

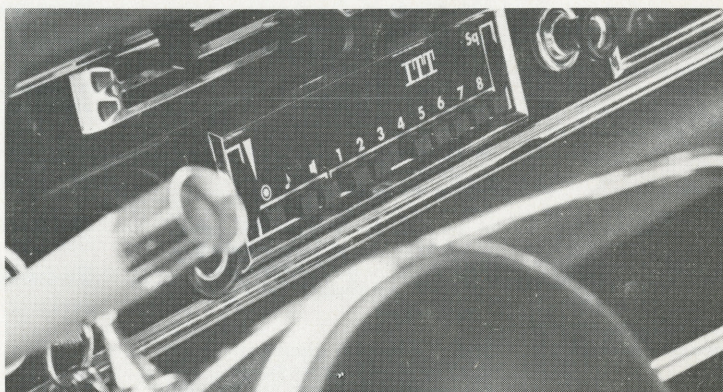
Standard Electric Aktieselskab

ITT

ITT*Standard*

TransITT 8 Mobile VHF FM RADIOTELEPHONE

- COMPLETELY TRANSISTORIZED
10 WATT MOBILE VHF FM
RADIOTELEPHONE SIZED
AS A CONTROL UNIT
- PUSH-BUTTON CONTROLLED
FOR SAFE DRIVING
- DASH BOARD MOUNTING
- EASY INSTALLATION
- MODULAR CONSTRUCTION



APPLICATION

TransITT 8 Mobile 8 channel radiotelephone equipment is specially designed for installation in any kind of vehicle. Complete transistorization of transmitter and receiver plus application of the Ministac system reduce the dimensions to such an extent that the small size of the set makes it possible to mount it directly on the dash-board, where previously there was only room for the control box. Installation measurements are as follows: width: 169 mm – height: 44 mm – depth: 170 mm.

The use of transistors has reduced the current drain to an extremely low figure. The set is driven without converter directly from the car's 12 V battery, as experience has proved that omission of a DC converter is of importance for operation-security of a radio-station, as most operational disturbances arise due to failure in the converter.

The installation is as simple as that of an ordinary radio. The set is provided with a coaxial plug for the antenna and a multiplug for all other connections.

SPECIAL FEATURES

TransITT 8 Mobile is connected to a separate loudspeaker placed in the car, and the 3 watt output power assures ample volume, even in vehicles with strong noise-level. The station normally comes with a dynamic microphone with push-to-talk switch, but can also be supplied with a light-weight handset.

The TransITT 8 Mobile uses our new Ministac techni-

que for the construction of the single modules of the equipment. This Ministac technique allows very small dimensions using reliable components of normal size. The Ministac modules are units of big mechanical strength which can resist very rough handling.

The Ministac technique assures that every single component can be reached without difficulty and that every single component has its own separate fixing points which are not an integral part of a printed wiring board but consist of rugged nickel silver terminals. It is free from mechanical resonances in the range, normally causing difficulties in mobile equipment.

The Ministac modules are very easy to change thanks to a patented plug-in system with gold-plated contacts for maintenance and servicing. The modules can be forwarded in an envelope and reach destination within a few hours. The set is controlled by push-buttons to achieve greater safety when operating the station while driving.

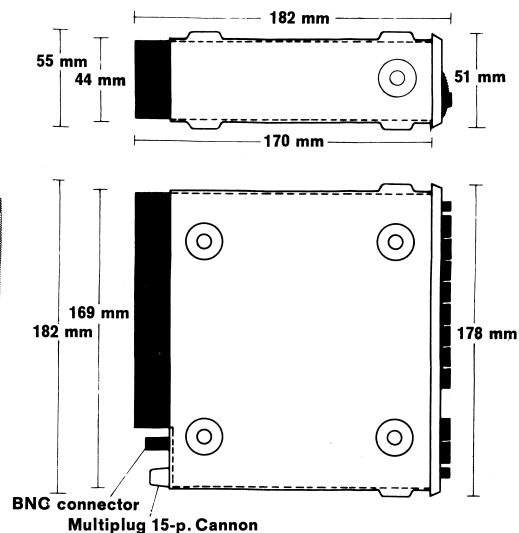
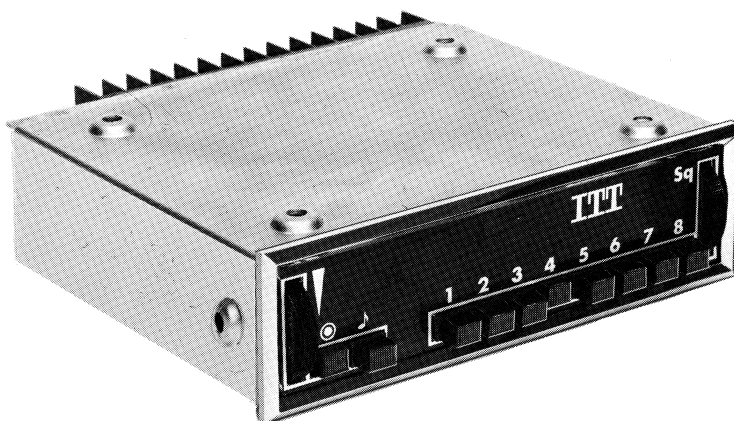
ACCESSORY EQUIPMENT

■ Loudspeaker for mounting in dash-board ■ Loudspeaker in cabinet ■ Dynamic handmicrophone with press-to-talk key ■ Dynamic microphone for fixed mounting. ■ Dynamic handmicrotelephone with cradle ■ Installation kit ■ Antenna kit for car installation ■ Power pack: 6-12-24 V DC independent of polarity ■ Power pack: 24 V DC with minus to ground ■ Power pack: 6 or 12 V DC independent of polarity ■ Selecto-call system.

Order number for additional sheets

16-4- 70.014 -3E

Index tab Nos. Page No. Edition



TECHNICAL DATA

General:

Frequency range:	68–78 Mc/s (5 m band) 78–88 Mc/s (4 m band) 146–174 Mc/s (2 m band)
Number of channels:	1–8 locally controlled
Operation mode:	Simplex or semi-duplex
RF bandwidth:	2 m band: 1 Mc/s 4 m band: 0.6 Mc/s 5 m band: 0.6 Mc/s
Channel separation:	1) 50 kc/s 2) 25 kc/s 3) Optional
Modulation:	Phase modulation
Temperature:	From -25°C to $+50^{\circ}\text{C}$
Frequency stability:	± 2.5 kc/s for 50 kc/s channeling ± 1.6 kc/s for 25 kc/s channeling
Crystals:	2 crystals for each channel – separate oscillators for transmitter and receiver
Power supply standard voltages :	13.5 V, minus to ground $\pm 10\%$ for all performance specifications except for RF power output which meets EIA specifications. Extremes $+15\%$ and -20% according to EIA.
Power consumption:	About 0.8 W for standby, 20 W for transmitting
Transistorization:	38 transistors No tubes
Dimensions:	Height \times width \times depth
Built-in	44 \times 169 \times 170 mm
Total	51 \times 178 \times 182 mm
Weight:	approx. 2 kilos

Transmitter:

Power output at standard voltage and ambient temperature $+15^{\circ}\text{C}$ to $+30^{\circ}\text{C}$:	10 W
Maximum deviation:	1) ± 15 kc/s for 50 kc/s channeling 2) ± 5 kc/s for 25 kc/s channeling 3) Optional
Standard deviation:	1) ± 10.5 kc/s for 50 kc/s channeling 2) ± 3.5 kc/s for 25 kc/s channeling 3) Optional
Distortion at 1000 c/s:	Less than 7 % for standard deviation
Spurious emissions:	Less than $0.2 \mu\text{W}$
Harmonics:	Less than $0.2 \mu\text{W}$

Adjacent channel radiated power:

Noise level:

AF input standard level:

Audio pass band:

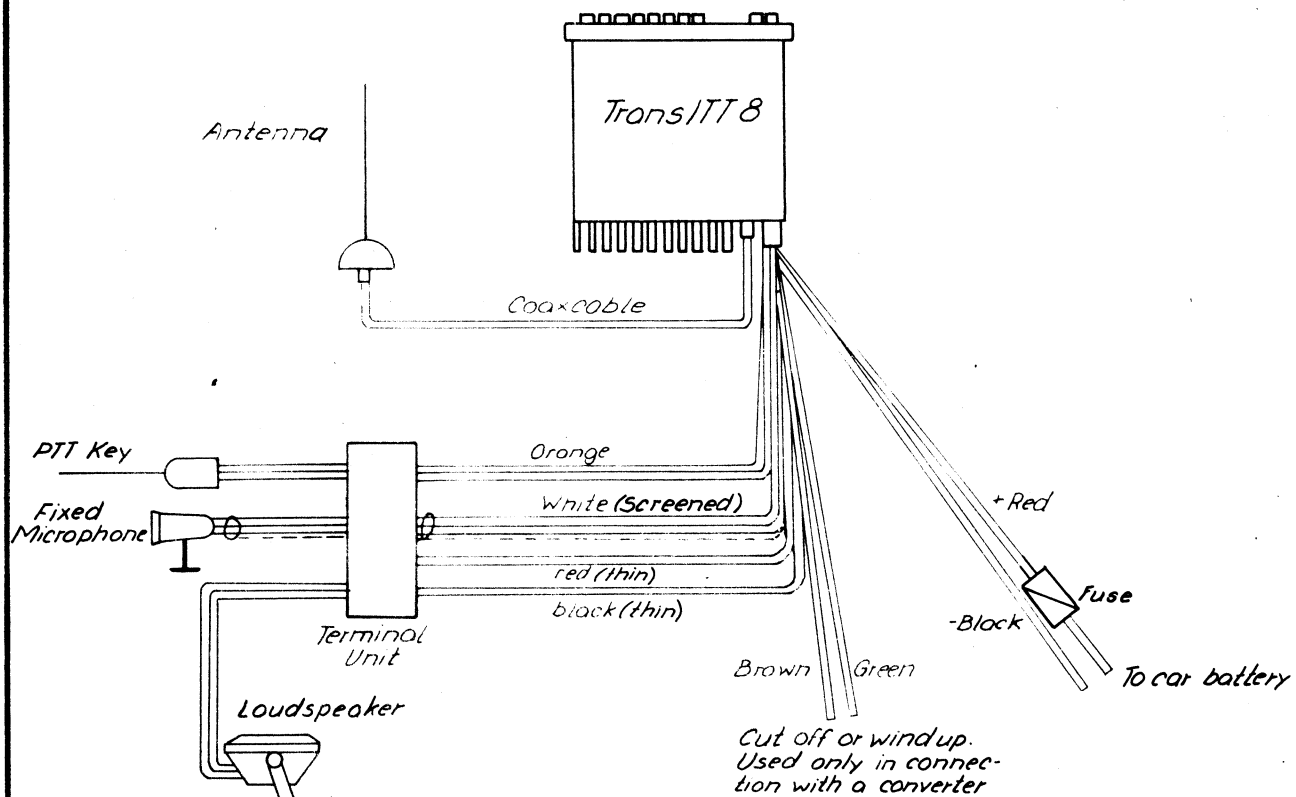
Peak limiter:
Optional:

Receiver:

Sensitivity:	0.3–0.5 μV (voltage across input terminals) 20 dB S/N or 12 dB S+N+D/N+D (EIA)
Receiver noise:	More than 46 dB below output at standard level and at $10 \mu\text{V}$ receiver input voltage. Squelched: 50 dB 80 dB(EIA – two signal method)
Selectivity:	85 dB (EIA method)
Image rejection:	85 dB(EIA method)
Spurious responses:	64 dB(EIA – three signal method)
Interchann. modulation:	Blocking
(GPO requirement):	Reduction of AF output signal less than 3 dB received signal $1 \mu\text{V}$ standard deviation, second signal 30 mV separated less than ± 150 kc/s (voltage measured across input terminals) 10.7 Mc/s 470 kc/s
1st IF	Less than $0.002 \mu\text{W}$ into 50Ω and $30 \mu\text{V}/\text{meter}$ at 30 meters.
2nd IF	Less than 7 % for standard deviation and 2.5 W AF power output
Receiver radiation:	3 W in impedance 3.2Ω
Distortion at 1000 c/s:	15 mW in impedance 200Ω
Output power:	300–3000 c/s
Output for handset: (optional)	(optional 300–2600 c/s)
Audio pass band:	$+1$ to -3 dB ref. 1000 c/s
Squelch:	Adjustable on front panel.

"How to mount TransITT 8", diagram

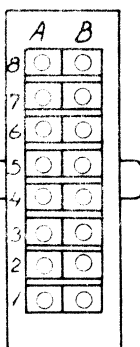
The car has 12V and minus grounded. Fixed Microphone



Terminal Unit

A To Microphone and PTT Switch

- 1 red in screened cable +9V
- 2 blue in screened cable Mic.
- 3 Screen in screened cable ground
- 4 Orange
- 5 Orange
- 6 Loudspeaker red (+12V)
- 7 Loudspeaker black
- 8



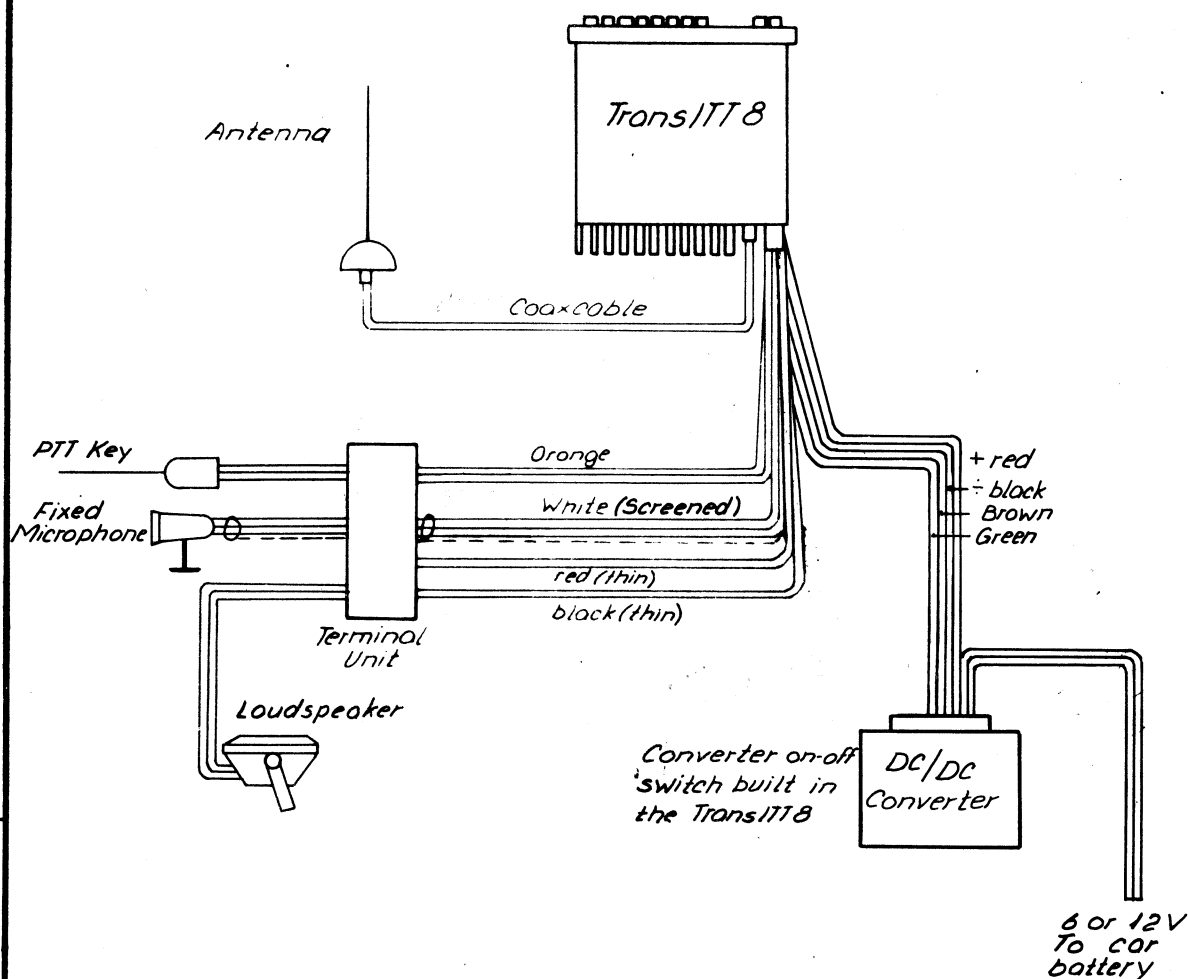
B From TransITT 8

- 1 red in screened cable +9V
- 2 white in screened cable Mic.
- 3 Screen in screened cable ground
- 4 Orange PTT
- 5 Orange PTT
- 6 Loudspeaker red (+12V)
- 7 Loudspeaker black
- 8

"How to mount TransITT8", diagram

The car has 6 or 12 V minus or plus grounded, converter is added.

Fixed Microphone



Terminal Unit

A To Microphone and PTT Switch

1 red in screened cable +9V

2 blue in screened cable Mic.

3 Screen in screened cable ground

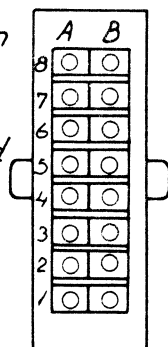
4 Orange

5 Orange

6 Loudspeaker red (+12V)

7 Loudspeaker black

8



B From TransITT8

1 red in screened cable +9V

2 white in screened cable Mic.

3 Screen in screened cable ground

4 Orange PTT

5 Orange PTT

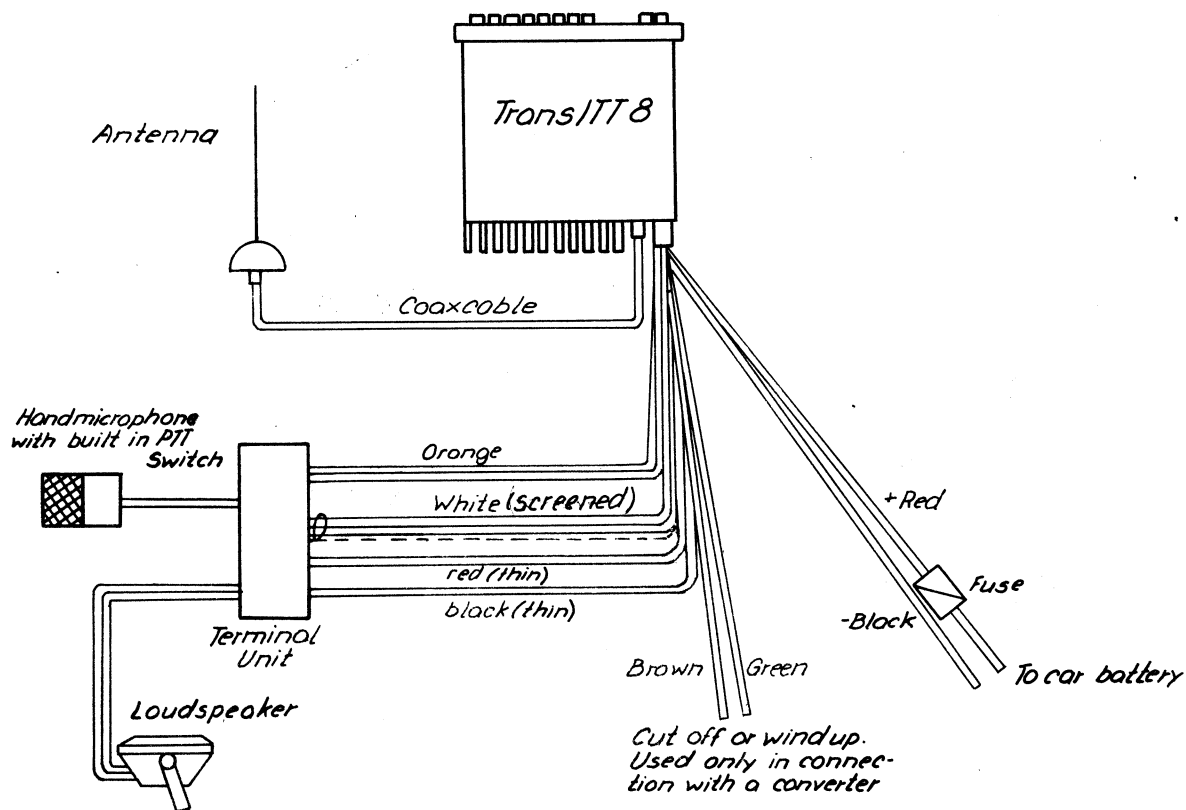
6 Loudspeaker red (+12V)

7 Loudspeaker black

8

"How to mount TransITT 8", diagram

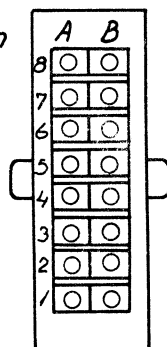
The car has 12V and minus grounded. Handmicrophone



Terminal Unit

A To Microphone and PTT Switch

- 1 No connection
- 2 Green in screened cable Mic.
- 3 White & screen
- 4 Black
- 5 Red
- 6 Orange
- 7 Orange
- 8



B From TransITT 8

- 1 red in screened cable +9V
- 2 white in screened cable Mic.
- 3 Screen in screened cable ground
- 4 Orange PTT
- 5 Orange PTT
- 6 Loudspeaker red (+12V)
- 7 Loudspeaker black
- 8

TEGNET.

KONTR.

GODK.

Standard Electric A/S

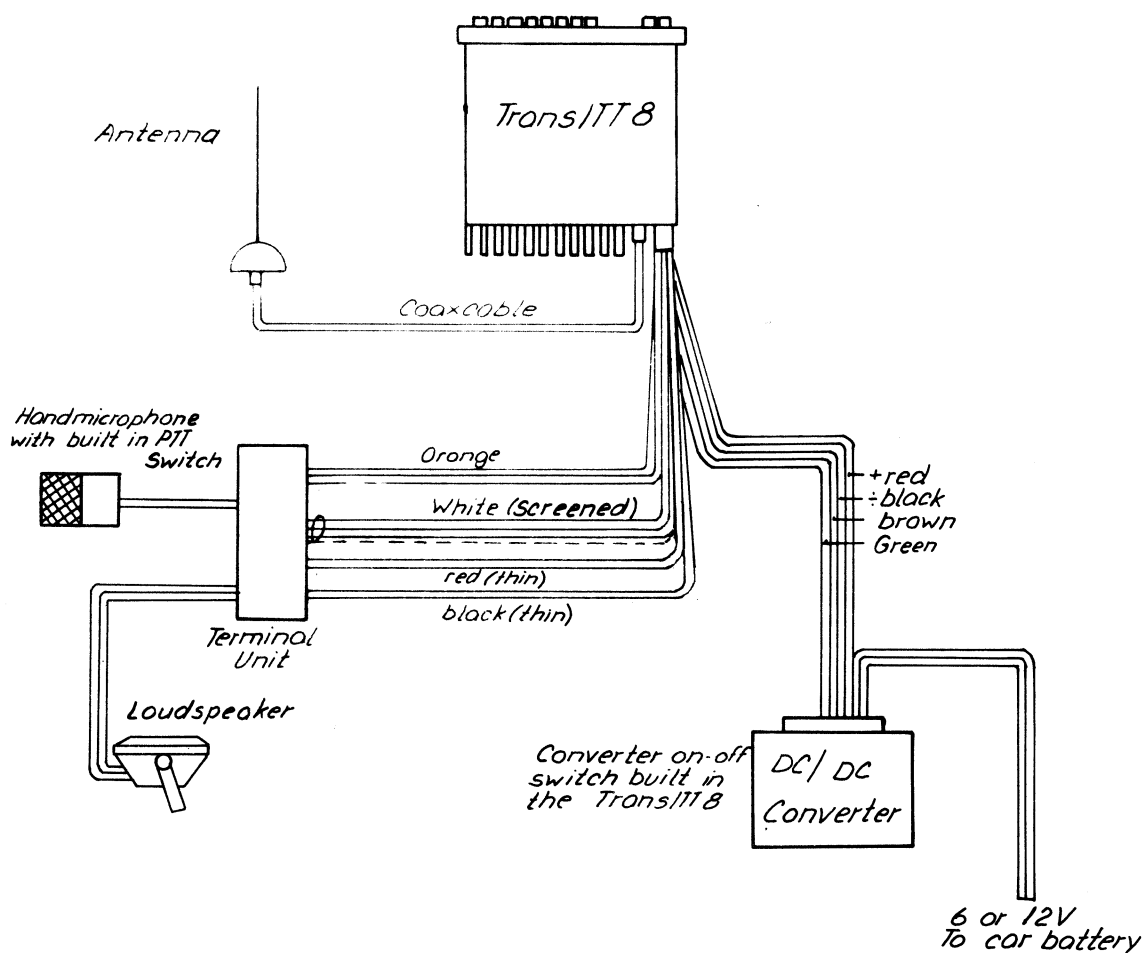
KØBENHAVN

BLADE
BLAD

R-K5 375

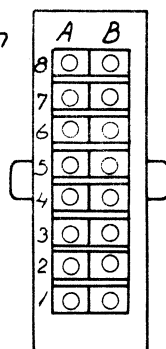
"How to mount TransITT8", diagram

The car has 6 or 12V minus or plus grounded, converter is added.
Handmicrophone



Terminal Unit

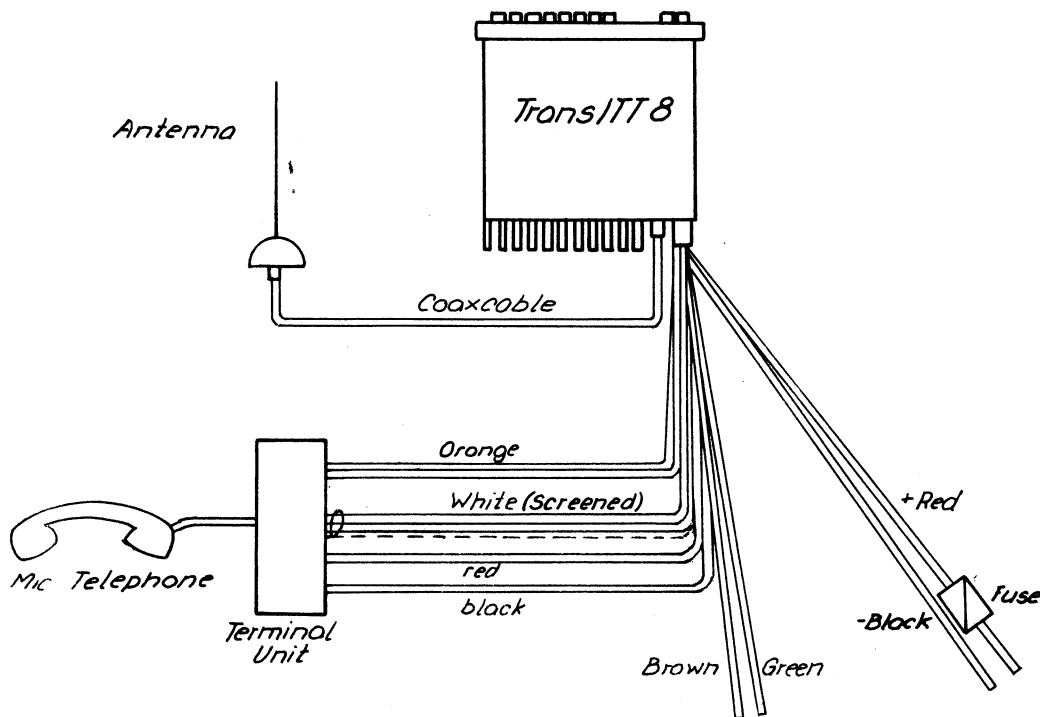
- A To Microphone and PTT Switch
- 1 No connection
 - 2 Green in screened cable Mic.
 - 3 White & screen
 - 4 Black
 - 5 Red
 - 6 Orange
 - 7 Orange
 - 8



- B From TransITT8
- 1 red in screened cable +9V
 - 2 white in screened cable Mic.
 - 3 Screen in screened cable ground
 - 4 Orange PTT
 - 5 Orange PTT
 - 6 Loudspeaker red (+12V)
 - 7 Loudspeaker black
 - 8

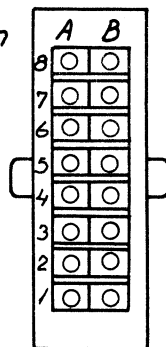
"How to mount TransITT8", diagram

The car has 12V and minus grounded. Mic. Telephone.



Terminal Unit

- A To Microphone and PTT Switch**
- 1 No connection
 - 2 White Mic.
 - 3 Green-Blue grounded
 - 4 Black PTT
 - 5 Red PTT
 - 6
 - 7
 - 8

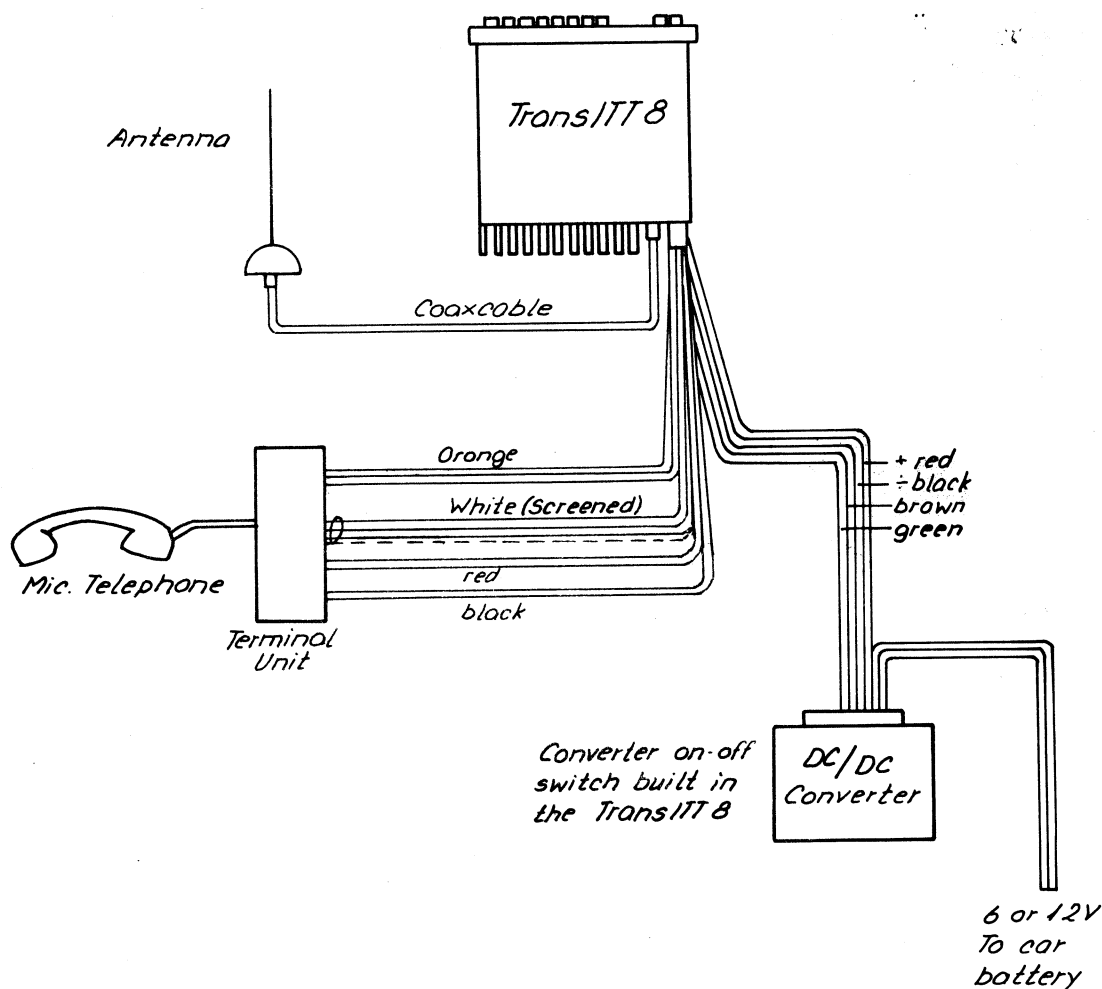


- B From TransITT8**
- 1 Red in screened cable +9V
 - 2 White in screened cable Mic.
 - 3 Screen in screened cable ground
 - 4 Orange PTT
 - 5 Orange PTT
 - 6 Loudspeaker red (+12V)
 - 7 Loudspeaker black
 - 8

"How to mount TransITT 8", diagram

The car has 6 or 12V minus or plus grounded, converter is added.

