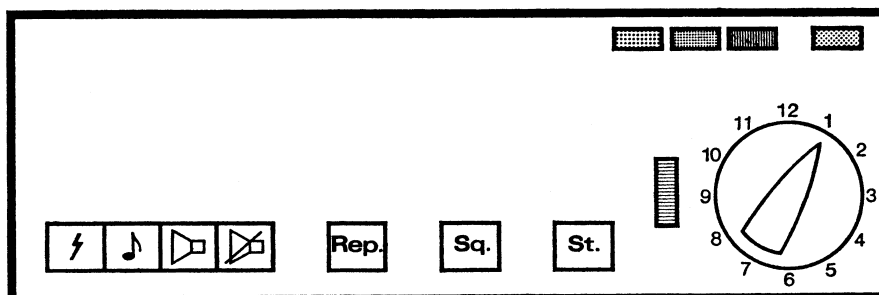


CONTROL EQUIPMENT

**TYPE CAF6551
TYPE CAF6552
TYPE CAF6553
TYPE CAF6554
TYPE CAF6555
TYPE CAF6556
TYPE CAF6557**

OPERATING INSTRUCTIONS

Storno Base Station Simplex Type CB 681 Control desk



Yellow lamp indicates that power is applied.



Red lamp glows when you transmit.



Voice level indicator. Pointer should stay inside red sector.



Channel switch. Indicates which channel is in use for transmission and reception.



Loudspeaker volume control.



Transmit button. Press to transmit. Red lamp glows and you may speak into the microphone.



Repeater button. If the base station is equipped for operation as a repeater station – that is, for car-to-car communication via the base station, press this button to switch to repeater operation. You can monitor the traffic in the loudspeaker.



Squelch button. If the received signal is very weak, reception can often be improved by depressing the squelch button.



Not used in this type of station.



Press button. Red lamp glows. Speak into microphone.



Check that indicator pointer stays inside red sector.

Be sure to release transmit button when you wish to listen.

Calling Cars:

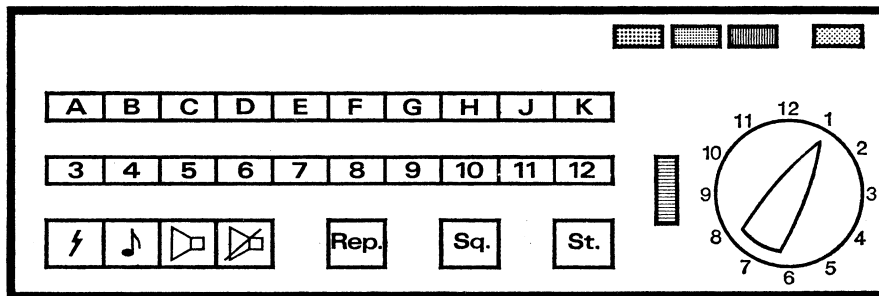
Answering Calls:



Press button and answer call.

OPERATING INSTRUCTIONS

Storno Base Station Simplex with tone calling Type CB 681 Control desk



Yellow lamp indicates that power is applied.



Green lamp is switched on when you are called.



Red lamp glows when you transmit.



Voice level indicator. Pointer should stay inside red sector.



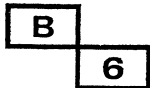
Channel switch. Indicates which channel is use for transmission and reception.



Loudspeaker volume control.



Transmit button. Press to transmit. Red lamp glows and you may speak into the microphone.



Selection of call numbers for cars (numerals may be provided in both lines of buttons).



Tone button. Press to make tone calls. After communication has been established, use transmit button to switch on transmitter.



Loudspeaker cut-in. Before making a call, press this button to check if the channel is clear. Do not press transmit or tone button unless you have a clear channel.



Loudspeaker cut-out. Press this button on termination of call. This will cut out the loudspeaker so that you will not be disturbed by calls not intended for you.



Repeater button. If the base station is equipped for operation as a repeater station – that is, for car-to-car communication via the base station, press this button to switch to repeater operation. You can monitor the traffic in the loudspeaker.



Squelch button. If the received signal is very weak, reception can often be improved by depressing the squelch button.

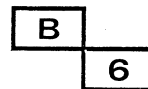


Not used in this type of station. Press button to cut in loudspeaker. Check if channel is clear.

Calling Cars:



Press button to cut in loudspeaker. Check if channel is clear.



Depress call number of car.



Depress tone call button. Red lamp will glow, and call will be transmitted. Await answer from called car.



Press this button. Red lamp will glow. Speak into microphone.



Check that indicator pointer stays inside red sector.

Be sure to release transmit button when you wish to listen.



Cut out loudspeaker on termination of call.

Answering Calls:



Green lamp glows and bell rings. Loudspeaker is cut in automatically. Call from car is heard in loudspeaker.



Press this button and answer call.



Cut out loudspeaker on termination of call.

CB681 Control Desk

Application

The CB681 control desk is intended for simplex operation of a Type CQF600 radio station. The CB681 control desk is employed both for extended local control with desk-to-station distances of not more than 100 metres, and for remote control over distances up to 10 kilometres from the radio station, requiring the use of terminal equipment. The CB681 control desk may likewise be used for selective calls to mobile stations both in double-tone and in tone-sequence systems (see special manual on selective tone systems).

Operating Instructions

See the special description which is placed first in this manual.

Mechanical Details

The desk can be opened by loosening four bottom screws, when the cover may be taken off and put near the desk - the cover remains connected to the other units through a cable.

For extended local control the control desk is connected to a wall connector; for remote control it is connected to a terminal box via a 2-metre cable containing 26 conductors. Inside the desk, the cable connects to a tag strip with terminal designations corresponding with those of the connector. The control desk contains these units:

MC681 microphone amplifier

RB681 resistor panel

AA602 audio output amplifier

The following units for the transmission and reception of selective calls may be installed in the desk:

TG68x or SG68x tone generator with 2 x 10 push-buttons.

TR68x or SR68x tone receiver.

AC681 alarm circuit.

Circuit Description

Switching the Transmitter on (without Tone receiver)

Current path: 0V RX - strap - transmit button - output terminal V.

Switching the Transmitter on (with a Tone receiver).

The transmitter can be switched on only after activation of the tone receiver (which see).

Current path: 0V RX - TR68x or SR68x - emitter-collector - transmit button - output terminal V.

When the transmitter is switched on, the AA602 audio output amplifier is muted via the circuit 1-6 in RB681. Muting is effected by short-circuiting points 6 and 7 together.

Loudspeaker In

To cut in the loudspeaker manually, 0V RX is connected to tone-receiver terminal 4. This will activate the tone receiver and remove the short circuit between point 1 in the circuit diagram of the AA602 audio output amplifier and chassis, causing the audio signal to be amplified.

Loudspeaker Out

To cut out the loudspeaker, 0V RX is connected to tone-receiver terminal 2. This will switch the tone receiver to the non-operated condition; point 1 in AA602 will be short-circuited to chassis and the audio signal will not be amplified.

Repeater

Connects -C to terminal JJ, thereby switching the radio station to operate as a repeater.

Squelch

Connects 0V RX to terminal U, thereby inactivating the squelch system.

Start

This function is employed only where the control desk is used with a Type CQM600 mobile station.

Volume Control

A 600-ohm potentiometer which constitutes a load for the audio signal. The high-impedance inputs of the amplifier and tone receiver connect to this potentiometer.

Channel Switch

Extended Local control: Switch contacts 1-8 apply power directly to the transmitter and receiver terminals via the common conductor DD. Contacts 9-12 receive current through the wire connections to contacts 1-4 and also when a group switching relay is operated.

Current path: 0V RX - switch O1, contacts 2-5 - terminal Z.

Remote control:

Max. 2 channels. A relay in the TE6xx terminal box is operated on channel 2.

Current path: Terminal DD - switch O1, contacts 12-2 - terminal J - relay in TE6xx.

Transmit Indicator Lamp (red)

This lamp shows if the transmitter is switched on. It is connected to -TX, which is controlled by a transmit relay in the power supply (extended local control) or by a relay in TE6xx (remote control).

Call Lamp (green)

This lamp is connected to the tone receiver. It shows light when the tone receiver is activated. Consequently, it always shows light when the speaker is operative. Used only in conjunction with TR68x or SR68x.

Start Lamp (yellow)

The start lamp is connected to -24 V in the power supply via terminal MM (extended local control) or to -24 V in TE68x (remote control).

DC Amplifier

The microphone amplifier incorporates a DC amplifier which is connected to the output terminals of the microphone amplifier. The DC amplifier is equipped with an indicator. If the indicator pointer stays inside the red scale sector, the microphone level is correct (-17 dBm). The green and black scale sectors indicate levels of 6 dB above and 6 dB below this level, respectively.

Tone Receiver

The tone receiver is activated on reception of the correct tone combination. Check: The potential at point 1 in the circuit diagram of the tone receiver should be approx. -2 volts.

AC681 Alarm Circuit

The alarm circuit is activated when its No. 1 terminal receives a potential of approx. -15 volts from the tone receiver.

A bell connected to the AA terminal is activated by short-circuiting a relay to OV RX.

Tone Generator

Relay V switches the tone generator into the modulating circuit. When the tone generator is activated, relay V remains operated as long as a tone signal is being transmitted.

Data

Output Amplifier

Max. 2 watts for 70% audio signal at 1000 Hz.

Microphone Amplifier

110 mV (-17 dBm) for 70% modulation at 1000 Hz.

Operating Voltage

24 volts +5%.

Power Consumption

5 watts (incl. of tone equipment).

Temperature Range

-30°C to +60°C.

Installation

The control desk is intended for table-top operation. Note that no objects may be placed on top of the control desk.

The multi-wire cable is connected to the wall connector or to the terminal box.

Starting Up

Check levels etc. against the audio level chart of the system employed. No adjustments are required.

Desk Microphone

The MC605 desk microphone may be connected to the desk and used instead of the built-in microphone. A transmit button is provided in the base of the microphone stand. The four conductors of the microphone cable should be connected to the RB681 resistor panel.

TERMINAL BOX TE681

Application

The TE681 terminal box operates as a converter between the telephone line and the control desk, when the distance between the operating position and the radiostation is up to 10 km (6 miles).

The terminal box transfers control functions from the control desk to a two wire telephone line (1 pair) or vice versa.

The terminal box TE681 is used in connection with the control desk CB681, which may or may not contain tone calling equipment.

Functions

TE681 is employed for transferring the following functions:

1. AF signal from line to loudspeaker
2. Modulation from microphone to transmitter
3. Keying of the transmitter.

Construction

The terminal box, which is designed for wall mounting, has a connector for connexion to the control desk and a terminal strip which produces connection to:

- a. Telephone line
- b. Earth (not 220V mains earth)
- c. Bell (if used).

The terminal box incorporates the following subunits:

2 line amplifiers	LA681
Line panel	RT681
24V power supply unit	PS681.

Circuit Description

Audio Signal

Audio signal from the receiver is fed from the telephone line into the terminals La and Lb, and from there across a line transformer and relay contact set "t" to the input terminals of

the line amplifier unit LA681 (term. 2 and 3), the output of which is applied to the loudspeaker amplifier of the control desk via terminals A and E.

Modulation

The modulating signal from the microphone amplifier in the control desk is fed via the terminals B and F to the line amplifier (terminal 3 and 2) and from its terminal 1 across relay contact "t" (Relay T energized, see "Keying") to the line transformer. From the transformer the signal is fed to terminals La and Lb of the line.

Keying

Keying voltage is applied to relay T via terminal V from the transmit button of the desk. The relay signals the keying operation across the telephone line by means of a DC current loop.

Current path: 0V. (PS681) - RT10 - line transformer - current limiter resistor - contact t -24V.

Relay T changes the line transformer from "receive" to "modulate" position. The relay also applies -24V on terminal R (-24V TX).

Specifications

Line resistance in loop

Max. 9000 ohm.

AF signal from line

Min. -18 dBm (70% modulation, 1000 Hz).

Modulation signal to line

Max. -3 dBm (70% modulation, 1000 Hz).

Temperature range

-30°C to +60°C.

Power consumption

(Incl. PS681, but without CB681): 5W.

Installation

See the Lay-out diagram for CAF621.

Fit the terminal box on the wall.

Connect the telephone line to the terminals La and Lb, (polarity is of no importance).

Connect possibly earth to the earth of the telephone line.

Connect 220V to the terminal strip of the power supply unit, and connect its earth to the earth of the mains.

Connect bell (if used) to the terminals marked Be (24V DC max. load 1 Amp.).

Starting Up

Control

The DC current on the line should not exceed 25.2V when the line is cut-off.

The DC current should read max. 21 mA with short circuited line. Level at modulation 1000 Hz (70% deviation) with a deflection on the indicator of the desk in the scale marked red: -3 dBm on the line terminals.

Adjustments

Adjust the line amplifier LA681 in accordance with the frequency level diagram for CAF621.

Emergency Power Supply

The terminal box can possibly be power supplied from a dry battery if the mains should fail. The de-coupling is carried out manually by means of a switching unit (code 11.457), which can be fitted in the power supply unit PS681 (see the description for same).

CP681 Control Panel

Application

The CP681 control panel provides the means of connecting the telephone line to the transmitter and receiver of the radio station. The distance between the operating position and the radio station may be up to 10 km (6 miles). The panel transfers control functions from a two wire telephone line (1 pair) to the radio equipment or vice versa.

Functions

CP681 is employed for transferring the following functions:

- AF signal from receiver to line
- Modulation from line to transmitter
- Keying of the transmitter.

Construction

The control panel is intended for mounting in a radio station. It has two connectors, one for connexion to the transmitter and receiver and the other for connecting the telephone line. The control panel incorporates the following subunits:

- Line amplifier LA681
- Line panel RP681

Circuit Description

Audio Signal

Audio signal from the receiver is fed into the terminals A, E and via an attenuator to the relay contact ab. The signal is then applied via the line transformer to terminals la and lb of the line.

Modulation

The modulating signal is fed from the line terminals la and lb via the line transformer to the relay contact ab (relay AB energized) and to the line amplifier LA681 (terminal 3 and 2), and from its terminals 1 and 2 to terminals B, F of the transmitter.

Keying

Keying voltage is applied to relay A, whose contact a operates the auxiliary relay AB. The transmitter is keyed by connecting 0 TX to the terminal V. At the same time connexion to the line transformer via the relay contact ab changes from "receive" to "modulate" condition.

Squelch Adjustment

Potentiometer R4, which is connected to the terminal U, is provided for adjusting the squelch level.

Data

Line Loop Resistance

Max. 9000 Ω .

Modulation Level from Line

Min. -39 dBm (70% modulation at 1000 Hz).

AF Signal into Line

Max. -3 dBm (70% modulation at 1000 Hz).

DC Line Current

Max. 11 mA.

Temperature Range

-30°C to +60°C.

Supply Voltage

-24V DC \pm 5%.

DC Power Input

0.78W.

Installation

The control panel is mounted within the radio-station. The telephone line is connected via the connector P2. Line earth is not used.

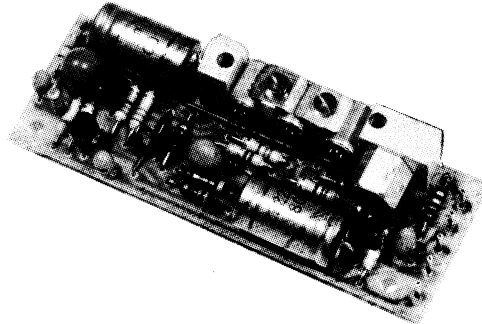
Check

- AF signal to line (see Data).
- Line current (see Data).

Adjustments

Line amplifier LA681 is adjusted according to audio frequency level diagram for CAF621 (D109.251).

Audio Output Amplifier AA602



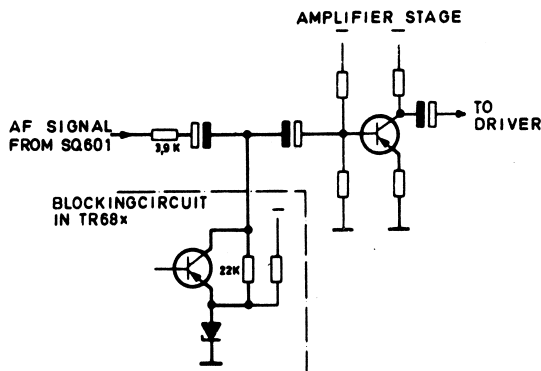
The audio output amplifier is built on a wiring board. It consists of these stages:

- Blocking attenuation circuit
- Pre-amplifier stage
- Driver
- Complementary output stage with temperature compensator.

The audio output amplifier is a transformer-less push-pull amplifier which is capable of delivering 2 watts of power output. This unit is located in the control box.

Mode of Operation

The blocking attenuation network in the input circuit of the audio output amplifier is used only if a selective tone receiver is provided, in which case the attenuation network (a T-network) is made up of the pre-amplifier input impedance, a series resistor, and the output impedance of the tone-receiver blocking circuit, the latter impedance should be less than 1.5 ohms if the desired blocking attenuation is to be achieved (see sketch below).



