ERICSSON

Magneto Switchboard ABJ 101

Installation instructions

Magneto Switchboard, ABJ 101

Installation instructions

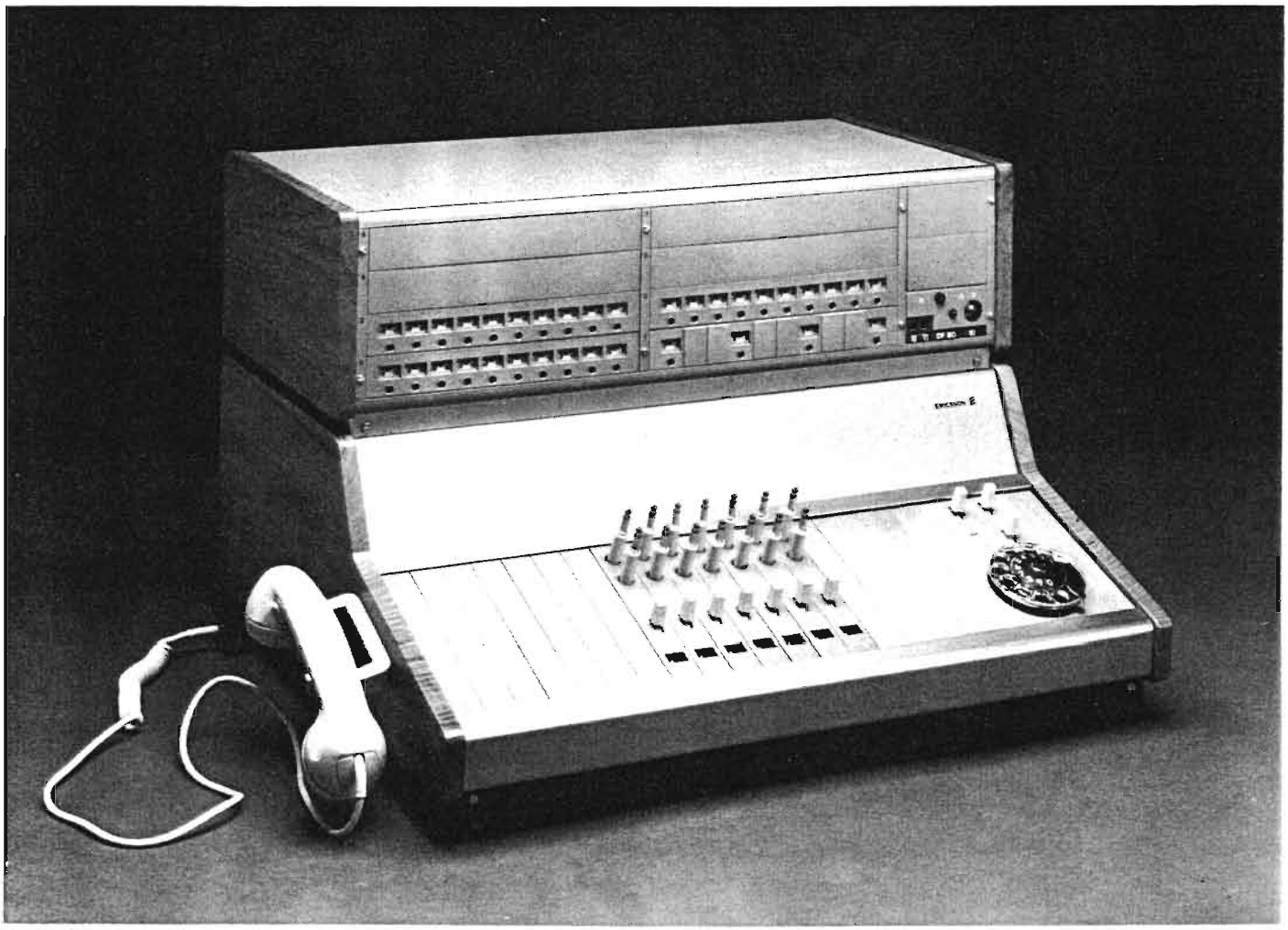
Contents Page

General

This leaflet deals with assembly and placement of the different units in their positions in the exchange, fitting of the wall terminal box and connection of incoming cables for magneto lines and junction lines from the box to the exchange.

The switchboard can be supplied in two different designs: with or without junction lines to manual CB switchboards or automatic exchanges. The difference is that the dial on the position set and the junction line unit are not included in the latter case.

For information regarding capacity, construction, etc., please see the general description.



Placement

The exchange, which has a base area of 530 x 620 mm, should be placed on a desk or a counter at a height from the floor that gives the best working position. A writing place should be reserved on the desk or counter in front of the exchange. The chair used with the arrangement should be vertically adjustable and adapted to the height of the desk or counter.

Lighting and separate wall socket

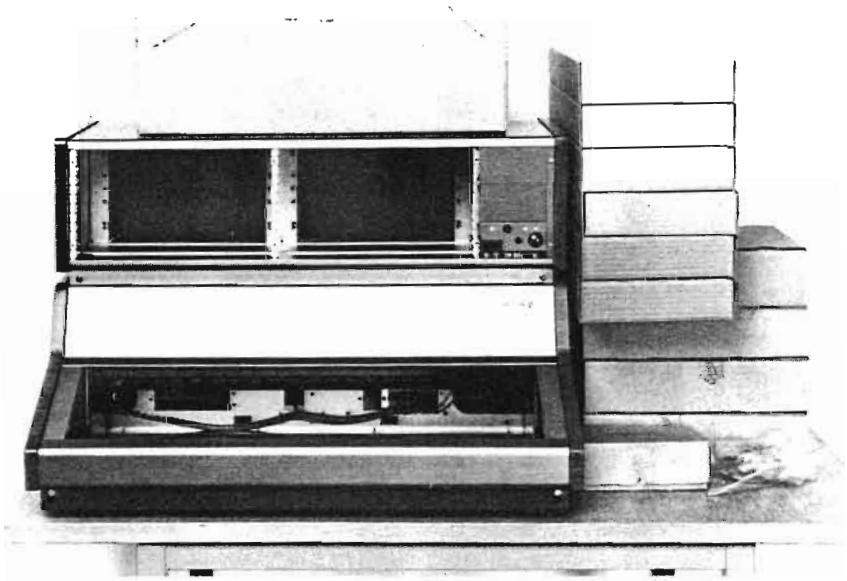
There should be good general lighting at the switchboard position. A light intensity of 50-100 lux would be satisfactory general light supplemented with suitable position lighting. Glaring light should be avoided. A great deal of eye- strain, headaches and similar discomfort is most probably attributable to glaring light. The position of the light fitting, its type and colour as well as the appearance of the work surfaces are interworking factors. Indirect lighting may be the answer.

A separate wall socket for connection of a table lamp, soldering iron, etc. is recommended.

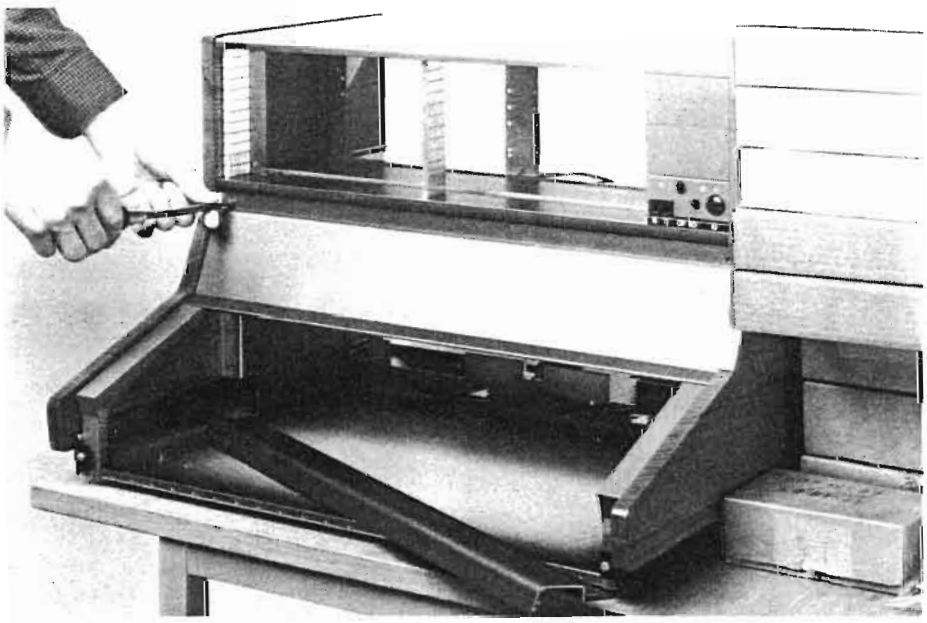
Mounting tools required

Screw drivers, cutting pliers, flat-nose pliers, soldering iron, solder, yarn.