Mic. Telephone



Terminal Unit

A To Microphone and PTT Switch

1 No connection

2 White Mic.

3 Green-Blue grounded

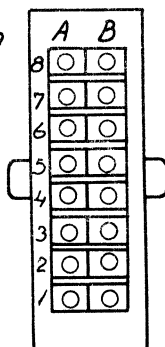
4 Black PTT

5 Red PTT

6

7

8



B From TransITT 8

1 Red in screened cable +9V

2 White in screened cable Mic.

3 Screen in screened cable ground

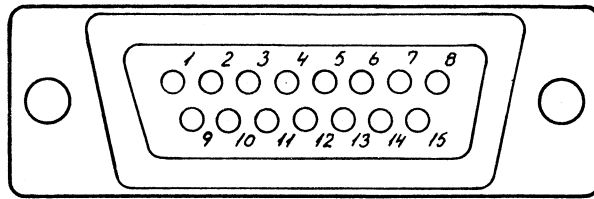
4 Orange PTT

5 Orange PTT

6 Loudspeaker red (+12V)

7 Loudspeaker black

8

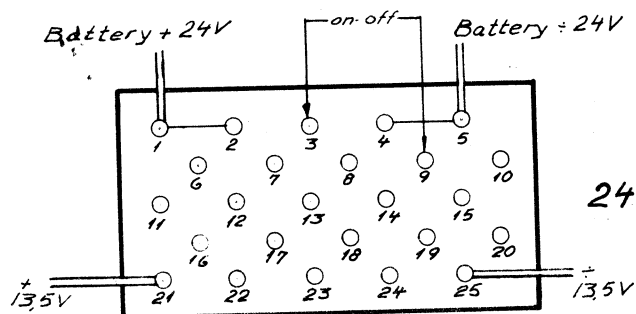


- | | | | |
|-----|-------------------|---------------------|--------------------------------------|
| 1. | Battery minus | 13,5V | Black |
| 2. | On-off Converter | | Brown |
| 3. | On-off Converter | | Green |
| 4. | Loudspeaker | (+13,5V) | Red (thin) |
| 5. | | | |
| 6. | | | |
| 7. | Microphone | (ground) | Screen |
| 8. | Microphone | (signal) | White in screened cable <i>green</i> |
| 9. | PTT | (ground) | Orange <i>Sort</i> |
| 10. | PTT | | Orange |
| 11. | Loudspeaker | | Black (thin) <i>gult</i> |
| 12. | Battery plus | 13,5V | Red |
| 13. | | | |
| 14. | | | |
| 15. | +9V for PRE Ampl. | in fixed Microphone | <i>hvid</i>
Red in screened cable |

TransITT 8 Power plug

F	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 5px;">UDG.</div> <div style="margin-bottom: 5px;">DATO</div> <div style="margin-bottom: 5px;">SIGN.</div> <div style="margin-bottom: 5px;">KONF.</div> <div style="margin-bottom: 5px;">MTP</div> <div style="margin-bottom: 5px;">STA</div> </div>	MÅLFORHOLD	MATERIALE	FINISH
		2:1	DIMENSION	LÅGER NR.
		TITEL		ERSTATTER
		TransITT 8 Power plug		TEGN. NR. BL. AF
		ITT STANDARD ELECTRIC A/s KØBENHAVN.		R-KS379
		ERSTATET AF		

Stabilizer Plug.



TEGNET. 44.
25-9-66

KONTR.

GODK.

Standard Electric A/S

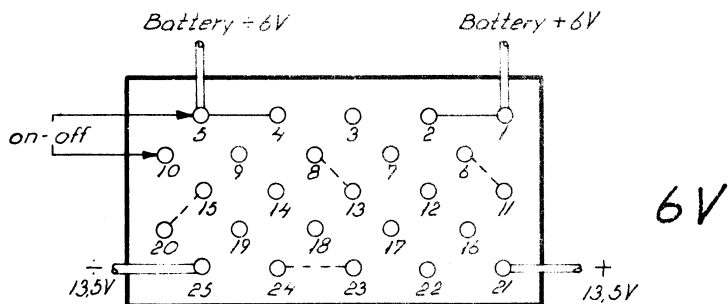
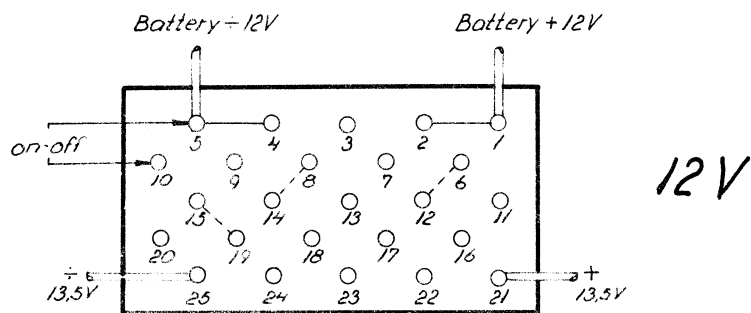
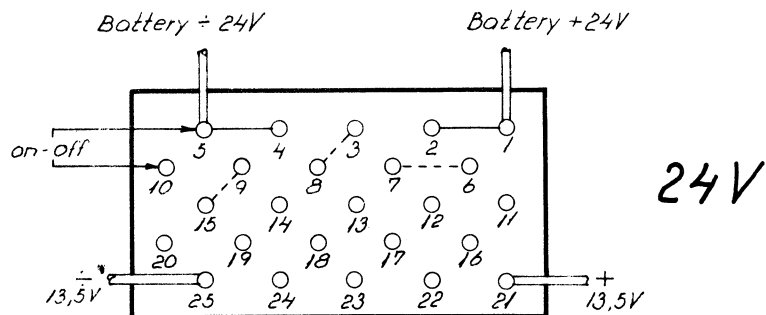
KØBENHAVN

BLADE
BLAD

A-KS 371

UDG. 1
NY KALKE
2. Udg.
19-12-66 GJ

Converter Plug



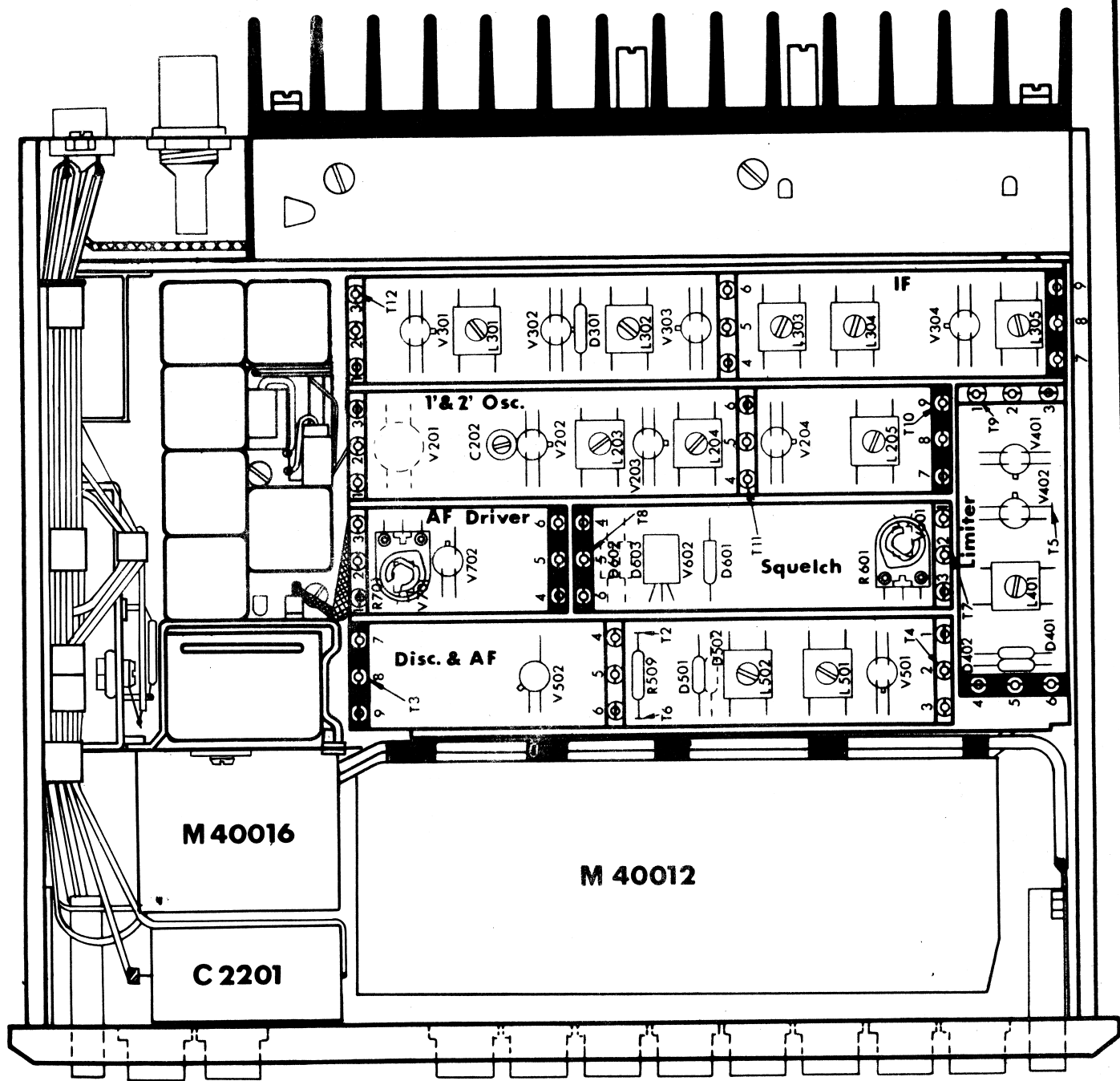
TEGNET. GJ.
19-12-66
KONTR. R.
GODK.

Standard Electric A/S

KØBENHAVN

BLADE
BLAD / R-KS 372

X



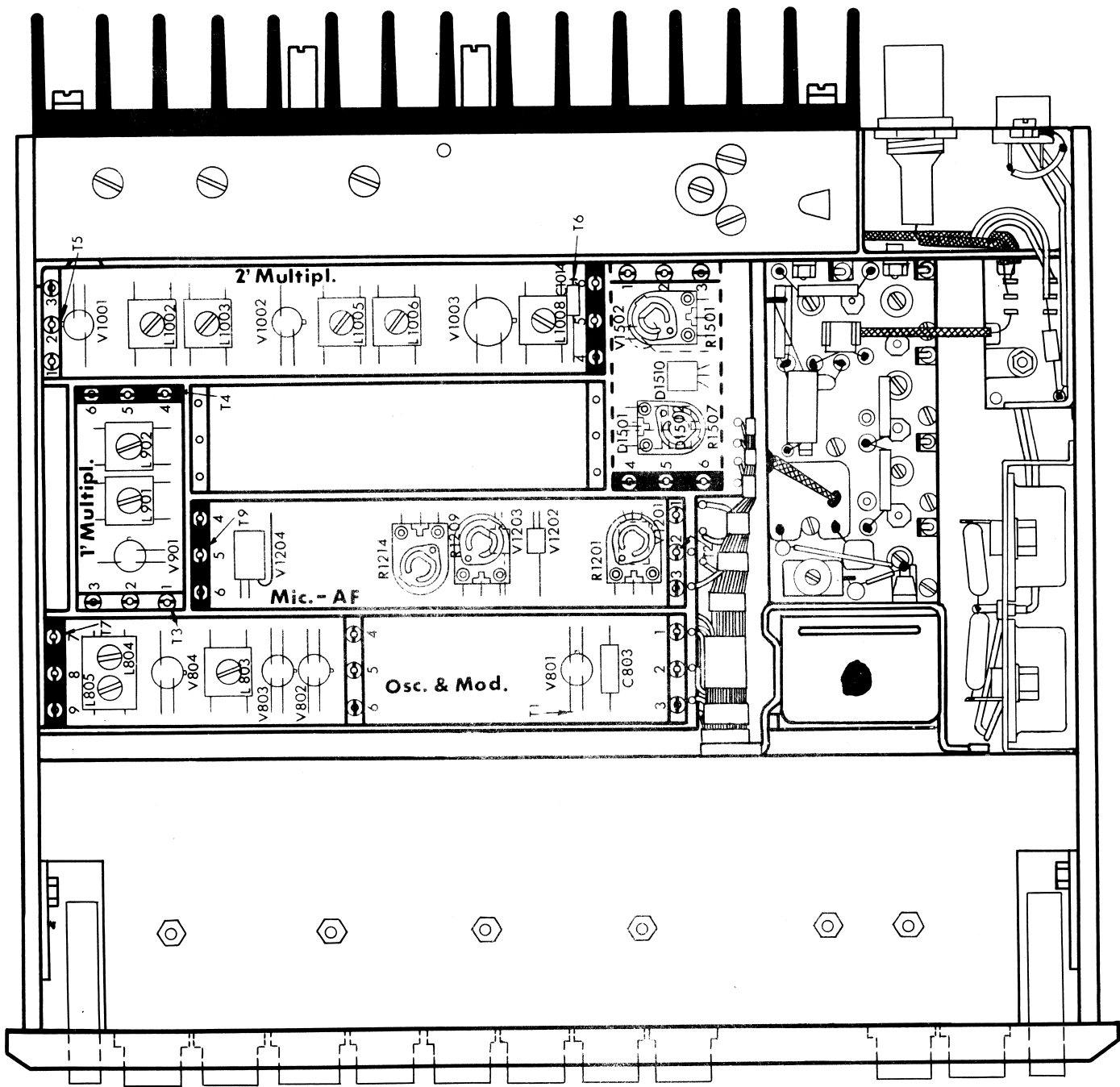
TransITT 8 8 Channels

TEGNET 4.2.
26-9-66.
KONTR.
GODK.

Standard Electric A/S

KØBENHAVN

BLADE
BLAD



TEGNET
8-9-66 GJ.
KONTR.

GODK.

TransITT 8

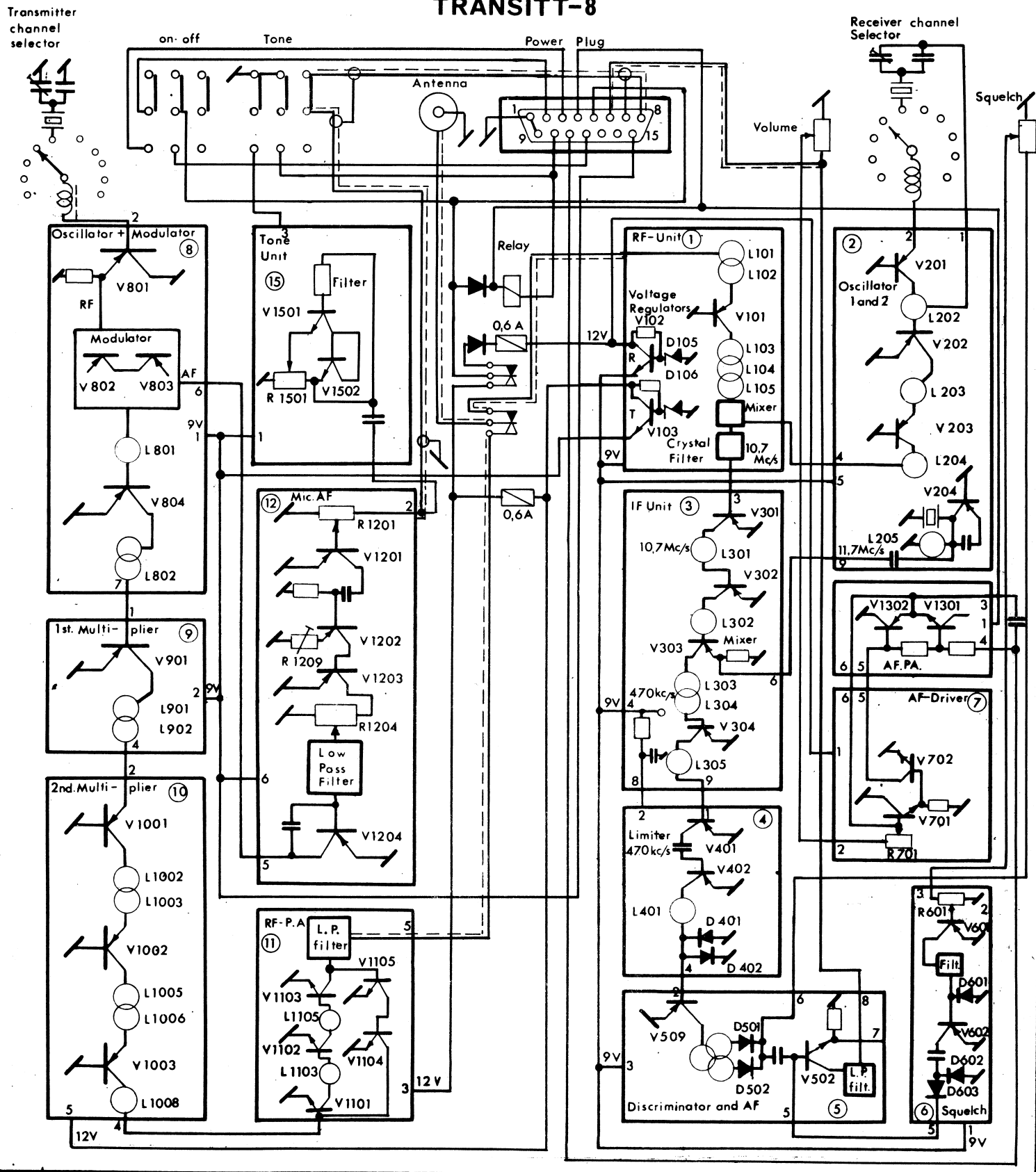
8 Channels

Standard Electric A/S

KØBENHAVN

BLADE
BLAD

BLOCK-SCHEMATIC DIAGRAM TRANSITT-8



FRONT END 1

The RF-input from the antenna is coupled through a double tuned circuit (L101, L102), to the RF-transistor V101, which has approximately 12 dB's gain. To obtain high image rejection, the amplified RF-signal is fed through a triple tuned circuit (L103, L104, L105), to the first mixer, which is a ring-modulator. The main selectivity is provided by a crystal filter, located after the mixer, with a centre frequency of 10.7 Mc/s.

TEST PROCEDURE

Apply a RF-signal to the antenna connector ($R_g = 50 \Omega$). A signal of less than 1 μ V EMF must produce a 20 dB S/N ratio measured across the loudspeaker.

RECEIVER VOLTAGE REGULATOR

The voltage stabilizer is common to the whole receiver. It is an ordinary series stabilizer with a voltage drop of approx. 3 V. The series element is the NPN transistor V102 and the voltage reference element a zener-diode of 9 V, D105.

TRANSMITTER VOLTAGE REGULATOR

To avoid any disadvantages caused by changes in battery voltage the supply voltage to the oscillator, modulator, 1st multiplier and microphone amplifier is stabilized. The stabilizer is an ordinary series stabilizer equal to the one used in the receiver.

3 Udg.
4-2-66

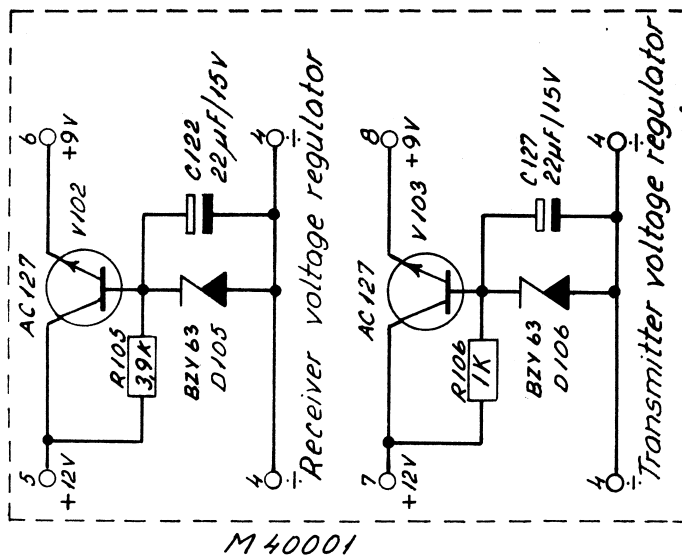
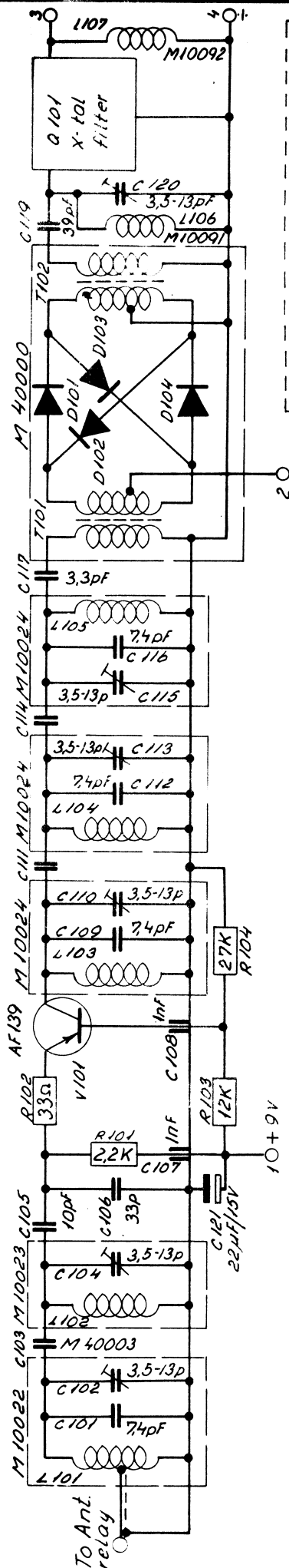
TEGNET. G.R.
22-11-65
KONTR. R
30-11-65
GODK.

Standard Electric A/S

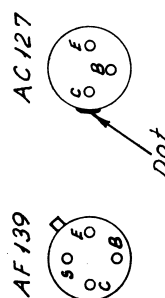
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5BLADE
BLAD4

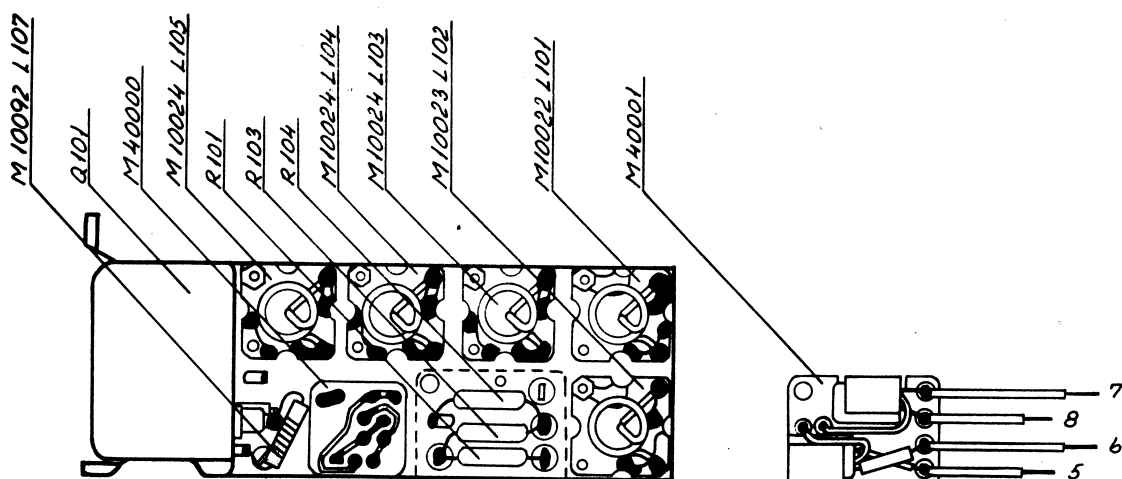
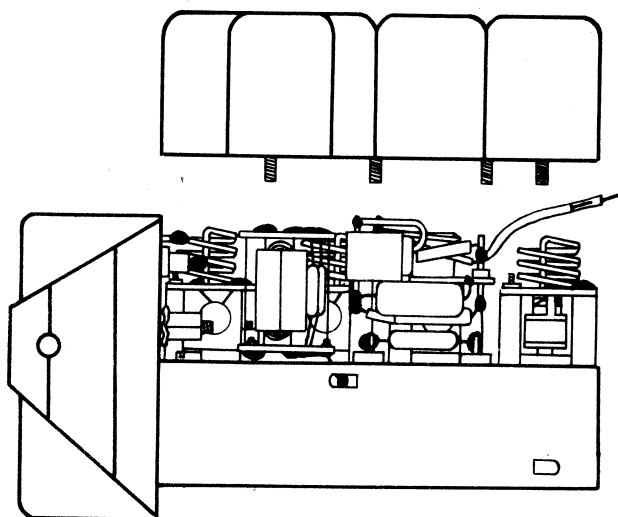
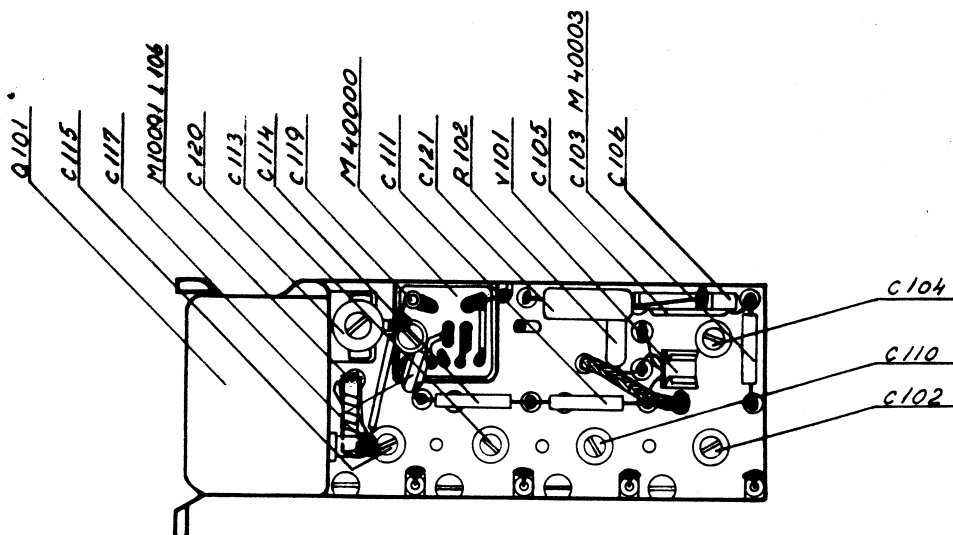
E 0000-220-0001



Frequency Mc/s	C III	C I14
146 - 160	M4-0003	M4-0003
160 - 174	M4-0004	M4-0004



RF - Unit P6
Unit 1



RF-Unit P6

Unit 1

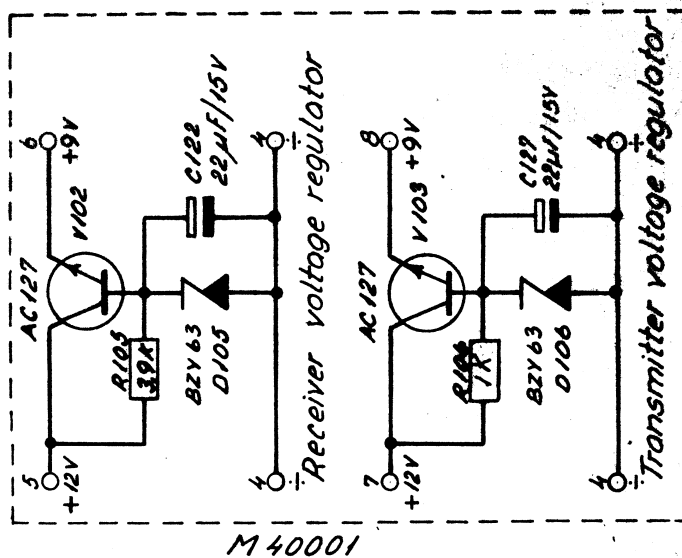
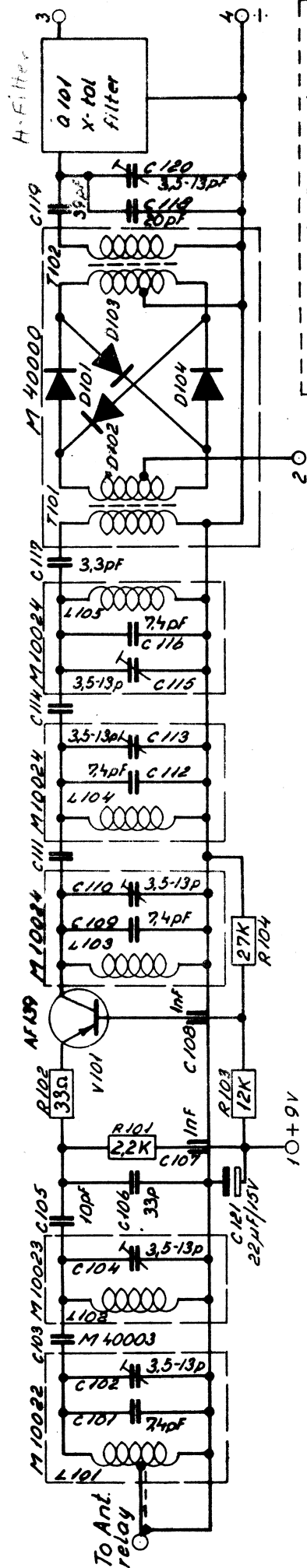
Standard Electric A/S

KØBENHAVN

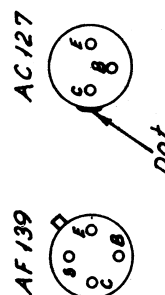
5 BLADE
BLADS 0000-220-0001

2 Udg.
28-12-65
D105-
D106 V.V. ZF9

TEGNET. G. R. L.
25-1-65
KONTR. R
30-1-65
GODK.



