Service
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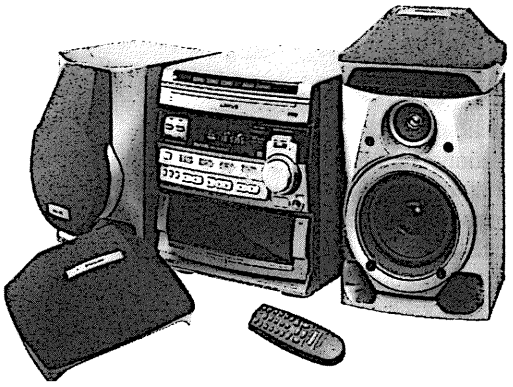
Volta ao Menu



Service Manual

Índice

OBS: Deck Digital do FW356C vide Service Manual Chassis **ETF6** cód. 4806 725 27054.

Impresso no Brasil Sujeito a Modificações 4806 725 27053

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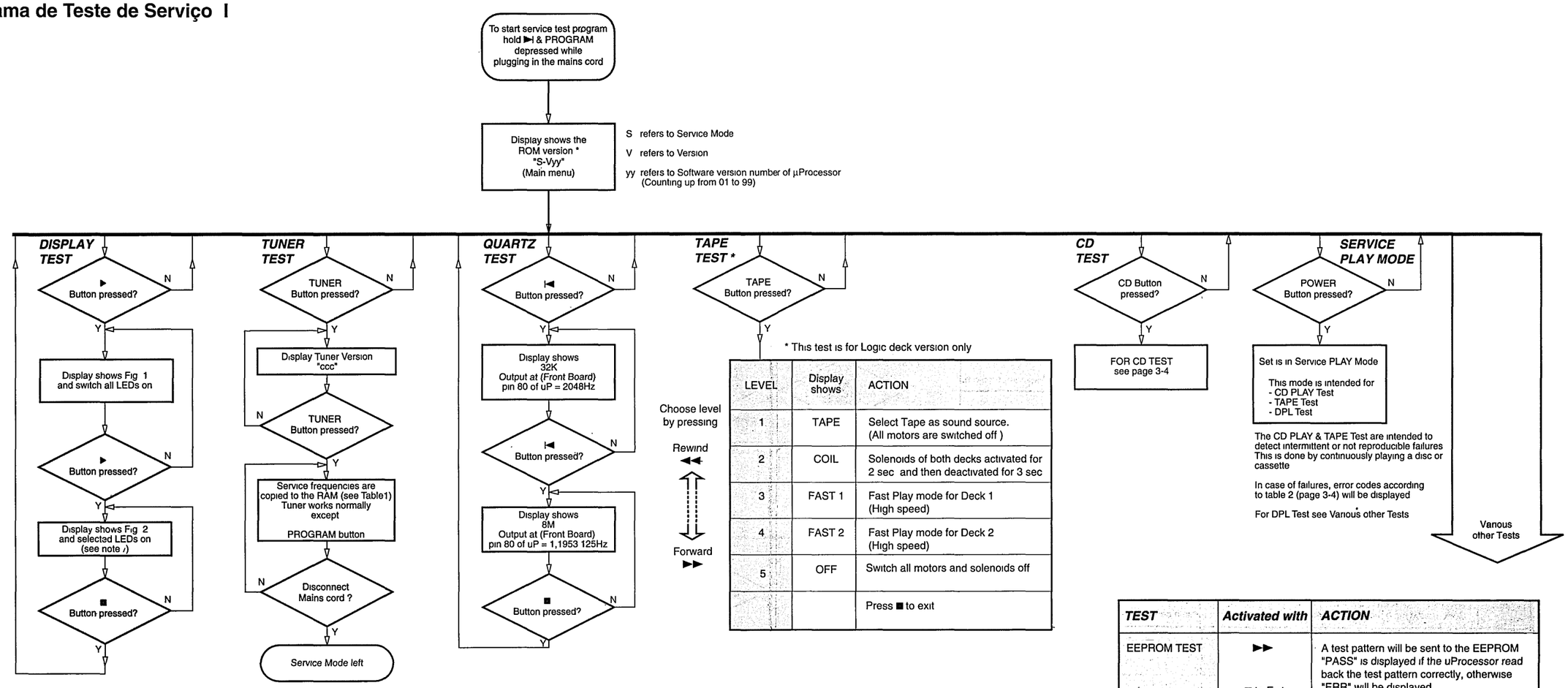
PHILIPS

Epecificações

	APARELHOS		
	FW 316	**FW 339**	**FW 356**
GERAIS			
Tensão de Rede	110 / 220V	110 / 220V	110 / 220V
Freqüência de Rede	60Hz	60Hz	60Hz
Consumo (em Standby)	< 10W	< 15W	< 15W
Consumo (1/8 da potên. de saída)	< 18W	< 44W	< 44W
Precisão do relógio	< 4 seg./dia	< 4 seg./dia	< 4 seg./dia
Dimensões do centro em (mm)	270x310x310	270x310x310	270x310x310
AMPLIFICADOR			
Pot. de Saída L / R (3Ω, 1KHz, THD 10%)	2x5 W±1dB		
Pot. de Saída L / R (6Ω, 1KHz, THD 10%)		2x25 W±1dB	2x25 W±1dB
Pot. de Saída L / R surround (6Ω)			2x5 W±1dB
Resposta de Freqüência (-3dB)	50Hz-15KHz	50Hz-15KHz	50Hz-15KHz
Dynamic Bass Boost	DBB ON/Off	DBB ON/Off	DBB ON/Off
Digital Sound Control (Jazz/tech./Opt./Rock)	X	X	X
Incredible Surround	IS ON / OFF	IS ON / OFF	IS ON / OFF
Sensibilidade de Entrada			
Aux/Line-in (600Ω)	700mV±2dB	700mV±2dB	700mV±2dB
Mic (600Ω)	2,5 mV±2dB	2,5 mV±2dB	2,5 mV±2dB
Fone de Ouvido (Sensib. Saída a 32Ω)	16,5 mW	16,5 mW	16,5 mW
Sensibilidade de saída Sub-woofer(22KΩ)			1,5V±3dB
TUNER - FM			
Range de Sintonia	87,5-108MHz	87,5-108MHz	87,5-108MHz
Grid	100KHz	100KHz	100KHz
FI	10,7±25 KHz	10,7±25 KHz	10,7±25 KHz
Impedância de entr. Antena	75 Ω coaxial	75 Ω coaxial	75 Ω coaxial
Sensibilidade (S/N=26dB)	< 7µV	< 7µV	< 7µV
Seletividade (bw= 600KHz)	> 50dB	> 50dB	> 50dB
Rejeição de FI	> 50 dB	> 50 dB	> 50 dB
Rejeição de Imagem	> 25 dB	> 25 dB	> 25 dB
Crosstalk (RF=1mV, dev.40KHz)	> 18 dB	> 18 dB	> 18 dB
Distorção (RF=1mV , dev. 75KHz)	< 3%	< 3%	< 3%
TUNER - AM			
Range de Sintonia	530-1700KHz	530-1700KHz	530-1700KHz
Grid	10KHz	10KHz	10KHz
FI	450KHz±1KHz	450KHz±1KHz	450KHz±1KHz
Impedância de entr. Antena	Ant. Quadro	Ant. Quadro	Ant. Quadro
Sensibilidade (S/N=26dB)	< 4.0mV/m	< 4.0mV/m	< 4.0mV/m
Seletividade (bw=18KHz)	> 18 dB	> 18 dB	> 18 dB
Rejeição de FI	> 45 dB	> 45 dB	> 45 dB
Rejeição de Imagem	> 28 dB	> 28 dB	> 28 dB
Distorção (RF=50mV , m=80%)	5%	5%	5%
C D			
Resposta de Freqüência (± 1,5dB)	20Hz-20KHz	20Hz-20KHz	20Hz-20KHz
Nível de Saída sem carga (em Vrms)	550mV±1dB	550mV±1dB	550mV±1dB
Relação S/N	> 80dBA	> 80dBA	> 80dBA
Distorção a 1KHz	< 0.5%	< 0.5%	< 0.5%
Diferença entre Canais a 1KHz	< 1 dB	< 1 dB	< 1 dB
Crosstalk a 1KHz	> 45dB	> 45dB	> 45dB
TAPE DECK			
Wow & Flutter	< 0,4% DIN	< 0,4% DIN	< 0,4% DIN
Freqüência de BIAS	75KHz±5KHz	75KHz±5KHz	75KHz±5KHz
Resposta de Freqüência Rec/Pb (8dB)	80Hz-12K5Hz	80Hz-12K5Hz	80Hz-12K5Hz
Relação S/N	> 43dB	> 43dB	> 43dB

Programa de Teste de Serviço I



LEVEL	Display shows	ACTION
1	TAPE	Select Tape as sound source. (All motors are switched off)
2	COIL	Solenoids of both decks activated for 2 sec and then deactivated for 3 sec
3	FAST 1	Fast Play mode for Deck 1 (High speed)
4	FAST 2	Fast Play mode for Deck 2 (High speed)
5	OFF	Switch all motors and solenoids off
		Press ■ to exit

PRESET	Europe "EUR"	East Eur. 3-band "EAS"	East Eur. 2-band "EAS"	USA "USA"	Oversea "OSE"	Korea "KOR"	Japan "JAP"
1	87 5MHz	65 81MHz	65.81MHz	87.5MHz	87.5MHz	87.5MHz	76MHz
2	108MHz	108MHz	108MHz	108MHz	108MHz	108MHz	CH3 107 75MHz
3	531kHz	74MHz	74MHz	530kHz	531/530kHz	531kHz	90MHz
4	1602kHz	87 5MHz	87 5MHz	1700kHz	1602/1700kHz	1602kHz	CH1 95 75MHz
5	558kHz	531kHz	531kHz	560kHz	558/560kHz	558kHz	CH2 101 75MHz
6	1494kHz	1602kHz	1602kHz	1500kHz	1494/1500kHz	1494kHz	531kHz
7	153kHz	558kHz	558kHz	98MHz	87 5MHz	87 5MHz	1602kHz
8	279kHz	1494kHz	1494kHz	87 5MHz	87 5MHz	87 5MHz	558kHz
9	198kHz	153kHz	98MHz	87 5MHz	87.5MHz	87 5MHz	1494kHz
10	98MHz	279kHz	70 01MHz	87 5MHz	87 5MHz	87 5MHz	80MHz
11	87.5MHz	198kHz	65 81MHz	87 5MHz	98MHz	98MHz	76MHz

Table 1

East Europe TUNER IF offset correction

1) Input a reference frequency 87 5MHz from the generator

2) Proceed to the Tuner Test Mode

3) Hold TUNER button down for > 3 seconds

4) The set will self-calibrate automatically and display "OFS-xx" when calibration is successful, otherwise it will display "00E"

xx . offset value between -3 to +3

Note: This has to be done whenever the Eeprom, Microprocessor or the components in the oscillator circuitry are replaced.

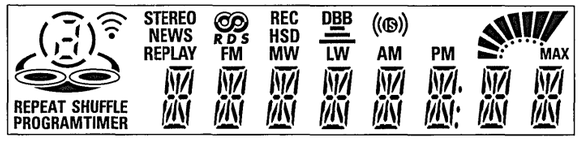
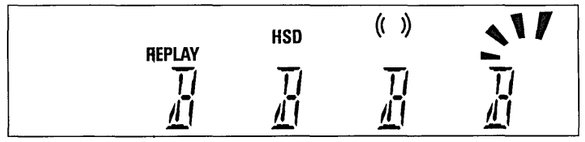


Figure 1



note /: CDC1, CDC3, Tuner, Optimal, Rock, ◄◄, ■ and |◄.

Figure 2

TEST	Activated with	ACTION
EEPROM TEST	►► ■ to Exit	A test pattern will be sent to the EEPROM "PASS" is displayed if the uProcessor read back the test pattern correctly, otherwise "ERR" will be displayed.
EEPROM FORMAT	◄◄	Load default data Display shows "NEW" for 1 second ***Caution!*** ***All presets from the customer will be lost!!***
KEY TEST	▶| ■ to Exit	Key numbers according table 3 are shown on the display (see Chapter 3-4)
FAST CLOCK TEST	CLOCK/TIMER	The clock is switched to fast mode "FAST" is displayed for 1 sec Press CLOCK/TIMER again to reset the clock to normal "NORMAL" displayed for 1 sec.
VOLUME TEST	Volume Knob	Display shows volume value for 2 seconds. Volume increases or decreases in steps of 1 until 0 (Min) or 40 (Max) is reached
LEAVE SERVICE TESTPROGRAM	Disconnect mains cord	

Error code	Type	Error Description
E1000	W	Focus Error Triggered when the focus could not be found within a certain time when starting up the CD or when the focus is lost for a certain time during play.
E1001	W	Radial Error Triggered when the radial servo is off-track for a certain time during play.
E1002	W	Sledge In Error The sledge did not reach its inner position (inner-switch is still close) before approximately 6 Sec. have passed. Inner-switch or sledge motor problem.
E1003	W	Sledge Out Error The sledge did not come out of its inner position (inner-switch is still open) before approximately 250 mSec. have passed by. Inner-switch or sledge motor problem.
E1005	W	Jump-offtrack error Triggered in normal play when the jump destination could not be found within a certain time.
E1006	W	Subcode Error (no subcode within time) Triggered when a new subcode was missing for a certain time during play.
E1007	W	PLL Error The Phase Lock Loop could not lock within a certain time.
E1008	W	Turntable Motor Error Generated when the CD could not reached 75% of speed during startup within a certain time. Discmotor problem.
E1020	F	Focus Search Error The focus point has not been found within a certain time.
E1070	W	The carousel switch is not open within time. This can happen when either the switch is defective and closed all the time, or when the carousel is blocked when located exactly at a disc position.
E1071	W	The carousel position switch did not close within a certain time. This can happen when the switch is defective and never closes electrically, or when the carousel is blocked in between two disc positions. The time-out is approximately 5 Sec.
E1079	W	The drawer could not enter the inside position is opening again. This can be caused because the drawer is blocked by something and cannot go fully inside, or the drawer switch is defective and does not close.
E2020	F	Head Movement Error Deck 1 Generated if the head does not reach the desired position within a certain time.
E2021	F	Head Movement Error Deck 2 Generated if the head does not reach the desired position within a certain time.

F = Fatal error & the set stop play function W = Warning

Table 2

Keys activated	Display shows	Keys activated	Display shows	Keys activated	Display shows
No Key pressed	--	CLOCK /TIMER	10	RECORD *	21
Any Remote control key	RC	PROGRAM	11	REPLAY *	22
CD1 *	1	INCRSURROUND *	12	◄◄	23
CD2 *	2	VOLUME UP *	13	►►	24
CD3 *	3	VOLUME DOWN *	14	■	Exit
CHANGE CD	4	STANDBY - ON	15	►II	26
OPEN / CLOSE	5	CD	16	⊢◄	27
DSC	6	TUNER	17	►⊣	28
DBB	7	TAPE	18		
RDS *	8	AUX	19		
NEWS *	9	HSD	20		

* Not for all type/version

Table 3

Programa de Teste de Serviço II

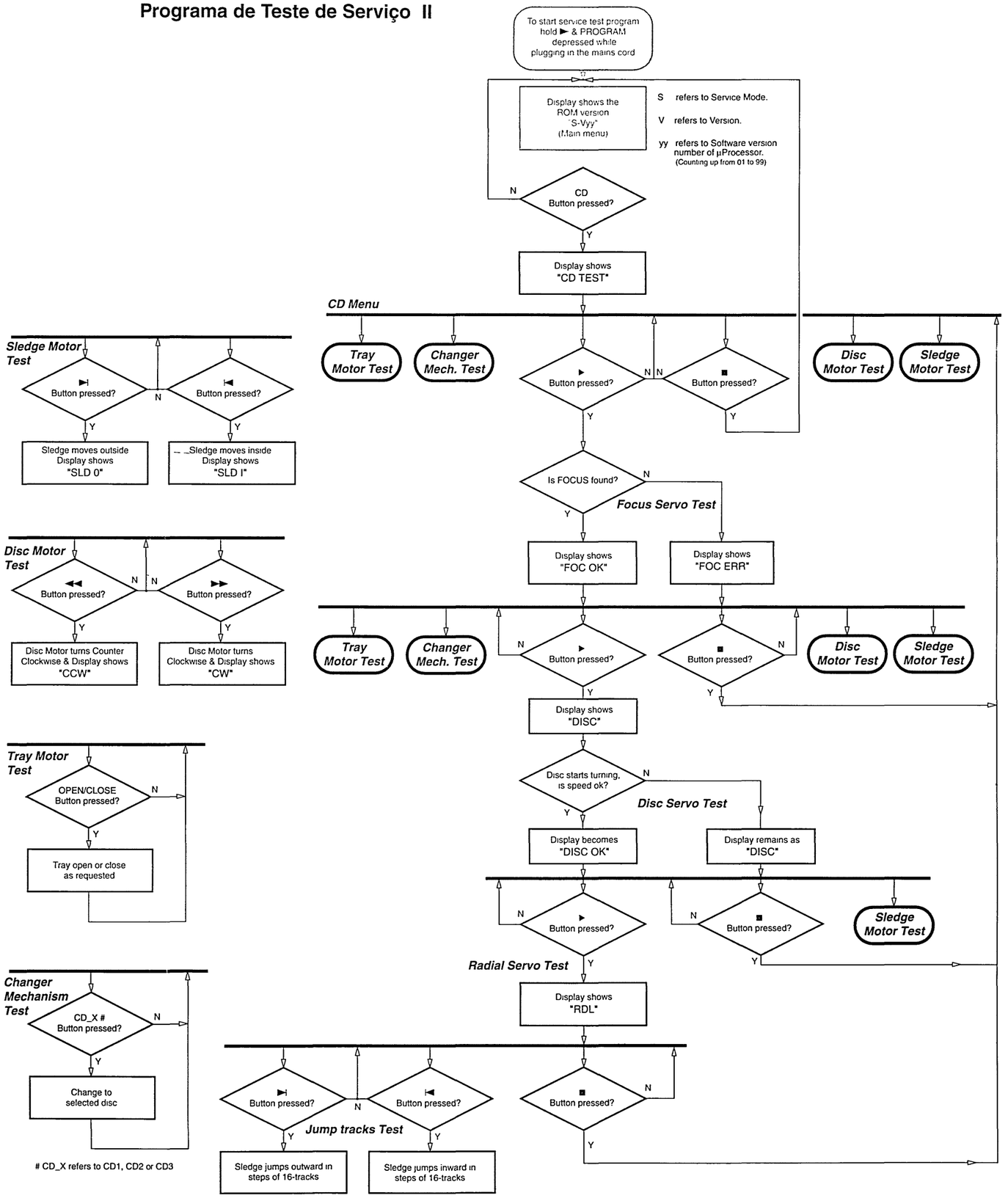
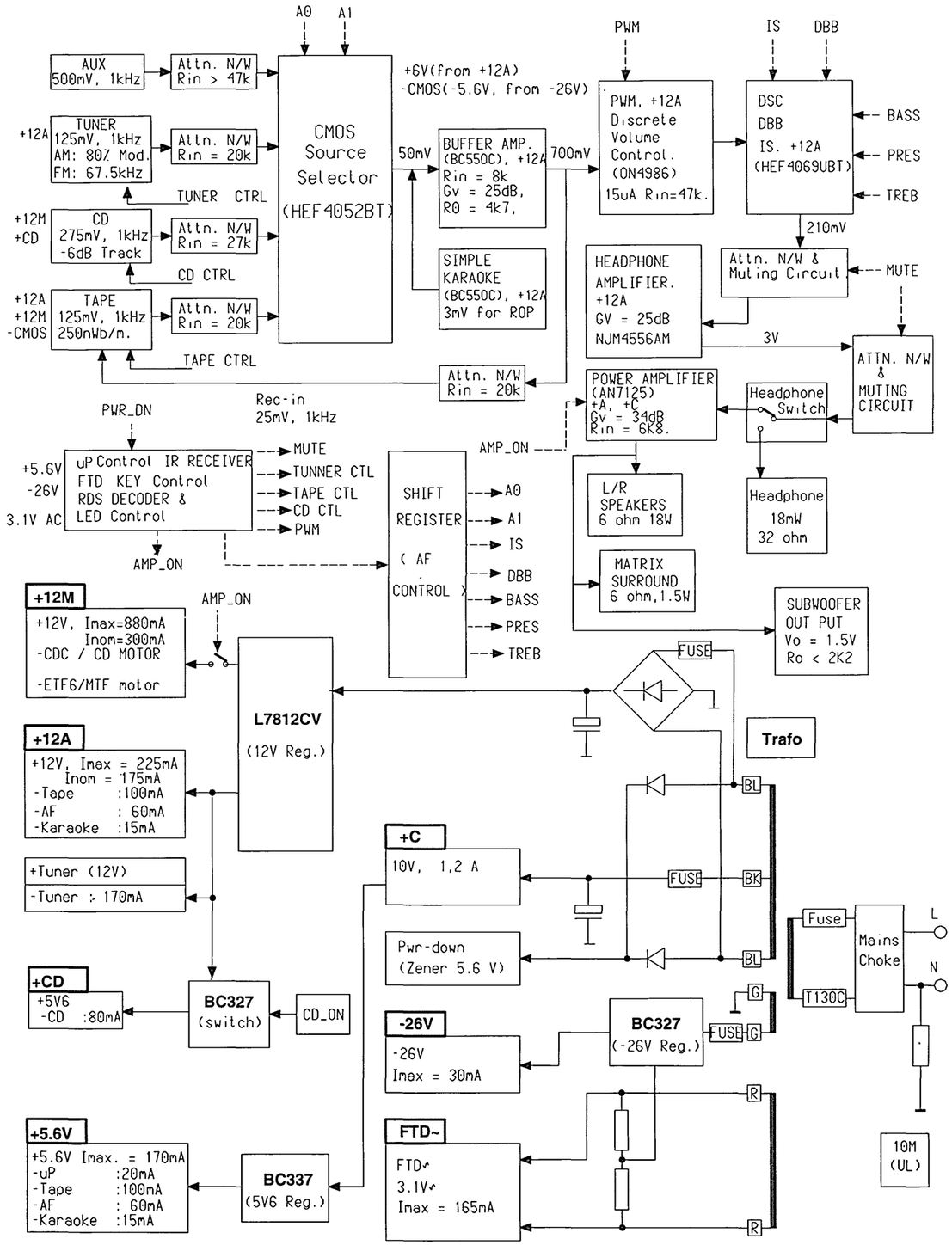
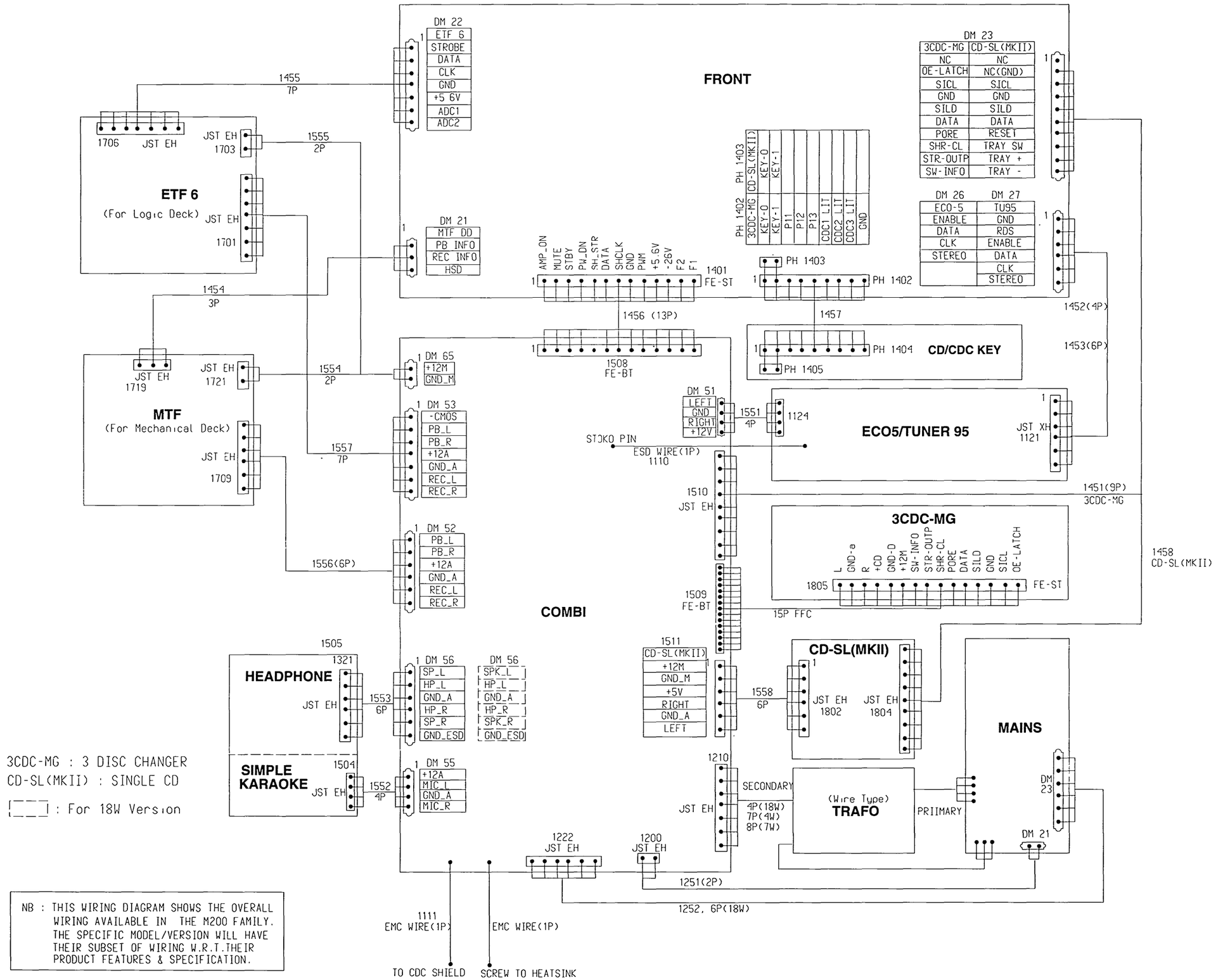


Diagrama de Bloco



NOTES:

Diagrama de Fiação



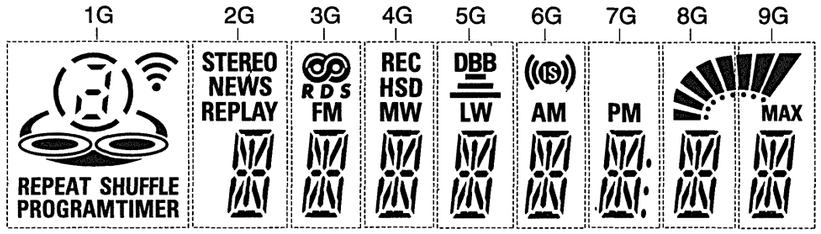
3CDC-MG : 3 DISC CHANGER
CD-SL(MKII) : SINGLE CD
[ ] : For 18W Version

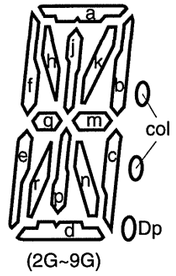
NB : THIS WIRING DIAGRAM SHOWS THE OVERALL WIRING AVAILABLE IN THE M200 FAMILY. THE SPECIFIC MODEL/VERSION WILL HAVE THEIR SUBSET OF WIRING W.R.T.THEIR PRODUCT FEATURES & SPECIFICATION.

