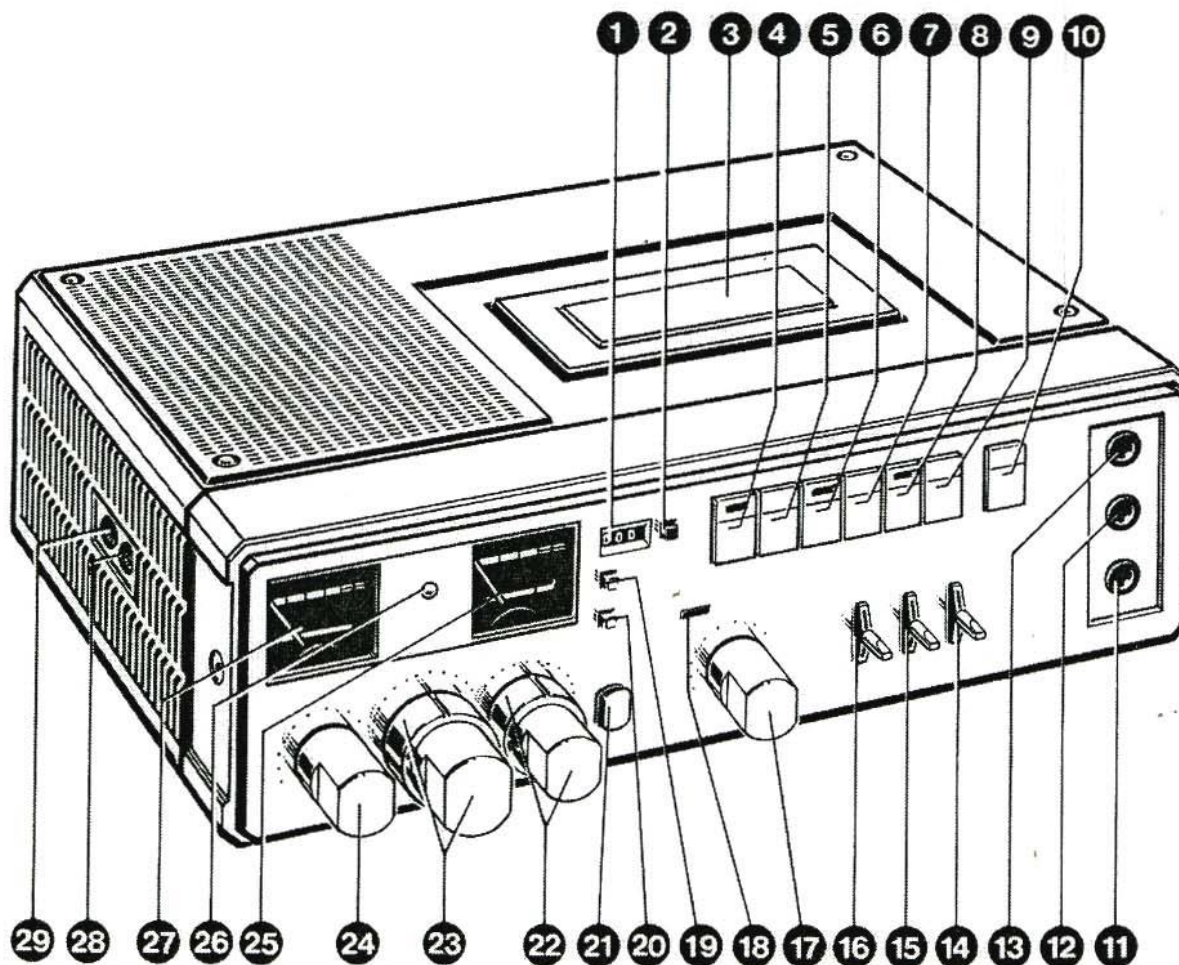


Stereo cassette recorder D6920/30/35

Service  
Service  
Service

# Service Manual



33 970 A12

Documentation Technique Service Dokumentation Documentazione di Servizio Huolto-Ohje Manual de Servicio Manual de Servicio



"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne."

Subject to modification

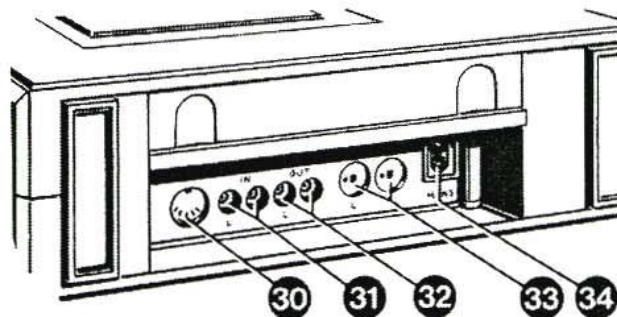
4822 725 20007

Printed in The Netherlands

# PHILIPS

**CONNECTIONS AND CONTROLS**

1	..Tape counter"		19	Battery	..Battery condition" check	SK-7
2	..Reset counter"		20	Light	..indicator illumina- tion"	SK-6
3	..Cassette lid"		21		..Power ON/OFF"	SK-1
4		..Record"	22		..Volume"	R29/R129
5		..Rewind"	23		..Record-Manual"	R16/R116
6		..Play"	24		..Pitch-control"	R95
7		..Wind"	25		..Indicator right"	I101
8		..Pause"	26		..Power indicator"	D150
9		..Stop"	27		..Indicator left"	I1
10		..Eject"	28		..Audio-visual socket	BU201/SK201
11		..Headphones"	29		..Remote control"	BU202
12		..Ext mic R/mono"	30		..Input/output-DIN"	BU9
13		..Ext mic L"	31		..Input - CINCH"	BU1 (L) BU2 (R)
14	MIC/MIXING	..Mode switch"	32		..Output - CINCH"	BU3 (L) BU4 (R)
15	RECORDING AUTO/MAN	..Mode switch"	33		..Ext loudspeakers"	BU7/SK-11 (L) BU8/SK-12 (R)
16	Cr02/NORMAL	..Sound selector"	34		..Mains inlet"	BU11/SK-0
17	SOUND ON SOUND/POST FADING	..Tape mixing-/" ..Sound fading adjustment"				
18		..Post fading-/ Sound on sound indicator"				

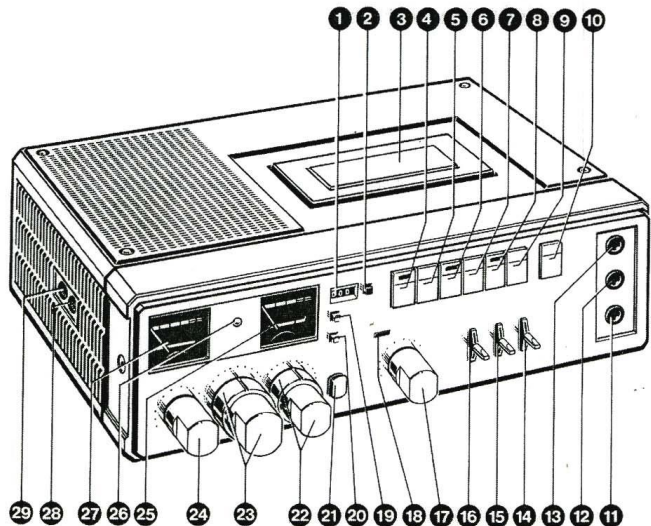


33 971 A12

**Stereo cassette recorder D6920/30/35**

**Service  
Service  
Service**

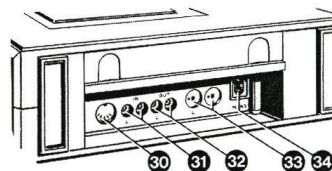
# Service Manual



33 970 A12

**CONNECTIONS AND CONTROLS**

1	..Tape counter"	19	Battery	..Battery condition" check	SK-7
2	..Reset counter"	20	Light	..indicator illumination"	SK-6
3	..Cassette lid"	21	●	..Power ON/OFF"	SK-1
4	..Record"	SK301-SK2.D306	▲	..Volume"	R29/R129
5	..Rewind"	SK302	▼	..Record-Manual"	R16/R116
6	..Play"	SK303.D307	↔	..Pitch-control"	R95
7	..Wind"	SK304	⊙	..Indicator right"	I101
8	..Pause"	SK305.D308	⊙	..Power indicator"	D150
9	..Stop"	SK306	⊙	..Indicator left"	I1
10	..Eject"		⊙	..Audio-visual socket	BU201/SK201
11	..Headphones"	BU10.SK-10	⊙	..Remote control"	BU202
12	..Ext mic R/mono"	BU5.SK-9	⊙	..Input/output-DIN"	BU9
13	..Ext mic L"	BU6.SK13	⊙	..Input - CINCH"	BU1 (L) BU2 (R)
14	MIC/MIXING ..Mode switch"	SK-3	⊙	..Output - CINCH"	BU3 (L) BU4 (R)
15	RECORDING AUTO/MAN ..Mode switch"	SK-4	⊙	..Ext loudspeakers"	BU7/SK-11 (L) BU8/SK-12 (R)
16	Cr2/NORMAL ..Sound selector"	SK-5	⊙	..Mains inlet"	BU11/SK-0
17	SOUND ON SOUND/POST FADING ..Tape mixing-/ ..Sound fading adjustment"	R34/R134.SK-8	⊙		
18	..Post fading-/ ..Sound on sound indicator"	D309	⊙		



