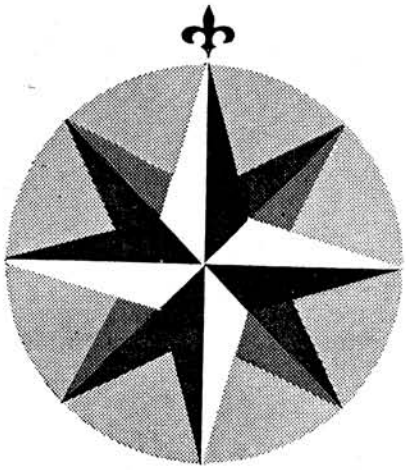
INSTRUCTION MANUAL



Sailor TYPE 66T

A/S S. P. RADIO
AALBORG - DENMARK

“Sailor” mod. 66T

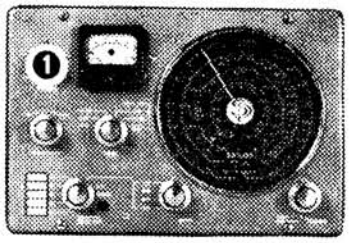
CONTENTS

A. Operating the SAILOR Type 66T

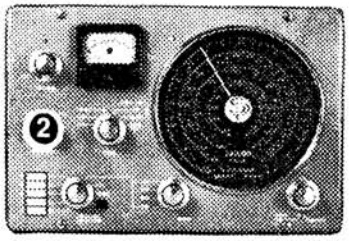
Figures in brackets refer to the illustration on this page

I. General Broadcasting:

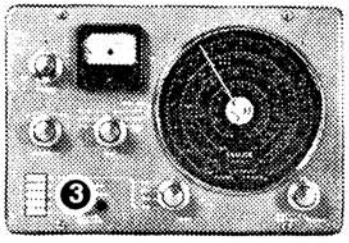
1 Switch on the receiver by turning the volume control.



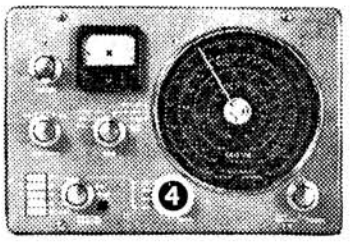
2 Set the sensitivity control at maximum.



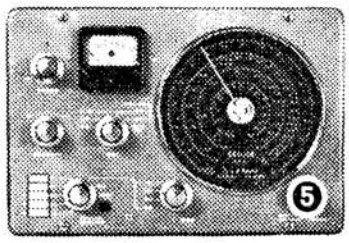
3 Set the channel selector against the marking pointing towards the band switch.



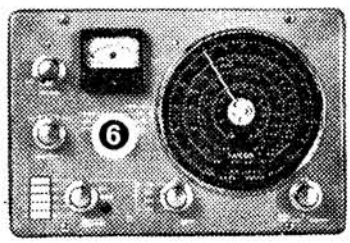
4 Set the band switch for the desired band.



5 Set the dial pointer at the desired station.



6 Set the tone switch at HIGH. This is the setting normally used for reception.



When the desired station is located re-tune for maximum meter deflection.

When listening to a very strong signal, which will produce a large meter deflection, sensitivity control (2) should be backed off until the meter deflection is below 8.

Volume is adjusted with volume control (1). If severe interference from adjacent stations is encountered, reception may be improved by setting tone switch (6) at LOW (accentuated low-note response) or at FILTER.

II. Fixed Frequencies:

For listening on one of the receiver's five fixed channels, the channel selector (3) should simply be turned to the desired channel. The crystal frequency was selected when the receiver was installed; it is written on the plate to the left of the channel selector knob.

By turning channel selector (3) to a fixed channel, controls (4) and (5) are made inoperative.

III. Telegraphy and Consol Signals:

Tune in as described under I.

Set tone switch (6) at FILTER WITH BFO. Volume control (1) and sensitivity control (2) should now be readjusted, choosing that particular combination of the two settings which will provide best low-noise reception in the situation in question.

Adjust tuning control (5) for maximum loudspeaker volume.

Consol signals: Set volume control (1) at maximum. Adjust sensitivity control (2) for convenient meter deflection (approx. 5 at constant tone).

IV. Taking Bearings:

1. Tune in the station or radio beacon proceeding as described under I.

2. Turn channel selector (3) to D.F.

3. Set the D.F. unit to the band in which the station operates, and tune the D.F. unit for maximum signal.

4. Set tone switch (6) at FILTER WITH BFO.

5. Advance volume control (1) and adjust sensitivity control (2) for convenient signal strength (meter reading should not exceed 8).

6. Rotate D.F. loop for minimum D.F. signal.
   Minimum D.F. signal is indicated by minimum response in the headphones or loudspeaker, or by minimum deflection. If the meter deflection goes towards zero, sensitivity control (2) should be advanced.

7. For sense determination, set sensitivity control (2) so that a convenient meter deflection is obtained after the D.F. unit has been rotated 90 degrees (clockwise) away from the setting at which minimum D.F. signal was obtained. Turn channel selector (3) to SENSE. If the meter deflection increases, the direction is correct. If the deflection decreases, the direction should be corrected by 180 degrees. The channel selector should be in the SENSE position while you read the sense deflection.

   Operation of the D.F. units is described in detail in Chapter C.

V. Checking the battery:

Switch on receiver, (1).

Set tone switch (6) at BATT. TEST.

Then, if the receiver is operating from the internal battery the meter will indicate the battery voltage.

If the receiver is operating from an external power supply, the meter should read 9 volts.

CAUTION: Do not leave an exhausted battery in the battery box. Doing so may cause serious damage to the interior parts of the receiver.

B. Reception of CONSOL Beacons

I. Description of the CONSOL direction finding system:

The following should be taken only as an introduction to the CONSOL, direction finding system. For more information on the subject reference should be made to the publications issued by various government departments.

For full details of U.K. Radio Direction Finding & Radio Beacon Systems refer to Volume 2 and for Position Fixing Systems refer to Volume 5, of The Admiralty List of Radio Signals.

When using the CONSOL direction finding system it is possible, when the approximate position is known, to find the exact position by plotting bearings of two CONSOL radio beacons using S. P. SAILOR type 66 T.

The CONSOL radio beacon consists partly of a circular radio beacon, transmitting the call sign of the beacon and continuous signal, and partly of an omnidirectional beacon, transmitting various signals in various directions. The transmissions take place alternately as indicated in »Details of Stavanger and Bush Mills CONSOL Radio Beacons«. The circular transmission is used for adjustment of the receiver to the wanted radio beacon as for a general telegraphy station, see Chapt. C, passage II.

At the end of this manual is a chart with 2 stations, »Stavanger« and »Bush Mills«, which are of special interest in the North Sea and North Atlantic. For each of the two stations the moment for the commencing of the transmissions of the directional radio beacon is indicated. These consists of sectors, 60 dots are transmitted in one sector (A-sector) whereas 60 dashes are transmitted in the other sector (B-sector) during the transmission period indicated on the chart. The divisions between the sectors are indicated as »beams«. Along the beam, dots and dashes are meeting in one continuous signal. The sectors are turning exactly one sector-width at a steady speed in the direction of the arrows during the period of a transmission from a directional radio beacon; thus, from the position marked X in the North Sea, you will from Stavanger CONSOL radio beacon first hear 48 dots, until the beam »S« passes by, after which you will hear 12 dashes, and the transmission is finished and will recommence with the circular transmission and so on. From Bush Mills you will first hear 28 dashes until the beam »BM« passes by, after which 32 dots will be heard. By means of quite simple diagrams, issued by various government departments, it is a simple matter to find

the exact bearing of the CONSOL radio beacons, as these indicate the direction finding in degrees corresponding to the number of dots and dashes heard during the directional period of the transmission.

As the beams are not well defined, there will be several dots and dashes near the beam which are not heard, or which are not heard distinctly. Therefore all dots and dashes must be counted during a transmission period. If for instance a total of 54 dots and dashes are counted, then 60–54 = 6 characters lost. These six are made up of 3 dots and 3 dashes, which are to be added to the number counted. You will then have the figure that must be used on the diagram for plotting.

The accuracy is greater near the beam centre for direction finding, and the margin of error will amount to approx ± 0.2°. The margin of error will increase upon entering the doubtful sectors. In sectors bordering the doubtful sectors, errors of ± 0.5° by day and ± 1.5° by night should be allowed for.

In the doubtful sectors and less than 25 miles from the CONSOL radio beacons, direction finding should not be taken.

II. Details of Stavanger and Bush Mills CONSOL radio beacons:

Stavanger:

Position: 58°, 37', 32" N. 5°, 37', 49" E.

Frequency: 319 kc/s (940 metres).

Call sign.: LEC . – . . . – . – .

Signal A. General circular transmission.

1. Call sign LEC	6 secs
2. Long dash	50 secs
3. Pause	3 secs

B. Directional transmission.

One dot or one dash each second	60 secs
Pause	1 secs

Duration of transmission ..... 120 secs
Operating times: Continuous.
Range: Approx. 850–1300 nautical miles.

Bush Mills:
Position: 55°, 12', 20" N. 6°, 28', 0.2" W.

Frequency: 266 kc/s (1128 metres).

Call sign: MWN – – . – – – .