I
FRONT BOARD
FW316C / FW339C / FW356C

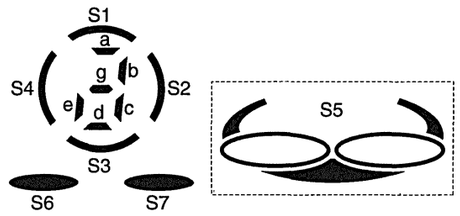
I-01) Pinagem do FTD Display

NOTES:

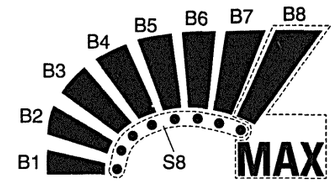




(2G~9G)



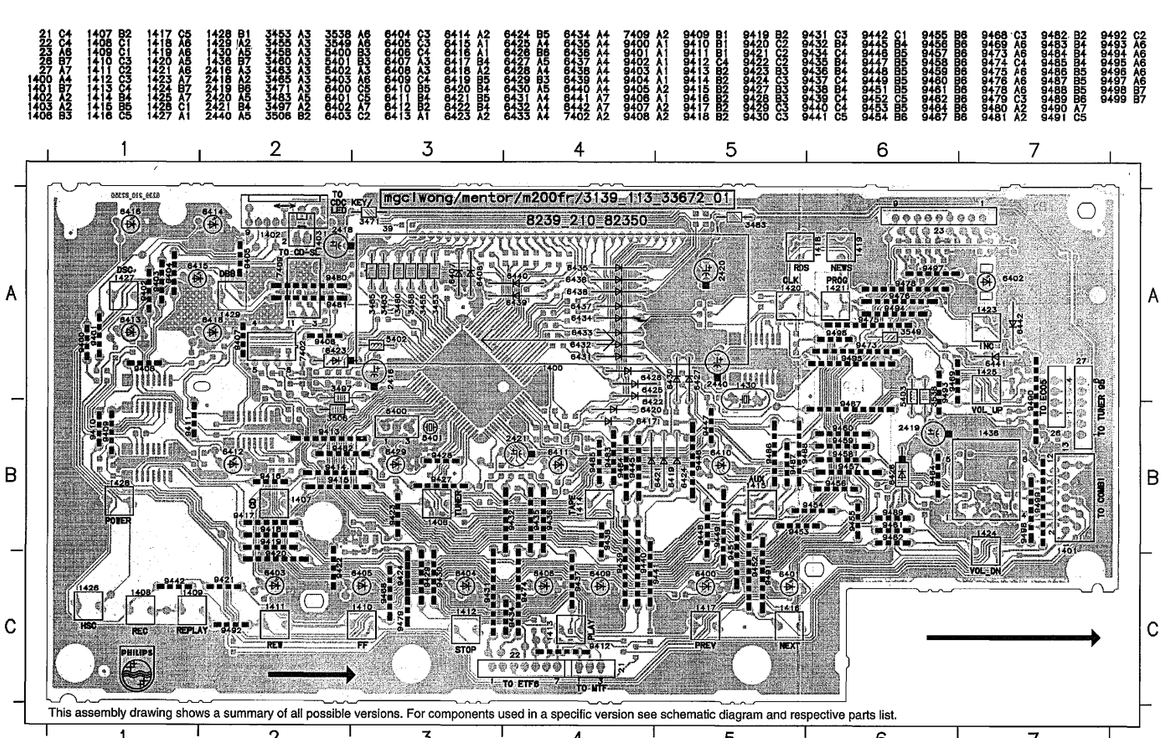
(1G)



(8G , 9G)

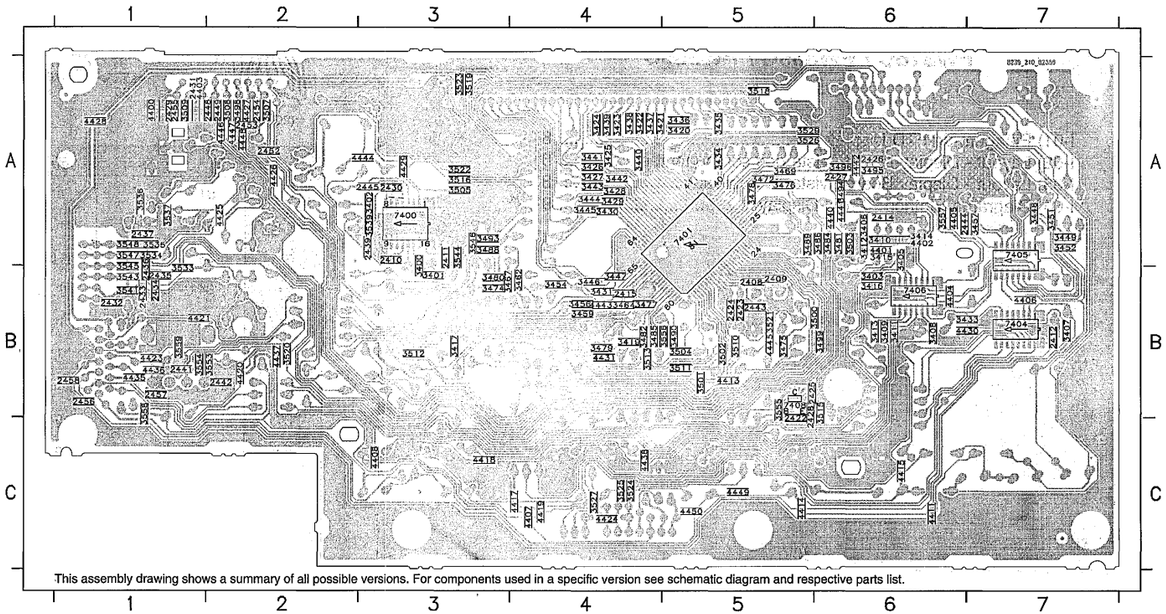
	1G	2G	3G	4G	5G	6G	7G	8G	9G
P1	S1	a	a	a	a	a	a	a	a
P2	S2	h	h	h	h	h	h	h	h
P3	S3	j , p	j , p	j , p	j , p	j , p	j , p	j , p	j , p
P4	S4	k	k	k	k	k	k	k	k
P5	b	b	b	b	b	b	b	b	b
P6	c	f	f	f	f	f	f	f	f
P7	a , d , g	m	m	m	m	m	m	m	m
P8	e	g	g	g	g	g	g	g	g
P9	S5	c	c	c	c	c	c	c	c
P10	S6	e	e	e	e	e	e	e	e
P11	S7	r	r	r	r	r	r	r	r
P12	SHUFFLE	n	n	n	n	n	n	n	n
P13	REPEAT	d	d	d	d	d	d	d	d
P14	TIMER	STEREO	RDS	REC	DBB	AM	PM	S8	
P15	PROGRAM	REPLAY	FM	HSD			col	B5	
P16		NEWS	-	MW	LW	AM	Dp	B6	
P17	-	-	-	-	-	-	-	B1	-
P18	-	-	-	-	-	-	-	B2	-
P19	-	-	-	-	-	-	-	B3	-
P20	-	-	-	-	-	-	-	B4	-
P21	-	-	-	-	-	-	-	-	B7
P22	-	-	-	-	-	-	-	-	B8

I-02) Layout - Display Board / vista dos componentes



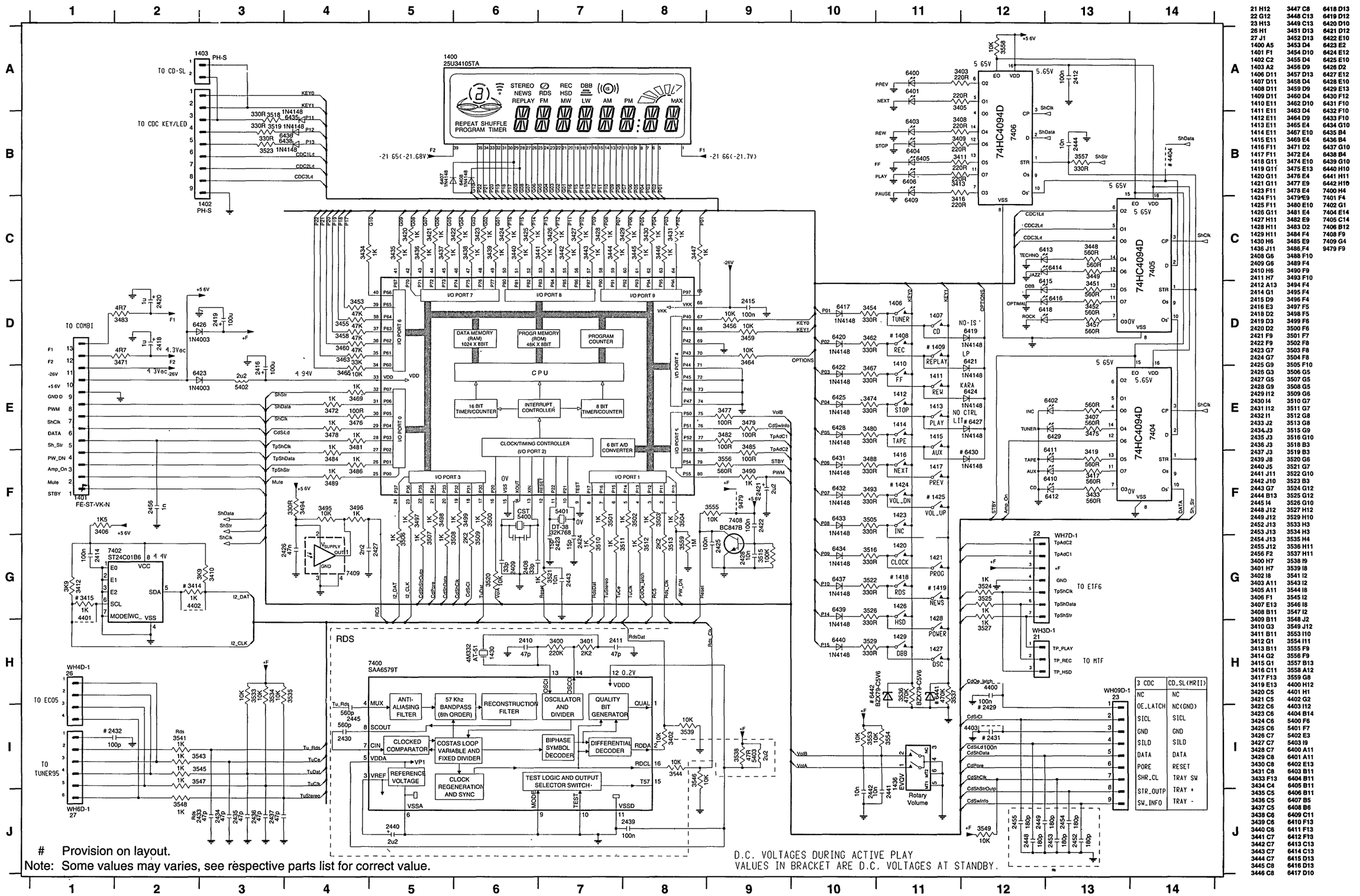
This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list.

I-03) Layout - Display Board / vista do cobreado



This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list.

I-04) Diagrama Elétrico - Front Display



3 CDC	CD_SL(MRII)
NC	NC
OE_LATCH	NC(GND)
SICL	SICL
GND	GND
SILD	SILD
DATA	DATA
PORE	RESET
SHR_CL	TRAY SW
STR_OUTP	TRAY +
SW_INFO	TRAY -

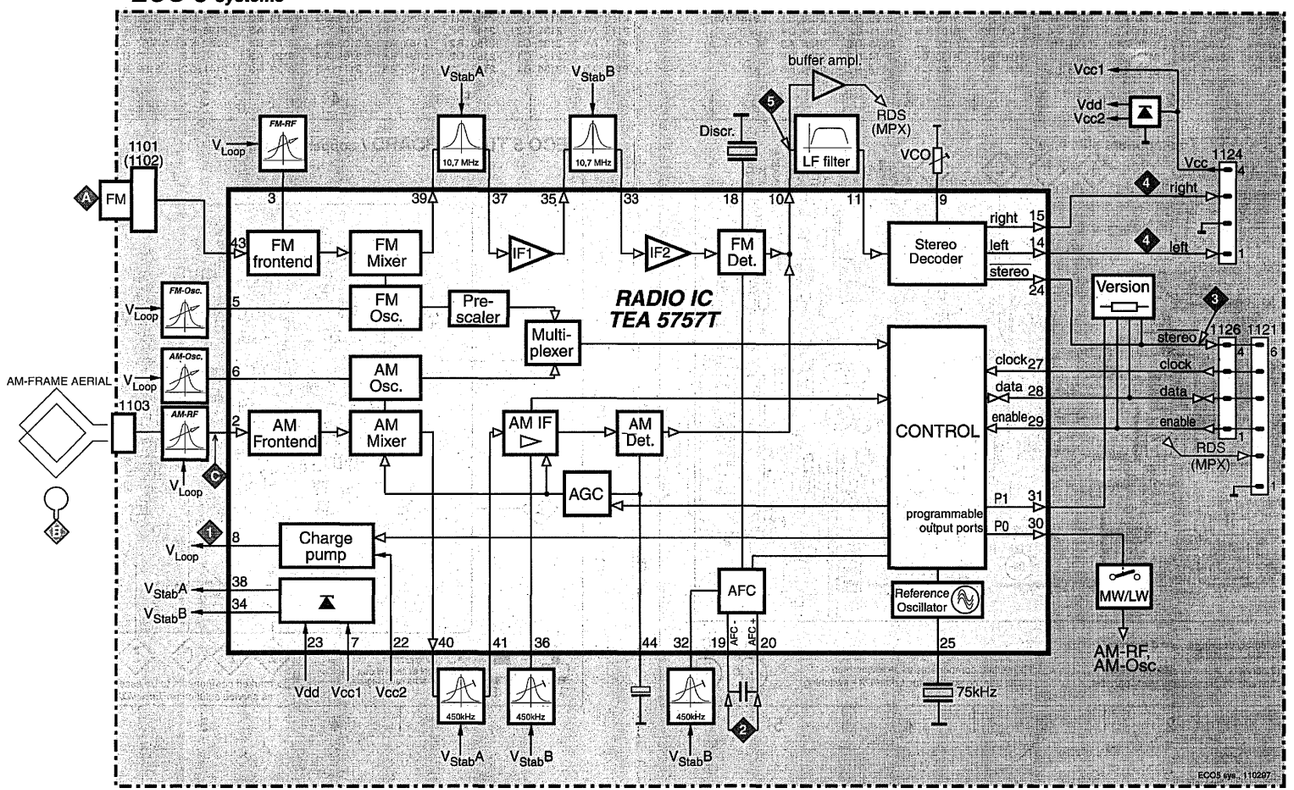
Provision on layout.

Note: Some values may varies, see respective parts list for correct value.

21 H12	3447 C8	6418 D13
22 G12	3448 C13	6419 D12
23 H13	3449 C13	6420 D10
26 H1	3451 D13	6421 D12
27 J1	3452 D13	6422 E10
1400 A5	3453 D4	6423 E2
1401 F1	3454 D10	6424 E12
1402 C2	3455 D4	6425 E10
1403 A2	3456 D9	6426 D2
1406 D11	3457 D13	6427 E12
1407 D11	3458 D4	6428 E10
1408 D11	3459 D9	6429 E13
1409 D11	3460 D4	6430 F12
1410 E11	3462 D10	6431 F10
1411 E11	3463 D4	6432 F10
1412 E11	3464 D9	6433 F10
1413 E11	3465 E4	6434 G10
1414 E11	3467 E10	6435 B4
1415 E11	3469 E4	6436 B4
1416 F11	3471 D2	6437 G10
1417 F11	3472 E4	6438 B4
1418 G11	3474 E10	6439 G10
1419 G11	3475 E13	6440 H10
1420 G11	3476 E4	6441 H11
1421 G11	3477 E9	6442 H10
1423 F11	3478 E4	7400 H4
1424 F11	3479 E9	7401 F4
1425 F11	3480 E10	7402 G1
1426 G11	3481 E4	7404 E14
1427 H11	3482 E9	7405 C14
1428 H11	3483 D2	7406 B12
1429 H11	3484 F4	7408 F9
1430 H6	3485 E9	7409 G4
1436 J11	3486 F4	9479 F9
2408 G6	3488 F10	
2409 G6	3489 F4	
2410 H6	3490 F9	
2411 H7	3493 F10	
2412 A13	3494 F4	
2414 G1	3495 F4	
2415 D9	3496 F4	
2416 E3	3497 F5	
2418 D2	3498 F5	
2419 D3	3499 F6	
2420 D2	3500 F6	
2421 F9	3501 F7	
2422 F9	3502 F8	
2423 G7	3503 F8	
2424 G7	3504 F8	
2425 G9	3505 F10	
2426 G3	3506 G5	
2427 G5	3507 G5	
2428 G9	3508 G5	
2429 I12	3509 G6	
2430 I4	3510 G7	
2431 I12	3511 G7	
2432 I1	3512 G8	
2433 J2	3513 G8	
2434 J3	3515 G9	
2435 J3	3516 G10	
2436 J3	3518 B3	
2437 J3	3519 B3	
2439 J8	3520 G6	
2440 J5	3521 G7	
2441 J11	3522 G10	
2442 J10	3523 B3	
2443 G7	3524 G12	
2444 B13	3525 G12	
2445 I4	3526 G10	
2448 J12	3527 H12	
2449 J12	3529 H10	
2452 J13	3533 H3	
2453 J13	3534 H3	
2454 J13	3535 H4	
2455 J12	3536 H11	
2456 F2	3537 H11	
3400 H7	3538 I9	
3401 H7	3539 I8	
3402 I8	3541 I2	
3403 A11	3543 I2	
3405 A11	3544 I8	
3406 F1	3545 I2	
3407 E13	3546 I8	
3408 B11	3547 I2	
3409 B11	3548 J2	
3410 G3	3549 J12	
3411 B11	3553 I10	
3412 G1	3554 I11	
3413 B11	3555 F9	
3414 G2	3556 F9	
3415 G1	3557 B13	
3416 C11	3558 A12	
3417 F13	3559 G8	
3419 E13	4400 H12	
3420 C5	4401 H1	
3421 C5	4402 G2	
3422 C6	4403 I12	
3423 C6	4404 B14	
3424 C6	5400 F6	
3425 C6	5401 F7	
3426 C7	5402 E3	
3427 C7	5403 I9	
3428 C7	6400 A11	
3429 C8	6401 A11	
3430 C8	6402 E13	
3431 C8	6403 B11	
3433 F13	6404 B11	
3434 C4	6405 B11	
3435 C5	6406 B11	
3436 C5	6407 B5	
3437 C5	6408 B6	
3438 C6	6409 C11	
3439 C6	6410 F13	
3440 C6	6411 F13	
3441 C7	6412 F13	
3442 C7	6413 C13	
3443 C7	6414 C13	
3444 C7	6415 D13	
3445 C8	6416 D13	
3446 C8	6417 D10	

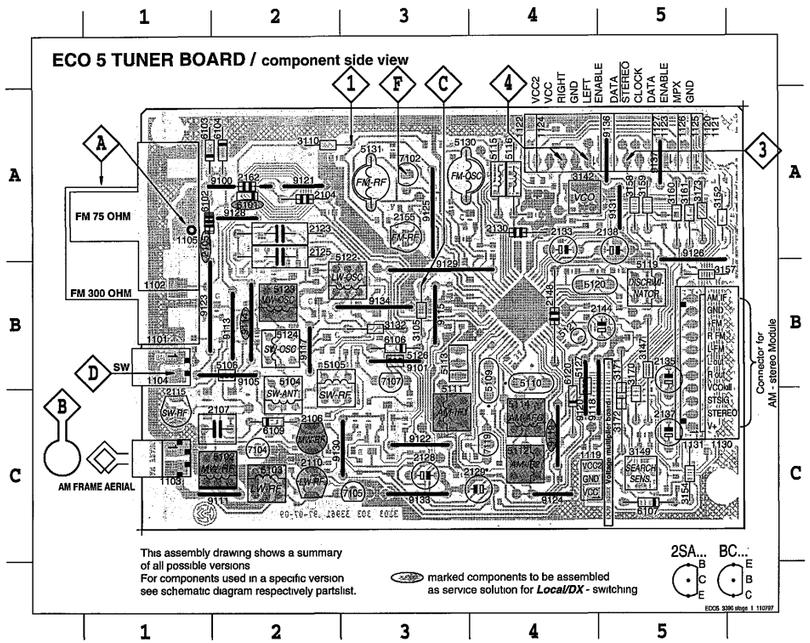
II
TUNER BOARD ECO5
FW316C / FW339C / FW356C

TUNER BOARD
ECO 5 systems



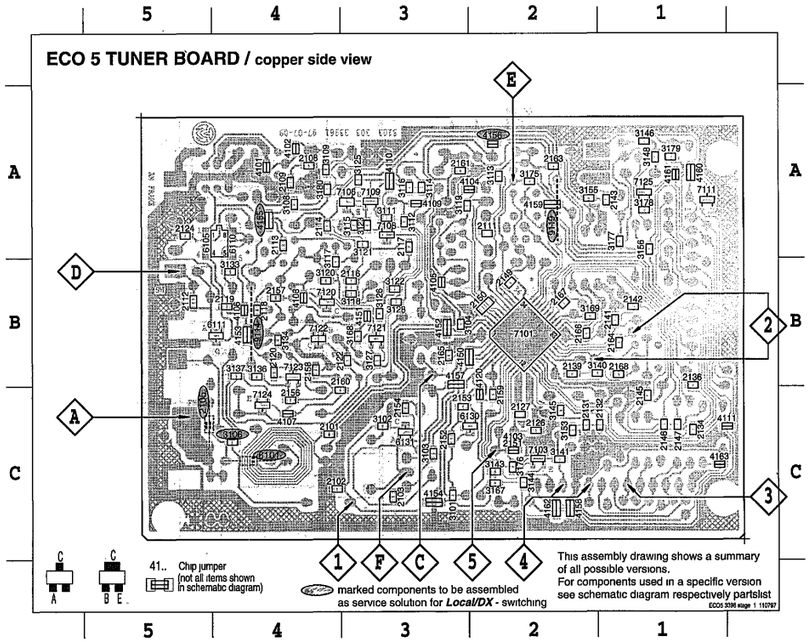
II-2) Layout - ECO 5 Tuner Board / vista dos componentes

1101 A1 2106 C2 2137 C5 3149 C5 3173 A5 5114 C4 5130 A3 7104 C2 9117 B2 9129 B3
1102 A1 2107 C2 2138 A5 3152 A5 5102 C2 5115 A4 5131 A3 7105 C3 9118 B4 9130 C3
1103 C1 2110 C2 2144 B5 3154 C5 5103 C2 5116 A4 6101 A2 7107 B3 9119 C4 9131 A5
1104 B1 2115 C1 2148 B4 3157 B5 5104 C2 5119 B5 6102 A1 7119 C4 9120 B4 9133 C3
1105 A1 2123 A2 2155 A3 3158 A5 5105 B2 5120 B4 6103 A1 9100 A2 9121 A2 9134 B3
1119 C5 2125 A2 2162 A2 3159 A5 5106 B2 5121 B4 6104 A2 9101 B3 9122 C3 9136 A5
1120 A5 2128 C3 3105 B3 3160 A5 5109 B4 5122 B3 6106 B3 9105 B2 9123 B1 9137 A5
1130 B5 2129 C4 3110 A2 3161 A5 5110 B4 5123 B2 6107 C5 9111 C2 9124 C4
1131 B5 2130 A4 3132 B3 3170 C5 5111 C3 5124 B2 6109 C2 9113 B2 9125 A3
2104 A2 2133 A4 3142 A4 3171 C5 5112 C4 5126 B3 6120 C4 9114 B2 9126 B5
2105 A1 2135 B5 3147 B5 3172 C5 5113 B3 5127 B4 7102 A3 9115 B3 9128 A2



II-3) Layout - ECO 5 Tuner Board / vista cobreado

2101 C4 2118 B4 2139 B2 2153 C3 2166 B2 3112 A3 3123 A3 3143 C2 3175 A2 4106 B4 4154 C3 6110 A4 7121 B3
2102 C4 2119 B4 2141 B1 2154 C3 2167 B2 3113 A2 3125 A3 3144 C2 3176 C2 4107 C4 4155 A4 6111 B4 7122 B4
2103 C3 2120 B4 2142 B1 2156 C4 2168 B1 3114 A3 3126 B3 3145 C2 3177 A1 4108 B4 4156 A2 6130 C2 7123 B4
2108 A4 2122 B3 2143 A1 2157 B4 3101 C3 3115 A3 3127 B3 3146 A1 3178 A1 4109 A3 4157 B3 6131 C3 7124 C4
2109 A4 2124 A5 2145 C1 2158 B4 3102 C3 3116 A3 3128 B3 3148 A1 3179 A1 4110 A3 4158 C2 7101 B2 7125 A1
2111 A2 2126 C2 2146 C1 2159 C2 3103 C3 3117 B4 3133 B4 3153 C2 3180 A4 4111 C1 4159 A2 7103 C2
2112 B5 2127 C2 2147 C1 2160 C4 3104 B3 3118 B3 3134 B4 3155 A2 4101 A4 4120 C2 4160 A1 7106 A3
2113 A4 2131 C2 2149 B2 2161 A3 3106 C4 3119 A3 3136 B4 3156 A1 4102 A4 4150 B2 4161 A1 7108 A3
2114 A4 2132 C1 2150 B2 2163 A2 3108 A4 3120 B4 3137 B4 3167 C2 4103 C2 4151 B3 4162 C1 7109 A3
2116 B3 2134 C1 2151 C2 2164 B1 3109 A4 3121 A3 3140 B2 3168 B3 4104 A2 4152 B3 4163 C1 7111 A1
2117 A3 2136 B1 2152 C3 2165 B3 3111 A3 3122 B3 3141 C2 3169 B2 4105 B3 4153 B4 6105 A4 7120 B4



II-4) Tabela de Ajuste do Tuner | (ECO5 FM/MW- and FM/MW/LW - versions with AM-frame aerial)

Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter
VARICAP ALIGNMENT						
FM 87 5 - 108MHz (65 81 - 74, 87 5 - 108MHz)			108MHz 87 5MHz (65 81MHz)	5130 check	◇1	8V ±0 2V 4 3V ±0 5V (1 2V ±0 5V)
MW FM/AM-version, 10kHz grid 530 - 1700kHz			1700kHz 530kHz	5123 check		8V ±0 2V 1 1V ±0 4V
FM/MW-version, 9kHz grid 531 - 1602kHz			1602kHz 531kHz	5123 check		6 9V ±0 2V 1 1V ±0 4V
LW 153 - 279kHz			279kHz 153kHz	5122 check		8V ±0 2V 1 1V ±0 4V
MW FM/MW/LW- version, 9kHz grid 531 - 1602kHz			1602kHz 531kHz	5123 check		8V ±0 2V 1 1V ±0 4V
FM IF						
FM	10 7MHz, 50mV continuous wave	◇F	IC 7101 21 shortcircuit to block AFC 2141	5119	◇2	0 ± 3 mV DC
FM RF						
FM 87 5 - 108MHz (65 81 - 74, 87 5 - 108MHz)	108MHz 87 5MHz (65 81MHz)	◇A mod=1kHz Δf=±22 5kHz	108MHz 87 5MHz (65 81MHz)	2155 5131	◇4	MAX
VCO						
FM	98MHz, 1mV continuous wave	◇A	98MHz	3142	◇3	152kHz ±1kHz [1]
AM IF						
MW	450kHz connect pin 6 of IC 7101 (AM Osc.) with short wire to ground (pin 4)	◇C Δf=±15kHz V_{RF} = 3mV	IC 7101 36 220R 100nF	5111	◇4	f0 symmetric
			IC 7101 40 220R 100nF see remark 2)	5112		
AM AFC **MW**		◇C continuous wave V_{RF} = 10mV		5114	◇2	0 ± 2 mV DC
AM RF [3]						
MW FM/MW/LW- and FM/MW-version (9kHz grid) 531 - 1602kHz	1494kHz 558kHz	◇B Δf = ±30kHz V_{RF} as low as possible	1494kHz 558kHz	2106 5102	◇4	f0 symmetric
LW	198kHz		198kHz	5103		
MW FM/AM-version, 10kHz grid 530 - 1700kHz	1500kHz 560kHz		1500kHz 560kHz	2106 5102		

ECO5, door cel, 950797

Use service test program. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

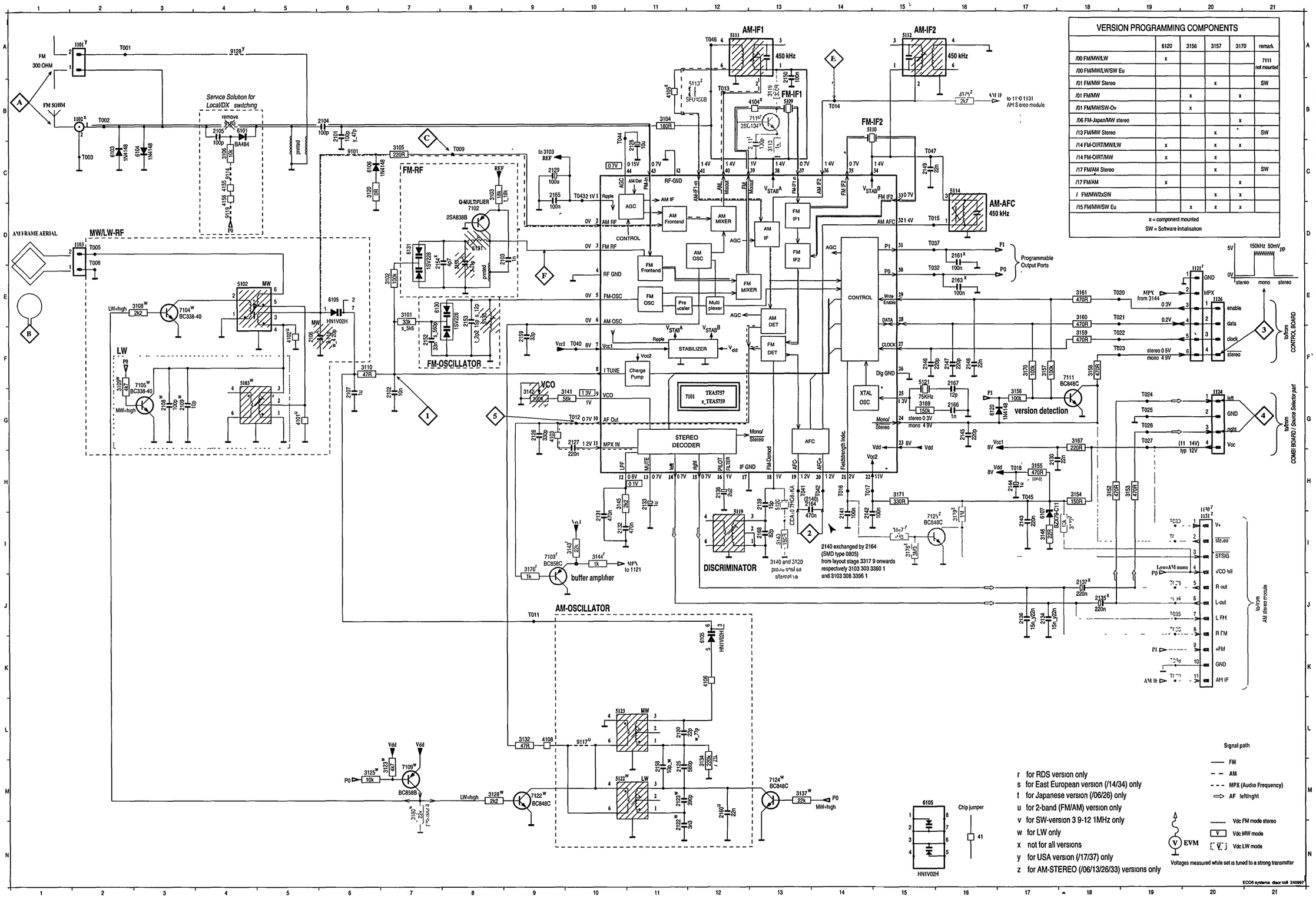
1) If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)

2) RC network serves for damping the IF-filter while adjusting the other one.

