Micro System

MC-200

all versions

Service
Service
Service

Service Manual

COMPACT disc DIGITAL AUDIO

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LASER PRODUCT

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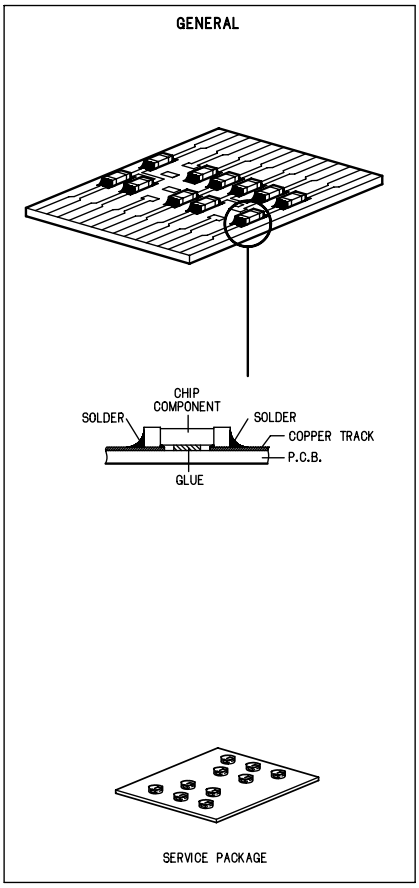
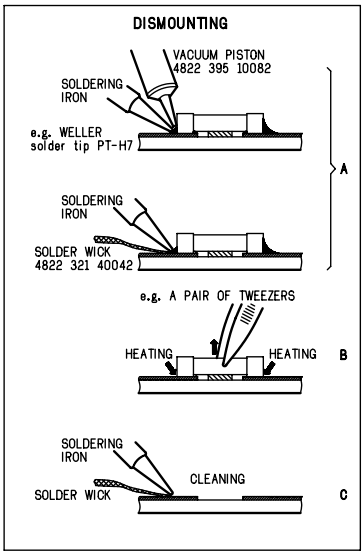
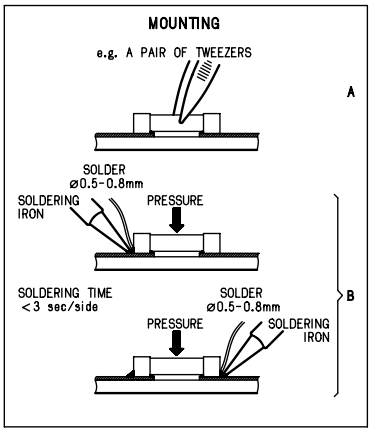
GB 3140 785 22920

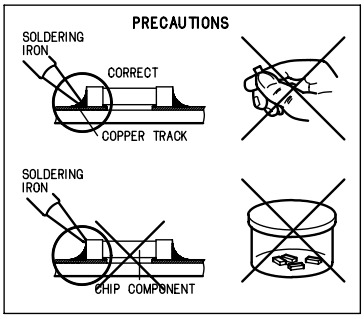
PHILIPS

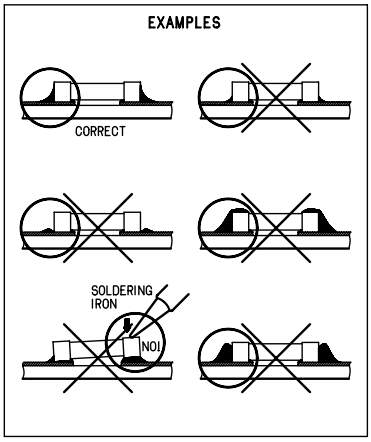
HANDLING CHIP COMPONENTS











(GB) WARNING
All ICs and many other semiconductors 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 wristband with resistance. Keep components and tools at this potential.

