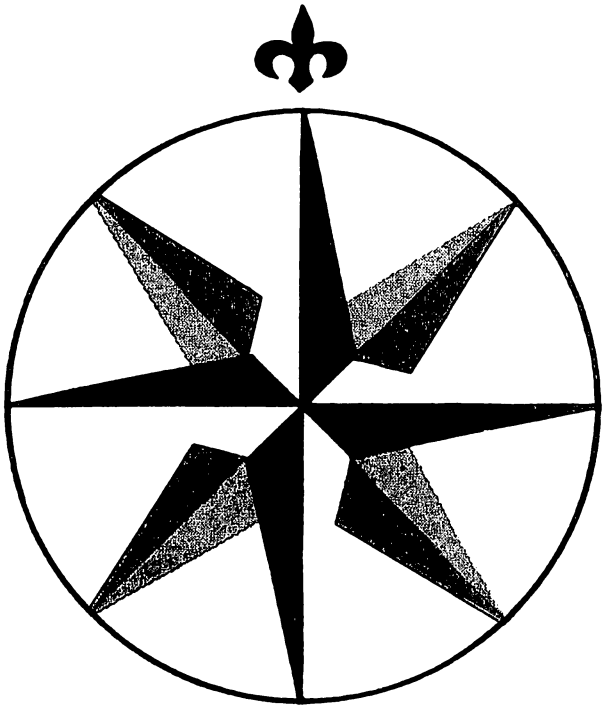


Sailor

Obs.: Gælder kun for sendere med servicenummer fra og med 102070.
Læs venligst servicemeddelelse nr. 53.

Note: Is only relating to transmitters with serial number from 102070 and onward.
Please read service information no. 53.

Achtung: Nur für Sender mit den Seriennummern ab 102070 (diese Nummer einschliesslich). Bitte lesen Sie Kundendienstmitteilung No. 53.

Attention: Seulement pour des émetteurs avec le numéro de constructeur à partir (et y compris) de 102070.
Veuillez étudier l'information de service no. 53.

Nota: Solamente para las estaciones transmisoras del no. de serie à contar del no. 102070 (éste incluido).
Estudie usted la información de servicio no. 53.

INSTRUKTIONSBOG FOR SAILOR T122

INSTRUCTION BOOK FOR SAILOR T122

INSTRUKTIONSBUCH FÜR SAILOR T122

INSTRUCTIONS POUR SAILOR T122

INSTRUCIONES PARA SAILOR T122

A/S S. P. RADIO · AALBORG · DENMARK

TUNING PROCEDURE OF SAILOR TRANSMITTER

INTO AERIAL MATCHING UNIT Z50-0646-01

1. Connect 50ohm load via Bird Thru-Line to transmitter and note forward power levels obtained on each channel.
2. Connect transmitter output direct to aerial cable and terminate remote end of cable with Bird Thru-line and dummy load. Note powers obtained on each channel.
   N.B. For a 100 metre length of cable the power loss will be approximately 20% and pro-rate for shorter lengths.
3. Remove dummy load, and connect aerial cable to A.M.U. chassis, via Thru-line, using the internal co-ax connecting link as necessary.
4. Connect extension lead supplied between transmitter mic socket and SKA on control panel. This enables transmitter to be keyed from A.M.U.
5. Switch to 'D' at transmitter and at A.M.U. control unit.
6. Key transmitter from A.M.U. and observe reverse power reading on Thru-line.
   With aerial and line fine tune slugs at mid position connect a clip lead between 'D' aerial connection and the tap on the aerial coil that gives least reverse power. Reverse power can then be further reduced by alternate adjustments of aerial and line fine tune coils.
7. If a nil reverse power reading has not been obtained in No. 6 and either the aerial or line fine tune slugs are at an extremity, select an adjacent aerial coil tap and repeat No.6.
8. When a zero of reverse power has been obtained check the forward power. This should be the same as obtained in No. 2. If it is not, further adjustments should be made to aerial and line fine tune slugs to obtain another reverse power zero coincident with obtaining the same forward power as obtained in No. 2.
9. Replace clip lead by a permanent link and re-check reverse power.
10. Switch to position 1 at transmitter and at A.M.U. control unit. Proceed as in Nos. 6, 7 and 8. To obtain correct reverse power zero. Note the tap on the aerial coil.
11. Proceed as in No. 10 for remainder of channels fitted.
12. Fit permanent links on aerial coil. It will be found that interaction is negligible and can be taken care of by final adjustment of aerial and line fine tune slugs.
13. If the transmitter frequencies are not spaced more than ± 10 KHZ per MHZ. (i.e. for a 3.5 MHZ center frequency the limits of extra channels for the same AMU position would be 3.53 MHZ and 3.47 (MHZ) two or more transmitter frequencies can be accommodated in one A.M.U. position. When this is done a compromise must be reached to give equal reverse power on each frequency.
14. Remove Thru-line and reconnect aerial coax to A.M.U. case socket, reconnect internal connecting link to chassis socket, secure A.M.U. cover, remove extension lead from mic socket.

NOTE: If effective length of aerial at high frequencies of operation is found to be too great, capacitor C3 (100pf) can be put in series to electrically shorten the aerial. This can be achieved by removing links as required on switch wafer SA3.

USED ON								
APPROVED	ISSUE	1						
CHECKED	DATE	17-10-75.						
	CH No.							
TRACED	THE MARCONI INTERNATIONAL MARINE CO., LTD. CHELMSFORD ENGLAND					SHEET 1	CONT. ON SHEET	
DRAWN	TITLE TUNING PROCEDURE OF SAILOR TRANSMITTER INTO AERIAL MATCHING UNIT Z50-0646-01					DRAWING No. N/S 7981/A.		

CONTENTS

A. Operation

I. Telephony

1. Turn the SUPPLY SWITCH to the STAND-BY position. The Lamp in the channel selector will light.
2. Set the toggle switch SIMPLEX-DUPLEX to the desired position.
3. Turn the switch POWER REDUCTION to the desired output (1/1 - 1/4 - 1/16).
4. Set the CHANNEL SELECTOR to the desired frequency. (If a 32 CH transmitter remember to set the crystal section switch to the required A or B range).
5. Turn SUPPLY SWITCH to position ON (wait at least 30 seconds after the SUPPLY SWITCH has been turned to position STAND-BY).
6. Turn the MODE SELECTOR switch to position AERIAL TUNING and keep it in that position while turning the AERIAL TUNING knob to maximum deflection on the AERIAL CURRENT meter.
7. Set the MODE SELECTOR to the desired mode of transmitting (A3H or A3J. A3A is very rarely used).
8. Take the handset off its holder. The transmitter will not be operative, until the handset switch is pressed in.

II. Emergency Call

1. Turn the SUPPLY SWITCH to position STAND-BY.
2. Turn the POWER REDUCTION knob to 1/1.
3. Set the SIMPLEX-DUPLEX switch to SIMPLEX.
4. Set the CHANNEL SELECTOR to DISTRESS 2182 kHz.
5. Turn the SUPPLY SWITCH to position ON (wait at least 30 seconds after the SUPPLY SWITCH has been turned to position STAND-BY).
6. Keep the MODE SELECTOR switch in position TEST ALARM and press the button PRESS TO SEND ALARM.
   The AERIAL CURRENT meter will now show deflection thus indicating that the distress signal is transmitted.
7. Keep MODE SELECTOR in position TEST ALARM for about 30 seconds. (The distress signal will be interrupted automatically after 45 seconds).
8. Release the MODE SELECTOR knob and remove the handset from its holder.
9. Press the handset switch and the transmitter is ready for the emergency call (May-day etc.).
   The autoalarm can be tested acoustically in the handset by turning the MODE SELECTOR to ALARM TEST, do not press red alarm button.

B. Installation

I. Preparation

Before installation it should be ascertained that the correct power supply corresponding to the voltage of the main supply line of the vessel is selected in the transmitter. The desired crystals are inserted, and the transmitter is tuned as described under C. The 24 V DC power is a unit, which is mounted in the lower part of the transmitter.
The 220/110 V power is an internal unit, which is mounted in the lower part of the transmitter, and an external transformerbox, which is to be placed near the transmitter. How the 220 V/110 V power supplies are switched over from 110 to 220 V AC and vice versa is described on the power supplies in question.

II. Removing transmitter from its case

To take the transmitter out of its box remove the 8 screws at the front panel edge, after which the transmitter can be pulled out. The multiconnectors at the back of the transmitter are removed. The earth connection is removed by unscrewing 2 screws at the right side of the transmitter. Finally the nylon cords securing the transmitter are removed.

III. Mounting of transmitter on bulkhead

The transmitter case is fastened to the bulkhead by means of 4 through-bolts through the four fastening eyes. The bolts should be at least ¼" (6MG) in diameter.
A dimensional sketch of the transmitter case and suspension holes are at the end of this manual.

IV. Assembling of transmitter and receiver

The transmitter can be assembled with any of the S.P. SAILOR SSB receivers by means of the installation kit accompanying each transmitter. From the sketches at the end of this manual it will be seen, how transmitter and reciever are assembled.
If so desired, the receiver and the transmitter can be mounted seperately on the bulkhead.

V. Aerials

Wherever possible the set should have receiver aerial and transmitter aerial mounted separately. The transmitter aerial should be either a wire aerial of 7-20 m length or a whip aerial of minimum 7 m, placed in as high and as free a position as possible. Any joints should be soldered or made with reliable clamps. For the aerial, good insulators must be used at both ends. The down-lead of the transmitter aerial is normally not screened, but if need be, at coaxial-cable of up to 3 m and of good quality (RG8U) may be used for this purpose. The transmitter aerial is connected to the stand-off insulator marked AERIAL on the front panel of the transmitter. For the receiver aerial the same holds good as for the transmitter aerial, except that wire aerial lengths down to 5 m and for the whip aerial down to 4 m can be tolerated. The receiver aerial is connected to the coaxial connector at the back of the receiver (remember the tuning of the receivers aerial, see instruction manual for the receiver).
Where it is not possible to have two aerials installed, the receiver is connected to the transmitter aerial. For this connection use an S.P. aerial relay AR. 166. In a sketch at the end of this manual it is shown, how to mount this relay.

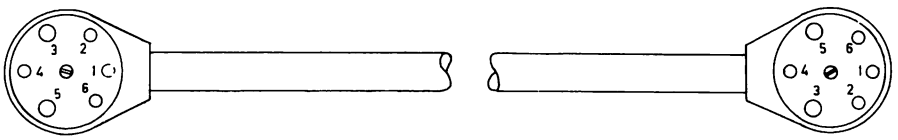
VI. Earth connection

The earth must be connected to the terminal at the bottom of the case.

For earth connection use copper band of min. 0,5×50 mm, which in iron vessels must be bonded to the hull of the vessel, and in wooden vessels to a metal plate of *at least* 1 sqm fixed to the outer side of the hull below waterline. In sailing vessels with external-metal ballast keel, the earth wire can be connected to a keel bolt, and the keel of the vessel will act as an »earth«. The earth band must be as short as possible and must be directly bonded to earth plate, ballast keel or iron hull.

VII. Other connections

1. The intermediary cable between receiver and transmitter is connected from the lower of the two multisockets at the back of the upper part of the transmitter.



RECEIVER PLUG FEMALE
HIRSCHMANN TYPE Mek 60z

PIN 1 – LOUDSPEAKER – VIOLET
PIN 2 – TO RX. BANDS SECT.– WHITE
PIN 3 – 24 V.D.C. POSITIVE – RED (BUHR)
PIN 4 – COMMON – BROWN
PIN 5 – 24 V.D.C. NEGATIVE – BLACK
PIN 6 A F OUTPUT FROM RX. BLUE (BUHR)
PLUGS VIEWED FROM PIN SIDES

TRANSMITTER PLUG MALE
HIRSCHMANN TYPE Mes 60z

Connection cable between transmitter and receivers

2. *Supply cables 24 V DC.* The supply cables are to be connected to the terminal strip at the bottom of the transmitter box. A label placed above the terminal strip will show you how. The supply cables must be min. 16 mm² and go directly to the battery of the boat.

   Supply cables 110/220 V AC. At this supply voltage an external 110/220 V AC for 1000 V DC power supply is used in addition to the internal 110/220 V AC power supply.

The external power supply is provided with an intermediate cable, consisting of a twin-lead cable and a high voltage cable ending in a multi-socket.

The multi-socket is placed in the multi-plug at the back of the internal power supply in the power part of the transmitter. The supply cables and the twin-lead cable from the external power supply are connected to the terminal strip at the bottom of the transmitter case.

VIII. Adjustment of aerial tuning, coupling and drive level

When the transmitter has been tuned up (see section C), the aerial tuning, coupling and drive level must be adjusted on all crystal frequencies. Owing to the automatic aerial tuning on the distress frequency 2182 Kc, the procedure to be used for this channel (A) is somewhat different from that used for the rest of the channels.

The procedure is the following for all channels except for A (2182):

1. Set S2 to position LOAD, POWER REDUCTION control to position 1/1 and S3 to position I AER (see drawing marked TUNING at the end of this manual).

B. Installation

I. Preparation

Before installation it should be ascertained that the correct power supply corresponding to the voltage of the main supply line of the vessel is selected in the transmitter. The desired crystals are inserted, and the transmitter is tuned as described under C. The 24 V DC power is a unit, which is mounted in the lower part of the transmitter.
The 220/110 V power is an internal unit, which is mounted in the lower part of the transmitter, and an external transformerbox, which is to be placed near the transmitter. How the 220 V/110 V power supplies are switched over from 110 to 220 V AC and vice versa is described on the power supplies in question.

II. Removing transmitter from its case

To take the transmitter out of its box remove the 8 screws at the front panel edge, after which the transmitter can be pulled out. The multiconnectors at the back of the transmitter are removed. The earth connection is removed by unscrewing 2 screws at the right side of the transmitter. Finally the nylon cords securing the transmitter are removed.

III. Mounting of transmitter on bulkhead

The transmitter case is fastened to the bulkhead by means of 4 through-bolts through the four fastening eyes. The bolts should be at least ¼" (6MG) in diameter.
A dimensional sketch of the transmitter case and suspension holes are at the end of this manual.

IV. Assembling of transmitter and receiver

The transmitter can be assembled with any of the S.P. SAILOR SSB receivers by means of the installation kit accompanying each transmitter. From the sketches at the end of this manual it will be seen, how transmitter and reciever are assembled.
If so desired, the receiver and the transmitter can be mounted seperately on the bulkhead.

V. Aerials

Wherever possible the set should have receiver aerial and transmitter aerial mounted separately. The transmitter aerial should be either a wire aerial of 7-20 m length or a whip aerial of minimum 7 m, placed in as high and as free a position as possible. Any joints should be soldered or made with reliable clamps. For the aerial, good insulators must be used at both ends. The down-lead of the transmitter aerial is normally not screened, but if need be, at coaxial-cable of up to 3 m and of good quality (RG8U) may be used for this purpose. The transmitter aerial is connected to the stand-off insulator marked AERIAL on the front panel of the transmitter. For the receiver aerial the same holds good as for the transmitter aerial, except that wire aerial lengths down to 5 m and for the whip aerial down to 4 m can be tolerated. The receiver aerial is connected to the coaxial connector at the back of the receiver (remember the tuning of the receivers aerial, see instruction manual for the receiver).
Where it is not possible to have two aerials installed, the receiver is connected to the transmitter aerial. For this connection use an S.P. aerial relay AR. 166. In a sketch at the end of this manual it is shown, how to mount this relay.

2. Select frequency.

3. Put screws into the contacts 26, 32, 33 and 35.

4. Tune the AERIAL TUNING knob (with the MODE SELECTOR knob in the position – AERIAL TUNING) until the aerial current meter shows maximum deflection. If it is not possible to obtain max. meter deflection, the aerial is not resonating, and the screw located in contact 35 is removed and either replaced into one of the contacts 36, 37, 38, 39 or alternatively, left out completely. It may then be possible to tune for max. deflection, if it is not, then remove the screw from contact 32 (aerial capacitor in circuit) and check whether maximum deflection can be obtained by placing the screw into any of the contacts 35, 36, 37, 38, 39 or leaving out completely.
   If is is still not possible to obtain maximum deflection then the aerial is too long and must be shortened to less than a $^1/_4$ wave-length.

5. By moving the screw located in contact 26 to any one of the contacts 26–31 inclusive and carefully tuning the aerial current meter for maximum deflection, it should be possible to correctly zero the test meter. If, in practice, it is not possible to obtain an optimum zero on the test meter it is acceptable to have the pointer reading slightly to the right of zero but never to its left.
   If the test meter cannot be made to give the correct reading, it is because there is an impedance mis-match between the aerial and the coupling, and the tappings on the coupling capacitors can be altered to remedy this mis-match. The wires to the coupling capacitors are soldered at the factory to match the aerials in general use. If it is found necessary to re-tap the capacitors move the wires the same number of steps, in the same direction if possible.

6. Set S2 to position DRIVE LEVEL.

7. Behind the screen of the driver print at the left side of the transmitter there are 16 potentiometers – one for each channel. With the MODE SELECTOR switch in position AERIAL TUNING and the aerial current accurately tuned for max., adjust the potentiometer for the actual channel, until the pointer on the TEST METER reads 10 on the right half of the dial.

8. Control that the loading of the transmitter is correct (Point 5).

9. Mount the screen over TEST METER. Ascertain before mounting that the switch S3 is left in the position IAER and that S2 is left in the position LOAD.

The procedure for channel A (2182) is as follows:

10. Set S2 to position LOAD, POWER REDUCTION on 1/1 and S3 to position IAER (see drawing marked TUNING at the end of this manual).

11. Set CHANNEL SELECTOR to position A (2182).

12. Put screws into the contacts 26, 32, 34 and 35 (not in 33).

13. With MODE SELECTOR switch in position AERIAL TUNING and S3 in position IAER adjust the iron core in the coil marked »2182 fine« until the AERIAL CURRENT meter shows maximum deflection.

If no deflection is found in this way, remove the screw in contact 35 into either 36, 37, 38, 39 or completely left out.

14. By moving the screws in contact 26 to one of the contacts 26–31 inclusive. The deflection on the TEST METER is brought to the right of but as near to the Zero line as possible, with MODE SELECTOR in position AERIAL TUNING. The aerial current carefully tuned for max. with the coil marked »2182 fine«.

15. Turn the POWER REDUCTION knob to position 1/1 and set the switch S2 position DRIVE LEVEL.

16. Behind the screen of the driver print at the left side of the transmitter there are 16 potentiometers – one for each channel. With the MODE SELECTOR switch on AERIAL TUNING adjust the potentiometer for channel A, until the pointer on the TEST METER reads 10 on the right half of the dial.

17. Replace screen over TEST METER. Ascertain before replacing that the switch S3 is left in position IAER, and that S2 is left in position LOAD.

C. TUNING

Insertion of crystal and tuning of driver and PA-stage. Please see drawing marked TUNING at the end of this manual.

1. Remove the cover of the channel selector dial, TEST METER and crystals, these covers are placed on the front panel of the transmitter. Remove the cover of the driver print at the left side of the transmitter.

2. Select the letter on the channel selector, corresponding with frequency required, and insert the crystal into the corresponding holder in the oscillator stage. (Crystal frequency = transmitting frequency + 600 Kc).

3. On the driver print there are 32 short-circuiting links – 2 for each channel.
   if the transmitting frequency (fx – 600 Kc) is lower than 2,6 Mc, these short-circuiting links must be intact, whereas, if the transmitting frequency is higher than 2,6 Mc, they must be cut.
   The short-circuiting links are located as indicated on the drawing TUNING at the end of this manual.

4. Replace the cover of the driver print.

5. Turn the POWER REDUCTION knob to position 1/1.

6. Set S2 into position DRIVER (not DRIVE LEVEL).

7. The two iron cores in the driver, which belong to the actual channel, are adjusted through the perforations in the driver print cover with the MODE SELECTOR in position AERIAL TUNING, until the TEST METER shows max. deflection. If the deflection is too high, it is lowered by means of the potentiometer as specified under 8.
   To avoid tuning to the image frequency (fx + 600 kHz instead of fx ÷ 600 kHz) which is possible for transmitting frequencies from 2,6 to abt. 3 MHz, always start with iron cores fully turned in, and if two tuning positions is found always use the lowest.

8. Behind the cover for the driver print there are 16 potentiometers — one for each channel. The potentiometer for the actual channel is adjusted, until the pointer on the TEST METER reads 10 on the right half of the dial. (MODE SELECTOR in position AERIAL TUNING).

9. The first step to take in the tuning-up of the PA-stage is to set S2 to position PA, S3 to position Ik¹ and the POWER REDUCTION switch to position 1/16.

10. Dismount aerial.

11. Put the enclosed nylon screws into the holes in the channel selector drum in the no. s 1-3 and 23-25 as shown in the table below:

Transmitting Frequency Mc	Screw in hole no.
1,6 — 1,9	3 and 23
1,9 — 2,6	2 and 24
2,6 — 3,5	1 and 25
3,5 — 4,2	none

12. Start the transmitter and turn the MODE SELECTOR knob to position AERIAL TUNING and fix the knob in that position (carefully wedge a screw driver behind the knob).

13. Press contact 20 by means of a trimming stick.

14. Press by means of another trimming stick the contacts from 4 and up, until the AERIAL CURRENT meter shows minimum deflection (TEST METER shows max.).

15. Keep the contact found under 14 pressed and move the trimming stick from the contact 20 to that of the contacts 18 — 22, which gives the lowest deflection on the AERIAL CURRENT meter.

16. Stop the transmitter and put screws into the holes of the channel selector drum corresponding to the selected channel letter and the channel no.s. found above.

17. Set POWER REDUCTION to position 1/1 and start the transmitter on the trimmed-up channel.

18. The deflection on the AERIAL CURRENT meter with S3 in position Ik¹ must be as low as possible and must not exceed 7 on the lower half of the scale.

19. Tuning of crystal frequency.
    A frequency counter shall be connected to the upper of the three terminals positioned to the left on the crystal oscillator circuit.
    Now turn the trimmer by the side of the tested crystal, until the counter shows the correct crystal frequency. (Crystal frequency = transmitting frequency + 600 Kc).

D. TEST METER

With the TEST METER of the transmitter and the switch S2 belonging to the meter

(see drawing TUNING at the end of this manual), the voltages on the input and output side of the PA-tubes is measured.
The TEST METER is used for the tuning-up of the transmitter and for the adjustment of DRIVE LEVEL.
With S2 in position DRIVER RF-voltage is measured on the grids of the PA-tubes. The screen grid voltage to the PA-tubes is automatically switched off, when S2 is in this position.
With S2 in position PA the HF-voltage is measured on the anodes of the PA-tubes.
With S2 in position LOAD the HF-voltages of the grids and anodes of the PA-tubes, are compared in such a way that the load is correct, when the pointer on the meter is at 0.
With S2 in position DRIVE LEVEL the HF-voltages on the grids of the tubes are measured with screen grid voltage applied to the tubes.

E. Aerial Meter

The AERIAL METER of the transmitter and the switch S3 belonging to the meter (see drawing TUNING at the end of this manual) measures filament-voltage, supply-voltage to small signal circuits, neg. grid bias to PA-tubes, screen-grid-voltage to PA-tubes, the cathode current of the PA-tubes and the aerial current. The switch S3 is located behind the same cover as S2 and TEST METER, whereas the AERIAL CURRENT meter is visible, when the covers on the front panel of the transmitter are fitted.
Before mounting the cover of S3, S2 and TEST METER, please ascertain that S3 is left in position Iaer, and S2 in position LOAD.
The following table shows the values read on the AERIAL CURRENT meter, when the switch S3 was standing in the positions referred to (left hand column).

Position S3	Test object	Full meter deflection	Normal values	
			Aerial connected and tuned	Aerial not connected
24 V	Filament voltage	30 V	24 V	24 V
18 V	Supply voltage small signal circuit	30 V	18 V	18 V
—85 V	Supply voltage to grid circuit	—100 V	—85 V	—85 V
250 V	Anode voltage driver Screen-grid voltage PA-tubes	300 V	250 V	250 V
1000 V	Anode voltage PA-tubes	1500 V	1000 V	1100 V
Ik_1	Cathode current PA-tubes	approx. 300 mA	approx. 145 mA	approx. 50 mA
Ik_2				
Ik_3				
Iaer	Aerial current	5 Amp.	1—5 Amp.	

Note: During the tuning operation the Ik per tube may only, for very short periods, exceed 55—60 mA. Otherwise the PA-tubes may become defective.

F. Potentiometers P 701 – P 705

Behind the TEST METER cover and to the left of the TEST METER there are 5 potentiometers (P701—P705).
These potentiometers are factory adjusted. Further adjustment will normally not be needed.
The potentiometers have the following functions:
P701 Meter adjust. DRIVE TUNE
P702 Meter adjust. PA-TUNE
P703 Meter adjust. LOAD
P704 adjustment of the negative grid bias of the PA-tubes. (All three in common)
P705 Meter adjust. Iaer

G. Technical data

Output: 400 Watt PEP in the aerial for all transmitting modes.

Modulation:	350—2700 c/s with speech clipper.
Frequencies:	16 crystal controlled between 1,6 and 4,2 Mc/s.
Frequencies (special versions):	see supplement L.
Frequency stability, short term:	better than 20 Hz.
Frequency stability, long term:	better than 100 Hz.
Autoalarm:	1300 and 2200C/S time delay 45 seconds.
Power consumption at 24 V DC:	
Stand-by:	3 Amp.
On:	about 15 Amp. (normal speech).
Power consumption at 110 V AC:	
Stand-by:	0,7 Amp.
On:	about 4 Amp. (normal speech).
Power consumption at 220 V AC:	
Stand-by:	0,5 Amp.
On:	about 2 Amp. (normal speech).

H. Service

The transmitter SAILOR T122 is made-up of small sections, which facilitates service operations. When service operations are needed, the transmitter must be taken out of the case as described under section B, paragraph II. Mechanically, the transmitter is divided into two parts, which are hinged at the back of the transmitter. When the 3 screws with seating rings, just above the dividing line of the two plates forming the front panel, have been removed, the transmitter can be opened.

Now, the PA-chassis in the upper part, the autoalarm, the LF-circuit and microphone circuit in the power part of the transmitter, are accessible.

From the front side of the transmitter, the oscillator is accessible behind a cover.

At the left side of the transmitter there is a cover. When this cover is removed, the mixer for 600 kc intermediate frequency and the oscillator frequency is accessible. Further, the driver and the attenuator for the tuning of the DRIVE LEVEL will be accessible.

From the bottom of the transmitter, the SSB-module of the transmitter is accessible.

The power supply unit of the transmitter is located to the right in the lower part of the transmitter, and it can be taken out as an independant unit.

To remove power supply unit up end transmitter and unscrew the screws in the terminal block at the front panel, and then remove the screws, by means of which, the power supply is fastened to the chassis.

Further, the fuse cover on the front of the transmitter must be removed, before the power supply unit can be taken out.

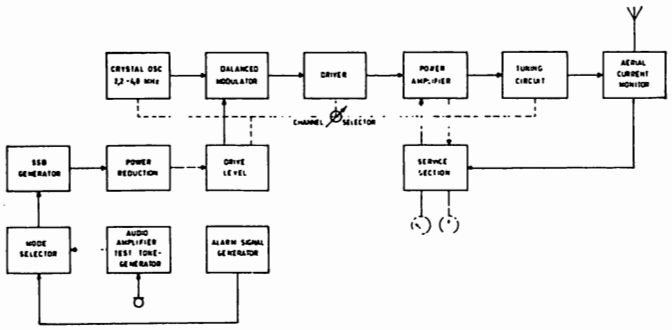
I. Circuit description

General Description

SAILOR T122 is fully transistorized in all small signal circuits. The power amplifier and the driver circuit are equipped with vacuum-tubes.

SAILOR T122 is, to a great extent constructed of detachable modules, and this modular

construction will be followed in the specification of the individual circuits.
In the table, typical voltage values on the active devices are indicated.
All voltages are measured by a vacuum tube voltmeter with a resistance at the tip of the test probe of min. 47 kOhm. (Vacuum tube voltmeters are often suitable for 1 mOhm at the tip of the probe).