Frequency Mc/s	C 111	C 114
146 - 160	M40003	M40003
160 - 174	M40004	M40004

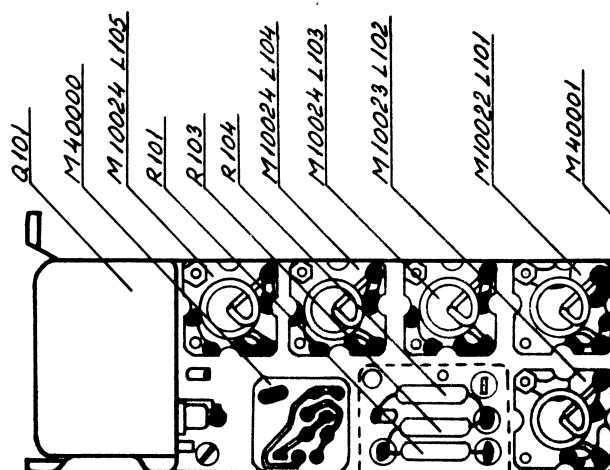
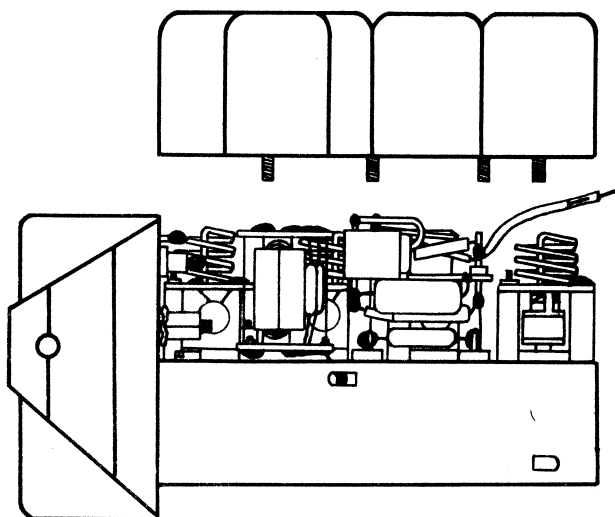
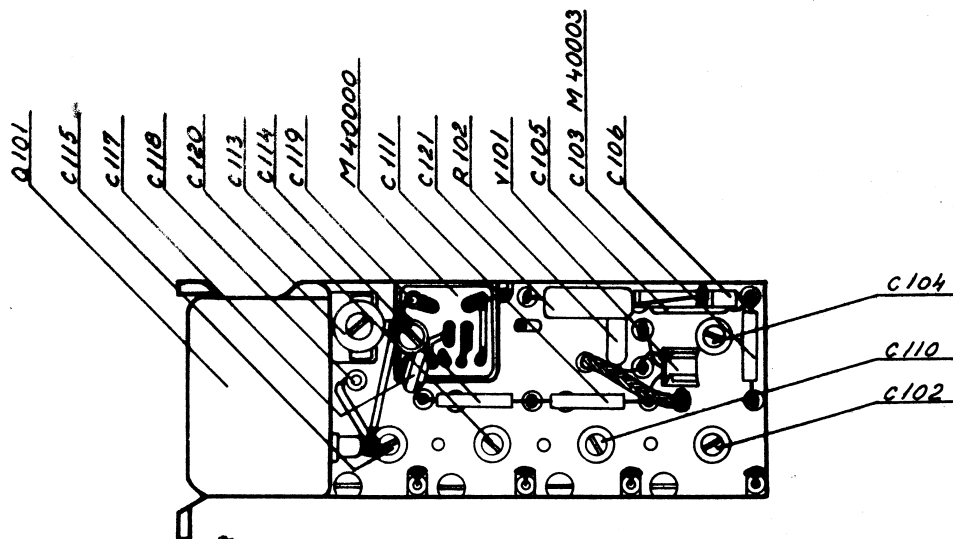


RF UNIT P6-P8
Unit 1

BLADE
BLAD 4 0000-225-0001

Standard Electric A/S

KØBENHAVN



RF-Unit P6-P8
Unit 1

TEGNET. 22
25-8-65

KONTR. R

GODK. R

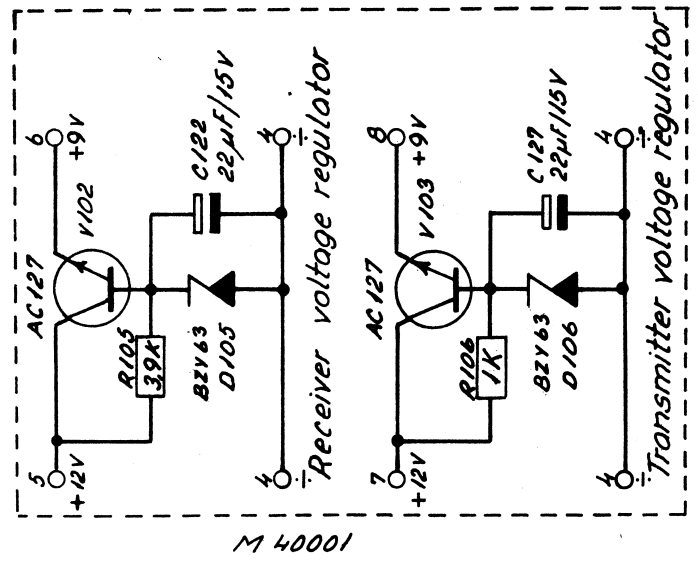
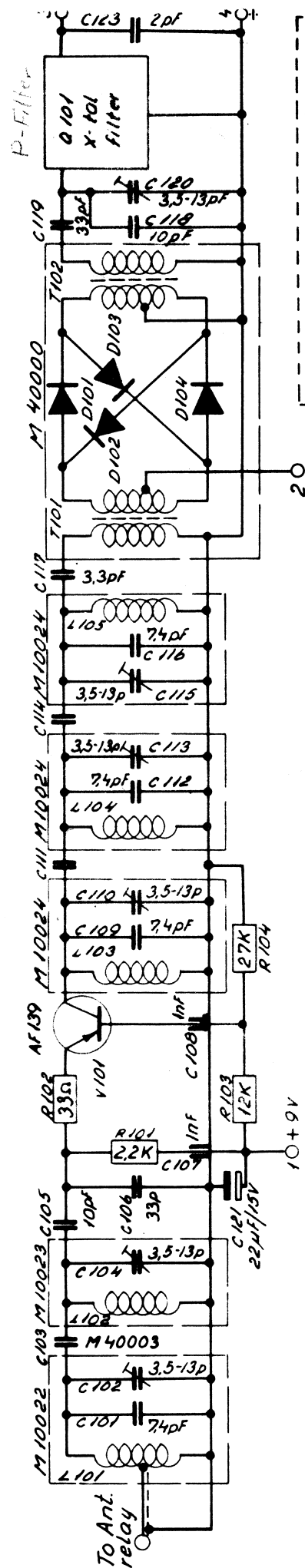
Standard Electric A/S

KØBENHAVN

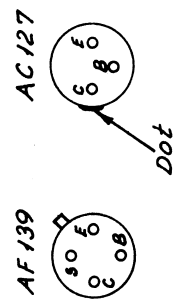
5BLADE
BLAD 5 0000-225-0001

Udg. 1
 C123 tilf.
 2. Udg.
 21-10-65 GRL
 R106 v.v. 39K
 3. Udg.
 1-12-65 GRL
 C127 tilf.
 4. Udg.
 28-12-65 G.R.L.
 D105-
 D106 v.v. 2F91
 5. Udg.
 4-2-66

TEGNET. G.R.L.
 25-1-65
 KONTR.
 30-11-65
 GODK.



Frequency Mc/s	C111	C114
146 - 160	M40003	M40003
160 - 174	M40004	M40004



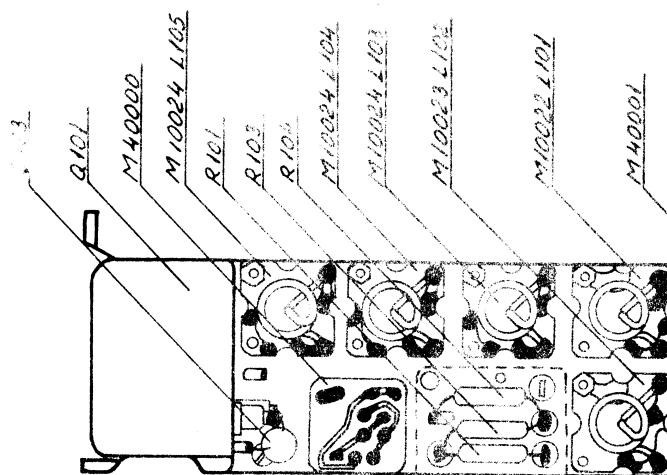
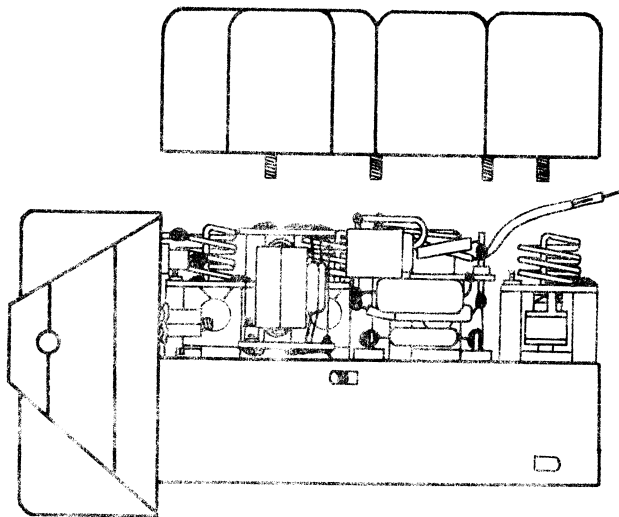
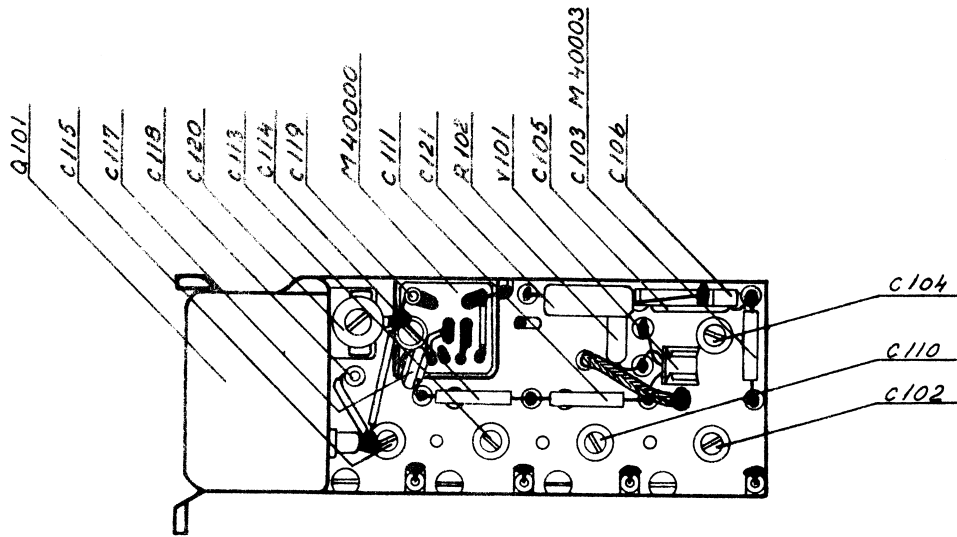
RF-Unit P6
 Unit 1

Standard Electric A/S

KØBENHAVN

4 BLADE
 BLAD 3 0000-250-0001

UDG. 1
C 123 tilf.
2 uag.
21-10-65
GRL



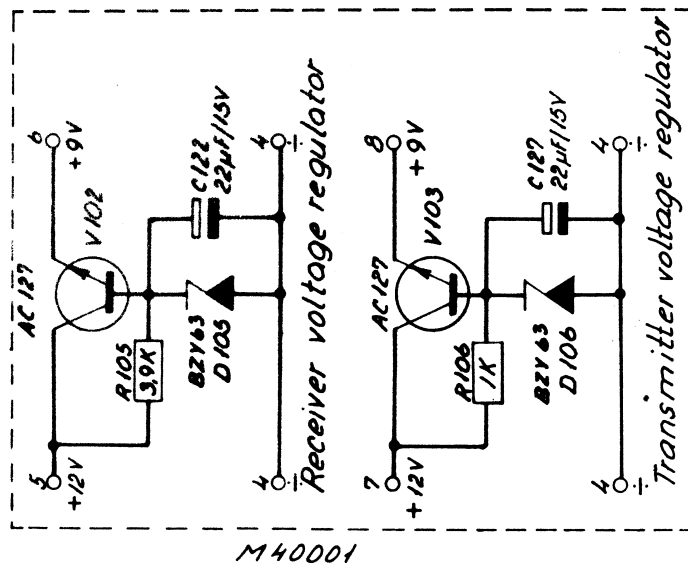
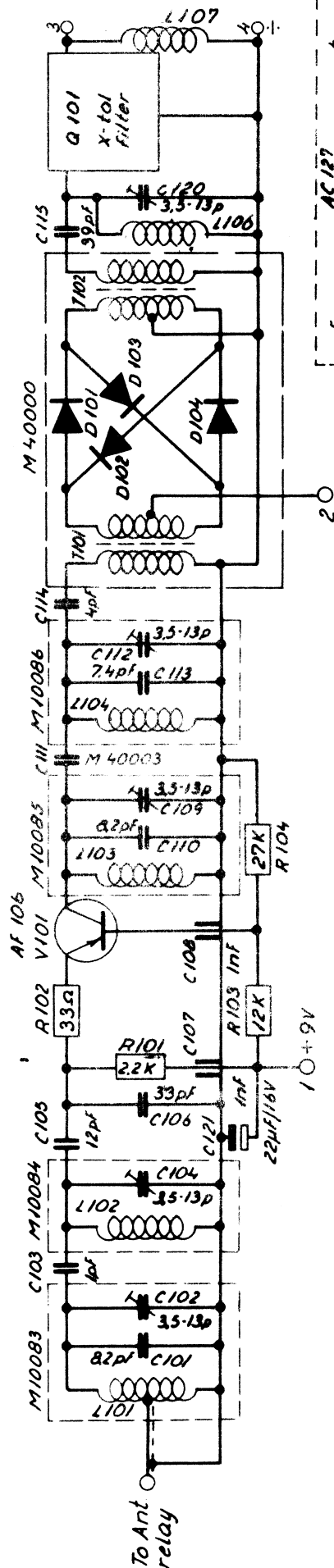
RF-Unit P6
Unit 1

TECH. M.J.
25-8-65
KONTR.
30-11-65
GODK.

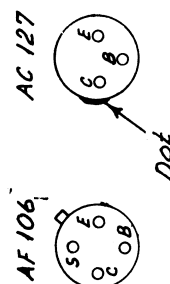
Standard Electric A/S

KØBENHAVN

4 BLADE
BLAD 4 0000-250-0001



M40001



74-88 Mc/s

RF-Unit P6
Unit 1

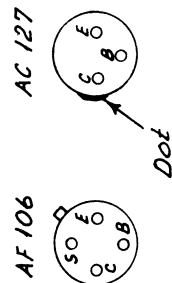
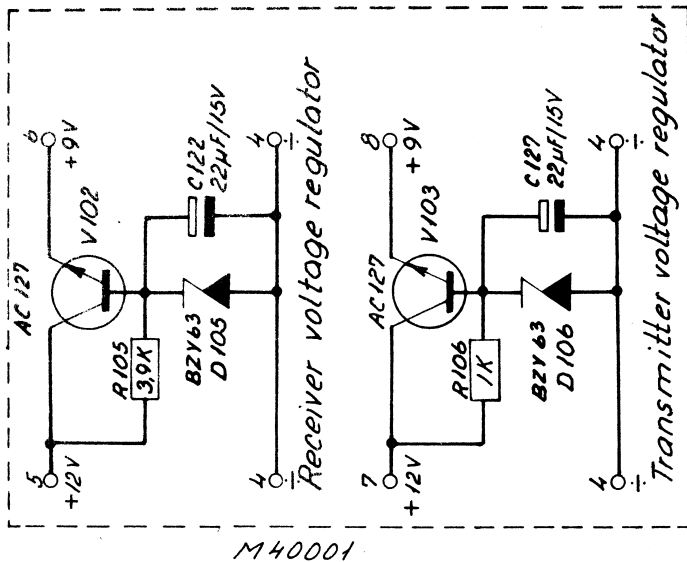
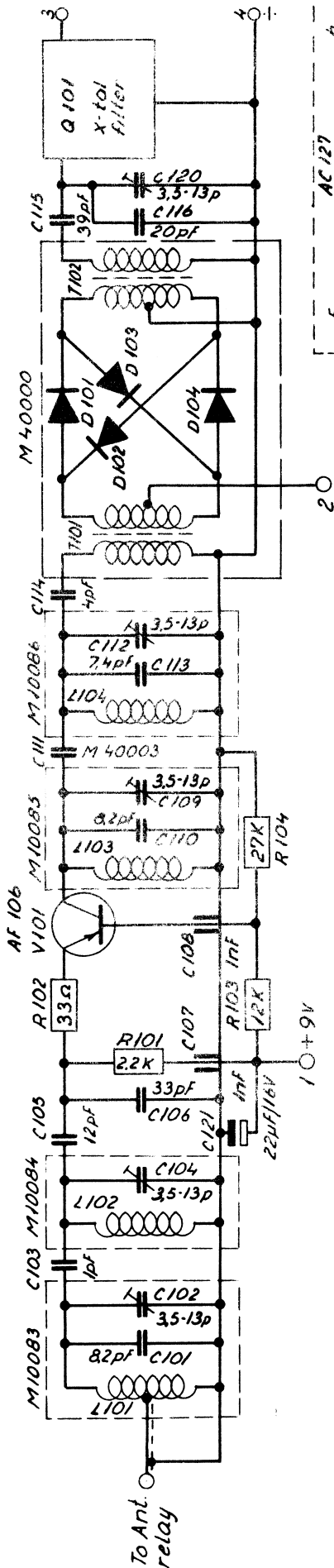
TECNET. G.R.
10-2-67
KONTR.
30-11-65
GODK.

Standard Electric A/S

KØBENHAVN

5 BLADE
BLAD 4 0000-420-0001

UDG. 1
1-12-65 G.R.L.
C127 E11F.
2. Udg.
28-12-65 G.R.L.
D105-D106
K.V. ZF91
3. Udg.
4-2-66



74-88 Mc/s

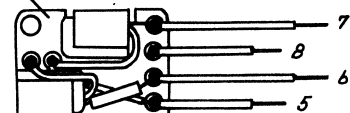
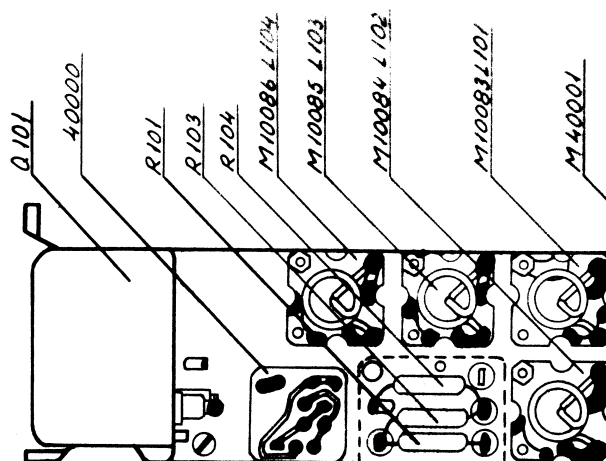
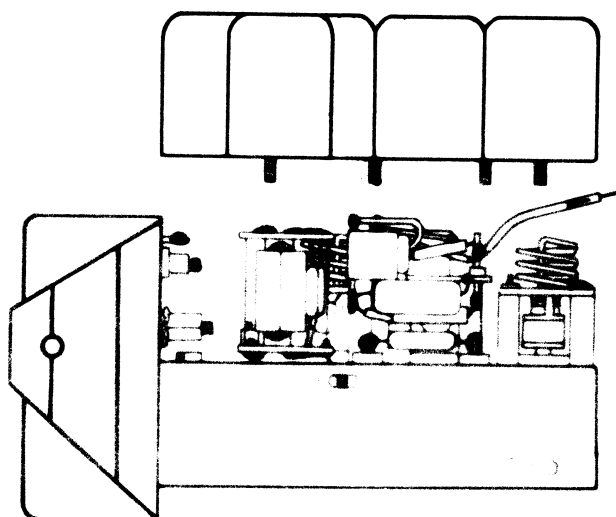
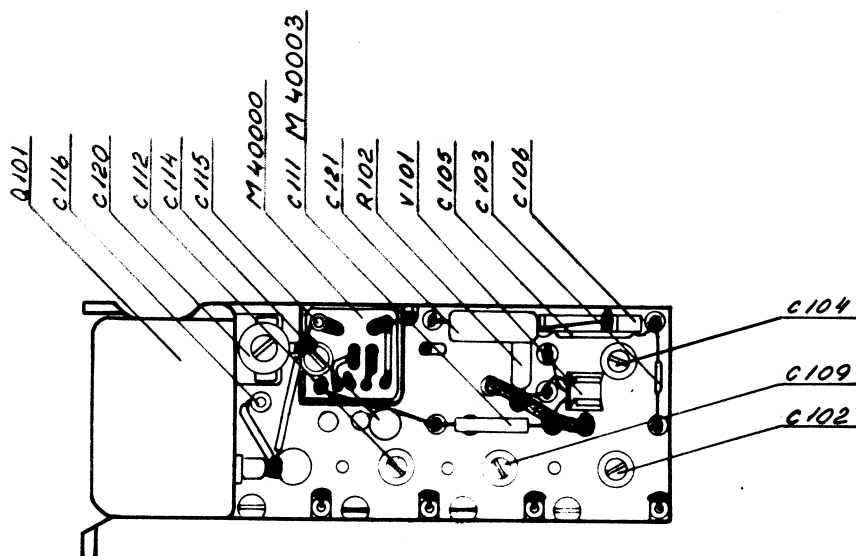
RF-Unit P6
Unit 1

TEGNET. G.R.L.
8-4-65
KONTR.
30-11-65
GDPK.

Standard Electric A/S

KØBENHAVN

5BLADE
BLAD 4 0000-425-0001



74-88 Mc/s

RF-Unit P6

Unit 1

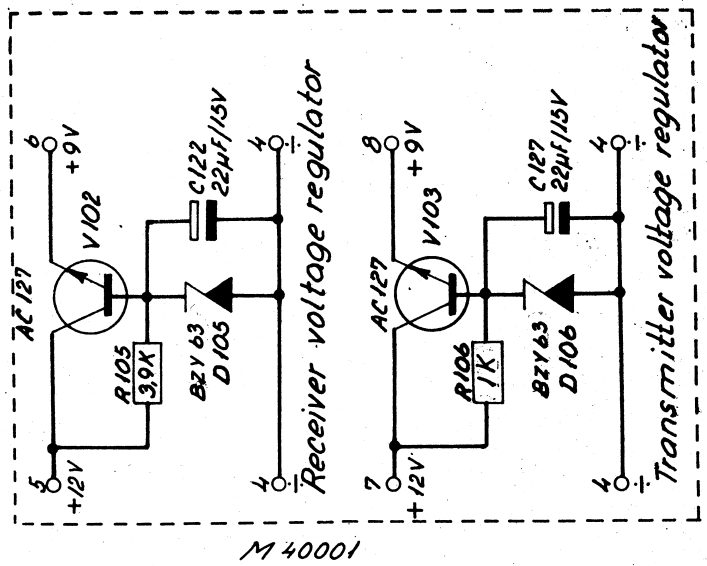
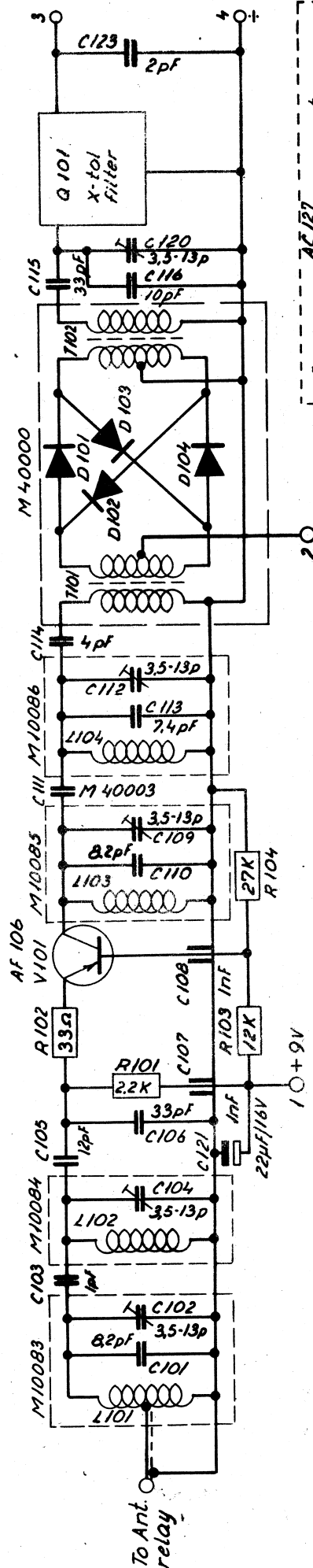
Standard Electric A/S

KØBENHAVN

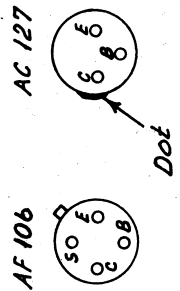
5 BLADE
BLAD 5 0000-425-0001

TEGNET. M.D.
25-8-65
KONTR.
30-11-65
GODE

UDG. 1
C123 411F
2. Udg.
21-10-65 G.R.L.
R106 kv
39K
3. Udg.
1-12-65 G.R.L.
C127 411F
4. Udg.
28-12-65
G.R.L.
16105-D106
K.V. 2F 91
5. Udg.
1-2-66



M 40001



74-88 Mc/s

RF-Unit P6
Unit 1

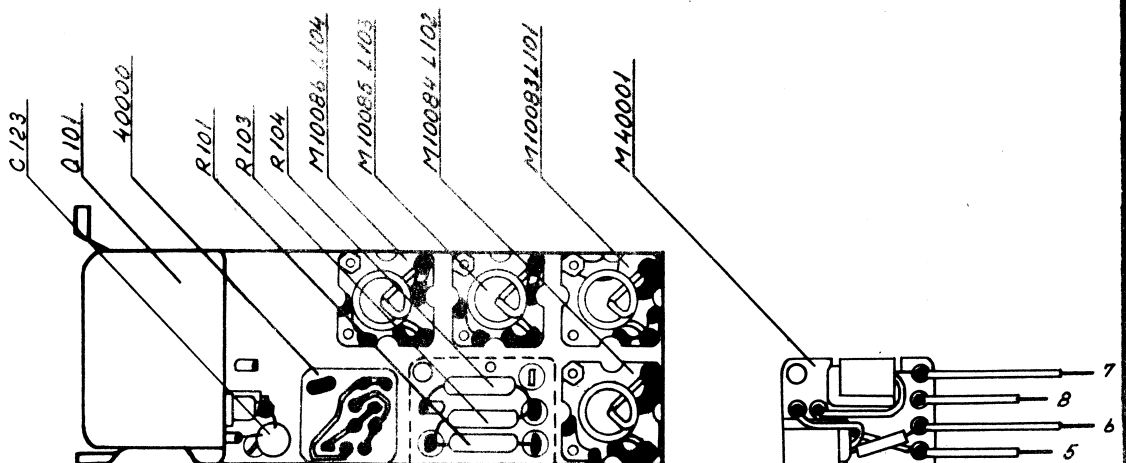
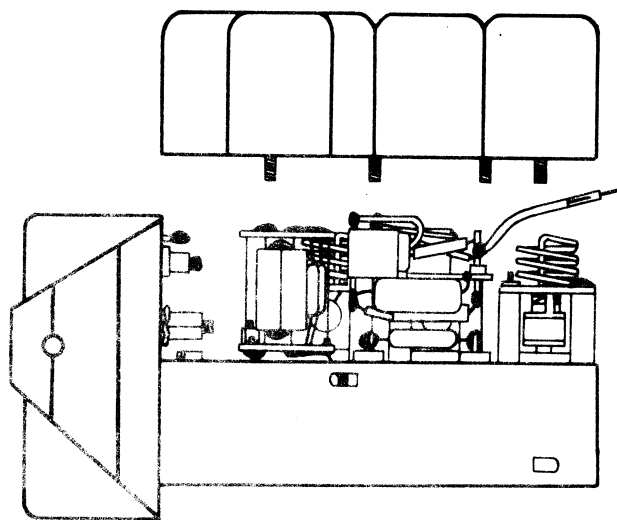
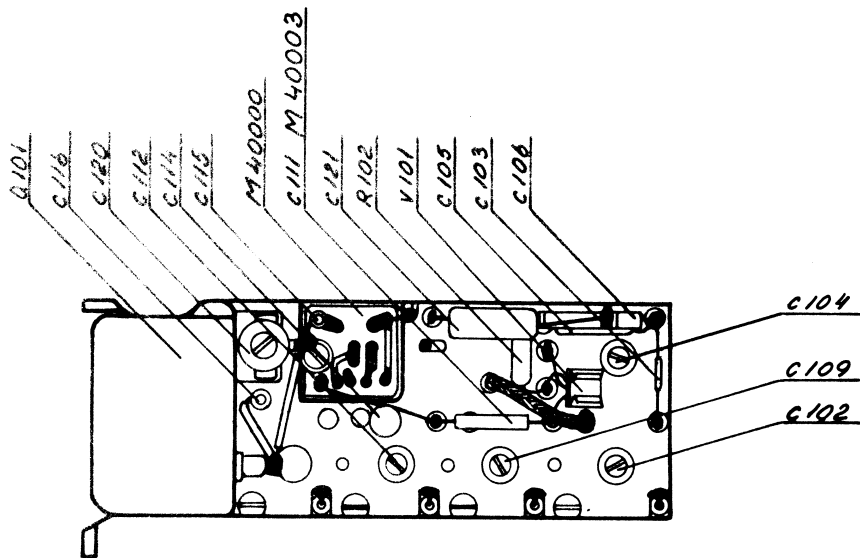
TEGNET. G.R.L.
8-4-65
KONTR.
30-11-65 R
GODT

Standard Electric A/S

KØBENHAVN

5 BLADE
BLAD 4 0000-450-0001

UDG. 1
C123 tilf.
2 Udg.
29.10.65
GRL



RF-Unit P6
Unit 1

TEGNET. M.J.
25-8-65
KONTR
30-11-65
GODK.

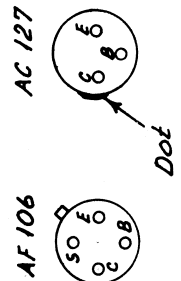
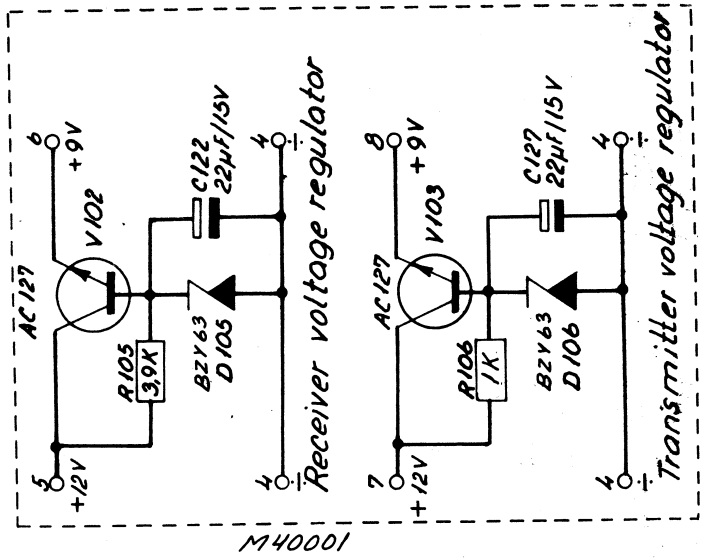
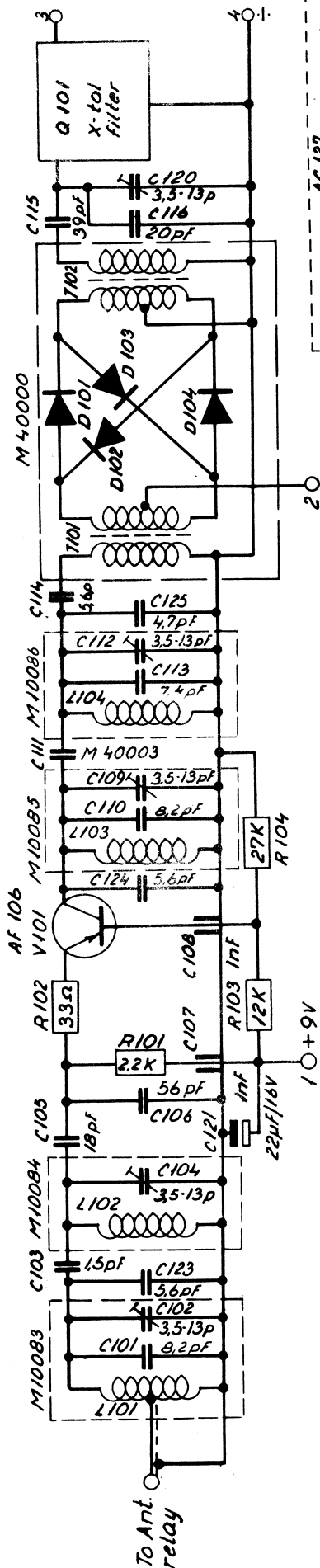
Standard Electric A/S

KØBENHAVN

5 BLADE
BLAD 5 0000-450-0001

UDG. 1
1-12-65 GRL
C127 tilf.

