T.O. 31R2-2R50M-5001

Se også 31R2-2R50M-5001A

Radiofon

INSTRUCTION MANUAL

for

COMMUNICATIONS RECEIVER

Type R.50M

REVISJON

De reviderte sider erstatter samme sider av tidligere dato.
Utgåtte sider makuleres.

DET KGL. NORSKE FLYVÅPEN
Forsyningskommandoen, Kjeller

K. Østby
Oberst
Sjef for FVFK

S. HEGLUND
Oberstløytnant
Sjef for FVFK/V

November 1951.
Rev. 4. aug. 1960.

T.O. 31R-2R50M-5001

MATERIELLKLASSIFISERING:

Resistors	"	"	16-Q	3350-REF/N-TYPE/N
Condensers and Padders	"	"	16-O	3330-REF/N-TYPE/N
Coil, Chokes and Trimmers	"	"	16-M	1760-REF/N-TYPE/N
Valves	"	"	16-S	3370-REF/N-TYPE/N
Switches	"	"	16-R	3360-REF/N-TYPE/N

Materiell anført under Miscellaneous klassifiseres i sine respektive AF klasser + CIRC/REF/N + Type/N.

En må alltid söke å finne amerikanske ekvivalenter og rekvirere disse.

NB. Rekvisisjonene må alltid ha henvisning til T.O.

REDIFON R50M COMMUNICATIONS RECEIVER.

Modification

If the external audio load of Receiver R50M is removed and no equivalent resistive load provided a high voltage is developed across the Audio Output Transformer T2.

To minimise risk of damage to T2 should it be accidentally operated under no load conditions a 22,000 ohm resistor has been placed across the 8,000 ohm primary winding.

The modification will be incorporated in all R50M receivers following Serial No.802.

It is recommended that all R50M Receivers, prior to Serial No. 802, be modified at the earliest opportunity.

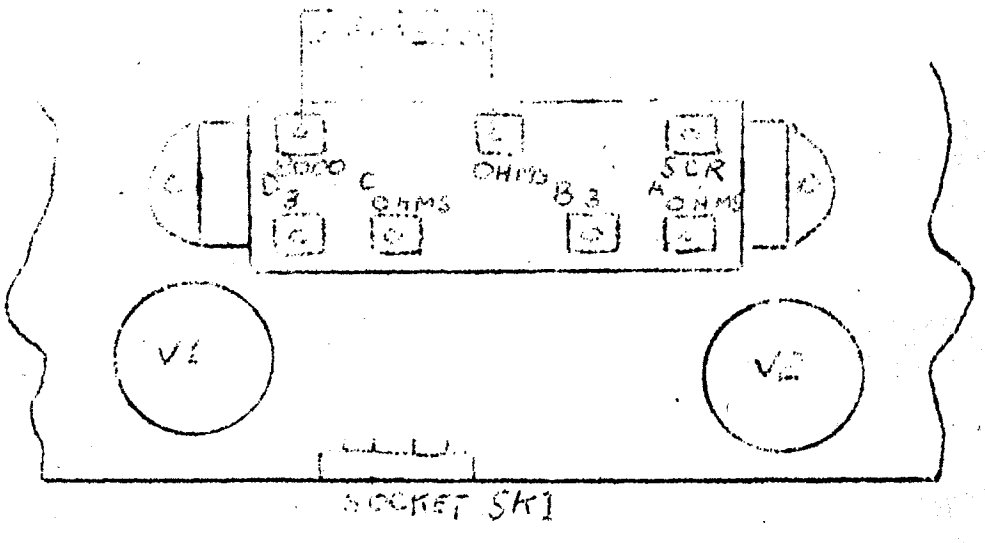
Reference - Diagram WD3/2767/M - P.U.74 A.C. Power Unit.

Material required:-

One 22,000 ohm ± 20% Erie Type 8 ($\frac{1}{2}$watt) Resistor.

Method:-

Disconnect the power unit (PU74). Remove the cover and identify the transformer T2 mounted between V1 and V2. Solder the resistor to the tags marked 8,000 OHMS, thus:-



R.50M HANDBOOK

C O N T E N T S (1)

R.5OM HANDBOOK

C O N T E N T S (2)

SECTION 5

SECTION 6

R.50M HANDBOOK

C O N T E N T S (3)

DIAGRAMS & DRAWINGS

TABLES

SECTION 1

INTRODUCTION AND SALIENT FEATURES

1.01 INTRODUCTION.

The Redifon R.50M is a high grade communications receiver of the superheterodyne type designed and built to an exacting specification which sets a new high standard. The R.50M Receiver, cabinet model, meets the G.P.O. PERFORMANCE SPECIFICATION for a GENERAL PURPOSE RECEIVER for SHIPS, as laid down in H.M. Stationery Office publication, "RADIO FOR MERCHANT SHIPS" 1947, and has obtained the P.M.G.'s Certificate of Approval.

The receiver employs two stages of radio frequency amplification, a hexode frequency changer with separate triode oscillator, followed by three stages of intermediate frequency amplification operating at either 465 or 110 kc/s. Five band widths are available on each I.F. channel, crystals being used for the two narrowest bands. A double diode is employed as a signal detector and A.V.C. rectifier, the detector feeding a pentode amplifier, resistance capacity coupled to the beam tetrode output valve. A second double diode valve is used as a noise limiter. The A.V.C. voltage controls the gain of the two R.F. and first two I.F. amplifier stages. A beat frequency oscillator is included for continuous wave reception. Muting of the receiver is available when it is used in conjunction with a nearby transmitter.

The A.C. power unit comprises the normal full wave rectifier with choke smoothing and a neon stabilised supply to the oscillator valve and the screen of the frequency changer.

For D.C. mains the A.C. power unit may be used with a suitable DC/AC rotary converter.

1.02 SALIENT FEATURES

(1) Frequency Coverage

This is very comprehensive, covering the frequency ranges 13.5 kc/s to 26 kc/s and 95 kc/s to 32 Mc/s in eight bands. There are two intermediate frequency channels at 110 and 465 kc/s the appropriate one being automatically selected when the wave change switch is set to the required signal frequency band.

(2) Tuning Control

A single control provides a direct drive for a rapid traverse of the tuning scale and an 80 to 1 slow motion epicyclic drive for fine tuning. A spring loaded gear train coupled to the drive mechanism operates the logging scale, which has an equivalent length of 13.8 feet, each of the clearly defined divisions representing approximately 1/3000 of the signal frequency, for example 10 kc/s at 30 Mc/s or 3 kc/s at 10 Mc/s. This ensures adequate re-setting accuracy for all normal marine or land station traffic requirements.

(3) Sensitivity

A very high gain is obtained from the aerial circuit and the general sensitivity, measured on continuous wave, is of the order of 1 - 5 microvolts input for a signal to noise ratio of 10 db.

(4) Selectivity

Five degrees of selectivity are provided by each I.F. channel, the narrowest bandwidth being 0.25 kc/s and the widest 17 kc/s. The two most selective bands are obtained by means of a crystal filter circuit.

(5) Automatic Volume Control and Noise Suppression

A.V.C. with or without noise suppression is available on C.W., M.C.W., and Telephony services.

(6) Muting Device

When operating in conjunction with a nearby transmitter the receiver gain may be reduced during "mark" periods and permits "listening through" at keying speeds up to 40 words per minute.

(7) Mounting

The Receiver and Power Unit of the R.50M are fitted in separate metal cabinets suitable for bench mounting. For applications other than marine mobile services, the receiver and power unit chassis can be supplied for standard international 19 inch (48.3 cm) rack mounting to special order.

SECTION 2

INSTALLATION

2.01 UNPACKING RECEIVER AND FITTING VALVES

The R.50M equipment, consisting of Receiver, Power Unit and Interconnecting Lead, is packed in a carton. For overseas shipment this is protected by a wooden case lined with shock absorbing material. Having unpacked the receiver proceed as follows:-

If the Receiver is supplied in a cabinet:

(1) Remove the six front panel retaining screws.

(2) Pull chassis forward by means of the knobs provided.

(3) Remove the "transit bracket" which is temporarily fitted to prevent undue movement of the main sub-assembly during transit. Three screws hold the "transit bracket" to the angle bracket on the front panel and two hold it to the centre screen on the sub-assembly. Remove these screws, take the bracket off, then replace the two domed head screws in the centre screen.

(4) Check that all valves are firmly in their sockets.

(5) Remove power unit cover by withdrawing four screws at back, and one on top, insert S.130 in its socket, adjust mains tappings (see 2.03) and replace cover.

If the Receiver is supplied for 19 inch rack mounting:

(1) Remove the two retaining screws at the back and slide off the top section of the cover.

(2) Remove the "transit bracket" which is temporarily fitted to prevent undue movement of the main sub-assembly during transit. Three screws hold the "transit bracket" to the angle bracket on the front panel and two hold it to the centre screen on the sub-assembly. Remove these screws, take the bracket off, then replace the two domed head screws in the centre screen.

(3) Check that all valves are firmly in their sockets.

(4) Remove power unit cover by withdrawing four screws at back, and one on top, insert S.130 in its socket, adjust mains tappings (2.03) and replace cover.

2.02 MOUNTING

The R.50M is mechanically very rigid but nevertheless when the cabinet is placed on a bench care should be taken to see that the four rubber feet take the weight evenly to prevent possible distortion.

When mounted in a rack, adequate support must be provided by angle runners or other devices, to take the chassis weight evenly along each side and the back; the six front panel screws are to be used only for holding the receiver to the framework, NOT for taking its weight.

The power unit may be placed under the bench or in any other convenient place: for rack mounting it has the standard 19 inch panel with four screws.

2.03 A.C.MAINS SUPPLY

Check the voltage and frequency of the supply, to make sure they are within the range covered by the power unit. Adjust the primary taps of the mains transformer to suit the supply voltage, bearing in mind that the primary windings are in parallel for the 100 to 125 volt range and in series for the 200 to 250 volt range. See Table A and Diagram Fig.1.

NOTE All power unit mains transformers are adjusted for 240 volts input before leaving the works.

Check that fuses of the correct rating are inserted in the fuse holders mounted on the front panel of the power unit, i.e. mains fuses F1, F2 - 1 amp. for 200 to 250 volts A.C. and 2 amp. for 100 to 125 volts A.C. supply H.T. fuse F3 - 250 m.A.

Connect the Receiver to the Power Unit by means of the special interconnecting cable provided. The plug end of the cable, marked P.O., mates to the corresponding socket on the left hand side of the power unit; the socket end, marked R.I., mates to the corresponding plug on the left hand side of the receiver, viewed from the rear.

The mains input plug is on the right hand side of the power unit, viewed from the rear.

NOTE The socket is always the female and the plug the male part of the combination.

Mains Volts	Interconnections	Connect Mains Wires To
100	0 to 0 and 100 to 100	0 and 100
105	5 to 5 " 100 " 100	5 " 100
110	0 to 0 " 110 " 110	0 " 110
115	5 to 5 " 110 " 110	5 " 110
120	0 " 0 " 120 " 120	0 " 120
125	5 " 5 " 120 " 120	5 " 120
200	0 top to 100 bottom	0 bottom 100 top
205	5 " " 100 "	0 " 100 "
210	0 " " 100 "	0 " 110 "
215	5 " " 100 "	0 " 110 "
220	0 " " 100 "	0 " 120 "
225	5 " " 100 "	0 " 120 "
230	0 " " 120 "	0 " 110 "
235	5 " " 120 "	0 " 110 "
240	0 " " 120 "	0 " 120 "
245	5 " " 120 "	0 " 120 "
250	5 " " 120 "	0 " 120 "

TABLE "A"

2.04 D.C.MAINS SUPPLY

For D.C. mains, the A.C. power unit is used with a D.C. to A.C. rotary converter capable of providing 90/120 watts at 230 volts, 50 c.p.s. (approx.). D.C. to A.C. rotary converters for 24, 110 or 220 volts can be supplied as standard. Other voltages are available to special order.

It is important to check that the input taps on the mains transformer of the A.C. Power Unit are set for the corresponding A.C. output of the rotary converter when measured on load. The normal voltage output of the standard type rotary converter supplied is approximately 240 volts on the receiver load.

Typical input and output circuit connections for a range of D.C. to A.C. rotary converters of the type normally supplied are shewn in Drawing No. SK.460, Figs.1 and 2.

2.05 AERIAL

The receiver will work satisfactory with any normal open wire aerial 25 to 50 feet in length and a normal earth connection. Above 4 Mc/s the receiver is designed to match an aerial of 80 ohms impedance.

The aerial passes through a hole in the back of the case and is connected to the set by means of a co-axial plug and socket mounted at the rear. The earth connection is made to a terminal at the rear of the receiver.

2.06 LOUDSPEAKER

When a loudspeaker is used with the receiver, connections to the speech coil are taken from pins 1 and 3 on the 12 way plug at the rear of the set.

For an audio output of 3 ohms impedance join terminals B to D and A to C on the output transformer, which is located in the power unit.

For 12 ohms impedance or 600 ohms line, join terminals B to C on output transformer.

2.07 TELEPHONE

A telephone jack socket is provided on the front panel for headphones of 120 ohms resistance.

2.08 MUTING

When the receiver is used in conjunction with a transmitter, a connection for the muting relay should be taken from the output socket at the rear of the receiver. For details of muting relay see paragraph 2.10 (3) Muting Facilities.

2.09 A.V.C. LINE

The A.V.C. Line in the receiver is terminated on pin 11 of the output socket, so that external connections may be made to the A.V.C. circuit, for example when the receiver is used in diversity.

2.10 NOTES ON FITTING RECEIVER FOR SHIPBORNE USE

(1) MAINS INPUT

Normally the receiver is supplied with an A.C. power unit fed from the ship's DC mains by a suitable D.C./A.C. rotary converter.

(2) RECEIVER AERIAL

A separate aerial should be used for each receiver and there is no objection to a co-axial type input being run from a single ended aerial switch permitting the main transmitting aerial to be switched to the receiver input for long distance working on the very low frequency band.

(3) MUTING FACILITIES

Muting is accomplished by connecting the screen supply line (socket, pin 9) to earth through a variable resistor of maximum value 5,000 ohms, capable of passing a current of 15 mA. This affords a convenient control of received volume for monitoring the actual transmission. It is also desirable to earth the A.V.C. line (socket, pin 7) during muting, to prevent large bias voltages building up, and cutting off the receiver for a few seconds after sending. In a complete Redifon installation these two operations are performed by Siemens High Speed relays situated in the external control unit of the transmitter, and operated in parallel with the main keying relay from a D.C. supply in the transmitter.

A general schematic diagram of a muting relay system is shewn in Fig.2. indicating the inter-connections of a typical unit in a given installation.

The relays should be mounted close to the receiver.

SECTION 3

OPERATION

When installation has been completed and power available the receiver can be switched on and checked over using the following notes to obtain correct working procedure.

3.01 CONTROLS

The layout of the controls on the front panel is given in Fig.3.

(1) Turn switch below meter to "C.W." for continuous wave working or to "MOD" for telephony and M.C.W.

Dial lamps will indicate that set is switched on. Allow a period of about five minutes for valves to warm up and R.F. circuits to stabilise. When using a D.C. to A.C. Rotary Converter this must be switched on first.

(2) Set A.V.C. NOISE SUPPRESSOR SWITCH (extreme bottom left hand knob) to "MAN" i.e. Manual Gain Control.

(3) Switch I.F. BANDWIDTH to "INTERMEDIATE".

(4) Adjust R.F./I.F. gain control to max. and A.F. gain to a reasonable noise level.

(5) Turn frequency band switch to band required.

(6) Tune in signal using large knob for rapid and small knob for fine adjustment, and for C.W. rotate B.F.O. trimmer knob until the pitch of the beat note is satisfactory (usually about 1 kc/s).

(7) Rotate aerial trimmer for maximum signal.

(8) The I.F. bandwidth switch should now be adjusted to give the required degree of selectivity.

(9) A.V.C. with or without noise suppression can be switched in, using the "A.V.C. N.S." switch, and the amount of suppression varied by the "Noise Suppressor" control.

Turn the N.S. control fully anti-clockwise and then advance it until signal to noise ratio is at its optimum, or until distortion begins to occur.

(10) If muting of the receiver is required, turn the switch under the meter to "Muting C.W." for continuous wave or "Muting Mod" for telephony reception.

3.02 OPERATING DETAILS

(1) AUTOMATIC VOLUME CONTROL

Maximum use should always be made of the A.V.C. on C.W., M.C.W., and telephony transmissions, as apart from the fact that the output remains comparatively unchanged for a wide range of input levels, the signal to noise ratio is considerably improved with any increase in signal input. The exception to the use of A.V.C. is when listening to weak and elusive signals accompanied by intermittent static or other signals of greater field strength; in this case the interference will operate the A.V.C. and may reduce the gain sufficiently to lose the wanted signal altogether.

(2) I.F. BANDWIDTH

Five bandwidths are provided on each of the two I.F. channels; very narrow, narrow, intermediate, broad and very broad. The switch should be set to the intermediate or broad band when searching, the latter being most useful on the high frequency ranges.

The two narrow bands give a high degree of selectivity for use on C.W. reception or whenever freedom from interfering signals on an adjacent frequency is required. These two bands are not recommended for use on telephony.

The "intermediate" band is useful for W/T searching and reception under clear conditions, also for telephony subjected to adjacent channel interference.

The "broad" band is suitable for the reception of telephony and is sufficiently selective to give some freedom from background noise.

The "very broad" band gives the best quality on telephony with strong signals.

(3) The logging device comprises two scales, a fixed one engraved on the main tuning dial and traversed by the hair line on the cursor and a rotating one viewed in the aperture above the main dial. The fixed scale is divided into 24 and the rotating scale into a 100 equal parts thus giving a

(3) Cont'd.
total of 2,400 divisions over each tuning range. To log a station the fixed scale (A) should be read first and the rotating scale (B) next, for example fixed scale 20, rotating scale 17, result 2017, this figure being recorded in the log with the wave range letter as a prefix, and used for resetting the receiver when the same frequency is required again, Fig.4.

(4) STAND BY

If the receiver is operated for long periods on intermittment duty it should not be switched off but left running in the "stand-by"position. This ensures maximum stability and freedom from frequency drift which would arise from continual warming up and cooling down of the valves and other components.

(5) GAIN CONTROLS

These are fitted to provide a variable control of the R.F., I.F., and A.F. amplifiers, their use depending on whether A.V.C. or Manual operation is required.

When receiving C.W. or Telephony with A.V.C. in use, the R.F./I.F. gain control should be set at maximum for all but the strongest signals. The A.F. gain control should be adjusted to give the output level required.

When receiving C.W. or telephony with switch at "Manual" the A.F. gain control should be set about half way round the scale and the R.F./I.F. gain control used as required.

(6) SERVICE AND TUNING METER

A meter is mounted on the front panel for the measurement of the currents of each valve in the circuit, so permitting a rapid check on operating conditions. With the switch set to "Tuning", and the A.V.C. on, the meter can be used as a tuning indicator, the tuning dial being adjusted for minimum reading on the meter.

(7) MUTING CONTROL

When "break through" is experienced from the transmitter which is being used in conjunction with the receiver, turn the switch under the meter to "Muting Mod" or "Muting C.W." according to the type of signal being received. A muting relay connected to the receiver, see 2.10 (3), and operated by the transmitter will then reduce the receiver gain during transmission and provide R.F. "side tone" or "listening through" facilities.