3) For AM RF adjustments the original frame antenna has to be used !

4) MW has to be aligned before LW.

II-5) Diagrama Elétrico - Tuner Board ECO5 / systems

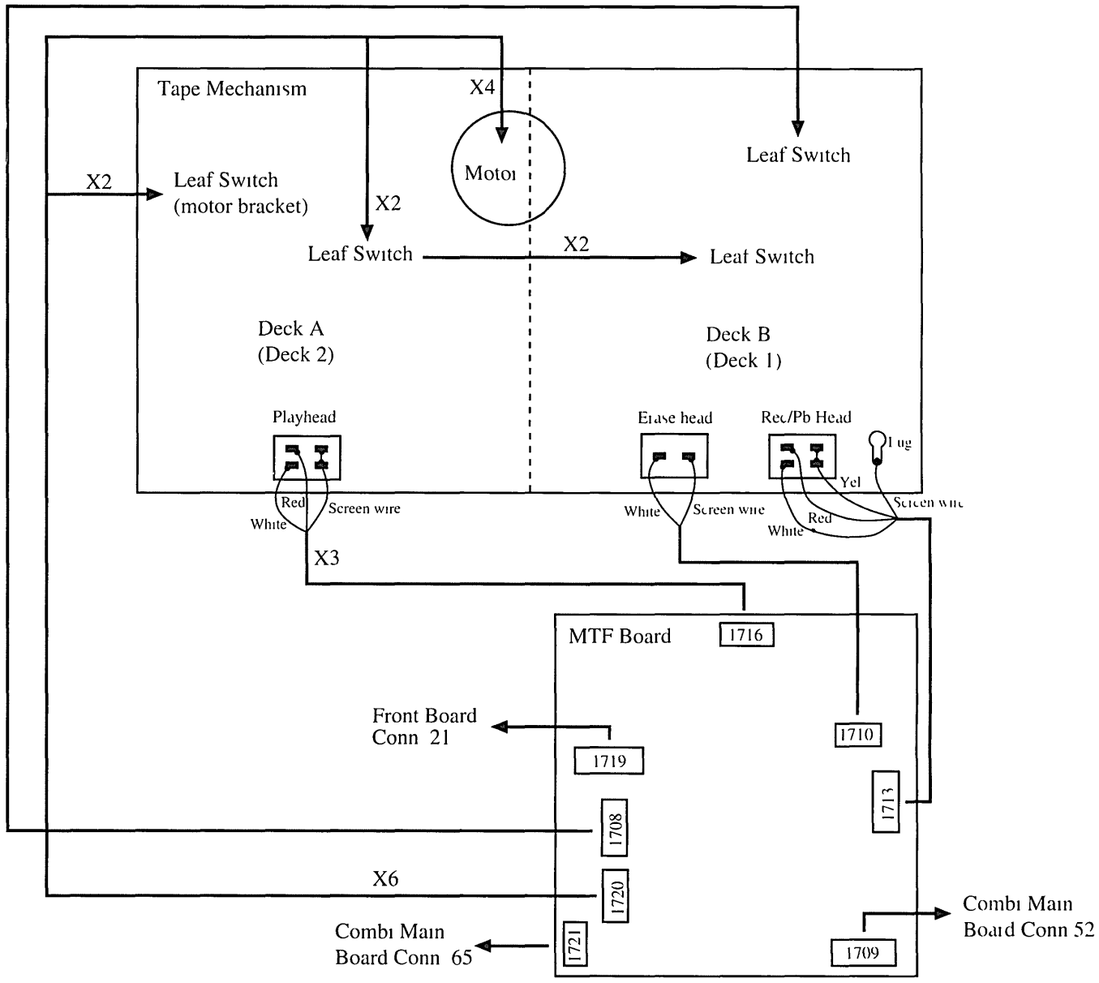


III

MTF MODULE

FW316C / FW339C

III-1) Diagrama de Fiação

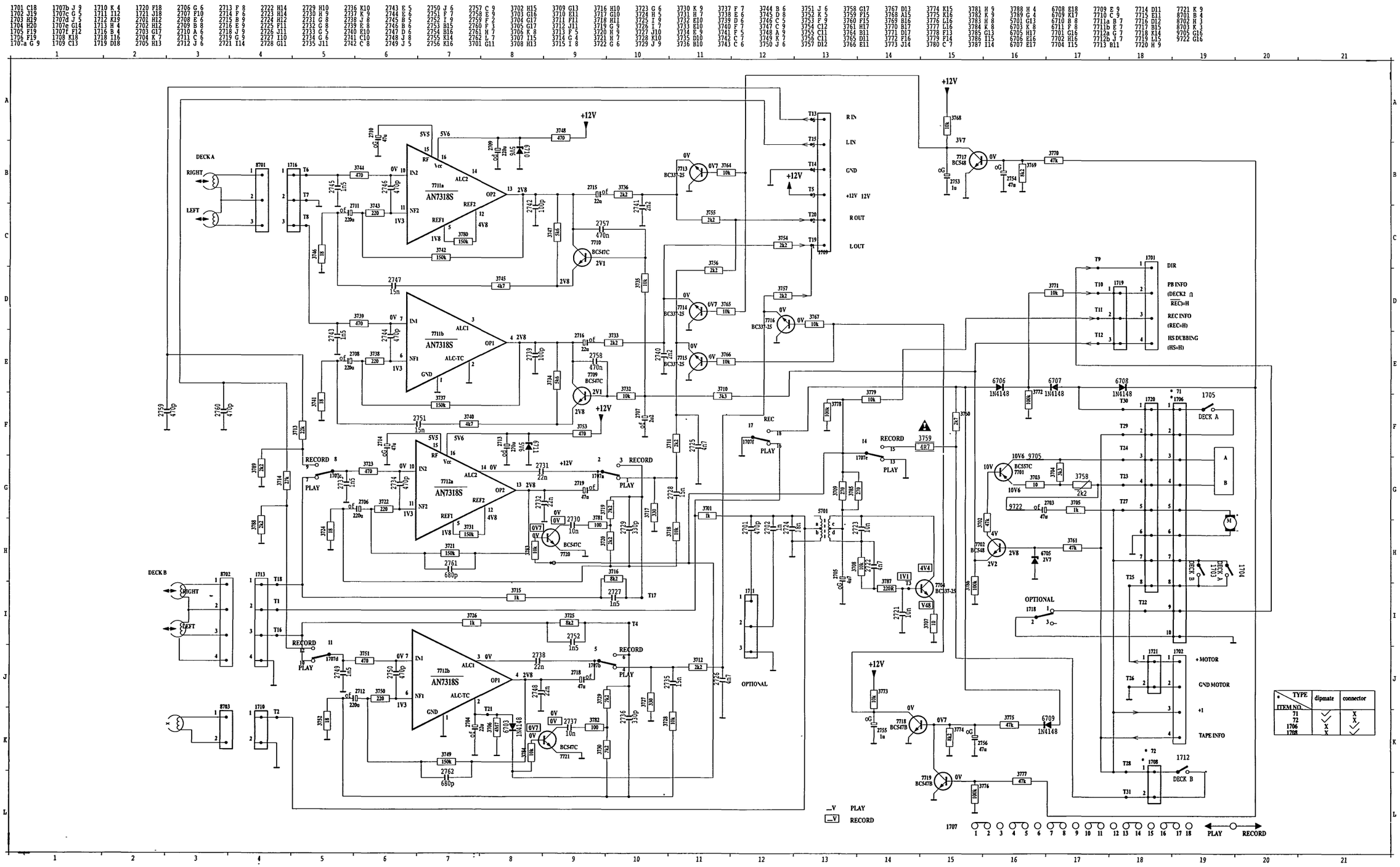


TAPE MECHANISM ADJUSTMENT

ADJUSTMENT	CASSETTE	DECK 1 (DECK B)	DECK 2 (DECK A)	MEASURE ON	READ ON	ADJUST WITH	ADJUST TO
Azimuth	10kHz	Play	-	L & R out T019/T020	mV-meter	Left hand screw of Play or R/P head	Maximum L = R
		-	Play				
Motor speed	3150Hz	Play	-	L & R out T019/T020	Wow and Futter meter	3758	**a
		-	Play				

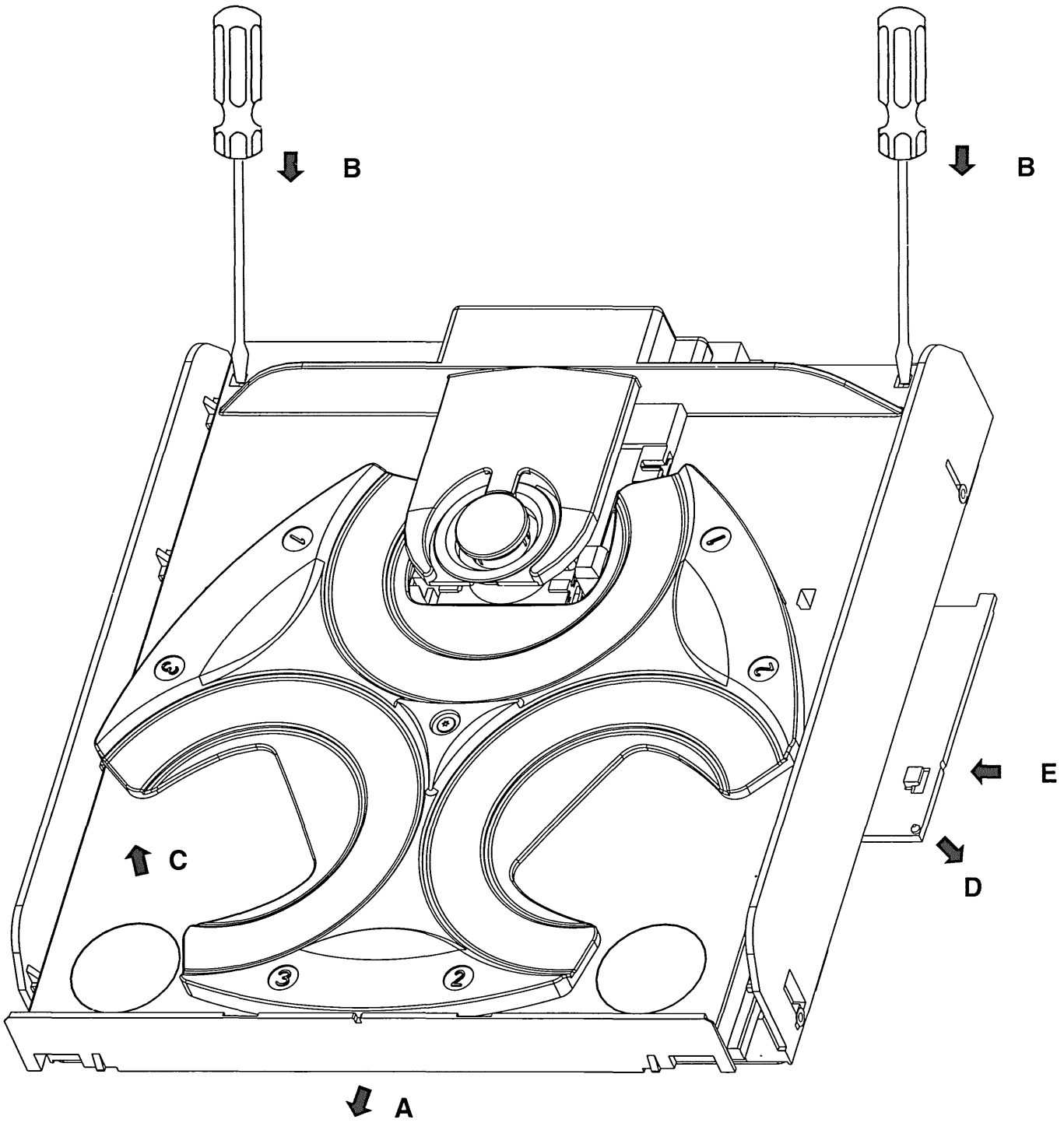
The maximum permissible speed deviation is +3/-2%
Moreover, the Wow & Flutter value can be read
This value should not exceed 0 4%

III-2) Diagrama Elétrico - MTF Deck



IV
3 CDC MODULE
FW316C / FW339C / FW356C

IV-1) Instruções de Desmontagem



Desmontagem da gaveta

A - Puxe a gaveta para fora
B - Destrave a gaveta nos pontos indicados com o auxílio de uma chave de fenda
C - Levante a gaveta para desmontá-la do chassis

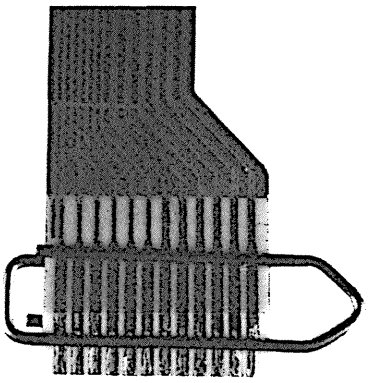
Desmontagem da Placa Flexível

D - Levante a placa para destravar o pino do fundo da placa
E - Mova a placa para dentro para desmontá-la do fundo

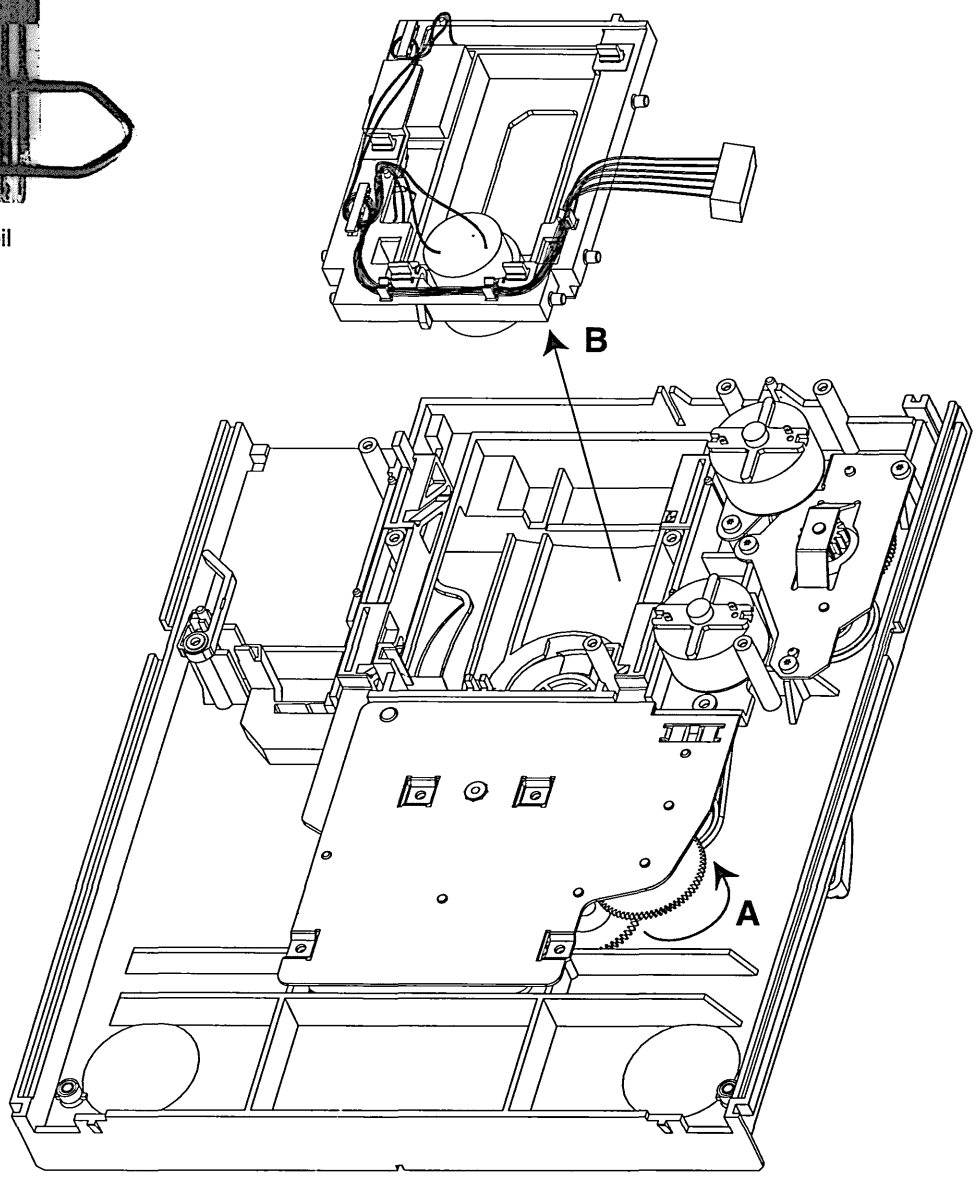
IV-2) Substituição do CDM-12.1

Consulte também a vista explodida do mecanismo do carrousel.

1. Desmonte a placa flexível (140)
2. Desmonte a placa de circuito impresso: remova 6 parafusos e dessolde os terminais dos motores da gaveta e carrousel.
3. Desconecte o cabo "flexfoil" e o conector JST do CDM da placa do circuito impresso. Coloque um "clips" de papel no cabo "flexifoil" para evitar danos no laser do CDM (veja figura)
4. Remova os 2 parafusos 107 e 108 e desmonte as travas do CDM 105 e 106.
5. Gire a engrenagem 42 do mecanismo de mudança de disco com os dedos até mover o suporte do CDM para a posição superior (posição do carrousel entre 2 discos durante a troca). **A**
6. Desmonte o suporte do CDM 95. **B**
7. Em caso de Substituição do CDM 100 os fios do conector JST tem que ser dessoldado e ressoldado no CDM.



CD drive flex foil

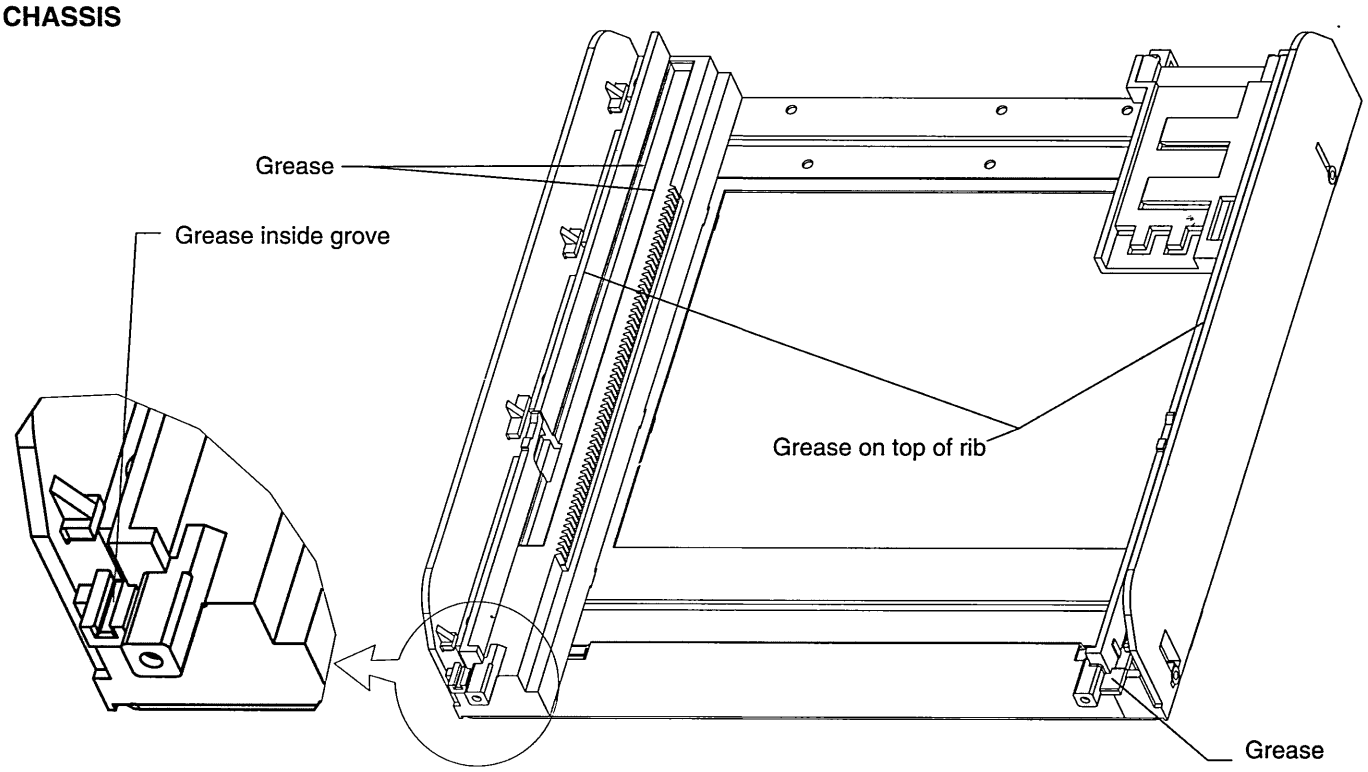


Montagem do Carrousel

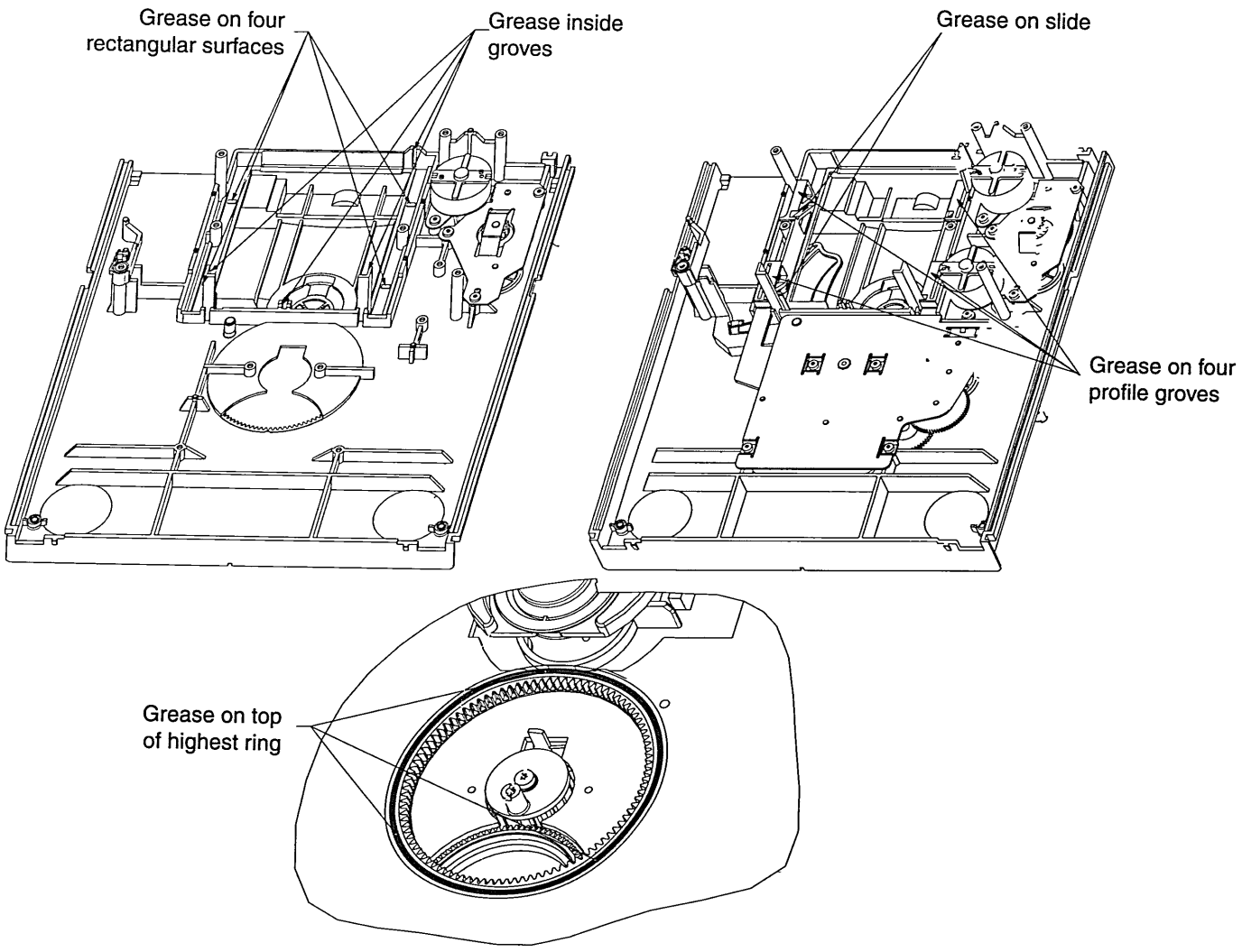
1. Gire a engrenagem 42 do mecanismo de troca do disco com os dedos até que o CDM esteje na posição de reprodução.
2. Monte o carrousel 115 de forma que esse disco esteje posicionado corretamente na mesa giratória.

