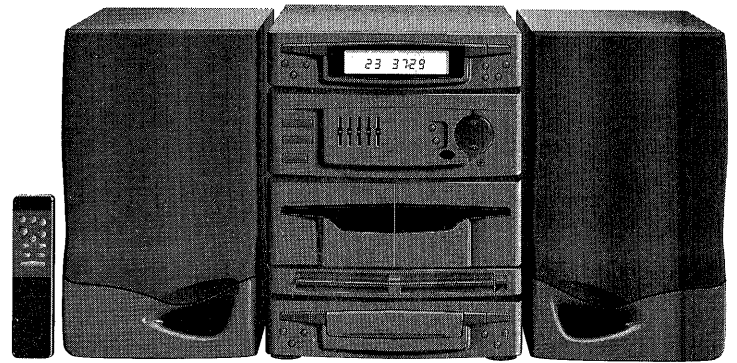


Service Service Service

XTREMREX CBBA-BOLIVIA



Service Manual

COMPACT
disc
DIGITAL AUDIO

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**CLASS 1
LASER PRODUCT**



SPECIFICATIONS

GENERAL

Mains voltage/setting

	Switchable 120V - 230V (Set at 230V) for -/21
Mains frequency	: 50Hz - 60Hz
Mains breakdown protection	: 10 minutes
Clock Accuracy	: < 4sec/day
Power consumption	: 96W max.
Dimension centre unit	: 240 x 309.5 x 273.5mm

TUNER : FM SECTION

Tuning range	: 87.5MHz - 108MHz
IF frequency	: 10.7MHz
Aerial input	: 75Ω coaxial Dipole for -/26
Sensitivity at 26dB S/N	: < 8μV {6.9μV}
Selectivity at 600kHz bandwidth	: > 20dB {30dB}
IF rejection	: > 50dB {60dB}
Image rejection	: > 20dB {25dB}

TUNER : AM SECTION

Tuning range	MW	: 522kHz - 1611kHz
IF frequency		: 450kHz
Sensitivity at 26dB S/N	MW	: < 3.6mV/M {3.2mV/M}
Selectivity at 18kHz bandwidth	MW	: > 16dB {20dB}
IF rejection	MW	: > 24dB {24dB}
Image rejection	MW	: > 28dB {28dB}

AMPLIFIER

Output power at 10% distortion		: 2 x 12W -1dB
Speaker impedance		: 2 x 6Ω L/R
Frequency response within -3dB		: 63Hz - 15kHz
DBB & Equalizer control		: -6dB to +6dB
Headphone output at 32Ω		: 25mW
Input sensitivity	Aux/TV	: 400mV at 47kΩ
	Mic	: 1.5mV at 600Ω for -/21

CASSETTE RECORDER

Number of track	: 2 x 2 stereo
Tape speed	: 4.76 cm/sec ± 2% 1.8 x 4.76 cm/sec
Wow and flutter	: < 0.4%
Fast-wind time C60	: 130 sec
Bias system	: 65kHz ± 5kHz
Recording playback frequency response within -8dB	: 250Hz - 6300Hz
Signal to noise ratio	: > 41dB

COMPACT DISC

Frequency response within +2dB/-4dB	: 20Hz - 20kHz
Signal/Hiss ratio	: > 75dB
Distortion at 1kHz	: < 0.03%
Channel difference at 1kHz	: < 2dB
Channel crosstalk at 1kHz	: > 60dB
De-emphasis	: 0 or 15/50 μS (Switched by subcode on the disc)

CONNECTIONS AND CONTROLS

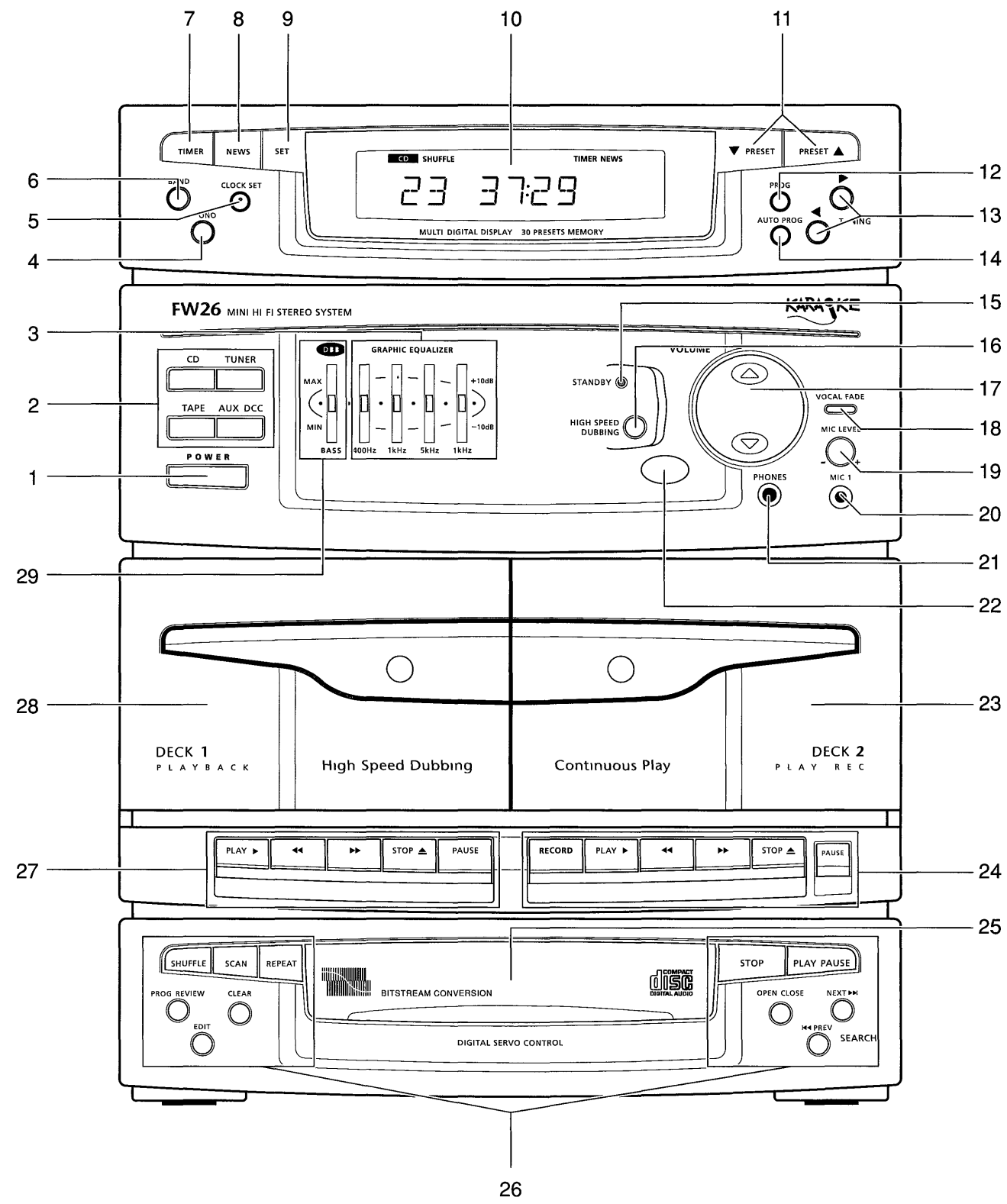


Figure 1

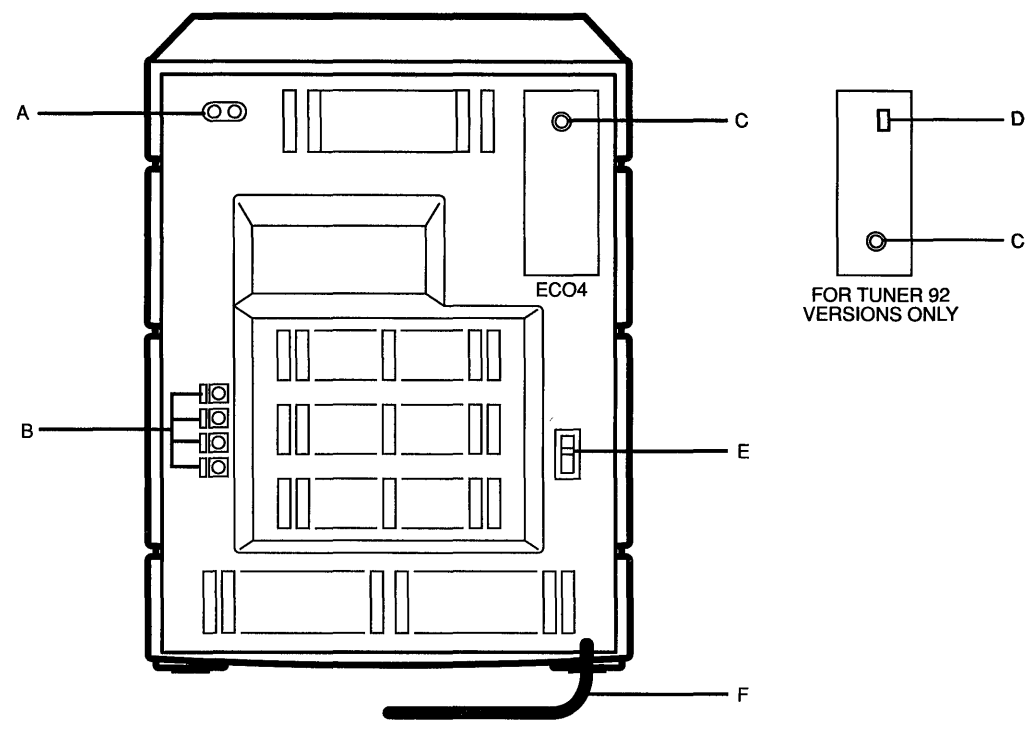


Figure 2

CONNECTIONS AND CONTROLS

- | | | | | | |
|----|------------------------|--------|--|----|------------------------|
| 1 | Power | | | | Fast forward |
| 2 | Function controls | CD | | | Stop/Eject |
| | | Tuner | | | Pause |
| | | Tape | | 25 | CD Tray |
| | | Aux/TV | | 26 | CD controls |
| 3 | Graphic equalizer | | | | Shuffle |
| 4 | Mono | | | | Scan |
| 5 | Clock set | | | | Repeat |
| 6 | Band | | | | Program/Review |
| 7 | Timer | | | | Edit |
| 8 | News | | | | Clear |
| 9 | Set | | | | Stop |
| 10 | LCD display | | | | Play/Pause |
| 11 | Presets up/down | | | | Open/Close |
| 12 | Program | | | | Next |
| 13 | Tuning up/down | | | | Previous |
| 14 | Auto program | | | | Play |
| 15 | Standby LED | | | 27 | Play Deck controls |
| 16 | High speed dubbing | | | | Rewind |
| 17 | Volume up/down | | | | Fast forward |
| 18 | Vocal fade | | | | Stop/Eject |
| 19 | Mic level | | | | Pause |
| 20 | Mic input | | | | |
| 21 | Headphone socket | | | 28 | Cassette compartment 1 |
| 22 | IR sensor | | | 29 | DBB control |
| 23 | Cassette compartment 2 | | | A | Aux/TV input |
| 24 | Rec/Pb Deck controls | Record | | B | Loudspeaker sockets |
| | | Play | | C | FM antenna socket |
| | | Rewind | | D | AM antenna socket |
| | | | | E | Voltage selector |
| | | | | F | Mains cord |

SERVICE TEST PROGRAM 1

Operating sequence	Display shows	Remarks	In case of problems check
Hold "Program" and "Preset Up" button down while Power on to enter Service test program	XX YY-S # This is the main menu	where XX - Type no numeric YY - Master µP version S - Service mode	
Press "Program"	PASS or P Main menu reappears after 2 seconds	Eeprom test	Check IC if Display shows ERR or N
Press "Autoprogram"	NEW or N Main menu reappears after 2 seconds	Eeprom is now reset to default data	
Press "Clock Set"	32K or 32	The Alarm buzzer is turned on An output signal of 4096Hz is available at pin 37 of µProcessor	Check X'tal
Press "Clock Set"	8M or 8	The output signal at pin 37 is now 3906 25Hz	Check 8MHz oscillator
Press "Clock Set"	Main menu reappear		
Press "Set Timer/News"	FAST or F NOM or N Main menu reappears after 2 seconds	Pressing "Set Timer/News" key will alternate between Fast and Normal speed In the Fast mode the clock increases at 1 minute per second Leaving the test program now will allow quick customer checks on the clock/timer/alarm function	Ensure the clock is in normal speed before returning to customer
Press "Mono" and followed by any key on the set or Remote control	See key test Table 1 and 2		
Press "Mono" to return to Main menu			
Press "News"	Figure 3 - 6 and Main menu	Pressing the "News" key will scroll through the 4 different displays and the Main menu	
Press "Timer"	AUX TAPE CD TUNER Main menu reappears after 2 seconds	During source switching the set is not muted	
Disrupt the mains supply to exit the Service test program			Ending the Service test by pressing the "Power" key will render * CD error codes to be displayed * Tuner "Program" and "Autoprogram" keys non functioning

Note XX - Model model (eg 26 for FW26, etc)
YY - Software version, counting down from 99

SERVICE TEST PROGRAM 2

Operating sequence	Display shows	Remarks	In case of problems check
To perform CD test press "CD" at the Main menu screen	CD AA	The CD servo version is display AA = version number	Press "Power" key at the Main menu screen to exit Service test Enter CD mode and the set perform as normal except error codes will be displayed A list of error codes are found in Table 4
Press "Stop" - Service pos 0	SLED or S	During this test the sledge will move outward	
Press "Next" - Service pos 1	FOC or F	Focus is switched on	
Press "Next" - Service pos 2	DISC or D	Disc motor is switched on	
Press "Next" - Service pos 3	RDL or R	Radial is switched on	
Pressing "Previous" will bring the set to the previous service pos			
To perform Tuner test press "Tuner" at the Main menu screen	ZZZ	Tuner version is display ZZZ = Tuner version	
Use the "Preset Up" and "Preset down" to display the loaded frequencies	See Table 3	Service frequencies are now loaded into the EEROM of the µProcessor	
To end the Service test program disrupt the mains supply			Ending the Service test by pressing the "Power" key will render * CD error codes to be displayed * Tuner "Program" and "Autoprogram" keys non functioning

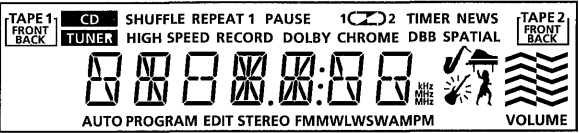


Figure 3

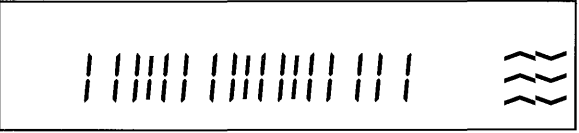


Figure 4

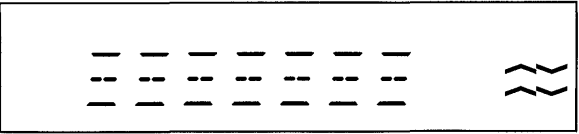


Figure 5

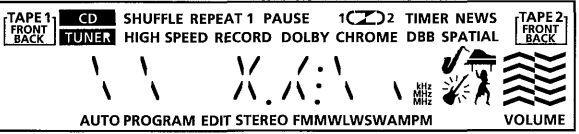


Figure 6

TABLE 1. SERVICE KEY TEST TABLE

Timer/News/Tuner keys	Display	Function keys	Display	CD Keys	Display
Timer	14	CD	09	Shuffle	29
News	15	Tuner	20	Scan	30
Set	16	Tape	10	Repeat	22
Band	13	Aux/DCC	04	Prog/Review	21
Clock Set	12	Power	08	Clear	26
Mono	11	High Speed Dubbing	07	Edit	25
Preset Down	17	Volume Up	03	Stop	27
Preset Up	18	Volume Down	19	Play/Pause	23
Prog	01			Open/close	31
Autoprogram	05			Next	24
Tuning Up	02			Previous	28
Tuning Down	06				

TABLE 2. SERVICE REMOTE CONTROL KEY TEST TABLE

Function/Tuner keys	Display	CD keys	Display
News	15 RC	CD	09 RC
Standby	32 RC	Pause	38 RC
Volume up (+)	03 RC	Stop	27 RC
Volume down (-)	19 RC	Play	37 RC
Tuner	20 RC	Previous	34 RC
Preset down	17 RC	Next	33 RC
Preset up	18 RC		