SECTION 4

TECHNICAL DESCRIPTION

4.01 MECHANICAL

The basic chassis is designed to provide a strong, light framework supporting a number of sub-assemblies, one of which is flexibly mounted by a damped suspension system to prevent the transference of shocks and undesirable vibrations to the R.F. section of the receiver.

The front panel of ¼ inch aluminium sheet is attached to the chassis frame and assists in producing a rigid structure.

The receiver is divided into a number of separate units, which need not be disturbed for normal maintenance or servicing. These are:-

(1) The I.F. unit comprising components for both I.F. channels and their associated switching mounted in the main chassis, right hand side.

(2) The output stage, which is mounted in the main chassis immediately behind the front panel.

(3) Aerial stage, R.F. amplifiers, Oscillator and Mixer Units fitted in the flexibly mounted sub-assembly.

(4) The two 4-gang tuning condensers in tandem, fixed to a rigid light-alloy casting which in turn is bolted across the top of the sub-assembly chassis. One end of the casting supports the epicyclic drive mechanism which is coupled to the common condenser shaft by means of an insulated flexible coupling.

The complete chassis is housed in a sheet steel cabinet finished in grey crackle. It has a flush hinged lid with quick release catch and openings at the rear for access to the input and output sockets.

The power unit is simple and robust in construction, all the components being mounted on one chassis with an aluminium alloy cover.

4.02 ELECTRICAL

All components and wiring comply with the normal Colonial and Service tropical requirements. No electrolytic condensers are used at high voltage; ceramic insulation supports and ceramic switch wafers are employed in critical circuits; all transformers are vacuum impregnated; wiring is bare tinned copper, P.V.C. or polythene insulated; raw materials used for the chassis etc., are chosen and finished to produce the minimum contact potentials, (not greater than 0.3 v between adjacent metals).

4.03 CIRCUIT DESCRIPTION

(1) SIGNAL FREQUENCY AMPLIFIER

The stages of signal frequency amplification provide a high degree of selectivity prior to the mixer stage, minimising cross modulation and blocking by strong interfering signals.

The grid circuit of valve V1, and the anode/grid circuits of valves V1, V2, and V2, V3, each employ eight tuned couplings to cover the complete tuning range of the receiver and all coils not in use are short circuited by the wave change switch.

The aerial circuit coupling is designed for use with an 80 ohm unbalanced input on the short wave bands. This circuit can be tuned to resonance, to suit different aerials, by means of a trimmer condenser with a control on the front panel.

The secondaries of the transformers switched on each range to the grids of V1, V2, V3, are tuned by sections of the double four-gang variable condenser, two sections connected in parallel being used on the long and medium wave bands D to H and one section only on the short wave bands A to C.

Two additional series tuned I.F. circuits are provided, on bands E and G, to improve I.F. rejection.

Inductance and capacity trimming is provided for each tuned circuit.

(2) OSCILLATOR

The first heterodyne oscillator valve, V4, is aligned to track with the signal frequency amplifier at a frequency 110 kc/s higher on bands F and H and 465 kc/s higher on bands A, B, C, D, E, G.

A separate oscillator valve is employed with a tuned grid circuit controlled by one or two sections of the rear unit of the ganged variable condenser. One section on range A, two sections on ranges B to H.

Radiation from the oscillator is reduced to a very low level by thorough isolation of the signal frequency and oscillator circuits.

Inductance as well as capacity trimming is provided in all tuned circuits and on ranges D to H the padding capacity is adjustable.

In order to compensate for changes of temperature and improve frequency stability, condensers with a negative temperature co-efficient are connected in parallel with the coils and padding condensers.

Compensation for warming-up frequency drift is achieved by the use of a circuit controlled by a thermistor, or negative temperature co-efficient resistor, R.26.

This compensation is not effective until five minutes after switching on, and drift will be noticeable for this period. Thereafter the stability conforms to the limits as stated in 5.04.

Variations due to power supply voltage fluctuations are minimised by a stabilised H.T. supply.

SECTION 5

PERFORMANCE

5.01 SENSITIVITY

Details of sensitivity, signal-to-noise ratio, second channel and I.F. break-through ratios are given in Table B on the following page.

5.02 SELECTIVITY

The two selectivity curves for the five bandwidths on each of the intermediate frequencies 465 and 110 kc/s are given in SK.572, Sheets 1 and 2.

5.03 AUTOMATIC VOLUME CONTROL

The A.V.C. circuit operates on C.W., M.C.W., and telephony services throughout the frequency range of the receiver. It is such that, with a 30% modulated signal at the following levels:-

160 kc/s — 1.5 Mc/s ----- 40 db above 1 microvolt
1.5 Mc/s — 10 Mc/s ----- 30 db " 1 "
10 Mc/s — 25 Mc/s ----- 40 db " 1 "

then:-

(a) An increase in input of 20 db results in an improvement in signal/noise ratio by at least 15 db, and

(b) The output is not changed more than 8 db by an input increase of 60 db.

An A.V.C. characteristic curve is to be found at the end of the book SK.572, Sheet 3.

The time constants on 'A.V.C.' are approximately 0.1 second charge, and 0.1 second discharge. On 'N.S. - A.V.C.' they are approximately 0.1 second charge, and 1.0 second discharge.

5.04 STABILITY

Great stability of all tuned circuits, with consequent freedom from frequency drift, is obtained by making full use of negative temperature co-efficient condensers. When the receiver has been switched on for a period of five minutes, the frequency does not change in any period of five minutes by more than one part in 10^4 over the range 1.5 to 25 Mc/s. Over the 15 kc/s to 1.5 Mc/s band the variation is less than three parts in 10^4. Fluctuation in supply voltages within 5% will not affect these figures. A 5 degrees change in ambient temperature within the range of 0 degrees to 50 degrees Centigrade during operation will not affect the tuned frequency by more than three parts in 10^4 over the 1.5 to 25 Mc/s range and one part in 10^3 over the 15 kc/s to 1.5 Mc/s range.

5.05 AUDIO QUALITY

The total harmonic distortion is less than 5% at 2 watts output and the receiver hum level is at least 50 db below 2 watts.

SECTION 6

MAINTENANCE AND SERVICE

6.01 MECHANICAL ADJUSTMENTS

The switch on the I.F. unit for changing from 110 to 465 kc/s is rotated by means of an insulated link operated by a cam on the wave band switch shaft. The insulated portion of this link has two slotted holes at one end for adjustment of length. If for any reason the I.F. switch is not operating on the correct contacts, slacken the lock nuts and screws on the link, adjust to the correct position and re-tighten screws and locknuts. It is essential that the bearings of this switch are lubricated. This necessitates removal of the chassis.

When the receiver drive mechanism has settled down, after a period of use, the drive clutch may show a tendency to slip. This is indicated by an apparent sticking of the slow motion drive, and can be corrected as follows:-

The clutch is located between the dial drive mechanism and the condenser gang, immediately in front of the flexible coupling. Two O.B.A. hexagonal nuts in contact with plain washers at the rear ends of the clutch springs are provided for adjusting the tension. These should be turned, by means of an O.B.A. spanner, about a sixth of a turn (one flat on nut) at a time until no slip is apparent. Each spring should be adjusted the same amount to avoid unequal pressure on the clutch plates.

6.02 SERVICE METER AND METER READINGS

The meter at the left of the receiver panel serves two purposes. It may be used for checking the individual valves and circuits as described in the next section 6.03 or as a visual tuning indicator.

For the second purpose the top right hand switch is set at "TUNING", connecting the meter in the second R.F. valve anode circuit. A.V.C. should be switched on. The minimum reading on any signal indicates its correct tuning point.

6.03 REPLACING VALVES

Valves should be checked periodically by means of the service meter and the top right hand switch. Average readings are given in Table C below. The actual reading obtained will differ slightly from these and should be entered in the appropriate column when the receiver is installed.

METER SWITCH POSITION	FULL SCALE DEFLECTION	AVERAGE READINGS	ACTUAL READINGS SER. NO.	
V.1. Anode Current	10 mA	5.7 mA		EF 39 / VR 53
V.2. " "	10 mA	5.7 mA		— " —
V.3. " "	10 mA	2.8 mA		ECH 35
V.4. " "	10 mA	3.5 mA		2-63
Tuning	10 mA	5.7 mA		
V.5. Anode Current	10 mA	5.7 mA		EF 39
V.6. " "	10 mA	5.7 mA		— " —
V.7. " "	10 mA	5.7 mA		— " —
V.8. " "	3 mA	0.4 mA		VR-56
V.11. " "	10 mA	1.8 mA		— " —
H.T. Volts	300 V	270 volts		
V.12. Cathode Current	100 mA	37 mA		6V6

TABLE C

The figures given above are with no signal, RF/IF gain control at maximum and frequency band switch at position E.

If the performance of the receiver is down and a valve reading appears incorrect, first check that all pins are clean and that the top connection, if any, is firm: then if there is no improvement fit new valve as follows:-

If receiver is in the standard case, switch off and open lid; if rack mounted, it may be necessary to disconnect and withdraw the receiver, to obtain enough clearance when another unit is above it, in order to remove top cover, see section 2.01.

V13: ECC82 Prod. det

V1,2,3,4, are reached by removing the centre cover plate over the gang condenser.

V5,6,7, by removing the right hand cover over the I.F. unit.

V8,11, by removing first the tops then the bodies of the circular screening cans.

V9,10,12, are directly accessible (V12 is very close to mains switch: disconnect mains from power unit before removing).

If the meter reading is still incorrect and receiver not normal after changing valve, fault is probably in wiring or components associated with this valve stage which should be investigated. Some notes on this subject appear in 6.05.

A list of the valves and their functions is given below, Table D.

FUNCTION	VALVE
V1 1st radio frequency amplifier.	EF39
V2 2nd radio frequency amplifier.	EF39
V3 Frequency changer.	ECH35
V4 Oscillator.	L63
V5 1st I.F. amplifier.	EF39
V6 2nd I.F.	EF39
V7 3rd I.F.	EF39
V9 Detector and A.V.C. diode.	EB34 or 6H6
V10 Noise limiter diode.	EB34 or 6H6
V8 B.F.O.	EF37A or EF36
V11 A.F. amplifier.	EF37A or EF36
V12 Output amplifier.	6V6G
V1 Neon stabiliser, A.C. power unit	S.130
V2 Rectifier, A.C. power unit	5Z4G

TABLE D

The positions of the various valves are marked on the chassis.

6.04 REPLACING DIAL LAMPS

The three dial lamps fitted to illuminate the scale are connected in parallel, with a resistance in series to reduce the current through the filaments and thus increase their life.

If a lamp fails unscrew the two pillars in the dial lamp unit behind the front panel, move the unit away from the dial, remove the faulty lamp and insert the new, and finally refix the unit in position. Replacement lamps must be of the 6 volt 0.3 amp. miniature Edison screw type. One spare lamp is supplied in a clip fixed to the top of the gang condenser cover inside the receiver.

It is not harmful to run the receiver with a dial lamp missing, but the lives of the other lamps will obviously be slightly reduced owing to the increased current through the filaments.

6.05 FAULT LOCATION

It is not possible in this section to cover all types of faults which may occur in a communications receiver such as the R.50M. It is hoped, however, that the following pages will assist in the task of locating and correcting such troubles as may be met with in service.

Fault finding should be approached in a logical manner and the following hints will be found useful.

(1) Check the obvious things first such as badly fitting valve pins, loose top grid cap connections, loose plugs, etc.

(2) Note any unusual sound effects as these will often afford a clue to the trouble.

(3) Use the meter and switch on receiver front panel to check valve currents and main H.T. volts, see Table C.

(4) Make visual examination for mechanical damage to cabinet or components causing broken connections etc.

(5) If test meter is available make voltage and resistance checks using the Table E.

NOTE - resistance checks must be made with the receiver switched off.

To simplify fault location the receiver has been divided into the following sections:-

(1) Power Unit

(2) Audio Frequency Amplifier

(3) Intermediate Frequency Amplifier

(4) Signal Frequency Amplifier and Mixer

(5) Oscillator

(6) Automatic Volume Control and Noise Suppressor

(7) Beat Frequency Oscillator

(1) POWER UNIT

If no power, L.T. or H.T. is available from the power unit, check that the mains supply is through to the input plug. Examine mains fuses F1 and F2 on the front panel and make sure that transformer primary taps are connected correctly. Check inter-connector lead for broken wires.

If heater volts are through to the receiver but no H.T. examine fuse F3 on the front panel. A blown fuse indicates a low resistance path to earth on the H.T. line from the rectifier to the socket SK.1 or a short circuit in the receiver. As this might occur in either of the smoothing condensers C1, C2, test these items for breakdown. Note that the fuse F3 is in the negative H.T. line. Using an A.C. voltmeter check the rectifier heater volts, 5, and the anode volts, 365 - 0 - 365. If these voltages are normal the rectifier valve is probably faulty and should be replaced.

The stabilised H.T. supply is normally 120 volts but if the S.130 valve is open circuited or making bad contact in the holder, the voltage will read almost the same as the main H.T. i.e. 270 volts.

(2) AUDIO FREQUENCY AMPLIFIER

A rapid test of the A.F. amplifier can be made, assuming that valves V11 and V12 have already been checked, by turning up the A.F. gain control and touching the cathode (pin 6) of V11 intermittently with an earthed wire. This test should produce loud "scratching" noises in the telephone or loudspeaker if the A.F. section is working.

If an audio frequency oscillator is available, the output can be injected into the grids of V11 and V12 in turn.

If no response is obtained from V12 grid, check the output transformer, headphones or loudspeaker by means of an Avometer or a simple continuity tester; check also the interconnecting lead between receiver and power unit.

If no response is obtained from V11 grid, check the coupling condenser and associated wiring for open circuits.

(3) INTERMEDIATE FREQUENCY SECTION

A quick check can be made to establish the continuity of the I.F. amplifier by touching the cathodes of the valves (V5, V6 and V7) in turn with an earthed wire and noting if a noise is produced in the headphones. The gain controls should be turned up for this test. If a valve fails to produce any noise and normal readings are obtained on the receiver test meter, examine the link mechanism to the I.F. changeover switch as this may have slipped, see section 6.01.

A signal generator and power output meter when available can be used to check the gain of each I.F. stage by comparison with a set of average figures as shown in the Table F.

I.F.STAGE GAINS

TABLE F

	465 kc/s	110 kc/s
V3 gain	7	3
V5 gain	15	16
V6 gain	15	16
V7 sensitivity in mV	110	85

V7 sensitivity is for 2 watts audio output on a signal modulated at 400 c/s, to a depth of 30%. This corresponds to about 65-70 uA current in the detector diode load R.67.

BANDWIDTH POSITION 3
465 kc/s RANGE SWITCH ON BAND E.
110 kc/s RANGE SWITCH ON BAND F.

(4) SIGNAL FREQUENCY AMPLIFIER AND MIXER

Assuming that valves have already been checked on the test meter for normal current readings, see page 15, a simple test can be applied to give a rough indication of where to start investigating the fault.

Adjust the receiver to the setting for the reception of a strong signal. Disconnect the aerial from its normal position and touch it on to the grids of V1, V2, V3, in turn until the signal is heard. Examine switches, wiring and components between this point and the previous point where no signal was heard.

When a signal generator and power output meter are available they can be used to check the performance of each stage by comparison with a set of average figures, see Table G.

R.F.STAGE GAINS

Range	Frequency	Ae.Gain	V1 Gain	V2 Gain	V3 Sensitivity in uV
A	24 Mc/s	6	6	6	320 Bandwidth 4
B	12 Mc/s	5	14	15	400 Bandwidth 4
C	6 Mc/s	9	20	4	400 Bandwidth 4
D	3 Mc/s	9	11	4.4	400 Bandwidth 4
E	1000 kc/s	6	4.4	24	350 Bandwidth 3
F	425 kc/s	1.8	6	5	600 Bandwidth 3
G	170 kc/s	1.8	2.5	10	350 Bandwidth 3
H	20 kc/s	1.8	5.6	33	600 Bandwidth 2

TABLE G.

Measured with dummy aerial of 80 ohms above 4 Mc/s, and 300 pF below 4 Mc/s. V3 sensitivity is for 2 watts audio output on 400 c/s 30% mod.signal. R.F. and A.F. gains are at maximum gain.

(5) OSCILLATOR

Faults in the oscillator section may be due to a valve, component failure, broken connection or possibly mis-alignment of tuned circuits etc.

Failure to oscillate is indicated by a rise of anode current in V.4, complete lack of signal and also reduced receiver noise.

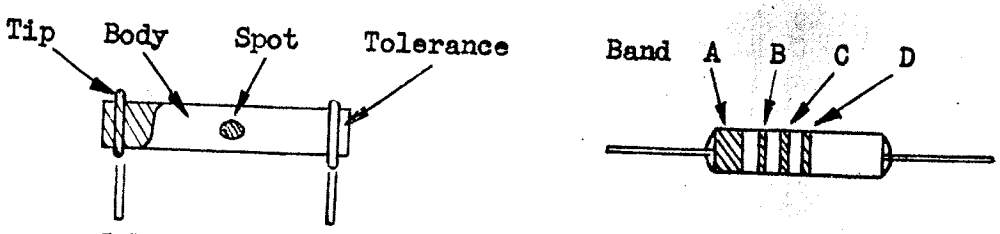
The valve V.4. can be checked by means of the meter and switch, see section 6.03.

Test receiver to ascertain if failure is on one or all frequency bands. If on one range only, examine associated switch contacts, components and wiring. If all ranges are affected, fault must exist in common components or wiring etc.

Check earth connections, coil continuities, variable and fixed condensers for short circuits and resistors for values (if ohmmeter is available). A resistance colour code is to be found overleaf.

RESISTANCE COLOUR CODE

Body or Band A Colour		Tip or Band B Colour		Spot or Band C Colour		Tolerance Other Tip or Band D	
Black	0	Black	0				
Brown	1	Brown	1	Brown	0	Gold	5%
Red	2	Red	2	Red	00	Silver	10%
Orange	3	Orange	3	Orange	000	Plain	20%
Yellow	4	Yellow	4	Yellow	0000		
Green	5	Green	5	Green	00000		
Blue	6	Blue	6	Blue	000000		
Purple	7	Purple	7	Purple	0000000		
Grey	8	Grey	8	Grey	00000000		
White	9	White	9	White	000000000		



Solid Carbon Type

Fig.9

Ceramic Type

(6) A.V.C. AND NOISE SUPPRESSOR

Check the A.V.C. operation as follows:-

Set meter switch to "Tuning"
Extreme left hand switch to "A.V.C. - N.S."
Connect aerial to receiver, turn up gain controls, tune in to a strong carrier wave and note if meter reading falls.
Turn noise suppressor control clockwise (increased suppression) when distortion and attenuation of a modulated carrier should result.

If the A.V.C. does not function normally check the continuity of the line from the diode (V9) to the grid return circuit of the R.F. and I.F. valves, including the decoupling resistances. Test also the associated decoupling condensers, as a breakdown in one of these would effectively short to earth either the A.V.C. line or one of the valve grid returns.