ESD

(NL) WAARSCHUWING
Alle IC«s en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen vermindern. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(F) ATTENTION
Tous les IC et beaucoup d«autres semi-conducteurs sont sensibles aux d charges statiques (ESD). Leur long vite pourrait tre consid rablement court e par le fait qu«aucune pr caution n st prise leur manipulation.
Lors de r parations, s«assurer de bien tre reli au m me potentiel que la masse de l«appareil et enfileer le bracelet serti d«une r sistance de s curit .
Veiller ce que les composants ainsi que les outils que l«on utilise soient galement ce potentiel.

(D) WARNUNG
Alle ICs und viele andere Halbleiter sind empfindlich gegen ber elektrostatischen Entladungen (ESD).
Unsorgf ltige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.
Sorgen Sie daf r, da§ Sie im Reparaturfall ber ein Puls-armband mit Widerstand mit dem Massepotential des Ger tes verbunden sind.
Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

(I) AVVERTIMENTO
Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevit potrebbe essere fortemente ridatta in caso di non osservazione della pi grande cauzione alla loro manipolazione. Durante le riparationi occorre quindi essere collegato allo stesso potenziale che quello della massa del pparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

SAFETY

(GB)
Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.
Safety components are marked by the symbol ⚠

(NL)
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.
De Veiligheidsonderdelen zijn aangeduid met het symbool ⚠

(F)
Les normes de s curit exigent que l'appareil soit remis l' tat d'origine et que soient utilis es les pi ces de rechange identiques celles sp cifi es.
Les composants de s curit sont marqu s ⚠

(I)
Le norme di sicurezza estigono che l«apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.
Componenty di sicurezza sono marcati con ⚠

(D)
Bei jeder Reparatur sind die geltenden Sicherheitsvor-schriften zu beachten. Der Originalzustand des Ger tes darf nicht ver ndert werden. F r Reparaturen sind Original-ersatzteile zu verwenden.
Sicherheitsbauteile sind durch das Symbol ⚠ markiert.

CLASS 1
LASER PRODUCT

DANGER: Invisible laser radiation when open.
AVOID DIRECT EXPOSURE TO BEAM.

(S) Varning !
Osynlig laserstr lning n r apparaten r ppnad och sp rren r urkopplad. Betrakta ej str len.

(DK) Advarsel !
Usynlig laserstr ling ved bning n r sikkerhedsafbrydere er ude af funktion. Undg udsaettelse for str ling.

(FIN) Varoitus !
Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina n kym tt m lle laseris teilylle. l katso s teeseen !

(GB)
After servicing and before returning the set to customer perform a leakage current measurement test from all exposed metal parts to earth ground, to assure no shock hazard exists.
The leakage current must not exceed 0.5mA.

(F)
"Pour votre s curite, ces documents doivent tre utilis s par des sp cialistes agr s, seuls habilit s r parer votre appareil en panne".

TECHNICAL SPECIFICATIONS

GENERAL

Mains voltage	-/21/21M	:	120 / 230 V
	-/22/30/33	:	230 V
Mains frequency	-/22/30/33	:	50 Hz
	-/21/21M	:	50 / 60 Hz
Battery	remote	:	3 V (R6 x 2)
Power consumption	normal	:	60 W
	Standby	:	3 W
Dimension (W x H x D)		:	223 x 140 x 247 mm
Weight		:	5.6 Kg

AMPLIFIER

Output power	mains	:	2 x 8 W
Speaker impedance		:	2 x 8 ohm
Frequency response		:	100 Hz - 10 kHz (±4dB)

TUNER - FM SECTION

Tuning range		:	87.5 - 108 MHz
IF frequency		:	10.7 MHz ± 0.02 MHz
Sensitivity		:	16 dBf at 26dB S/N
Selectivity	300kHz	:	55 dB
IF suppression		:	85 dB
Image suppression		:	40 dB
Channel separation	1kHz	:	28 dB

