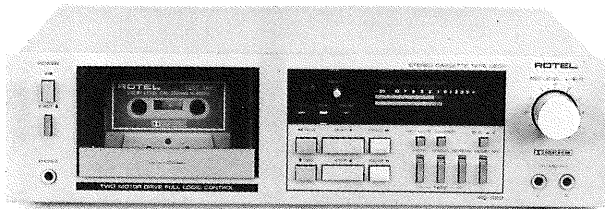


Quality Uncompromised

ROTEL®

Technical Manual



STEREO CASSETTE TAPE DECK

RD-860

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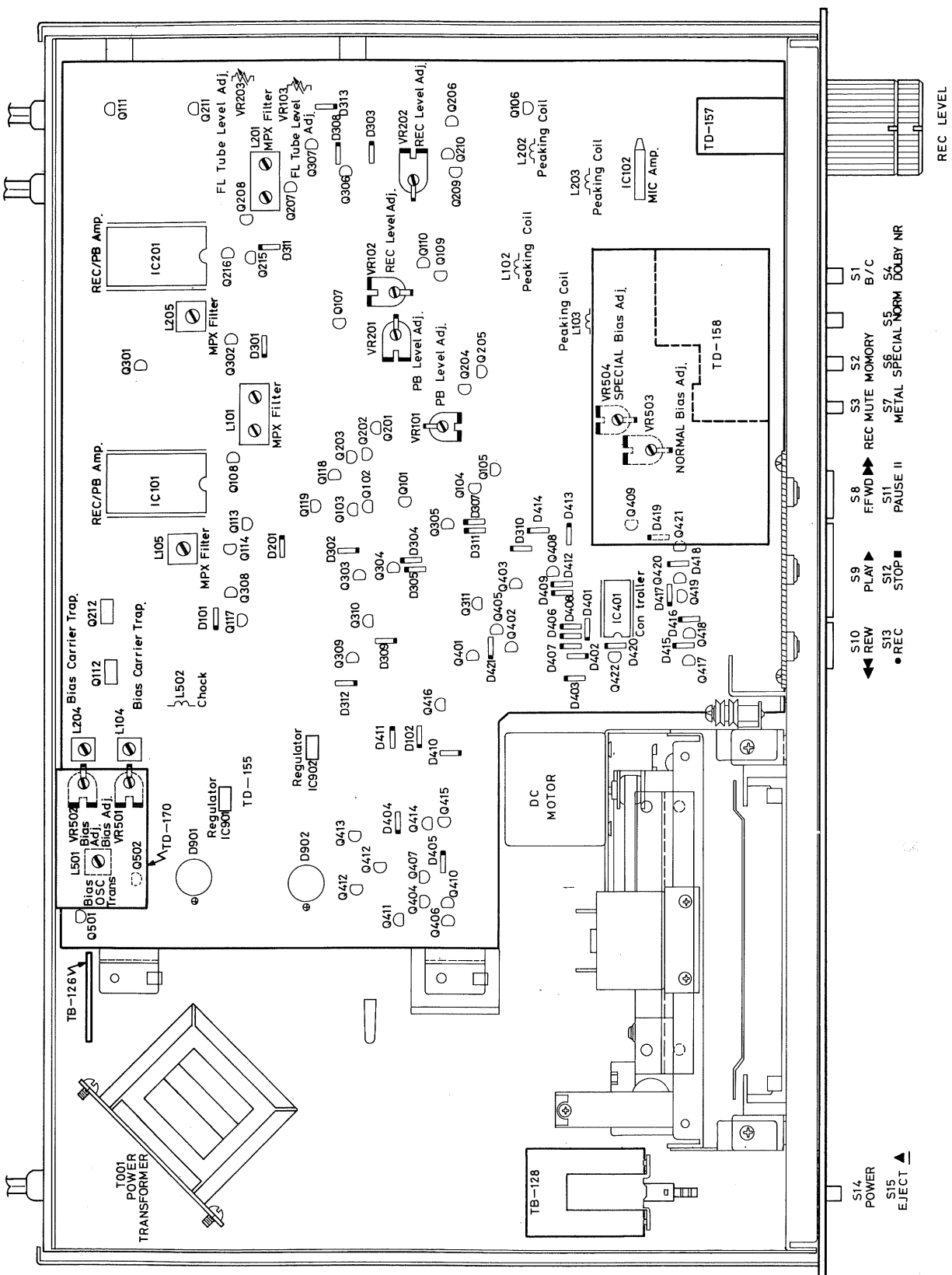
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Instruments: Oscilloscope, AC VTVM, Frequency Counter and Test Tape
Conditions: Oscilloscope, AC VTVM and Frequency Counter...LINE OUT Tape Selector...NORMAL Dolby NR...OFF

Adjustment Item	Test Tape	Adjust	Adjust for
Azimuth	LCT-3004-C	REC/PB head screw	Obtain largest wave form on Oscilloscope for both channels (Fig. 1)
Dolby Level	LCT-7001	VR101(L-ch) VR201(R-ch)	AC VTVM reads 580mV at TP3, TP4
FL Tube Calibration		VR103(L-ch) VR203(R-ch)	The FL Tube indicator corresponds with the odB. (Fig. 2)
Playback EQ Check	LCT-3009-C	Output Level difference between 125Hz, 1KHz and 10K Hz signal is within ± 3.0 dB	
Tape Speed Deflection Check/Tape Speed Adjust	LCT-3001	Check that allowable margin of deflection at middle of or at the end of winding is in the range of + 2% - 1% (at 3000Hz allowable margin of de flecion of speed is 3060-2970) If Tape Speed deflection surpasses the above range adjust speed of Motor (Fig. 3)	

Adjustment Item	Coupling	Tape Selector	Adjust	Adjust for
Spectral Skewing Network	1/P...SG (1KHz) IN Point TP7 (TP8) O/P...IN Point TP5 (TP6)	NORMAL	L105 (L-CH) L205 (R-CH)	1. AC VTVM read minimum at 19.9KHz. 2. Check 17KHz relative to 1KHz, AC VTVM read 8.3 dB (minimum).

Wiedergabepiegels-Einstellung

Instrumente: Oszillograph, Wechselspannungsvoltmeter, Frequenz-Zähler und Test-cassette
Bedienung: Oszillograph, Wechselspannungsvoltmeter und Frequenz-Zähler...LINE OUT, Bank-Wähler...NORMAL
 Dolby NR Taste...OFF

Einstellungsteil	Test-Cassette	Einstellung	Einstellungszweck
Azimut	LCT-3004-C	REC/PB Tonkppfschraube	Maximum-Wellenform auf Oszillograph für beiden Kanäle (Abb. 1) erhalten.
Dolby-Repel	LCT-7001	VR101 (L-K) VR201 (R-K)	Wechselspannungsvoltmeter auf 580mV einstellen Bei TP3, TP4.
Zähler-FL Tube		VR103 (L-K) VR203 (R-K)	Der FL Tube-Anzeiger auf dem OdB. (Abb. 2)
Prüfung der Wiedergabe "EQ"	LCT-3009-C	Ausgangspegelunterschied zwischen 125Hz, 1KHz und 10KHz darf innerhalb + 3.0dB betragen.	
Überprüfung der Bandgeschwindigkeit /Einstellung der Bandgeschwindigkeitabweichung	LCT-3001	Prüfen, ob Abweichung von der Sollgeschwindigkeit im Bereich + 2%-1% liegt (bei 3000 Hz zwischen 3060-2970 Hz). Bei grösser Abweichung Motorgeschwindigkeit nachstellen (Abb. 3)	

Regelungsteil	Ankopplung	Bandwähler	Regelung	Regelung für
Spektral-schrägstellung Funkverbindung	1/P...SG (1KHz) IN Stifte TP7 (TP8) O/P...IN Stifte TP5 (TP6)	NORMAL	L105 (L-CH) L205 (R-CH)	1. Wechselstrom VTVM liest Mindest um 19.9KHz. 2. Prüfen 17KHz bezogen auf 1KHz, Wechselstrom VTVM liest 8.3dB (Mindest).