2. Udg.
28-12-65 GRL
D105 -
D106 kv. 2F9
3. Udg.
4-2-66 GRL



68-78 Mc/s

RF-Unit P6
Unit 1

TEGNET. GRL
8-4-65

KONTR.
30-11-65

GODK.
GRL

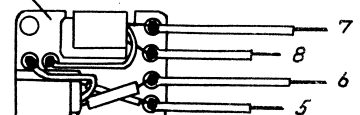
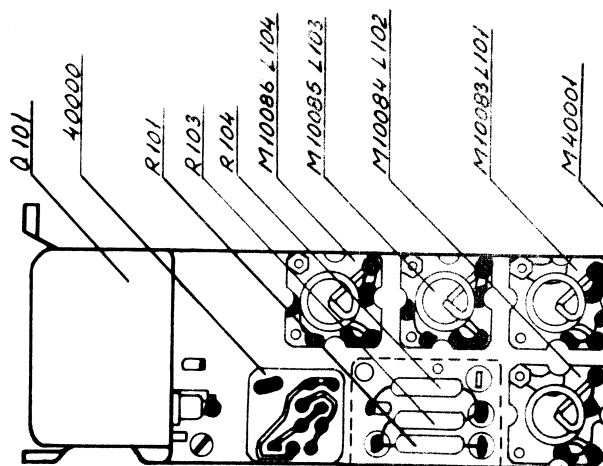
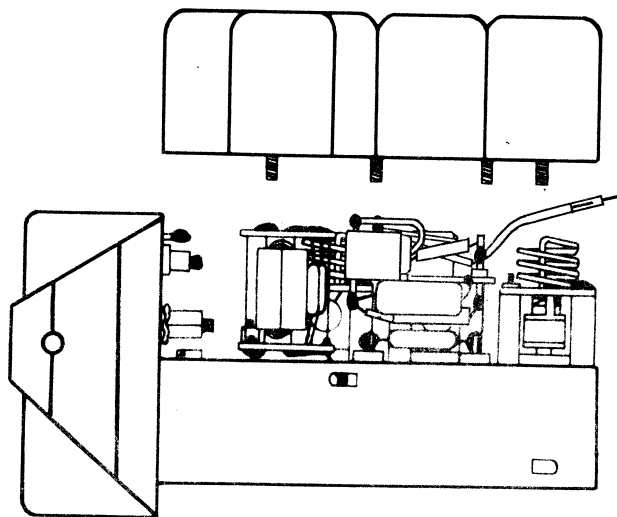
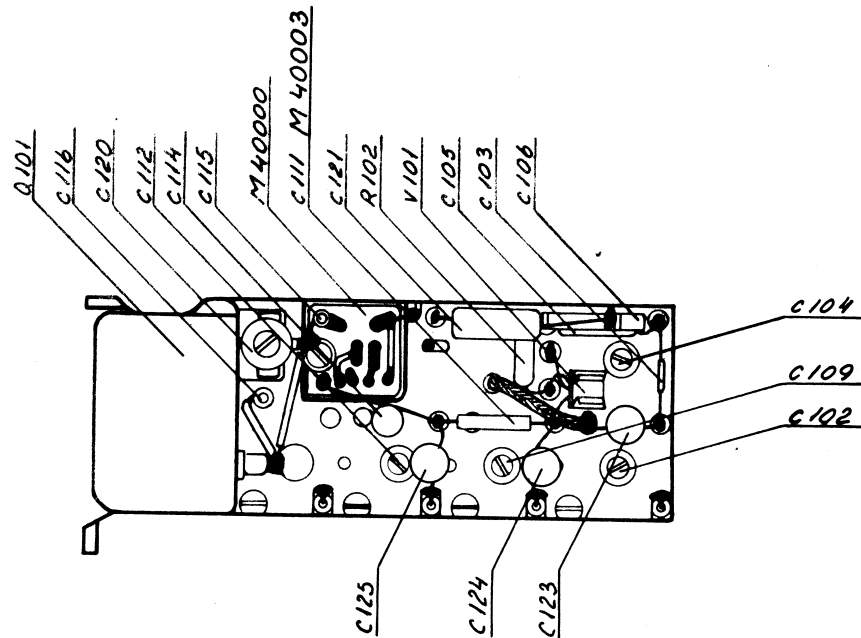
Standard Electric A/S

KØBENHAVN

5 BLADE

BLAD 4 0000-525-0001

7-12-65 G.R.L.



68-78 Mc/s

RF-Unit P6

Unit 1

TEGNET. M.J.
25-8-65

KONTR
30-11-65 R

GODK.
[Signature]

Standard Electric A/S

KØBENHAVN

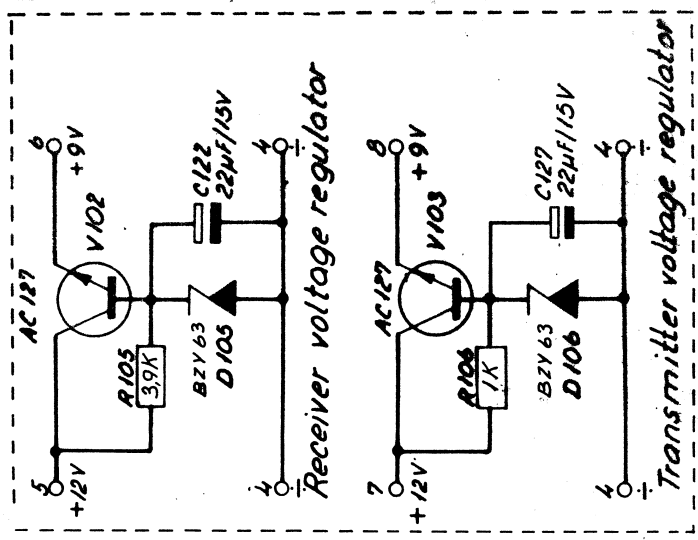
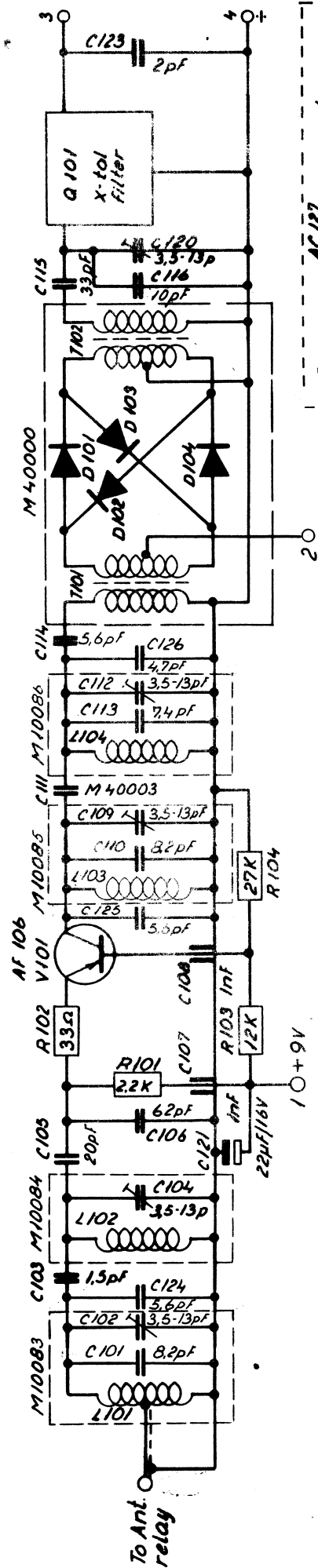
5 BLADE

BLAD 5

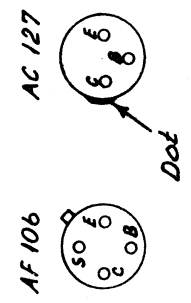
0000-525-0001

UDG. 1
1-12-65
C 127 411
2.40g.
28-12-65
GRL
D 105
D 106 K. K. 2F91
3.40g.
4-2-66

TECHNET. 6.21
8-4-68
KONT. 30-11-65
GODK.



M 40001



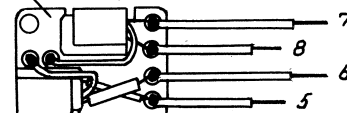
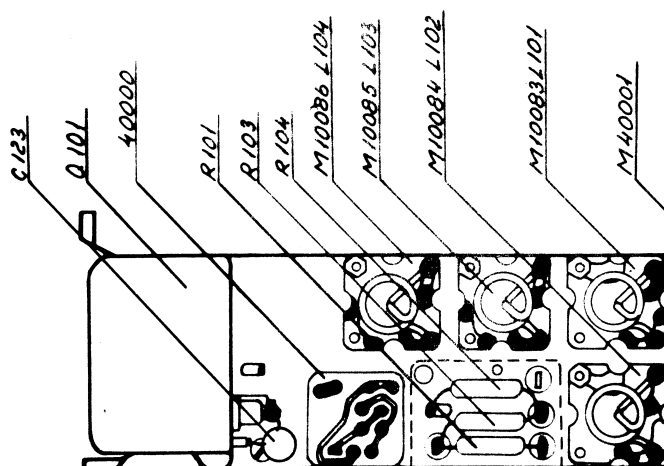
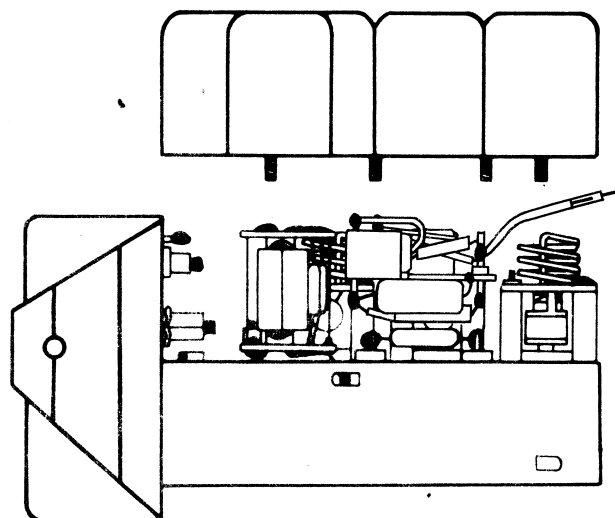
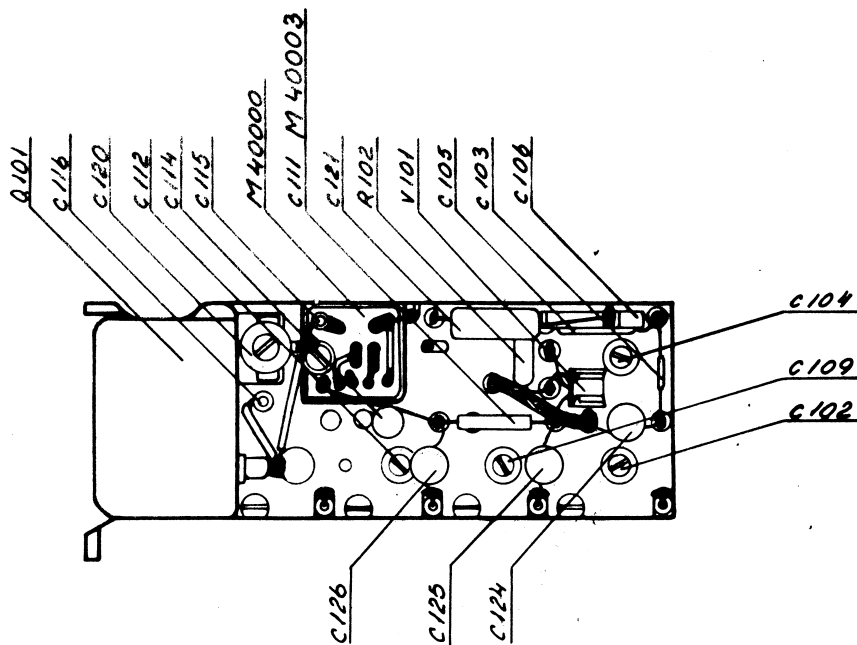
68-78 Mc/s
RF-Unit P6
Unit 1

Standard Electric A/S

KØBENHAVN

5 BLADE
BLAD 4 0000-550-0001

UDG. 1
1-12-65 GRL



68-78 Mc/s

RF-Unit P6

Unit 1

TEGNET. M.J.
25-8-65

KONTR
30-11-65
GODK.

Standard Electric A/S

KØBENHAVN

5 BLADE
BLAD 5 0000-550-0001

OSCILLATORS (1st and 2nd) 2

The 1st oscillator is controlled by 3rd overtone crystals in the frequency range 28-51 Mc/s. The crystals operate at their series resonance and are placed in a feed-back loop, which is tapped on the collector tank circuit L202 and fed to the emitter V201. Two tuned stages (V202, L203 and V203, L204) provide the correct frequency and voltage at the output terminals which are connected to the first mixer. The 2nd oscillator circuit (V204, L205) operates at 11.17 Mc/s (10.7 Mc/s + 470 kc/s) and the signal is fed to the emitter of the 2nd mixer transistor V303.

TEST PROCEDURE

The diode voltmeter applied between T11 and grd. must indicate >9 μ A for correct 1st oscillator output. The diode voltmeter connected between T10 and grd. must indicate >6 μ A for correct 2nd oscillator output.

TEGNET.

KONTR.

GODK.

Standard Electric A/S

KØBENHAVN

BLADE
BLAD

UDG. 1
 8-N-65
 C203 (146-
 160 Mc/s) kv.
 33 pf

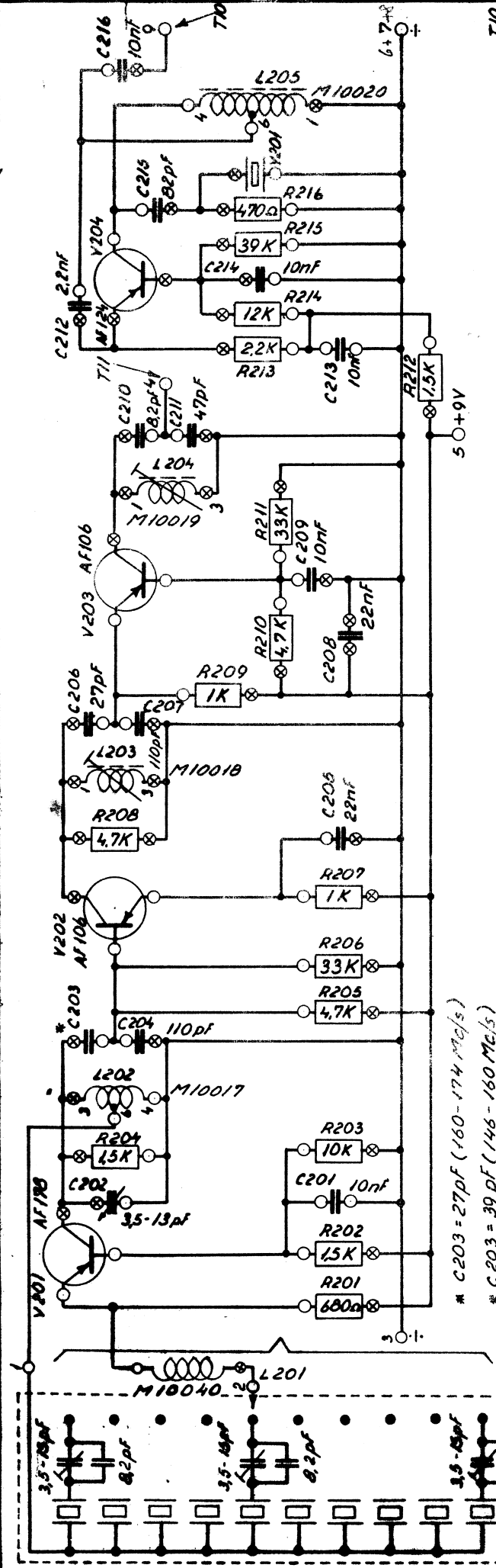
2. Udg
 1-12-65 GR
 C207 kv
 150 pf

3. Udg
 8-2-65
 3.5-15 pf
 kv. 3.5-13 pf

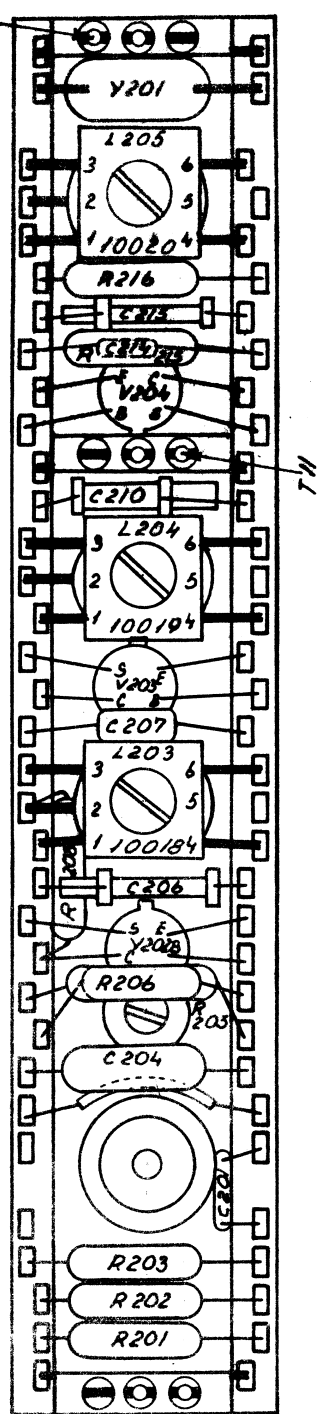
4. Udg GJ
 10-6-66
 Test p. till

5. Udg GJ
 20-6-66
 10 channel
 slott

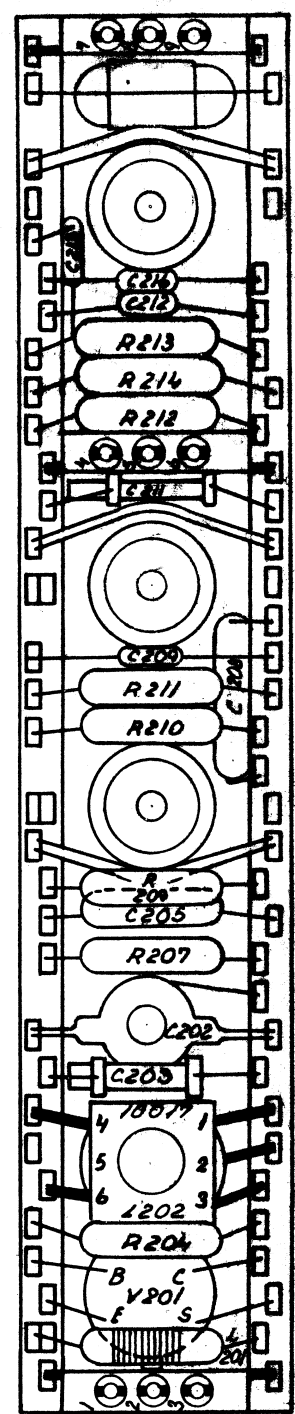
6. Udg LL
 23-9-66



* C203 = 27 pf (160-174 Mc/s)
 * C203 = 39 pf (146-160 Mc/s)



⊗
 Seen from
 the top
 ○



○
 Seen from
 the bottom
 ⊗

RX-OSC 182 2m
 Unit 2

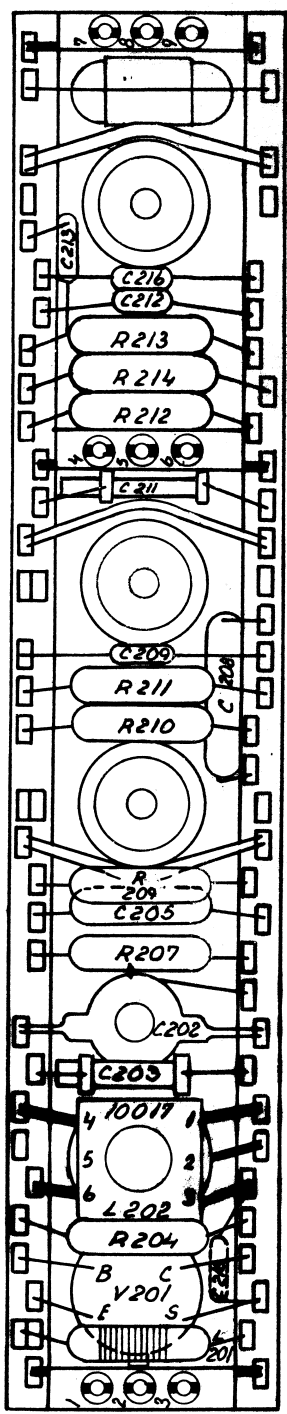
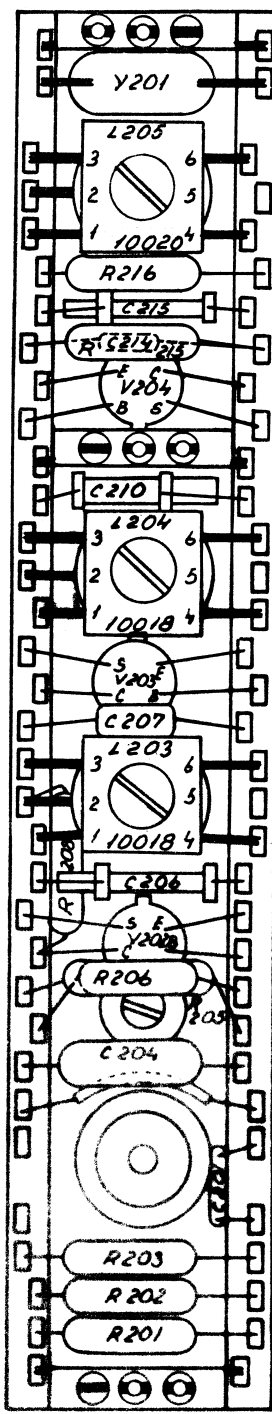
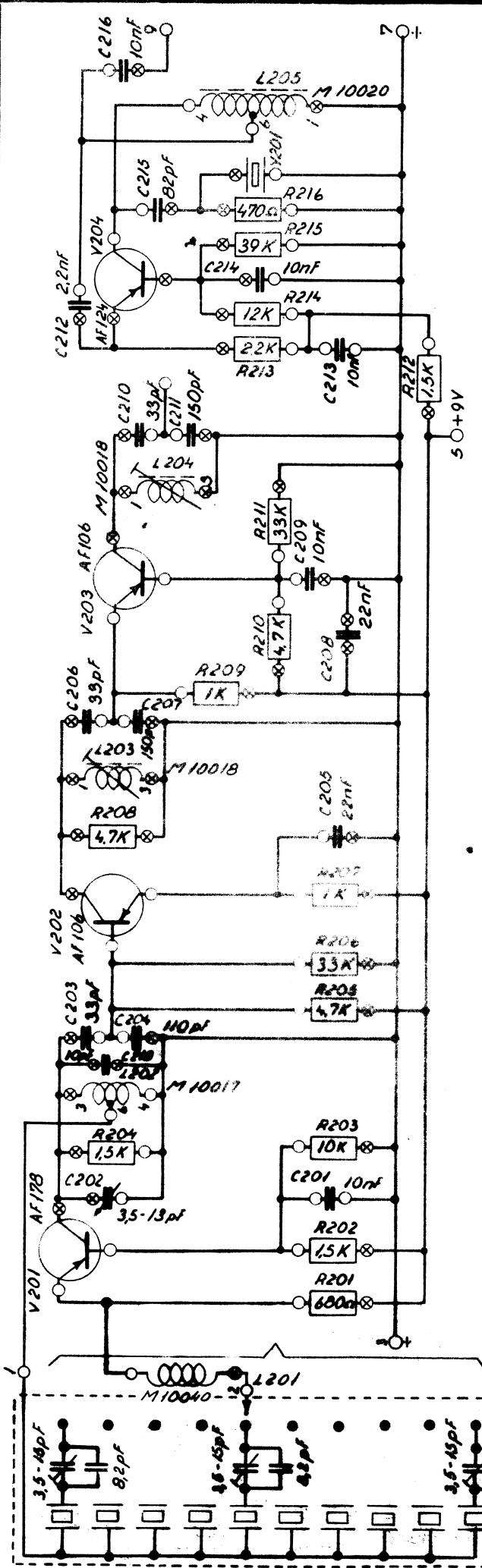
Standard Electric A/S

KØBENHAVN

3 BLADE
 BLAD3 0000-200-0001

TEGNET. GR
 15-1-65
 KONTE
 8-11-65
 GOK

UDG. 1
 8-11-65
 3,5-15pF
 v.v. 3,5-13pF
 2.000 GJ
 10-6-66
 10 kanal s.b.
 3.000 g
 26-9-66



Seen from the top
 Seen from the bottom

74-88 Mc/s
 By frequency 74-78 Mc/s add. C 218
RX-OSC 182 4m
 Unit 2

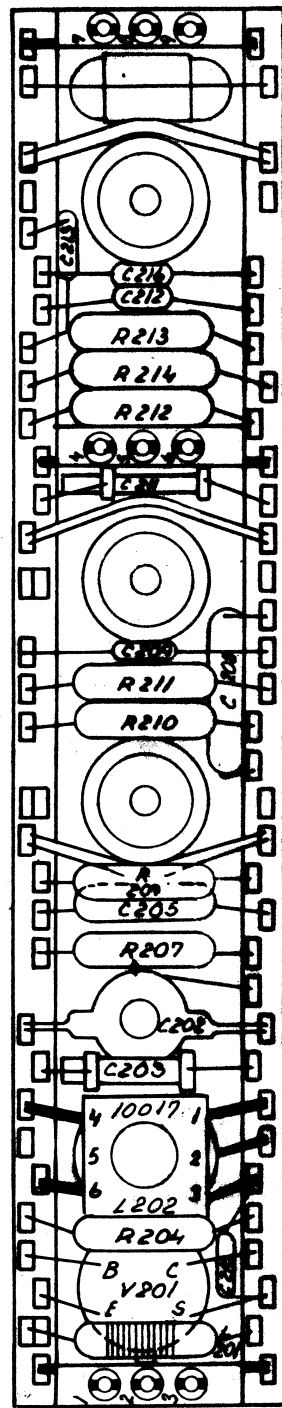
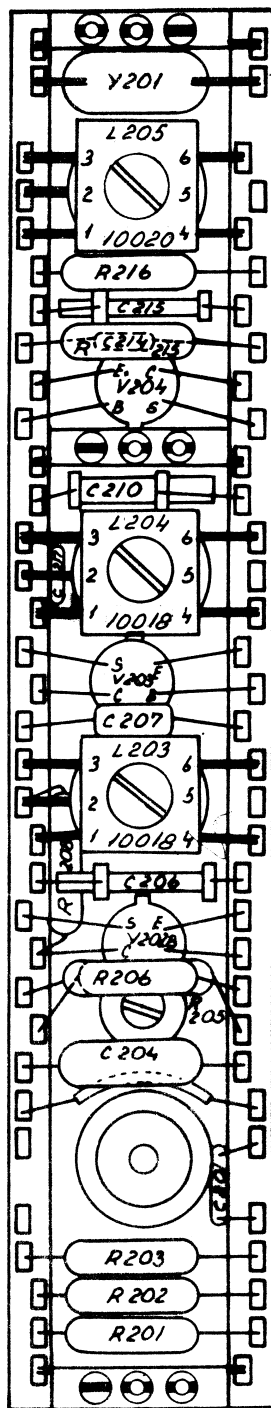
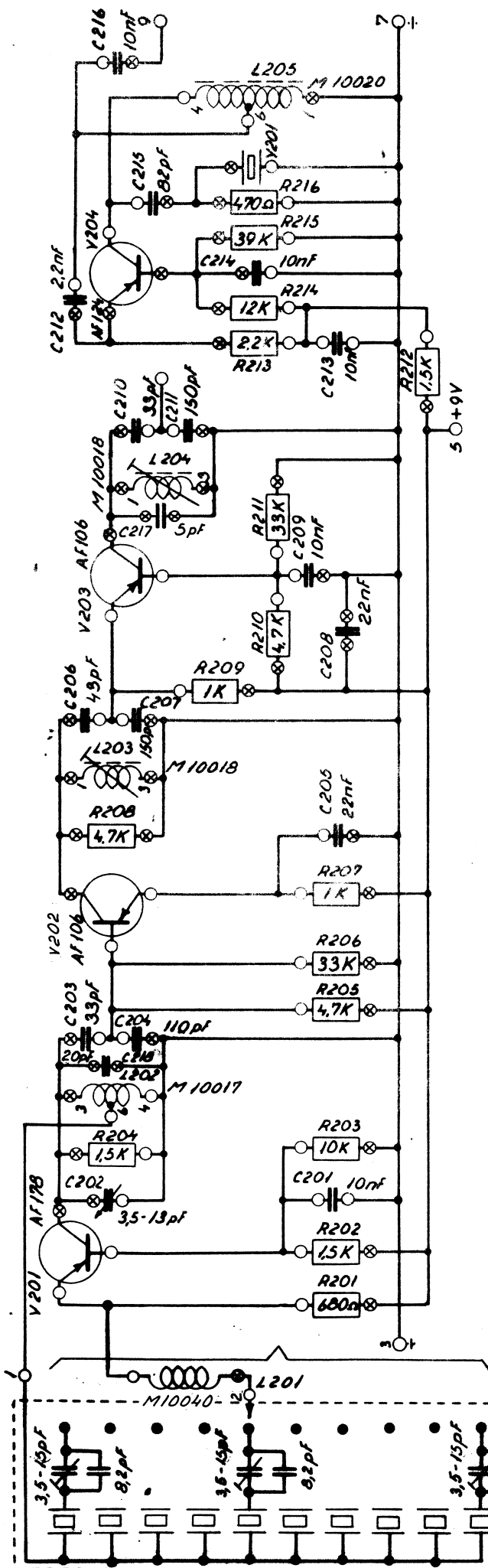
Standard Electric A/S

KØBENHAVN

4 BLADE
 BLAD 4 0000-400-0001

TEGNET. GRK
 15-1-65
 KONTR.
 8-11-65
 GODK.
 [Signature]

UDG. 1
8-11-65
3,5-15pf
Kv. 3,5-13pf
2. Udq. GJ
10-6-66 KJ
10 channel
slett.
3. Udq. UL
4-10-66



Seen from
the top

Seen from
the bottom

68-74 Mc/s

RX-OSC 182 5m

Unit 2

TEGNET. GRL
15-1-65

KONTR
8-1-65

GOKK

Standard Elektrik A/S

KØBENHAVN

4 BLADE
BLAD 4 0000-500-0001

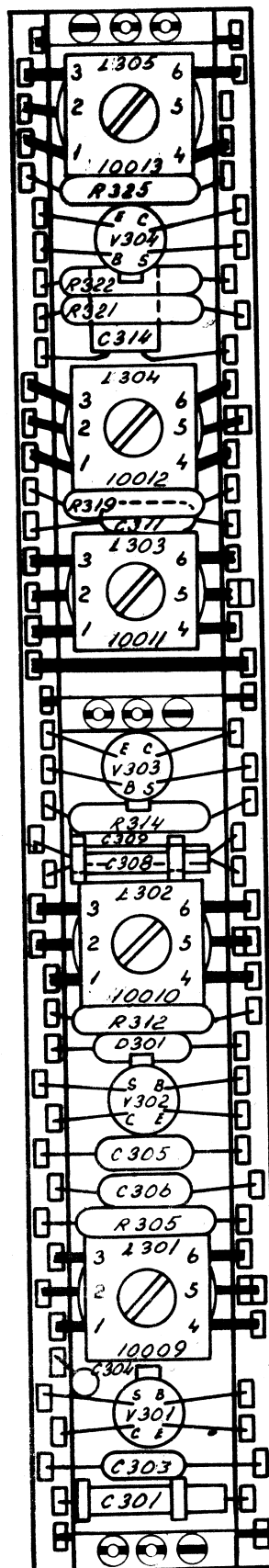
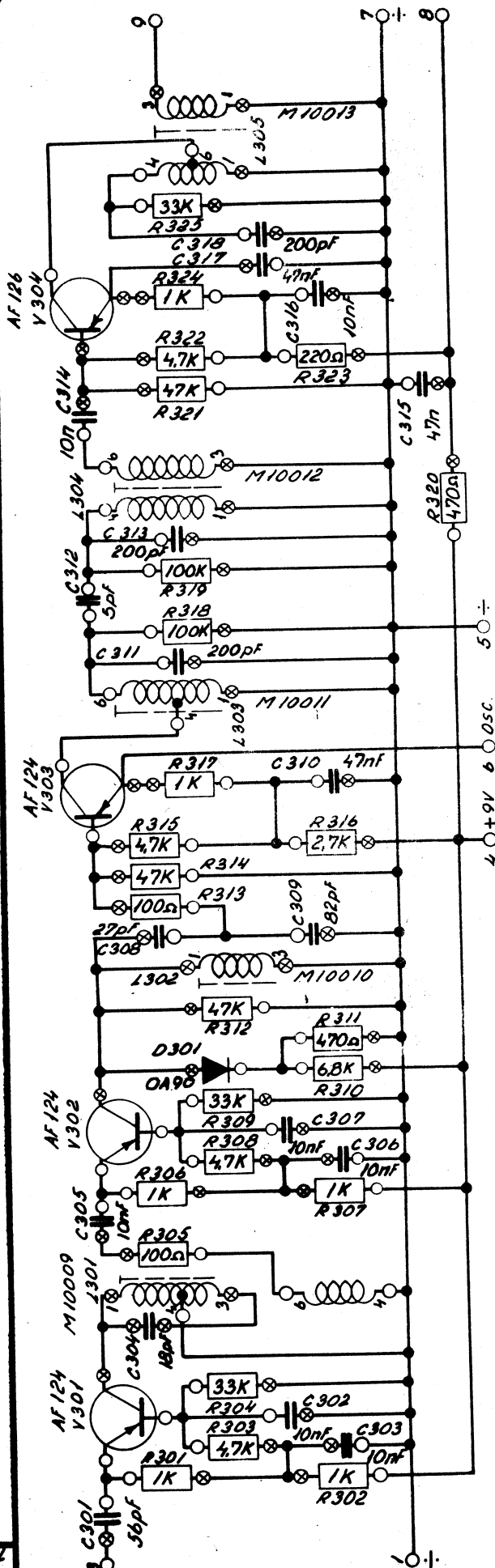
IF - AMPLIFIER 3

The 10.7 Mc/s signal from the crystal filter is fed to the input of the IF-amplifier which has approximately 40 dB gain in two tuned stages, (V301, L301 and V302, L302). The amplified signal is then converted in the second mixer to 470 kc/s, (V303), and led through a double tuned circuit (L303, L304), to the first low IF-amplifier stage (V304, L305).

