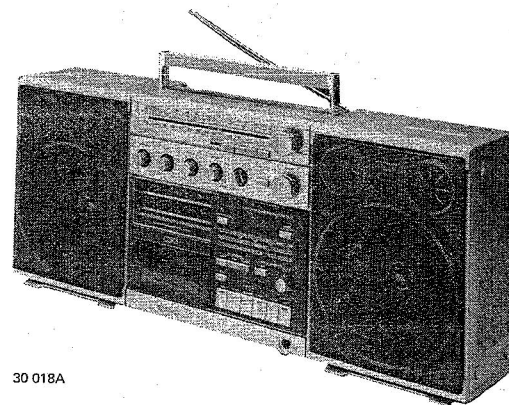
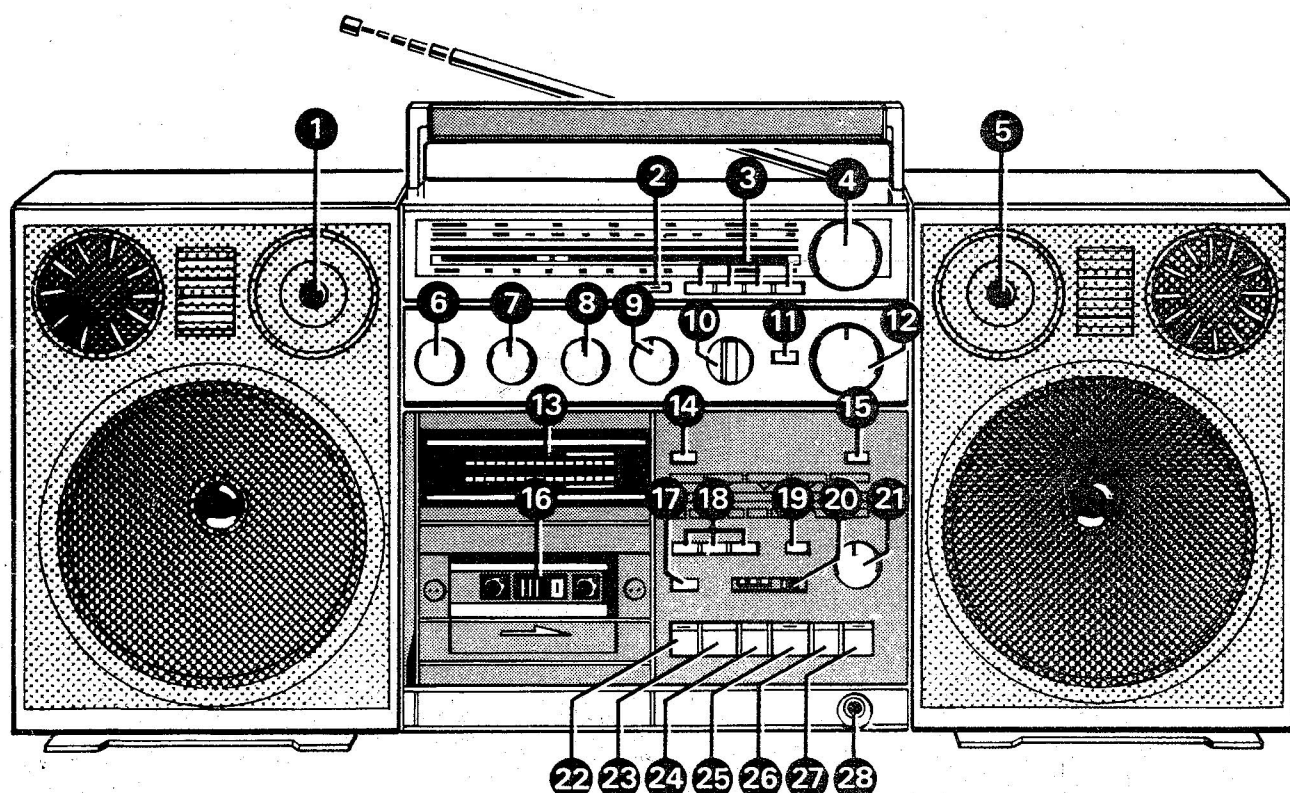


Service  
Service  
Service



30 018A

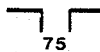
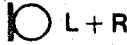
# Service Manual



30 101 A12



## CONNECTIONS AND CONTROLS

|       |                                                                                                                      |                                         |                        |    |    |                      |                         |
|-------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------------------|----|----|----------------------|-------------------------|
| 1.    |                                     | "electret mic. left"                    | Mi-1                   |    |    |                      |                         |
| 2.    |                                                                                                                      | "stereo indicator"                      | D180                   |    |    |                      |                         |
| 3.    | <table border="1" data-bbox="306 313 469 403"><tr><td>SW</td><td>MW</td></tr><tr><td>LW</td><td>FM</td></tr></table> | SW                                      | MW                     | LW | FM | "LW-MW-SW-FM switch" | SK104,SK103,SK102,SK101 |
| SW    | MW                                                                                                                   |                                         |                        |    |    |                      |                         |
| LW    | FM                                                                                                                   |                                         |                        |    |    |                      |                         |
| 4.    |                                     | "tuning"                                | C100                   |    |    |                      |                         |
| 5.    |                                     | "electret mic. right"                   | Mi-101                 |    |    |                      |                         |
| 6.    |                                     | "balance control"                       | R237                   |    |    |                      |                         |
| 7.    |                                     | "bass control"                          | R225/R275              |    |    |                      |                         |
| 8.    |                                     | "treble control"                        | R228/R278              |    |    |                      |                         |
| 9.    | mono-stereo-spatial stereo                                                                                           | "stereo control"                        | R236                   |    |    |                      |                         |
| 10.   | phono-aux-radio-tape                                                                                                 | "mode selector"                         | SK9                    |    |    |                      |                         |
| 11.   | loudness on/off                                                                                                      | "loudness"                              | SK8                    |    |    |                      |                         |
| 12.   |                                     | "volume control"                        | R230/R280              |    |    |                      |                         |
| 13.   | tuning meter<br>vu-meter L and R<br>battery check<br>meter                                                           | "led bar"                               | D503,D553<br>D504,D554 |    |    |                      |                         |
| 14.   |                                   | "battery check switch"                  | SK21                   |    |    |                      |                         |
| 15.   |                                   | "power on/off switch"                   | SK28                   |    |    |                      |                         |
| 17.   |                                   | "eject"                                 |                        |    |    |                      |                         |
| 18.   | metal-chrome-normal                                                                                                  | "tape selector"                         | SK17,SK18,SK19         |    |    |                      |                         |
| 19.   | Aut./man.                         | "automatic/manual recording switch"     | SK20                   |    |    |                      |                         |
| 20.   | Reset                                                                                                                | "counter reset button"                  |                        |    |    |                      |                         |
| 21.   |                                                                                                                      | "recorder level L and R manual control" | R403/R453              |    |    |                      |                         |
| 22.   |                                   | "pause"                                 | SK22/D709              |    |    |                      |                         |
| 23.   |                                   | "stop"                                  | SK23                   |    |    |                      |                         |
| 24.   |                                   | "rewind"                                | SK24                   |    |    |                      |                         |
| 25.   |                                   | "play"                                  | SK25/D708              |    |    |                      |                         |
| 26.   |                                   | "fast-forward"                          | SK26                   |    |    |                      |                         |
| 27.   |                                   | "recording"                             | SK27/D710<br>SK15      |    |    |                      |                         |
| 28.   |                                   | "headphone"                             | BU13/SK13              |    |    |                      |                         |
| **30. |                                   | "FM aerial socket 75 $\Omega$ "         | BU15                   |    |    |                      |                         |
| 31.   |                                   | "externe mic. left + right"             | BU2,1/SK2,1            |    |    |                      |                         |
| 32.   |                                   | "remote control"                        | BU3/SK3                |    |    |                      |                         |
| 33.   |                                   | "earth terminal"                        |                        |    |    |                      |                         |

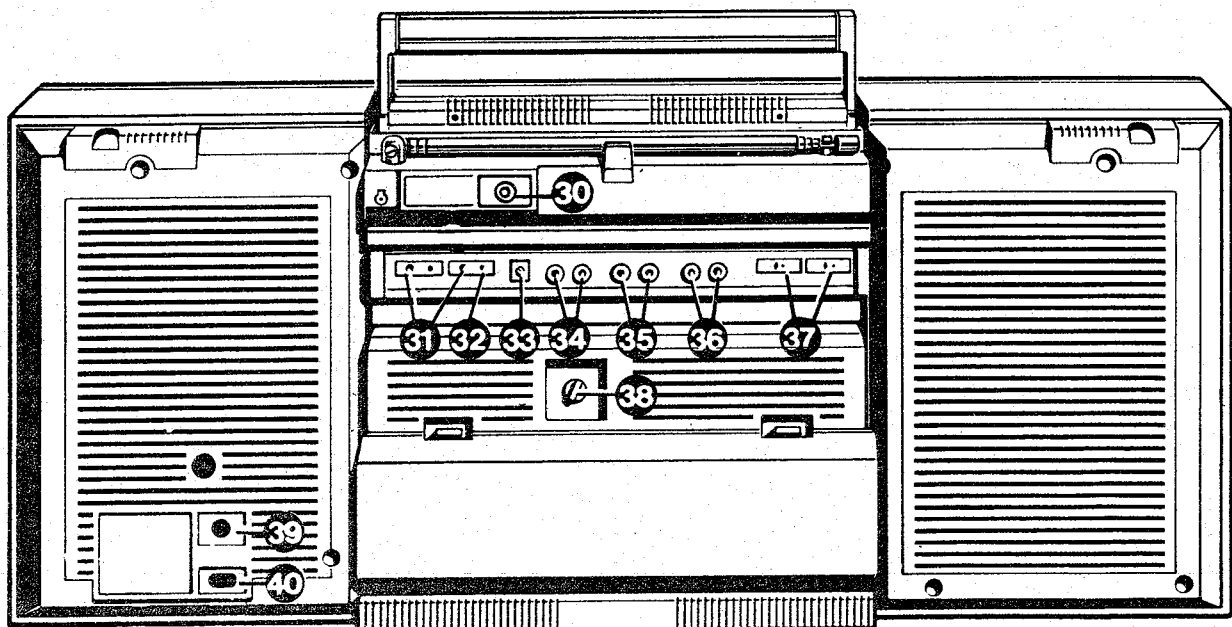
|                                                                                                                                                                                |                        |                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|
| 34.                                                                                           | "MD phono socket"      | BU5/BU4                |
| 35. AUX                                                                                                                                                                        | "aux socket"           | BU7/BU6                |
| 36.                                                                                           | "line out"             | BU9/BU8                |
| 37.  R<br> L | "ext. L.S."            | BU11/BU10<br>SK11/SK10 |
| 38. $\Delta f$                                                                                                                                                                 | "R.I.F.-switch"        | SK16                   |
| 39.                                                                                           | "external supply D.C." | BU12<br>SK12           |
| 40.                                                                                           | "mains"                | BU14<br>SK14           |

\*\* deleted for D8634/02

### SPECIFICATION

|                                                                                                                                                                         |                                                                 |                                                                                                           |                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------|
|                                                                                        | : 9-14 V DC                                                     | Wow and flutter                                                                                           | : $\leq 0.3 \%$               |
|                                                                                        | : 12 V (8x R20)                                                 | Bias frequency                                                                                            | : 72 kHz                      |
|  *                                                                                     | : 220 V 50/60 Hz<br>240 V 50/60 Hz for /05                      | Frequency response                                                                                        | Typical value<br>DIN45511     |
|                                                                                                                                                                         |                                                                 |                                                                                                           | Min. value<br>DIN45511        |
|   | 2x3.5 W - 1 dB - 4 $\Omega$ $D \leq 10\%$<br>2x5 W - 4 $\Omega$ | Metal tape                                                                                                | 50 Hz - 15 kHz 60 Hz - 14 kHz |
| IF-AM                                                                                                                                                                   | : 468 kHz $\pm 1$ kHz                                           | CrO2-tape                                                                                                 | 50 Hz - 14 kHz 60 Hz - 12 kHz |
| IF-FM                                                                                                                                                                   | : 10.7 MHz                                                      | Ferro-tape                                                                                                | 50 Hz - 12 kHz 60 Hz - 10 kHz |
| FM                                                                                                                                                                      | : 87.5 - 108 MHz                                                | Input sensitivity                                                                                         |                               |
| SW                                                                                                                                                                      | : 5.95 - 17.9 MHz                                               | Microphone                                                                                                | : 0.4 mV/2.7 k $\Omega$       |
| MW                                                                                                                                                                      | : 520 - 1605 kHz                                                | Phono dynamic                                                                                             | : 3.5 mV/47 k $\Omega$        |
| LW                                                                                                                                                                      | : 150 - 255 kHz                                                 | Phono Crystal/<br>Auxiliary/line in                                                                       | } : 150 mV/470 k $\Omega$     |
| Tape speed                                                                                                                                                              | : 4.76 cm/sec $\pm 2 \%$<br>(min. batt. voltage 8 V)            | Headphone impedance  | 8÷600 $\Omega$                |
|                                                                                                                                                                         |                                                                 | Ext. l.s. impedance  | 4÷8 $\Omega$                  |

\* 110 V - 127 V - 220 V - 240 V with service transformer 4822 146 20677



GB

## SERVICING HINT

The piezoelectric tweeter is supplied completed with a housing. However, it is not possible to remove this housing from the apparatus without causing damage to the cabinet.

For this reason, only the piezo element should be replaced, if required. To do this, proceed as follows:

- Take the piezo element out of its housing in a manner similar to the one shown in Fig. 1.
- Apply a suspension of (non-aggressive) adhesive to the periphery of the replacement piezo element.
- Place the replacement piezo element in the cabinet.

Transformer T1 is supplied in a universally applicable version suited for several different mains voltages. This universal transformer should be connected in accordance with the table in the wiring diagram.

F

## CONSEIL REPARATION

Le tweeter piézo-électrique est fourni avec son boîtier. Il n'y a cependant pas moyen d'extraire ce boîtier de l'appareil sans abîmer le grand boîtier.

Il faut donc n'enlever **que** le piézo-élément en cas de remplacement.

Procéder à cet effet comme suit:

- Extraire le piézo-élément de son cadre comme indiqué à la fig. 1.
- Appliquer tout autour de l'élément une petite quantité de colle non mordante.
- Remplacer le piézo-élément dans le boîtier.

Le trafo T1 est livré en une version universelle utilisable pour diverses tensions secteur. Ce transfo doit être relié selon le tableau sur le câblage.

I

## CONSIGLI PER IL SERVIZIO

Il tweeter piezoelettrico è fornito completo di contenitore. Infatti non è possibile togliere questo contenitore dall'apparecchio senza danneggiare il mobile.

Per questo motivo soltanto l'elemento piezo sarà sostituito, se richiesto.

Per fare ciò procedere come segue:

- Togliere l'elemento piezo dal contenitore come riportato in fig. 1.
- Applicare un po' (non molto) di adesivo al bordo dell'elemento piezo da montare.
- Mettere l'elemento piezo nel mobile.

Il trasformatore viene consegnato in una versione universale adatta per alcune tensioni rete. Questo trasformatore deve essere collegato a seconda la tabella sul cablaggio.

CS 82 876

NL

## REPARATIEWENK

De piezo-tweeter wordt geleverd met behuizing. Het is echter niet mogelijk deze behuizing uit het apparaat te verwijderen zonder de kast te beschadigen.

Daarom moet **alleen** het piezo-elementje uitgewisseld worden. Men kan hierbij als volgt te werk gaan:

- Neem het piezo-elementje uit zijn behuizing op een soortgelijke manier als aangegeven in fig. 1.
- Breng aan de omtrek van het piezo-elementje, een kleine hoeveelheid niet agressieve kleefstof aan.
- Breng het piezo-elementje weer in de kast aan.

Transformator T1 wordt in een universeel toepasbare uitvoering geleverd die voor meerdere netspanningen geschikt is. Deze universele transformator dient te worden aangesloten volgens de tabel van de bedrading.

D

## REPARATURHINWEIS

Der Kristall-Hochtonlautsprecher wird im Gehäuse geliefert. Es ist jedoch nicht möglich, dem Gerät dieses Gehäuse zu entnehmen ohne dass das Gehäuse des Geräts schadhaft wird.

Daher soll **nur** das piezoelektrische Element ausgewechselt werden. Man kann folgendermassen vorgehen:

- In ähnlicher Weise wie in Bild 1 gezeigt ist das piezoelektrische Element seinem Gehäuse zu entnehmen.
- Auf den Umfang des piezoelektrischen Elements ist eine geringe Menge - nicht aggressiven - Klebstoffs aufzutragen.
- Das piezoelektrische Element in das Gehäuse einbauen.

Transformator T1 wird in einer allgemein anwendbaren Ausführung geliefert, die für unterschiedliche Netzspannungen geeignet ist. Dieser Mehrzweck-Transformator soll entsprechend der Tabelle im Verdrahtungsplan angeschlossen werden.