Examine any switch contacts in circuit, i.e. on the A.V.C. - N.S. switch S.2, and on S6/6 which effects the I.F. changeover and is mechanically coupled to the wave change switch.

A delay voltage of about 9 or 10 measured on a valve voltmeter is normal, and can be measured at the appropriate cathode (pin 8) of V9. If delay volts are incorrect check the resistance of R.75 and 76 which form a potential divider across the H.T.

In the event of failure of the noise suppressor, assuming valve V10 is in order, check all fixed condensers in this part of the circuit for breakdown, resistance for values and A.V.C. - N.S. switch (S.2) for bad contacts or broken wires.

(7) BEAT FREQUENCY OSCILLATOR

Failure of the B.F.O. is indicated in the first instance by the inability to produce a beat note with the tuning control, when receiving C.W. signals.

Check the current readings of V8 by means of the receiver test meter and if incorrect try changing the valve. High anode current in V8 usually indicates that the circuit is not oscillating and if the valve is apparently normal a fault may exist in a component such as a coil, tuning condenser, switch etc.

Examine local circuit wiring, changeover switch S6/5 for bad contacts, tuning and fixed condensers for short or open circuits.

If the circuit is oscillating but signal is still inaudible, tuning adjustments, apart from the normal control, may be necessary and instructions to enable this to be carried out will be found in Section 6.06.

Voltage and Resistance Table. (K = 1000 ohms)

	ANODE		SCREEN		CATHODE		GRID
Valves	Volts to Chassis	Resistance to appropriate H.T. Line	Volts to Chassis	Resistance to appropriate H.T. Line	Volts to Chassis	Resistance to Chassis	Resistance to Chassis
V1 & V2	250	4.7K	95	10K	2.4	330	
V3	250	4.7K	104	4.7K	2.4	150	
V4	95	4.7K	-	-	0	0	68K
V5	250	4.7K	95	10K	2.4	330	
V6	250	4.7K	95	10K	2.4	330	
V7	250	4.7K	95	100K	2.4	330	
V8		122K			0	0	100K
V11	90	105K	130	155K	4.8	3.3K	0-100k Variable
V12	270	200	280	0	18	470	470K

Main H.T. 280 volts
Stabilised H.T. 114 volts
Total H.T. current 100 mA

Measurements on Avometer Model 7
Anode and Screen Volts on 400 V range
Cathode Volts on / 10 V range

TABLE E

6.06 CIRCUIT ALIGNMENT

General

The receiver is correctly aligned at the factory, and should remain so for a very long period, even under conditions of mechanical vibration. It is not recommended that the alignment be disturbed unless it is definitely found to be at fault. This applies particularly to the Intermediate Frequency circuits.

Should alignment be necessary, the following equipment will be needed:-

Calibrated Signal Generator with Wobbulator or Frequency Modulation facility at the I.F.'s.

Oscilloscope.

D.C. valve voltmeter (about 10V.), or 0-0.5 mA. meter, for indication of output.

Trimming tools, to be found inside the receiver on top of the centre cover. These are (a) Screwdriver for adjusting iron dust cores at one end, and hexagonal box spanner for trimming condensers at the other, and (b) Screwdriver for adjusting padding condensers at one end, and box spanner of oval section for I.F. trimmer spigots at the other.

It is not advisable to stop the oscillator, as this may cause damage to the mixer valve V3.

I.F.Alignment

A Wobbulator and Oscilloscope are necessary for obtaining symmetry of the I.F. response curves. It will be found, however, that on the two narrowest bandwidths, 1 and 2, difficulty will be experienced in obtaining a true response curve. Unless a very slow sweep rate is available, calling for special D.C. coupled test equipment, this method should only be used for bandwidths, 3, 4 & 5.

Great care is necessary when freeing the I.F. core adjustments. They are sealed with cellulose cement, which may be softened with a carefully applied solvent, such as amyl acetate or acetone.

Preliminary

Connect the C.W. output of the Sig. Gen. to the mixer grid.

Connect the valve voltmeter across the diode load R.67, or put a 0-0.5 mA meter in series with this resistor at the earthy end. The oscilloscope input is taken from R.67, when using the wobbulator.

Procedure - 465 kc/s.

1. Set to range E.
2. Set Bandwidth to 1 (very narrow) and tune Sig. Gen. for maximum response. This ensures that the Sig. Gen. is at crystal frequency.
3. Set Bandwidth to 3 (Intermediate) and peak all the 465 kc/s I.F. core adjustments except L.9 and L.5.
4. Set Bandwidth to 4 (Wide) and, using the wobbulator, adjust L.5 for symmetry of response curve as seen on the oscilloscope.
5. Set Bandwidth to 1 and adjust for symmetrical response with the crystal phasing adjustment C.65.
6. Set Bandwidth to 2. Adjust C.67 to even up the skirts. Adjust L.9 until the curve is single humped. This will occur when the height of the peaks is at minimum. Repeat L.9 and C.67 adjustments until curve is both single humped and symmetrical.

Procedure - 110 kc/s

1. Set to Range F.
2. Set Bandwidth to position 1, and adjust signal generator frequency for maximum response, then at this frequency, and on bandwidth position 3, adjust L.39, L.40 then primary and secondary windings of coils G and J between valves V6 and V7.
3. Unscrew top cores of coils G and J between valves V5 and V6.
4. Adjust bottom cores of coils G and J between valves V5 and V6 for maximum response.
5. Using damper consisting of 22,000 ohms in series with 0.1 uF, damp grid of V.6.
6. Adjust top core of V6 grid coil (J) for maximum response. Remove damper.
7. Damp anode of V.5. Adjust top core of V5 anode coil (G) for maximum response. Remove damper.
8. Switch to bandwidth position 4, and, using wobbulator, adjust coil C for symmetry.

9. Switch to bandwidth 3, and adjust top core of coil N for symmetry.
10. Switch to bandwidth 4, and re-adjust coil C for symmetry.
11. Set bandwidth to 1 and obtain symmetry with the crystal phasing adjustment C.68.
12. Set bandwidth to 2 and adjust L.10 for minimum height of peak.

Alignment of Beat Frequency Oscillator

Set panel control to its mid-point, and adjust the appropriate core for zero beat with a signal at the exact I.F., as determined by the crystal on bandwidth position 1. (See operation 2 above under I.F. Alignment Procedure). Adjust L.35 on 465 kc/s. and L.36 on 110 kc/s.

Alignment of Signal Frequency and Oscillator Circuits

Provision is made for inductance adjustment of all tuned circuits by means of dust-iron cores. Air-spaced trimming condensers are provided for all tuned circuits except the aerial circuit. The oscillator padding condensers are variable on ranges D to H.

Each range is aligned separately. The oscillator is first aligned to the correct frequency. Then the two intervalve signal frequency circuits are aligned, and finally the cores of the aerial coils. The I.F. rejectors on ranges E & G should be adjusted before the intervalve circuits on these aranges.

Oscillator Alignment

Table H indicates the three points on each range, low high and centre frequencies, at which oscillator tracking should be correct.

Set the bandwidth switch at position 3 (intermediate) for ranges A to F, position 2 (narrow) for range G, and position 1 for range H.

Connect the C.W. output of the Signal Generator to V.1 grid.

Connect the indicating meter as described under I.F. alignment.

Switch the receiver for "MOD." & "MAN."

Proceed to align as follows:-

1. With Sig. Gen. and Receiver at low frequency point, adjust the appropriate inductance.

2. With Sig. Gen and Receiver at high frequency point, adjust the appropriate trimming capacitance.

3. Repeat 1 & 2 until no improvement is obtained.

4. Check that the centre frequency point is correct. If not, it indicates that the appropriate padding condenser requires adjustment. If the oscillator frequency is high (Sig. Gen. reads high at maximum response, with receiver correct) reduce the capacity of the padder. Note that on range H the padding adjustment is critical, and proceed cautiously. Repeat operations 1, 2 & 3. Check centre frequency again, and repeat as often as necessary. The padding condensers are unlikely to require adjustment.

When aligning range A, take care that the oscillator is working above signal frequency after each adjustment. To check this, locate the second channel by re-tuning the Sig. Gen. It should be found 0.93 Mc/s higher.

Adjustment of I.F. rejectors

Set the Sig. Gen. to the exact I.F. by connecting to mixer grid, with bandwidth very narrow, and setting for maximum output indication.

Transfer the Sig.Gen output to V.1 grid and adjust the appropriate I.F. rejector for minimum output indication.

On Range E, adjust L.2 with receiver tuning at the high frequency end.

On Range G, adjust L.1 with receiver tuning at the low frequency end.

Signal Frequency Alignment

Connect the Sig. Gen. to the aerial terminal via a dummy aerial. This can be 80 ohms series resistance on ranges A to C, and 300 pF series capacitance on ranges D to H.

Set the bandwidth as for oscillator alignment.

Set the aerial trimming control on the panel to mid-capacity.

Align R.F. and mixer circuits, first at the low frequency end by means of the cores, and then at the high frequency end by means of the trimming condensers.

Repeat until no improvement is obtained.

Align aerial circuits at centre frequency.

TABLE H

RANGE	LOW	HIGH	CENTRE
A	17.0 Mc/s.	31.0 Mc/s.	24.0 Mc/s.
B	8.0 "	15.5 "	12.0 "
C	4.0 "	7.8 "	5.8 "
D	1.7 "	3.8 "	2.8 "
E	650 kc/s.	1500 kc/s.	1050 kc/s.
F	275 "	575 "	425 "
G	110 "	240 "	170 "
H	14 "	25 "	20 "

6.07 COMPONENTS LIST

For list of components with references and values see WD3/2719/S.

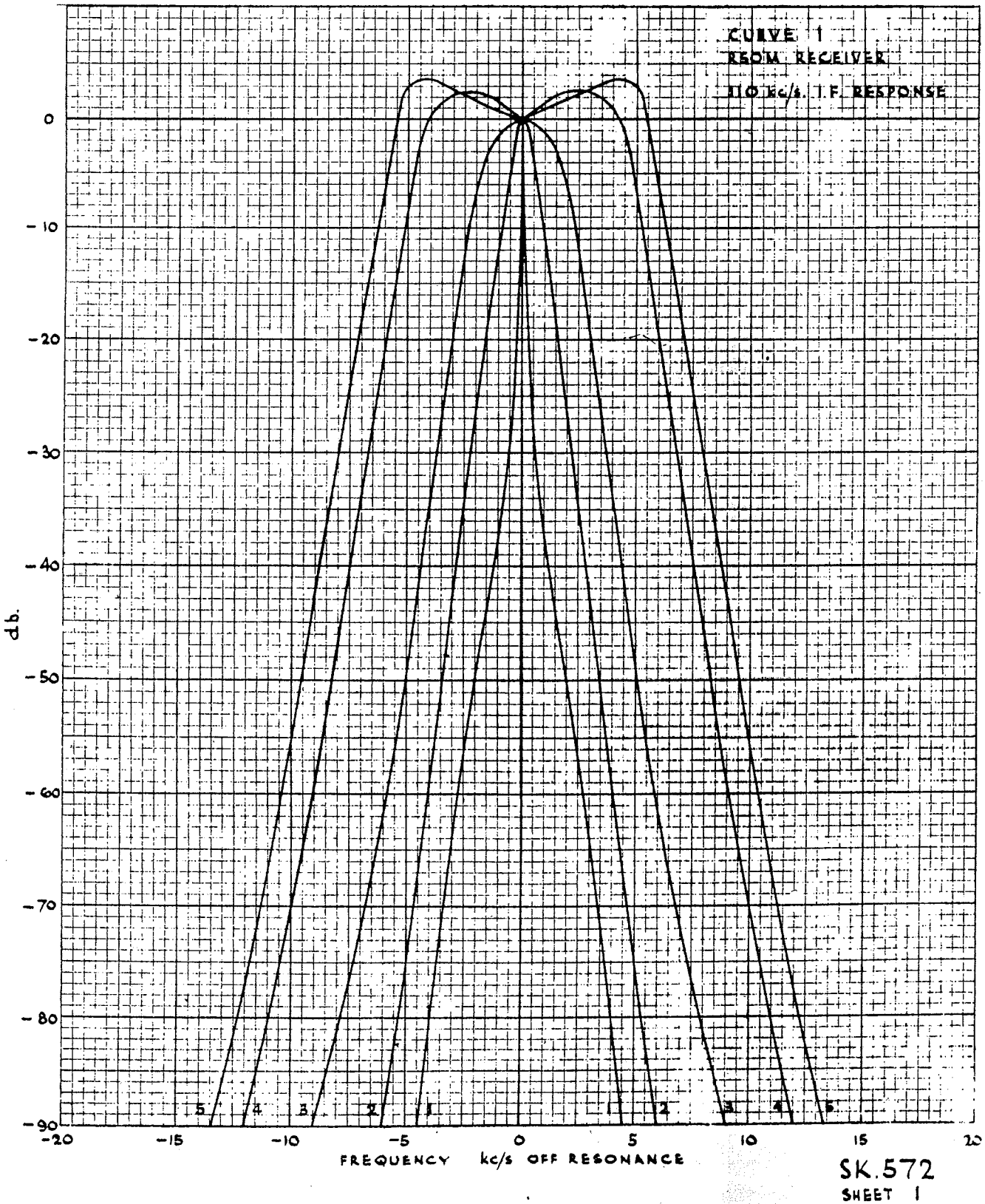
6.08 LOCATION OF COMPONENTS

The positions occupied by the various components are indicated in Drawing No.SK.571 and these should be used in conjunction with the Components List see 6.07.

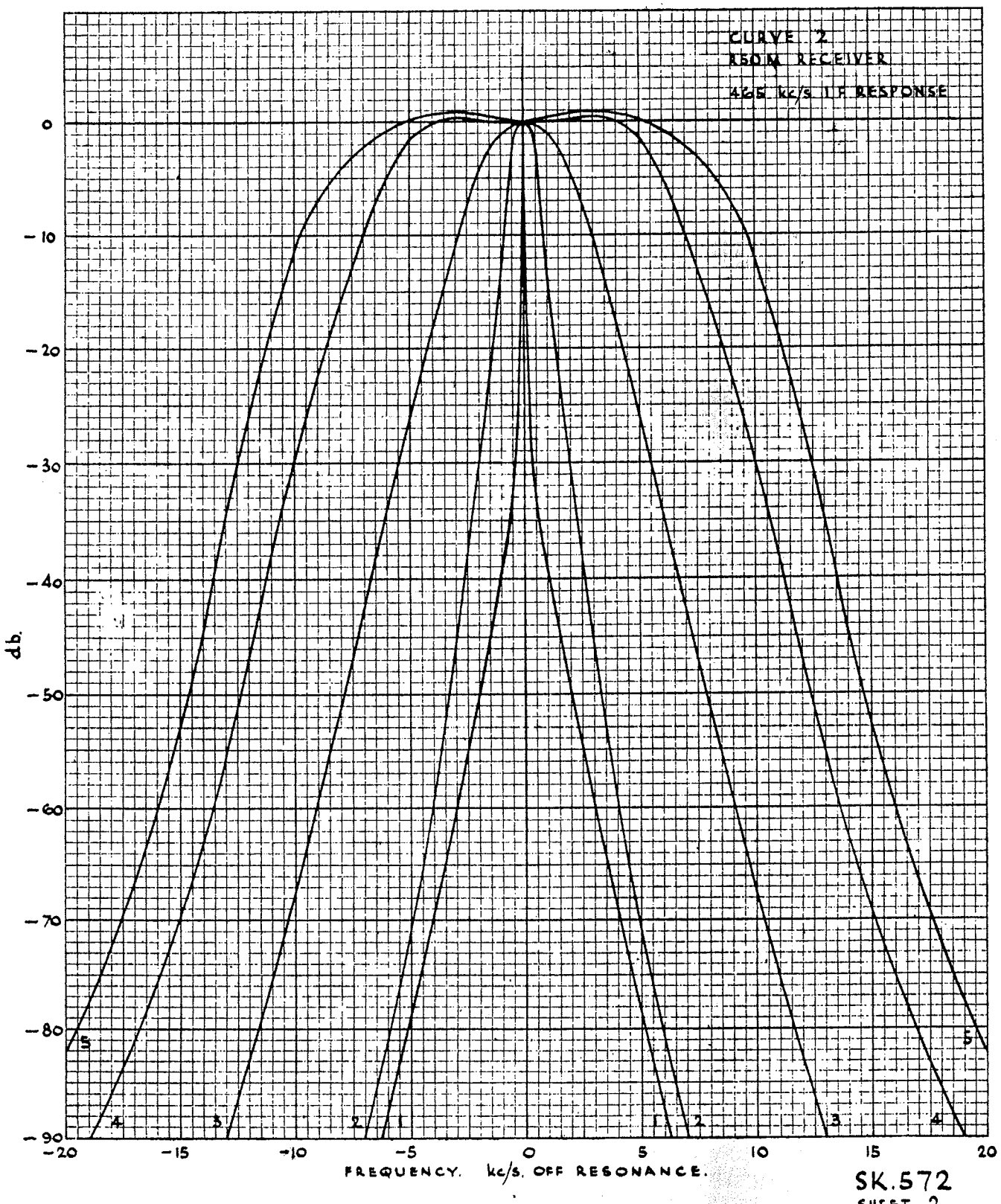
6.09 DIMENSIONS AND WEIGHTS

R.50M Chassis only			
Height	Width	Depth	Weight
12¼ inches (31 cm)	19 inches (48 cm)	21½ inches (54.5 cm)	52 lbs (23.5 kg)
Cabinet Model			
14¾ inches (37.5 cm)	21 inches (53 cm)	21½ inches (54.5 cm)	89 lbs (40 kg)
A.C. Power Unit			
6¼ inches (16.5 cm)	17 inches (43.5 cm)	7½ inches (19 cm)	25 lbs (12 kg)

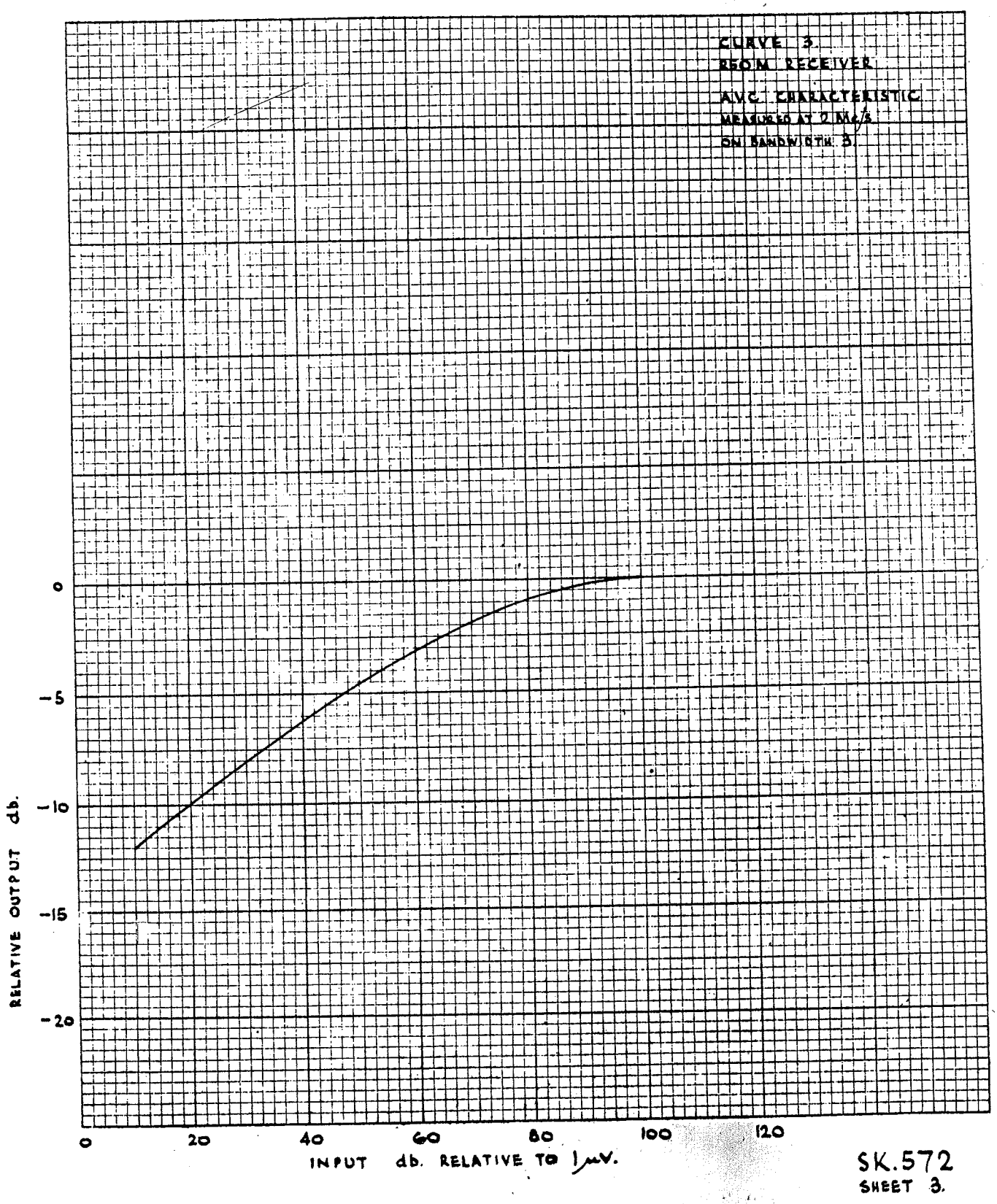
TABLE J



SK.572
SHEET 1



SK.572
SHEET 2.