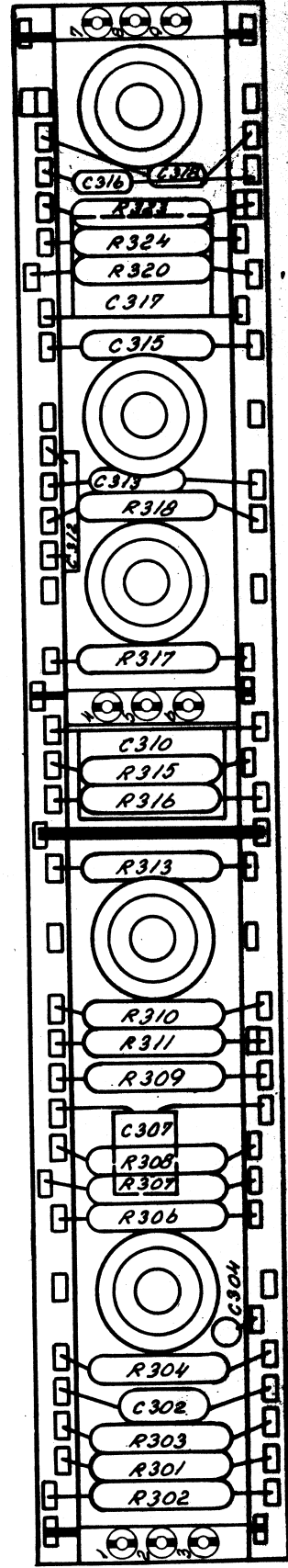
TEST PROCEDURE

Apply a 10.7 Mc/s signal ($R_g = 50 \Omega$) between T12 and grd.; replace C1 with a 150 pF capacitor. The sensitivity across the loudspeaker for 20 dB S/N must be better than 0.8 μ V EMF (standard deviation). Corresponding indication on the diode voltmeter connected between T5 on the limiter and grd. should be approx. 20 μ A.

UDG. 1
25-11-65
C316 6RL
R324 47nF
2 Udg.
12-3-66
C302 v.v
C303 v.v
pa mont.
tegn.
3 Udg. AL
20-9-66.



Seen from
the top



Seen from
the bottom

I.F. UNIT P6

Unit 3

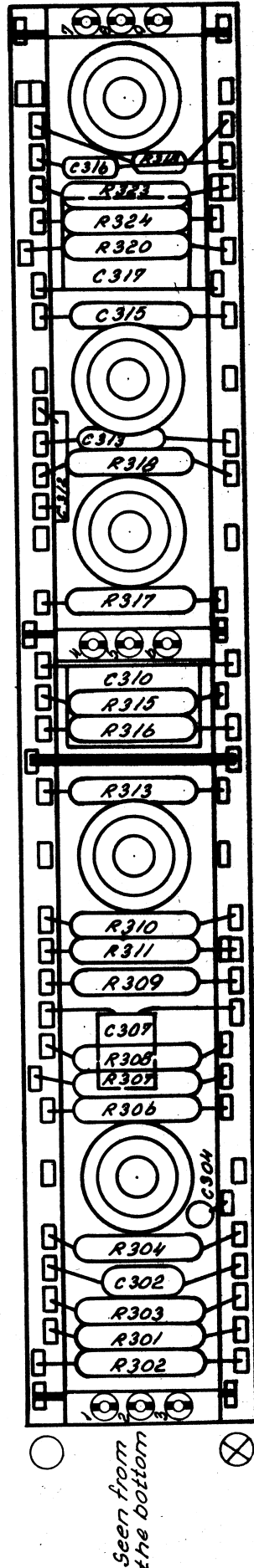
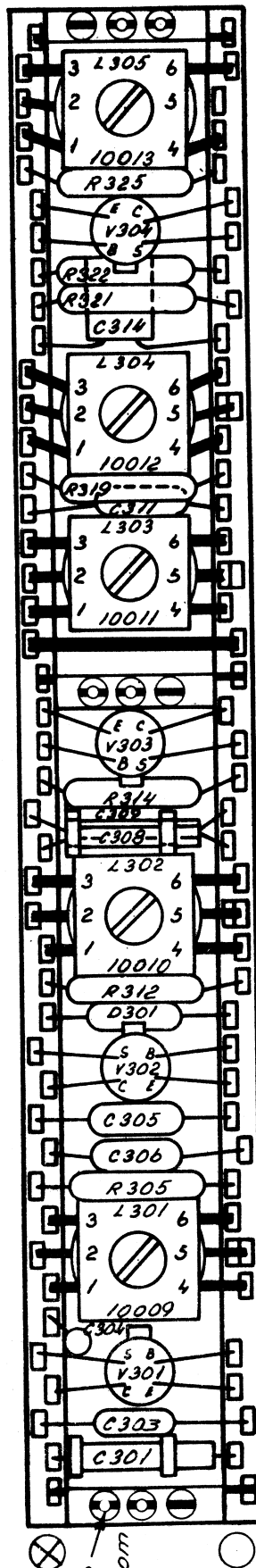
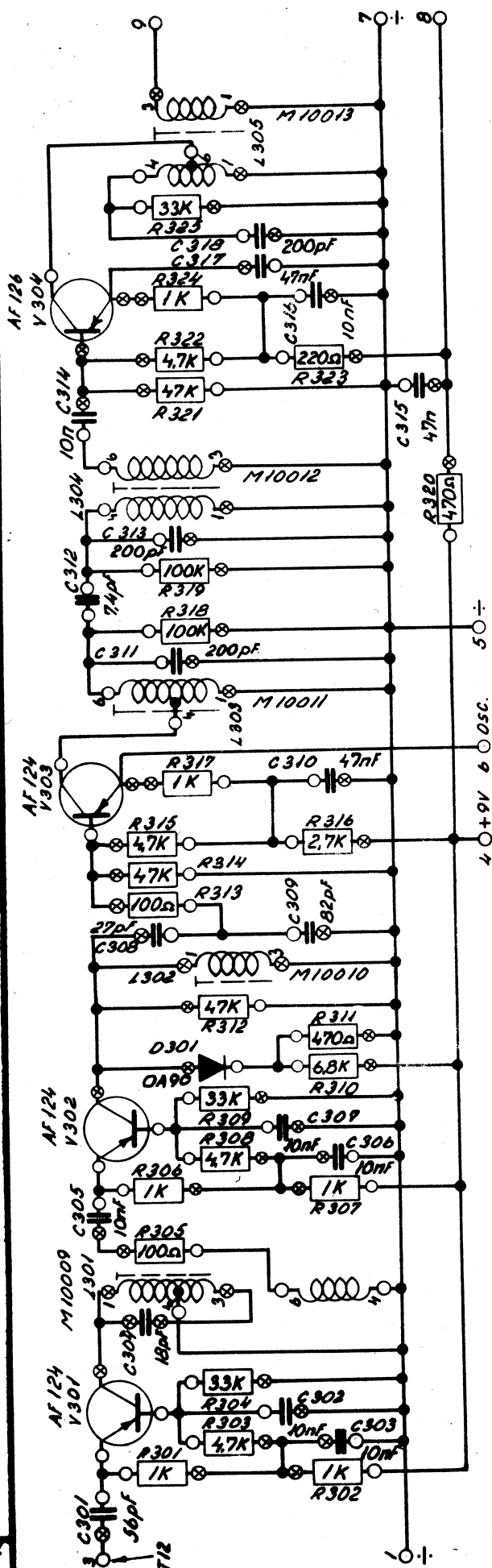
Standard Electric A/S

KØBENHAVN

4 BLADE
BLAD 4 0000-020-0001

TEGNET. AL
22-11-65
KONTR. AL
22-11-65
22-11-65

Udg. 1
 17-11-65
 C316 v.v.
 47nF
 2. Udg.
 17-3-66
 Restp. til
 3. Udg.
 20-6-66
 C302 af
 rettet til
 C303 i
 montage-
 tegn.
 4. Udg. 4L
 14-9-66
 C303 v.v.
 på mont.
 tegn.
 5. Udg. 4L
 20-9-66



I.F. UNIT

Unit 3

TEGNET 23-12-64

KONTROL 15-11-64

GODT

Standard Electric A/S

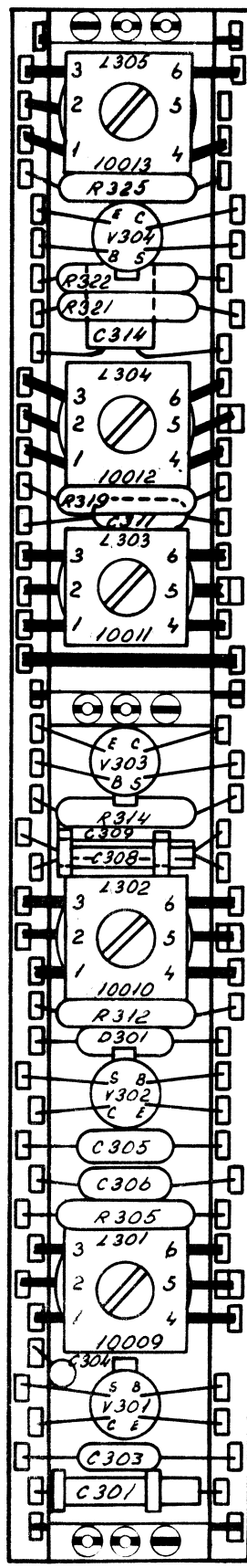
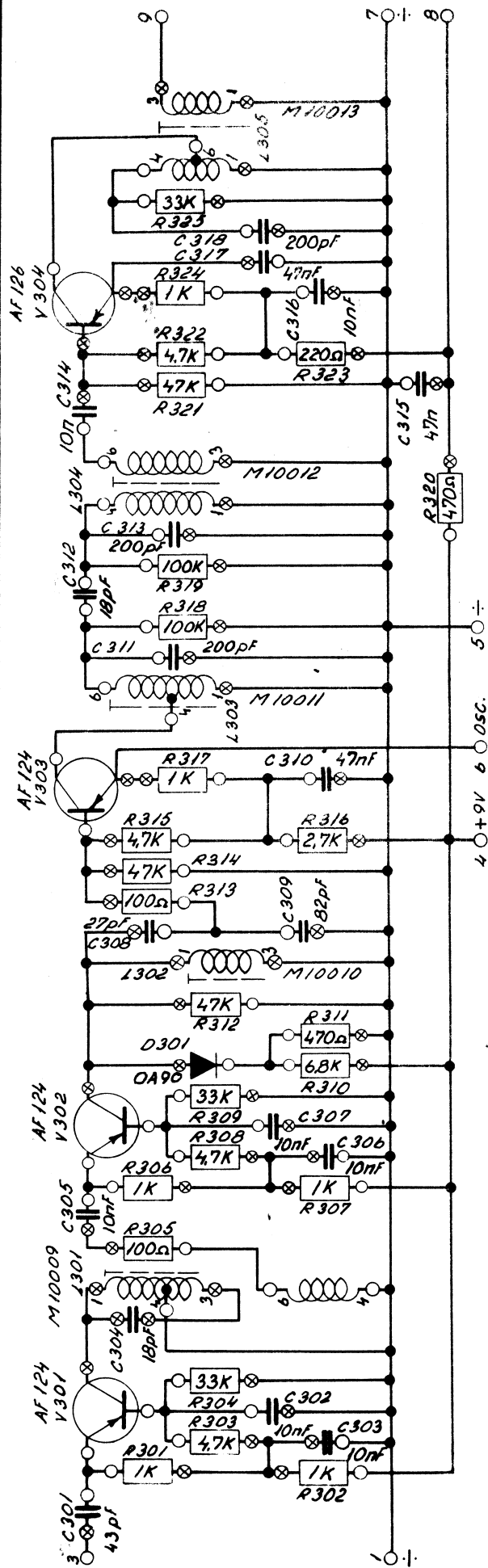
KØBENHAVN

BLADE
BLAD

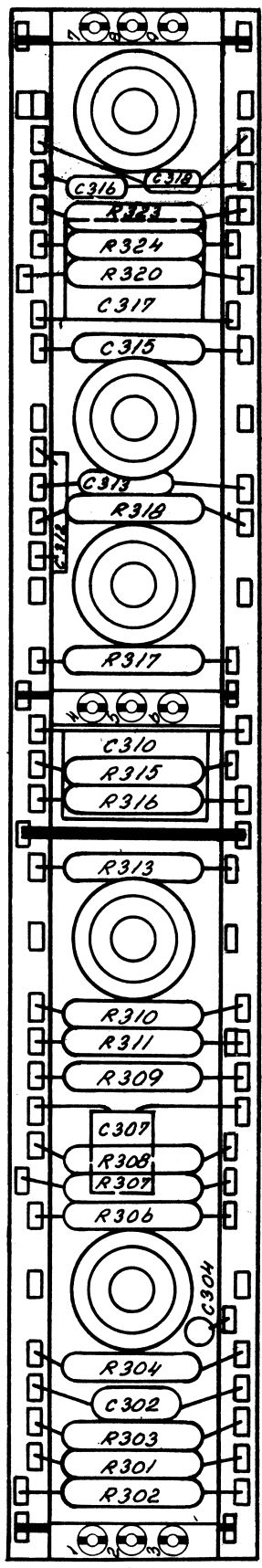
0000-025-0001

UDG. 1
17-11-65
316 v.v.
17nF
2400
17-3-66
302 v.v.
303 v.v.
10nF 40pF

34dg.
20-9-66



seen from the top



seen from the bottom

I.F. UNIT

Unit 3

EGNET 6/12
3-12-64

KONTR.
15-11-64
OK

Standard Electric A/S

KØBENHAVN

BLADE
BLAD 0000-050-0001

LIMITER 4

Further two stages (V401, V402, L401) amplify the 470 kc/s signal before limiting action takes place in the diodes D401 and D402.

TEST PROCEDURE

Connect the diode voltmeter between T5 and grd. and apply a 470 kc/s signal of 100 mV P.D. ($R_g=50 \Omega$). The meter indicator must read about 30 μA .

TEGNET.

KONTR.

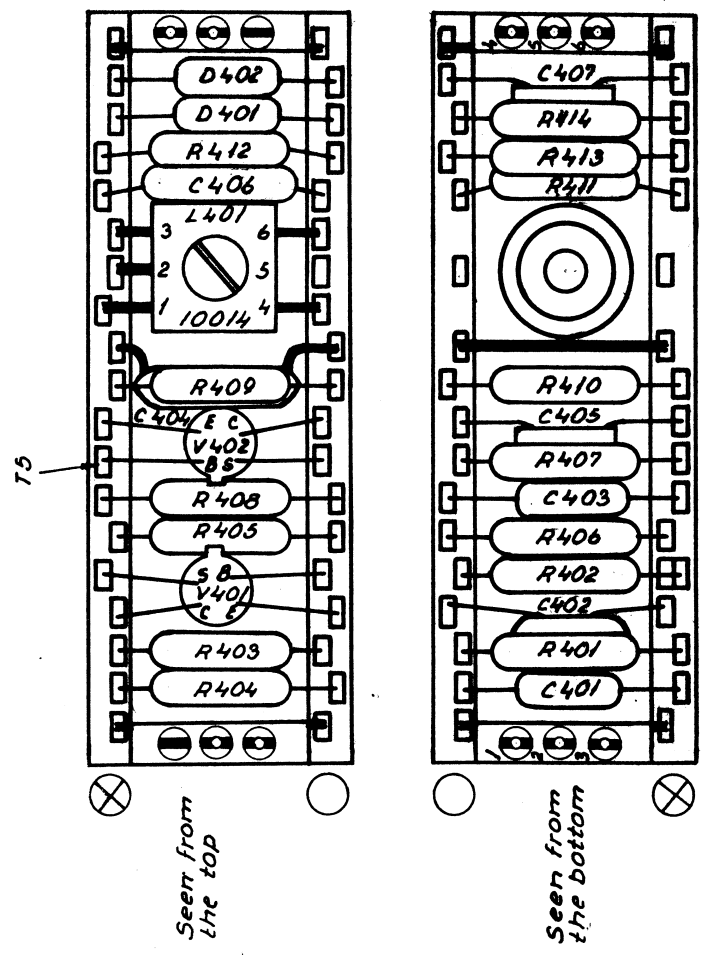
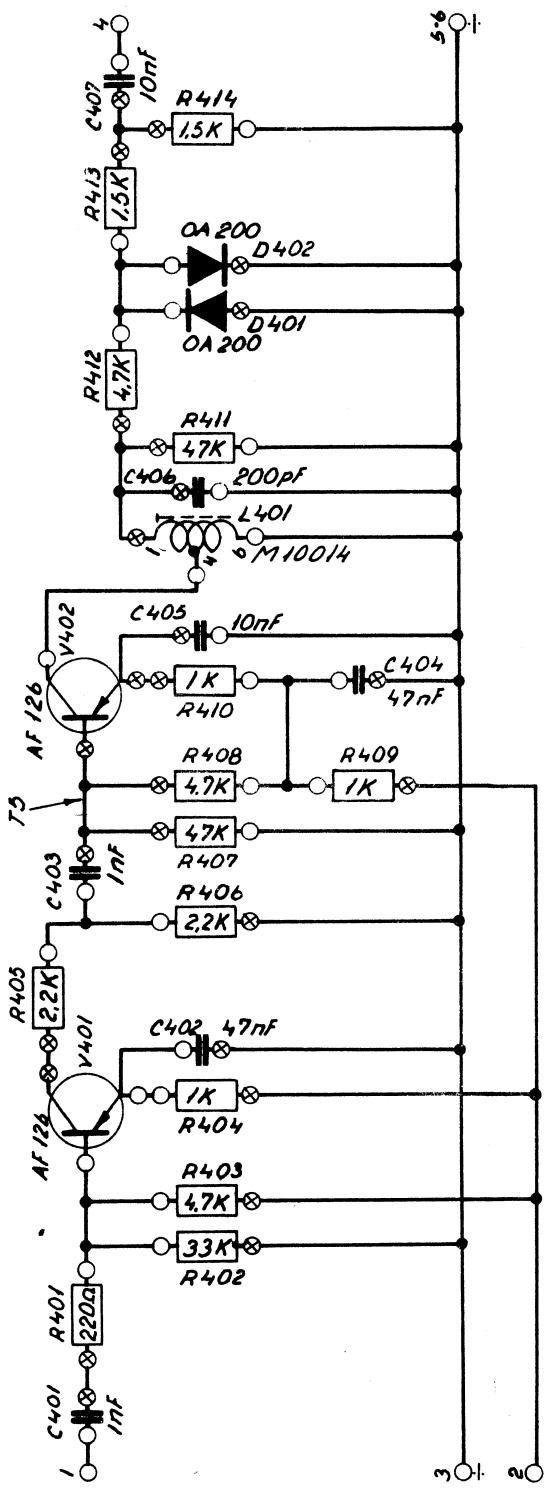
GODK.

Standard Electric A/S

KØBENHAVN

BLADE
BLAD

UDG. 1
17-11-65
Testp
1/1E
2. Udp
20-6-66 GJ



Unit 4

Limiter

TEGNET.
14-1-65 GRL
KONTR. R.
15-1-65
GODK.

Standard Electric A/S

KØBENHAVN

BLADE
BLAD 0000-000-0001

DISCRIMINATOR AND AF-UNIT 5

From the limiter the signal is fed to the discriminator driver (V501) providing signal amplification and leading next to the Foster-Seely discriminator (L501, L502, D501, and D502). The recovered audio signal now follows two paths. One part is used to control the squelch amplifier, and the other part of the signal passes through an R-C network providing a 6 dB/oct. de-emphasis. The latter signal is then amplified in the AF-amplifier transistor V502. This amplifier stage is controlled by the squelch circuit by means of back biasing the emitter-base junction thereby cutting off the emitter current. From the collector of the V502, the signal is then fed to the volume control through a filter having a cut-off frequency of approx. 3000 c/s.

TEST PROCEDURE

An AF-signal of 1000 c/s, 18-22 mV RMS ($R_g = 100 \Omega$) applied between T2 and grd. through a 0.1 μ F capacitor must cause an output of 200 mV RMS between T3 and grd. The frequency response must be within $\pm 1-2$ dB for a 6 dB/oct. de-emphasis between 300 and 3000 c/s (ref. 1000 c/s). For tuning the discriminator apply a 470 kc/s signal of 100 mV P.D. ($R_g = 50 \Omega$) between T4 and grd. and connect a 50 μ A meter through an external 220 k Ω resistance between T6 and grd. Tune for zero current. A ± 20 kc/s variation of the 470 kc/s signal must cause a deviation of $\pm 20 \mu$ A on the meter.

TEGNET.

KONTR.

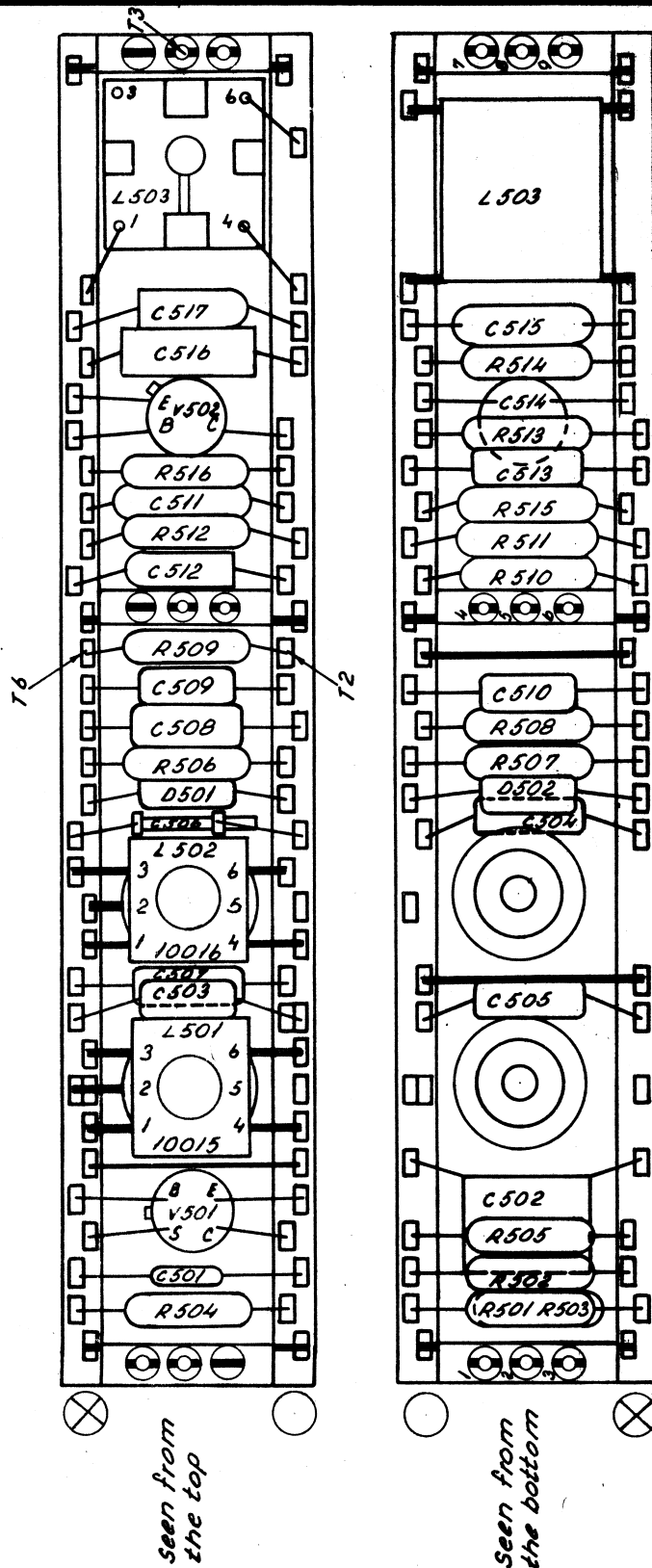
GODK.

Standard Electric A/S

KØBENHAVN

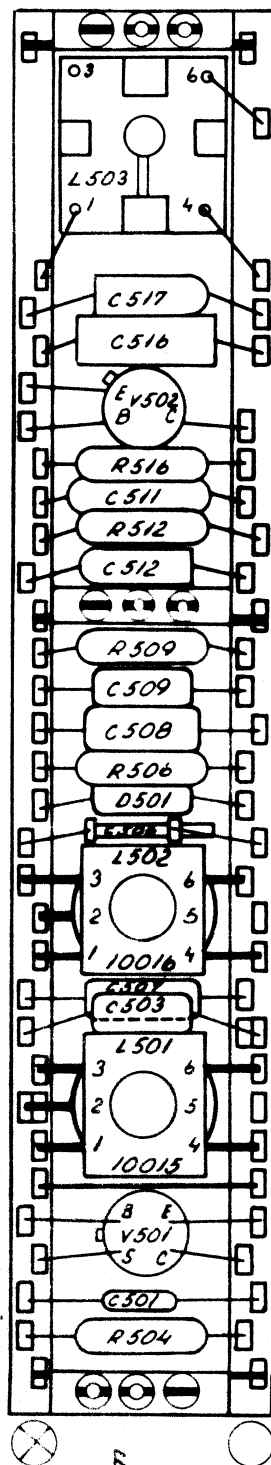
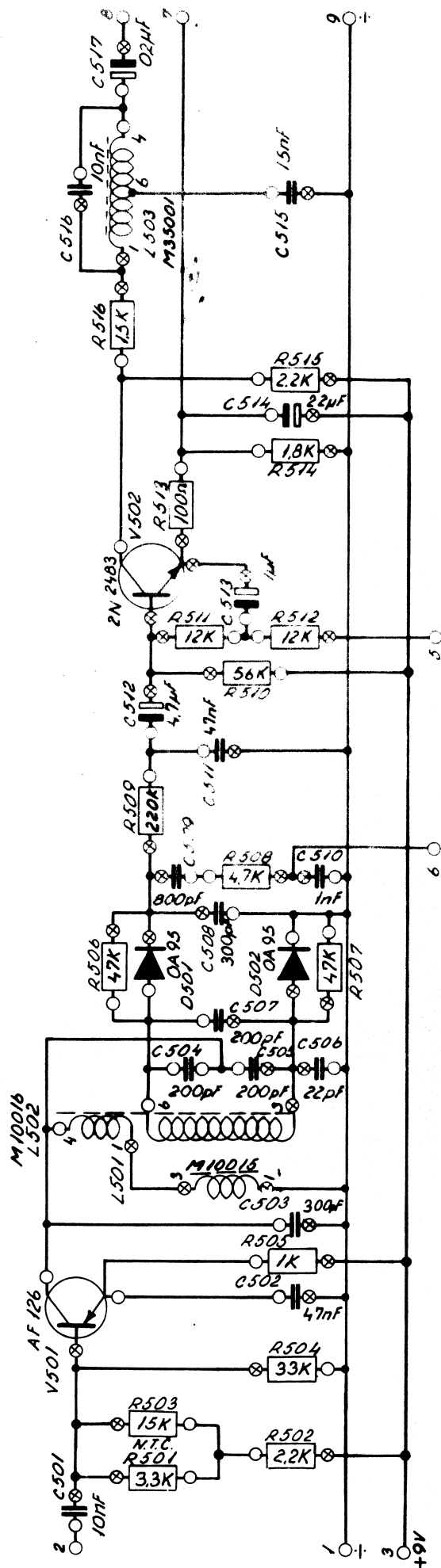
BLADE
BLAD

TEGNET. GJ
21. 9. 1978
KONTR. R
Godk.

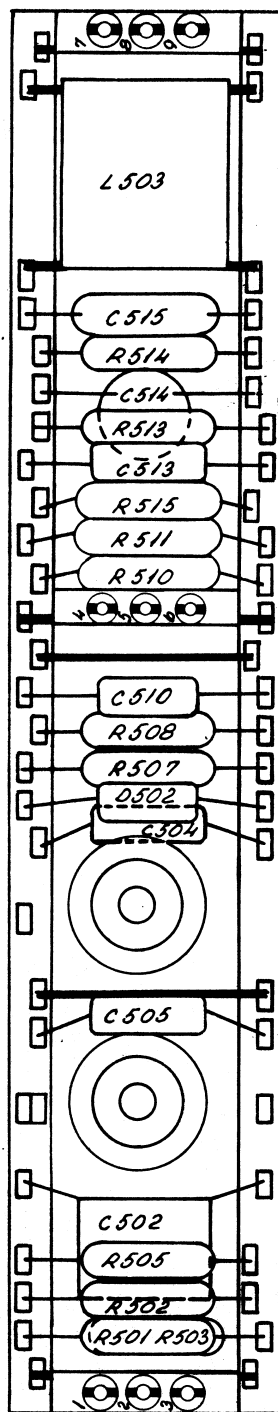


Unit 5

UDG. 1
27-9-66 GJ
C517 v.v. 4/4
2Udg
1-10-68 GJ
C517 v.v. 0/4
3. Udg. 2.2
4-11-66
Var C514 er
flyttet m. ven-
stre.
4. Udg. U.L.
24-1-67.



seen from
the top



seen from
the bottom

Discr. + AF

Unit 5

EGNET. GJ
1-9-66
KONTR. R
30DK.