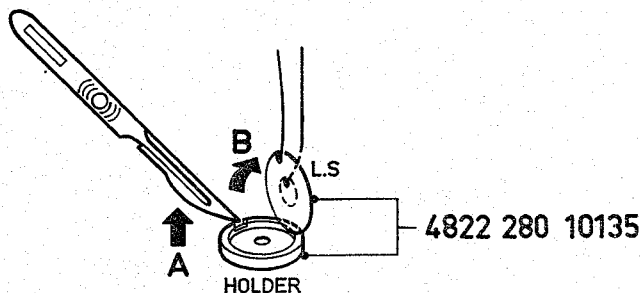


Fig. 1

## DISMANTLING

## Backcover

- Remove the 8 screws (2,9 x 38) which attach the backcover to the case (refer to Fig. 5).
- The telescopic aerial may be left in place.
- Slightly lift the backcover and:
  - a. Remove the cable tag from the aerial socket BU15.
  - b. Remove aerial socket BU15 as shown in Fig. 5, steps 1 through 4.

## Note:

When reuniting the backcover to the case, take care that the leads to aerial socket BU15 do not get stuck.

## Tuner PC-board (refer to Fig. 5)

- Take off tuning knob 479 and take out the two 2,9 x 13 screws.

## I. Recorder PC-board (Figs. 2a, b)

- Take out the 2,9 x 13 screw indicated by arrow "1".
- Release recorder bracket from recorder switch as shown by arrow "2".
- Slightly lift PC-board as shown by arrows "3" and take it out of amplifier PC-board (arrow "4").

## Amplifier PC-board (refer to Fig. 5)

- Perform operation I.
- Take off all the rotary knobs projecting from the front.
- Take out the two 2,9 x 13 screws.

## II. Tape transport (comprising drive, control and tape select PC-boards) (Refer to Fig. 2c)

- Perform operation I.
- Take off the knobs 483, 484 (refer to Fig. 5).
- Take out the screws A through G.
- Open the cassette lid.

## III. Drive PC-board + control PC-board (refer to Fig. 2d)

- Perform the operations I and II.
- Take out the two 2,2 x 9,5 screws indicated by the arrows "1".
- Slightly lift the drive PC-board out of its holder as indicated by arrow "2". Release the control PC-board by bending out the fastening lugs as shown by the arrows "3".
- Remove the PC-board assy as shown by arrow "4".

## Note:

When reassembling, first make sure that the three LED's on the control PC-board are correctly oriented with respect to their relevant apertures.

## IV. LED meters (refer to Fig. 2e)

- Perform the operations I and II.
- Remove bracket 569 (fig. 5).
- Push aside the fastening lugs as shown by the arrows "1".
- Remove the LED meters as indicated by arrow "2".

## V. Transformer housing

The transformer + PC-board may be lifted as a whole out of their housing.

The only thing to do is to overcome the low force exerted by a snap-in arm.

## UITKASTEN

## Achterwand

- Verwijder de 8 schroeven (2,9 x 38) uit de achterwand (zie fig. 5).
- De telescoopantenne kan blijven zitten.
- Licht de achterwand een weinig op en:
  - a. Verwijder het kabelschoentje van de antennebus BU15.
  - b. Verwijder de antennebus BU15 zoals aangegeven in fig. 5, handeling 1 t/m 4.

## Opmerking:

Bij het terug plaatsen van de achterwand dient men erop te letten dat de bedrading van antennebus BU15 niet beklemd geraakt.

## Tunerprint (fig. 5)

- Verwijder tuningknop 479 en de beide schroeven 2,9 x 13.

## I. Recorderprint (fig. 2a, b)

- Verwijder schroef 2,9 x 13 aangegeven met "1".
- Maak recorderbeugel vrij van recorder-schakelaar volgens "2".
- Licht de print een weinig op volgens "3" en neem hem uit de versterkerprint volgens "4".

## Versterkerprint (fig. 5)

- Verricht handeling I.
- Verwijder alle aan de voorzijde aanwezige draaiknoppen.
- Verwijder de beide schroeven 2,9 x 13.

## II. Loopwerk inclusief sturing, bediening en tape-select (zie fig. 2c)

- Verricht handeling I.
- Verwijder de knoppen 483, 484 (zie fig. 5).
- Verwijder de schroeven A t/m G.
- Open de cassetteklep.

## III. Sturingsprint met bedieningsprint (zie fig. 2d)

- Verricht handeling I en II.
- Verwijder de 2 schroefjes 2,2 x 9,5 volgens "1".
- Licht de stuurprint een weinig uit de houder volgens "2".
- Neem het bedieningsprintje weg door de bevestigingslippen volgens "3" weg te buigen.
- Neem het geheel weg volgens "4".

## Opmerking:

Bij het terug plaatsen van het geheel dient men er zich van te voren van te overtuigen, dat de 3 LED's op het bedieningsprintje goed t.o.v. de doorvoeringen georiënteerd zijn.

## IV. Led-meters (zie fig. 2e)

- Verricht handelingen I en II.
- Verwijder beugel 569 (fig. 5).
- Druk de bevestigingslippen weg volgens "1".
- Neem de Led-meters weg volgens "2".

## V. Transformatorhuis

Het transformatorhuis inclusief printplaat kan in z'n totaliteit uit de behuizing geschoven worden.

Men dient hiertoe slechts een kleine kracht van een klik-in arm te overwinnen.

F

## DEMONTAGE

### Panneau arrière

- Enlever les 8 vis (2,9 x 38) du panneau arrière (voir fig. 5).
- L'antenne télescopique peut rester en place.
- Soulever quelque peu le panneau arrière et,
  - a. enlever le patin autour du câble sur la douille BU15.
  - b. enlever la douille d'antenne BU15 comme indiqué en fig. 5 opérations de 1 à 4.

#### Remarque:

Lors du montage du panneau arrière il faudra faire attention de ne pas coincer le câblage de la douille d'antenne BU15.

### Platine de tuner (fig. 5)

- Enlever le bouton 479 et les deux vis 2,9 x 13.

#### I. Platine magnétophone (fig. 2a, b)

- Enlever la vis 2,9 x 13 marquée "2".
- Dégager l'étrier du magnétophone selon l'indication "2".
- Soulever quelque peu la platine selon "3" et l'extraire de la platine de l'ampli selon "4".

#### Platine de l'amplificateur (fig. 5)

- Procéder à l'opération 1.
- Enlever à l'avant tous les boutons.
- Dévisser les deux vis 2,9 x 13

#### II. Mécanique (platine de contrôle, platine de commande et sélection de bande) (voir fig. 2c)

- Procéder à l'opération I.
- Enlever les boutons 483, 484 (voir fig. 5).
- Enlever les vis A à G.
- Ouvrir le porte-cassette.

#### III. Platine de contrôle et platine de commande (voir fig. 2d)

- Procéder aux opérations I et II.
- Enlever les deux vis 2,2 x 9,5 selon "1".
- Soulever quelque peu la platine de contrôle du support selon "2".
- Extraire la platine de commande enpliant les languettes de fixation selon "3".
- Enlever l'ensemble selon "4".

#### Remarque:

Avant de remonter l'ensemble, il faut s'assurer de ce que les 3 LED sur la platine de commande soient bien en regard des ouvertures de traversée.

#### IV. Galvanomètres à LED (voir fig. 2e)

- Procéder aux opérations I et II.
- Enlever l'étrier 569 (fig. 5).
- Repousser les languettes de fixation selon "1".
- Enlever les galvanomètres selon "2".

#### V. Boîtier du transformateur

Le boîtier du transformateur peut être extrait dans sa totalité de sa monture. Il suffit de forcer légèrement la résistance d'un bras-cliquet.

D

## AUSBAU

### Rückwand

- Die 8 Schrauben (2,9 x 38) aus der Rückwand herausdrehen (siehe Bild 5).
- Die Teleskopantenne muss nicht abgenommen werden.
- Die Rückwand ein wenig heben und
  - a. den Kabelschuh von der Antennenbuchse BU15 abziehen;
  - b. Antennenbuchse BU15 ausbauen wie in Bild 5 dargestellt; Vorgänge 1 bis 4.

#### Bemerkung:

Wenn die Rückwand zurückgestellt wird, ist zu beachten, dass sich die Verdrahtung der Antennenbuchse BU15 nicht verklemt.

### Tunerprintplatte (Bild 5)

- Abstimmknopf 479 abziehen und die beiden Schrauben 2,9 x 13 lösen.

#### I. Recorder-Printplatte (Bild 2a und b)

- Mit "1" gekennzeichnete Schraube 2,9 x 13 lösen.
- Recorderbügel von Recorderschalter entsprechend "2" lösen.
- Printplatte entsprechend "3" ein wenig heben und entsprechend "4" aus der Verstärkerprintplatte herausnehmen.

#### Verstärkerprintplatte (Bild 5)

- Vorgang I durchführen.
- Alle auf der Vorderseite befindlichen Drehknöpfe abziehen.
- Die beiden Schrauben 2,9 x 13 lösen.

#### II. Laufwerk einschliesslich Steuerung, Bedienung und "tape-select" (siehe Bild 2c)

- Vorgang I durchführen.
- Knöpfe 483 und 484 (siehe Bild 5) abziehen.
- Schrauben A bis G lösen.
- Öffnen Sie das Kassettenfach.

#### III. Steuerprint mit Bedienungsprint (siehe Bild 2d)

- Vorgänge I und II durchführen.
- Die beiden Schrauben 2,2 x 9,5 entsprechend "1" lösen.
- Den Steuerprint entsprechend "2" ein wenig aus der Fassung heben.
- Bedienungsprint ausbauen indem die Befestigungslappen entsprechend "3" auswärts gebogen werden.
- Die Gesamtheit entsprechend "4" beseitigen.

#### Bemerkung:

Wenn die Gesamtheit eingebaut wird, soll man sich vorher davon überzeugen, dass die 3 Leuchtdioden auf dem Bedienungsprint richtig zu den Durchführungen orientiert sind.

#### IV. Leuchtdiodenanzeiger (siehe Bild 2e)

- Vorgänge I und II durchführen.
- Bügel 569 entfernen (Bild 5).
- Befestigungslappen entsprechend "1" wegdrücken.
- Leuchtdiodenanzeiger entsprechend "2" ausbauen.

#### V. Transformatorgehäuse

Das Transformatorgehäuse samt Printplatte lässt sich in der Gesamtheit hinausschieben. Dazu ist nur eine geringe Kraft eines Einschnapparmes zu überwinden.

# I SMONTAGGIO

## Coperchio posteriore

- Togliere le 8 viti (2,9 x 38) che fissano il posteriore al mobile (vedere fig. 5).
- L'antenna telescopica può rimanere montata.
- Sollevare leggermente il posteriore e:
  - a. Togliere il capocorda dalla presa d'antenna BU15.
  - b. Togliere la presa d'antenna BU15 come riportato in fig. 5, da 1 a 4.

### Nota:

Quando si rimonta il posteriore al mobile, fare attenzione che il cablaggio non tocchi la presa d'antenna BU15.

## Circuito stampato del sintonizzatore (vedere fig. 5)

- Togliere la manopola di sintonia 479 e le due viti 2,9 x 13.

### I. Circuito stampato del registratore (fig. 2a, b)

- Togliere la vite 2,9 x 13 contrassegnata dalla freccia "1".
- Liberare la staffa dal commutatore del registratore come indicato dalla freccia "2".
- Sollevare leggermente il circuito stampato come riportato dalla freccia 3 e togliere la parte del registratore dal circuito stampato dell'amplificatore (freccia "4").

### Circuito stampato dell'amplificatore (vedere fig. 5)

- Procedere alle operazioni I.
- Togliere tutte le manopole della parte frontale.
- Togliere le due viti 2,9 x 13.

### II. Parte del registratore (compreso i circuiti di trascinamento, controllo e selezione nastri), vedere fig. 2c

- Procedere all'operazione I.
- Togliere le manopole 483, (vedere fig. 5).
- Togliere le viti A attraverso G.
- Aprire il porta cassetta.

### III. Circuito stampato di trascinamento + circuito stampato di controllo (vedere fig. 2d)

- Procedere alle operazioni I e II.
- Togliere le due viti 2,2x9,5 indicate dalle frecce "1".
- Sollevare leggermente il circuito stampato relativo al trascinamento dal suo supporto come indicato dalla freccia "2". Liberare il circuito stampato di controllo piegando verso l'esterno le lamelle di fissaggio come indicato dalle frecce "3".

### Nota:

Quando si rimonta, prima fare attenzione che i tre LED sul circuito di controllo siano correttamente posizionati rispetto alla loro finestrella.

### IV. LED per gli indicatori (vedere fig. 2e)

- Procedere alle operazioni I e II.
- Togliere la squadra 569 (fig. 5).
- Spostare le lamelle come indicato dalle frecce "1".
- Togliere i Led dagli indicatori come indicato dalla freccia "2".

### V. Alloggio trasformatore

- Il trasformatore + il circuito stampato può essere sollevato ad un'altezza pari al loro contenitore. L'unica cosa da fare è di vincere la leggera forza esercitata dalle linguette di fissaggio.

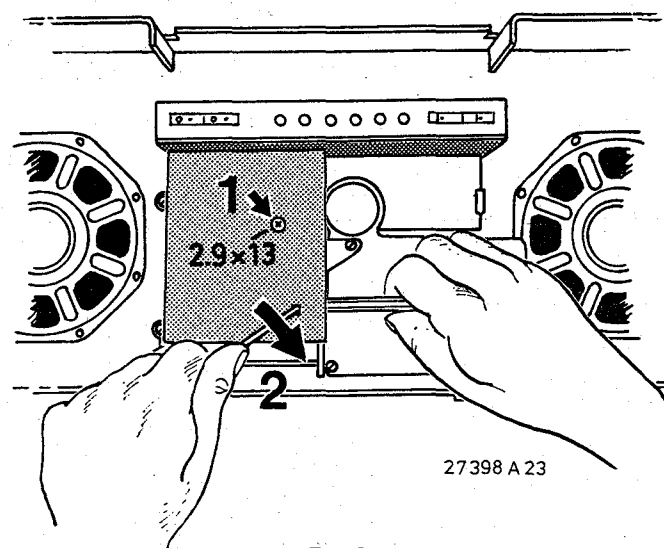


Fig. 2a

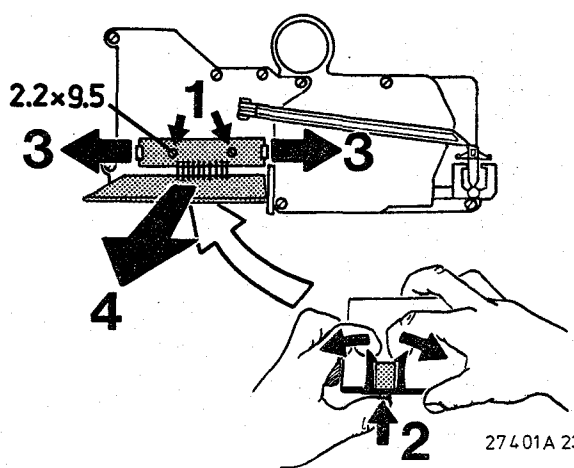


Fig. 2d

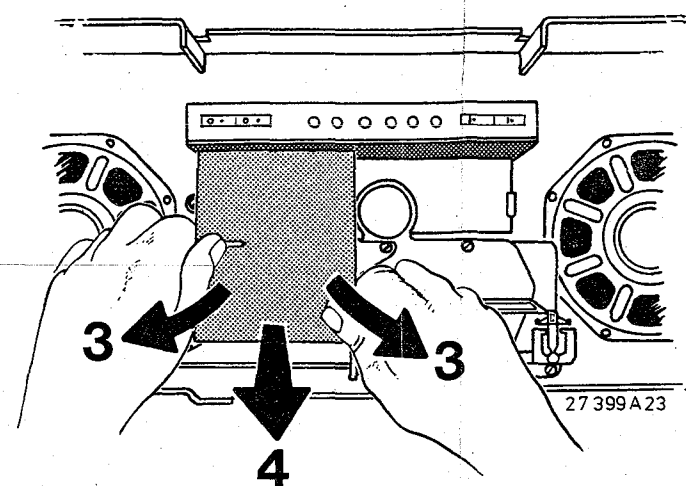


Fig. 2b

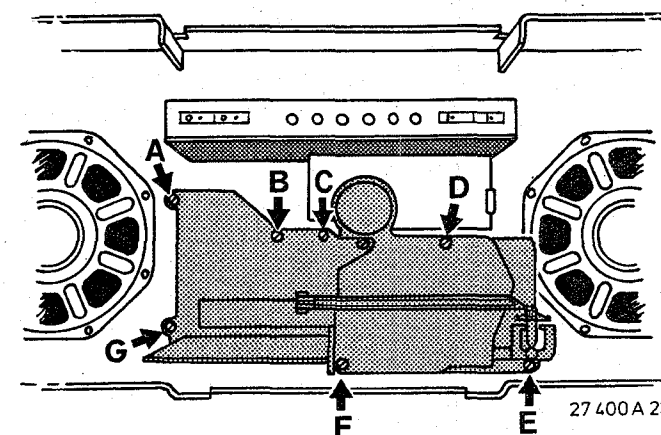


Fig. 2c

A= 2,9 x 13  
B= 2,9 x 13  
C= 2,9 x 13  
D= 2,9 x 32  
E= 2,9 x 32  
F= 2,9 x 38  
G= 2,9 x 13

GB

- 1 Place of th
- 2 Adju:
- 3 Adju:

F

- 1 Le to centr mod
- 2 Ajust
- 3 Ajust en S.