Signal A. General circular transmission.
Continuous dash interrupted by call sign . . 30 secs
B. Directional transmission.
One dot or dash each 0.5 sec. . . . . 30 secs

Durating of transmission . . . . . 60 secs
Operating times: Continuous except between 15.00 and 15.15 hours (G.M.T.).

III. Consol chart (see appendix).

C. Reception of General Circular Radio Beacons

I. Principles of Direction Finding:

By taking compass bearings of two radio beacons of known geographical locations using radio directional equipment, a position can be obtained by plotting the two bearings on a chart. Their point of intersection indicates the position of the vessel, but for greater accuracy bearings of three or four radio beacons should be taken whenever possible.

For direction finding by compass a direction finder connected to the receiver is used. The direction finder can be developed in various ways, but it will always comprise an aerial with directional properties and one or more graduated scales. When the direction finder is rotated, the signal intensity will depend upon the angle between the D.F. Aerial and the position of the radio beacon. If the direction finder is turned 360°, it will pass through two maximums and two minimums. The two minimums are the most well defined, and should be used for the direction finding. It will thus, by means of the direction finder, be possible to find the exact direction to the radio beacon and on the graduated scale to read this direction, either as an angle relative to the Fore-Aft line of the vessel (this angle is then called the relative bearing) or as an angle relative to magnetic North (the compass bearing).

If the direction finder indicates the relative bearing, the compass bearing is found by adding the relative bearing and the compass course. With some direction finders this addition can be made by the setting of another graduated scale.

As mentioned you will find two minimums when you rotate the direction finder 360°, and only one of these minimums is the correct one, the other being 180° opposite. However, by means of the sensing device of the receiver it will be possible to determine which of these minimums is the correct one. This verification is called »relative determination« and is further described for the various direction finders.

II. Sources of Errors:

The following conditions will at times cause reading errors while bearings are taken:

1. Magnetic variations.
2. The local compass deviation.
3. The local radio direction finder deviation.
4. Coast-line deviations.
5. Night effect.

When the compass bearing of a beacon is to be determined by means of the radio direction finder, the compass course is used, as mentioned in the previous section and please note:

True course = Deviating course (read course) + variation + deviation. Variations are in the usual way taken from the chart and the deviation from the deviation table of the compass.

The local radio-direction-finder deviation is due to the influence of the metallic parts of the vessel, such as rigging, mast, hull, etc. and also the proximity of these parts in relation to the D.F. Aerial. The deviation will vary somewhat depending upon the location of the D.F. Aerial on the vessel. Therefore bearings should always be taken from the same place on the vessel, and a correction table should be made and applied to direction finder readings. A new correction table is necessary if the position of the D.F. Aerial is changed and also if there are any great changes in the location and properties of the vessels metallic parts and structure.

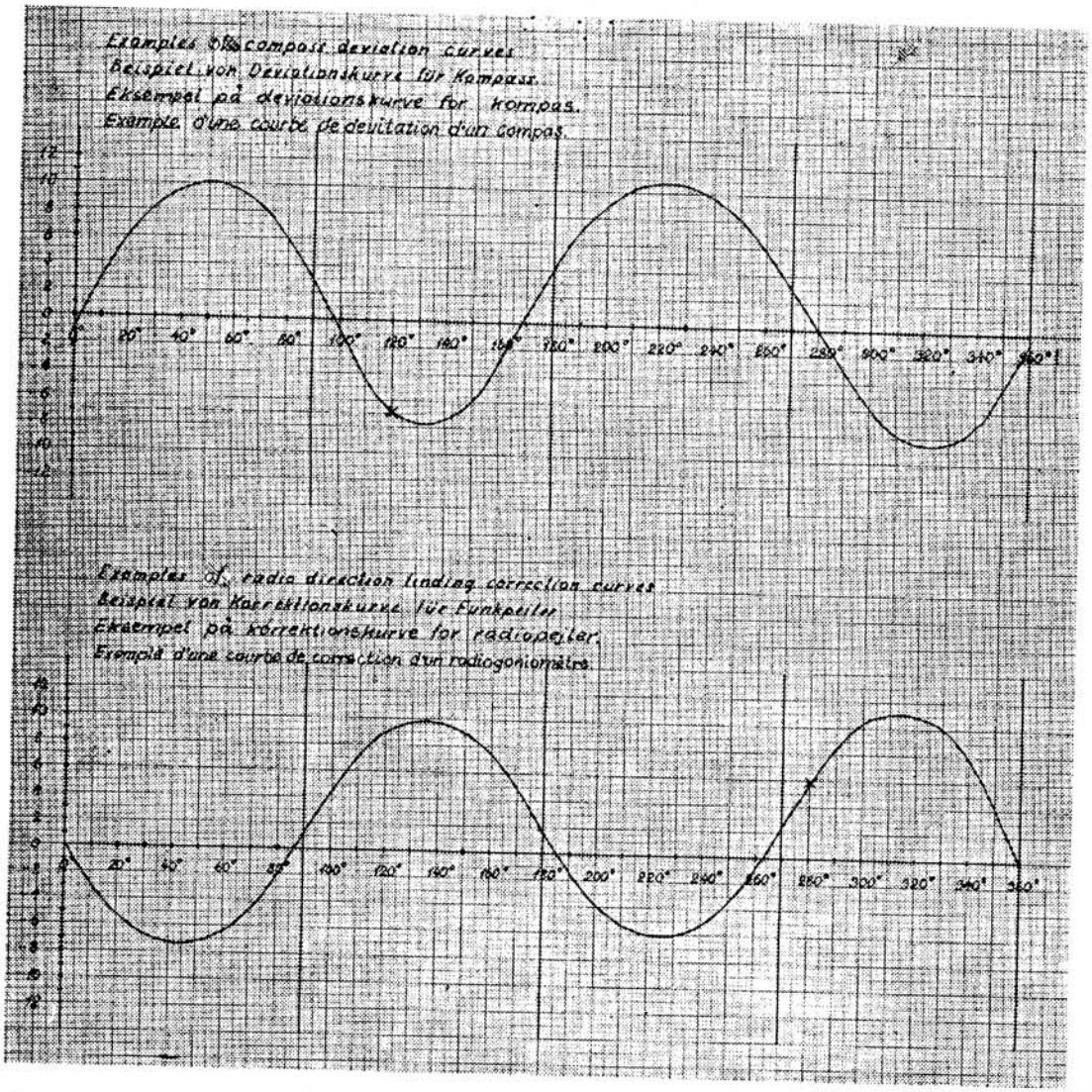
This correction table can be worked out by swinging the vessel near a visible radio beacon, and for every 10° swing two bearings should be taken, both relative from the Fore-Aft line of the vessel. First a visual bearing and then a D.F. bearing, and both sets of these bearings are recorded throughout the 360° swinging. The difference between each pair of bearings is then taken and applied to a correction chart in graph form.

An example of correcting a radio direction reading is described below on the assumption that the deviation table for the compass and the correction table for the radio direction finder have been made beforehand, and that the subsequent graph papers have been made on the basis of these tables. Coast-line deviations may arise if the radio waves from the radio beacon are to move partly over sea in order to reach the vessel, or if they leave the coast at a very acute angle. Therefore, do not use radio beacons from which such deviations are possible.

Night effect may also cause errors in direction finding, due to a mixing up of radio waves reaching the receiver along the surface of the earth, and radio waves reaching the receiver after having been reflected from the ionosphere. This effect will be found at night and especially during the period from one hour before to one hour after sunset and sunrise, and is shows itself

in flatting out or »wandering« of minimum. Night effect varies with the seasons and geographic location. It is minimum at the equator.

Under such circumstances you should use radio beacons that are as near the vessel as possible, and the bearings should be used with a certain reservation. If the bearing can be taken on more than one frequency, the bearing should always be taken on the lowest frequency. This gives the most correct bearing and less trouble with fading and night effect.



III. Example of correction of R.D.F. bearing:

Deviating course (indicated compass course)		120°
Magnetic deviation (according to sea chart)	—	4°
Local compass deviation (acc. to comp. correction curve)	--	7°
True course		109°
Indicated D.F. relative bearing (radio)		280°
Radio correction (according to radio correction curve)	+	6°
True radio relative bearing		286°
True course		109°
True radio relative bearing		286°
.....		395°
.....	—	360°
True radio compass bearing		35°

IV. Direction Finding with General, Fixed Direction Finder:

1. Place the movable graduated disc with FOR-mark in line with 360°.

2. Tune the receiver to the desired radio beacon (described in Chapter C paragraph IV 1–8).

3. Switch the D.F. Aerial to the same BAND as the receiver and tune the D.F. Aerial with the TUNING knob on the D.F. unit for maximum meter indication.

4. Turn the D.F. Aerial until bearing null is found. Bearing null is indicated by minimum signal on the phone or speaker, or by minimum meter indication. If the meter drops to zero at the null, advance SENSITIVITY slightly for suitable meter reading. If the bearing is taken on a very weak signal, turn the TONE switch in the range WITH B.F.O. for better meter reading.

5. The radio relative bearing can now be read on the graduated disc, and it can be corrected according to the correction curve for the direction finder (see Chapter E paragraph II).

6. Turn the graduated disc until the FOR-mark shows the true course of the vessel at the moment of the direction finding.