SSB Generator

In this module all the kinds of signals, which the equipment is designed to transmit, are generated.
The unit contains a 600 kHz crystal oscillator, 600 kHz amplifier, balanced modulator, sidebandfilter (LSB), first SSB amplifier, circuit for reinsertion of carrier, second SSB amplifier and SSB output amplifier.
T305 together with X301 function as the 600 kHz oscillator of the Pierce Colpitts type. T306 amplifies and filters the aforementioned signal, which is supplied to the balanced modulator via C327.
The balanced modulator is built up around an integrated circuit, IC301, containing 4 diodes. The amplified microphone signal is also supplied to the integrated circuit, and thus a double-sideband signal is created. The carrier suppression i.e. the suppression of the incoming 600 kHz signal is extremely great and does not depend on the temperature owing to the matching of the four diodes in the integrated circuit. The output signal is therefore only composed of an upper and a lower side-band, of which only the lower side-band passes through the crystal filter FL301.
From the side-band filter the SSB signal is passed via FIRST SSB AMPLIFIER T307, then supplied to the amplitude control P305, via R352. At the same time, in position A3A and A3H and at distress calls, a certain amount of carrier (600 kHz) is supplied to the amplitude control P305 via R354.
The combined signal is amplified once more in the SECOND SSB AMPLIFIER T309 and in the SSB OUTPUT AMPLIFIER T310.
The carrier reinsertion is switched by means of switching diodes, which again are brought into conduction or cut off condition by means of DC control voltages.
The carrier signal is taken from the 600 kHz crystal oscillator and carried through the amplitude control P301 to the voltage divider of R310 and R309.
In position A3H the diode P304 conducts and the carrier signal is carried via C309 and C310 to the emitter follower T302.
In position A3A D305 conducts and the carrier signal, which is now taken across R309, is carried via C308 and C310 to T302.
In position A3J D306 conducts and short-circuits the input of T302 to ground via C311 and C310 in order to obtain maximum carrier suppression.
The function of T301 will be described in the section »AUTOMATIC 2182 kHz«.

Audio Amplifier — Clipper — Test Tone generator

The function of this unit is to generate and process all the AF-signals used in normal operation. The microphone signal is transformed by TR401 and is carried via R406 and C 411 to base of T403. (The signal through C407 will be ignored until later). The AF-signal is carried from C403 through the clipper diodes D404 and D405 to the cascade coupled emitter followers T404 and T405, which are driving the LF-filter C413, L401 and C415. The purpose of the clipper is to prevent overmodulation of the transmitter power stage and to secure the high communication efficiency of T122, obtained by means of the symmetrical clipper function, which is described below:

The principal function of T401 is to supply the voltage reference for the clipper circuit. The reference voltage is taken in the node R414 — D403.

The clipper diode D405 is switched off, when the base potential on T403 exceeds the reference voltage by 0,7 V, D404 being in its conducting state. Conversely the clipper diode D404 is switched off, when the base potential on T403 drops to a voltage, which exceeds half the reference voltage by 0,7 V. Hence a voltage range in the clipper circuit of half the value of the reference voltage has been achieved. The closed circuit voltage of the base of T403 is symmetrically placed in proportion to the clipping voltages. The transistor T401 has one further function. As the signal from the microphone transformer, which passes through C407 at very powerful speech levels gives such a great rectified voltage in a negative direction via the diode D402 and diode D401 conducts and decreases the base potential on T401, which again results in a decrease of the reference voltage to the clipper circuit. As the voltage range in the clipper level will be depending on the input level, this results in a constant output level independent of the input level.

From the AF-filter, which removes the signals, which are insignificant for the clarity, and possible harmonic signals from the clipper, the AF-signal is carried to the fixed voltage divider R424, R425 and R426. The AF-voltages from the aforementioned voltage divider are adapted to the various kinds of signals. The coupling-in of the proper voltage level will take place by means of switching diodes D406, D407 and D408 which are switched by the same control voltages as described in the section »SSB Generator«.

The test-tone-generator is a two-tone-generator operating at the frequencies 2400 Hz and 1200 Hz. The multivibrator, composed of T 408 and T409, is oscillating at 2400 Hz, and in the integrated circuit IC401 this frequency is divided to 1200 Hz, which can be observed on pin 8.

T407 functions as emitter follower, and the 1400 Hz signal is carried from here via R430 to the output transistor T406. The 1200 Hz signal is also carried to T406 via R429 and is mixed with the 2400 Hz signal. This mixed signal is supplied to the microphone transformer during tuning of the transmitter and owing to the presence of the AF-filter, sinewave shaped tones are secured, because the two-tone-generator itself delivers square wave voltages.

Alarm Signal Generator

This module has the task of modulating the transmitter with the standardized »Distress« signal. This signal is composed of two tones 1300 Hz and 2200 Hz. The switching between these two tones takes place at intervals of 0,25 sec. The transmission of this signal is automatically stopped after 45 sec. or manually before the expiration of said period.

The transistor T903 operates as a 1300 Hz oscillator and T902 as 2200 Hz oscillator. The switching period between the two tones is determined by T901, which is a unijunction transistor giving a shift pulse to the integrated circuit IC901, which operates as a FLIP-FLOP in such a manner that the output signals on pin 6 and pin 8 are shifting from +6V to 0V and back each time, when T901 gives a shift pulse.

In addition the voltage on pin 6 is +6V, when the voltage in pin 8 is 0V and vice-versa. In this way the gate diode D902 is brought into conduction, when pin 6 reaches the value 0V, which has the effect that D901 is cut off and only the 2200 Hz signal is led out to T904. At the next shift pulse the 1300 Hz signal is supplied to T904.
T904 is operating as power amplifier and is delivering the signal to both microtelephone and clipper.
Start and stop of the ALARM SIGNAL GENERATOR takes place by means of the silicon controlled rectifier D904 and the transistors T905 and T906.
When +24V is supplied to the print via function switch, T905 in series with R919 starts conducting and the ALARM SIGNAL GENERATOR operates.
The unijunction transistor T906 is operating as a 45 sec. generator i.e. after about 45 sec. T906 supplies a trigger pulse to D904, which hereby conducts and short-circuit the base lead of T905 to ground and this transistor cuts off the current to the ALARM SIGNAL GENERATOR. This conduction continues until the connection of the function switch is cancelled.
Silicon controlled rectifiers are of such a nature that a short trigger pulse to the gate makes the anode cathode substrate conduct continously, if the current in the anode substrate is greater than a given current, the so called holding current. Switching-off of the conduction state can only be achieved by decreasing the current to a value below that of the holding current through the anode cathode.

Crystal Section

This module has the task of generating the crystal frequencies, which, when mixed with the 600 kHz SSB-signal, gives the desired output frequency. The crystal frequencies are placed above the signal frequency so that the upper side-band is transmitted (USB), the 600 kHz signal being a lower side-band (LSB) signal.
The transistor T101 acts as PIERCE COLPITTS oscillator. The signal from the base of T101 is carried partly to the output amplifier T103 (emitter follower) and partly to the base of T102, which changes the DC operation point of T101, the oscillator signal being rectified in the base emitter substrate of T102. The rectified voltage is amplified in T102 and the operational point of the oscillator is influenced through R137 in such a manner that a constant amplitude of the oscillator signal is obtained.
The switching of the crystals is taking place electronically by means of the switching diodes D101 ..... D116.

Power Reduction — Drive Level

The POWER REDUCTION switch of SAILOR T122 has three positions with 6 dB interval (1/1, 1/4 and 1/16 of the PEP power), T-insertion loss pad structure.
The mentioned T insertion loss pad is loaded by the DRIVE LEVEL potentiometers P502 to P517. The aforementioned potentiometers are coupled in by means of the switch S501, which is ganged to the CHANNEL SELECTOR.
Power reduction and drive level are inserted between the SSB generator and the SSB input in the mixer.

Mixer

This module mixes the 600 kHz signal with the crystal frequency from the crystal section unit. The mixer is equipped with an integrated circuit IC501. This integrated circuit is a balanced modulator. The output is passed to the transformer TR501, which only delivers the sum- and difference-frequencies between the two input signals, which means that the 600 kHz SSB signal and the signal from the crystal section are suppres-

sed on the output. As the signal from the crystal section is placed in the range 2,2 MHz —4,8 MHz, great suppression is desirable, and a fine adjustment by means of P501 is provided for this.
The output of the mixer is tuned by means of tuned circuits, which are in common with the driver circuit.

Driver Section

The driver circuit comprising the tube PL83 receives the sum- and difference-frequencies between the crystal oscillator signal (2,2 MHz—4,8 MHz) and the SSB-signal of 600 kHz from the mixer. The transmitted signal, which is the difference-signal, is amplified in the driver. The driver is tuned both in the grid circuit and in the anode circuit and so undesired signals are eliminated.
The switches S501 in grid and anode circuits of the driver tube are ganged to the CHANNEL SELECTOR and switch-in tuned circuits (L502 to L532), so that for each channel there is a set of fixed tuned circuits. This ensures a stable signal to the output tubes, and thus optimum utilization can be achieved.
The capacitors C504 to C519 and C527 to C542 are used at signal frequencies below 2,6 MHz as specified under TUNING section C.
The signal for the PA-tubes is taken from the anode of PL83.

Power Amplifier

The power amplifier, which is composed of 3 dual tetrodes coupled in parallel operates as a linear amplifier in clase AB_1.
The anode load consists of a tuned pi-circuit. As the pi-circuit must operate at frequencies from 1,6 MHz to 4,2 MHz, the tuning capacitors and coils can be modified by means of programmed contacts ganged to the CHANNEL SELECTOR.
The output capacitor in this pi-circuit is split into sections in order to obtain proper load into the aerial, which again is tuned to resonance by means of the variometer L602 and possibly C627.
The coupling-in on the variometer steps, and the section-split output capacitor, are also controlled by the programmed contacts.

Service and Test Circuits

In the service and test circuits there are two meters, and by means of the TEST switch S703 and the meter M703 the essential operation voltages and currents are tested as described in the adjustment instructions.
By means of the service switch S702 and the meter M702 the AC grid voltage and AC anode voltage on the power tetrodes are tested. In position 1 the AC grid voltage (with G2 cut off) is tested for adjustment of the driver input- and output tuned circuits.
In position 2 the AC anode voltage is tested for tuning of the pi-circuit.
In position 3 the AC anode and the AC grid voltage are compared because they have a certain relationship at proper load.
In position 4 the grid voltage is tested for adjustment of DRIVE LEVEL.

Switch and Relay Circuit

The function switch S803 is one of the few controls to be used by the operator.
In position 1 S803 AF connects + 24V to the TEST-TONE-GENERATOR and the relay circuit, so that the transmitter is started via D801, and the switch connects the output of the TEST-TONE-GENERATOR to the microphone-input.

S803 AB brings the SSB GENERATOR and the AF AMPLIFIER into the A3J condition. S803 AB also connects the AF signal from the receiver to the microtelephone. In pos. 2, 3 and 4 S803 AB brings the SSB GENERATOR and the AF AMPLIFIER into A3J-, A3A- and A3H-condition respectively, just as it connects the AF signal from the receiver to the microtelephone. S803 AF connects voltages to the microtelephone, so that it may be energized, and so that the key can start and stop the transmitter by means of the relay circuit. At the same time the microphone is connected to the input of the AF AMPLIFIER.

In position 5 S803 AF connects + 24V to the ALARM SIGNAL GENERATOR and connects the AF output of this to the input of the AF-AMPLIFIER. (Microphone and key disconnected).

S803 AB brings the SSB GENERATOR and the AF AMPLIFIER into A3H operation and connects the AF signal from the ALARM SIGNAL GENERATOR to the microtelephone.

In this position (pos. 5) an acoustical test of the alarm signal is possible without operating the transmitter. The transmitter is not operated until the switch PRESS TO SEND ALARM S802 is activated and voltage is connected to relais RE702 circuit via D803. The relay circuit is self locking, one of the switching contacts of the relay RE702 being connected in parallel to S802, and alarm signal is transmitted for 45 sec., if S803 remains in pos. 5.

The relay circuit, which operates the transmitter, is activated in different ways as described. It is a common feature for all positions, that + 24 V is connected to the coil of RE702, so that this relay is activated.

On switching, contacts supply voltage to the starting relay in the POWER UNIT I (if the SUPPLY SWITCH I is in position ON) and at the same time voltage is supplied to the relay plug J704, which is placed at the rear of the transmitter. The same switching contact activates the coil in relay RE701, which switches off the receiver in position SIMPLEX.

A set of contacts in relay RE702 are used for the switching off in position SIMPLEX of the connection to the receiver loudspeaker and microtelephone during transmission. The contact of relay RE701 switches off the power to the receiver in position SIMPLEX during transmission.

Power Unit II

This unit supplies + 18 V to all the low level circuits and + 250 V screen grid voltage to the output tubes. These voltages are stabilized. This unit is switched on by POWER UNIT I.

The transistors T1001, T1002 and T1003 provides the converter with stabilized voltage. The converter is fitted with transistors T1004, T1005 and transformers TR1001 and TR1002. The stabilization of + 18 V and + 250 V is achieved by the stabilization of the supply-voltage.

TR1001 is the transformer, which determines the oscillation and TR1002 is the power transformer.

Power Unit I

24 V DC Converter

This unit supplies the SAILOR T122 with a 1000 V anode supply and a stabilized negative grid voltage.

The DC converter is equipped with 2 power transistors T1101 and T1102 in a multivibrator configuration. The transistors are driven by the transformer TR1102 and transformer TR1101 is the power transformer.

The diodes D1106 and D1107 protect the transistors against base emitter breakdown voltages and the neonbulb G1101 protect the power transistors aginst voltage spikes from the supply line.
The 1000 V supply is made up of 4x250 V rectifier circuits in series.
A ÷ 85V is derived from a stabilizer tube driven from a rectifier circuit from one of the secondary windings of TR1101.
The relay RE1101 is activated by the transmitter relay circuit, which supplies 24V to the converter circuit.
Relay RE1102 actived as RE1101 starts POWER UNIT II with a small time delay to ensure anode and grid voltage before screen grid voltage in the power amplifier.
The DC converter is equipped with noise suppression circuit to prevent receiver noise pick-up.

Power Unit I

220V/110V AC

This unit supplies 24 V DC to SAILOR T122 for the operation of POWER UNIT II and the filament circuit. In addition the unit supplies negative grid bias to the POWER AMPLIFIER.
In position stand-by the relay RE1202 is activated, which again provides voltage on the external 1000 V power supply. Thus, in position stand-by, all voltages are alert except 18 V for the small-signal circuits and 250 V for the sceen grid of the PA-tubes. These voltages will be delivered from POWER UNIT II.
In position ON the relay RE1201 is activated by pressing the microtelephone key, which again starts POWER UNIT II.
In order to make the print semi-enclosed, the supplied AC voltages is switched off by the micro-switches S1201 and S1202, which switch off the voltage, when the fuse cover is removed.

Automatic 2182 kHz Distress

When the CHANNEL SELECTOR is set into position DISTRESS 2182 kHz, some internal coupling take place, so that the transmitter will be ready for operation without any further settings.
The transistor T301 in the SSB GENERATOR is, during normal operation, constantly conducting and leads + 18 V out to S803 to be used for control voltages to the shift diodes in the SSB GENERATOR and AUDIO AMPLIFIER.
When the CHANNEL SELECTOR is in position 2182, + 18 V is supplied to the base of T301 through the diode D303, and T301 blocks. From the diode D302 a control voltage is supplied to SSB GENERATOR and AUDIO AMPLIFIER, so that they will be in position A3H irrespective of the position of the function switch.
The programmed contacts engage a preadjusted variometer, so that the aerial tuning knob will be inoperative.

Instructions for mounting T122 transmitter together with R104 receiver and speaker unit

The transmitter case is fastened to the bulkhead in the normal manner utilising the four mounting lugs provided on the back of the case. Take the receiver out of its case and remove the plastic grommets from the two holes provided on the side of the case (channel selection end).

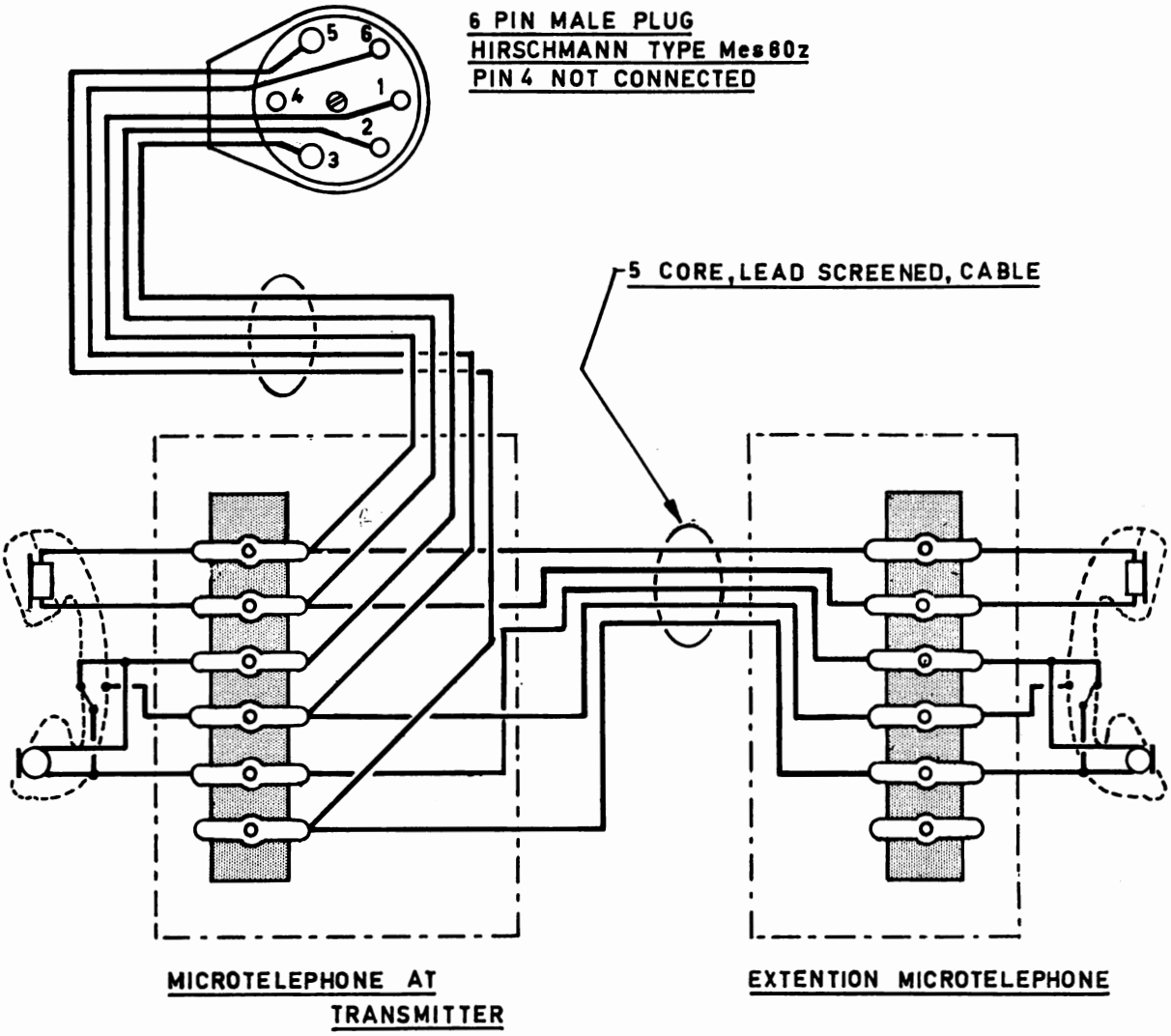
Take off the loudspeaker front panel and remove the plastic grommets from the 2 holes provided on the right hand side of the speaker case. The Receiver case can now be fastened to the loudspeaker case with the screw screws for this are provided in the installation kit.

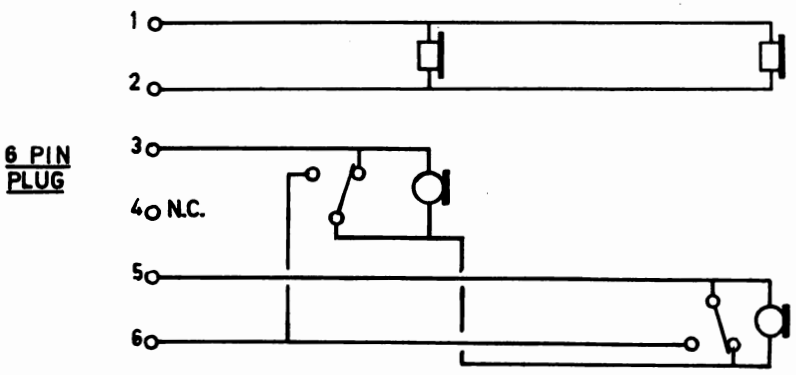
Fasten the two blanking pieces to the underside of the transmitter case, screens for this are provided in the installation kit.

N.B. The blanking pieces are not interchangable and should be fitted with the flanges facing inwards. Next fit the two T' shaped mounting brackets to the blanking pieces; again the flanges face inwardly and the screws and nuts are provided in the installation kit.

The receiver case together with the loudspeaker case can now be slid into position onto the arms of the T' brackets.

Replace the recceiver and loudspeaker into their respective cases and screw in the small machine screws that lock them onto the T' brackets.





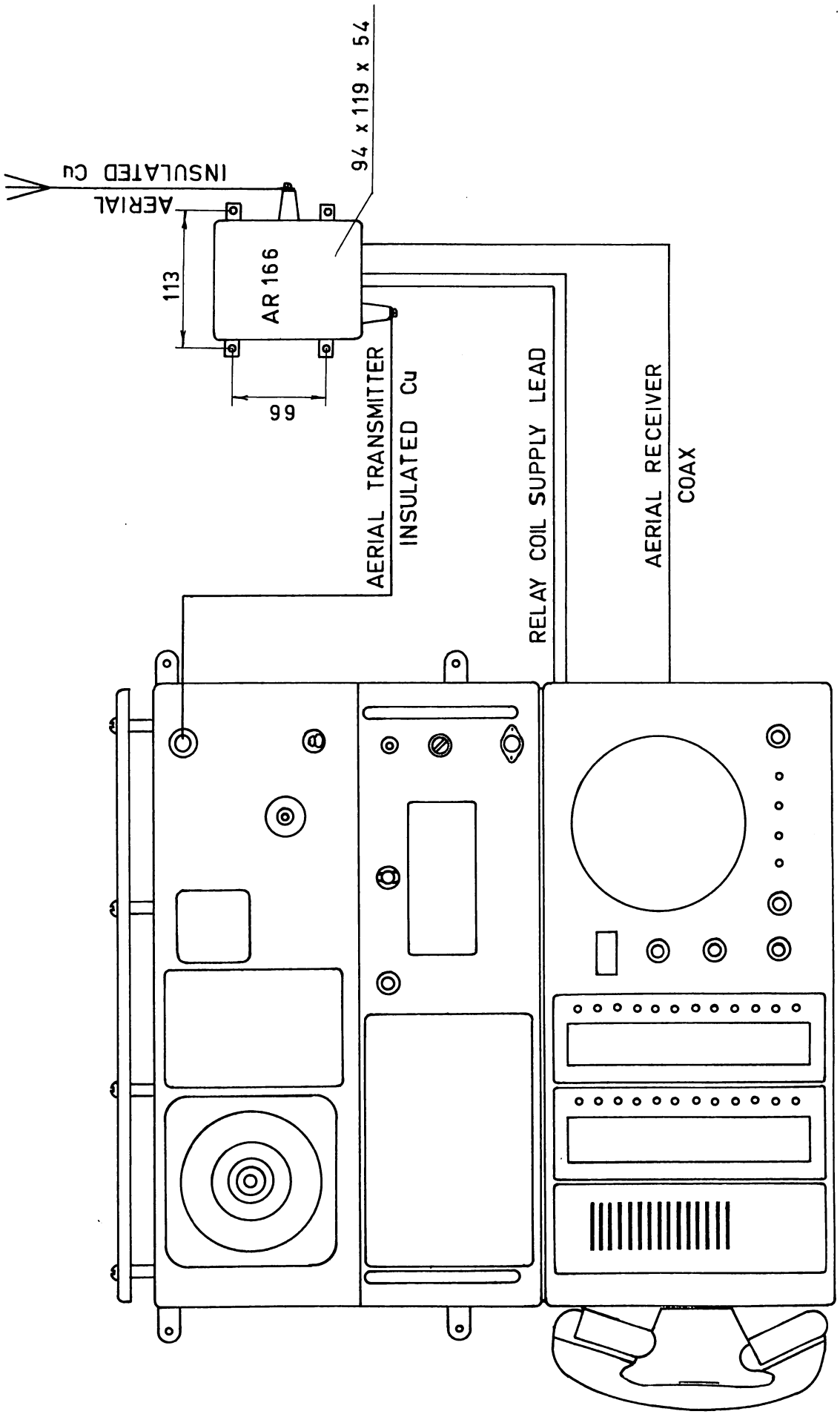
Instructions for Fitting additional Microtelephone position to Transmitter

(a) Remove the microtelephone assemble from the transmitter.

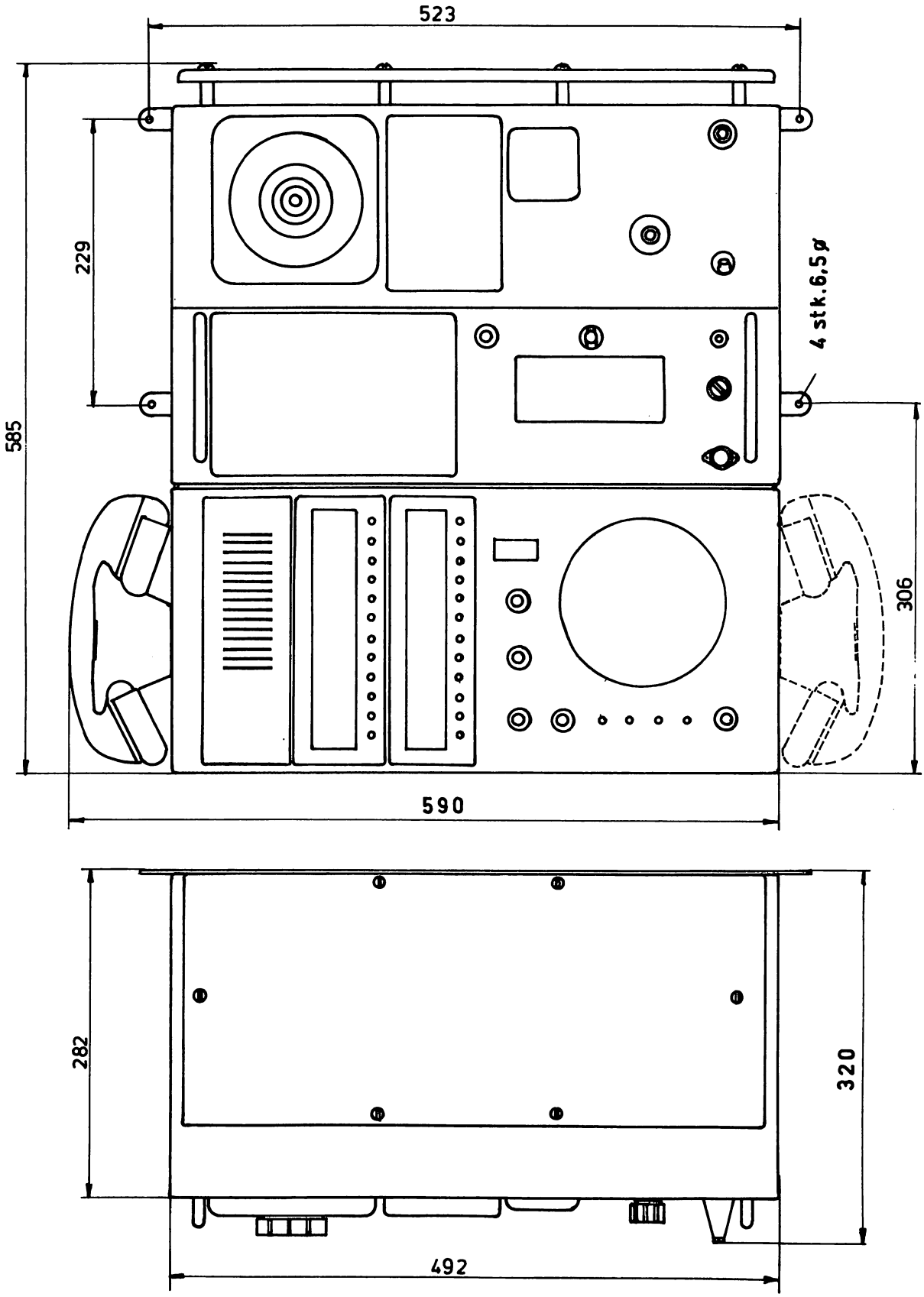
(b) Fix the new telephone rest-box to the transmitter, after wiring as shown in the diagram.

(c) Run the extention cable (5 core, lead screened) to the extention position.

(d) Wire to the extention rest-box as shown in the diagram and fix box in position.



One aerial mounting instruction
aerial relay ar 166 simplex only



Overall dimensions T 122, R 103, R 106

CRYSTAL OSCILLATOR T 122...