Note "RC" disappears when the key is released

TABLE 3. TUNER SERVICE TEST FREQUENCIES

PRESET	Europe "EUR"	East Eur. "EAS"	USA "USA"	Oversea "OSC"	Japan "JAP"
1	108 00 MHz	108 00 MHz	108 00 MHz	108 00 MHz	90 00 MHz
2	87 50 MHz	65 81 MHz	87 50 MHz	87 50 MHz	76 00 MHz
3	1611 kHz	1611 kHz	1710 kHz	1710 kHz	1629 kHz
4	522 kHz	522 kHz	530 kHz	530 kHz	522 kHz
5	279 kHz	279 kHz	-	-	-
6	153 kHz	153 kHz	-	-	-
7	98 00 MHz	98 00 MHz	98 00 MHz	98 00 MHz	80 00 MHz
8	558 kHz	558 kHz	560 kHz	560 kHz	558 kHz
9	1494kHz	1494kHz	1500kHz	1500kHz	1494kHz
10	549kHz	549kHz	550kHz	550kHz	549kHz

TABLE 4. CD ERROR CODES TABLE

Error codes	Check area	Remarks
E 1002	ICs 7000, 7060 and 7080	Focus error, no disc
E 1007	CDM 12 and Disc	Subcode error, no valid subcode
E 1008	Bad Disc and Lens	TOC error, out of lead-in area while reading TOC
E 1009	IC 7101 and 7102	CD4 + decoder error
E 1010	IC 7000 and 7080	Radial error
E 1012	ICs 7000 and 7660	Fatal sledge error
E 1013	ICs 7102, 7140, 7141 and 7660	Turntable motor error
E 1030	CDM 12 and IC 7000	Too many grooves to jump
E 1031	CDM 12 and IC 7000	Search error
E 1032	CDM 12 and IC 7000	Search binary error
E 1033	CDM 12 and IC 7000	Search index error
E 1034	CDM 12 and IC 7000	Search time error
E 1037	CDM 12 and IC 7000	Selection error
E 1050	Operating error	Edit calculation error
E 1051	Operating error	Edit track count error
E 1052	Operating error	Edit optimal error

TAPE MECHANISM ADJUSTMENT

ADJUSTMENT	CASSETTE	DECK 1	DECK 2	MEASURE ON	READ ON	ADJUST WITH	ADJUST TO
Azimuth	10kHz	Play	-	1550	mV-meter	Left hand screw of Play or R/P head	Maximum L = R
	SBC420*	-	Play				
Motor speed	3150Hz	Play	-	1550	Wow and Futter meter	Preset in motor	** a
	SBC420*	-	Play			-	

* SBC420 4822 397 30071

** a The maximum permissible speed deviation is 2%
Moreover, the wow and flutter value can be read
This value should not exceed 0.4%

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Timer/News/Tuner keys	Display	Function keys	Display	CD Keys	Display
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Preset up	18 RC		

Note: "RC" disappears when the key is released.

TABLE 3. TUNER SERVICE TEST FREQUENCIES

PRESET	Europe "EUR"	East Eur. "EAS"	USA "USA"	Oversea "OSC"	Japan "JAP"
1	108.00 MHz	108.00 MHz	108.00 MHz	108.00 MHz	90.00 MHz
2	87.50 MHz	65.81 MHz	87.50 MHz	87.50 MHz	76.00 MHz
3	1611 kHz	1611 kHz	1710 kHz	1710 kHz	1629 kHz
4	522 kHz	522 kHz	530 kHz	530 kHz	522 kHz
5	279 kHz	279 kHz	-	-	-
6	153 kHz	153 kHz	-	-	-
7	98.00 MHz	98.00 MHz	98.00 MHz	98.00 MHz	80.00 MHz
8	558 kHz	558 kHz	560 kHz	560 kHz	558 kHz
9	1494kHz	1494kHz	1500kHz	1500kHz	1494kHz
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E 1050	Operating error	Edit calculation error
E 1051	Operating error	Edit track count error
E 1052	Operating error	Edit optimal error

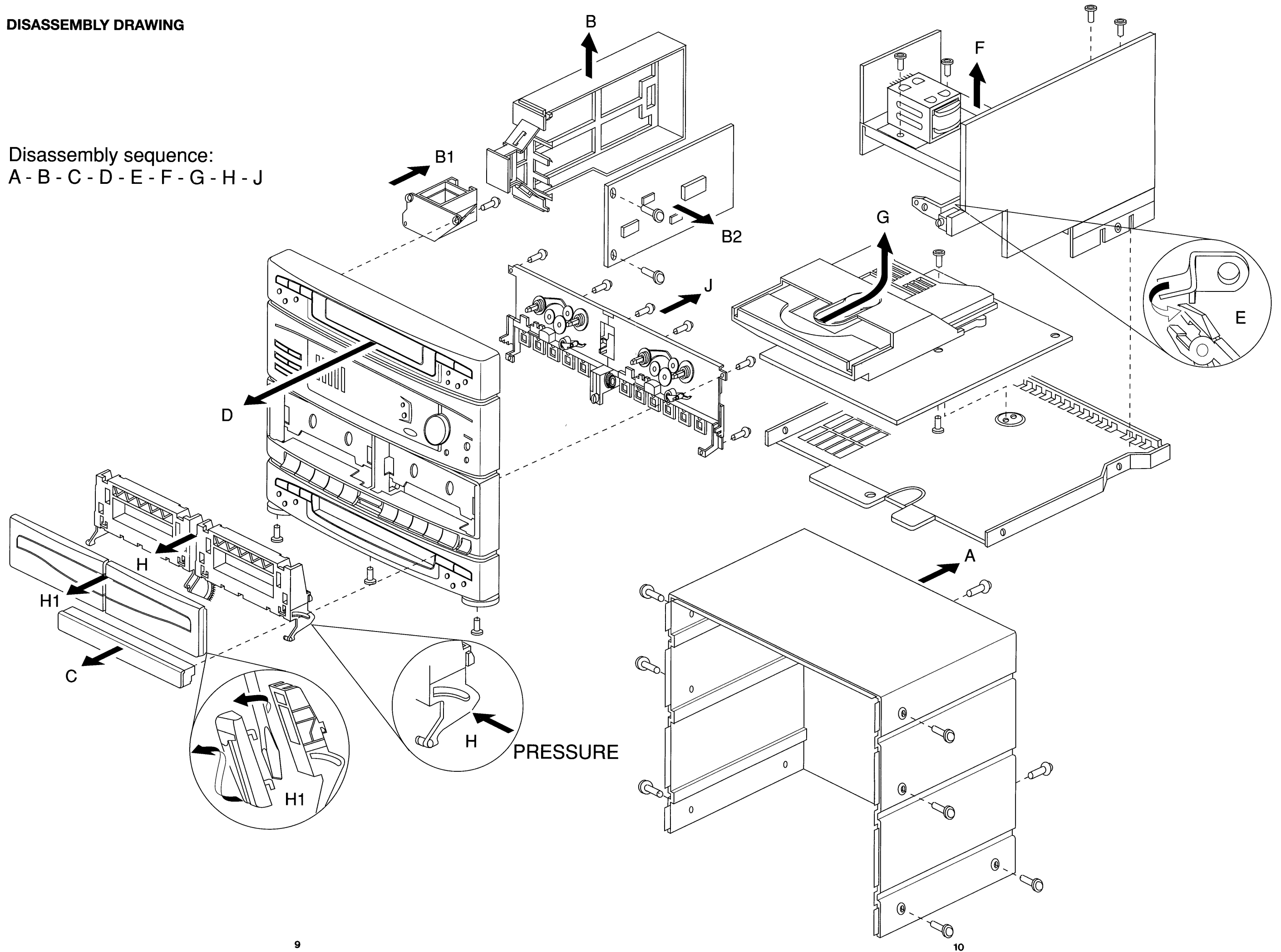
TAPE MECHANISM ADJUSTMENT

ADJUSTMENT	CASSETTE	DECK 1	DECK 2	MEASURE ON	READ ON	ADJUST WITH	ADJUST TO
Azimuth	10kHz	Play	-	1550	mV-meter	Left hand screw of Play or R/P head	Maximum L = R
	SBC420*	-	Play				
Motor speed	3150Hz	Play	-	1550	Wow and Futter meter	Preset in motor	** a
	SBC420*	-	Play			-	

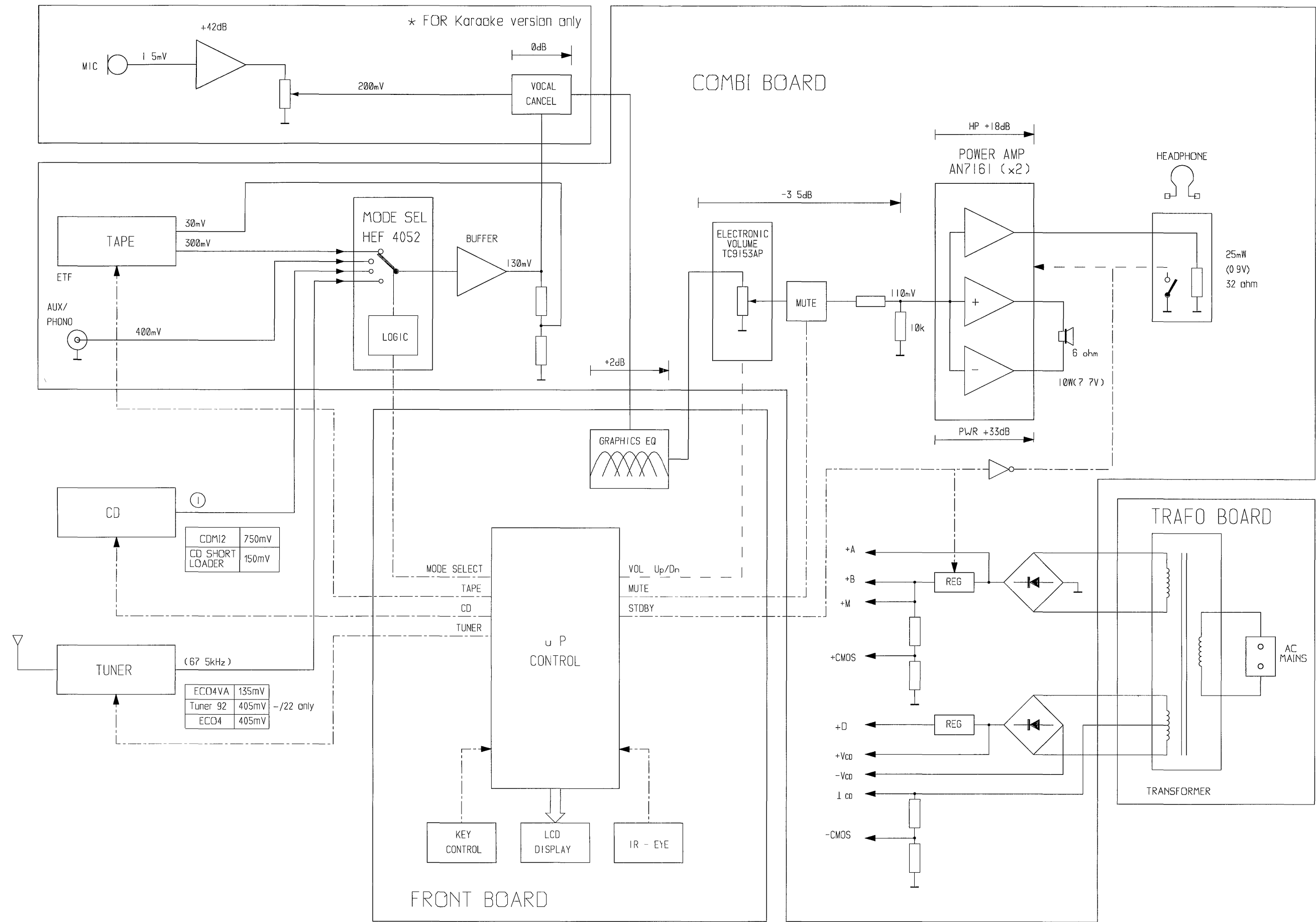
* SBC420 4822 397 30071
** a The maximum permissible speed deviation is 2%
Moreover, the wow and flutter value can be read
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DISASSEMBLY DRAWING