SK.572
SHEET 3.

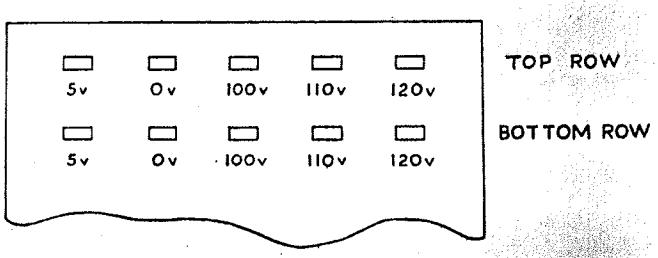


FIG. 1.

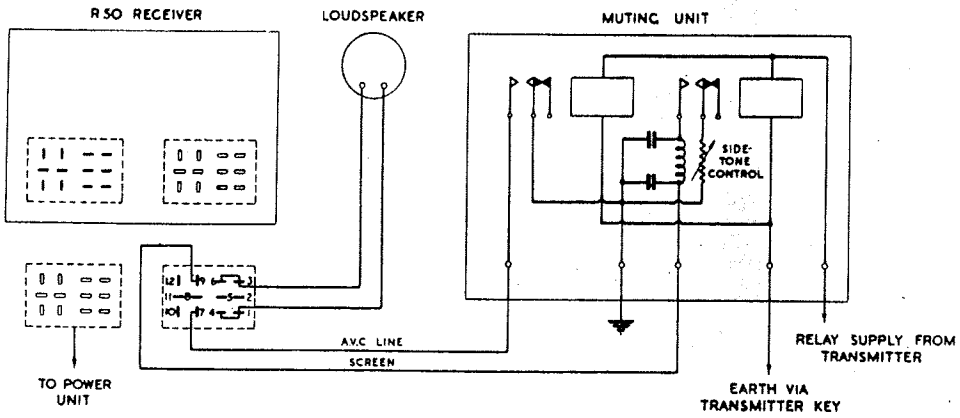


FIG. 2.

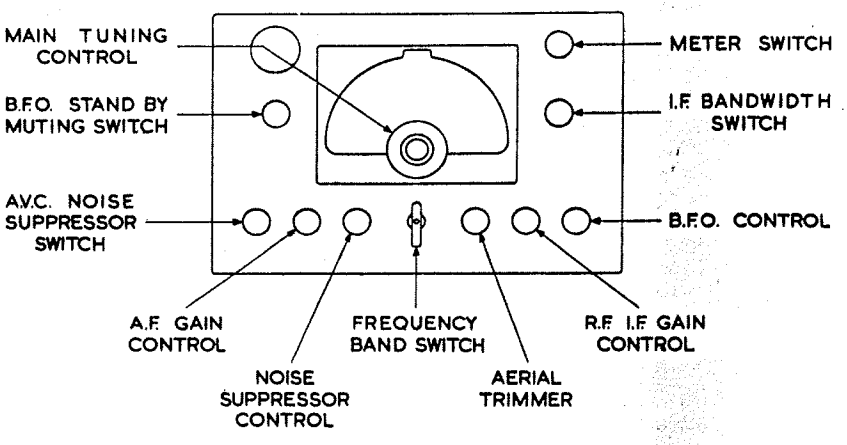


FIG. 3.

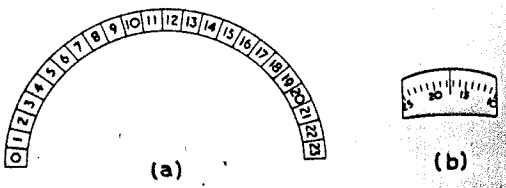
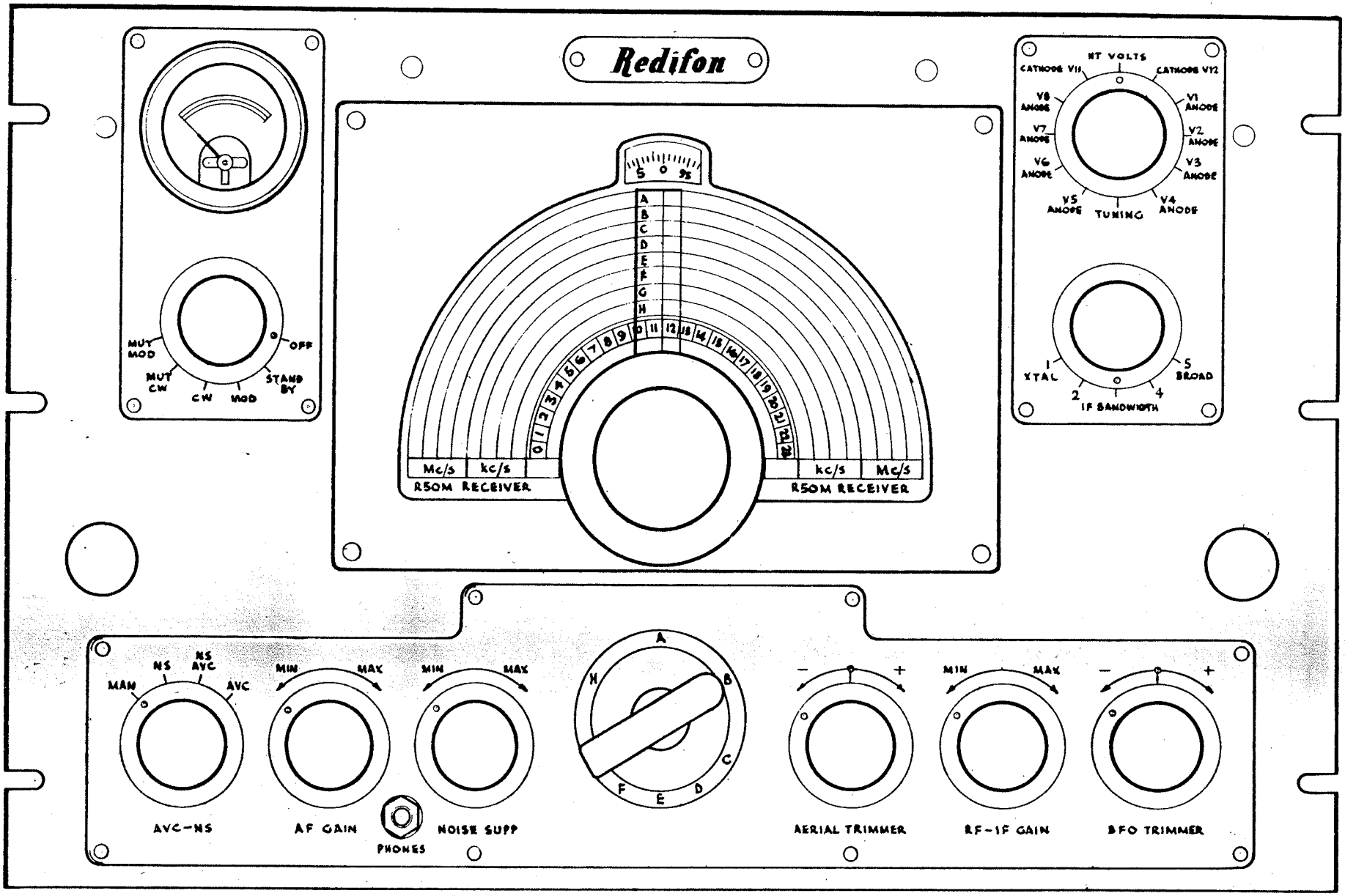
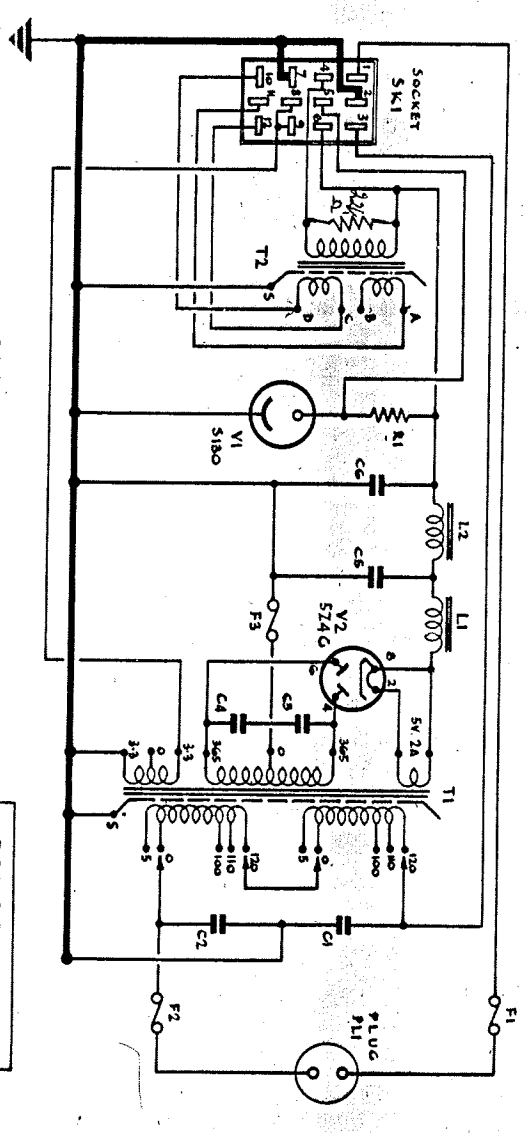


FIG. 4.


Redifon
MUT MOD
MUT CW
CW
MOD
STAND BY
OFF
5 0 95
A
B
C
D
E
F
G
H
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
Mc/s
kc/s
R50M RECEIVER
kc/s
Mc/s
R50M RECEIVER
HT VOLTS
CATHODE V11
CATHODE V12
V8 ANODE
V1 ANODE
V7 ANODE
V2 ANODE
V6 ANODE
V3 ANODE
V5 ANODE
TUNING
V4 ANODE
XTAL
1
2
4
5
BROAD
IF BANDWIDTH
MAN
NS
NS AVC
AVC
AVC-NS
MIN
MAX
AF GAIN
PHONES
MIN
MAX
NOISE SUPP
A
B
C
D
E
F
H
AERIAL TRIMMER
RF-IF GAIN
BFO TRIMMER

DRAWN	DATE 2. 8. 50.	TRACED	DATE	ENGINEER	DATE	APPROVED	DATE

ISSUE
1. 2. 8. 50
CONNECTIONS REVERSED ON 'S' & 'D' TERMINALS ON T2.
CH/N. 5524
2. 12. 2. 51.

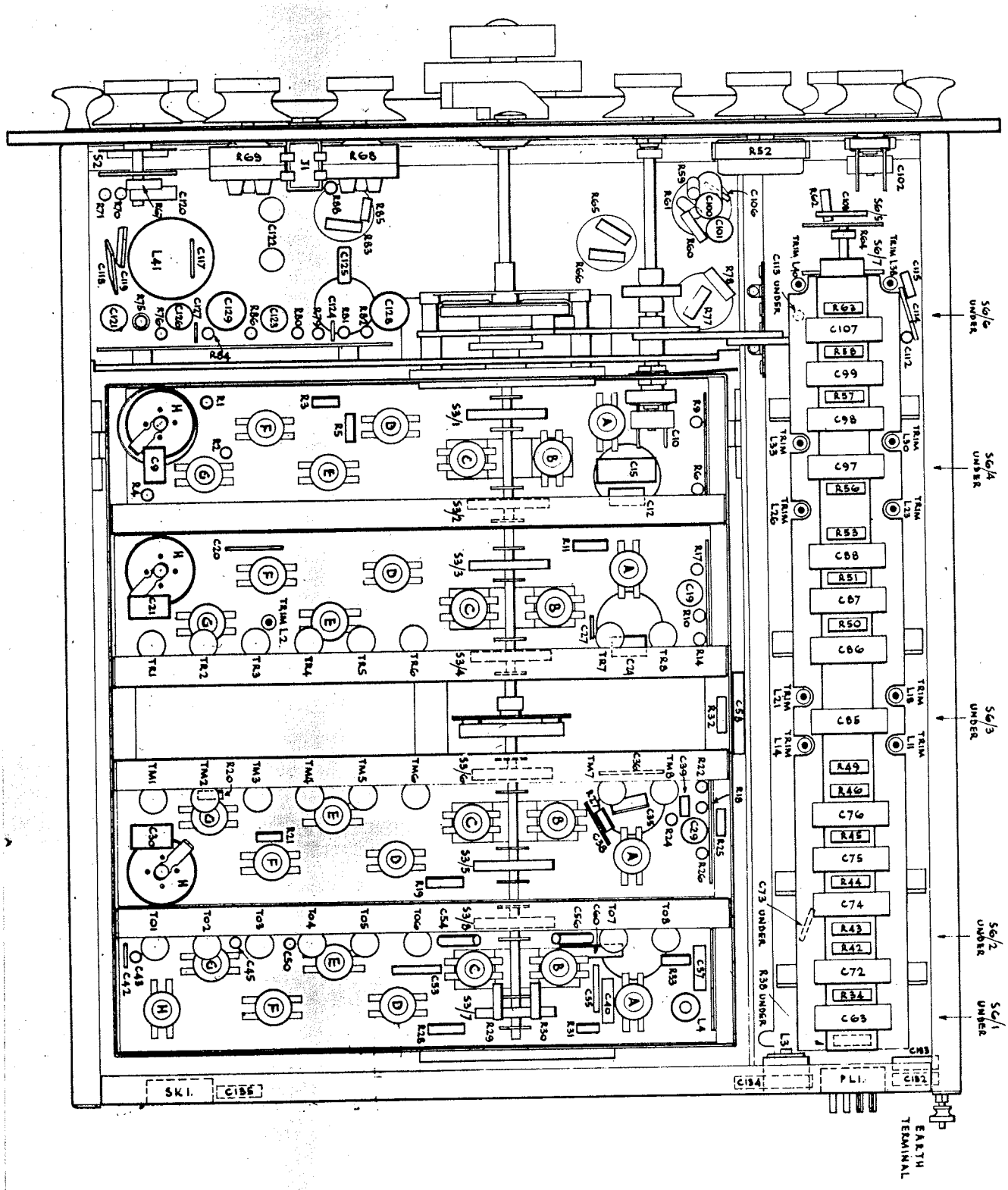


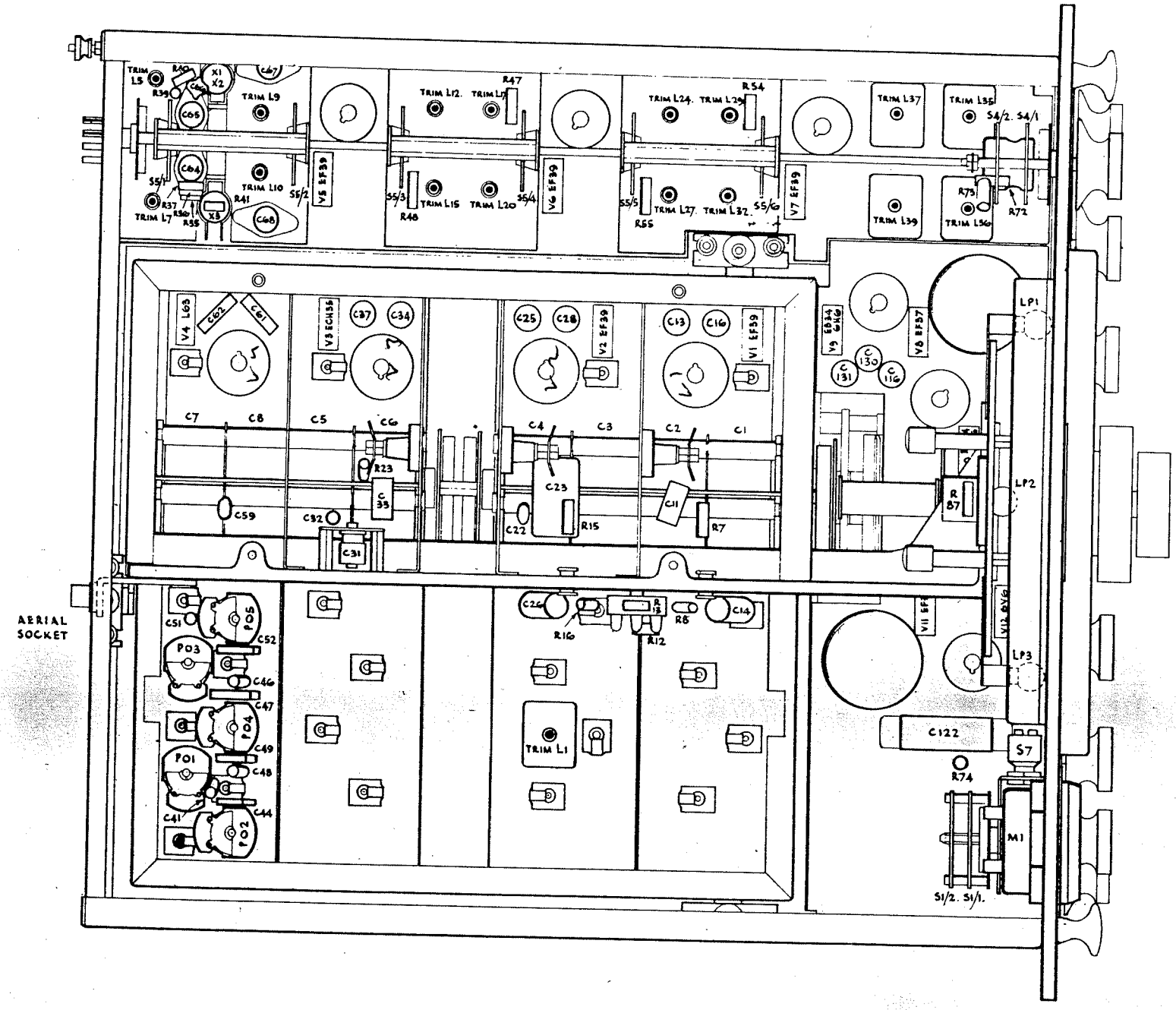
OUTPUT TRANSFORMER T2.
FOR 3Ω OUTPUT CONNECT B TO D: A TO C.
FOR 12Ω OUTPUT CONNECT B TO C.