Symbol	*Description*				*Manufact.*	
R 123	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 124	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
R 125	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 126	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
R 127	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 128	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
R 129	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 130	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
R 131	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 132	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
R 133	Resistor	22	K ohm	0,33W	Philips	2322 101 33223
R 134	Resistor	1	K ohm	0,33W	Philips	2322 101 33102
R 135	Resistor	15	K ohm	0,33W	Philips	2322 101 33159
R 136	Resistor	12	K ohm	0,33W	Philips	2322 101 33123
R 137	Resistor	22	K ohm	0,33W	Philips	2322 101 33223
R 138	Resistor	18	K ohm	0,33W	Philips	2322 101 33183
R 139	Resistor	10	K ohm	0,33W	Philips	2322 101 33103
R 140	Resistor	39	K ohm	0,33W	Philips	2322 101 33393
R 141	Resistor	1	K ohm	0,33W	Philips	2322 101 33102
R 142	Resistor	33	K ohm	0,33W	Philips	2322 101 33339
R 143	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
T 101	Transistor				Siemens	BC 147 A
T 102	Transistor				Siemens	BC 147 A
T 103	Transistor				Siemens	BC 147 A

FILTER SECTION CRYSTAL OSCILLATOR T122...

Symbol	*Description*			*Manufact.*	
C 201	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 202	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 203	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 204	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 205	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 206	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 207	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 208	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 209	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 210	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 211	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 212	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 213	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 214	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 215	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 216	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 217	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 218	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
C 219	Capacitor polyester	0,1 uF	250V	Efco	PMT (short)
R 201	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 202	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 203	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 204	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 205	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 206	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 207	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 208	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 209	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 210	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 211	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 212	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 213	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 214	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 215	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 216	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 217	Resistor	560 ohm	0,33W	Philips	2322 101 33561
R 218	Resistor	330 ohm	0,33W	Philips	2322 101 33331
R 219	Resistor	330 ohm	0,33W	Philips	2322 101 33331
TR201	Wide Band transformer			S.P.	TL 074

SSB-GENERATOR T 122...

Symbol	Description			Manufact.	
C 301	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 302	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 303	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 304	Not used				
C 305	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 306	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 307	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 308	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 309	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 310	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 311	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 312	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 313	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 314					
- 16	Not used				
C 317	Capacitor, polystyrene	3300pF ±2%	125V	Philips	2222 425 33302
C 318	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 319	Capacitor, ceramic	100 pF ±5%	NP0	Ferroperm	9/0112,3 isol.
C 320	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 321	Capacitor, polystyrene	1000pF ±2%	125V	Philips	2222 425 31002
C 322	Capacitor, polystyrene	270 pF ±2%	125V	Philips	2222 425 32701
C 323	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 324	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 325	Capacitor, polystyrene	1000pF ±2%	125V	Philips	2222 425 31002
C 326	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 327	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 328	Capacitor, ceramic	27 pF ±5%	NP0	Ferroperm	9/0112,3 isol.
C 329	Capacitor,	0,01uF ±10%	250V	Philips	2222 342 45103
C 330	Capacitor,	0,01uF ±10%	250V	Philips	2222 342 45103
C 331	Capacitor, polystyrene	1000pF ±2%	125V	Philips	2222 425 31002
C 332	Capacitor, trimming	7 - 50 pF	NP0	Dau	Teflon 107-56S
C 333	Capacitor, polystyrene	1,5 nF ±2%	125V	Philips	2222 425 31502
C 334	Capacitor, polystyrene	3300pF ±2%	125V	Philips	2222 425 33302
C 335	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 336	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 337	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 338	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 339	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 340	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 341	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)

SSB-GENERATOR T122...

Symbol	*Description*			*Manufact.*	
C 342	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 343	Capacitor, polystyrene	1000pF ±2%	125V	Philips	2222 425 31002
C 344	Capacitor, polyester	0,1 uF	250v	Efco	PMT (short)
C 345	Capacitor, polystyrene	1000pF ±2%	125V	Philips	2222 425 31002
C 346	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 347	Capacitor, electrolytic	100uF	25V	Siemens	B41283-A5107-T
C 348	Capacitor, tantal	4,7 uF	35V	Ero	ETP-2
D 301	Not used				
D 302	Diode			Philips	BAX 16
D 303	Diode			Philips	BAX 16
D 304	Diode			Philips	BA 182
D 305	Diode			Philips	BA 182
D 306	Diode			Philips	Ba 182
D 307	Not used				
D 308	Diode			Philips	BAX 16
D 309	Diode			Philips	BAX 16
D 310	Not used				
FL301	LSB crystalfilter	600 kHz		N.D.K.	YF-600
IC301	Integrated circuit			RCA	CA 3019
L 301	Oscillator coil			S.P.	TL 025
L 302	Buffer coil			S.P.	TL 020
L 303	RF choke	1 mHy		S.P.	TL 076
L 304	Bal modulator coil			S.P.	TL 026
L 305	Output coil xtal filter			S.P.	TL 013
L 306	Driver coil			S.P.	TL 013
L 307	RF choke	1 mHy		Prahn	1580/9K
L 308	Output coil	600 kHz		S.P.	TL 023
L 309	RF choke	2,5 mHy		Prahn	1580/10K
L 310	RF choke	1 mHy		Prahn	1580/9K
P 301	Potentiometer	100 K ohm		Philips	2322 410 43311
P 302	Not used				
P 303	Not used				

SSB-GENERATOR T122...

Symbol	Description			Manufact.	
P 304	Potentiometer	100 ohm		Philips	2322 410 43311
P 305	Potentiometer	2,2K ohm		Philips	2322 410 43305
R 301	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 302	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 303	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 304	Not used				
R 305	Resistor	33 K ohm	0,33W	Philips	2322 101 33333
R 306	Resistor	2,2K ohm	0,33W	Philips	2322 101 33222
R 307	Resistor	2,2K ohm	0,33W	Philips	2322 101 33222
R 308	Resistor	2,2K ohm	0,33W	Philips	2322 101 33222
R 309	Resistor	330 ohm	0,33W	Philips	2322 101 33331
R 310	Resistor	820 ohm	0,33W	Philips	2322 101 33821
R 311	Resistor	22 K ohm	0,33W	Philips	2322 101 33223
R 312	Resistor	47 K ohm	0,33W	Philips	2322 101 33473
R 313	Resistor	47 K ohm	0,33W	Philips	2322 101 33473
R 314	Resistor	2,2K ohm	0,33W	Philips	2322 101 33222
R 315	Resistor	47 K ohm	0,33W	Philips	2322 101 33473
R 316	Resistor	18 K ohm	0,33W	Philips	2322 101 33183
R 317	Resistor	100 ohm	0,33W	Philips	2322 101 33101
R 318	Resistor	56 K ohm	0,33W	Philips	2322 101 33563
R 319	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 320	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 321					
- 28	Not used				
R 329	Not used				
R 330	Resistor	12 K ohm	0,33W	Philips	2322 101 33123
R 331	Not used				
R 332	Resistor	6,8K ohm	0,33W	Philips	2322 101 33682
R 333	Resistor	2,2K ohm	0,33W	Philips	2322 101 33222
R 334	Resistor	33 ohm	0,33W	Philips	2322 101 33339
R 335	Not used				
R 336	Resistor	4,7K ohm	0,33W	Philips	2322 101 33472
R 337	Resistor	12 K ohm	0,33W	Philips	2322 101 33123
R 338	Resistor	68 ohm	0,33W	Philips	2322 101 33689
R 339	Resistor	150 ohm	0,33W	Philips	2322 101 33151
R 340	Not used				
R 341	Resistor	330 ohm	0,33W	Philips	2322 101 33331
R 342	Resistor	47 ohm	0,33W	Philips	2322 101 33479
R 343	Not used				

SSB-GENERATOR T122...

Symbol	*Description*			*Manufact.*	
R 344	Resistor	47 ohm	0,33W	Philips	2322 101 33479
R 345	Resistor	330 ohm	0,33W	Philips	2322 101 33331
R 346	Resistor	1,5K ohm	0,33W	Philips	2322 101 33152
R 347	Resistor	68 K ohm	0,33W	Philips	2322 101 33683
R 348	Resistor	22 K ohm	0,33W	Philips	2322 101 33223
R 349	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 350	Resistor	470 ohm	0,33W	Philips	2322 101 33471
R 351	Resistor	3,3K ohm	0,33W	Philips	2322 101 33332
R 352	Resistor	1,5K ohm	0,33W	Philips	2322 101 33152
R 353	Not used				
R 354	Resistor	1,5K ohm	0,33W	Philips	2322 101 33152
R 355	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 356	Resistor	10 K ohm	0,33W	Philips	2322 101 33103
R 357	Resistor	68 K ohm	0,33W	Philips	2322 101 33683
R 358	Not used				
R 359	Not used				
R 360	Not used				
R 361	Not used				
R 362	Resistor	330 ohm	0,33W	Philips	2322 101 33331
R 363	Resistor	100 ohm	0,33W	Philips	2322 101 33101
R 364	Resistor	680 ohm	0,33W	Philips	2322 101 33681
R 365	Resistor	2,2K ohm	0,33W	Philips	2322 101 33222
R 366	Resistor	5,6K ohm	0,33W	Philips	2322 101 33562
R 367	Resistor	180 ohm	0,33W	Philips	2322 212 13181
T 301	Transistor			Siemens	BC 157-A
T 302	Transistor			Siemens	BC 147-A
T 303	Not used				
T 304	Not used				
T 305	Transistor			Siemens	BC 147-A
T 306	Transistor			Siemens	BC 147-A
T 307	Transistor			Siemens	BC 147-A
T 308	Not used				
T 309	Transistor			Siemens	BC 147-A
T 310	Transistor			Philips	BFW 17
X 301	Crystal	600 kHz		K.V.G.	HC6-U

MICROPHONE AMPLIFIER AND CLIPPER T 122...

Symbol	Description			Manufact.	
C 401	Capacitor, tantal	4,7 uF	35V	Ero	ETP-2
C 402	Capacitor, electrolytic	470 uF	35V	Siemens	B41010-A7-477-Z
C 403	Capacitor, polyester	0,01uF	250V	Philips	2222 342 45103
C 404	Capacitor, tantal	4,7 uF	35V	Ero	ETP-2
C 405	Capacitor, tantal	4,7 uF	35V	Ero	ETP-2
C 406	Capacitor, tantal	4,7 uF	35V	Ero	ETP-2
C 407	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 408	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 409	Capacitor, tantal	22 uF	16V	Ero	ETP-3
C 410	Capacitor, tantal	10 uF	25V	Ero	ETP-3
C 411	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 412	Capacitor, tantal	3,3 uF	35V	Ero	ETP-3
C 413	Capacitor, polyester	0,047 uF	250V	Philips	2222 342 45473
C 414	Not used				
C 415	Capacitor, polyester	0,047 uF	250V	Philips	2222 342 45473
C 416	Not used				
C 417	Capacitor, tantal	4,7 uF	35V	Ero	ETP-2
C 418	Capacitor, tantal	4,7 uF	35V	Ero	ETP-2
C 419	Capacitor, tantal	4,7 uF	35V	Ero	ETP-2
C 420	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 421	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 422	Capacitor, tantal	4,7 uF	35V	Ero	ETP-2
C 423	Capacitor, tantal	10 uF	25V	Ero	ETP-3
D 401	Diode			Philips	BAX 16
D 402	Diode			Philips	BAX 16
D 403	Diode			Philips	BAX 16
D 404	Diode			Philips	BAX 16
D 405	Diode			Philips	BAX 16
D 406	Diode			Philips	BA 182
D 407	Diode			Philips	BA 182
D 408	Diode			Philips	BA 182
D 409	Diode			Philips	BAX 16
D 410	Diode, Zener	5,1 V	2W	Semcor	LMZ 5,1A
L 401	AF coil			S.P.	TL 018
IC401	Integtated circuit			Philips/NS	FJJ 111/SN7472N

MICROPHONE AMPLIFIER AND CLIPPER T122...

Symbol	Description			Manufact.	
P 401	Potentiometer	100 K ohm		Philips	2322 410 4331
P 402	Potentiometer	470 ohm		Philips	2322 410 43303
P 403	Potentiometer	47 K ohm		Philips	2322 410 43309
R 401	Resistor	220 ohm	1,15W	Philips	2322 214 13221
R 402	Resistor	220 ohm	1,15W	Philips	2322 214 13221
R 403	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 404	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 405	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 406	Resistor	15 K ohm	0,33W	Philips	2322 101 33153
R 407	Resistor	2,2 K ohm	0,33W	Philips	2322 101 33222
R 408	Resistor	2,2 K ohm	0,33W	Philips	2322 101 33222
R 409	Resistor	2,2 K ohm	0,33W	Philips	2322 101 33222
R 410	Resistor	150 K ohm	0,33W	Philips	2322 101 33154
R 411	Resistor	82 K ohm	0,33W	Philips	2322 101 33823
R 412	Resistor	82 K ohm	0,33W	Philips	2322 101 33823
R 413	Resistor	680 ohm	0,33W	Philips	2322 101 33561
R 414	Resistor	22 K ohm	0,33W	Philips	2322 101 33223
R 415	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 416	Resistor	220 K ohm	0,33W	Philips	2322 101 33224
R 417	Resistor	22 K ohm	0,33W	Philips	2322 101 33223
R 418	Resistor	47 K ohm	0,33W	Philips	2322 101 33473
R 419	Resistor	47 K ohm	0,33W	Philips	2322 101 33473
R 420	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 421	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 422	Resistor	2,2 K ohm	0,33W	Philips	2322 101 33222
R 423	Resistor	3,9 K ohm	0,33W	Philips	2322 101 33392
R 424	Resistor	390 ohm	0,33W	Philips	2322 101 33391
R 425	Resistor	270 ohm	0,33W	Philips	2322 101 33271
R 426	Resistor	120 ohm	0,33W	Philips	2322 101 33121
R 427	Resistor	82 ohm	0,33W	Philips	2322 101 33829
R 428	Resistor	560 ohm	0,33W	Philips	2322 101 33561
R 429	Resistor	4,7 K ohm	0,33W	Philips	2322 101 33472
R 430	Resistor	4,7 K ohm	0,33W	Philips	2322 101 33472
R 431	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 432	Resistor	2,2 K ohm	0,33W	Philips	2322 101 33222
R 433	Resistor	2,2 K ohm	0,33W	Philips	2322 101 33222
R 434	Resistor	3,9 K ohm	0,33W	Philips	2322 101 33392

MICROPHONE AMPLIFIER AND CLIPPER T 122...

Symbol	*Description*	*Manufact.*	
R 435	Resistor 3,9 K ohm 0,33W	Philips	2322 101 33392
R 436	Resistor 1 K ohm 0,33W	Philips	2322 101 33102
T 401	Transistor	Siemens	BC 157 - A
T 402	Transistor	Siemens	BC 147 - A
T 403	Transistor	Siemens	BC 147 - A
T 404	Transistor	Siemens	BC 147 - A
T 405	Transistor	Siemens	BC 147 - A
T 406	Transistor	Philips	BD 138
T 407	Transistor	Siemens	BC 157 - A
T 408	Transistor	Siemens	BC 147 - A
T 409	Transistor	Siemens	BC 147 - A
TR401	Microphon-trafo 50 ohm-100 K ohm	Tradania	1812

BAL. MIXER AND DRIVER T 122...

Symbol	Description				Manufact.	
C 501	Capacitor, polystyrene	2200pF	±2%	125V	Philips	2222 425 32202
C 502	Capacitor, polystyrene	1500pF	±2%	125V	Philips	2222 425 31502
C 503	Capacitor, polyester	0,1 uF		250V	Efco	PMT (short)
C 504	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 505	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 506	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 507	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 508	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 509	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 510	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 511	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 512	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 513	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 514	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 515	Capacitor, ceramic	220pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 516	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 517	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 518	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 519	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 520	Capacitor, electrolytic	47 uF		350V	Siemens	B43050-A4476-T
C 521	Capacitor, polyester	0,1 uF		250V	Efco	PMT (short)
C 522	Capacitor, polyester	0,1 uF		250V	Efco	PMT (short)
C 523	Capacitor, ceramic	33 pF		400V	Ferroperm	9/0112,3
C 524	Not used					
C 525	Capacitor, polyester	0,1 uF		250V	Efco	PMT (short)
C 526	Capacitor, electrolytic	47 uF		350V	Siemens	B43050-B4476-T
C 527	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 528	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 529	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 530	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 531	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 532	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 533	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 534	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 535	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 536	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 537	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 538	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 539	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.
C 540	Capacitor, ceramic	220 pF	±5%	400V	Ferroperm	9/0112,3 insul.

BAL. MIXER DRIVER T 122....

Symbol	Description			Manufact.	
C 541	Capacitor, ceramic	220 pF ±5%	400V	Ferroperm	9/0112,3 insul.
C 542	Capacitor, ceramic	220 pF ±5%	400V	Ferroperm	9/0112,3 insul.
C 543	Capacitor, ceramic	4700pF	400V	Ferroperm	9/0138,9
C 544	Capacitor, ceramic	4700pF	400V	Ferroperm	9/0138,9
C 545	Capacitor, ceramic	5000pF	500V	Rosenthal	R4000/5000 DG-DS 4x1
C 546	Capacitor, polyester	0,1 uF	400V	Philips	2222 341 59104
C 547	Capacitor, ceramic	5000pF	500V	Rosenthal	R4000/5000 DB-DS 4x1
C 548	Capacitor, ceramic	5000pF	500V	Rosenthal	R4000/5000 DB-DS 4x1
C 549	Capacitor, glimmer	470 pF ±10%	500V	Jahre	4914-4/D470/10/500
C 550	Capacitor, polyester	0,1 uF	400V	Philips	2222 341 59104
C 551	Capacitor, polyester	0,1 uF	250V	Efco	PMT (short)
C 552	Capacitor, ceramic	4700pF	400V	Ferroperm	9/0138,9
C 553	Capacitor, ceramic	10 pF	400V	Ferroperm	9/0112,9
D 501	Zenerdiode	7,5 V	2W	Semcor	LMZ 7,5 A
IC501	Integrated circuit			Motorola	MC 1496 G/1596G
L 501	IF coil			S.P.	TL 019
L 502	Driver coil			S.P.	TL 024
to517					
L 518	Driver coil			S.P.	TL 077
to533					
L 534	RF coil	2,5 mH		Prahn	1580/10K
L 535	RF coil	2,5 mH		Prahn	1580/10K
L 536	RF coil	250 uH		Prahn	1580/32K
L 537	RF coil	250 uH		Prahn	1580/32K
R 501	Resistor	56 ohm	0,33W	Philips	2322 101 33569
R 502	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 503	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 504	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 505	Resistor	100 ohm	0,5 W	Philips	2322 212 13101
R 506	Resistor	1 K ohm	0,33W	Philips	2322 101 33102
R 507	Resistor	470 ohm	0,33W	Philips	2322 101 33471
R 508	Resistor	2,7K ohm	0,33W	Philips	2322 101 33272
R 509	Resistor	560 ohm	0,33W	Philips	2322 101 33561
R 510	Resistor	22 K ohm	0,33W	Philips	2322 101 33223
R 511	Resistor	100 ohm	0,33W	Philips	2322 101 33101

BAL. MIXER AND DRIVER T 122...

Symbol	*Description*			*Manufact.*	
R 512	Resistor	100 ohm	0,5 W	Philips	2322 212 13101
R 513	Resistor	12 K ohm	1,15W	Philips	2322 214 13123
R 514	Resistor	100 ohm	0,33W	Philips	2322 101 13101
R 515	Resistor	1,5 K ohm	5,5 W	Philips	2322 320 32152
R 516	Resistor	12 ohm	5,5 W	Philips	2322 320 31129
R 517	Resistor	12 ohm	5,5 W	Philips	2322 320 31129
R 518	Resistor	22 ohm	0,33W	Philips	2322 101 33229
R 519	Resistor	39 ohm	0,33W	Philips	2322 101 33399
P 501	Potentiometer	100 ohm		Philips	2322 410 43301
P 502	Potentiometer	100 ohm		Philips	2322 410 43301
P 503	Potentiometer.	100 ohm		Philips	2322 410 43301
P 504	Potentiometer	100 ohm		Philips	2322 410 43301
P 505	Potentiometer	100 ohm		Philips	2322 410 43301
P 506	Potentiometer	100 ohm		Philips	2322 410 43301
P 507	Potentiometer	100 ohm		Philips	2322 410 43301
P 508	Potentiometer	100 ohm		Philips	2322 410 43301
P 509	Potentiometer	100 ohm		Philips	2322 410 43301
P 510	Potentiometer	100 ohm		Philips	2322 410 43301
P 511	Potentiometer	100 ohm		Philips	2322 410 43301
P 512	Potentiometer	100 ohm		Philips	2322 410 43301
P 513	Potentiometer	100 ohm		Philips	2322 410 43301
P 514	Potentiometer	100 ohm		Philips	2322 410 43301
P 515	Potentiometer	100 ohm		Philips	2322 410 43301
P 516	Potentiometer	100 ohm		Philips	2322 410 43301
P 517	Potentiometer	100 ohm		Philips	2322 410 43301
S 501	Crystal switch	0160		M.E.C.	SP OM008/OM009
TR501	Mixer trafo			S.P.	TL 073
V 501	Driver tube			Philips	PL 83

POWER AMPLIFIER T 122...

Symbol	Description				Manufact.	
C 601	Not used					
C 602	Not used					
C 603	Not used					
C 604	Capacitor, stack	Mica			S.P.	
C 605	Capacitor, stack	Mica			S.P.	
C 606	Capacitor, stack	Mica			S.P.	
C 607	Capacitor, stack	Mixa			S.P.	
C 608	Capacitor, stack	Mica			S.P.	
C 609	Capacitor, ceramic		5% 270pF	250V	Ferroperm	9/0121,3 insul.
C 610	Capacitor, ceramic	NPO	5% 10 pF	1000V	Ferroperm	9/0112,3 insul.
C 611	Capacitor, ceramic	NPO	5% 10 pF	1000V	Ferroperm	9/0112,3 insul.
C 612	Capacitor, stack	Mica			S.P.	
C 613	Capacitor, stack	Mica			S.P.	
C 614	Capacitor, stack	Mica			S.P.	
C 615	Capacitor, stack	Mica			S.P.	
C 616	Capacitor, stack	Mica			S.P.	
C 617	Capacitor, stack	Mica			S.P.	
C 618	Capacitor, stack	Mica			S.P.	
C 619	Capacitor, stack	Mica			S.P.	
C 620	Capacitor, stack	Mica			S.P.	
C 621	Capacitor, stack	Mica			S.P.	
C 622	Capacitor, stack	Mica			S.P.	
C 623	Capacitor, stack	Mica			S.P.	
C 624	Capacitor, stack	Mica			S.P.	
C 625	Capacitor, stack	Mica			S.P.	
C 626	Capacitor, stack	Mica			S.P.	
C 627	Capacitor, ceramic		20% 300pF	3 KV	Rosenthal	RA 16x40 Rosalt 42
C 628	Not used					
- 630	Not used					
C 631	Capacitor, ceramic		4700pF	400V	Ferroperm	9/0138,9 insul.
C 632	Capacitor, ceramic		4700pF	400V	Ferroperm	9/0138,9 insul.
C 633	Capacitor, ceramic		4700pF	400V	Ferroperm	9/0138,9 insul.
C 634	Capacitor, ceramic	NPO	56pF	400V	Ferroperm	9/0112,3 insul.
C 635	Capacitor, ceramic	NPO	56pF	400V	Ferroperm	9/0112,3 insul.
C 636	Capacitor, ceramic		4700pF	400V	Ferroperm	9/0138,9 insul.
C 637	Capacitor, ceramic		4700pF	400V	Ferroperm	9/0138,9 insul.
C 638	Capacitor, ceramic		4700pF	400V	Ferroperm	9/0138,9 insul.
C 639	Capacitor, polyester		0,1uF	250V	Efco	PMT (short)
C 640	Capacitor, polystyrene		1000pF	125V	Philips	2222 425 31002
C 641	Capacitor, ceramic		5000pF	500V	Rosenthal	R4000/5000 DG-DS 4x16

POWER AMPLIFIER T 122...

Symbol	Description				Manufact.	
C 642	Capacitor, polyester	0,1	uF	250V	Efco	PMT (short)
C 643	Capacitor, polystyrene	1000	pF	125V	Philips	2222 425 31002
C 644	Capacitor, ceramic	5000	pF	500V	Rosenthal	R4000/5000 DG-DS 4x16
C 645	Capacitor, ceramic	5000	pF	500V	Rosenthal	R4000/5000 DG-DS 4x16
C 646	Capacitor, ceramic	5000	pF	500V	Rosenthal	R4000/5000 DG-DS 4x16
C 647	Capacitor, polyester	0,1	uF	250V	Efco	PMT (short)
C 648	Capacitor, polyester	0,1	uF	250V	Efco	PMT (short)
C 649	Capacitor, polyester	0,1	uF	250V	Efco	PMT (short)
C 650	Capacitor, polyester	0,1	uF	250V	Efco	PMT (short)
C 651	Capacitor, polyester	0,1	uF	250V	Efco	PMT (short)
C 652	Capacitor, polyester	0,1	uF	250V	Efco	PMT (short)
C 653	Capacitor, ceramic	4700	pF	400V	Ferroperm	9/0138,9 insul.
C 654	Capacitor, polyester	0,1	uF	250V	Efco	PMT (short)
C 655	Capacitor, polyester	0,1	uF	250V	Efco	PMT (short)
C 656	Capacitor, polyester	0,1	uF	250V	Efco	PMT (short)
C 657	Capacitor, ceramic	4700	pF	400V	Ferroperm	9/0138,9 insul.
C 658	Capacitor, polyester	0,1	uF	250V	Efco	PMT (short)
C 659	Capacitor, polyester	0,1	uF	250V	Efco	PMT (short)
C 660	Capacitor, ceramic	4700	pF	400V	Ferroperm	9/0138,9 insul.
C 661	Capacitor, ceramic	4700	pF	5KV	Ferroperm	9/0138,9 insul.
C 662	Capacitor, polyester	2,2	uF	100V	Philips	2222 342 24225
C 663	Capacitor, polyester	0,1	uF	250V	Efco	PMT (short)
C 664	Capacitor, polyester	0,1	uF	250V	Efco	PMT (short)
D 601	Diode				Philips	BAX 16
D 602	Diode				Philips	BAX 16
L 601	PA coil				S.P.	
L 602	Aerial coil				S.P.	
L 603	RF choke	1	mH		Prahn	1580/9K
L 604	RF choke	10	uH		Prahn	1580/21K
L 605	RF choke	10	uH		Prahn	1580/21K
L 606	Parasit coil				S.P.	TL 070
L 607	Parasit coil				S.P.	TL 070
L 608	Parasit coil				S.P.	TL 070
L 609	Parasit coil				S.P.	TL 070
L 610	Parasit coil				S.P.	TL 070
L 611	Parasit coil				S.P.	TL 070
L 612	R.F.C. coil				S.P.	TL 071
L 614	RF choke	250	uH		Prahn	1580/32K

POWER AMPLIFIER T 122...

Symbol	*Description*			*Manufact.*	
P 601	Potentiometer 20%	10 K ohm	0,5W	Ruwido	S 650 C
P 602	Potentiometer 20%	10 K ohm	0,5W	Ruwido	S 650 C
P 603	Potentiometer 20%	10 K ohm	0,5W	Ruwido	S 650 C
R 601	Resistor	15 K ohm	0,33W	Philips	2322 101 33153
R 602	Resistor	5,6 K ohm	0,33W	Philips	2322 101 33562
R 603	Resistor	10 K ohm	0,33W	Philips	2322 101 33103
R 604	Resistor	15 K ohm	0,33W	Philips	2322 101 33153
R 605	Resistor	5,6 K ohm	0,33W	Philips	2322 101 33562
R 606	Resistor	10 K ohm	0,33W	Philips	2322 101 33103
R 607	Resistor	6,8 K ohm	0,33W	Philips	2322 101 33682
R 608	Resistor	6,8 K ohm	0,33W	Philips	2322 101 33682
R 609	Resistor	6,8 K ohm	0,33W	Philips	2322 101 33682
R 610	Resistor	6,8 K ohm	0,5 W	Philips	2322 212 13682
R 612	Resistor	56 ohm	0,5W	Philips	2322 212 13569
R 613	Resistor	270 ohm	0,33W	Philips	2322 101 33271
R 614	Resistor 2%	1,5 ohm	1 W	Vitrohm	253-0
R 615	Resistor	56 ohm	0,5 W	Philips	2322 212 13569
R 616	Resistor	100 ohm	0,5 W	Philips	2322 212 13101
R 617	Resistor	56 ohm	0,5 W	Philips	2322 212 13569
R 618	Resistor	270 ohm	0,33W	Philips	2322 101 33271
R 619	Resistor 2%	1,5 ohm	1 W	Vitrohm	253-0
R 620	Resistor	56 ohm	0,5 W	Philips	2322 212 13569
R 621	Resistor	100 ohm	0,5 W	Philips	2322 212 13101
R 622	Resistor	56 ohm	0,5 W	Philips	2322 212 13569
R 623	Resistor	270 ohm	0,33W	Philips	2322 101 33271
R 624	Resistor 2%	1,5 ohm	1 W	Vitrohm	253-0
R 625	Resistor	56 ohm	0,5 W	Philips	2322 212 12569
R 626	Not used				
R 627	Resistor	100 ohm	0,5 W	Philips	2322 212 13101
R 628	Resistor	100 K ohm	0,33W	Philips	2322 101 33104
R 629	Resistor	1,5 M ohm	2 W	Vitrohm	HVX type 177
R 630	Resistor	47 K ohm	0,33W	Philips	2322 101 33473
V 601	PA tube			Siemens	YL 1071
V 602	PA tube			Siemens	YL 1071
V 603	PA tube			Siemens	YL 1071

CONTROL UNIT POWER SECTION T 122...