33 971 A12

Adjustment	Cassette	Recorder in position	Apply signal to	Measure on	Read on	Adjust with	Adjust to
Play back speed	3150 Hz of SBC419	PLAY PITCH- Mid position	—	BU3 (BU4)	Wow- and flutter meter	R92	*a
Azimuth R/P head	10 kHz of SBC419	PLAY SK5 Cr02	—	BU3 (BU4)	mV-meter	Left screw R/PB head	Max. output Outp. L ≈ output R
BIAS	—	SK4 MAN REC SK5 Cr02 505 OFF	—	MP-1 MP-2	mV-meter	R55 R155	5 mV 1.5 dB
Play back sensitivity	315 Hz 0 dB of SBC419	TAPE PLAY	—	BU3 (BU4)	mV-meter	R17 R117	750 mV ±0.5 dB
Recording sensitivity	Side 2 SBC419	REC SK4 MAN SK5 Cr02 505 OFF	BU1 (BU2) 315 Hz 60 mV	MP-1 MP-2	mV-meter I1-I101 (indicators)	R42 R142	0.925 mV on MP1 b* (MP-2) with R16 (R116) = 0 dB on I1 (I101) with R42 (R142)
ALC	Side 2 SBC419	A.L.C. REC SK5-Cr02	BU1 (BU2) 315 Hz ≈ 500 mV	—	Indicators I1-I101	R50	signal strength I1 = signal strength I101

\* The maximum permissible speed deviation is 2%.  
Moreover the wow-and-flutter value can be read.  
This value should not exceed 0.3%.

\*b Disable the bias by disconnecting S1.  
(During this adjustment only).

IC201 Pin	Function	Stop	Pause	Play	Rec+Pause	Rec+Play	FF	Cue	Rewind	Review
	Servo position	Stop	Pause	Play	Rec+Pause	Rec+Play	Stop	Pause	Stop	Pause
13		L	L	L	L	H	L	L	L	L
14		H	H	L	L	L	H	L	H	H
15		H	L	H	H	H	H	H	H	H

TABLE: OUTPUT LEVELS U471B (IC201)

Function	Servo position	Outputs										pin #
		Leds				servo- motor		Play		winding-motor		
		rec	play	pause	mute	18	19	cue	tape-tension	23	24	
Stop	Stop	H	H	H	H			L	L	L	L	
Pause	Pause	H	H	L	L			L	L	L	L	
Play	Play	H	L	H	L			L	H*	H**	L	
Rec+Pause	Rec+Pause	L	H	L	L			L	L	L	L	
Rec+Play	Rec+Play	L	L	H	L			L	H*	H**	L	
FF	Stop	H	H	H	H			L	L	H	L	
Cue	Pause	H	H	H	H			H	L	H	L	
Rewind	Stop	H	H	H	H			L	L	L	H	
Review	Pause	H	L	H	L			H	L	L	H	
Servo motor moves up					H	L	H					
Servo motor moves down					H	H	L					

\*, \*\* adjustable with R80

H\* nominal 1,7 V

H\*\* nominal 2,5 V

Fig. 7

**GB SERVICE HINTS****WARNING**

When the apparatus is connected to the mains and the back cover has been removed, then there is risk of touching the mains voltage.  
The mains voltage is then connected to the primary side of the transformer, via print tracks on the print.

**Removal of cabinet parts (refer to Fig. 8)**

- The cassette-lid window may be removed by pushing it upwards from the rear of the opened cassette-lid.
- To remove the cassette-lid, push the lugs on the inner side of the open lid slightly inwards. The cassette-lid may now be lifted out.
- After removal of the cassette-lid, the cassette-lid damping (item 442 refer to Fig. 8) may now also be taken out.

**Fast-wind friction**

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

The measurement value must be:

- Fast-wind side 40-50 gcm.
- Rewind-side 2-5 gcm.

The play take-up torque is adjusted with R80.

**NL REPARATIEWENKEN****WAARSCHUWING**

Indien het apparaat is verbonden met netspanning en de achterwand is verwijderd bestaat er aanrakingsgevaar van de netspanning.  
De netspanning is dan verbonden via printsporen op de print met de primaire zijde van de transformator.

**Cabinet (Fig. 8)**

- Het venster van de kassetklep kan verwijderd worden door deze, met geopende klep, aan de achterkant omhoog te drukken.
- Voor het verwijderen van de kassetklep de lippen aan de binnenzijde iets naar binnen buigen zodat de kassetklep er uitgelicht kan worden.
- Als de kassetklep verwijderd is kan ook de kassetklepdemping pos. 442, Fig. 8 verwijderd worden.

**Opspoelfricctie**

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

De meetwaarde moet zijn:

- Opspoelzijde 40-50 gcm.
- Afspoelzijde 2-5 gcm.

De opspoelfricctie wordt met R80 afgeregeld.

**F CONSEILS REPARATION****ATTENTION**

Si l'appareil est branché à la tension secteur et que le panneau arrière est ôté, il y a danger de toucher la tension secteur.

La tension secteur est alors reliée au côté primaire du transformateur à travers les traces sur la platine.

**Pièces du boîtier (Fig. 8)**

- On peut enlever la fenêtre du rabat de cassette en la pressant vers le haut alors que le rabat est ouvert.
- Recourber quelque peu les languettes vers l'intérieur afin de pouvoir soulever et extraire le rabat de cassette.

- Lorsque le rabat de cassette est enlevé, le dispositif d'amortissement du rabat, rep. 442 Fig. 8 pourra également être enlevé.

**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 R80.

**D REPARATURHINWEISE****ACHTUNG**

Wenn das Gerät an das Netz angeschlossen ist und also Netzspannung führt und ausserdem die Rückwand abgenommen ist, besteht Netzspannungsberührungsfahr.

Die Netzspannung liegt über Leiterbahnen auf der Druckschaltungsplatine an der primären Seite des Transformators.

**Gehäuseteile (Bild 8)**

- Das Fenster der Cassettenfachklappe lässt sich abnehmen durch Hochdrücken in geöffneter Stellung auf der Rückseite.
- Für den Ausbau der Cassettenfachklappe die Zungen auf der Innenseite ein wenig einwärts biegen, so dass sich die Cassettenfachklappe ausheben lässt.
- Wenn die Cassettenfachklappe abgenommen worden ist, lässt sich auch die Cassettenfachklappen-Dämpfvorrichtung Pos. 442 (Bild 8) entfernen.

**Aufwickelfricktion**

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-Aufwickelfricktion wird mit R80 eingestellt.

**I METODO DI RIPARAZIONE****ATTENZIONE**

Quando l'apparecchio è collegato alla tensione di rete e il coperchio posteriore è stato tolto, bisogna fare attenzione a non toccare la tensione di rete.

Questa è collegata al primario del trasformatore attraverso il circuit stampato.

**Smontaggio delle parti del mobile (vedere Fig. 8)**

- La finestrella del copri-cassetta può essere tolta premendo verso l'altro dalla parte posteriore del copri-cassetta aperto.
- Per togliere il copri-cassetta spingere le linguette, sul lato del copri-cassetta, leggermente verso l'interno.
- Dopo aver rimosso il copri-cassetta, può essere tolto anche il meccanismo di apertura cassetta (pos. 442 Fig. 8).