COMPONENT VALUES

CONDENSERS	
C1	·01 μF
C2	·01 μF
C3	·05 μF
C4	·05 μF
C5	8 μF
C6	8 μF
RESISTORS	
R1.	5 KΩ 10W
FUSES	
F1	1A. 200-250v. 2A. 100-125v.
F2	1A. 200-250v. 2A. 100-125v.
F3	250 m.A.

REDIFON LTD LONDON	P. U. 74. A.C. POWER UNIT	WD3/2767/M	SHT. 1 CONT


SK1.
PL1.
EARTH TERMINAL
SG/6 UNDER
SG/4 UNDER
SG/3 UNDER
SG/2 UNDER
SG/1 UNDER
C73 UNDER
R36 UNDER
C119 UNDER
TRIM L40
TRIM L36
TRIM L33
TRIM L30
TRIM L26
TRIM L23
TRIM L21
TRIM L18
TRIM L14
TRIM L11
TRIM L2
L41
L3
L4
S1
S2
S3/1
S3/2
S3/3
S3/4
S3/5
S3/6
S3/7
S4/1
S4/2
S4/3
S4/4
S4/5
S4/6
S4/7


AERIAL SOCKET
TRIM L5
R39
X1
X2
C67
C65
TRIM L9
C64
TRIM L10
S5/1
R37
TRIM L7
R36
R35
X3
C68
R41
S5/2
V5 EF39
TRIM L12
TRIM L13
R47
S5/3
TRIM L15
TRIM L20
S5/4
R48
V6 EF39
TRIM L24
TRIM L29
R54
S5/5
R55
TRIM L27
TRIM L32
S5/6
V7 EF39
TRIM L37
TRIM L35
S4/2. S4/1
TRIM L39
R73
TRIM L36
R72
LP1
V4 L63
C62
C61
V3 ECH35
C37
C34
V2 EF39
C25
C28
V1 EF39
C13
C16
V9 EB34 6H6
V8 EF37
C130
C131
C116
C7
C8
C5
C6
C4
C3
C2
C1
R23
C35
C59
C32
C31
C23
C22
R15
C11
R7
R 87
LP2
C51
P05
C52
P03
C46
C47
P04
C49
P01
C48
C41
C44
P02
C26
R16
R 13
R12
R8
C14
V11 EF
V12 6V6
LP3
TRIM L1
C122
S7
R74
M1
S1/2. S1/1.

DRAWN. F.H. DATE 4.8.50.	TYPED C.J. DATE 3.8.50.	ENGINEER R.C. DATE 19.2.51.	APPROVED E.W.R. DATE 19.2.51.

REF	VALUE	DESCRIPTION	REMARKS
		TRIMMERS.	
TR1	3-30 pfd.	Mullard Type E.7864/01.	
TR2	3-30 pfd.	" " "	
TR3	3-30 pfd.	" " "	
TR4	3-30 pfd.	" " "	
TR5	3-30 pfd.	" " "	
TR6	3-30 pfd.	" " "	
TR7	3-30 pfd.	" " "	
TR8	3-30 pfd.	Mullard Type E.7864/01.	
TM1	3-30 pfd.	Mullard Type E.7864/01.	
TM2	2-8 pfd.	" " E.7850.	
TM3	3-30 pfd.	" " E.7864/01.	
TM4	2-8 pfd.	" " E.7850.	
TM5	3-30 pfd.	" " E.7864/01.	
TM6	3-30 pfd.	" " "	
TM7	3-30 pfd.	" " "	
TM8	3-30 pfd.	Mullard Type E.7864/01.	

REF	VALUE	DESCRIPTION	REMARKS
T01	3-30 pfd.	Mullard Type E.7864/01.	
T02	3-30 pfd.	" " "	
T03	3-30 pfd.	" " "	
T04	3-30 pfd.	" " E.7864/01.	
T05	2-8 pfd.	" " E.7350.	
T06	3-30 pfd.	" " E.7864/01.	
T07	3-30 pfd.	" " E.7864/01.	
T08	2-8 pfd.	Mullard Type E.7350.	
		PADDERS.	
P01	4.8-100 pfd.	Polar Type C8-01.	
P02	4.8-100 pfd.	" " "	
P03	4.8-100 pfd.	" " "	
P04	4.8-100 pfd.	" " "	
P05	4.8-100 pfd.	Polar Type C8-01.	

ISSUE

1. 4.8.50. TR5 was 2-8 pfd. C/N. 5582/L. Re-typed A.L.J.
2. 12.3.51.

REDIFON LTD. LONDON.	TITLE R.50M RECEIVER.	WD 3/2719/S.	SHEET № 2 cont'd.

DRAWN.	DATE	TYPED C.J.	DATE 3.8.50.	ENGINEER R.C.	DATE	APPROVED	DATE

REF	VALUE	DESCRIPTION	REMARKS	REF.	VALUE	DESCRIPTION	REMARKS	ISSUE
		CONDENSERS.		C19	.1 uF.	T.C.C. Type CP45N.	350v. D.C. Wkg.	1. 4.8.50.
C1	14-224 pF.			C20	270 pF. ±10%	T.C.C. Type 425 SMP.	" " "	
C2	"	Polar 4 gang Type C60-14/5.		C21	68 pF. ±5%	T.C.C. Type 101 SMP.	350v. D.C. Wkg.	
C3	"			C22	5 pF. ±20%	T.C.C. Type SCP7.	500v. D.C. Wkg.	
C4	14-224 pF.			C23	.01 uF. ±20%	T.C.C. Type SM3N.	350v. D.C. Wkg.	
C5	14-224 pF.			C24	150 pF. ±20%	T.C.C. Type 401 SMP.	" " "	
C6	"	Polar 4 gang Type C60-14/5.		C25	.1 uF.	T.C.C. Type CP45N.	" " "	
C7	"			C26	.1 uF.	T.C.C. Type CP45N.	" " "	
C8	14-224 pF.			C27	150 pF. ±20%	T.C.C. Type 401 SMP.	" " "	
C9	33 pF. ±10%	T.C.C. Type 101 SMP.	350v. D.C. Wkg.	C28	.1 uF.	T.C.C. Type CP45N.	" " "	
C10	3.8-50 pF.	Polar Type C8-04.		C29	.1 uF.	T.C.C. Type CP45N.	" " "	
C11	150 pF. ±20%	T.C.C. Type 401 SMP.	350v. D.C. Wkg.	C30	68 pF. ±5%	T.C.C. Type 101 SMP.	350v. D.C. Wkg.	
C12	150 pF. ±20%	T.C.C. Type 401 SMP	" " "	C31	3-30 pF.	Mullard Type E.7864.		
C13	.1 uF.	T.C.C. Type CP45N.	" " "	C32	5 pF. ±20%	T.C.C. Type SCP7.	500v. D.C. Wkg.	
C14	.1 uF.	T.C.C. Type CP45N.	" " "	C33	150 pF. ±20%	T.C.C. Type 401 SMP.	350v. D.C. Wkg.	
C15	270 pF. ±20%	T.C.C. Type 425 SMP.	" " "	C34	.1 uF.	T.C.C. Type CP45N.	" " "	
C16	.1 uF.	T.C.C. Type CP45N.	" " "	C35	150 pF. ±20%	T.C.C. Type 401 SMP.	" " "	
C17	420 pF. ±2%	T.C.C. Type 501 SMP.	" " "	C36	360 pF. ±2%	T.C.C. Type 501 SMP.	" " "	
C18	420 pF. ±2%	T.C.C. Type 501 SMP.	350v. D.C. Wkg.	C37	.1 uF.	T.C.C. Type CP45N.	350v. D.C. Wkg.	

REDIFON LTD. LONDON.	TITLE R50M. RECEIVER	WD3/2719/S	SHEET No 3 CONT.

DRAWN. DATE | TYPED C.J. DATE 3.8.50. | ENGINEER R.G. DATE 19/2/51. | APPROVED E.W.R. DATE 19.2.51

REF	VALUE	DESCRIPTION	REMARKS	REF.	VALUE	DESCRIPTION	REMARKS	ISSUE
C38	150 pF. ±20%	T.C.C. Type 401 SMP.	350v. D.C. Wkg.	C57	.01 uF.	Dubilier Type 691W.	350v. D.C. Wkg.	1.4.8.50.
C39	.001 uF. ±20%	T.C.C. Type CM20N.	" " "	C58	.01 uF.	Dubilier Type 691W.	350v. D.C. Wkg.	
C40	.01 uF.	Dubilier Type 691W.	350v. D.C. Wkg.	C59	5 pF. ±20%	T.C.C. Type SCP7	500v. D.C. Wkg.	
C41	16 pF. ±10%	T.C.C.Type SCT1.	500v. D.C. Wkg.	C60	150 pF. ±10%	T.C.C. Type SCT3.	500v. D.C. Wkg.	
C42	100 pF. ±2%	T.C.C. Type 101 SMP.	350v. D.C. Wkg.	C61	.01 uF.	Dubilier Type 691W.	350v. D.C. Wkg.	
C43	32 pF. ±10%	T.C.C. Type SCT1.	500v. D.C. Wkg.	C62	.01 uF.	Dubilier Type 691W.	" " "	
C44	33 pF. ±20%	T.C.C. Type 101 SMP.	350v. D.C. Wkg.	C63	.1 uF.	T.C.C. Type CP45N.	350v. D.C. Wkg.	
C45	10 pF. ±10%	T.C.C. Type SCT1.	500v. D.C. Wkg.	C64	3-30 pF.	Mullard Type E.7864.		
C46	190 pF. ±5%	T.C.C. Type SCT3	500v. D.C. Wkg.	C65	2-8 pF.	Mullard Type E.7851.		
C47	750 pF. ±1%	T.C.C. Type 601 SMP.	350v. D.C. Wkg.	C66	5 pF. ±10%	T.C.C. Type SCD1	500v. D.C. Wkg.	
C48	95 pF. ±5%	T.C.C. Type SCT2	500v. D.C. Wkg.	C67	2-8 pF.	Mullard Type E.7851.		
C49	370 pF. ±2%	T.C.C. Type 501 SMP.	350v. D.C. Wkg.	C68	3-30 pF.	Mullard Type E.7864.		
C50	5 pF. ±20%	T.C.C. Type SCP7	500v. D.C. Wkg.	C69	100 pF. ±5%	T.C.C. Type 101 SMP.	350v. D.C. Wkg.	
C51	250 pF. ±5%	T.C.C. Type SCT3.	500v. D.C. Wkg.	C70	330 pF. ±2%	T.C.C. Type 501 SMP.	350v. D.C. Wkg.	
C52	1250 pF. ±1%	T.C.C. Type 601 SMP.	350v. D.C. Wkg.	C71	33 pF ±10%	Erie Ceramicon Type N.750K.		
C53	3560 pF. ±1%	T.C.C. Type 601 SMP.	350v. D.C. Wkg.	C72	.01 uF.	T.C.C. Type CP45W	500v. D.C. Wkg.	
C54	30 pF. ±5%	Erie Ceramicon Type N.220.		C73	150 pF. ±10%	T.C.C. Type 401 SMP.	350v. D.C. Wkg.	
C55	8,000 pF. ±10%	T.C.C. Type 901 SMP.	350v. D.C. Wkg.	C74	.1 uF.	T.C.C. Type CP45N.	" " "	
C56	30 pF. ±5%	Erie Ceramicon Type N.220.		C75	.1 uF.	T.C.C. Type CP45N.	350v. D.C. Wkg.	

REDIFON LTD. LONDON. | TITLE R50M RECEIVER | WD3/2719/S | SHEET No 4 CONT.

DRAWN.		DATE		TYPED C.J.	DATE 3.8.50.	ENGINEER R.C.	DATE 19/2/51	APPROVED E.W.R.	DATE	
REF	VALUE	DESCRIPTION	REMARKS	REF.	VALUE	DESCRIPTION	REMARKS	ISSUE		
C76	.1 uF.	T.C.C. Type CP45N.	350v. D.C. Wkg.	C95	330 pF. ±2%	T.C.C. Type 501 SMP.	350v. D.C. Wkg.	1. 4.8.50		
C77	360 pF. ±2%	T.C.C. Type 501 SMP.	" " "	C96	330 pF. ±2%	T.C.C. Type 501 SMP.	" " "			
C78	360 pF. ±2%	T.C.C. Type 501 SMP.	" " "	C97	.1 uF.	T.C.C. Type CP45N.	" " "			
C79	330 pF. ±2%	T.C.C. Type 501 SMP.	" " "	C98	.1 uF.	T.C.C. Type CP45N.	" " "			
C80	330 pF. ±2%	T.C.C. Type 501 SMP.	" " "	C99	.1 uF.	T.C.C. Type CP45N.	" " "			
C81	360 pF. ±2%	T.C.C. Type 501 SMP.	" " "	C100	.1 uF.	T.C.C. Type CP45N.	" " "			
C82	360 pF. ±2%	T.C.C. Type 501 SMP.	" " "	C101	.1 uF.	T.C.C. Type CP45N.	350v. D.C. Wkg.			
C83	330 pF ±2%	T.C.C. Type 501 SMP.	" " "	C102	3.8-50 pF.	Polar Type C8-04.				
C84	330 pF. ±2%	T.C.C. Type 501 SMP.	350v. D.C. Wkg.	C103	100 pF ±10%	T.C.C. Type 101 SMP.	350v. D.C. Wkg.			
C85	.01 uF.	T.C.C. Type CP45W.	1,000v. D.C.Wkg.	C104	330 pF. ±2%	T.C.C. Type 501 SMP.	350v. D.C. Wkg.			
C86	.1 uF.	T.C.C. Type CP45N.	350v. D.C. Wkg.	C105	33 pF. ±10%	Erie Ceramicon Type N.750K.				
C87	.1 uF.	T.C.C. Type CP45N.	" " "	C106	10 pF. ±10%	T.C.C. Type 101 SMP.	350v. D.C. Wkg.			
C88	.1 uF.	T.C.C. Type CP45N.	" " "	C107	.1 uF.	T.C.C. Type CP45N.	" " "			
C89	360 pF. ±2%	T.C.C. Type 501 SMP.	" " "	C108	360 pF. ±2%	T.C.C. Type 501 SMP.	" " "			
C90	360 pF. ±2%	T.C.C. Type 501 SMP.	" " "	C109	360 pF. ±2%	T.C.C. Type 501 SMP.	" " "			
C91	330 pF. ±2%	T.C.C. Type 501 SMP.	" " "	C110	330 pF ±2%	T.C.C. Type 501 SMP.	" " "			
C92	330 pF. ±2%	T.C.C. Type 501 SMP.	" " "	C111	330 pF. ±2%	T.C.C. Type 501 SMP.	350v. D.C. Wkg.			
C93	360 pF. ±2%	T.C.C. Type 501 SMP.	" " "	C112	150 pF. ±10%	T.C.C. Type SCT3.	500v. D.C. Wkg.			
C94	360 pF. ±2%	T.C.C. Type 501 SMP.	350v. D.C. Wkg.	C113	12 pF. ±10%	T.C.C. Type SCT1.	500v. D.C. Wkg.			

REDIFON LTD. LONDON.	TITLE R50M RECEIVER	WD3/2719/5	SHEET No 5 CONT.

DRAWN.	DATE	TYPED C.J.	DATE 3.8.50.	ENGINEER	DATE	APPROVED	DATE

REF	VALUE	DESCRIPTION	REMARKS	REF.	VALUE	DESCRIPTION	REMARKS	ISSUE
C114	470 pF. ±10%	T.C.C. Type 501 SMP.	350v. D.C. Wkg.	C133	.01 uF.	Dubilier Type 691W.	350v. D.C. Wkg.	1. 4.8.50
C115	150 pF. ±10%	T.C.C. Type 401 SMP.	" " "	C134	.01 uF.	Dubilier Type 691W.	" " "	
C116	.1 uF.	T.C.C. Type CP45N.	" " "	C135	.01 uF.	Dubilier Type 691W	350v. D.C. Wkg.	
C117	150 pF. ±10%	T.C.C. Type 401 SMP.	" " "					
C118	680 pF. ±10%	S.R.C. Type 508.	" " "					
C119	680 pF. ±10%	S.R.C. Type 508.	" " "					
C120	.01 uF. ±20%	T.C.C. Type SM3N.	" " "					
C121	.1 uF.	T.C.C. Type CP45N.	" " "					
C122	1 uF.	T.C.C. Type 62 Inverted Mtg.	" " "					
C123	.1 uF.	T.C.C. Type CP45N.	" " "					
C124	150 pF. ±10%	T.C.C. Type 401 SMP.	" " "			JACK.		
C125	.005 uF. ±20%	Hunts. Type H34C.	" " "	J1	2 point.	Igranic Midget P.73.		
C126	.1 uF.	T.C.C. Type CP45N.	" " "					
C127	68 pF. ±10%	T.C.C. Type 101 SMP.	350v. D.C. Wkg.					
C128	50 uF.	T.C.C. Type CE18C.	25v. D.C. Wkg.					
C129	50 uF.	T.C.C. Type CE18C	25v. D.C. Wkg.					
C130	.1 uF.	T.C.C. Type CP45N.	350v. D.C. Wkg.					
C131	.1 uF.	T.C.C. Type CP45N.	" " "					
C132	.01 uF.	Dubilier Type 691W.	350v. D.C. Wkg.					

REDIFON LTD. LONDON.	TITLE R50M. RECEIVER	WD3/2719/S	SHEET No 6 CONT.