Symbol	Description				Manufact.	
C 701	Capacitor, polyester	0,1 uF		250V	Efco	PMT (short)
C 702	Capacitor, polyester	0,1 uF		250V	Efco	PMT (short)
C 703	Capacitor, polyester	0,1 uF		250V	Efco	PMT (short)
C 704	Capacitor, polyester	0,1 uF		250V	Efco	PMT (short)
C 705	Capacitor, polyester	0,1 uF		250V	Efco	PMT (short)
C 706	Capacitor, polyester	0,1 uF		250V	Efco	PMT (short)
C 707	Capacitor, polyester	0,1 uF		250V	Efco	PMT (short)
C 708	Capacitor, polyester	0,1 uF		250V	Efco	PMT (short)
C 709	Capacitor, polyester	0,1 uF		250V	Efco	PMT (short)
D 701	Diode				Philips	BAX 16
J 701	Connector				Hirschmann	Meb 60
J 702	Connector				Hirschmann	Mesei 60F
L 701	Aerial current coil				S.P.	TL 072
LA701	Controllamp	35V 0,05A			Philips	13448002
M 701	Instrument	1MA			Akita	CR - 52
M 702	Instrument (center)	100-0-100uA			Akita	R - 45
P 701	Potentiometer	100 K ohm			Philips	2322 410 43311
P 702	Potentiometer	100 K ohm			Philips	2322 410 43311
P 703	Potentiometer	47 K ohm			Philips	2322 410 43309
P 704	Potentiometer 0,5W	5 K ohm	±20%		Ruwido	S650C
P 705	Potentiometer	10 K ohm			Philips	2322 410 43307
R 701	Resistor	1 K ohm		0,33W	Philips	2322 101 33102
R 702	Resistor	220 ohm		5,5 W	Philips	2322 320 32221
R 703	Resistor	100 ohm		0,33W	Philips	2322 101 33101
R 704	Resistor	4,7 ohm		5,5 W	Philips	2322 320 31478
R 705	Resistor 20% 8KV	5 M ohm		2,0 W	Rosenthal	LHK 2
R 706	Resistor	220 ohm		5,5 W	Philips	2322 320 32221
R 707	Resistor	47 K ohm		0,33W	Philips	2322 101 33473
R 708	Not used					
R 709	Resistor	8,2 K ohm		0,5 W	Philips	2322 212 13822
R 710	Resistor	150 K ohm		0,33W	Philips	2322 101 33154
R 711	Resistor	100 K ohm		0,33W	Philips	2322 101 33104
R 712	Resistor	150 K ohm		0,33W	Philips	2322 101 33154

CONTROL UNIT POWER SECTION T 122...

Symbol	*Description*			*Manufact.*	
R 713	Resistor	15 K ohm	0,33W	Philips	2322 101 33153
R 714	Resistor	15 K ohm	0,33W	Philips	2322 101 33153
R 715	Resistor	15 K ohm	0,33W	Philips	2322 101 33153
R 716	Resistor	15 K ohm	0,33W	Philips	2322 101 33153
R 717	Resistor	47 K ohm	0,33W	Philips	2322 101 33473
RE701	Relay			Siemens	V23016 B0005 A101
RE702	Relay			Siemens	V23154 D0717 B110
S 702	Service switch	M 120		M.E.C.	SP OM 003
S 703	Instrument switch	M 120		M.E.C.	SP OM 005B
S 704	Not used				
S 705	Not used				
S 706	Not used				
S 707	Not used				
S 708	Switch (simplex-duplex)			Eng. NSF	8825/B121

CONTROL UNIT SMALL POWER SECTION T122

Symbol	*Description*			*Manufact.*	
C 801	Capacitor, polyester	1 uF	250V	Philips	2222 342 45105
C 802	Capacitor, polyester	0,1uF	250V	Efco	PMT
C 803	Capacitor, polyester	0,1uF	250V	Efco	PMT
C 804	Capacitor, polyester	0,1uF	250V	Efco	PMT
C 805	Capacitor, polyester	0,1uF	250V	Efco	PMT
C 806	Capacitor, polyester	0,1uF	250V	Efco	PMT
C 807	Capacitor, polyester	0,1uF	250V	Efco	PMT
D 801	Diode			Philips	BAX 16
D 802	Diode			Motorola	1N 4002
D 803	Diode			Philips	BAX 16
D 804	Diode			Philips	BAX 16
J 801	Connector female	12 polet		Belling & Lee	
J 802	Connector female			Hirschmann	Meb 60
R 801	Resistor	22 ohm	0,33W	Philips	2322 101 33229
R 802	Resistor	12 ohm	0,33W	Philips	2322 101 33129
R 803	Resistor	100 ohm	0,33W	Philips	2322 101 33101
R 804	Resistor	39 ohm	0,33W	Philips	2322 101 33399
R 805	Resistor	12 ohm	0,33W	Philips	2322 101 33129
R 806	Resistor	22 ohm	0,33W	Philips	2322 101 33229
S 801	Supply switch			Conti	BT 384
S 802	Alarm switch (red)			Shadow	ZD-DG 2u o.A.
S 803	Funktion switch			MEC M120	SP OM 004
S 804	Power reduction switch			MEC M120	SP OM 001A
S 805	Channel switch (A-B)			MEC M120	SP OM 002

ALARM SIGNAL GENERATOR T 122...

Symbol	*Description*				*Manufact.*	
C 901	Capacitor, tantal	4,7	uF	35V	Ero	ETP - 2
C 902	Capacitor, tantal	10	uF	25V	Ero	ETP - 3
C 903	Capacitor, tantal	1,5	uF	35V	Ero	ETP - 1
C 904	Capacitor, polyester	0,022	uF ±1%	63V	Philips	2222 435 42203
C 905	Capacitor, tantal	4,7	uF	35V	Ero	ETP - 2
C 906	Capacitor, polyester	0,047	uF ±1%	63V	Philips	2222 435 44703
C 907	Capacitor, tantal	3,3	uF	35V	Ero	ETP - 2
C 908	Capacitor, tantal	10	uF	25V	Ero	ETP - 3
C 909	Capacitor, tantal	22	uF	16V	Ero	ETP - 3
C 910	Capacitor, tantal	22	uF	16V	Ero	ETP - 3
C 911	Capacitor, tantal	22	uF	16V	Ero	ETP - 3
C 912	Capacitor, polyester	0,1	uF	250V	Efco	PMT (short)
C 913	Capacitor, tantal	1	uF	35V	Ero	ETP - 1
C 914	Capacitor, tantal	68	uF ±5%	16V	Ero	ETQ - 5
C 915	Capacitor, polyester	22	nF	250V	Philips	2222 342 45223
C 916	Capacitor, polyester	22	nF	250V	Philips	2222 342 45223
D 901	Diode				Philips	BA 182
D 902	Diode				Philips	BA 182
D 903	Diode	7,5V 2W			Semco	LMZ 7,5A
D 904	Thyristor				Transistron	2N5064
D 905	Diode	68 V 2W			Semco	LMZ 68
D 906	Diode				Philips	BAX 16
D 907	Diode				Philips	BAX 16
IC901	Intergrated circuit				Philips/NS	FJJ 111/SN7472
L 901	AF coil	2200 Hz			S.P.	TL 022
L 902	AF coil	1300 Hz			S.P.	TL 021
P 901	Potentiometer	100 K			Philips	2322 410 43311

ALARM SIGNAL GENERATOR T 122...

Symbol	Description				Manufact.	
R 901	Resistor	2,7	K ohm	0,33W	Philips	2322 101 33272
R 902	Not used					
R 903	Resistor	33	ohm	0,33W	Philips	2322 101 33339
R 904	Resistor	150	ohm	0,33W	Philips	2322 101 33151
R 905	Resistor	1	K ohm	0,33W	Philips	2322 101 33102
R 906	Resistor	2,7	K ohm	0,33W	Philips	2322 101 33272
R 907	Not used					
R 908	Resistor	22	K ohm	0,33W	Philips	2322 101 33223
R 909	Resistor	82	K ohm	0,33W	Philips	2322 101 33823
R 910	Resistor	270	ohm	0,33W	Philips	2322 101 33271
R 911	Resistor	82	K ohm	0,33W	Philips	2322 101 33823
R 912	Resistor	22	K ohm	0,33W	Philips	2322 101 33223
R 913	Not used					
R 914	Resistor	2,7	K ohm	0,33W	Philips	2322 101 33272
R 915	Resistor	1	K ohm	0,33W	Philips	2322 101 33102
R 916	Resistor	3,3	K ohm	0,33W	Philips	2322 101 33332
R 917	Resistor	12	K ohm	0,33W	Philips	2322 101 33123
R 918	Resistor	47	ohm	0,33W	Philips	2322 101 33479
R 919	Resistor	100	ohm	4,2 W	Philips	2322 330 22101
R 920	Resistor	1	M ohm	0,33W	Philips	2322 101 33105
R 921	Resistor	10	K ohm	0,33W	Philips	2322 101 33103
R 922	Resistor	33	ohm	0,33W	Philips	2322 101 33339
R 923	Resistor	1,2	K ohm	0,5 W	Philips	2322 212 13122
R 924	Resistor	10	K ohm	0,33W	Philips	2322 101 33103
R 925	Resistor	1	K ohm	0,33W	Philips	2322 101 33102
R 926	Resistor	39	ohm	4,2 W	Philips	2322 330 21399
T 901	Transistor				Motorola	2N4871
T 902	Transistor				Siemens	BC 147-A
T 903	Transistor				Siemens	BC 147-A
T 904	Transistor				Siemens	BC 141-10
T 905	Transistor				Siemens	BC 141-10
T 906	Transistor				Philips	BRY 39
TR901	Alarmsignal Trafo	50 ohm : 50 ohm			Tradania	1686

STABILISED POWER UNIT T 122...

Symbol	Description			Manufact.	
C 1001	Capacitor, electrolytic	22 uF	40V	Siemens	B41283-B7226-T
C 1002	Capacitor, electrolytic	2200 uF	40V	Siemens	B41010-A7228-T
C 1003	Capacitor, electrolytic	47 uF	350V	Siemens	B43050-A4476-T
C 1004	Capacitor, electrolytic	470 uF	40V	Siemens	B41010-A7477-T
C 1005	Capacitor, polyester	0,47 uF	250V	Philips	2222 342 45474
C 1006	Capacitor, polyester	0,47 uF	250V	Philips	2222 342 45474
C 1007	Not used				
C 1008	Capacitor, polyester	0,1 uF	250V	Efco	PMT
C 1009	Capacitor, polyester	0,1 uF	250V	Efco	PMT
C 1010	Capacitor, polyester	1 uF	250V	Philips	2222 342 45105
C 1011	Capacitor, electrolytic	47 uF	350V	Siemens	B43050-A4476-T
C 1012	Capacitor, electrolytic	470 uF	40V	Siemens	B41010-A7477-T
C 1013	Capacitor, polyester	0,22 uF	250V	Philips	2222 342 45224
D 1001	Diode	20 V		Motorola	1N5366B
D 1002	Diode	7,5 V		Semcor	LMZ 7,5A
D 1003	Diode			Semcor	1N4002
D 1004	Diode			Semcor	1N4002
D 1005	Diode			Philips	BY 179
D 1006	Diode			Philips	BY 179
L 1001	Choke	2,5 mH		Prahn	1580/10
L 1002	Choke	250 uH		Prahn	1580/32
P 1001	Potentiometer	2,2 K ohm		Philips	2322 410 43305
R 1001	Resistor	560 ohm	0,33W	Philips	2322 101 33561
R 1002	Resistor	2,2 K ohm	0,33W	Philips	2322 101 33222
R 1003	Resistor	2,2 K ohm	0,33W	Philips	2322 101 33222
R 1004	Resistor	820 ohm	0,33W	Philips	2322 101 33821
R 1005	Resistor	180 ohm	5,5 W	Philips	2322 320 31181
R 1006	Resistor	680 ohm	1/2 W	Philips	2322 212 13681
R 1007	Resistor	22 ohm	0,33W	Philips	2322 101 33229
T 1001	Transistor			Siemens	BC 141-10
T 1002	Transistor			Siemens	2N 3055/BD130
T 1003	Transistor			Siemens	BC 147-A
T 1004	Transistor			Siemens	2N 3055/BD130
T 1005	Transistor			Siemens	2N 3055/BD130
TR1001	Trafo, driver			Tradania	25/6-1685
TR1002	Trafo, output			Tradania	60/20-1684

24V DC CONVERTER T 122...

Symbol	Description				Manufact.	
C 1101	Capacitor, electrolytic	47	uF	350V	Siemens	B43050-B4476-T
C 1102	Capacitor, electrolytic	47	uF	350V	Siemens	B43050-B4476-T
C 1103	Capacitor, electrolytic	47	uF	350V	Siemens	B43050-B4476-T
C 1104	Capacitor, electrolytic	47	uF	350V	Siemens	B43050-B4476-T
C 1105	Capacitor, electrolytic	47	uF	350V	Siemens	B43050-B4476-T
C 1106	Capacitor, polyester	0,47	uF	250V	Philips	2222 342 45474
C 1107	Capacitor, electrolytic	2200	uF	40V	Siemens	B41010-B7228-T
C 1108	Capacitor, polyester	0,47	uF	250V	Philips	2222 342 45474
C 1109	Capacitor, polyester	0,47	uF	250V	Philips	2222 342 45474
C 1110	Capacitor, polyester	0,47	uF	250V	Philips	2222 342 45474
C 1111	Capacitor, electrolytic	2200	uF	40V	Siemens	B41010-B7228-T
C 1112	Capacitor, polyester	0,1	uF	400V	Philips	2222 341 59104
to- 17						
C 1118	Capacitor, polyester	1	uF	400V	Philips	2222 342 51105
C 1119	Capacitor, polyester	1	uF	400V	Philips	2222 342 51105
C 1120	Capacitor, polyester	1	uF	400V	Philips	2222 342 51105
C 1121	Capacitor, polyester	1	uF	400V	Philips	2222 342 51105
C 1122	Capacitor, polyester	2,2	uF	250V	Philips	2222 342 45225
C 1123	Capacitor, polystyrene	2,2	uF	250V	Philips	2222 342 45225
C 1124	Capacitor, electrolytic	470	uF	40V	Siemens	B41010-A7477-T
C 1125	Capacitor, polyester	2,2	uF	100V	Philips	2222 342 24225
C 1126	Capacitor, polyester	2,2	uF	100V	Philips	2222 342 24225
C 1127	Capacitor, polyester	0,33	uF	250V	Philips	2222 342 45334
D 1101	Diode				Philips	BY 179
to- 05						
D 1106	Diode				Motorola	1N 4998/MR1031B
D 1107	Diode				Motorola	1N 4998/MR1031B
D 1108	Diode				Motorola	1N 4002
D 1109	Diode				Motorola	1N 4002
R 1101	Resistor	8,2	K ohm	5,5W	Philips	2322 320 32822
R 1102	Resistor	56	ohm	5,5W	Philips	2322 320 31569
R 1103	Resistor	82	ohm	5,5W	Philips	2322 320 31829
R 1104	Resistor	0,47	ohm	4 W	Vitrohm	206-0
R 1105	Resistor	0,47	ohm	4 W	Vitrohm	206-0
R 1106	Resistor	60	ohm	23 W	Vitrohm	222-0
R 1107	Resistor	220	ohm	5,5W	Philips	2322 320 32221
R 1108	Resistor	0,47	ohm	4 W	Vitrohm	206-0
R 1109	Resistor	0,47	ohm	4 W	Vitrohm	206-0

24V DC CONVERTER T 122...

Symbol	*Description*	*Manufact.*	
RE1101	Relay	Bosch	0332003011
RE1102	Relay	Siemens	V23154-D0717-F-104
R 1110	Resistor 82 ohm 5,5W	Philips	2322 320 31829
T 1101	Transistor	Motorola	SP5408/2N5437MP
T 1102	Transistor	Motorola	SP5408/2N5437MP
TR1101	Trafo	Tradania	120/40-1764
TR1102	Trafo	Tradania	38/7-1636
L 1101	Choke	Siemens	B82 524-V-A6
VS1101	Voltage Stabilizer	Philips	85 A 2
F 1101	Fuse - 40 A little fuse	Wickmann	PL 411040
J 1101	Connector - male	T.S.	4145
GL1101	Neon Lamp B1-C90	Siemens	Q69 x 151

AC/24V POWER UNIT T 122...

Symbol	Description			Manufact.	
C 1201	Capacitor, electrolytic	2200 uF	40V	Siemens	B41010-B7228-T
C 1202	Capacitor, electrolytic	2200 uF	40V	Siemens	B41010-B7228-T
C 1203	Capacitor, electrolytic	2200 uF	40V	Siemens	B41010-B7228-T
C 1204	Capacitor, electrolytic	47 uF	350V	Siemens	B43050-B4476-T
C 1205	Capacitor, polyester	0,1 uF	630V	Philips	2222 342 65104
C 1206	Capacitor, polyester	0,1 uF	630V	Philips	2222 342 65104
C 1207	Capacitor, ceramic	4,7 nF	5KV	Ferroperm	9/0138,9
C 1208	Capacitor, ceramic	4,7 nF	5KV	Ferroperm	9/0138,9
D 1201	Diode	zener 68V		Semcor	LMZ 68 A
D 1202	Diode	zener 68V		Semcor	LMZ 68 A
D 1203	Diode			Philips	BY 179
D 1204	Diode			Siemens	B40 C5000/3300 Si
R 1201	Resistor	220 ohm	5,5W	Philips	2322 320 32221
R 1202	Resistor	8,2K ohm	5,5W	Philips	2322 320 32822
RE1201	Relay			Siemens	V23154-D0-717-F-1(
RE1202	Relay			Fanal	DGSLe 5Ao
TR1201	Transformer			Tradania	TD 1706
CH1201	Choke			Tradania	TD 1816
VS1201	Voltage Stabiliser			Philips	85 A 2
S 1201	Micro Switch			PYE	Y 119
S 1202	Micro Switch			PYE	Y 119
J 1201	Connector, male, 6 pole			T.S.	4145
J 1202	Connector, male			T.S.	MESEI 60F
J 1203	Connector 12 pole			S.P.	

AC/24V POWER UNIT T 122....

Symbol	*Description*			*Manufact.*	
F 1201	Fuse, Littelfuses	5 Amp	250V	Wickmann	Pl. no. 314008
F 1202	Fuse, Littelfuses	5 Amp	250V	Wickmann	Pl. no. 314008
F 1203	Fuse, Littelfuses	2 Amp	250V	Wickmann	Pl. no. 314002
	110V VERSION				
F 1201	Fuse, Littelfuses	15 Amp		Wickmann	Pl. no. 314015
F 1202	Fuse, Littelfuses	15 Amp		Wickmann	Pl. no. 314015
F 1203	Fuse, Littelfuses	5 Amp		Wickmann	Pl. no. 314005

AC/1000 VOLT POWER UNIT T 122...

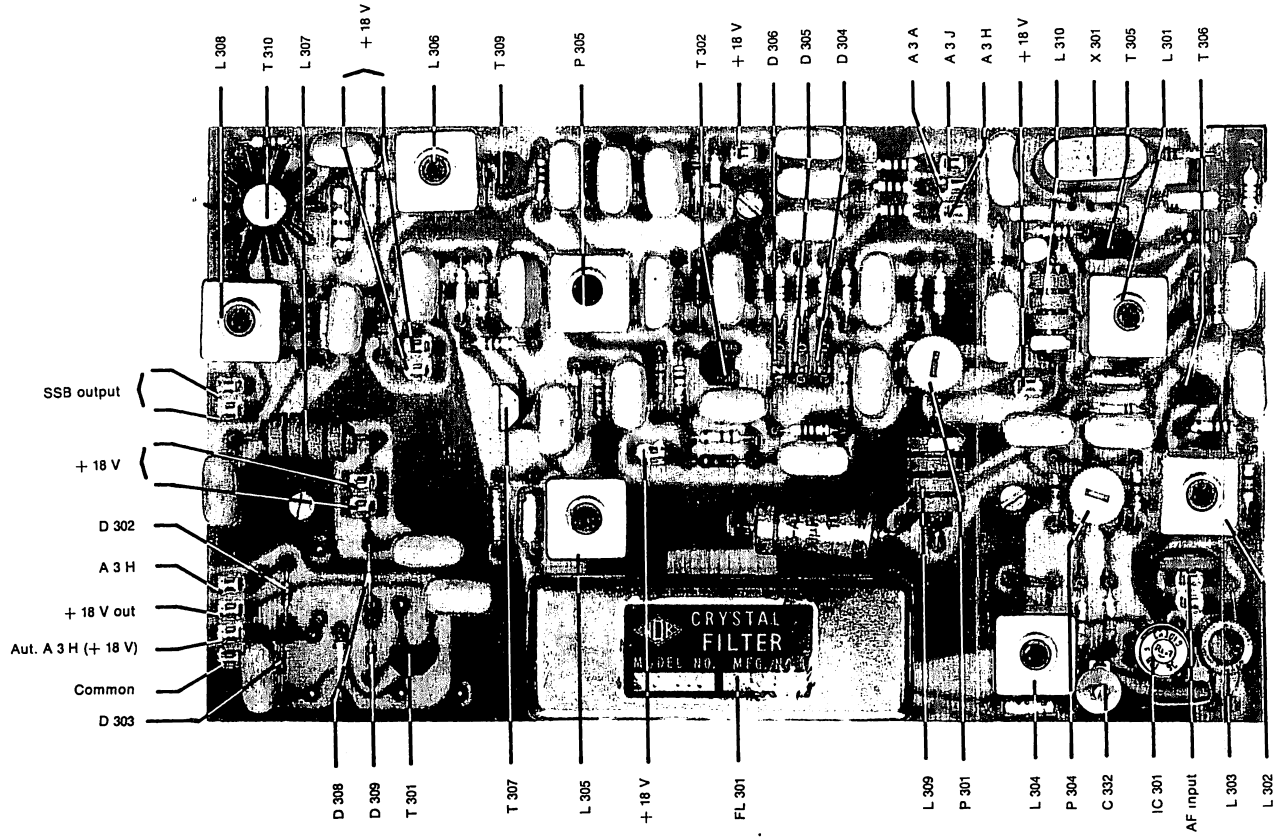
Symbol	Description			Manufact.	
C 1301 to- 04	Capacitor, electrolytic	100+100uF	500V	Wicon	KAI
C 1309 to- 12	Capacitor, polyester	0,1 uF	630V	Philips	2222 342 65104
C 1313	Capacitor, ceramic	4,7 nF	5KV	Ferroperm	9/0138,9
C 1314	Capacitor, ceramic	4,7 nF	5KV	Ferroperm	9/0138,9
CH1301 to- 04	Choke			Tradania	1739
D 1301 to- 16	Diode	1 Amp			1N 5062
TR1301	Transformer			Tradania	TD 1705
	Connector			Boi-wo	1553

CRYSTAL OSCILLATOR T 122...

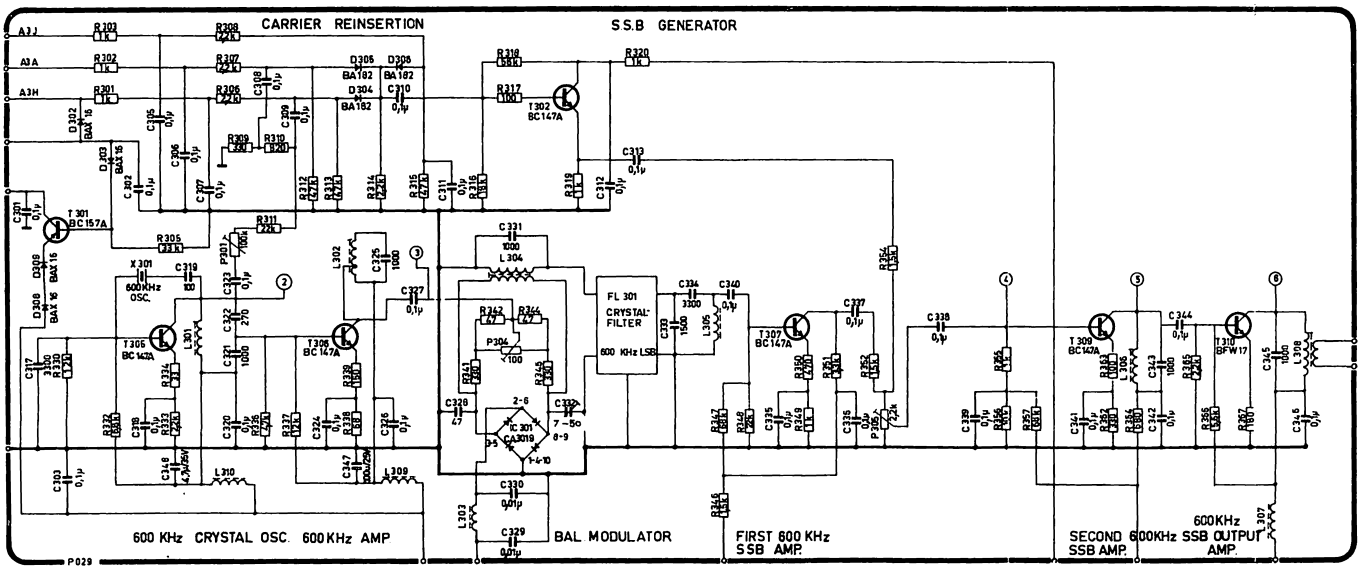
Symbol	Description				Manufact.	
D 101	Diode				Philips	BA 182
D 102	Diode				Philips	BA 182
D 103	Diode				Philips	BA 182
D 104	Diode				Philips	BA 182
D 105	Diode				Philips	BA 182
D 106	Diode				Philips	BA 182
D 107	Diode				Philips	BA 182
D 108	Diode				Philips	BA 182
D 109	Diode				Philips	BA 182
D 110	Diode				Philips	BA 182
D 111	Diode				Philips	BA 182
D 112	Diode				Philips	BA 182
D 113	Diode				Philips	BA 182
D 114	Diode				Philips	BA 182
D 115	Diode				Philips	BA 182
D 116	Diode				Philips	BA 182
R 101	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 102	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
R 103	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 104	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
R 105	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 106	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
R 107	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 108	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
R 109	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 110	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
R 111	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 112	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
R 113	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 114	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
R 115	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 116	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
R 117	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 118	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
R 119	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 120	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562
R 121	Resistor	470	K ohm	0,33W	Philips	2322 101 3347
R 122	Resistor	5,6	K ohm	0,33W	Philips	2322 101 33562

CRYSTAL OSCILLATOR T 122 ...