The signal is fed to the output stage via the pre-amplifier stage and the driver stage, both of which receive negative feedback voltage from the output stage. Temperature compensation of the output stage is accomplished by biasing a transistor connected between the bases of the output transistors. The type of compensation employed is base-emitter voltage compensation. The output stage operates in Class B push-pull in a common-collector circuit. It is transformer-less, with a loudspeaker load of approx. 15 ohms.

Warning Never short-circuit the loudspeaker output (terminals 2 and 4) as this will cause permanent damage to transistors.

Reducing the Input sensitivity

If a reduction in the output amplifier sensitivity is desired, a 1/8-watt resistor (see table below for resistance value) may be inserted between terminal 3 of the unit and the wiring board in CB60x.

INPUT SENSITIVITY FOR 2 WATTS OUTPUT	RESISTANCE VALUE
+3 dBm	22 k ohms
0 dBm	12 k ohms
-3 dBm	6.8 k ohms
-6 dBm	2.7 k ohms
-9 dBm	0 ohms

Technical SpecificationsSupply Voltage

24 V $\pm 5\%$.

Resistance in Power Supply Cable

R_{cable} : max. 14 ohms.

Current Drain

At 24V: without signal	20 mA
at 2 watts output	175 mA
blocked	20 mA

Power Output

Max. 2 watts.

Loudspeaker Impedance

15 ohms.

Input Impedance

6.5 k ohms.

Input Sensitivity

For 2 watts into 15 ohms and $R_{\text{cable}} = 0$ ohms.
Better than -9 dBm.

Frequency Response

Measuring level 1W (ref. 1000 c/s): 300 -
3000 c/s +0.5 dB -1.5 dB.

Distortion

Less than 5%.

Hum and Noise

Attenuated 60 dB.

Blocking

Earthing the blocking lead through tone re-
ceiver TR68x or 1.5-ohm resistor: 50 dB.

Dimensions

28 x 80 mm.

Line Amplifier LA681

The line amplifier is built on a wiring board. It consists of the following stages:

Attenuator

Equalizer

Amplifier stage

The line amplifier serves the purpose of amplifying or attenuating the input signal. Its frequency response can be altered by means of a system of straps.

Mode of Operation

Attenuator

An attenuator in the input circuit can be adjusted to provide either gain or attenuation between +28dB and -20dB in steps of 2dB.

The overall resistance of R1, R2, R3, R4, R5, and R6 provides an input impedance of 600 ohms. Taps between the resistors permit reducing the impedance in steps of 10 dB. Resistors R7, R8, R9, R10, and R11 in combination with the input impedance of transistor Q1 form an additional voltage divider which permits further gain or attenuation adjustment in steps of 2 dB.

Equalizer

Transistor Q1 employs frequency-dependent negative feedback. The frequency response can be altered through a system of straps in the emitter circuit of Q1.

Without straps inserted, the emitter circuit will consist solely of resistor R15. This provides flat frequency response between 300 and 3400 Hz.

With terminals A and B strapped together, R18 and C4 are connected in parallel with R15, producing a 3 dB rise at 3000 Hz.

With terminals A and C strapped together, R17 and C3 are connected in parallel with R15, producing a 6 dB rise at 3000 Hz.

With both of the above-mentioned straps inserted, the frequency response is raised 9 dB at 3000 Hz.

By altering the frequency response as described it is possible to compensate the line capacitance for line lengths of 0.4 km, 8 km, and 12 km, respectively.

Resistors R17 and R18 in the two strap circuits serve the purpose of limiting the gain at very high frequencies.

Amplifier

The amplifier is composed of transistors Q2 and Q3, which are directly coupled to each other and provide a voltage gain of 15.

Distortion is minimized through heavy negative feedback (R21 and R24). The amount of feedback increases with frequency, due to capacitor C6, in order to reduce gain at very high frequencies.

Temperature compensation for variations in the gain provided by transistor Q2 is effected by diode E2, whose temperature coefficient corresponds to that of the diode represented by the emitter and base of the transistor.

There is DC negative feedback from the emitter of transistor Q3, via resistor R23.

The output impedance of the unit is largely determined by resistor R27.

Data

Supply Voltage

24V \pm 5%.

Temperature Range

-30°C to +80°C.

Gain

Max. 28 dB \pm 1 dB.

The attenuator permits gain adjustment from +28 dB to -20 dB in steps of 2 dB.

Harmonic Distortion

Less than 1%.

Crosstalk from Supply Voltage

Less than 30 dB from 300 to 3000 Hz.

Frequency Response

Without straps: Flat from 300 Hz to 3400 Hz ± 1 dB.

Strap A-B: +3 dB at 3000 Hz.

Strap A-C: +6 dB at 3000 Hz.

Straps A-B and A-C: +9 dB at 3000 Hz.

Input Impedance

600 ohms $\pm 20\%$.

Output Impedance

600 ohms $\pm 20\%$.

Output Voltage

Max. output voltage is 0 dBm with the amplifier terminated in 600 ohms in parallel with 0.5 μ F.

Dimensions

28 x 80 mm.

MC681 Microphone Unit

The MC681 microphone unit is built on a printed wiring board. It consists of these main circuits:

Microphone amplifier
Indicator amplifier

The microphone unit serves the dual purpose of (1) amplifying the microphone signal to a level adequate for modulating the transmitter and (2) providing meter indication of the instantaneous speech level.

Circuit Description

Microphone Amplifier

The microphone amplifier has three DC-coupled stages. A negative-feedback circuit keeps the gain and frequency response of the amplifier independent of changes in temperature and battery voltage. The feedback action is accomplished by placing the voltage drop across R1 - which is part of the output voltage - in series with the input signal from the microphone cartridge.

Indicator Amplifier

The indicator amplifier consists of a conventional amplifier stage and an emitter follower working into a rectifier circuit that is loaded by a pointer instrument and damped by a capacitor. If the

pointer stays inside the red scale sector, the microphone level is correct (-17 dBm).

Adjustments

Output level is adjusted to the correct value with potentiometer R7.

Data

Operating Voltage

-24 volts $\pm 5\%$.

Input Level

-79 dBm.

Output Level

-17 dBm.

Frequency Response

300 Hz (-2.5 dB) to 3000 Hz (+0.5 dB).

Indicator Instrument

Approx. 150 μ A to 200 μ A.

Temperature Range

-30°C to +60°C.

Power Supply Unit PS681

General

The power supply PS681 is built on a single chassis plate which incorporates a printed circuit board, wiring and consists of the following main circuit elements:

Transformer, rectifiers and filters

Voltage regulator

Fusing circuit

The PS681 is normally supplied from AC mains, The unit converts the nominal AC input of 220V, 50 to 60 Hz, into a stabilised DC output of 24V.

The power supply can readily be modified for emergency operation from a suitable battery unit. A switch is then provided which in the case of mains failure permits the change over to DC input.

Circuit Description

Transformer, rectifiers and filters

The mains transformer is enclosed in a metal housing which also contains the fuse holder and fuse link.

The primary circuit comprises four input leads: 0V, 220V, 240V and earth. The Transformer core and electrostatic screen are internally connected to the earth lead.

Two secondary windings are provided viz. the 30V main and 15V auxiliary. Full wave bridge circuits are used for rectification and are followed by DC smoothing filters.

Voltage regulator

The electronic regulator consists of the series transistor Q1, control transistor Q2 and amplifier Q3. These transistors are silicon NPN type.

A part of the stabilised output voltage is taken from the voltage divider and applied to the base of the amplifier transistor Q3. The emitter of Q3 is held at a constant potential provided by

the reference diode E8. The collector of the amplifier transistor is connected to the base of the control transistor Q2.

Regulation is performed by comparing a sample of the output voltage with the reference. Any difference voltage present is amplified by Q3 and controls the series transistor Q1. Compound connexion of Q1 and Q2 is used to provide the necessary current gain.

If the output voltage increases, the collector current of the amplifier transistor will increase. This will cause a decrease in the base voltage of the control transistor and also in the base voltage of the series transistor Q1. Consequently the voltage drop across Q1 will rise and the output voltage will decrease.

The adjustment of the output voltage to -24V is carried out by means of the potentiometer R17.

Fusing circuit

The fusing circuit acts as an electronic excess current fuse.

The circuit comprises two transistors, Q4 and Q5, in a complementary bistable network. Under normal conditions the two transistors are cut off. The diode E7 is biased in the reverse direction and the voltage regulator stabilises the output voltage as described above.

When the current flowing through resistor R3 exceeds a predetermined value, transistors Q4 and Q5 are switched on. Diode E7 then conducts and drives Q1 and Q2 into cut off condition which causes the output voltage to disappear.

Resetting is carried out by disconnecting the mains supply for approximately 15 seconds to allow the storage capacitor C1 to discharge.

Any units connected to the PS681 are protected against excessive output voltage which may be generated due to failure of the series regulator.

A Zener diode E9 is provided which will limit the output voltage to approximately -30V. In the

event of failure of the stabilising circuits, the diode will be overloaded and destroyed. The output current will be interrupted either by the electronic fusing circuit or the fuse link in the mains transformer.

Specifications

Supply voltage

220V or 240V, 50 to 60 Hz.

Permissible variation of supply voltage

220V terminals, 176V min., 242V max.

240V terminals, 192V min., 264V max.

Output voltage

-24.0V stabilised.

Variation in output voltage

for maximum variations of supply voltage, load current and temperature: $\pm 0.6V$.

Output current

0.6A max.

Output voltage ripple

$\leq 10 \text{ mV}_{\text{p-p}}$

Input current

220 mA max.

Power input

at $V_{\text{in}} = 220V$ and for $I_{\text{out}} = 0.6A$: 28VA

Protection

fuse link in the mains transformer: 0.25A.

operating point of the electronic excess current fuse: 750 mA $\pm 5\%$.

excess output voltage operating point: $-30V \pm 10\%$.

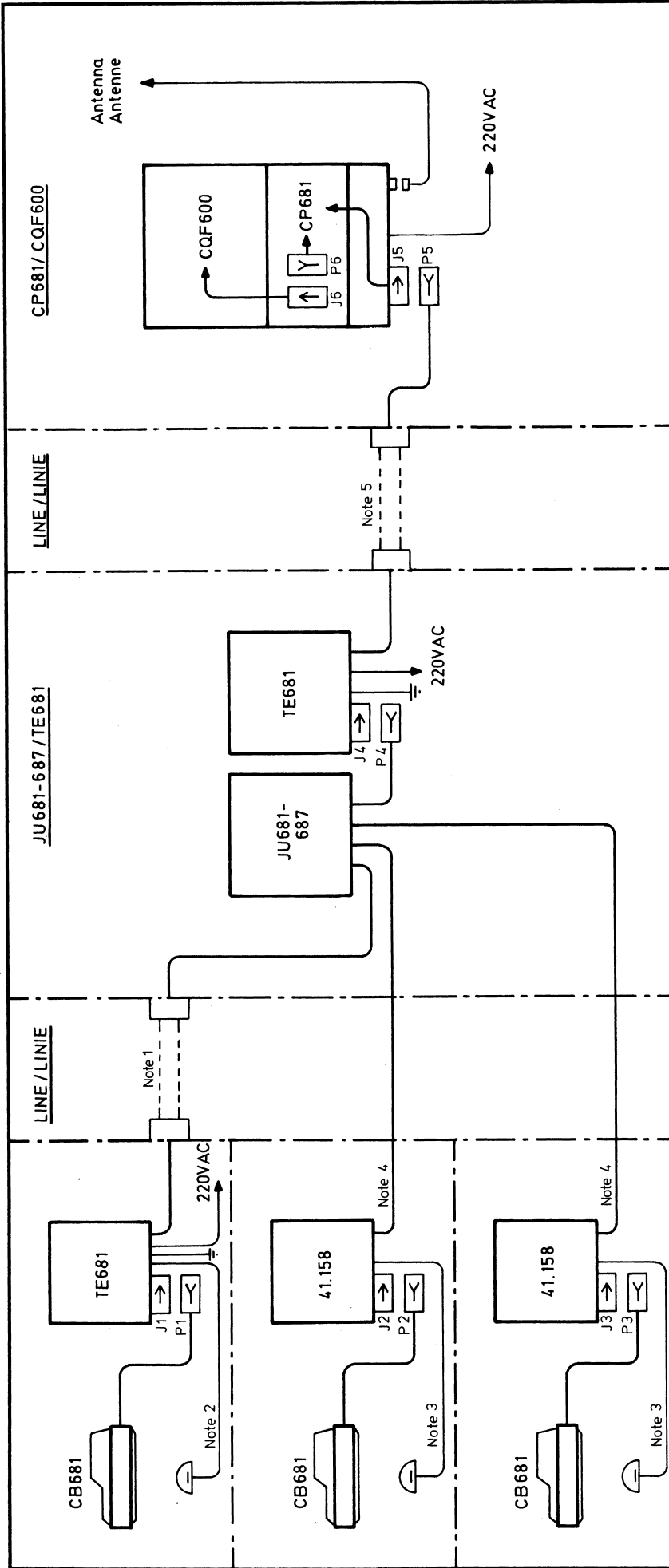
Ambient temperature range

specified: -25°C to $+70^{\circ}\text{C}$

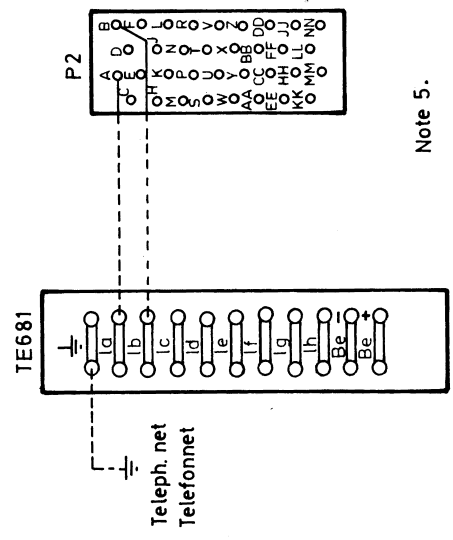
permissible: -30°C to $+80^{\circ}\text{C}$.

Insulation


The mains transformer meets standards of power transformer, Class 2, according to CEE Publ. no. 15.



- Note 1 :** Connect terminals la and lb in TE688 to terminals A and B in JU68X (la to A, lb to B).
 Forbind terminalerne la og lb i TE688 til terminalerne A og B i JU68X (la til A, lb til B).
- Note 2 :** Connect the bell to terminals marked Be in TE688.
 Forbind klokken til terminalerne mærket Be i TE688.
- Note 3 :** Connect the bell to terminal AA (positive) and P (negative).
 Forbind klokken til terminalerne AA (positiv) og P (negativ).
- Note 4 :** Connect by cable the following terminals in 41.158 and JU68X :
 A, B, E, F, K, L, MM, R, U, Y, V.
 Forbind med kabel følgende terminaler i 41.158 og JU68X :
 A, B, E, F, K, L, MM, R, U, Y, V.



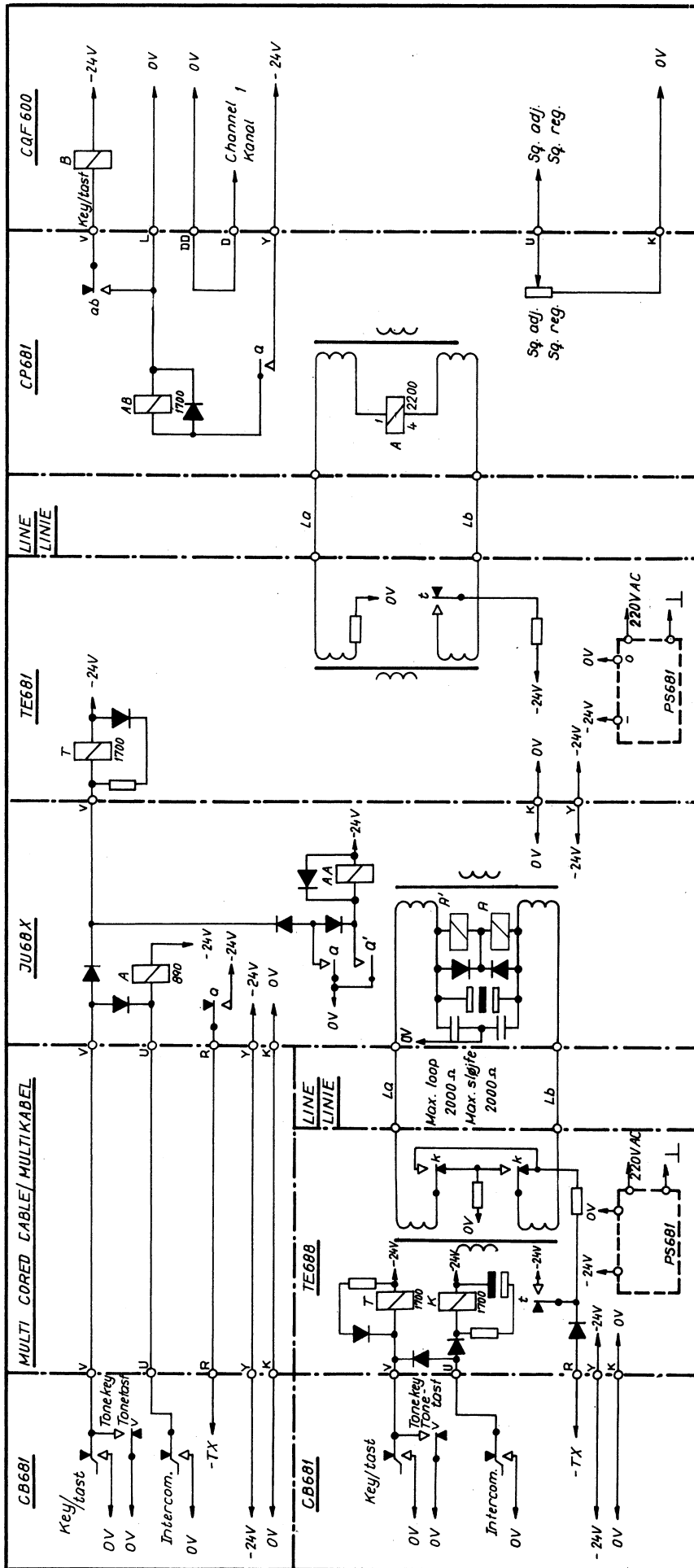
Note 5.