DRAWN.		DATE		TYPED C.J.	DATE 3.8.50	ENGINEER		DATE		APPROVED	DATE	
REF	VALUE	DESCRIPTION		REMARKS		REF.	VALUE	DESCRIPTION		REMARKS		ISSUE
		COILS.										1. 4. 8. 50.
LA1		Aerial Coil Range H.		A.3301 Edn. "H"		LM1		Mixer Coil Range H.		A.3303 Edn. "H"		
LA2		" " " G.		" " "G"		LM2		" " " G.		" " "G"		
LA3		" " " F.		" " "F"		LM3		" " " F.		" " "F"		
LA4		" " " E.		" " "E"		LM4		" " " E.		" " "E"		
LA5		" " " D.		" " "D"		LM5		" " " D.		" " "D"		
LA6		" " " C.		" " "C"		LM6		" " " C.		" " "C"		
LA7		" " " B.		" " "B"		LM7		" " " B.		" " "B"		
LA8		Aerial Coil Range A.		A.3301 Edn. "A"		LM8		Mixer Coil Range A.		A.3303 Edn. "A"		
LR1		R.F. Coil Range H.		A.3302 Edn. "H"		LO1		Osc. Coil Range H.		A.3304 Edn. "H"		
LR2		" " " G.		" " "G"		LO2		" " " G.		" " "G"		
LR3		" " " F.		" " "F"		LO3		" " " F.		" " "F"		
LR4		" " " E.		" " "E"		LO4		" " " E.		" " "E"		
LR5		" " " D.		" " "D"		LO5		" " " D.		" " "D"		
LR6		" " " C.		" " "C"		LO6		" " " C.		" " "C"		
LR7		" " " B.		" " "B"		LO7		" " " B.		" " "B"		
LR8		R.F. Coil Range A.		A.3302 Edn. "A"		LO8		Osc. Coil Range A.		A.3304 Edn. "A"		

REDIFON LTD. LONDON.	TITLE RSOM RECEIVER	WD3/2719/S	SHEET Nº 7 CONT.

DRAWN. DATE | TYPED C.J. DATE 4.8.50. | ENGINEER R.G. DATE 19/2/51 | APPROVED E.W.R. DATE 19.2.51.

REF	VALUE	DESCRIPTION	REMARKS	REF.	VALUE	DESCRIPTION	REMARKS	ISSUE
L1		Suppressor 465 Kc/s.	A.3297/A.	L20				1. 4.8.50
L2				L21		Grid Trfr. 110 Kc/s.	A.3297/J.	
L3		R.F. Choke.	151/2719/S.	L22				
L4		Belgin SW.68. R.F.Choke.	Waxed Finish.	L23				
L5		Xtal Input Trfr. 465 Kc/s.	A.3297/B.	L24		Anode Trfr. 465 Kc/s.	A.3297/F.	
L6				L25				
L7		Xtal Input Trfr. 110 Kc/s.	A.3297/C.	L26				
L8				L27		Anode Trfr. 110 Kc/s.	A.3297/G.	
L9		Xtal. Damping Coil. .465 Kc/s.	A.3297/D.	L28				
L10		Xtal. Damping Coil. .110 Kc/s.	A.3297/E.	L29				
L11				L30		Grid Trfr. 465 Kc/s.	A.3297/H.	
L12		Anode Trfr. 465 Kc/s.	A.3297/F.	L31				
L13				L32				
L14				L33		Grid Trfr. 110 Kc/s.	A.3297/J.	
L15		Anode Trfr. 110 Kc/s.	A.3297/G.	L34				
L16				L35		B.F.O. Coil. 465 Kc/s.	A.3297/K.	
L17				L36		B.F.O. Coil. 110 Kc/s.	A.3297/L.	
L18		Grid Trfr. 465 Kc/s.	A.3297/H.	L37		Diode Trfr. 465 Kc/s.	A.3297/M.	
L19				L38				

REDIFON LTD. LONDON. | TITLE R5OM RECEIVER | WD3/2719/S | SHEET Nº 8 CONT.

DRAWN.	DATE	TYPED C.J.	DATE 4.8.50.	ENGINEER	DATE	APPROVED	DATE

REF	VALUE	DESCRIPTION	REMARKS
L39		Diode Trfr. 110 Kc/s.	A.3297/N.
L40			
L41		A.F. Choke.	A.3309/A.
		BULBS.	
LP1		M.E.S. Bulb. 6v. .3A.	
LP2		" " 6v. .3A.	
LP3		M.E.S. Bulb. 6v. .3A.	
		METER.	
M1.		Turner Meter Mod. W.909	
		0-1 mA F.S.D. 100 ohm	
		Calibrated 0-10 mA 0-30 mA.	
		PLUG.	
PL1		Painton Plug 12 way 500479.	

REF	VALUE	DESCRIPTION	REMARKS	ISSUE
		SOCKET.		1. 4.8.50.
SK1		Painton Socket 12 way 500482.		
		VALVES.		
V1		EF39.		
V2		EF39		
V3		ECH35.		
V4		L63.		
V5		EF39		
V6		EF39		
V7		EF39		
V8		EF37		
V9		EB34 or 6H6.		
V10		EB34 or 6H6.		
V11		EF37		
V12		6V6G.		

REDIFON LTD. LONDON.	TITLE RSOM RECEIVER	WD3/2719/S	SHEET No 9 CONT.

DRAWN.		DATE		TYPED 23.8.50.		DATE	C.J.	ENGINEER		DATE		APPROVED		DATE	
REF	VALUE	DESCRIPTION	REMARKS	REF	VALUE	DESCRIPTION	REMARKS	ISSUE
	OHMS.	RESISTORS.						1. 4. 8. 50.
R1	10K. ±10%	Erie. R.M.A.9.		R19	2,200 ±10%	Erie. R.M.A.8.		
R2	10K ±10%	" "		R20	100K. ±10%	" R.M.A.9.		
R3	10K ±10%	" "		R21	100K. ±10%	" R.M.A.9.		
R4	470K. ±10%	" "		R22	4,700 ±10%	" R.M.A.8.		
R5	220K. ±10%	Erie. R.M.A.9.		R23	1 M. ±20%	" R.M.A.9.		
R6	10K. ±10%	" R.M.A.8.		R24	1,500 ±10%	" R.M.A.9.		
R7	1 M. ±20%	" "		R25	10K. ±10%	" R.M.A.8.		
R8	47K. ±20%	" "		R26	Thermistor.	Mullard Varite V.A.1003.		
R9	330. ±10%	" "		R27	150 ±10%	Erie. R.M.A.9.		
R10	4,700. ±10%	" "		R28	470 ±10%	" R.M.A.8.		
R11	4,700. ±10%	Erie. R.M.A.8.		R29	330 ±10%	" R.M.A.8.		
R12	1.5 M. ±10%	" R.M.A.9.		R30	100 ±10%	" R.M.A.8.		
R13	1.5 M. ±10%	" R.M.A.9.		R31	2,200 ±20%	" R.M.A.9.		
R14	10K. ±10%	" R.M.A.8.		R32	4,700 ±10%	" R.M.A.8.		
R15	220K. ±10%	" "		R33	68K. ±10%	" R.M.A.8.		
R16	47K. ±20%	" "		R34	4,700 ±10%	" R.M.A.8.		
R17	330 ±10%	" "		R35	120K. ±10%	" R.M.A.9.		
R18	4,700 ±10%	" "		R36	22K. ±10%	" R.M.A.9.		
				R37	6,200 ±10%	Erie. R.M.A.9.		

REDIFON LTD. LONDON.	TITLE R50M RECEIVER	WD3/2719/S	SHEET Nº 10. CONT.

DRAWN.	DATE	TYPED C.J. DATE 23.8.50.	ENGINEER	DATE	APPROVED	DATE

REF	VALUE	DESCRIPTION	REMARKS	REF.	VALUE	DESCRIPTION	REMARKS	ISSUE
R38	150K. ±10%	Erie, R.M.A.8,		R57	330 ±10%	Erie, R.M.A.8,		1. 4.8.50
R39	1,800 ±10%	" R.M.A.9.		R58	100K. ±10%	" "		
R40	1,800 ±10%	" R.M.A.9.		R59	100K. ±10%	" "		
R41	4,700 ±10%	" R.M.A.9.		R60	22K. ±10%	" "		
R42	1 M. ±10%	" R.M.A.8.		R61	100K. ±10%	" "		
R43	22K. ±20%	" R.M.A.8.		R62	100K. ±10%	" "		
R44	330 ±10%	" R.M.A.8.		R63	4,700 ±10%	" R.M.A.8.		
R45	10K. ±10%	" "		R64	470K. ±20%	" R.M.A.9.		
R46	4,700 ±10%	" "		R65	510K. ±10%	" R.M.A.8.		
R47	10 ±10% (12)	" "		R66	680K. ±10%	" "		
R48	27 ±10%	" "		R67	33K. ±10%	Erie. R.M.A.8.		
R49	22K. ±20%	" "		R68	50K. Var.	Morganite HMAR.50310	OP.1198/S.	
R50	330 ±10%	" "		R69	100K. Var.	AF gain Morganite HMAR.10410	5905-174-4958 OP.1198/S.	
R51	10K. ±10%	Erie. R.M.A.8.		R70	150K. ±10%	Erie. R.M.A.8.		
R52	5K. Var.	IF/RF gain. Reliance Type T.W.	5905-116-3278 OP.1430/S.	R71	22K. ±10%	" "		
R53	4,700 ±10%	Erie. R.M.A.8.		R72	42K. ±10%	" R.M.A.8.		
R54	10 ±10% (12)	" "		R73	250K. ±2%	Welwyn Type A.3634		
R55	30 ±10%	Erie. R.M.A.8.		R74	20K. ±10%	Welwyn Type AW.3112.		
R56	1 M. ±10%	Erie. R.M.A.8.		R75	100K. ±10%	Erie. R.M.A.2.		

REDIFON LTD. LONDON.	TITLE R50M RECEIVER	WD3/2719/S	SHEET No 11 CONT.

DRAWN. DATE | TYPED C.J. DATE 22.8.50. | ENGINEER R.L. DATE 19/2/51 | APPROVED E.W.A. DATE 19.2.51

REF	VALUE	DESCRIPTION	REMARKS
R76	3,300 ±10%	Erie. R.M.A.8.	
R77	3 M. ±10%	" "	
R78	100K. ±10.	" "	
R79	150K. ±10%	" R.M.A.8.	
R80	4,700 ±20%	" R.M.A.9.	
R81	100K. ±10%	" R.M.A.8.	
R82	3,300 ±10%	" "	
R83	470K. ±10%	" R.M.A.8.	
R84	1.5 M. ±10%	" R.M.A.9.	
R85	1K. ±10%	" "	
R86	470 ±10%	" R.M.A.8.	
R87	1	Welwyn AW.3115.	
R88	680 ±20%	Erie. R.M.A.9.	

REF	VALUE	DESCRIPTION	REMARKS	ISSUE
		SWITCHES.		1. 4. 8. 50
S1		B.N.S.F. 2B. 4P. 6 pos.	OP.1188/S	
S2		" 1B. 2P. 4 pos.	OP.1189/S	
S3		" 8B. 3P. 12 pos.	OP.1537/S OP.1538/S	
S4		" 2B. 1P. 12 pos.	OP.1536/S	
S5		" 6B. 2P. 5 pos.	OP.1192/S	
S6		B.N.S.F. 7B. 2P. 2 pos.	OP.1193/S	
S7		Bulgin. D.P. On-Off Type	S.282. Tropical	
		CRYSTALS.		
X1.X2	465 kc/s App.	G.E.C. Double Quartz Crystal in common holder Type QC.197-JCF.	OP.1600/S	
		Crystals to differ in Frequency by from 950 to 1100 c/s.		
X3	110 kc/s ± ·2%	G.E.C. Single Quartz Crystal in Holder Type QC.197-JCF.	OP.1601/S	

REDIFON LTD. LONDON. | TITLE R50M RECEIVER | WD3/2719/S | SHEET No 12.

DRAWN. [illegible] DATE 2. 8. 50. TYPED C.J. DATE 3.8.50. ENGINEER R.C. DATE 21/9/1950 APPROVED E.W.R. DATE 5. 10. 50

REF	VALUE	DESCRIPTION	REMARKS
		CONDENSERS.	
C1	.01 uF.	T.C.C. Type SM3N	
C2	.01 uF.	T.C.C. Type SM3N.	
C3	.05 uF.	T.C.C. Type 648	
C4	.05 uF.	T.C.C. Type 648	
C5	8 uF.	T.C.C. Type 82.	Rolled Edges.
C6	8 uF.	T.C.C. Type 82.	Rolled Edges.
		CHOKES.	
L1	SR/T443.	Varley Type D.P.10 20H.	Less case.
L2	SR/T443.	Varley Type D.P.10 20H.	Less case.
		PLUGS.	
PL1		Bulgin 2 pin Type. P.74.	
		SOCKETS.	
Sk1		Painton 12 way Type 500182.	

REF.	VALUE	DESCRIPTION	REMARKS
		VALVES.	
V1		S.130	
V2		5Z4G.	
		RESISTORS.	
R1	5 K.ohm.	Welwyn Type AW.3112.	12 watt.
		TRANSFORMERS.	
T1	SR/T. 881.	Mains Transformer.	
T2	SR/T 987.	Output Transformer.	
		FUSES.	
F1	1A. 200-250v. 2A. 100-125v.	1.1/4" Cartridge Type.	Mounted in 3
F2	1A. 200-250v. 2A. 100-125v.	1.1/4" Cartridge Type.	Belling Lee
F3	250 mA.	1.1/4" Cartridge Type.	Holders L.356.

ISSUE 1.2.8.50

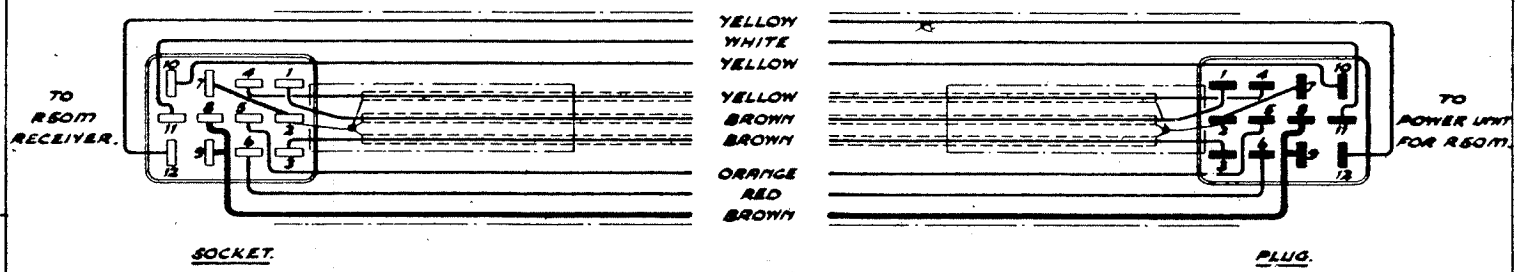
REDIFON LTD. LONDON. TITLE P.U.74. A.C. POWER UNIT. WD3/2767/S SHEET No 2.

USED ON

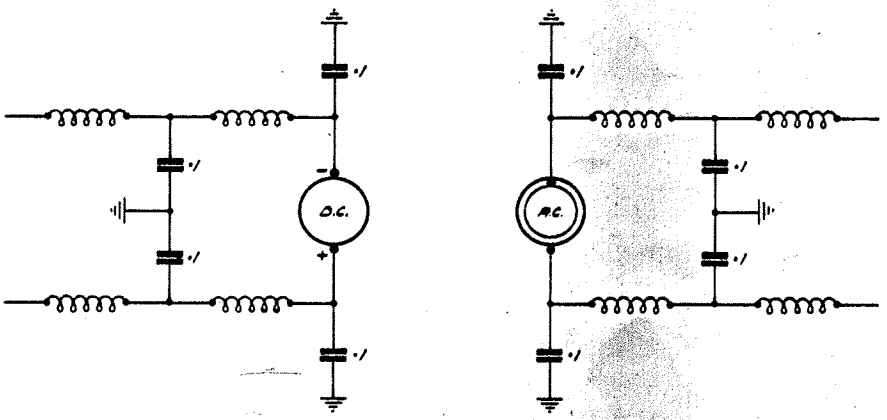
REDIFON LTD LONDON.	DRAWN	ISSUE	ISSUE 1. 27-11-61.
TITLE INTERCONNECTING LEAD. RECEIVER R5OM TO POWER UNIT	TYPED	ISSUE	
	ENGINEER	ISSUE	ISSUE
DRG. Nº SK.623.	APPROVED		

FORM 1

CONNECTOR P.17669/M.



NOTE.
PLUG & SOCKET VIEWED FROM REAR. ie. WIRING SIDE



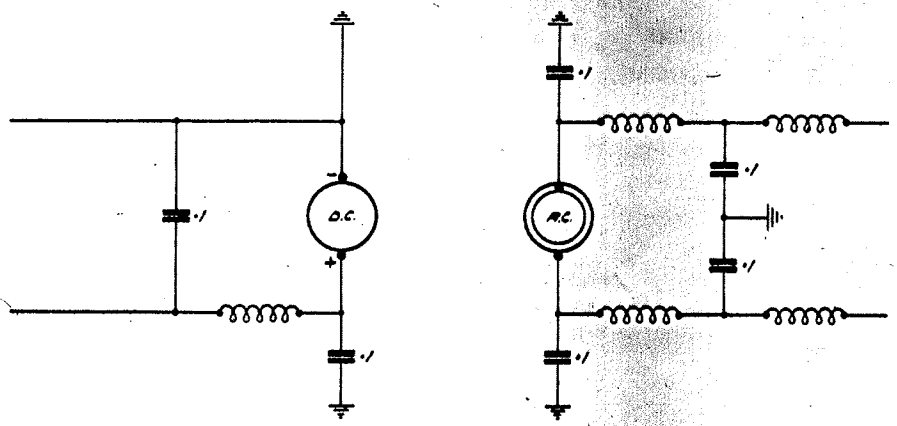
D.C./A.C. ROTARY CONVERTER.

INPUT. 100 V. - 230 V.

OUTPUT. 230 V. A.C. AT 90/120 WATTS.

FIG. 1.

E.D.C. DRG. AF. 1091.



D.C./A.C. ROTARY CONVERTER.

INPUT. 12 V. - 24 V.