7. The pointer of the D.F. Aerial now indicates the true compass bearing of the radio beacon. This bearing is plotted on the chart relative to true north by drawing a line from the geographical location of the radio beacon. The vessel's position lies somewhere along this line.

8. If it is necessary to ascertain whether the bearing is correct or of a reciprocal nature, i.e. 180° opposite, the D.F. Aerial is turned 90° anti-clockwise. Then adjust the SENSITIVITY control for a suitable meter reading. Turn the AERIAL switch to SENSE. If the meter reading increases, the direction found is correct. If it decreases, the direction is 180° reciprocal.

V. Direction Finding with Radio Direction Finder on Direction Finding Compass:

1. Tune the receiver to the desired radio beacons (described in Chapter C paragraph IV 1–8).

2. Switch the D.F. Aerial to the same BAND as the receiver and tune the D.F. Aerial with the TUNING knob on the D.F. unit for maximum meter indication.

3. Turn the direction finder until signal minimum is found.

4. The compass bearing can now be read from the prism of the compass directly.

5. This bearings is then plotted on the chart relative to true north by drawing a line from the geographical location of the radio beacon. The vessel's position lies somewhere along this line.

6. If it is necessary to ascertain whether the bearing is correct or of a reciprocal nature, i.e. 180° opposite, the D.F. Aerial is turned 90° anti-clockwise. Then adjust the SENSITIVITY control for a suitable meter reading. Turn the AERIAL switch to SENSE. If the meter reading increases, the direction found is correct. If it decreases, the direction is 180° reciprocal.

VI. Direction Finding with FERRITE-NAVIGATOR:

1. Place the chart on an even base with North-South direction of chart exactly parallel to the stem-to-stern line of the vessel, and North of chart pointing forward.

2. Place a centre pin on the chart at the position of the radio beacon in question.

3. Place the FERRITE-NAVIGATOR on this pin.

4. Tune the receiver to desired radio beacon (described in Chapter C paragraph IV 1–8).

5. Switch the D.F. Aerial to the same BAND as the receiver and tune the D.F. Aerial with the TUNING knob on the D.F. unit for maximum meter indication.

6. Turn the D.F. Aerial until bearing null is found. Bearing null is indicated by minimum signal on the phone or speaker, or by minimum meter indication. If the meter drops to zero at the null, advance SENSITIVITY slightly for suitable meter reading. If the bearing is taken on a very weak signal, turn the TONE switch in the range WITH B.F.O. for better meter reading.

7. The FERRITE-NAVIGATOR is now pressed against the chart, and the true course of the vessel at the moment of direction finding is set on the graduated scale by turning the ruler.

8. A line drawn along the marking edge of the ruler on the chart is the position line of the vessel.

9. If it is necessary to ascertain whether the bearing is correct or of a reciprocal nature, i.e. 180° opposite, the D.F. Aerial is turned 90° anti-clockwise. Then adjust the SENSITIVITY control for a suitable meter reading. Turn the AERIAL switch to SENSE. If the meter reading increases, the direction found is correct. If it decreases, the direction is 180° reciprocal.

D. Installing the SAILOR Type 66T

I. Wire Aerial and Earth:

The wire aerial plugs into the socket marked AERIAL. It should consist of ten to twenty metres of wire as high and in the clear as possible. Use good-quality coaxial cable for the lead-down. 75-ohm cable for short aerials and 150-ohm cable for long aerials. It is important that the lead-down is as short as possible and that it is not laid near other electric cables. All joints should be made by soldering.

The earth wire, insulated copper cable not less than 2.5 sq.mm thick, should be connected to the hull (in iron vessels), keel bolt, or engine base; or (in wooden vessels), to a metal plate, not less than one square metre in size, on the outside of the hull below the water line. The earth wire should be as short as possible. A good earth connection is of decisive importance for low-noise reception and a sharp D.F. minimum.

See also our special information sheets on aerial installation. A complette range of Sailor aerial installation equipment is available, including tensile-tested bottle screws, lead-in insulators, and elastic neoprene insulators.

II. Inserting Crystals and Aligning the Channels:

1. Five receiving frequencies may be selected anywhere in the range 1500 kc/s to 4200 kc/s.

2. The crystal frequency should be 470 kc/s higher than the desired receiving frequency (the signal frequency).

3. When a crystal is inserted, or replaced, in a fixed channel, it will be necessary to align that channel. If the signal frequency is in the range 1500 kc/s to 2450 kc/s, it is moreover necessary to install two 220-pF capacitors for the channel in question.

Aligning a Fixed Channel:

If the signal frequency is in the range 2450 kc/s to 4200 kc/s, no capacitors are required.

If the signal frequency is in the range 1500 kc/s to 2450 kc/s, two styroflex capacitors of 220 pF each must be installed for the channel. These two capacitors, designated CX, should be soldered on to the two sets of soldering rivets designated by the channel letter, on the 1st RF and 2nd RF panels, respectively. Align the iron cores for the channel in question, with an RF generator con-

nected to the aerial input. Set the generator frequency at the receiving frequency in question and align for maximum deflection on the receiver meter. After alignment, the iron cores should be locked by means of af small quantity of lacquer.

NOTE: Never touch the intermediate-frequency alignment unless proper measuring equipment is available (see Chapter E). The intermediate frequency is aligned with very close tolerances.

Example of alignment of a fixed channel in SAILOR 66T:
Channel A is to be aligned for reception on 2182 kc/s.

1. The crystal frequency is 2182 + 470 kc/s = 2652 kc/s.
   A 2652-kc/s crystal is plugged in at A on the crystal panel.

2. 2182 kc/s is in the range 1500–2450 kc/s.
   Consequently two 220-pF capacitors are soldered into position at the points marked A on the 1st and 2nd RF panels, respectively.

3. A signal at 2182 kc/s is applied through the receiver's aerial socket, with the receiver set a channel A. The iron cores of channel A (see parts layout on page 26) are aligned for maximum deflection on the receiver meter.

4. The cores locked by means of lacquer.

III. Direction Finding Aerial:
The D.F. aerial plugs into the socket marked D.F. AERIAL. Input impedance is 1 k ohms. The D.F. aerial should be as high and as clear as possible. In wooden vessels, direction finding can be carried out below deck. In iron vessels, direction finding can only be carried out above deck and above deck-house level.

If stays, masts, etc. can form closed loops, insulators must be inserted at suitable points so that such closed loops are broken.

Other aerials, if any, on board must be arranged so that they can be isolated (*not* earthed).

Both the wire aerial and the D.F. aerial are used for sense determination. When installing the receiver, the sense control (accessible behind the plastic plug immediately to the right of the channel selector) should be adjusted for most clearly defined sense deflection, as follows:

Tune in a radio beacon of medium signal strength as described under Chapter A, Section 4, and rotate the direction finder, as described, 90 degrees anti-clockwise from the D.F. minimum. Turn the receiver's channel selector from D.F. to SENSE and adjust the sense control so that the meter deflection is slightly higher than that obtained in the D.F. position. Then rotate the direction finder 90 degrees clockwise from the D.F. minimum. On switching from D.F. to SENSE, the meter deflection should fall slightly. Repeat these switching operations a few times while readjusting the sense control so that the most clearly defined difference between deflections is obtained on the meter.

IV. External Power Supply, Fuses:

An external power supply and earth should be connected to the terminals marked EXT. POWER. Be sure to observe correct polarity in making the connections.

The receiver may be switched for operation from 12-, 24-, and 32-volt mains. Switching is performed with the voltage selector, which becomes accessible on removal of the receiver's battery box (BATTERY BOX). The voltage selector is located to the left of the battery box, and is operated with a screwdriver or coin, etc. Over the voltage selector a supply switch is located. This switch is placed on EXT. Never change the voltage when the receiver is switched on.

A current of approx. 0.4 amp. is required by the receiver. Two 0.8 amp. fuses are provided; these become accessible on removal of the cover carrying the power and aerial connectors.

It is necessary, when installing the receiver, to provide effective suppression of noise generated by any ignition systems, dynamos, and electric motors on board. This noise suppression must be kept effective at all times if full benefit of the receiver is to be obtained.

V. Internal Power Supply:

The internal battery is located behind the cover marked BATTERY BOX. For replacement use six 1.5-volt Ever Ready Size D dry cells, or cells of a similar type.

Be sure to observe correct polarity (see sketch on cover) and to reassemble the battery box correctly (see colour marks on ends of box).

If the receiver is to be operated from the built-in batteries it is necessary to check, before putting the battery box back in place, that the supply switch is in the BATT. position. Never change the voltage when the receiver is switched on!

With the tone switch in the BATT. TEST position and the receiver operating, the voltage of the internal battery can be read on the receiver meter. Batteries should be replaced if the voltage is below 7 volts.

CAUTION: Never leave a spent battery in the battery box. Battery liquid will flow out and ruin the electrical components of the receiver.

VI. Loudspeaker and Headphones:

Loudspeaker and/or headphones plug into the socket marked SPEAKER and PHONES. Output impedance is 3.2 ohms.

E. Service Information

I. Technical Data:

1. Bands:

Long-wave band	LW	150– 285 kc/s.
Navigation band	NW	255– 425 kc/s
Medium-wave band	MW	525–1600 kc/s
Short-wave band	SW	1600–4200 kc/s.