Instruments: Oscilloscope. Voltmètre électronique
Conditions: Oscilloscope, Voltmètre électronique selecteur de bande....NORMAL D

Item de réglage	Bande d'essai
Azimut	LCT-3004-C
Niveau de Dobby	LCT-7001
Calibrage de FL Tube	
Contrôle de l'égalisation de reproduction	LCT-3009-C
Contrôle de la Variation de la vitesse de bande/réglage de la vitesse	LCT-3001

Article d'ajustage	Couplage
Reseau d'oblique spectrale	1 / P...SG (1KHz) point TP7 (TP8) O/P...dans Point TP5 (TP6)

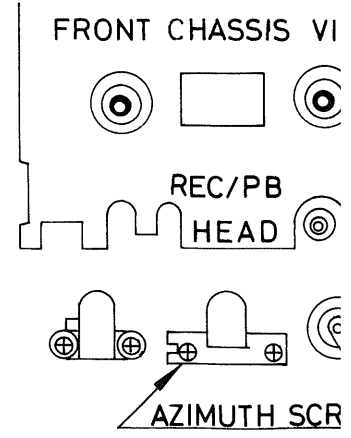


Fig.1 Azimuth Adjust
 Abb.1 Azimuteinstellung
 Fig.1 Réglage de l'azim

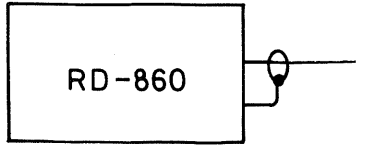


Fig.3 Tape speed Adjustment
 Abb.3 Einstellung der Bandgeschw
 Fig.3 Réglage de la vitesse de défile

Playback System Adjustments

Réglages de système de la reproduction

Instruments: Oscilloscope, AC VTVM, Frequency Counter and Test Tape
Conditions: Oscilloscope, AC VTVM and Frequency Counter...LINE OUT Tape Selector...NORMAL Dolby NR...OFF

Instruments: Oscilloscope, Voltmètre électronique à courant alternatif, Analyseur de fréquence et bande d'essai.
Conditions: Oscilloscope, Voltmètre électronique à courant alternatif et analyseur de fréquence...LINE OUT selecteur de bande...NORMAL Dolby NR...OFF

Adjustment Item	Test Tape	Adjust	Adjust for
Azimuth	LCT-3004-C	REC/PB head screw	Obtain largest wave form on Oscilloscope for both channels (Fig. 1)
Dolby Level	LCT-7001	VR101(L-ch) VR201(R-ch)	AC VTVM reads 580mV at TP3, TP4
FL Tube Calibration		VR103(L-ch) VR203(R-ch)	The FL Tube indicator corresponds with the odB. (Fig. 2)
Playback EQ Check	LCT-3009-C	Output Level difference between 125Hz, 1KHz and 10K Hz signal is within ± 3.0 dB	
Tape Speed Deflection Check/Tape Speed Adjust	LCT-3001	Check that allowable margin of deflection at middle of or at the end of winding is in the range of + 2% - 1% (at 3000Hz allowable margin of de flection of speed is 3060-2970) If Tape Speed deflection surpasses the above range adjust speed of Motor (Fig. 3)	

Adjustment Item	Coupling	Tape Selector	Adjust	Adjust for
Spectral Skewing Network	1/P...SG (1KHz) IN Point TP7 (TP8) O/P...IN Point TP5 (TP6)	NORMAL	L105 (L-CH) L205 (R-CH)	1. AC VTVM read minimum at 19.9KHz. 2. Check 17KHz relative to 1KHz, AC VTVM read 8.3 dB (minimum).

Wiedergabepiegels-Einstellung

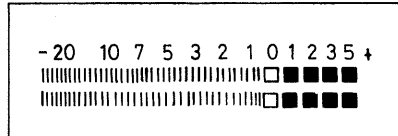
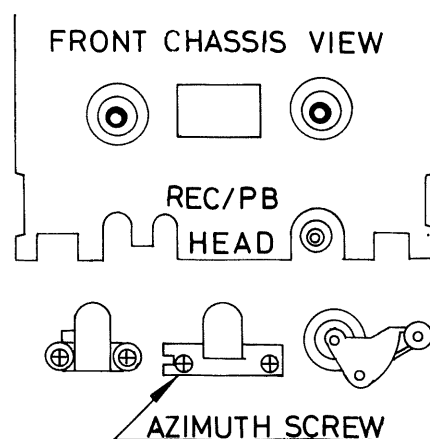
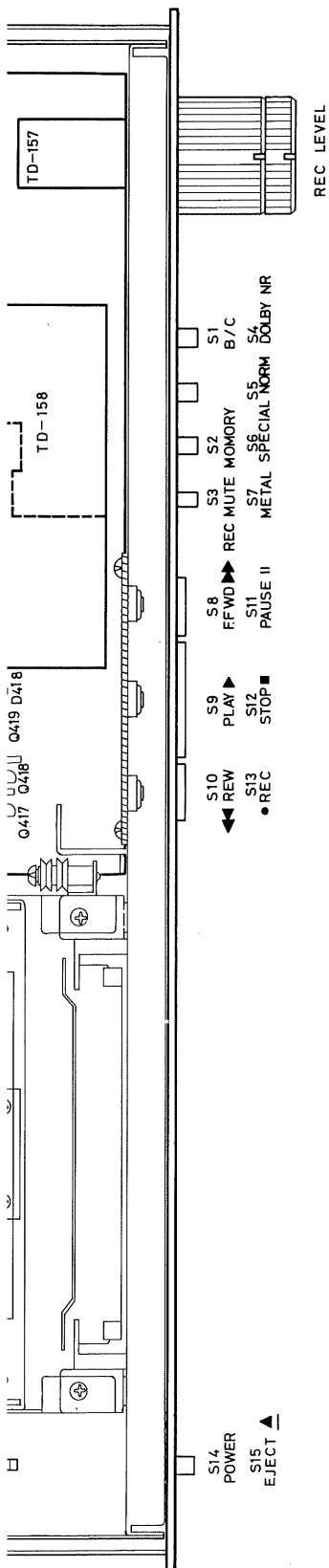
Instrumente: Oszillograph, Wechselspannungsvoltmeter, Frequenz-Zähler und Test-cassette
Bedienung: Oszillograph, Wechselspannungsvoltmeter und Frequenz-Zähler...LINE OUT, Bank-Wahler...NORMAL Dolby NR Taste...OFF

Einstellungsteil	Test-Cassette	Einstellung	Einstellungszweck
Azimuth	LCT-3004-C	REC/PB Tonkppfschraube	Maximum-Wellenform auf Oszillograph für beiden Kanäle (Abb. 1) erhalten.
Dolby-Repel	LCT-7001	VR101 (L-K) VR201 (R-K)	Wechselspannungsvoltmeter auf 580mV einstellen Bei TP3, TP4.
Zähler-FL Tube		VR103 (L-K) VR203 (R-K)	Der FL Tube-Anzeiger auf dem OdB. (Abb. 2)
Prüfung der Wiedergabe "EQ"	LCT-3009-C	Ausgangspegelunterschied zwischen 125Hz, 1KHz und 10KHz darf innerhalb + 3.0dB betragen.	
Überprüfung der Bandgeschwindigkeit /Einstellung der Bandgeschwindigkeitabweichung	LCT-3001	Prüfen, ob Abweichung von der Sollgeschwindigkeit im Bereich + 2%-1% liegt (bei 3000 Hz zwischen 3060-2970 Hz). Bei grösser Abweichung Motorgeschwindigkeit nachstellen (Abb. 3)	

Regelungsteil	Ankopplung	Bandwähler	Regelung	Regelung für
Spektral-schrägstellung Funkverbindung	1/P...SG (1KHz) IN Stifte TP7 (TP8) O/P...IN Stifte TP5 (TP6)	NORMAL	L105 (L-CH) L205 (R-CH)	1. Wechselstrom VTVM liest Mindest um 19.9KHz. 2. Prüfen 17KHz bezogen auf 1KHz, Wechselstrom VTVM liest 8.3dB (Mindest).

Item de réglage	Bande d'essai	Régler	Régler pour
Azimet	LCT-3004-C	Vis de tête de Enregistrement/reproduction	Obtenir forme d'onde la plus grande sur l'oscilloscope pour les deux canaux (fig. 1)
Niveau de Dobly	LCT-7001	VR101 (canalgauche) VR201 (canal droit)	Le voltmètre électronique à courant Alternatif lit 580mV à TP3, TP4.
Calibrage de FL Tube		VR103 (canal gauche) VR203 (canal droit)	FL Tube Indicateur correspond à la OdB. (fig. 2)
Contrôle de l'égalisation de reproduction	LCT-3009-C	Différence de niveau de sortie entre les signaux 125Hz, 1KHz et 10KHz est dans ± 3.0 dB.	
Contrôle de la Variation de la vitesse de bande/réglage de la vitesse	LCT-3001	Vérifier que la marge admissible de variation au milieu ou à la fin de bobinage est dans la plage donnée de + 2%-1% (à 3000Hz marge admissible de variation de la vitesse est 3060-2970). Si la variation de vitesse de bande surpasse la plage donnée ci-dessus, régler la vitesse de moteur. (fig. 3)	

Article d'ajustage	Couplage	Bande de	Ajuster	Ajuster pour
Reseau d'oblique spectrale	1 / P...SG (1KHz) dans point TP7 (TP8) O/P...dans Point TP5 (TP6)	NORMAL	L105 (L-CH) L205 (R-CH)	1. AC VTVM lire minimum a 19.9KHz 2. Verifier 17KHz relatif a 1KHz, AC VTVM lire 8.3 dB (minimum)



ADJUST POTENTIOMETER VR103 (VR203 FOR R-CH) SO THAT FL - UORESCENT LIGHT TUBE SHOWS LEVEL FROM -20dB TO 0dB.