**Frizione d'avvolgimento veloce**

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

Il valore deve essere:

- Bobina di destra 40-50 grcm.
- Bobina di sinistra 2-5 grcm.

— La frizione di avvolgimento è regolabile con R80.

Adjustment	Cassette	Recorder in position	Apply signal to	Measure on	Read on	Adjust with	Adjust to
Play back speed	3150 Hz of SBC419	PLAY PITCH-Mid position	—	BU3 (BU4)	Wow- and flutter meter	R92	*a
Azimuth R/P head	10 kHz of SBC419	PLAY SK5 Cr02	—	BU3 (BU4)	mV-meter	Left screw R/PB head	Max. output ≈ output R
BIAS	—	SK4 MAN REC SK5 Cr02 505 OFF	—	MP-1 MP-2	mV-meter	R55 R155	5 mV ± 0.5 dB
Play back sensitivity	315 Hz 0 dB of SBC419	TAPE PLAY	—	BU3 (BU4)	mV-meter	R17 R117	750 mV ± 0.5 dB
Recording sensitivity	Side 2 SBC419	REC SK4 MAN SK5 Cr02 505 OFF	BU1 (BU2) 315 Hz 60 mV	MP-1 MP-2	mV-meter I1-I101 (indicators)	R42 R142	0.925 mV on MP1 b* (MP-2) with R16 (R116) = 0 dB on I1 (I101) with R42 (R142)
ALC	Side 2 SBC419	A.L.C. REC SK5-Cr02	BU1 (BU2) 315 Hz ≈ 500 mV	—	Indicators I1-I101	R50	signal strength I1 = signal strength I101

\* The maximum permissible speed deviation is 2%. Moreover, the wow-and-flutter value can be read. This value should not exceed 0.3%.

\*b Disable the bias by disconnecting S1. (During this adjustment only).

IC201 Pin	Function	Stop		Pause		Play		Rec+Pause		Rec+Play		FF	Cue	Rewind	Review
		Stop	Pause	Play	Rec+Pause	Rec+Play	Stop	Pause	Stop	Pause					
13		L	L	L	L	L	H	L	L	L	L	L	L	L	L
14		H	H	L	L	L	L	L	H	H	L	H	H	H	H
15		H	L	H	H	H	H	H	H	H	H	H	H	H	H

TABLE: OUTPUT LEVELS U471B (IC201)

Function	Servo position	Outputs										pin #
		Leds				servo- motor			Play tape-tension		winding-motor	
		rec	play	pause	mute	18	19	21	22	23	24	
Stop	Stop	H	H	H	H			L	L	L	L	
Pause	Pause	H	H	L	L			L	L	L	L	
Play	Play	H	L	H	L			L	H*	H**	L	
Rec+Pause	Rec+Pause	L	H	L	L			L	L	L	L	
Rec+Play	Rec+Play	L	L	H	L			L	H*	H**	L	
FF	Stop	H	H	H	H			L	L	H	L	
Cue	Pause	H	H	H	H			H	L	H	L	
Rewind	Stop	H	H	H	H			L	L	L	H	
Review	Pause	H	L	H	L			H	L	L	H	
Servo motor moves up					H	L	H					
Servo motor moves down					H	H	L					

\* \*\* adjustable with R80

H\* nominal 1.7 V

H\*\* nominal 2.5 V

CS 92 705

Fig. 7

**GB SERVICE HINTS**

**WARNING**

When the apparatus is connected to the mains and the back cover has been removed, then there is risk of touching the mains voltage. The mains voltage is then connected to the primary side of the transformer, via print tracks on the print.

**Removal of cabinet parts (refer to Fig. 8)**

- The cassette-lid window may be removed by pushing it upwards from the rear of the opened cassette-lid.
- To remove the cassette-lid, push the lugs on the inner side of the open lid slightly inwards. The cassette-lid may now be lifted out.
- After removal of the cassette-lid, the cassette-lid damping (item 442 refer to Fig. 8) may now also be taken out.

**Fast-wind friction**

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

- Fast-wind side 40-50 grcm.
- Rewind-side 2-5 grcm.

The play take-up torque is adjusted with R80.

**NL REPARATIEWENKEN**

**WAARSCHUWING**

Indien het apparaat is verbonden met netspanning en de achterwand is verwijderd bestaat er aanrakingsgevaar van de netspanning. De netspanning is dan verbonden via printsporen op de print met de primaire zijde van de transformator.

**Cabinet (Fig. 8)**

- Het venster van de kassetteklep kan verwijderd worden door deze met geopende klep, aan de achterkant omhoog te drukken.
- Voor het verwijderen van de kassetteklep de lippen aan de binnenzijde iets naar binnen buigen zodat de kassetteklep er uitgelicht kan worden.
- Als de kassetteklep verwijderd is, kan ook de kassetteklepdemping pos. 442, Fig. 8 verwijderd worden.

**Opspoelfricctie**

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

De meetwaarde moet zijn:

- Opspoelzijde 40-50 grcm.
- Afspoelzijde 2-5 grcm.

De opspoelfricctie wordt met R80 afgeregeld.

**F CONSEILS REPARATION**

**ATTENTION**

Si l'appareil est branché à la tension secteur et que le panneau arrière est ôté il y a danger de toucher la tension secteur. La tension secteur est alors reliée au côté primaire du transformateur à travers les traces sur la platine.

**Pièces du boîtier (Fig. 8)**

- On peut enlever la fenêtre du rabat de cassette en la pressant vers le haut alors que le rabat est ouvert.
- Recourber quelque peu les languettes vers l'intérieur afin de pouvoir soulever et extraire le rabat de cassette.

- Lorsque le rabat de cassette est enlevé, le dispositif d'amortissement du rabat, rep. 442 Fig. 8 pourra également être enlevé.

**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 grcm;
- Côté dévidé: 2-5 grcm.

La friction de bobinage est réglable par R80.

**D REPARATURHINWEISE**

**ACHTUNG**

Wenn das Gerät an das Netz angeschlossen ist und also Netzspannung führt und ausserdem die Rückwand abgenommen ist, besteht Netzspannungsberührungsfahr. Die Netzspannung liegt über Leiterbahnen auf der Druckschaltungsplatine an der primären Seite des Transformators.

**Gehäuseteile (Bild 8)**

- Das Fenster der Cassettenfachklappe lässt sich abnehmen durch Hochdrücken in geöffneter Stellung auf der Rückseite.
- Für den Ausbau der Cassettenfachklappe die Zungen auf der Innenseite ein wenig einwärts biegen, so dass sich die Cassettenfachklappe ausheben lässt.
- Wenn die Cassettenfachklappe abgenommen worden ist, lässt sich auch die Cassettenfachklappen-Dämpfvorrichtung Pos. 442 (Bild 8) entfernen.

**Aufwickelfricktion**

Die Friktionskraft kann mit der Friktionsmess-cassette 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-Aufwickelfricktion wird mit R80 eingestellt.

**I METODO DI RIPARAZIONE**

**ATTENZIONE**

Quando l'apparecchio è collegato alla tensione di rete il coperchio posteriore è stato tolto, bisogna fare attenzione a non toccare la tensione di rete. Questa è collegata al primario del trasformatore attraverso il circuito stampato.