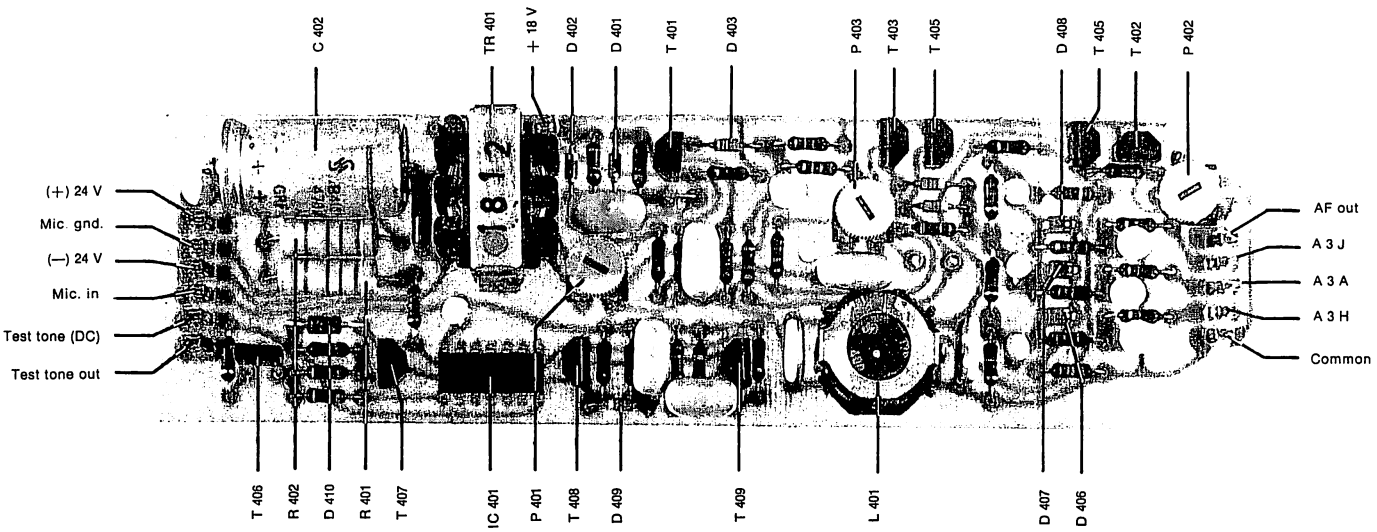
Symbol	Description	Manufact.	
C 101	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 102	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 103	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 104	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 105	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 106	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 107	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 108	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 109	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 110	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 111	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 112	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 113	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 114	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 115	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 116	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 117	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 118	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 119	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 120	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 121	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 122	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 123	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 124	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 125	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 126	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 127	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 128	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 129	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 130	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 131	Capacitor, ceramic 22 pF ±5% 400V	Ferroperm	9/0112,9
C 132	Capacitor, trimming 3,5 - 18,5 pF	Dau	107-23S
C 133	Capacitor, polyester 0,1 uF 250V	Efco	PMT (short)
C 134	Capacitor, polystyrene 560 pF ±2% 125V	Philips	2222 425 35601
C 135	Capacitor, polystyrene 390 pF ±2% 125V	Philips	2222 425 33901
C 136	Capacitor, polyester 0,1 uF 250v	Efco	PMT (short)
C 137	Capacitor, polystyrene 560 pF ±2% 125V	Philips	2222 425 35601
C 138	Capacitor, polyester 0,1 uF 250V	Efco	PMT (short)
C 139	Capacitor, polystyrene 560 pF ±2% 125V	Philips	2222 425 35601
C 140	Capacitor, polyester 0,1 uF 250V	Efco	PMT (short)



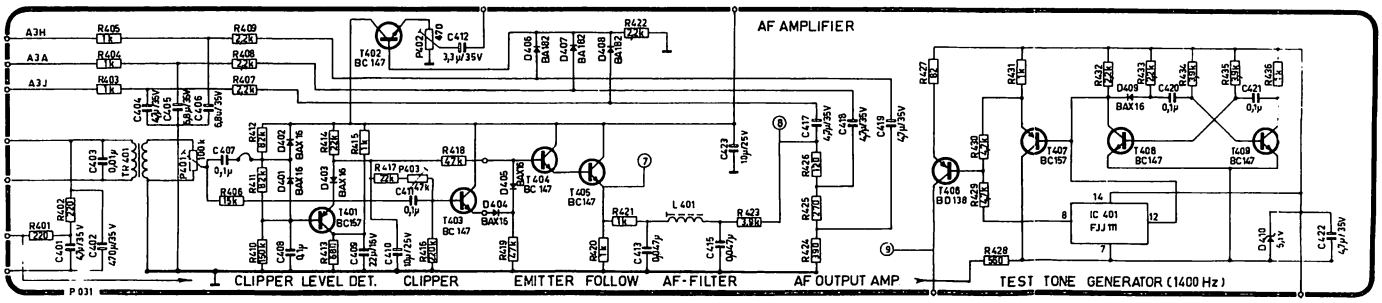
	T301	T302	T305	T306	T307	T309	T310
E	15,6	2,6	9,5	3,9	2,6	1,3	3,7
B	14,9	3,3	10,0	4,6	3,3	2,0	4,1
C	15,6	14,4	17,8	17,6	8,4	14,9	17,2



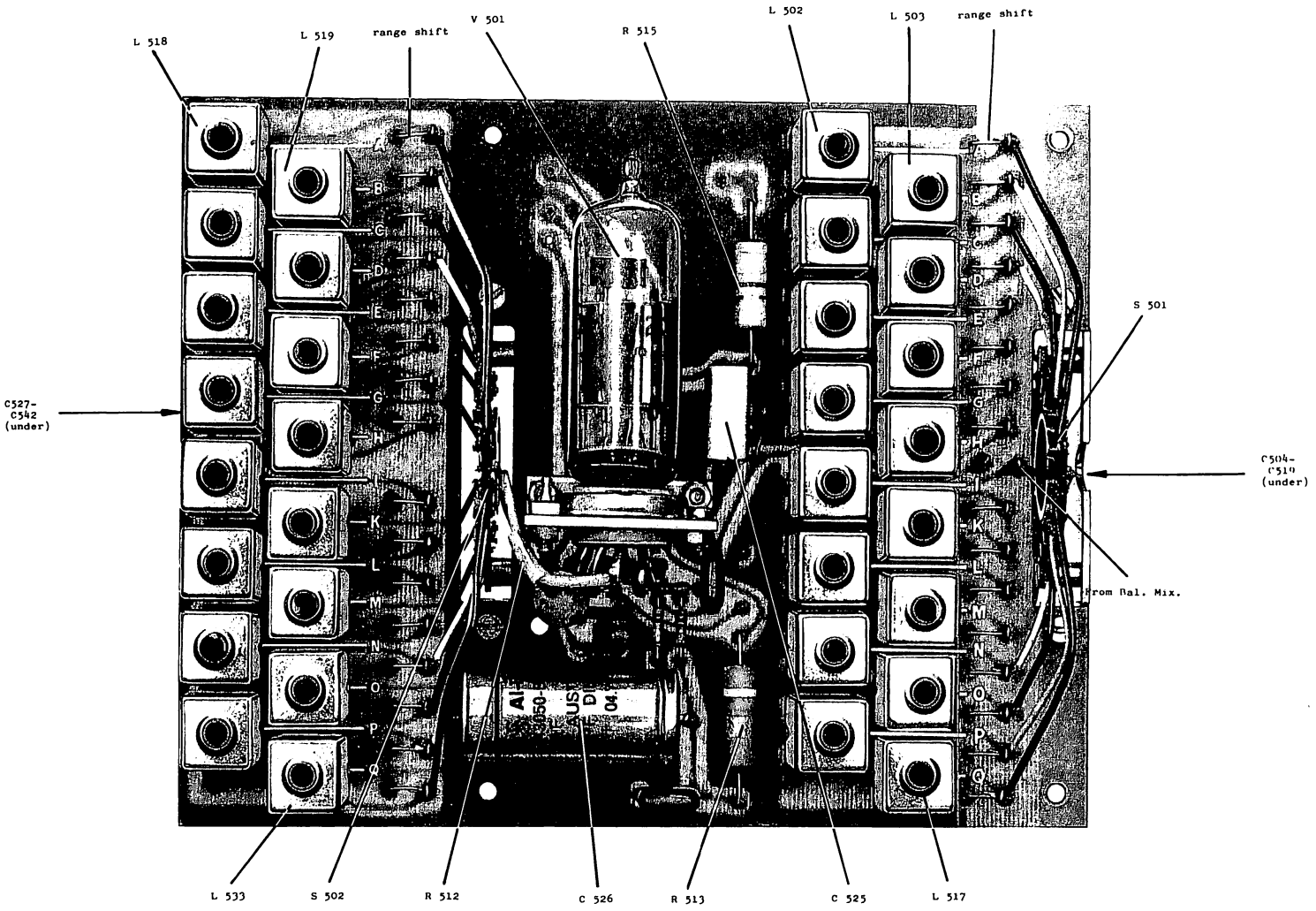
SSB Generator

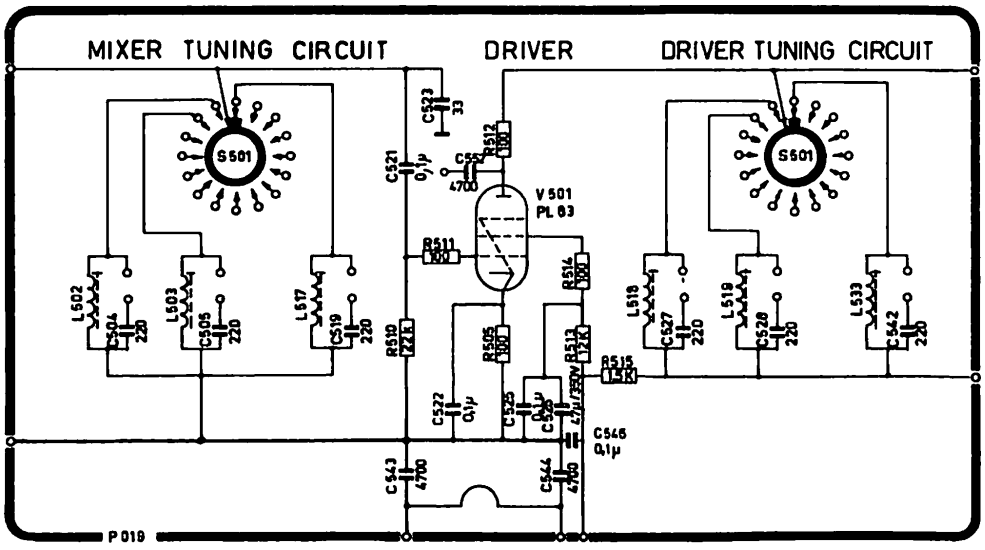


	T401	T402	T403	T404	T405	T406	T407	T408	T409
E	9,1	5,3	7,4	6,9	6,2	22,9	22,4	19,6	19,6
B	8,5	6,0	7,9	7,4	6,9	22,4	22,2	19,3	19,7
C	7,1	18,0	18,0	18,0	18,0	6,8	19,6	22,2	20,8

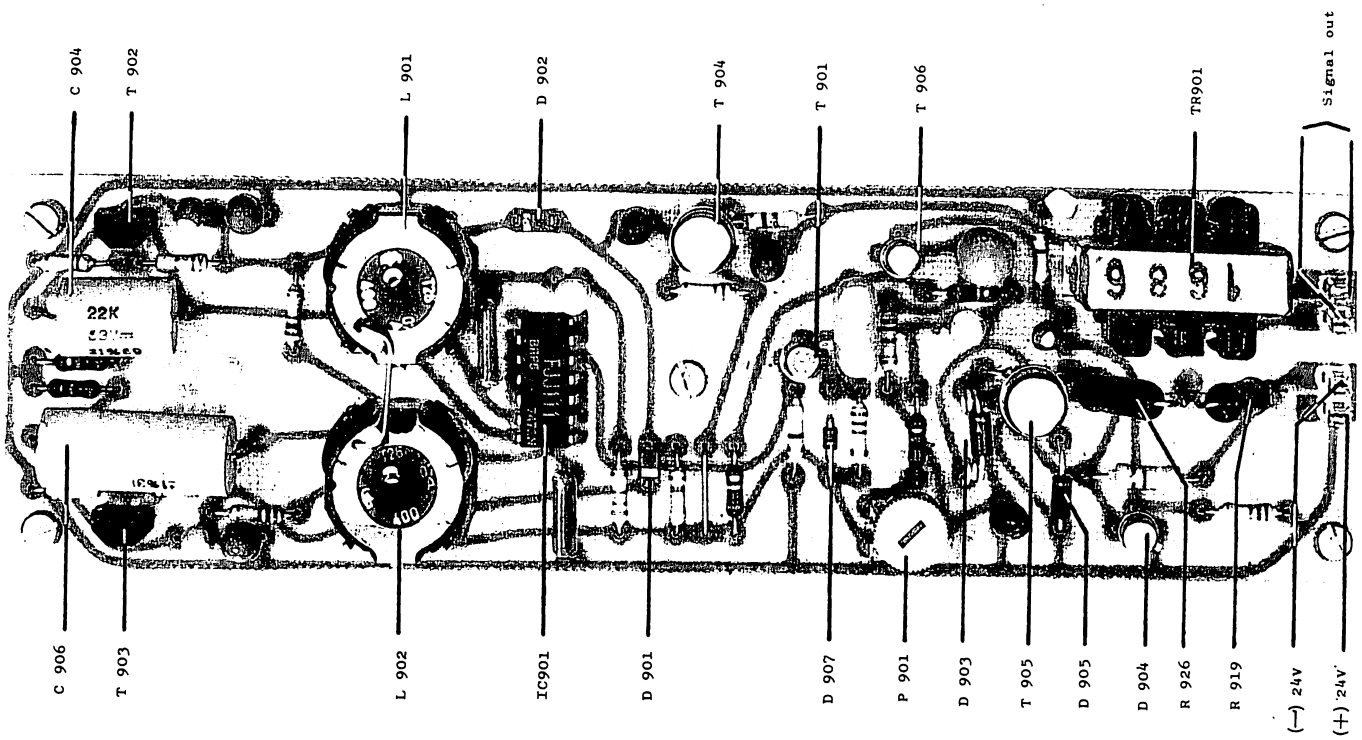


AF amplifier

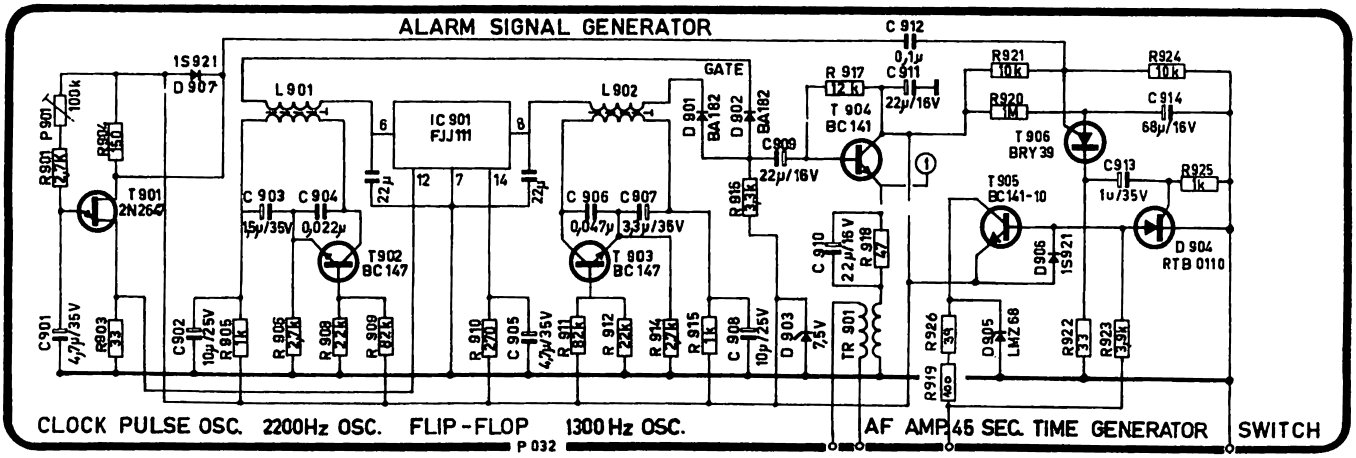

L 518
L 519
range shift
V 501
R 515
L 502
L 503
range shift
S 501
C527-
C542
(under)
C504-
C510
(under)
from Bal. Mix.
L 533
S 502
R 512
C 526
R 513
C 525
L 517


MIXER TUNING CIRCUIT
DRIVER
DRIVER TUNING CIRCUIT
S501
S501
V501
PL83
P019

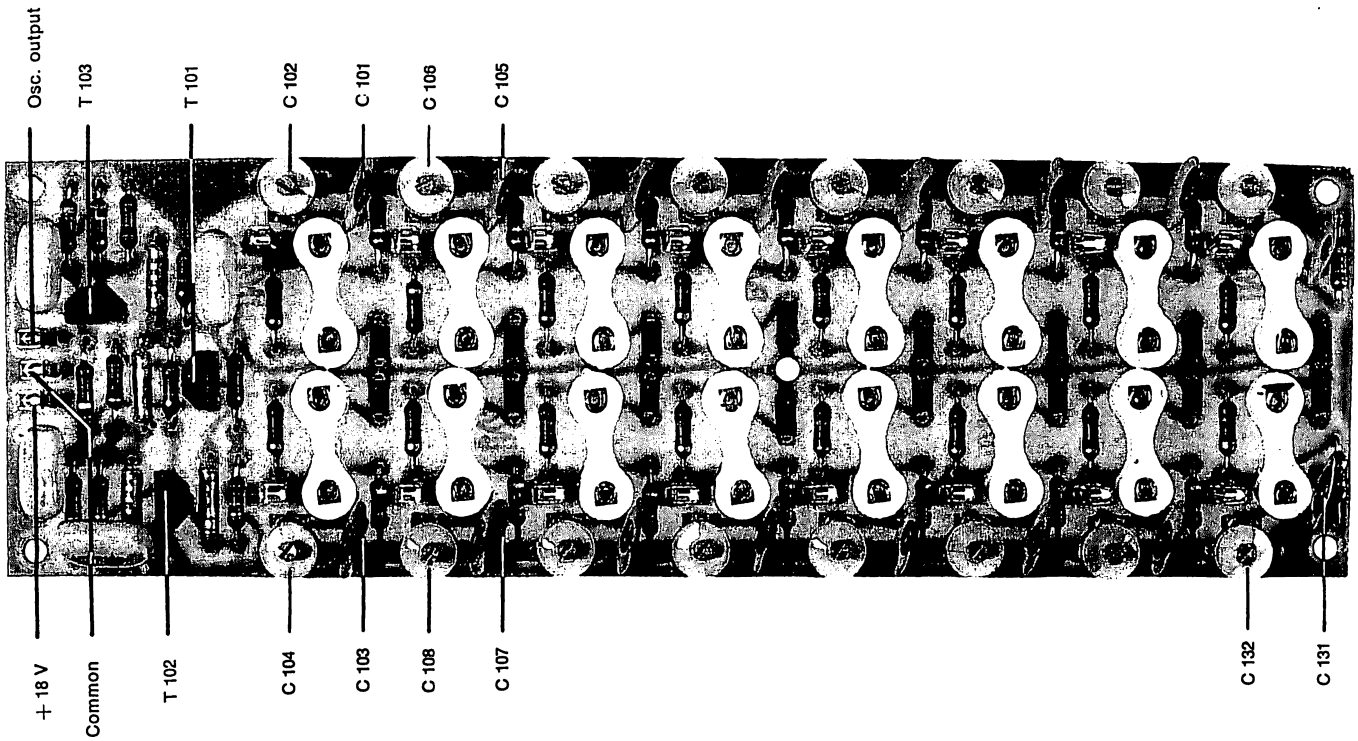
Driver



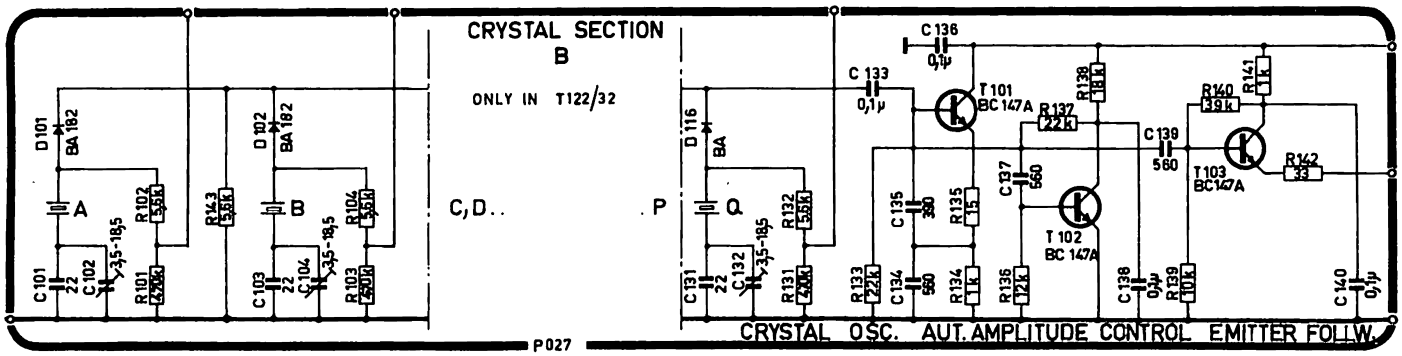
	T902	T903	T904	T905		T901		D 904	T906
E	0,8	0,8	2,25	7,4 OR 0,2	B_1	0,14	K	0	0
B	1,2	1,3	2,85	8,1 OR 0,7	B_2	7,4	A	8,1 OR 0,7	0 - 3
C	7,0	7,0	7,5	7,6 OR 24	E	4,0	G	0	3,75



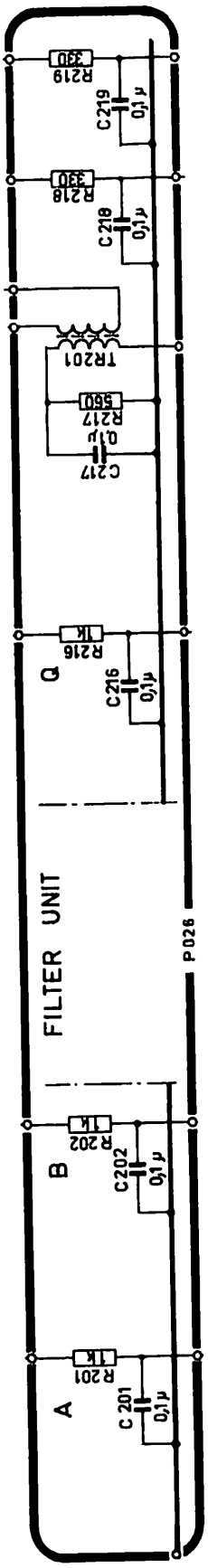
Alarm signal generator

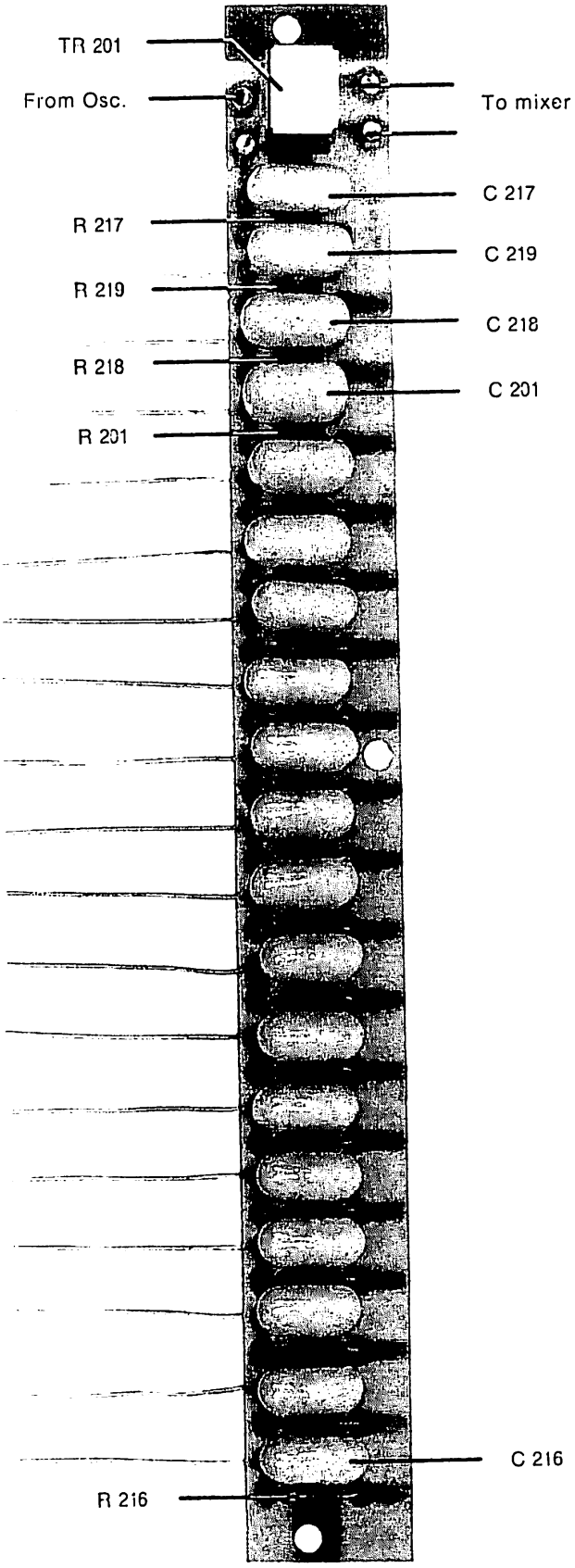


	T101	T102	T103
E	2,2	0	1,5
B	2,8	0	2,2
C	15,0	5	12,0

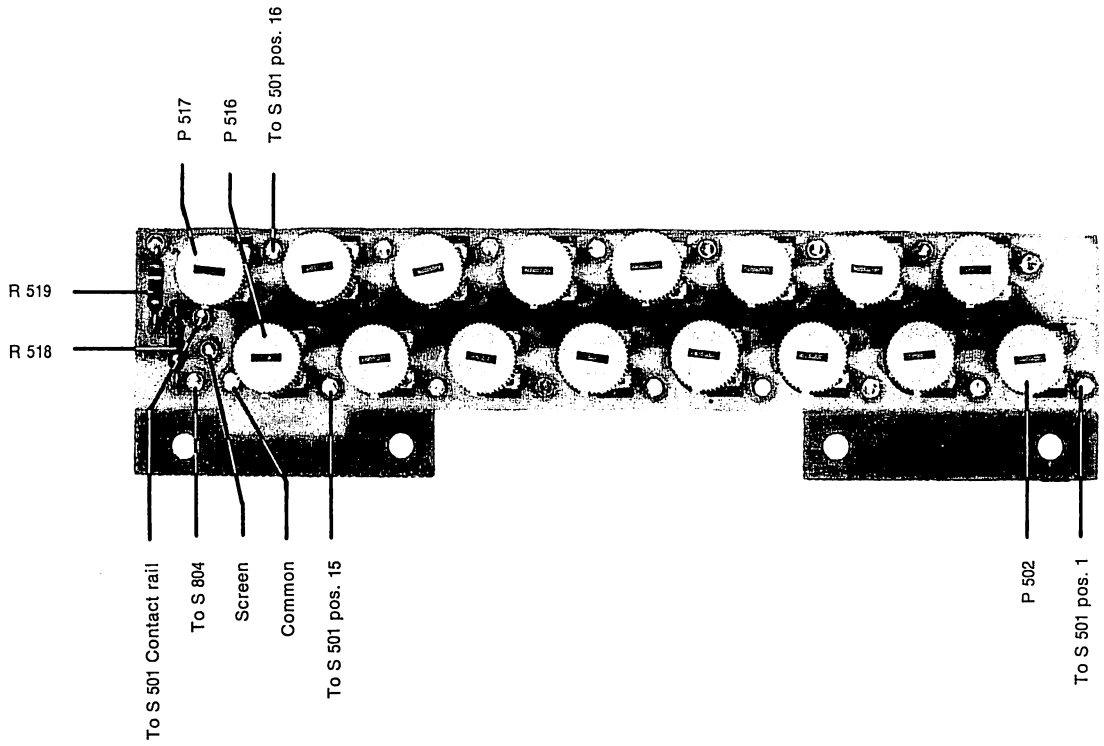


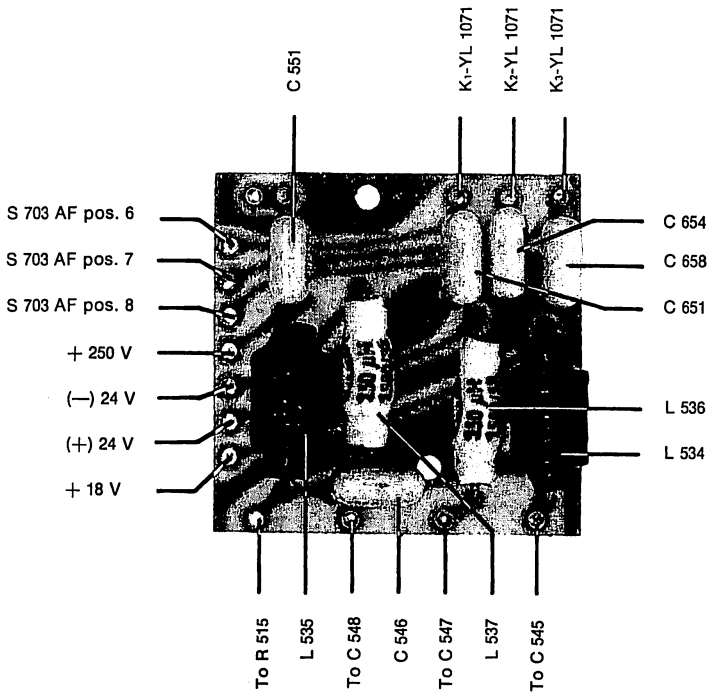
Crystal section

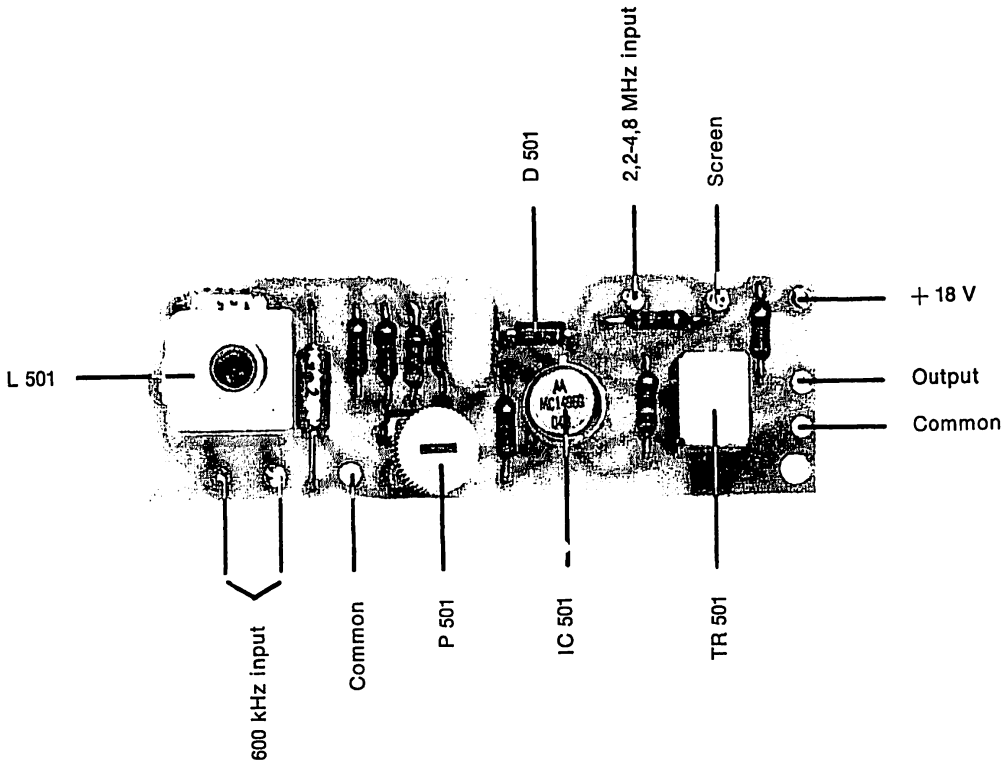

R219
330
C219
0,1 µ
R218
330
C218
0,1 µ
TR201
R217
560
C217
0,1µ
R216
1K
C216
0,1µ
Q
FILTER UNIT
P026
R202
1K
C202
0,1 µ
B
R201
1K
C 201
0,1 µ
A