Ilustrações de Lubrificação

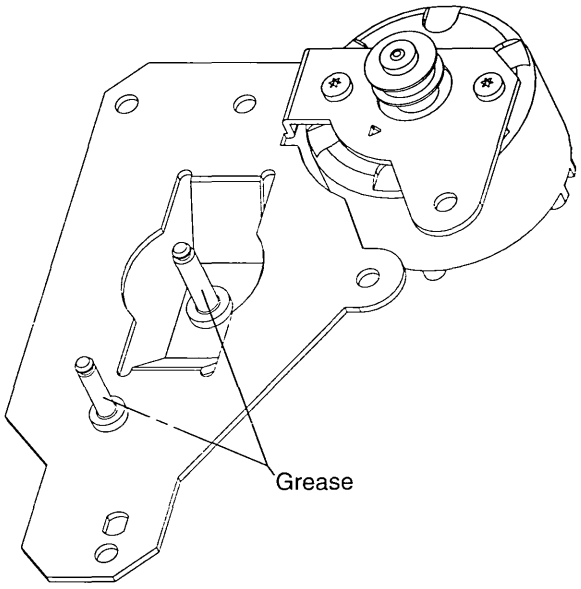
CHASSIS



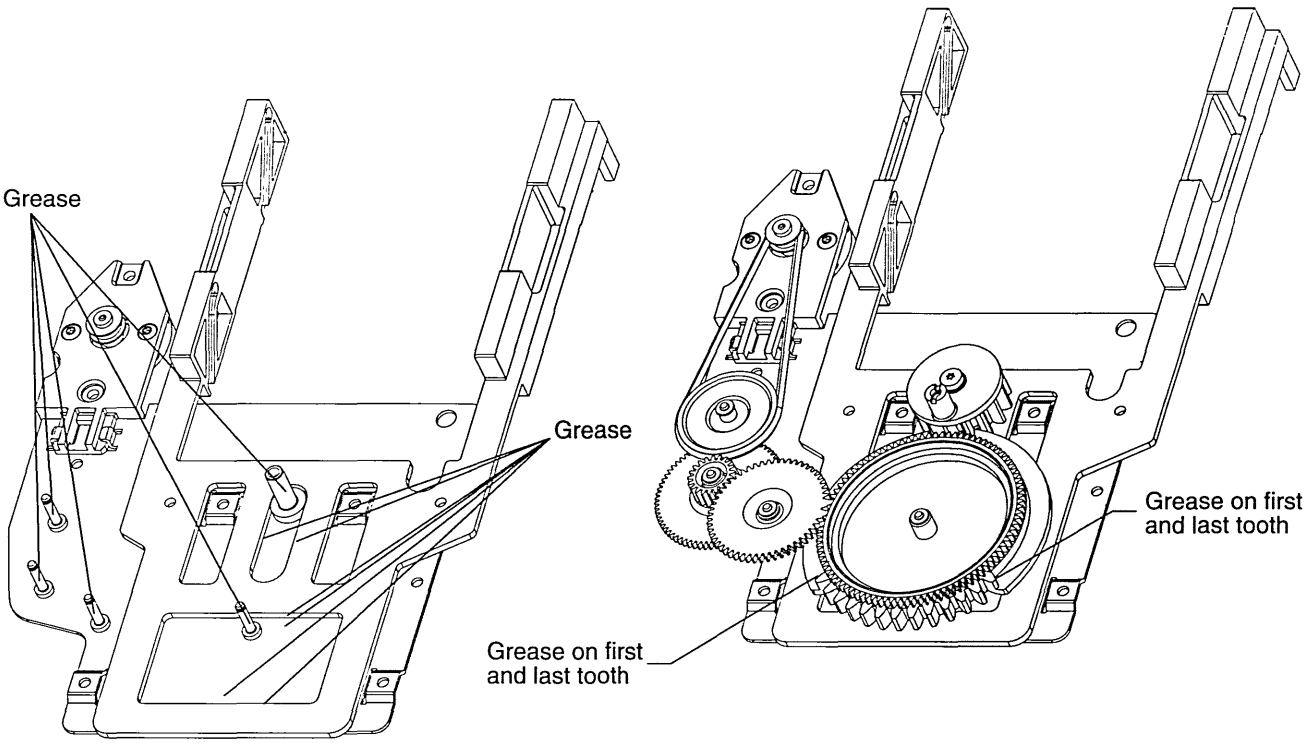
DRAWER



DRAWER MECHANISM



DISC CHANGE MECHANISM



Use only grease **Polylub GLY 801** service codenumber 4822 390 10136

Instruções de Manutenção do Servo do CD

Capacitores carregados na placa servo podem danificar os circuitos eletrônicos do CDM quando por ocasião da conexão de um novo mecanismo CDM. Portanto além dos cuidados normais o técnico de reparação deve:
- Desligar a fonte de alimentação
- Adotar as medidas de proteção contra descarga eletrostáticas (ESD).

Os seguintes passos devem ser seguidos para a substituição do mecanismo CDM:
1. Desconecte o cabo "flexfoil" do CDM antigo da placa de circuito impresso.
2. Conecte um "clip" de papel no cabo "flexfoil" do novo CDM para curto-circuito os vários terminais (fig. 1)
3. Curto-circuito a placa de circuito impresso com uma folha metálica (código 4822 321 11197) ligado no conector do flexfoil (fig.2).
4. Remova o mecanismo do CDM antigo.
5. Posicione o novo mecanismo CDM em seus suportes.
6. Remova o curto-circuito de placa de circuito impresso.
7. Remova o curto-circuito fo cabo "flexfoil" do novo CDM
8. Conecte o novo cabo "flexfoil" no conector da placa do circuito impresso (fig. 3)

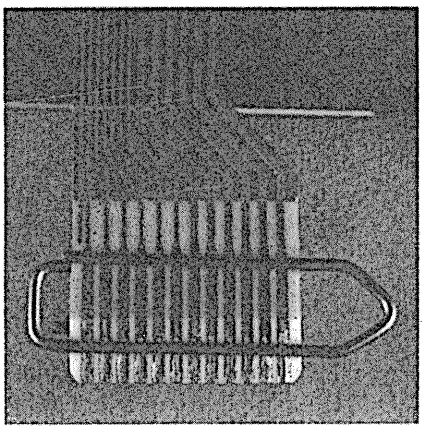


fig.1

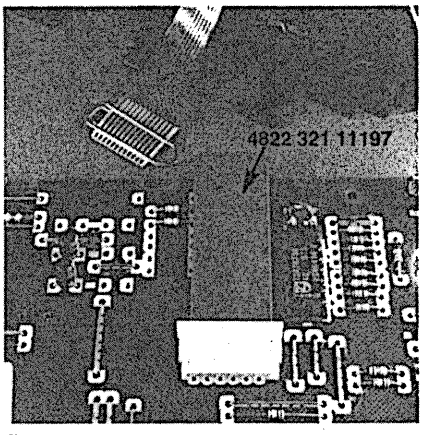


fig.2

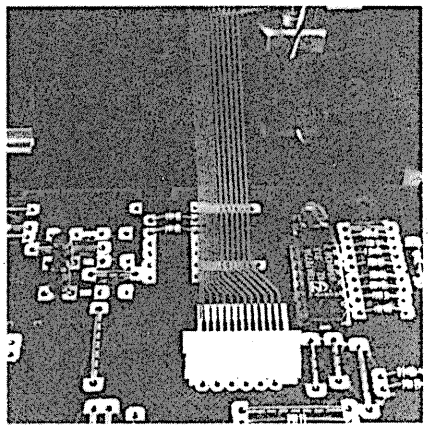
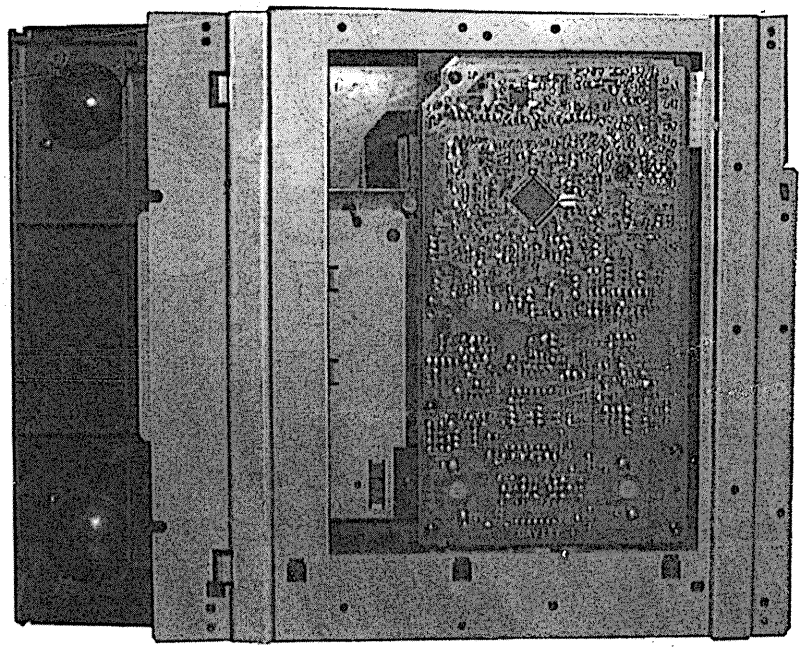
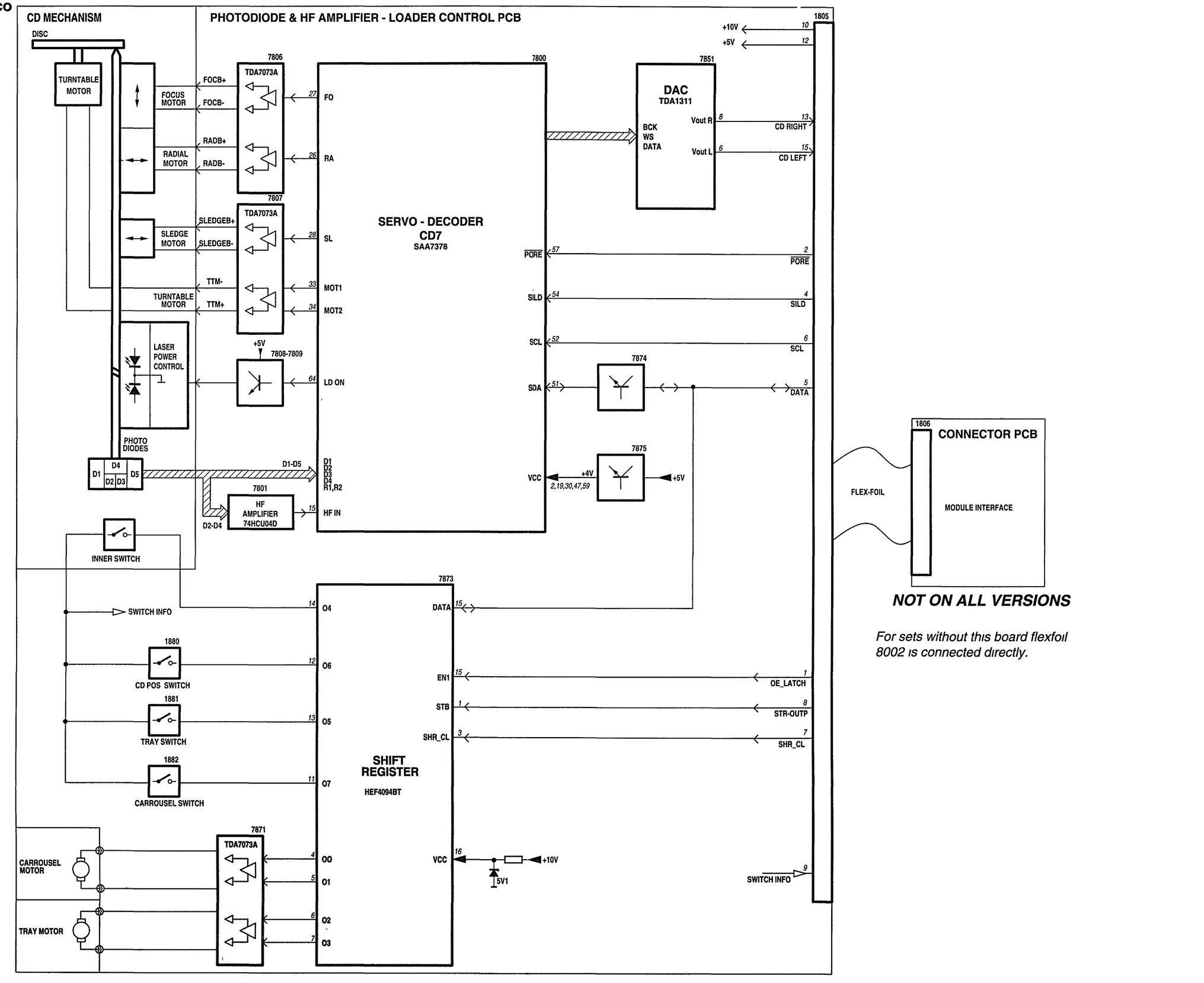


fig.3

Posição de Serviço para módulo CDC

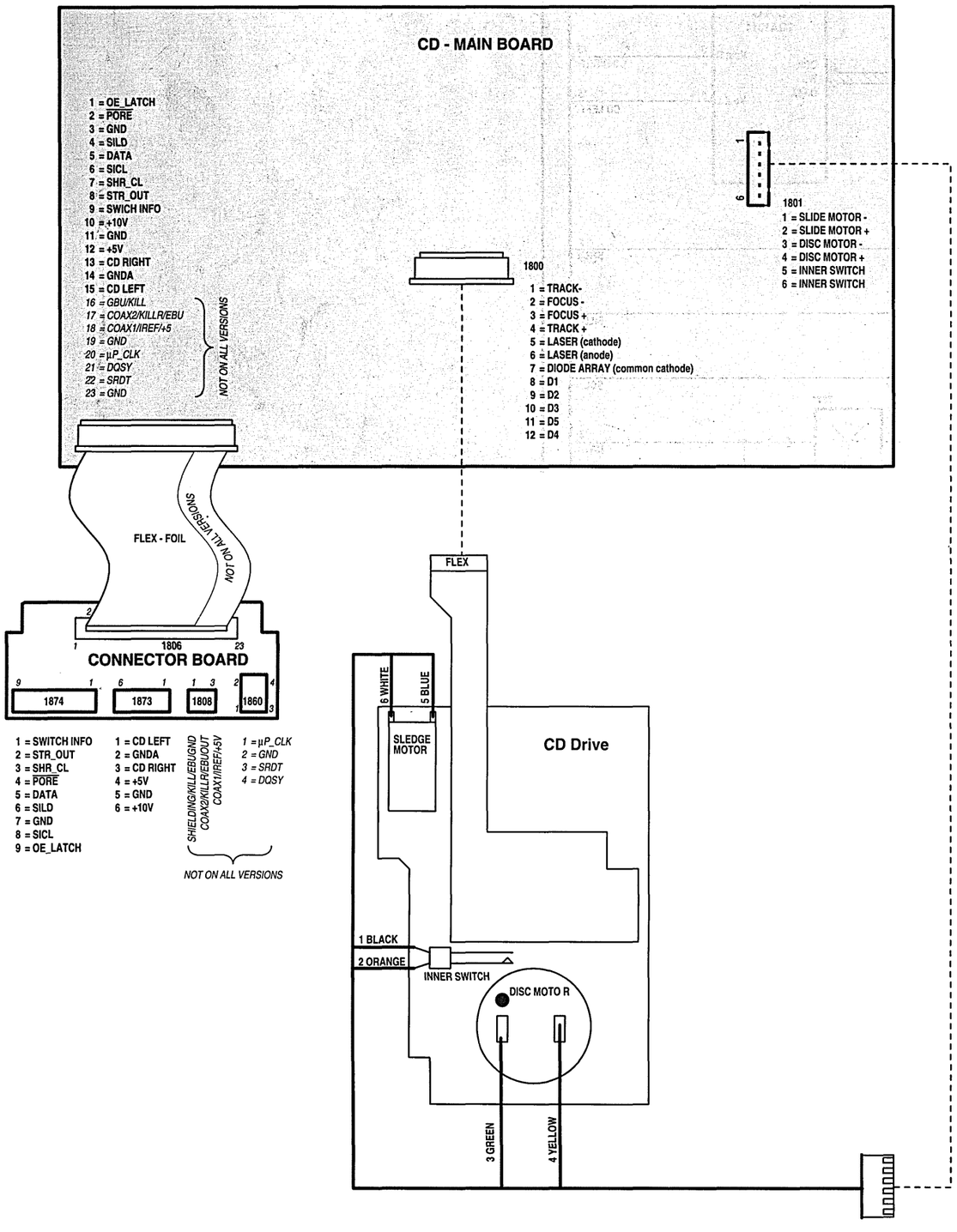


IV-3) Diagrama de Bloco

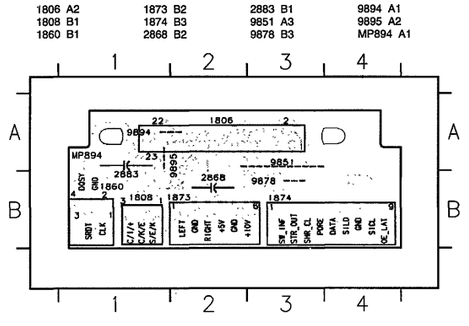


IV-4) Diagrama de Fiação

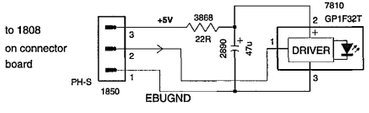
Remarks



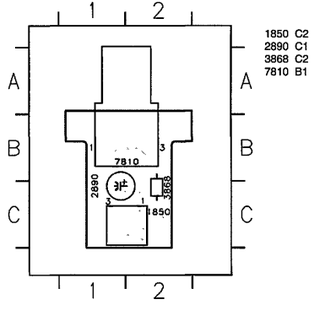
IV-5) Layout - Connector Board / vista dos componentes



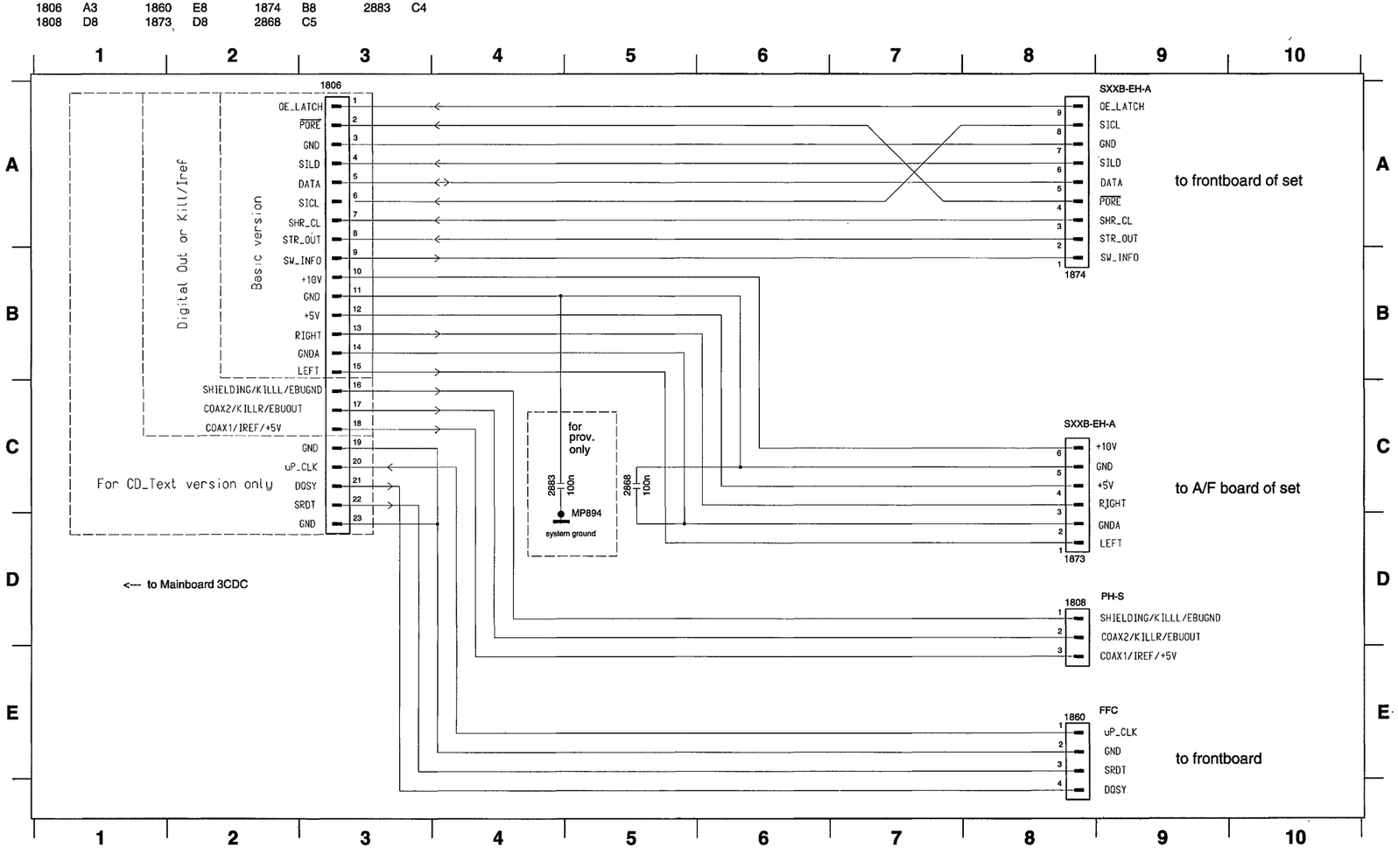
IV-6) Diagrama Elétrico - Optical out



IV-7) Layout - Optical out / vista dos componentes



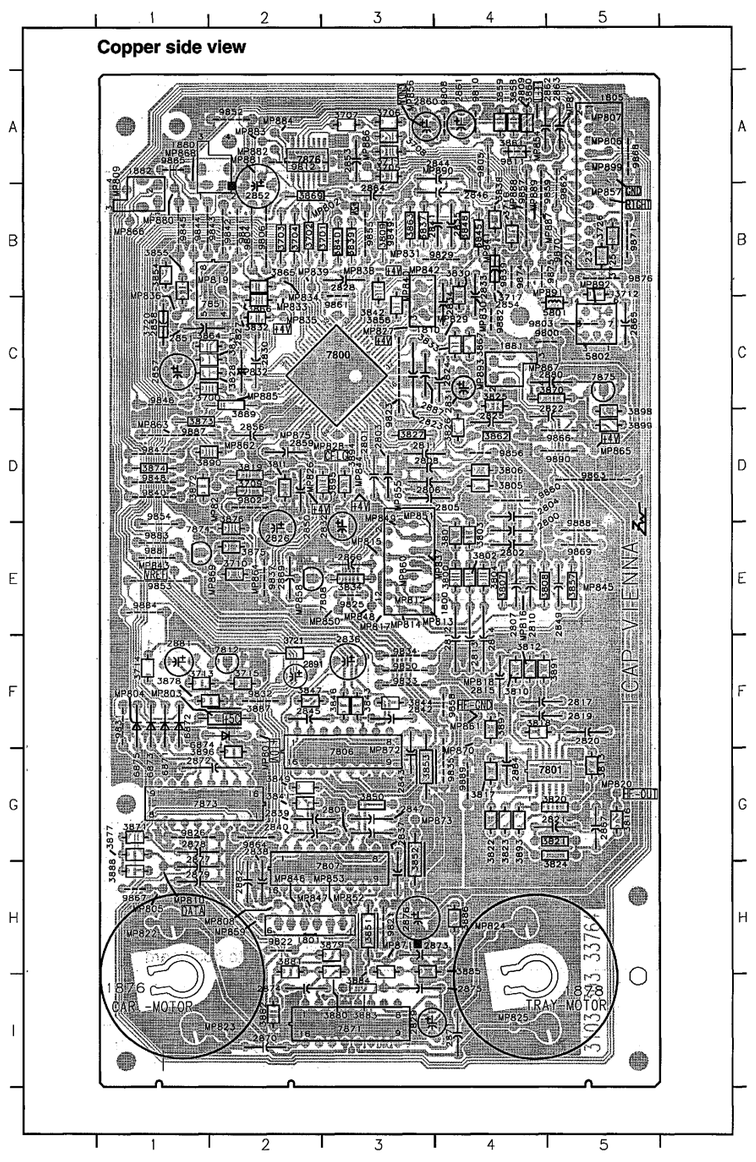
IV-8) Diagrama Elétrico - Connector Board