 Tekn. nr. BH 15.6.72
 geot. HT 11-12-67
 komp. linie

LAY - OUT
 PARALLEL EQUIPMENT FOR FIXED STATION CQF600
 MONTERINGSOVERSIGT
 PARALLEL UDSTYR FOR FAST STATION CQF600
 KODE CAF6551 - CAF6557

D 110466/01



Note: The Lay-out covers, as an example, system CAF6553 and systems CAF6551-CAF6557 are following the same principles.
 Oversigter viser som eksempel system CAF6553 og systemerne CAF6551-CAF6557 følger de samme principper.

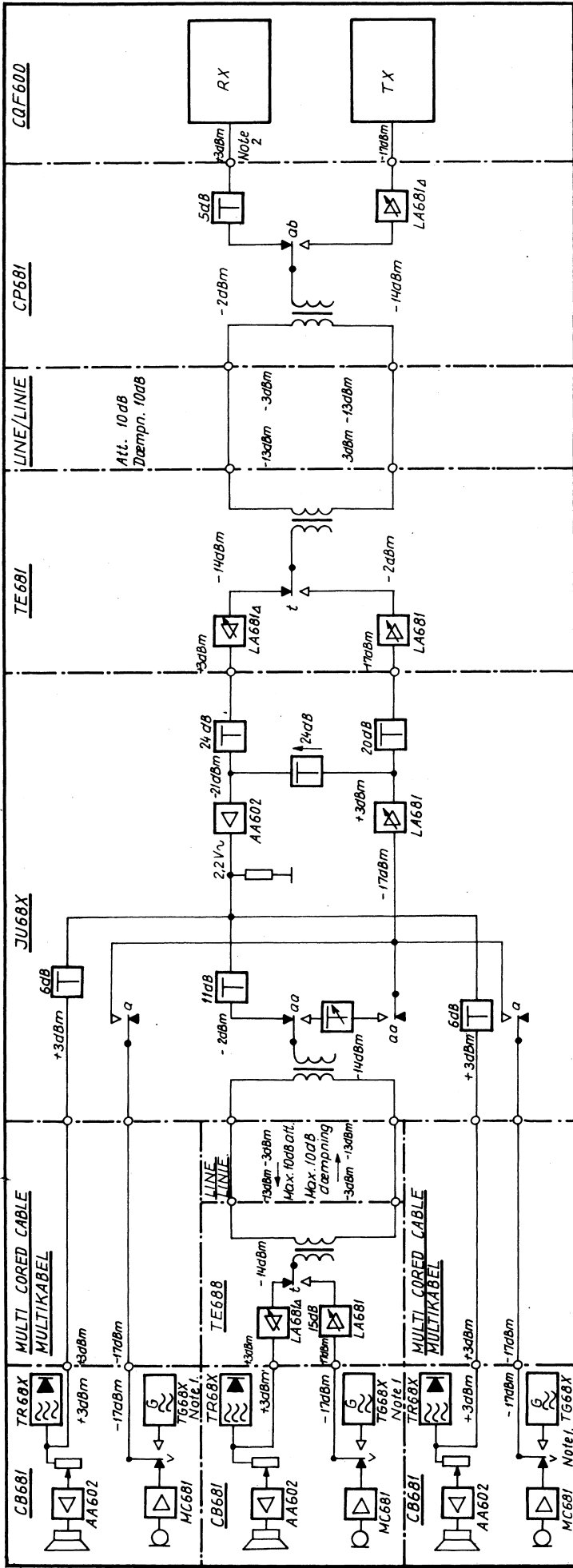
Line current loop 2000 Ω . Liniesstrøm Sløjfe 2000 Ω .	Polarity core La Polaritetsled Lq	Functions Funktioner	Relays activated in: Aktiverede relæer i:
0		Chan. 1 listen kanal 1 lytte	TE688 JU68X CP681
min. 5.5 mA	+	Chan. 1 key kan. 1 tåst	T A, AA T
min. 5.5 mA	-	Intercom.	T, K A, AA

Konstr./tegn.
HT/80
18-10-68
Spødk. HT
18-10-67
Kompliste

**REMOT AND EXT. LOCAL CONTROL EQUIPH. IN PARALLEL
OVERSIGT, JÆVNSPENDINGSFUNKTIONER
FIJERN-OG KORTDISTANCE STYRINGER I PARALLELDRIFT**

KODE
CAF6551 - CAF6557

TEGN. NR.
D110105/01
A3



The TX input and the RX output levels indicated on the level diagram correspond to 70% frequency deviation at 1000 Hz.

All levels are indicated for a line attenuation of 10 dB. In case of less than 10 dB line attenuation between:

- TE681 and CP681 : adjust the LA681 marked Δ.
- TE688 and JU68x : adjust the LA681 marked Δ in the TE688 and the attenuator in JU68x.

The LA681 can be adjusted from 20 dB attenuation to 28 dB amplification. The attenuator can be adjusted from 0 to 12 dB.

The levels indicated under CP681 and CQF600 are independent of the line attenuation. The line input level must not exceed -3 dBm corresponding to 70% frequency deviation. In order to equalize the line response, the LA681 can be adjusted from a linear to a +3, +6, or +9 dB response at 3000 Hz with respect to 1000 Hz. Max. loop resistance in line 2000 Ω.

All levels are measured with a VTVM Ri > 1MΩ.

De på niveaudagrammet angivne TX- ind og RX udgangsniveauer er målt ved 70% frekvenssving og 1000 Hz.

All niveauer er angivet for en linnedæmpning på 10 dB. I tilfælde hvor linnedæmpningen er mindre end 10 dB mellem:

- TE681 og CP681 : juster LA681 markeret Δ.
- TE688 og JU68x : juster LA681 markeret Δ i TE688 og attenuatoren i JU68x .

LA681 kan justeres fra 20 dB dæmpning til 28 dB forstærkning. Attenuatoren kan justeres fra 0 til 12 dB. De angivne niveauer for CP681 og CQF600 er uafhængige af linnedæmpningen. Liniens indgangsniveau må ikke overstige -3 dBm ved 70% frekvenssving. Til modforvængning af linien er der i LA681 indbygget et modforvængningsled. Dette kan strappes fra ret frekvensgang til 3, 6, eller 9 dB modforvængning ved 3000 Hz i forhold til 1000 Hz.

Max. sløjfemodstand i linie 2000 Ω.

Alle niveauer er målt med et rørvoltmeter Ri > 1MΩ.

Note 1: Sequence tone generator: Adjust the level at 1000 Hz (1060 Hz) to -17dBm and 70% frequency deviation.

Double tone generator: Adjust the level for each tone, at 1000 Hz (1060 Hz) to -23dBm and 35% frequency deviation.

Sekvestonsgenerator: Juster niveaueet ved 1000 Hz (1060 Hz) til -17 dBm og 70% frekvenssving.

Dobbeltonsgenerator: Juster niveaueet, hver tone for sig, ved 1000 Hz (1060 Hz) til -23 dBm og 35% frekvenssving.

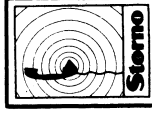
Note 2: Sequence tone receiver. +3 dBm at 1000 Hz (1060 Hz) at 70% frequency deviation.

Double tone receiver. -3 dBm ved, for each tone, at 1000 Hz (1060Hz) at 35% frequency deviation.

Sekvestonsgeneratortager. +3 dBm ved 1000 Hz (1060 Hz) ved 70% frekvenssving.

Dobbeltonsgeneratortager. -3 dBm, hver tone for sig, ved 1000 Hz (1060Hz) ved 35% frekvenssving.

-17 dBm = 110 mV
+3 dBm = 1.1 V (20 dB - 1099 V)

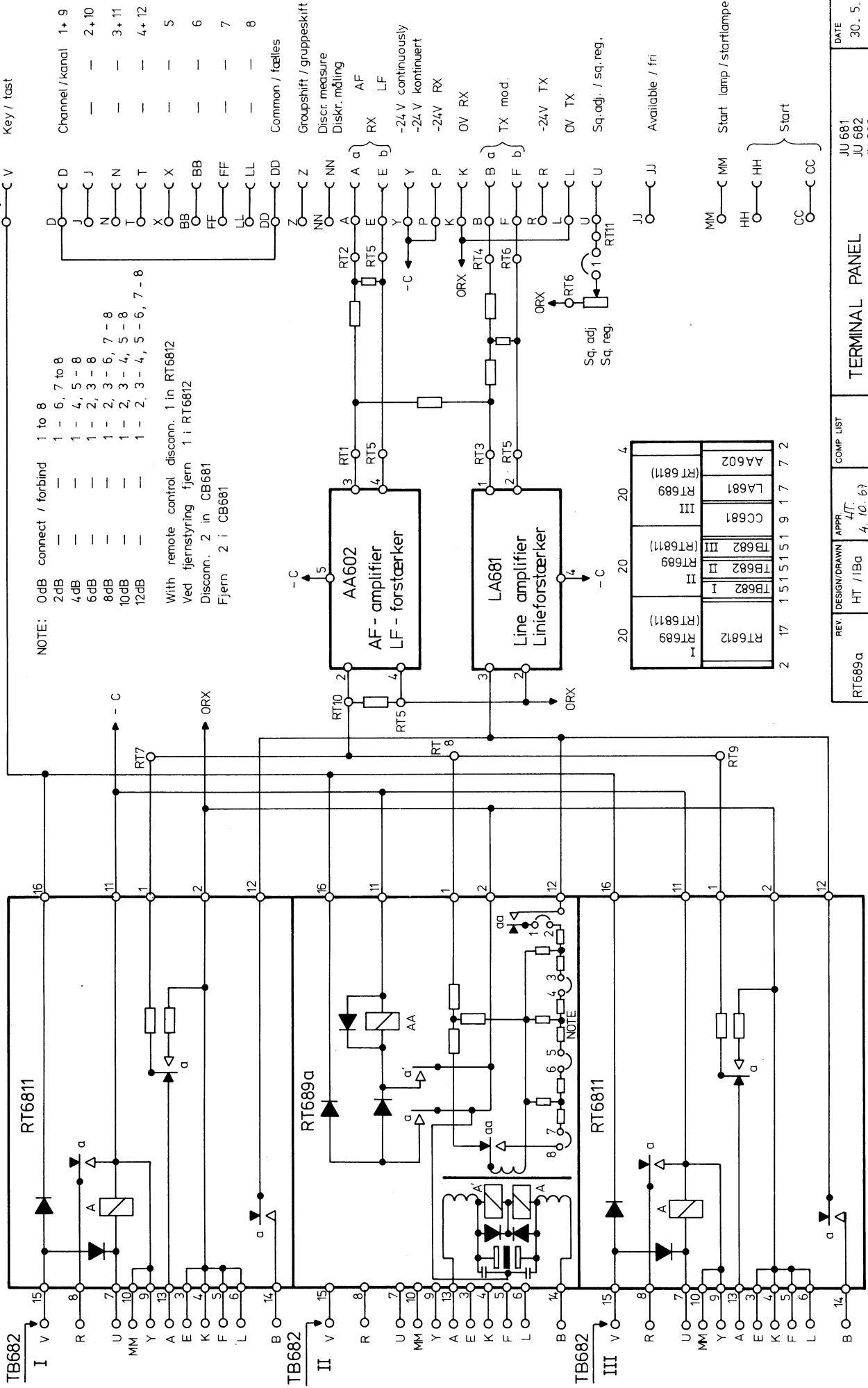


Kopieret af HT/80
14.3.67
godk. HT
4-1-58
Komplette

AUDIO FREQUENCY LEVELS
REMOTE CONTROL EQUIPMENT
NIVEAUSKEMA
FJERNSTYRING

CAF 6551
CAF 6552
CAF 6553
CAF 6554
CAF 6555
CAF 6556
CAF 6557

TEGN NR
1096966



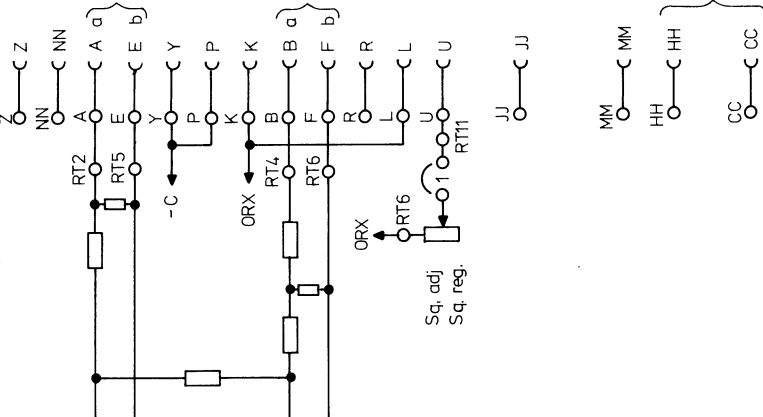
NOTE: OdB connect / forbind 1 to 8
 2dB — 1 - 6, 7 to 8
 4dB — 1 - 4, 5 - 8
 6dB — 1 - 2, 3 - 8
 8dB — 1 - 2, 3 - 6, 7 - 8
 10dB — 1 - 2, 3 - 4, 5 - 8
 12dB — 1 - 2, 3 - 4, 5 - 6, 7 - 8

With remote control disconn. 1 in RT6812
 Ved fjernstyring fjern 1 i RT6812
 Disconn. 2 in CB681
 Fjern 2 i CB681

Key / tast

- Channel / kanal 1+9
- 2+10
- 3+11
- 4+12
- 5
- 6
- 7
- 8

- Common / tælles
- Z — C Z
- NN — C NN
- AA — C A a
- EE — C E e
- YY — C Y y
- PP — C P p
- KK — C K k
- BB — C B b
- FF — C F f
- RR — C R r
- LL — C L l
- UU — C U u
- RT11
- JJ — C JJ
- MM — C MM
- HH — C HH
- CC — C CC



RT689a	20	20	20	4
RT689	17	17	17	7
RT6811	17	17	17	7
RT6812	17	17	17	7
RT682 I	17	17	17	7
RT682 II	17	17	17	7
RT682 III	17	17	17	7
RT689 I	17	17	17	7
RT689 II	17	17	17	7
RT689 III	17	17	17	7
LA681	17	17	17	7
AA602	17	17	17	7