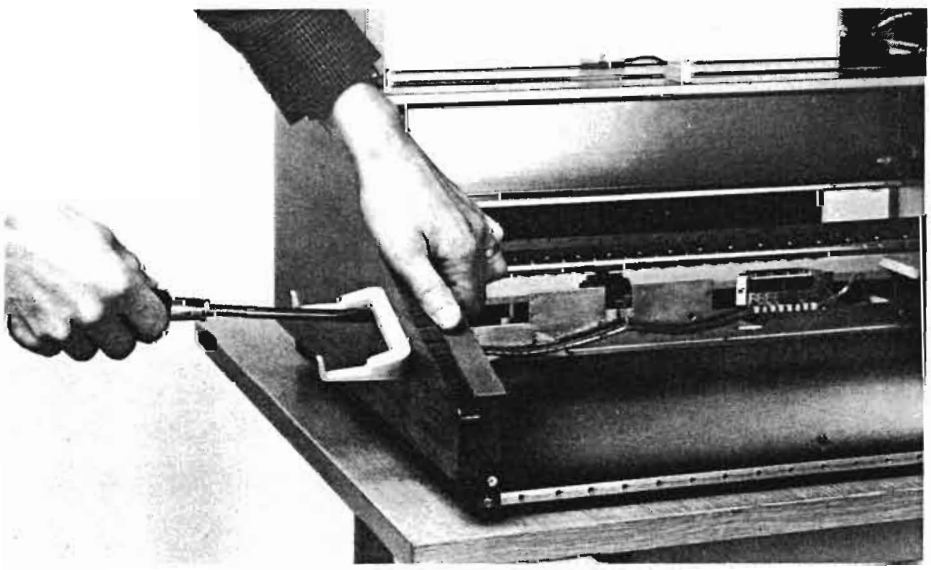
Installation Instructions



1 Unpack all the material and check against the order that all items have been included.

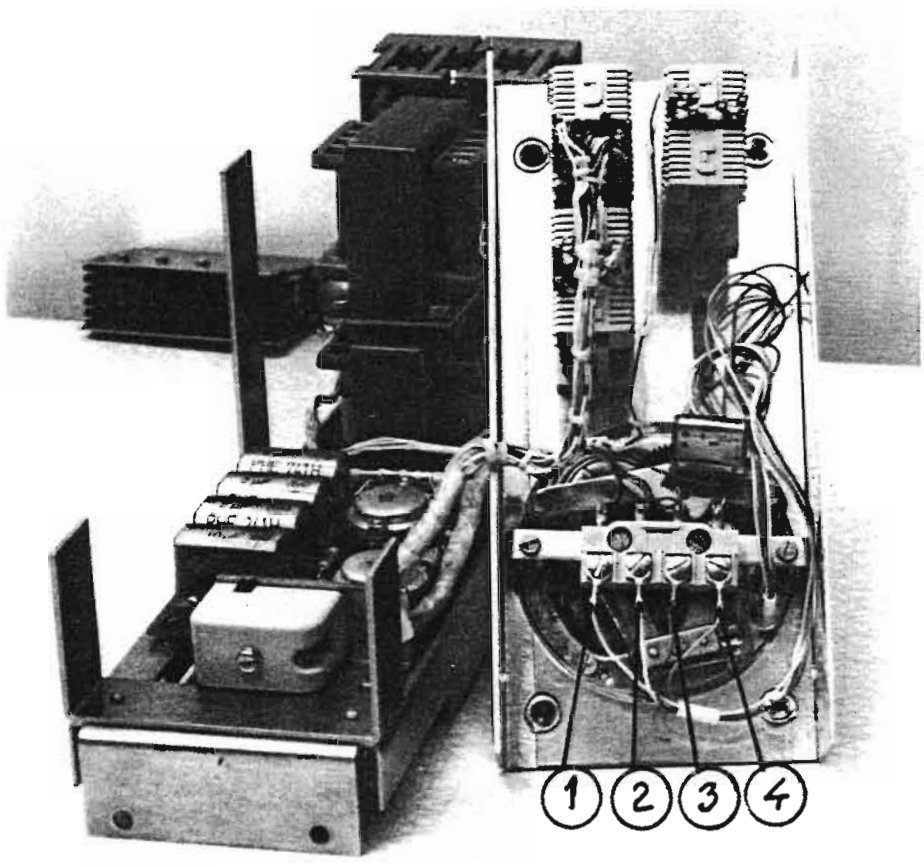


2 Unscrew the two front plates and the cover plate at the rear.



3 Screw the handset holder in place on the left-hand side of the switchboard. Use the following components which are to be found in subset ABZ 151 02.

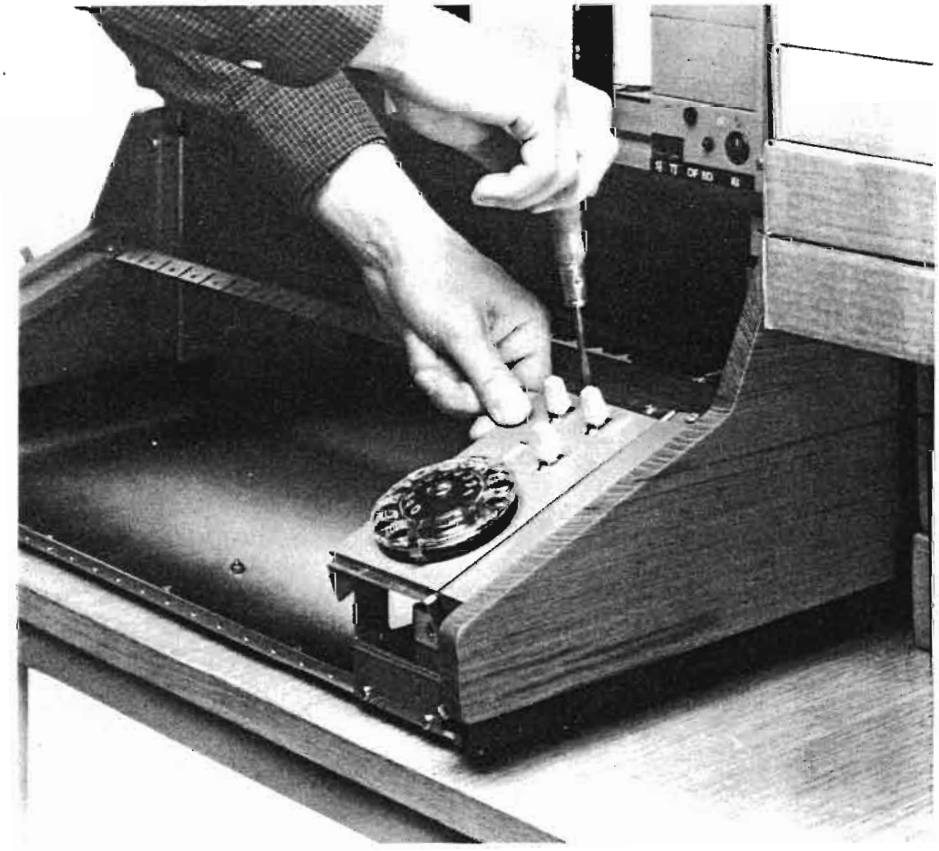
2 screws 03/SBA 138 040/0250
2 washers SCA 231 04
2 nuts SBM 146 040/03



4 A switchboard equipped with CB junction lines shall be provided with a dial as follows:

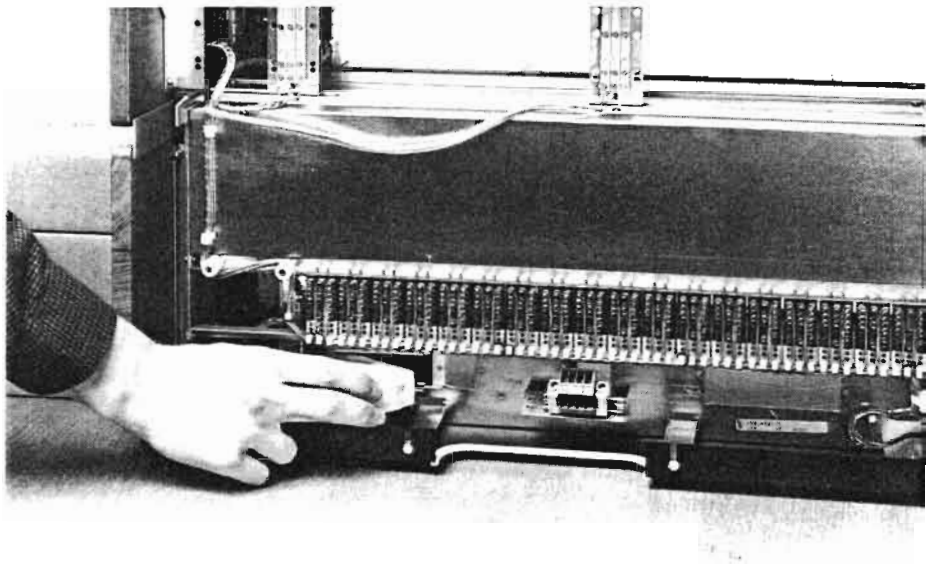
Remove the cover plate on position set BEK 251 and mount the dial.

1 = yellow
2 = white
3 = red
4 = blue

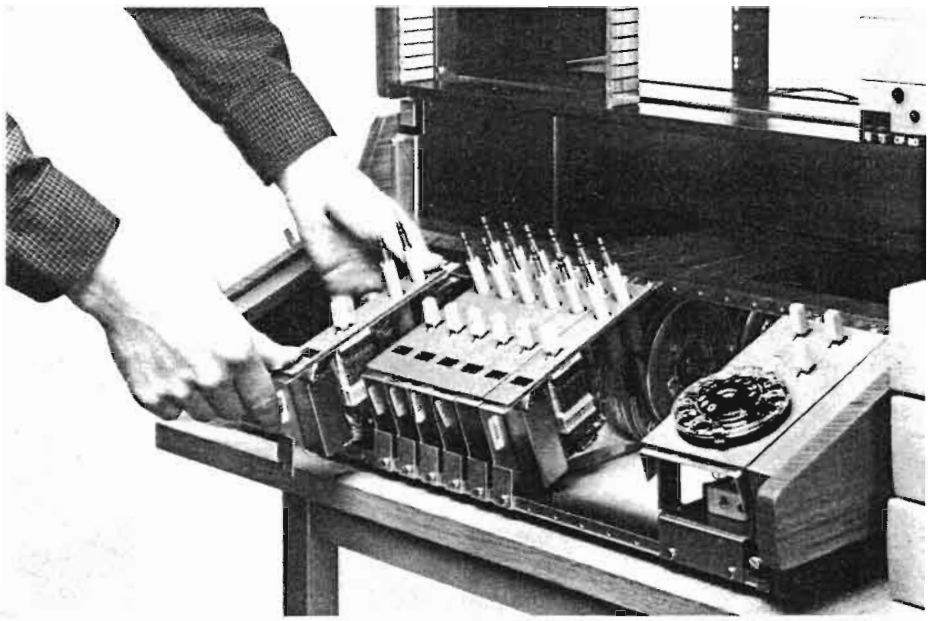


5 Mount position set BEK 251 on the right-hand side. Push the unit's cable with its connection plug through the outlet in the metal wall at the back. Screw the bottom screws in place first, then the top ones.

Use 4 screws 03/SBA 138 040/0060.