Disassembly sequence:
A - B - C - D - E - F - G - H - J

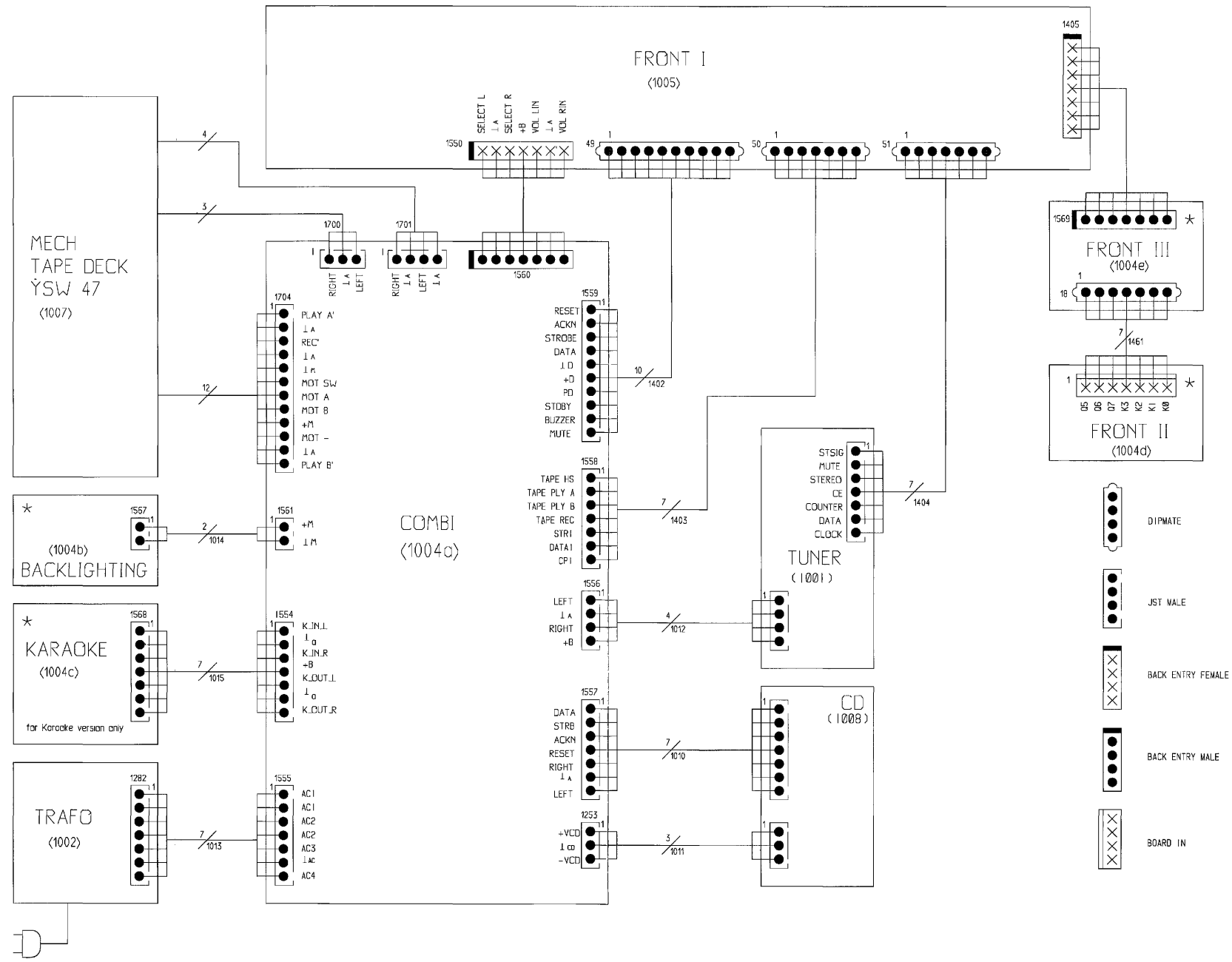


BLOCK DIAGRAM



① CD + 2.5dB WITH -6dB disc

WIRING DIAGRAM



* BREAK AWAY FROM COMBI PCB

GB WARNING

ESD



All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

GB

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

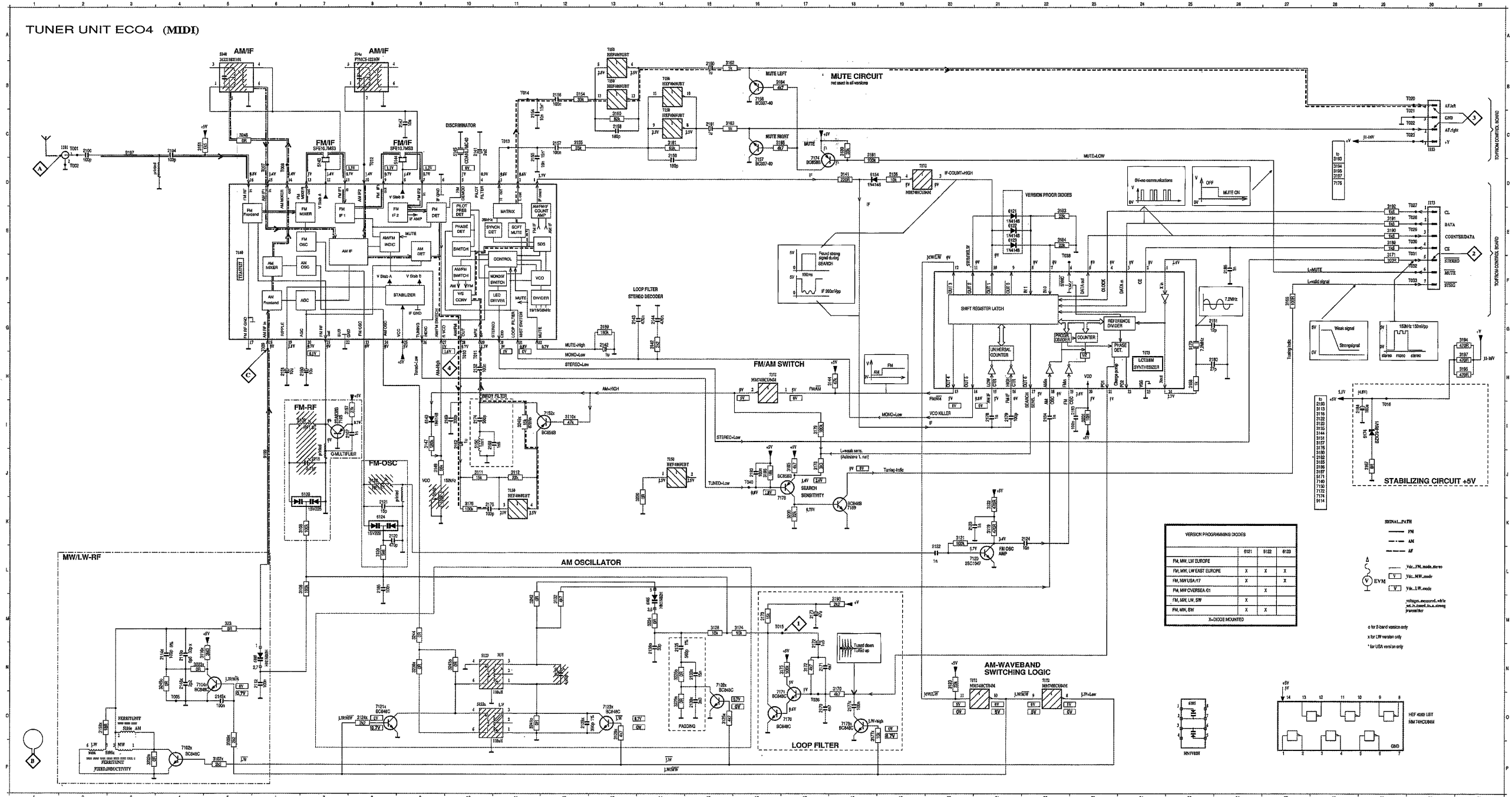
**CLASS 1
LASER PRODUCT**

Ⓜ Warning !











Invisible laser radiation when open
Avoid direct exposure to beam

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist The leakage current must not exceed 0.5mA "

EC04 (MIDI) CIRCUIT



TUNER Adjustment table (ECO 4 FM/MW- and FM/MW/LW - versions with AM-ferrite antenna)

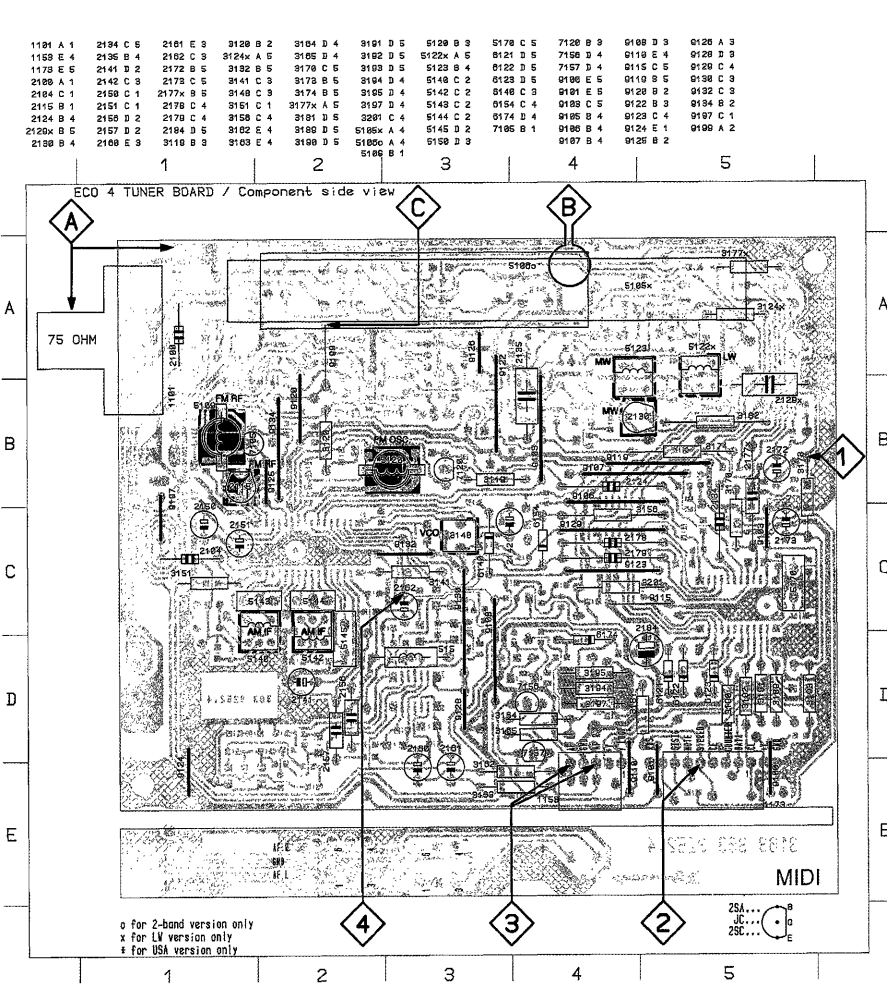
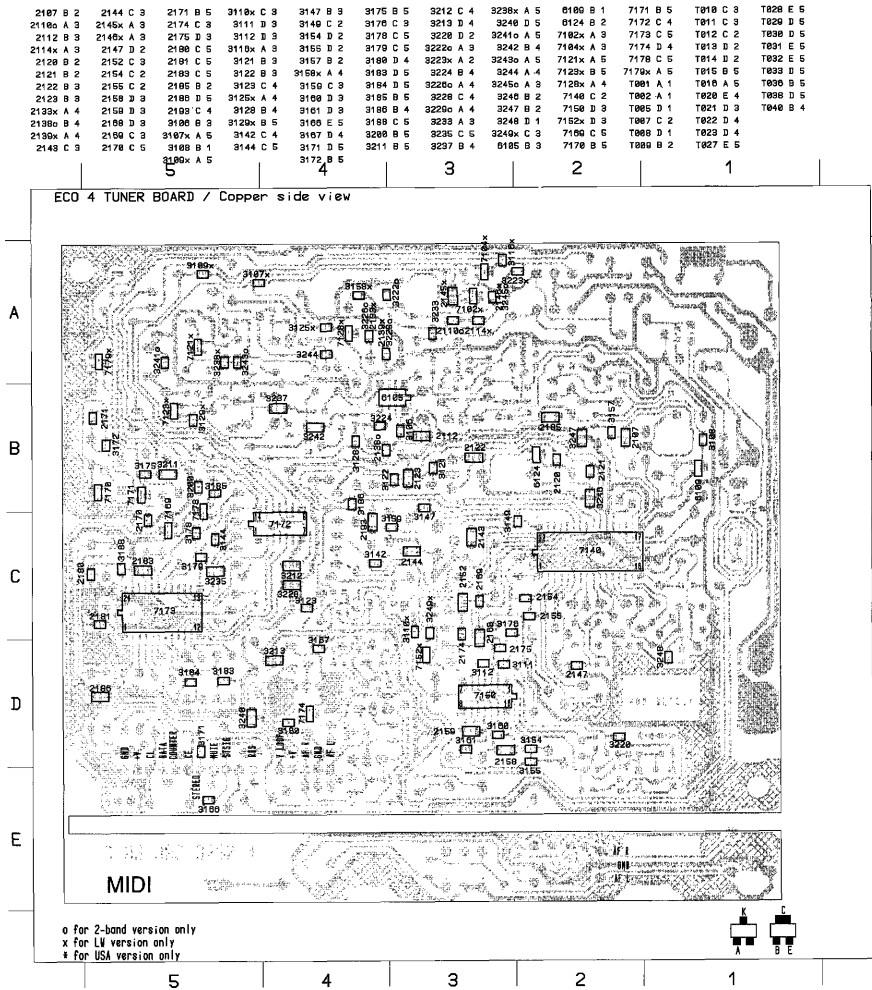
Waverange	Input frequency	Input	Set tuned to	Adjust	Output	Scope / Voltmeter
VARICAP ALIGNMENT * 1)						
FM 87.5 - 108MHz			108 MHz	5120	1	8V ± 0.2V
			87.5MHz	check		4.1V ± 0.5V
FM /14 East Europe 65.81 - 108MHz			108 MHz	5120		8V ± 0.2V
			65.81 MHz	check		0.8V ± 0.4V
MW 2-band version, 10kHz grid 530 - 1710kHz			1710kHz	5123		9V±0.1V (7.5±0.7V) ¹⁾
			530kHz	check		1V±0.4V (1.1±0.5V) ¹⁾
LW 153 - 279kHz			279kHz	5122		8V±0.2V (7.5±1.5V) ¹⁾
			153kHz	check		1V±0.4V (1.1±0.5V) ¹⁾
MW 3-band version 522 - 1611kHz			1611kHz	5123		8V±0.1V (7.5±0.5V) ¹⁾
			522kHz	check		1V±0.4V (1.1±0.5V) ¹⁾
FM - RF						
FM	108MHz	 mod=1kHz Δf=22.5kHz	108MHz	2115	 3	MAX 
	87.5MHz		87.5MHz	5109		
FM /14 East Europe	108MHz		108MHz	2115		
	65.81MHz		65.81MHz	5109		
VCO						
FM	98 MHz, 1mV continuous wave	 A	98MHz	3148	 2	152kHz ± 1kHz
AM - IF						
MW	540kHz Δf = 10kHz as low as possible		540kHz	5142 5140	 4	symmetrical and max height
AM - RF						
LW	198kHz	 mod=1kHz 30% AM	198kHz	5122	 4	MAX
MW 3-band version	1494kHz		1494kHz	2130		MAX 
	549kHz		549kHz	5123		
MW 2-band version, 10kHz grid	1500kHz		1500kHz	2130		
	550kHz		550kHz	5123		

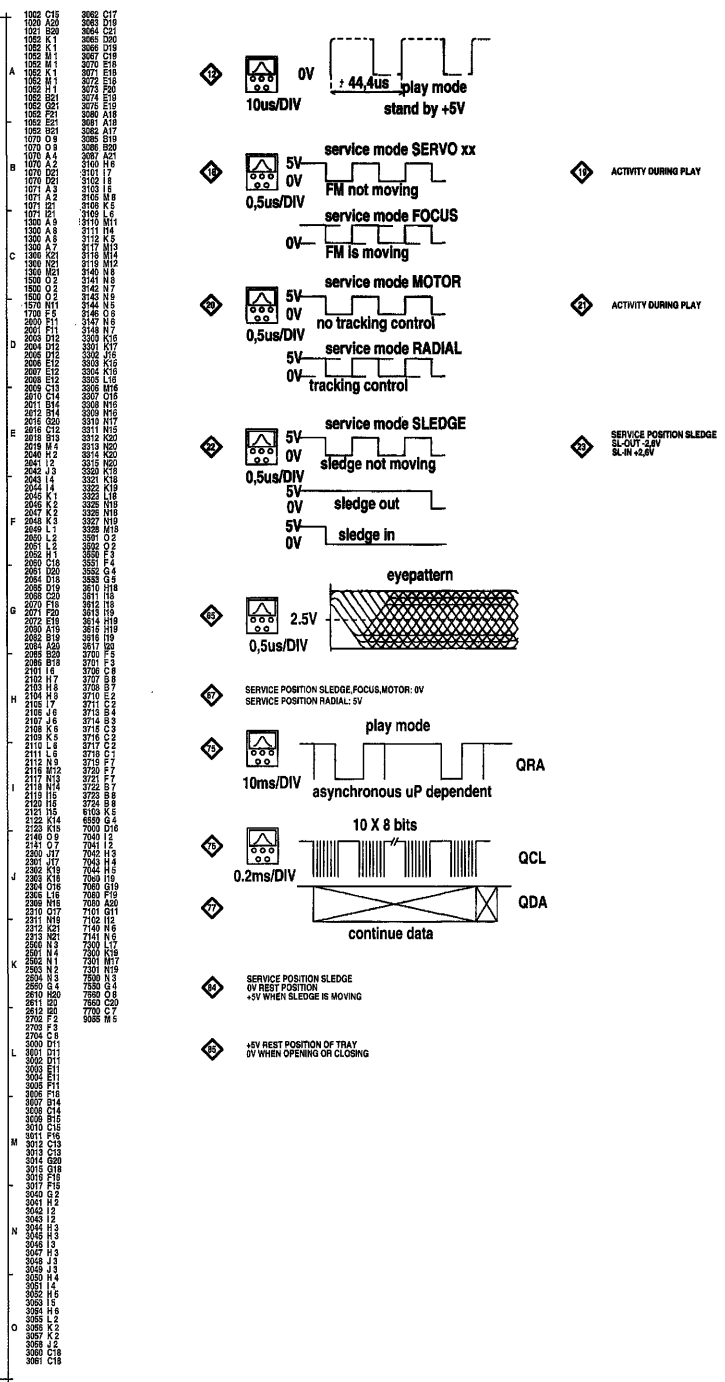
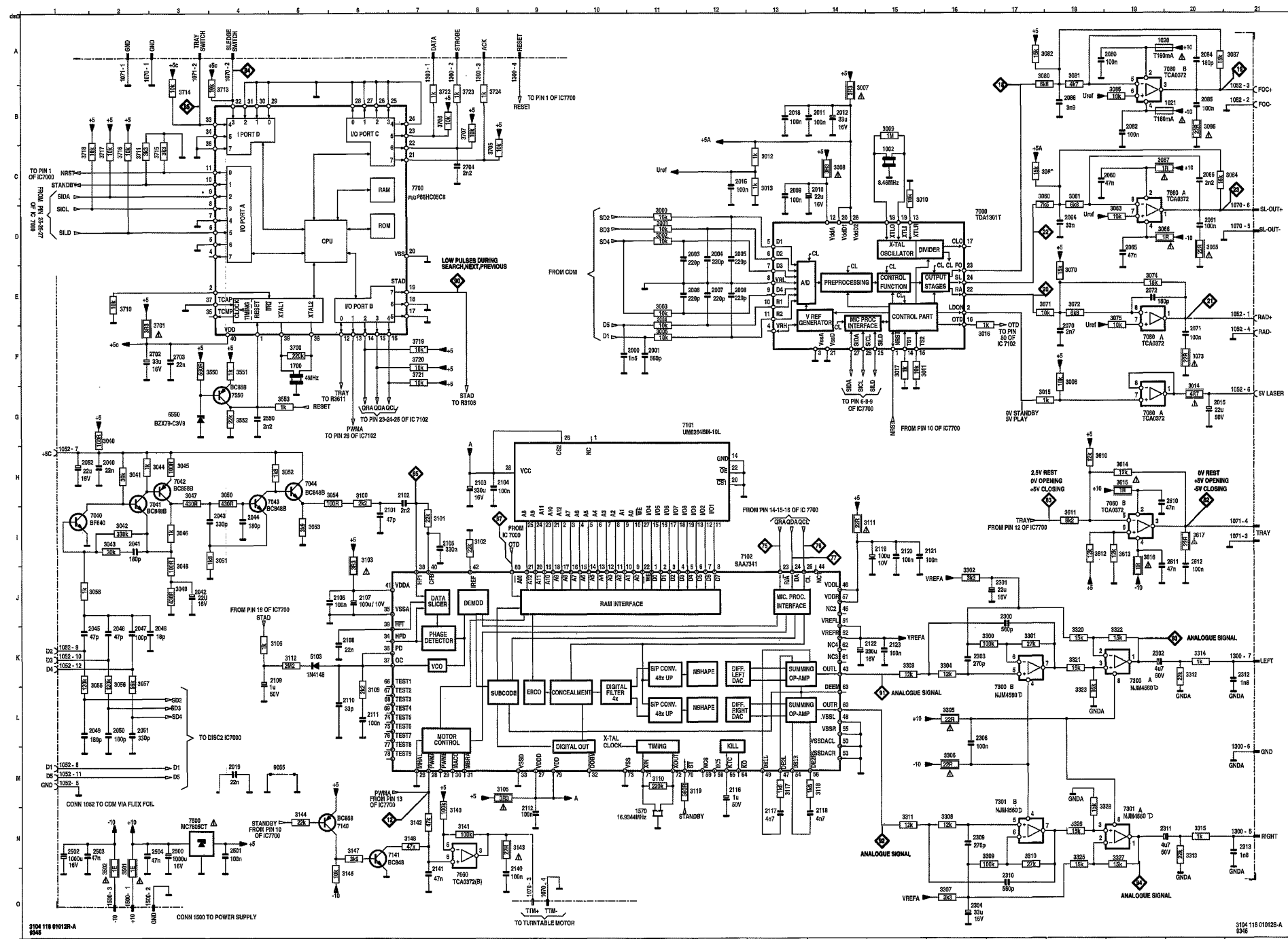
* Use Service Test Program. By selecting the TUNER TEST, test frequencies will be stored as preset frequ. automatically.

