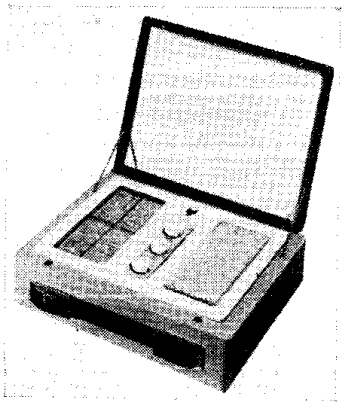
VIDOR LIDO

Four-valve two-waveband AC/battery portable with self-contained frame aerials. Housed in cream fabric covered metal case fitted with strong plastic handle, the fixing brackets of which operate ingenious lid fastening catches. Audible warning note, to remind user to switch off, is emitted by speaker should lid be closed with receiver on. Suitable for operating from all-dry batteries (standard or lightweight sizes) and 200—250V AC mains. Weight with standard batteries is 19½ lb. Made by Vidor, Ltd., West Street, Erith, Kent.



AERIAL. The receiver has self-contained frame aerials. On MW band, aerial L1 with series loading circuit L3, C1 is switched by S1 to aerial tuning capacitor VC1 and coupled by C2 to heptode frequency-changer V1. T1, which is shunted across VC1, is MW trimmer. L2, T2, C3 are shorted by S1 down to chassis.

On LW band, aerial L2 trimmed by T2, C3 is switched by S1 to VC1.

AVC decoupled by R8, C4 is fed through R1. Primary L6, C10 of IFT1 is in the anode circuit.

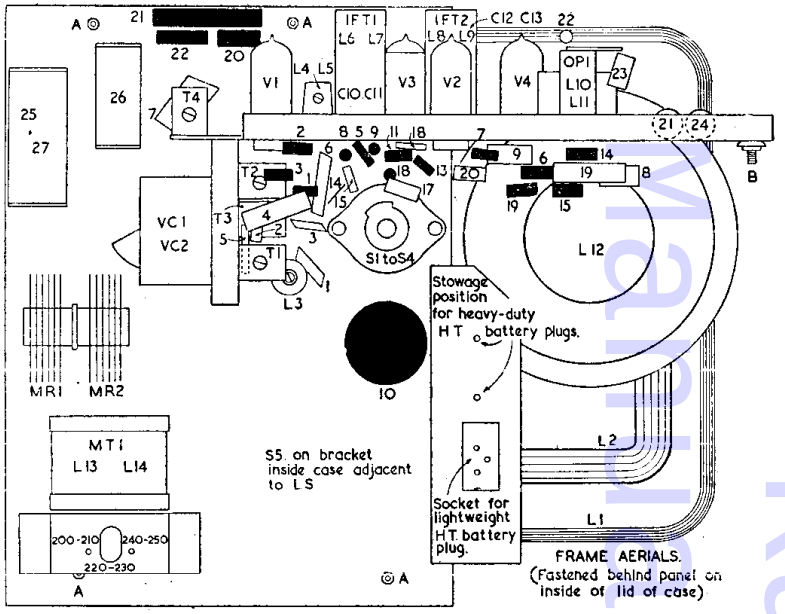
Oscillator is connected in a grid-tuned series-fed HT circuit. A single inductance covers both MW and LW bands, the appropriate ranges being obtained by the use of suitable capacity trimmers. On MW the grid coil L5 is tuned by VC2 and trimmed by T3. On LW additional trimmers T4, C7 are switched in circuit across L5 by S1. C6 functions as MW and LW padder. The tuned circuit is coupled by C5 to oscillator grid of V1