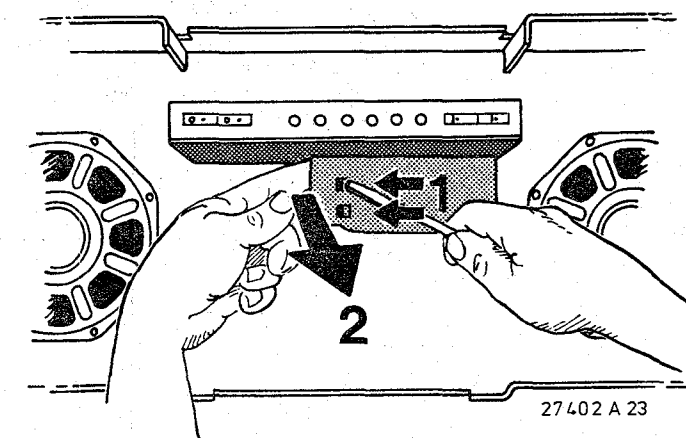


Fig. 2e

uiti di trascina-  
vedere fig. 2c

5).

circuito

alle frecce "1".  
pato relativo al  
indicato dalla  
ato di controllo  
fissaggio come

e che i tre LED  
ente posizionati

le frecce "1".  
indicato dalla

o può essere solle-  
vitore.  
ggera forza eserci-

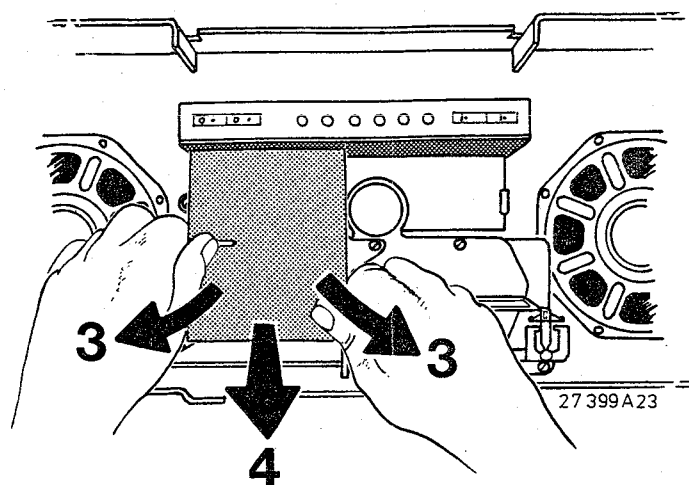


Fig. 2b

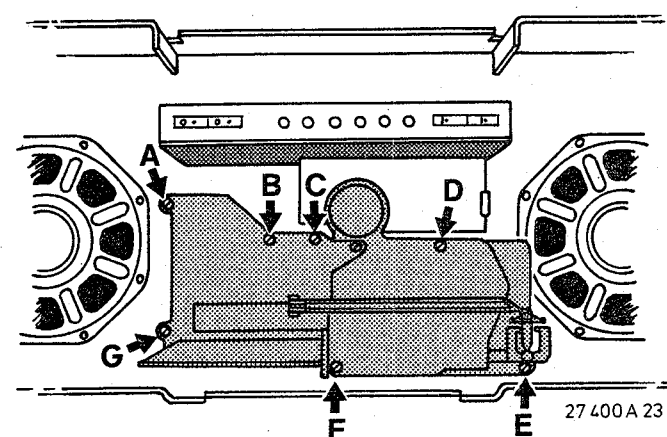


Fig. 2c

A= 2,9 x 13  
B= 2,9 x 13  
C= 2,9 x 13  
D= 2,9 x 32  
E= 2,9 x 32  
F= 2,9 x 38  
G= 2,9 x 13

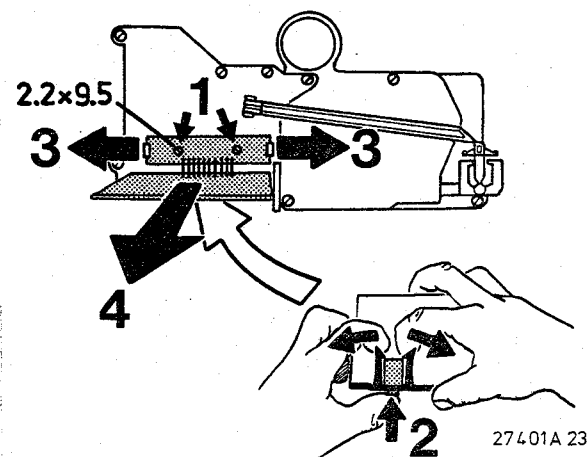


Fig. 2d

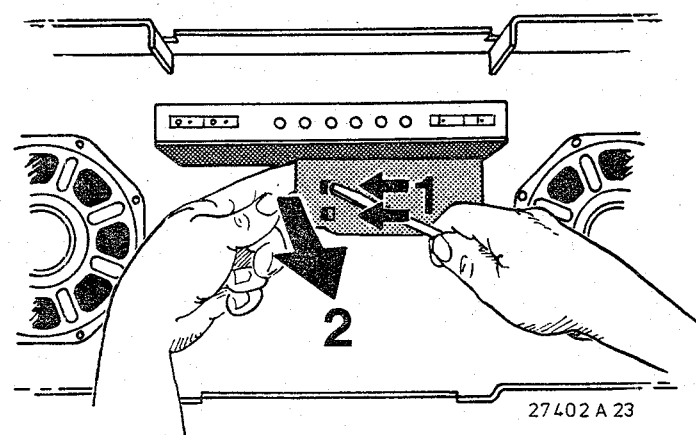
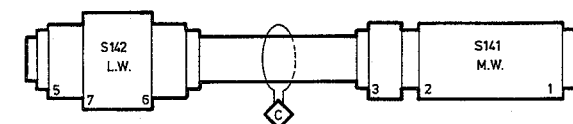
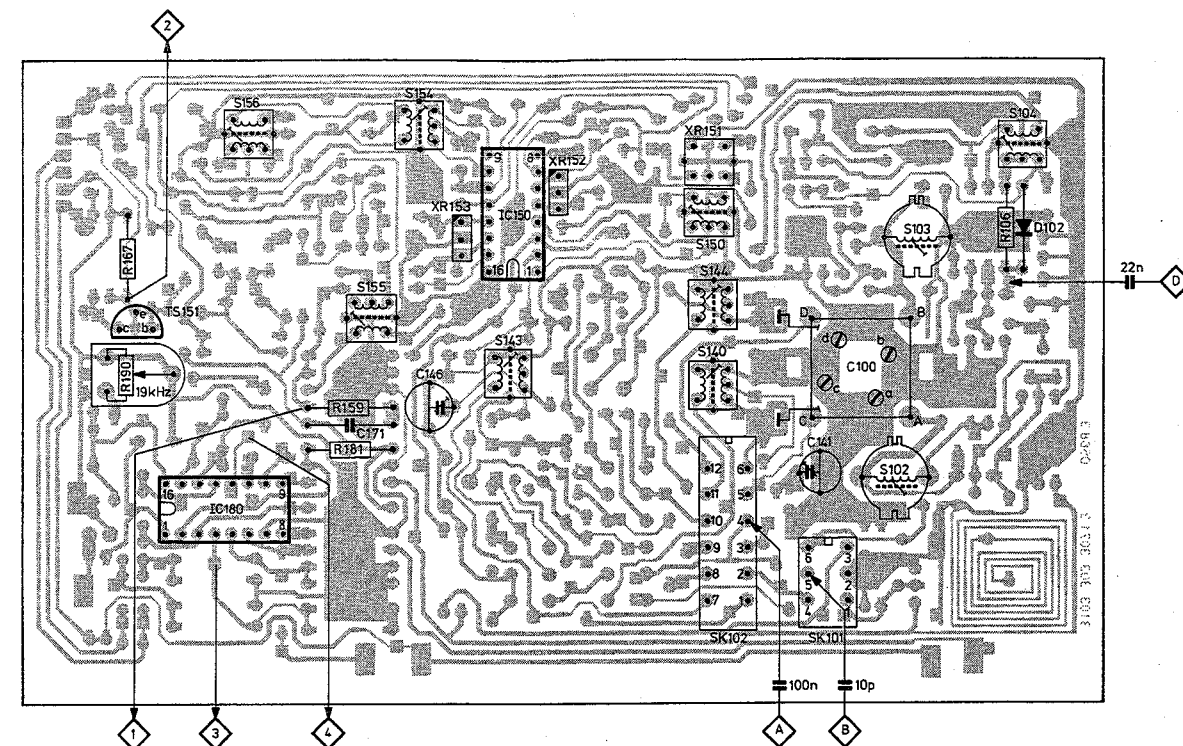


Fig. 2e



29 977 C12

(GB)

- 1 Place the peak of the band-pass curve in the middle of the picture by shifting the sweep frequency.
- 2 Adjust for maximum height and symmetry.
- 3 Adjust for linearity and symmetry of the S-curve.

(NL)

- 1 De top van de doorlaatkromme in het midden van het scherm plaatsen door verschuiven van de wobbelfrequentie.
- 2 Afregelen op maximum hoogte en symmetrie.
- 3 Afregelen op lineariteit en symmetrie van de S-kromme.

(F)

- 1 Le top de la courbe de réponse doit être amené au centre de l'écran par glissement de la fréquence de modulation.
- 2 Ajuster sur hauteur et symétrie maximum.
- 3 Ajuster pour la linéarité et la symétrie de la courbe en S.

(D)

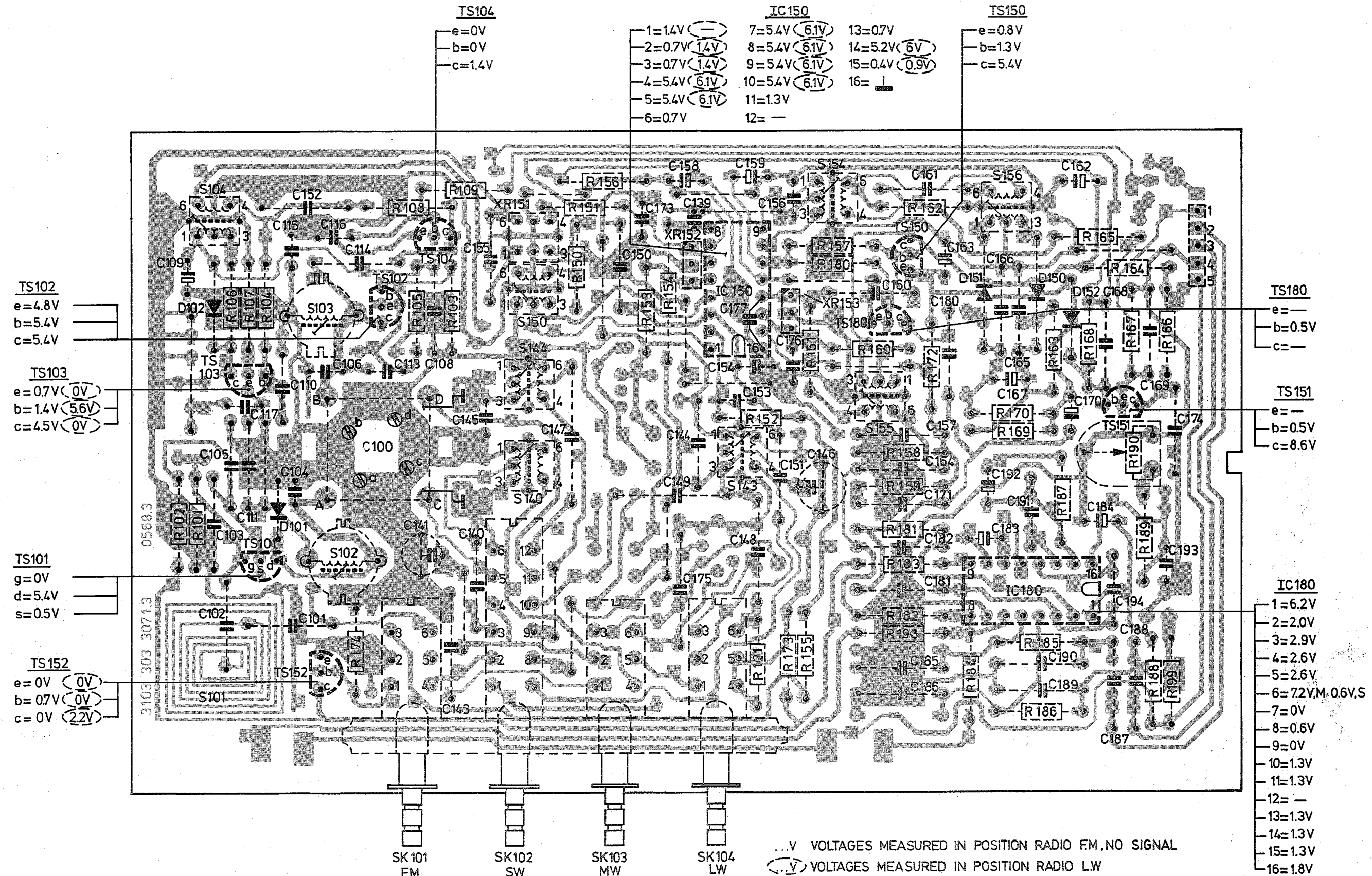
- 1 Die Spitze der Durchlasskurve in der Mitte des Bildes legen dadurch, dass man die Wobbelfrequenz verschiebt.
- 2 Abgleichen auf Maximalhöhe und Symmetrie.
- 3 Abgleichen auf Linearität und Symmetrie der S-Kurve.

"Bei notwendigem Abgleich ist das Gerät auf die gesetzlich vorgeschriebenen Eckfrequenzen abzugleichen."

(I)

- 1 Il pico della curva di risposta deve trovarsi al centro dello schermo, il ché si farà spostando la frequenza di Wobbulazione.
- 2 Regolare per un massimo di altezza e di simetria.
- 3 Regolare per linearità e simetria della curva ad S.

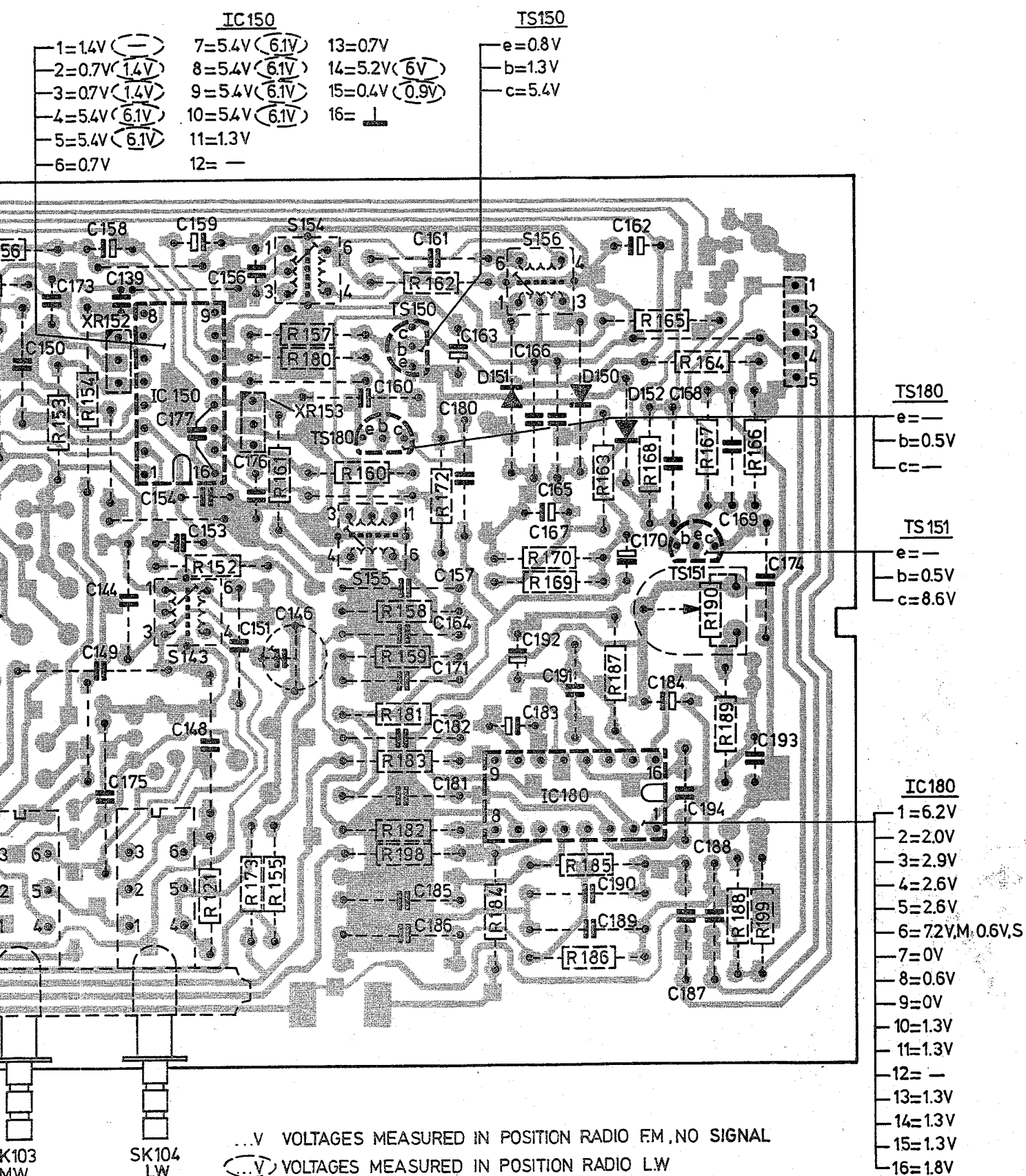
|      |                                                                                                                                         |                             |                                                  |
|------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------------|
| MISC | S104.D102.TS103.TS101.S103.S102.TS152.TS102.TS104.XR151.S150.S144.S140                                                                  | XR152.IC150.S143.XR153.S154 | TS180.TS150.S155.S156.D151.D150.IC180.D152.TS151 |
| C    | 109 S101 105.117.115 110 152 114 108 155 145 147 173 139 158.144.159.154.156.176 160.161.157.164.163.180.165.167.162.170.168.169.174    |                             |                                                  |
|      | 103 102 111.106.104.101.116.100.113.141 143 140 177 149 175 153 148 151 146 171.182.181.185.186.183.192.191.189.190.184.194.187.188.193 |                             |                                                  |
| R    | 106.107.104 108.105.109.103 156.150.151 153.154 152 161 157.180 160 162.172.198.170.169 163.168.165.164.167.180.166                     |                             |                                                  |
|      | 102.101 174 121 173 155 158.159.181.183.182.184.185.186.187 189 188 199                                                                 |                             |                                                  |



|       |
|-------|
| SK    |
| MW-SK |
| SW-SK |
| MW-SK |
| LW-SK |
| FM-IF |
| FM-SK |
| FM-RF |
| FM-SK |

\*\* Trim  
↑ R

|      |       |       |      |       |      |       |       |      |      |      |      |       |      |       |     |     |     |     |     |     |     |     |
|------|-------|-------|------|-------|------|-------|-------|------|------|------|------|-------|------|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| S140 | XR152 | IC150 | S143 | XR153 | S154 | TS180 | TS150 | S155 | S156 | D151 | D150 | IC180 | D152 | TS151 |     |     |     |     |     |     |     |     |
| 173  | 139   | 158   | 144  | 159   | 154  | 156   | 176   | 160  | 161  | 157  | 164  | 163   | 180  | 165   | 167 | 162 | 170 | 168 | 169 | 174 |     |     |
|      | 177   | 149   | 175  | 153   | 148  | 151   | 146   | 171  | 182  | 181  | 185  | 186   | 183  | 192   | 191 | 189 | 190 | 184 | 194 | 187 | 188 | 193 |
| D151 | 153   | 154   |      | 152   | 161  | 157   | 180   | 160  | 162  | 172  | 198  | 170   | 169  | 163   | 168 | 165 | 164 | 167 | 180 | 166 |     |     |
|      |       |       |      | 121   | 173  | 155   | 158   | 159  | 181  | 183  | 182  | 184   | 185  | 186   | 187 | 189 | 188 | 199 |     |     |     |     |