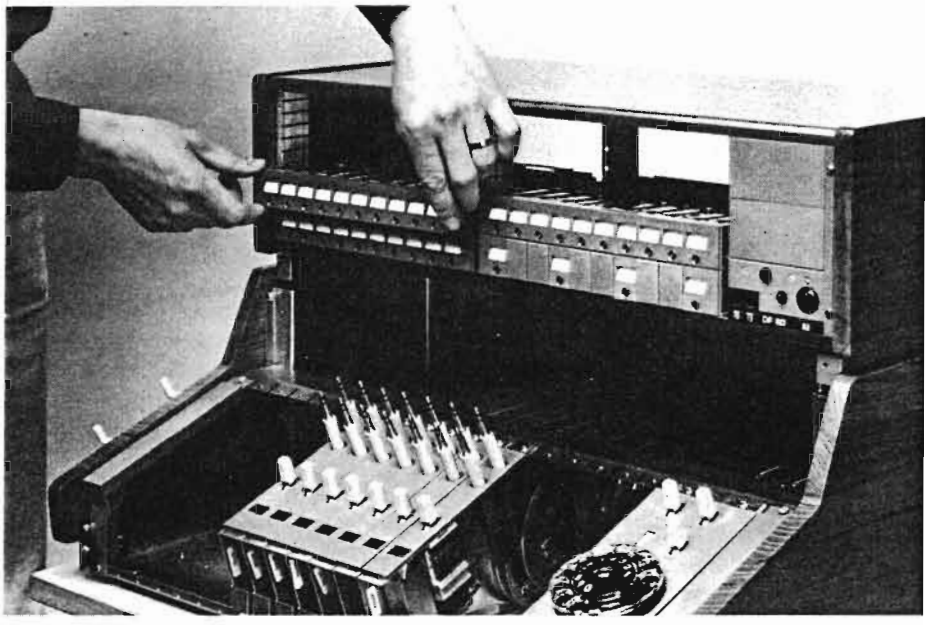


6 Plug in the plug of the position set into the jack terminal at the rear.

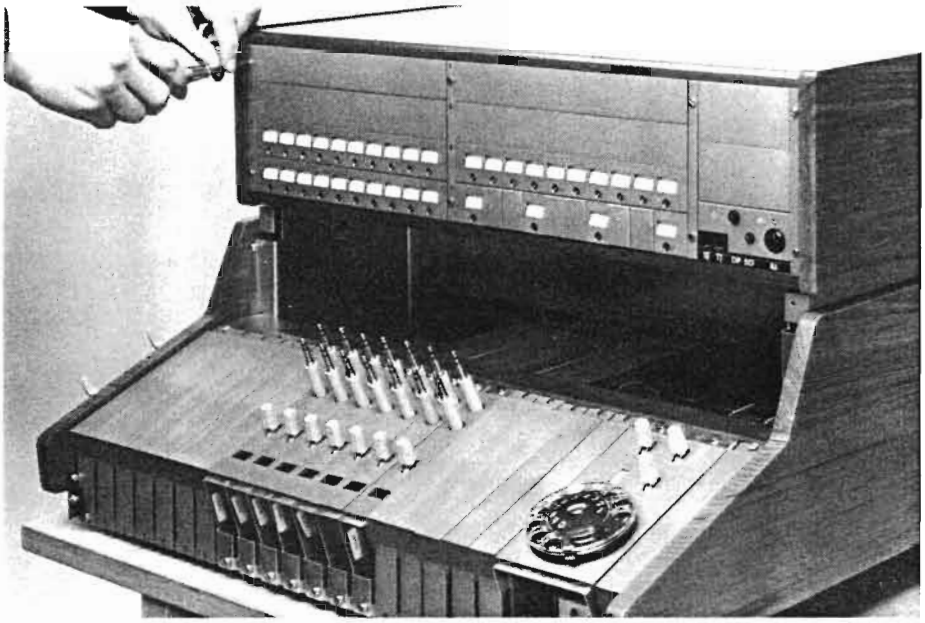


7 Push in the cord-pair units BEH 301 into their positions. Use the middle positions when the maximum number of cordpair units are not to be installed. Screw on the units fastening the lower screws first.

Use 2 screws 03/SBA 138 040/0060 for each unit.



8 Line units BEF 602 are installed in the line fields beginning at the lowest position.

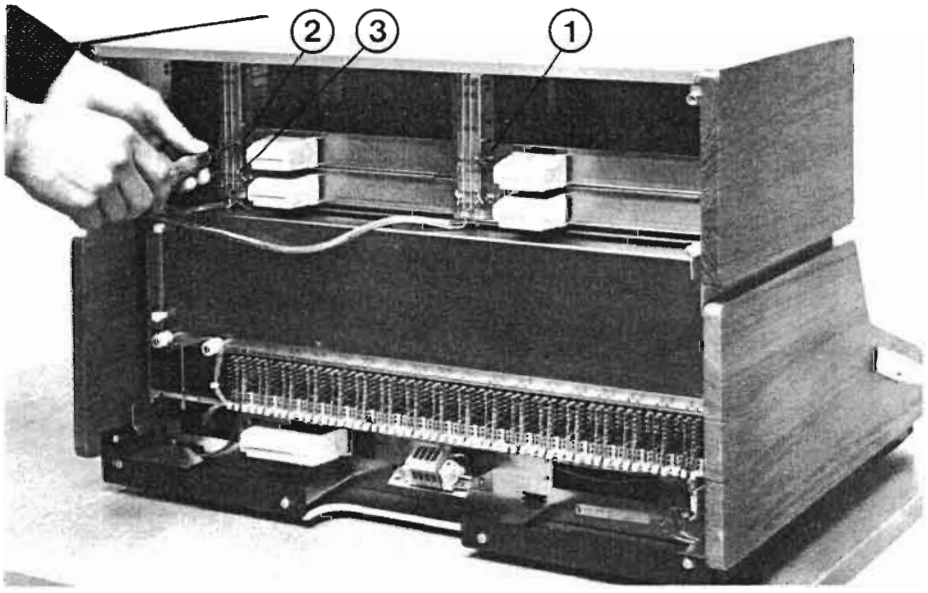


9 Fit cover strips 957 744/12 in positions where there are no line units. Fasten the fixing plates with 2 screws 05/SBA 139 030/0180 in each.

Fit cover strips 987 816 in positions where there are no switching units. Fasten the bottom screw before the top one.

Use 2 screws 03/SBA 138 040/0060 for each cover strip.

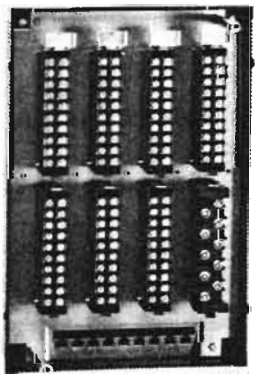
Screw on the two front plates again.

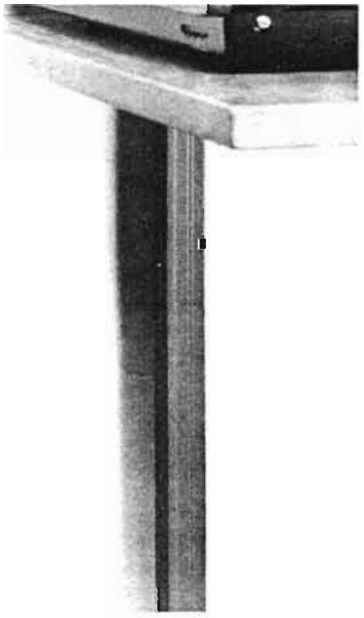


10.1 Fasten the line units at the back with 2 screws 03/SBA 131 040/0050 per unit (delivered with each unit).

10.2 Connect the feed wires of the line units to the contact bars. The wires are connected according to colour, e.g. red to + and green to P.

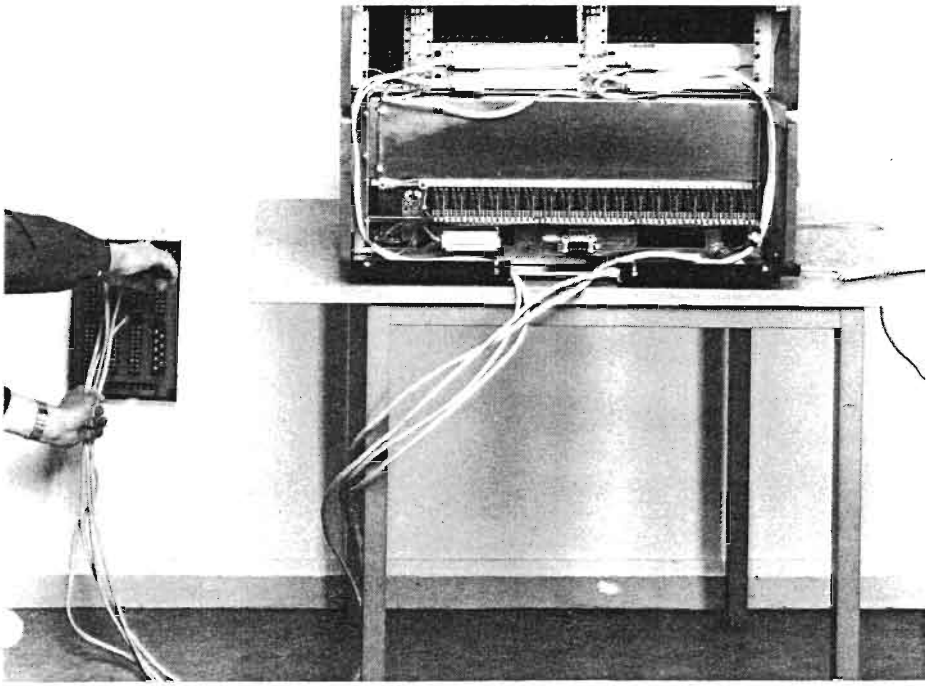
10.3 The junction line units also have a blue wire which is to be connected to the centre (negative) bar.