Fig.2 Dolby Level Adjustment
 Abb.2 Einstellung der Dolby-Regel.
 Fig.2 Réglage du niveau Dolby

ADJUST AZIMUTH SCREW TO OBTAIN MAXIMUM DEFLECTION ON SCOPE

Fig.1 Azimuth Adjustment
 Abb.1 Azimuteinstellung
 Fig.1 Réglage de l'azimut

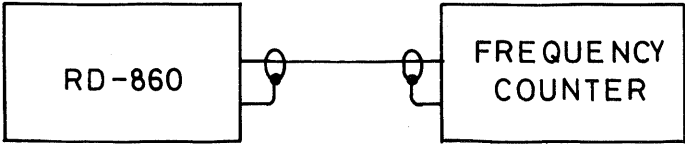
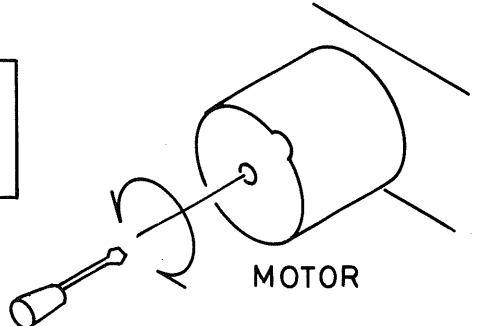


Fig.3 Tape speed Adjustment
 Abb.3 Einstellung der Bandgeschwindigkeitabweichung
 Fig.3 Réglage de la vitesse de défilement de la bande



Recording System Adjustments

Instruments: Oscilloscope, Singal Generator, AC VTVM and Blank Tape
Conditions: Dolby NR...OFF REC Level...Maximum

Adjustment Item	Coupling	Tape Selector	Adjust	Adjust for
Bias Carrier	Oscilloscope...Point TP1 (TP2 R-ch)	METAL	L104 (L-ch) L204 (R-ch)	Obtain Min. deflection on the Oscilloscope
19KHz Filter	S.G. (400Hz OdB)...LINE IN/LINE OUT...580mV Changed S.G. to 19KHz Dolby NR...OFF	NORMAL	L101 (L-ch) L201 (R-ch)	AV VTVM reads -30dB (Minimum)
Bias Voltage	Oscilloscope...Point TP9 TP10 (R-ch)	METAL	VR501 (L-ch) VR502 (R-ch)	AC VTVM reads 8.5mV
		SPECIAL	VR504	AC VTVM reads 5mV
		NORMAL	VR503	AC VTVM reads 4mV

Aufnahmesystems-Einstellung

Instrumente: oszillograph, NF-Generator, Wechselspannungsvoltmeter und Leercassette.
Bedienungen: Dolby NR Taste...OFF Aufnahmepegelregler...Maximum

Einstellungsteil	Kupplung	Band-Wähler	Einstellung	Einstellungszweck
Bias-Trägerstrom	Oszillograph... Punkt TP1 (TP2 R-K)	METAL	L104 (L-K) L204 (R-K)	Min. Abweichung auf Oszillograph erhalten.
19KHz Filter	NF-Generator (400Hz OdB)... an "LINE IN/LINE OUT...580mV NF-Generator auf 19 KHz. Doby NR...OFF	NORMAL	L101 (L-ch) L201 (R-ch)	Wechselspannungsvoltmeter auf -30dB einstellen, (Minimum)
Vorspannung	Oszillograph... Punkt TP9 TP10 (R-K)	METAL	VR501 (L-ch) VR502 (R-ch)	Wechseispannungs-Voltmeter afu 8.5mV einstellen.
		SPECIAL	VR504	Wechseispannungs-Voltmeter afu 5mV einstellen.
		NORMAL	VR503	Wechseispannungs-Voltmeter afu 4mV einstellen.

Réglages de système de l'enregistrement

Instrumente: Oscilloscope, Générateur de signal, voltmètre électronique à courant alternatif et bande vierge
Conditions: Dolby NR...OFF Niveau de l'enregistrement...maximum

Item de réglage	Accouplement	Selecteur de bande	Régler	Régler pour
Porte-Polarisation	Oscilloscope..Point TP1 (TP2 canal droit)	METAL	L104 (canal gauche) L204 (canal droit)	Obtenir la variation min. sur l'oscilloscope
Filtre 19KHz	Générateur de signal (400Hz OdB)... LINE IN/LINE OUT...580mV Changé le générateur de signal à 19KHz Dolby NR...OFF	NORMAL	L101 (L-Ch) L201 (R-Ch)	Voltmètre électronique à courant alternatif lit -30dB (minimum)
Voltage de polarisation	Oscilloscope... Point TP9 (TP10 Canal droit)	METAL	VR501 (L-Ch) VR502 (R-Ch)	Voltmètre électronique à courant alternatif lit 8.5mV
		SPECIAL	VR504	Voltmètre électronique à courant alternatif lit 5mV
		NORMAL	VR503	Voltmètre électronique à courant alternatif lit 4mV

REC/PB System Adjustments

Instruments: Signal Generator, H.D. Analyzer and Blank Tape
Conditions: Dolby NR...OFF REC Level... Maximum PLAY, REC, PAUSE...ON

Adjustment	Conditions	Adjust	Adjust for
REC/PB Output Level	S.G. (400Hz OdB)...LINE IN/LINE OUT...580mV Release Pause Button and playback it again.	VR102 (L-Ch) VR202 (R-Ch)	Recording and Playback level difference must be within ± 1 dB
Distortion Check	S.G. (400Hz OdB)...LINE IN/LINE OUT...580mV H.D. Analyzer...LINE OUT Release Pause Button and playback it again.	Check that distrotron is within following range. a.METAL Tape..... under 2% b.SPECIAL Tape..... under 3% c.NORMAL Tape..... under 2%	If the distortion factor exceeds the above, recheck Bias Current Adjustment.
Frequency Response Check	METAL Tape insert it	VR501 (L-Ch) VR502 (R-Ch)	40Hz-125Hz...5dB 125Hz-10KHz...3dB 10KHz-15KHz...5dB
	SPECIAL Taipe insert it	VR504	
	NORMAL Tape insert it	VR503	40Hz-125Hz...5dB 125Hz-10KHz...3dB 10KHz-14KHz...5dB

Aufnahmesystems-und Wiedergabepegels-Einstellung

Instrumente: NF-Generator, Klirrfaktormessbrücke und Leer-cassette
Bedienungen: Dolby NR...OFF, Aufnahmepegel...Maximum
 PLAY. REC. PAUSE Taste....ON

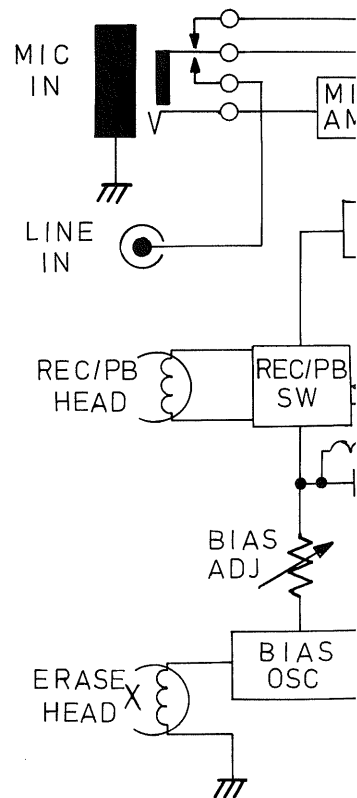
Einstellung	Bedienungen	Einstellen	Einstellungszweck
Aufnahme/Wiedergabe Ausgangspegel	NF-Generator (400 Hz OdB)... LINE IN/LINE OUT...580mV Pause-Taste freigeben und spielen es rück noch einmal.	VR102(L-Ch) VR202(R-Ch)	Die Differenz der Aufnahme und Wiedergabe-Ausgangspegel innerhalb einer Toleranz von ± 1 dB liegen müssen.
Prüfen des Klirrfaktors	NF-Generator (400 Hz OdB)... LINE IN/LINE OUT...580mV Klirrfaktormessbrücke...LINE OUT Pause-Taste freigeben und spielen es rück noch einmal	Prüfen, ob Klirrfaktor den folgenden Werten entspricht: a.METAL Band..... unter 2% b.SPECIAL Band..... unter 3% c.NORMAL Band..... unter 2%	Wenn der Klirrfaktor die angegebenen Werte übersteigt, dann Vormagnetisierungstrom prüfen.
Prüfen des Frequenzgangs	METAL Band einschieben	VR501 (L-Ch) VR502 (R-Ch)	40Hz-125Hz...5dB-125Hz-10KHz...3dB 10KHz-15KHz...5dB
	SPECIAL Band einschieben	VR504	
	Normal Band einschieben	VR503	40Hz-125Hz...5dB 125Hz-10KHz...3dB 10KHz-14KHz...5dB

Réglages de l'enregistreur

Instruments: Générateur de signal
Conditions: Dolby NR...OFF Niveau de l'enregistreur

Réglage	Conditions
Niveau de la sortie de l'enregistrement/reproduction	Générateur de...LINE IN/LINE OUT Relâcher le bouton de reproduction
Contrôle de la déformations	Générateur de...LINE IN/LINE OUT Analyseur H.D. Relâcher le bouton de reproduction
	Si le facteur de distorsion est supérieur à 2% (METAL), 3% (SPECIAL) ou 2% (NORMAL), vérifiez l'ajustement du courant de polarisation.
Contrôle de réponse de fréquence	Insérer la bande METAL
	insérer la bande SPECIAL
	Insérer la bande NORMAL