NOT ON ALL VERSIONS

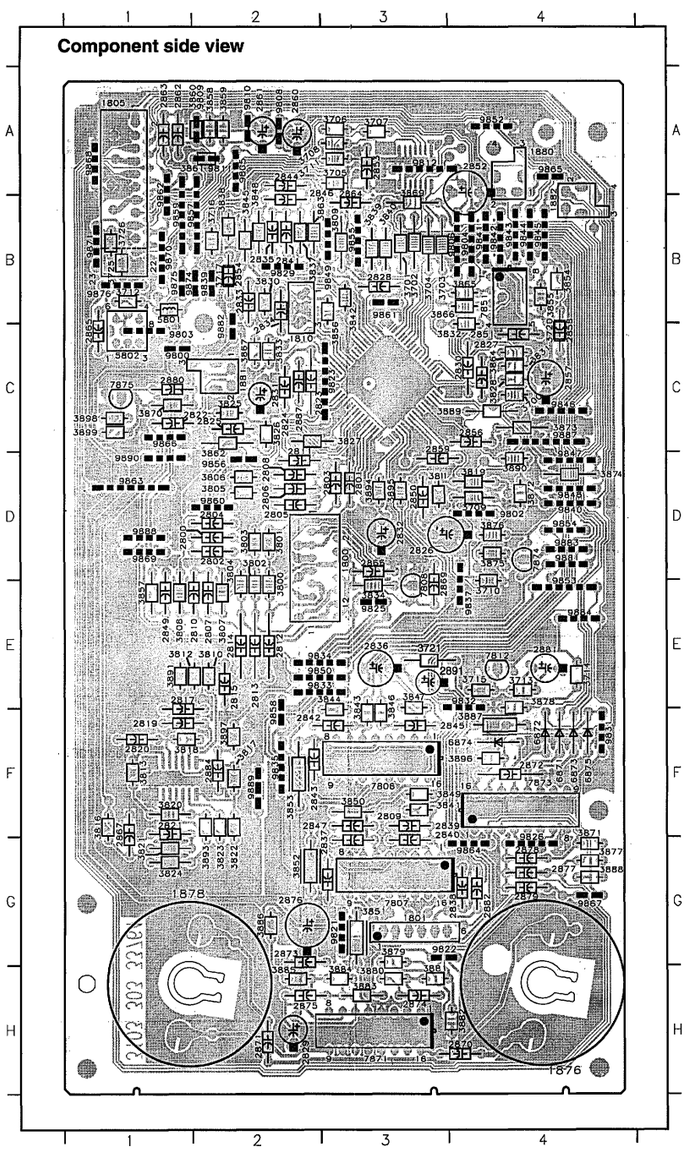
NOT ON ALL VERSIONS

IV-9) Layout - Main Board / vista cobreado



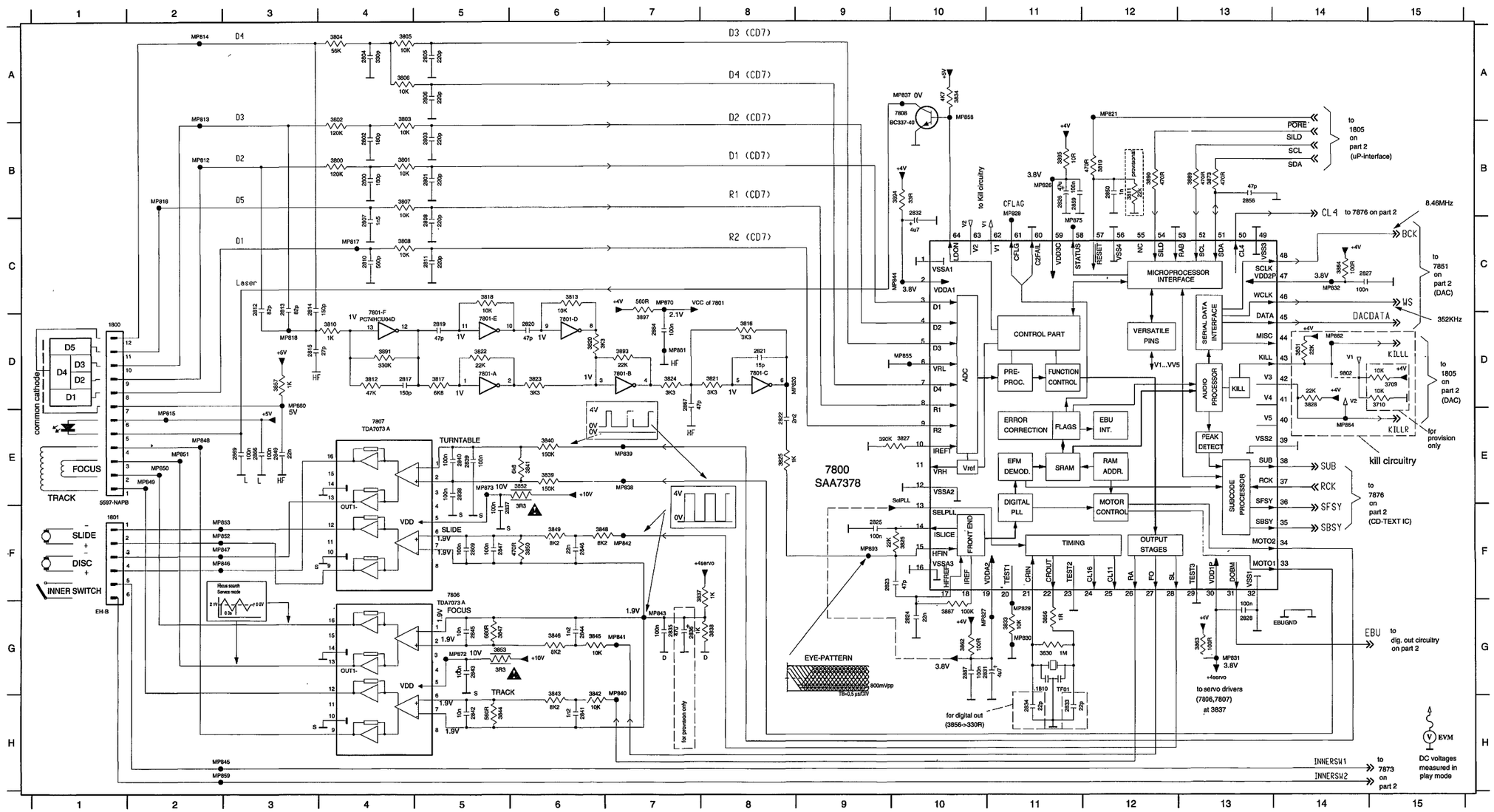
1800 E3	2869 E2	3841 G2	7874 E1
1801 H2	2870 I2	3842 B3	7875 C5
1805 B5	2871 I4	3843 F3	9800 C4
1810 C3	2872 G2	3844 F3	9802 D2
1876 I1	2873 H3	3845 B4	9803 C5
1878 I4	2874 I2	3846 F3	9804 B2
1880 B2	2875 I3	3847 F2	9805 A4
1881 C4	2876 H3	3848 B4	9806 B2
1882 B1	2877 G1	3849 G2	9808 A4
2800 D4	2878 G1	3850 G3	9809 A4
2801 D3	2879 H1	3851 H3	9810 A4
2802 E4	2880 C5	3852 G3	9811 A4
2803 D3	2881 F1	3853 G3	9812 A2
2804 D4	2882 H2	3854 B1	9821 H3
2805 D3	2884 G4	3855 B1	9822 H2
2806 D3	2887 C3	3856 C3	9823 C3
2807 E4	3700 C1	3857 E5	9825 E3
2808 D3	3701 B3	3858 A4	9826 G1
2809 G3	3702 B2	3859 A4	9829 B4
2810 E4	3703 B2	3860 A4	9831 F1
2811 D3	3704 B2	3861 A4	9832 F2
2812 F4	3705 A3	3862 D4	9833 F3
2813 F4	3706 A3	3863 B3	9834 F3
2814 F4	3707 A3	3864 C1	9835 G4
2815 F4	3708 A3	3865 B2	9837 E2
2817 F4	3709 D2	3866 C2	9839 B4
2819 F4	3710 E2	3867 C4	9840 D1
2820 F5	3711 A3	3869 B2	9841 B2
2821 G5	3712 B5	3870 C5	9842 B2
2822 D5	3713 F1	3871 G1	9843 B2
2823 C3	3714 F1	3872 D1	9844 B1
2824 C4	3715 F2	3873 D1	9845 B1
2825 D4	3716 B4	3874 D1	9846 C1
2826 D2	3717 B4	3875 E2	9847 D1
2827 C2	3720 C1	3876 E2	9848 D1
2828 B3	3725 B5	3877 G1	9849 B3
2829 I3	3726 B5	3878 F2	9850 F3
2830 C2	3800 E4	3879 H3	9852 A2
2831 C4	3801 E4	3880 H3	9853 E1
2832 E3	3802 E4	3881 H2	9854 D1
2833 B4	3803 E4	3882 I2	9855 B3
2834 C3	3804 E4	3883 I3	9856 D4
2835 B4	3805 D4	3884 H3	9857 B4
2836 F3	3806 D4	3885 H3	9858 F4
2837 H3	3807 E4	3886 H4	9859 B4
2838 H2	3808 E4	3887 F2	9860 D4
2839 G2	3809 B3	3888 H1	9861 B3
2840 G2	3810 F4	3889 C2	9862 B5
2841 B3	3811 D2	3890 D1	9863 D5
2842 F3	3812 F4	3891 F4	9864 G2
2843 G3	3813 G5	3893 G4	9865 A1
2844 B4	3816 G5	3894 D3	9866 D5
2845 F2	3817 G4	3895 D3	9867 H1
2846 B4	3818 F4	3896 G2	9868 A5
2847 G3	3819 D2	3897 F4	9869 E5
2849 E5	3820 G5	3898 D5	9870 B5
2850 D2	3821 G5	3899 D5	9871 B5
2851 C1	3822 G4	5801 B5	9874 B4
2852 A2	3823 G4	5802 C5	9875 B4
2853 A3	3824 G5	6871 F1	9876 B5
2854 B4	3825 C4	6872 F1	9881 E1
2856 D2	3826 D4	6873 F1	9882 C4
2857 C1	3827 D3	6874 F2	9883 E1
2858 C1	3828 C1	6875 F1	9884 E1
2859 D2	3830 B4	7800 C2	9887 D1
2860 A3	3831 C1	7801 G4	9888 E5
2861 A4	3832 C2	7806 G3	9889 G4
2862 A4	3833 C4	7807 H3	9890 D5
2863 A5	3834 E3	7808 E2	
2864 B3	3837 B3	7812 F2	
2865 C5	3838 B4	7851 B2	
2866 E3	3839 B3	7871 I3	
2867 G5	3840 B3	7873 G1	

IV-10) Layout - Main Board / vista dos componentes



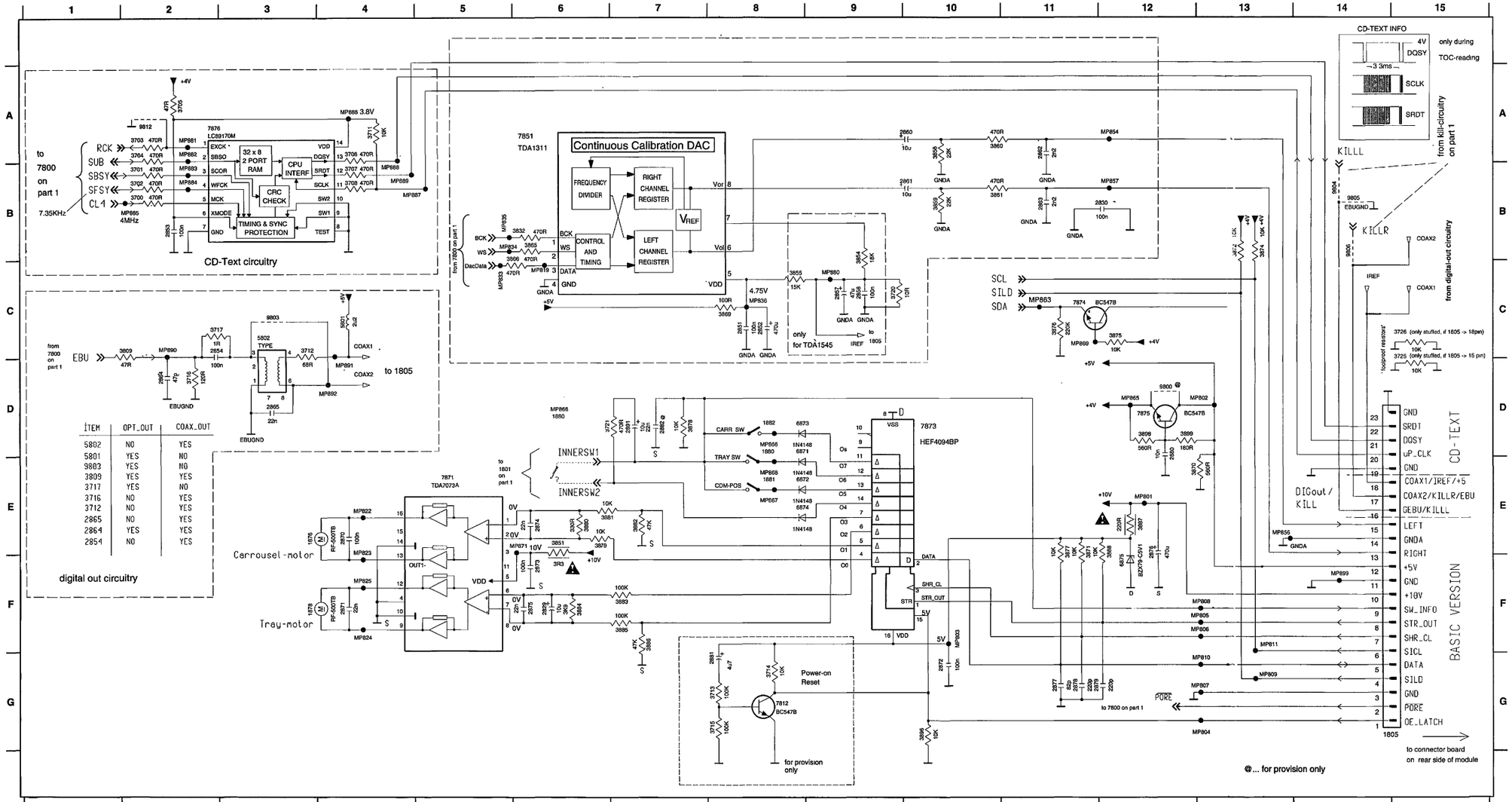
1800 D3	2869 E3	3841 F3	9800 C1
1801 G3	2870 H4	3842 B3	9802 D4
1805 A1	2871 H2	3843 F3	9803 C1
1810 B2	2872 F4	3844 F3	9804 B4
1876 H4	2873 G2	3845 B2	9805 A2
1878 H1	2874 H3	3846 F3	9806 B4
1880 B4	2875 H2	3847 E3	9808 A2
1881 C2	2876 G3	3848 B2	9809 A2
1882 B4	2877 G4	3849 F3	9810 A2
2800 D2	2878 G4	3850 F3	9811 A2
2801 D3	2879 G4	3851 G3	9812 A3
2802 D2	2880 C1	3852 G2	9821 G3
2803 D3	2881 E4	3853 F2	9822 G3
2804 D2	2882 G4	3854 B4	9823 C3
2805 D2	2884 F2	3855 B4	9825 E3
2806 D2	2887 C2	3856 B3	9826 G4
2807 E2	3700 C4	3857 E1	9829 B2
2808 D2	3701 B3	3858 A2	9831 F4
2809 F3	3702 B3	3859 A2	9832 E4
2810 E2	3703 B3	3860 A2	9833 E2
2811 D2	3704 B3	3861 A2	9834 E2
2812 E2	3705 A3	3862 C2	9835 F2
2813 E2	3706 A3	3863 B2	9837 E4
2814 E2	3707 A3	3864 C4	9839 B2
2815 E2	3708 A3	3865 B4	9840 D4
2817 F1	3709 D4	3866 B4	9841 B4
2819 F1	3710 E4	3867 C2	9842 B4
2820 F1	3711 A3	3869 B3	9843 B4
2821 G1	3712 B1	3870 C1	9844 B4
2822 C1	3713 E4	3871 G4	9845 B4
2823 C2	3714 E4	3872 D4	9846 C4
2824 C2	3715 E4	3873 C4	9847 D4
2825 C2	3716 B2	3874 D4	9848 D4
2826 D3	3717 B2	3875 D4	9849 B3
2827 C4	3720 C4	3876 D4	9850 E2
2828 B3	3725 B1	3877 G4	9852 A4
2829 H2	3726 B1	3878 E4	9853 E4
2830 C4	3800 E2	3879 G3	9854 D4
2831 C2	3801 D2	3880 H3	9855 B3
2832 D3	3802 E2	3881 H3	9856 D2
2833 B2	3803 D2	3882 H4	9857 B2
2834 B2	3804 E2	3883 H3	9858 F2
2835 B2	3805 D2	3884 H3	9859 B1
2836 E3	3806 D2	3885 H2	9860 D2
2837 G2	3807 E2	3886 G2	9861 B3
2838 G4	3808 E1	3887 F4	9862 A1
2839 F3	3809 B3	3888 G4	9863 D1
2840 F3	3810 E2	3889 C4	9864 G4
2841 B2	3811 D3	3890 D4	9865 A4
2842 F3	3812 E2	3891 E1	9866 C1
2843 F2	3813 F1	3893 F2	9867 G4
2844 B2	3816 F1	3894 D3	9868 A1
2845 F3	3817 F2	3895 D3	9869 D1
2846 B2	3818 F1	3896 F4	9870 B1
2847 F3	3819 D4	3897 F2	9871 B1
2849 E1	3820 F1	3898 C1	9874 B2
2850 D3	3821 G1	3899 C1	9875 B1
2851 C4	3822 F2	5801 B1	9876 B1
2852 A4	3823 F2	5802 C1	9881 D4
2853 A3	3824 G1	6871 F4	9882 C2
2854 B2	3825 C2	6872 F4	9883 D4
2856 C4	3826 C2	6873 F4	9884 E4
2857 C4	3827 C2	6874 F4	9887 C4
2858 C4	3828 C4	6875 F4	9888 D1
2859 C3	3830 B2	7806 F3	9889 F2
2860 A2	3831 C4	7807 G3	9890 D1
2861 A2	3832 C4	7808 E3	
2862 A1	3833 C2	7812 E4	
2863 A1	3834 E3	7851 B4	
2864 B3	3837 B2	7871 H3	
2865 C1	3838 B2	7873 F4	
2866 E3	3839 B3	7874 D4	
2867 F1	3840 B3	7875 C1	

V-11) Diagrama Elétrico - Main Board part 1



1800 D1	3812 D4	MP826 B11
1801 F1	3813 C6	MP827 G10
1810 G11	3816 D8	MP828 B11
2800 B4	3817 D5	MP829 G11
2801 B5	3818 C5	MP830 G11
2802 B4	3819 B12	MP831 G13
2803 B5	3820 D6	MP832 C14
2804 A4	3821 D8	MP837 B10
2805 A5	3822 D5	MP838 E6
2806 A5	3823 D6	MP839 E6
2807 C4	3824 D7	MP840 G7
2808 C5	3825 E8	MP841 G7
2809 F5	3826 F10	MP842 F7
2810 C4	3827 E10	MP843 G7
2811 C5	3828 D14	MP844 C10
2812 C3	3830 G11	MP845 H3
2813 C3	3831 D14	MP846 F2
2814 C3	3833 G11	MP847 F2
2815 D3	3834 B10	MP848 E2
2817 D4	3837 F8	MP849 E2
2819 D5	3838 G8	MP850 E2
2820 D6	3839 E6	MP851 E2
2821 D8	3840 E6	MP852 F2
2822 E8	3841 E6	MP853 F2
2823 F9	3842 G6	MP855 D10
2824 G9	3843 G6	MP858 B10
2825 F9	3844 H5	MP859 H3
2826 B11	3845 G6	MP860 D3
2827 C14	3846 G6	MP861 D7
2828 G13	3847 G5	MP862 D14
2831 G10	3848 F6	MP864 E14
2832 B10	3849 F6	MP870 C7
2833 H11	3850 F6	MP872 G5
2834 H11	3852 E6	MP873 E5
2835 G7	3853 G5	MP875 C11
2836 G7	3856 G11	MP893 F9
2837 F5	3857 D3	
2838 E5	3862 G10	
2839 E5	3863 G13	
2840 E5	3864 C14	
2841 H6	3867 G10	
2842 H5	3873 B13	
2843 G5	3889 B13	
2844 G6	3890 B12	
2845 G5	3891 D4	
2846 F6	3893 D7	
2847 F5	3894 B10	
2849 E3	3895 B11	
2850 B12	3897 D7	
2856 B13	7800 E9	
2859 B11	7801-A D5	
2866 E3	7801-B D7	
2867 D7	7801-C D8	
2869 E3	7801-D D6	
2884 D7	7801-E D5	
2887 G10	7801-F D4	
3709 D15	7806 G5	
3710 D15	7807 E4	
3800 B4	7808 B10	
3801 B4	9802 D14	
3802 A4	MP812 B2	
3803 A4	MP813 A2	
3804 A4	MP814 A2	
3805 A4	MP815 E2	
3806 A4	MP816 B2	
3807 B4	MP817 C4	
3808 C4	MP818 D3	
3810 D4	MP820 D8	
3811 B12	MP821 B12	

V-12) Diagrama Elétrico - Main Board part 2



ITEM	OPT_OUT	COAX_OUT
5802	NO	YES
5801	YES	NO
9803	YES	NO
3809	YES	YES
3717	YES	NO
3716	NO	YES
3712	NO	YES
2865	NO	YES
2864	YES	YES
2854	NO	YES

1805 G14
1876 E3
1878 F3
1880 D8
1881 E8
1882 D8
2829 F6
2830 B12
2851 C8
2852 C8
2853 B2
2854 C2
2857 C9
2858 C9
2860 A10
2861 B10
2862 A11
2863 B11
2864 D2
2865 D3
2870 E4
2871 F4
2872 G10
2873 F6
2874 E6
2875 F6
2876 E12
2877 G11
2878 G11
2879 G11
2880 D12
2881 G8
2882 D7
3700 B2
3701 B2
3702 B2
3703 A2
3704 A2
3705 A2
3706 A4
3707 B4
3708 B4
3711 A4
3712 C3
3713 G8
3714 G8
3715 G8
3716 D2
3717 C2
3720 C9
3725 D15
3726 C15
3809 C2
3832 B6
3851 E6
3854 B9
3855 C8
3858 A10
3859 B10
3860 A10
3861 B10
3865 B6
3866 C6
3869 C8
3870 E12
3871 E11
3872 B13
3874 B13
3875 C12
3876 C11
3877 E11
3878 D7
3879 E6
3880 E6
3881 E6
3882 E7
3883 F7
3884 F6
3885 F7
3886 F7
3887 E12
3888 E12
3896 G10
3898 D12
3899 D12
5801 C4
5802 C3
6871 D8
6872 E8
6873 D8
6874 E8
6875 F12
7812 G8
7851 A6
7871 E5
7873 D10
7874 C11
7875 D12
7876 A2
9800 D12
9803 C3
9804 B14
9805 B14
9806 B14
9808 A10
9809 A10
9810 B10
9811 B10
9812 A2
MP801 E12
MP802 D13
MP803 F10
MP804 G13
MP805 F13
MP806 F13
MP807 G13
MP808 F13
MP809 G13
MP810 G13
MP811 F13
MP819 C6
MP822 E4
MP823 E4
MP824 F4
MP825 F4
MP833 C5
MP834 B5
MP835 B5
MP836 C8
MP854 A12
MP856 E13
MP857 B12
MP863 C11
MP865 D12
MP866 D8
MP867 E8
MP868 E8
MP869 C11
MP871 E6
MP880 C9
MP881 A2
MP882 A2
MP883 B2
MP884 B2
MP885 B2
MP886 A4
MP887 B4
MP888 B4
MP889 B4
MP890 C2
MP891 D4
MP892 D4
MP899 F14

V

COMBI BOARD

FW316C / FW339C / FW356C

V-1) Introdução ao AF5 Board

A. TRANSFORMER PRIMARY PART
Transformer Primary Circuit provide connection for AC mains supply and primary wires of transformer.

B. POWER SUPPLY PART
Power Supply Circuit consists of rectifiers, capacitive filters and voltage regulators. Regulated voltage include +5V6, +12A, +12M, -26V, PWDN. The +C supply to the power amplifier is not regulated. F1-F2 is the ac supply voltage to the FTD Display filament.

C. SOURCE SELECT & AMPLIFIER PART

a) SHIFT REGISTER (AF CONTROL)
This shift register deliver commands from the µP to control the AF functions which include source selection (A0 & A1 control lines), DSC modes , DBB, IS and CD_ON. Other control lines such as MUTE, AMPON, STBY and PWM are coming directly from the µP on the Front board.

b) SOURCE SELECTION
One of the 4 sources, namely AUX, TAPE, TUNER, CD, can be selected via A0 & A1 lines which control the IC 7501 (HEF4052BT). Karaoke mic. mixing is connected to th e selected source before the signal is amplified with a buffer amplifier (Tr 7503 & 7504). The source signal is then split into recording path (for recording on tape) and main signal path (to the PWM volume control).

c) PWM VOLUME CONTROL
The discrete volume control makes use of 4 Transistors 7505, 7506, 7507 & 7508 (BC557B or ON4986) and PWM control signal from µP. For good performance transistors for the left and right channels should be paired for gain characteristics.

d) SOUND FEATURES
Sound Features include the DBB, IS and 4 DSC modes. The sound features are realised with a hex-inverter IC 7530 (HEF4069BT) as analog buffer/amplifier and transistors as electronic switches controlled by the shift registers (AF control).

e) POWER AMPLIFIER
IC 7391 (AN7125) is used as power amplifier.

f) CD ON CONTROL
This circuit switches on the supply +CD supply (derived from +12A) to CD servo control, HF circuit and the laser light pen on the CD Module during the CD mode only.

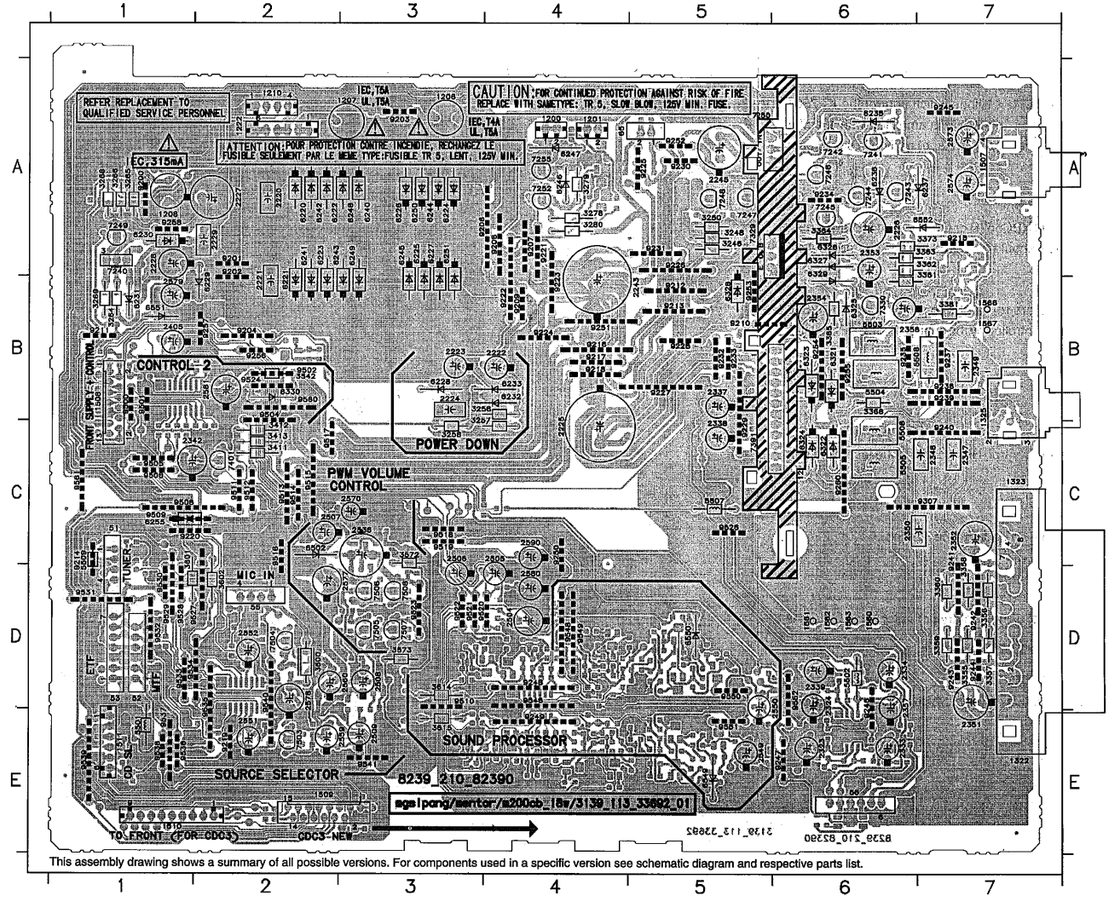
g) MATRIX SURROUND OUTPUT
The matrix surround feature is provided on board. This feature is only optional on certain type version.

D. KARAOKE & HEADPHONE PART

a) SIMPLE KARAOKE
This is a 1-mic. mono amplifier using discrete components. It has a level control using a rotary potmeter. This feature is available for some version only.

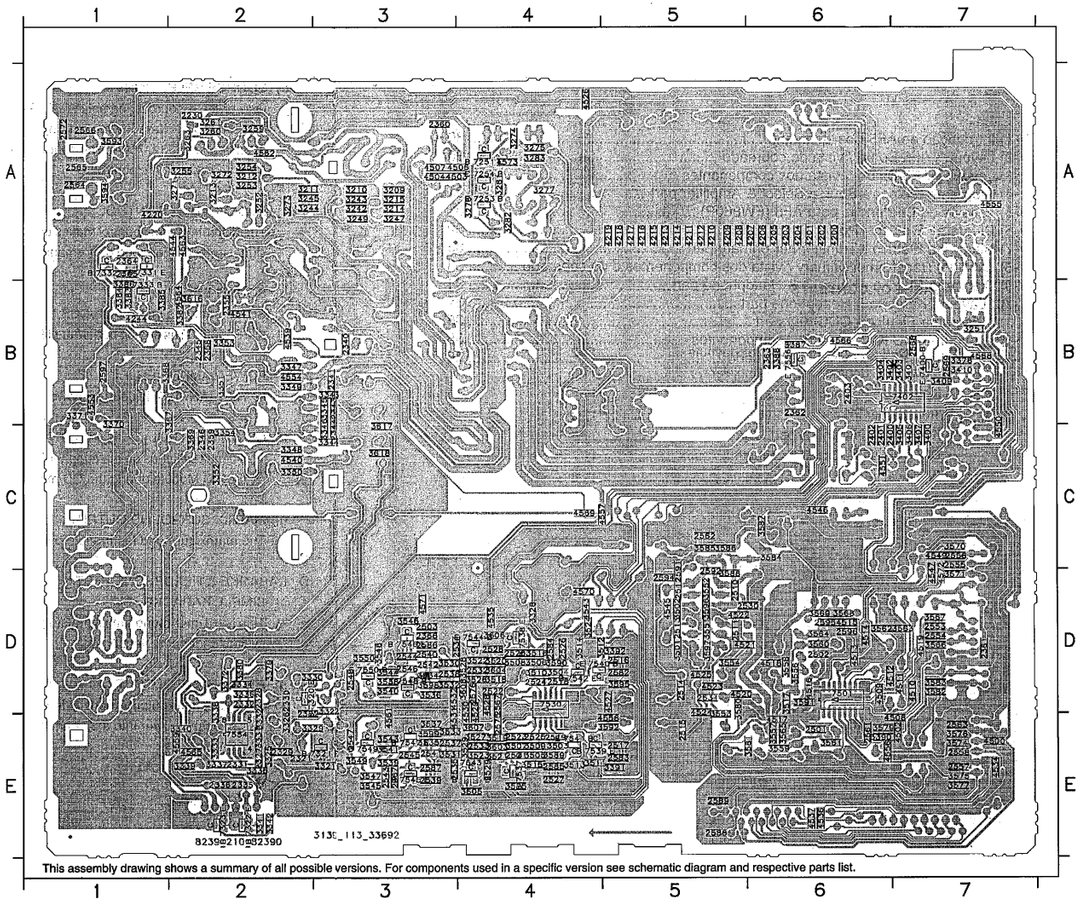
g) HEADPHONE OUTPUT
The headphone output is derived from the power amplifier output after the attenuation resistors which are tailored to deliver 18mW output power into a 32 ohm headphone.

V-2) Layout - AF5 Board / vista do cobreado



This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list.