TUNER - AM SECTION

Tuning range	MW	:	531 - 1602 kHz
Tuning range	LW	:	153 - 279 kHz
IF frequency		:	450 kHz ± 1 kHz
Sensitivity	MW	:	≤ 3.5 mV/m at 26dB S/N
	LW	:	≤ 4.2 mV/m
Selectivity	MW	:	< 22 dB
	LW	:	< 35 dB
IF rejection	MW	:	< 64 dB
Spurious rejection ratio	MW	:	< 58 dB
	LW	:	< 51 dB
Image rejection ratio	MW	:	< 40 dB
	LW	:	< 47 dB

AUDIO CASSETTE RECORDER

Frequency response		:	80 - 12500 Hz
Wow & flutter		:	0.4 % (DIN)
Tape speed		:	4.76 cm/s ± 2 %
Channel difference	1kHz	:	0 dB
S/N ratio (unw.)	Ferro	:	47 dB
	Chrome	:	50 dB
S/N ratio (wght.)	Ferro	:	52 dB
	Chrome	:	56 dB

COMPACT DISC

Frequency response		:	20Hz – 20kHz within 1.5dB
S/N ratio (unw.)		:	> 85 dB
S/N ratio (A-wght.)		:	> 90 dB
THD+N	1 kHz	:	> 72 dB
Channel crosstalk		:	> 50 dB
Channel unbalance		:	< ±1 dB

SERVICE TOOLS

TORX T10 screwdriver with shaftlength 150mm.....4822 395 50423
TORX screwdriver set SBC 163.....4822 295 50145

Audio signal disc SBC 429.....4822 397 30184
Playability test disc SBC 444.....4822 397 30245
Test disc 5 (disc without errors) +
Test disc 5A (disc with dropout errors, black spots and fingerprints)
SBC 426/426A.....4822 397 30096
Burn in test disc (65 min. 1kHz signal at -30 dB level without “pause”).....4822 397 30155

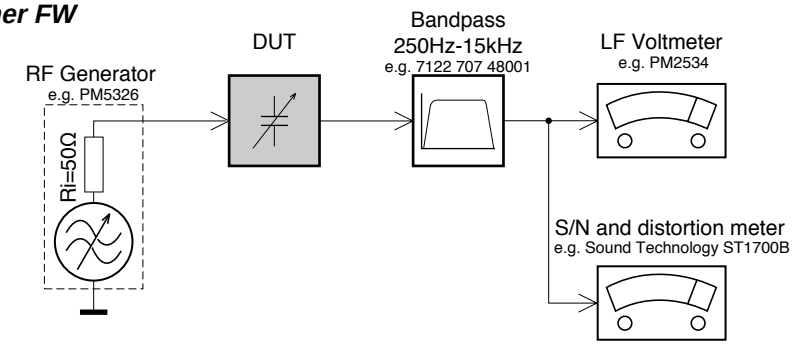
Universal test cassette Fe SBC 420.....4822 397 30071

AVAILABLE ESD PROTECTION EQUIPMENT

anti-static table mat	large	1200x650x1.25mm	4822 466 10953
	small	600x650x1.25mm	4822 466 10958
anti-static wristband			4822 395 10223
connection box (3 press stud connections, 1MΩ)			4822 320 11307
extendible cable (2m, 2MΩ, to connect wristband to connection box)			4822 320 11305
connecting cable (3m, 2MΩ, to connect table mat to connection box)			4822 320 11306
earth cable (1MΩ, to connect any product to mat or to connection box)			4822 320 11308
KIT ESD3 (combining all 6 prior products - small table mat)			4822 310 10671
wristband tester			4822 344 13999

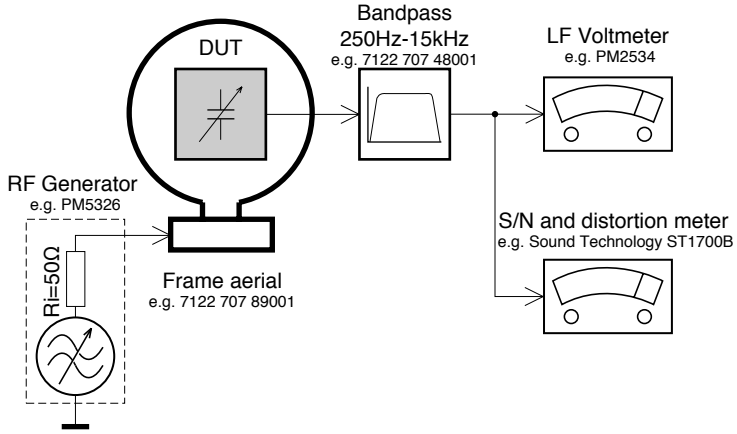
SERVICE MEASUREMENT

Tuner FW



Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilottone (19kHz, 38kHz).