Block Diagram Schéma sy



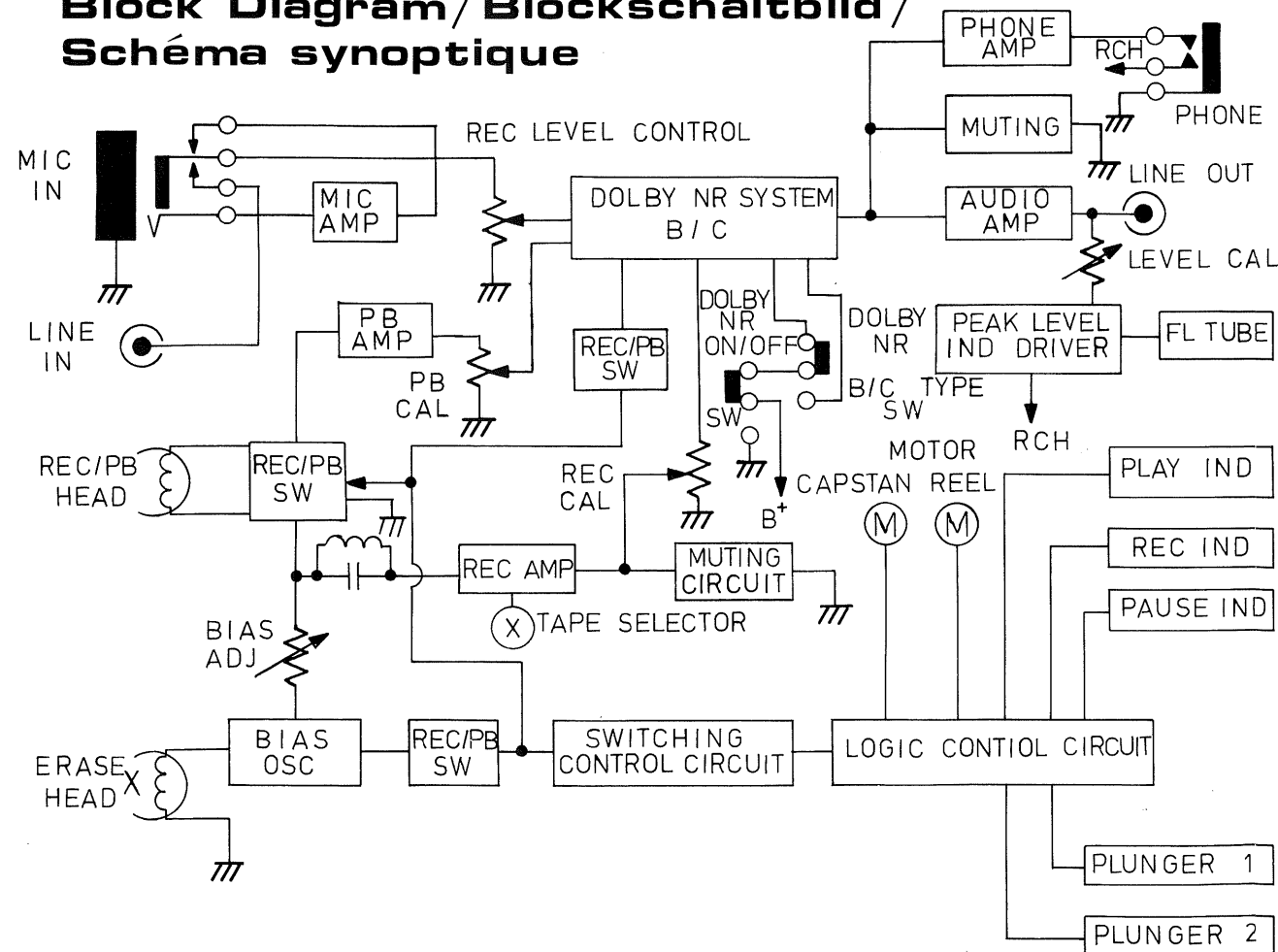
Réglages de système de l'enregistrement/reproduction

Repair Parts List/Reparaturteilliste/ Liste des pièces de rechange

Instruments: Générateur de signal, analyseur H.D., et bande vierge
Conditions: Dolby NR...OFF
 Niveau de l'enregistrement...maximum Reproduction, enregistrement, pause...ON

Réglage	Conditions	Régler	Régler pour
Niveau de la sortie de l'enregistrement/reproduction	Générateur de signal (400 Hz 0dB) ...LINE IN/LINE OUT...580mV Relâcher le bouton de pause et reproduire encore.	VR102 (L-Ch) VR202 (R-Ch)	Différence de niveau de l'enregistrement et reproduction doit être dans ± 1 dB
Contrôle de la déformations	Générateur de signal (400 Hz 0dB) ...LINE IN/LINE OUT...580mV Analyseur H.D...LINE OUT Relâcher le bouton de pause et reproduire encore.	Vérifier que la déformation est dans la plage donnée suivante. a. Bande métale. sous 2% b. Special. sous 3% c. Bande normale. sous 2%	
	Si le facteur de la déformation excède les valeurs ci-dessus, vérifier le réglage du courant de la polarisation.		
Contrôle de réponse de fréquence	Insérer la bande METAL	VR501 (L-Ch) VR502 (R-Ch)	40Hz—125Hz...5dB 125Hz—10Hz...3dB 10KHz—15KHz...5dB.
	insérer la bande SPECIAL	VR504	
	Insérer la bande NORMAL	VR503	40Hz—125Hz...5dB 125Hz—10KHz...3dB 10KHz—14KHz...5dB.

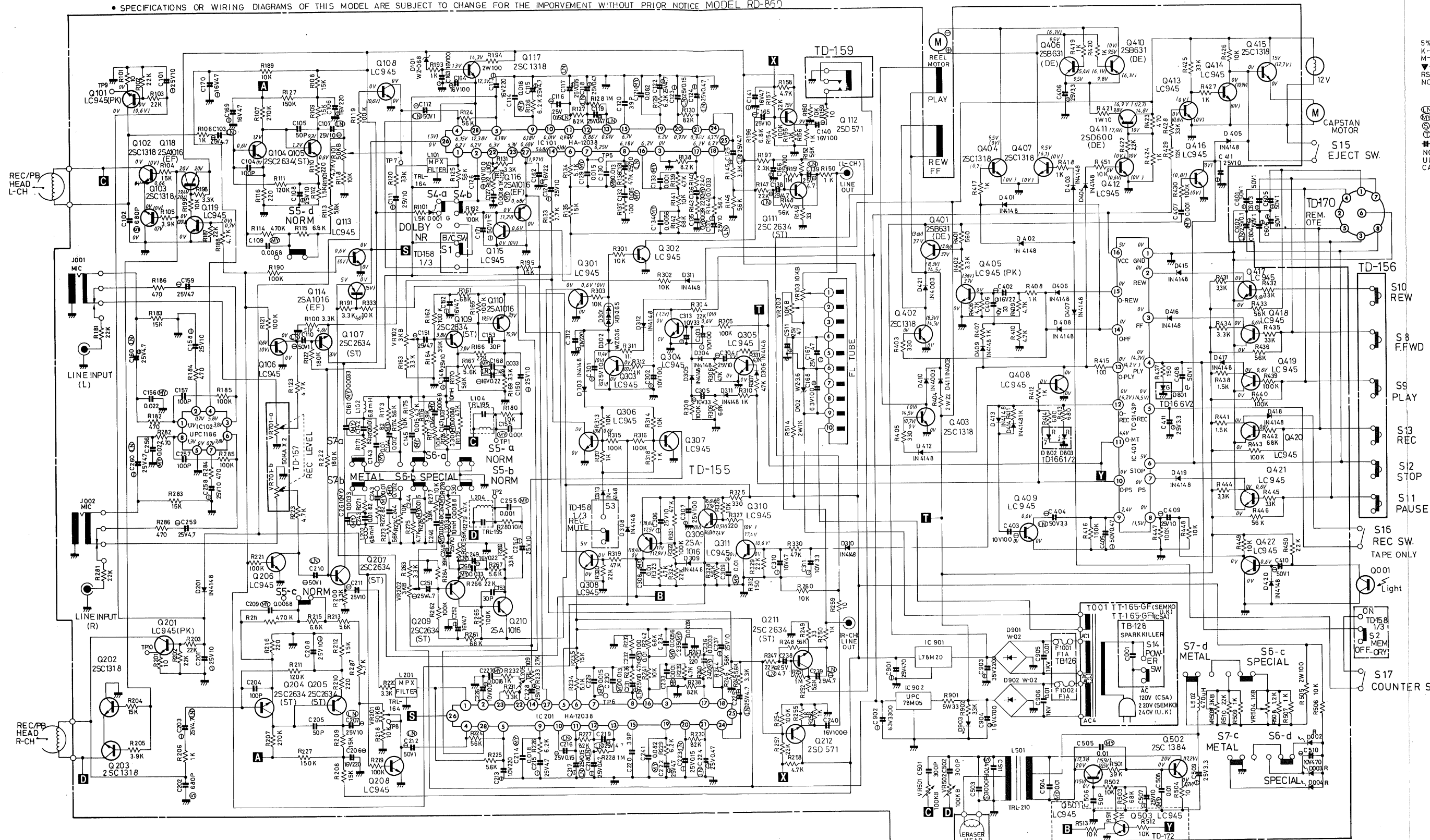
Block Diagram/Blockschaltbild/ Schéma synoptique