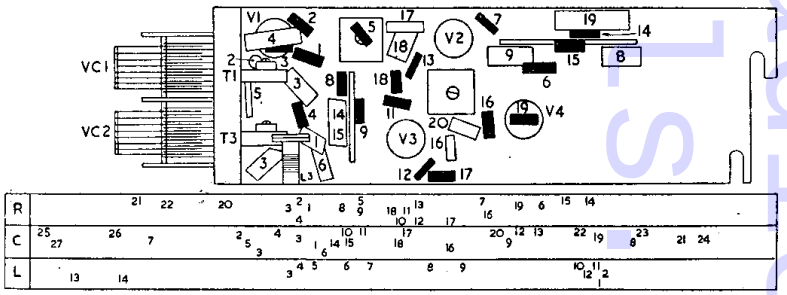
INDUCTORS

L		Ohms
1	... ...	1.75
2	... ...	13.5
3	... ...	1.5
4	... ...	.75
5	... ...	1
6	... ...	19
7	... ...	19
8	... ...	19
9	... ...	19
10	... ...	560
11	... ...	.6
12	... ...	2.5
13	... 160 Centre tapped	
14	... ... 125 Total	

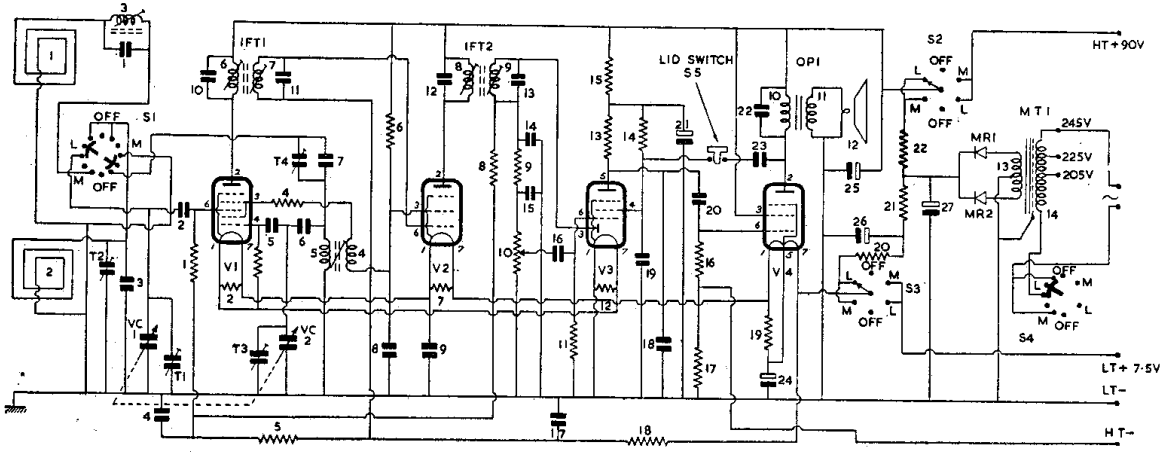
RESISTORS

R	Ohms	Watts
1	... 4.7M ...	½
2	... 150... ...	½
3	... 100K ...	½
4	... 2.2K ...	½
5	... 1.8M ...	½
6	... 8.2K ...	½
7	... 220... ...	½
8	... 2.2M ...	½
9	... 47K ...	½
10	... 2M	Potr.
11	... 4.7M ...	½
12	... 120... ...	½
13	... 1M... ...	½
14	... 4.7M ...	½
15	... 56K ...	½
16	... 2.2M ...	½
17	... 100... ...	½
18	... 4.7M ...	½
19	... 470... ...	½
20	... 900...	WW. 2W
21	... 2,150	WW. 4.5W
22	... 2,700 ...	½W