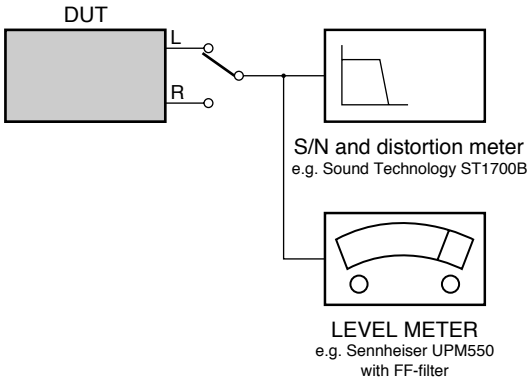
Tuner AM (MW,LW)



To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday´s cage.
Use a bandpass filter (or at least a high pass filter with 250kHz) to eliminate hum (50Hz, 100Hz).

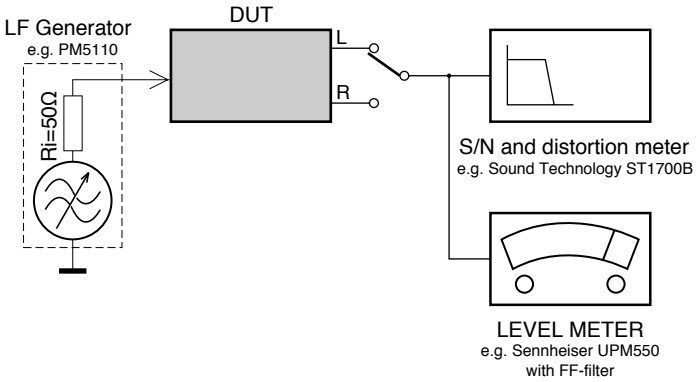
CD

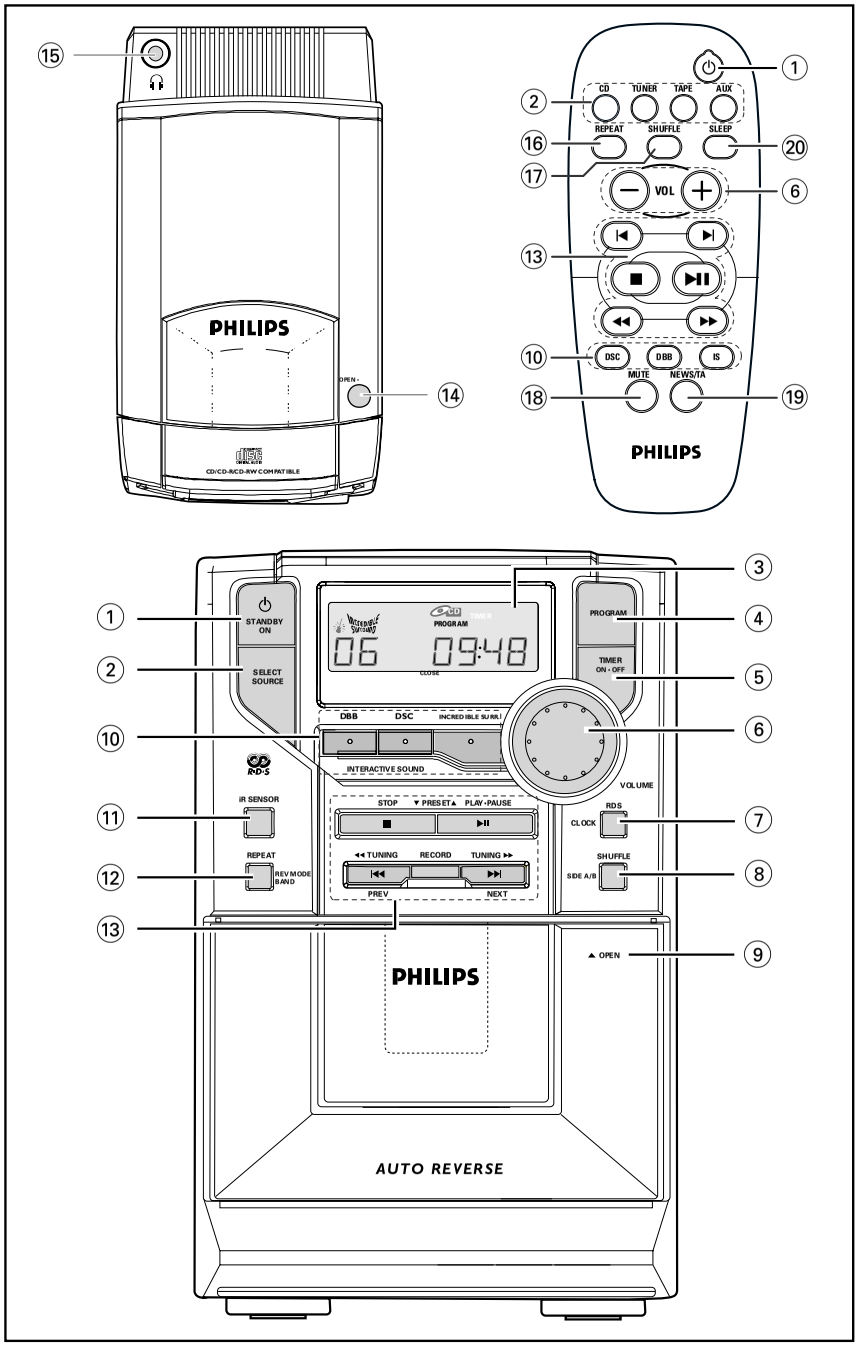
Use Audio Signal Disc SBC429 4822 397 30184
(replaces test disc 3)



RECORDER

Use Universal Test Cassette **Fe** SBC420 4822 397 30071





Controls

Controls on the system and remote control

① **STANDBY ON** ⏻
– switches the system to standby/on.
– *on the remote control only* - switches the system to standby.

② **SELECT SOURCE**
– selects the respective sound source for CD/ TUNER/ TAPE /AUX.
– switches on the system.

③ **Display**
– shows the status of the system.

④ **PROGRAM**
for CD ..... programmes tracks and reviews the programme.
for Tuner ..... programmes tuner stations manually or automatically.

⑤ **TIMER ON•OFF**
– activates/deactivates or sets the timer function.

⑥ **VOLUME (VOL −/+)**
– adjusts the volume level.
– *on the system only* - adjusts the hour and minutes for the clock/timer functions.

⑦ **CLOCK / RDS**
for Tuner ..... displays RDS information.
for Clock ..... sets the clock function.

⑧ **SHUFFLE**
– plays CD tracks in random order.

⑨ **INTERACTIVE SOUND controls:**
DBB ..... (Dynamic Bass Boost) enhances the bass.
DSC ..... (Digital Sound Control) selects sound characteristics: OPTIMAL/ ROCK/JAZZ/POP.
INCREDIBLE SURR. (IS) ..... creates a super-enhanced stereo effect.

⑩ **iR SENSOR**
– infrared sensor for remote control.

⑪ **REPEAT / BAND**
for CD ..... repeats a track/CD programme/ entire CD.
for Tuner ..... selects waveband.

