

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