**Smontaggio delle parti del mobile (vedere Fig. 8)**

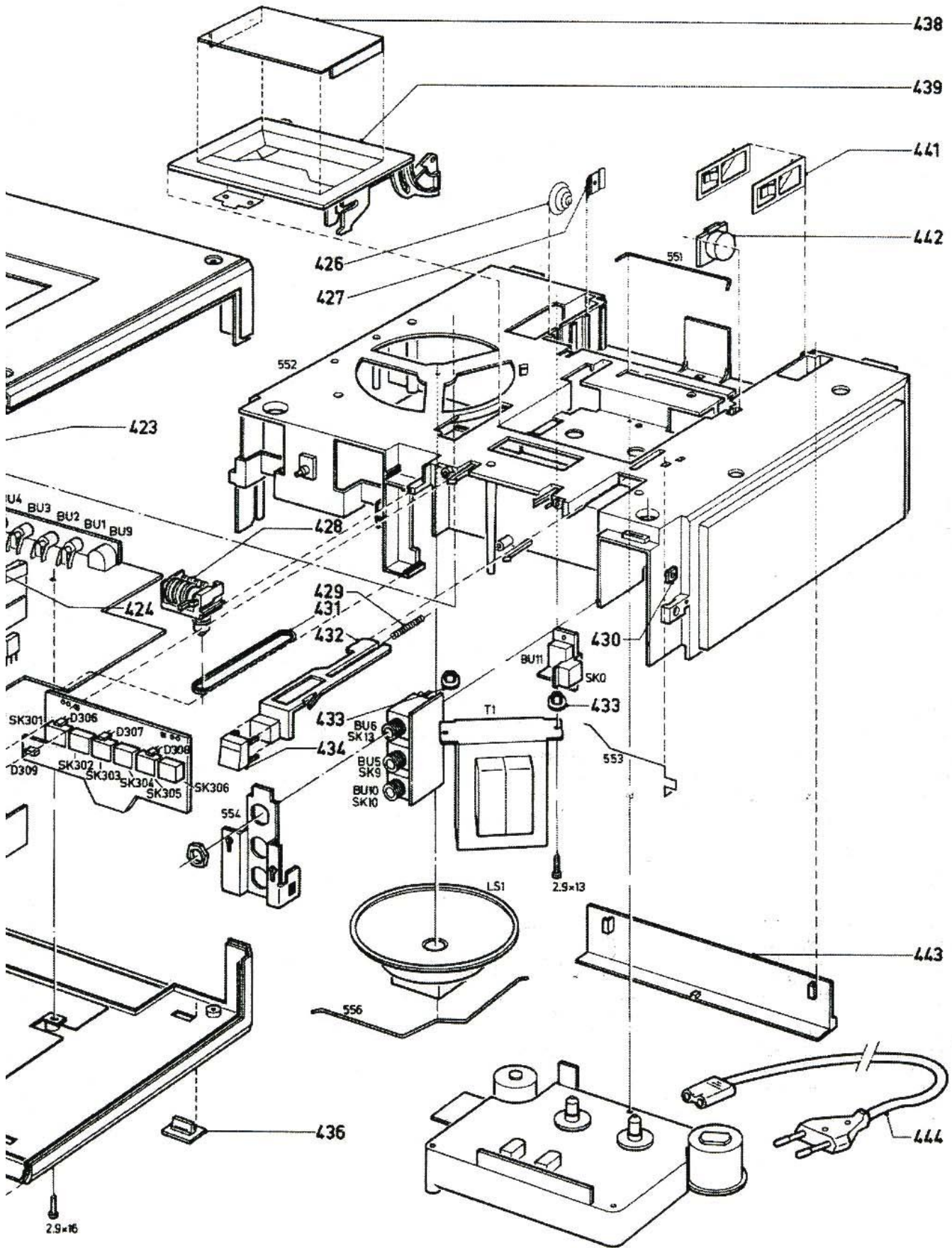
- La finestrella del copri-cassetta può essere tolta premendo verso l'altro dalla parte posteriore del copri-cassetta aperto.
- Per togliere il copri-cassetta spingere le linguette, sul lato del copri-cassetta leggermente verso l'interno.
- Dopo aver rimosso il copri-cassetta, può essere tolto anche il meccanismo di apertura cassetta (pos. 442 Fig. 8).

**Frizione d'avvolgimento veloce**

La forza della frizione deve essere regolata con la cassetta 4822 395 30054 (811/CTM) in posizione "reproduzione". Il valore deve essere:

- Bobina di destra 40-50 grcm.
- Bobina di sinistra 2-5 grcm.

La frizione di avvolgimento è regolabile con R80.



401	4822 500 30009
402/30/35	4822 443 30506
402/48	4822 443 61188
403	4822 413 31202
404	4822 522 31316
405	4822 466 70454
406	4822 358 30293
407	4822 492 51374
408	4822 413 31203
409	4822 530 50688
411	4822 413 31204
412	4822 530 50687
413	4822 413 31205
416	4822 277 10709
417	4822 410 23205
418	4822 410 23206
419	4822 443 60759
421/30/35	4822 443 50414
421/48	4822 443 61187
423	4822 492 31734
424	4822 403 30363
426	4822 492 61311
427	4822 290 80228
428	4822 349 50126
429	4822 492 51228
430	4822 505 10665
431	4822 358 30292
432	4822 410 40205
433	4822 460 20317
434	4822 410 23204
436	4822 462 40473
438	4822 381 10534
439	4822 443 61177
441	4822 290 80282
442	4822 535 70618
443	4822 443 60757
444/30/48	4822 321 10105
444/35	4822 321 10235