11.1 Mount terminal box NEF 442 on the wall or any other suitable place near the switchboard.

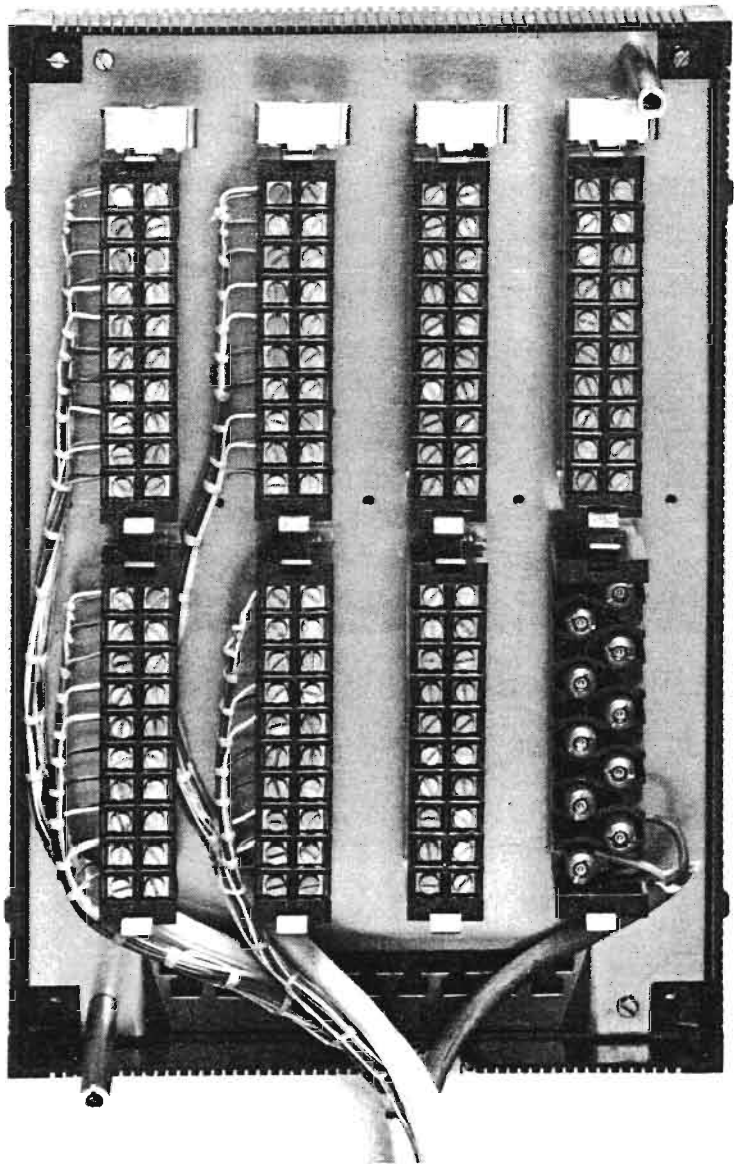
11.2 Substitute one of the terminal blocks NEM 1411 with a terminal block for power connection NEN 5531.



12.1 Measure up cables of EKKX 10x2x0.5 or 4x2x0.5 type (or equivalent types) from each line unit for magneto lines and junction lines to the box.

12.2 The respective cables should be measured from their positions in the left or right compartment. See section 8 for placement of the units for magneto and junction lines.

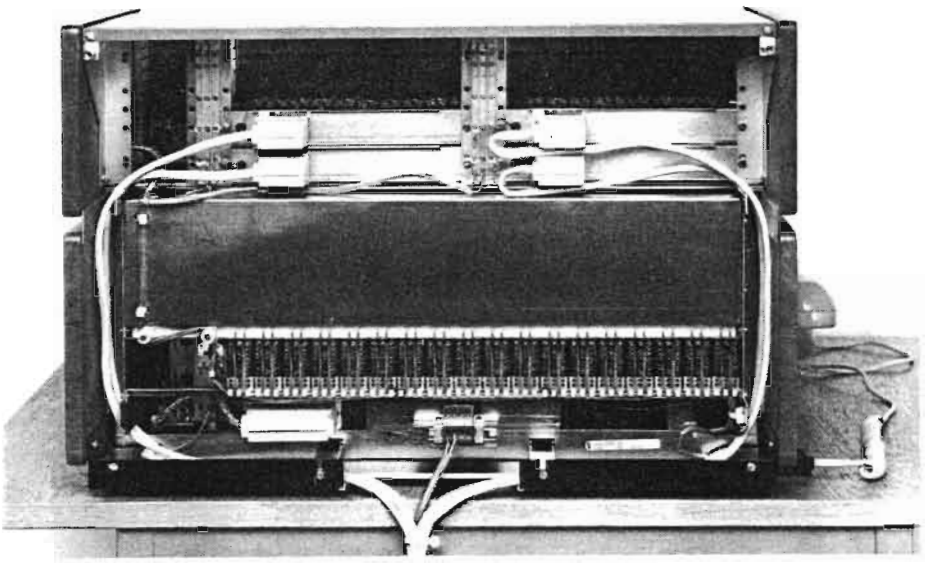
12.3 Remove about 30 cm of the cable sheath, form the cable and solder it to the respective 20-point connector of the line unit for magneto and junction lines. The forming is most conveniently done on a cable-end formboard in accordance with the diagram on page 10.



13.1 Measure up and connect a 2x1.5 mm² power cable between terminal block NEN 5531 and the switchboard's terminal block for power supply.

The cabling between the connection box and the power source is to be dimensioned bearing in mind the cable length. 2x1.5 mm² is recommended for distances up to 20 m.

13.2 Form and connect cables between the switchboard's line units and the soldering side of terminal block NEM 1411 as well as cables between the cable-side of the network (MDF) and the screw-side of the respective terminal blocks. Use cable-end formboards with a layout as in the diagram on page 10.



14.1 Gather into a unit all the cables from the connection box to the switchboard and fix them with a clamp at this point.

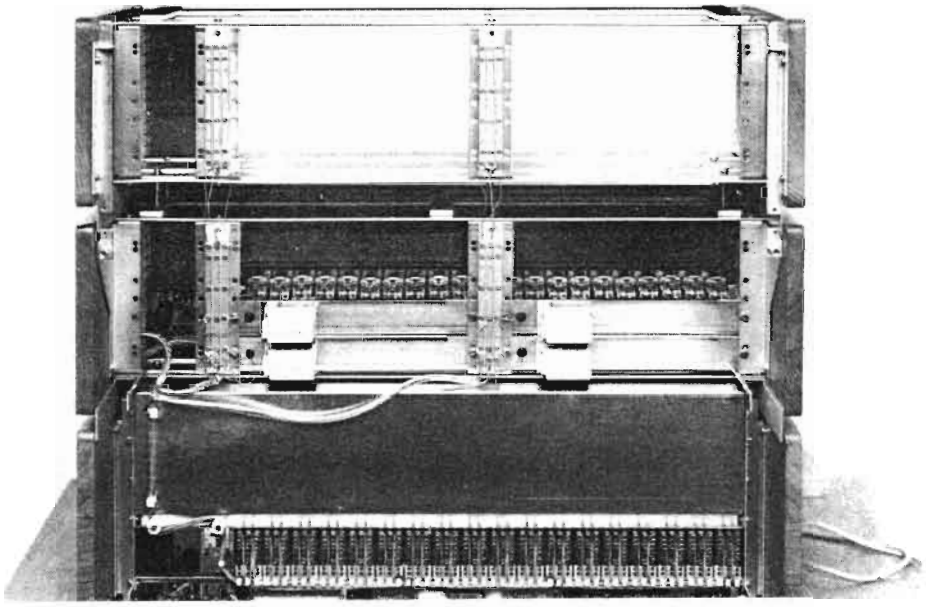
14.2 Plug in the cables for magneto and junction lines to the respective unit.

14.3 Connect the power cable to the terminal block.

An extension bell, KLD 1303, may also be connected to the terminal block (EB).

Replace the back cover plate.

Extension with an extra line box

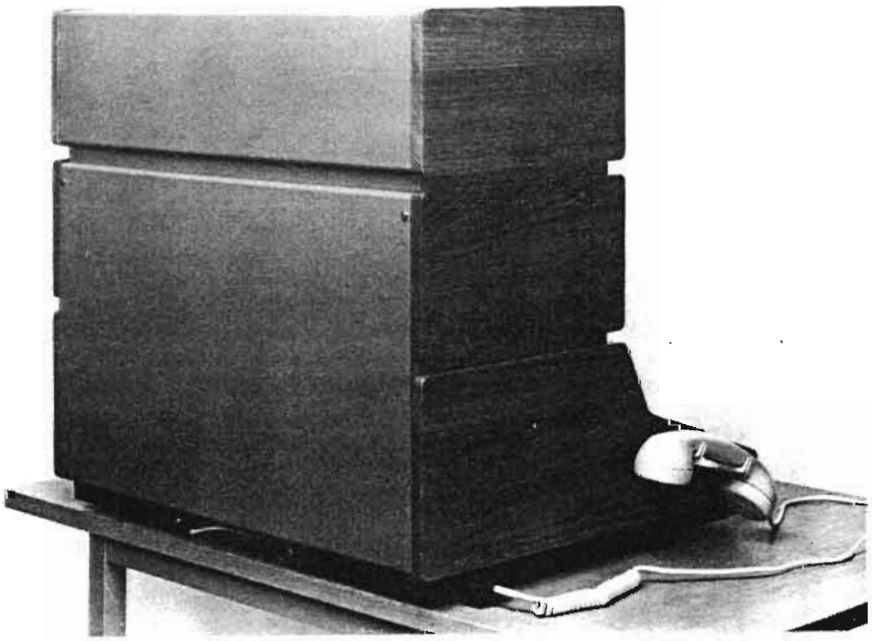


15.1 If there is a need for more lines, a second line box is installed on top of the first one.

15.2 Remove the top cover of the existing line box and screw the extra line box on top of it with 4 screws 03/SBA 186 040/0350. The holes for these screws are in the transverse bars of the bottom line box. If the holes are already occupied by screws threaded in from underneath, these should be removed. Note that the transverse bars must be fastened by 2 screws each from underneath.