Standard Electric A/S

KØBENHAVN

BLADE
BLAD 0000-050-0003

SQUELCH UNIT 6

From the output of the discriminator, a noise signal is fed to the squelch unit. The squelch level is set by a potentiometer placed on the front panel. The first transistor V601, which has a tuned circuit in the collector providing amplification for only a suitable spectrum of noise. Limiting action takes place before the signal is fed to the next amplifier stage, V602. From the collector the signal is fed to a voltage doubler circuit containing two diodes, D602 and D603, and after being filtered, fed to the base of the AF-amplifier transistor as a cut-off bias.

TEST PROCEDURE

A 7 kc/s signal of 10 mV P.D. ($R_g=100 \Omega$) applied between T7 and grd. shall cause a DC-output between T8 and grd. of -4 V DC.

TEGNET.

KONTR.

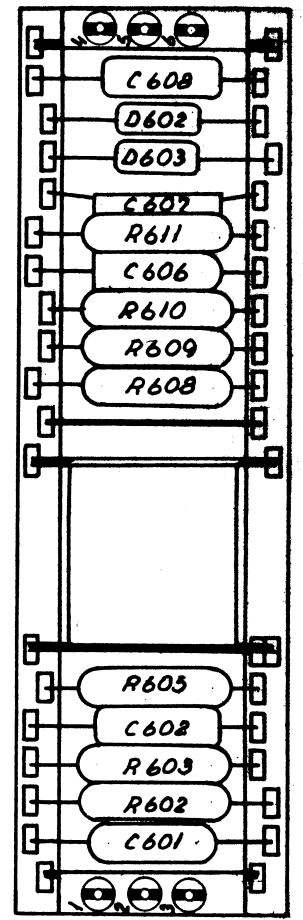
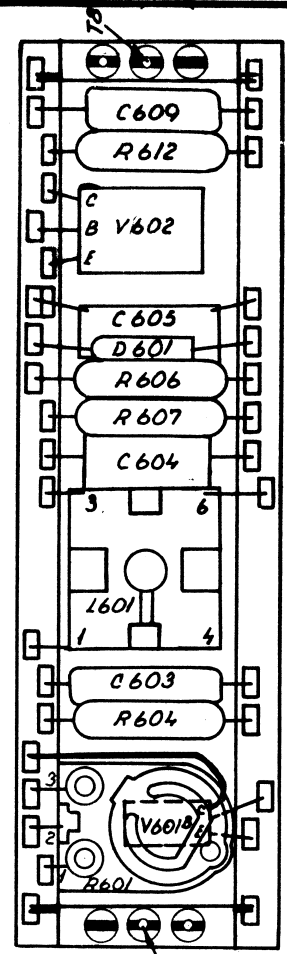
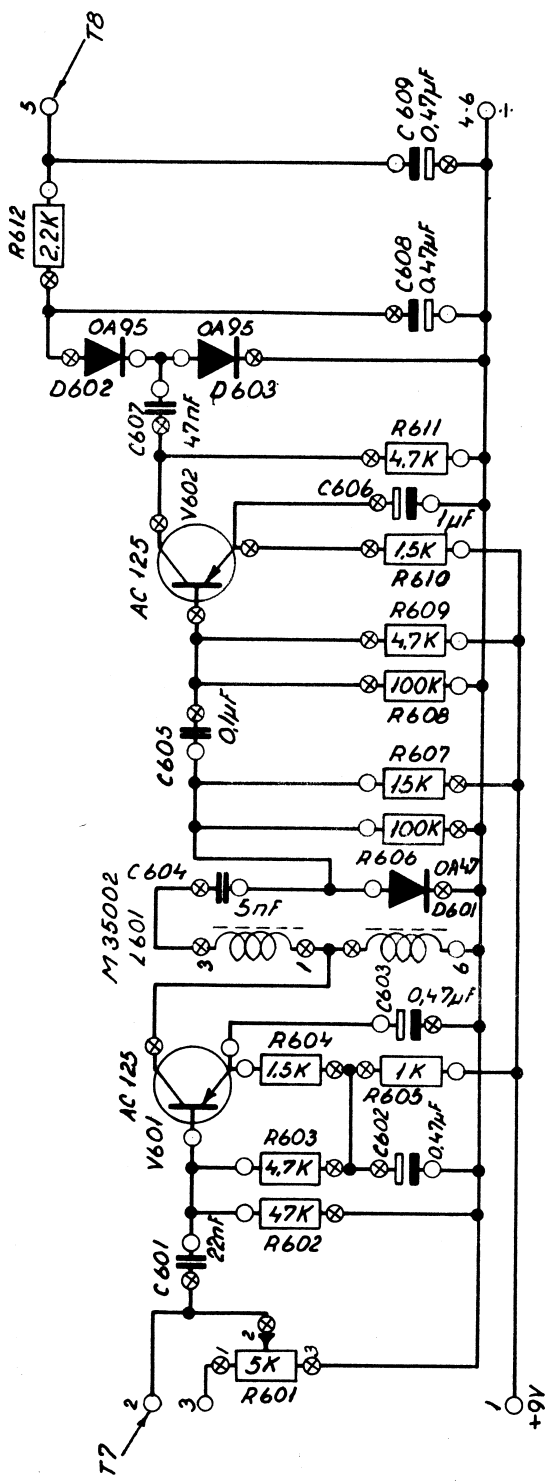
GODK.

Standard Electric A/s

KØBENHAVN

BLADE
BLAD

UDG. 1
13-1-66
Test p.
111
2. udg. 27
10-6-66



Seen from the top

Seen from the bottom

Unit 6

Squelch

EGNET. GR.
9-1-65
KONTR. FL
12-1-66

Standard Electric A/S

KØBENHAVN

3 BLADE
BLAD3 0000-000-0002

AF - DRIVER 7

From the volume control the signal is fed to the AF-driver, providing the necessary power level for driving the output stage. The AF-driver is DC-coupled to the AF-output stage.

TEST PROCEDURE

Due to the DC-coupling between these stages the test must take place as if it were one single unit. Apply an AF-signal of 1000 c/s, 150-220 mV. RMS. P.D. ($R_g = 100 \Omega$) between T1 and grd., with the volume control in max. position. This signal shall cause a measured output of 3 W (3.14 V. RMS) across the loudspeaker. The frequency response must be within ± 1 dB between 300 and 3000 c/s.

TEGNET.

KONTR.

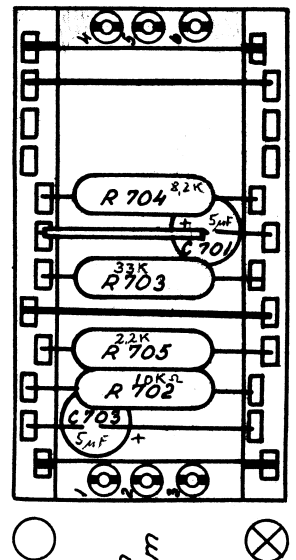
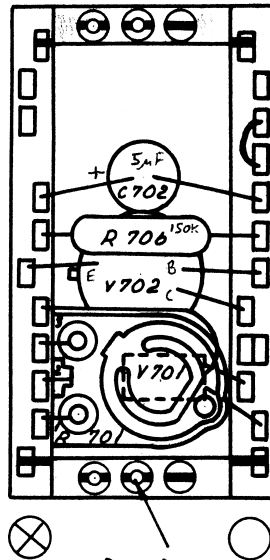
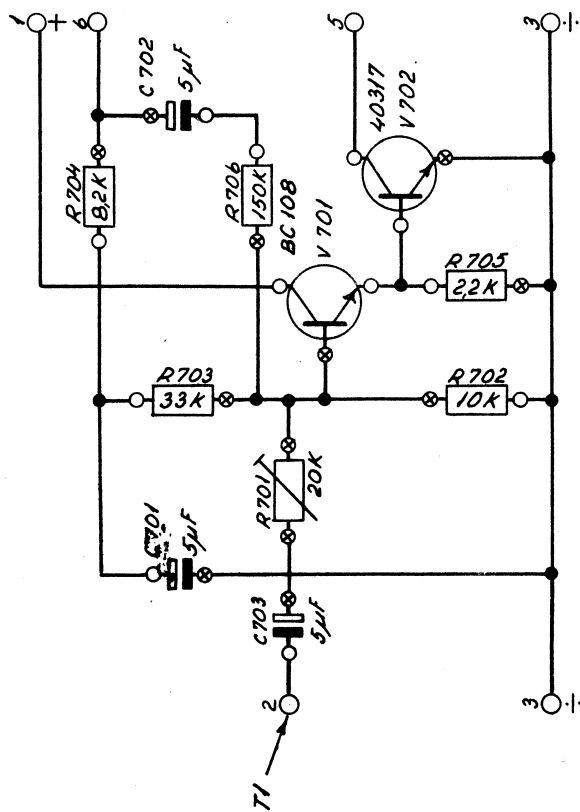
GODK.

Standard Electric A/S

KØBENHAVN

BLADE
BLAD

UDG. 1
27-1-66
2. Udg. 67
20-6-66
stop till.
3. Udg.
2-10-66



AF-DRIVER

Unit 7

TEGNET. M.J.
27-1-66
KONTR.
GOSK.

Standard Electric A/S

KØBENHAVN

BLADE
BLAD 1200-000-0003

OSCILLATOR AND MODULATOR 8

The first transistor V801 operates as a grounded collector crystal controlled oscillator. The output is tapped through a capacitive divider in the emitter. The balanced modulator is according to the Armstrong-system fed with two RF-signals 90° out of phase. The oscillator signal is fed through a phase lagging network to the emitter of the first transistor (V803) in the modulator and through a phase leading network to the emitter of the second transistor (V802). At the same time the audio signals are fed to the bases of both transistors. They are taken from both ends of a center tapped transformer and are therefore 180° out of phase. The output signal from the modulator is taken out at the collectors, which are connected in parallel, and is passed through a tuned circuit (L803) to the base of the transistor (V804). From the collector the signal, which is twice the crystal frequency in the 4 and 8 meter versions, and which is three times the crystal frequency in the 2 meter version, is taken out across a double tuned circuit (L804-L805) and fed to the output terminals of the module.

TEST PROCEDURE

To test the oscillator, connect the diode voltmeter between T1 and grd. The correct output on the meter indicator must be $35 \pm 10 \mu\text{A}$. The corresponding V.T.V.M. indication should be $1.7 \pm 0.5 \text{ V. RMS}$. Between T2 and grd. the respective indications should be $10 \pm 2 \mu\text{A}$ and 0.5 V. RMS .

TEGNET.

KONTR.

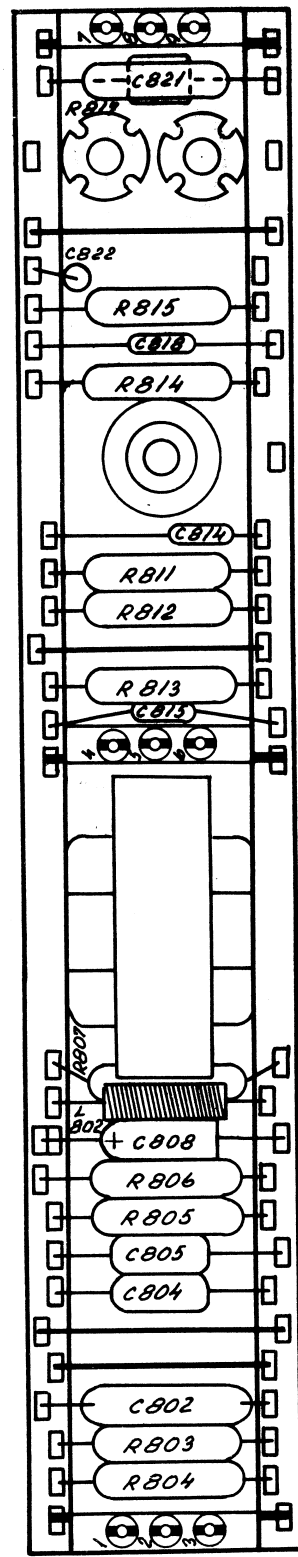
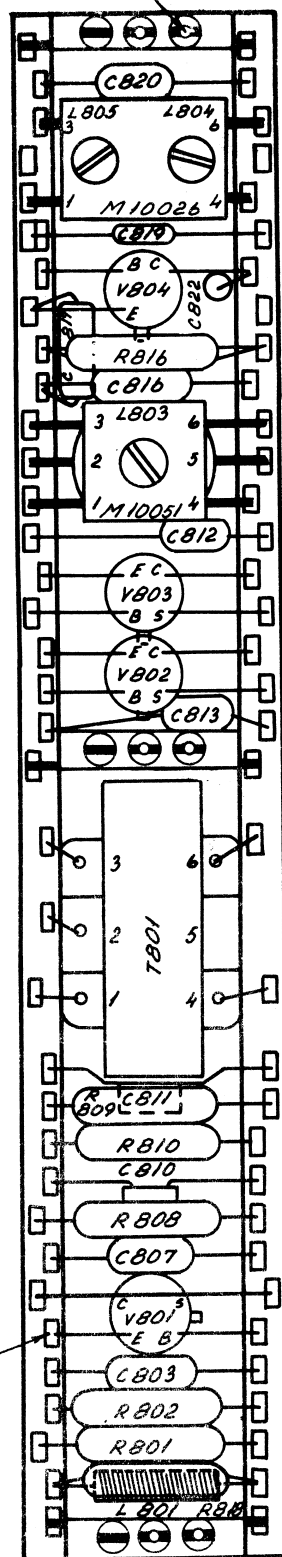
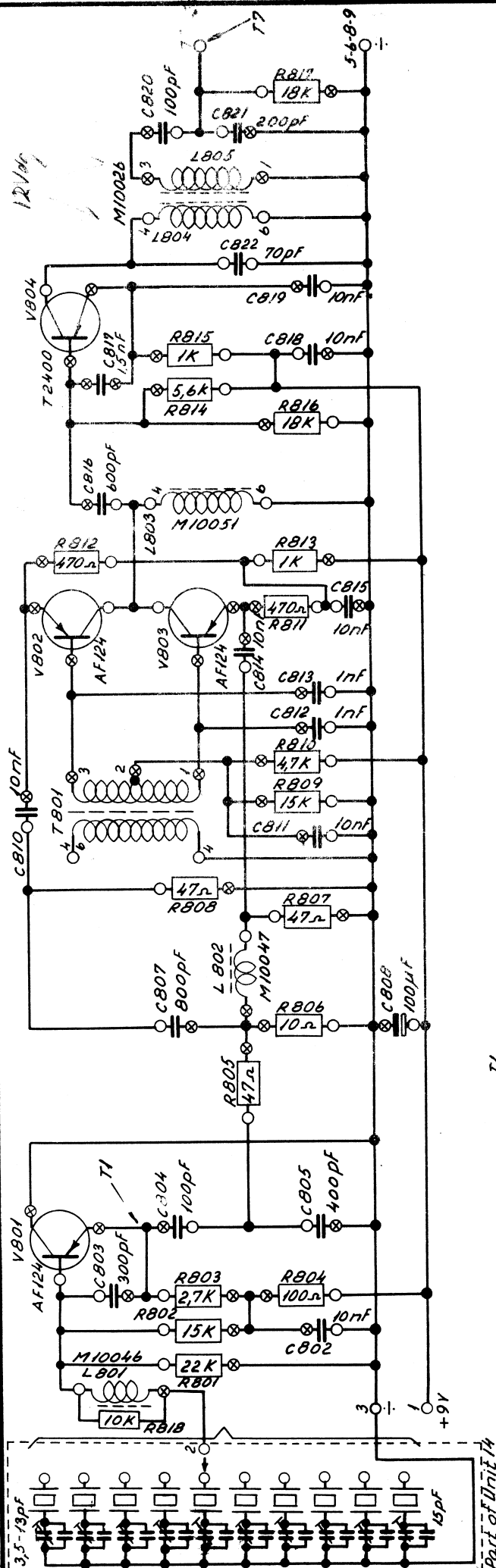
GODK.

Standard Electric A/S

KØBENHAVN

BLADE
BLAD

UDG. 1
29-11-65
GR
Krydstaller
+ trimmer
flyttet
2. Udg.
26-1-66
CB16R
v.v. 500pF
3. Udg.
25-2-66
dobbel
spole tilt.
M10026
CB22 tilt.
CB17-CB16
flyttet
4. Udg.
4-3-66
R819 1Kslet.
5. Udg.
16-3-66 G.J.
R Testp.
Lill.
6. Udg. GJ
20-6-66
10 channel
slett
7. Udg. ul.
23-9-66



Seen from
the top

Seen from
the bottom

2m.
Tx-Osc. + Modulator P8

Unit 8

TEGNET. M.J.
1-9-65

KONTR. R.

GODK,

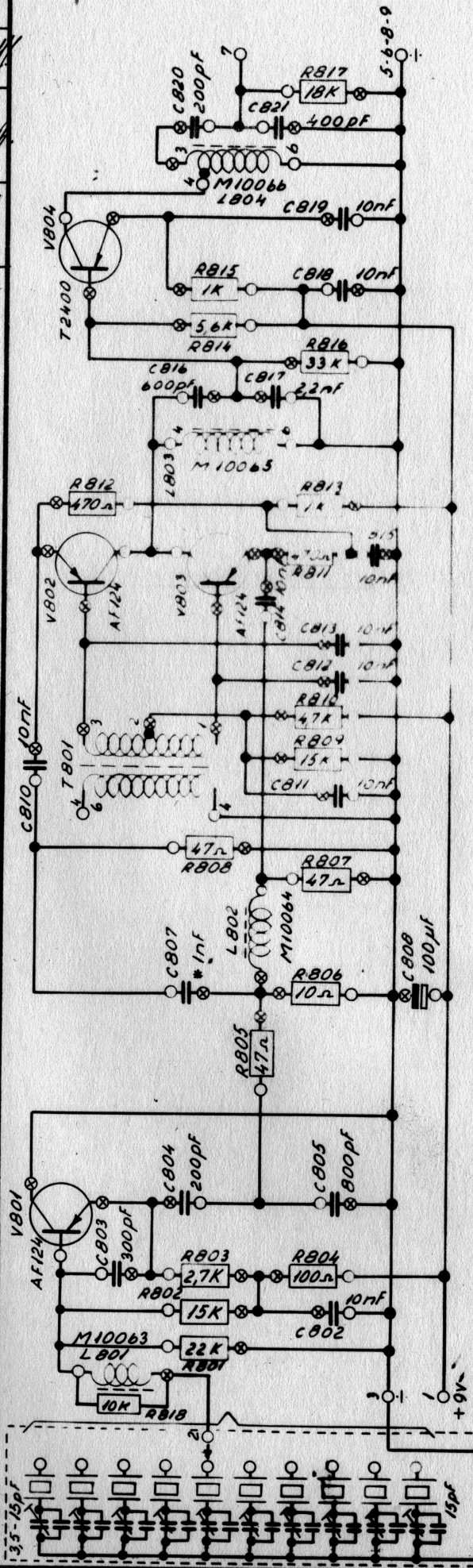
Standard Electric A/S

KØBENHAVN

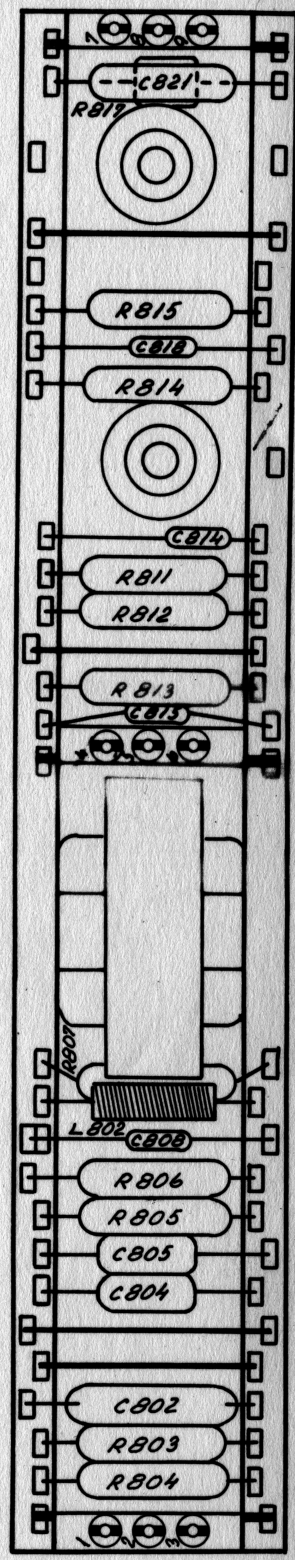
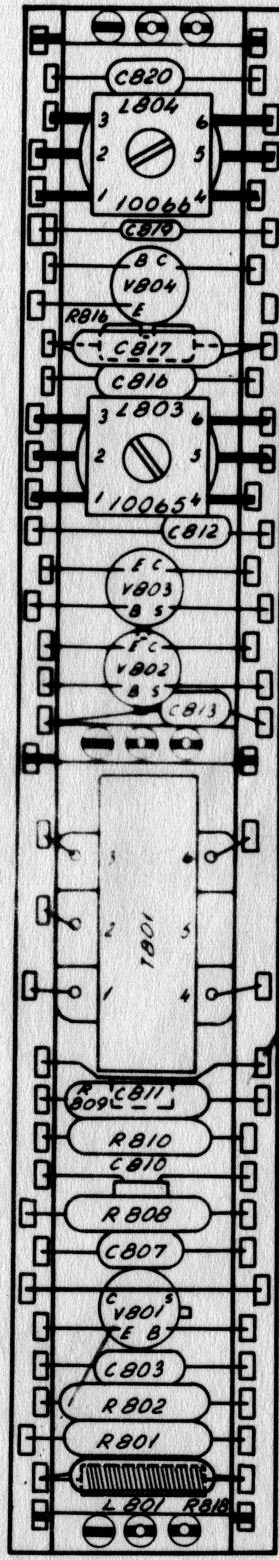
4 BLADE

1200-200-0002

UDG. 1
29-4-65
GRL
Krystaller
+ trimmer
flyttet
2 Udg.
26-1-66
R18
3 Udg.
1-4-66 J.C.
3.5-15pF
kv. 3.5-13pF
4. Udg. G.T.
10-6-66 R
10 konaler
slet.
3. Udg.
26-9-66 G



*: as required Inf-16nf



4M Tx-Osc. + Modulator

Unit 8

TEGNET. M.J.
27-9-65
KONTR. R

GODK.

Standard Electric A/S

KØBENHAVN

4BLADE
BLAD 0000-400-0002

1st MULTIPLIER 9

The 1st multiplier module includes only a doubler stage. The transistor V901 is used in a common emitter configuration. The signal, which is now four times the crystal frequency in the 4 and 8 meter versions, and which is six times the crystal frequency in the 2 meter version, is taken out across a double tuned tank circuit (L901, L902) and fed to the output terminals.

TEST PROCEDURE

Connect the diode voltmeter between T3 and grd. For correct output the meter indication must be $10 \pm 2 \mu\text{A}$. The corresponding V.T.V.M. indication must be 0.5 V. RMS. Connect the diode voltmeter between T4 and grd. For correct output the meter indication must be $15 \pm 3 \mu\text{A}$. The corresponding V.T.V.M. indication must be $0.9 \pm 2 \text{ V. RMS}$.

TEGNET.

KONTR.

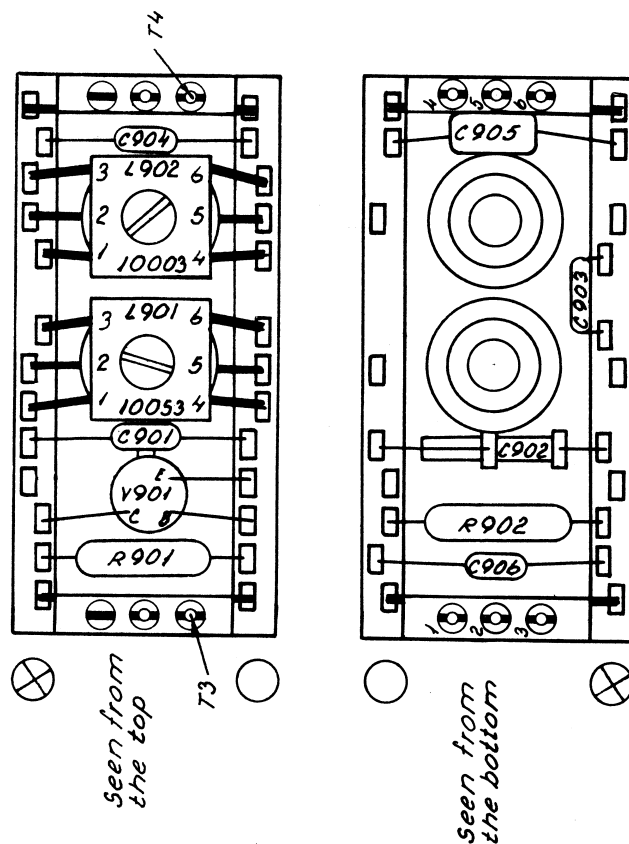
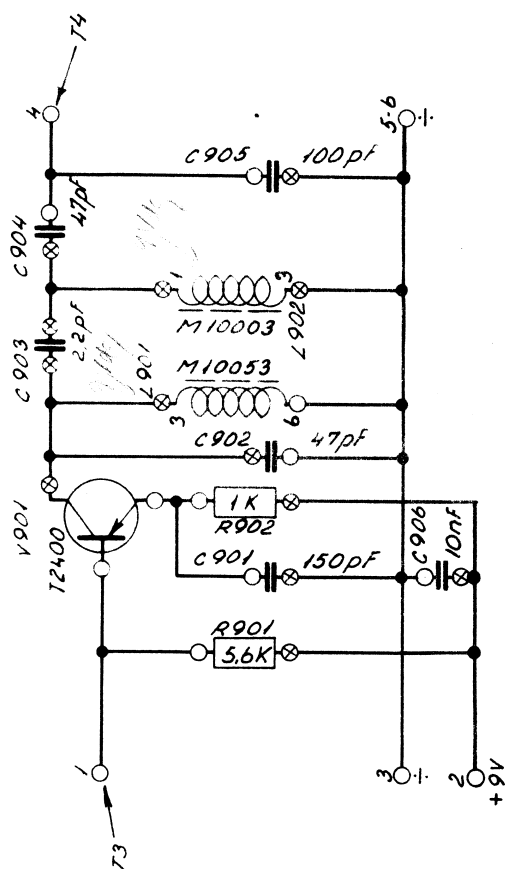
GODK.

Standard Electric A/S

KØBENHAVN

BLADE
BLAD

TEGNET. GRU
21-1-65
KONTR. 12
84-11-11
GODK.



Unit 9

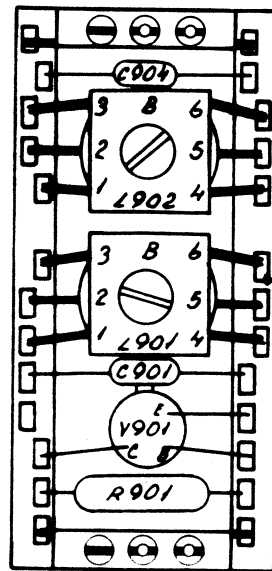
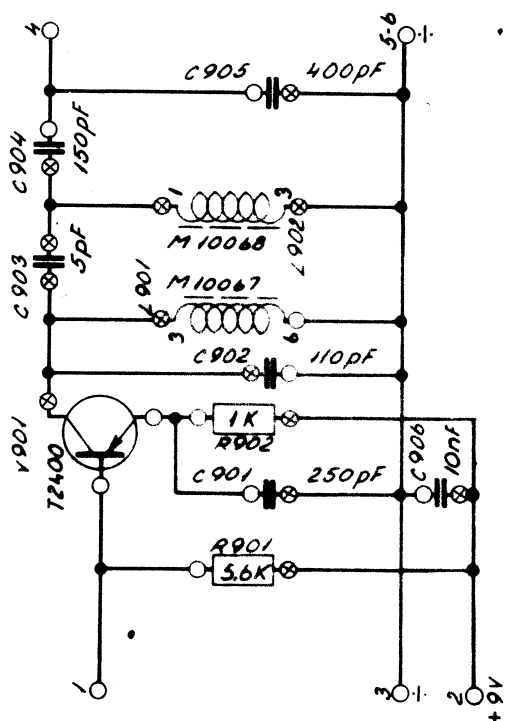
KØBENHAVN

2 BLADE
BLAD2 0000-200-0003

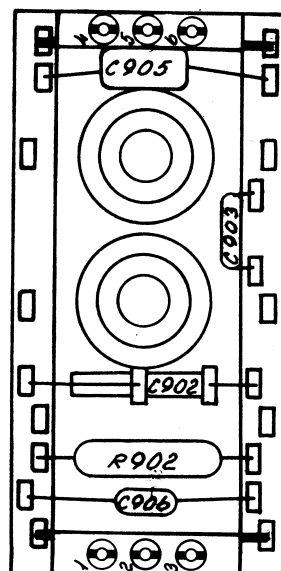
UDG. 1
26-11-65

ben på
V901 fjernet

Udg. 2. U.L.
4-10-66



seen from
the top



seen from
the bottom

4M 1' Multiplier P6
Unit 9

TEGNET. M.J.
27-9-65

KONTR
24-11-65
GOK

Standard Electric A/S

KØBENHAVN

2BLADE
BLAD 2 0000-400-0003

2nd MULTIPLIER 10

The 2nd multiplier includes three stages all build in common base configuration. In the 2 and 4 meter versions the signal is doubled in transistor V1001 but in the 8 meter version amplified only. The signal on the collector is 12 times the crystal frequency in the 2 meter version, 8 times the crystal frequency in the 4 meter version and still 4 times the crystal frequency in the 8 meter version. Across the double tuned tank circuit L1002, L1003 the signal is taken out and fed to the emitter of transistor V1002. This transistor together with the double tuned tank circuit L1005, L1006, is a doubler stage in both the 2, 4 and 8 meter versions. This means that the frequency in the different versions now is the crystal frequency multiplied 24 times on 2 meter, 16 times on 4 meter and 8 times on 8 meter. The transistor V1003 amplify the signal which is taken out across the tuned circuit L1008 and fed to the output terminals.

TEST PROCEDURE

Connect the diode voltmeter between T5 and grd. For correct output the meter indication must be $15 \pm 3 \mu A$. The corresponding V.T.V.M. indication must be $0.9 \pm 2 V. RMS$. Connect the diode voltmeter between T6 and grd. For correct output the meter indication must be $50 \pm 5 \mu A$. The corresponding V.T.V.M. indication must be $2.5 \pm 0.5 V. RMS$.

TEGNET.

KONTR.