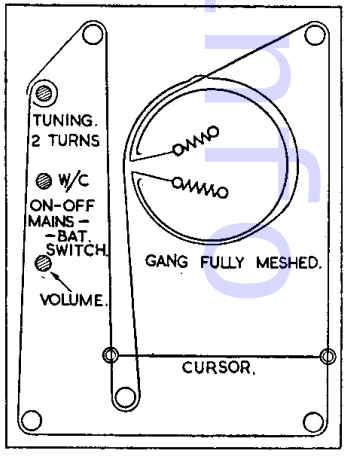
V1-DK91-1R5-X17	V2-DF91-1T4-W17	V3-DAF91-1S5-ZD17	V4-DL94-3V4-N19	
G2 G4 55V, G1, F-, G5, A 90V, G3, F-, G5 1·4V, F+ 2·8V	G2 70V, F-, G5, A 90V, G1, F-, G3, 2·8V, F+ 4·2V	G2 5V, A 7·5V, D, G1, F-, G3 0·V, F+ 1·4V	G2 90V, Fct G3, A 87V, G1, F- 4·2V, F+ 7·5V	HT CURRENT BAT = 12MA. MAINS = 16·75MA. TOTAL LT CURRENT = 50MA. BIAS VOLTAGE ACROSS R17 = 1·3V. MAINS CONSUMPTION AT 230V = 130MA.



CAPACITORS

C	Capacity	Type
1	... 100pF	Silver Mica
2	... .001	Tubular 350V
3	... 190pF	Silver Mica*
4	... .05	Tubular 200V
5	... 100pF	Silver Mica
6	... 532pF	Silver Mica
7	... 400pF	Silver Mica
8	1	Tubular 150V
9	1	Tubular 150V
10	... 65pF	Silver Mica
11	... 65pF	Silver Mica
12	... 65pF	Silver Mica
13	... 65pF	Silver Mica
14	... 100pF	Silver Mica
15	... 100pF	Silver Mica
16	... .0005	Tubular 200V
17	... .01	Tubular 350V
18	... 65pF	Silver Mica
19	... .05	Tubular 350V
20	... 500pF	Tubular 350V
21	... 2	Electrolytic 200V
22	... .01	Tubular 350V
23	... .005	Tubular 350V
24	... 100	Electrolytic 6V
25	... 32	Electrolytic 250V
26	... 25	Electrolytic 50V
27	... 32	Electrolytic 250V

* 140 + 50 pF capacitors in parallel



VIDOR LIDO—*Continued*

automatic bias being developed on C5 with R3 as leak resistor.

Anode reaction voltages are obtained inductively from L4, connected in series with limiter R4 to oscillator anode (g2, g4) of V1, the HT for which is obtained from V2 screen dropper R6 decoupled by C8.

IF amplifier operates at 475kc/s. Secondary L7, C11 of IFT1 feeds signal and AVC voltages decoupled by R5, C17 to IF amplifier V2. Screen voltage is obtained from R6 decoupled by C8. Suppressor is internally strapped to negative side of filament. Primary L8, C12 of IFT2 is in the anode circuit.

Signal rectifier. Secondary L9, C13 of IFT2 feeds signal to diode anode of V3. R10 the volume control is the diode load and R9, C14, C15 form an IF filter.

AVC. The DC component of the rectified signal developed across R9, R10 is applied through decoupling networks R8, C4 and R5, C17 to g3 of V1 and g1 of V2.

AF amplifier. C16 feeds rectified signal across volume control R10 to pentode section of V3. A small negative bias for g1 is developed on C16 with R11 as leak. Screen voltage is obtained from R14 decoupled by C19. Suppressor is internally strapped to negative side of filament.

R13 is anode load and R15, C21 provide decoupling of HT to both anode and screen of V3. C18 is anode RF bypass.

Output stage. C20 feeds signal from anode V3 to pentode output valve V4. Grid is biased approximately 5V negative by virtue of its filament being at the high potential side of LT supply. When operating from batteries the total HT current is slightly reduced (to prolong life of battery) by increasing the negative bias by returning grid resistor R16 to chassis through HT negative biasing resistor R17.

Screen voltage is obtained direct from HT line, being decoupled by C25. Primary L10 of output matching transformer OP1 is in the anode circuit. C22 gives fixed tone control. Secondary L11 of OP1 feeds signal to a 5-in. PM speaker L12.