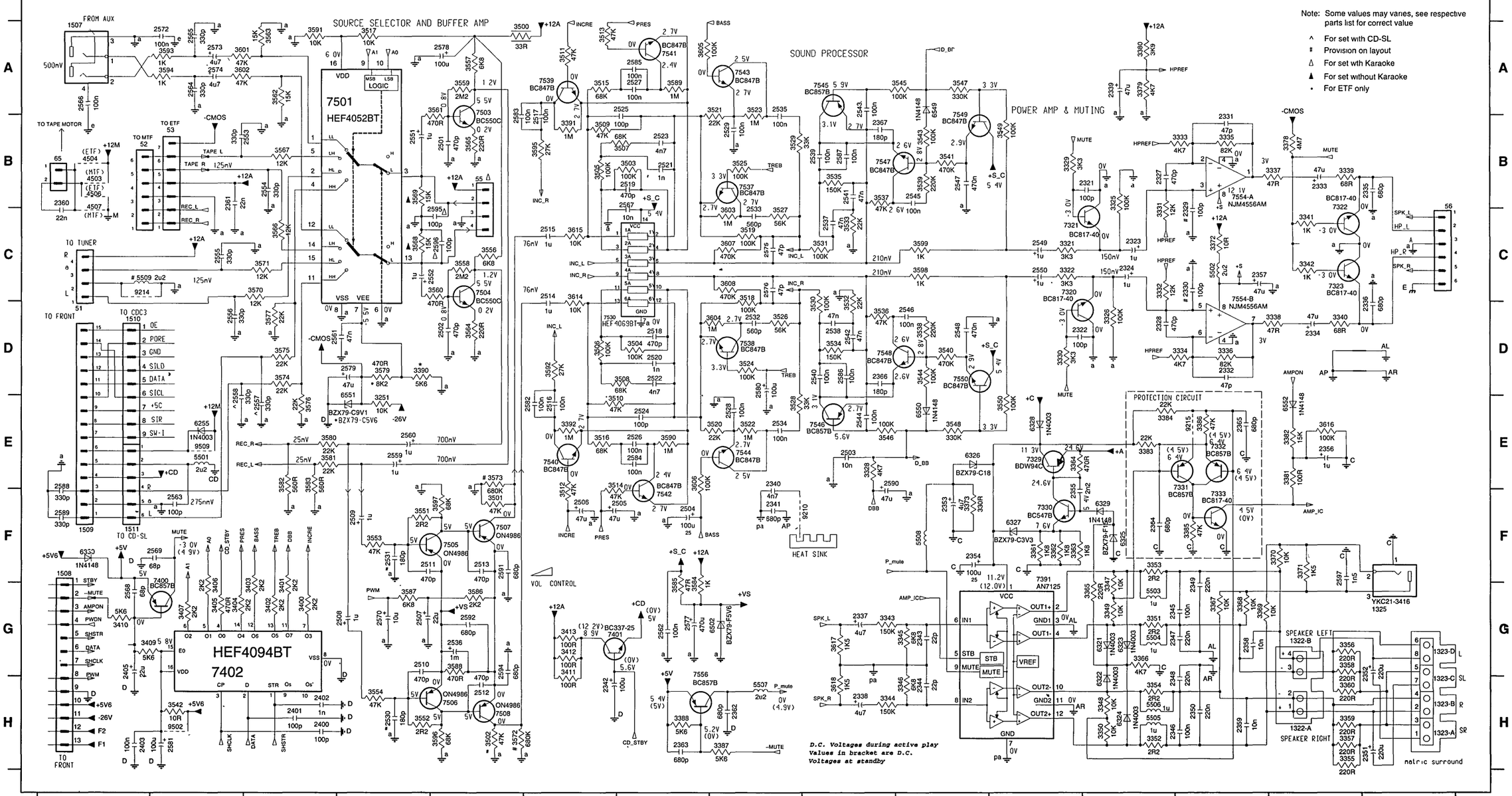
V-3) Layout - AF5 Board / vista dos componentes



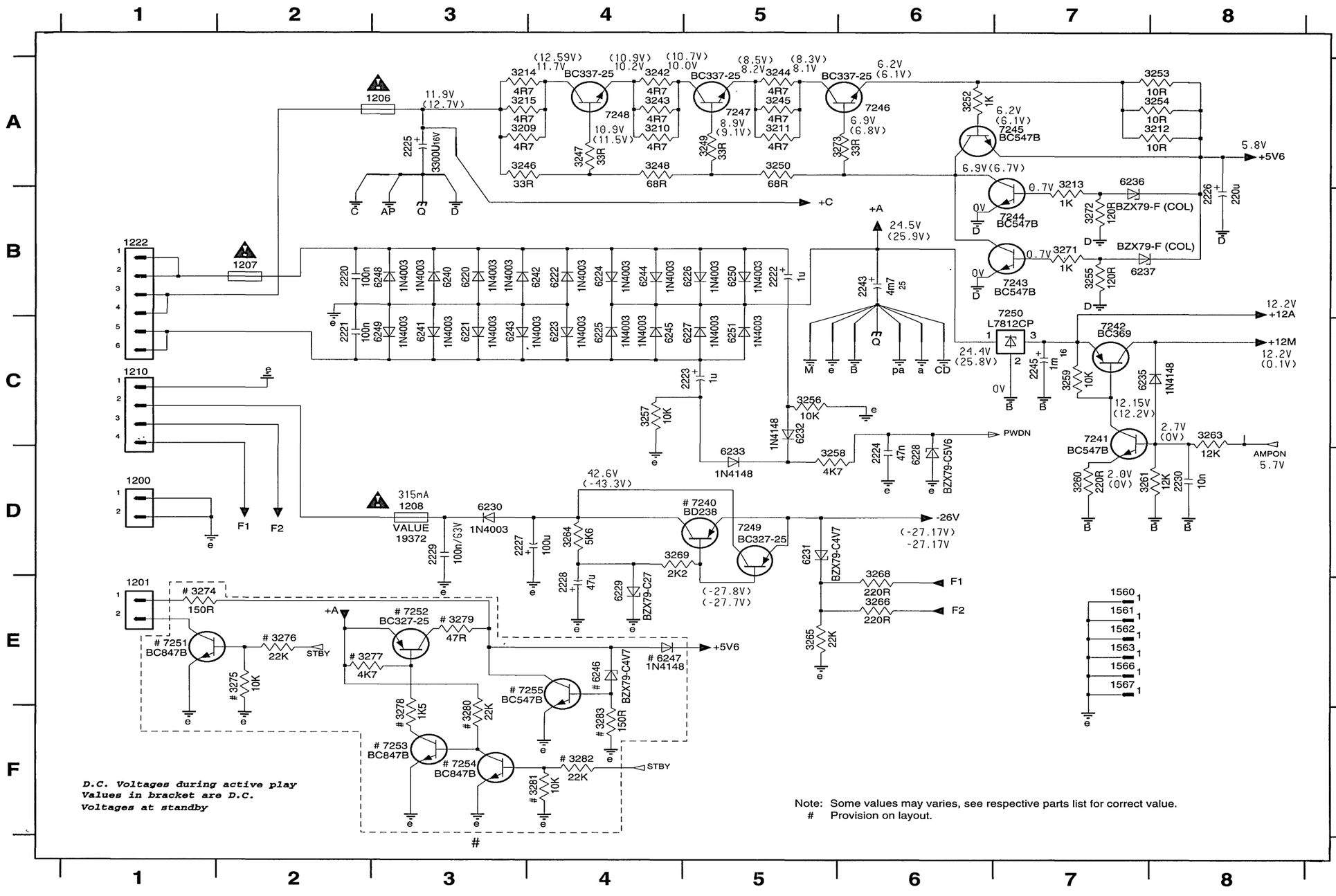
This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list.

V- 4) Diagrama Elétrico - Source Select & Amplifier part

51 D1	1509 F1	2335 B15	2350 H13	2365 E13	2508 G4	2523 B7	2538 D9	2553 B2	2568 G1	2584 E7	3322 C11	3340 D14	3355 H14	3370 F14	3390 D4	3413 G6	3514 E6	3529 B8	3544 D10	3560 C5	3575 D3	3591 A3	3607 C8	5505 H12	6330 F1	7391 F11	7540 E6	9214 C1
52 B1	1510 D1	2336 D15	2351 H15	2366 D9	2509 F4	2524 E7	2539 B9	2554 B3	2569 F2	2585 A7	3325 B12	3341 C14	3356 G14	3371 F14	3391 B6	3500 A5	3515 A6	3530 D9	3545 A10	3561 A5	3576 E3	3592 D6	3608 C8	5506 H12	6502 G8	7400 F1	7541 A7	9215 E13
53 B2	1511 F1	2337 G9	2352 G15	2367 B9	2510 G4	2525 A7	2540 D9	2555 C2	2570 G4	2586 D9	3326 D12	3342 C14	3357 H14	3372 C13	3392 E6	3501 F5	3516 E6	3531 C9	3546 E9	3562 A3	3577 D3	3593 A2	3614 C6	5507 H8	6549 A10	7401 G6	7542 F7	9502 H2
55 B5	2321 B12	2338 H9	2353 F10	2400 H3	2511 F4	2526 E7	2541 B9	2556 D2	2572 A2	2587 B9	3328 E9	3343 G9	3358 G14	3373 F10	3400 G3	3502 H5	3517 A4	3532 D9	3547 A10	3563 A3	3579 D4	3594 A2	3615 C6	5508 F10	6550 E10	7402 H2	7543 A8	9509 E2
56 C15	2322 D11	2339 A12	2354 F10	2401 H3	2512 H5	2527 A7	2542 D9	2557 E3	2573 A2	2588 E1	3329 B11	3344 H9	3359 H14	3378 B14	3401 G3	3503 B7	3518 C8	3533 C9	3548 E10	3564 D5	3580 E3	3595 B6	3616 E14	5509 C1	6551 E4	7501 A3	7544 E8	
65 B1	2323 C12	2340 E8	2355 F11	2402 H3	2513 F5	2528 E8	2543 A9	2558 E2	2574 A2	2589 F1	3330 D11	3345 G10	3360 H14	3379 A12	3402 G3	3504 D7	3519 C8	3534 D9	3549 B11	3565 B5	3581 E3	3596 H5	3617 G9	6255 E2	6552 E14	7503 B5	7545 A9	
1322-A H14	2324 C12	2341 F8	2356 E14	2403 H1	2514 C6	2529 B8	2544 E9	2559 E4	2575 C8	2590 E9	3331 C12	3346 H10	3361 F11	3380 A12	3403 G3	3505 B6	3520 E8	3535 B9	3550 E11	3566 C3	3582 E3	3597 F5	3618 H9	6321 G12	7320 C11	7504 C5	7546 E9	
1322-B G14	2327 B12	2342 H6	2357 C13	2405 G1	2515 C6	2530 H4	2545 B10	2560 E4	2576 C8	2591 F5	3332 C12	3347 G12	3362 F11	3381 E14	3404 G2	3506 D6	3521 A8	3536 D9	3551 F4	3567 B3	3583 E3	3598 C10	4503 B1	6322 H12	7321 C11	7505 F5	7547 B9	
1323-A H15	2328 D12	2343 G10	2358 G13	2501 B5	2516 E6	2531 F4	2546 D10	2561 D3	2577 G7	2592 G5	3333 B13	3348 H12	3363 F11	3382 E14	3405 G2	3507 B7	3522 E8	3537 B9	3552 H4	3568 C4	3584 G7	3599 C10	4504 B1	6323 G12	7322 B14	7506 H5	7548 D9	
1323-B H15	2329 C13	2344 H10	2359 H13	2502 D5	2517 B6	2532 D8	2547 B10	2562 G7	2578 A5	2594 G5	3334 D13	3349 G12	3364 E11	3383 E12	3406 G2	3508 D7	3523 A8	3538 D10	3553 F4	3569 B4	3585 G7	3601 A2	4506 B1	6324 H12	7323 C14	7507 F5	7549 A10	
1323-C G15	2330 C13	2345 G12	2360 B1	2503 E9	2518 D7	2533 C8	2548 D10	2563 F2	2579 D4	2595 C5	3335 B13	3350 H12	3365 G12	3384 E12	3407 G2	3509 B6	3524 D8	3539 B10	3554 H4	3570 C3	3586 G5	3602 A2	4507 C1	6325 F12	7329 E11	7508 H5	7550 D10	
1323-D G15	2331 B13	2346 H12	2361 B2	2504 F7	2519 B7	2534 E8	2549 C11	2564 A2	2580 D8	2596 C5	3336 D13	3351 G12	3366 G12	3385 F13	3409 G1	3510 E6	3525 B8	3540 D10	3555 C5	3571 C3	3587 G4	3603 C8	5501 E2	6326 E10	7330 F11	7530 C7	7554-A B13	
1325 G15	2332 D13	2347 G12	2362 H8	2505 F7	2520 D7	2535 A8	2550 C11	2565 A2	2581 H2	2597 F14	3337 B14	3352 H12	3367 G13	3386 E13	3410 G1	3511 A6	3526 D8	3541 B10	3557 A5	3572 H5	3588 G5	3604 D8	5502 C13	6327 F11	7331 E12	7537 B8	7554-B C13	
1507 A1	2333 B14	2348 H12	2363 H7	2506 F6	2521 B7	2536 G5	2551 B4	2566 A1	2582 E6	3251 E4	3338 D14	3353 F12	3368 G13	3387 H8	3411 G6	3512 F6	3527 C8	3542 H2	3558 C5	3573 E5	3589 A7	3605 A7	5503 G12	6328 E11	7332 E13	7538 D8	7556 G7	
1508 F1	2334 D14	2349 G13	2364 F12	2507 G4	2522 D7	2537 C9	2552 C4	2567 B7	2583 B5	3321 C11	3339 B14	3354 H12	3369 G13	3388 H7	3412 G6	3513 A6	3528 E8	3543 B10	3559 A5	3574 D3	3590 E7	3606 E7	5504 G12	6329 F12	7333 F13	7539 A6	9210 F9	



V- 6) Diagrama Elétrico - Power Supply part



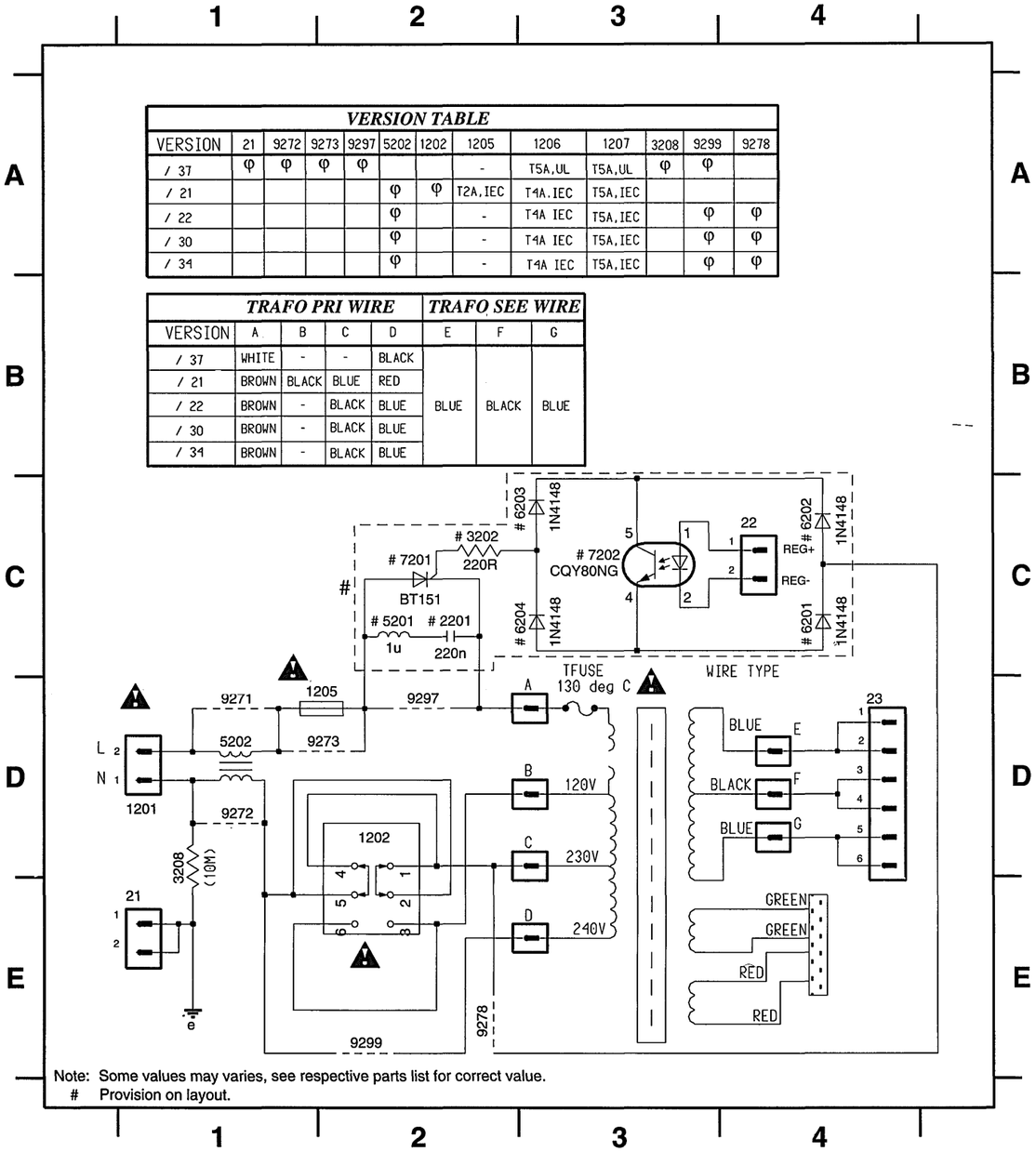
1200 D1
1201 E1
1206 A3
1207 B2
1208 D3
1210 C1
1222 B1
1560 E7
1561 E7
1562 E7
1563 E7
1566 E7
1567 E7
2220 B2
2221 C2
2222 B5
2223 C5
2224 D6
2225 A3
2226 B8
2227 D3
2228 E4
2229 D3
2230 D8
2243 B6
2245 C7
3209 A3
3210 A4
3211 A5
3212 A8
3213 A7
3214 A3
3215 A3
3242 A4
3243 A4
3244 A5
3245 A5
3246 A3
3247 A4
3248 A4
3249 A5
3250 A5
3252 A6
3253 A8
3254 A8
3255 B7
3256 C5
3257 C4
3258 D5
3259 C7
3260 D7
3261 D7
3263 C8
3264 D4
3265 E5
3266 E6
3268 E6
3269 D4
3271 B7
3272 B7
3273 A6
3274 E1
3275 E2
3276 E2
3277 E2
3278 F3
3279 E3
3280 F3
3281 F4
3282 F4
3283 F4
6220 B3
6221 C3
6222 B4
6223 C4
6224 B4
6225 C4
6226 B5
6227 C5
6228 D6
6229 E4
6230 D3
6231 D5
6232 C5
6233 D5
6235 C7
6236 A7
6237 B7
6238 B7
6240 D4
6241 C7
6242 C7
6243 B7
6244 B7
6245 A7
6246 A6
6247 A5
6248 A4
6249 D5
6250 B7
6251 E1
7240 D4
7241 C7
7242 C7
7243 B7
7244 B7
7245 A7
7246 A6
7247 A5
7248 A4
7249 D5
7250 B7
7251 E1
7252 E3
7253 F3
7254 F3
7255 E4

V -7) Diagrama Elétrico - Transformer primary part

21 E1 22 C4 | 23 D4 1201 D1 | 1202 D2 1205 D2 | 2201 C2 3202 C2 | 3208 D1 5201 C2 | 5202 D1 6201 C4 | 6202 C4 6203 C3 | 6204 C3 7201 C2 | 7202 C3 9271 D1 | 9272 D1 9273 D2 | 9278 E2 9297 D2 | 9299 E2

VERSION TABLE												
VERSION	21	9272	9273	9297	5202	1202	1205	1206	1207	3208	9299	9278
/ 37	φ	φ	φ	φ			-	T5A,UL	T5A,UL	φ	φ	
/ 21					φ	φ	T2A,IEC	T4A.IEC	T5A,IEC			
/ 22					φ		-	T4A IEC	T5A,IEC		φ	φ
/ 30					φ		-	T4A IEC	T5A,IEC		φ	φ
/ 34					φ		-	T4A IEC	T5A,IEC		φ	φ

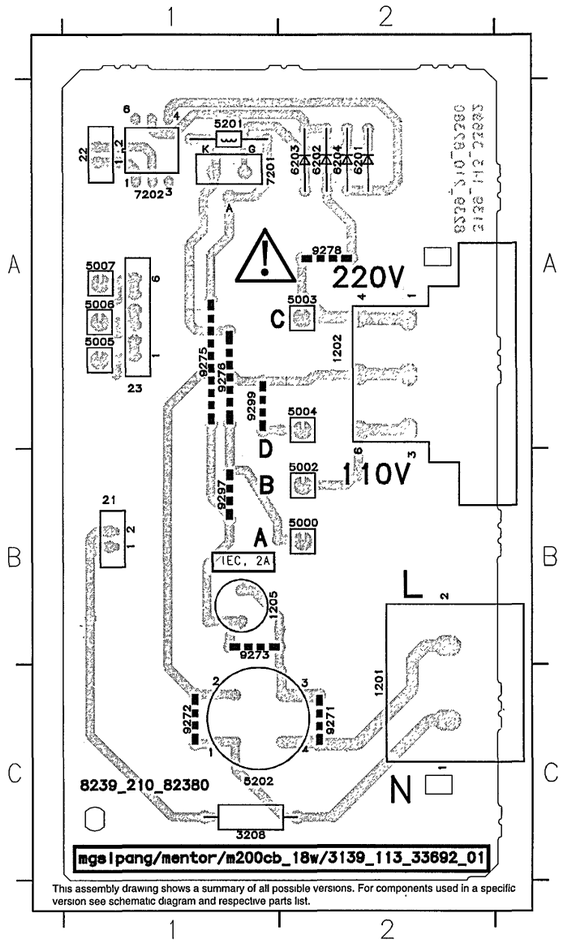
VERSION	TRAFO PRI WIRE A	B	C	D	TRAFO SEE WIRE E	F	G
/ 37	WHITE	-	-	BLACK	BLUE	BLACK	BLUE
/ 21	BROWN	BLACK	BLUE	RED			
/ 22	BROWN	-	BLACK	BLUE			
/ 30	BROWN	-	BLACK	BLUE			
/ 34	BROWN	-	BLACK	BLUE			



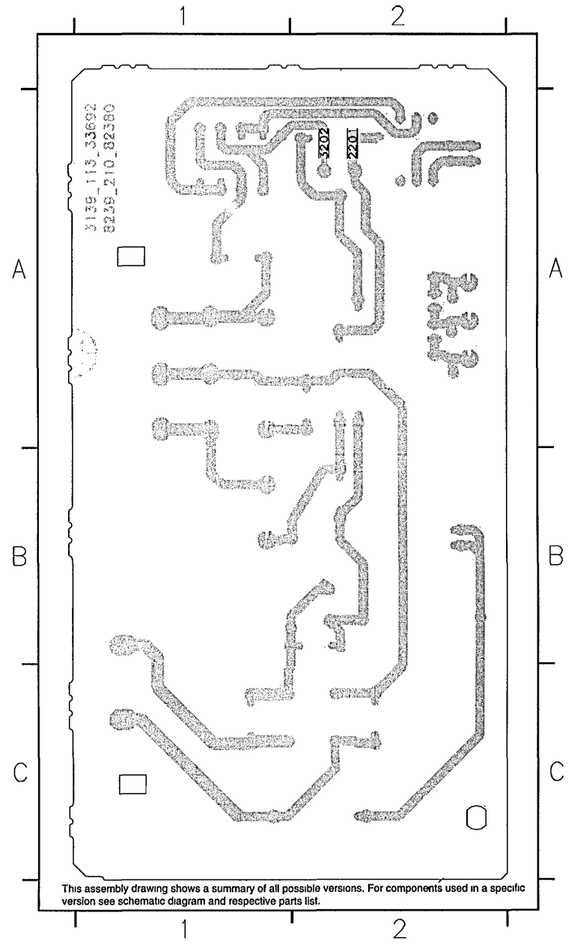
Note: Some values may varies, see respective parts list for correct value.
\# Provision on layout.

V- 8) Layout - Transformer primary / vista dos componentes e do cobreado

21 B1 22 A1 23 A1 1201 C2 1202 A2 | 1205 B1 3208 C1 5000 B2 5002 B2 5003 A2 | 5004 A2 5005 A1 5006 A1 5007 A1 5201 A1 | 5202 C1 6201 A2 6202 A2 6203 A2 6204 A2 | 7201 A1 7202 A1 9271 C2 9272 C1 9273 B1 | 9275 A1 9276 A1 9278 A2 9297 B1 9299 A1

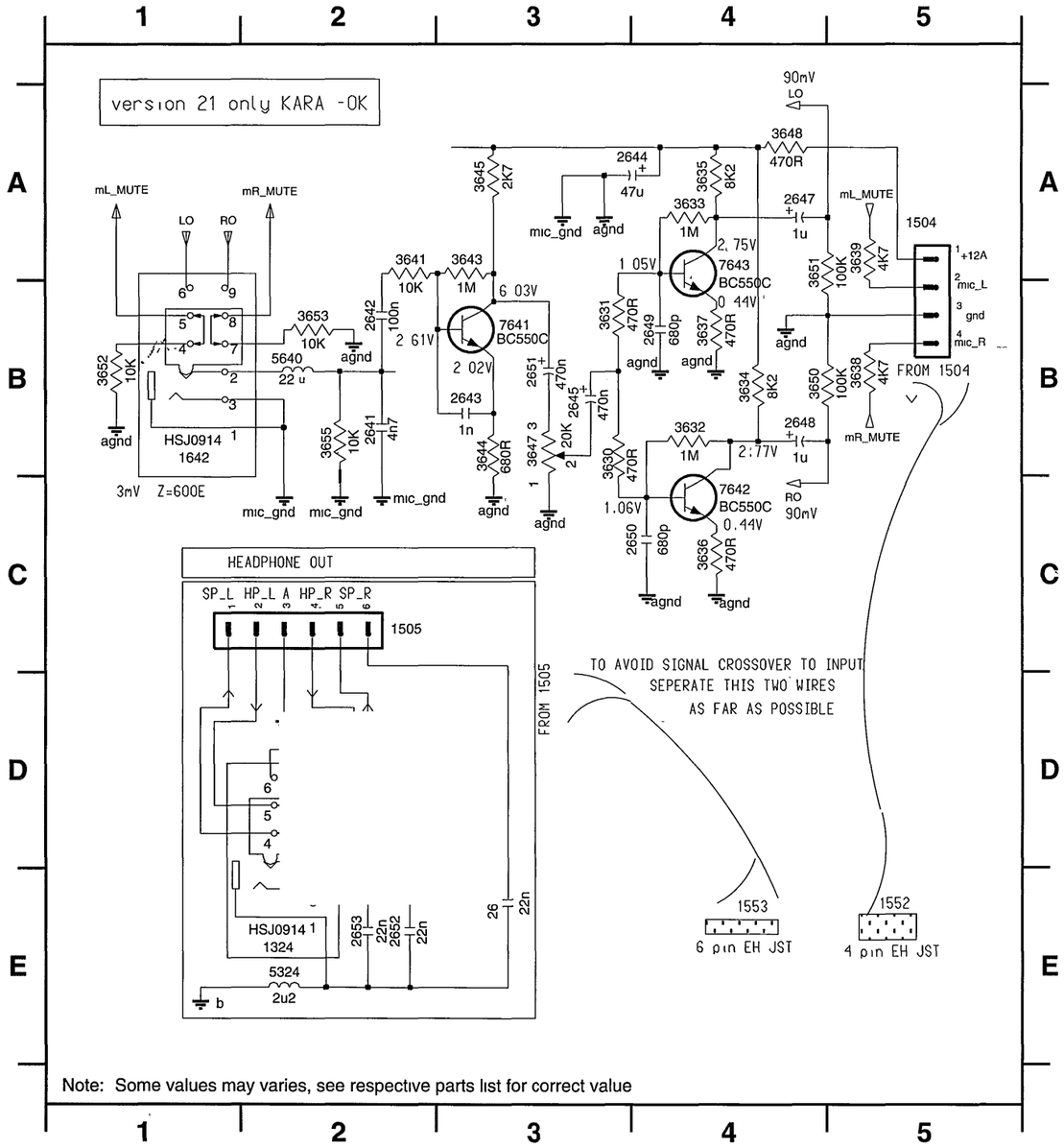


2201 A2 3202 A2



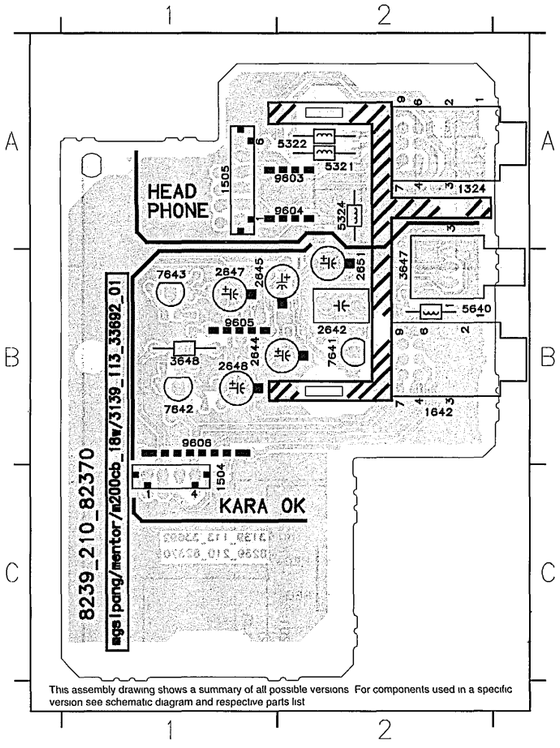
V - 9) Diagrama Elétrico - Karaoke & Headphone part

1324 E2	2641 B2	2645 B3	2650 C4	2654 E3	3633 A4	3637 B4	3643 A3	3648 A4	3653 B2	5321 D2	7641 B3
1504 A5	2642 B2	2647 A4	2651 B3	3630 B3	3634 B4	3638 B5	3644 B3	3650 B4	3655 B2	5322 D3	7642 C4
1505 C2	2643 B3	2648 B4	2652 E2	3631 B3	3635 A4	3639 A5	3645 A3	3651 A4	3656 D2	5324 E2	7643 A4
1642 B1	2644 A4	2649 B4	2653 E2	3632 B4	3636 C4	3641 A2	3647 B3	3652 B1	3657 D3	5640 B2	