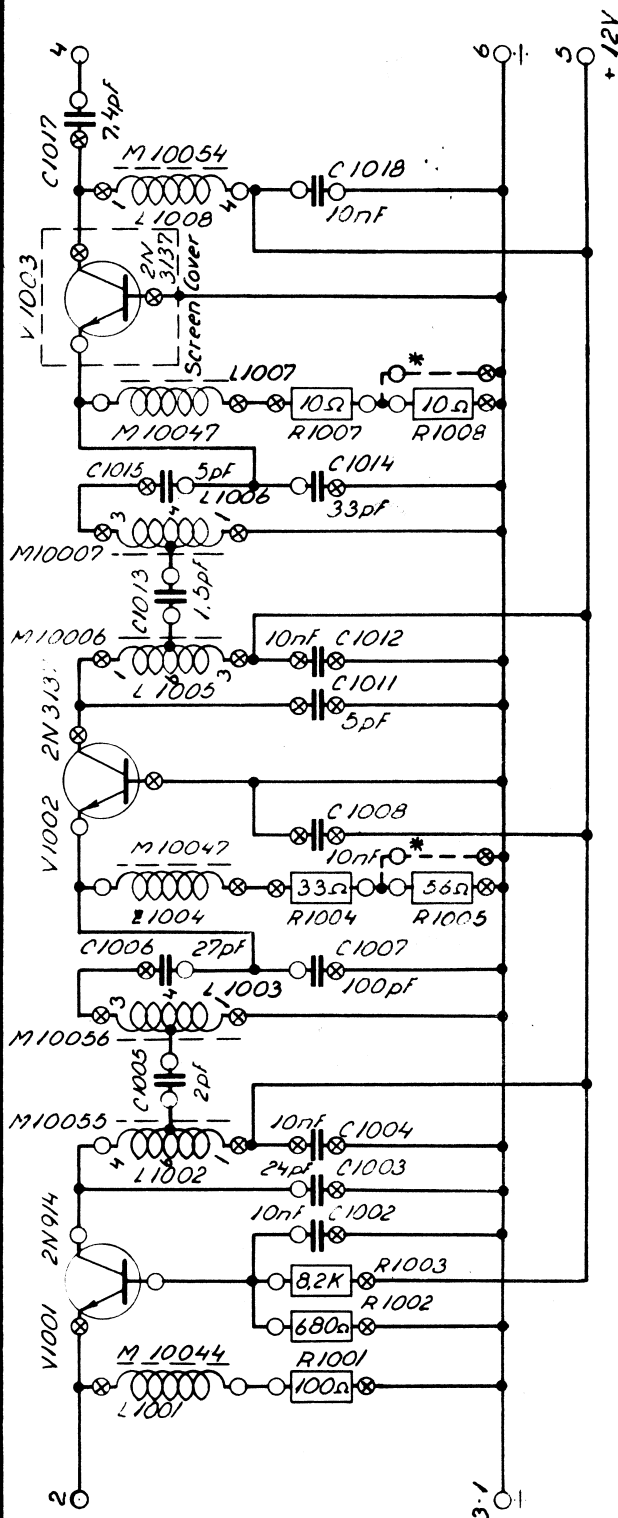
GODK.

Standard Electric A/S

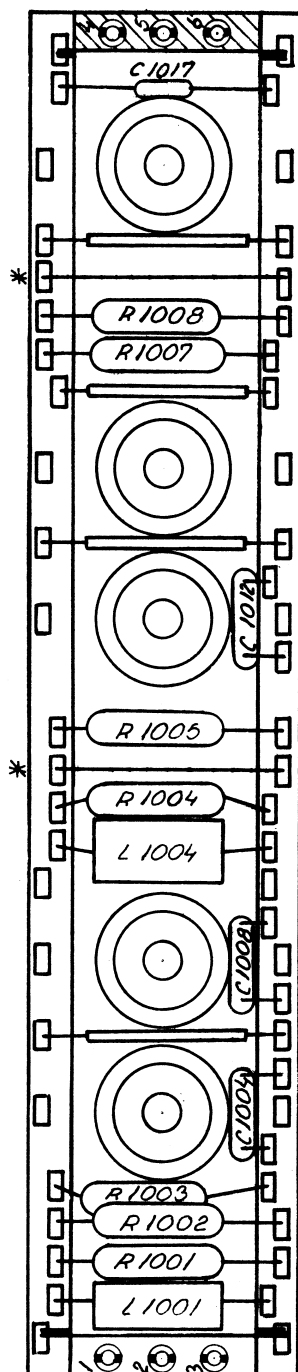
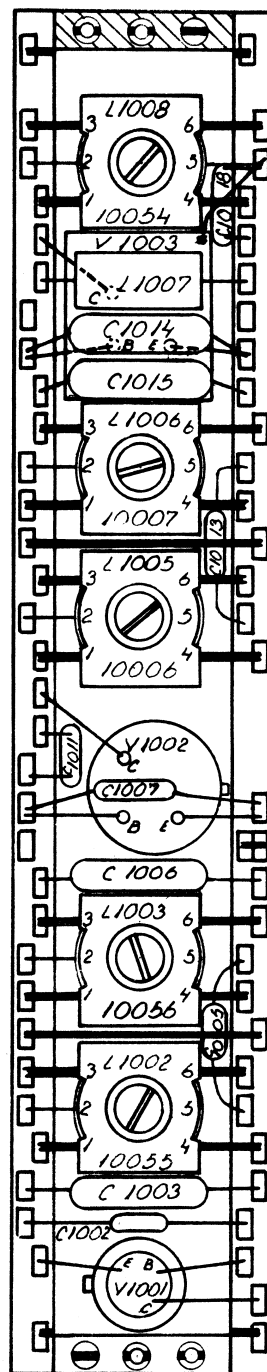
KØBENHAVN

BLADE
BLAD

UDG 1
12-8-66 GJ
0000-200-
0005 V.V.
0000-200-0004
2.000
26-9-66 GJ



* PB ONLY



2m 2. Multiplier

Unit 10

TEGNET. GJ
9-8-66
KONTR.
12-8-66
GODK.
12-8-66

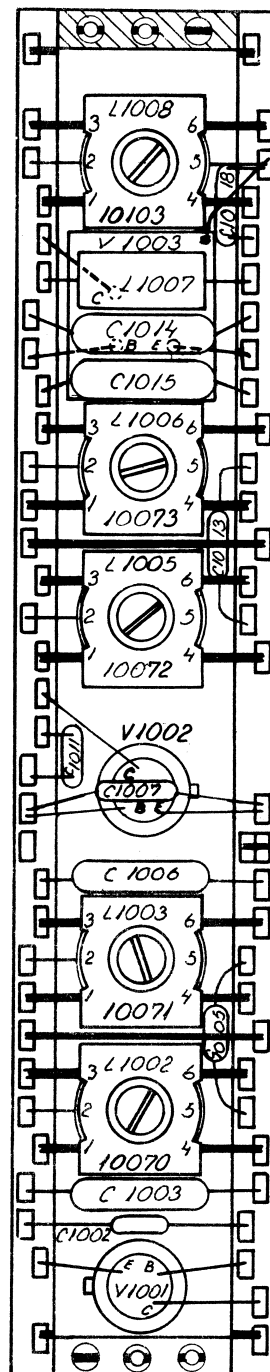
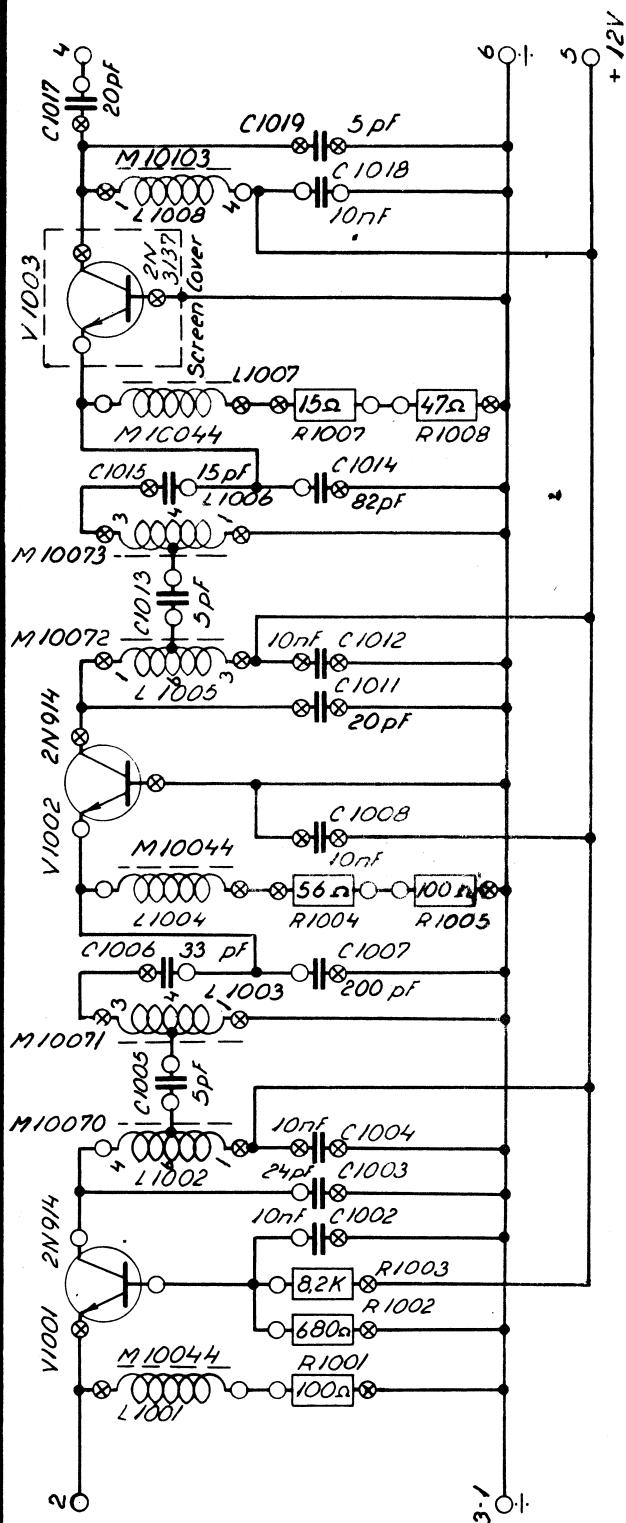
Standard Electric A/S

KØBENHAVN

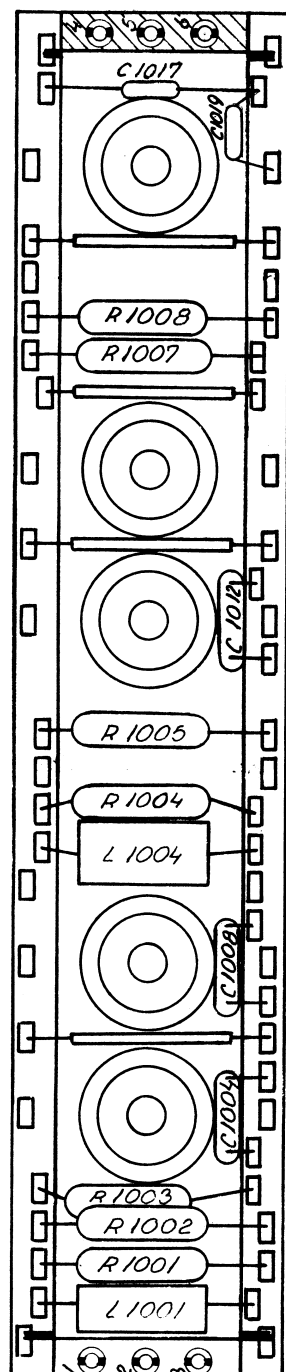
3 BLADE
BLAD 3

0000-200-0005

UDG. 1
Ny ramme
3. Udg.
15-9-66 GJ
0000-400-0005
14.000-400-0004
4. Udg.
26-9-66 GJ



Seen from the top



Seen from the bottom

Unit 10

4m 2 Multiplier (78-88Mc)

TEGNET. GJ.
14-9-66
KONTR VZJ

GODK

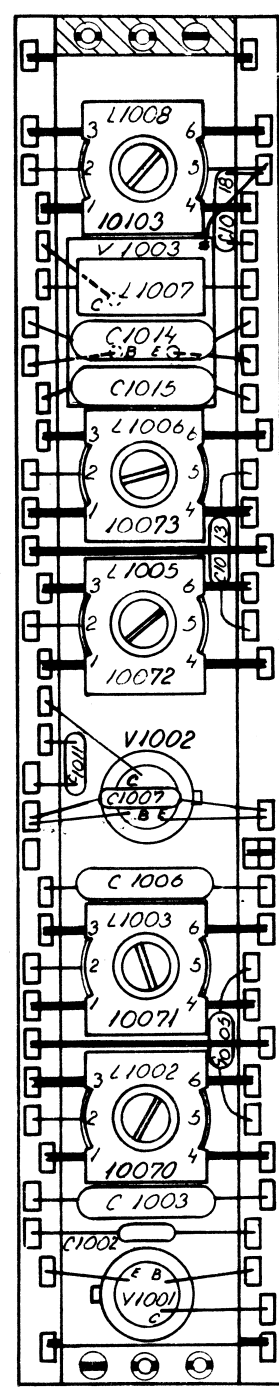
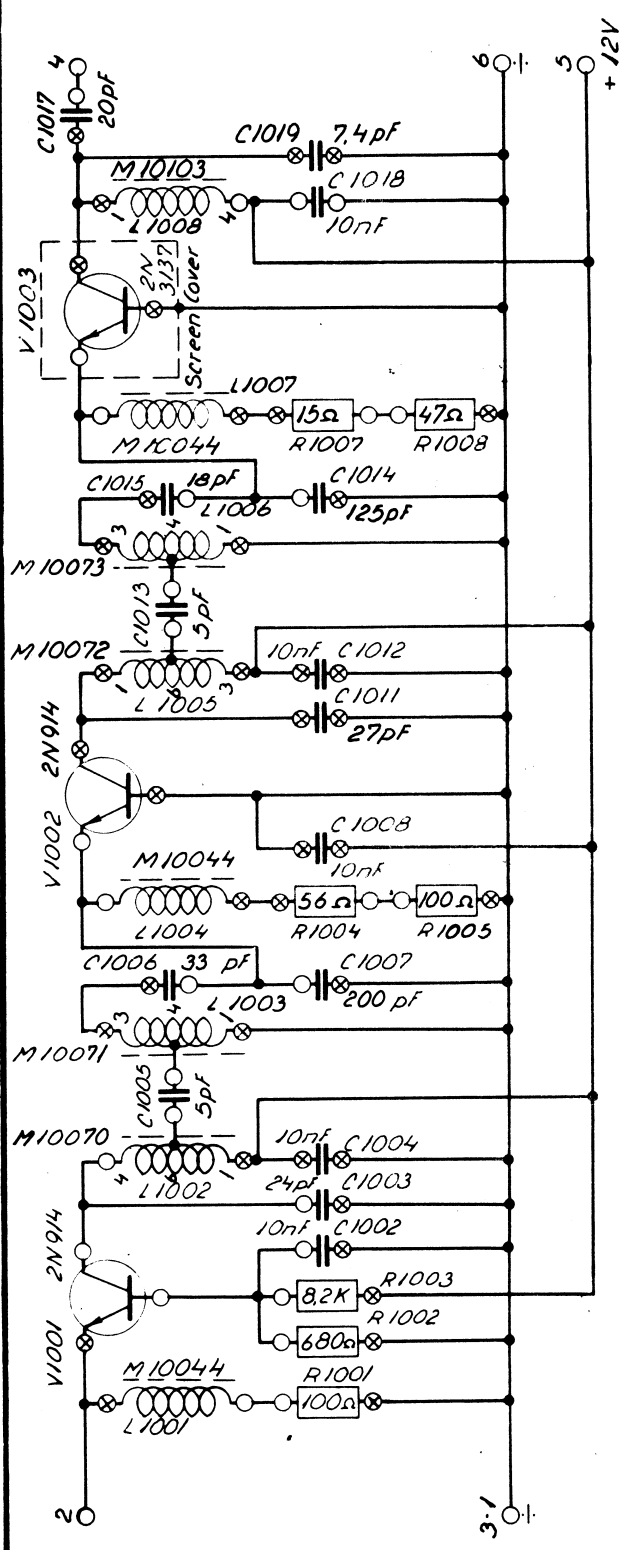
Standard Electric A/S

KØBENHAVN

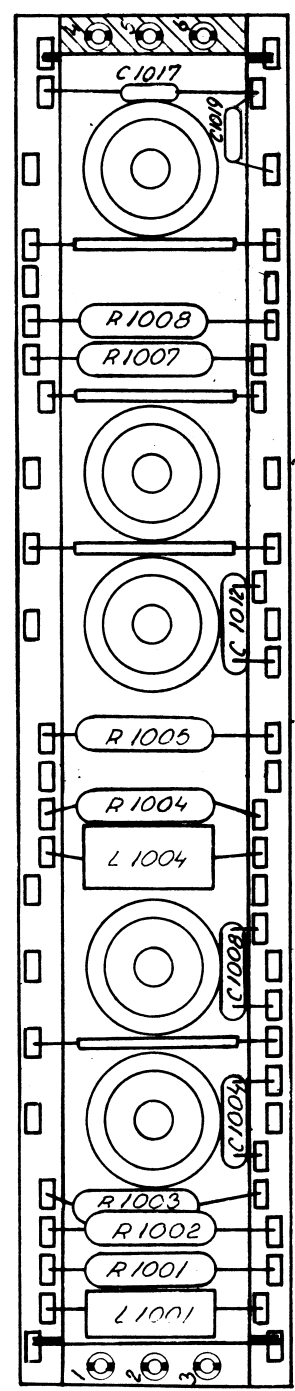
3 BLADE
BLAD 5

0000-400-0005

UPG. 1
Ny ramme
2. Udg.
15-9-66 GJ
0000-500-
0005 v.v. 0000
500-0004
3. Udg.
3-10-66 GJ



Seen from
the top



Seen from
the bottom

Unit 10

5m2 Multiplier (68-76 Mc)

TEGNET. GJ.
14-9-66
KONTR. T.L.J.
GÖDK. L

Standard Electric A/S

KØBENHAVN

3 BLADE
BLAD 3 0000-500-0005

RF - PA

The RF part in the PA-stage contains 3 transistors V 1101, V 1102, V 1103, all working with a power gain of approx. 6 dB which provides an acceptable stability.

With an input power of 300 mW the min. output power must be 10 W with a supply voltage of 13.5 V.

The circuit consisting of C 1101, L 1101 and C 1102 is a matching circuit providing the correct impedance for V 1101. The transistor output capacitor is compensated by the coil L 1102. The capacitor C 1105 and the coil L 1103 provide impedance transformation between collector and base of the following transistor. 2 similar stages provide power amplification and the last stage is followed by a harmonic filter including 3 M-derived T-sections.

To prevent transistor break down a protection circuit including V 1104, V 1105, D 1101, D 1102, D 1103 is added.

The circuit D 1102, D 1101, V 1104, V 1105 prevents the voltage between collector and emitter from exceeding 34 Volt. L 1109 D 1103 are coupled as a WSWR bridge where the reflected voltage is rectified and led to the DC amplifier (V 1104, V 1105). When a DC-voltage is led to the amplifier, the voltage across V 1104 increases which results in a decrease of the voltage across V 1101. This decrease causes a reduction in RF drive signal.

TEGNET.

KONTR.

GODK.

Standard Electric A/S

KØBENHAVN

BLADE
BLAD

TEST PROCEDURE RF - PA

- 1) A wattmeter is connected to the output terminals 50 Ω (Thruline).
- 2) An amperemeter is connected in series with the supply voltage.
- 3) L 1107 in the collector of the output transistor is dissoldered.
- 4) A 300 mW input signal is led to the input terminals.
- 5) Supply voltage 13,5 Volt is switched on.
- 6) The capacitors C 1102, C 1104, C 1110 are adjusted to max. deviation on the amperemeter (range 1 A).
- 7) L 1107 is connected and C 1114 is adjusted to max. output on the Wattmeter.
- 8) Readjust all variable capacitors to max. output.
- 9) Connect an avometer to test point 1 (range 100 Volt). The voltage must not exceed 35 Volt when adjusting C 1114.
- 10) The output is now 10 Watt.
- 11) If the output power exceeds the permissible max. limit 11 Watt, increase R 1102.
- 12) Cover is remounted.
- 13) A readjustment of all variable capacitors for max. output is now necessary.

TEGNET.

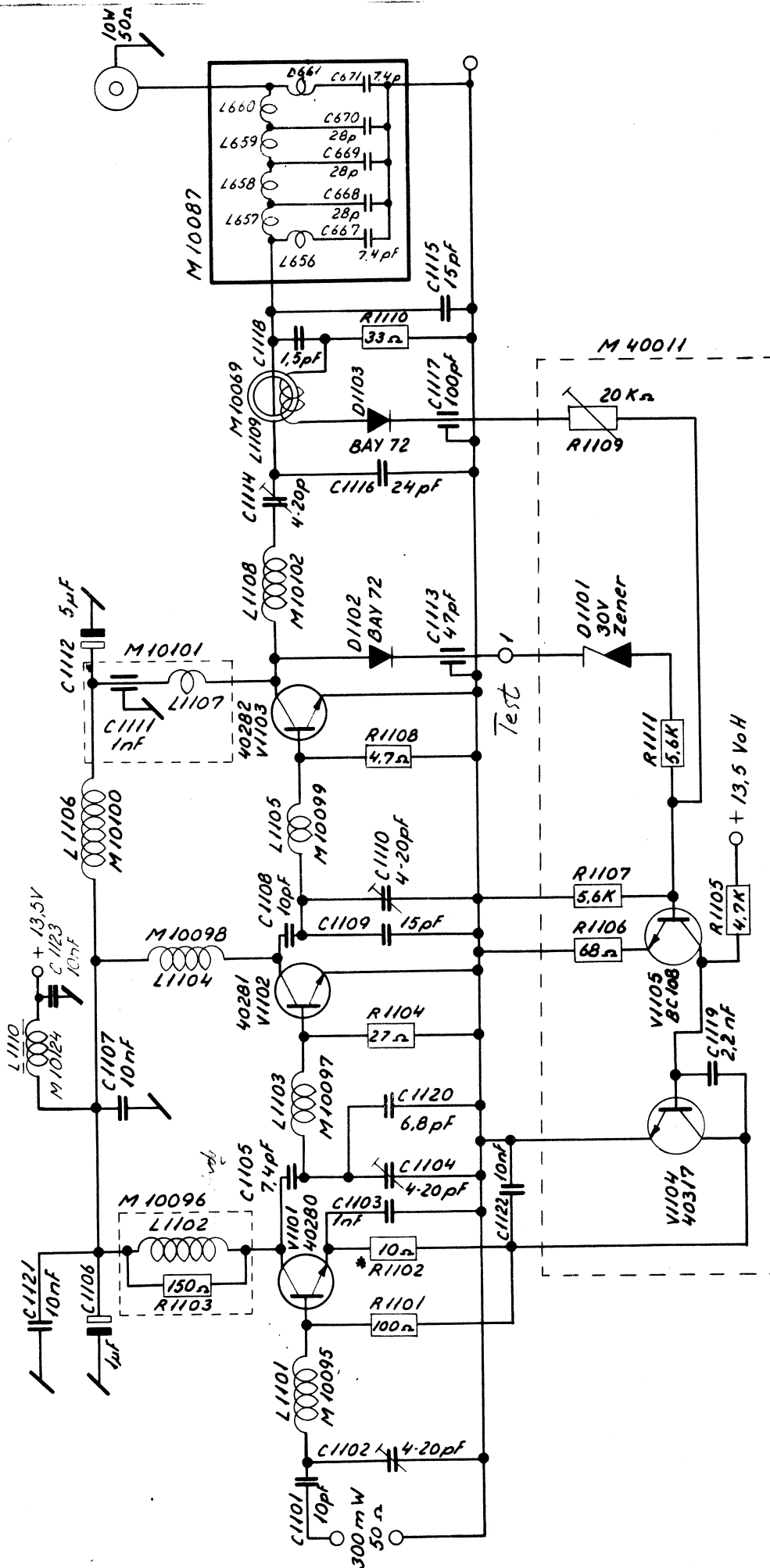
KONTR.

GODK.

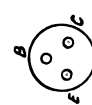
Standard Electric A/S

KØBENHAVN

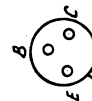
BLADE
BLAD



* R1102: The value is corrected to output 11W. Min. 10Ω



40233



40280



40281

40282

TX-PA P8
Unit 11

TEGNET. JTC
17-5-66

KONTR. K.B.

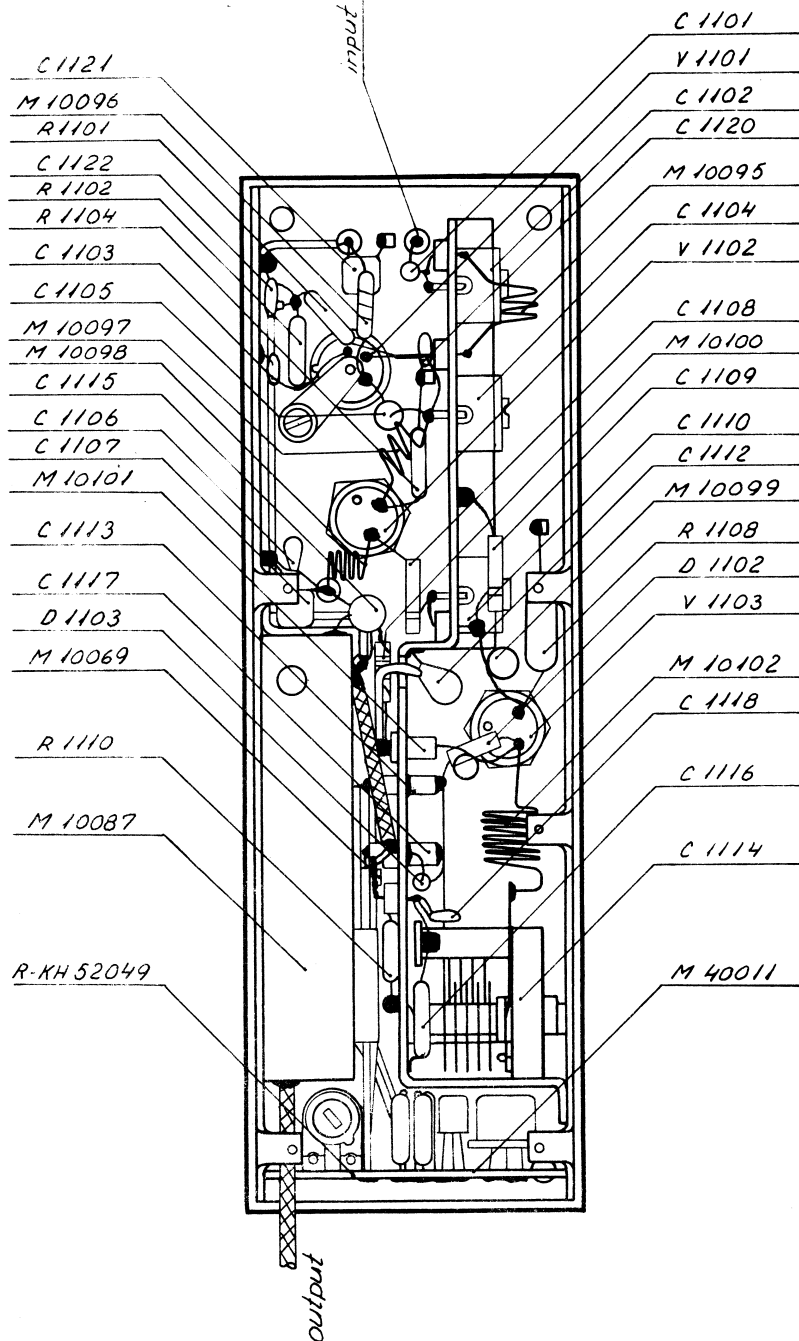
GODK.

Standard Electric A/S

KØBENHAVN

6 BLADE

BLAD 5 1245-200-0001



TX-PA P8

Unit 11

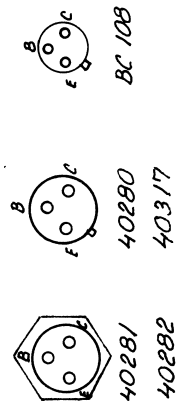
TEGNET. J.T.C.
16.5.66KONTR. *Ans.*

GODK.

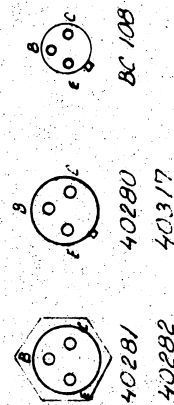
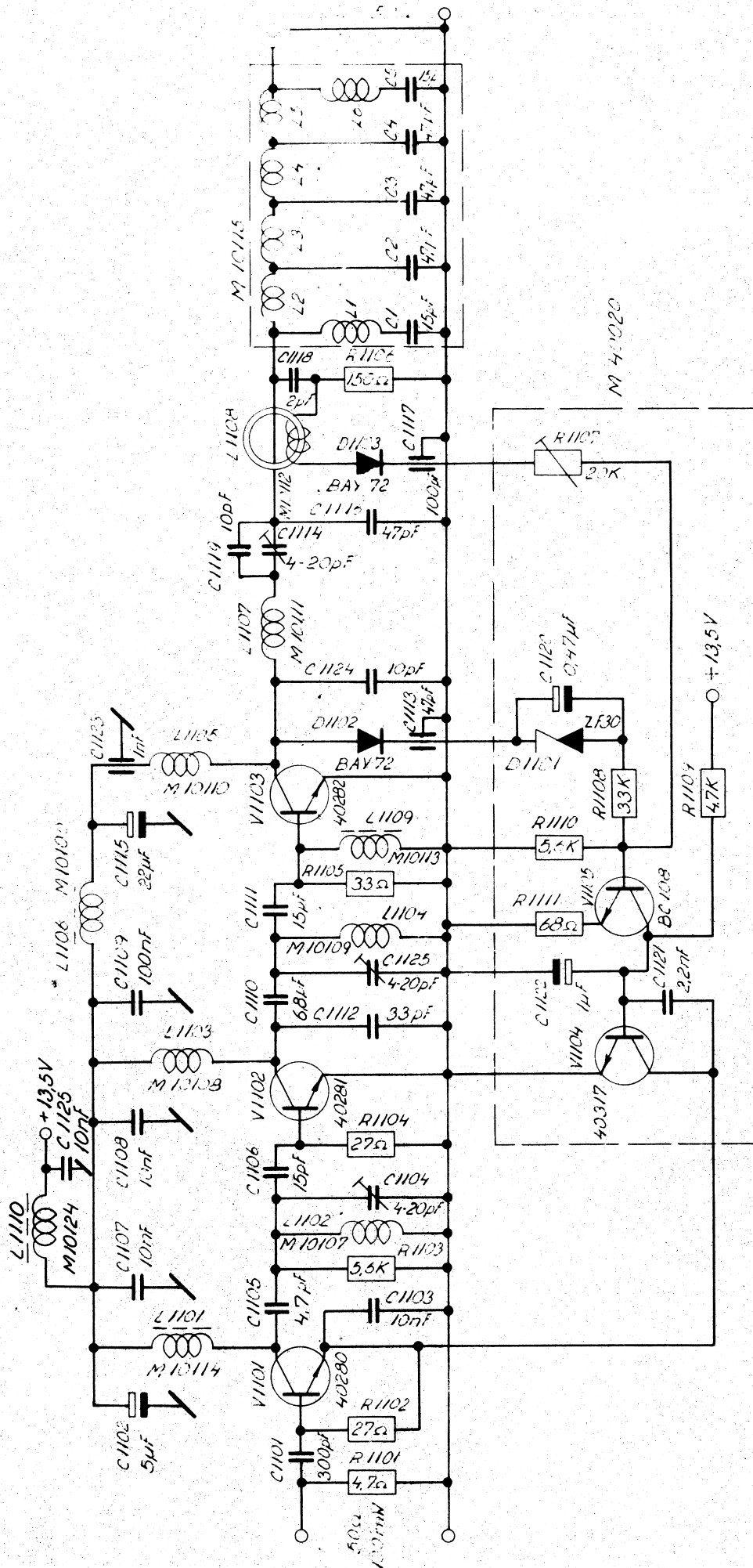
Standard Electric A/S

KØBENHAVN

6 BLADE
BLAD 6 1245-200-0001



68-80 MC



TX - PA-Stage 4M
Unit 11
75-88 Mc

EGNET
27.9.1957
KONTR
ODK

Standard Electric A/S

KØBENHAVN

BLADE 1245-500-0001

MICROPHONE AMPLIFIER 12

From the microphone the audio signal is fed to the amplifier input sensitivity control (a potentiometer placed in the base of the first transistor V1201). This stage operates as an ordinary amplifier in common emitter configuration. From the collector the signal is fed through an R-C pre-emphasis network to the base of the next amplifier stage, V1202, which is DC-coupled to the limiter transistor, V1203. The limiter transistor is biased so that any audio peaks that might produce overmodulation drives the transistor into saturation and limiting results. Between the limiter and the low pass filter there is a maximum deviation control (R1214). The filter reduces unwanted sideband energy developed as a result of the limiting action. From the filter the signal passes through a de-emphasis stage, V1204, before it is led to the modulator module.