1) Adjustment of AM-RF stage influences the varicap voltage. Therefore check if varicap voltage fulfils value stated within brackets after AM-RF adjustment.

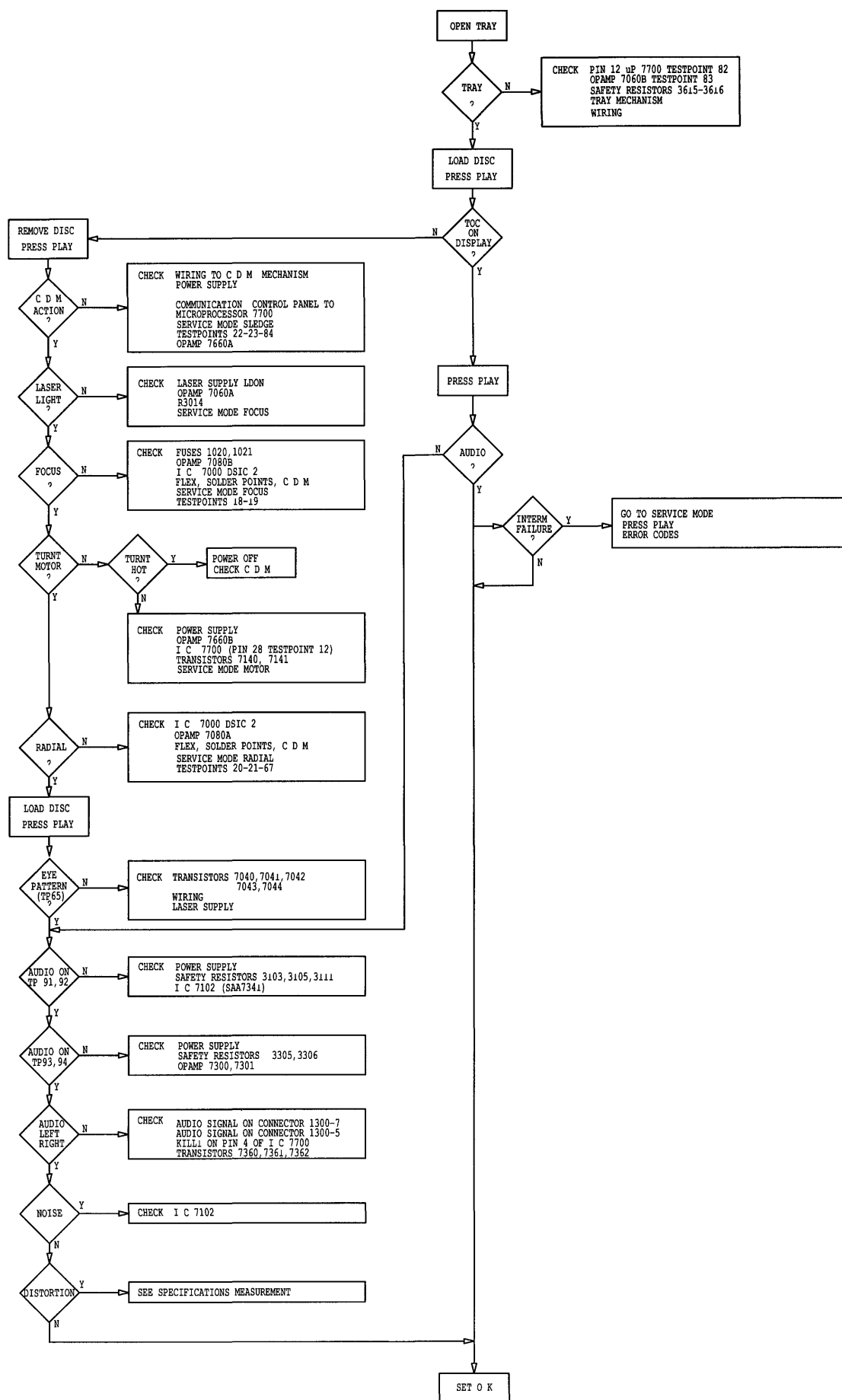
↑ repeat
↓

EC04 (MIDI) LAYOUT



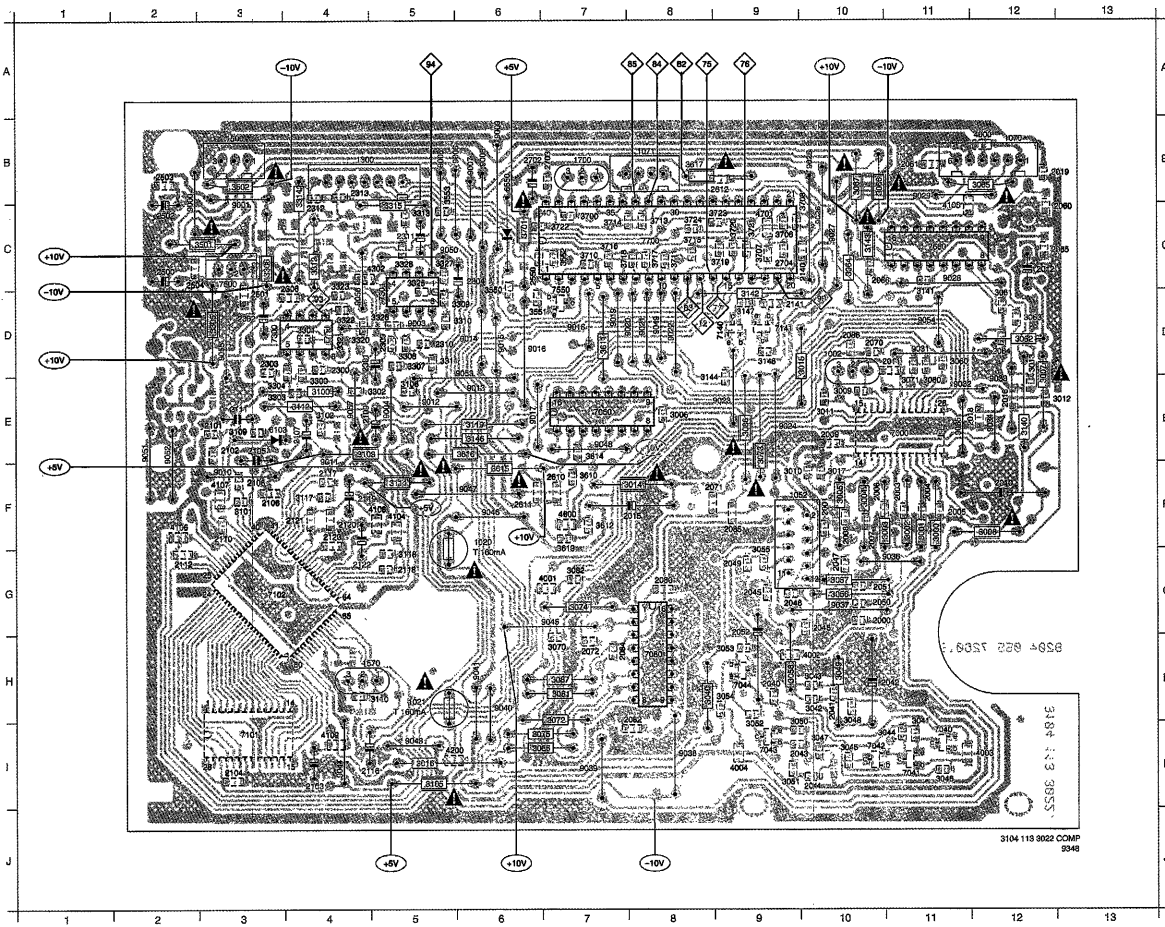


CD REPAIR CHART

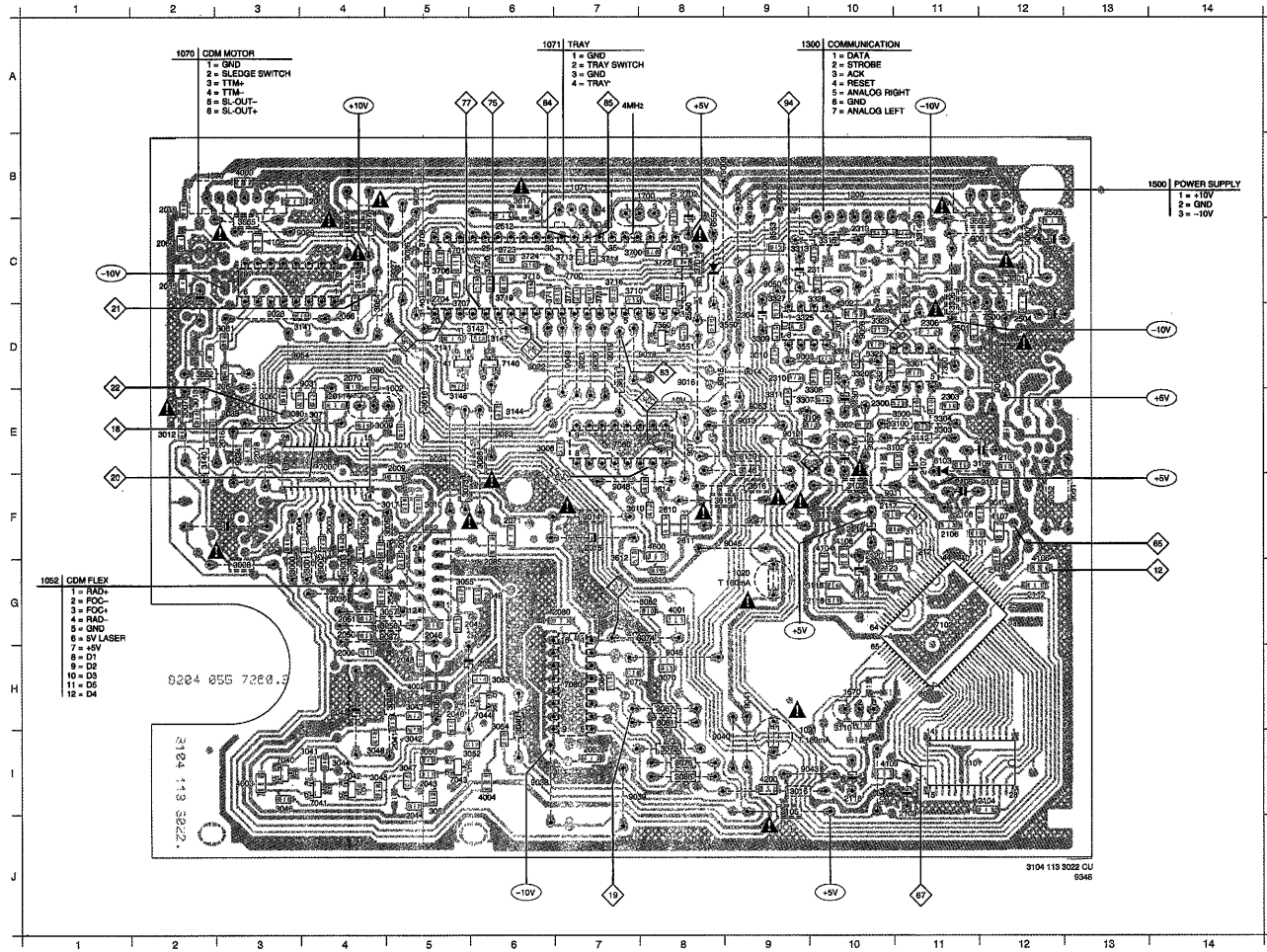


CD COMPONENT AND TRACK SIDE LAYOUT

1002	D10	2009	E19	2050	G10	2103	H	2140	C10	2550	C6	301:	E10	3051	B	3072	I7	3111	F5	3305	D3	3328	C5	3767	C9	4208	H10	7042	I10	8004	E5	9022	D6	9041	H6		
1020	F6	2010	F12	2051	G10	2104	B	2141	D9	2510	F7	3012	E12	3082	B	3073	F9	3112	E4	3306	C3	3501	C2	3768	C10	4209	I12	7043	B	8005	B5	9023	E8	9043	B5		
1021	H5	2011	D10	2052	H9	2105	H9	2142	F8	2511	F6	3013	D12	3083	H8	3074	G7	3113	F6	3307	C6	3502	B3	3769	C11	4210	H11	7044	H9	8006	B6	9024	E9	9044	B4		
1032	F9	2012	C12	2053	D10	2106	F3	2143	D8	2512	B6	3014	F7	3084	H6	3075	I8	3114	G5	3308	D6	3503	D6	3770	C12	4211	H12	7045	H8	8007	B7	9025	E10	9045	B3		
1070	B12	2015	F7	2051	B11	2107	E4	2302	D8	2702	B5	3015	D8	3085	G9	3080	E11	3115	E6	3309	D8	3501	D6	3771	C8	4102	C11	7080	H8	8008	B8	9026	D10	9046	F6		
1071	B8	2016	E12	2054	D12	2108	F3	2303	D3	2703	G7	3016	I5	3086	D10	3081	H7	3140	E12	3310	C5	3502	C7	3744	C7	4103	F2	7101	B	8009	B9	9027	C10	9047	F9		
1090	B4	2016	E12	2055	C12	2109	E4	2304	C6	2704	C6	3017	F10	3087	G10	3082	G7	3141	D11	3311	D5	3503	C5	3745	C8	4107	F3	7102	G3	8010	F8	9028	C11	9048	E7		
1500	B3	2019	B12	2056	C10	2110	F3	2305	D3	2705	D3	3000	F11	3040	H8	3058	H9	3058	I6	3142	D9	3312	C4	3510	F7	3746	C7	4108	F4	7140	D9	8011	F4	9029	B11	9049	D8
1570	H4	2040	H8	2070	D10	2111	E5	2306	D5	2706	F11	3041	H11	3059	D11	3058	G9	3143	C10	3313	C5	3511	D7	3747	C8	4109	H	7141	D8	8012	E5	9030	B11	9050	C5		
1700	B7	2041	H10	2071	F8	2112	G2	2310	D5	2707	F11	3042	H10	3060	D12	3058	G9	3144	B8	3314	C4	3512	F7	3748	C7	4200	I5	7300	C3	8013	E6	9031	D11	9051	E2		
2000	G10	2042	H10	2072	H7	2113	I4	2311	C5	2708	F11	3043	H10	3061	D12	3059	G9	3145	E6	3315	C5	3513	G7	3749	C8	4305	C4	7301	D5	8014	D5	9032	E12	9052	F2		
2001	F10	2043	B	2080	G8	2117	F4	2312	D4	2709	F10	3044	H10	3062	D12	3059	G9	3146	F3	3316	C4	3514	E7	3750	C9	4306	F7	7302	C9	8015	D6	9033	E13	9053	D5		
2003	F11	2044	I0	2082	I7	2118	G5	2313	B4	2710	F10	3045	H10	3063	D10	3058	G9	3147	D9	3317	C4	3515	F6	3751	C9	4701	C9	7303	D7	8016	D6	9034	E11	9054	D11		
2004	F11	2045	G9	2084	H7	2119	F4	2300	C2	2709	E8	3046	H11	3065	B12	3109	E4	3300	E4	3322	D4	3515	E5	3752	C7	6103	E3	7304	C11	8017	E9	9035	D10	9055	D3		
2005	F11	2046	G9	2085	F9	2120	F4	2301	D3	2710	E8	3047	H10	3066	B10	3105	E5	3301	D4	3323	C4	3517	B8	3753	C8	6104	E3	7305	C8	8018	D7	9036	D10	9056	D4		
2006	F10	2047	G10	2086	D10	2121	F4	2302	C2	2709	F12	3048	H11	3067	B10	3106	E5	3302	E4	3323	C5	3518	C7	3754	C8	7000	E11	8000	C2	8019	D7	9037	I8	9057	E4		
2007	G10	2048	G10	2101	E3	2122	G4	2303	E2	2709	E10	3049	H10	3070	H7	3109	G3	3303	E5	3326	D5	3519	C6	4000	B12	7040	I11	8001	C3	8020	D8	9038	I7	9058	D10		
2008	F10	2049	G9	2102	E3	2123	F4	2304	C2	2710	F9	3050	B	3071	E11	3110	H5	3304	E3	3327	C5	3520	C9	4001	B8	7041	I11	8002	C3	8021	D8	9039	I7	9059	E10		