Schematic Location	Parts No.	Description	Schematic Location	Parts No.	Description
TRANSISTORS, DIODES AND IC'S			COILS AND VARIABLE RESISTORS		
Q101,201	032LC945-PK	LC945(P,K)	L101,201	021TRL-164	MPX Filter
Q102,103	0332SC2274-EF	2SC2274(E,F)	L102,202	021TRL-153	6.8mH, Peaking Coil
Q104,105	0332SC2634-ST	2SC2634(S,T)	L103,203	021TRL-154	10mH, Peaking Coil
Q106,206	032LC945-PK	LC945(P,K)	L103,203	021TRL-154	10mH, Peaking Coil
Q107,207	0332SC2634-ST	2SC2634(S,T)	L104,204	021TRL-195	Bias Carrier Trap
Q108,208	032LC945-PK	LC945(P,K)	L105,205	021TRL-109	MPX Filter
Q109,209	0332SC2634-ST	2SC2634(S,T)	L501	021TRL-210	Bias OSC Trans
Q110,210	0332SA1016-EF	2SA1016(E,F)	L502	021TRL-237	470uH, Chock Coil
Q111,211	0332SC2634-ST	2SC2634(S,T)	VR101,201	0518-1-401-50K	50KB, PB Level Adj.
Q112,212	0332SD571-KL	2SD751(K,L)	V102,202	0518-1-401-3K	3KB, REC Level Adj.
Q113,115	032LC945-PK	LC945(P,K)	VR103,203	0515F10-5BM-10K	10KB, FL Tube Level Adj.
Q114,116	0332SA1016-EF	2SA1016(E,F)	VR501,502	0518-1-401-100K	100KB,Bias Adj.
Q117	0332SC1318	2SC1318	VR503	0518-1-401-3K	3KB, NORMAL Bias Adj.
Q301-311	032LC945-PK	LC945(P,K)	VR504	0518-1-401-1K	1KB, SPECIAL Bias Adj.
Q309	0332SA1016-EF	2SA1016(A,F)	VR701	0514TR-1505	50KAX2, REC Level Control
Q401	0332SB631-DE	2SB631(D,E)	SWITCHES AND OTHERS		
Q402-404	0332SC1318	2SC1318	S1,2,3	0614TR-1484A	Switch, Push4-Key, B C/ MEMORY/REC MUTE
Q405	032LC945-PK	LC945(P,K)	S4-7	0614TR-1568	Switch, Push4-Key, DOLBY NR/NORMAL/SPECIAL/METAL
Q406	0332SB631-DE	2SB631(D,E)	S8-13	061C-3745	Key Board Switch, REW/ PLAY/F.FWD/REC/STOP/ PAUSE
Q407	0332SC1318	2SC1318	S14	061C-3700	Power Switch (for UL, CSA)
Q408,Q409	032LC945-PK	LC945(P,K)	T001	061C-3600A	Power Switch (for BEAB....)
Q410	0332SB631-DE	2SB631(D,E)		022T-165-GF-1	Power Transformer (120 only)
Q411	0332SD600-DE	2SD600(D,E)		022TT-165-GF	Power Transformer (Multi Type)
Q412-414	032LC945-PK	LC945(P,K)		035100L14Y60TS	FL Tube
Q415	0332SC1318	2SC1318		0102TWL-1	Front Panel Ass'y
Q417-421	032LC945-PK	LC945(P,K)		012C-3872-T	Knob, for REC Level (WL)
Q501,503	032LC945-PK	LC945(P,K)		012C-3873-T	Knob, for REC Level (WR)
Q502	0332SC1384	2SC1384		012C-3982	Push Button (POWER)
D101	034UZ-6.8B	UZ6.8B, Zener, 6.8V1/2W		012C-3998	Push Button (Play/STOP)
D102	034UZ-3.6B	UZ3.6B, Zener 3.6V1/2W		012C-3999	Push Button (REW/F.FWD/ REC/PAUSE)
D201	0341N4148	1N4148, Detector		0124TR-1544	Push Button (Counter)
D301	034KB-265	KB-265, Varicap		012C-3372 # 1	Push Button (DOLBY NR/ NORMAL/SPECIAL/METAL/ EJECT)
D302	034UZ-3.6B	UZ3.6B, Zener 3.6V1/2W		012C-3049 # 4	Push Button (B C/MEMORY/ REC MUTE)
D303-313	0341N4148	1N4148, Detector		0142TWL-6	Cassette Door Plate
D401-409	0341N4148	1N4148, Detector		015TDB-175A	FL Tube Ornamental Plate
D410,411	0341N4003	1N4003, Rectifier		0144TR-1620 # 4	Panel Window
D412-420	0341N4148	1N4148, Detector		0144TWL-10	Aluminum Ornamental Plate
D801-803	034C-4008	C-4008, REC/PLAY/PAUSE Ind.		0820MRD-860	Owners Manual
D901,902	034W-02	W-02, Rectifier		081CTNRD-860	Inside Carton
D903	034LN224RP	LN224RP, Power Ind.		012C-3982	Push Button (POWER)
D001	034GL-9NG24	GL-9NG24, DOLBY NR Ind.			
D002-004	034GL-9PR24	GL-9PR24, METAL/SPECIAL/ NORMAL Ind.			
IC101,201	031HA12038	HA12038, REC/PB Amp.			
IC102	031UPC1186H	UPC1186H, MIC Amp.			
IC401	801TC9143P	TC9143P, Controller			
IC901	031L78M05	L78M05, Regulator			
IC902	031UPC78L05	UPC78L05, Regulator			

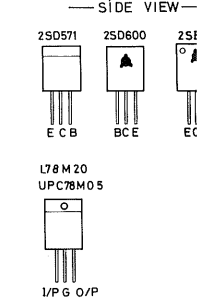
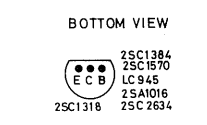
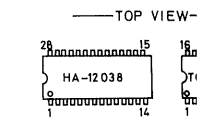
Schematic Diagram / Schaltungsschema / Diagramme de schématique

• SPECIFICATIONS OR WIRING DIAGRAMS OF THIS MODEL ARE SUBJECT TO CHANGE FOR THE IMPROVEMENT WITHOUT PRIOR NOTICE MODEL RD-850



- RESISTORS**
 5% TOLERANCE UNLESS NOTED
 K--KILO OHM
 M--MEGA OHM
 ◀--COMPOSITION RESISTORS 1/2
 RSU METAL OXIDE FILM RESIS
 NON MARK LOW NOISE TYPE CJ
- CAPACITORS**
 (L)--LOW NOISE ELECTROLYTIC
 (M)--MYLAR FILM CAPACITORS
 (P)--POLYSTYRENE FILM CAPAC
 (T)--TANTALUM CAPACITORS
 (E)--ELECTROLYTIC CAPACITORS
 NON MARK CERAMIC CAPACIT
 UNLESS OTHERWISE NOTED IN
 CAPACITANCE VALUES ARE E)

ITEM	SCHEMA LOCATION (L)
R/P + NR AMP	R101 C1
R/P + NR AMP	R286 C2
MUTE CONTROL	R333 C3
LOGE CONTROL	R450 C4
OSC UNIT	R514 C5
REM. OTE CONTROL	C6
POWER SUPPLY	R902 C1
CHASSIS	C7



• Transistors and IC's wor that marked () are mc
 • Transistors and IC's wor without marked () are r

Wiring Diagram/Drahtleitung Diagramm/Diagramme de connexion

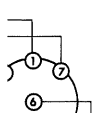
R/P+NR AMP/MUTE CONTROL/LOGE CONTROL/OSC UNIT/POWER SUPPLY C.B.D

RESISTORS
 5% TOLERANCE UNLESS NOTED
 K--KILO OHM
 M--MEGA OHM
 ▽--COMPOSITION RESISTORS 1/2 WATT
 RSU METAL OXIDE FILM RESISTORS
 NON MARK LOW NOISE TYPE CARBON RESISTORS

CAPACITORS
 ○--LOW NOISE ELECTROLYTIC CAPACITORS
 ○--MYLAR FILM CAPACITORS
 ○--POLYSTYRENE FILM CAPACITORS
 ○--TANTALUM CAPACITORS
 ○--ELECTROLYTIC CAPACITORS
 ○--NON MARK CERAMIC CAPACITORS
 UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITANCE VALUES ARE EXPRESSED IN MFD

ITEM	SCHEMATIC LOCATION (LOST)
R/P+NR AMP	R101 C172
R/P+NR AMP	R286 C261
MUTE CONTROL	R333 C313
LOGE CONTROL	R450 C411
OSC UNIT	R514 C511
REM OTE CONTROL	C606
POWER SUPPLY	R902 C908
CHASSIS	C001

AN OR CT SW.