Warning tone. When lid is closed down S5 is closed and C23 is connected between anode V4 and screen of V3 to give positive feedback, thus producing AF oscillation, which is audible at full strength in **speaker** irrespective of setting of volume control **R10.**

HT of 90V is provided by a Vidor L5039 heavy duty or L5512 lightweight type battery or alternatively from the mains. S2 switches the receiver HT line to whichever source of supply is desired. C25 decouples the HT battery and functions as smoothing capacitor on mains generated HT.

Mains HT is provided by MR1, MR2 coupled in a fullwave rectification circuit, the rectifier voltages being obtained from secondary L13 of mains input transformer MT1. Resistance-capacity smoothing is given by R22, C25, C27.

Reservoir smoothing capacitor C27 should be rated to handle 150mA ripple.

LT of 7.5V for the series-connected filaments of V1 to V4 is provided by a Vidor L5058 battery or, if the receiver is operated from the mains, from the rectified and smoothed HT supply through droppers R20, R21. S3, which is ganged to S2 and to wavechange switch S1, switches receiver filament line to appropriate source of supply.

R2, R7, R12, R19 decoupled by C9, C24 are current bypass resistors to maintain correct voltage across each individual valve filament, C26 gives LT line smoothing.

Primary L14 of mains input transformer MT1 is tapped for voltages of between 200 and 250V AC.

S4, which is ganged to S1, to S3, is mains ON/OFF switch.

S2, S3 apart from switching HT and LT lines to battery or mains also serve as ON/OFF switch when receiver is battery operated.

Chassis removal. Open lid by pressing thumbs on inner ends of handle brackets. Remove bottom cover of case by undoing the two milled nuts. Remove batteries and take off the three control knobs and etched Perspex escutcheon. Remove fibre protecting cover over chassis, etc.

Unsolder the accessible lead from lid switch and the other switch lead from chassis. Also unsolder leads from LS. Prise off protecting cover panel over frame aerials on inside of lid and unsolder the three leads from frame aerial tags. Unscrew and remove the four chassis bolts marked "A" and loosen bolts marked "B."

TRIMMING INSTRUCTIONS

Apply signals as stated below	Tune Receiver to	Trim in Order stated for Max. Output
(1) Remove receiver chassis from case and connect to frame aerial. Also connect an output meter across primary L10 of OP1		
(2) 475 kc/s to g3 of V1 via C2	MW band	Cores L9, L8, L7, L6
(3) With gang fully meshed, adjust pointer to agree with calibration on dial plate		
(4) 600 kc/s to frame aerial via loop in close proximity	500 metres	Cores L5, L3
(5) 1.5 mc/s as above	200 metres	T3, T1. Repeat (4) and (5)
(6) 250 kc/s as above	1200 metres	T4, T2

NOTE: For re-alignment of RF sections only, it is not necessary to remove receiver chassis from cabinet

BEETHOVEN TV50, TV50M.

THE following, supplied by Beethoven Electric Equipment, Ltd., is a better description of the special line thyratron bias circuit in their models TV50, TV50M, than we gave in the review in the March supplement :—

A special circuit on the line timebase feeds a large bias voltage to the grid of the thyratron during most of the line period. The voltage is reduced rapidly just before the time sync. pulse is due to arrive. This bias prevents judder at the top of the picture normally due to the line timebase running at twice frequency during the framing pulse and also renders the thyratron insensitive to interference except during the last portion of the line just before the sync. pulse arrives, thus reducing the effect of tearing of portions of the picture under conditions of bad interference.

'NO-CORD' IRON—*from p. 21.*

the sockets. The switch is fitted with silver contact studs.

A unique feature is the patented iron-locking mechanism fitted to enable the iron to be stowed away with the board. A lever protruding at side of board operates a claw positioned on either side of front edge of recess. The claws fit over bevel edge on iron soleplate and with corner plate, fixed to rear of recess, securely hold iron in position. The locking mechanism is coupled to trestle legs to prevent board being folded up before iron is locked safely in rest position.