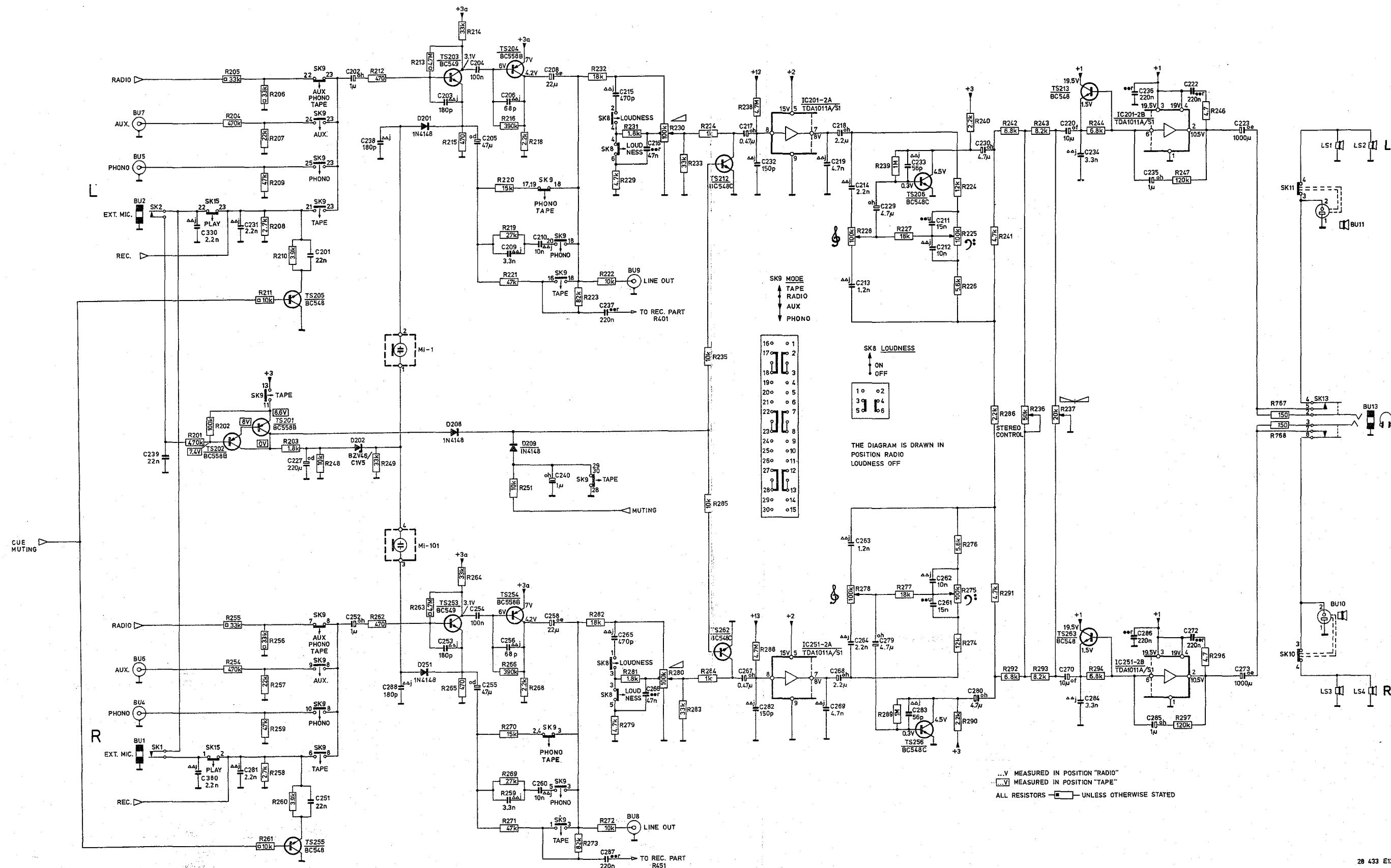
|                    |                                              |  |           |                  |          |                                   |
|--------------------|----------------------------------------------|--|-----------|------------------|----------|-----------------------------------|
| SK                 |                                              |  | C100<br>  |                  |          |                                   |
| MW-SK103           | 468 kHz *                                    |  | Min. cap. | S150<br>S155     |          | <br>max.                          |
| SW-SK102           | 5.8 MHz *                                    |  | Max. cap. | S144             |          | <br>max.                          |
|                    | 18.2 MHz *                                   |  | Min. cap. | C100d            |          |                                   |
|                    | 17.0 MHz *                                   |  |           | C100c            | <br>max. |                                   |
|                    | 6.2 MHz *                                    |  |           | S140             |          |                                   |
| MW-SK103           | 1635 kHz *                                   |  | Min. cap. | C146             |          | <br>max.                          |
|                    | 512 kHz *                                    |  | Max. cap. | S143             |          |                                   |
|                    | 560 kHz *                                    |  |           | S141             | <br>max. |                                   |
|                    | 1500 kHz *                                   |  |           | C141             |          |                                   |
| LW-SK104           | 148 kHz *                                    |  | Max. cap. | S143             |          | <br>max.                          |
|                    | 200 kHz *                                    |  |           | S142             |          |                                   |
| FM-IF              |                                              |  |           |                  |          |                                   |
| FM-SK101           | 10.7 MHz<br>Δf<br>(sweep range)<br>10-11 MHz |  |           |                  | <br>     | <br><br><br>                      |
|                    |                                              |  |           | S154<br>S104     | <br>     |                                   |
|                    |                                              |  |           | S156             | <br>     |                                   |
| FM-RF              |                                              |  |           |                  |          |                                   |
| FM-SK101           | 87.35 MHz *                                  |  | Max. cap. | S103**<br>S102** |          |                                   |
|                    | 108 MHz *                                    |  | Min. cap. | C100b<br>C100a   |          |                                   |
| *+1 kHz modulation |                                              |  |           |                  |          |                                   |
| Stereo-Decoder     |                                              |  |           |                  |          |                                   |
| FM-SK101           | no signal                                    |  |           | R190             |          | <br>freq. counter<br>19 kHz ± 0.2 |

\*\* Trimming rod 4822 395 50135

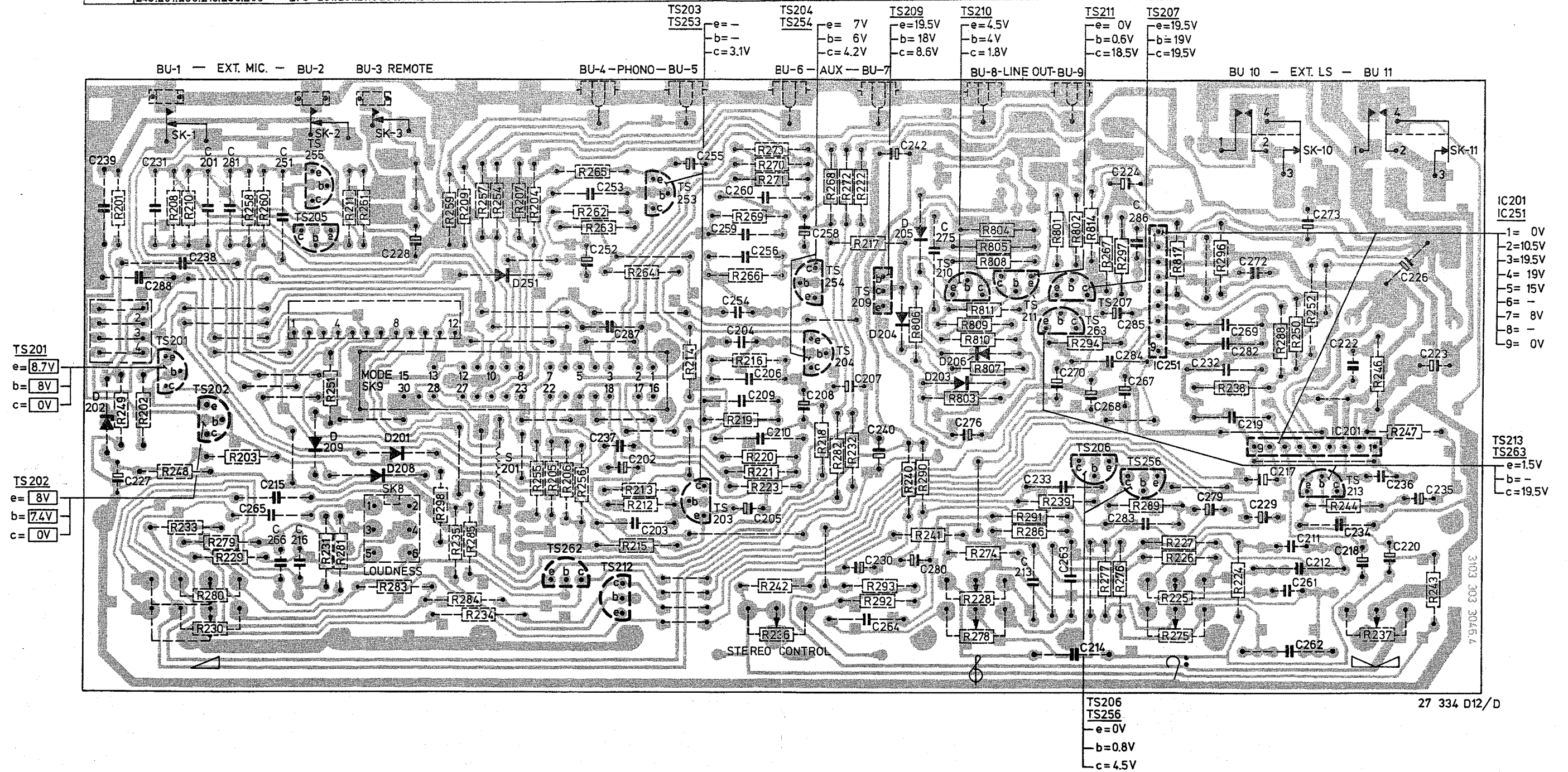
↑ Repeat - Herhalen - Répéter - Wiederholen - Ricominciare - Repetera - Gentage - Gjentagelse - Toista



| MISC. | BU2.5.7     | TS202         |  | TS205                       |  | MI-1    |  | D201   | TS203   | D208  | TS204             | D209 | BU9                 |  | TS212           | IC201-2A |         | TS206 |                     | TS213 |             | IC201-2B |                                    | LS1-4 | BU11.13 |  |                 |  |     |  |
|-------|-------------|---------------|--|-----------------------------|--|---------|--|--------|---------|-------|-------------------|------|---------------------|--|-----------------|----------|---------|-------|---------------------|-------|-------------|----------|------------------------------------|-------|---------|--|-----------------|--|-----|--|
|       | BU1.4.6     | TS201         |  | TS255                       |  | D202    |  | MI-101 | D251    | TS253 | TS254             |      | BU8                 |  | TS262           | IC251-2A |         | TS256 |                     | TS263 |             | IC251-2B |                                    | BU10  |         |  |                 |  |     |  |
| C     | 228         | 231           |  | 227.201                     |  | 202     |  | 238    | 203     |       | 204...206.209     |      | 210.208 240         |  | 237 215 216     |          | 217 232 |       | 219.218.214.213.229 |       | 233 211.212 |          | 230                                |       | 220.234 |  | 236 235 221 222 |  | 223 |  |
|       | 239.330.380 | 281           |  | 251                         |  | 252     |  | 288    | 253     |       | 254...256.259     |      | 260.258             |  | 287 265 266     |          | 267 282 |       | 269.268.264.263.279 |       | 283 261.262 |          | 280                                |       | 270.284 |  | 286 285 271 272 |  | 273 |  |
| R     |             | 201.202       |  | 204...208.209...211.203 248 |  | 212.249 |  | 213    | 214.215 |       | 216.218...221     |      | 223.232.222.229.231 |  | 230.233.234.215 |          | 238     |       | 228                 |       | 239.227     |          | 224...226.240.241.242.236.243.237. |       | 244     |  | 272 246         |  | 768 |  |
|       |             | 254...258.259 |  | 261                         |  | 262     |  | 263    | 264.265 |       | 266.268...271 251 |      | 273.282.272.279.281 |  | 280.283.284.215 |          | 288     |       | 278                 |       | 289.277     |          | 274...276.290.286.291.292 293      |       | 294     |  | 297 296         |  | 767 |  |