2. Intermediate frequency:
   470 kc/s.

3. A.V.C.:
   An increase in RF input voltage from 31 μV to 100 mV will increase the output voltage by less than 10 dB.

4. Sensitivity:
   50 mW output in the SW band for less than 3 μV
   (modulation: 30% – 400 c/s).

5. Signal-to-noise ratio:
   10 dB signal-to-noise ratio (modulation: 30% – 400 c/s).
   320 kc/s with I.E.C. dummy aerial: 10 μV.
   1 Mc/s with I.E.C. dummy aerial: 10 μV.
   2.2 Mc/s, generator impedance 25 ohms: 1 μV.

6. Image suppression:
   Better than 50 dB (2.2 Mc/s).

7. Selectivity:
   IF bandwidth: 6.5 kc/s.

8. AF characteristic:
   6 dB from 100 c/s to 3000 c/s.
   With filter: 6 dB bandwidth 300 c/s.

9. Power output:
   Max. 1.8 watts on internal power supply.
   1.5 watts on 24-volt power supply.

10. Current drain:
    Internal power supply: 0.04–0.15 amp.
    External power supply: 0.4 amp.

11. Weight:
    Approx. 8 kg (17.6 lbs).

II. Alignment Procedure

1. Intermediate frequency:

All IF alignment points are sealed at the factory and should not be touched unless repairs have made realignment necessary.

1.1. Connect a sweep generator to the alignment winding of 1st IF transformer (soldering terminal marked H). Also connect a marker generator and set it at 470 kc/s.

1.2. Connect an oscilloscope to the AF side of the detector.

1.3. Set the receiver at 1500 kc/s in the MW band.

1.4. Align the IF transformers for maximum response and symmetrical curve form around the marker point. Maximum permissible deviation is + 200 c/s.

1.5. Remove the marker generator and connect a test lead between point P on the IF panel and point Q on the AF panel. (See section VI: Locating of Components).

1.6. The BFO will now produce a beat with the IF curve. Adjust the core of coil 1308 (AF panel) so that the beat will be on 469 kc/s.

1.7. Adjust, with trimmer capacitor C77, the BFO output level so that the receiver meter reads 3.

1.8. All cores and trimmers are locked by means of lacquer.

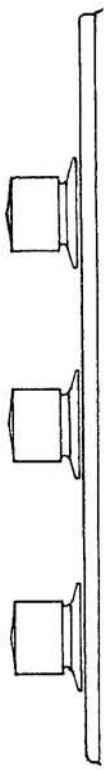
2. Signal circuits:

2.1. Connect a signal generator at the receiver's aerial socket. The generator impedance should be less than 75 ohms on SW. On LW, NW, and MW the signal should be applied through a dummy aerial as prescribed by the I.E.C. standard. Connect a speaker at the receiver's loudspeaker socket for monitoring.

2.2. Align the oscillator circuit, 1st RF circuit, and 2nd RF circuit, in that order. Tune for maximum receiver meter deflection. The signal level should be so low that the meter reading does not exceed 5.
The sensitivity control should be at max.

2.3. Alignment data:

Band	Frequency	Alignment Point		
LW	170 kc/s	L12	L10	L11
	270 kc/s	C12	C10	C11
NW	270 kc/s	L9	L7	L8
	400 kc/s	C9	C7	C8
MW	600 kc/s	L6	L4	L5
	1400 kc/s	C6	C4	C5
SW	1800 kc/s	L3	L1	L2
	3600 kc/s	C3	C1	C2
Channel A			L23	L24
Channel B			L21	L22
Channel C			L19	L20
Channel D			L17	L18
Channel E			L15	L16



2.4. All cores and trimmers are locked by means of lacquer.

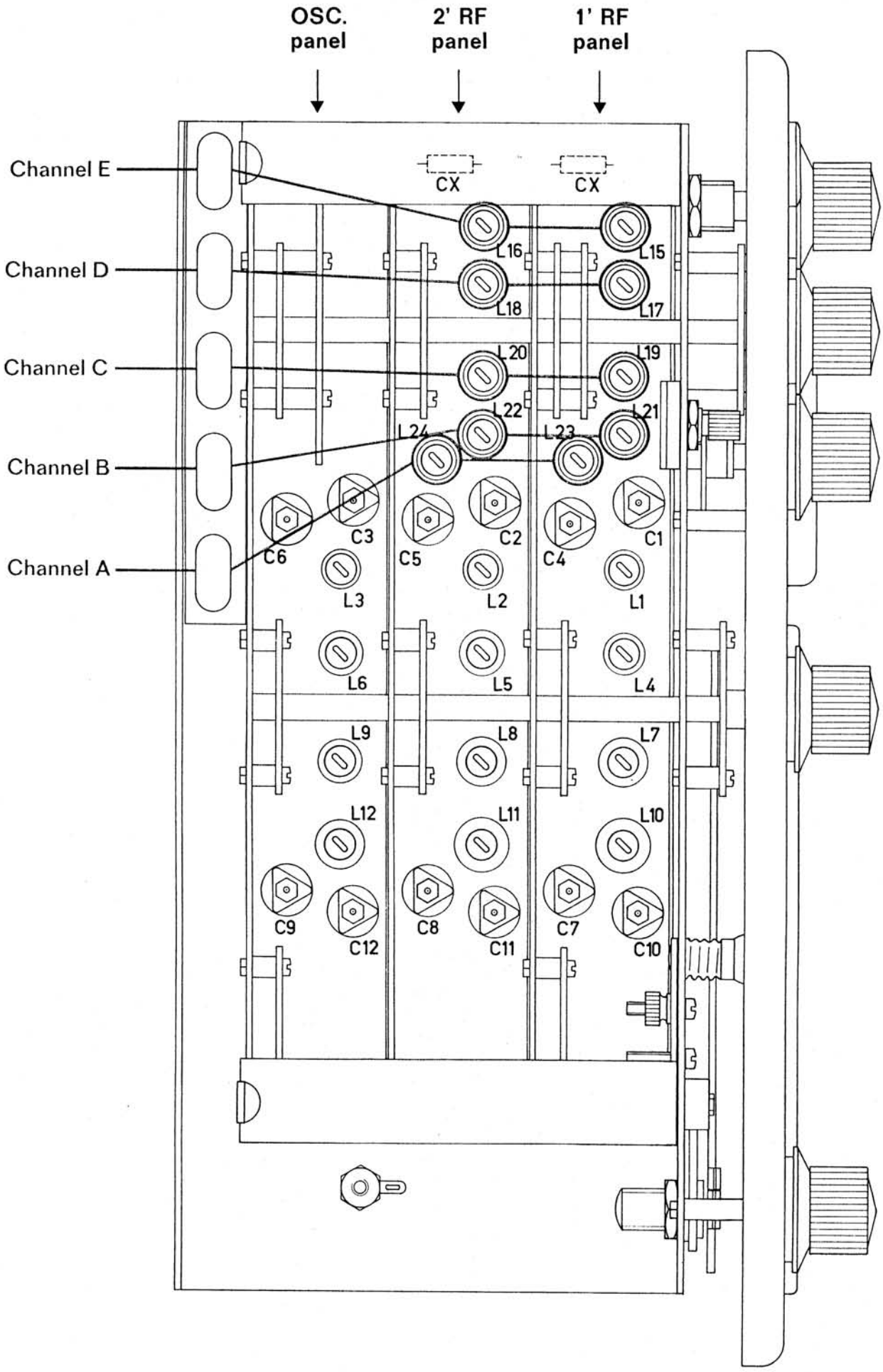
3. Sensitivities:

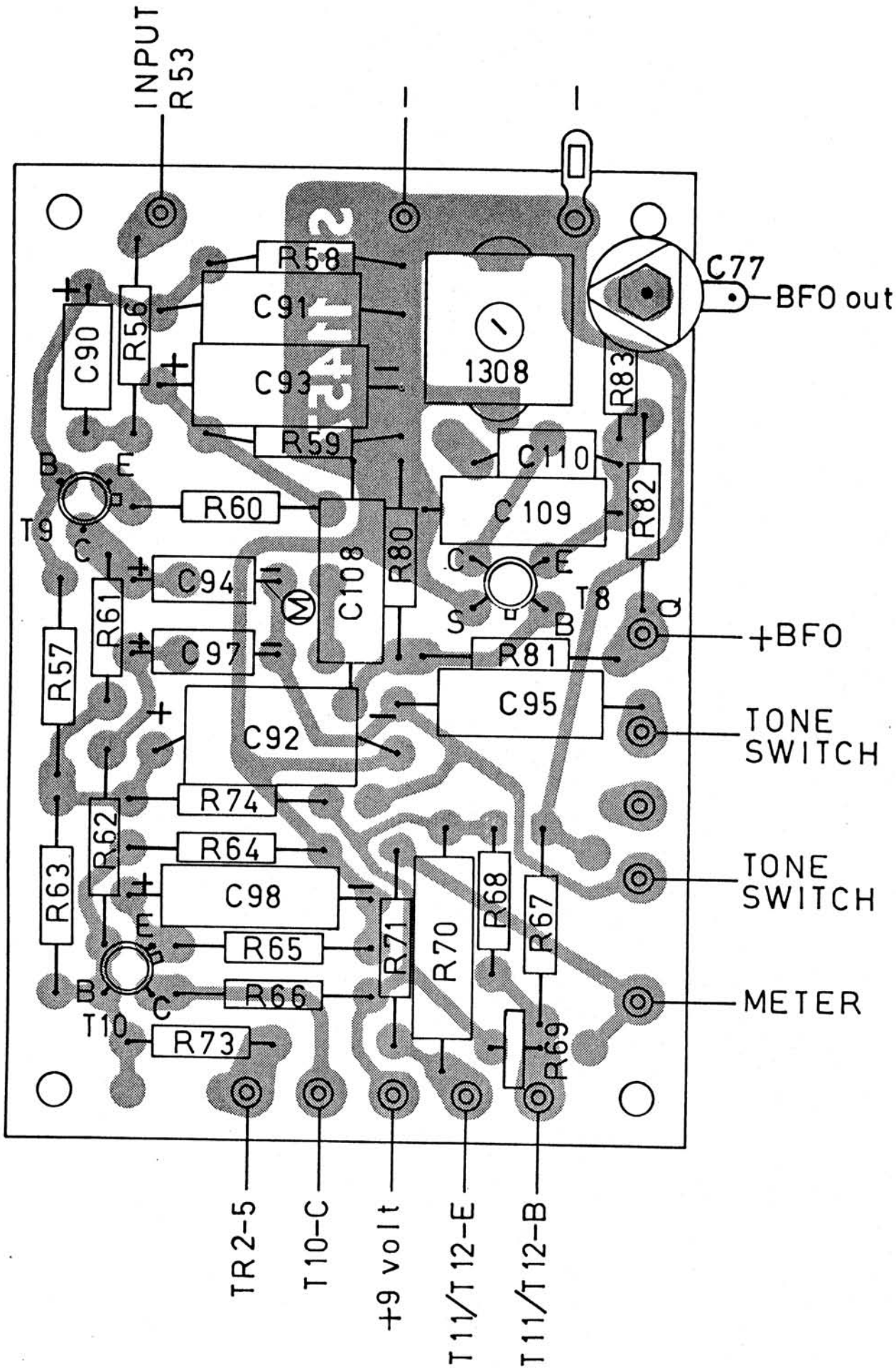
3.1. To facilitate checking, characteristic values of DC voltages and currents are listed on the circuit diagram. These values should be obtained with no signal applied to the receiver and with the sensitivity control at maximum.

3.2. The sensitivity of the receiver may be checked with a signal generator connected at those points in the receiver which are designated by letters. The values listed on the diagram are typical values with the volume and sensitivity controls at maximum. They must be applied in order to obtain a power output of 50 mW into a 3.2-ohm load.

Coil assembly Sailor 66 T

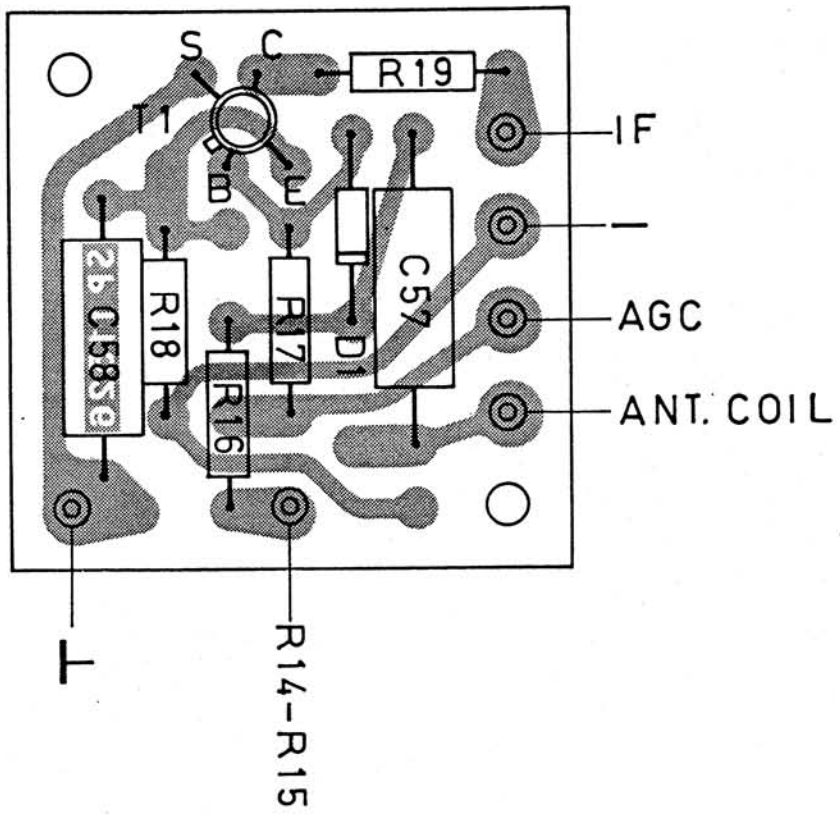
Band		LW	NW	MW	SW	Fixed channels
Colour code		Orange	White	Blue	Green	Green
1. RF section	Coil no.	1338	1335	1341	1364	1344
	Trimmer	60 p	60 p	30 p	30 p	cx 220 p
	Parallel cond.	100 p	180 p	10 p	15 p	100 p
2. RF section	Coil no.	1337	1334	1340	1343	1343
	Trimmer	60 p	60 p	30 p	30 p	cx 220 p
	Parallel cond.	100 p	180 p		15 p	100 p
Osc. section	Coil no.	1336	1333	1339	1342	
	Trimmer	60 p	60 p	30 p	30 p	
	Parallel cond.	410 p	470 p	22 p	22 p	
	Padding cond.	560 p	820 p	560 p	1800 p	


OSC. panel
2' RF panel
1' RF panel
Channel E
Channel D
Channel C
Channel B
Channel A
CX
CX
L16
L15
L18
L17
L20
L19
L22
L21
L24
L23
C6
C3
C5
C2
C4
C1
L3
L2
L1
L6
L5
L4
L9
L8
L7
L12
L11
L10
C9
C12
C8
C11
C7
C10