TD-156

S10 REW

S8 F.FWD

S9 PLAY

S13 REC

S12 STOP

S11 PAUSE

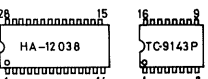
S16 REC SW TAPE ONLY

Q001 Light

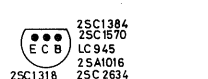
S17 COUNTER SW

ON TD-158 1/3 S2 MEM OFF-CRY

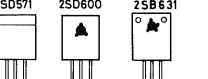
TOP VIEW



BOTTOM VIEW



SIDE VIEW

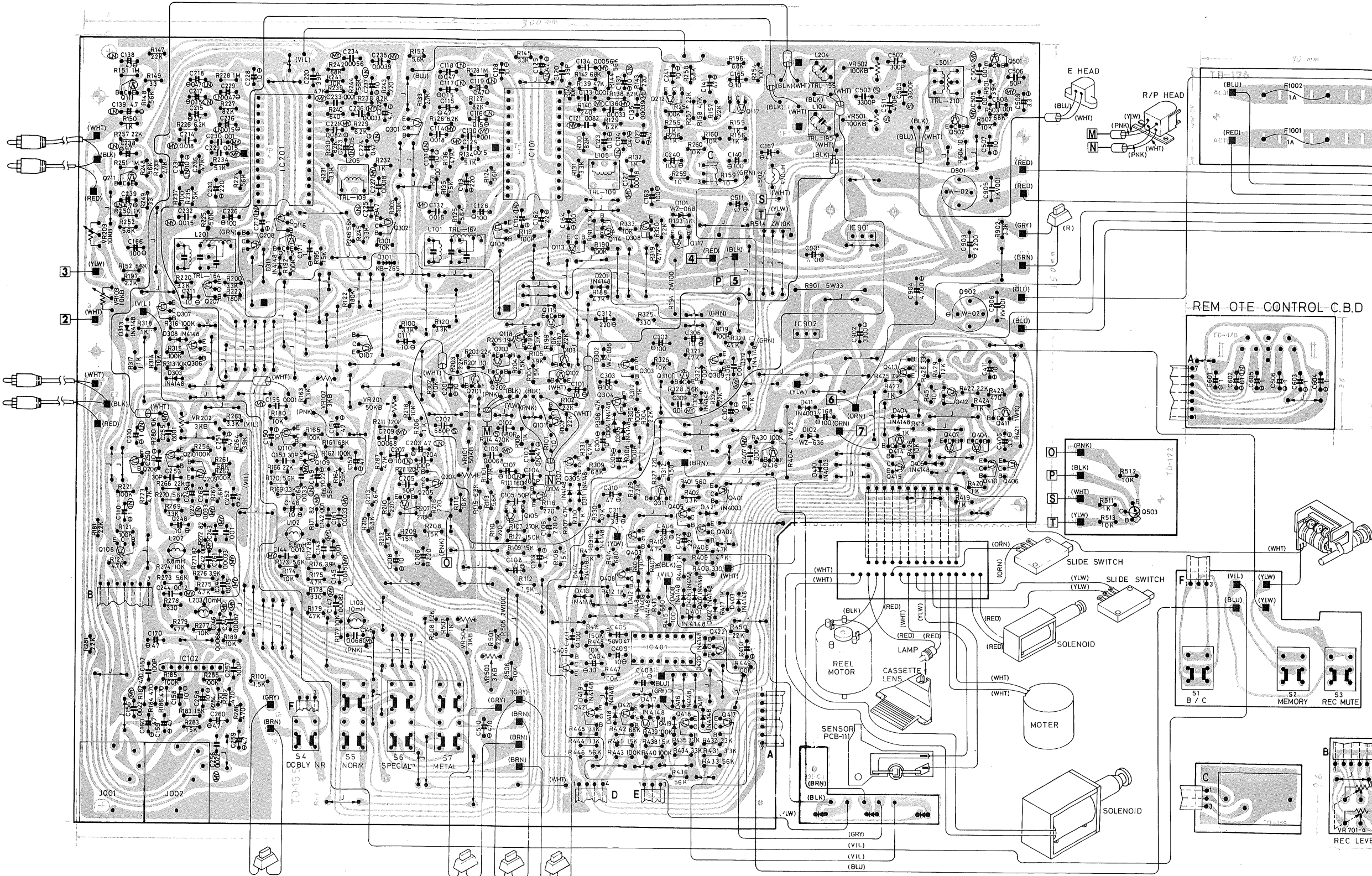


L78M20 UPC78M05

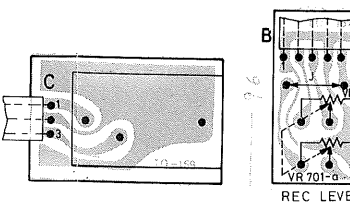
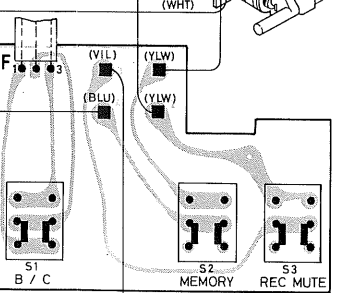
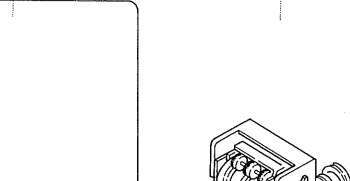
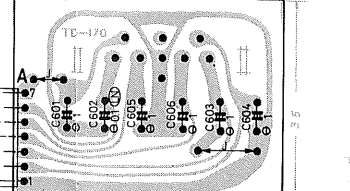