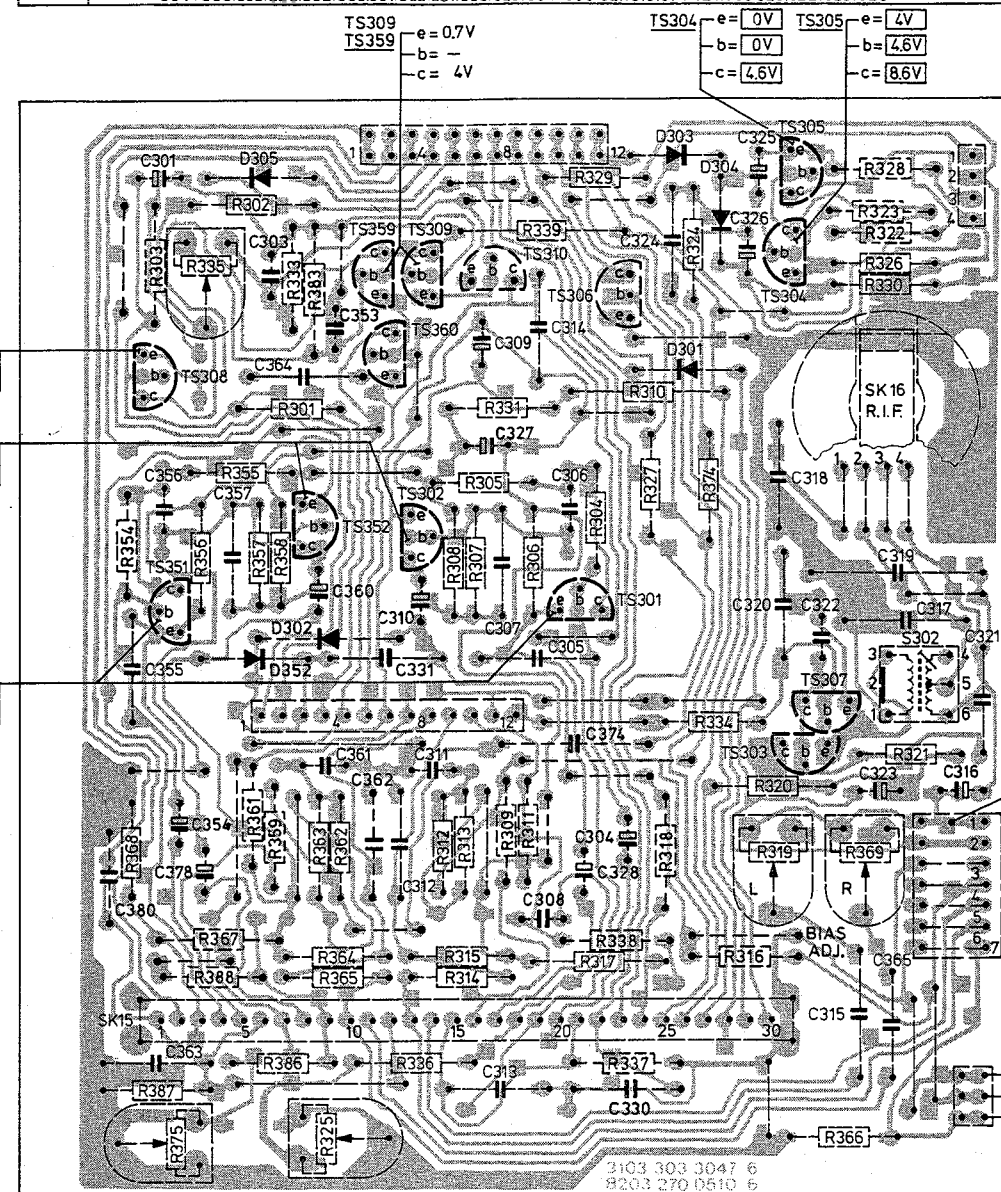


| MISC. | D202                                        | TS201, TS202, D249                                                                                                                                                       | SK8, D201, SK9, S201, TS262, TS212 | TS203                                  | TS206, TS256                                                | IC201, TS213                                          | SK-10                        | SK-11                                                 | MISC. |
|-------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|----------------------------------------|-------------------------------------------------------------|-------------------------------------------------------|------------------------------|-------------------------------------------------------|-------|
|       | SK-1                                        | TS205, TS255, SK-2, SK-3, D208                                                                                                                                           | D251                               | TS253                                  | TS254, D205, TS209, TS204, D204, TS210, TS271, TS263, TS207 | D206, IC251                                           |                              |                                                       |       |
| C     | 227, 238, 288, 216, 265, 215, 266           |                                                                                                                                                                          |                                    | 287, 237                               | 203, 202, 205, 210                                          | 240, 264, 230, 280, 275                               | 233, 213, 214, 263, 270, 238 | 279, 229, 217, 211, 212, 261, 262, 218, 220, 234, 236 | C     |
|       | 231, 239, 201, 281, 251                     | 228                                                                                                                                                                      |                                    | 252, 256, 258, 260, 203, 204, 206, 208 | 274, 242, 224, 286, 268, 267, 284, 285                      | 270, 273, 276, 272, 219, 232, 282, 269, 221, 223, 226 |                              | 252                                                   |       |
| R     | 202, 230, 248, 280, 229, 279, 233, 229, 231 | 261, 284, 234, 235, 285, 255, 205, 206, 256, 215, 212, 213, 236, 242, 223, 220, 221, 219, 218, 282, 232, 292, 293, 241, 240, 290, 274, 278, 224, 228, 239, 289, 286, 291 |                                    | 216, 266, 217, 268, 273, 222           | 801, 814                                                    | 294, 267, 297                                         | 817, 238                     | 296, 288, 250, 246, 247, 237, 243, 244                | R     |

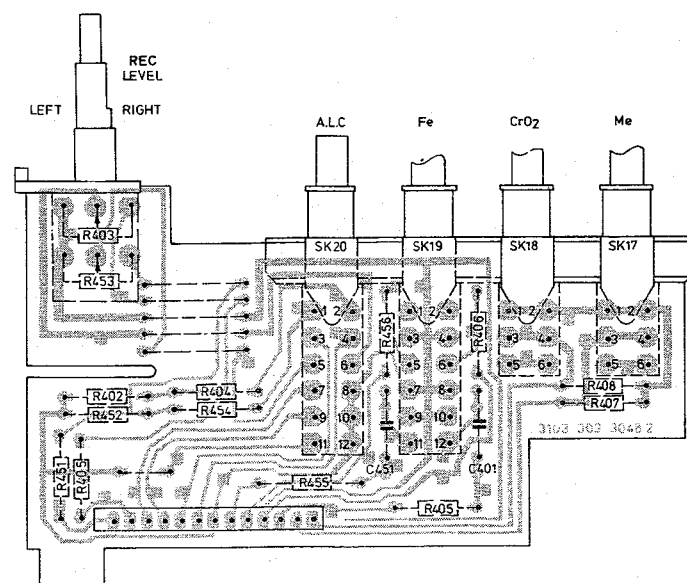




| MISC | D302                                                                                                 | TS301 TS303 TS307 S3J2                                                                          |
|------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| C    | SK15 TS351 TS308 D352 TS352 D305 TS302 TS359 TS309 TS360 TS310 TS306 D301 D303 D304 SK16 TS304 TS305 | 355.378.354.358.362.312.361.311.313.363.331.327 328.308.304.318.371 315.365.323.321             |
| R    | 380.356.357.301.360.310.303.353.364.305+307.309.314.324+326.320.318.322.319.330 316                  | 375.387.386.362+365.367.368.388.361.359.311+315.309 336.338.337.317.316.334.319.320.366.369.321 |
|      | 354+358.303.325.302.333.301.383.331.339.329.304+308.327.310.374.324.330.326.322.323.328              |                                                                                                 |

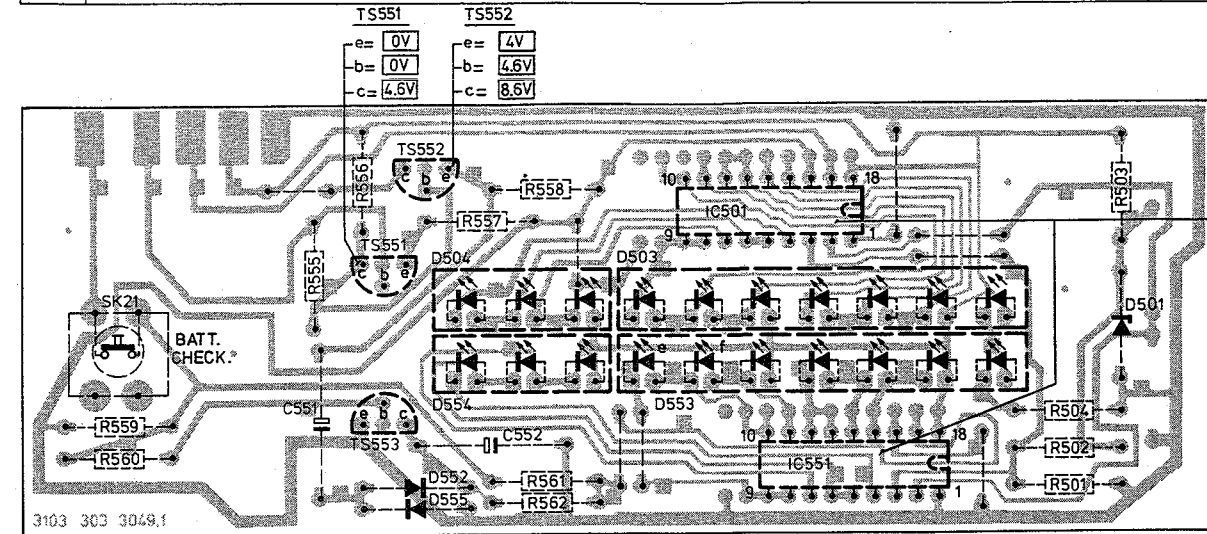


27 335 D13/B



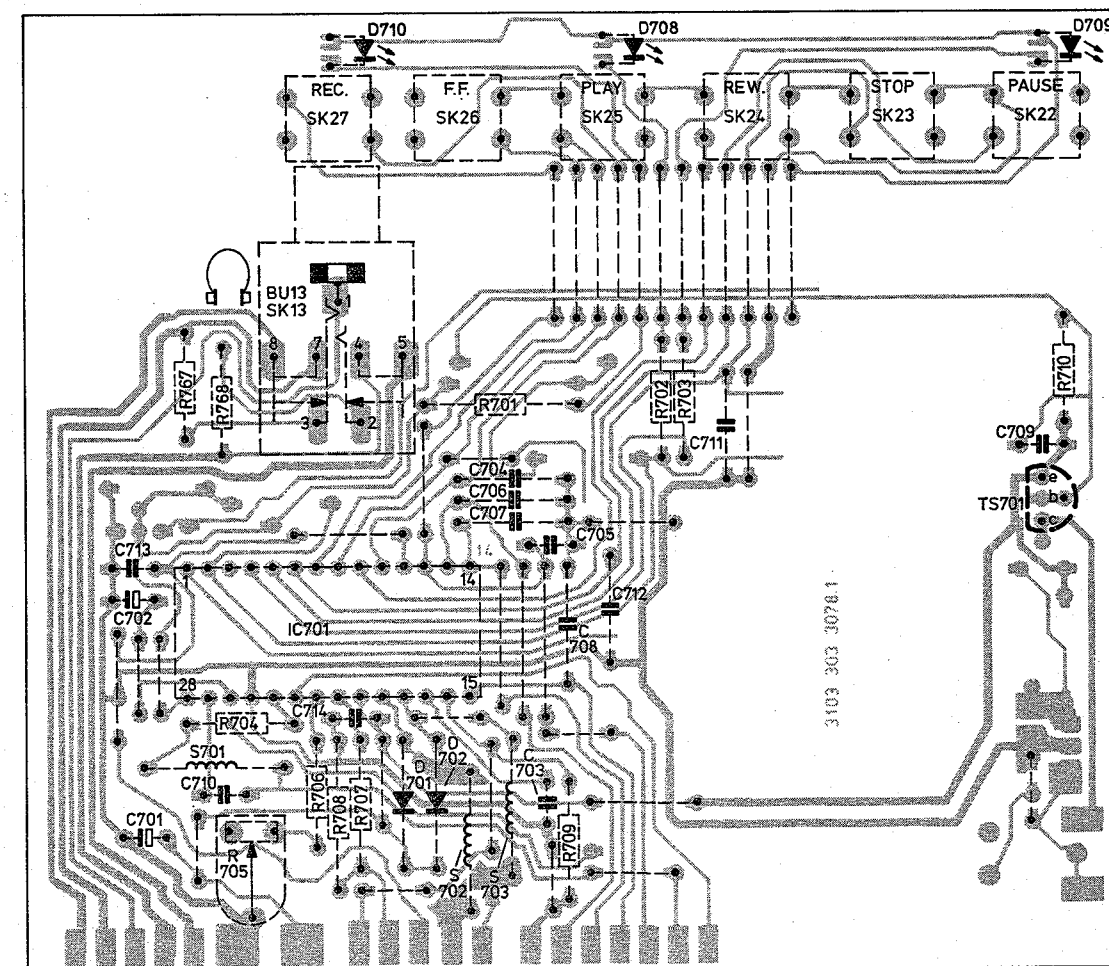
27 353 C13

| MISC | SK21    | TS551+TS553.D555.D552.D554.D504 | D553.D503 | IC501   | IC551 | D501    | MISC. |
|------|---------|---------------------------------|-----------|---------|-------|---------|-------|
| C    |         | 551                             | 552       |         |       |         | C     |
| R    | 560.559 | 555.556                         | 557.558   | 562.561 |       | 501+504 | R     |



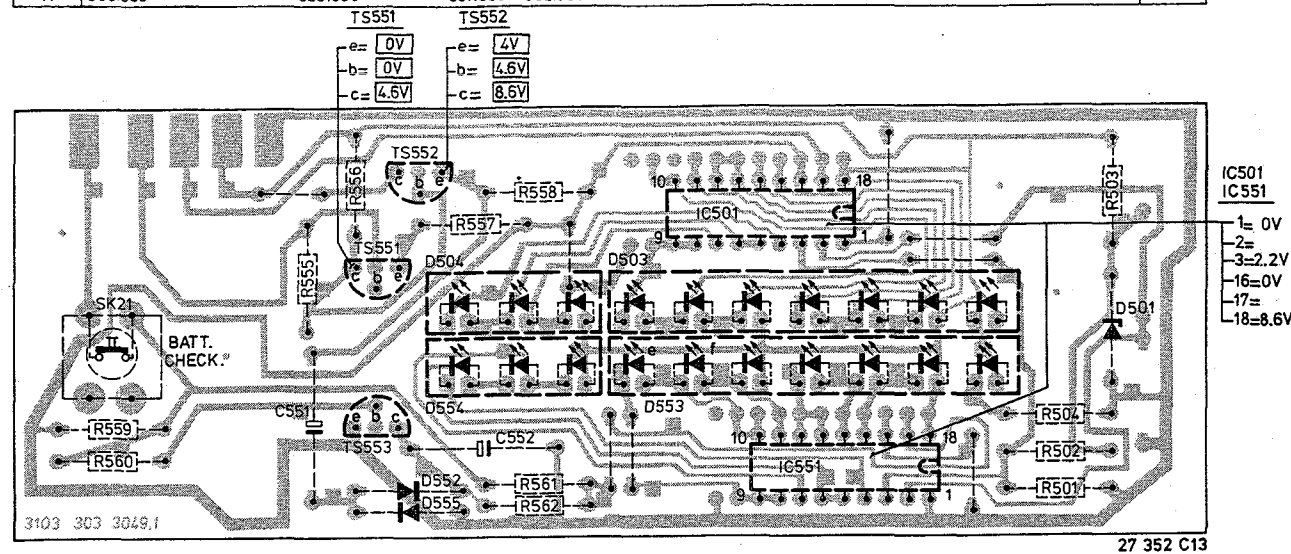
27 352 C13

| MISC. | S701            | SK13.SK27 | D710.D702.S703      | SK25 D708 | SK24 | SK23 | SK22 | D709 |
|-------|-----------------|-----------|---------------------|-----------|------|------|------|------|
| C     | 710             | 714       | 704.706.707.703.708 | 712       | 711  |      | 709  |      |
| TS    |                 |           |                     |           |      |      | 701  |      |
| R     | 701.767.704.705 | 708.707   | 701 709             | 702.703   |      |      | 710  |      |
|       | 702.713         | 768       | 706                 |           |      |      |      |      |