TEST PROCEDURE

Apply an AF-signal between T8 and grd. of 1000 c/s 2.5-15 mV. RMS P.D. ($R_g=200 \Omega$). The signal is dependent on the position of the input sensitivity control R1201. Measured between T9 and grd. this signal shall cause an output of 0.5 V. RMS. For the symmetry and maximum deviation test, a deviation-meter is required. Tune R1209 for symmetry and R1214 for maximum permissible deviation.

TEGNET.

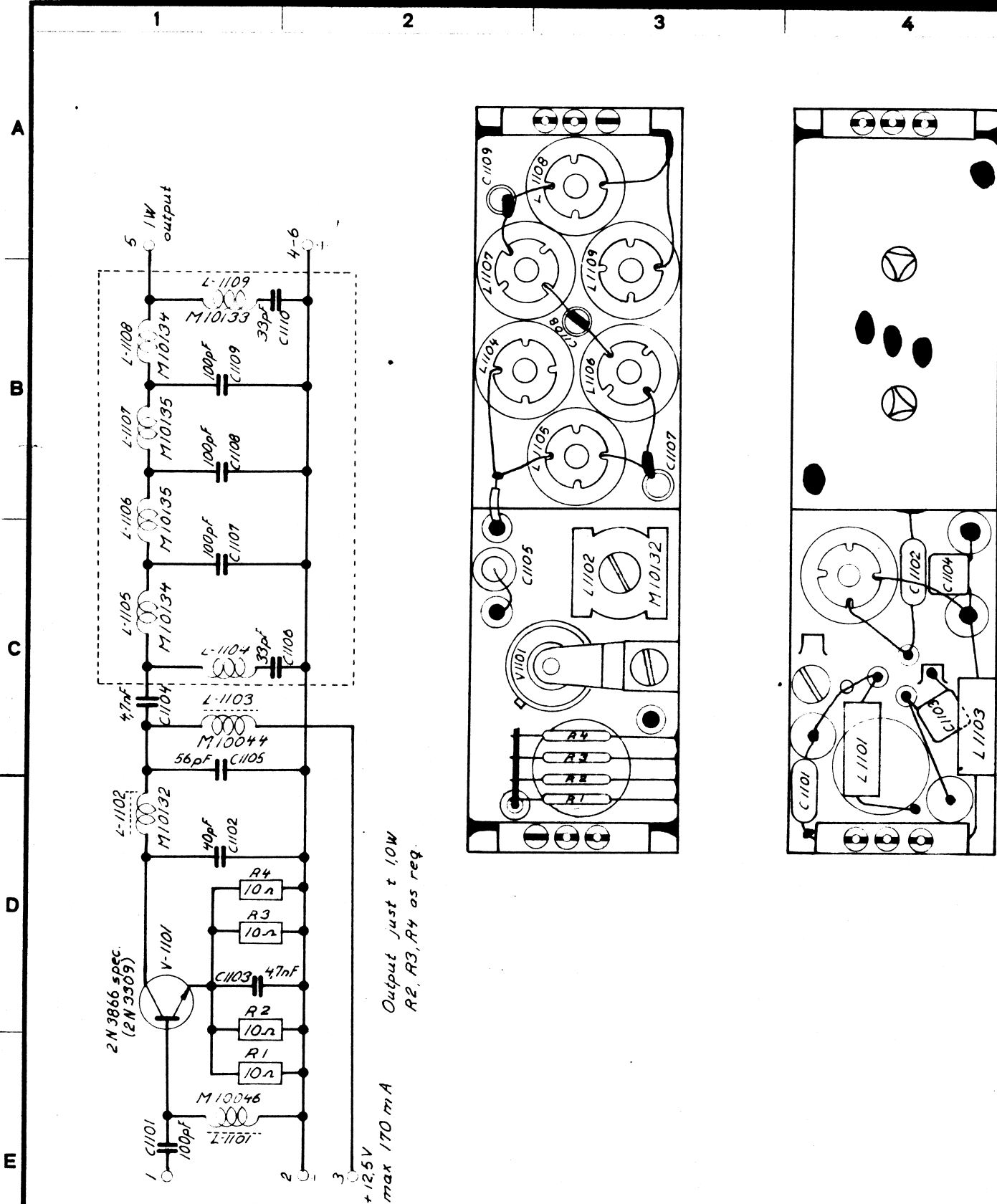
KONTR.

GODK.


Standard Electric A/S

KØBENHAVN

BLADE
BLAD

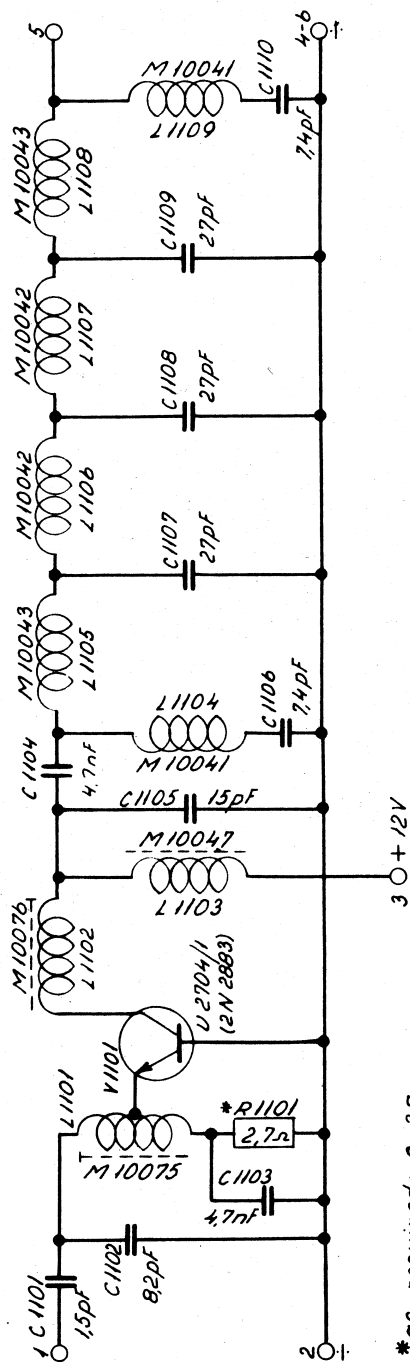


Unit 11

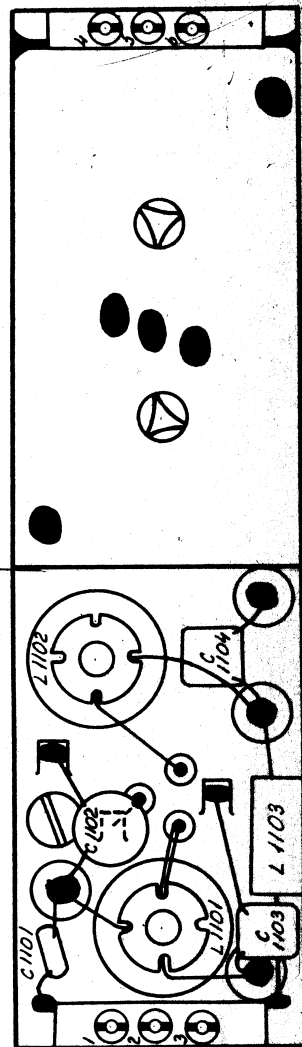
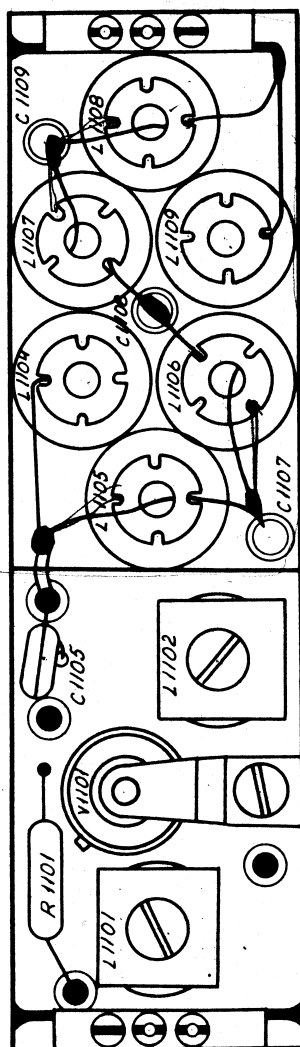
					MÅLFORHOLD 2:1	MATERIALE		FINISH		
						DIMENSION		LÅGER NR.		
					TITEL 8m RF-PA P-6 35-44mc.				ERSTATTER	
									TEGN. NR. BL. 3 AF 3 0042-700-0001	
1	7-12-66	U.L.	T.Z.		 STANDARD ELECTRIC A/s KØBENHAVN					ERSTATET AF
UDG.	DATO	SIGN.	KONF.	MTP STA						

UDG 1
NY KALKE

2. Udg.
15-3-66
C1104 Flyttet
* til F.
3. Udg.
4-4-66 J.C.
R



* as required: 0-2.7 Ω



2m RF-PA P6

Unit 11

Version 2

NY UDGAVE

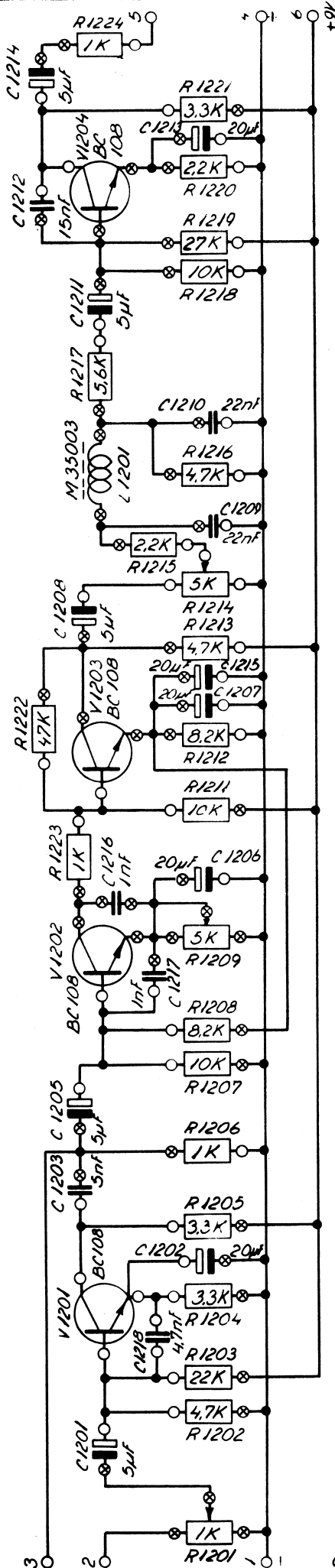
JEGNET, M.J.
18-3-66
KONTR. T.L.J.
17-3-66
BOOK R

Standard Electric A/S

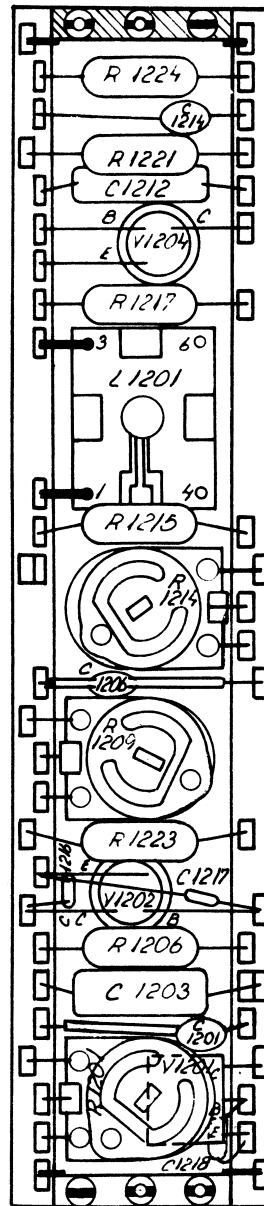
KØBENHAVN

3 BLADE
BLAD 3 0042-200-0001

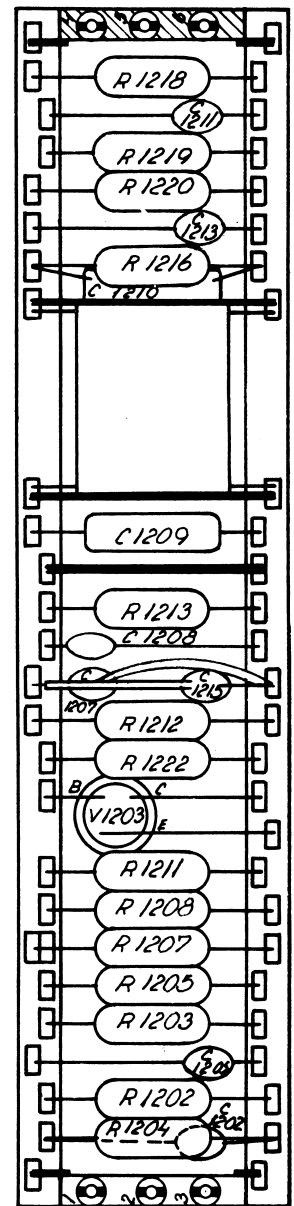
UDG 1
25-8-66
0000-000
0005 v.v.
0000-000
0004.
2. Udg. 4.1
20-9-66
C 1218 2.1.1.
3. Udg. J
9-3-66



Unit 12



Seen from
the top.



Seen from
the bottom

Mic. + AF Unit

TEGNET. G.J.
25-8-66
KONTR T.43
25-8-66
GODK.
25-8-66

Standard Electric A/S

KØBENHAVN

4BLADE
BLAD 4

0000-000-0005

AF - OUTPUT

The output stage contains no transformers and is a class B amplifier using complementary transistors V1301 and V1302. Maximum AF-output is 3 W.

TEGNET.

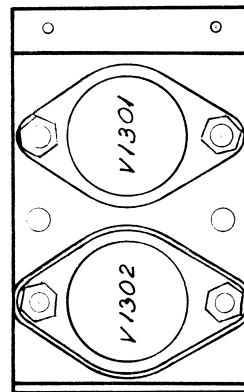
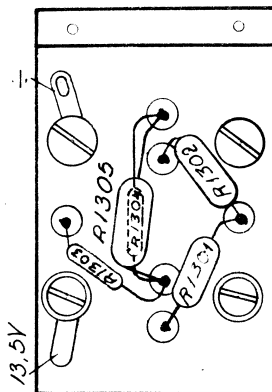
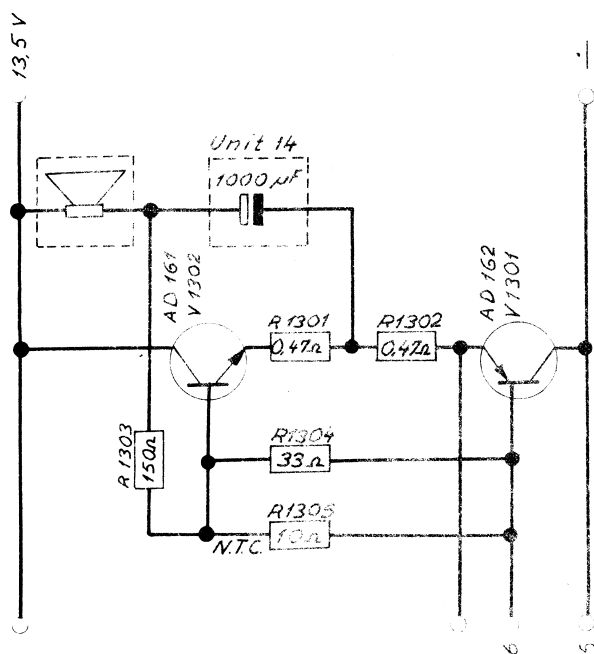
KONTR.

GODK.

Standard Electric A/S

KØBENHAVN

BLADE
BLAD



Unit 13

RX-PA P8

TEGNET. 02.
2-8-66
KONT. *[initials]*
GODK.

Standard Electric A/S

KØBENHAVN

BLADE
BLADE 1440-000-0001

OPTIONAL TONE UNIT 15

The tone unit is an RC-type oscillator using two transistors (V1501, V1502). One or two tones are possible in the frequency range 300-3000 c/s. The oscillator output is fed to the microphone amplifier input.

TEGNET.

KONTR.

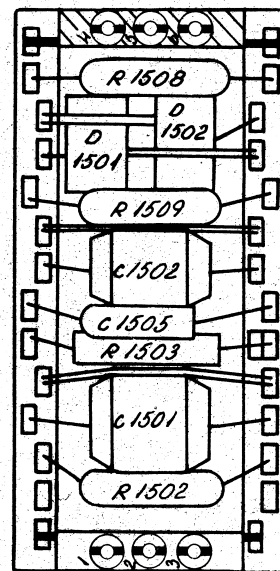
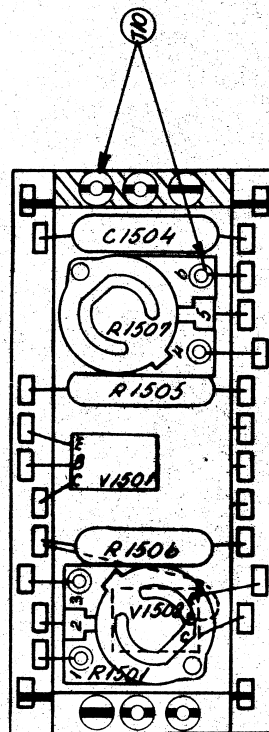
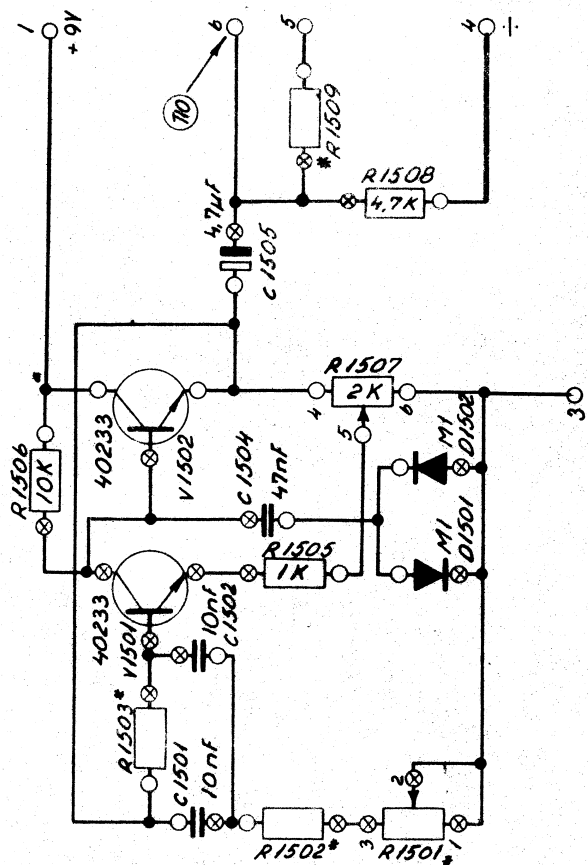
GODK.

Standard Electric A/S

KØBENHAVN

BLADE
BLAD

UDG. 1
 13-1-66 d.
 5018
 72 HV BFX39
 2.409 GJ
 2-5-66
 72 HV
 3.406
 5-12-66 GJ



⊗
 Seen from
 the top

⊗
 Seen from
 the bottom

* Select R1509, with used mic. sensitivity to showed dev.

25kHz	50kHz	Tone I	R1503	R1502	R1501	Remarks
KHz	KHz	Hz	KΩ	KΩ	KΩ	
1.5	4.6	910	47	4.7	5	
1.85	5.6	1120	47	3.3	3	
2.27	6.8	1370	47	2.2	2	
2.9	8.8	1750	47	1.5	0.5	
3.5	10.7	2135	47	0.82	0.5	
4.8		2900	33	0.47	0.5	Public Mobile Radio

TONE UNIT P6

1 Tone

Unit 15

Standard Electric A/S

KØBENHAVN

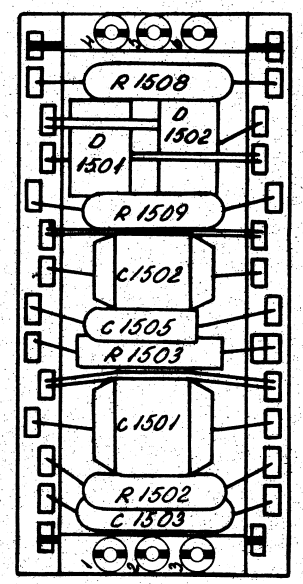
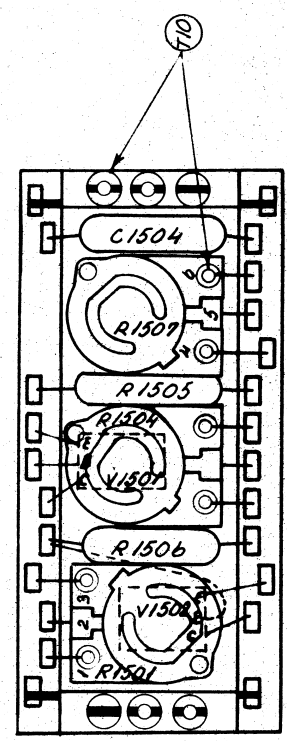
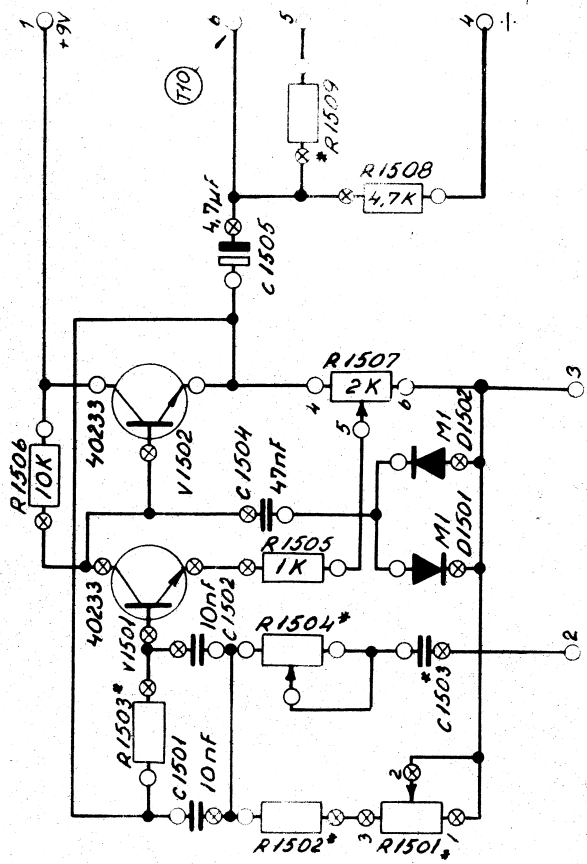
4/BLADE
 BLAD2 0000-000-0401

NET GRL
 9-3-65

KONTR. 1-66

DK

J.D.G. 1
 13-1-66
 V1501A
 02 V
 0.33
 2.400
 2.4-6.5
 T100.1
 2V 25 kHz
 1V 30 kHz
 3.000
 12-66 GJ



Seen from the top
 Seen from the bottom

*Select R 1509, with used mic. sensitivity to dev. showed.

dev. 25kHz		Ton I		Ton II		R1503	R1502	R1501	C1503	R1504	dev. 30kHz	
T ₁	T ₂	Hz	Hz	Hz	Hz	KΩ	KΩ	KΩ	nF	KΩ	T ₁	T ₂
1.5	1.85	910	1120	47	4.7	5	10	20	4.6	5.6		
1.5	2.27	910	1370	47	4.7	5	22	5	4.6	6.8		
1.5	2.9	910	1750	47	4.7	5	27	3	4.6	8.8		
1.5	3.5	910	2135	47	4.7	5	27	2	4.6	10.7		
1.85	2.27	1120	1370	47	3.3	3	18	20	5.6	6.8		
1.85	2.9	1120	1750	47	3.3	3	34.5	5	5.6	8.8		
1.85	3.5	1120	2135	47	3.3	3	41	3	5.6	10.7		
2.27	2.9	1370	1750	47	2.2	2	34.5	5	6.8	8.8		
2.27	3.5	1370	2135	47	2.2	2	47	3	6.8	10.7		
2.9	3.5	1750	2135	47	1.5	0.5	47	5	6.8	10.7		

TONE UNIT P6

2 tone

Unit 15

Standard Electric A/S

KØBENHAVN

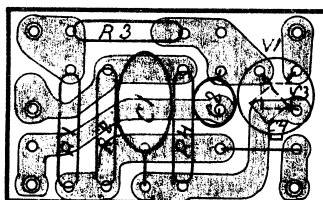
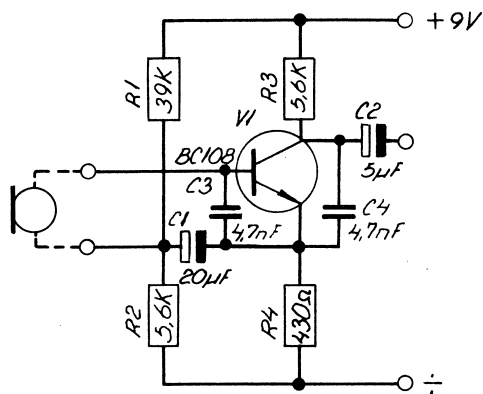
BLADE 0000-000-0201

NET. G.R.I
 3-65
 KONTR. R
 12-1-66
 DK.

UDG. 1
19-9-66 GJ
R4vv
1,2K

2.409
21-10-66 GJ
C3+C4 4,7nF

3.409
17-11-66 GJ
R



Mic. Forstærker Trans/TT-8

TEGNET.
19-9-66 GJ
KONTR. R

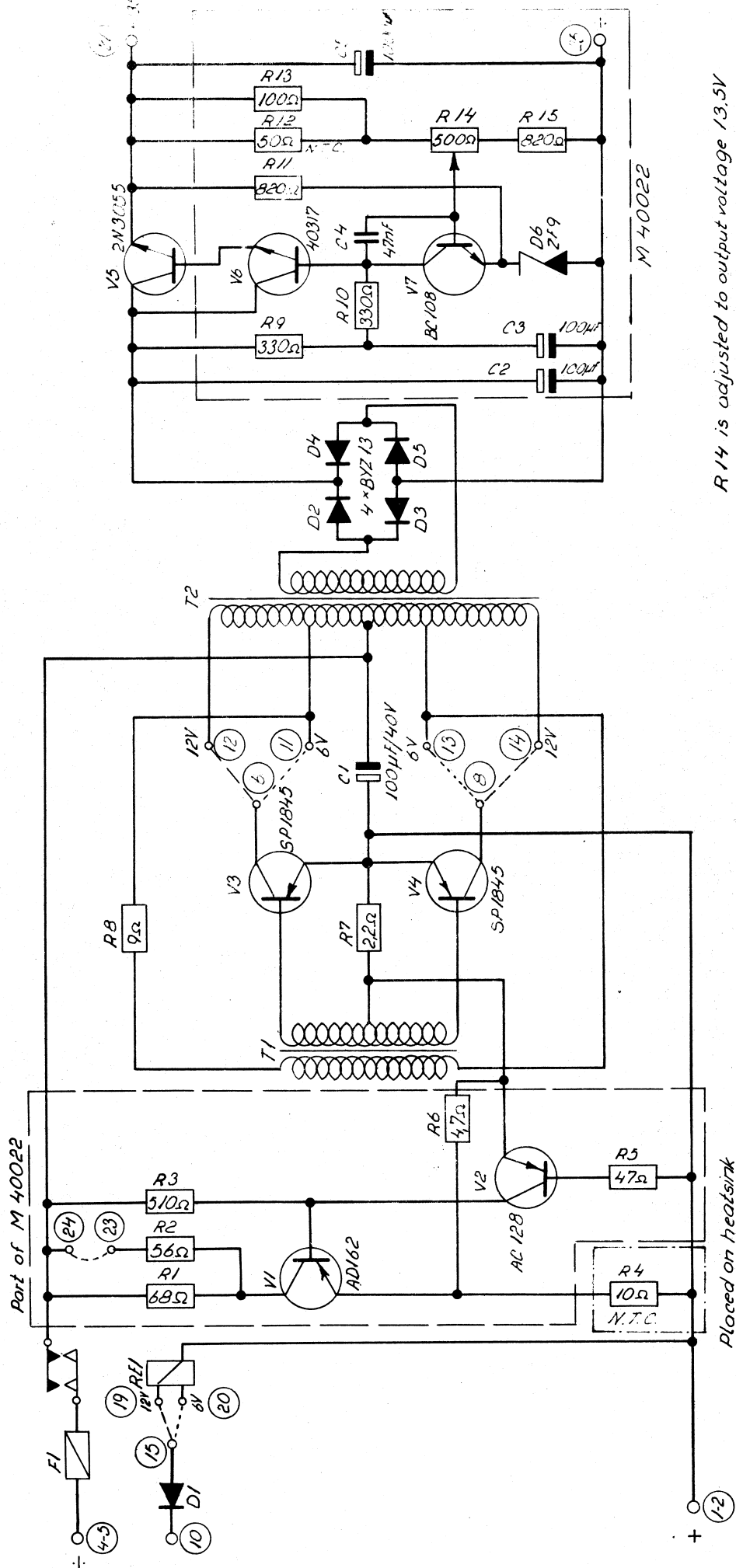
GODK.

Standard Electric A/S

KØBENHAVN

2 BLADE
BLAD 2

M 40019



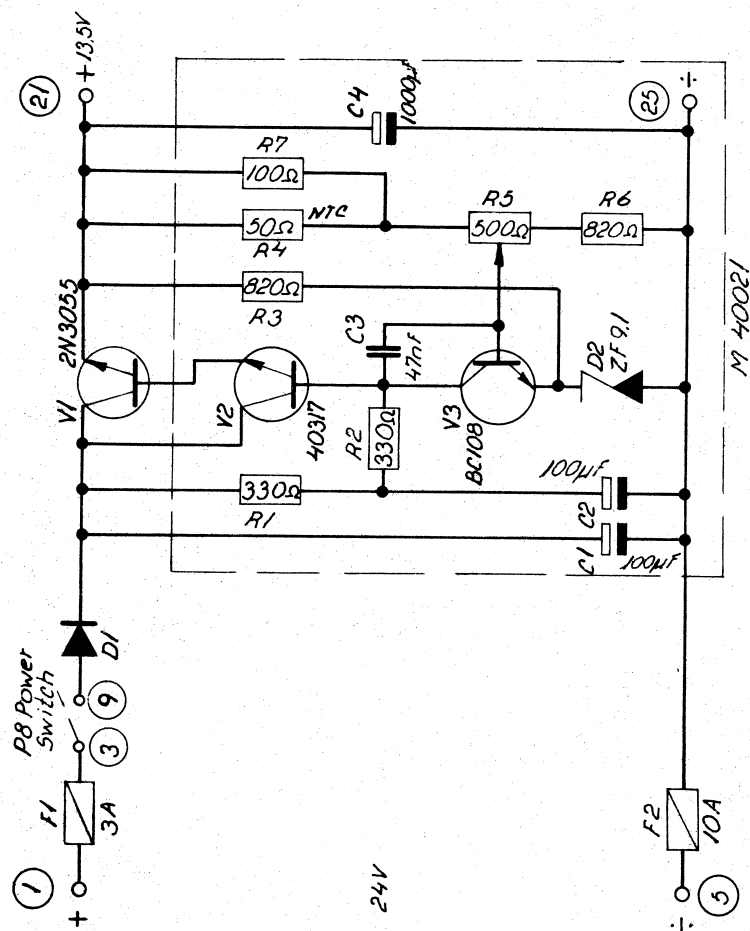
TEGNET. G.J.
 12-12-66
 KONTR. K.B.
 GODK.

Standard Electric A/S

KØBENHAVN

3BLADE
 BLAD3

M 60006



R5 is adjusted to output voltage 13.5V
○ refers to power multiplug

Regulator 24V