15.3 Screw the top cover onto the new line box.

15.4 Connect the wiring for the connection bars between the two line boxes. The wires should be connected according to colour, i.e. red to +, blue to -, and green to P.

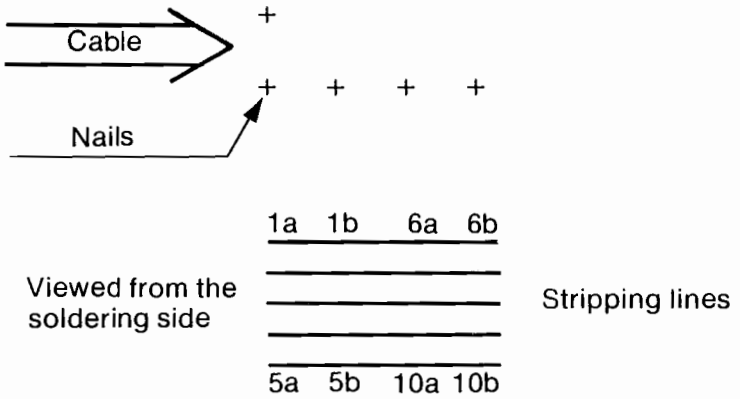


16 The complete switchboard with an extra line box.

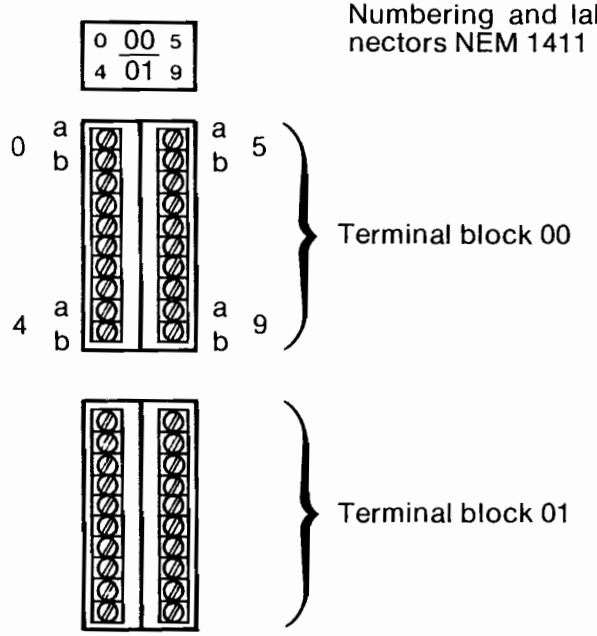
Cable formboard for 20-point plug

Place the drawing on a board and drive nails through it at each of the points marked +. The heads of the nails should be left projecting about 30 mm to produce a cable formboard.

Remove about 20 cm of the cable sheath, place the cable at the arrow and lay it at the nails. Form it at each nail, cut it - strip it and connect it - and solder it to the connector.



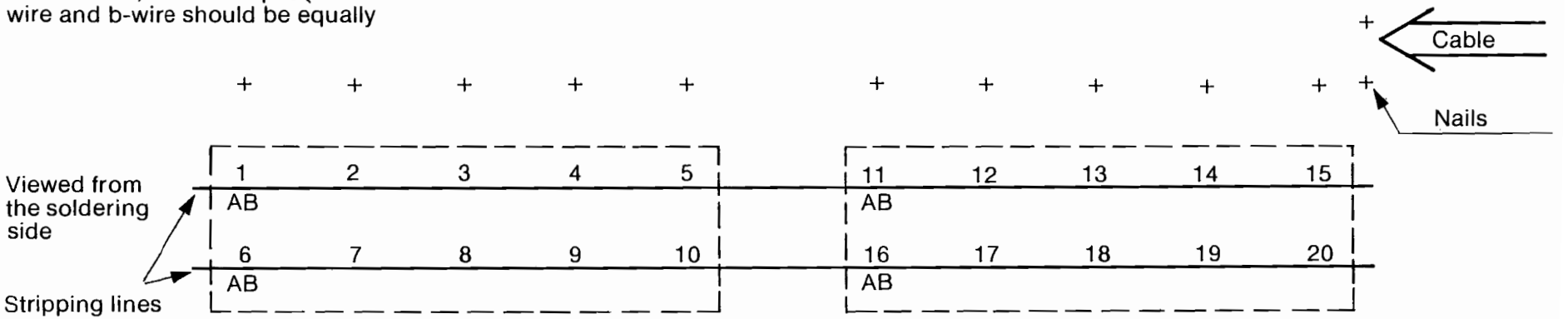
Numbering and labelling of connectors NEM 1411



Cable formboard for NEM 1411 terminal blocks

To be formed directly through the drawing onto a board. Remove about 30 cm of the cable sheath, place the cable at the arrow and lay it at the nails. Form the cable at each nail, cut it - strip it (the a-wire and b-wire should be equally long), connect it - and solder it to the NEM 1411 terminal blocks.

NOTE! When the cables are connected they shall be placed as on the formboard and with the terminal block turned towards the cables.



Upprättad - Prepared	Fakta ansvarig - Subject responsible	Nr - No.	
1976 PJ/X/Itp HFL	X/ItpC		X/I 1532-749 Ue
Dokumentansvarig/Godkänd - Document responsible/Approved		Datum - Date / Rev	File. STAKO
X/It		1976-05-31 / A	ABJ 101

Benämning

Title

SUBSCRIBER'S EXCHANGE ABJ 101
Functional test

CONTENTS

Datum

Revisor

F 3241/1 M

Nr - No.
X/I 1532-749 Ue
Datum - Date | Rev | File, STAKO

1. GENERAL

The present instruction is designed to form a basis for final control of delivered exchange equipment, type ABJ 101.

The test is tabulated where a certain activity will release a reaction described in the test. In doing this a methodical examination is made possible of the various possibilities provided by the exchange at the same time as the testing process can be readily interrupted should some possible fault be encountered.

2. PRIOR REQUIREMENTS

The exchange is mounted in accordance with its installation instruction, X/I 1531-280.

The marking of the exchange should be concluded.

3. AIDS

Quantity	Name
2	Lines to local exchange.
1	telephone set including dial or similar.
2	telephone sets including hand generator or ringing key.

4. SET-UP

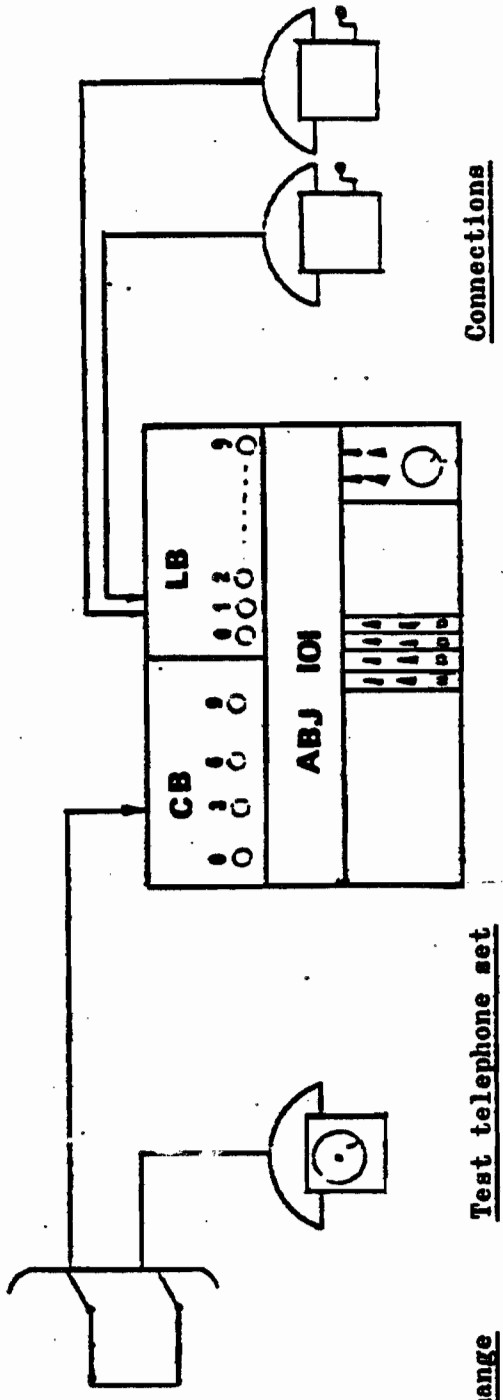
Connect two telephone sets with hand generator or ringing key to the block for the two first inlets for connections to the subscriber exchange. Located at BEF 60201.

Connect one line from the local exchange to the first inlet on the block for the central lines to the subscriber's exchange. Located at BEF 60202.

Another telephone which is connected directly to the local exchange operates as terminal for traffic to and from the public network.

See fig. on page 3.

Nr - No.		X/I 1532-749 Ue
Datum - Date	Rev	Fils. STAKO



5. METHOD

Check that the equipment does not show any damage from transportation and that buttons, switches and cords as well as dials are operating satisfactorily.

Connect the 6 V voltage.

If the voltage is to be taken from a dry cell battery, tags 16 and 18 on ROA 120119 should be strapped.