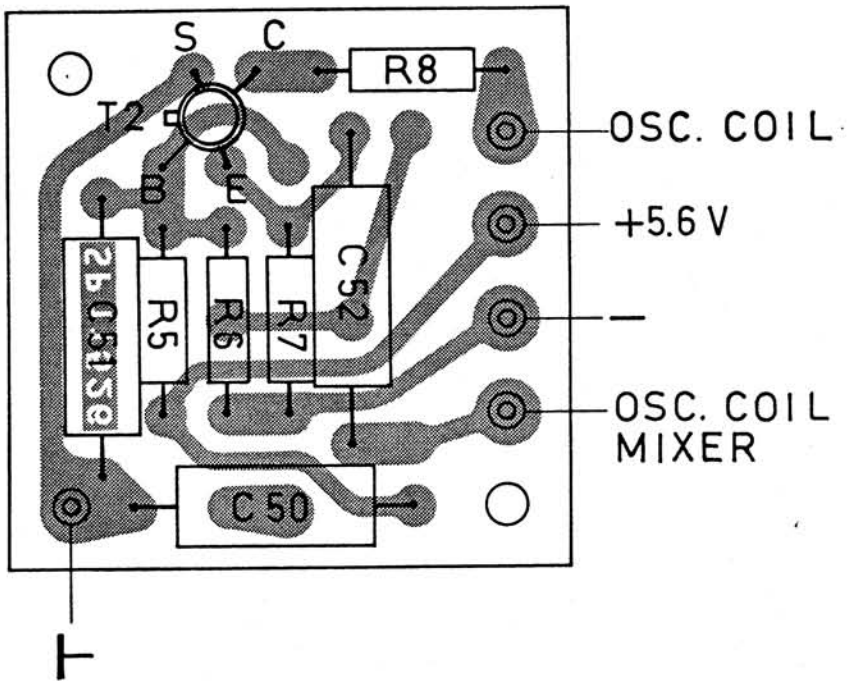


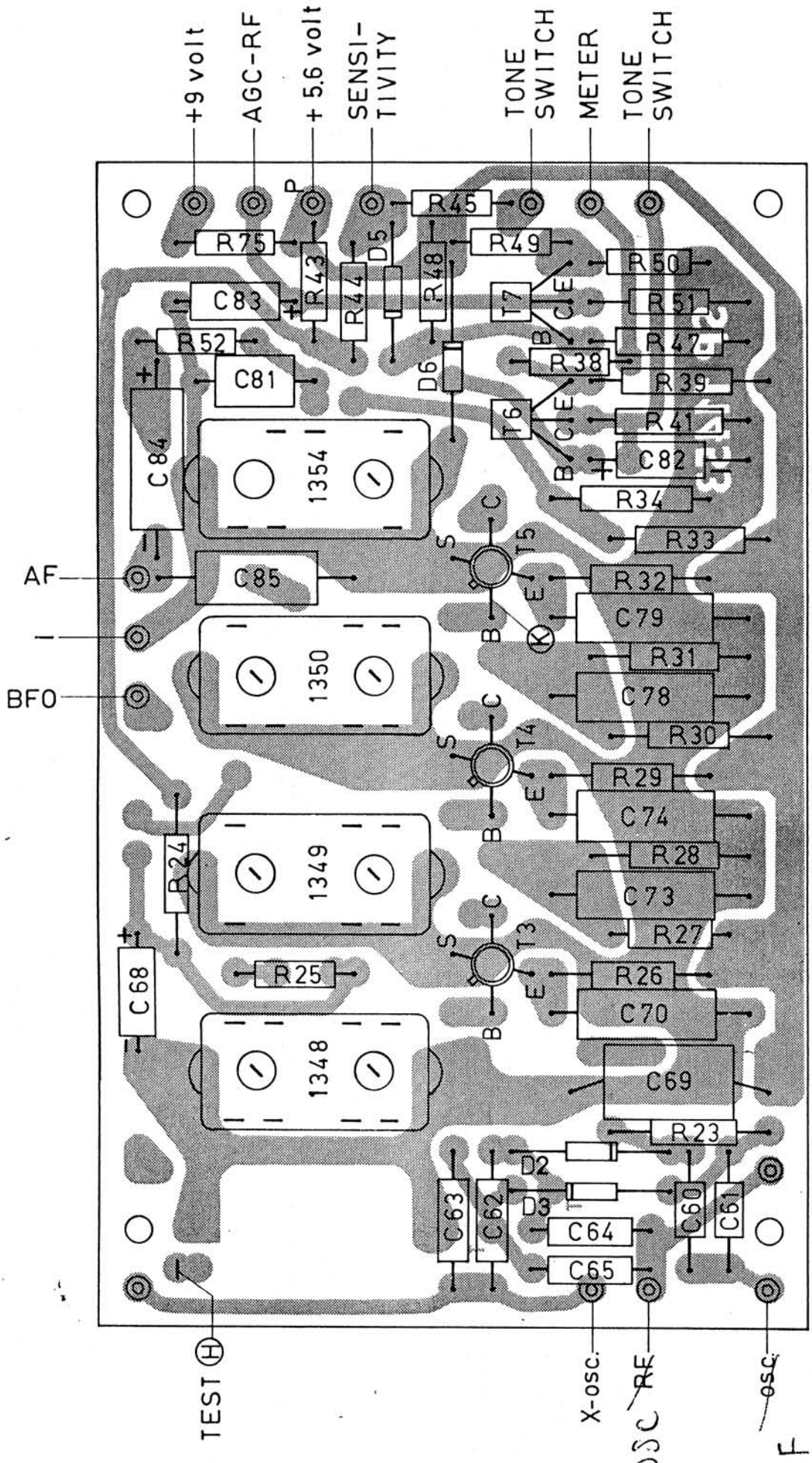
LF - BOARD PB 11457

RF–BOARD PB 11526

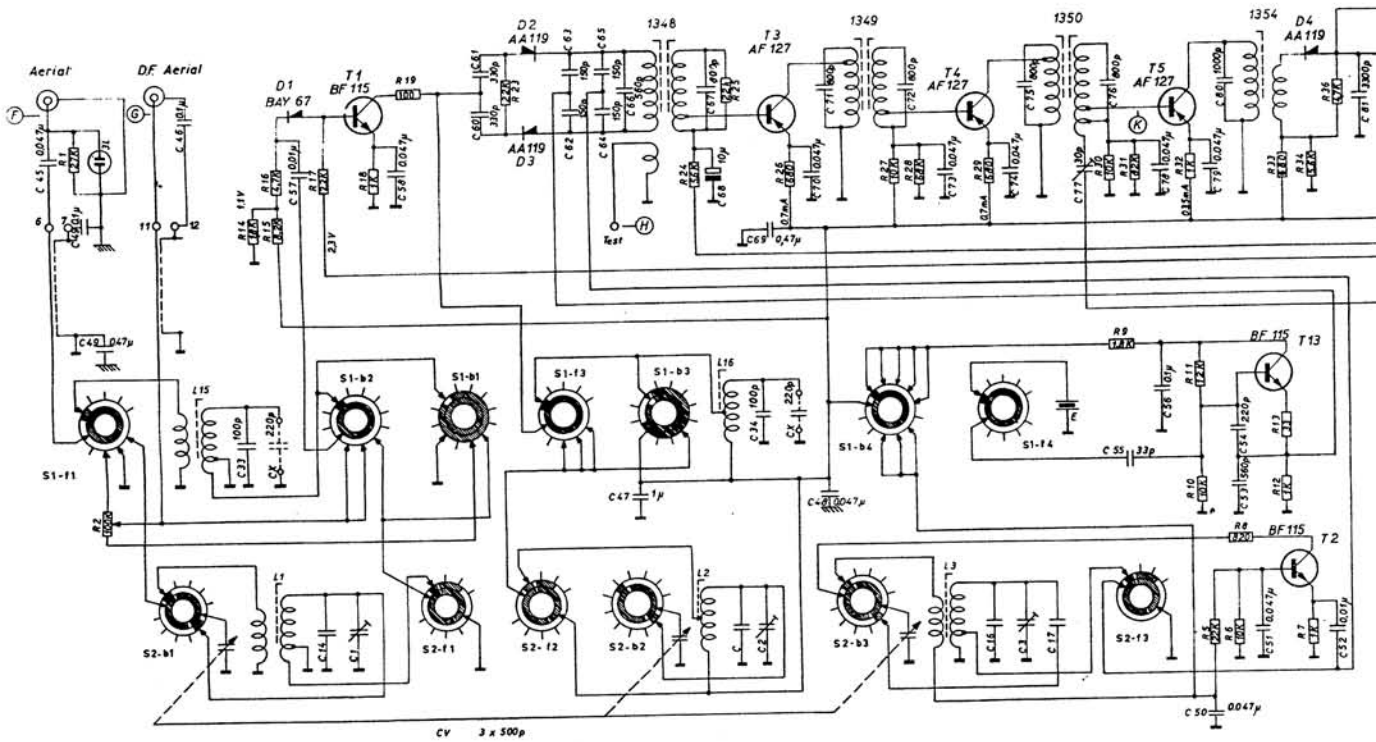


OSC. BOARD PB 11526A



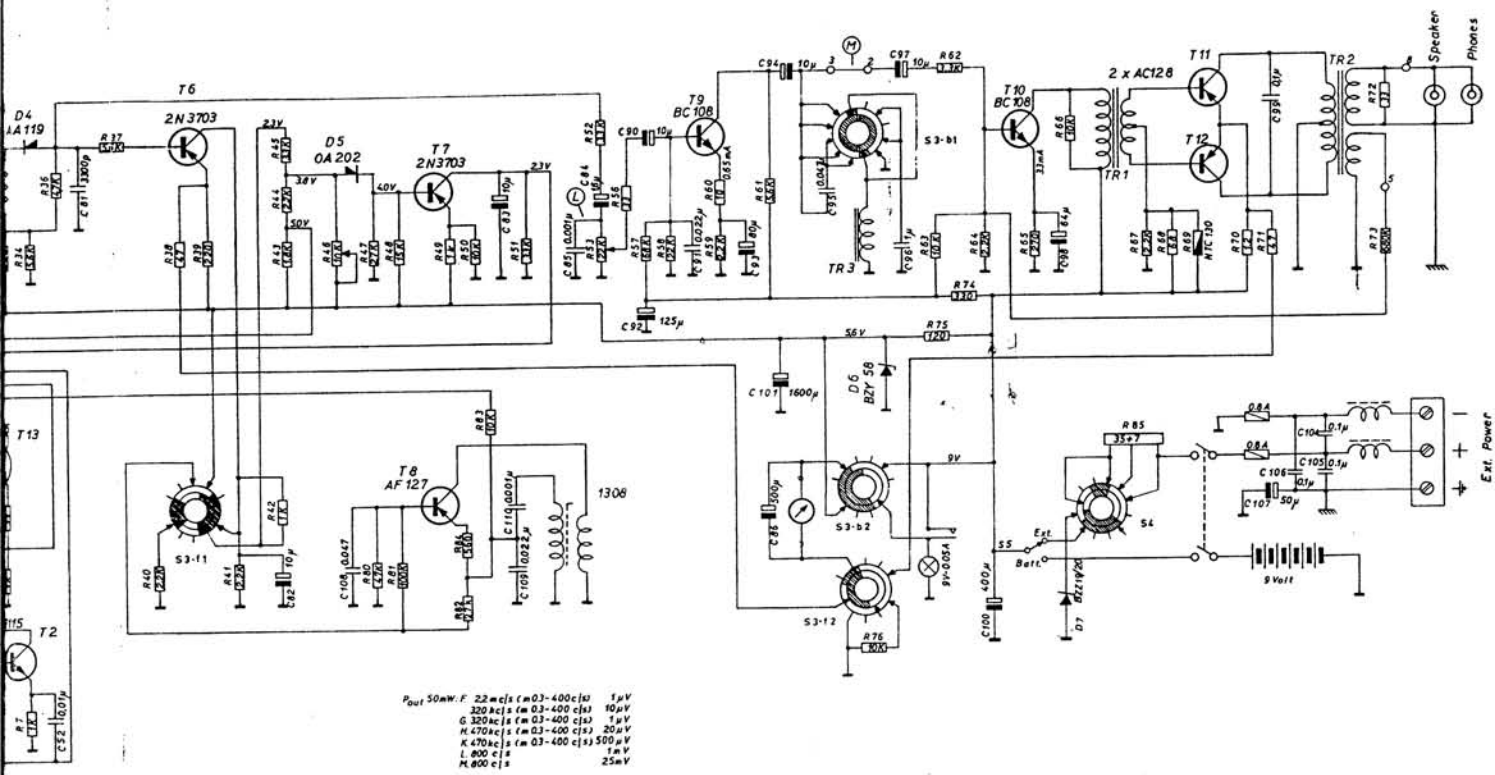


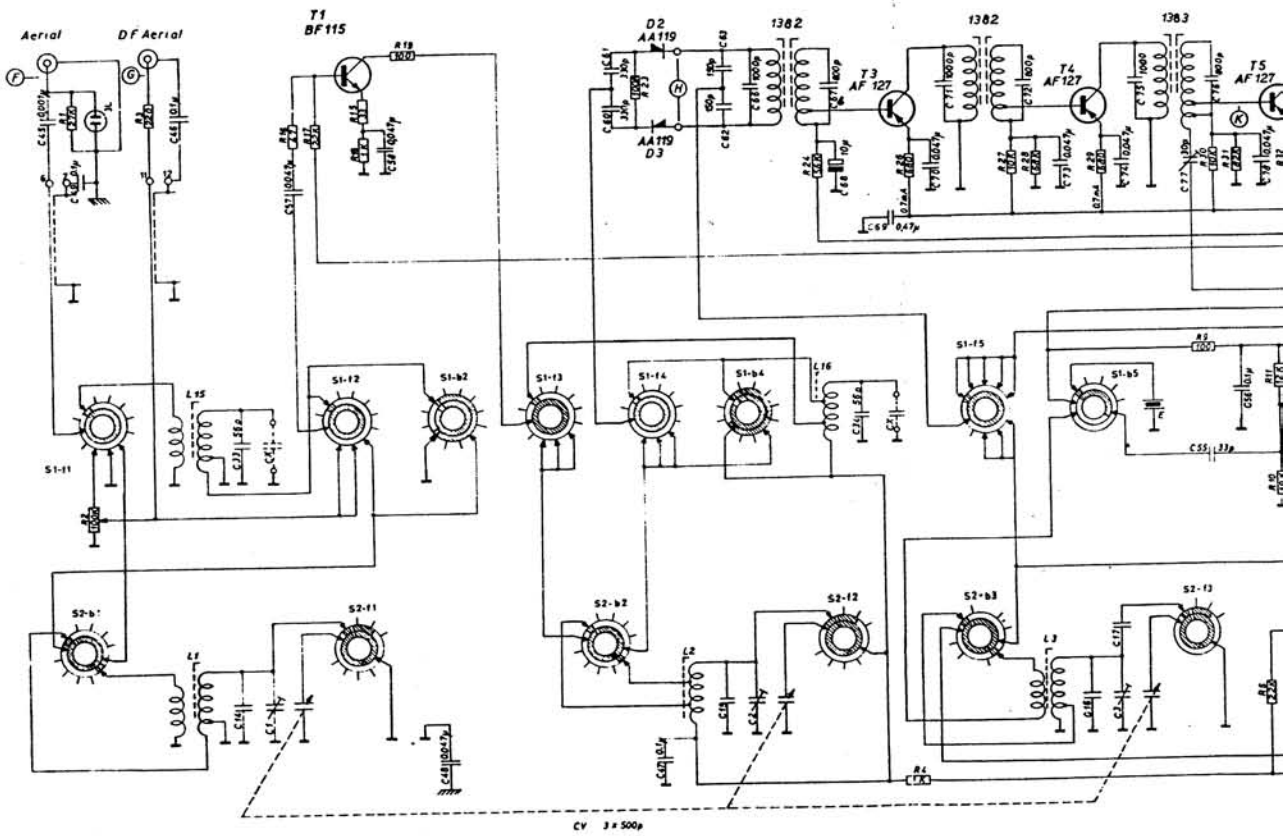
IF- BOARD PB 11453



All switches are viewed from knob-end and with rotor in extreme anti-clockwise position.
Tuned curcuits are shown only for channel E and SW-band