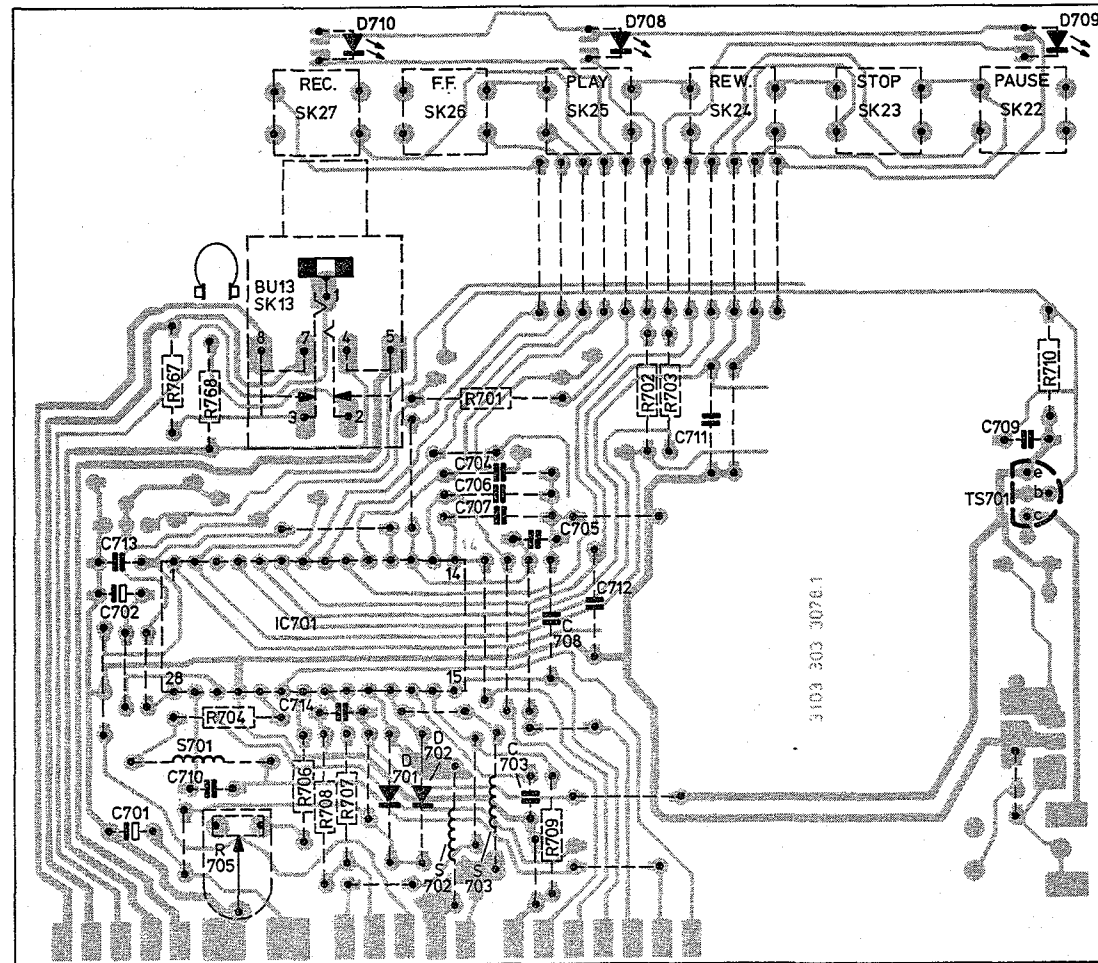


29 963 C12

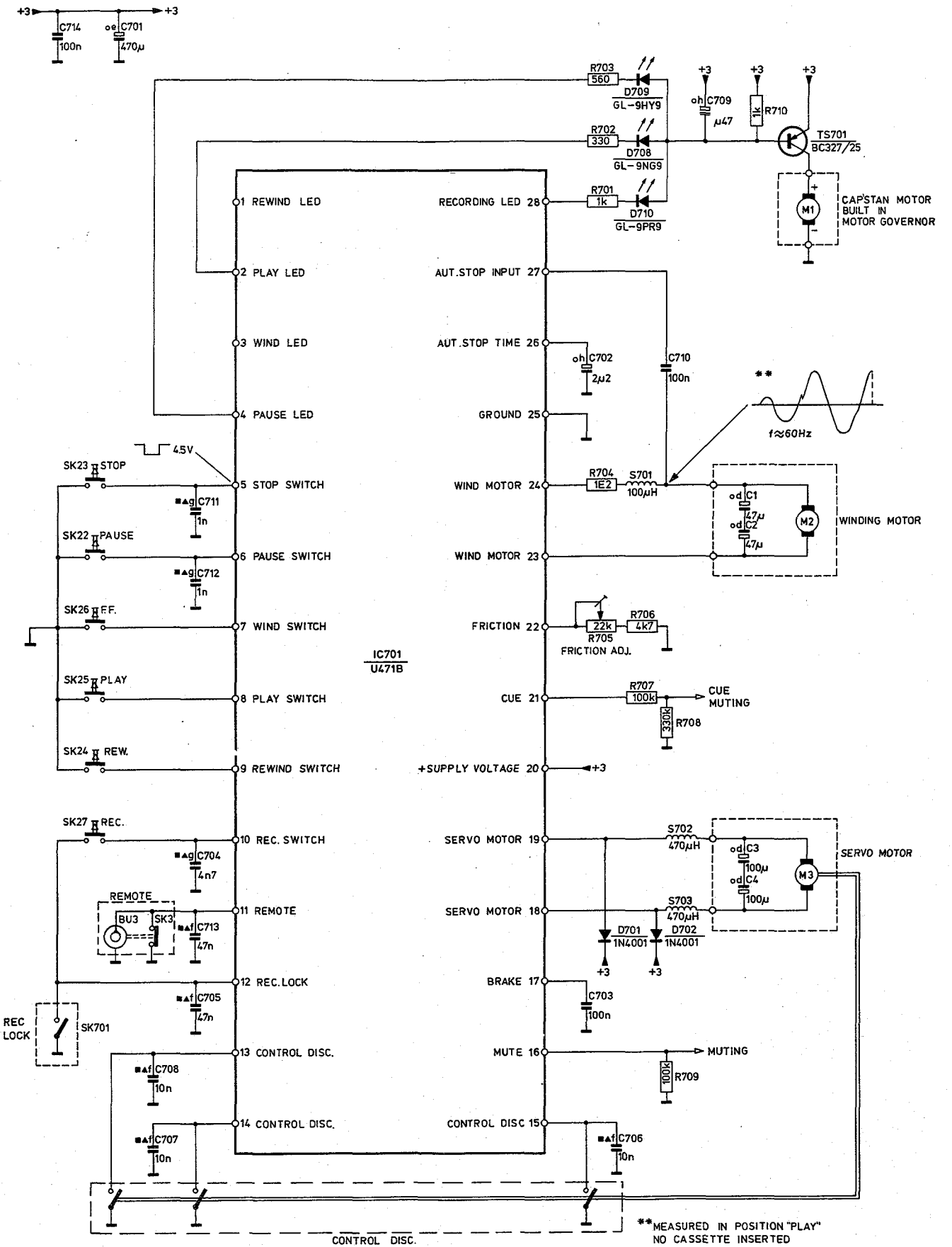
| MISC. | SK21    | TS551+TS553.D555.D552.D554.D504 | D553.D503 | IC501   | IC551 | D501    | MISC. |
|-------|---------|---------------------------------|-----------|---------|-------|---------|-------|
| C     |         | 551                             | 552       |         |       |         | C     |
| R     | 560.559 | 555.556                         | 557.558   | 562.561 |       | 501-504 | R     |



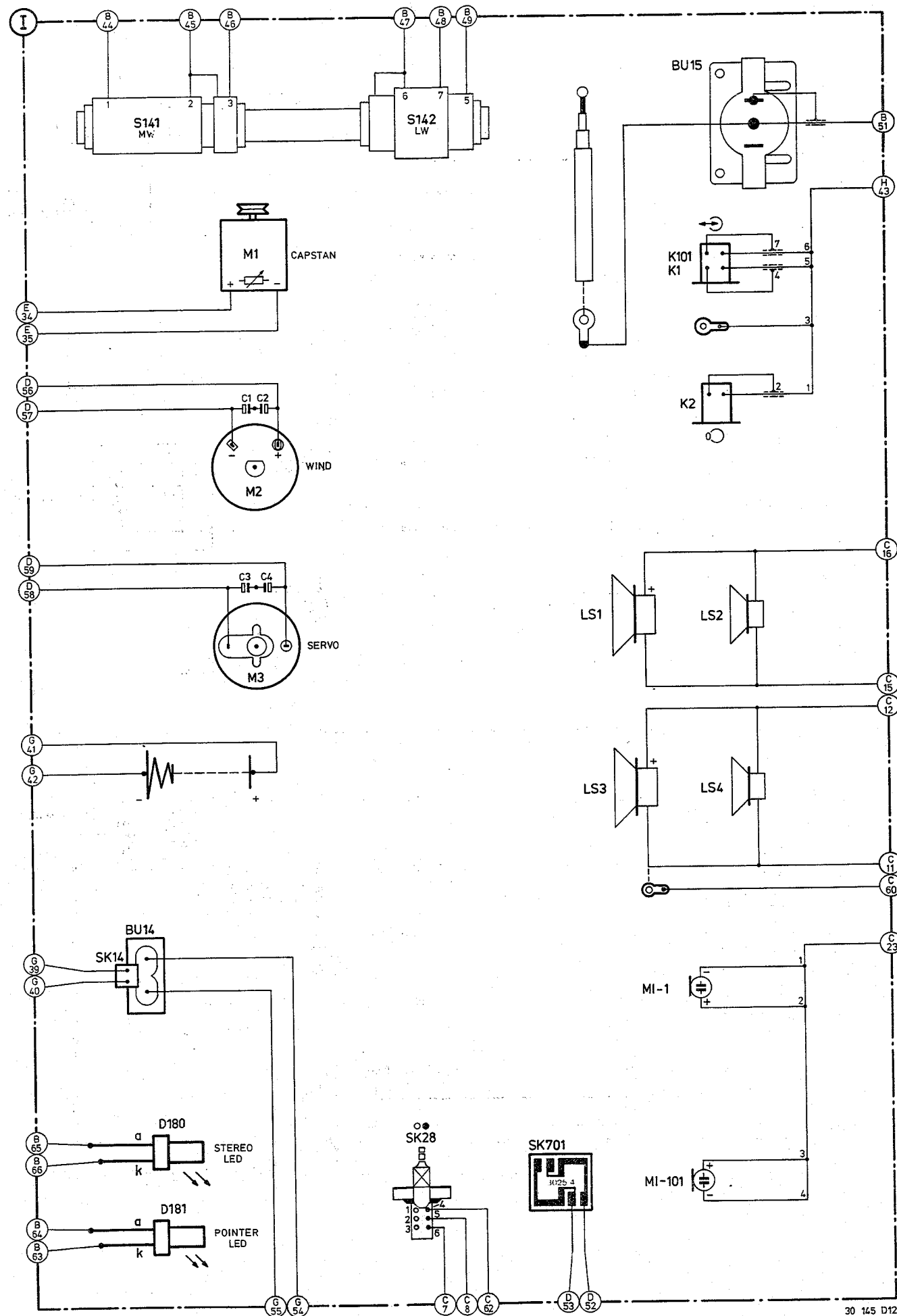
| MISC. | S701            | SK13.SK27 | D710.D702.S703      | SK25 | D708    | SK24 | SK23 | SK22 | D709 |
|-------|-----------------|-----------|---------------------|------|---------|------|------|------|------|
| C     | 710             | 714       | 704.706.707.703.708 | 712  | 711     |      |      | 709  |      |
| TS    |                 |           |                     |      |         |      |      | 701  |      |
| R     | 701.767.704.705 | 708.707   | 701                 | 709  | 702.703 |      |      | 710  |      |
|       | 702.713         | 768       | 706                 |      |         |      |      |      |      |



29 963 C12



30 059 D12



| MISC. | SK21                    | D552, D555, D504, D5554            | D503, D553              | IC501                                                 | IC551                                                                                                     | D501                    | D204                                                  | D206, D203         | IC251            | SK-10 | IC21 |
|-------|-------------------------|------------------------------------|-------------------------|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------|-------------------------------------------------------|--------------------|------------------|-------|------|
| D202  | SK-1                    | D209, SK-2, SK-3, SK-8, D201, D208 | D251, S201, SK-9        | 253, 252, 237                                         | 255, 256, 258 + 260                                                                                       | 242, 275, 276           | 270, 268, 224, 286, 285, 284, 267, 272, 273, 222, 269 | 232, 279, 229, 211 |                  |       |      |
| C     | 227, 238, 288           | 215, 265, 266, 216                 | 551, 552, 553           | 202, 203, 287                                         | 254, 204 + 210                                                                                            | 230, 264, 280, 240      | 213, 233, 263, 214, 283                               |                    |                  |       |      |
| TS    | 201, 202                | 255, 205                           | 557, 558, 561, 562      | 262, 212, 253                                         | 203, 269 + 273                                                                                            | 204, 254, 209           | 210, 211, 207, 263, 206, 256                          | 276, 297           | 296, 295, 288, 2 |       |      |
| R     | 559, 560                | 203, 555, 556                      | 283, 211, 261, 251, 298 | 259, 209, 257, 254, 207, 204, 262 + 265               | 214, 266, 216                                                                                             | 268, 222, 217, 282, 232 | 801 + 811, 814, 294                                   | 289, 817, 238, 245 |                  |       |      |
|       | 201, 202, 208, 210, 248 | 258, 260                           | 231, 281                | 235, 285, 284, 234, 255, 205, 206, 256, 212, 213, 215 | 218 + 221, 223, 242, 236, 293, 292, 240, 290, 241, 274, 228, 278, 239, 291, 266, 277, 267, 275, 225 + 227 |                         |                                                       |                    |                  |       |      |