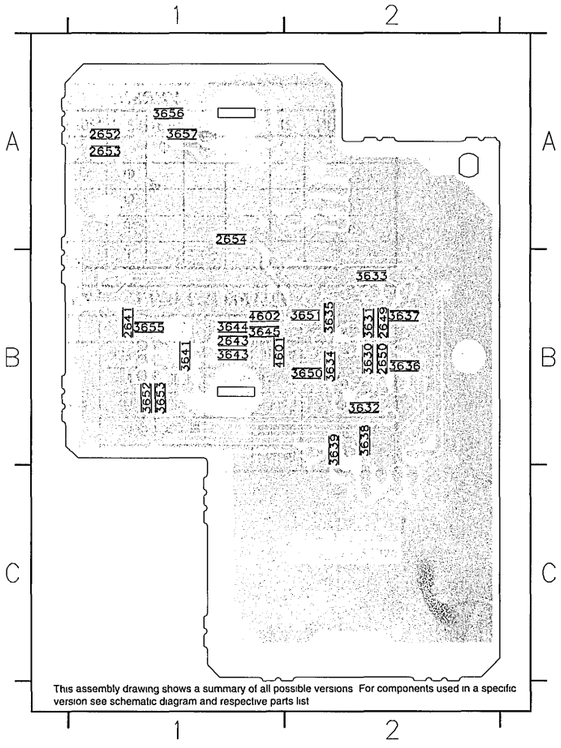


V-10) Layout - Karaoke & Headphone part

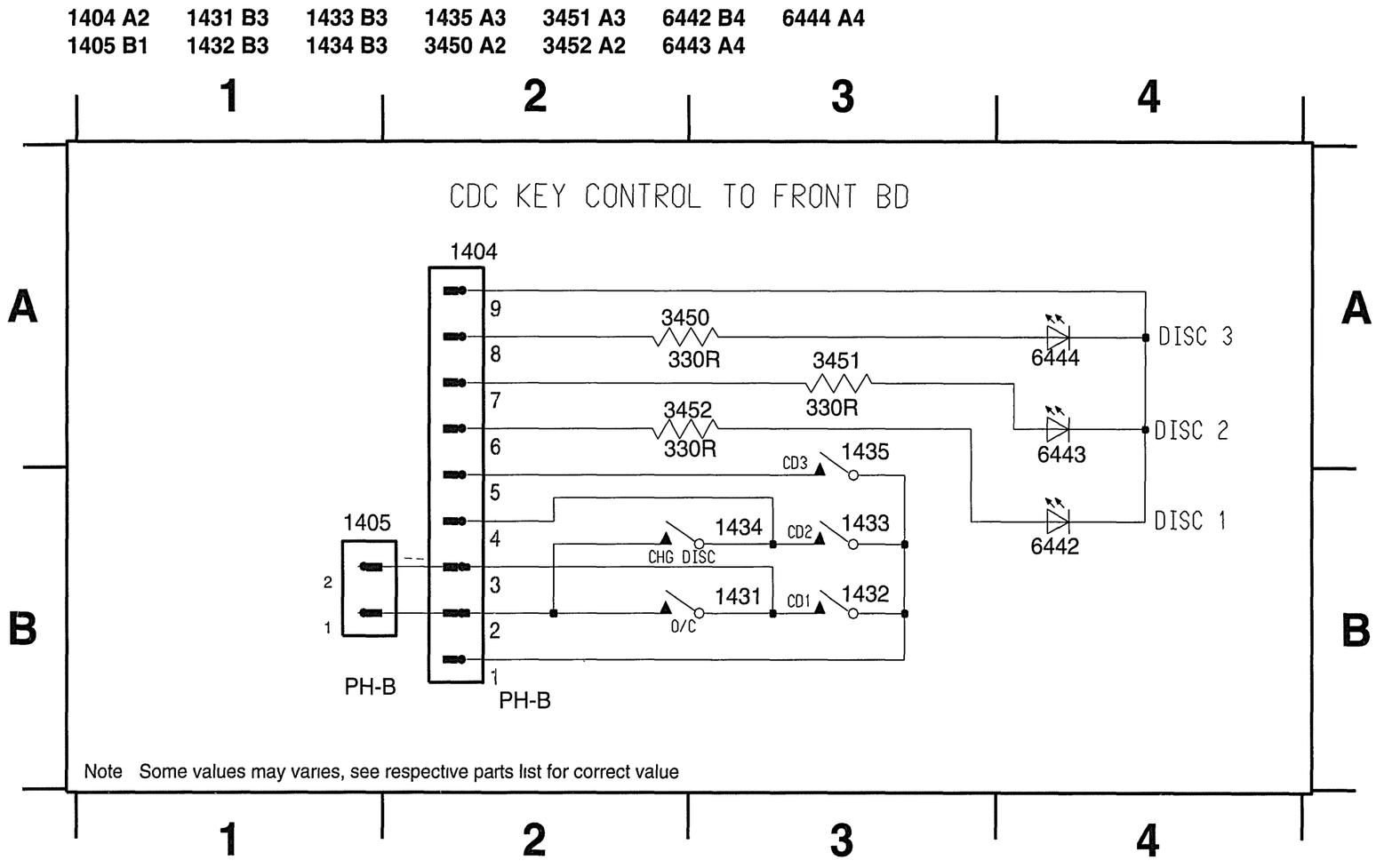
1324 A2	2642 B2	2648 B1	5321 A2	7641 B2	9604 A2
1504 C1	2644 B1	2651 B2	5322 A2	7642 B1	9605 B1
1505 A1	2645 B1	3647 B2	5324 A2	7643 B1	9606 B1
1642 B2	2647 B1	3648 B1	5640 B2	9603 A2	



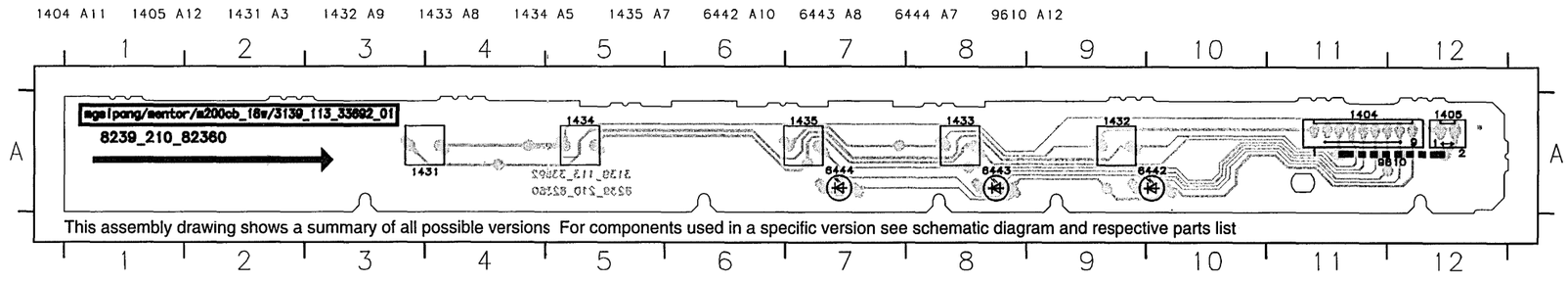
2641 B1	2653 A1	3633 B2	3638 B2	3645 B1	3655 B1
2643 B1	2654 A1	3634 B2	3639 B2	3650 B2	3656 A1
2649 B2	3630 B2	3635 B2	3641 B1	3651 B2	3657 A1
2650 B2	3631 B2	3636 B2	3643 B1	3652 B1	4601 B1
2652 A1	3632 B2	3637 B2	3644 B1	3653 B1	4602 B1



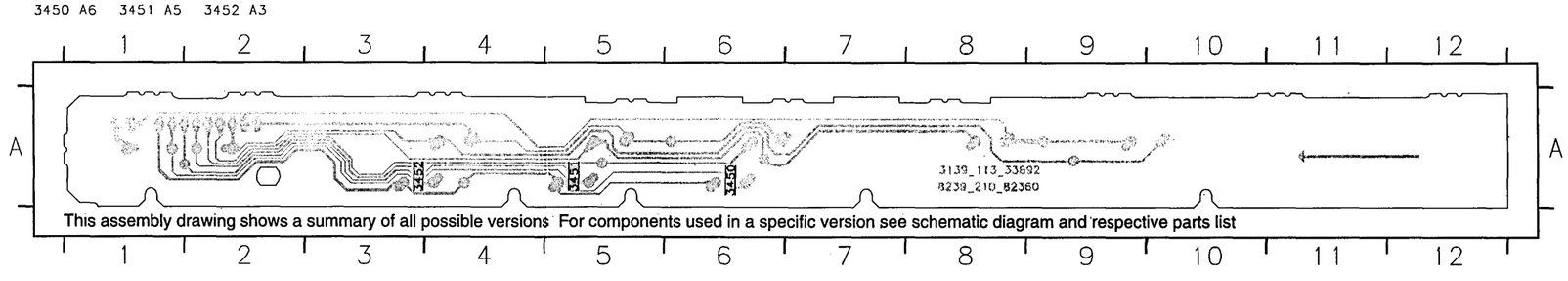
V-11) Diagrama Elétrico - CDC Key part



V-12) Layout - CDC Key / vista dos componentes



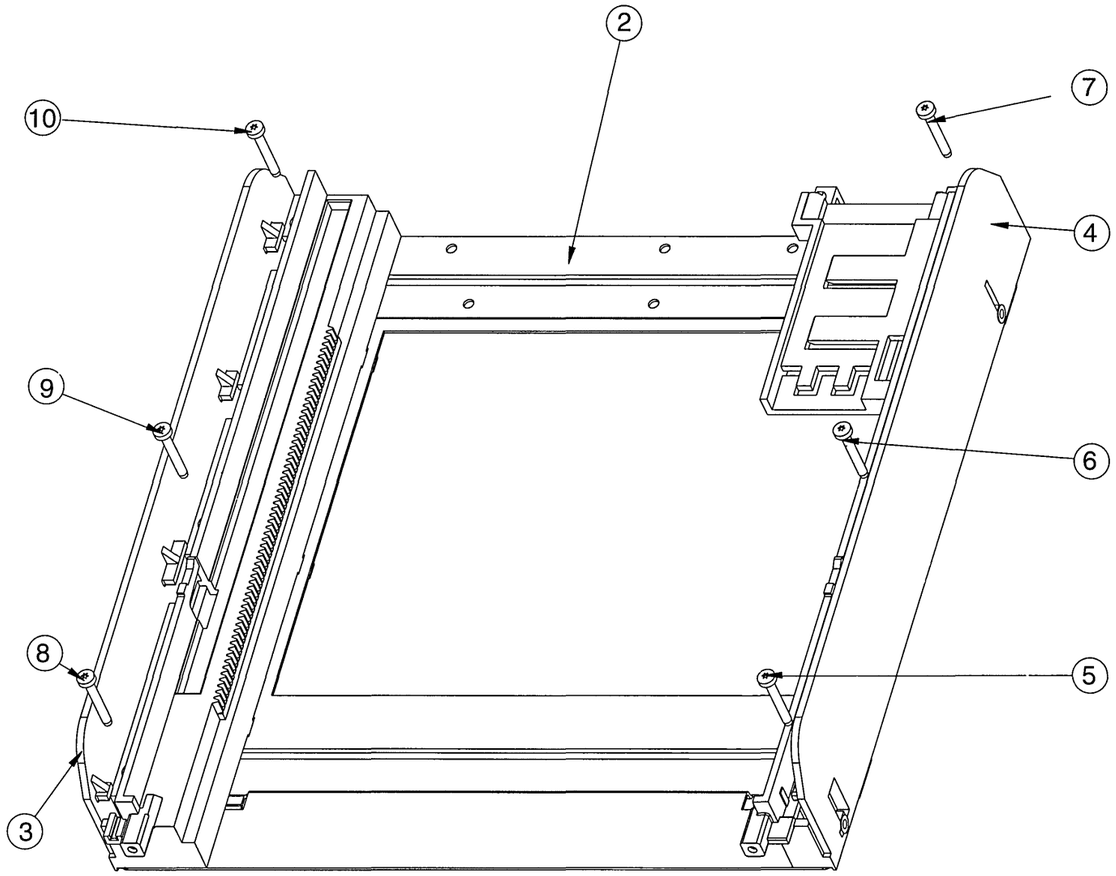
V-13) Layout - CDC Key / vista do cobreado

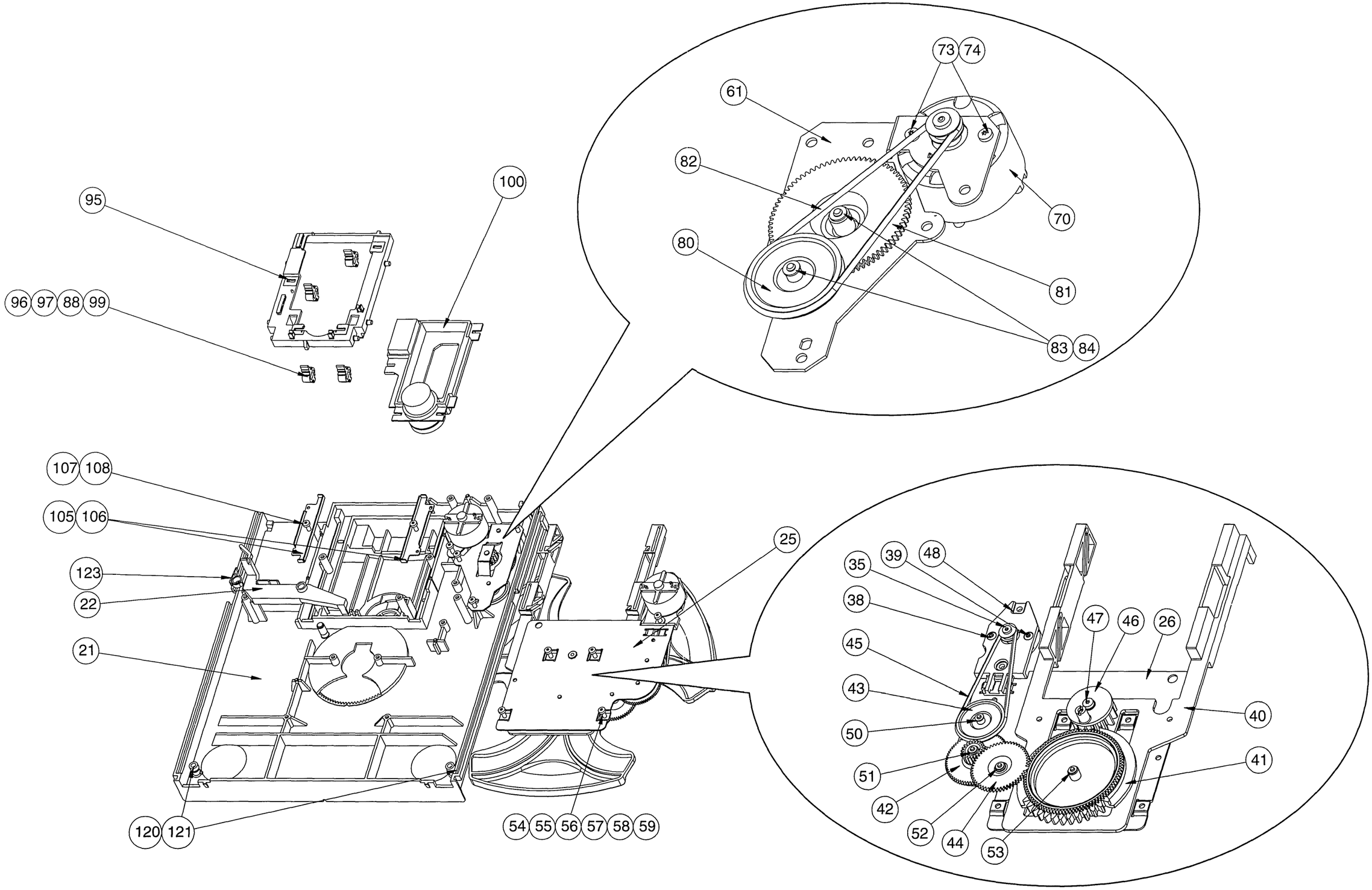


VI
LISTA DE PEÇAS / VISTAS EXPLODIDA

FW316C / FW339C / FW356C

VI-1) Vista Explodida do CDC-3

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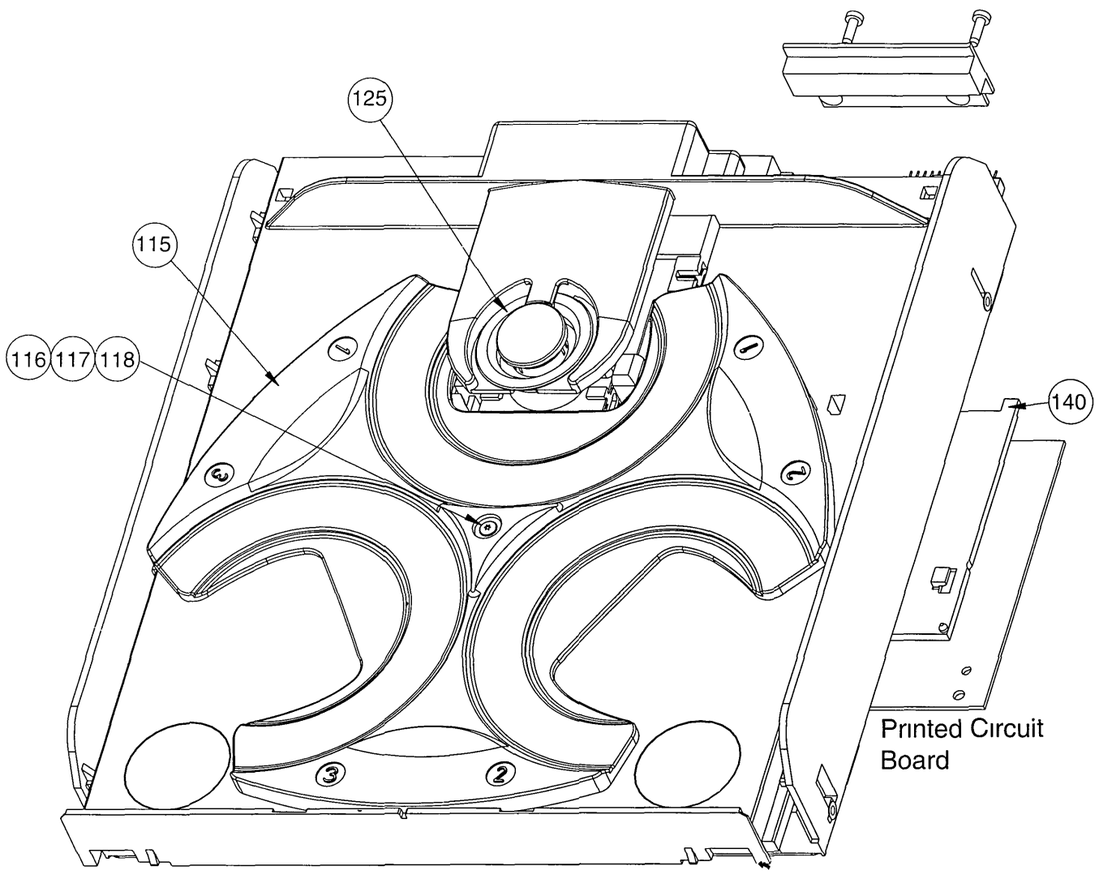
VI-1) Vista Explodida do CDC-3 (continuação)



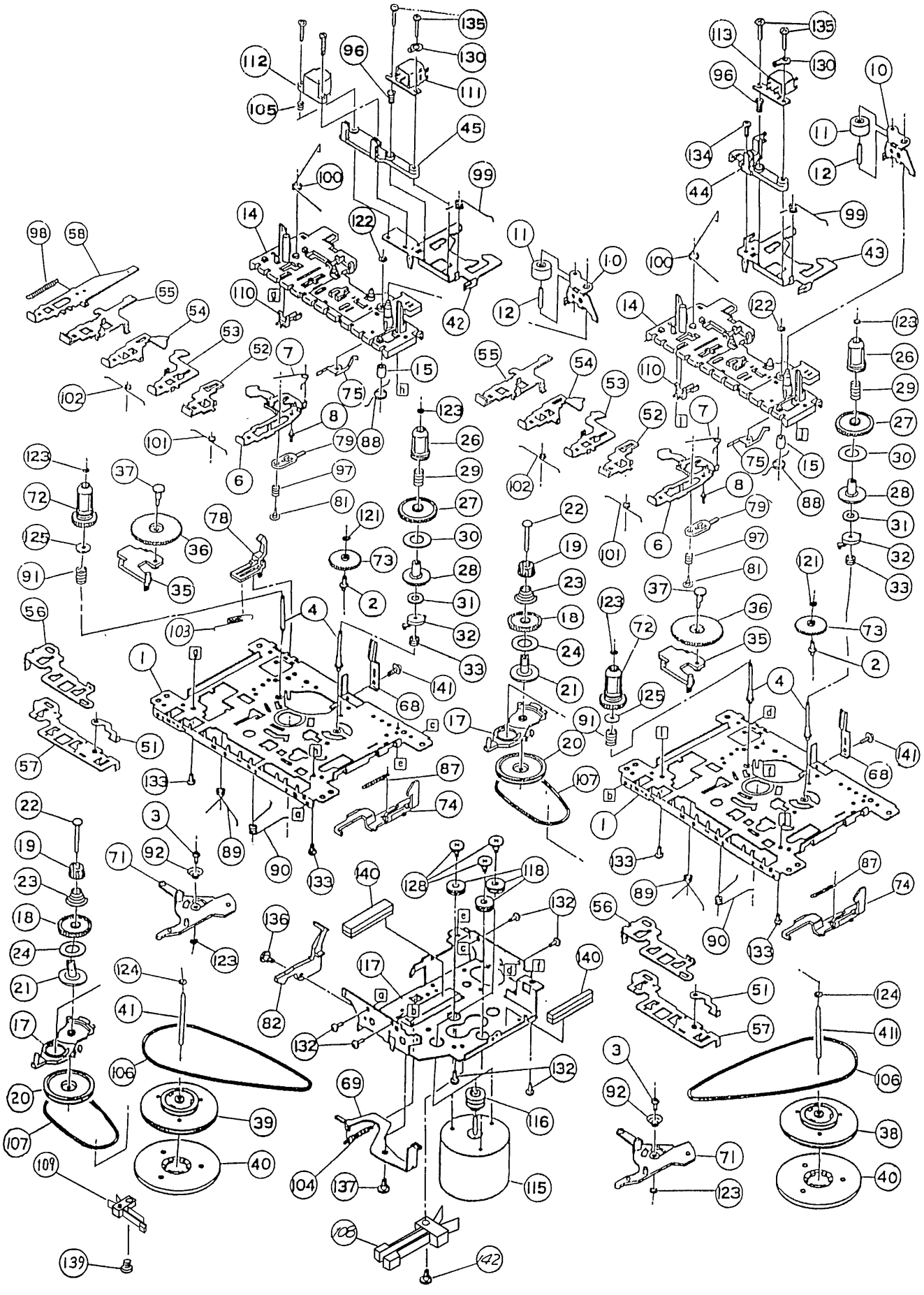
MECHANICAL PARTSLIST 3CDC MÒDULE

	4822 390 10136	POLYLUB GLY801 (GREASE)	43	4822 528 10937	PULLEY
3	4822 463 11008	GUIDE LEFT	44	4822 522 10493	IDLER WHEEL
4	4822 463 11009	GUIDE RIGHT	45	4822 358 10115	BELT
21	4822 441 11615	DRAWER	46	4822 466 10735	ECCENTRIC GEAR WHEEL
22	4822 402 10088	BRACKET TUMBLER	50	4822 532 12364	WASHER
38	4822 502 12548	SCREW M2,6X3,5	51	4822 532 12364	WASHER
39	4822 502 12548	SCREW M2,6X3,5	52	4822 532 12364	WASHER
40	4822 463 11011	SLIDE	53	4822 532 12364	WASHER
41	4822 522 10509	CONTROL DISC	35	4822 361 10753	CARROUSEL MOTOR
42	4822 522 10492	GEAR WHEEL	70	4822 361 10753	CARROUSEL MOTOR

VI-2) Lista de Peças do CDC-3 (continuação)

DESCRIÇÃO	CÓDIGO	APARELHO		
GRAXA POLYLUB	4822 390 10136	FW316C	FW339C	FW356C
GUIA ESQUERDO PLASTICO	4822 463 11008	FW316C	FW339C	FW356C
GUIA DIREITO PLASTICO	4822 463 11009	FW316C	FW339C	FW356C
TAMPA GAVETA	4822 441 11615	FW316C	FW339C	FW356C
SUPORTE PLASTICO	4822 402 10088	FW316C	FW339C	FW356C
CONJ MOTOR DC <=37 5	4822 361 10753	FW316C	FW339C	FW356C
MOTOR DC <=37 5 RF-500TB-12560	4822 361 21452	FW316C	FW339C	FW356C
PARAFUSO DE ACO	4822 502 12548	FW316C	FW339C	FW356C
PARAFUSO DE ACO	4822 502 12548	FW316C	FW339C	FW356C
DESLIZANTE	4822 463 11011	FW316C	FW339C	FW356C
ENGRENAGEM DE CONTROLE DE DISCO	4822 522 10509	FW316C	FW339C	FW356C
ENGRENAGEM	4822 522 10492	FW316C	FW339C	FW356C
POLIA PLÁSTICA	4822 528 10937	FW316C	FW339C	FW356C
VOLANTE	4822 522 10493	FW316C	FW339C	FW356C
CORREIA	4822 358 10115	FW316C	FW339C	FW356C
DISCO PLASTICO ECENTRICO	4822 466 10735	FW316C	FW339C	FW356C
ANEL PLASTICO	4822 532 12364	FW316C	FW339C	FW356C
ANEL PLASTICO	4822 532 12364	FW316C	FW339C	FW356C
ANEL PLÁSTICO	4822 532 12364	FW316C	FW339C	FW356C
ANEL PLASTICO	4822 532 12364	FW316C	FW339C	FW356C
CONJ MOTOR DC <=37 5	4822 361 10753	FW316C	FW339C	FW356C
PARAFUSO DE AÇO	4822 502 12548	FW316C	FW339C	FW356C
PARAFUSO DE AÇO	4822 502 12548	FW316C	FW339C	FW356C
POLIA PLASTICA	4822 528 10937	FW316C	FW339C	FW356C
VOLANTE	4822 522 10494	FW316C	FW339C	FW356C
CORREIA	4822 358 10115	FW316C	FW339C	FW356C
ANEL PLASTICO	4822 532 12364	FW316C	FW339C	FW356C
ANEL PLÁSTICO	4822 532 12364	FW316C	FW339C	FW356C
SUPORTE PLÁSTICO	4822 404 10894	FW316C	FW339C	FW356C
AMORTECEDOR	4822 325 50215	FW316C	FW339C	FW356C
AMORTECEDOR	4822 325 50215	FW316C	FW339C	FW356C
AMORTECEDOR	4822 325 50215	FW316C	FW339C	FW356C
AMORTECEDOR	4822 325 50215	FW316C	FW339C	FW356C
CDM VAM1201	**4806 691 37035**	FW316C	FW339C	FW356C
DISCO PLÁSTICO	4822 466 10736	FW316C	FW339C	FW356C
BUCHA PLÁSTICA	4822 532 12365	FW316C	FW339C	FW356C
CALÇO	4822 532 51756	FW316C	FW339C	FW356C
CALÇO	4822 532 51756	FW316C	FW339C	FW356C
SUPORTE PLÁSTICO	4822 402 10085	FW316C	FW339C	FW356C
Presılha do CD - (3 e 5 dıscos)	4806 401 17154	FW316C	FW339C	FW356C
PLACA PLÁSTICA	4822 466 10734	FW316C	FW339C	FW356C
Presılha do CD - (short loaders)	4806 401 17155	FW316C	FW339C	FW356C