• Transistors and ICs wiring voltage that marked () are mark is REC case

• Transistors and ICs wiring voltage without marked () are mark is STOP case

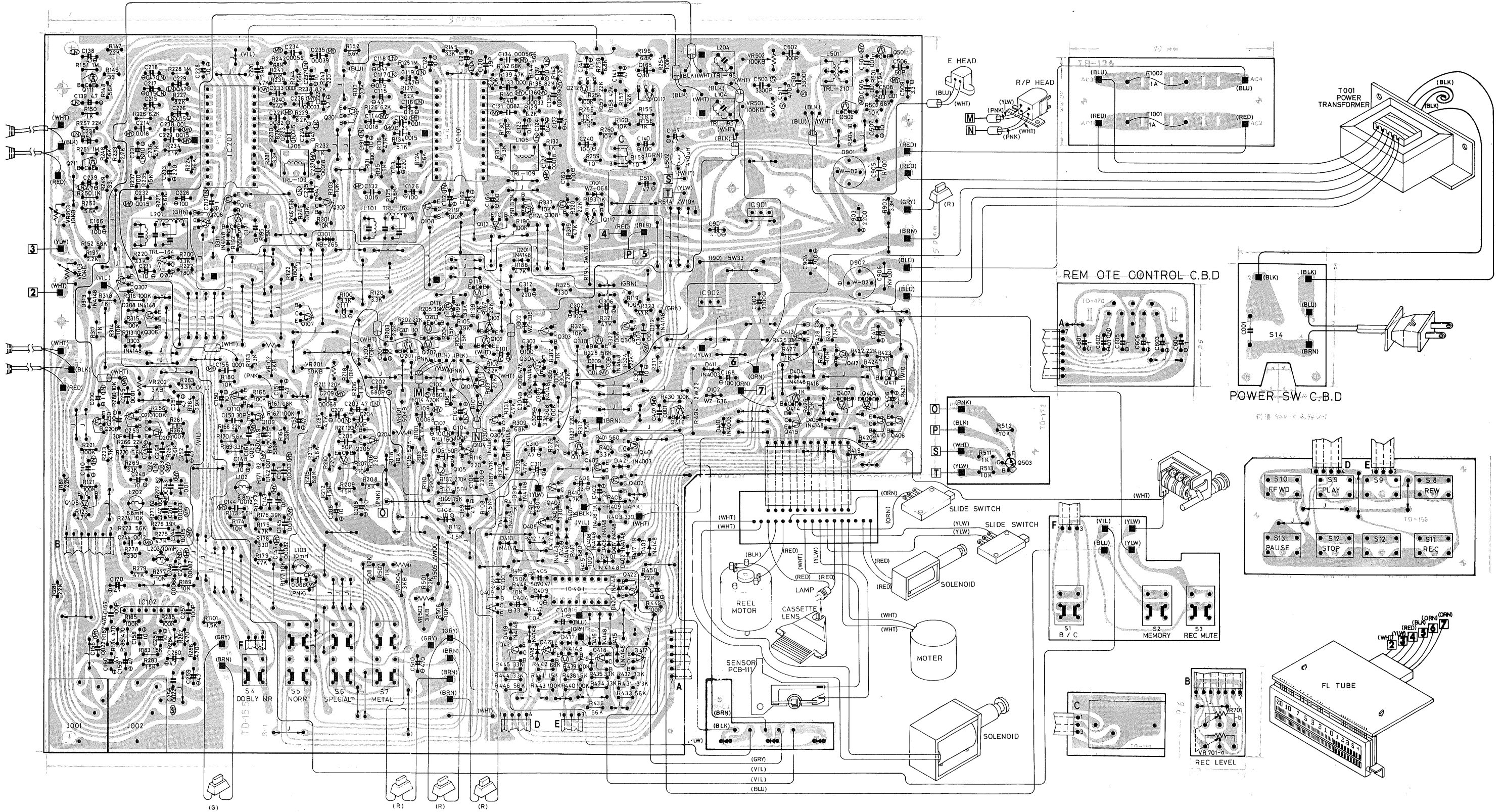


REM OTE CONTROL C.B.D

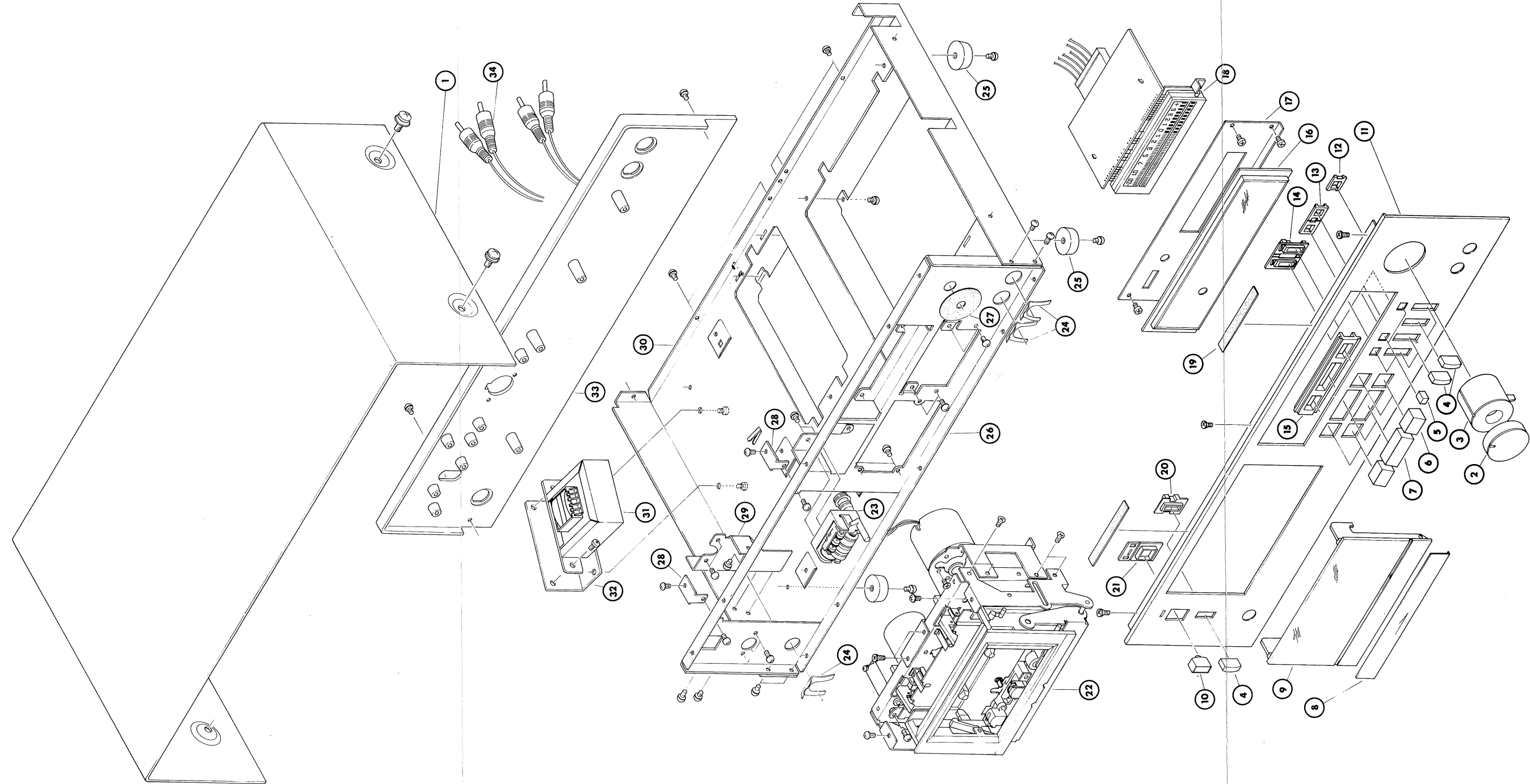


Wiring Diagram/Drahtleitung Diagramm/Diagramme de connexion

R/P + NR AMP/MUTE CONTROL/LOG'E CONTROL/OSC UNIT/POWER SUPPLY C.B.D

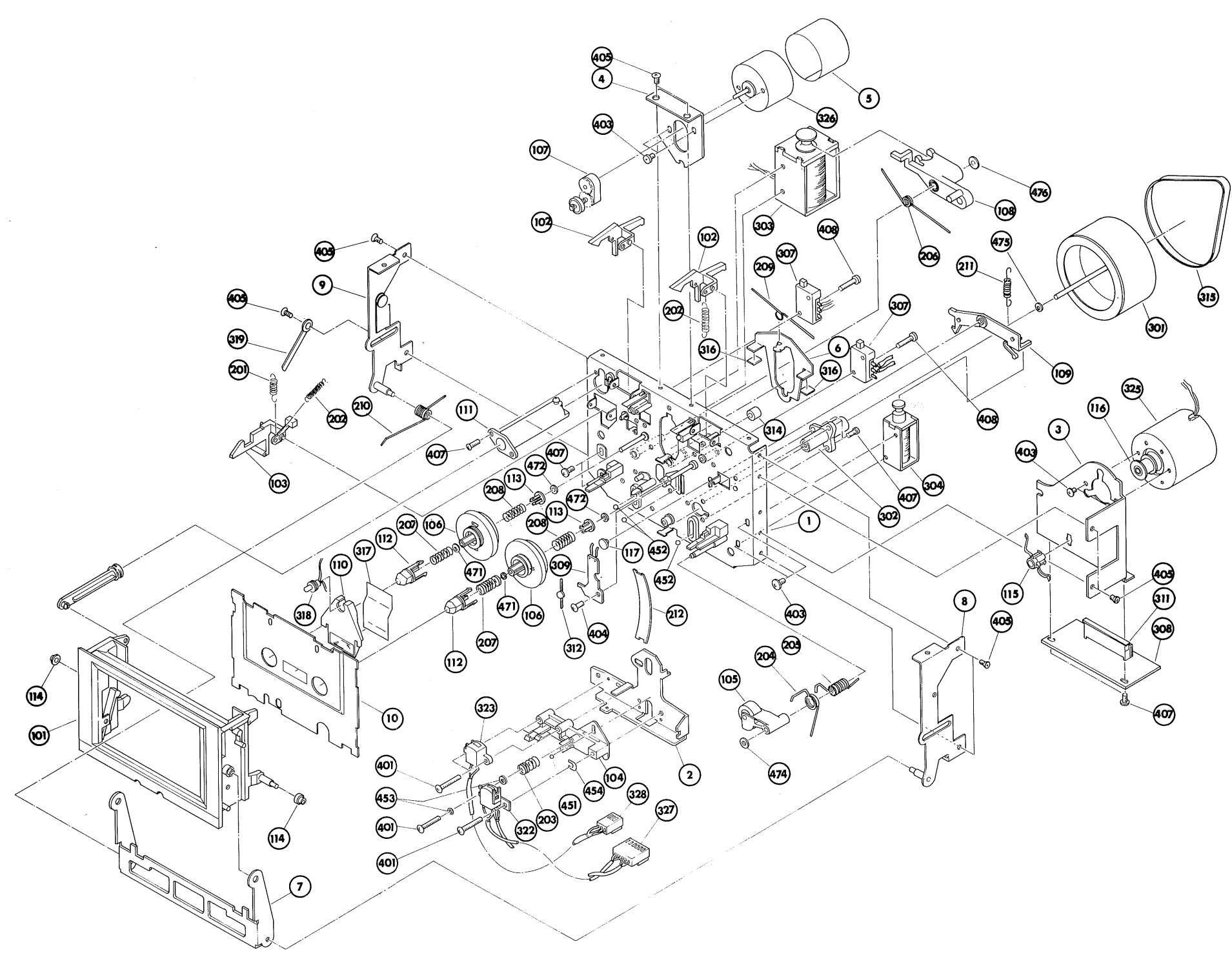
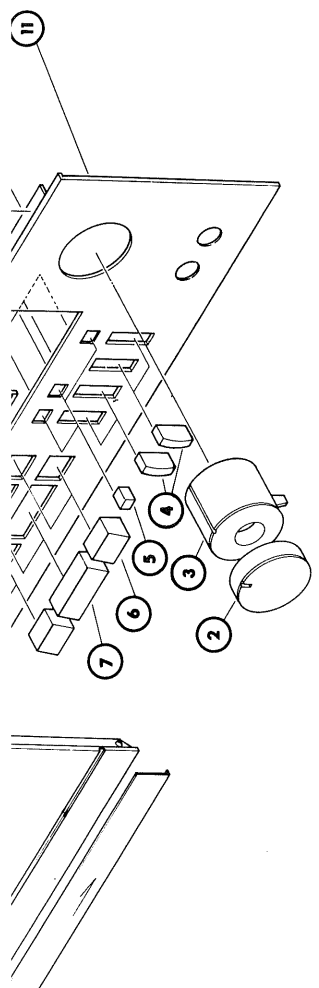


Disassembly Diagram/Illustration des Auseinanderbaus / Schéma de démontage(1 / 2)