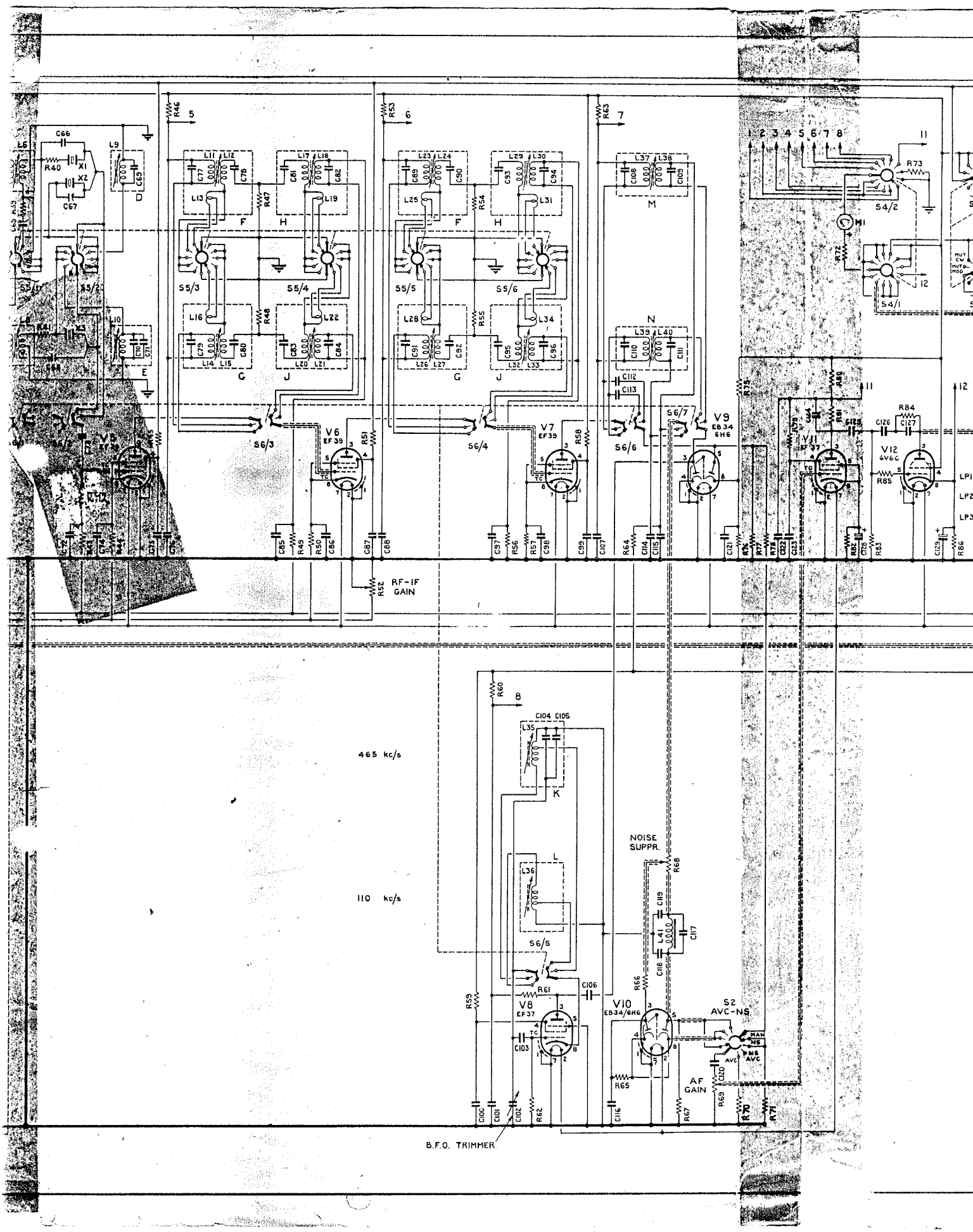
OUTPUT. 230 V. A.C. AT 90/120 WATTS.

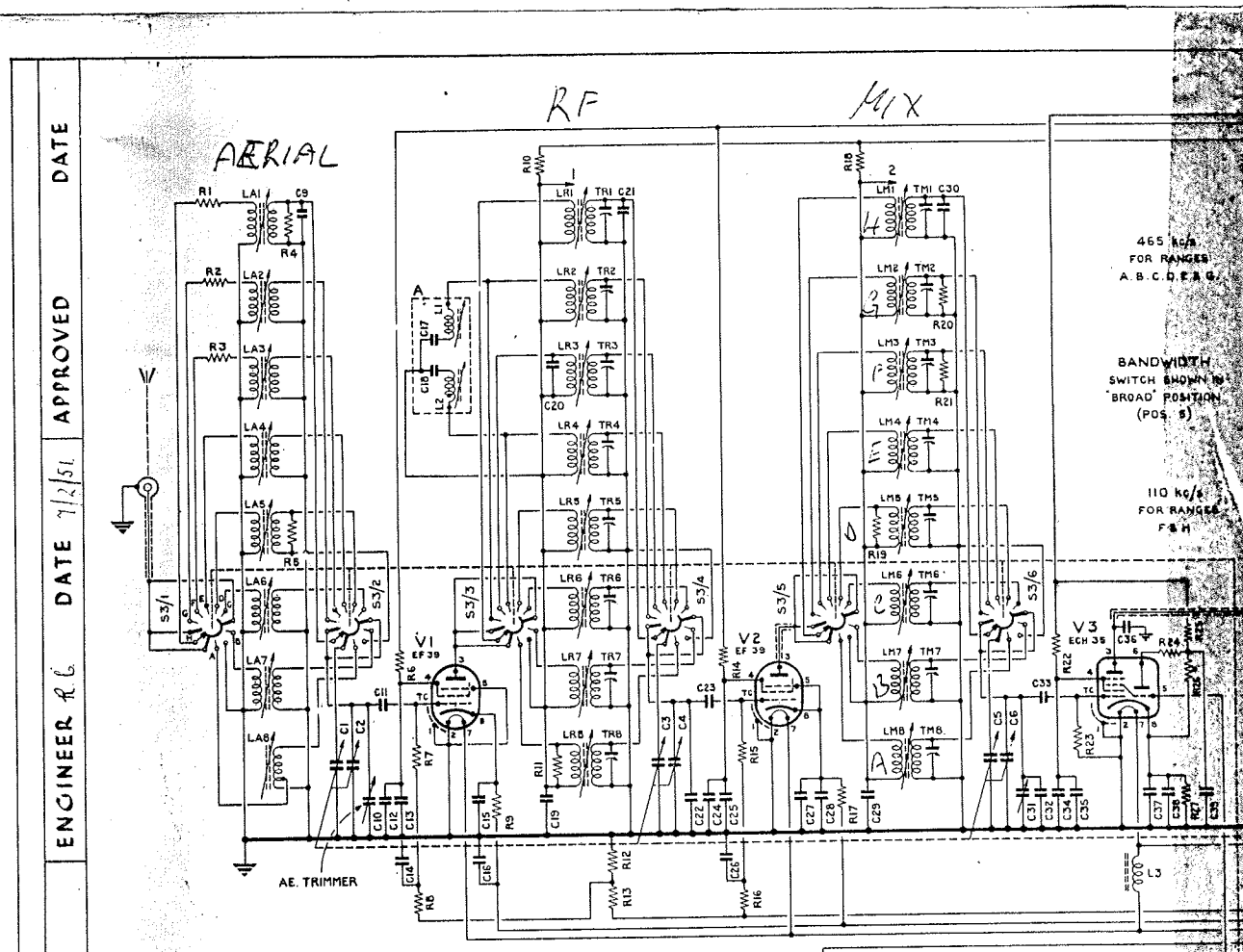
FIG. 2.

E.D.C. DRG. AF. 1526.

ISSUE 1. 27-4-49. OUTPUT WAS 90 WATTS.		ISSUE 2. 23-5-51.	
ISSUE		ISSUE	
DRAWN Jackson.	TYPED	ENGINEER	APPROVED
REDIFFUSION LTD. LONDON.	TITLE DIAGRAM OF CONNECTIONS FOR D.C./A.C. ROTARY CONVERTERS.		DRG. Nº SK. 460.

USED ON


V6 EF 39
V7 EF 39
V8 EF 37
V9 EB 34 6H6
V10 EB 34/6H6
V11 EF 37
V12 6V6C
S6/3
S6/4
S6/5
S6/6
S6/7
S5/3
S5/4
S5/5
S5/6
S4/1
S4/2
S2 AVC-NS
RF-IF GAIN
AF GAIN
NOISE SUPPR.
465 kc/s
110 kc/s
B.F.O. TRIMMER
MAN NS
AVC
AVC NS



DRAWN J.H. DATE 4.8.50. | CHECKED DATE | ENGINEER R.G. DATE 7/2/51 | APPROVED DATE

COMPONENT VALUES											
COIL TRIMMERS		CONDENSERS						RESISTORS			
R. F.		C1-8	14-224pF	C53	3560 pF	C98	·1 μF	R1	10 kΩ	R46	4700 Ω
TR1	3-30 pF	C9	33 pF	C54	30 pF	C99	·1 μF	R2	10 kΩ	R47	10 Ω
TR2	3-30 pF	C10	3·8-80pF	C55	8000 pF	C100	·1 μF	R3	10 kΩ	R48	27 Ω
TR3	3-30 pF	C11	150 pF	C56	30 pF	C101	·1 μF	R4	470 kΩ	R49	22 kΩ
TR4	3-30 pF	C12	150 pF	C57	·01 μF	C102	3·8-50pF	R5	220 kΩ	R50	330 Ω
TR5	3-30 pF	C13	·1 μF	C58	·01 μF	C103	100 pF	R6	10 kΩ	R51	10 kΩ
TR6	3-30 pF	C14	·1 μF	C59	5 pF	C104	330 pF	R7	1 MΩ	R52	5kΩ VAR
TR7	3-30 pF	C15	270 pF	C60	150 pF	C105	33 pF	R8	47 kΩ	R53	4700 Ω
TR8	3-30 pF	C16	·1 μF	C61	·01 μF	C106	10 pF	R9	330 Ω	R54	10 Ω
		C17	420 pF	C62	·01 μF	C107	·1 μF	R10	4700 Ω	R55	30 Ω
		C18	420 pF	C63	·1 μF	C108	360 pF	R11	4700 Ω	R56	1 MΩ
MIXER		C19	·1 μF	C64	3-30 pF	C109	360 pF	R12	1·5 MΩ	R57	330Ω
TM1	3-30 pF	C20	270 pF	C65	2-8 pF	C110	330 pF	R13	1·5 MΩ	R58	100 kΩ
TM2	2-8 pF	C21	68 pF	C66	5 pF	C111	330 pF	R14	10 kΩ	R59	100 kΩ
TM3	3-30 pF	C22	5 pF	C67	2-8 pF	C112	150 pF	R15	220 kΩ	R60	22 kΩ
TM4	2-8 pF	C23	·01 μF	C68	3-30 pF	C113	12 pF	R16	47 kΩ	R61	100 kΩ
TM5	3-30 pF	C24	150 pF	C69	100 pF	C114	470 pF	R17	330 Ω	R62	100 kΩ
TM6	3-30 pF	C25	·1 μF	C70	330 pF	C115	150 pF	R18	4700 Ω	R63	4700 Ω
TM7	3-30 pF	C26	·1 μF	C71	33 pF	C116	·1 μF	R19	2200 Ω	R64	470 kΩ
TM8	3-30 pF	C27	150 pF	C72	·01 μF	C117	150 pF	R20	100 kΩ	R65	510 kΩ
		C28	·1 μF	C73	150 pF	C118	680 pF	R21	100 kΩ	R66	680 kΩ
		C29	·1 μF	C74	·1 μF	C119	680 pF	R22	4700 Ω	R67	33 kΩ
OSCILLATOR		C30	68 pF	C75	·1 μF	C120	·01 μF	R23	1 MΩ	R68	50kΩ VAR
T01	3-30 pF	C31	3-30 pF	C76	·1 μF	C121	·1 μF	R24	1500 Ω	R69	100kΩ VAR
T02	3-30 pF	C32	5 pF	C77	360 pF	C122	1 μF	R25	10 kΩ	R70	150 kΩ
T03	3-30 pF	C33	150 pF	C78	360 pF	C123	·1 μF	R26	THERMISTOR	R71	22 kΩ
T04	3-30 pF	C34	·1 μF	C79	330 pF	C124	150 pF	R27	150 Ω	R72	42 kΩ
T05	2-8 pF	C35	150 pF	C80	330 pF	C125	·008 μF	R28	470 Ω	R73	250 kΩ
T06	3-30 pF	C36	360 pF	C81	360 pF	C126	·1 μF	R29	330 Ω	R74	20 kΩ
T07	3-30 pF	C37	·1 μF	C82	360 pF	C127	68 pF	R30	100 Ω	R75	100 kΩ
T08	2-8 pF	C38	150 pF	C83	330 pF	C128	50 μF	R31	2200 Ω	R76	3300 Ω
		C39	·001 μF	C84	330 pF	C129	50 μF	R32	4700 Ω	R77	3 MΩ
		C40	·01 μF	C85	·01 μF	C130	·1 μF	R33	68 kΩ	R78	100 kΩ
OSCILLATOR PADDERS		C41	16 pF	C86	·1 μF	C131	·1 μF	R34	4700 Ω	R79	150 kΩ
		C42	100 pF	C87	·1 μF	C132	·01 μF	R35	120 kΩ	R80	4700 Ω
P01	4-8-100pF	C43	32 pF	C88	·1 μF	C133	·01 μF	R36	22 kΩ	R81	100 kΩ
P02	4-8-100pF	C44	33 pF	C89	360 pF	C134	·01 μF	R37	6200 Ω	R82	3300 Ω
P03	4-8-100pF	C45	10 pF	C90	360 pF	C135	·01 μF	R38	150 kΩ	R83	470 kΩ
P04	4-8-100pF	C46	190 pF	C91	330 pF			R39	1800 Ω	R84	1·5 MΩ
P05	4-8-100pF	C47	750 pF	C92	330 pF			R40	1800 Ω	R85	1 kΩ
		C48	95 pF	C93	360 pF			R41	4700 Ω	R86	470 Ω
		C49	370 pF	C94	360 pF			R42	1 MΩ	R87	1 Ω
		C50	5 pF	C95	330 pF			R43	22 kΩ	R88	680 Ω
		C51	250 pF	C96	330 pF			R44	330 Ω		
		C52	1250 pF	C97	·1 μF			R45	10 kΩ		

MIX

465 kc/s FOR RANGES A.B.C.D.E.I.G.

BANDWIDTH SWITCH SHOWN IN "BROAD" POSITION (POS. 5)

110 kc/s FOR RANGES F & H

RF-IF GAIN

AVC Line

465 kc/s

110 kc/s

9/65 kHz

110 kHz

NOISE SUPPR.

AF GAIN

S2 AVC-NS

ISSUE
1. 4.8.50. TR5 WAS 2-8pF. C/N.5582/L. R.D.J.
2. 22.3.51.

CONNECTIONS
INPUT & OUTPUT

PLUG

PIN No.	CONNECTION
1	MAINS IN TO ON/OFF SWITCH
2. + 7	EARTH
3	MAINS IN TO ON/OFF SWITCH
4	6V6G OUTPUT
5	STABILISED H.T. + 115V
6	H.T. + 285V
7 + 2	EARTH
8	HEATERS 6.3V
9	
10	AUDIO INTERCONNECTING LEAD
11	AUDIO INTERCONNECTING LEAD
12	PHONE LEAD

SOCKET

PIN No.	CONNECTION
1	AUDIO OUTPUT
2	EARTH
3	AUDIO OUTPUT
4	—
5	—
6	—
7	A.V.C. MUTING

WD3/2719/L | SHEET NO 1-CONT.

TITLE R5OM RECEIVER

...DIFON LTD ...ONDON

ENGINEER R.G. DATE 7-1-51 | APPROVED | DATE

DRAWN M. DATE 4.8.50. | CHECKED | DATE

AERIAL

RF

MIX

AE. TRIMMER

465 kc/s FOR RANGES A.B.C.D.E.&G.

BANDWIDTH SWITCH SHOWN IN 'BROAD' POSITION (POS. 5)

110 kc/s FOR RANGES F & H

465 kc/s

110 kc/s

RF-IF GAIN

AVC line

B.F.O. TRIMMER

NOISE SUPPR.

AF GAIN

S2 AVC-NS

S4/2

S4/1

S5/1

S5/2

S5/3

S5/4

S5/5

S5/6

S6/1

S6/2

S6/3

S6/4

S6/5

S6/6

S6/7

S3/1

S3/2

S3/3

S3/4

S3/5

S3/6

S3/7

V1 EF39

V2 EF39

V3 ECH35

V4

V5 EF39

V6 EF39

V7 EF39

V8 EF37

V9 EB34 6H6

V10 EB34/6H6

V11 6V6G

V12 6V6G

COMPONENT VALUES

COIL TRIMMERS		CONDENSERS						RESISTORS			
R. F.		C1-8	14-224pF	C53	3560pF	C98	·1 µF	R1	10 kΩ	R46	4700 Ω
TR1	3-30 pF	C9	33 pF	C54	30 pF	C99	·1 µF	R2	10 kΩ	R47	10 Ω
TR2	3-30 pF	C10	3-8-30pF	C55	8000 pF	C100	·1 µF	R3	10 kΩ	R48	27 Ω
TR3	3-30 pF	C11	150 pF	C56	30 pF	C101	·1 µF	R4	470 kΩ	R49	22 kΩ
TR4	3-30 pF	C12	150 pF	C57	·01 µF	C102	3-8-50pF	R5	220 kΩ	R50	330 Ω
TR5	3-30 pF	C13	·1 µF	C58	·01 µF	C103	100 pF	R6	10 kΩ	R51	10 kΩ
TR6	3-30 pF	C14	·1 µF	C59	5 pF	C104	330 pF	R7	1 MΩ	R52	5kΩ.VAR
TR7	3-30 pF	C15	270 pF	C60	150 pF	C105	33 pF	R8	47 kΩ	R53	4700 Ω
TR8	3-30 pF	C16	·1 µF	C61	·01 µF	C106	10 pF	R9	330 Ω	R54	10 Ω
		C17	420 pF	C62	·01 µF	C107	·1 µF	R10	4700 Ω	R55	30 Ω
MIXER		C18	420 pF	C63	·1 µF	C108	360 pF	R11	4700 Ω	R56	1 MΩ
TM1	3-30 pF	C19	·1 µF	C64	3-30 pF	C109	360 pF	R12	1·5 MΩ	R57	330Ω
TM2	2-8 pF	C20	270 pF	C65	2-8 pF	C110	330 pF	R13	1·5 MΩ	R58	100 kΩ
TM3	3-30 pF	C21	68 pF	C66	5 pF	C111	330 pF	R14	10 kΩ	R59	100 kΩ
TM4	2-8 pF	C22	5 pF	C67	2-8 pF	C112	150 pF	R15	220kΩ	R60	22 kΩ
TM5	3-30 pF	C23	·01 µF	C68	3-30 pF	C113	12 pF	R16	47kΩ	R61	100 kΩ
TM6	3-30 pF	C24	150 pF	C69	100 pF	C114	470 pF	R17	330 Ω	R62	100 kΩ
TM7	3-30 pF	C25	·1 µF	C70	330 pF	C115	150 pF	R18	4700 Ω	R63	4700 Ω
TM8	3-30 pF	C26	·1 µF	C71	33 pF	C116	·1 µF	R19	2200 Ω	R64	470kΩ
		C27	150 pF	C72	·01 µF	C117	150 pF	R20	100 kΩ	R65	510kΩ
		C28	·1 µF	C73	150 pF	C118	680 pF	R21	100 kΩ	R66	680kΩ
		C29	·1 µF	C74	·1 µF	C119	680 pF	R22	4700 Ω	R67	33kΩ
OSCILLATOR		C30	68 pF	C75	·1 µF	C120	·01 µF	R23	1 MΩ	R68	50kΩVAR
T01	3-30 pF	C31	3-30 pF	C76	·1 µF	C121	·1 µF	R24	1500 Ω	R69	100kΩVAR
T02	3-30 pF	C32	5 pF	C77	360 pF	C122	1 µF	R25	10 kΩ	R70	150 kΩ
T03	3-30 pF	C33	150 pF	C78	360 pF	C123	·1 µF	R26	THERMISTOR	R71	22 kΩ
T04	3-30 pF	C34	·1 µF	C79	330 pF	C124	150 pF	R27	150 Ω	R72	42 kΩ
T05	2-8 pF	C35	150 pF	C80	330 pF	C125	·006 µF	R28	470 Ω	R73	250kΩ
T06	3-30 pF	C36	360 pF	C81	360 pF	C126	·1 µF	R29	330 Ω	R74	20kΩ
T07	3-30 pF	C37	·1 µF	C82	360 pF	C127	68 pF	R30	100 Ω	R75	100kΩ
T08	2-8 pF	C38	150 pF	C83	330 pF	C128	50 µF	R31	2200 Ω	R76	3300Ω
		C39	·001 µF	C84	330 pF	C129	50 µF	R32	4700 Ω	R77	3 MΩ
		C40	·01 µF	C85	·01 µF	C130	·1 µF	R33	68 kΩ	R78	100 kΩ
OSCILLATOR PADDERS		C41	16 pF	C86	·1 µF	C131	·1 µF	R34	4700 Ω	R79	150 kΩ
		C42	100 pF	C87	·1 µF	C132	·01 µF	R35	120 kΩ	R80	4700 Ω
P01	4-8-100pF	C43	32 pF	C88	·1 µF	C133	·01 µF	R36	22 kΩ	R81	100 kΩ
P02	4-8-100pF	C44	33 pF	C89	360 pF	C134	·01 µF	R37	6200 Ω	R82	3300 Ω
P03	4-8-100pF	C45	10 pF	C90	360 pF	C135	·01 µF	R38	150 kΩ	R83	470k Ω
P04	4-8-100pF	C46	190 pF	C91	330 pF			R39	1800 Ω	R84	1·5 M Ω
P05	4-8-100pF	C47	750 pF	C92	330 pF			R40	1800 Ω	R85	1 kΩ
		C48	95 pF	C93	360 pF			R41	4700 Ω	R86	470 Ω
		C49	370 pF	C94	360 pF			R42	1 MΩ	R87	1 Ω
		C50	5 pF	C95	330 pF			R43	22 kΩ	R88	680 Ω
		C51	250 pF	C96	330 pF			R44	330 Ω		
		C52	1250 pF	C97	·1 µF			R45	10 kΩ		

REDIFON LTD LONDON

TITLE R50M RECEIVER

WD3/2719/L

SHEET No 1 CONT.