REV. DESIGN/DRAWN APPR. HT / I Ba 4. 10. 63

RT689a
 17. 11. 69
 Ny tegning
 d. 30. 5. 75

COMP. LIST

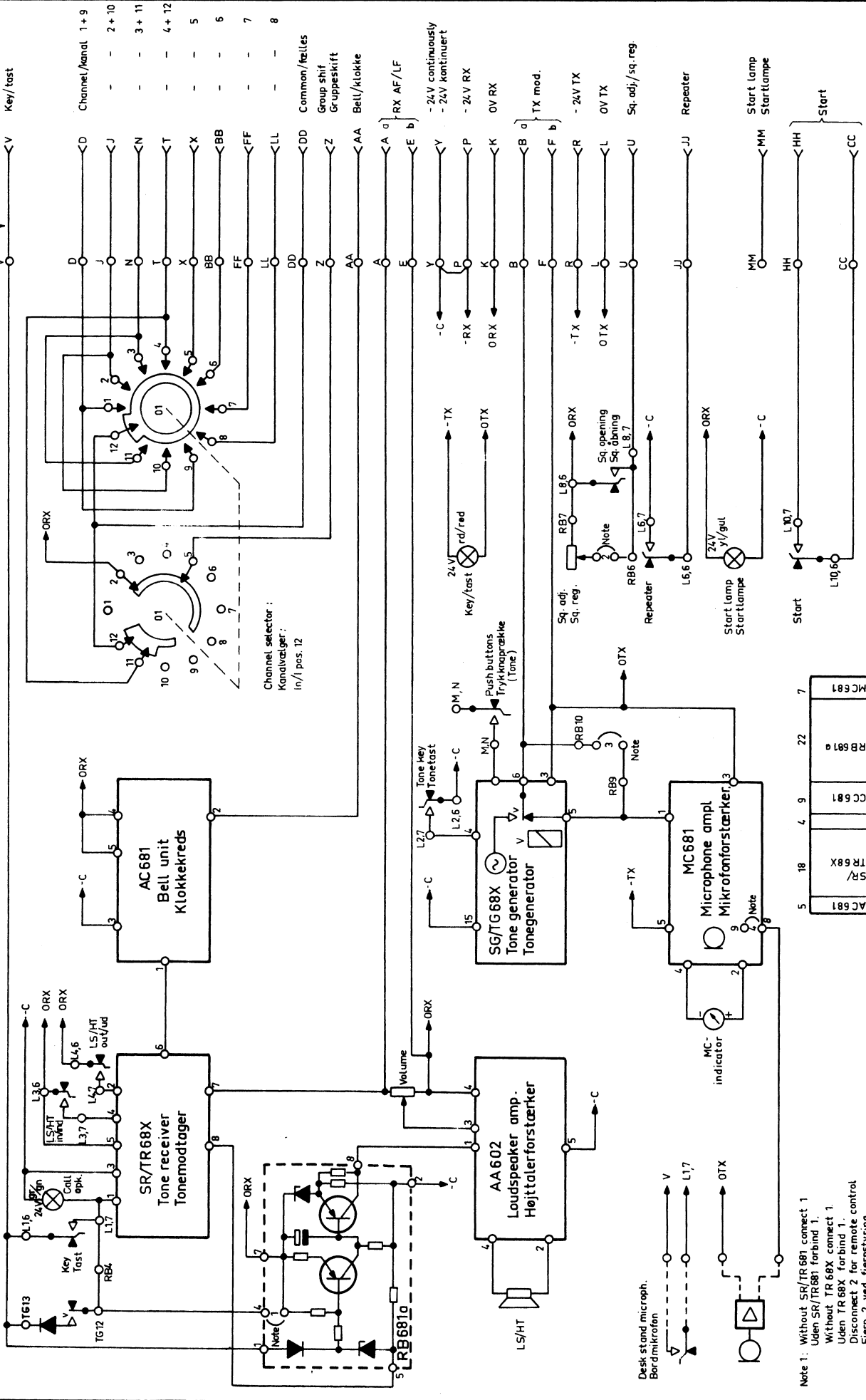
Storno
 RADIO COMMUNICATION SYSTEMS

TERMINAL PANEL
 1 CHANNEL / 1 KANAL
 SIMPLEX

DATE
 30. 5. 75.
 AS DRWG. NO
 D109697/01

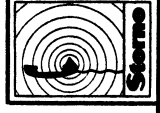
JU 681
 JU 682
 JU 683
 JU 684
 JU 685
 JU 686, JU 687

Cable 26 cores / Kabel 26 ledninger



Note 1: Without SR/TR 681 connect 1
 Uden SR/TR 681 forbind 1.
 Without TR 68X connect 1.
 Uden TR 68X forbind 1.
 Disconnect 2 for remote control
 Fjern 2 ved fjernstyring.
 Without SG/TG 68X connect 3
 Uden SG/TG 68X forbind 3.
 With external MC and key disconnect 4
 Med udvendig MC og tast fjern 4.

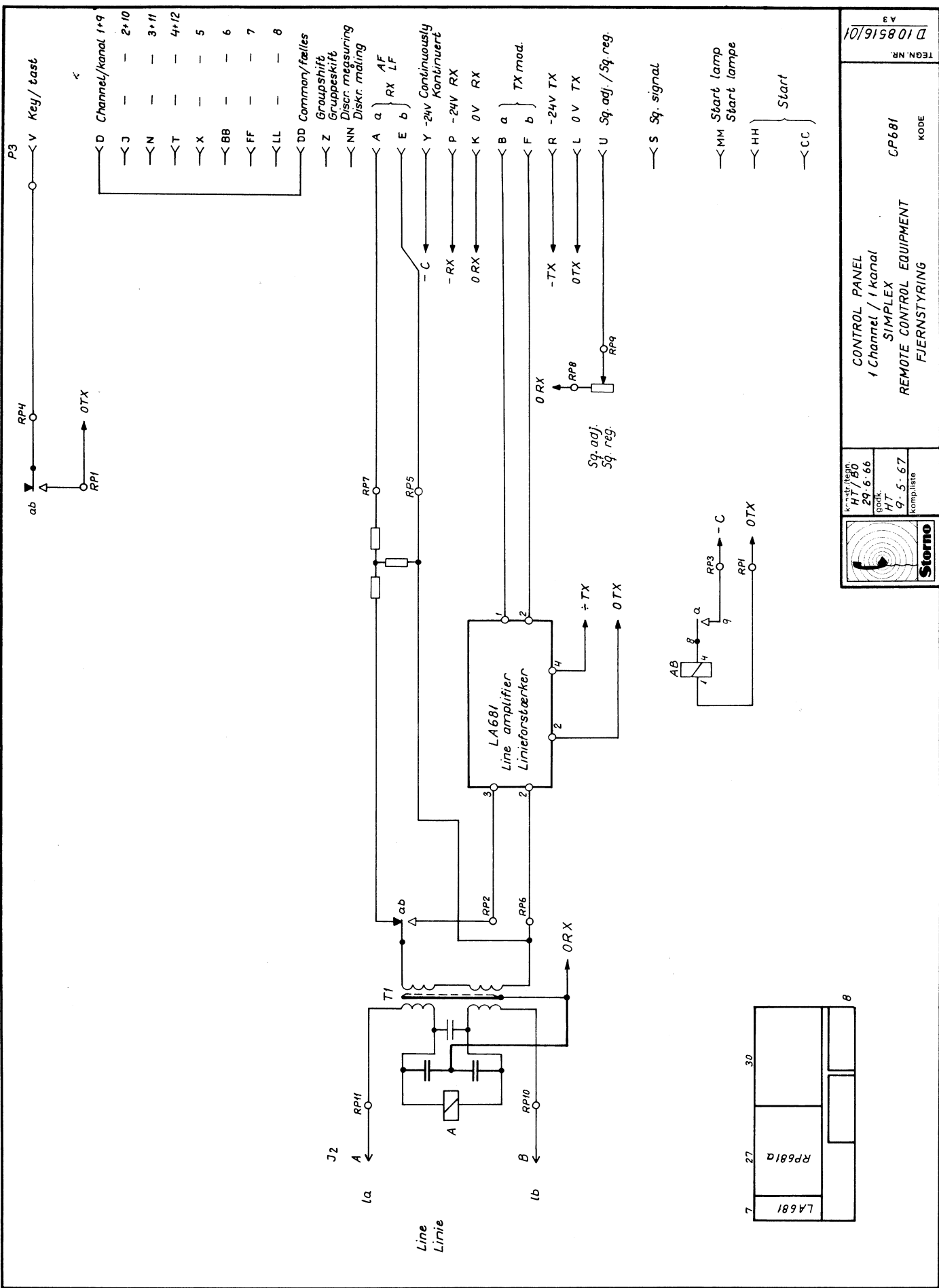
AC 681	5	18	4	9	22	7
SR/TR 68X	5	18	4	9	22	7
CC 681	5	18	4	9	22	7
RB 681	5	18	4	9	22	7
MC 681	5	18	4	9	22	7
SG/TG 68X	5	18	4	9	22	7
AA 602	5	18	4	9	22	7



Skript. No. 5. 10. 66.
 geok. HT 9. 3. 67.
 Komp. liste

CONTROL CONSOLE
 BETJENINGSPULT
 SIMPLEX
 CB 681
 KODE

TEGN. NR. D 108515/01



Channel / kanal	1+9
J	2+10
N	3+11
T	4+12
X	5
BB	6
FF	7
LL	8
DD	Common / fælles

- Z Groupshift / Gruppeskift
- NN Discr. measuring / Diskr. måling
- A a RX LF
- E b
- Y -24V Continuously / Kontinuært
- P -24V RX
- K 0V RX
- B a TX mod.
- F b
- R -24V TX
- L 0V TX
- U Sq. adj. / Sq. reg.

- S Sq. signal
- MM Start lamp / Start lampe
- HH Start
- CC Start

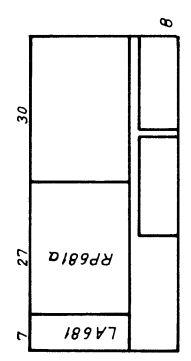
STORNO

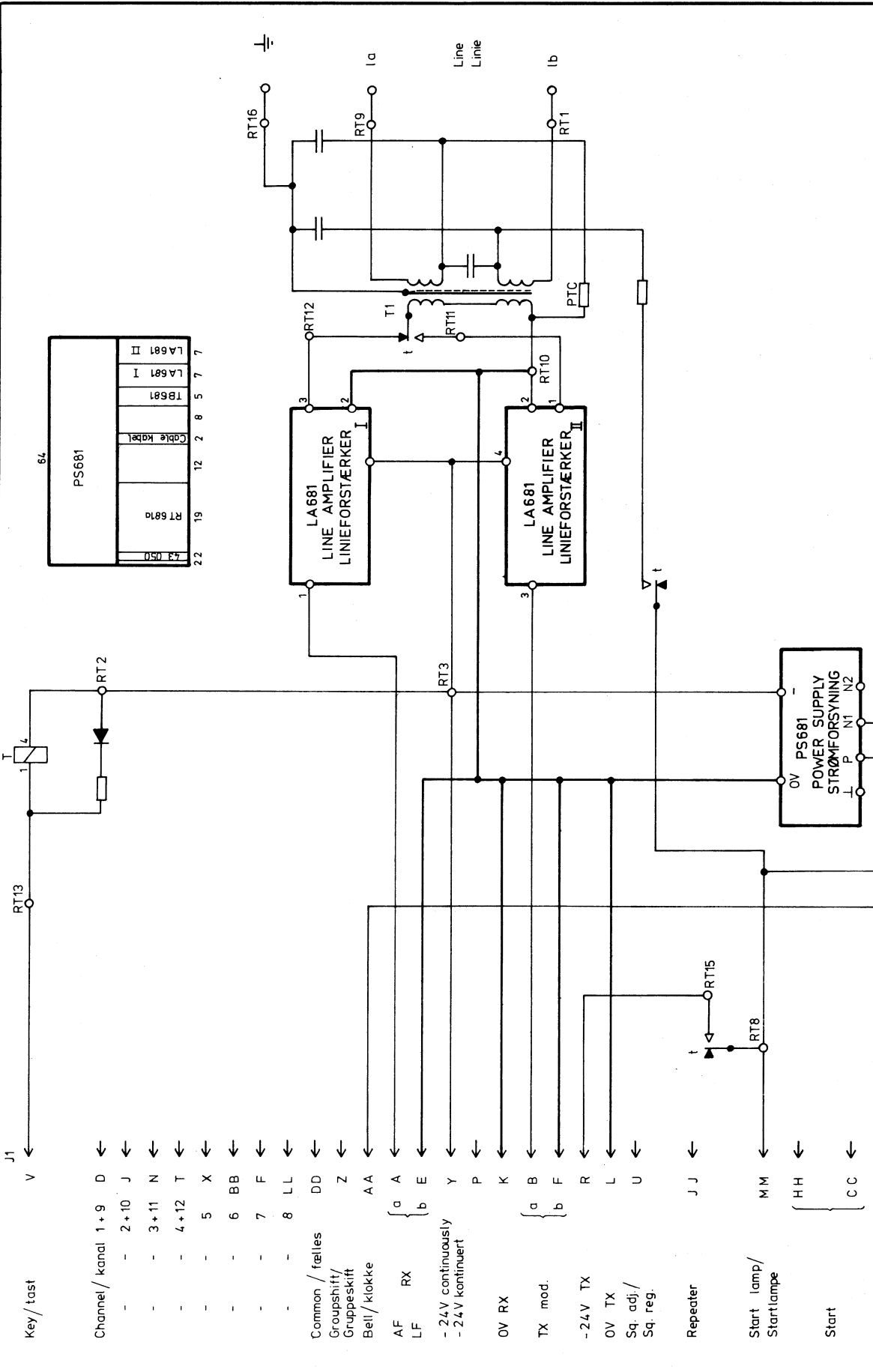
kontroll. / eqn. HT / 50 29.6.66
 Godek. HT 9.5.67
 komplette

CONTROL PANEL
 1 Channel / 1 kanal
 SIMPLEX
 REMOTE CONTROL EQUIPMENT
 FJERNSTYRING

CP681
 KODE

TEGN. NR. D 108516/01
 A3





PS681	
RT 681a	22
RT 681b	19
Cable kabler	12
LA 681 I	7
LA 681 II	7

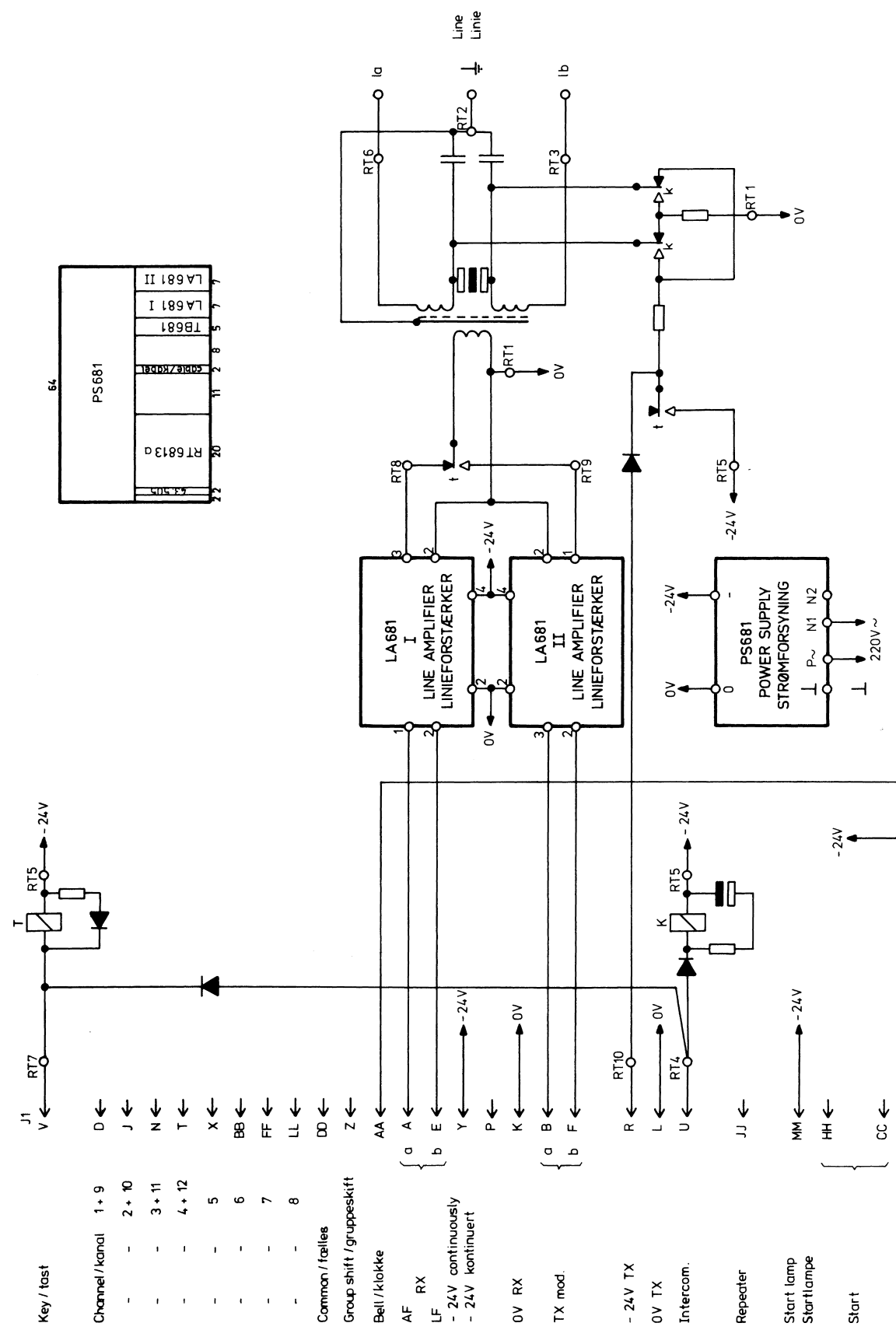
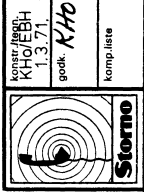
TEGN. NR. D108527/01