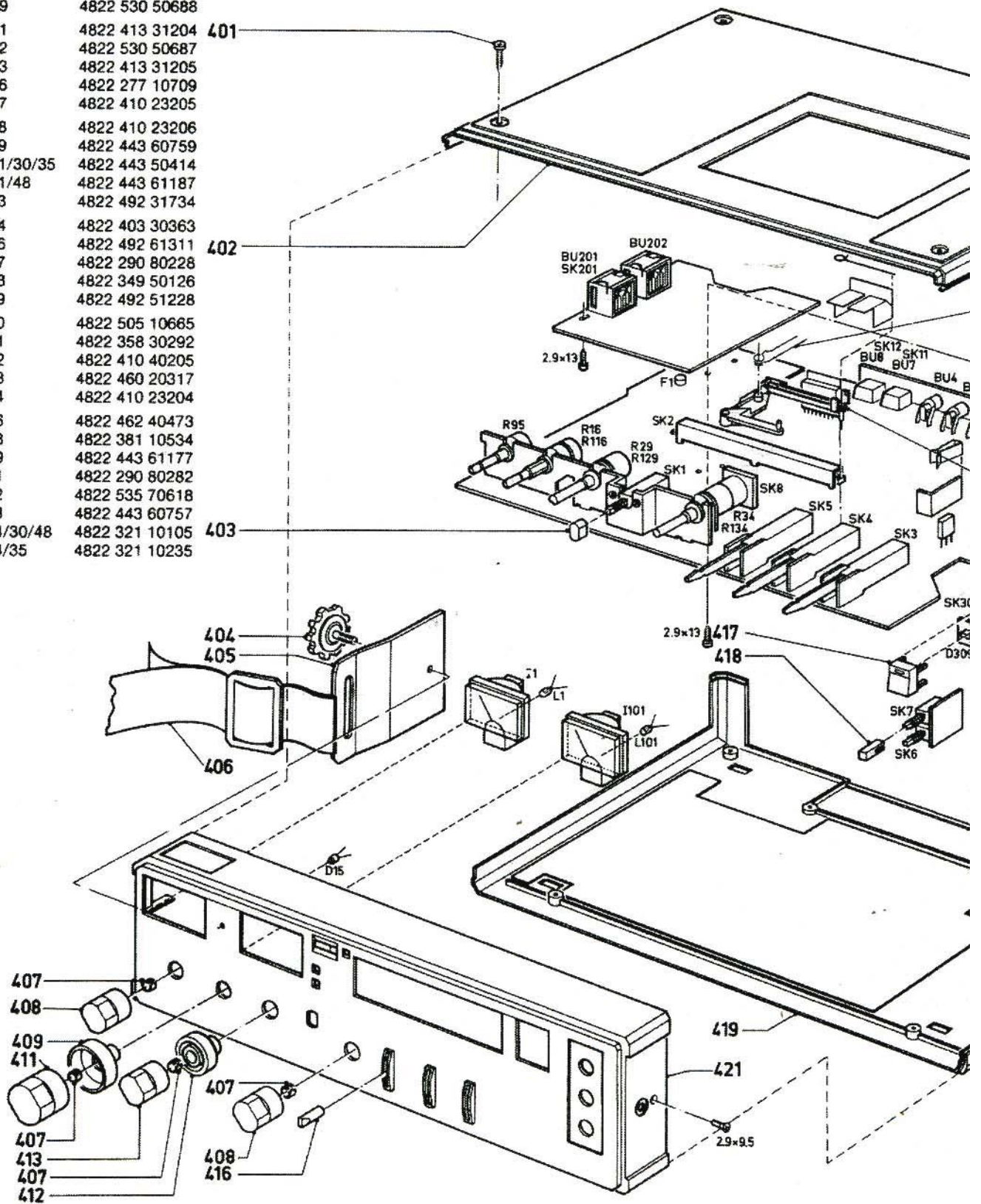


Fig. 8



- 401 4822 500 30009
- 402/30/35 4822 443 30506
- 402/48 4822 443 61188
- 403 4822 413 31202
- 404 4822 522 31316
- 405 4822 466 70454
- 406 4822 358 30293
- 407 4822 492 51374
- 408 4822 413 31203
- 409 4822 530 50688
- 411 4822 413 31204
- 412 4822 530 50687
- 413 4822 413 31205
- 416 4822 277 10709
- 417 4822 410 23205
- 418 4822 410 23206
- 419 4822 443 60759
- 421/30/35 4822 443 50414
- 421/48 4822 443 61187
- 423 4822 492 31734
- 424 4822 403 30363
- 426 4822 492 61311
- 427 4822 290 80228
- 428 4822 349 50126
- 429 4822 492 51228
- 430 4822 505 10665
- 431 4822 358 30292
- 432 4822 410 40205
- 433 4822 460 20317
- 434 4822 410 23204
- 436 4822 462 40473
- 438 4822 381 10534
- 439 4822 443 61177
- 441 4822 290 80282
- 442 4822 535 70618
- 443 4822 443 60757
- 444/30/48 4822 321 10105
- 444/35 4822 321 10235

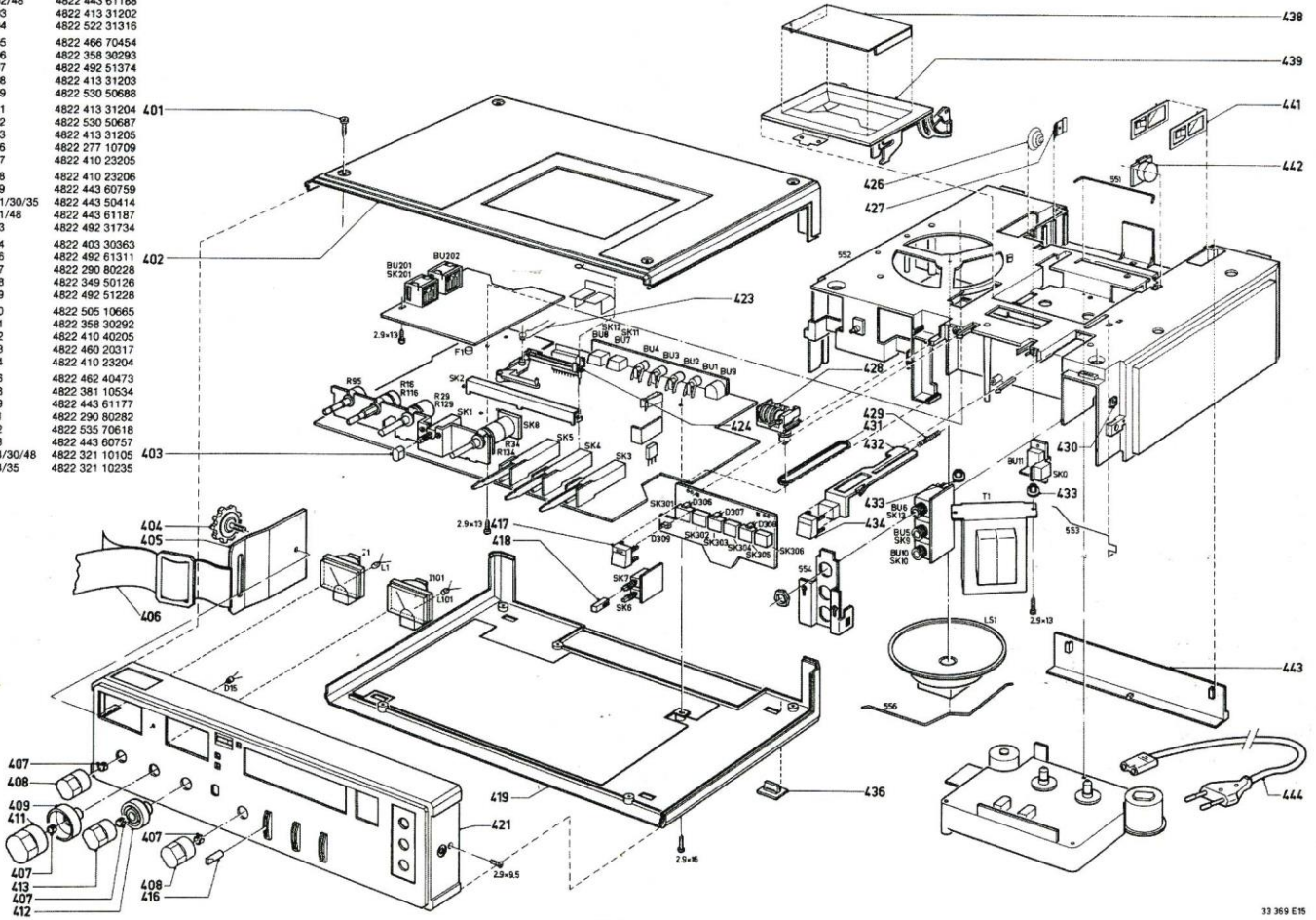











Fig. 8

<p><b>-IC-</b> </p>	<p><b>-SK-</b> </p>
<p>LM741 (AN1741) 5322 209 85957 M51601L 4822 209 81788 U471B 4822 209 81415</p>	<p>SK1 4822 276 11194 SK2 4822 277 30663 SK3 4822 277 10609 SK4 4822 277 10609 SK5 4822 277 10609 SK6 4822 277 20736 SK7 4822 277 20736 SK301 4822 276 10799 SK302 4822 276 10799 SK303 4822 276 10799 SK304 4822 276 10799 SK305 4822 276 10799 SK306 4822 276 10799</p>
<p><b>-TS-</b> </p> <p>BC327/25 4822 130 41246 BC337/25 4822 130 40981 BC337/40 4822 130 41344 BC548C 4822 130 44196 BC549C 4822 130 44246 BC558B 4822 130 42109 BD330 5322 130 44752</p>	<p><b>-Miscellaneous-</b></p>
<p><b>-D-</b> </p> <p>GL2PR1 4822 130 31399 LED green GL-9NG9 4822 130 31433 LED red GL-9PR9 4822 130 31432 LED yell. GL-9HY9 4822 130 31468 OA95 4822 130 30191 1N4001G 4822 130 31438 1N4148 4822 130 30621 BZX79-B4V7 4822 130 34174 BZX79-B5V1 4822 130 34233 BZX79-B6V8 4822 130 34278 BZX79-C3V6 5322 130 34834 BZX79-B7V5 4822 130 30861</p>	<p>BU1. BU2 BU3. BU4 4822 267 20231 BU7. BU8 BU9 BU5 4822 267 30378 BU6 4822 267 30378 BU10 4822 267 30378 BU11  4822 265 20207 BU201 4822 267 50432 BU202 4822 267 50431 F1 1.6 AT  4822 253 10046 I1 4822 347 10292 I101 4822 347 10291 LS1 4822 240 40084 T1  4822 146 20828</p>
<p><b>-S-</b> </p>	
<p>S1 4822 158 10525</p>	
<p><b>-R-</b> </p> <p>R16 50K + 50K 4822 102 10181 R17 47K 4822 100 10079 R29 50K + 50k 4822 102 10181 R34 20KA + 10KB + SK8 4822 102 30419 R42 22K 4822 100 10051 R50 4K7 4822 100 10036 R55 10K 4822 100 10035 R80 22K 4822 100 10051 R85 1E 1% 4822 116 51179 R89 2K21 0.5% 4822 116 51245 R90 2K21 0.5% 4822 116 51245 R92 2K2 4822 100 10029 R95 5KB 0.5% 4822 101 20742 R96 1K 0.5% 4822 116 51235 R97 12K 0.5% 4822 116 51254 R117 47K 4822 100 10079 R142 22K 4822 100 10051 R146 2E2 5% 4822 110 53036 R155 10K 4822 100 10035 R217 33K2 0.5% 4822 116 51259</p>	

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.