TR 201
From Osc.
To mixer
C 217
R 217
C 219
R 219
C 218
R 218
C 201
R 201
C 216
R 216

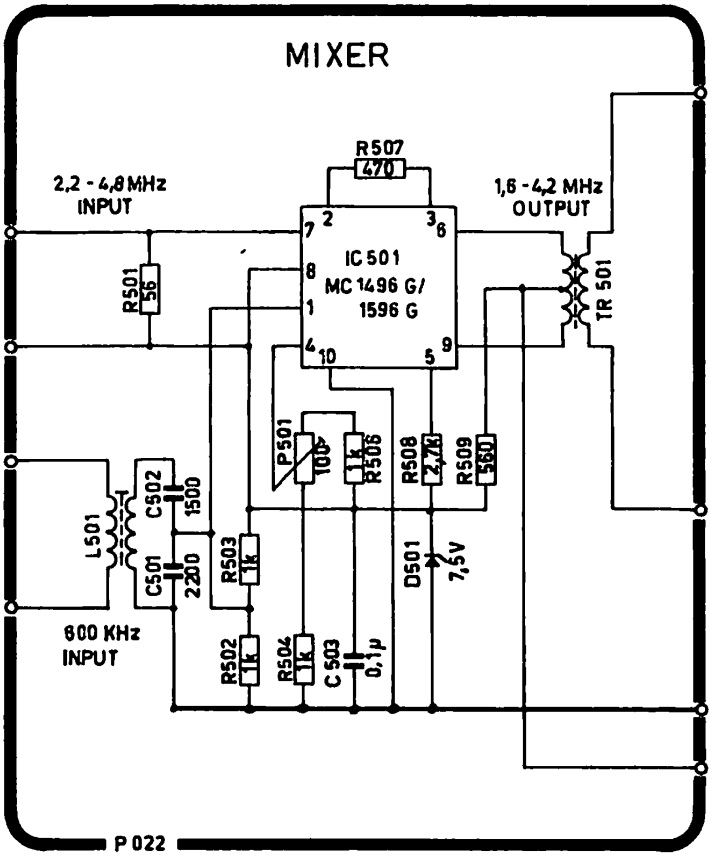
Filter unit


P 517
P 516
To S 501 pos. 16
R 519
R 518
To S 501 Contact rail
To S 804
Screen
Common
To S 501 pos. 15
P 502
To S 501 pos. 1

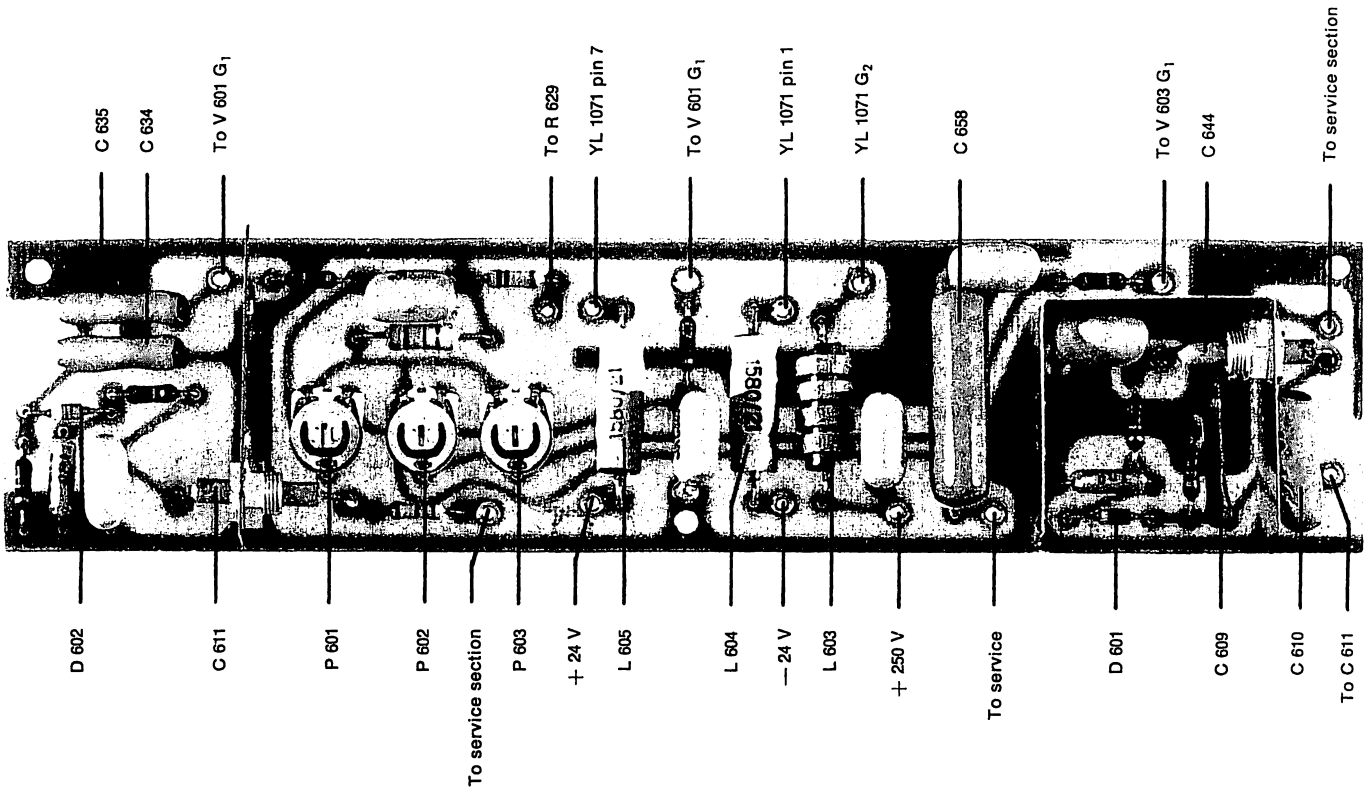

C 551
K1-YL 1071
K2-YL 1071
K3-YL 1071
S 703 AF pos. 6
S 703 AF pos. 7
S 703 AF pos. 8
+ 250 V
(—) 24 V
(+) 24 V
+ 18 V
C 654
C 658
C 651
L 536
L 534
To R 515
L 535
To C 548
C 546
To C 547
L 537
To C 545

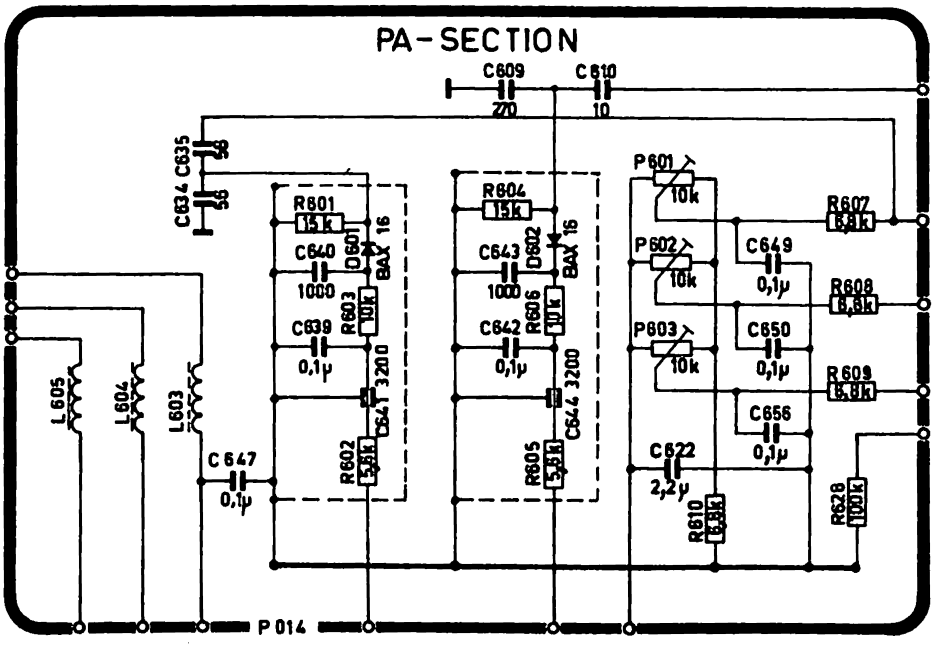


PIN NR.	1	2	3	4	5	6	7	8	9	10
	3,7	3,0	3,0	3,7	1,7	18,0	7,5	7,5	18,0	0

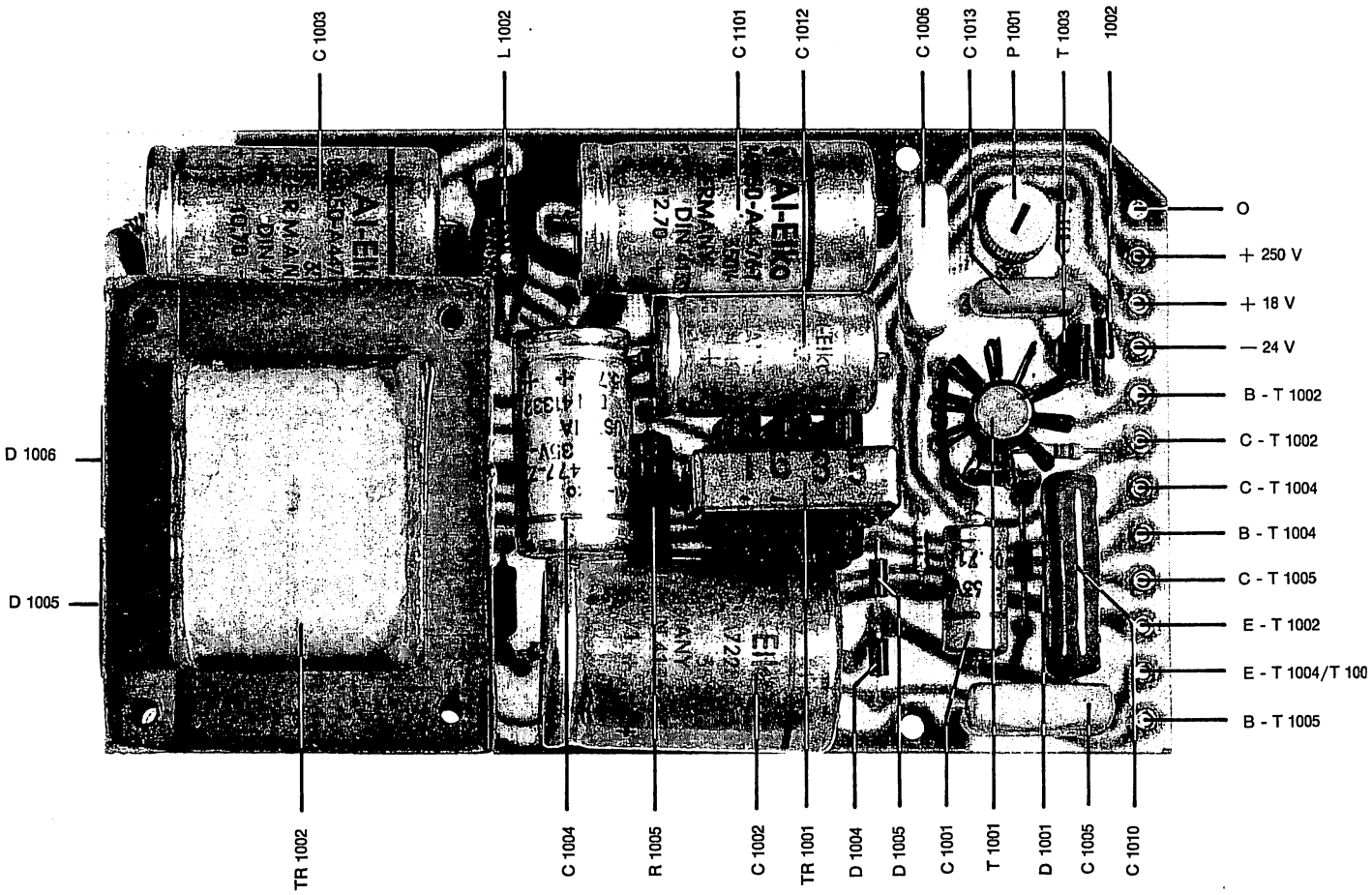


Mixer

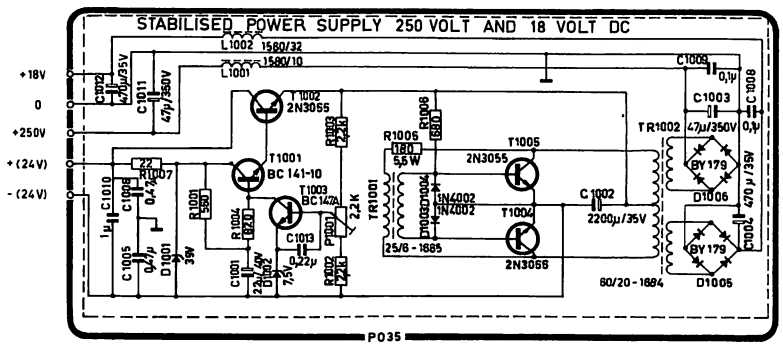

C 635
C 634
To V 601 G1
To R 629
YL 1071 pin 7
To V 601 G1
YL 1071 pin 1
YL 1071 G2
C 658
To V 603 G1
C 644
To service section
D 602
C 611
P 601
P 602
To service section
P 603
+ 24 V
L 605
L 604
— 24 V
L 603
+ 250 V
To service
D 601
C 609
C 610
To C 611

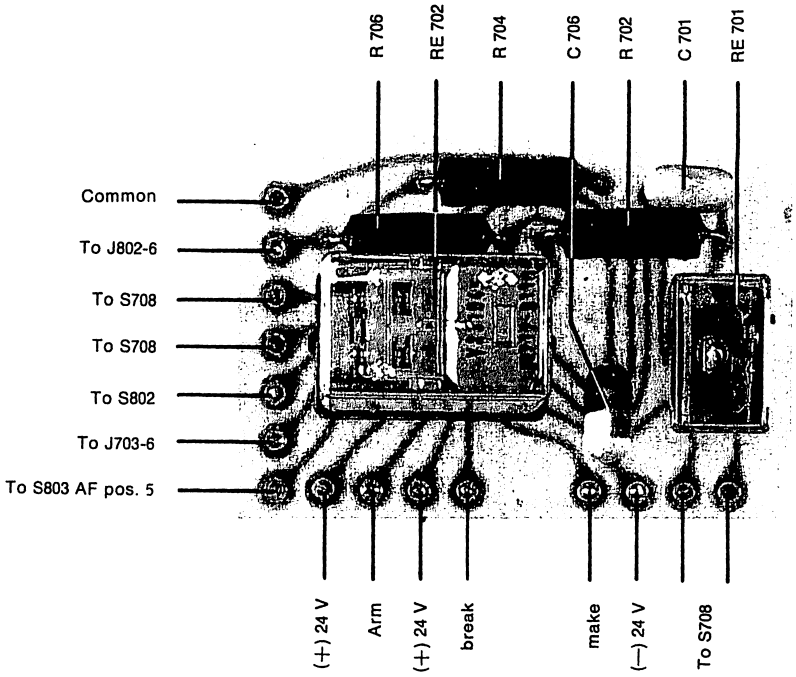

PA-SECTION
C609
270
C610
10
C634 C635
56
56
R601
15k
C640
1000
D601
BAX 16
R603
10k
C639
0,1µ
C641 3200
R602
5,6k
L605
L604
L603
C647
0,1µ
R604
15k
C643
1000
D602
BAX 16
R606
10k
C642
0,1µ
C644 3200
R605
5,6k
P601
10k
P602
10k
P603
10k
C622
2,2µ
R610
6,8k
C649
0,1µ
C650
0,1µ
C656
0,1µ
R607
6,8k
R608
6,8k
R609
6,8k
R628
100k
P 014

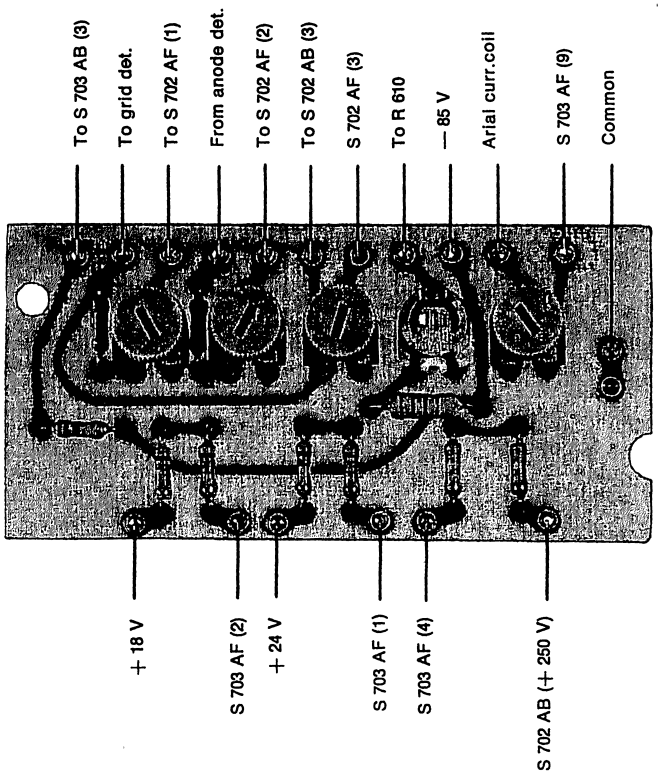
PA section



	T1001	T1002	T1003	T1004	T1005
E	15,8	15,1	7,5	0	0
B	16,4	15,8	8,1	—	—
C	24,0	24,0	16,4	14,8	14,8







Meter adjustment

Typical AC Voltages at encircled numbers on main diagram.

T121, T122 and T124.

Test conditions: **TUNE,** and service switch in position **pre drive** or **driver.** (Channel B . . . Q).

Measurements: With an oscilloscope and a test probe 10:1 (10 Mohm/10 pF).

Output SSB generator under Test conditions	
T121	0,8–0,9 Vpp
T121	0,8–0,9 Vpp
T124	1 Vpp

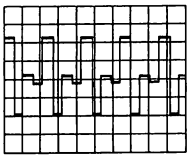
Fig. A 

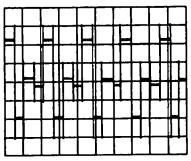
Fig. B 

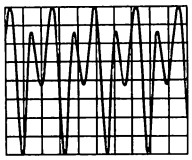
Fig. C 

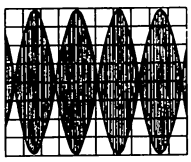
Fig. D 

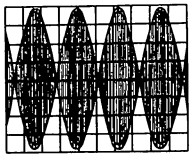
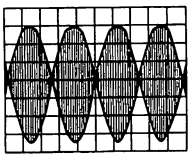
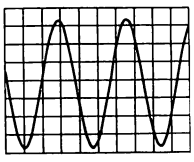
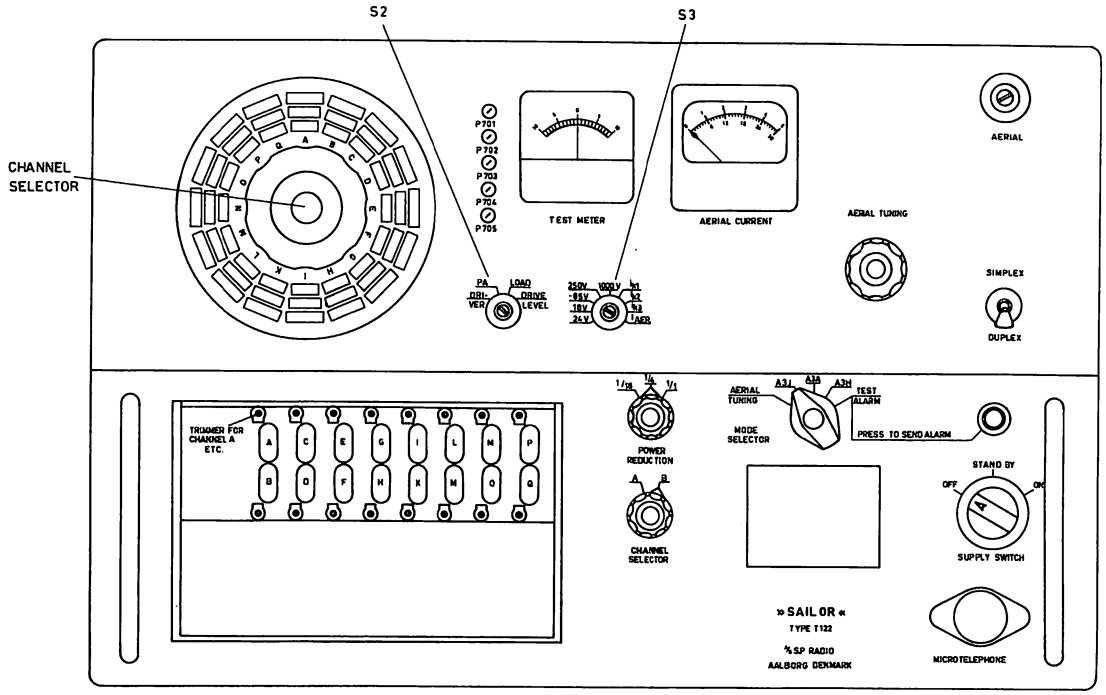
Fig. E 

Fig. F 

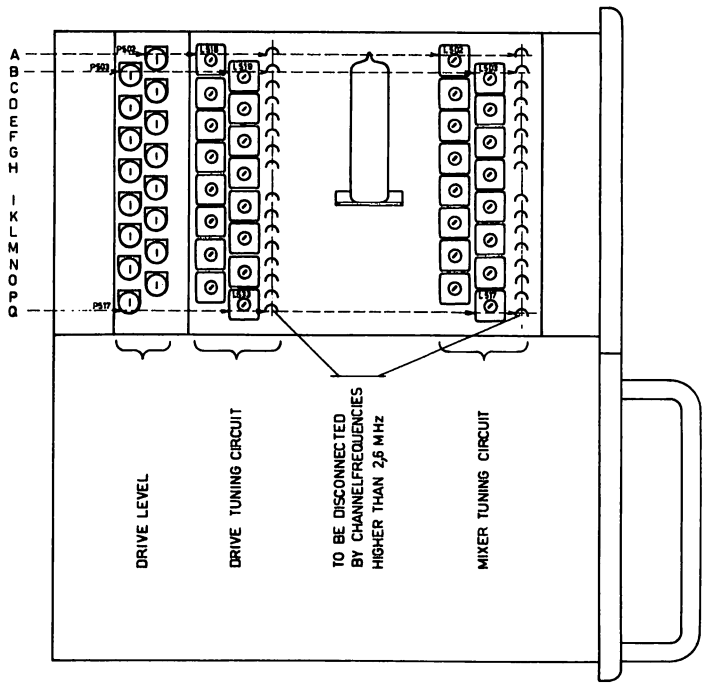
Encircled number	Vpp	Freq.	Curve shape
1	1,6	1,3/2,2 kc	Fig. G
2	13–20	600 kc	Fig. G
3	6	600 kc	Fig. G
4	0,04	600 kc Lower S.B.	Fig. E
5	0,4–0,5	600 kc Lower S.B.	Fig. D
6	13	600 kc Lower S.B.	Fig. D
7	4,5	1,1 kc	Fig. A
8	0,45	1,1 kc	Fig. C
9	0,9	1,1 kc	Fig. B
10	1,4	Xtal	Fig. G
11	0,7–1,4	600 kc Lower S.B.	Fig. D
12	0,45	Xtal	Fig. G
13	3–4,5	Output Upper S.B.	Fig. E
14	4–5	Output Upper S.B.	Fig. D
15	70–90	Output Upper S.B.	Fig. F

Fig. G 

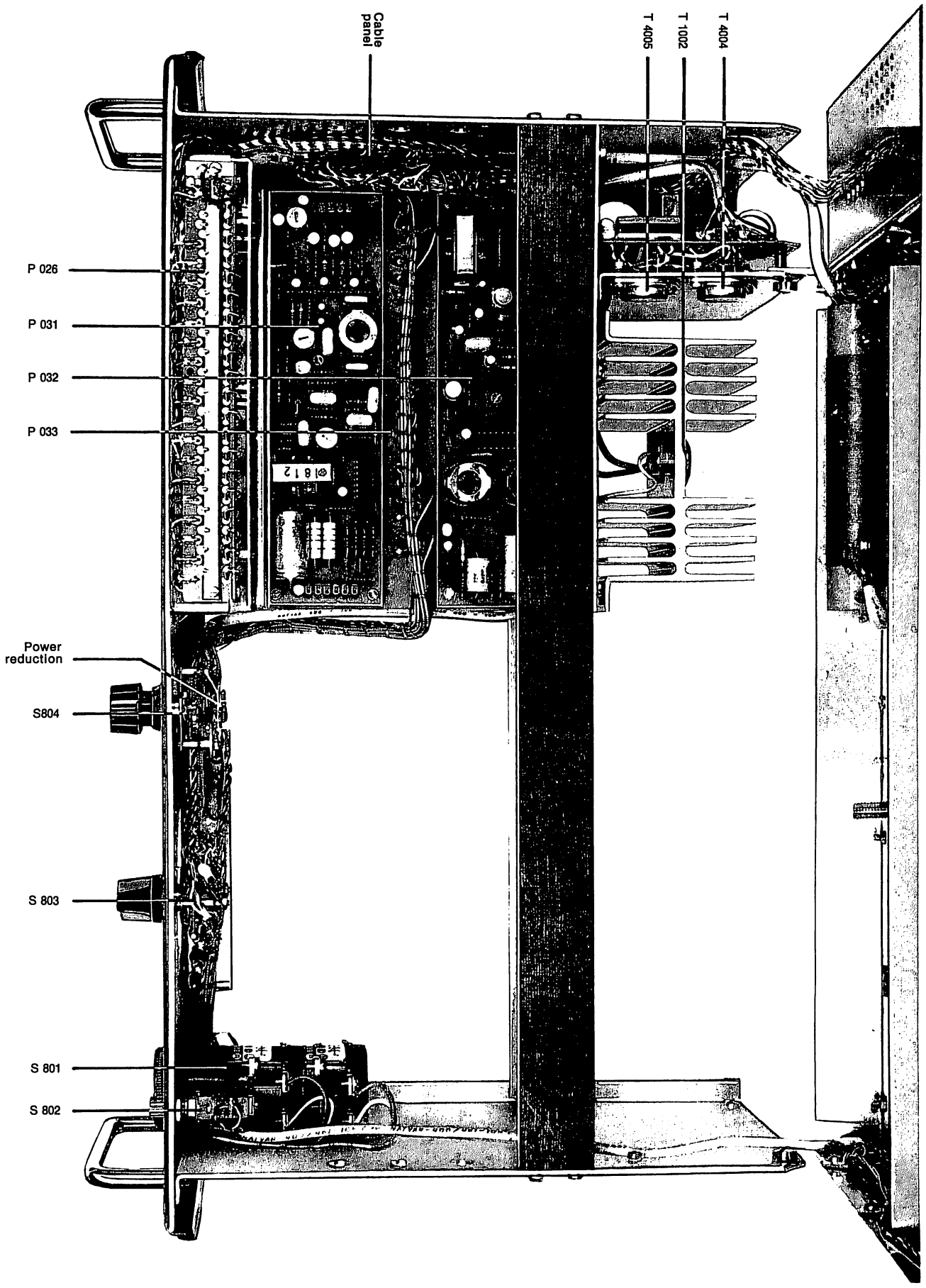
Test Voltage chart for T 121, T 122 and T 124