1002	E5	2008	G4	2048	H5	2086	D4	2121	F11	2200	D12	3005	F5	3044	I4	3062	D2	3087	H8	3148	C4	3312	D11	3533	C9	3714	C7	4105	C3	7060	E7	8003	B9	9023	E5	9041	H9
1020	D8	2009	E5	2049	G6	2101	E12	2121	F11	2201	D11	3008	E8	3045	I4	3063	D2	3100	E10	3144	E9	3313	C9	3610	F7	3715	C6	4106	G12	7060	H7	8007	B8	9024	E6	9043	B
1021	B	2010	F3	2050	G4	2102	F12	2122	G10	2202	C12	3007	E2	3046	I3	3064	D4	3101	F11	3145	F9	3314	C11	3611	D7	3716	C7	4107	F12	7101	I11	8008	B9	9025	B5	9044	I10
1032	F6	2011	E4	2051	G4	2103	J11	2123	G10	2203	E12	3008	G3	3047	I3	3065	D3	3102	E10	3146	G9	3315	C10	3612	G7	3717	D7	4108	F10	7102	G11	8009	B8	9026	B5	9045	H8
1070	B2	2012	C2	2052	H5	2104	I11	2140	D5	2204	D12	3009	B4	3048	I4	3066	C4	3103	F10	3147	E5	3316	D10	3613	G8	3718	D7	4109	I10	7140	D5	8010	F12	9027	C5	9046	F8
1071	B7	2015	F7	2050	G2	2105	F11	2141	D5	2250	D8	3010	F5	3049	H5	3067	C4	3105	B	3200	E10	3317	D10	3614	F8	3719	D5	4200	B	7141	D5	8011	F10	9028	D3	9047	F9
1300	B10	2018	E3	2051	B4	2106	F11	2200	E10	2310	F8	3011	E5	3050	I5	3068	H8	3106	E9	3201	D11	3318	D10	3615	F9	3720	C8	4202	D10	7300	D11	8012	E9	9029	C3	9048	F7
1500	B11	2018	E3	2054	C4	2107	F11	2201	E10	2311	F8	3012	E2	3051	I5	3069	H8	3107	E9	3202	D11	3319	D10	3616	F9	3721	C5	4203	F8	7301	D10	8013	E9	9030	D3	9049	D7
1570	H10	2019	B2	2055	C2	2108	F11	2202	D11	2312	C8	3013	E2	3052	I5	3070	F5	3110	H10	3203	E11	3320	D10	3617	B6	3722	C8	4701	C5	7500	D12	8014	D9	9032	E3	9050	C9
1700	B7	2040	H5	2088	D4	2109	E10	2203	E11	2302	B8	3014	F7	3053	H8	3071	F5	3111	F10	3204	E11	3321	D10	3618	B6	3723	C5	4702	C5	7501	D12	8015	D8	9033	E3	9051	F12
2000	H4	2041	B	2070	D4	2110	G12	2304	D8	2703	B8	3015	E5	3054	H8	3072	G7	3112	E11	3205	D12	3322	C9	3619	C6	3724	C6	4703	C5	7502	D12	8016	D8	9034	E3	9052	F12
2001	F3	2042	H4	2071	F6	2111	E11	2305	D11	2704	C5	3016	I0	3055	G6	3073	I8	3113	F11	3206	D11	3323	C9	3620	C5	3725	C5	4704	C5	7503	D12	8017	E8	9035	E3	9053	B9
2003	F4	2043	B	2072	H7	2112	G12	2306	D10	2705	B8	3017	F4	3056	G4	3074	I8	3114	F11	3207	D11	3324	C9	3621	C5	3726	C5	4705	C5	7504	D12	8018	D7	9036	C4	9054	D3
2004	F4	2044	J5	2073	H7	2113	G12	2307	D9	2706	B8	3018	I0	3057	G4	3075	I8	3115	F11	3208	D11	3325	C9	3622	C5	3727	C5	4706	C5	7505	D12	8019	D7	9037	G4	9055	E12
2005	F3	2045	G5	2082	I7	2117	F10	2311	D9	2707	B8	3019	I0	3058	H5	3076	I8	3116	F11	3209	D11	3326	C9	3623	C5	3728	C5	4707	C5	7506	D12	8020	D7	9038	B	9056	D10
2006	F4	2046	G5	2084	H7	2118	F10	2312	C10	2708	B8	3020	F4	3059	H5	3077	I8	3117	F11	3210	D11	3327	C9	3624	C5	3729	C5	4708	C5	7507	D12	8021	D7	9039	I7	9057	E10
2007	G4	2047	G5	2085	E5	2119	F10	2313	C10	2709	F4	3021	H5	3060	I5	3078	I8	3118	F11	3211	D11	3328	C9	3625	C5	3730	C5	4709	C5	7508	D12	8022	D6	9040	B	9058	D10

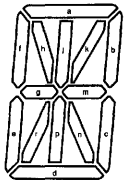


FRONT / CONTROL PART

TAPE x 4 □ x 4

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CDP13
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LCD DISPLAY PINS CONNECTIONS

PIN NO.	COM 0	COM 1	COM 2	COM 3
1	-	-	COM 2	-
2	-	-	-	COM 3
3	6gm	6f	6e	6n
4	6b	6a	6c	6d
5	FRONT (1)	6h	BACK (1)	TAPE 1,X1
6	SHUFFLE	CD	HIGH SPEED	AUTO
7	5g	5f	5e	PROGRAM
8	5b	5a	5c	5d
9	TUNER	5hn	5m	5jp
10	1 (1), 2	TIMER	RECORD	REPEAT
11	4gm	4f	4e	EDIT
12	4b	4a	4c	4d
13	X7	X9	X8	1 (2)
14	FRONT (2)	X6	BACK (2)	TAPE 2,X2
15	3g	3f	3e	3n
16	3b	3a	3c	3d
17	3k	3h	3m	3jp
18	3r	DBB	PAUSE	STEREO
19	2gm	2f	2e	2n
20	2b	2a	2c	2d
21	2kr	CHROME	DOLBY	2jp
22	LW	-	MW	-
23	1gm	1f	1e	1n
24	1b	1a	1c	1d
25	COL	1h	FM,P1,MHz (1)	SW,P2,MHz (2)
26	X4	kHz	PM	AM
27	0gm	0f	0e	0n
28	0b	0a	0c	0d
29	X3	X5	SPATIAL	NEWS
30	UP1	DN1	-	VOLUME
31	-	-	-	-
32	-	-	-	-
33	DN2	DN3	DN4	DN5
34	UP2	UP3	UP4	UP5
35	COM 0	-	-	-
36	-	COM 1	-	-

1550	D 1	2520	G 3	2528	G 4	2536	G 5
2513	B 3	2521	B 4	2529	D 3	2537	D 4
2514	F 3	2522	E 4	2530	H 4	2538	H 5
2515	F 3	2523	B 4	2531	C 5	2539	C 5
2516	F 4	2524	F 4	2532	C 5	2540	C 5
2517	G 4	2525	C 4	2533	D 5	2541	D 5
2518	G 4	2526	G 4	2534	G 5	2542	G 5
2519	C 5	2527	D 4	2535	C 5	2543	C 5

1409	G4	1422
1410	H3	1423
1411	F12	1424
1412	D14	1425
1413	D13	1426
1414	I3	1427
1415	H10	1428
1416	D13	1429



COMBI COMPONENT LAYOUT

BIAS OSCILLATOR ADJUSTMENT

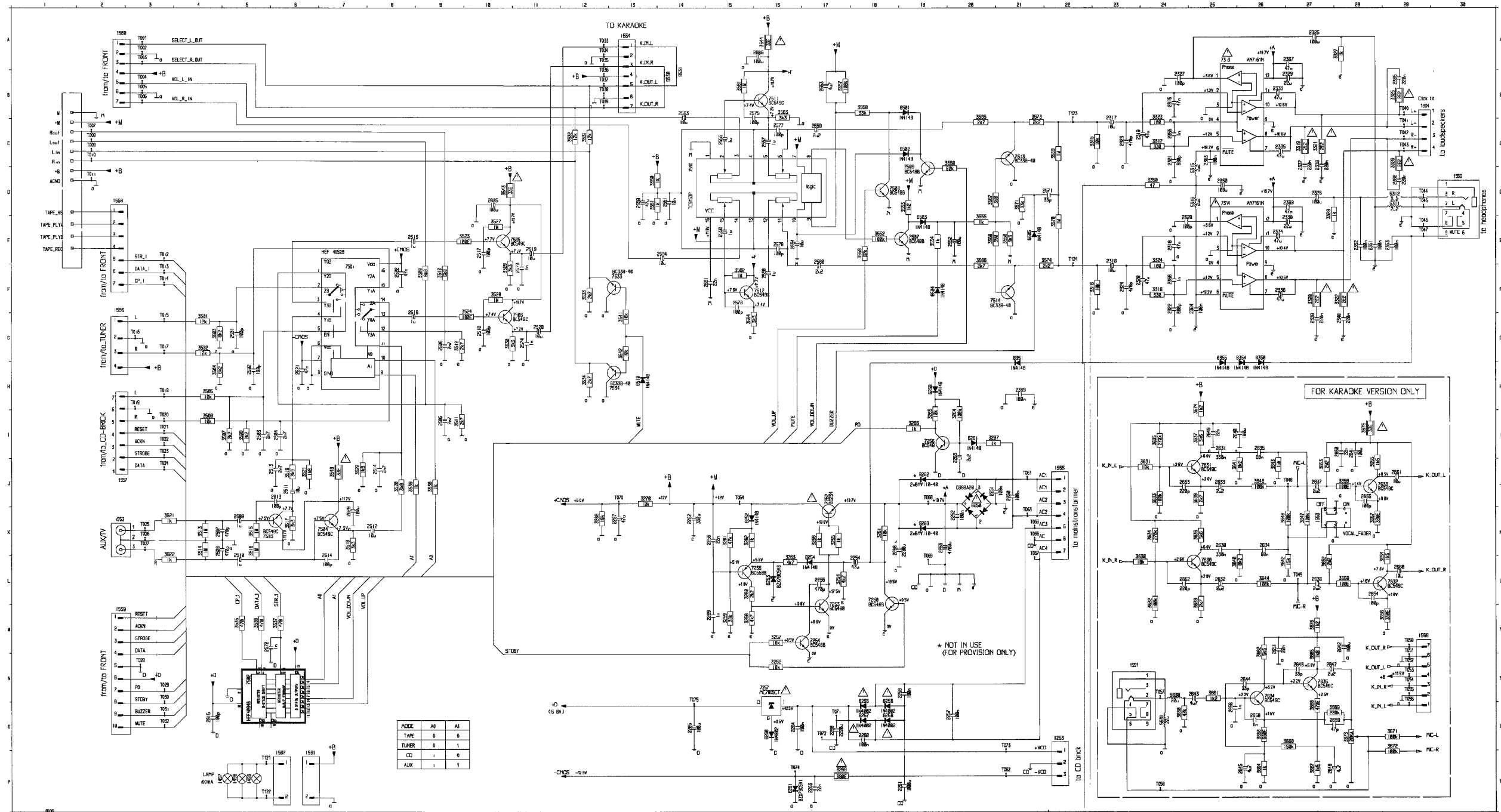
TAPE POSITION	MEASURE ON	READ ON	ADJUST WITH	ADJUST TO
Record	① & Gnd	Frequency counter	5701	65kHz ± 5kHz

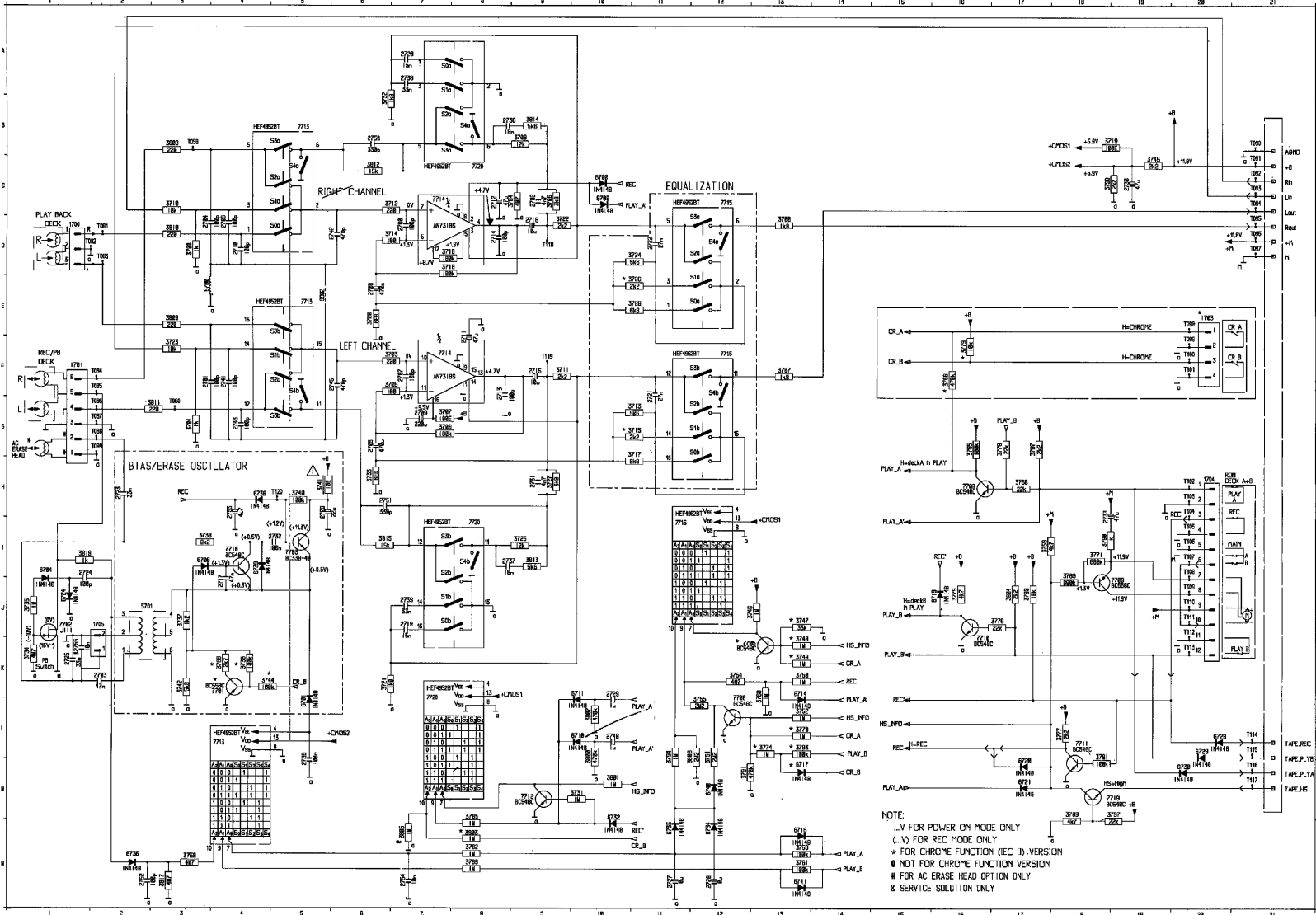
RIF SERVICE SOLUTION:
Add capacitor 2755 10nF 5%
2725 as indicated in the circuit.