Sub-paragraph	Action	Check
1	Plug in cord AP for the first cord pair equipment in jack TJ	
2	Manipulate switch SK	Click is heard in the earphone
3	Bend and wiggle the cord	If clicks are heard in the earphone loose contact exists in the cord.
4	Reset the switch	Click is heard in the earphone.
5	Remove cord AP	
6	Plug in cord BP for the first cord equipment in jack TJ.	
7	Throw switch SK	Click is heard in the earphone
8	Bend and wiggle the cord	If clicks are heard in the earphone, loose contact exists in the cord.
9	Reset switch SK	Click is heard in the earphone
10	Remove cord BP.	
11	Repeat the test with regard to other cord pairs	
12	Throw lever switch NB	
13	Transmit call from the telephone set connected to the first inlet	CI position 0 is shown and a buzzer tone is heard

Sub-paragraph	Action	Check
14	Plug in cord AP to pos. 0.	The buzzer tone stops making a sound and the CI drop indicator shutter disappears
15	Plug in cord RP to pos. 1.	
16	Throw lever switch SK-RK into pos. RK	Ringing signal is heard in the telephone set connected to inlet 2 until RK is released. RI shows white panel field.
17	Throw lever switch SK-RK into pos. SK	The hand set is connected to the wiring between telephone set 1 and 2. The white panel field in RI will disappear.
18	Throw lever switch SA-SR into pos. SA.	The operator's connection with telephone set 2 is insulated. The speech connection with telephone set 1 exists.
19	Throw lever switch SA-SR into pos. SR.	The operator's connection with telephone set 1 is insulated. The speech connection with telephone set 2 exists.
20	Reset lever switch SK	The operator's connection with the subscribers disappears. The connection between telephone set 1 and 2 still exists.
21	Terminate the connection with telephone 1 which should transmit clearing signal.	SI in the cord unit is shown. Buzzer tone is heard
22	Throw lever switch SK-RK into pos. SK	SI in the cord unit disappears. The buzzer tone stops making a sound.
23	Dismount the cord pair	

Sub-paragraph	Action	Check
24	Reset NB and SK-RK	
25	Move the telephone sets 1 and 2 to the two following inlets.	
26	Transmit call from telephone set 1.	CI is thrown
27	Plug in cord AP to the inlet calling	CI is reset.
28	Plug in cord RP to the inlet that telephone set 2 is connected with	
29	Throw the lever switch SK-RK into pos. RK.	Ringing signal is heard in telephone 2 and RI is showing white panel field until RK is released.
30	Throw the lever switch SK-RK into pos. SK.	The handset has connection with telephone set 2.
31	Reset the lever switch SK-RK	The connection disappears.
32	Terminate the connection with telephone set 1 transmitting clearing signal	SI is shown in the cord unit
33	Throw lever switch SK-RK into pos. SK	SI disappears
34	Reset SK	
35	Remove the cord pair	

Sub-paragraph	Action	Check
36	Execute sub-paragraphs 25-36 until all inlets have been tested.	
37	Take next cord pair and execute sub-paragraphs 26-35 and 37 until all cord pairs have been tested	
38	Transmit call from telephone set 1	CI is thrown
39	Plug in cord AP into cord pair 1 towards the inlet calling.	CI is reset
40	Plug in cord RP into cord pair 1 in jack SJ	
41	Transmit call from telephone 2.	CI is thrown
42	Plug in cord AP into cord pair 2 towards the inlet calling	CI is reset
43	Throw lever switch SK-RK into pos. SK for cord pair 2.	The operator must have connection with telephone set 2 at the same time as he should be able to hear telephone set 1.
44	Reset the cord pairs and the lever switch SK-RK	
45	Lower the input voltage to less than 4.8 V	

Sub-paragraph	Action	Check
46	Plug in cord pair 1 to telephone sets 1 and 2	
47	Throw the lever switch SK-RK into pos. RK.	Ringing signal should emanate to one of the telephones. RI shows white panel field and BD shows red light until RK is released.
48	Throw the lever switch SK-RK into pos. SK.	
49	Throw the lever switch RA.	Ringing signal should emanate to the other telephone. RI shows white panel field and BD shows red light until RA is released.
50	Reset the lever switches and the cord pair	
	It is possible to execute the following sub-paragraphs only if the exchange is equipped with CB-lines and dials	
51	Connect the line from local exchange to the first CB-line	
52	Take the telephone which is connected directly to the local exchange (telephone set 3) and call up the exchange	CL disconnects in the line unit for CB 0
53	Plug in cord AP to the inlet called up.	
54	Plug in cord RP to telephone set 1	

Sub-paragraph	Action	Check
55	Throw the lever switch SK-RK into pos. RK	Ringing signal in telephone set 1. RI shows white panel field until RK is released
56	Check the connection between telephone sets 1 and 3	
57	Disconnect the cord pair	
58	Throw the lever switch SK-RK into pos. SK	
59	Plug in cord RP to the CB-line connected	Dial tone is heard
60	Dial the number to telephone 3 using the dial	Ringing signal in telephone 3 Ringing control tone at the operator's.
61	Remove the handset on telephone 3	Check the speech connection between telephone 3 and the subscriber exchange
62	Disconnect the cord and replace the handset on telephone 3.	
63	Reset the lever switch SK-RK	
64	Move the connection of the local exchange to the next CB-inlet	
65	Execute subparagraphs 52-64 until all CB-inlets have been tested.	

X/AdhC 76-10-17 S. Siljeström | 1:1 | | 1301- RTA 2003 | 1

Benämning
SNÖRVINDA

Title
CORD WINDER

Artikelspecifikation

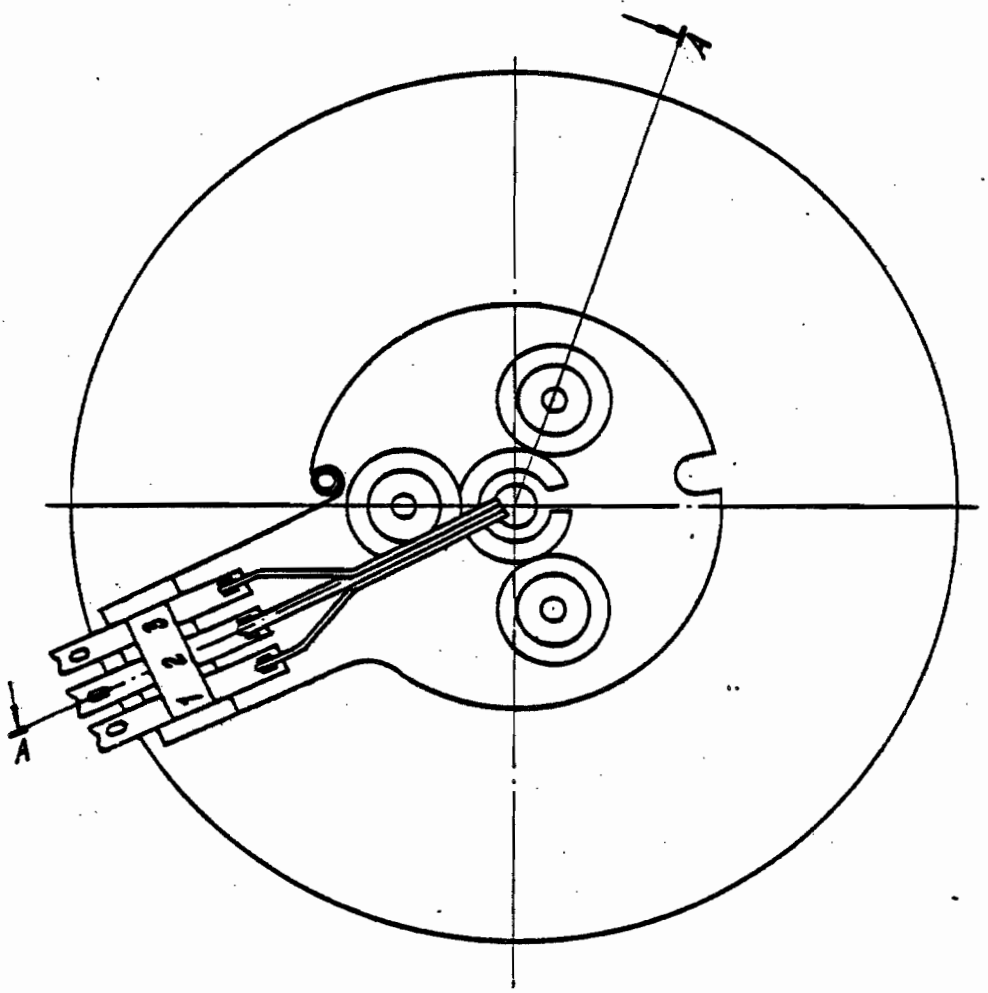
Article specification

Ritningsregler och symboler 1011-386 | Toleranser

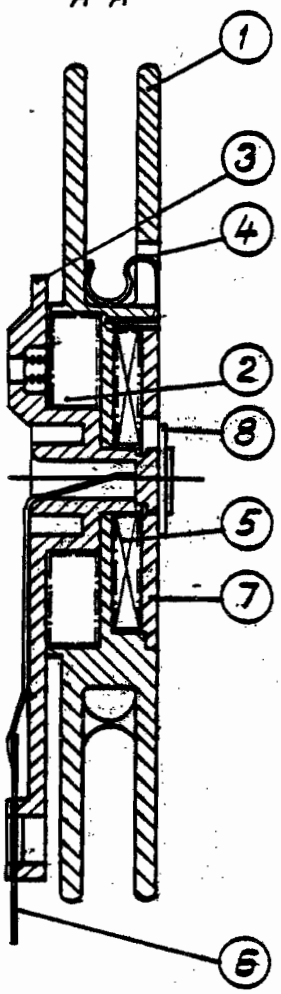
Drawing rules and symbols 1011-386 | Tolerances

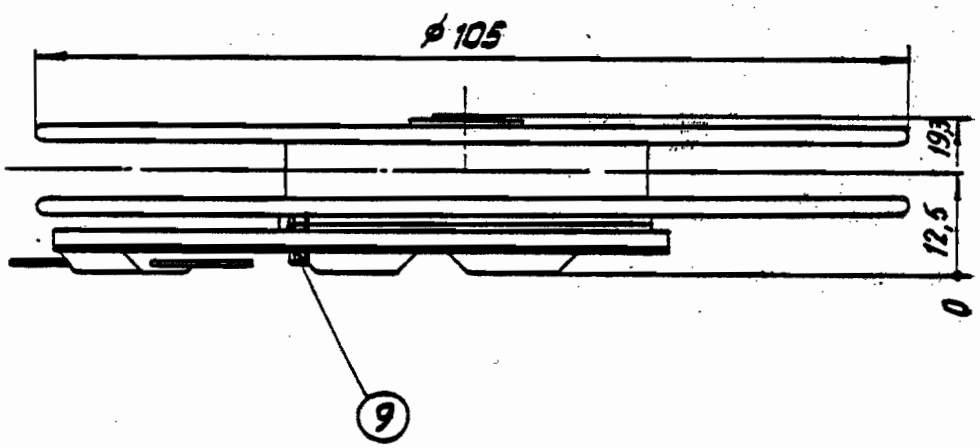
Ersätter-Replaces
TA 2001
2002

Kons.-Rev.
A
B 80-01



A-A





Artikelnr.
Spec.
Article code
Spec.
RTA 2003

Change of cord in the units BEH 301, BEH 600 and BEH 601
The cord winder RTA 2003 exists in two variations:

1. With a notch in the hub at A.
2. With notches in the hub at A and B.

Cambio del cordón de los dispositivos BEH 301, BEH 600 y BEH 601
La devanadera RTA 2003 existe en dos variantes:

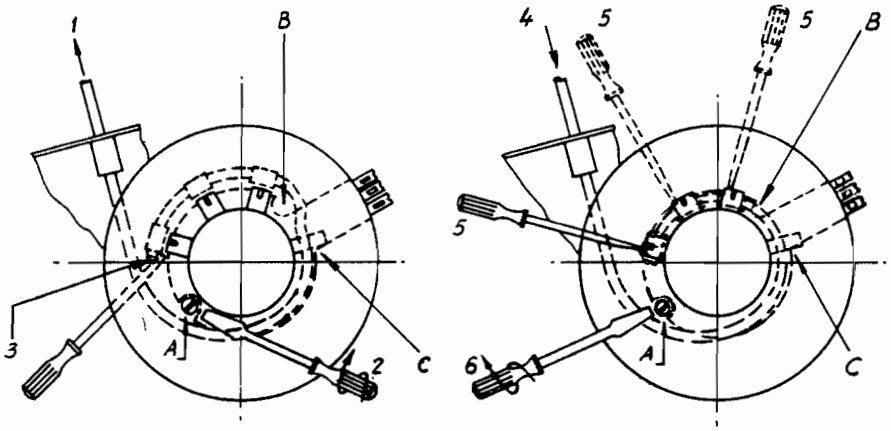
1. Con muesca junto al cubo en A.
2. Con muescas junto al cubo en A y B.

Changement de cordon des dispositifs BEH 301, BEH 600 et BEH 601
L'enrouleur de cordon RTA 2003 existe en deux versions:

1. Avec encoche sur le moyeu en A.
2. Avec encoches sur le moyeu en A et en B.

Byte av snöre i aggregat BEH 301, BEH 600 och BEH 601
Snörvindan RTA 2003 finns i två varianter:

1. Med urtag i navet vid A.
2. Med urtag i navet vid A och B.



Change of cord – Cambio del cordón – Changement de cordon – Byte av snöre

1. Pull out the defective cord until the screw seen on top of the winder comes opposite any of the notches at A or B. (The notches are seen through the winder.)

   Tírese del cordón defectuoso hasta que el tornillo visible en la parte superior de la devanadera quede enfrente de una de las muescas en A o B. (Las muescas se ven a través de la devanadera.)

   Dérouler le cordon défectueux jusqu'à ce que la vis, visible sur la partie supérieure de l'enrouleur, soit juste en face d'une des encoches A ou B. (On voit les encoches à travers l'enrouleur.)

   Dra ut det defekta snöret tills den på vindans ovansida synliga skruven kommer mitt för något av urtagen vid A eller B. (Urtagen syns genom vindan.)

2. Screw home the screw. The winder is now locked to prevent damage of the retracting spring when changing the cord.

   Atorníllese el tornillo hasta el fondo. La devanadera queda ahora bloqueada para impedir que el resorte de retroceso se dañe al hacerse el cambio del cordón.

   Serrer la vis jusqu'au fond. L'enrouleur est bloqué pour que le ressort de rappel ne

soit pas endommagé pendant que l'on change le cordon.

Skruva i skruven till bottenläge. Vindan är nu låst för att förhindra att returfjädern skadas i samband med snörbytet.

3. Loosen the cord with the aid of a screw driver or similar and pull it away from the winder. Be careful with the contact clips!

   Suéltese el cordón mediante un destornillador o similar y retírese de la devanadera. ¡Téngase cuidado con las grapas de contacto!

   Détacher le cordon avec un tournevis ou autre outil semblable et le dégager de l'enrouleur. Faire attention aux bornes!

   Lossa snöret med hjälp av skruvmejsel eller liknande och dra bort det från vindan. Akta kontaktklämmorna!

4. Insert the new cord through the plug tub of the unit and through the hole in guide C.

   Introdúzcase el nuevo cordón por el tubo de la clavija del dispositivo y a través del agujero de la guía C.

   Faire passer le nouveau cordon par la douille de la fiche et à travers le trou de la butée C.

   För in det nya snöret genom aggregatets propprör och genom hålet i klack C.

5. Press the cord into the contact clips.

   Fíjese el cordón en las grapas de contacto.

   Fixer le cordon dans les bornes.

   Tryck fast snöret i kontaktklämmorna.

6. Slacken the screw until the head is on the same level as the upper side of the winder.

   Aflójese el tornillo hasta que su cabeza esté al mismo nivel que la parte superior de la devanadera.

   Desserrer la vis jusqu'à ce qu'elle soit sur le même plan que la face supérieure de l'enrouleur.

   Skruva upp skruven till huvudet är i plan med vindans översida.

The winder can now retract the cord and the unit is ready for use.

La devanadera puede ahora arrollar el cordón y el dispositivo queda listo para su uso.

Le cordon s'enroule alors sur la bobine et l'enrouleur est prêt à être utilisé.

Vindan kan nu dra in snöret och aggregatet är färdigt för användning.

Ericsson

Benamning - *Name*

KRETSSCHEMA - *CIRCUIT DIAGRAM*

Beskrivning - *Description*

No.	Blad - *Sheet*
1551-7587 Ue	1 (8)
System: Magneto	Datum - *Date*: 72-08-15
Godkänd - *Approved* (tjst, namn): X/YmtC A Kristel	Korr. - *Rev.*

BESKRIVNA KRETSSCHEMAN - *DESCRIBED CIRCUIT DIAGRAMS*

Kretsschema nr *Circuit diagram no.*	Artikelnr *Code*	Beteckning *Designation*	Kretsschema nr *Circuit diagram no.*	Artikelnr *Code*	Beteckning *Designation*
1 975077	ABJ 10101	Magneto switchboard	6		
2			7		
3			8		
4			9		
5			10		

BESKRIVNINGENS KORR. - *REV. OF THE DESCRIPTION*

Korr.datum *Rev. date*	Bokstav *Letter*	Berörd artikel *Concerned code*	Upplysningar - *Information*

BILAGEFÖRTECKNING - *LIST OF ENCLOSURES*

Benamning - *Name*	No.	Benämning - *Name*	No.
1 Circuit diagram	975077	4	
2		5	
3		6	

Upplysningar - *Information*

Översättning	Andra utgåvor	Upprättad (tjst, sign.)	Kontrollerad (tjst, sign.)
bd	Usv, Usp, Uf	X/YmtC Kri	

F 3222 b/M

CONTENTS :

1. MAGNETO TRAFFIC

1.1 Call

The subscribers call the switchboard by means of their hand generators or ringing-buttons in which case ringing current is transmitted over the line to the switchboard.

Each subscriber line terminates in the line unit BEF 60201 of the switchboard and is connected to a drop indicator CI. The ringing current generated in the telephone set makes the indicator drop.

1.2 Answering of a call

A free cord pair is selected, the speaking key SK is thrown and the answering plug AP is inserted in the line jack J of the calling subscriber.

At the plugging-in, the drop indicator is automatically restored and at the same time it is disconnected from the subscriber line. The connection is established between the operator and the calling subscriber.

1.3 Plugging-in to the B-subscriber

The operator plugs the ringing cord RP into the jack J of the desired line. A ringing signal is transmitted by the key RK. A positive polarity is connected by this key to choke DR of the position set and the ringing generator starts. Choke DR isolates the alternating current of the oscillating circuit from the direct current source. The primary winding 1-3 of transformer TR forms an oscillating circuit, tuned to the desired frequency. Transistors Tr1 and Tr2 in the ringing generator, controlled by transformer winding 4-5, will conduct alternately. When transistor Tr1 conducts, an adjacent square-wave formed current flows through it. The current produces a periodic transient state in the resonance circuit. The voltage over the resonance circuit then becomes sinusoidal. The voltage over the non-conductive transistor Tr2 thus also becomes sinusoidal, as well as the emitter-base voltage on it.

The ringing signal from the ringing generator is connected to tags 6 and 7 in the switching set BEH 30102. Ringing current is transmitted to the B-subscriber on the ringing cord RP as long as key RB is thrown. During the ringing, the circuit of the A-subscriber is open via break-before-make contacts on RK. This prevents the A- subscriber from receiving the ringing signal in his handset.
In order that the A-subscriber should perceive the ringing, two 10-kilohm resistors are inserted over break contacts on RK allowing a passage of faint signals - ringing controle tone - to the A-side.
The ringing pilot indicator R1 operates in series with the loop of the B-subscriber thus indicating that the loop is closed and that ringing current is transmitted to the subscriber. When the ringing signal has been transmitted, the key is restored to normal position and the connection is established.

1.4 Splitting

In case the operator desires to speak to the A-subscriber only, key SA will be thrown and the B-subscriber will be disconnected. If, on the other hand, the operator wishes to speak with the B-subscriber, key SR will be thrown.

1.5 Clearing signal

During the conversation, the clearing drop indicator SI of the switching set is connected between the speech wires. When either of the subscribers rings off at the end of a call, the clearing indicator drops. The operator enters the cord pair by throwing key SK and in doing so, the operator restores the clearing drop indicator. When the operator, by listening, has made sure that the conversation is over, she can clear the connection.

2. OUTGOING EXCHANGE LINE TRAFFIC

2.1 Call from subscriber

This is analogous to par. 1.1.

2.2 Plugging-in to exchange line

If the subscriber desires to be connected over an exchange line, the operator plugs in RP to an idle exchange line jack XJ. The line loop is closed via the holding coil Dr and the call is made. If the main exchange is a CB switchboard, key SK is restored and the subscriber will be in connection with the CB switchboard and can demand the desired number. If the main exchange is automatic, the operator shall wait for the dialling tone and after that dial the desired number.