	Carbon film 0.2 W 70°C 5%		Ceramic plate Tuning $\leq 120$ pF NP.0 2% Others -20/+80%	*a = 2.5 V b = 4 V c = 6.3 V d = 10 V e = 16 V f = 25 V g = 40 V h = 63 V j = 100 V l = 125 V m = 150 V n = 160 V q = 200 V r = 250 V s = 300 V t = 350 V u = 400 V v = 500 V w = 630 V x = 1000 V A = 1.6 V B = 6 V C = 12 V D = 15 V E = 20 V F = 35 V G = 50 V H = 75 V I = 80 V
	Carbon film 0.33 W 70°C 5%		Polyester flat foil 10%	
	Metal film 0.33 W 70°C 5%		Metalized polyester flat film 10%	
	Carbon film 0.5 W 70°C 5%		Polyester flat foil small size (Mylar) 10%	
	Carbon film 0.67 W 70°C 5%		Polysterene film/foil 1%	
	Carbon film 1.15 W 70°C 5%		Tubular ceramic	
	Chip component		Miniature single	
			Subminiature tantalum $\pm 20\%$	

<b>-IC-</b>			<b>-SK-</b>		
LM741 (AN1741)		5322 209 85967	SK1		4822 276 11194
M51801L		4822 209 81788	SK2		4822 277 30663
U471B		4822 209 81415	SK3		4822 277 10609
			SK4		4822 277 10609
			SK5		4822 277 10609
			SK6		4822 277 20736
			SK7		4822 277 20736
<b>-TS-</b>			SK301		4822 276 10799
BC327/25		4822 130 41246	SK302		4822 276 10799
BC337/25		4822 130 40981	SK303		4822 276 10799
BC337/40		4822 130 41344	SK304		4822 276 10799
BC548C		4822 130 44196	SK305		4822 276 10799
BC549C		4822 130 44246	SK306		4822 276 10799
BC558B		4822 130 42109			
BD330		5322 130 44752			
<b>-D-</b>			<b>-Miscellaneous-</b>		
GL2PR1		4822 130 31399	BU1, BU2		4822 267 20231
LED green GL-9NG9		4822 130 31433	BU3, BU4		
LED red GL-9PR9		4822 130 31432	BU7, BU8		
LED yell. GL-9HY9		4822 130 31466	BU9		
OA95		4822 130 30191	BU5		4822 267 30378
1N4001G		4822 130 31438	BU6		4822 267 30378
1N4148		4822 130 30621	BU10		4822 267 30378
BZX79-B4V7		4822 130 34174	BU11	△	4822 265 20207
BZX79-B5V1		4822 130 34233	BU201		4822 267 50432
BZX79-B6V8		4822 130 34278	BU202		4822 267 50431
BZX79-C3V6		5322 130 34834	F1	△	4822 253 10046
BZX79-B7V5		4822 130 30861	I1		4822 347 10292
			I101		4822 347 10291
			LS1	△	4822 240 40084
			T1	△	4822 146 20828
<b>-S-</b>					
S1		4822 158 10525			
<b>-R-</b>					
R16	50K + 50K	4822 102 10181			
R17	47K	4822 100 10079			
R29	50K + 50k	4822 102 10181			
R34	20KA + 10KB + SK8	4822 102 30419			
R42	22K	4822 100 10051			
R50	4K7	4822 100 10036			
R55	10K	4822 100 10035			
R80	22K	4822 100 10051			
R85	1E 1%	4822 116 51179			
R89	2K21 0.5%	4822 116 51245			
R90	2K21 0.5%	4822 116 51245			
R92	2K2	4822 100 10029			
R95	5KB 0.5%	4822 101 20742			
R96	1K 0.5%	4822 116 51235			
R97	12K 0.5%	4822 116 51254			
R117	47K	4822 100 10079			
R142	22K	4822 100 10051			
R146	2E2 5%	4822 110 53036			
R155	10K	4822 100 10035			
R217	33K2 0.5%	4822 116 51259			

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

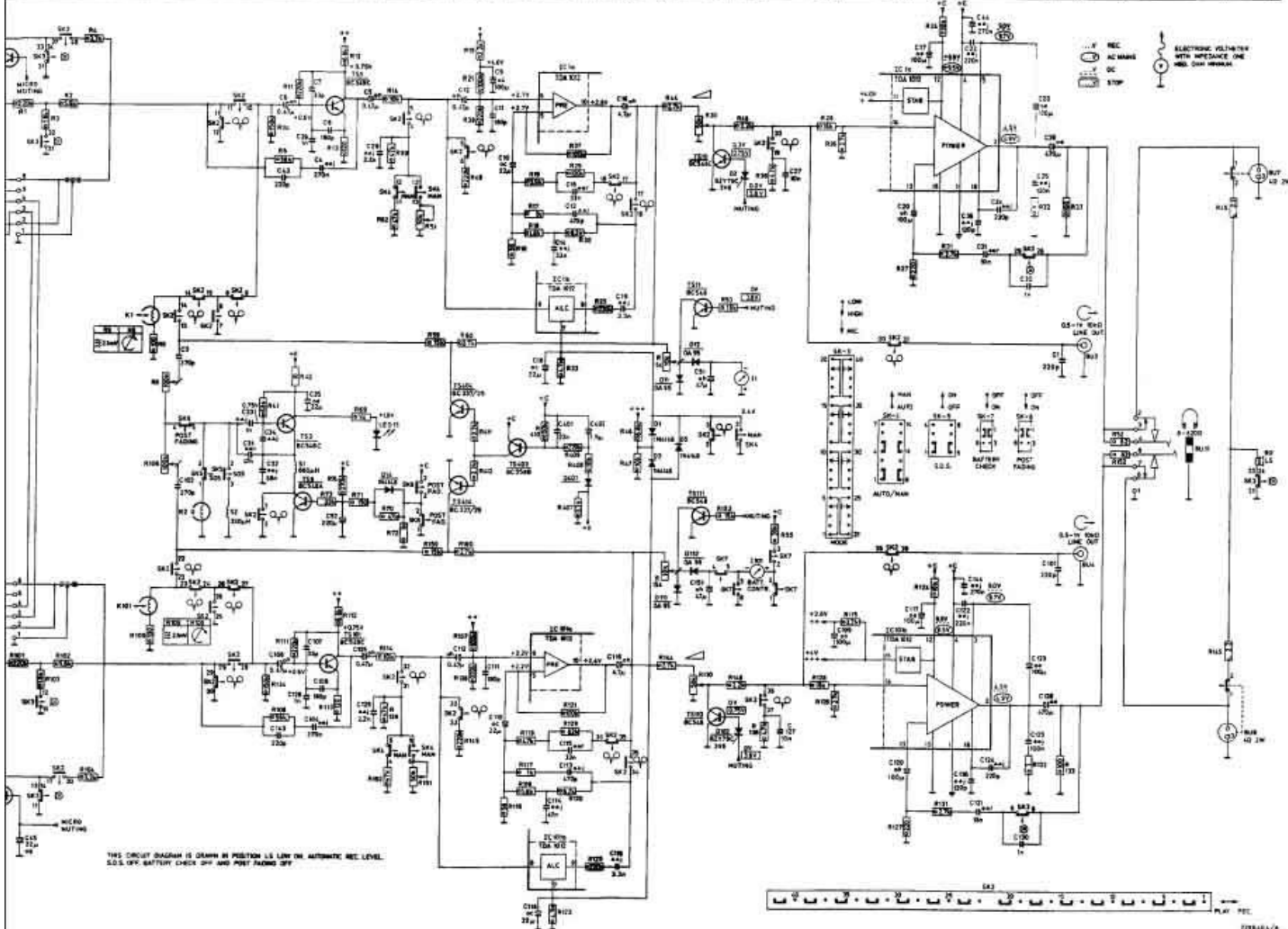
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

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.