⑫ **Mode Selection**
STOP ■ ..... stops CD playback or erase a CD programme.
PLAY•PAUSE ▶II ..... starts or interrupts CD playback.
PRESET ▼▲ (I◂, ▸I) ..... selects a preset radio station.
PREV I◂◂ / NEXT ▸▸I (I◂, ▸I) ..... skips to the beginning of a current track/previous/ subsequent track.
(◂◂, ▸▸) ..... fast searches back and forward within a track/CD.
TUNING ◂◂ ▸▸ (◂◂, ▸▸) ..... tunes to radio stations.

⑬ **Tape Deck Operation**
RECORD ..... starts recording.
PLAY ▶ ..... starts playback.
◂◂ / ▸▸ ..... fast rewinds/winds the tape.
STOP•OPEN ...stops the tape; opens the tape compartment.
PAUSE ..... interrupts recording or playback.

⑭ **OPEN•CLOSE**
– opens/closes the CD door.

⑮ 🎧
– connect headphones.

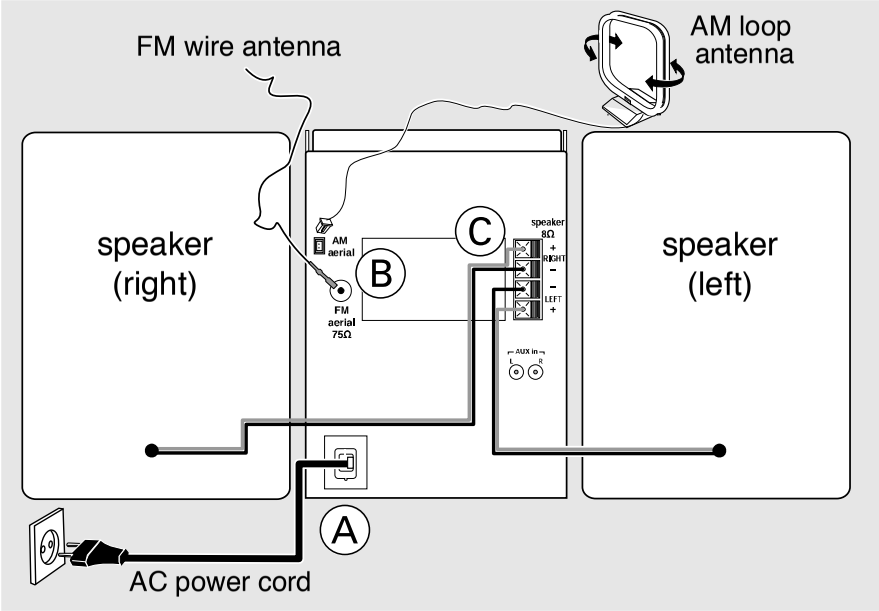
⑯ **REPEAT**
– repeats a track/CD programme/ entire CD.

⑰ **MUTE**
– interrupts and resumes sound reproduction.

⑱ **NEWS/TA**
– activates RDS news and Traffic Announcement.

⑲ **SLEEP**
– activates/deactivates or selects the sleeper time.

Notes for remote control:
– First select the source you wish to control by pressing one of the source select keys on the remote control (for example CD , TUNER).
– Then select the desired function (for example ▶, I◂, ▸I).



Rear connections

The type plate is located at the rear of the system.

Ⓐ Power

Before connecting the AC power cord to the wall outlet, ensure that all other connections have been made .

WARNING!

– For optimal performance, use only the original power cable.

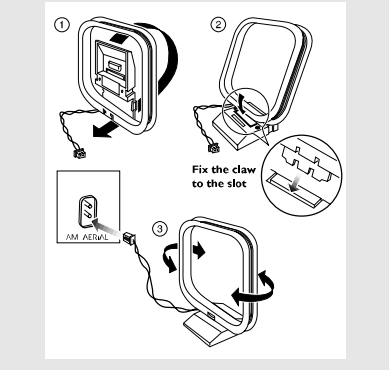
– Never make or change any connections with the power switched on.