TERMINAL PANEL
1 Channel / 1 Kanal

REMOTE CONTROL EQUIPMENT
SIMPLEX
FJERNSTYRING

TE 681
KODE

konstr./tegn. HT/SNI 23.2.71
godk. KHD
kompliste



J1
V ← RT7 → -24V

Channel / kanal
1 + 9
2 + 10
3 + 11
4 + 12
5
6
7
8

Common / fælles
Group shift / gruppeskift
Z ←

Bell / klokke
AA ←

AF RX
LF
- 24V continuously
- 24V kontinuerligt
Y ← -24V
P ←

0V RX
TX mod.
K ← 0V
B ←
F ←

- 24V TX
0V TX
Intercom.
R ← RT10 → -24V
L ← RT4 → 0V
U ←

Repeater
JJ ←

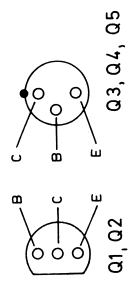
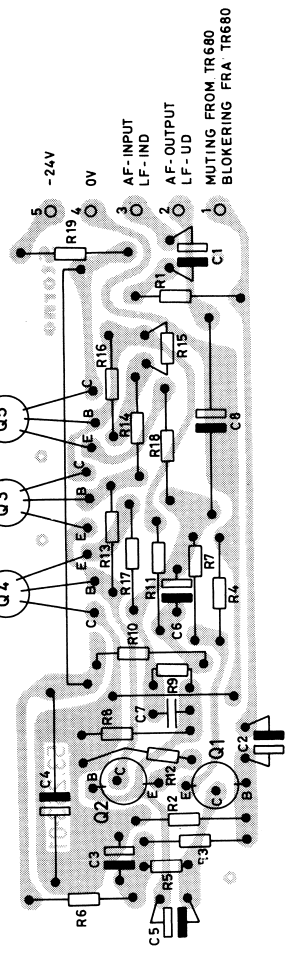
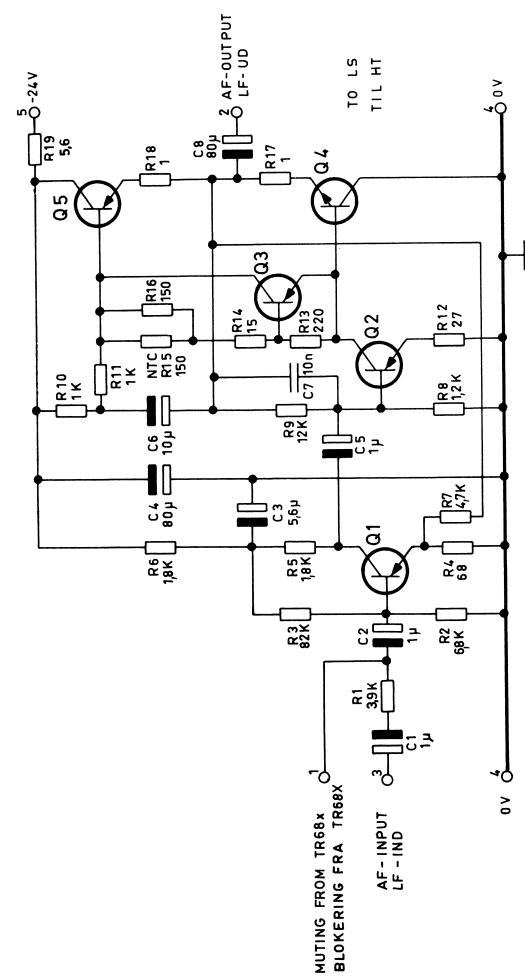
Start lamp
Startlampe
MM ← -24V
HH ←

Start
CC ←

Be Be
Be // klokke
-24V

64

PS 681	11	12	13	14	15	16	17	18	19	20
RT 6813 a	1	2	3	4	5	6	7	8	9	10
LA 681 I	1	2	3	4	5	6	7	8	9	10
LA 681 II	1	2	3	4	5	6	7	8	9	10



BOTTOM VIEW
SET FRA BUNDEN

MUTING FROM TR68x
BLOKERING FRA TR68x

AF-INPUT
LF-IND

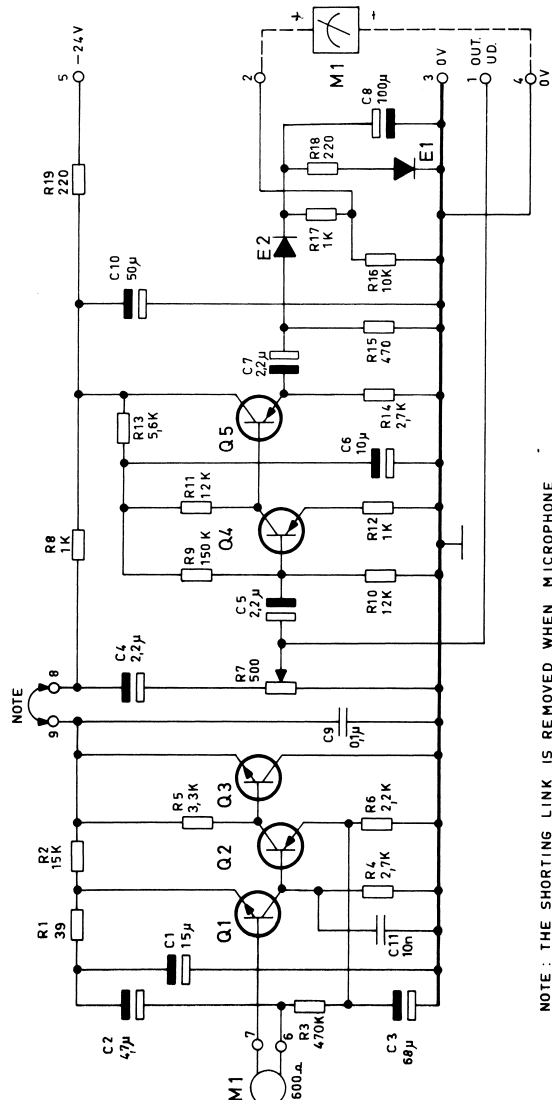
AF-OUTPUT
LF-UD

MUTING FROM TR680
BLOKERING FRA TR680

AF-AMPLIFIER
LF-FORSTÆRKER

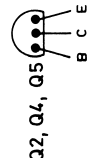
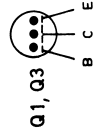
AA602c

D400.836/3

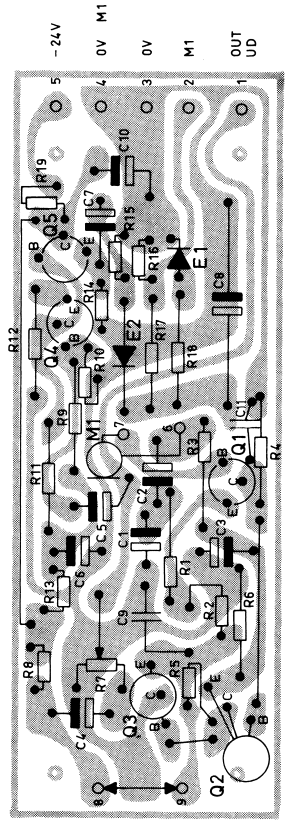


NOTE : THE SHORTING LINK IS REMOVED WHEN MICROPHONE OUTSIDE THE CONTROL BOX IS USED

NOTE : KORTSLUTNINGEN FJERNES NÅR MIKROFON ANBRAGT UDEFOR BETJENINGSBOKSEN BENYTTES.



BOTTOM VIEW SET FRA BUNDEN



PRINTED CIRCUIT SEEN FROM COMPONENT SIDE TRYKT KREDSLØB SET FRA KOMPONENTSIDEN

MICROPHONE UNIT
MIKROFONENHED

MC681

D400.732/3

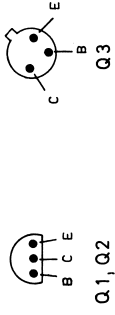
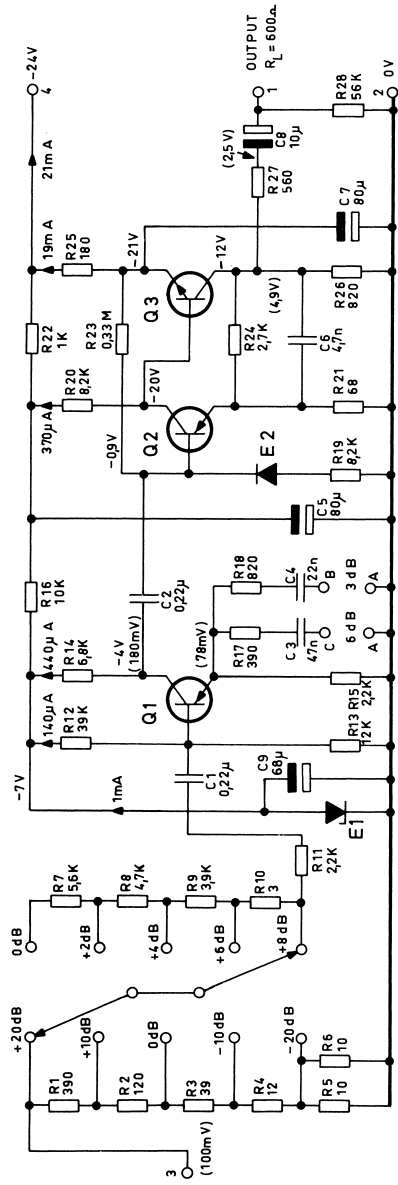
Storno**Storno**

TYPE	NO.	CODE	DATA
	C1	73.5105	15uF 20% tantal
	C2	73.5103	4,7uF 20% tantal
	C3	73.5106	68uF 20% tantal
	C4	73.5102	2,2uF 20% tantal
	C5	73.5102	2,2uF 20% tantal
	C6	73.5109	10uF 20% tantal
	C7	73.5102	2,2uF 20% tantal
	C8	73.5072	250uF -20 +50% elco
	C9	76.5073	0,1uF 10% polyest.
	C10	73.5030	50uF -10 +100% elco
	C11	76.5070	10nF 10% polyest FL
	R1	80.5232	39 Ω 5% carbon film
	R2	80.5263	15k Ω 5% carbon film
	R3	80.5281	470k Ω 5% carbon film
	R4	80.5254	2,7k Ω 5% carbon film
	R5	80.5255	3 k Ω 5% carbon film
	R6	80.5253	2,2k Ω 5% carbon film
	R7	86.5042	500 Ω 20% trim. Lin.
	R8	80.5449	1k Ω 5% carbon film
	R9	80.5275	150k Ω 5% carbon film
	R10	80.5262	12k Ω 5% carbon film
	R11	80.5262	12k Ω 5% carbon film
	R12	80.5249	1 k Ω 5% carbon film
	R13	80.5258	5,6k Ω 5% carbon film
	R14	80.5254	2,7k Ω 5% carbon film
	R15	80.5245	470 Ω 5% carbon film
	R16	80.5261	10 k Ω 5% carbon film
	R17	80.5249	1 k Ω 5% carbon film
	R18	80.5241	220 Ω 5% carbon film
	E1	99.5028	Diode OA200
	E2	99.5028	Diode OA200
	Q1	99.5117	Transistor 2N2924
	Q2	99.5144	Transistor 2N3702
	Q3	99.5117	Transistor 2N2924
	Q4	99.5144	Transistor 2N3702
	Q5	99.5144	Transistor 2N3702

TYPE NO. CODE DATA

MICROPHONE UNIT
MIKROFONENHED MC681

X400.758/3



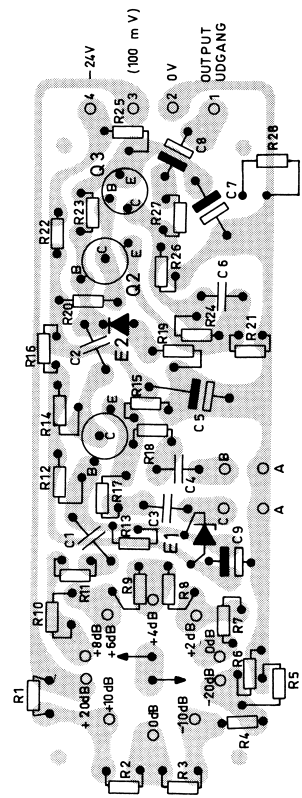
BOTTOM VIEW
SET FRA BUNDEN

Equalizer/Modforvrønger: A - B : 3 dB at/ved 3000 Hz
 A - C : 6 dB at/ved 3000 Hz
 A - B, A - C: 9 dB at/ved 3000 Hz

Amplification/Attenuation: From -20 dB to +28 dB.
 Forstærkning/Dæmpning: Fra -20 dB til +28 dB.

The figures indicated in brackets are measurements at 1000 Hz with respect to 100 mV input signal.

Tallene i parentes viser målinger ved 1000 Hz i forhold til et indgangssignal på 100 mV.



PRINTED CIRCUIT SEEN FROM COMPONENT SIDE
 TRYKT KREDSLØB SET FRA KOMPONENTSIDEN

LINE AMPLIFIER
 LINIEFORSTÆRKER

LA681

D4007673

Storno

TYPE	NO.	CODE	DATA

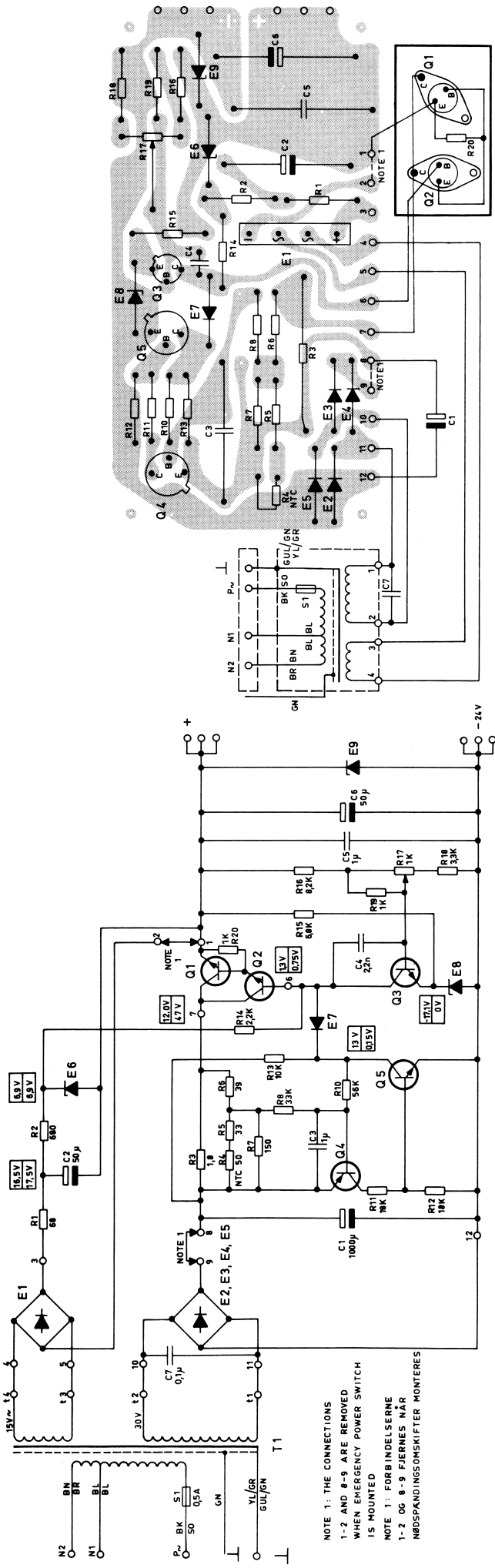
Storno

TYPE	NO.	CODE	DATA
	C1	76. 5074	0, 22 μ F 10% polyester. TB
	C2	76. 5074	0, 22 μ F 10% polyester. TB
	C3	76. 5072	47nF 10% polyester. FL
	C4	76. 5071	22nF 10% polyester. FL
	C5	73. 5110	80 μ F -10 +50% electrol.
	C6	76. 5061	4,7nF 10% polyester. FL
	C7	73. 5110	80 μ F -10 +50% electrol.
	C8	73. 5109	10 μ F 20% tantal
	C9	73. 5106	68 μ F 20% tantal
	R1	80. 5244	390 Ω 5% carbon film
	R2	80. 5238	120 Ω 5% carbon film
	R3	80. 5232	39 Ω 5% carbon film
	R4	80. 5226	12 Ω 5% carbon film
	R5	80. 5225	10 Ω 5% carbon film
	R6	80. 5225	10 Ω 5% carbon film
	R7	80. 5258	5, 6 k Ω 5% carbon film
	R8	80. 5257	4, 7 k Ω 5% carbon film
	R9	80. 5256	3, 9 k Ω 5% carbon film
	R10	80. 5255	3, 3 k Ω 5% carbon film
	R11	80. 5253	2, 2 k Ω 5% carbon film
	R12	80. 5268	39 k Ω 5% carbon film
	R13	80. 5262	12 k Ω 6% carbon film
	R14	80. 5259	6, 8 k Ω 5% carbon film
	R15	80. 5253	2, 2 k Ω 5% carbon film
	R16	80. 5261	10 k Ω 5% carbon film
	R17	80. 5244	390 Ω 5% carbon film
	R18	80. 5248	820 Ω 5% carbon film
	R19	80. 5260	8, 2 k Ω 5% carbon film
	R20	80. 5260	8, 2 k Ω 5% carbon film
	R21	80. 5235	68 Ω 5% carbon film
	R22	80. 5249	1 k Ω 5% carbon film
	R23	80. 5279	330 k Ω 5% carbon film
	R24	80. 5254	2, 7 k Ω 5% carbon film
	R25	80. 5240	180 Ω 5% carbon film
	R26	80. 5448	820 Ω 5% carbon film
	R27	80. 5246	560 Ω 5% carbon film
	E1	99. 5146	Zenerdiode BZY60
	E2	99. 5028	Diode OA200
	Q1	99. 5144	Transistor 2N3702
	Q2	99. 5144	Transistor 2N3702
	Q3	99. 5121	Transistor BC107