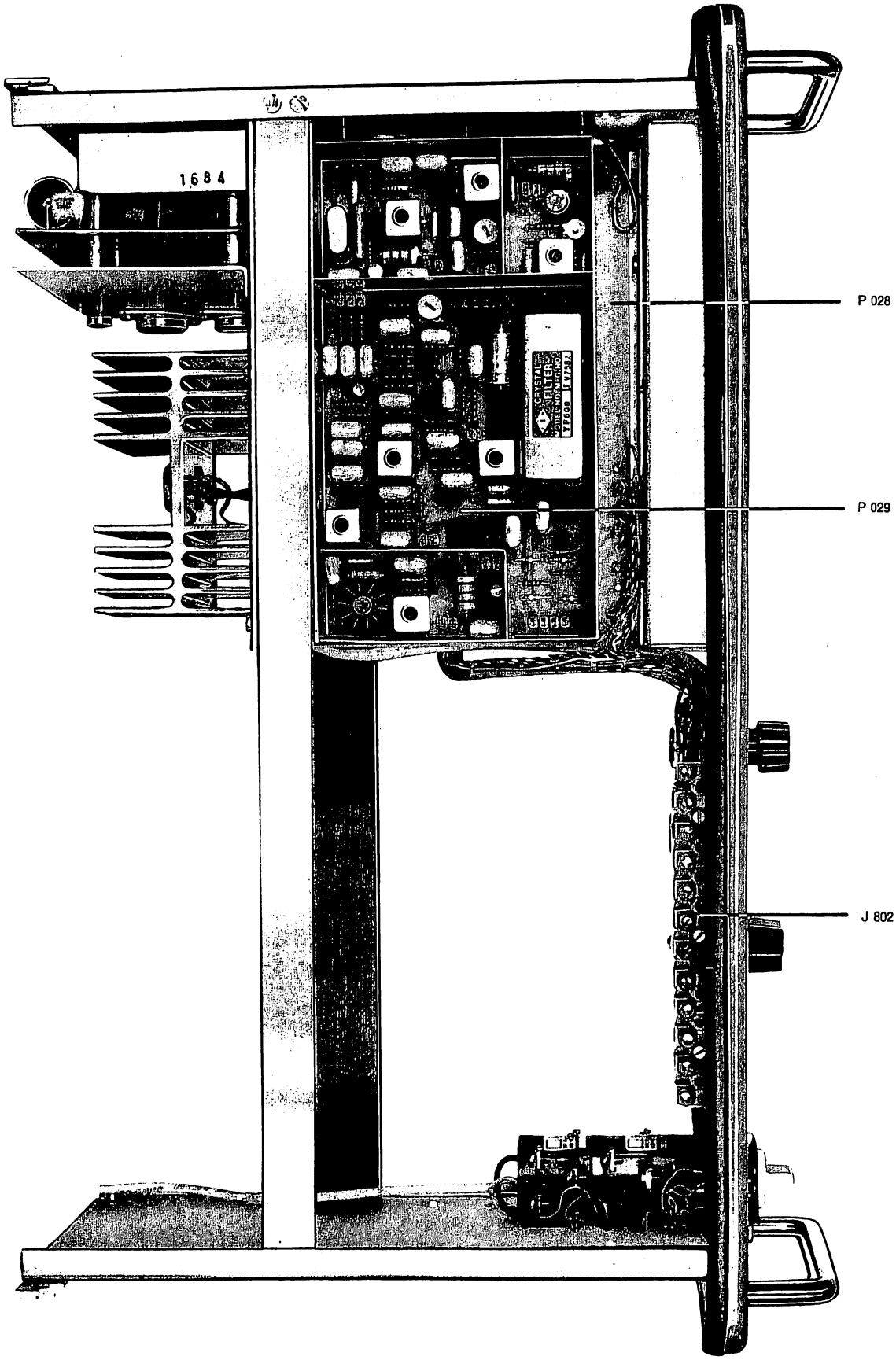
T 122 Front view



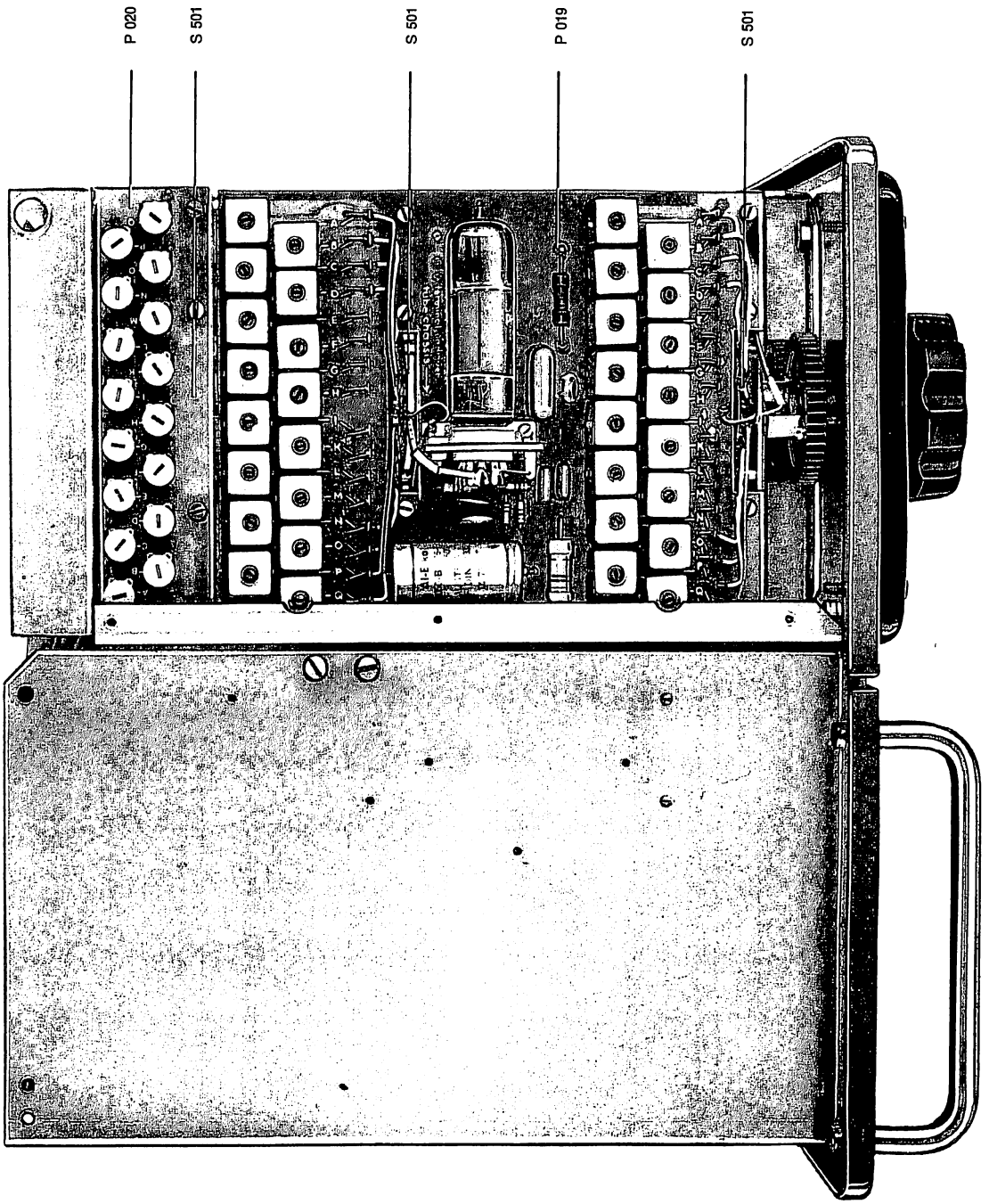
T 122 Tuning
(driver cover removed)



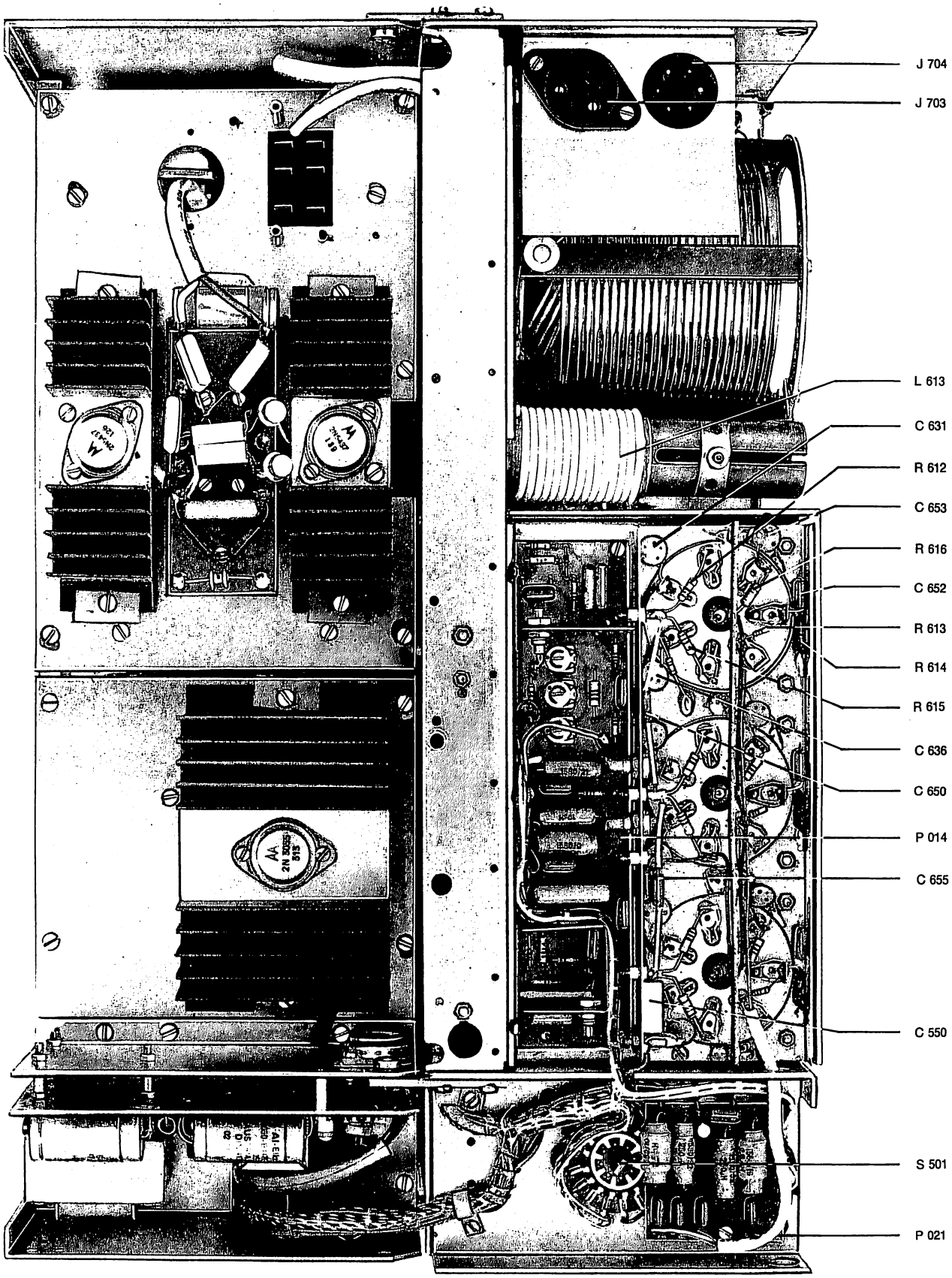
Top view, lower part



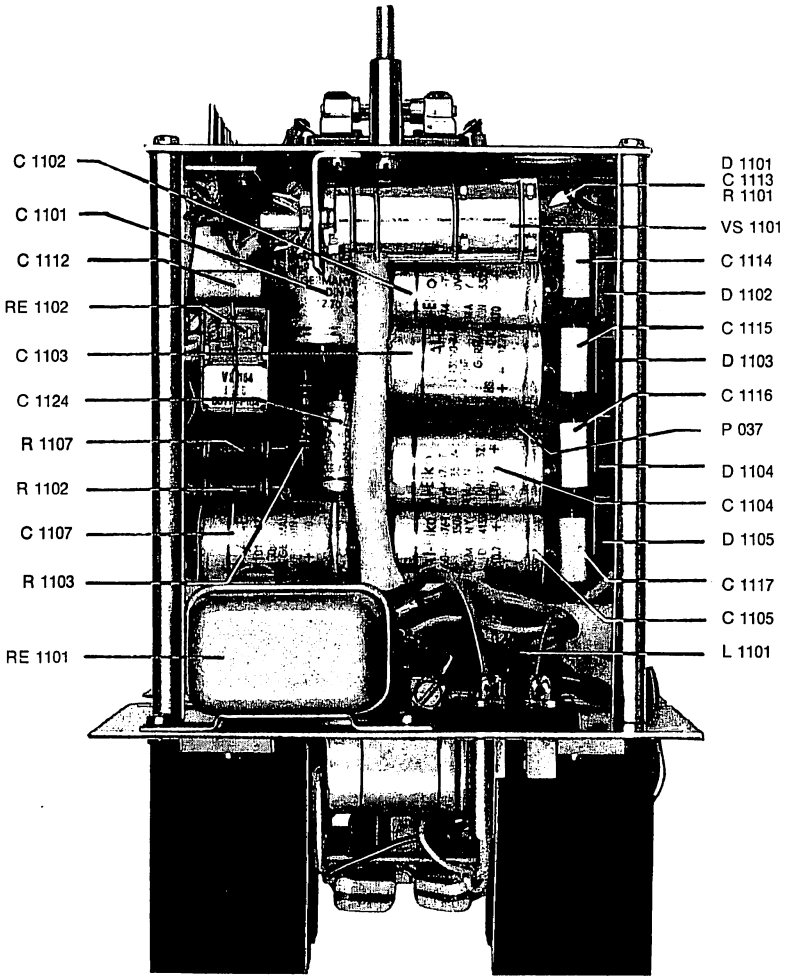
Bottom view, lower part



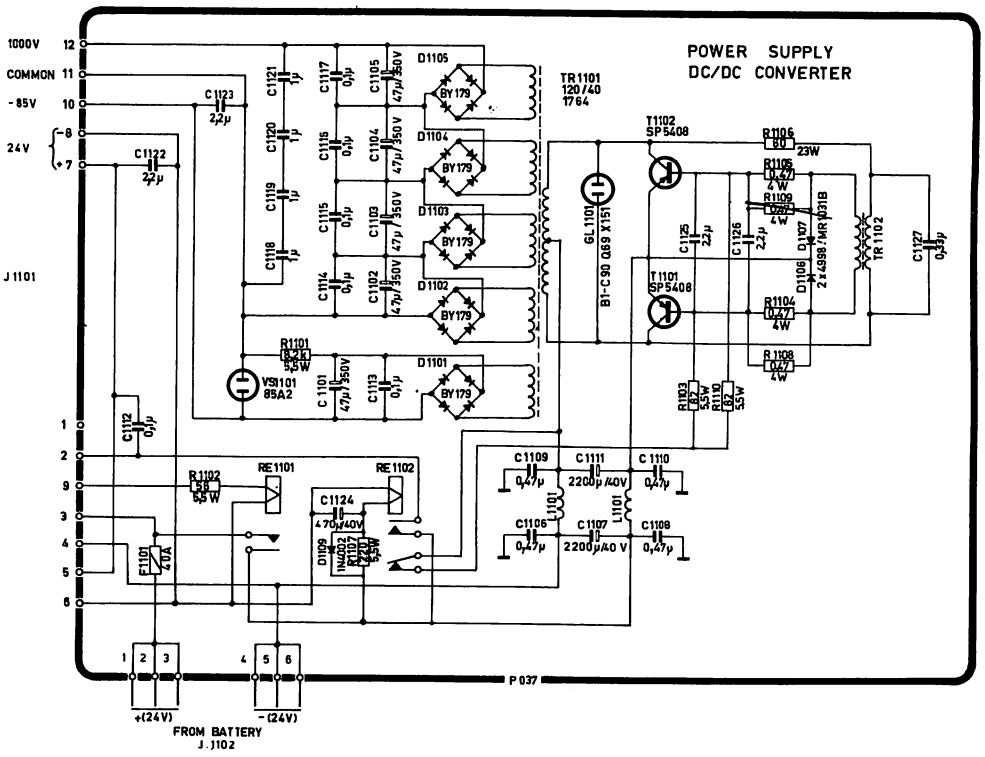
Left side view


J 704
J 703
L 613
C 631
R 612
C 653
R 616
C 652
R 613
R 614
R 615
C 636
C 650
P 014
C 655
C 550
S 501
P 021

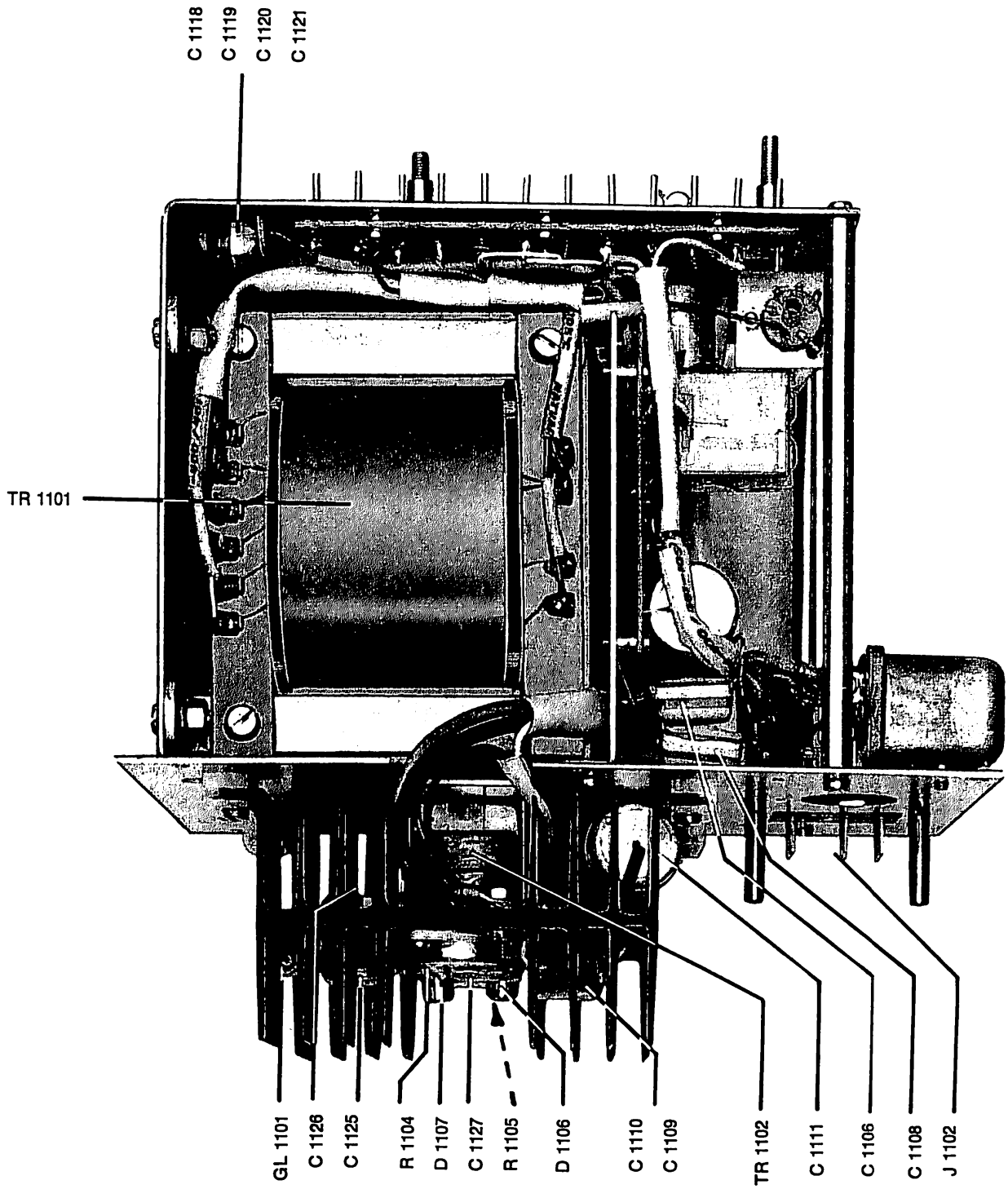
Rear view



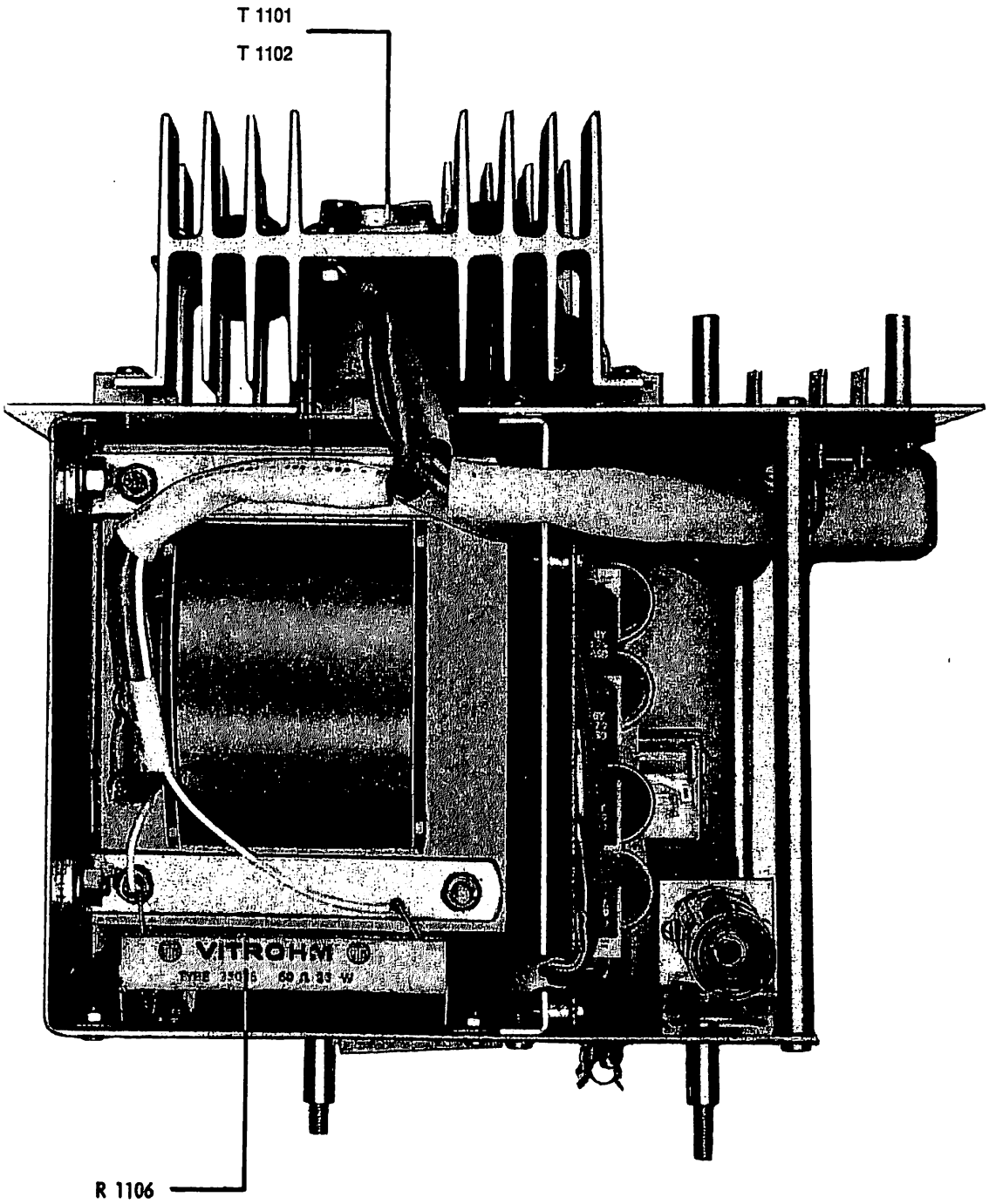
24 V DC converter, T 122
right side view