To avoid overheating of the system, a safety circuit has been built in. Therefore, your system may switch to Standby mode automatically under extreme conditions. If this happens, let the system cool down before reusing it (not available for all versions)

Ⓑ Antennas Connection

Connect the supplied AM loop antenna and FM antenna to the respective terminals. Adjust the position of the antenna for optimal reception.

AMAntenna



- Position the antenna as far as possible from a TV, VCR or other radiation source

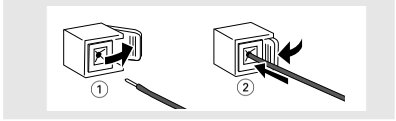
FM Antenna

- For better FM stereo reception, connect an outdoor FM antenna to the FM AERIAL (FM ANTENNA) terminal.

Ⓒ Speakers Connection

Front Speakers

Connect the speaker wires to the SPEAKERS terminals, right speaker to "**RIGHT**" and left speaker to "**LEFT**", coloured (marked) wire to "+" and black (unmarked) wire to "−".



- Fully insert the stripped portion of the speaker wire into the terminal as shown.

Notes:

– For optimal sound performance, use the supplied speakers.

– Do not connect more than one speaker to any one pair of + / − speaker terminals.

– Do not connect speakers with an impedance lower than the speakers supplied. Please refer to the SPECIFICATIONS section of this manual.

Optional connection

The optional equipment and connecting cords are not supplied. Refer to the operating instructions of the connected equipment for details.

Connecting other equipment to your system

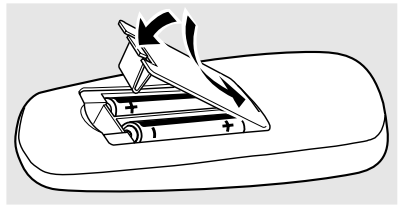
Connect the audio left and right OUT terminals of a TV, VCR, Laser Disc player, DVD player or CD Recorder to the **AUX IN** terminals.

Note:

– If you are connecting equipment with a mono output (a single audio out terminal), connect it to the AUX IN left terminal. Alternatively, you can use a "single to double" cinch cable (the output sound still remain mono).

Inserting batteries into the remote control

Insert two batteries (not supplied) type R03 or AAA into the remote control with the correct polarity as indicated by the "+" and "−" symbols inside the battery compartment.



CAUTION!

– Remove batteries if they are exhausted or will not be used for a long time.

– Do not use old and new or different types of batteries in combination.