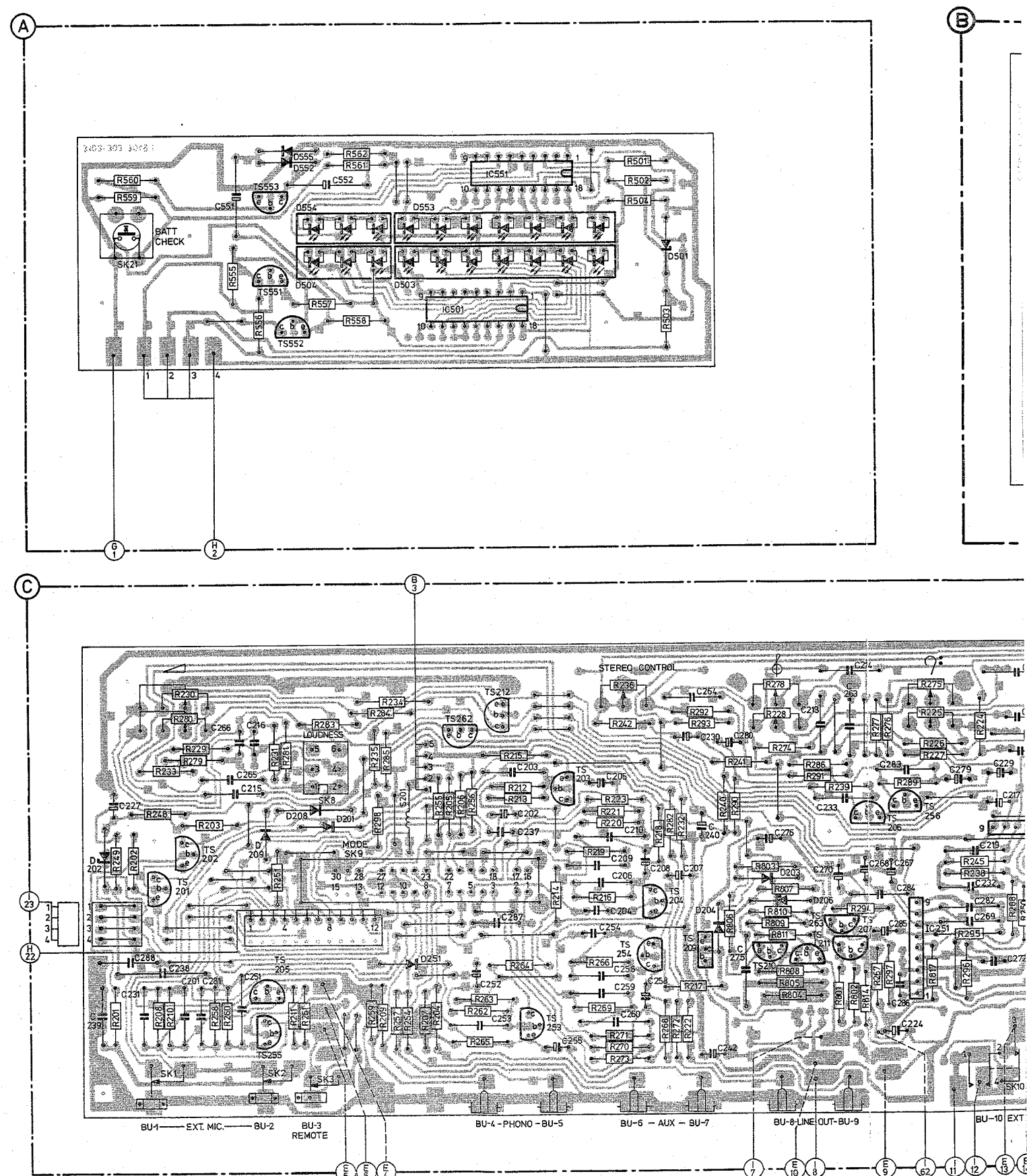
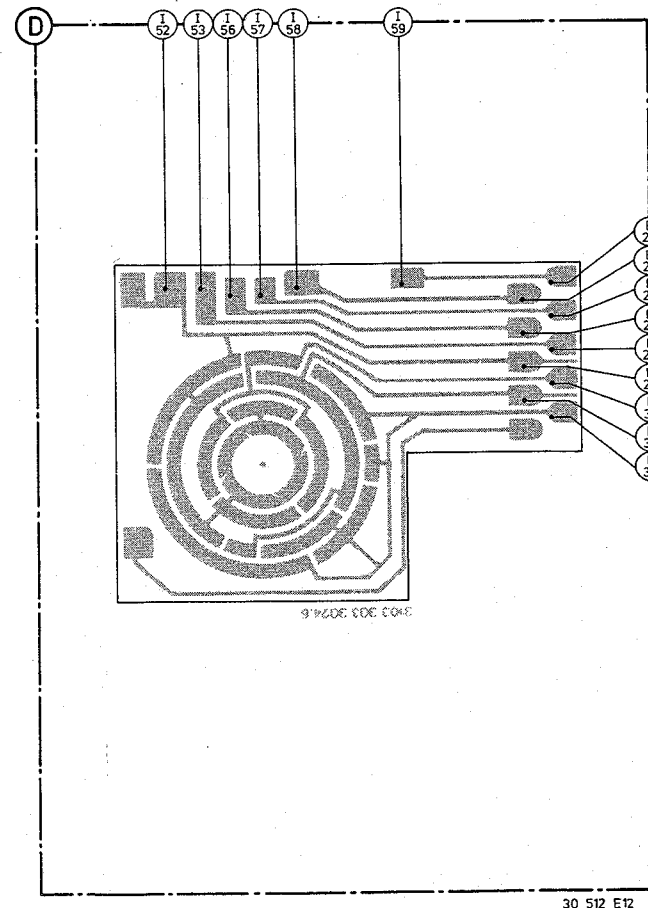
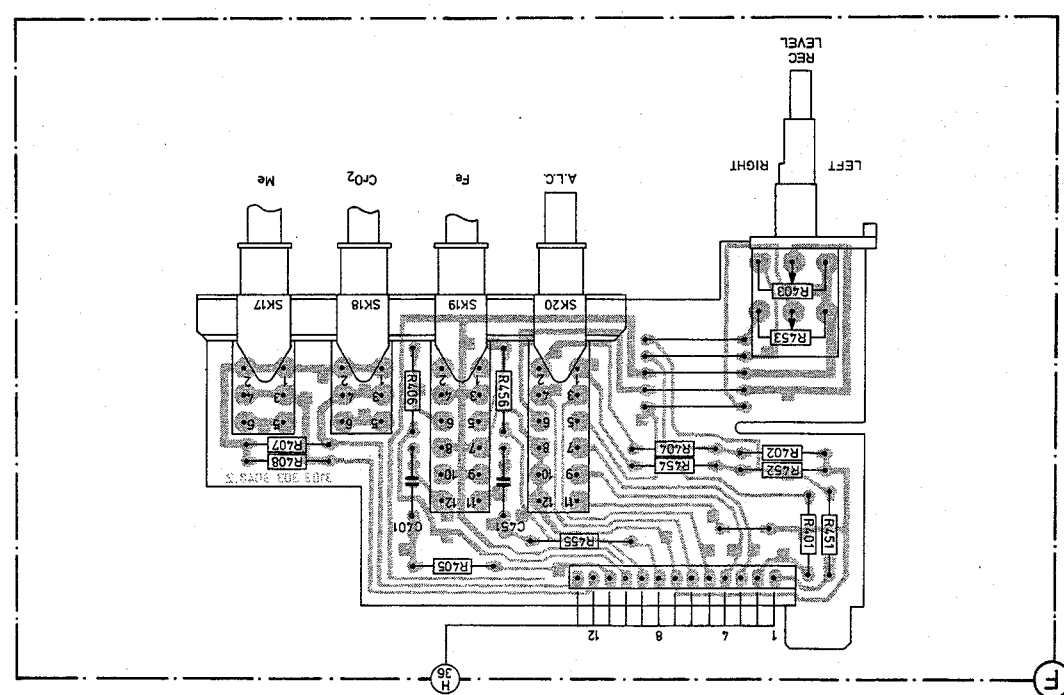
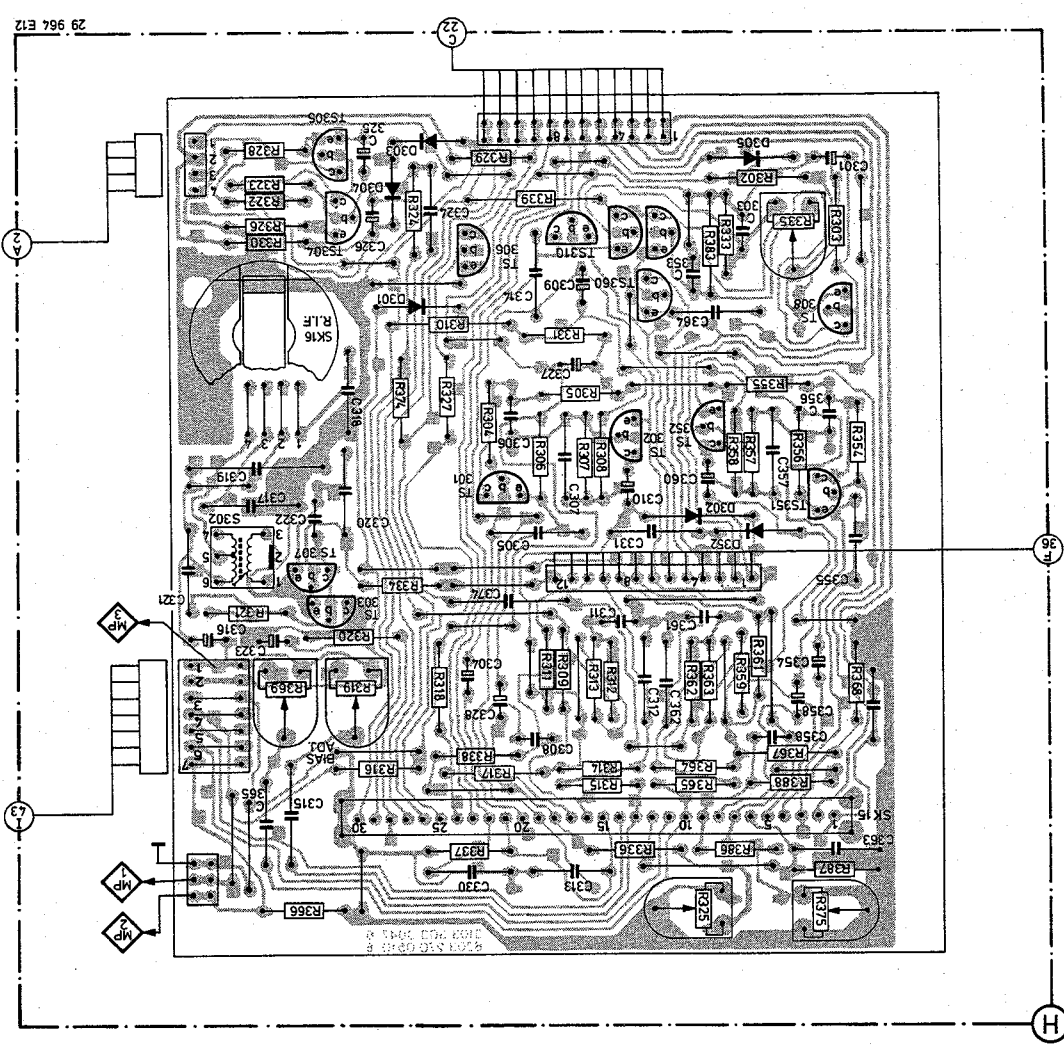
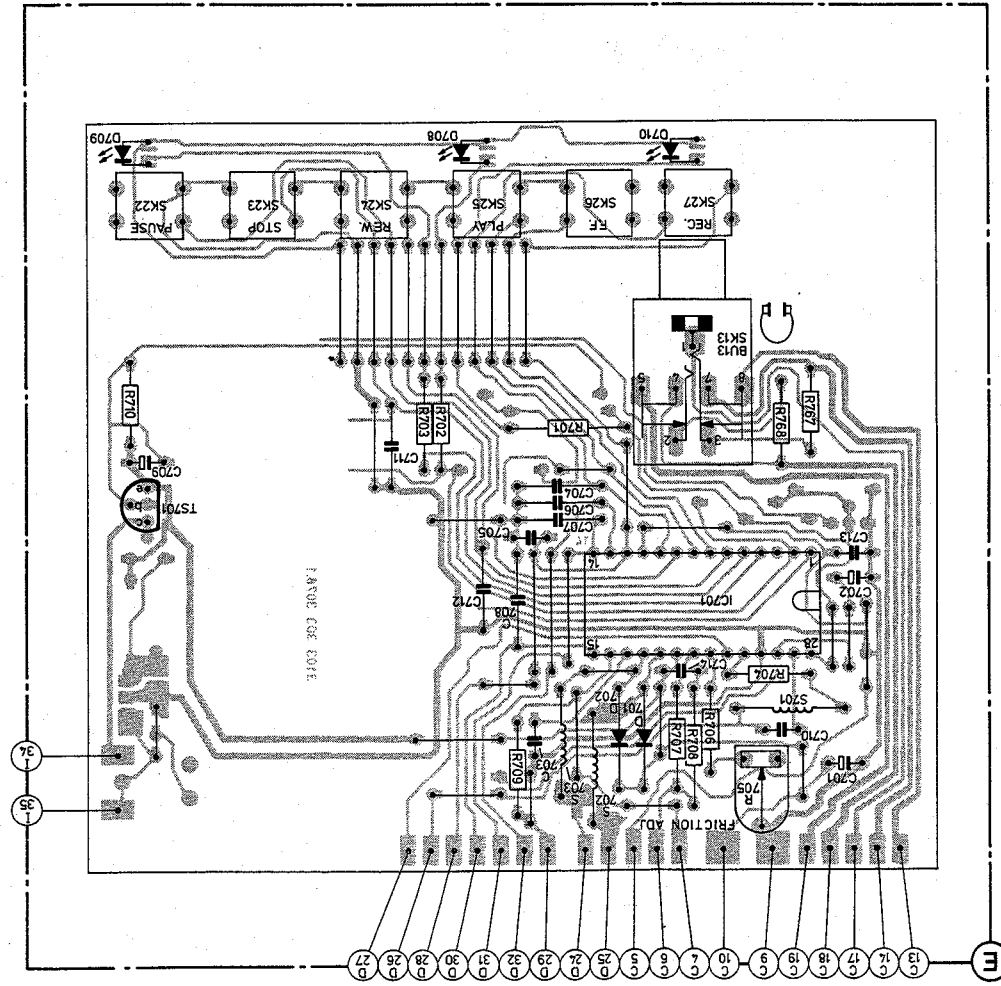
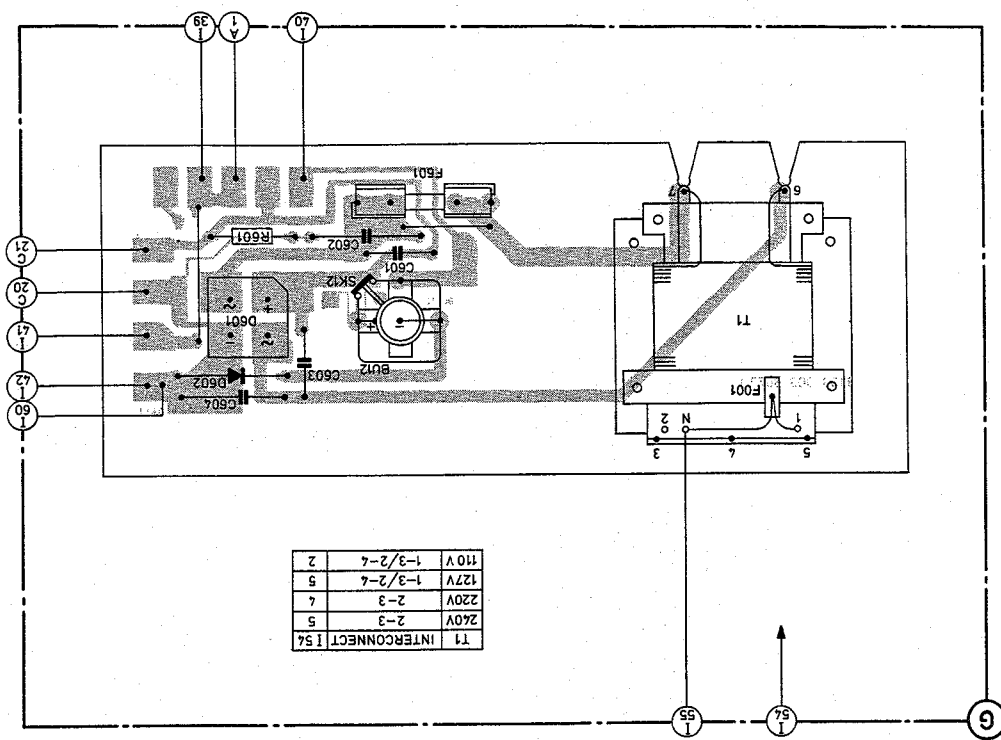


Diagram A shows a circuit board layout with components including resistors (R550, R559, R501, R502, R504, R557, R558), capacitors (C551, C552, C553, C554, C555, C556, C557, C558, C559, C560, C561, C562, C563, C564, C565, C566, C567, C568, C569, C570, C571, C572, C573, C574, C575, C576, C577, C578, C579, C580, C581, C582, C583, C584, C585, C586, C587, C588, C589, C590, C591, C592, C593, C594, C595, C596, C597, C598, C599, C600, C601, C602, C603, C604, C605, C606, C607, C608, C609, C610, C611, C612, C613, C614, C615, C616, C617, C618, C619, C620, C621, C622, C623, C624, C625, C626, C627, C628, C629, C630, C631, C632, C633, C634, C635, C636, C637, C638, C639, C640, C641, C642, C643, C644, C645, C646, C647, C648, C649, C650, C651, C652, C653, C654, C655, C656, C657, C658, C659, C660, C661, C662, C663, C664, C665, C666, C667, C668, C669, C670, C671, C672, C673, C674, C675, C676, C677, C678, C679, C680, C681, C682, C683, C684, C685, C686, C687, C688, C689, C690, C691, C692, C693, C694, C695, C696, C697, C698, C699, C700, C701, C702, C703, C704, C705, C706, C707, C708, C709, C710, C711, C712, C713, C714, C715, C716, C717, C718, C719, C720, C721, C722, C723, C724, C725, C726, C727, C728, C729, C730, C731, C732, C733, C734, C735, C736, C737, C738, C739, C740, C741, C742, C743, C744, C745, C746, C747, C748, C749, C750, C751, C752, C753, C754, C755, C756, C757, C758, C759, C760, C761, C762, C763, C764, C765, C766, C767, C768, C769, C770, C771, C772, C773, C774, C775, C776, C777, C778, C779, C780, C781, C782, C783, C784, C785, C786, C787, C788, C789, C790, C791, C792, C793, C794, C795, C796, C797, C798, C799, C800, C801, C802, C803, C804, C805, C806, C807, C808, C809, C810, C811, C812, C813, C814, C815, C816, C817, C818, C819, C820, C821, C822, C823, C824, C825, C826, C827, C828, C829, C830, C831, C832, C833, C834, C835, C836, C837, C838, C839, C840, C841, C842, C843, C844, C845, C846, C847, C848, C849, C850, C851, C852, C853, C854, C855, C856, C857, C858, C859, C860, C861, C862, C863, C864, C865, C866, C867, C868, C869, C870, C871, C872, C873, C874, C875, C876, C877, C878, C879, C880, C881, C882, C883, C884, C885, C886, C887, C888, C889, C890, C891, C892, C893, C894, C895, C896, C897, C898, C899, C900, C901, C902, C903, C904, C905, C906, C907, C908, C909, C910, C911, C912, C913, C914, C915, C916, C917, C918, C919, C920, C921, C922, C923, C924, C925, C926, C927, C928, C929, C930, C931, C932, C933, C934, C935, C936, C937, C938, C939, C940, C941, C942, C943, C944, C945, C946, C947, C948, C949, C950, C951, C952, C953, C954, C955, C956, C957, C958, C959, C960, C961, C962, C963, C964, C965, C966, C967, C968, C969, C970, C971, C972, C973, C974, C975, C976, C977, C978, C979, C980, C981, C982, C983, C984, C985, C986, C987, C988, C989, C990, C991, C992, C993, C994, C995, C996, C997, C998, C999, C1000, C1001, C1002, C1003, C1004, C1005, C1006, C1007, C1008, C1009, C1010, C1011, C1012, C1013, C1014, C1015, C1016, C1017, C1018, C1019, C1020, C1021, C1022, C1023, C1024, C1025, C1026, C1027, C1028, C1029, C1030, C1031, C1032, C1033, C1034, C1035, C1036, C1037, C1038, C1039, C1040, C1041, C1042, C1043, C1044, C1045, C1046, C1047, C1048, C1049, C1050, C1051, C1052, C1053, C1054, C1055, C1056, C1057, C1058, C1059, C1060, C1061, C1062, C1063, C1064, C1065, C1066, C1067, C1068, C1069, C1070, C1071, C1072, C1073, C1074, C1075, C1076, C1077, C1078, C1079, C1080, C1081, C1082, C1083, C1084, C1085, C1086, C1087, C1088, C1089, C1090, C1091, C1092, C1093, C1094, C1095, C1096, C1097, C1098, C1099, C1100, C1101, C1102, C1103, C1104, C1105, C1106, C1107, C1108, C1109, C1110, C1111, C1112, C1113, C1114, C1115, C1116, C1117, C1118, C1119, C1120, C1121, C1122, C1123, C1124, C1125, C1126, C1127, C1128, C1129, C1130, C1131, C1132, C1133, C1134, C1135, C1136, C1137, C1138, C1139, C1140, C1141, C1142, C1143, C1144, C1145, C1146, C1147, C1148, C1149, C1150, C1151, C1152, C1153, C1154, C1155, C1156, C1157, C1158, C1159, C1160, C1161, C1162, C1163, C1164, C1165, C1166, C1167, C1168, C1169, C1170, C1171, C1172, C1173, C1174, C1175, C1176, C1177, C1178, C1179, C1180, C1181, C1182, C1183, C1184, C1185, C1186, C1187, C1188, C1189, C1190, C1191, C1192, C1193, C1194, C1195, C1196, C1197, C1198, C1199, C1200, C1201, C1202, C1203, C1204, C1205, C1206, C1207, C1208, C1209, C1210, C1211, C1212, C1213, C1214, C1215, C1216, C1217, C1218, C1219, C1220, C1221, C1222, C1223, C1224, C1225, C1226, C1227, C1228, C1229, C1230, C1231, C1232, C1233, C1234, C1235, C1236, C1237, C1238, C1239, C1240, C1241, C1242, C1243, C1244, C1245, C1246, C1247, C1248, C1249, C1250, C1251, C1252, C1253, C1254, C1255, C1256, C1257, C1258, C1259, C1260, C1261, C1262, C1263, C1264, C1265, C1266, C1267, C1268, C1269, C1270, C1271, C1272, C1273, C1274, C1275, C1276, C1277, C1278, C1279, C1280, C1281, C1282, C1283, C1284, C1285, C1286, C1287, C1288, C1289, C1290, C1291, C1292, C1293, C1294, C1295, C





|       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| MISC. | 5701 | SK13 | SK27 | D700 | D702 | S703 | SK25 | SK12 | SK25 | SK12 | SK23 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK22 | SK2 |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|

GB

## DISMANTLING INSTRUCTIONS

## Replacement of the tape-transport parts (refer to Fig. 6)

To replace the pressure roller, remove item 63 and item 66.

To replace the head plate, depress the plate near the lugs and take it out in an oblique upward direction.

## Note:

See to it that the 3 balls (item 60) do not get lost.

## ADJUSTMENTS AND CHECKS

## Height of the recording/playback head K1, Fig. 6

- Switch off the supply voltage.
- Slide adjusting jig 4822 402 60245 over the capstan while pressure roller 62 is slightly pulled back.
- The jig must be slid over the capstan to an extent that it is in line with the erase head guides.
- The R/P-head must now be so adjusted that the jig slides exactly between the tape guides of the two heads.

## Friction take-up

The friction force can be measured with the friction measurement cassette 4822 395 30054 (811/CTM) in position "start".

The measuring value must be:

- Take up side 40-50 gcm.
- Counter side: 2-5 gcm.
- The play take-up torque is adjusted with R705.