LINE AMPLIFIER
 LINEFORSTÆRKER

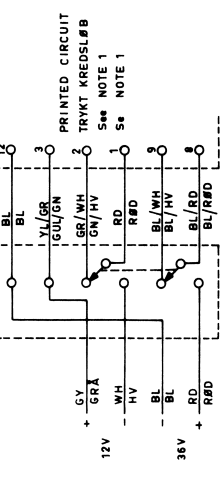
LA681

X400. 759/4



NOTE 1: THE CONNECTIONS
1-2 AND 8-9 ARE REMOVED
WHEN EMERGENCY POWER SWITCH
IS MOUNTED
NOTE 1: FORBINDELSENER
1-2 OG 8-9 FJERNES NÅR
NØDSPANDINGSOMSKIFTER MONTERES

EMERGENCY POWER SWITCH 11.457 (NOT MOUNTED IN STANDARD EQUIPMENT)
NØDSPANDINGSOMSKIFTER 11.457 (IKKE MONTERET PÅ STANDARD UJSTYR)



ELECTRONIC CIRCUIT BREAKER
FOR RESET, TURN OFF MAINS FOR 15 - 20 SEC.
ELEKTRONISK SIKRING
RESET FORETTAGES VED AT AFBRYDE NETSPENDINGEN I 15 - 20 SEK.
VOLTAGES MEASURED WITH RESPECT TO POINT 1
SPÅNDINGER MÅLT I FORHOLD TIL PUNKT 1
V MAINS = 220V. INPUT = 06A
V NET = 220V IND = 0.6A
V NET = 220V. UDGANG KORTSLUTTET

PRINTED CIRCUIT VIEWED FROM COMPONENT SIDE
TRYKT KREDSLØB SET FRA KOMPONENTSIDEN

POWER SUPPLY
STRØMFORSYNING

PS681

D400.7687

Storno

TYPE	NO.	CODE	DATA
C1	73.5115		1000 μ F -10/+100% elco
C2	73.5108		50 μ F -10/+100% elco
C3	76.5089		1 μ F 10% polyest.
C4	76.5059		2.2 nF 10% " FL
C5	76.5089		1 μ F 10% "
C6	73.5108		50 μ F -10/+100% elco
C7	76.5073		0.1 μ F 10% polyest. TB
R1	80.5235		68 Ω 5% carbon film
R2	80.5247		680 Ω 5% "
R3	84.5022		1.8 Ω 5% wirewound
R4	89.5004		50 Ω 10% NTC
R5	80.5231		33 Ω 5% carbon film
R6	80.5232		39 Ω 5% "
R7	80.5239		150 Ω 5% "
R8	80.5267		33 k Ω 5% "
R10	80.5270		56 k Ω 5% "
R11	80.5264		18 k Ω 5% "
R12	80.5264		18 k Ω 5% "
R13	80.5261		10 k Ω 5% "
R14	80.5253		2.2 k Ω 5% "
R15	80.5259		6.8 k Ω 5% "
R16	80.5260		8.2 k Ω 5% "
R17	86.5045		1 k Ω potentiometer lin.
R18	80.5255		3.3 k Ω 5% carbon film
R19	80.5249		1 k Ω 5% "
R20	80.5249		1 k Ω 5% "
T1	60.5141		Transformer 220/240V, 30VA, 50 Hz
E1	99.5149		Rectifier/Ensretter 0, 6A 42V 35 $^{\circ}$ C
E2	99.5020		Diode 1N4004
E3	99.5020		Diode 1N4004
E4	99.5020		Diode 1N4004
E5	99.5020		Diode 1N4004
E6	99.5146		Zenerdiode 6, 9V 5%
E7	99.5020		Diode 1N4004
E8	99.5146		Zenerdiode 6, 9V 5%
E9	99.5132		Zenerdiode 30V 5%
Q1	99.5171		Transistor 2N3055
Q2	99.5193		Transistor 2N3054
Q3	99.5121		Transistor BC107
Q4	99.5173		Transistor 2S301
Q5	99.5172		Transistor BFY57
S1	92.5077		0.5A Fuse/sikring fast blow/flink

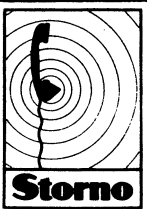
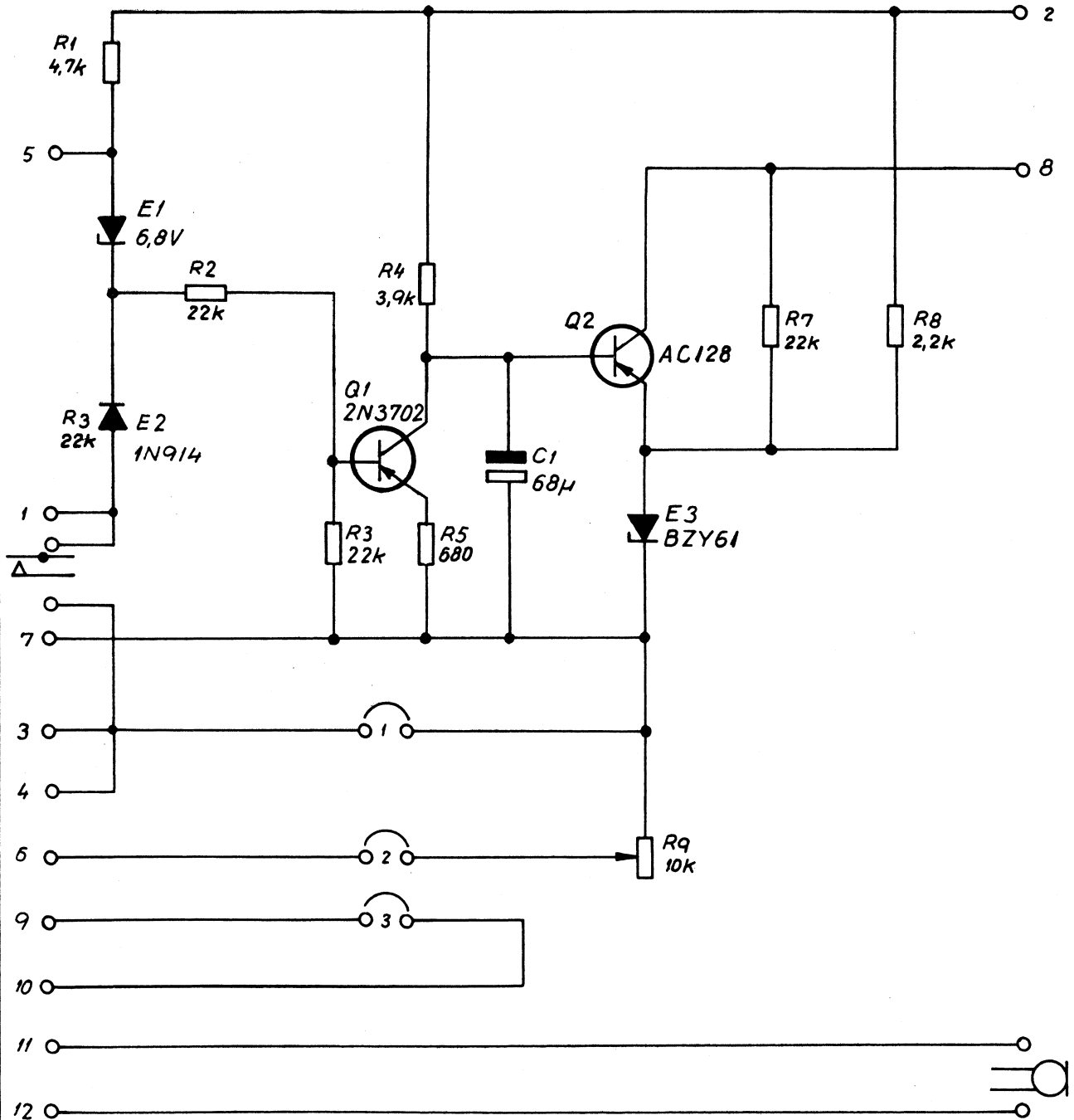
Storno

TYPE	NO.	CODE	DATA
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**POWER SUPPLY
STRØMFORSYNING**

PS681

X400.743/7



konstr./tegn.
HT/B0
5-2-68
godk. HT
5-2-68
komp.liste
X 108535

RESISTOR PANEL
MODSTANDSPANEL

RB681a

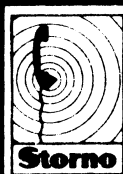
KODE

TEGN. NR.

D 108534

A 4

no	code	data	no	code	data
C1	73.5106	68 μ F Elko 15V			
R1	80.5257	4,7k 1/8W			
R2	80.5265	22k 1/8W			
R3	80.5265	22k 1/8W			
R4	80.5256	3,9k 1/8W			
R5	80.5247	680 Ω 1/8W			
R7	80.5265	22k 1/8W			
R8	80.5253	2,2k 1/8W			
R9	86.5039	10k 0,1W lin.			
E1	99.5146	6,9V 5% BZY60			
E2	99.5028	1N914			
E3	99.5075	7,6V 5% BZY61			
Q1	99.5144	2N3702			
Q2	99.5142	AC128			



KH6/BQ
6-2-68
kontrol at
HT
tjh. dia
D108534

RESISTOR PANEL
MODSTANDSPANEL

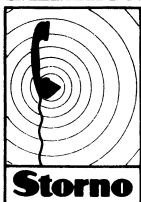
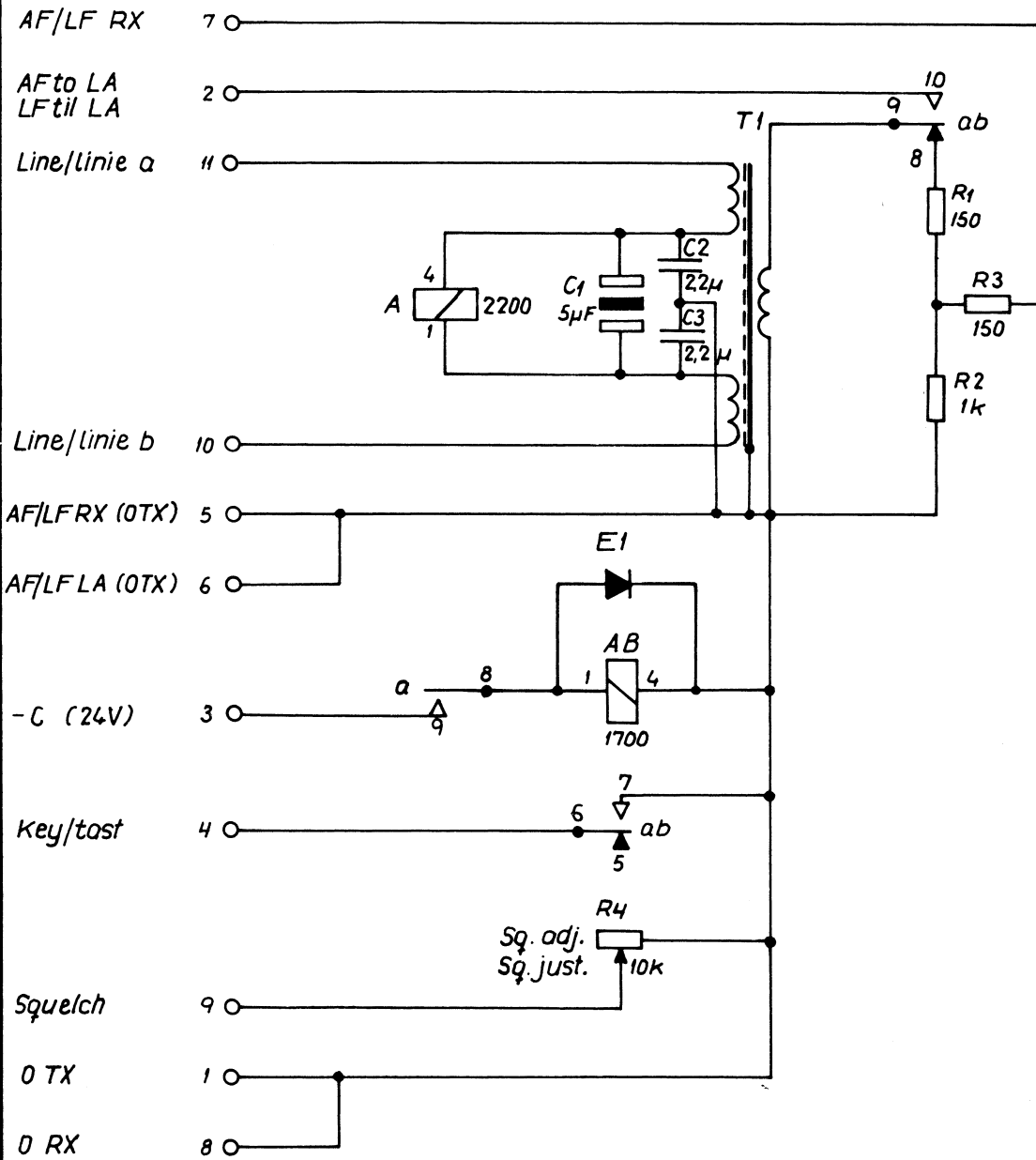
RB681a

comp list

X108535

blad no of

Connection to/from
Forbindelse til/fra



konstr./tegn.
HT/B0
28.2.69
godk. **K76**
15-4-69
komp.liste
X 112695

LINE PANEL
LINIEPANEL

RP681a


KODE

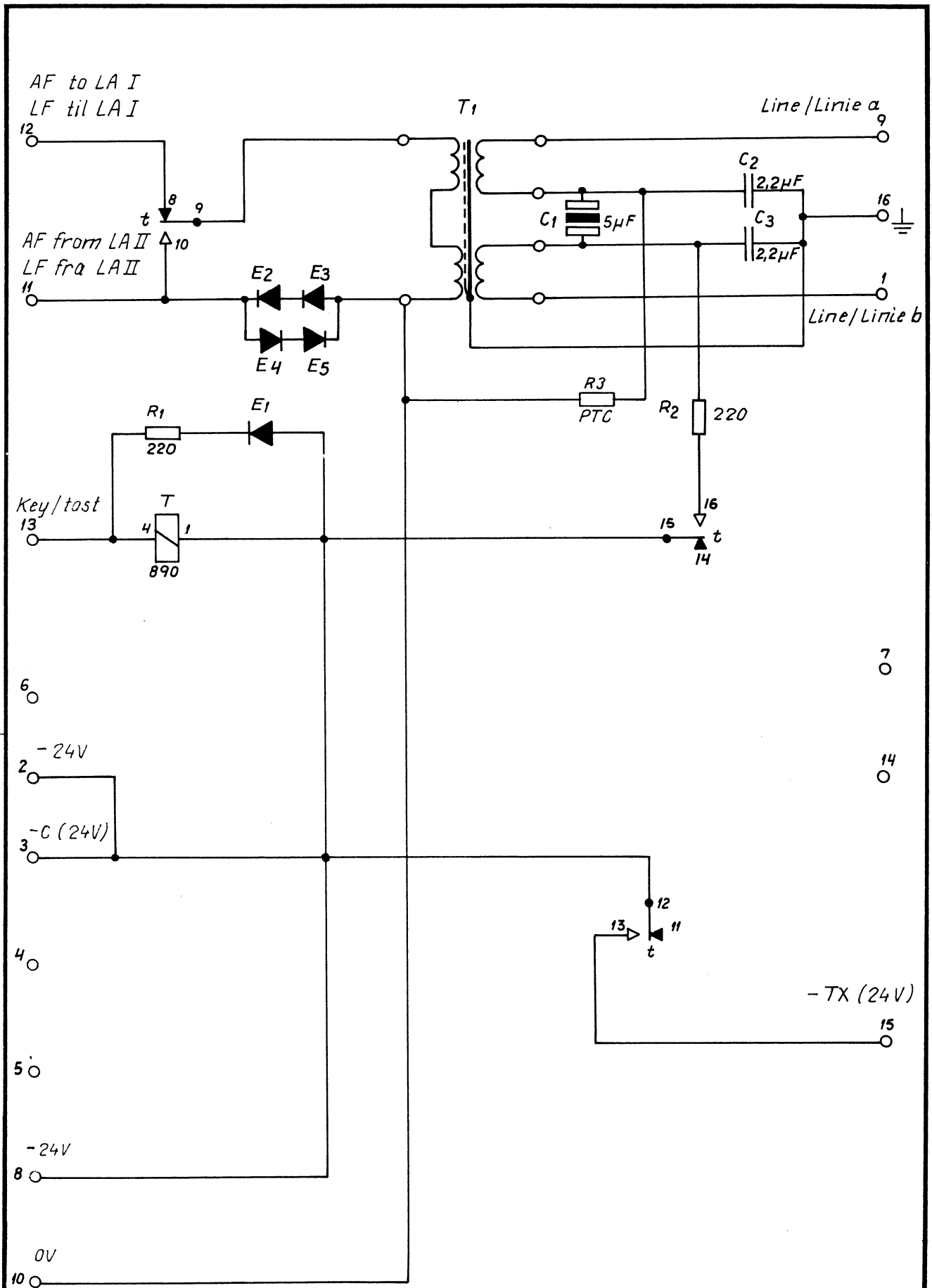
TEGN. NR.