across capacitor

NOTE: THIS LAYOUT IS COMPLETE FOR ALL VERSIONS/OPTIONS
FOR DIFFERENCES PLEASE REFER TO SCHEMATIC DIAGRAM

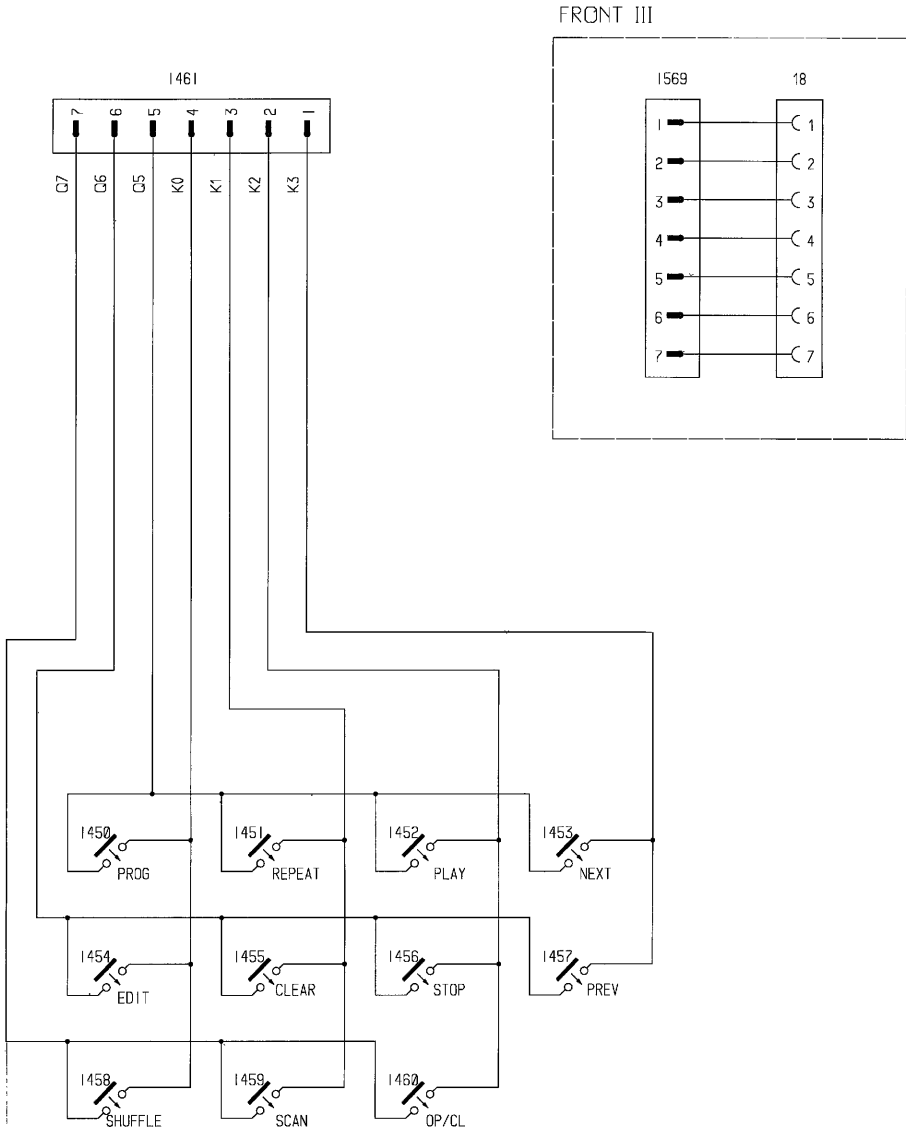
18 E 9	2581 B 2	2710 B 5	3532 A 3	3716 A 7	6251 D 2	9384 F 3	9785 B 6
1253 D 2	2582 C 2	2717 A 4	3533 A 3	3717 B 6	6252 F 4	9385 F 3	9787 B 7
1384 E 1	2583 B 1	2719 B 5	3534 A 3	3718 B 7	6253 F 4	9386 E 3	9788 A 6
1450 F 9	2584 C 2	2720 B 5	3535 A 7	3719 B 4	6254 F 3	9387 E 3	9789 B 6
1451 F 9	2585 B 2	2721 B 5	3536 A 7	3720 B 6	6255 D 2	9388 F 2	9710 A 8
1452 A 9	2586 C 2	2722 B 5	3537 A 7	3721 B 6	6256 D 2	9389 F 3	9711 A 8
1453 A 9	2587 A 1	2723 A 4	3538 C 1	3722 B 5	6257 D 2	9310 F 3	9713 D 4
1454 F 9	2588 A 2	2724 A 4	3539 C 1	3723 A 6	6258 D 2	9311 F 3	9715 D 4
1455 F 9	2589 A 1	2725 A 4	3541 A 3	3724 B 6	6259 D 3	9312 D 2	9716 D 4
1456 B 9	2510 A 1	2726 A 4	3542 A 3	3725 A 4	6260 D 3	9313 D 3	9717 B 4
1457 A 9	2511 A 2	2727 C 5	3543 C 3	3726 B 6	6261 D 3	9314 F 4	9718 C 5
1458 F 9	2512 A 2	2728 B 5	3544 E 5	3727 A 5	6262 F 1	9315 D 3	9719 C 5
1459 F 9	2513 B 2	2729 C 6	3546 A 2	3728 B 6	6263 F 1	9316 D 4	9720 C 6
1460 A 9	2514 C 2	2730 A 5	3548 E 5	3731 B 4	6264 D 4	9317 D 4	9723 C 4
1461 F 9	2515 B 2	2731 A 5	3551 E 5	3732 B 7	6265 F 3	9318 D 1	9724 C 4
1467 C 9	2516 B 2	2732 A 4	3552 F 5	3733 A 6	6266 D 4	9319 D 3	9725 C 5
1468 D 9	2517 B 1	2733 D 5	3553 F 5	3734 A 5	6267 D 5	9320 E 5	9726 F 6
1469 D 9	2518 B 2	2735 A 5	3554 E 5	3735 A 5	6268 F 5	9321 D 3	9727 D 4
1500 C 8	2519 B 2	2736 B 5	3555 F 5	3736 B 4	6269 F 6	9322 D 3	9728 F 5
1551 F 7	2520 A 2	2737 A 5	3556 F 5	3737 B 4	6270 F 6	9323 F 2	9729 B 3
1552 A 1	2521 C 1	2738 B 5	3557 F 6	3738 A 4	6271 E 5	9324 C 2	9735 F 6
1553 F 8	2522 C 2	2739 B 5	3558 F 6	3740 A 4	6272 E 5	9325 B 2	9802 A 5
1554 A 3	2523 F 5	2740 C 5	3559 F 7	3741 A 4	6273 A 3	9326 C 3	
1555 E 2	2524 F 5	2741 A 5	3560 F 7	3742 B 4	6274 C 8	9327 C 3	
1556 E 2	2525 F 5	2742 A 5	3561 E 6	3743 B 4	6275 A 4	9328 C 3	
1557 C 1	2526 F 5	2743 A 5	3562 F 6	3745 B 4	6276 A 4	9329 C 8	
1558 A 6	2527 A 6	2745 A 5	3563 E 6	3746 C 7	6277 B 4	9330 D 6	
1559 A 7	2528 E 6	2746 B 5	3564 F 6	3747 C 6	6278 C 6	9331 D 6	
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1561 D 4	2530 E 6	2748 A 4	3566 E 5	3749 C 6	6280 B 5	9333 D 6	
1562 C 8	2531 F 6	2749 C 4	3567 F 5	3750 C 8	6281 C 6	9334 C 6	
1563 C 8	2532 F 6	2753 C 4	3567 F 5	3750 C 8	6281 C 6	9334 C 6	
1564 C 8	2533 F 6	2754 C 4	3568 F 5	3751 C 8	6282 C 6	9335 A 7	
1565 A 9	2534 F 6	2755 C 4	3569 F 5	3752 C 8	6283 C 6	9336 A 7	
1566 A 9	2535 F 6	2756 C 4	3570 F 5	3753 C 8	6284 C 6	9337 C 6	
1567 A 8	2536 F 6	2757 C 4	3571 E 5	3754 B 6	6285 C 6	9338 B 7	
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1703 C 5	2584 F 6	2825 E 4	3573 E 5	3756 B 8	6287 C 1	9361 F 7	
1784 C 4	2571 E 5	3256 E 4	3574 E 5	3758 A 4	6724 A 4	9352 F 7	
1785 A 4	2572 A 7	3257 F 4	3621 A 1	3759 C 5	6728 C 4	9353 D 8	
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2253 F 3	2576 F 0	3261 F 4	3632 E 7	3769 C 5	6733 E 5	9357 F 3	
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2255 F 4	2578 E 6	3263 F 3	3634 D 7	3768 C 6	6736 A 4	9359 B 3	
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2262 F 4	2598 E 7	3270 D 4	3641 E 7	3777 C 5	7253 F 3	9371 B 3	
2263 D 2	2631 E 7	3315 D 5	3642 E 8	3778 C 5	7254 F 3	9372 C 2	
2264 D 3	2632 E 8	3315 E 5	3643 E 7	3779 C 5	7255 F 4	9375 B 4	
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2266 D 3	2634 E 7	3318 E 4	3645 F 8	3781 C 5	7257 D 3	9377 E 2	
2267 D 4	2635 F 7	3319 E 2	3646 F 8	3782 B 4	7313 E 2	9378 A 2	
2268 F 8	2636 F 7	3320 E 4	3647 F 8	3784 C 7	7314 E 4	9379 C 3	
2269 F 8	2637 F 8	3321 E 2	3652 F 8	3785 B 4	7361 C 2	9382 D 2	
2270 F 8	2638 F 8	3322 E 2	3653 F 8	3786 B 4	7362 F 3	9383 D 2	
2316 E 4	2641 E 8	3323 D 3	3654 E 8	3787 A 5	7593 A 2	9382 B 9	
2317 D 5	2642 D 8	3324 D 4	3655 E 8	3788 B 4	7594 A 2	9339 A 3	
2318 D 5	2643 D 7	3325 D 1	3656 E 8	3789 C 4	7595 B 2	9331 A 3	
2319 E 3	2644 D 8	3326 F 1	3657 E 8	3789 D 6	7596 B 6	9353 E 5	
2320 E 4	2645 D 7	3327 C 7	3658 F 8	3791 C 6	7597 F 5	9334 E 8	
2321 D 3	2646 D 8	3328 C 8	3659 E 8	3793 C 5	7598 F 6	9335 C 6	
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2323 D 3	2648 D 7	3681 E 2	3661 D 7	3797 C 4	7610 E 0	9357 E 5	
2324 D 3	2649 D 7	3682 E 2	3662 D 7	3798 C 4	7611 E 0	9358 E 5	
2325 D 6	2650 E 8	3683 B 2	3663 D 7	3799 B 4	7513 F 6	9340 F 0	
2326 D 6	2651 D 8	3684 C 2	3664 D 7	3800 B 5	7512 F 5	9341 F 5	
2327 D 3	2652 E 7	3686 B 1	3665 D 8	3801 C 4	7514 E 3	9342 E 5	
2328 D 4	2653 E 7	3686 C 2	3666 D 8	3803 B 4	7533 A 5	9344 E 6	
2329 D 2	2654 E 8	3687 B 1	3667 D 7	3804 C 4	7534 C 6	9346 D 6	
2330 D 3	2655 E 8	3688 C 2	3668 D 7	3805 B 4	7539 E 7	9347 D 3	
2333 E 2	2656 D 7	3689 C 3	3669 D 7	3806 C 7	7531 E 1	9350 F 9	
2334 E 4	2658 D 8	3510 C 2	3671 F 8	3807 D 5	7632 E 5	9360 A 2	
2335 E 4	2659 D 8	3511 C 2	3672 F 8	3808 A 4	7633 E 3	9361 A 3	
2336 E 4	2660 E 8	3512 C 2	3673 F 7	3809 B 4	7634 E 3	9362 A 3	
2337 E 2	2661 E 8	3513 C 1	3674 D 8	3810 A 5	7635 D 8	9363 B 3	
2338 E 3	2768 B 6	3514 A 2	3675 E 8	3811 A 5	7701 B 4	9369 C 3	
2339 E 2	2701 A 6	3515 A 2	3676 D 8	3812 B 5	7782 A 5	9390 C 3	
2340 E 4	2702 B 5	3516 A 2	3708 A 6	3813 A 5	7703 A 4	9392 A 4	
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2351 C 1	2778 A 5	3518 A 2	3703 A 6	3815 A 5	7788 C 8	9352 D 8	
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2364 E 4	2710 A 6	3524 B 2	3710 A 6	3816 E 4	7715 A 4	9780 A 6	
2365 F 1	2711 A 7	3527 A 2	3711 B 6	3820 F 7	7719 C 4	9781 A 5	
2368 F 1	2712 B 6	3528 B 2	3712 A 6	3821 E 7	9300 E 2	9702 A 4	
2367 E 2	2713 B 6	3529 B 1	3713 B 6	3700 A 5	9301 E 2	9703 A 5	
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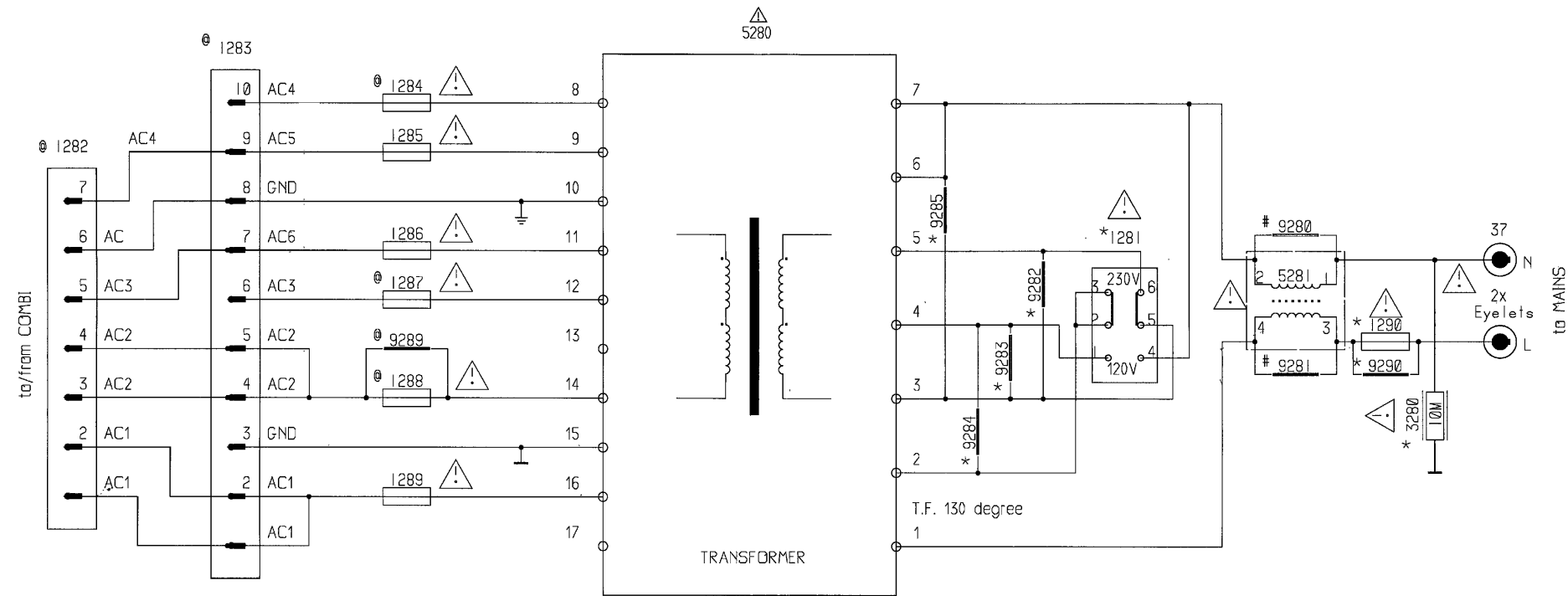
ELECTRONICS TAPE FUNCTION

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000.