## Checking the lace-up and the capstan adjustment

- Recorder in position "playback" with the mirror cassette inserted.
- When the tape at the capstan moves upwards or downwards, adjust the capstan to be perpendicular by means of item 74 on the flywheel pivot bearing (Fig. 6).
- The tape should be straight and smooth between the tape guides and along the capstan. Small deviations from this pattern are permissible, because they do not have an effect for normal cassettes.

## Adjusting the flywheel play

- The flywheel play should be noticeable, but may not exceed 0.2 mm. Adjust by turning item 73 (Fig. 6).

NL

## DEMONTAGE

## Loopwerkonderdelen (Fig. 6)

De drukrol is te vervangen na verwijderen van pos. 63 en pos. 66.

De koppenschuif is te vervangen door de schuif bij de lipjes in te drukken en schuin naar voren van het loopwerk te nemen.

## Opmerking:

Pas op dat de 3 kogeltjes pos. 60 niet zoekraken.

## INSTELLINGEN EN CONTROLES

## Kophoogte o/w kop K1, Fig. 6

- Schakel de voedingsspanning van het apparaat uit.
- Schuif de instelmal 4822 402 60245 over de toonas 72

- terwijl de drukrol 62 iets teruggetrokken wordt.
- De mal moet zover over de toonas geschoven worden, dat deze zich in het verlengde van de wiskopbandgeleiders bevindt.
  - De o/w-kop moet zodanig ingesteld worden, dat de mal precies tussen de bandgeleiders van beide koppen schuift.

## Opspoelfrictie

De frictiekracht kan worden gemeten met de frictie-meet-cassette 4822 395 30054 (811/CTM) in positie "start".

De meetwaarde moet zijn:

- Opspoelzijde 40-50 gcm.
- Afspoelzijde: 2-5 gcm.
- De opspoelfrictie wordt met R705 afgeregeld.

## Kontrolle van de bandloop en toonastelling

- Apparaat in stand weergave met de spiegelcassette.
- Wanneer de band bij de toonas naar boven of naar beneden gaat moet de toonas loodrecht worden ingesteld op het vliegwieltaatslager m.b.v. pos. 74, fig. 6
- De band moet recht en gestroomlijnd tussen de bandgeleiders en langs de toonas lopen. Kleine afwijkingen in dit patroon zijn toelaatbaar, omdat dit bij normale cassettes geen invloed heeft.

## Instelling van de vliegwielspel

- De vliegwielspel moet voelbaar zijn maar mag niet meer dan 0,2 mm bedragen. Instellen door pos. 73 te verdraaien (Fig. 6).

F

## DEMONTAGE

## Pièces de la mécanique (fig. 6)

Après avoir enlevé le rep. 63 et 66 le galet presseur pourra être ôté.

La coulisse des têtes peut être enlevée en la pressant à l'endroit des languettes et en l'extrayant obliquement devant la mécanique.

## Remarque:

Faire attention de ne pas perdre les 3 billes rep. 60.

## REGLAGES ET CONTROLES

## Réglage de la hauteur de la tête enreg./repro., Fig. 6

- Couper la tension d'alimentation.
- Glisser le gabarit de réglage 4822 402 60245 sur le cabestan tout en repoussant légèrement la galet presseur 62.
- Le gabarit doit être glissé sur le cabestan 72 jusqu'à ce que ce dernier soit dans le prolongement des guide bande de la tête d'effacement.
- Régler à présent la tête enreg./repro. de façon que le gabarit puisse se placer exactement entre les guide bande des deux têtes.

## Friction d'embobinage

La force nécessaire à l'enroulement est mesurable par la cassette 4822 395 30054 (811/CTM) en position "start".

La valeur doit être de:

- Côté enroulement 40-50 gcm.

- Côté dévidé: 2...5 gcm.
- La friction de bobinage est réglable par R705.

## Contrôle de l'entraînement de la bande et réglage du cabestan

- Appareil dans la position de reproduction avec la cassette à miroir.
- Lorsque la bande sur le cabestan s'élève ou s'abaisse, le cabestan doit être réglé perpendiculairement à l'aide du rep. 74 (fig. 6) sur le palier de volant.
- La bande doit défiler bien droit et régulièrement entre les guides-bandes et le long du cabestan. De petits écarts à cet égard sont admissibles, parce que ceci n'a aucune influence pour les cassettes normales.

## Réglage du jeu du volant

- Le jeu du volant doit être perceptible, mais ne doit pas dépasser 0,2 mm. A régler à l'aide de rep. 73 (Fig. 6).

D

## ANWEISUNGEN ZUM AUSBAU

## Laufwerkteile (Bild 6)

Die Andruckrolle lässt sich nach Beseitigung der Positionen 63 und 66 auswechseln.

Der Kopfschieber lässt sich auswechseln, dadurch dass der Schieber an den Zungen eingedrückt und schräg vorwärts vom Laufwerk genommen wird.

## Bemerkung:

Darauf achten, dass die 3 Kügelchen Pos. 60 nicht verlorengehen.

## EINSTELLUNGEN UND PRÜFUNGEN

## Kopfhöhe des A/W-Kopfes K1, Abb. 6

- Die Speisespannung des Apparats ausschalten.
- Die Einstelllehre 4822 402 60245 auf die Tonachse 72 schieben, während die Andruckrolle 62 etwas zurückgezogen wird.
- Die Lehre ist so weit auf die Tonachse zu schieben, dass sie sich in der Verlängerung der Löschkopfbandführungen befindet.
- Der A/W-Kopf ist so einzustellen, dass die Lehre genau zwischen die Bandführungen der beiden Köpfe schiebt.

## Aufwickelfriction

Die Friktionskraft kann mit der Friktionsmesscassette 4822 395 30054 (811/CTM) in der Start-Stellung gemessen werden.

Der Messwert soll betragen:

- Aufwickelseite 40 ... 50 g.cm.
- Abwickelseite 2 ... 5 g.cm.
- Die Wiedergabe-Aufwickelfriction wird mit R705 eingestellt.

## Kontrolle des Bandlaufs und der Tonwelleneinstellung

- Gerät in Stellung Wiedergabe, mit der Spiegelschleife.
- Falls das Band bei der Tonwelle nach oben oder nach

unten geht, muss die Tonwelle mit pos. 74 auf dem Schwungradlager (Abb. 6) senkrecht eingestellt werden.

- Das Band muss gerade und genau fluchtend zwischen den Bandführungen und an der Tonwelle entlang laufen.
- Minimale Abweichungen sind hierbei zulässig, weil dies bei normalen Cassetten keine nachteiligen Folgen hat.

## Einstellung des Schwungradspiels

- Das Schwungradspiel muss fühlbar sein aber darf nicht mehr als 0.2 mm betragen. Einstellen mit pos. 73, fig. 6.

I

## SMONTAGGIO

## Sostituzione di parti relative al trasporto nastro (vedi Fig. 6)

Per sostituire il rullo pressore, togliere pos. 63 e pos. 66. Per sostituire la piastra della testina, premere la piastra vicina alle linguette e toglierla sollevandola obliquamente.

## Nota:

Fare attenzione di non perdere le 3 sferette (pos. 60).

## REGOLAZIONE E CONTROLLI

## Regolazione dell'altezza della testina di reg/rip K1, Fig. 6

- Togliere la tensione d'alimentazione.
- Far slittare la dima 4822 402 60245 sul capstan 72 mentre il rullo pressore 62 è leggermente spinto indietro.
- La dima deve essere fatta slittare in modo che il suo prolungamento si trovi in linea con le guide delle testine di cancellazione.
- La testine reg/rip può ora essere regolata. La dima deve trovarsi tra le guide delle due testine.

## Frizione d'avvolgimento veloce

La forza della frizione deve essere regolata con la cassette 4822 395 30054 (811/CTM) in posizione "riproduzione"

Il valore deve essere:

- Bobina di destra 40-50 grcm.
- Bobina di sinistra 2-5 grcm.
- La frizione di avvolgimento è regolabile con R705.

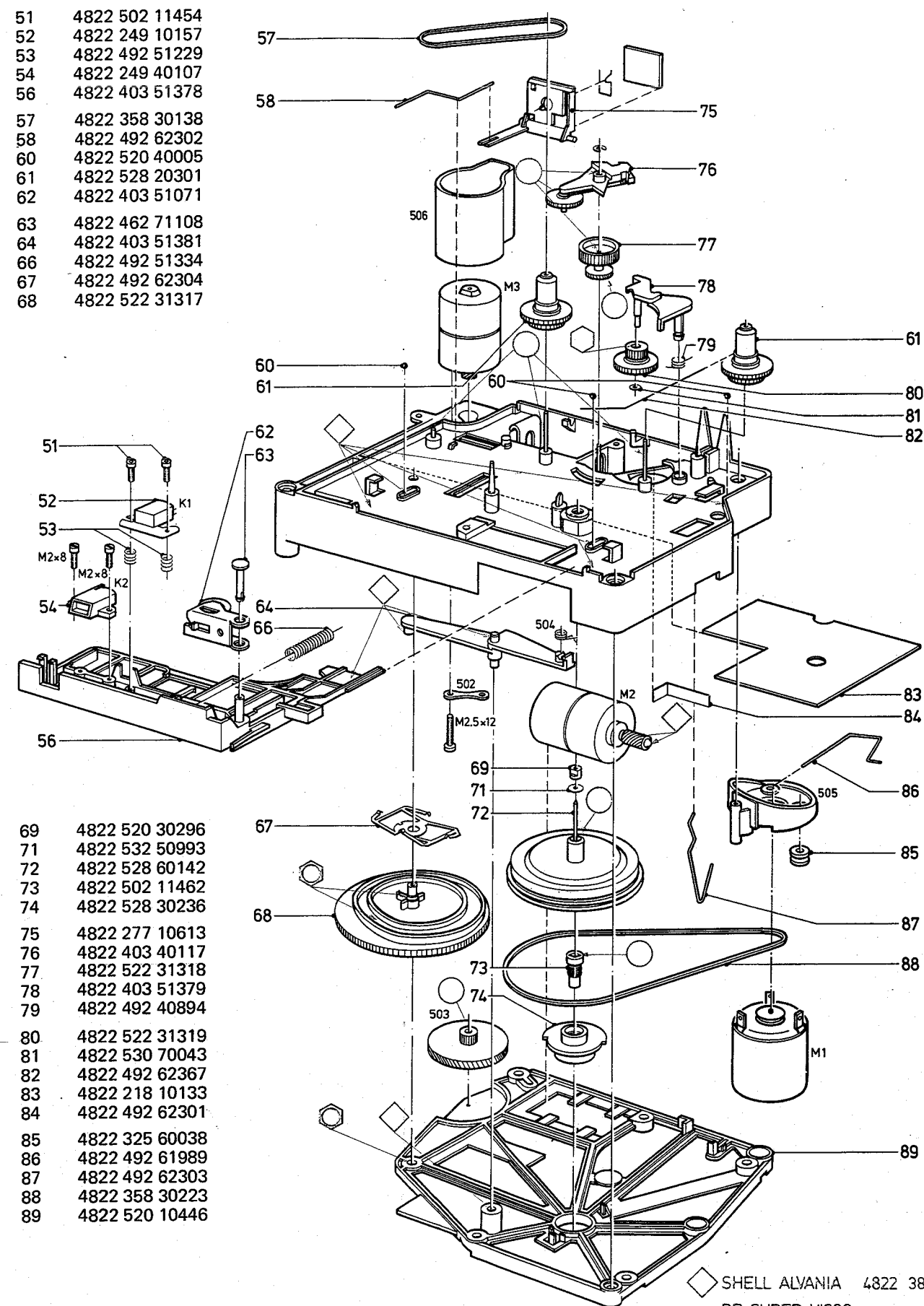
## Controllo del bloccaggio e regolazione del cabestan

- Piastra di registrazione in posizione "riproduzione" con la cassetta a specchio inserita.
- Quando il nastro sul capstan si muove o verso l'alto o verso il basso, regolare il capstan afin che sia perpendicolare per mezzo della pos. 74 (fig. 6) sulla bussola del perno del volante.
- Il nastro deve scorrere diritto e piatto tra le guide nastro e il capstan. Piccole variazioni di questo tipo sono ammesse perché non hanno alcun effetto su cassette normali.

## Regolazione del gioco del volante

- Il gioco deve essere visibile ma non deve superare i 0,2 mm. Regolare ruotando pos. 73 (fig. 6).

51 4822 502 11454  
 52 4822 249 10157  
 53 4822 492 51229  
 54 4822 249 40107  
 56 4822 403 51378  
 57 4822 358 30138  
 58 4822 492 62302  
 60 4822 520 40005  
 61 4822 528 20301  
 62 4822 403 51071  
 63 4822 462 71108  
 64 4822 403 51381  
 66 4822 492 51334  
 67 4822 492 62304  
 68 4822 522 31317

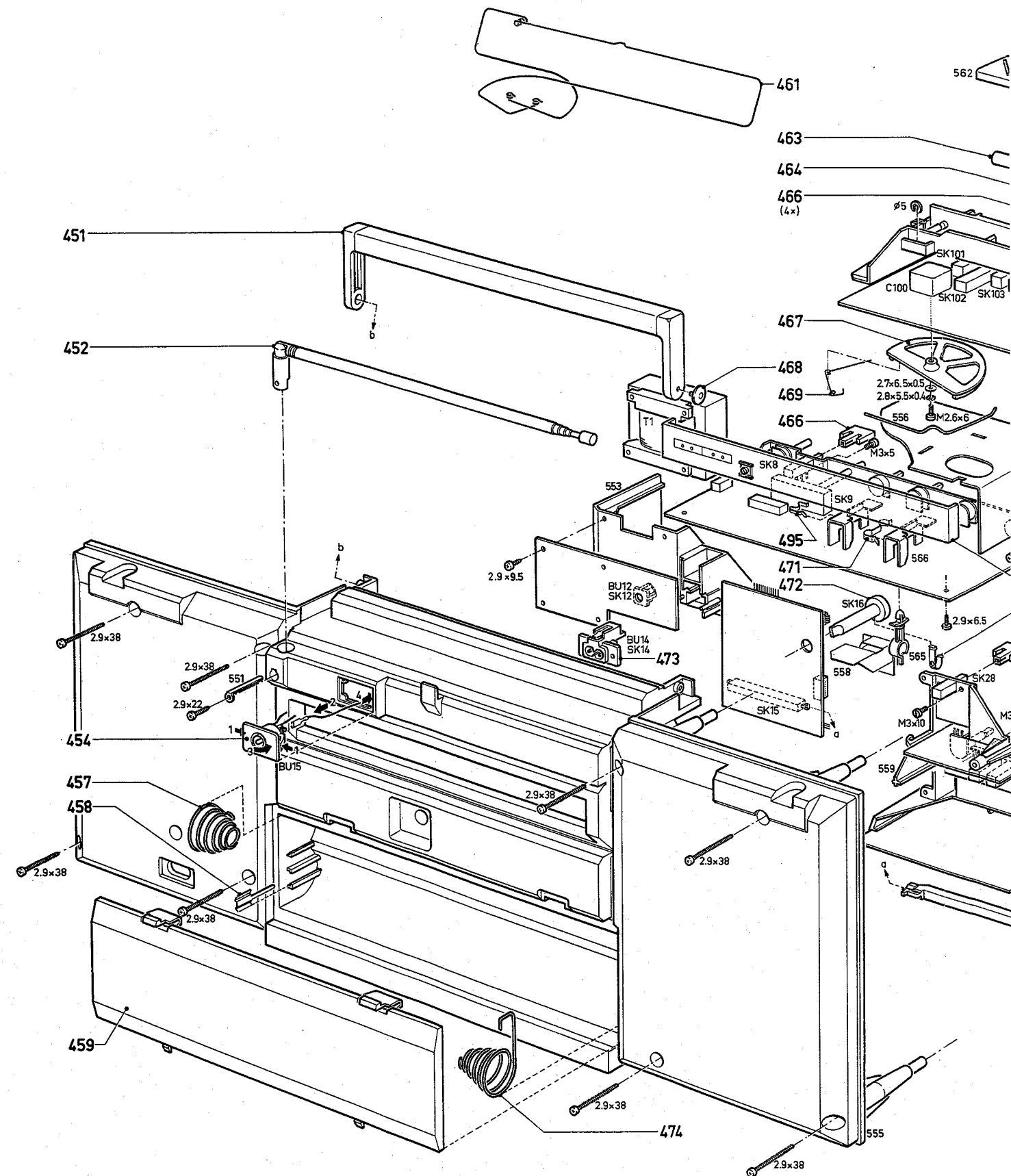


69 4822 520 30296  
 71 4822 532 50993  
 72 4822 528 60142  
 73 4822 502 11462  
 74 4822 528 30236  
 75 4822 277 10613  
 76 4822 403 40117  
 77 4822 522 31318  
 78 4822 403 51379  
 79 4822 492 40894  
 80 4822 522 31319  
 81 4822 530 70043  
 82 4822 492 62367  
 83 4822 218 10133  
 84 4822 492 62301  
 85 4822 325 60038  
 86 4822 492 61989  
 87 4822 492 62303  
 88 4822 358 30223  
 89 4822 520 10446

◇ SHELL ALVANIA 4822 389 10001  
 ○ BP SUPER VISCO 4822 815 30022  
 ○ STATIC  
 ⬡ SILICON OIL 4822 390 10068  
 ● SILICON EMULSION 7/22

Fig. 6

24 307E12/A







**GB**

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

**NL**

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

**F**

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

**D**

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

**I**

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.