D 112694

A 4

no	code	data	no	code	data
C1	73.5007	5 μ F 100/120V DC			
C2	76.5081	2,2 μ F 5% 63V			
C3	76.5081	2,2 μ F 5% 63V			
R1	80.5439	150 Ω 1/4W			
R2	80.5449	1 k Ω 1/4W			
R3	80.5439	150 Ω 1/4W			
R4	86.5039	10 k Ω 0,1W			
E1	99.5020	1N4004			
ReA	58.5073	Si V23013-A0022-B101			
Re AB	58.5029	Si V23154-C0426-B104 (Trls 154c-65426/ 93d)			
		or/eller			
	58.5062	Si V23154-C0722-B104 (Trls 154c-65722/93d)			
T1	60.5097	JS 0,32P-8867-4			

	used of KHo/BO 26-2-69	LINE PANEL LINIEPANEL RP681a	comp list X 112695 blad no of
	KHo 15.4.69		
	tih diag		
	D112694		



konstr./tegn.
K.Ho/AMM
14. 5. 69.
godk.
KHo
komp.liste
X113038

LINE PANEL
LINIEPANEL


RT681 a

KODE

TEGN. NR.

D113037
A4

no	code	data	no	code	data
C1	73.5007	5 μ F 100/120V DC			
C2	76.5081	2,2 μ F 63V DC \pm 5%			
C3	76.5081	2,2 μ F 63V DC \pm 5%			
R1	80.5441	220 Ω 1/4W			
R2	80.5441	220 Ω 1/4W			
E1-E5	99.5028	1N914			
ReT	58.5055	SI V23154-C0721-B110 (Trls 154c 65721/93e)			
T1	60.5097	JS 0,32P-8867-4			
R3	89.5052	PTC-Modstand Ph.2322 6609/006			



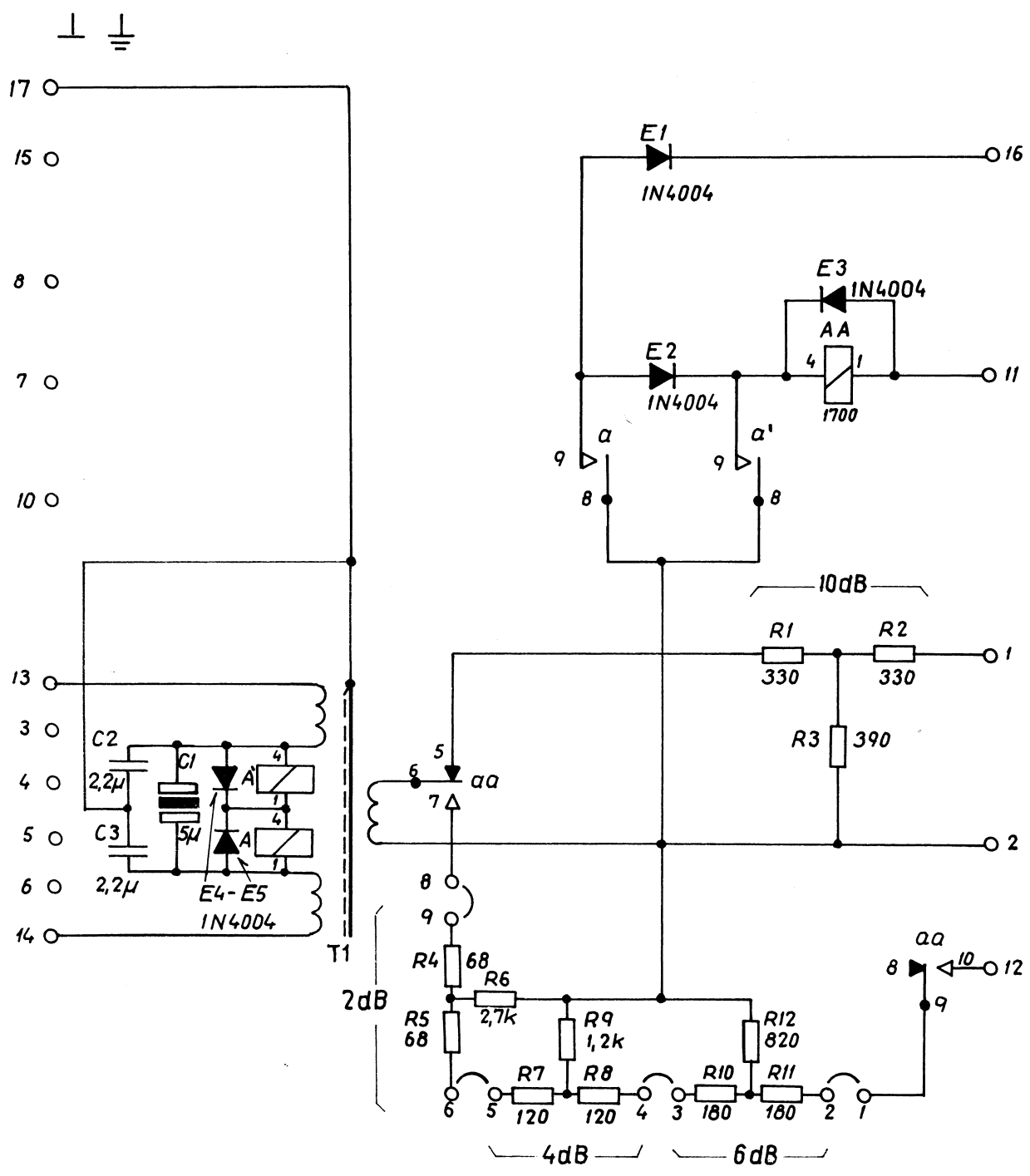
EKL/EBH
 14.5.69.
 kontrol of
K40
 tilh. drøgt
 D113037

LINE PANEL
 LINIEPANEL

RT 681 a

komp. liste
 X113038
 blad no. 01

Rev. 28.2.69 02, 03, E3, 4, 5 ReA, ReA'



konstr./tegn.
 KHO/B0
 26. 2. 69
 godk. *Jel*
 komp.liste
 X112697

LINE PANEL
 LINIEPANEL

RT 689 a

KODE

TEGN. NR.
 D 112696
 A 4

no	code	data	no	code	data
R1	80.5243	330Ω 1/8W			
R2	80.5243	330Ω 1/8W			
R3	80.5244	390Ω 1/8W			
R4	80.5235	68 Ω 1/8W			
R5	80.5235	68 Ω 1/8W			
R6	80.5254	2,7kΩ 1/8W			
R7	80.5238	120Ω 1/8W			
R8	80.5238	120Ω 1/8W			
R9	80.5250	1,2 kΩ 1/8W			
R10	80.5240	180Ω 1/8W			
R11	80.5240	180Ω 1/8W			
R12	80.5248	820Ω 1/8W			
C1	73.5007	5 μF 100V Bip.			
C2	76.5081	2,2μF 5% polyest.63V			
C3	76.5081	2,2μF 5% polyest.63V			
E1	99.5020	1N4004			
E2	99.5020	1N4004			
E3	99.5020	1N4004			
E4	99.5020	1N4004			
E5	99.5020	1N4004			
ReA	58.5073	Si V23013-A0022-B101			
ReA'	58.5073	Si V23013-A0022-B101			
ReAA	58.5062	Si V23154-C0722-B104			
T1	60.5097	Transf. 150 - 150 / 600Ω			



KTB/BO
26-2-69
kontrol of
Tlh. didgr
D112696

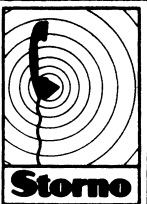
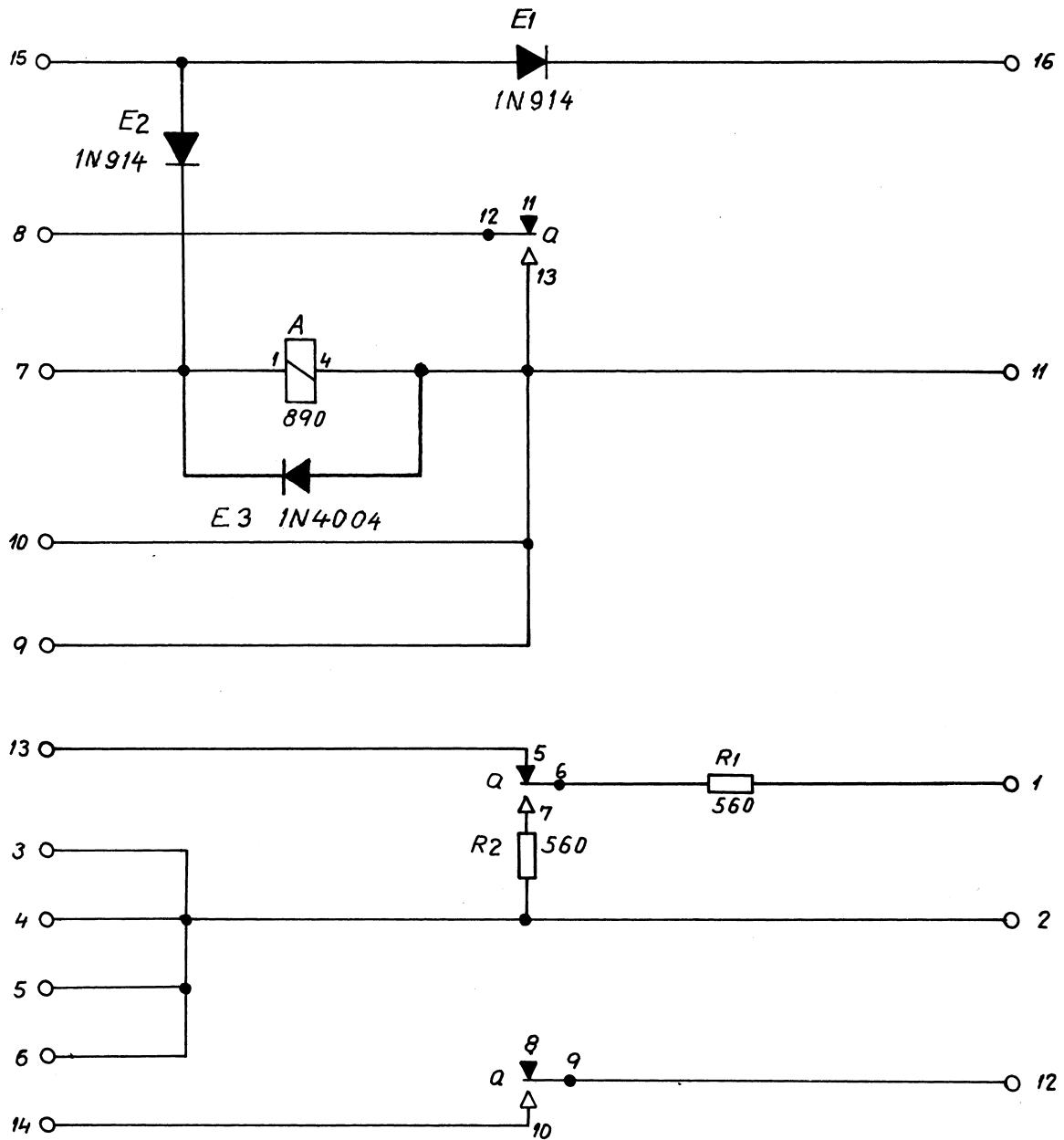
LINE PANEL
LINIEPANEL

RT689a

comp list

X 112697

bid no



konstr./tegn.
HT/B0
8-5-67
godk. HT
4-10-67
komp.liste
X109690

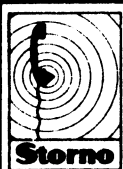
RELAY PANEL
RELEPANEL

RT6811

KODE

TEGN. NR.
D109689/1
A4

no	code	data	no	code	data
R1	80.5446	560Ω 1/4W			
R2	80.5446	560Ω 1/4W			
E1	99.5028	1N914			
E2	99.5028	1N914			
ReA	58.5055	Si V23154-C0721-B110 (154d 65721/93e)			
E3	99.5020-00	1N4004			



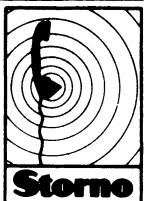
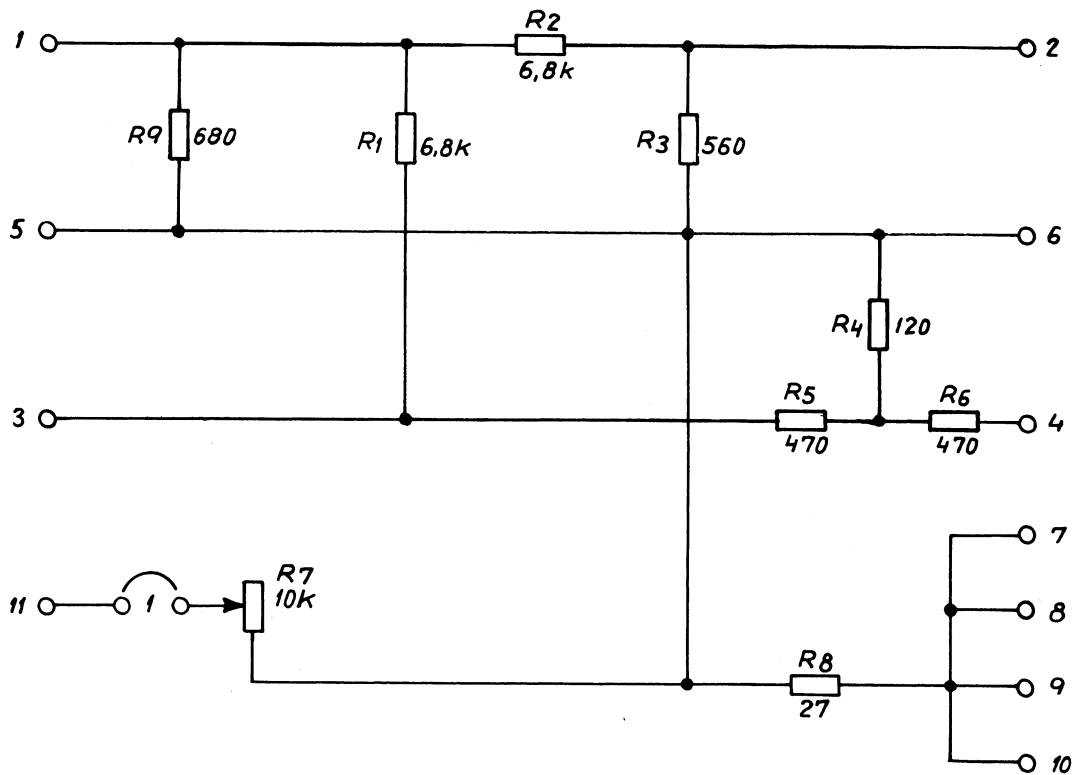
EKL/BO
3-10-67
kontrol at HT
4-10-67
tjh. diagr
D109689

RELAY PANEL
RELAPANEL

RT6811

comp list

X109690
bill no of



konstr. tegn.
HT/BD
8.5.67
godk. HT
4.10.67
komp. liste
X109692

RESISTOR PANEL RT6812
MODSTANDSPANEL

KODE

TEGN. NR.