Bottom of rest is fitted with a removable asbestos mat.

Board is primrose enamel finished and supplied with felt overlay and washable slip-on cover.

MAINTENANCE

Replacement of element.—Remove heat-control knob by loosening its grub screw and then undo and remove hexagonal nut on spindle bush. Next turn iron on its side and remove the two name-plate fixing screws (Fig. 3). Body can now be lifted off by carefully easing it from rear end first.

Remove asbestos shield and disconnect heater element and circuit switch straps from contact blade terminals. Undo and remove the locking and adjusting nuts on bi-metal link pin. Remove ceramic insulating bush.

Remove the two switch-block fixing bolts. Carefully remove switch assembly so that other heater element strap can be disconnected from contact with lower switch blade. Remove the three clamp plate bolts. Clamp plate with element and asbestos gasket can now be lifted off and separated (Fig. 5).

Replace element with one of correct voltage rating and reassemble in reverse order without replacing body—make sure the mica squares are placed on top of and below rivets adjacent to element straps.

Adjustment of thermostat.—Place iron on platform of soleplate tester and connect mains supply of correct voltage to centre and righthand contact blades (viewed from rear). Temporarily refit heat-control knob and set cam to a position corresponding to 1—ART SILK on body. Switch on mains supply and allow iron to heat—the temperature of this first heating is false and should not be used for any adjustments. Adjust nut on bi-metal link pin so that maximum temperature reached is between 180 and 190 degrees F.

Turn heat-controlled knob to 6—LINEN—and check to see that temperature does not exceed 420 to 430 degrees F. After completion of above tighten all screws, particularly the three clamp plate fixing screws, and complete reassembly.

Removal of indicator lamp.—This lamp is illuminated only when iron is taking current, i.e., when thermostat circuit switch is closed because iron has cooled to a temperature below that of setting, or when first heating up to desired setting. Bulb is a 6.5V .3A MES and is accessible for replacement on unscrewing the red plastic dome.

Adjustment of anti-flash switch.—Remove asbestos mat on bottom of iron-rest and undo the two bolts positioned half an inch from rear wall. Next undo the two self-tapping screws located on rear of protective cover under board—this allows socket panel to be withdrawn for examination on bench.

Check switch contacts and clean by polishing if necessary. Also check to see that outer socket springs are not "opened" too much—if so bend inwards with a suitable pair of thin flat-nosed pliers. Adjust lower spring on centre socket so that switch contacts are open by 1/32in.

Remove protective cover below board by undoing its two fixing screws and then temporarily refix socket panel in position. Replace asbestos mat and put iron in rest position on board. Centre socket switch should now be closed—if not, carefully readjust lower switch blade.

Finally remove socket panel—replace protective cover in position and then refix socket panel—tighten bolts fastening it to bottom of chute but before tightening the two rear screws pull socket panel downwards so that screws are positioned in bottom of slots—this ensures correct clearance under board.

PYE BV30

A NEW Pye BV30 came in with the complaint of intermittent vision sensitivity. At times the set could be used with the contrast control advanced approximately half way, at other times the control had to be fully advanced with a resultant poorer quality picture.

On test the set behaved unusually for about an hour when contrast suddenly reduced with a slight drop in sound volume.

All valves and voltages in the RF section were checked and found to be correct. Alignment was checked with a pattern generator and whilst adjusting the core of T3A (maker's sheet) it was found that on pushing the core to one side the set behaved normally.

The coil was checked for dry joints and the fixed padders replaced without effecting a cure. Eventually I stripped the coil down, carefully noting the turns and rewound same using new wire. After alignment the set was restored to normal.

The fault must have been shorted turns in the vision band-pass section of T3A (where the vision and sound are separated), but careful examination of the old winding revealed no break in insulation. —K. BELL, Liverpool.