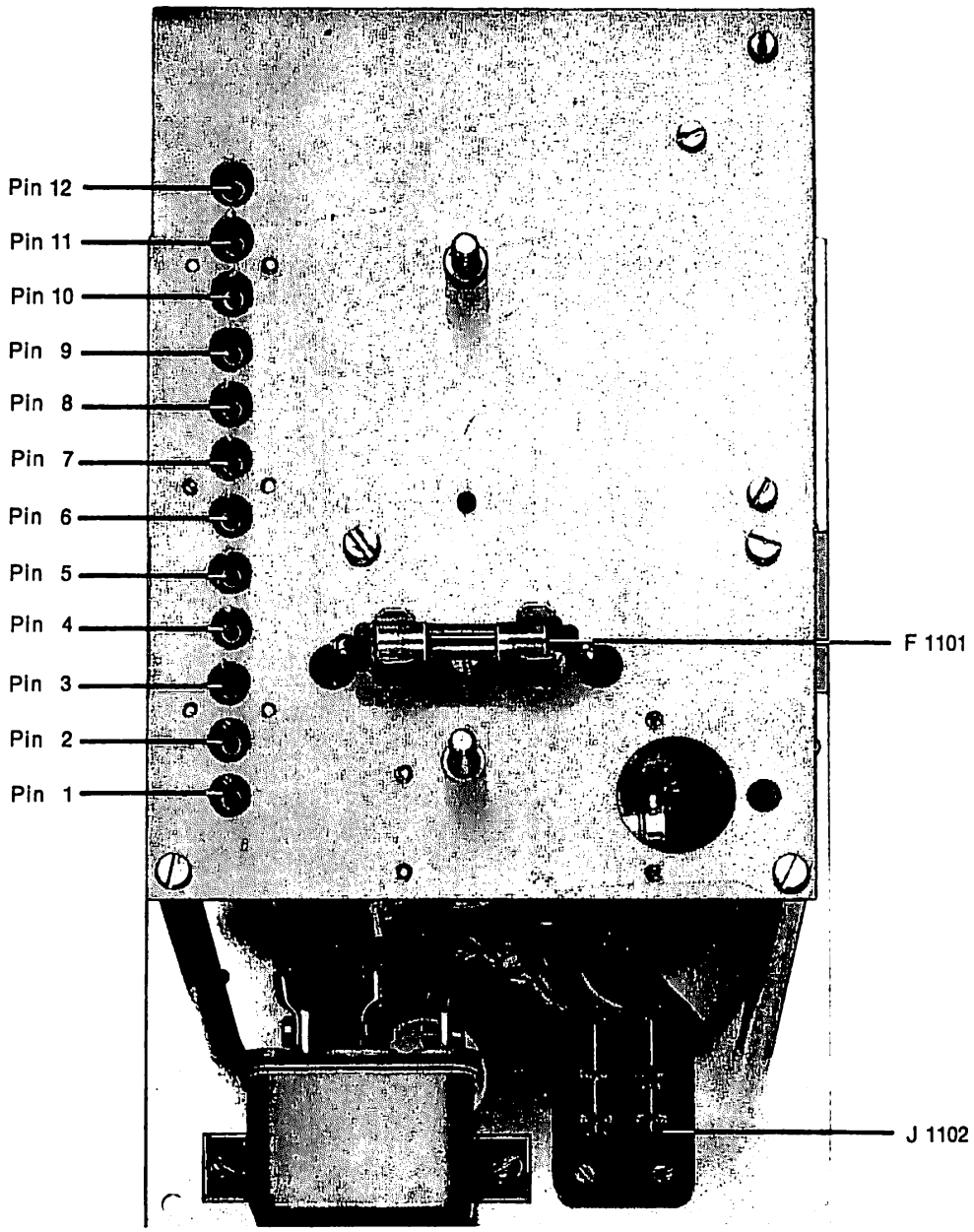
24 V DC/DC converter for Sailor T 122



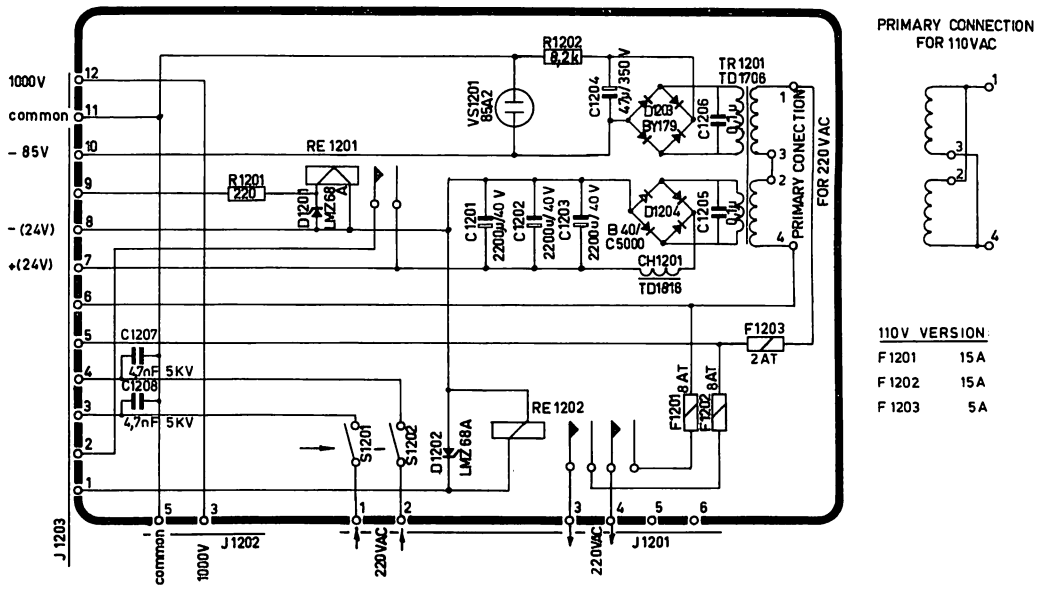
24 V DC converter, T 122
bottom view



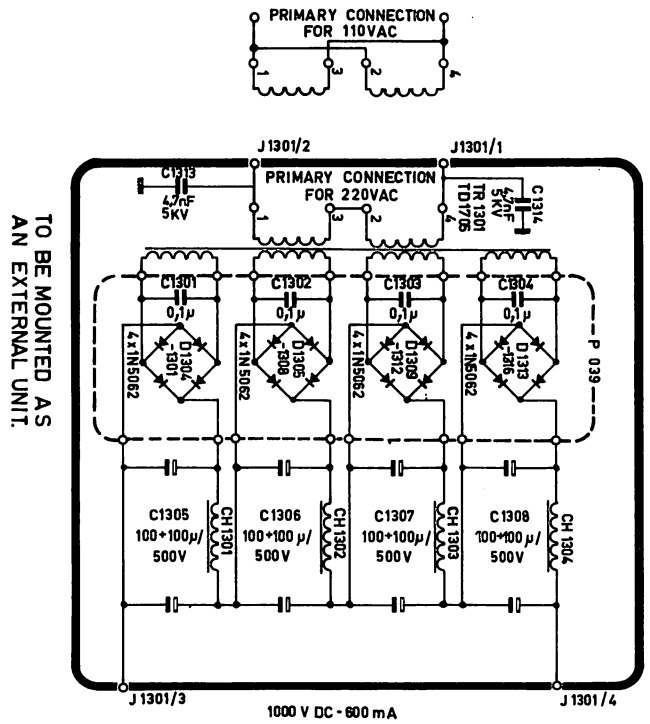
24 V DC converter, T 122
top view



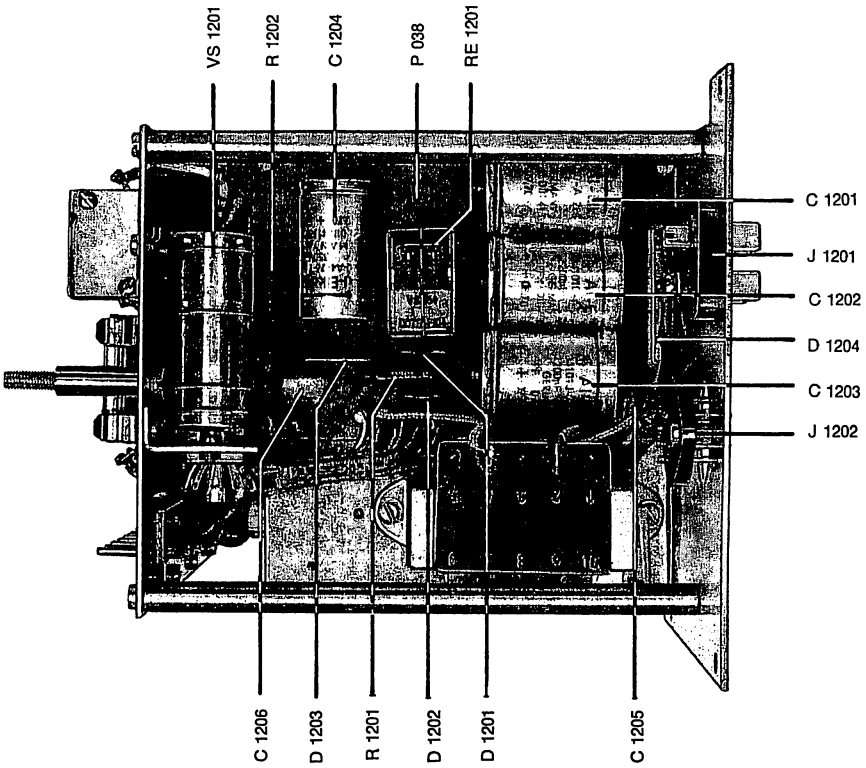
24 V DC converter, T 122
front view



110 220V AC power supply, T 122

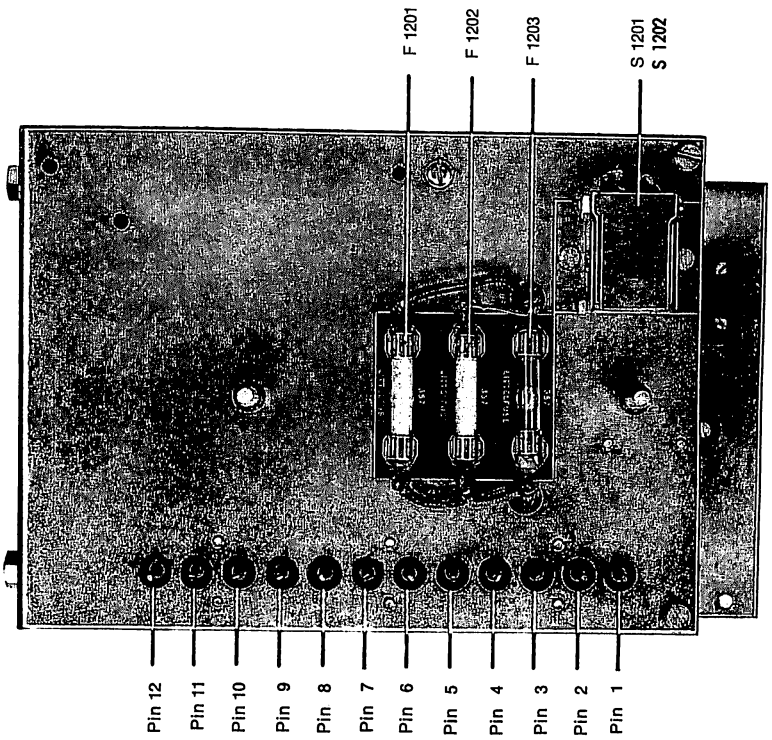


110 220V AC -1000 V DC power supply, T 122

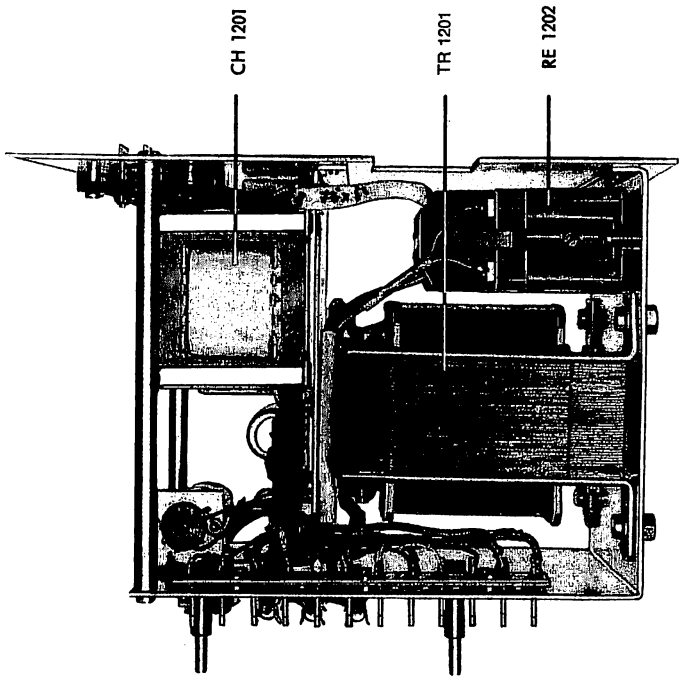


110 220 V AC power supply, T 122

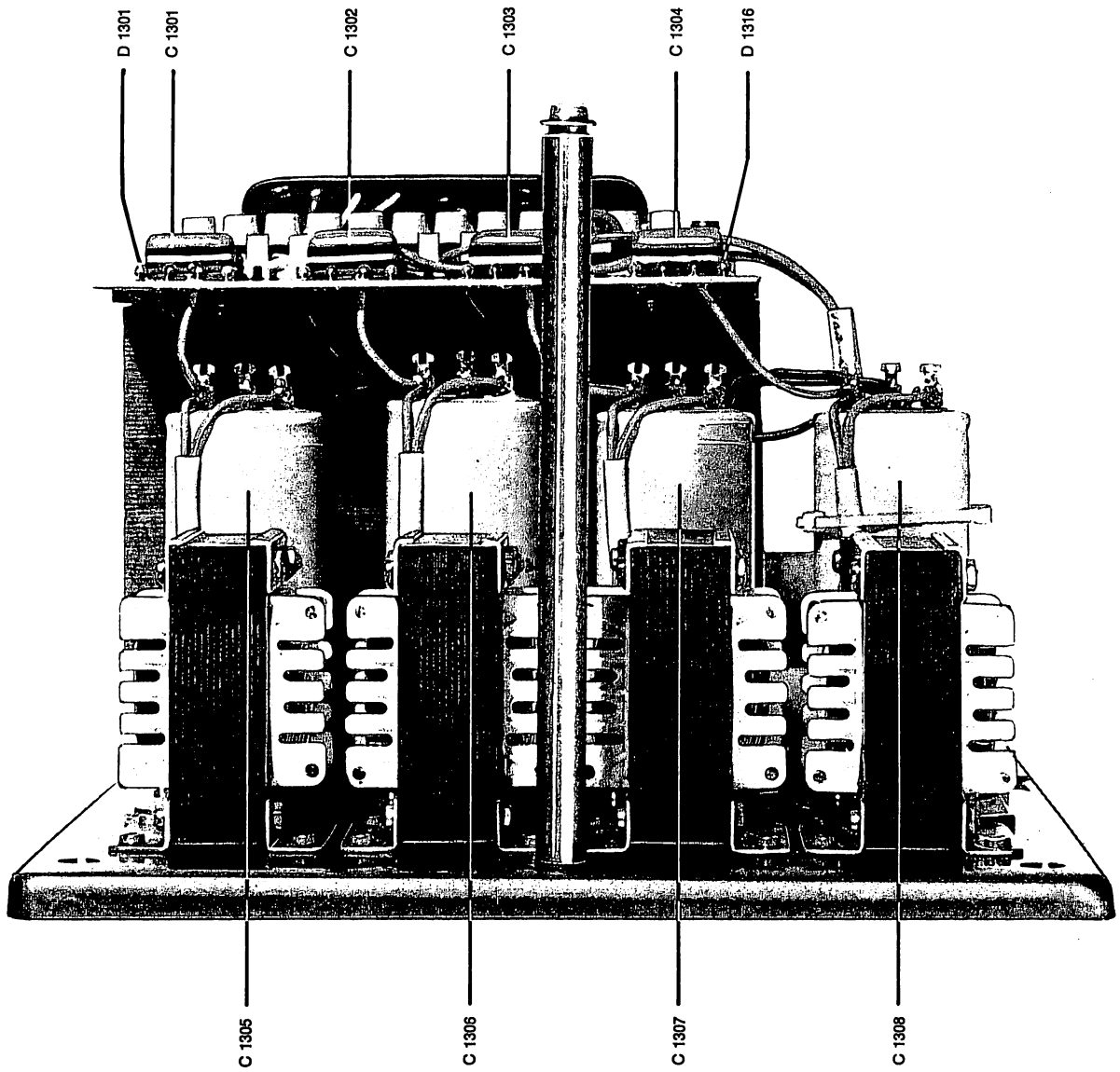
right side view



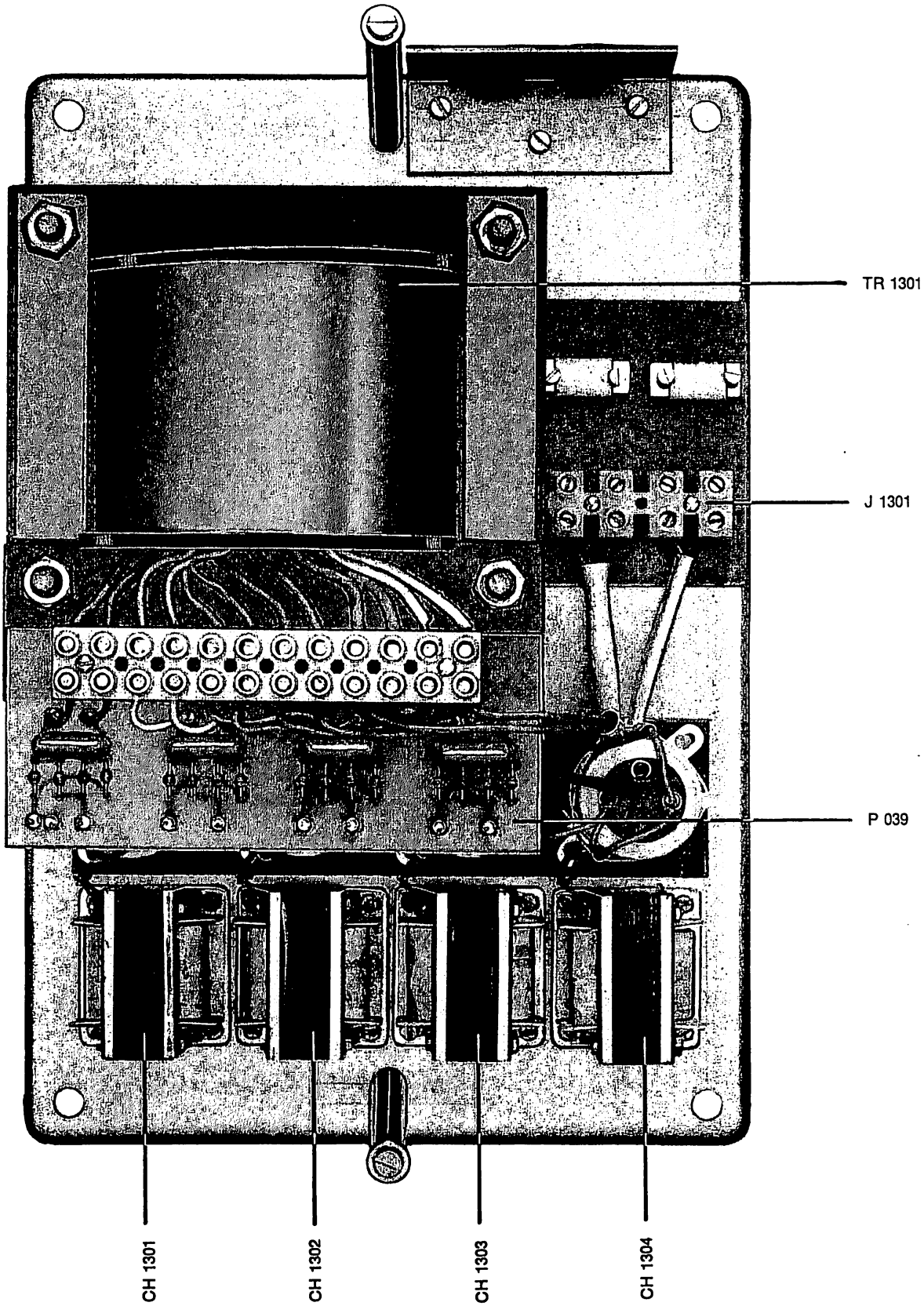
110 220 V AC power supply, T 122 **Front view**



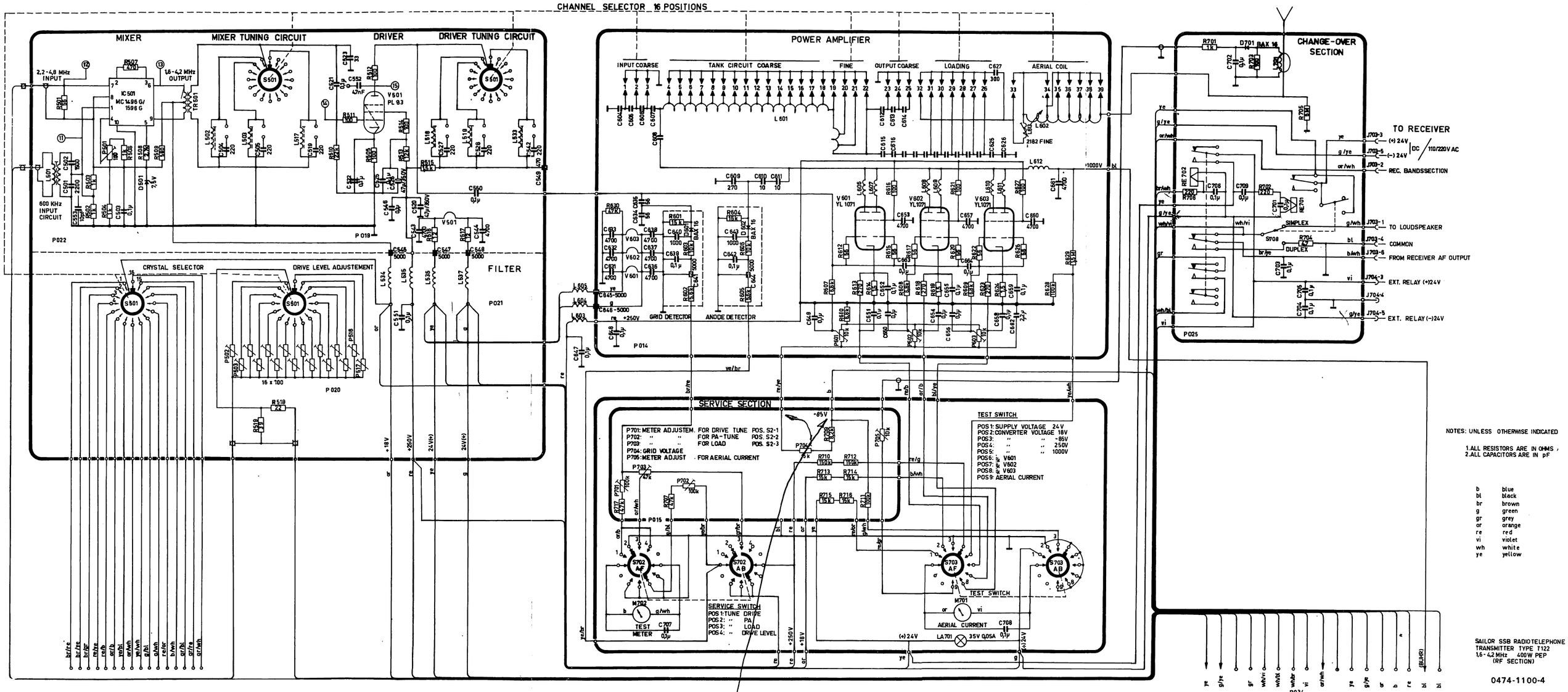
110 220 V AC power supply, T 122 **bottom view**



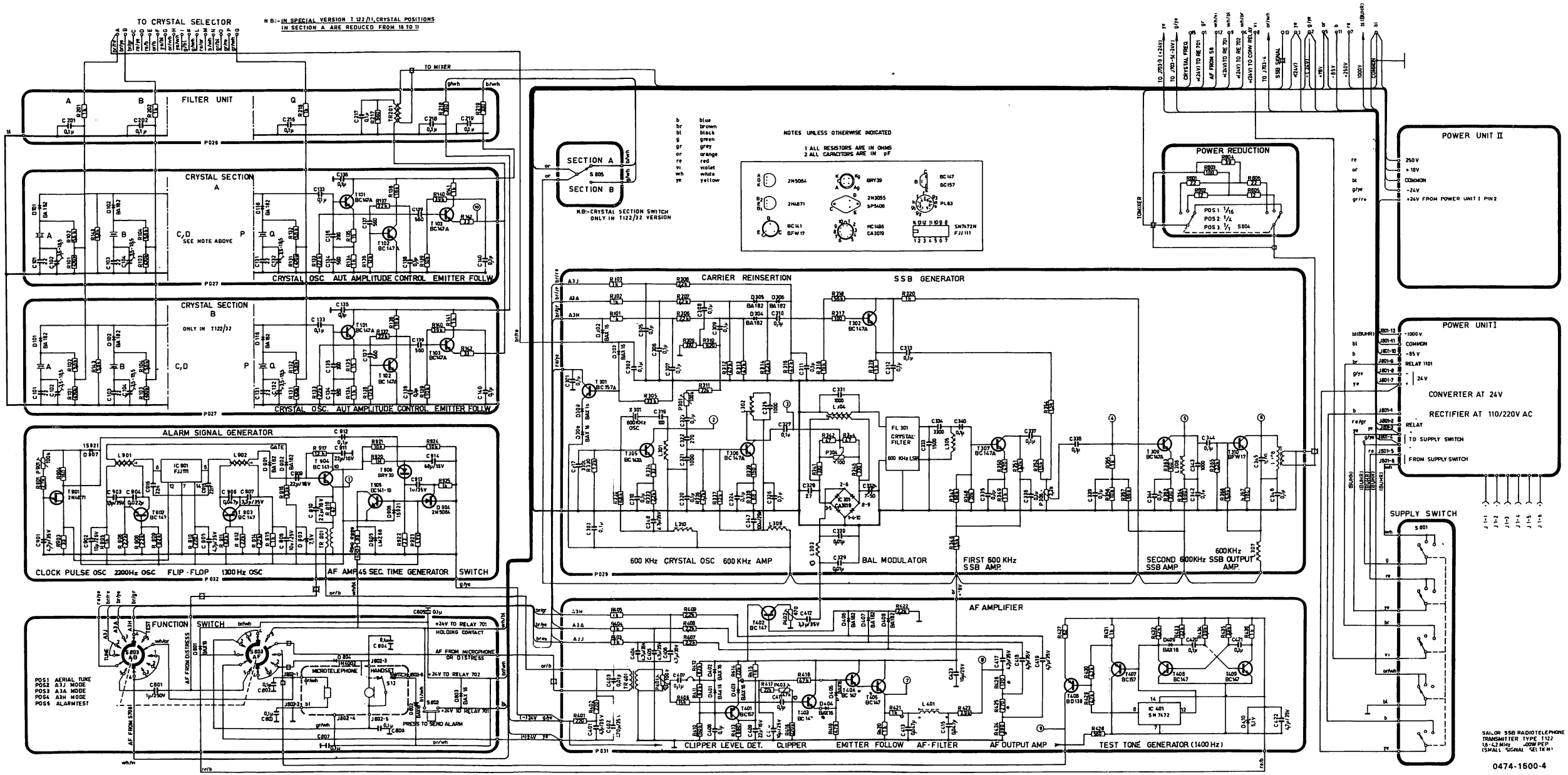
110 220 V AC - 1000 V DC power supply, T 122
top view



110 220 VAC - 1000 V DC power supply, T 122
front view



R709 & P704 WERE BYPASSED
I PUT THEM BACK IN CCT BUT
WAS INSUFFICIENT GRID -'VE
BIAS & PA VALVES DRAWING
TOO MUCH I.R. SO PUT P704
BACK IN CCT & R709 SHORTED
NOW ADJUSTS BIC FROM FRONT
PANEL WITH BALANCE ADJUST
ON P601, P602 & P603 AT REAR
PA TUBES. PAH 17/10/79.


TO CRYSTAL SELECTOR
N B:- IN SPECIAL VERSION T 122/11, CRYSTAL POSITIONS IN SECTION A ARE REDUCED FROM 16 TO 11
TO MIXER
FILTER UNIT
A
B
Q
P026
CRYSTAL SECTION A
C,D
SEE NOTE ABOVE
P
CRYSTAL OSC AUT AMPLITUDE CONTROL EMITTER FOLLW
P027
CRYSTAL SECTION B
ONLY IN T122/32
CRYSTAL OSC. AUT AMPLITUDE CONTROL EMITTER FOLLW
ALARM SIGNAL GENERATOR
CLOCK PULSE OSC 2200Hz OSC FLIP-FLOP 1300 Hz OSC
AF AMP 45 SEC. TIME GENERATOR SWITCH
P032
FUNCTION SWITCH
POS1 AERIAL TUNE
POS2 A3J MODE
POS3 A3A MODE
POS4 A3H MODE
POS5 ALARM TEST
MICROTELEPHONE
HANDSET
PRESS TO SEND ALARM
+24V TO RELAY 701 HOLDING CONTACT
AF FROM MICROPHONE OR DISTRESS
+24V TO RELAY 702
AF FROM STAGE
SECTION A
SECTION B
S 805
N.B:- CRYSTAL SECTION SWITCH ONLY IN T122/32 VERSION
b blue
br brown
bl black
g green
gr grey
or orange
re red
vi violet
wh white
ye yellow
NOTES UNLESS OTHERWISE INDICATED
1 ALL RESISTORS ARE IN OHMS
2 ALL CAPACITORS ARE IN pF
2N5064
2N4871
BC141 BFW17
BRY39
2N3055 SP5406
MC1486 CA3019
BC147 BC157
PL83
SN74123N FJJ111
CARRIER REINSERTION
SSB GENERATOR
600 KHz CRYSTAL OSC
600 KHz AMP
BAL MODULATOR
FIRST 600 KHz SSB AMP.
SECOND 600KHz SSB AMP
600KHz SSB OUTPUT AMP.
FL 301 CRYSTAL FILTER 600 KHz LSB
P029
AF AMPLIFIER
CLIPPER LEVEL DET.
CLIPPER
EMITTER FOLLOW
AF-FILTER
AF OUTPUT AMP
TEST TONE GENERATOR (1400 Hz)
P031
POWER REDUCTION
POS 1 1/16
POS 2 1/4
POS 3 1/1 S804
TO MIXER
POWER UNIT II
250 V
+ 18 V
COMMON
-24 V
+24 V FROM POWER UNIT I PIN 2
POWER UNIT I
+1000 V
COMMON
-85 V
RELAY 1101
24 V
CONVERTER AT 24V
RECTIFIER AT 110/220V AC
RELAY
TO SUPPLY SWITCH
FROM SUPPLY SWITCH
SUPPLY SWITCH
S 801
TO J701-3 (+24V)
TO J701-5 (-24V)
CRYSTAL FREQ
+24V) TO RE 701
AF FROM SSB
+24V) TO RE 702
+24V) TO CONV RELAY
TO J701-4
SSB SIGNAL
+24V)
-24V
+85V
+250V
1000V
COMMON
SAILOR SSB RADIOTELEPHONE TRANSMITTER TYPE T122 1.6-4.2 MHz 400W PEP (SMALL SIGNAL SECTION)
0474-1500-4