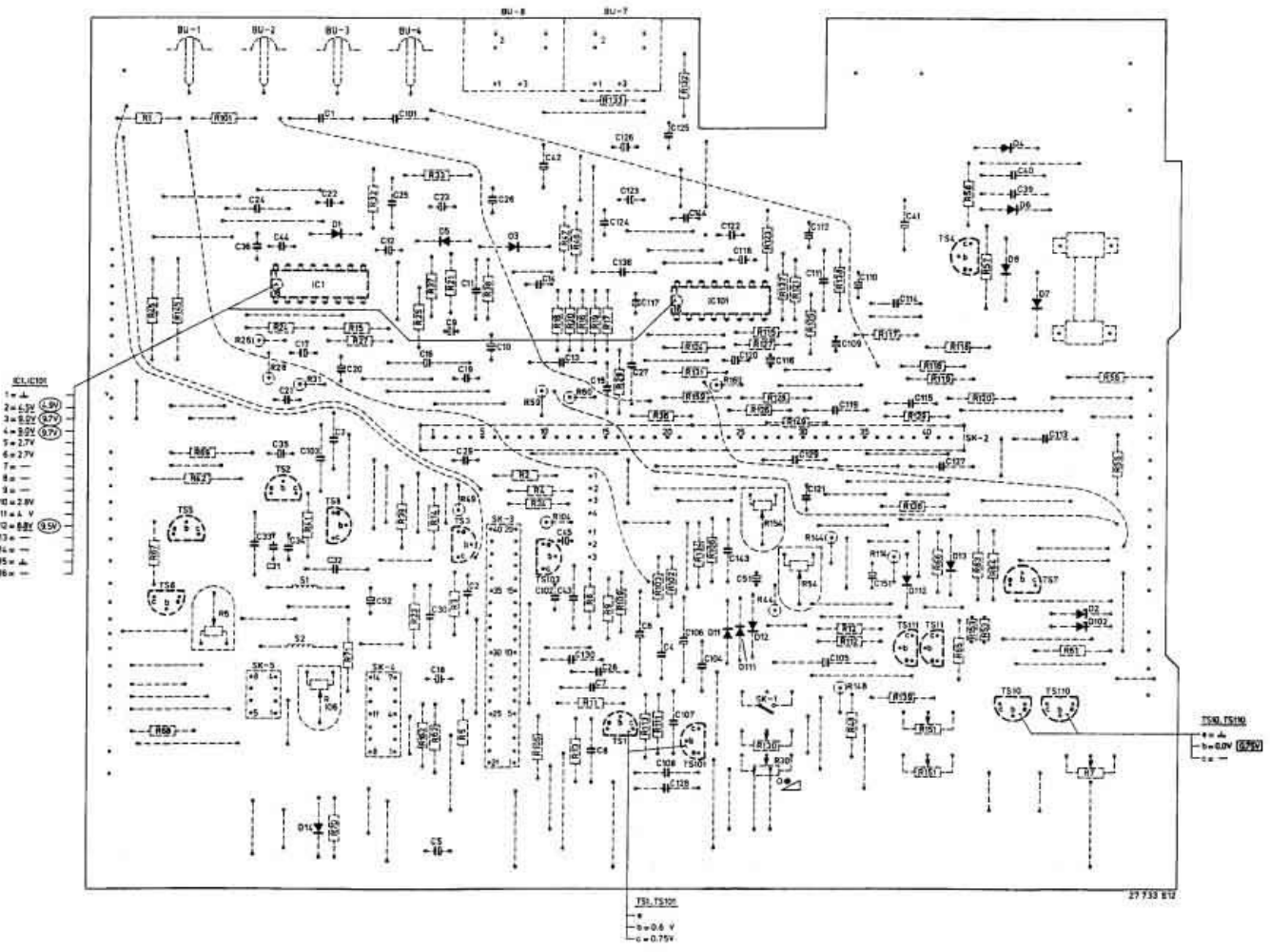
	Carbon film 0.2 W 70°C 5%		Ceramic plate Tuning <= 120 pF NP.0 2% Others -20/+80%	*a = 2.5 V b = 4 V c = 6.3 V d = 10 V e = 16 V f = 25 V g = 40 V h = 63 V i = 100 V j = 125 V k = 160 V l = 200 V m = 250 V n = 300 V o = 350 V p = 400 V q = 500 V r = 630 V s = 800 V t = 1000 V u = 1.5 V v = 5 V w = 12 V x = 15 V y = 20 V z = 35 V AA = 50 V AB = 75 V AC = 80 V
	Carbon film 0.33 W 70°C 5%		Polyester flat foil 10%	
	Metal film 0.33 W 70°C 5%		Metalized polyester flat film 10%	
	Carbon film 0.5 W 70°C 5%		Polyester flat foil small size (Mylar) 10%	
	Carbon film 0.67 W 70°C 5%		Polystyrene film/foil 1%	
	Carbon film 1.15 W 70°C 5%		Tubular ceramic	
	Chip component		Miniature single	
			Subminiature tantalum ± 20%	

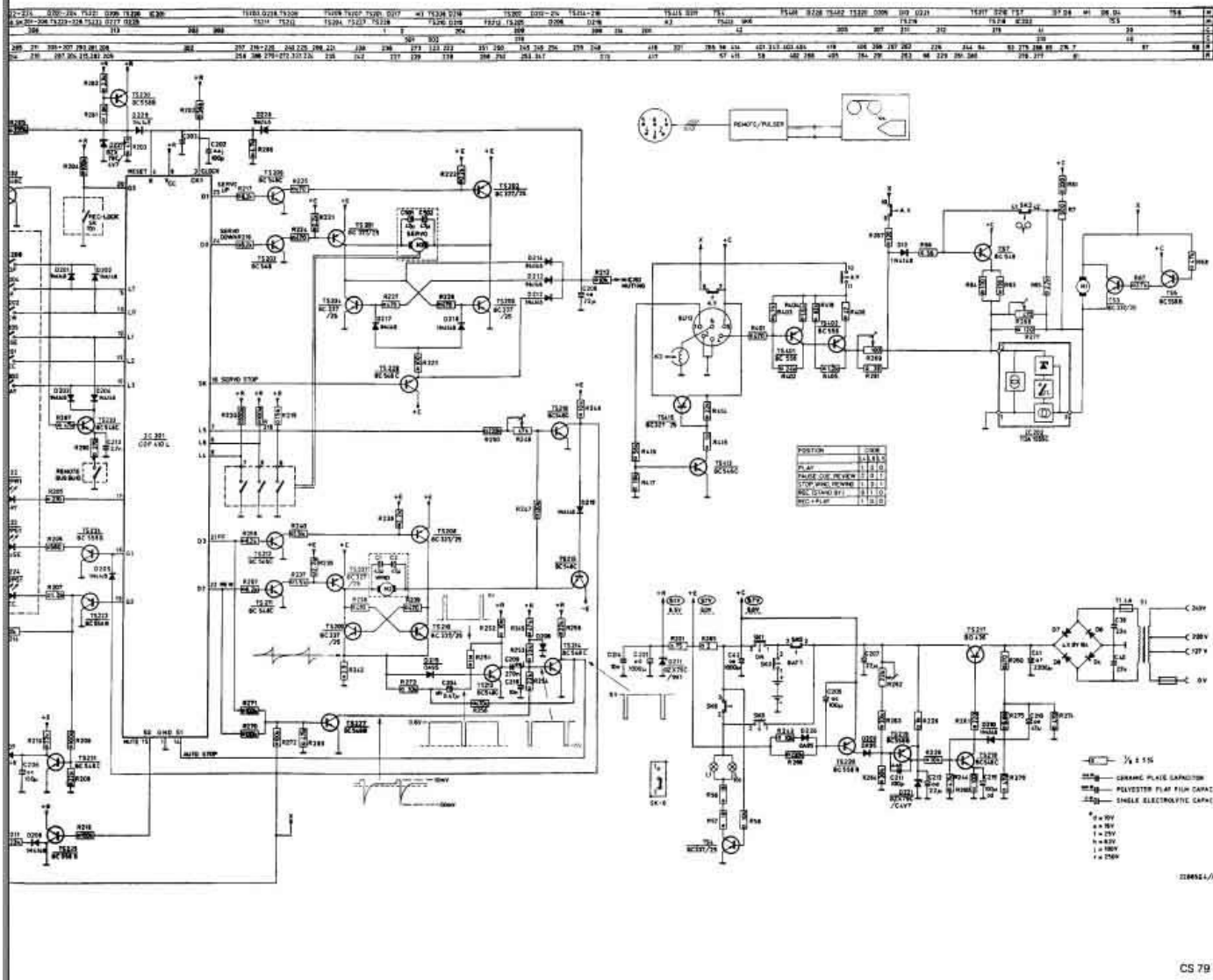
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