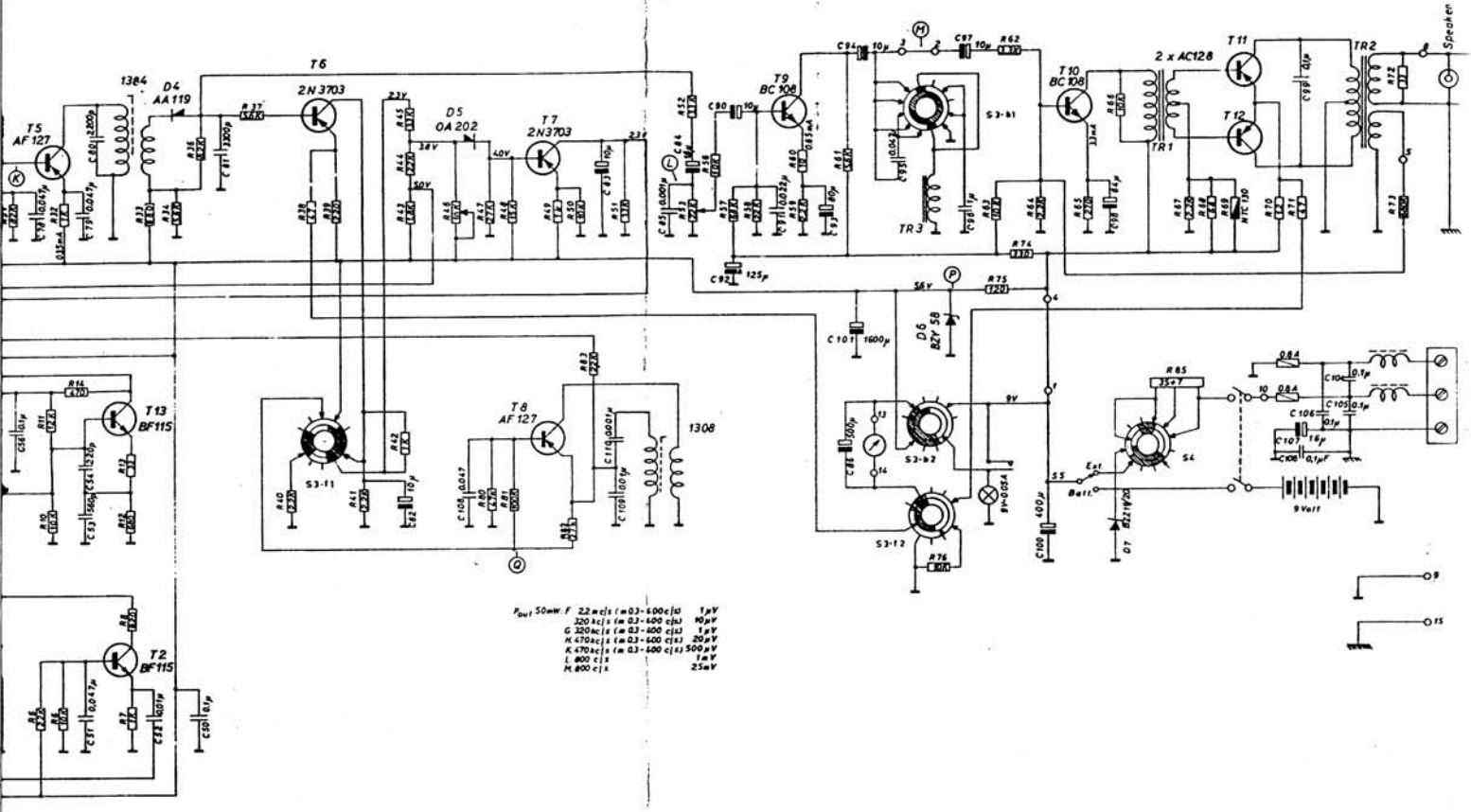
Dette diagram omfatter SAILOR 66T med bogstavet A efter apparatets nummer
Dieses Schaltschema betrifft SAILOR 66T mit dem Buchstaben A nach der Nummer des Gerätes
This diagram refers to SAILOR 66T with a letter A placed after the number of the receiver
Ce schéma comprende SAILOR 66T avec la lettre A aprés le numéro du récepteur
Este diagrama comprende SAILOR 66T con la letra A détras del número del receptor