CD CONTROLS

TRAF0 CIRCUIT



NOT IN USE (FOR PROVISION ONLY)

Note for Items marked @

| ITEM | MODEL | FW26 | FW46 |
|------|-------|---------|---------|
| 1282 | | Use | Not use |
| 1283 | | Not use | Use |
| 1284 | | Not use | Use |
| 1287 | | Not use | Use |
| 1288 | | Not use | Use |
| 9289 | | Use | Not use |
| 9282 | | Not use | UseX |
| 9283 | | Not use | UseX |

NOTE FOR ITEMS MARKED *

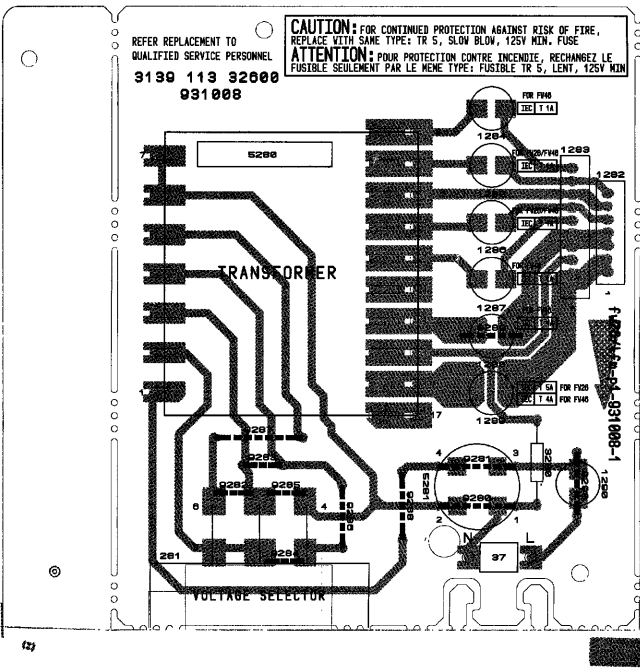
| VOLTAGE | 230V | 120V/230V | 240V | 120V | 100V |
|---------|---------|-----------|---------|---------|---------|
| 1281 | Not use | Use | Not use | Not use | Not use |
| 9282 | Use@ | Not use | Not use | Not use | Not use |
| 9283 | Not use | Not use | Use@ | Not use | Not use |
| 9284 | Not use | Not use | Not use | Use | Not Use |
| 9285 | Not use | Not use | Not use | Use | Not Use |
| 3280 | Not use | Not use | Not use | Use | Not Use |
| 1290 | Not use | Not use | Not use | Use | Not Use |
| 9290 | Use | Use | Use | Not Use | Use |

Remark

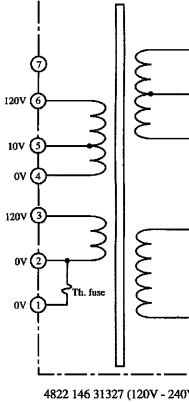
For the exact value of fuses, refer to portlist

| | FW26 | FW46 |
|------|---------|------|
| 1284 | Not use | Use |
| 1285 | Use | Use |
| 1287 | Not use | Use |
| 1288 | Not use | Use |
| 1289 | Use | Use |

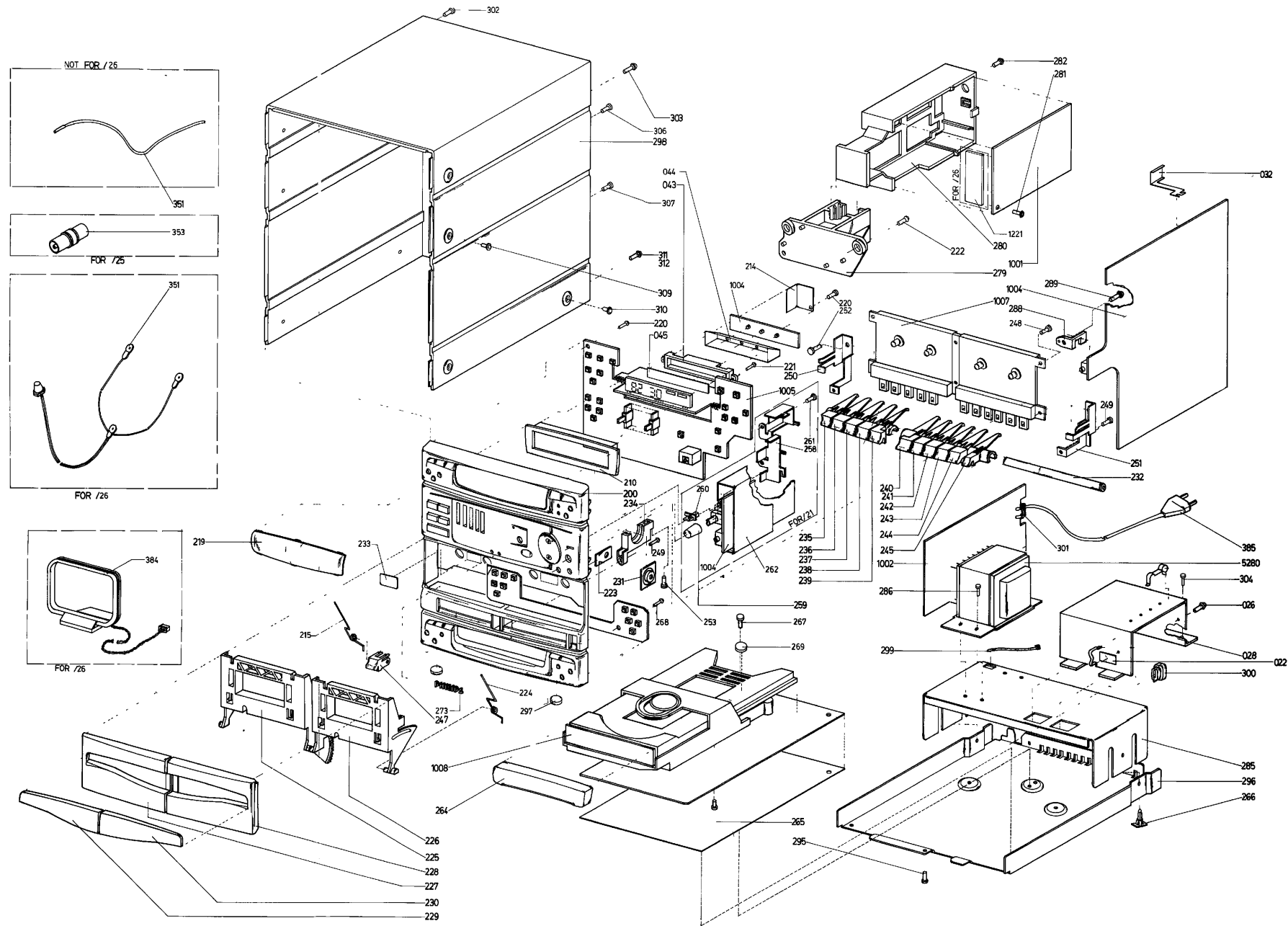
TRAF0 COMPONENT LAYOUT



FW26 Double Primary type



CENTRE UNIT



SCREWS LIST - MAIN UNIT

| | |
|-----|-----------|
| 026 | D2 9 x 13 |
| 220 | D3 x 10 |
| 221 | D3 x 10 |
| 222 | D3 x 10 |
| 248 | D3 x 10 |
| 249 | D3 x 10 |
| 252 | M3 x 6 |
| 253 | M3 x 6 |
| 261 | D3 x 10 |
| 267 | M3 x 6 |
| 268 | D3 x 8 |
| 281 | D3 x 10 |
| 282 | D3 x 10 |
| 286 | M3 x 6 |
| 289 | D3 x 8 |
| 295 | M3 x 6 |
| 302 | D3 x 10 |
| 303 | D3 x 10 |
| 304 | M3 x 6 |
| 306 | D3 x 10 |
| 307 | D3 x 10 |
| 309 | M3 x 6 |
| 310 | M3 x 6 |
| 311 | M3 x 6 |
| 312 | M3 x 6 |

MECHANICAL AND ACCESSORY PARTS - SET EXPLODED VIEW

| | | |
|-----|----------------|--------------------------------|
| 200 | 4822 426 51715 | Front Cabinet Assy /21 |
| 215 | 4822 492 42708 | Spring Door Cassette (L) |
| 219 | 4822 450 62187 | Window Feature Assy |
| 224 | 4822 492 42698 | Spring Door Cassette (R) |
| 225 | 4822 443 64084 | Door Cassette (L) |
| 226 | 4822 443 64085 | Door cassette (r) |
| 227 | 4822 443 64086 | Cover Cassette Door (L) |
| 228 | 4822 443 64087 | Cover Cassette Door (R) |
| 229 | 4822 450 62185 | Window Cover (L) |
| 230 | 4822 450 62186 | Window-cover (r) |
| 231 | 4822 529 10278 | Damper Assembly |
| 235 | 4822 410 63036 | Button Deck 1 Play |
| 236 | 4822 410 63037 | Button Deck 1 Rewind |
| 237 | 4822 410 63038 | Button Deck 1 F Forward |
| 238 | 4822 410 63039 | Button Deck 1 Stop |
| 239 | 4822 410 63041 | Button Deck 1 Pause |
| 240 | 4822 410 63042 | Button Deck 2 Record |
| 241 | 4822 410 63043 | Button Deck 2 Play |
| 242 | 4822 410 63044 | Button Deck 2 Rewind |
| 243 | 4822 410 63045 | Button Deck 2 F Forward |
| 244 | 4822 410 63046 | Button Deck 2 Stop |
| 245 | 4822 410 63047 | Button Deck 2 Pause |
| 247 | 4822 466 93335 | Button Spacer |
| 259 | 4822 413 41841 | Knob - Karaoke /21 |
| 260 | 4822 413 41842 | Knob - Vocal Cancel /21 |
| 264 | 4822 444 60968 | Cover CD Door Assy |
| 266 | 4822 466 93148 | Spacer 5mm |
| 269 | 4822 462 41933 | Rubber |
| 273 | 4822 459 11086 | Badge (Philips) Assy |
| 297 | 4822 462 40683 | Plate (Foot) |
| 298 | 4822 426 20248 | Cabinet Rear /21 |
| 300 | 4822 532 60948 | Bush, Mains Cord |
| 350 | 4822 445 10393 | Loudspeaker Box Assy (Philips) |
| 351 | 4822 303 50063 | FM Aerial |
| 353 | 4822 263 21071 | Adaptor Fem/Fem DIN |
| 356 | 4822 218 10534 | Remote Control RH6050/00 |
| 385 | 4806 321 17022 | Mains Cord IEC |

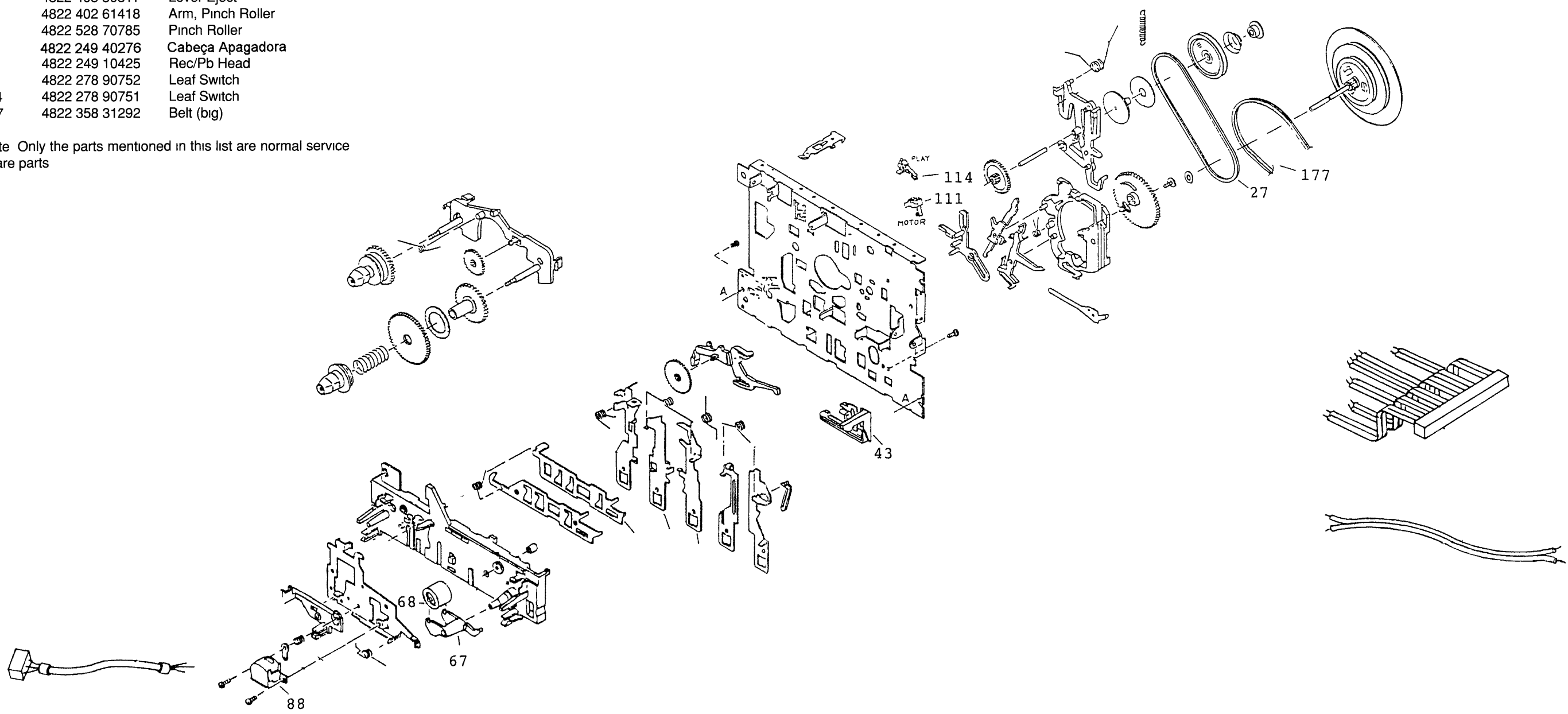
1007 Tape Mechanism YSW47

Note Only the parts mentioned in this list are normal service spare parts

PLAYBACK MECHANISM

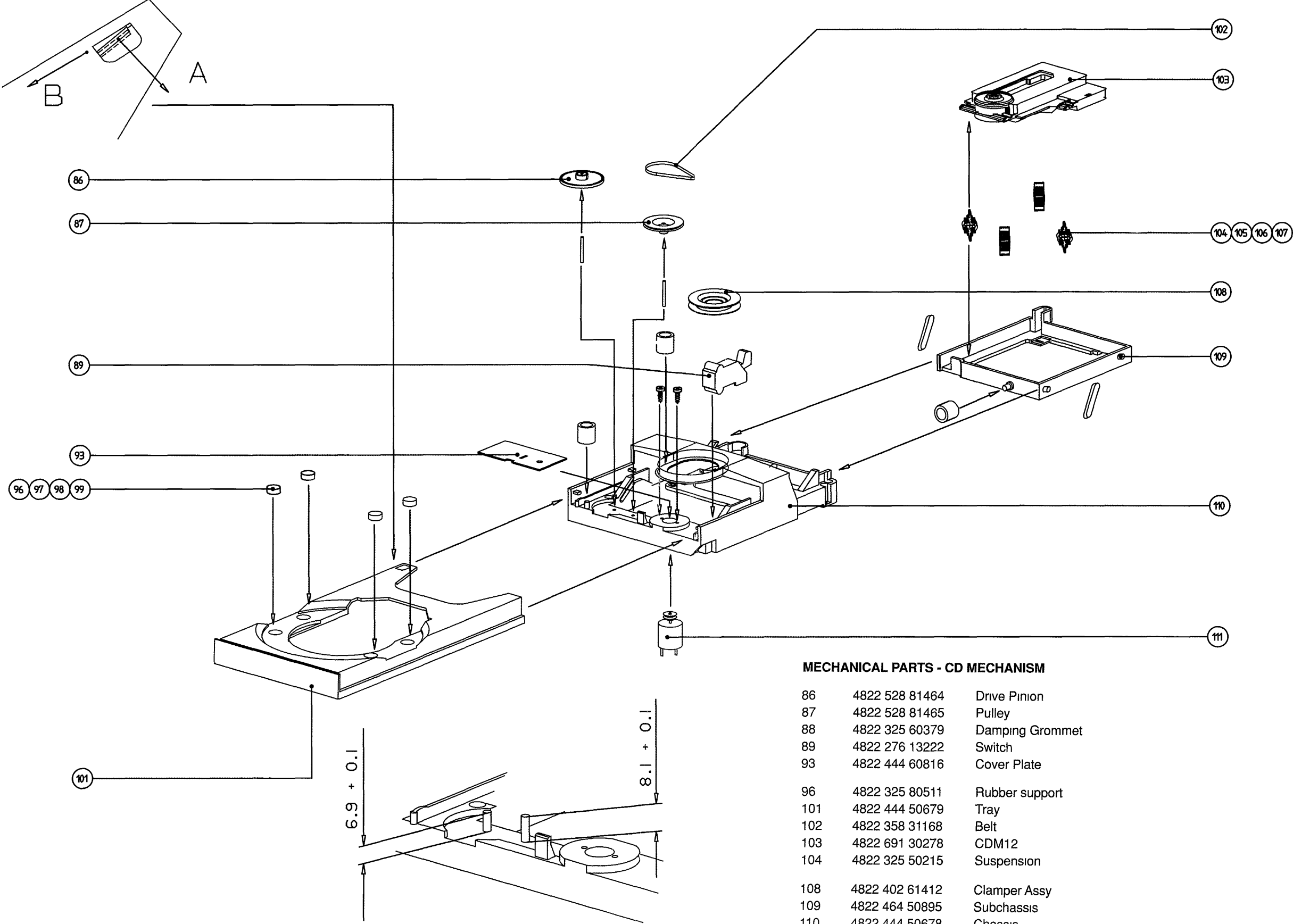
| | | |
|-----|----------------|-------------------|
| | 4822 361 21585 | Motor |
| | 4822 528 81482 | Polia do Motor |
| 27 | 4822 358 31231 | Belt (small) |
| 43 | 4822 403 30811 | Lever Eject |
| 67 | 4822 402 61418 | Arm, Pinch Roller |
| 68 | 4822 528 70785 | Pinch Roller |
| 85 | 4822 249 40276 | Cabeça Apagadora |
| 88 | 4822 249 10425 | Rec/Pb Head |
| 111 | 4822 278 90752 | Leaf Switch |
| 114 | 4822 278 90751 | Leaf Switch |
| 177 | 4822 358 31292 | Belt (big) |