THIS CIRCUIT DIAGRAM IS DRAWN IN ACCORDANCE WITH THE AUTOMATIC REC. LEVEL.  
50.0 VOLT BATTERY CHECK OFF AND POST FADING OFF

MISC	BU-1	BU-2 TS2	IC1	BU-3	BU-4	Q1	BU-RO3	BU-7	IC101		TS4	DL 6+4	
MISC	TS6.5	SK-3	DL TS4	SK-4	TS3	SK-3	TS103	TS1	TS101	DL 110 0, SK-1	DL2 TS111, 1, 01	TS107	TS110 DL 102
CT		20, 36, 64, 28, 21, 17, 1, 22, 20	2, 25, 101	18	23, 18, 8, 11, 23, 26	31, 42, 12	15, 134, 123-226, 27, 112, 144	22, 318, 120, 116, 129, 112, 111, 100, 119, 110	116, 4, 115, 127	38, 12, 113			
R	1, 43, 145	101	24	15, 32	25, 27, 22, 21	38	302, 45, 43, 130, 8, 7, 28	5	4, 128, 106, 108, 104, 143	93	101, 305	181	
B	87	42, 89	26, 28	37, 41	27	39	16, 3, 19	2, 4, 24, 5, 6, 104, 60, 8	9, 29, 129	153, 16, 102, 131, 93, 134, 105, 60, 154, 125-128, 148, 144	132, 124	123, 115, 127, 121	138
DL	58	6	148, 30, 31		23, 62, 162, 3		106	13, 11	113, 111	130, 30, 44	148, 12, 112, 48	139	151
												53, 153	61, 7



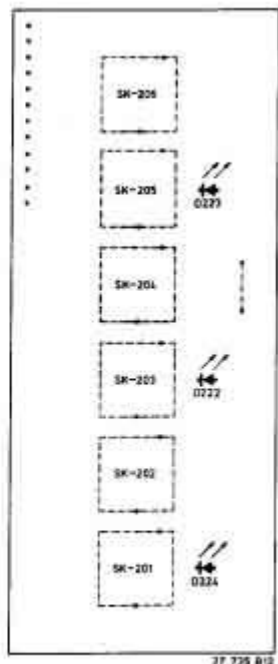
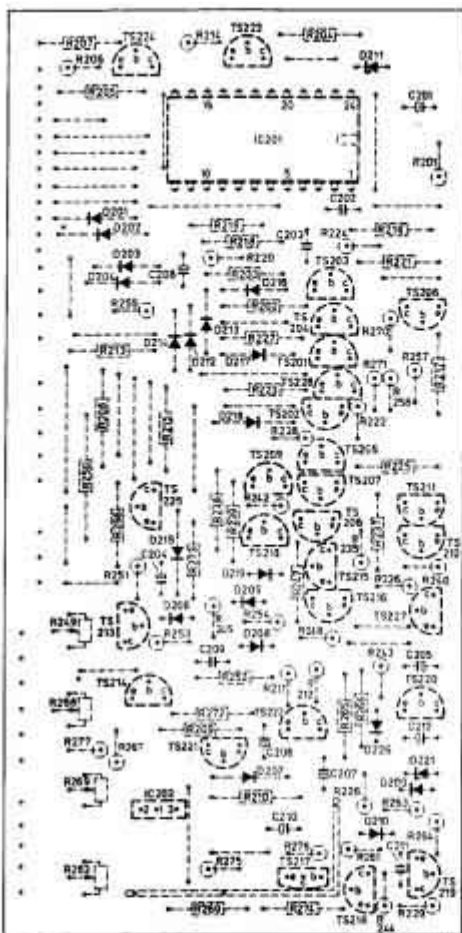


POSITION	COMP
PLAY	11.1.0
PAUSE (FOR REVIEW)	11.1.1
STOP (FOR REVIEW)	11.1.2
REC. (RECORD)	11.1.3
REC. (PLAY)	11.1.4

- CERAMIC PLATE CAPACITOR
  - POLYESTER FILM CAPACITOR
  - SINGLE ELECTROLYTIC CAPACITOR
- 5 = 5V  
 10 = 10V  
 25 = 25V  
 50 = 50V  
 100 = 100V  
 250 = 250V

22M62/A

C	R	R
204	207	206
203	208	205
202	209	204
201	210	203
200	211	202
199	212	201
198	213	200
197	214	199
196	215	198
195	216	197
194	217	196
193	218	195
192	219	194
191	220	193
190	221	192
189	222	191
188	223	190
187	224	189
186	225	188
185	226	187
184	227	186
183	228	185
182	229	184
181	230	183
180	231	182
179	232	181
178	233	180
177	234	179
176	235	178
175	236	177
174	237	176
173	238	175
172	239	174
171	240	173
170	241	172
169	242	171
168	243	170
167	244	169
166	245	168
165	246	167
164	247	166
163	248	165
162	249	164
161	250	163
160	251	162
159	252	161
158	253	160
157	254	159
156	255	158
155	256	157
154	257	156
153	258	155
152	259	154
151	260	153
150	261	152
149	262	151
148	263	150
147	264	149
146	265	148
145	266	147
144	267	146
143	268	145
142	269	144
141	270	143
140	271	142
139	272	141
138	273	140
137	274	139
136	275	138
135	276	137
134	277	136
133	278	135
132	279	134
131	280	133
130	281	132
129	282	131
128	283	130
127	284	129
126	285	128
125	286	127
124	287	126
123	288	125
122	289	124
121	290	123
120	291	122
119	292	121
118	293	120
117	294	119
116	295	118
115	296	117
114	297	116
113	298	115
112	299	114
111	300	113
110	301	112
109	302	111
108	303	110
107	304	109
106	305	108
105	306	107
104	307	106
103	308	105
102	309	104
101	310	103
100	311	102
99	312	101
98	313	100
97	314	99
96	315	98
95	316	97
94	317	96
93	318	95
92	319	94
91	320	93
90	321	92
89	322	91
88	323	90
87	324	89
86	325	88
85	326	87
84	327	86
83	328	85
82	329	84
81	330	83
80	331	82
79	332	81
78	333	80
77	334	79
76	335	78
75	336	77
74	337	76
73	338	75
72	339	74
71	340	73
70	341	72
69	342	71
68	343	70
67	344	69
66	345	68
65	346	67
64	347	66
63	348	65
62	349	64
61	350	63
60	351	62
59	352	61
58	353	60
57	354	59
56	355	58
55	356	57
54	357	56
53	358	55
52	359	54
51	360	53
50	361	52
49	362	51
48	363	50
47	364	49
46	365	48
45	366	47
44	367	46
43	368	45
42	369	44
41	370	43
40	371	42
39	372	41
38	373	40
37	374	39
36	375	38
35	376	37
34	377	36
33	378	35
32	379	34
31	380	33
30	381	32
29	382	31
28	383	30
27	384	29
26	385	28
25	386	27
24	387	26
23	388	25
22	389	24
21	390	23
20	391	22
19	392	21
18	393	20
17	394	19
16	395	18
15	396	17
14	397	16
13	398	15
12	399	14
11	400	13
10	401	12
9	402	11
8	403	10
7	404	9
6	405	8
5	406	7
4	407	6
3	408	5
2	409	4
1	410	3



37 726 810

**MECHANICAL PARTS LIST TAPE TRANSPORT**

4822 502 11454	67	4822 492 62304	83	4822 218 10133
4822 249 10101	68	4822 522 31317	84	4822 492 62301
4822 492 51229	69	4822 520 30296	85	4822 325 60038
4822 249 40096	71	4822 532 50993	86	4822 492 61989
4822 249 40135	72	4822 528 60142	87	4822 492 62303
4822 403 51378	73	4822 502 11462	88	4822 358 30294
4822 358 34017	74	4822 528 30236	89	4822 520 10446
4822 492 62302	75	4822 277 10577		
4822 532 50268	76	4822 403 40117		
4822 520 40005	77	4822 522 31318		
4822 528 20301	78	4822 403 51379		
4822 403 51071	79	4822 492 40894		
4822 462 71108	80	4822 522 31319		
4822 403 51381	81	5322 532 54294		
4822 492 51334	82	4822 492 62367		