2.3 Operator dials desired number

When the operator handles the dial, relay R operates in the position set BEK 25102 and short-circuits the operator's head set during the dialling. Disturbances are avoided in this way. Also relay R in the line unit BEF 60202 operates and short-circuits the capacitors so that the dial pulses can pass on to the line. After the dialling, key SK is restored and the subscriber is now in connection with the desired number.

2.4 Call-back

Should the A-subscriber replace his hand set while the operator is dialling the desired number, the operator will call back the subscriber by throwing key RA. At this, positive polarity from contact 15/16 on key RA will be connected to choke Dr and the ringing generator starts. The ringing voltage now reaches the A-subscriber as long as RA is thrown.

2.5 Clearing signal

When the subscriber rings off at the end of a call, the clearing indicator drops, which is explained more exactly in par. 1.5.

The main exchange does not transmit any clearing signal.

3. INCOMING EXCHANGE LINE TRAFFIC

3.1 Call

An incoming call is made by means of a ringing signal from the main exchange, at which the indicator CI in the line unit BEF 60202 drops.

3.2 Operator answers the call

The speak key SK is thrown and the answering plug AP is inserted in the jack XJ of the calling line.

At the plugging-in, the drop indicator is automatically restored and at the same time it is disconnected from the line. The make contact of the jack connects the holding coil Dr via the line branches, at which the connection at the main exchange is held. The connection is established between the operator and the calling subscriber.

3.3 Plugging-in to desired subscriber

This is analogous to par. 1.3.

3.4 Splitting

This is analogous to par. 1.4.

3.5 Clearing signal

When the B-susbcriber rings off at the end of a call, the clearing indicator drops, which is explained more exactly in par. 1.5. The main exchange does not transmit any clearing signal.

4. SUPERVISION OF A LINE

When the operator has received a request for a trunk call or a local call, and has to wait for an answer, the RP-plug can be connected to jack SJ. Key SK is restored. Through this procedure the operator will be free to handle other calls. The supervised line is connected to the operator´s induction coil IC by means of transformer LTR. With this, an attenuation of about 15 dB between the supervised line and the operator will be obtained, and an attenuation of about 25 dB between the supervised line and the line with which the operator has a speech connection.

5. ACOUSTIC CALLING SIGNAL AND CLEARING SIGNAL

If the operator must leave the switchboard for a short while, key NB can be thrown. With this procedure, the buzzer BZ is connected to the make contacts of the drop and the clearing indicators. An acoustic signal is received from buzzer BZ when one of the indicators drops. The signal remains until the indicator is restored.

6. BATTERY TEST

If dry cells are used as power supply, it is important to know when these should be changed in order to keep the switchboard in full working condition. A voltage indicator tests the battery each time the ringing generator is connected. The ringing generator, which is the most power consuming equipment of the switchboard, serves as a load at the testing.

Make contacts on ring keys RK and RA connect a negative polarity to tag 16 in the voltage indicator when the key is thrown in order to transmit ringing current to the subscriber. Transistors Tr11 and Tr12 seize the battery voltage. If the voltage has dropped to 1.2 V per cell (4.8 V), transistor Tr11 cuts off, at which Tr12 and Tr13 conduct. In this case the light emitting diode BD shines indicating that the battery should be changed. If, on the other hand, the battery is all right, Tr11 conducts, at which Tr12 and Tr13 are cut off, thus preventing the light emitting diode from shining.

If a storage battery is used instead of dry cells, strap 1 has to be cut in the voltage indicator. Thus the voltage limit is changed so that the light emitting diode shines already at 5.3 V. It is important that the voltage of the battery of accumulators does not drop below 5.3 V, otherwise the battery is damaged.

7. CORD TEST

By plugging in the cord AP or RP to the test jack TJ, the operator will be able to establish, if there is any fault in the cord. When key SK is thrown, there is a low voltage between the a- and b-conductors of the plug, which via the cord reaches the operator's receiver. In order to check if there is no break on the a- and b-conductors of the cord, key SK is thrown and restored a few times. If there is no break on any conductor, the resistance is changed in the formed D.C. loop when key SK is thrown and restored. In this case clicks can be heard in the telephone receiver.

Even if these tests do not prove any break on the conductors of the cords, loose contacts may occur causing disturbances on a speech connection. In order to check this as well, bend the cord when key SK is thrown. Any loose contacts that may occur are revealed as clicks in the telephone receiver.

8. SYMBOLS

Line unit BEF 60201

J	Jack for magneto line
CI	Drop indicator for magneto line

Line unit BEF 60202

XJ	Jack for exchange line
CI	Drop indicator for exchange line
ROA 119092	Line unit
R	Relay for through-impulsing
Dr	Hand generator

Switching set BEH 30102

AP	Answer cord
RP	Ringing cord
SK	Speak key
RK	Ring key
SI	Clearing drop indicator

Position set BEK 25102

NB	Key for night buzzer
BZ	Buzzer
D	Dial
SR	Splitting key (call over ringing cord)
SA	Splitting key (call over answer cord)
RA	Ringing key for answer cord
TR	Transformer for the ringing generator
DR	Choke for ringing generator
R	Dial relay
ROA 120120	Transformer unit for IC, LTR, CA
IC	Induction coil
LTR	Listening transformer
CA	Shock absorber
ROA 120119	Voltage indicator
ROA 119099	Circuit for ringing generator

ROA 119099 TR and DR form the ringing generator of the switchboard

Wiring unit BEB 40201

EB	Extra bell
HMT	Jack for hand-microtelephone

Control unit

SJ	Supervisory jack
TJ	Test jack for cords
RI	Ringing pilot indicator
BD	Light emitting diode for battery fault
DF	Automatic fuse

Miscellaneous

M	Microphone
R	Receiver

CB UNIT

	CB1 1a	CB1 1b	RES 6a	RES 6b
	CB2 2a	CB2 2b	RES 7a	RES 7b
	CB3 3a	CB3 3b	RES 8a	RES 8b
	CB4 4a	CB4 4b	RES 9a	RES 9b
	RES 5a	RES 5b	RES 10a	RES 10b

10 x 2

VD H

CB1 1a	RES 6a	
CB1 1b	RES 6b	
CB2 2a	RES 7a	
CB2 2b	RES 7b	
CB3 3a	RES 8a	
CB3 3b	RES 8b	
CB4 4a	RES 9a	
CB4 4b	RES 9b	
RES 5a	RES 10a	
RES 5b	RES 10b	

LB UNIT

	LB1 1a	LB1 1b	LB6 6a	LB6 6b
	LB2 2a	LB2 2b	LB7 7a	LB7 7b
	LB3 3a	LB3 3b	LB8 8a	LB8 8b
	LB4 4a	LB4 4b	LB9 9a	LB9 9b
	LB5 5a	LB5 5b	LB10 10a	LB10 10b

10 x 2

VD H

LB1 1a	LB6 6a	
LB1 1b	LB6 6b	
LB2 2a	LB7 7a	
LB2 2b	LB7 7b	
LB3 3a	LB8 8a	
LB3 3b	LB8 8b	
LB4 4a	LB9 9a	
LB4 4b	LB9 9b	
LB5 5a	LB10 10a	
LB5 5b	LB10 10b	

VD H

DE UNITS KUNNEN OOK RECHTSTREEK OP VD H AANGESLOTEN WORDEN

vertrouwelijk

Uitg.	Datum	Par.	Uitg.	Datum	Par.
	25.3.82	J2			

GOEDGEKEURD CHEF TKK

TFC

TELEFOONCENTRAALPOST.

ERICSSON TYPE ABJ 101

PTT CATE | FORMAAT 1 | TFW 51 K1

Ericsson LM

Godkänd-Approved X/YmtC 1972-03-01 Abuirkel | Scale | STAKO | File | No. 975077 | Sheet

Benämning
TELEFONVÄXEL LB
typ ABJ 10101
Kretsschema

Title
MAGNETO SWITCHBOARD
type ABJ 10101
Circuit diagram

Konstr.
Kop. MH
Normgr. | Uppgj. Kri.
Mat.gr. | Kontr.
1st angle projection
Uppgjord för-Made for
Ersätter-Replaces

Ritningsregler och symboler | Toleranser | Drawing rules and symbols | Tolerances

Korr.-Rev.	
A	74-02-04
B	78-01-10
C	82-02
D	82-10

Line unit [10] BEF 60201

Line unit [4] BEF 60202

Switching set BEH 30102

Position set BEK 25102

ROA 119092

ROA 119099

ROA 120119

ROA 120120

Cb-Exchange line

Magneto line

When feeding is taken from accumulator instead of dry cell battery, strap ① is to be cut.

* Strap to be removed if dial is used

Control unit BEB 40201

Wiring unit BEB 40201

Ändra utgåvor

Isprod.

3062a/A. A3mL

EK | No. 975077 | Sheet

Ericsson

KRETSSCHEMA

CIRCUIT DIAGRAM

Uppgjord - *Prepared* 1982 LME/XF/Ymt	Faktaansvarig - *Subject responsible* XF/YmtC	Nr - *No.* ~~102 9396~~	
Dokansv/Godk - *Doc respons /Approved*		Datum - *Date* See below	Rev / File
Benämning TELEFONVÄXEL LB typ ABJ 10101		Titie MAGNETO SWITCHBOARD type ABJ 10101 Modified with Lever switch and Handgenerator	
	Toleranser - *Tolerances*	Ritningsregler - *Drawing rules*	Ref

Sheet / Rev
A 82-03
B 84-07

Line unit (10) BEF 60201

Switching set BEH 30102

Line unit [4] BEF 60202

ROA 119092

CB-Exchange Line

Control unit BD

Wiring unit BEB 402 01

OPER [ROA 219078]

Position set BEK 252 02

Dial: Turn open strap S1

S2 To be closed when feeding is taken from dry cell battery instead off accumulator

Yellow White Red Blue

Op. Tr

STr

HMT

Bildkort
012'34
56789
Reprod

LZF 030 82/F A3mL RA

Nr - No. ~~102 93 96~~ Blad - Sheet