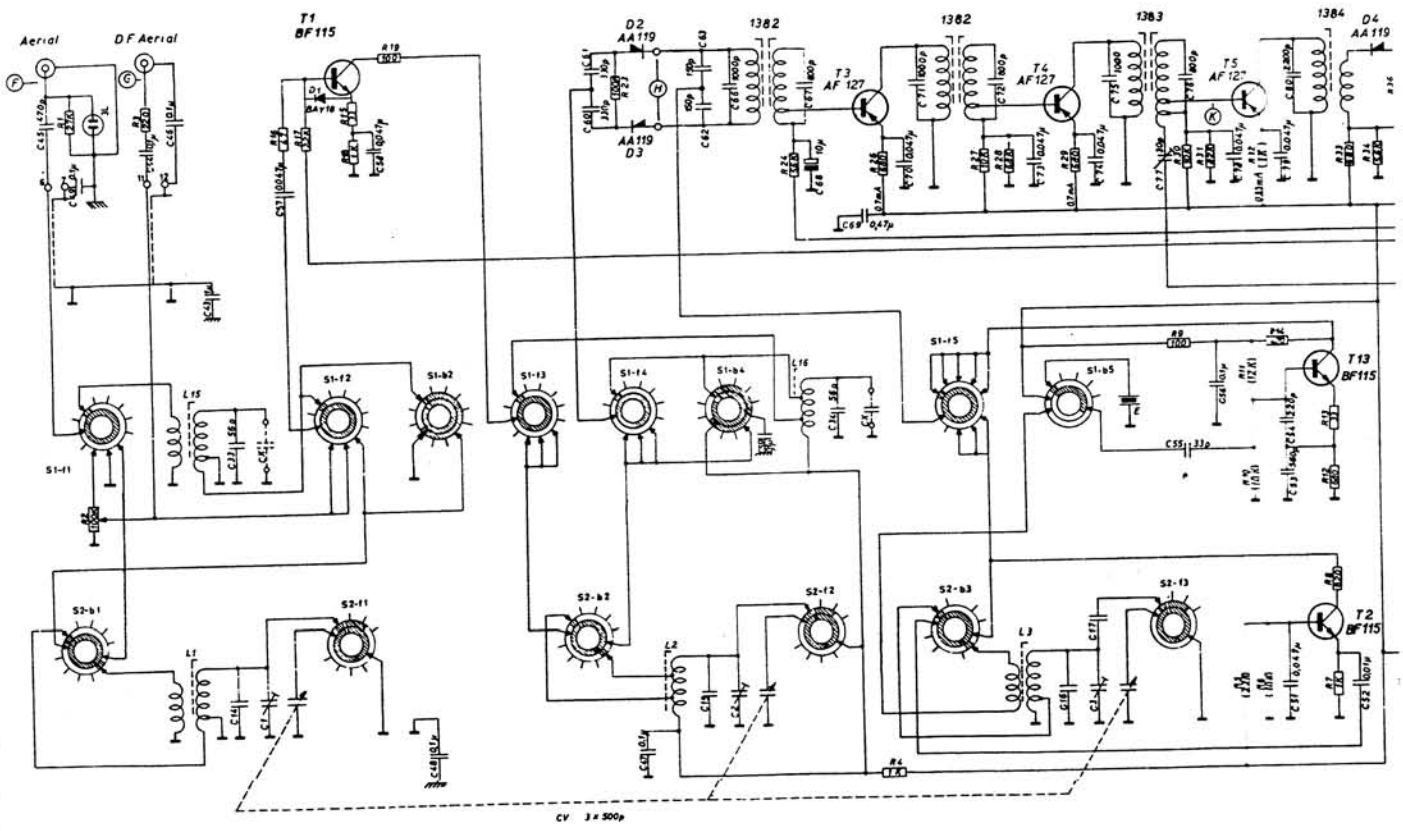

T6
2N3703
D4
AA 119
D5
OA 202
T7
2N3703
T9
BC 108
T10
BC 108
2 x AC128
T11
T12
TR1
TR2
TR3
Speaker
Phones
S3-b1
S3-b2
S3-11
S3-12
S4
S5
T8
AF 127
1308
T13
T2
D6
BZY 58
D7
BZY 92
9 Volt
Ext. Power
Batt.
Ext.
NTC 130
23V
38V
40V
50V
56V
9V
P_{out} 50mW. F 2.2 mc/s (m 0.3-400 c/s) 1 µV
320 kc/s (m 0.3-400 c/s) 10 µV
G 320 kc/s (m 0.3-400 c/s) 1 µV
H 470 kc/s (m 0.3-400 c/s) 20 µV
K 470 kc/s (m 0.3-400 c/s) 500 µV
L 800 c/s 1 m V
M 800 c/s 25 mV



All switches are viewed from knob-end and with rotor in extreme anti-clockwise position
Tuned circuits are shown only for channel F and SW-band.

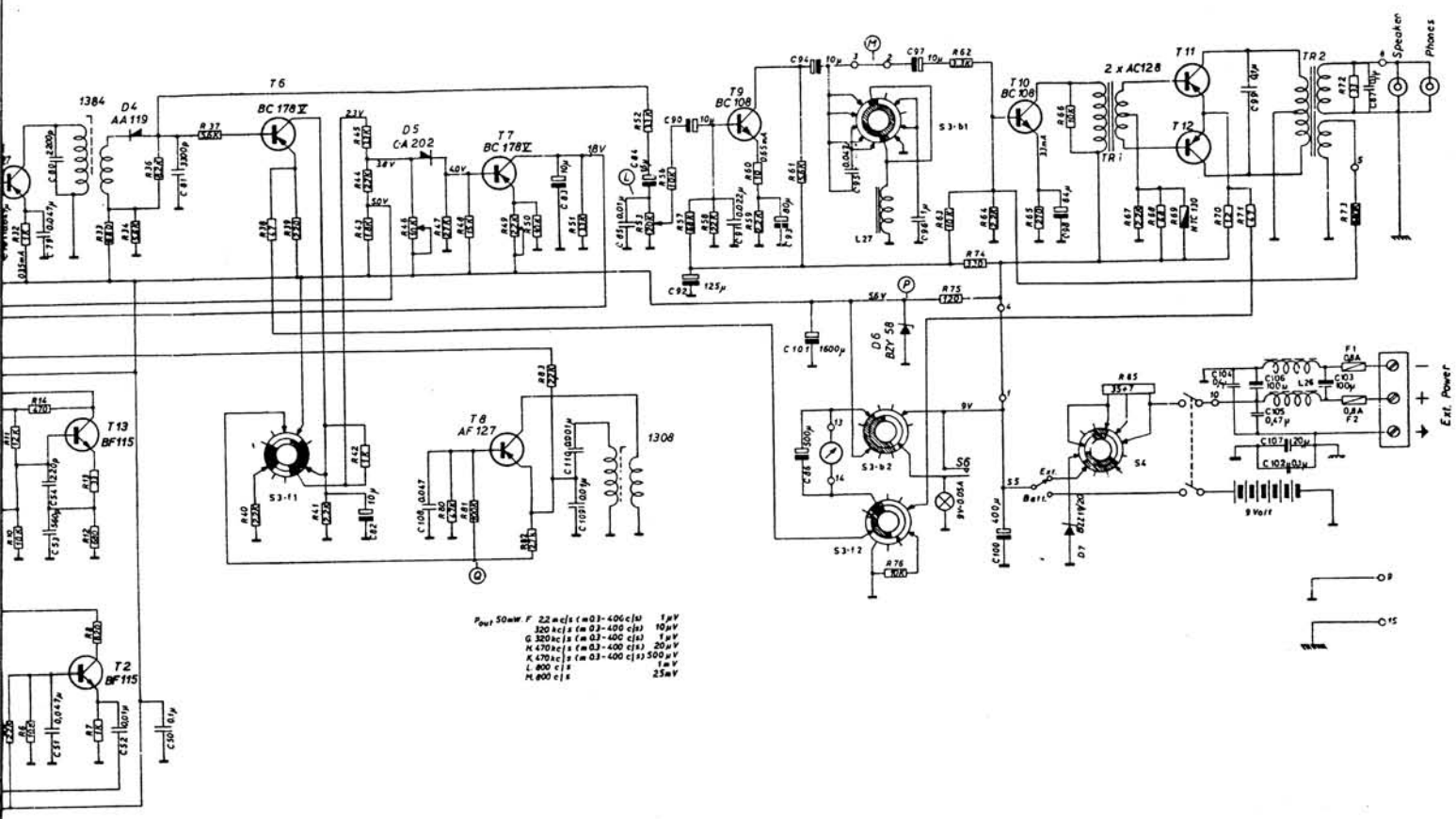
Dette diagram omfatter SAILOR 66T, serie B.
Dieses Schaltschema betrifft SAILOR 66T, Serie B.
This diagram refers to SAILOR 66T, series B.
Ce schéma comprend SAILOR 66T, série B.
Este diagrama comprende SAILOR 66T, serie B.


T5 AF 127
1384
D4 AA 119
T6 2N 3703
D5 OA 202
T7 2N3703
T9 BC 108
T10 BC 108
2 x AC128
T11
T12
TR1
TR2
TR3
Speaker
S3-b1
S3-b2
S3-11
S3-12
T8 AF 127
1308
D6 BZY 58
T13 BF115
T2 BF115
S4
9 Volt
D7 BZY 95



All switches are viewed from knob-end and with rotor in extreme anti-clockwise position.
Tuned circuits are shown only for channel E and SW-band.

Dette diagram omfatter SAILOR 66T, serie D, E, F, G, H, J, K og L
This diagram refers to SAILOR 66T, series D, E, F. G, H, J, K og L
Dieses Schaltchema betrifft SAILOR 66T, Serien D, E. F, G, H, J, K og L
Ce schéma comprend SAILOR 66T, sèrie D, E, F, G, H, J, K og L
Este diagrama comprende SAILOR 66T, serie D, E, F, G, H, J, K og L


T6
BC 178 X
D4
AA 119
1384
D5
CA 202
T7
BC 178 X
T9
BC 108
T10
BC 108
2 x AC128
T11
T12
TR2
TR1
Speaker
Phones
T13
BF115
T2
BF115
T8
AF 127
1308
D6
BZY 58
D7
BZ11V20
S3-b1
S3-b2
S3-f1
S3-f2
S4
S6
Ext.
Batt.
9 Volt
Ext. Power
F1
0,8A
F2
0,8A
L27
L26
9
15