ISSUE
1. 4.8.50. TR5 WAS 2-8μF. C/N 5582/L. R.O.J.
2. 22.3.51.

CONNECTIONS INPUT & OUTPUT PLUG

PIN No.	CONNECTION
1	MAINS IN TO ON/OFF SWITCH
2 + 7	EARTH
3	MAINS IN TO ON/OFF SWITCH
4	6V6G OUTPUT +
5	STABILISED H.T. + 115V
6	H.T. + 285V
7 + 2	EARTH
8 } 9	HEATERS 6·3V
10	AUDIO INTERCONNECTING LEAD
11	AUDIO INTERCONNECTING LEAD
12	PHONE LEAD

SOCKET

PIN No.	CONNECTION
1	AUDIO OUTPUT
2	EARTH
3	AUDIO OUTPUT
4	—
5	—
6	—
7	A.V.C. MUTING
8	—
9	SCREEN MUTING
10	—
11	A.V.C.
12	—

COMPONENT VALUES							
CONDENSERS				RESISTORS			
C98	·1 μF	R1	10 K Ω	R46	4700 Ω		
C99	·1 μF	R2	10 K Ω	R47	10 Ω		
C100	·1 μF	R3	10 K Ω	R48	27 Ω		
C101	56+56 pF	R4	470 K Ω	R49	22 K Ω		
C102	·01 μF	R5	220 K Ω	R50	330 Ω		
C103	330 pF	R6	10 K Ω	R51	10 K Ω		
C104	330 pF	R7	10 K Ω	R52	5 K Ω MM		
C105	33 pF	R8	47 K Ω	R53	4700 Ω		
C106	10 pF	R9	330 Ω	R54	100 K Ω		
C107	·1 μF	R10	4700 Ω	R55	30 Ω		
C108	360 pF	R11	4700 Ω	R56	1 MΩ		
C109	360 pF	R12	1·5 MΩ	R57	330 Ω		
C110	330 pF	R13	1·5 MΩ	R58	100 K Ω		
C111	330 pF	R14	10 K Ω	R59	100 K Ω		
C112	150 pF	R15	220 K Ω	R60	22 K Ω		
C113	12 pF	R16	47 K Ω	R61	100 K Ω		
C114	470 pF	R17	330 Ω	R62	100 K Ω		
C115	150 pF	R18	47000 Ω	R63	4700 Ω		
C116	·1 μF	R19	2200 Ω	R64	470 K Ω		
C117	180 pF	R20	100 K Ω	R65	510 K Ω		
C118	680 pF	R21	100 K Ω	R66	680 K Ω		
C119	680 pF	R22	4700 Ω	R67	35 K Ω		
C120	·01 μF	R23	1 MΩ	R68	50 K Ω LOG		
C121	·01 μF	R24	1500 Ω	R69	100 K Ω MM		
C122	·1 μF	R25	10 K Ω	R70	100 K Ω		
C123	·1 μF	R26	THERMISTOR	R71	100 K Ω		
C124	150 pF	R27	150 Ω	R72	47 K Ω		
C125	·008 μF	R28	470 Ω	R73	250 K Ω		
C126	·1 μF	R29	330 Ω	R74	100 K Ω		
C127	68 pF	R30	100 Ω	R75	100 K Ω		
C128	50 μF	R31	2200 Ω	R76	3300 Ω		
C129	50 μF	R32	4700 Ω	R77	3 MΩ		
C130	·1 μF	R33	68 K Ω	R78	100 K Ω		
C131	·1 μF	R34	4700 Ω	R79	150 K Ω		
C132	·01 μF	R35	120 K Ω	R80	4700 Ω		
C133	·01 μF	R36	22 K Ω	R81	100 K Ω		
C134	·01 μF	R37	6200 Ω	R82	330 Ω		
C135	·01 μF	R38	150 K Ω	R83	4700 Ω		
330 pF		R39	1800 Ω	R84	1·5 MΩ		
330 pF		R40	1800 Ω	R85	1 K Ω		
360 pF		R41	4700 Ω	R86	470 Ω		
360 pF		R42	1 MΩ	R87	1 Ω		
330 pF		R43	22 K Ω	R88	680 Ω		
·1 μF		R44	330 Ω				
		R45	10 K Ω				

Samsendt

2/2.

DET KGL. NORSKE FLYVÅPEN
FORSYNINGSKOMMANDOEN
KJELLER

TEKNISK ORDRE

31R2-2R50M-5001A

27/2-63 Verksted

28. januar 1963.

* TILLEGG TIL ORIGINAL TEKNISK ORDRE *

MODIFIKASJON AV ANTENNEUTTAK PÅ MOTTAKER R50M.

Denne T.O. erstatter T.O. 31R2-2R50M-5001A datert 27. desember 1962

MERK: Dette er tillegg til T.O. 31R2-2R50M-5001 datert november 1951, endret 4. august 1960.

1. HENSIKT:

Det antenneuttak som benyttes idag er uhensiktsmessig for tilkopling av RG-8A/U og for å bedre på dette er følgende endringer gjort:

2. ARBEIDSBESKRIVELSE:

1. Deksel på R-50M åpnes.

2. Kabelen (sort) loddes av socket for antenneuttak (plassert til venstre, innvendig, bakerst i mottakeren).

3. "Socket" løses fra braketten ved å skru ut de fire skruene som vist på skissen (se vedlegg 1).

4. Braketten fjernes. Dette gjøres ved å skru ut skruene C og D. Hvis dette ikke lar seg gjøre, meisles og files de bort.

5. Skruene E og F skrues ut, og den nye festebraketten legges på plass og skrus fast med skruene E og F.

6. Den nye "socket" settes fast ved hjelp av fire skruer som vist på skissen.

7. Kabelen (senterlederen) loddes fast til "socket" og jordingen (skjermen) settes fast i pkt. G med mutter.

Rekvirering:

MOD-KIT rekvireres på 16M-1760-31R2-2R5[illegible]-500[illegible] ved mottak av denne T.O.

Godkjent el

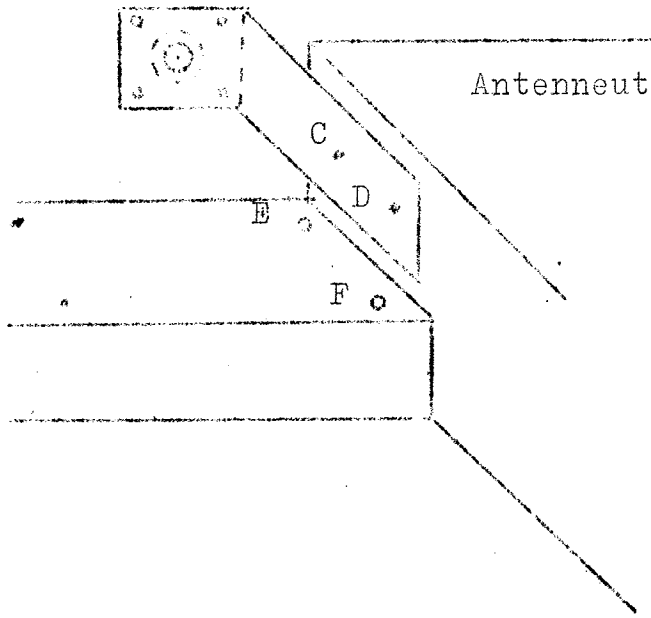
J.E.CHRISTIE
Generalmajor
Sjef for LFK

S. HEGLUND
Oberstløytnant
Sjef for LFK/V

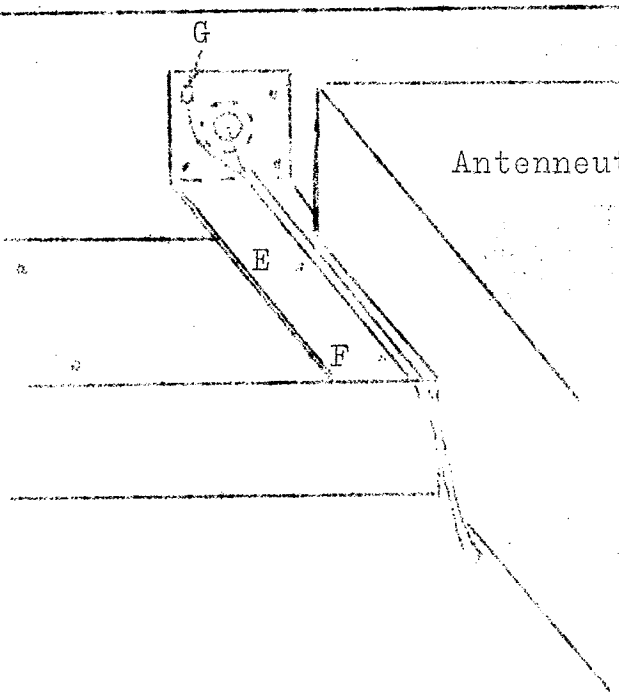
Utarbeidet av:

Elektronisk avd./E.B.K.

Skisser for montering av Mod. kit.



Antenneuttak för modifikasjonen.



Antenneuttak etter modifikasjonen.

24/6-62

DET KGL. NORSKE FLYVÅPEN
FORSYNINGSKOMMANDOEN
KJELLER

TEKNISK ORDRE
31R2-2R50M-5001A
24. mai 1962.

SAMBANDSAVDELINGEN

* TILLEGG TIL ORIGINAL TEKNISK ORDRE *

Kit uhiverd 6/7-62
kont. nr. 7-78.
Kit mottatt 27/8-62
Mod. utført 62 av

MODIFIKASJON AV ANTENNEUTTAK PÅ MOTTAKER R50M.

MERK: Dette er tillegg til T.O. 31R2-2R50M-5001 datert 4. august 1960.

1. HENSIKT:

Det antenneuttak som benyttes idag er uhensiktsmessig for tilkobling av RG-8A/U og for å bedre på dette er følgende endringer gjort:

2. ARBEIDSBESKRIVELSE:

1. Deksel på R-50M åpnes.

2. Kabelen (sort) loddes på socket for anrenneuttak (plassert til venstre, innvendig, bakerst i mottakeren).

3. "Socket" löses fra braketten ved å skru ut de fire skruene som vist på skissen (se vedlegg 1).

4. Braketten fjernes. Dette gjöres ved å skru ut skruene C og D. Hvis dette ikke lar seg gjöre, meisles og files de bort.

5. Skruene E og F skrues ut, og den nye festebraketten legges på plass og skrus fast via skrue E og F.

6. Den nye "socket" settes fast ved hjelp av fire skruer som vist på skissen.

7. Kabelen (senterleder) loddes fast til "socket" og jordingen (skjermen) settes fast i pkt. G med mutter.

Rekvirering:

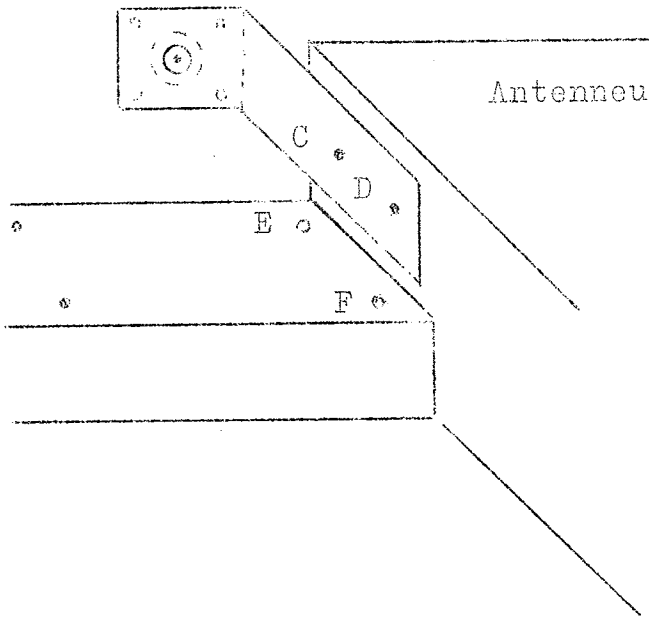
MOD-KIT rekvireres på T.O. 31R2-2R50M-5001A ved mottak av denne T.O.

K. ÖSTBY
Oberst
Sjef for LFK

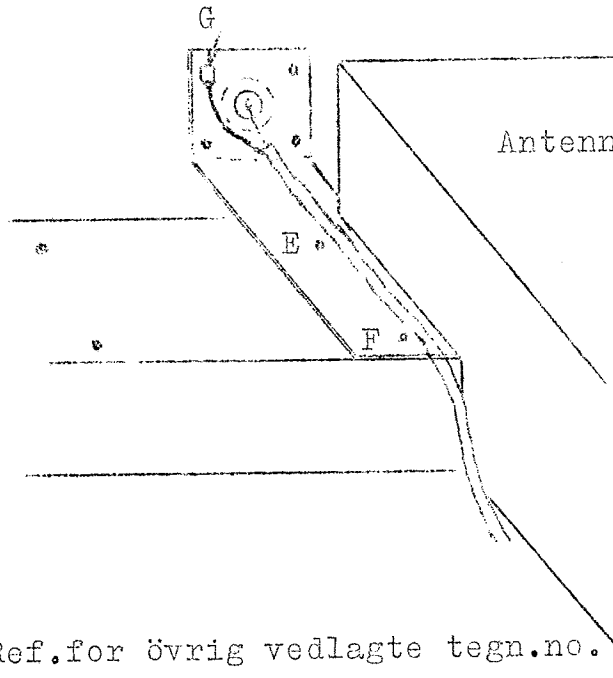
S. HEGLUND
Oberstlöytnant
Sjef for LFK/V

Utarbeidet av:
Tekn. avd./Elektronisk bransje/F.S.

Skisser for montering av MOD-KIT.



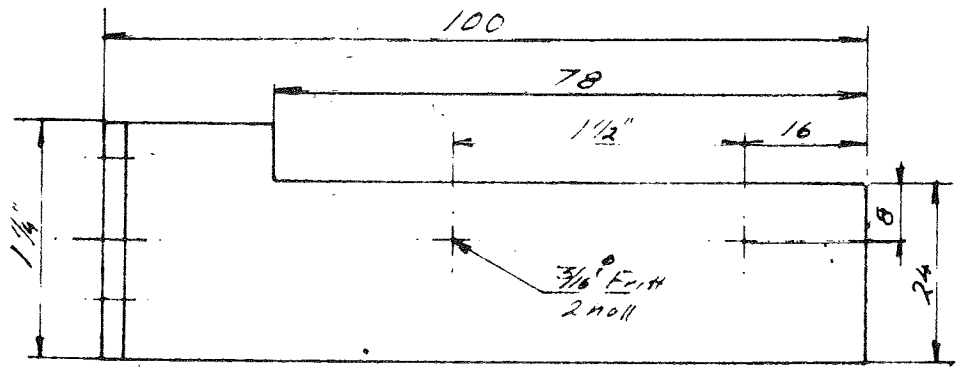
Antenneuttak för modifikasjonen.

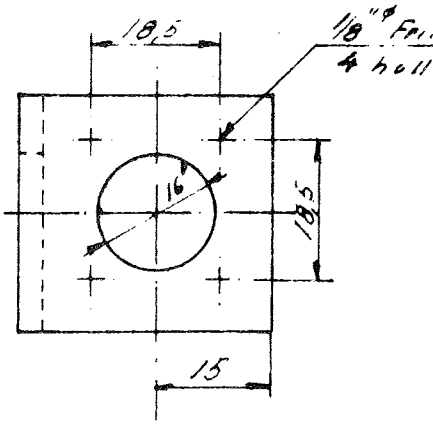


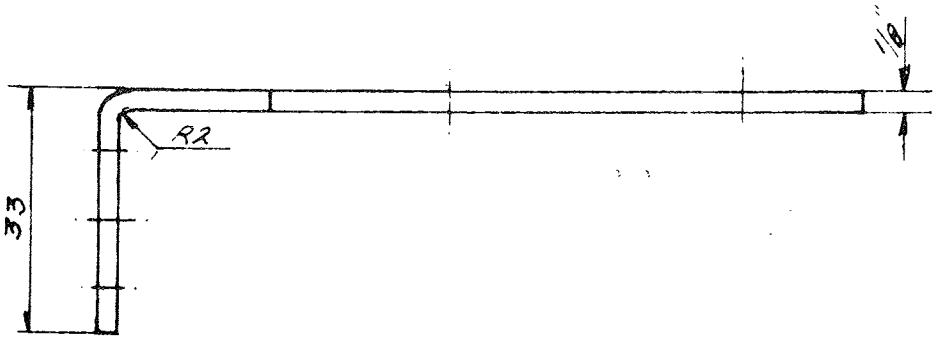
Antenneuttak etter modifikasjonen.

Ref.for övrig vedlagte tegn.no. 5-874.

T.0.31R2-2R50M-5001A







1	Brakett	1	St. 00	1/8" x 1 1/4" x ~13
Antall	Gjenstand	Nr	Matr	Dim.

BRAKETT FOR ANTENNEFESTE	Målestokk 1:1	Tegn. HBH 8-8- Trac. Kfr.
	Erstatning for:	
LUFTFORSVARETS FORSYNINGSKOMMANDO Kjeller pr. Lillestrøm	5-874	
	Erstattet av:	