Note Only the parts mentioned in this list are normal service spare parts



CD EXPLODED VIEW

DETAIL I





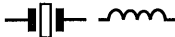


MECHANICAL PARTS - CD MECHANISM

| | | |
|-----|----------------|-----------------|
| 86 | 4822 528 81464 | Drive Pinion |
| 87 | 4822 528 81465 | Pulley |
| 88 | 4822 325 60379 | Damping Grommet |
| 89 | 4822 276 13222 | Switch |
| 93 | 4822 444 60816 | Cover Plate |
| 96 | 4822 325 80511 | Rubber support |
| 101 | 4822 444 50679 | Tray |
| 102 | 4822 358 31168 | Belt |
| 103 | 4822 691 30278 | CDM12 |
| 104 | 4822 325 50215 | Suspension |
| 108 | 4822 402 61412 | Clamper Assy |
| 109 | 4822 464 50895 | Subchassis |
| 110 | 4822 444 50678 | Chassis |
| 111 | 4822 361 21492 | Motor |

Note Only the parts mentioned in this list are normal service spare parts



ELECTRICAL PARTS - ECO4 MIDI BOARD

| MISCELLANEOUS | | |
|---|----------------|---------------------------------|
| 1101 | 4822 267 10283 | Coaxial Socket 75Ω |
| 1101 | 4822 265 20598 | F-connector Coaxial 75Ω |
|  | | |
| 2100 | | 100pF 10% 50V |
| 2104 | | 100pF 10% 50V |
| 2107 | | 1nF 2% 63V |
| 2110 | | 33pF 5% 50V
for LW version |
| 2110 | | 6 8pF 5% 50V |
| 2112 | | 100nF 10% 63V |
| 2114 | | 100pF 5% 50V
for LW version |
| 2115 | 4822 125 60101 | Trimmer 3-11pF 100V |
| 2120 | | 470pF 10% 50V |
| 2121 | | 15pF 5% 50V |
| 2122 | | 1nF 2% 63V |
| 2123 | | 1nF 2% 63V |
| 2124 | | 10nF 20% 16V |
| 2129 | | 390pF 1% 160V
for LW version |
| 2130 | 4822 125 50355 | Trimmer 4-20pF 100V |
|  | | |
| 3148 | 4822 100 11163 | Trimmer 100k 30% 0 2W |

| | | |
|---|----------------|--|
|  | | |
| 5106 | 4822 158 60642 | Ferrite antenna MW
for 2-band version |
| 5109 | 4822 156 30947 | RF Coil 1 5T |
| 5120 | 4822 156 30947 | RF Coil 1 5T |
| 5122 | 4822 157 60517 | Coil 110μH 8%
for LW version |
| 5123 | 4822 157 60517 | Coil 110μH 8% |
| 5140 | 4822 158 60511 | AM IF Coil 450kHz |
| 5142 | 4822 157 70302 | AM IF Coil 450kHz |
| 5143 | 4822 242 70665 | Ceramic Filter 10 7MHz |
| 5144 | 4822 242 70665 | Ceramic Filter 10 7MHz |
| 5145 | 4822 242 81362 | Ceramic Discriminator |
| 5150 | | Coil 1mH 10% |
| 5170 | 4822 242 72976 | Ceramic Resonator
7 2MHz |
|  | | |
| 6105 | 4822 130 83075 | HN1V02H |
| 6109 | 4822 130 82833 | 1SV228 |
| 6121 | 4806 130 37078 | 1N4148 (refer to circuit) |
| 6122 | | 1N4148 (refer to circuit) |
| 6123 | | 1N4148 (refer to circuit) |
| 6124 | 4822 130 82833 | 1SV228 |
| 6140 | | 1N4148 |
| 6154 | | 1N4148 |
| 6174 | 4822 130 34233 | BZX79-B5V1 |
|  | | |
| 7105 | 4806 130 47337 | 2SA838B |
| 7120 | 4806 130 47316 | 2SC1047 |
| 7140 | 4822 209 32011 | TEA5712T/N2 (RF IC) |
| 7150 | 5322 209 14482 | HEF4096UBT
(6 x Inverter) |
| 7156 | 4806 130 47234 | BC337-40 |
| 7157 | | BC337-40 |
| 7169 | 4806 130 47321 | BC848C |
| 7170 | | BC848C |
| 7171 | | BC848C |
| 7172 | 5322 209 11517 | MM74HCU04M
(6 x Inverter) |
| 7173 | 4822 209 31998 | LC7218M (Synthesizer) |
| 7174 | 4806 130 47269 | BC858B |
| 7178 | | BC858B |


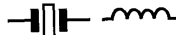


Note Only the parts mentioned in this list are normal service spare parts

ELECTRICAL PARTS - CD BOARD

| MISCELLANEOUS | | |
|---|-------------------------|------------------------------|
| 1002 | 4822 242 73557 | Ceramic Resonator
8 46MHz |
| 1020 | 4822 071 51601 Δ | Fuse T160mA 250V |
| 1021 | 4822 071 51601 Δ | Fuse T160mA 250V |
| 1570 | 4822 242 80997 | Resonator 16 93MHz |
| 1700 | 4822 242 72527 | Ceramic Resonator 4MHz |
|  | | |
| 6103 | 4806 130 37078 | 1N4148 |
| 6550 | 4806 130 37190 | BZX79-C3V9 |
|  | | |
| 7000 | 4822 209 31064 | TDA1301T/N1 |
| 7040 | 4822 130 60887 | BF840 |
| 7041 | 4806 130 47321 | BC848B |
| 7042 | 4806 130 47269 | BC858B |
| 7043 | | BC848B |
| 7044 | | BC848B |
| 7060 | 4822 209 72587 | TCA0372DP2 |
| 7080 | 4822 209 72587 | TCA0372DP2 |
| 7101 | 4822 209 32036 | UM6264BM-10L |
| 7102 | 4806 209 87619 | SAA7341GP |
| 7140 | 4806 130 47322 | BC858 |
| 7141 | | BC848 |
| 7300 | 4806 209 87373 | NJM4560D |
| 7301 | | NJM4560D |
| 7500 | 4822 209 80891 Δ | MC78M05CT |
| 7550 | | BC858 |
| 7660 | 4822 209 72587 | TCA0372DP2 |
| 7700 | 4806 209 87374 | MC68HC05C8/
SERVO-S22 |

Note Only the parts mentioned in this list are normal service spare parts

ELECTRICAL PARTS - FRONT BOARD

| MISCELLANEOUS | | |
|--|----------------|--------------------------|
| 1401 | 4822 130 91315 | LCD Display FW26 |
| 1410 | 4822 276 13114 | Tact Switch |
| 1411 | 4822 276 13114 | Tact Switch |
| 1412 | 4822 276 13114 | Tact Switch |
| 1413 | 4822 276 13114 | Tact Switch |
| 1414 | 4822 276 13114 | Tact Switch |
| 1415 | 4822 276 13114 | Tact Switch |
| 1416 | 4822 276 13114 | Tact Switch |
| 1417 | 4822 276 13114 | Tact Switch |
| 1418 | 4822 276 13114 | Tact Switch |
| 1419 | 4822 276 13114 | Tact Switch |
| 1420 | 4822 276 13114 | Tact Switch |
| 1421 | 4822 276 13114 | Tact Switch |
| 1422 | 4822 276 13114 | Tact Switch |
| 1423 | 4822 276 13114 | Tact Switch |
| 1424 | 4822 276 13114 | Tact Switch |
| 1425 | 4822 276 13114 | Tact Switch |
| 1426 | 4822 276 13114 | Tact Switch |
| 1427 | 4822 276 13114 | Tact Switch |
| 1428 | 4822 276 13114 | Tact Switch |
| 1429 | 4822 276 13114 | Tact Switch |
|  | | |
| 3424 | 4822 116 90836 | Resistor network 5 x 10k |
| 3448 | 4822 116 90836 | Resistor network 5 x 10k |
| 3449 | 4822 116 90836 | Resistor network 5 x 10k |
| 3507 | 4822 105 11107 | Potm Slide 50k x 2 |
| 3508 | 4822 105 11107 | Potm Slide 50k x 2 |
| 3509 | 4822 105 11107 | Potm Slide 50k x 2 |
| 3510 | 4822 105 11107 | Potm Slide 50k x 2 |
| 3511 | 4822 105 11107 | Potm Slide 50k x 2 |
|  | | |
| 5401 | 5322 242 73697 | Ceram Resonator 8MHz |
| 5402 | 4822 242 70938 | Crystal 32 768kHz |
| | 4822 157 62552 | Coil 2 2 μ H 20% |
| | 4822 157 50961 | Coil 22 μ H 10% |
|  | | |
| | 4806 130 37078 | 1N4148 |
| 6420 | 4822 130 82978 | LTL-16KPE |
| 6406 | 4822 214 52009 | GP1U58XP |
|  | | |
| 7401 | 4822 209 32392 | TMP87C 20F UPC FW26 |
| 7402 | 4822 209 31508 | ST24C01 |
| 7403 | 4806 209 87164 | HEF4094BP |
| 7539 | 4806 209 87373 | NJM4560D |

ELECTRICAL PARTS - COMBI BOARD

MISCELLANEOUS

| | | |
|--------|----------------|--------------------|
| 1304 | 4822 267 31176 | Loudspeaker Socket |
| 1450 | 4822 276 13114 | Tact Switch |
| 1451 | 4822 276 13114 | Tact Switch |
| 1452 | 4822 276 13114 | Tact Switch |
| 1453 | 4822 276 13114 | Tact Switch |
| 1454 | 4822 276 13114 | Tact Switch |
| 1455 | 4822 276 13114 | Tact Switch |
| 1456 | 4822 276 13114 | Tact Switch |
| 1457 | 4822 276 13114 | Tact Switch |
| 1458 | 4822 276 13114 | Tact Switch |
| 1459 | 4822 276 13114 | Tact Switch |
| 1460 | 4822 276 13114 | Tact Switch |
| 1497 | 4822 134 41171 | Lamp Assy blue |
| 1498 | 4822 134 41171 | Lamp Assy blue |
| 1499 | 4822 134 41171 | Lamp Assy blue |
| 1550 | 4822 267 40898 | Headphone Socket |
| 1551 * | 4822 267 40898 | Mic Socket |
| 1552 | 4806 267 37060 | AUX/TV Socket |
| 1553 * | 4822 276 12571 | Vocal Fade Switch |



| | | |
|--------|----------------|-----------------|
| 5311 | 4822 157 62552 | Coil 2.2μH |
| 5312 | 4822 157 62552 | Coil 2.2μH |
| 5315 | 4822 157 62552 | Coil 2.2μH |
| 5316 | 4822 157 62552 | Coil 2.2μH |
| 5630 * | | Coil 22μH 10% |
| 5631 * | 4822 157 50961 | Coil 22μH 10% |
| 5700 | 4822 157 60147 | HF Bead |
| 5701 | 4822 156 20946 | Osc coil 100kHz |



| | | |
|------|----------------|------------|
| 6250 | 4822 130 82079 | △ D3SBA20 |
| 6251 | | 1N4148 |
| 6252 | 4806 130 37078 | 1N4148 |
| 6253 | 4822 130 34173 | BZX79-C5V6 |
| 6254 | | 1N4148 |
| 6255 | 4806 130 37501 | △ 1N4002 |
| 6256 | | △ 1N4002 |
| 6257 | | △ 1N4002 |
| 6258 | | △ 1N4002 |




| | | |
|------|----------------|------------|
| 6259 | 4806 130 37078 | 1N4148 |
| 6260 | 4806 130 37501 | 1N4002 |
| 6261 | 4822 130 34233 | BZX79-C5V1 |
| 6350 | | 1N4148 |
| 6351 | | 1N4148 |
| 6354 | | 1N4148 |
| 6355 | | 1N4148 |
| 6501 | | 1N4148 |
| 6502 | | 1N4148 |
| 6503 | | 1N4148 |
| 6504 | | 1N4148 |
| 6505 | | 1N4148 |
| 6510 | | 1N4148 |
| 6700 | | 1N4148 |
| 6701 | | 1N4148 |
| 6704 | | 1N4148 |
| 6706 | | 1N4148 |
| 6709 | | 1N4148 |
| 6710 | | 1N4148 |
| 6711 | | 1N4148 |
| 6714 | | 1N4148 |
| 6716 | | 1N4148 |
| 6719 | | 1N4148 |
| 6720 | | 1N4148 |
| 6721 | | 1N4148 |
| 6724 | | 1N4148 |
| 6728 | | 1N4148 |
| 6729 | | 1N4148 |
| 6730 | | 1N4148 |
| 6732 | | 1N4148 |
| 6734 | | 1N4148 |
| 6735 | | 1N4148 |
| 6736 | | 1N4148 |
| 6738 | | 1N4148 |
| 6739 | | 1N4148 |
| 6740 | | 1N4148 |
| 6741 | | 1N4148 |



| | | |
|------|----------------|---------------|
| 7250 | 4806 130 47078 | BC548B |
| 7252 | 4806 130 47066 | △ BD234 |
| 7253 | | BC548B |
| 7254 | | BC548B |
| 7255 | 4806 130 47050 | BC558B |
| 7256 | | BC548B |
| 7257 | 4822 209 80891 | △ MC7805CT |
| 7313 | 4822 209 73356 | △ AN7161N(FP) |
| 7314 | 4822 209 73356 | △ AN7161N(FP) |
| 7501 | 4822 209 10263 | HEF4052B |
| 7502 | 4806 209 87164 | HEF4094BP |

* For Karaoke version only

ELECTRICAL PARTS - COMBI BOARD

| | | |
|---|----------------|-----------|
|  | | |
| 7503 | 4806 130 47045 | BC549C |
| 7504 | | BC549C |
| 7505 | | BC549C |
| 7506 | | BC549C |
| 7507 | 4806 130 47041 | BC548B |
| 7508 | | BC548B |
| 7509 | | BC548B |
| 7510 | 4822 209 30537 | TC9153P |
| 7511 | | BC549C |
| 7512 | | BC549C |
| 7513 | 4806 130 47332 | BC338-40 |
| 7514 | | BC338-40 |
| 7533 | | BC338-40 |
| 7534 | | BC338-40 |
| 7630 * | | BC549C |
| 7631 * | | BC549C |
| 7632 * | | BC549C |
| 7633 * | | BC549C |
| 7634 * | | BC549C |
| 7635 * | | BC549C |
| 7702 | 4822 130 63494 | J111 |
| 7703 | | BC338-40 |
| 7706 | | BC548C |
| 7708 | | BC548C |
| 7709 | 4806 130 47050 | BC558C |
| 7710 | | BC548C |
| 7711 | | BC548C |
| 7712 | | BC548C |
| 7713 | 4822 209 32919 | HEF4952BT |
| 7714 | 4822 209 32918 | AN7318S |
| 7715 | 4822 209 32919 | HEF4952BT |
| 7716 | | BC548C |
| 7719 | | BC548C |
| 7720 | 4822 209 32919 | HEF4952BT |

* For Karaoke version only

Note: Only the parts mentioned in this list are normal service spare parts.

ELECTRICAL PARTS - TRAFO BOARD

| MISCELLANEOUS | | | |
|---------------|----------------|---|-----------------------|
| 1281 | 4822 272 10269 | △ | Voltage Selector /21 |
| 1285 | 4822 071 51002 | △ | Fuse T1A 250V IEC |
| 1286 | 4822 071 51002 | △ | Fuse T1A 250V IEC |
| 1289 | 4806 253 10065 | △ | Fuse T5A 250V IEC |
| | | | |
| 5280 | 4822 146 31327 | △ | Mains Transformer /21 |
| | | | |
| 5281 | 4822 157 70003 | △ | Choke Coil, Mains |

Note: Only the parts mentioned in this list are normal service spare parts.