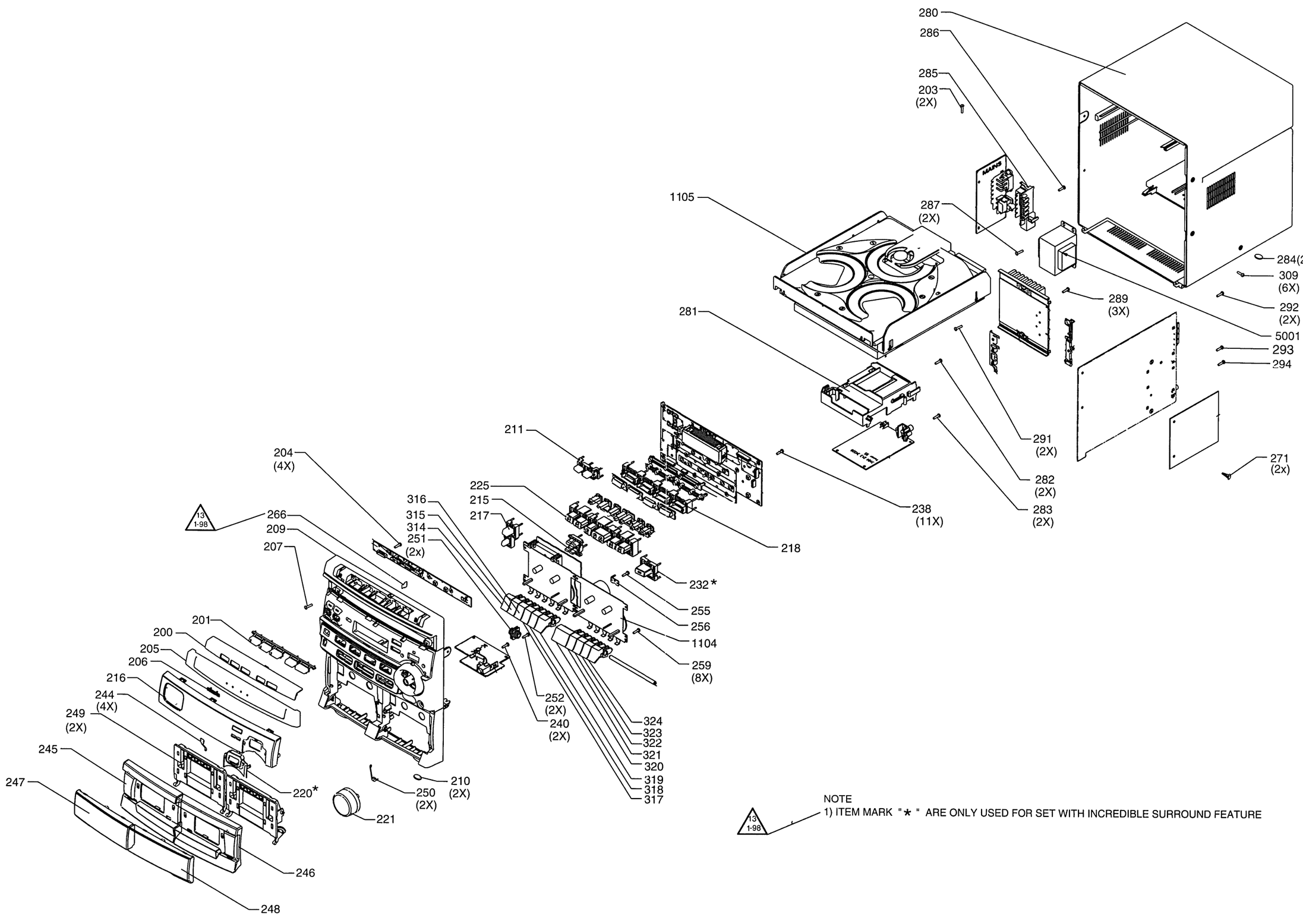
VI-3) Vista Explodida do MTF - DECK



VI-4) Lista de Peças do MTF - DECK

POS.	CÓDIGO	DESCRIÇÃO	FW316C	FW339C	FW356C
	4822 691 10669	Deck montado - CDS-83WPC	FW316C	FW339C	
	4822 691 10672	Deck montado - CWC44FF01			FW356C
45	4822 050 16801	RESISTOR, FIXED 680R00 1% 0,4W			FW356C
34	4822 130 10205	PHOTO SENSOR			FW356C
23	4822 157 11498	Bobina			FW356C
10-12	4822 528 11189	Rolo Pressor	FW316C	FW339C	
17-24	4822 402 10966	Suporte p/ bobinador (FR)	FW316C	FW339C	
12	4822 402 10972	Suporte p/ Rolo Pressor			FW356C
38-41	4822 528 11242	Volante (W)	FW316C	FW339C	FW356C
39-41	4822 528 11243	Volante	FW316C	FW339C	FW356C
32	4822 528 11244	Volante (RV)			FW356C
106	4822 358 31225	Correia - MAIN BELT (W2) 1 1x5	FW316C	FW339C	
107	4822 358 31124	Correia - SUB BELT	FW316C	FW339C	
42	4822 358 10168	Correia (AF)			FW356C
42	4822 358 10235	Correia (BF)			FW356C
33	4822 267 10756	Conector (13P)			FW356C
108	4822 277 11753	CHAVE LEAF	FW316C	FW339C	
109	4822 277 11754	CHAVE LEAF	FW316C	FW339C	
110	4822 278 90663	CHAVE LEAF	FW316C	FW339C	
35	4822 277 11531	CHAVE, MSW-1722NCV			FW356C
39	4822 278 90613	CHAVE LEAF			FW356C
111	4822 249 30218	Cabeça RECORD/PL	FW316C	FW339C	
111	4822 249 10397	Cabeça RECORD/PL MS15RAA2N1			FW356C
112	4822 249 10548	Cabeça apagadora	FW316C	FW339C	
112	4822 249 40303	Cabeça apagadora (LE15B-C1)			FW356C
113	4822 249 30218	Cabeça RECORD/PL MS18R-AKONI	FW316C	FW339C	FW356C
115-16	4822 361 11053	MOTOR DC <=37 5	FW316C	FW339C	
1	4822 361 11055	MOTOR DC <=37 5			FW356C
118	4822 466 11787	Anel de borracha p/ MOTOR	FW316C	FW339C	
122	4822 532 12937	Anel	FW316C	FW339C	
69	4822 492 11542	Mola			FW356C
102	4822 532 12931	Anél			FW356C
103	4822 532 12932	Anel			FW356C
104	4822 532 12933	Anél			FW356C

VI-5) Vista Explodida do Aparelho



NOTE
1) ITEM MARK "*" ARE ONLY USED FOR SET WITH INCREDIBLE SURROUND FEATURE

VI-6) Lista de Peças Mecânicas

POS.	CÓDIGO	DESCRIÇÃO	APARELHO		
5001	4822 146 10956	Transformador de Rede 110/220V	FW316C		
5001	4822 146 10951	Transformador de Rede 110/220V		FW339C	FW356C
	4822 691 10669	TAPE DECK CDS-83WPC	FW316C	FW339C	
	4822 691 10672	TAPE DECK CWC44FF01			FW356C
	4806 691 37035	CDM VAM1201	FW316C	FW316C	FW316C
	4806 401 17154	Presilha do cd p/ 3 discos	FW316C	FW316C	FW316C
200	4822 450 10439	Lente acrílica CDC CONTROL	FW316C	FW339C	FW356C
201	4822 410 11635	Botão OPEN/CLOSE CD	FW316C	FW339C	FW356C
205	4822 442 01269	Cobertura CDC	FW316C		
205	4822 442 01299	Cobertura CDC		FW339C	
205	4822 442 01246	Cobertura CDC			FW356C
206	4822 454 13035	Logotipo "PHILIPS"	FW316C	FW339C	FW356C
209	4822 459 04887	Gabinete Frontal (plástico)	FW316C		
209	4822 459 04928	Gabinete Frontal (plástico)		FW339C	
209	4822 459 04989	Gabinete Frontal (plástico)			FW356C
210	4822 462 40683	Pés	FW316C	FW339C	FW356C
211	4822 410 11636	Botão DSC/DBB	FW316C	FW339C	FW356C
215	4822 410 11726	Botão CLK/RDS/N	FW316C	FW339C	FW356C
216	4822 450 10441	Lente do DISPLAY	FW316C		
216	4822 450 10468	Lente do DISPLAY		FW339C	
216	4822 450 10527	Lente do DISPLAY			FW356C
217	4822 410 11638	Botão POWER/HSD	FW316C	FW339C	FW356C
218	4822 410 11643	Botão SOURCE SELECT	FW316C	FW339C	FW356C
220	4822 442 01268	Cobertura INCREDIBLE SOUND		FW339C	FW356C
221	4822 410 11644	Botão VOLUME ROTARY	FW316C		
221	4822 410 11727	Botão VOLUME ROTARY		FW339C	
221	4822 410 11653	Botão VOLUME ROTARY			FW356C
225	4822 410 11639	Botão CONTROLS	FW316C		
225	4822 410 11729	Botão CONTROLS		FW339C	FW356C
232	4822 410 11705	Botão INCREDIBLE SOUND		FW339C	FW356C
235	4822 410 11795	Botão REPLAY/RE			FW356C
239	4822 410 11728	Botão KARAOKE		FW339C	FW356C
244	4822 492 70231	Mola plana de aco	FW316C	FW339C	
245	4822 442 01224	Cobertura p/ Tampa K7 esquerda	FW316C		
245	4822 442 01275	Cobertura p/ Tampa K7 esquerda		FW339C	
245	4822 442 01301	Cobertura p/ Tampa K7 esquerda			FW356C
246	4822 442 01225	Cobertura p/ Tampa K7 direita	FW316C		
246	4822 442 01276	Cobertura p/ Tampa K7 direita		FW339C	
246	4822 442 01354	Cobertura p/ Tampa K7 direita			FW356C
247	4822 381 11935	Lente K7 esquerda			
247	4822 381 11937	Lente K7 esquerda		FW339C	
247	4822 381 11941	Lente K7 esquerda			FW356C
248	4822 381 11936	Lente K7 direita	FW316C		
248	4822 381 11938	Lente K7 direita		FW339C	
248	4822 381 11942	Lente K7 direita			FW356C
249	4822 443 10881	Transportador Cassete	FW316C	FW339C	
250	4822 492 42709	Mola p/ Tampa K7	FW316C	FW339C	
251	4822 529 10322	Hidraulico p/ tampa K7	FW316C	FW339C	FW356C
267	4822 443 10488	Tampa Cassete Direita = FW860/FW890			FW356C
268	4822 443 10487	Tampa Cassete Esquerda = FW860/FW890			FW356C
271	4822 466 93148	Espacador 5mm	FW316C	FW339C	
271	4822 492 47287	Mola p/ Tampa Cassete			FW356C
272	4822 492 11344	Mola de compr			FW356C
273	4822 492 11345	Mola esp de aco			FW356C
280	4822 426 10598	Gabinete traseiro	FW316C	FW339C	FW356C
284	4822 462 40683	Pés	FW316C	FW339C	FW356C
314	4822 410 11656	Botão RECORD 1	FW316C	FW339C	
315	4822 410 11658	Botão PLAY 1	FW316C	FW339C	
316	4822 410 11659	Botão REWIND 1	FW316C	FW339C	
317	4822 410 11661	Botão F FORWARD 1	FW316C	FW339C	
318	4822 410 11662	Botão STOP/EJECT 1	FW316C	FW339C	
319	4822 410 11663	Botão PAUSE 1	FW316C	FW339C	
320	4822 410 11664	Botão BUTTON PLAY 1	FW316C	FW339C	
321	4822 410 11665	Botão REWIND 2	FW316C	FW339C	
322	4822 410 11666	Botão F FORWARD 2	FW316C	FW339C	
323	4822 410 11667	Botão STOP/EJECT 2	FW316C	FW339C	
324	4822 410 11668	Botão PAUSE 2	FW316C	FW339C	
350	4822 445 10739	Caixa Acústica	FW316C		
350	4822 445 10747	Caixa Acustica - esquerda		FW339C	
350	4822 445 10748	Caixa Acustica - direita		FW339C	
350	4822 445 10765	Caixa Acustica			FW356C
351	4822 303 50063	Antena de FM	FW316C	FW339C	FW356C
356	4822 219 10452	Controle Remoto RC 0799/01	FW316C		
356	4822 219 10453	Controle Remoto RC 07102/01		FW339C	FW356C
384	4822 303 50082	Antena de AM	FW316C	FW339C	FW356C
385	4806 321 17067	Cabo de Rede	FW316C	FW339C	FW356C

VI-7) Lista de Peças Elétricas

DIVERSOS					
POS.	CÓDIGO	DESCRIÇÃO	APARELHO		
1101	4822 267 31505	Soquete p/ antena de AM (300R)		FW339C	FW356C
1102	4822 267 10283	Soquete p/ antena de FM (75R-coax)	FW316C	FW339C	FW356C
1201	4822 265 31015	Soquete de Rede	FW316C	FW339C	FW356C
1202	4822 272 10269	SELETOR VOLTAGE		FW339C	FW356C
1205	4822 071 58001	FUSIVEL 800 mA	FW316C		
1205	4822 071 52002	FUSIVEL 2A		FW339C	FW356C
1206	4822 071 51602	FUSIVEL 1,6A	FW316C		
1206	4822 071 54002	FUSIVEL 4A		FW339C	FW356C
1207	4822 071 51602	FUSIVEL 1,6A	FW316C		
1207	4822 071 55002	FUSIVEL 5A/250V		FW339C	FW356C
1208	4822 071 53151	FUSIVEL 315mA	FW316C	FW339C	FW356C
1322	4822 267 31176	Soquete para falante	FW316C	FW339C	FW356C
1324	4822 267 40898	Soquete de Fone de Ouvido	FW316C	FW339C	FW356C
1400	4822 135 00171	DISPLAY FLUORE UG M200	FW316C	FW339C	FW356C
1401	4822 267 10756	Conector de 13 pinos (FRONTE)	FW316C	FW339C	FW356C
1406	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1407	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1410	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1411	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1412	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1413	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1414	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1415	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1416	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1417	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1420	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1421	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1423	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1424	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C		
1425	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C		
1426	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1427	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1428	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1429	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1431	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1432	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1433	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1434	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1435	4806 276 27052	Chave de tato 1P 20MA 15V	FW316C	FW339C	FW356C
1436	4822 101 21261	Controle de VOLUME ROTAT 24P		FW339C	FW356C
1456	4822 320 12246	Cabo 13 pinos (22cm)	FW316C	FW339C	FW356C
1507	4822 265 20553	Soquete AUX (CINCH H 2P)	FW316C	FW339C	FW356C
1508	4822 267 10738	Soquete de 13 pinos p/ cabo flexivel	FW316C	FW339C	FW356C
1509	4822 265 10981	Soquete de 15 pinos p/ cabo flexível	FW316C	FW339C	FW356C
1642	4822 267 40898	Soquete p/ entrada de MICROFONE		FW339C	FW356C
1707	4822 277 11504	Chave de Gravação	FW316C	FW339C	
1770	4822 267 10738	Conector cabo 13pinos			FW356C
1800	4822 267 51453	Conector de 12 pinos (CDC)	FW316C	FW339C	FW356C
1805	4822 265 10979	Conector de 15 pinos (CDC)	FW316C	FW339C	FW356C
1805	4822 265 11182	Conector de 23 pinos (CDC)	FW316C	FW339C	FW356C
1805	4822 265 11184	Conector de 18 pinos (CDC)	FW316C	FW339C	FW356C
1806	4822 265 10981	Conector de 15 pinos (CDC)	FW316C	FW339C	FW356C
1806	4822 267 10757	Conector de 23 pinos (CDC)	FW316C	FW339C	FW356C
1806	4822 265 11185	Conector de 18 pinos (CDC)	FW316C	FW339C	FW356C
1810	4822 242 10849	Cristal 8MHz		FW339C	FW356C
1810	4806 242 77095	CRISTAL CST8.46MTW-TF01	FW316C	FW339C	FW356C
1860	4822 265 11183	Conector de 4 pinos (CDC)	FW316C	FW339C	FW356C
1880	4806 276 27053	Chave TRAY	FW316C	FW339C	FW356C
1881	4807 276 27053	Chave CDM-POM	FW316C	FW339C	FW356C
1882	4808 276 27053	Chave CARR	FW316C	FW339C	FW356C
8002	4822 320 11974	Cabo Flexível 15 pinos (190mm)	FW316C	FW339C	FW356C
8002	4822 320 12229	Cabo Flexível 18 pinos (190mm)	FW316C	FW339C	FW356C
8002	4822 320 12231	Cabo Flexível 23 pinos (190mm)	FW316C	FW339C	FW356C
8002	4822 320 12232	Cabo Flexível 15 pinos (480mm)	FW316C	FW339C	FW356C

CAPACITORES					
2106	4822 125 60101	CAPACITOR, VARI 3P0-11P N450 100V	FW316C	FW339C	FW356C
2155	4822 125 60101	CAPACITOR, VARI 3P0-11P N450 100V	FW316C	FW339C	FW356C
	4822 126 13581	0 22µF / 50V			
	4822 124 40746	0,22µF / 63V			
	4822 124 41407	0,47µF / 63V			
	4822 124 40239	0,47µF / 63V			
	4822 124 40242	1µF / 63V			
	4822 124 41576	2,2µF / 50V			
	4822 124 40246	4,7µF / 63V			
	4822 124 41579	10µF / 50V			
	4822 124 40248	10µF / 63V			
	4822 124 41596	22µF / 50V			

		CAPACITORES(continuação)			
	4822 124 23178	47uF / 16V			
	4822 124 40433	47uF / 25V			
	4822 124 41397	47uF / 25V			
	4822 124 11958	47uF / 25V			
	4822 124 11959	100uF / 10V			
	4822 124 11972	220uF / 10V			
	4822 124 80144	220uF / 25V			
	4822 124 22263	220uF / 25V			
	4822 124 40849	330uF / 16V			
	4822 124 80558	470uF / 16V			
	4822 124 80791	470uF / 16V			
	4822 124 40201	1 000uF / 16V			
	4822 124 80148	2 200uF / 16V			
	4822 124 40433	3 300uF / 35V			
	4822 124 12012	4 700uF / 25V			
	4822 124 12132	6 800uF / 63V			
	4822 126 11585	CERA 22NF+80-20% Y5V 25V			
	5322 121 42386	FILM 100NF 63V			

		RESISTORES			
3142	4822 100 11163	POTENCIOMETRO 100K 30%LIN 0,1W	FW316C	FW339C	FW356C
3620	5322 100 11542	POTENCIOMETRO 4K7			FW356C
3647	4822 101 21204	POTENCIOMETRO 20KA		FW339C	FW356C
3758	4822 101 11166	POTENCIOMETRO 2K2	FW316C	FW339C	FW356C
3773	5322 100 11542	POTENCIOMETRO 4K7			FW356C
	4822 052 10478	4R7 / 0 33W			
	4822 116 52186	22R / 0 5W			
	4822 100 20165	500R / 0 1W			
	4822 116 52263	2K7 / 0.5W			
	4822 116 52244	15K / 0.5W			
	4822 116 52264	27K / 0 16W			
	4822 116 52264	27K / 0 5W			
	4822 116 52234	100K / 0.5W			

		BOBINAS			
5102	4822 157 71634	MW AERIAL	FW316C	FW339C	FW356C
5109	4822 242 70665	FILTRO CERAMIC SFE10.7MS3-A	FW316C	FW339C	FW356C
5110	4822 242 70665	FILTRO CERAMIC SFE10.7MS3-A	FW316C	FW339C	FW356C
5111	4822 158 60511	AM-1F	FW316C	FW339C	FW356C
5112	4822 157 70302	F7MCS-12216N	FW316C	FW339C	FW356C
5114	4822 157 70302	F7MCS-12216N	FW316C	FW339C	FW356C
5119	4822 157 11443	2U4 10M7	FW316C	FW339C	FW356C
5120	4822 242 82065	FILTRO CERAMICO CDA10 7MG40KA	FW316C	FW339C	FW356C
5120	4822 242 10251	FILTRO CERAMICO 10.7M	FW316C	FW339C	FW356C
5121	4822 242 10261	CRISTAL T6252F00 (75KHZ)	FW316C	FW339C	FW356C
5123	4822 157 60517	110.00 UH 8%	FW316C	FW339C	FW356C
5130	4822 156 30947	RF-COIL 1 5 TURNS	FW316C	FW339C	FW356C
5131	4822 156 30947	RF-COIL 1 5 TURNS	FW316C	FW339C	FW356C
5321	4822 157 11477	LAL02TB2R2J	FW316C	FW339C	FW356C
5322	4822 157 11477	LAL02TB2R2J	FW316C	FW339C	FW356C
5324	4822 157 11477	LAL02TB2R2J	FW316C	FW339C	FW356C
5400	4822 242 72066	FILTRO CERAMICO CST8.00MT	FW316C	FW339C	FW356C
5401	4822 242 70938	CRISTAL TA252E00 (32 768KHZ)	FW316C	FW339C	FW356C
5402	4822 157 11477	LAL02TB2R2J	FW316C	FW339C	FW356C
5501	4822 157 11477	LAL02TB2R2J	FW316C	FW339C	FW356C
5502	4822 157 11477	LAL02TB2R2J		FW339C	FW356C
5503	4822 157 62255	18,5 TURNS		FW339C	FW356C
5504	4822 157 62255	18 5 TURNS		FW339C	FW356C
5505	4822 157 62255	18,5 TURNS		FW339C	FW356C
5506	4822 157 62255	18,5 TURNS		FW339C	FW356C
5507	4822 156 21721	IND FXD LAL02 A		FW339C	FW356C
5508	4822 157 53447	BEAD, FERRITE BL01RN1-A62T5		FW339C	FW356C
5640	4822 157 11526	22UH 5% 2,3X3,4		FW339C	FW356C
5701	4822 157 10371	OSC COIL 100KHZ 7MM	FW316C	FW339C	
5701	4822 156 21721	OSC COIL 100KHZ 7MM			FW356C
5703	4822 156 20946	Osc 100KHz			FW356C

		DIODOS			
	4806 130 37078	1N4148	FW316C	FW339C	FW356C
	4822 130 31878	1N4003G	FW316C	FW339C	FW356C
6105	4822 130 83075	HN1V02H-B	FW316C	FW339C	FW356C
6107	4822 130 34488	BZX79-B11	FW316C	FW339C	FW356C
6130	4822 130 82833	1SV228	FW316C	FW339C	FW356C
6131	4822 130 82833	1SV228	FW316C	FW339C	FW356C
6228	4822 130 34173	BZX79-B5V6 - ZENER	FW316C	FW339C	FW356C
6229	4822 130 34379	BZX79-B27 - ZENER	FW316C	FW339C	FW356C
6231	4822 130 34174	BZX79-B4V7 - ZENER	FW316C	FW339C	FW356C
6237	4822 130 34233	BZX79-B5V1 - ZENER	FW316C	FW339C	FW356C
6236	4822 130 34233	BZX79-B5V1 - ZENER	FW316C	FW339C	FW356C
6325	4822 130 34281	BZX79-B15 - ZENER		FW339C	FW356C
6326	4806 130 37536	BZX79-B18 - ZENER		FW339C	FW356C

VI-7) Lista de Peças Elétricas (continuação)

DIODOS(continuação)					
6327	5322 130 31504	BZX79-B3V3 - ZENER		FW339C	FW356C
6404	4822 130 10791	LED LTL-1CHGE		FW339C	FW356C
6405	4822 130 10791	LED LTL-1CHGE		FW339C	FW356C
6406	4822 130 10791	LED LTL-1CHGE		FW339C	FW356C
6409	4822 130 10791	LED LTL-1CHGE		FW339C	FW356C
6410	4822 130 10792	LED LTL-1CHPE	FW316C	FW339C	FW356C
6411	4822 130 10792	LED LTL-1CHPE	FW316C	FW339C	FW356C
6412	4822 130 10792	LED LTL-1CHPE	FW316C	FW339C	FW356C
6413	4822 130 10792	LED LTL-1CHPE	FW316C	FW339C	FW356C
6414	4822 130 10792	LED LTL-1CHPE	FW316C	FW339C	FW356C
6415	4822 130 10791	LED LTL-1CHGE	FW316C	FW339C	FW356C
6416	4822 130 10792	LED LTL-1CHPE	FW316C	FW339C	FW356C
6418	4822 130 10792	LED LTL-1CHPE	FW316C	FW339C	FW356C
6429	4822 130 10792	LED LTL-1CHPE	FW316C	FW339C	FW356C
6442	4822 130 10792	LED LTL-1CHPE	FW316C	FW339C	FW356C
6443	4822 130 10792	LED LTL-1CHPE	FW316C	FW339C	FW356C
6444	4822 130 10792	LED LTL-1CHPE	FW316C	FW339C	FW356C
6502	4822 130 34173	BZX79-B5V6 - ZENER	FW316C	FW339C	FW356C
6551	4822 130 34173	BZX79-B5V6 - ZENER		FW339C	
6551	4822 130 30862	BZX79-B9V1 - ZENER			FW356C
6705	5322 130 34563	BZX79-C2V7 - ZENER	FW316C	FW339C	
6710	4822 130 34173	BZX79-B5V6 - ZENER	FW316C	FW339C	
6711	4822 130 34173	BZX79-B5V6 - ZENER	FW316C	FW339C	
6777	4822 130 34382	BZX79-B8V2 - ZENER			FW356C
6875	4822 130 34233	BZX79-B5V1 - ZENER	FW316C	FW339C	FW356C

TRANSISTORES					
7102	4806 130 47337	2SA838B	FW316C	FW339C	FW356C
	4806 130 47313	BC327-40	FW316C	FW339C	FW356C
	4806 130 47234	BC337-40	FW316C	FW339C	FW356C
	4806 130 47031	BC338-40	FW316C	FW339C	FW356C
7242	5322 130 44593	BC369	FW316C	FW339C	FW356C
	4806 130 47417	BC547B	FW316C	FW339C	FW356C
	4806 130 47417	BC547C	FW316C	FW339C	FW356C
	4806 130 47039	BC548	FW316C	FW339C	FW356C
	4806 130 47041	BC548C	FW316C	FW339C	FW356C
	4806 130 47042	BC548B	FW316C	FW339C	FW356C
	5322 130 44591	BC550C	FW316C	FW339C	FW356C
	4806 130 47498	BC557B	FW316C	FW339C	FW356C
	4806 130 47050	BC558B	FW316C	FW339C	FW356C
	4806 130 47481	BC558C	FW316C	FW339C	FW356C
	5322 130 60123	BC807-25	FW316C	FW339C	FW356C
	4822 130 42615	BC817-40	FW316C	FW339C	FW356C
	4822 130 60511	BC847B	FW316C	FW339C	FW356C
7111	5322 130 42136	BC848C	FW316C	FW339C	FW356C
	5322 130 60508	BC857B	FW316C	FW339C	FW356C
7329	4822 130 10847	BDW94C		FW339C	FW356C
7409	4822 130 10165	Receptor IR GP1U28XP	FW316C	FW339C	FW356C
7786	4822 130 63494	FET J111			FW356C

I.C.'s					
7101	4822 209 90924	TEA5757H/V1	FW316C	FW339C	FW356C
7250	4822 209 33575	VOLT /CU L7812CP	FW316C	FW339C	FW356C
7391	4822 209 12925	AMPLIFIE AN7124	FW316C		
7391	4822 209 16224	AMPLIFIE AN7125		FW339C	FW356C
7401	4822 209 16222	TMP87CP71F FW318C-66	FW316C	FW339C	
7401	4822 209 16428	TMP87CP71F FW316C-67	FW316C	FW339C	
7401	4822 209 16429	TMP87CP71F FW316C-67			FW356C
7402	4822 209 31508	EEPR ST24C01B1	FW316C	FW339C	FW356C
7402	5322 209 11306	HEF4094BT	FW316C	FW339C	FW356C
7404	4822 209 15449	74HC4094D	FW316C	FW339C	FW356C
7405	4822 209 15449	74HC4094D	FW316C	FW339C	FW356C
7406	4822 209 15449	74HC4094D		FW339C	FW356C
7501	5322 209 11102	HEF4052BT	FW316C	FW339C	FW356C
7530	5322 209 14482	HEF4069UBT		FW339C	FW356C
7554	4822 209 31378	AMPLIFIE NJM4556MB		FW339C	FW356C
7610	5322 209 11306	HEF4094BT			FW356C
7711	4806 209 87683	AN7318S	FW316C	FW339C	
7712	4806 209 87683	AN7318S	FW316C	FW339C	
7720	4806 209 87683	AN7318S			FW356C
7710	4822 209 32919	HEF4952BT			FW356C
7730	4822 209 32919	HEF4952BT			FW356C
7740	4822 209 32919	HEF4952BT			FW356C
7800	4822 209 12752	SAA7378GP/M1	FW316C	FW339C	FW356C
7801	5322 209 11517	PC74HCU04T	FW316C	FW339C	FW356C
7806	4806 209 87707	TDA7073A/N2	FW316C	FW339C	FW356C
7807	4806 209 87707	TDA7073A/N2	FW316C	FW339C	FW356C
7851	4822 209 32421	TDA1311A/N2	FW316C	FW339C	FW356C
7871	4806 209 87707	TDA7073A/N2	FW316C	FW339C	FW356C
7873	5322 209 10421	HEF4094BP	FW316C	FW339C	FW356C