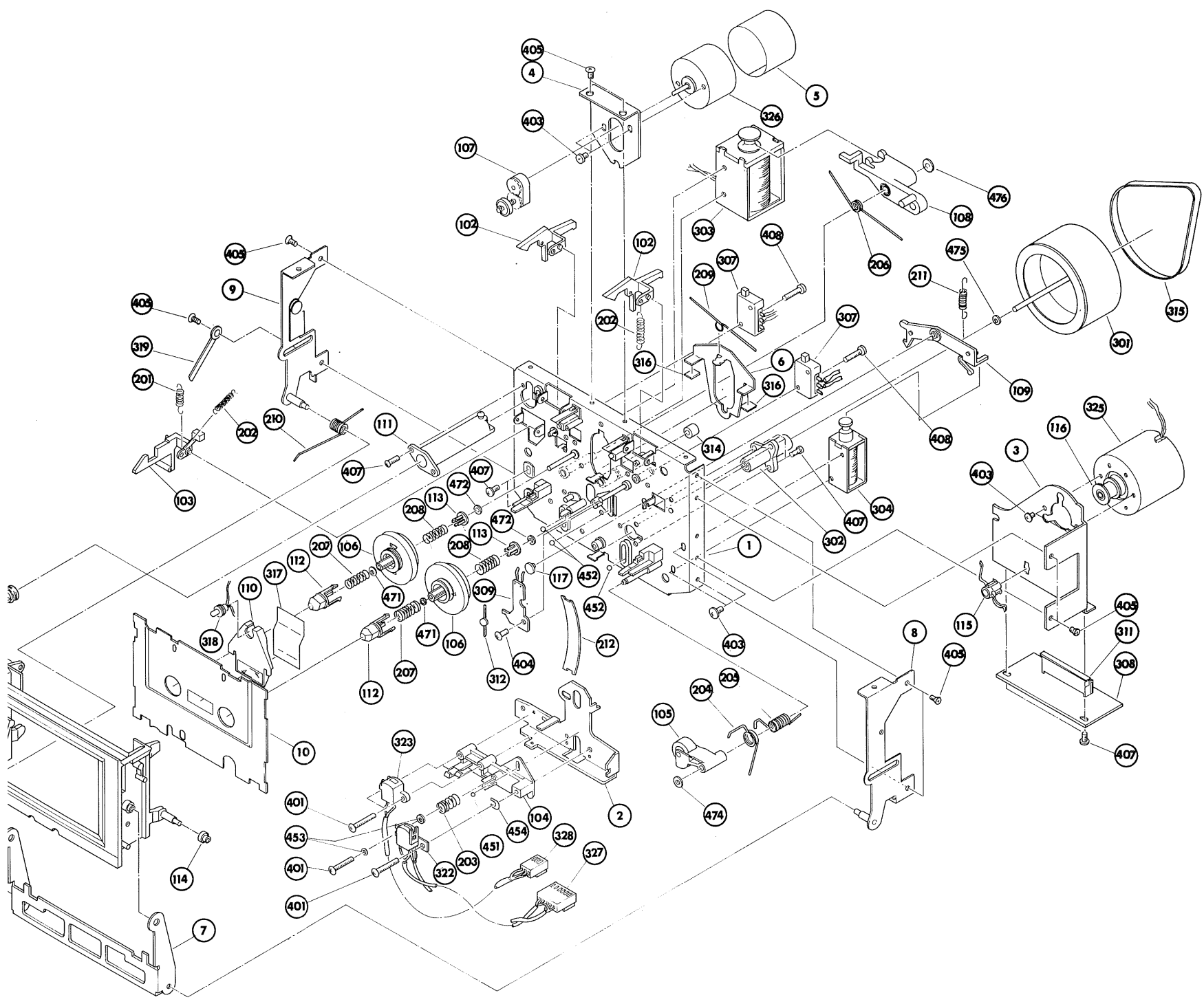
Key No.	Parts No.	Description
1	0142TWE-5#7	Upper Cover
2	012C-3872-T	Knob, 30φ for REC Level (WL)
3	012C-3873-T	Knob, 30φ for REC Level (WR)
4	012C-3372#1	Push Button (DOLBY NR/NORMAL/EJECT) METAL/EJECT
5	012C-3049A #4	Push Button (B C/MEMORY/REC MUTE)
6	012C-3999	Push Button (REW/F.FWD/REC/RAUSE)
7	012C-3998	Push Button (PLAY/STOP)
8	0144TWL-10	Aluminum Ornamental Plate
9	0142TWL-6	Cassette Door Plate
10	012C-3982	Push Button (POWER)
11	0102TWL-1	Front Panel Ass'y
12	019C-3547-T	Push Ring (B C)
13	019C-3547-T	Push Ring (REC MUTE/MEMORY)
14	019C-3615	Push Ring (DOLBY NR/NORMAL/SPECIAL/METAL)
15	0194TR-1548	Push Ring (REW/F.FWD/REC/PAUSE/PLAY/STOP)
16	0144TR-1620 #4	Panel Window
17	015TDB-175A	FL Tube Ornamental Plate
18	035100L14Y60TS	FL Tube
19	0194TR-1087	Felt, Front Panel
20	019C-3546-T	Push Ring (EJECT)
21	0194TR-1546	Push Ring (POWER)
22	092GT-7000	Cassette Mech Ass'y
23	063SMP-390-295	Tape Counter
24		Mic Jack Stopper
25	0194TR-1257A	Plastic Foot
26	0132TWL-2B	Front Chassis
27	0194TR-1083B #3	Felt, Knob (30φ)
28	0134TWL-16	L Type Support
29	0134TWL-15	Power Switch Support
30	0132TWL-3D	Chassis Body
31	022TT-165-GF-1	Power Transformer (120 only)
	022TT-165-GF	Power Transformer (Multi Type)
32	0134WVL-18	P. T. Support
33	0152TWD-14B	Plastic Rear Board
34	0734TR-1135B #1	Pin Jack Shield Cord

Disassembly Diagram / Illustration des Auseinanderbaus / Schéma de démontage (2)



Key No.	Parts No.	Description
211	099LD6012	Pause Arm Spring
212	099LD1008	Base Holder Spring
301	099LD5004	Capstan Ass'y
302	099LD5005	Housing Ass'y
303	099G1240STT57	Solenoid (A)
304	099GN730STT58	Solenoid (B)
307	099SCL101P	Slide Switch Ass'y
308	099LD9013	Joint PCB-126
309	099LD9012	Sensor PCB-111
311	099WD0612	Jumper Socket
312	099PH101	Photo Transistor
314	099LD4002	Cushion
315	099LD4001	Belt
316	099LD8003	Brake Shoe
317	099LD8004	Lamp Seal
318	099LD9016	Lamp
319	099SHE36	Cord Clamp
322	024H4322-03	R/P Head
323	024H2332-01	E Head
325	024EG510ED2B2	Motor
326	024RF510TA12620	Reel Motor
327	062MXJE2-5051	R/P Head Wire V
328	062MXJE12-5051	E Head Wire With
401	071B2x16Z	Binding Screw
403	071B2.6x3Z	Binding Screw
404	071BCT2.6x5Z	Tap Tite Screw (I
405	071SACT2.6x5Z	Tap Tite Screw (I
407	071BCT2.6x6	Tap Tite Screw (I
408	071NBBT2.6x12Z	B Tite Screw (Pa
451	019STEELBALL2	Steel Ball
452	019STEELBALL3	Steel Ball
453	071PW12x36x0.5	Plain Washer (Cn
454	099G41551	E Ring
471	071PW12x36x0.5	Polyslider Lock V
472	071PW15x4x0.25	Polyslider Washer
474	071PW25x6x0.5	Polyslider Lock V
475	071PW26x47x0.25	Polyslider Washer
476	071PW34x6x0.5	Polyslider Lock V

Disassembly Diagram / Illustration des Auseinanderbaus / Schéma de démontage (2/2)



Key No.	Parts No.	Description	Key No.	Parts No.	Description
211	099LD6012	Pause Arm Spring	1	099LB1016	Chassis Ass'y
212	099LD1008	Base Holder Spring	2	099LC1019	Head Base (A)
301	099LD5004	Capstan Ass'y	3	099LC1015	Flywheel Plate
302	099LD5005	Housing Ass'y	4	099LC1010	Motor Plate
303	099G1240STT57	Solenoid (A)	5	099LD1003	Shield Plate
304	099GN730STT58	Solenoid (B)	6	099LC1014	Brake Plate
307	099SCL101P	Slide Switch Ass'y	7	099LC1013	Holder Arm
308	099LD9013	Joint PCB-126	8	099LD1004	Holder Angle (R) Ass'y
309	099LD9012	Sensor PCB-111	9	099LD1005	Holder Angle (L) Ass'y
311	099WD0612	Jumper Socket	10	099LC1009	Cassette Panel
312	099PH101	Photo Transistor	101	099LC3037	Cassette Holder Ass'y
314	099LD4002	Cushion	102	099LC3015	Sensor Arm
315	099LD4001	Belt	103	099LB3018	Lock Arm
316	099LD8003	Brake Shoe	104	099LB3019	Head Holder (A)
317	099LD8004	Lamp Seal	105	099LD3010	Pinch Arm Ass'y
318	099LD9016	Lamp	106	099LD3002	Reel Ass'y
319	099SHE36	Cord Clamp	107	099LD3005	Take Up Ass'y
322	024H4322-03	R/P Head	108	099LC3027	Play Arm
323	024H2332-01	E Head	109	099LC3017	Pause Arm
325	024EG510ED2B2	Motor	110	099LC3013	JCassette Lens
326	024RF510TA12620	Reel Motor	111	099LD3033	Air Damper Ass'y
327	062MXJE2-5051	R/P Head Wire With Connector	112	099LC3012	Reel Cap
328	062MXJE12-5051	E Head Wire With Connector	113	099LD3009	Spring Holder
401	071B2x16Z	Binding Screw	114	099LD3004	Guide Roller
403	071B2.6x3Z	Binding Screw	115	099LC3014	Capstan Holder
404	071BCT2.6x5Z	Tap Tite Screw (Binding)	116	099LD3023	Motor Pulley
405	071SACT2.6x5Z	Tap Tite Screw (Flat)	117	099KD3052	Bush
407	071BCT2.6x6	Tap Tite Screw (Binding)	201	099LD6013	Lock Spring
408	071NBBT2.6x12Z	B Tite Screw (Pan)	202	099LD6001	Sensor Spring
451	019STEELBALL2	Steel Ball	203	099LD6006	Head Spring
452	019STEELBALL3	Steel Ball	204	099LD6014	Pinch Arm Spring
453	071PW12x36x05	Plain Washer (Cnromate)	205	099LD6007	Arm Spring
454	099G41551	E Ring	206	099LD6009	Base Spring
471	071PW12x36x0.5	Polyslider Lock Washer	207	099LD6005	Reel Spring
472	071PW15x4x0.25	Polyslider Washer	208	099LD6003	B. T Spring
474	071PW25x6x0.5	Polyslider Lock Washer	209	099LD6008	Brake Spring
475	071PW26x47x0.25	Polyslider Washer	210	099LD6011	Holder Spring
476	071PW34x6x0.5	Polyslider Lock Washer			