D109691

A4

no	code	data	no	code	data
R1	80.5459	6,8 k Ω 1/4W			
R2	80.5459	6,8 k Ω 1/4W			
R3	80.5445	560 Ω 1/4W			
R4	80.5438	120 Ω 1/4W			
R5	80.5445	470 Ω 1/4W			
R6	80.5445	470 Ω 1/4W			
R7	86.5039	10 k Ω 20% trim pot.			
R8	80.5430	27 Ω 1/4 W lin.1/10W			
R9	80.5446	680 Ω 1/4W			

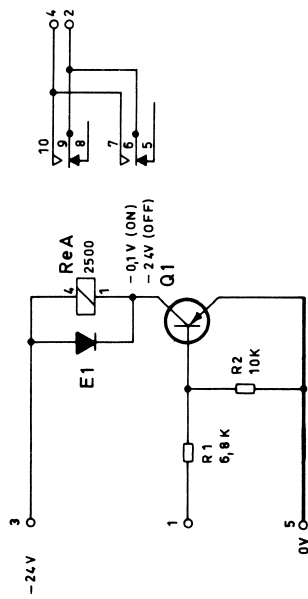


EKL/BO
 3-10-67
 kontrol of HT
 4-10-67
 Třih. diag.
 D109691

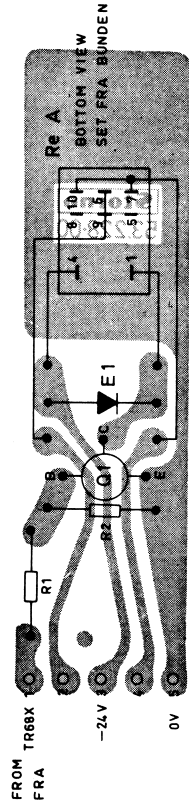
RESISTOR PANEL
 MODSTANDSPANEL

RT6812

komp liste
 X109692
 list no of



Q1
BOTTOM VIEW
SET FRA BUNDEN



PRINTED CIRCUIT SEEN FROM COMPONENT SIDE
TRYKT KREDSLØB SET FRA KOMPONENTSIDEN

ALARM CIRCUIT
ALARM KREDS

AC681

D400.766

Storno

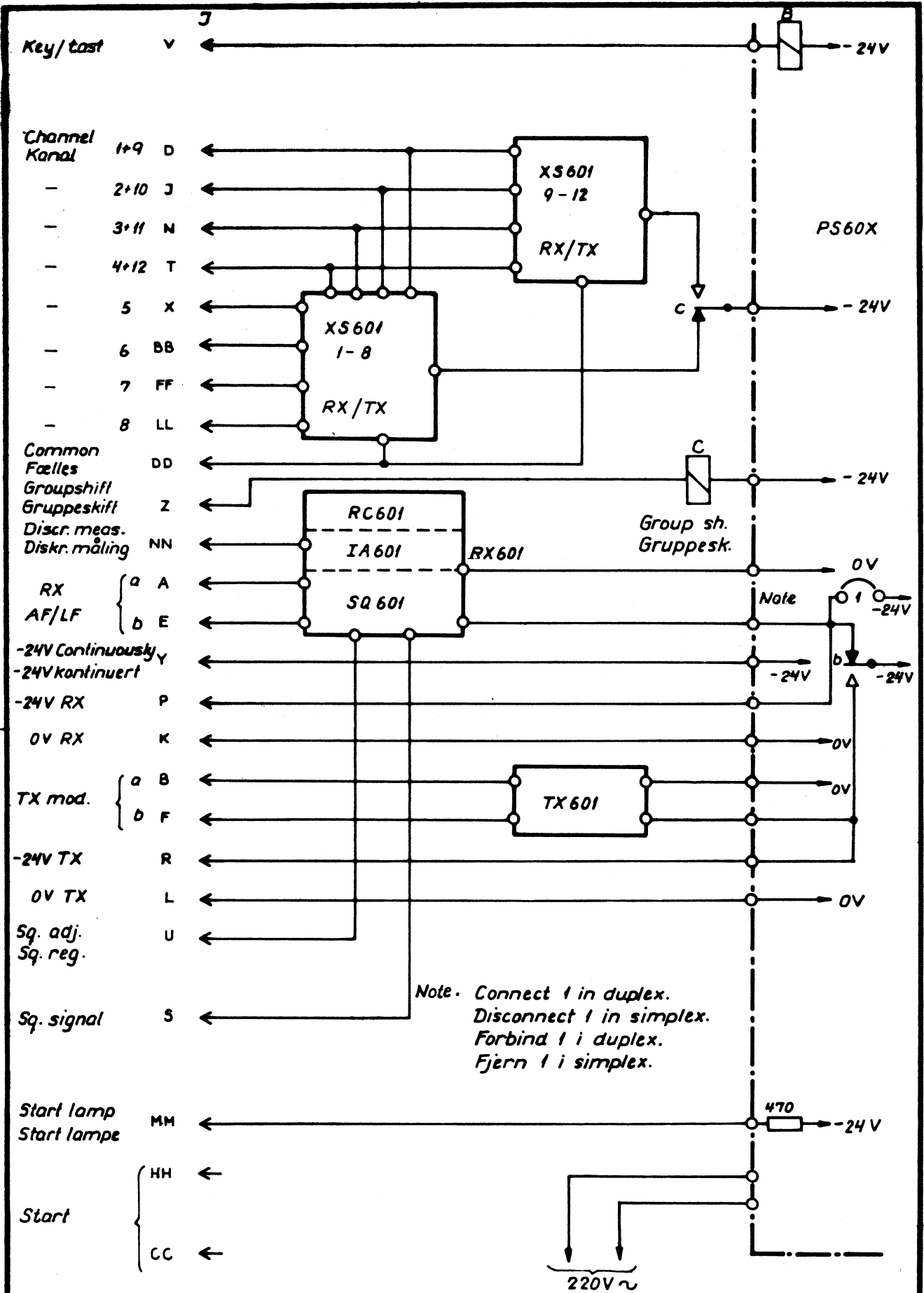
TYPE	NO.	CODE	DATA
682	R1	80.5262	12 k Ω 5% carbon film
	R2	80.5261	10 k Ω 5% " "
	ReA	58.5062	Relay/relæ 1700 Ω 21-21
	O1	47.5005	Switch/omskifter 3A
	E1	99.5020	1N4004 Diode
	Q1	99.5144	BC214L Transistor
			1/8W 1/8W 24 V 250 V

Storno

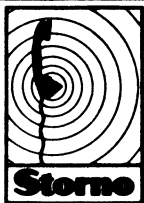
TYPE	NO.	CODE	DATA

ALARM CIRCUIT AC681a, AC682a
ALARM KREDS

X400.980/2



Note. Connect 1 in duplex.
 Disconnect 1 in simplex.
 Forbind 1 i duplex.
 Fjern 1 i simplex.

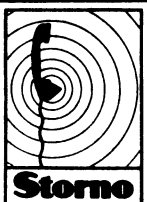
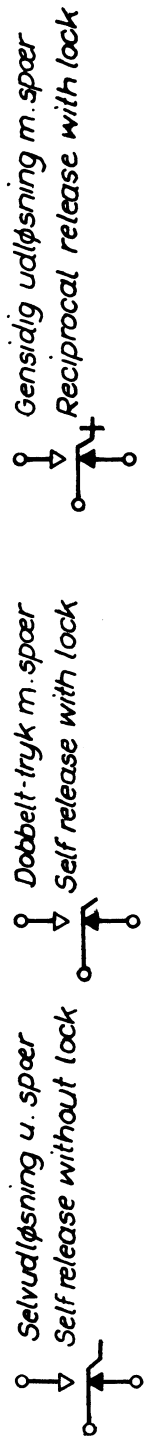
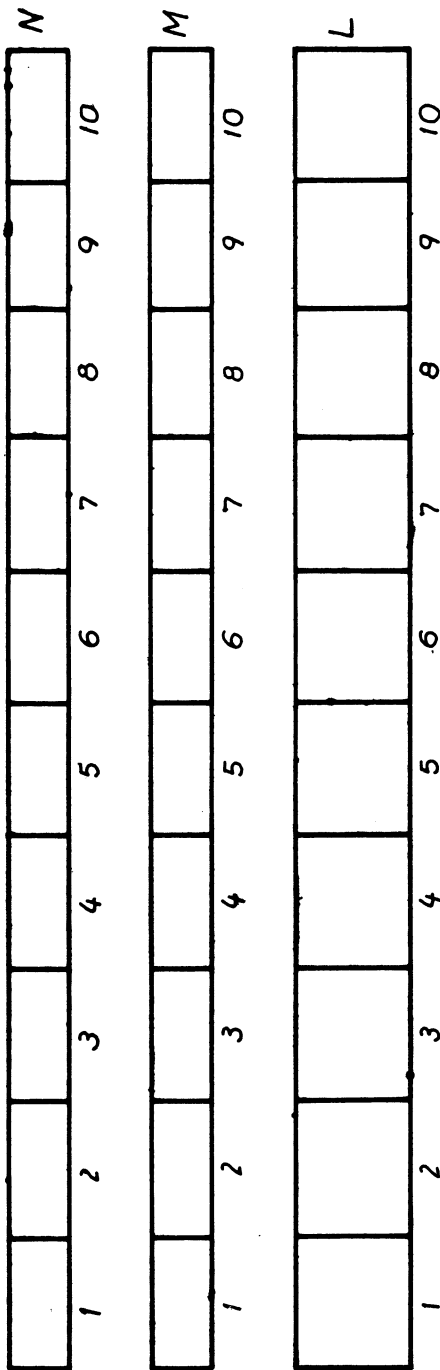
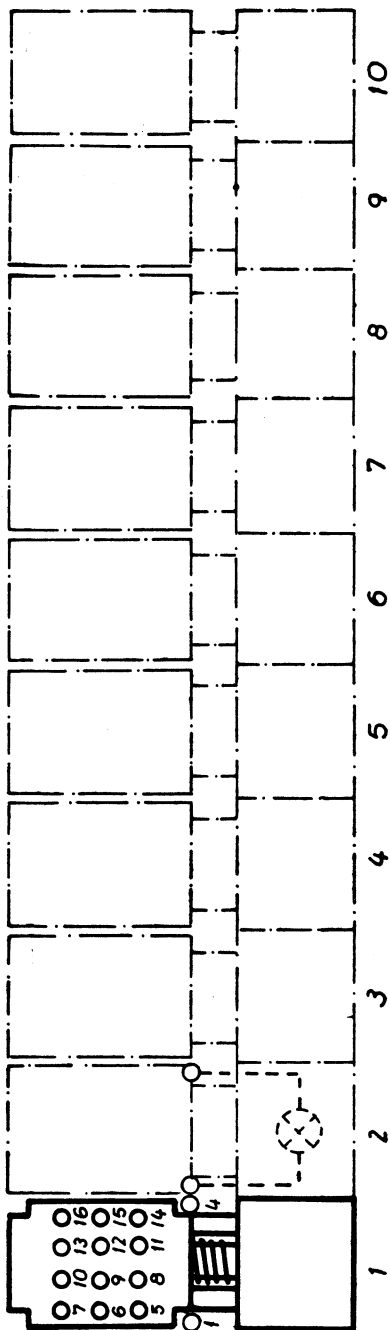


konstr.tegn.
 HT/BØ
 27.9.66
 godk. HT
 10.5.67
 komp.liste

FUNDAMENTAL LAY-OUT
 FIXED STATION CQF600
 PRINCIPOVERSIGT
 FAST STATION CQF600

KODE

TEGN. NR.
 D108532
 A4



konstr./tegn.
HT / GH
22 · 8 · 66
godk. HT
10 · 5 · 67
komp.liste

POSITION OF PUSH BUTTONS WITH
SOLDERING TAGS.
PLACERING AF TRYKKNAPPER MED
KONTAKTFLIGE
CB 68X

KODE

TEGN. NR.

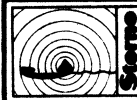
D 108533

A 4

TYPE OF RELAY RELÆTYPE	STORNO NR.	MANUFACTURES NO. FABRIKANTENS NR.	DIAGRAM	COIL RESISTANCE SPOLEHODSTAND	NUMBER OF TURNS SPOLENS VIND-	ACTIVATING AMP. VINDINGER AMPERE-TURNS VED TRÆK.	ACTIVATING MA. MA VED TRÆK.	NORMAL OPERAT. AMP. VINDINGER AMPERE-TURNS UNDER DRIFT.	NORM. OPERAT. MA MA UNDER DRIFT.	SWITCHING OFF AMP. VINDINGER AMPERE-TURNS. VED FÆLD.	SWITCHING OFF MA MA VED FÆLD.	MAX. LOAD IN CONTACTS. PA KONTAKTER	NUMB. OF SHIFT FUNCT. ANT. SKIFTEPUNKT.	NUMBER OF COILS. ANTAL SPOLE.
Polarized relay Polariseret relæ	SB. 5057	Siemens (170Q Tbv 6702/41)	A	85	3200	7 - 17	2,2 - 5,4	25	7,8	6 - 17	1,86 - 5,40	100V 1A 30W	2	1
Polarized relay Polariseret relæ	SB. 5058	Siemens (170Q Tbv 6702/10)	A	1100	11000	7 - 17	0,64 - 1,64	25	2,27	6 - 17	0,55 - 1,54	100V 1A 30W	2	1
Telephone type relay Kamrelæ	SB. 5029	Siemens V23154 - C0426 - B104 (154c 65426/93d)	B	2500	11000	65	5,9	80	7,3	15	1,36	100V 1A 30W	2	1
Telephone type relay Kamrelæ	SB. 5062	Siemens V23154 - C0782 - B104 (154c 65722/93d)	B	1700	9900	65	6,6	80	8,1	15	1,5	100V 1A 30W	2	1
Telephone type relay Kamrelæ	SB. 5055	Siemens V23154 - D0721 - B110 (154d 65721/93c)	C	890	7300	100	13,7	120	16,5	30	4,1	100V 1A 30W	4	1
Telephone type relay Kamrelæ	SB. 5060	Siemens V23154 - C0438 - B104	D	2 x 550	2 x 3500	65	9,3	80	11,4	15	2,14	100V 1A 30W	2	2
Telephone type relay Kamrelæ	SB. 5061	Siemens V23154 - D0556 - B110	E	2 x 265	2 x 2900	100	17,5	120	20,7	30	5,18	100V 1A 30W	4	2

REMOTE CONTROL FUNCTIONS/ FJERNSTYRINGSFUNKTIONER

Line current, loop, 2000 A Liniesstrøm, sløjfe, 2000 A	Polarity core (a (lc) Polaritetsleder (a (lc)	Functions / funktioner Without/uden Repeater With/med Repeater
0		Sq. opening Sq. åbning
1,8 mA	+	Chan. 1 listen Kan. 1 lytte
1,8 mA	-	Chan. 2 listen Kan. 2 lytte
7,0 mA	+	Chan. 1 Key Kan. 1 tast
7,0 mA	-	Chan. 2 Key Kan. 2 tast

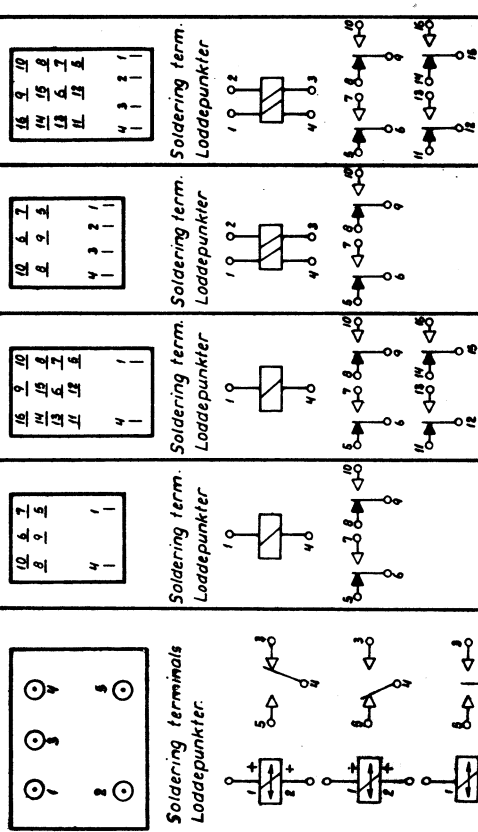


konstr./tegn.
HT / 80
9. 9. 66
Grafik. HT
9. 5. 67
komplette

LAY OUT FOR RELAYS/ RELÆOVERSIGT
Relays used in control equipment type CAF600
Relæer som bruges i styringsudstyr type CAF600

KODE

TEGN NR
D 108493



Soldering term.
Lødespinner

Soldering term.
Lødespinner

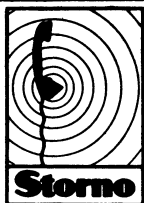
Soldering term.
Lødespinner

Soldering term.
Lødespinner

Soldering term.
Lødespinner

TR685: 1224 og 1552 ret. 1240, 1520 / SR684-2 fjernet 7.11.68

System	Tone frequency / Tonerefrekvens c/s Hz		Tone receiver Tonemodtager		Tone transmitter Tonesender		Tone generator for control console. Tonegenerator til betjeningspult.	
			Type	Number of combinations Antal kombinationer	Type	Number of combinations Antal kombinationer	Type	Number of calls. Antal opkald
Single tone Enkelttone	1060	1160 1270 1400 1530 1670	TR681	12	TT681	12		
	1830	2000 2200 2400 2600 2900						
Double tone Dobbeltone	825	1010 1240 1435 1520 1750 1860 1980	TR683		TT683			
	2000	2135 2200 2450. (Spec. frq./spes. frekv.)						
Sequence tone Sekvenstone 4 digits 4 cifre	Tone a:	1060 1160 1270 1400 1530 1670	TR682	66	TT682	66	TG682	64
	Tone b:	1830 2000 2200 2400 2600 2900					TG689	1
Sequence tone Sekvenstone 4 digits 4 cifre	Tone a:	370 450 550 675 825 1010	TR685	45				
	Tone b:	1240 1520 1860 2280						
Sequence tone Sekvenstone 4 digits 4 cifre	Tone a:	1060 1160 1270 1400 1530 1670	TR687	72	TT687	72	TG687	60
	Tone b:	1830 2000 2200 2400 2600 2900						
Sequence tone Sekvenstone 4 digits 4 cifre	Digit/ciffer:	1 2 3 4 5 6	SR684	10000	ST684	10000	SG684	100
	Frq./frekv.:	1060 1160 1270 1400 1530 1670						
Sequence tone Sekvenstone 4 digits 4 cifre	Digit/ciffer:	7 8 9 0 rep. alarm						
	Frq./frekv.:	1830 2000 2200 2400 2600 2900						



konstr./tegn.
HT / 80
26.9.67
godk. HT
20.10.67
komp.liste

LAY-OUT
TONE EQUIPMENT FOR CQM600 AND CQF600
OVERSIGHT
TONEUDSTYR FOR CQM600 OG CQF600

TEGN. NR.
D 110058
A 4