– Batteries contain chemical substances, so they should be disposed off properly

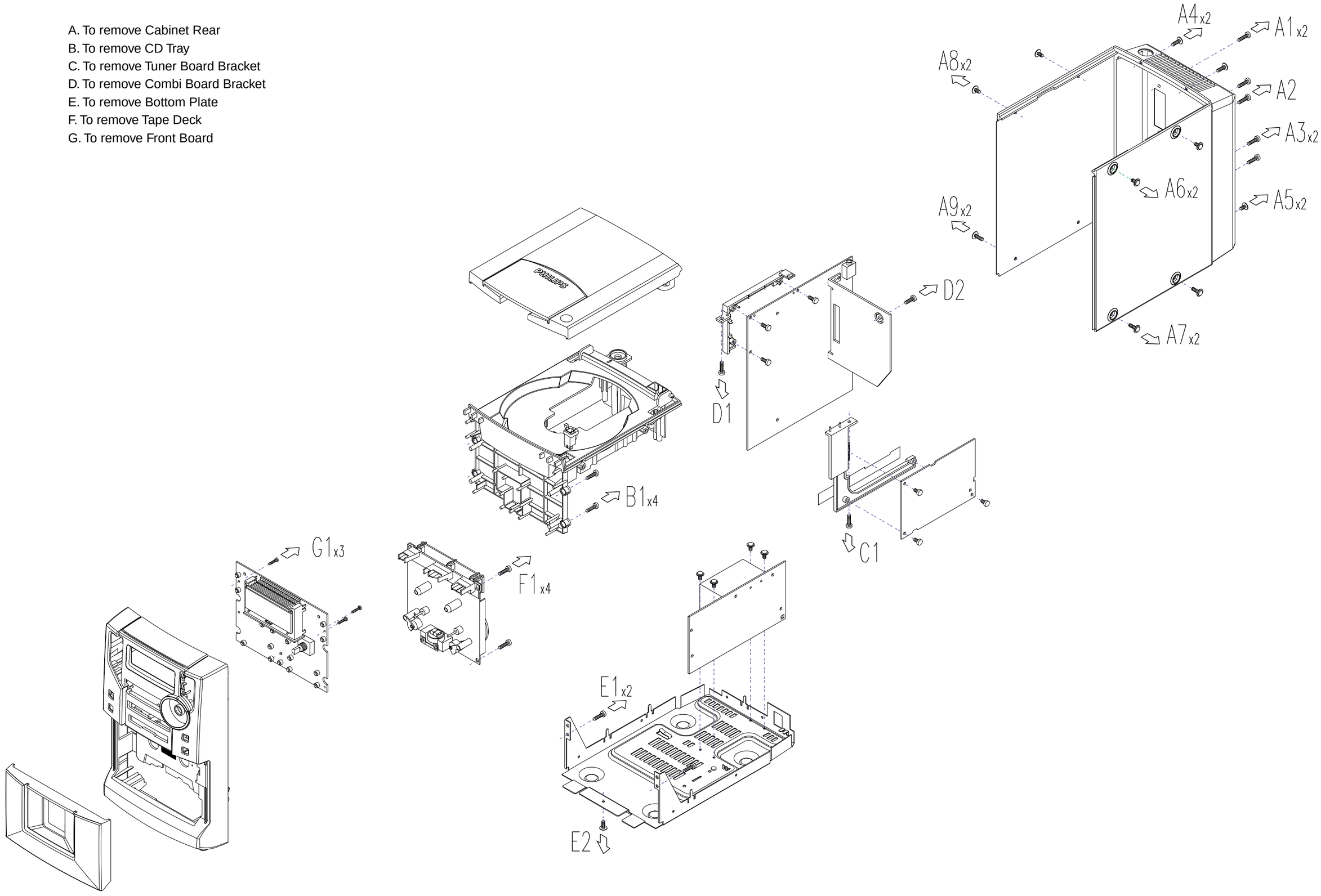
For more information onoperation instruction please visit Philips Audio internet site :

http://www.audio.philips.com

4 - 1

DISASSEMBLY DIAGRAM

A. To remove Cabinet Rear
B. To remove CD Tray
C. To remove Tuner Board Bracket
D. To remove Combi Board Bracket
E. To remove Bottom Plate
F. To remove Tape Deck
G. To remove Front Board



4 - 2

CD SERVICE TEST PROGRAM

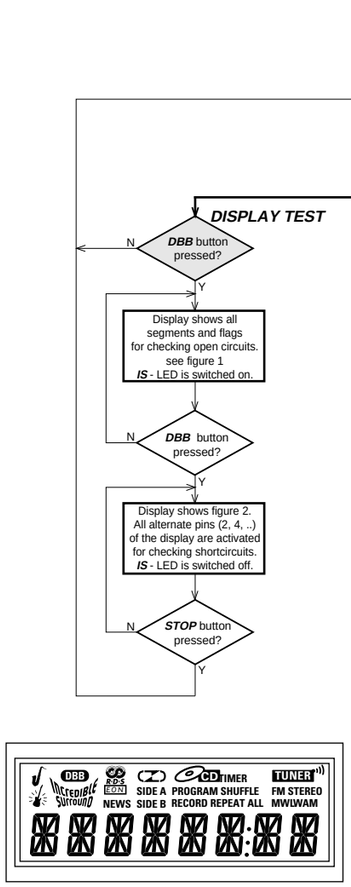


fig. 1

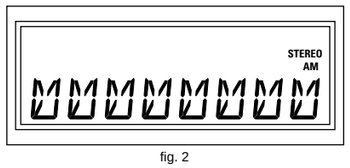
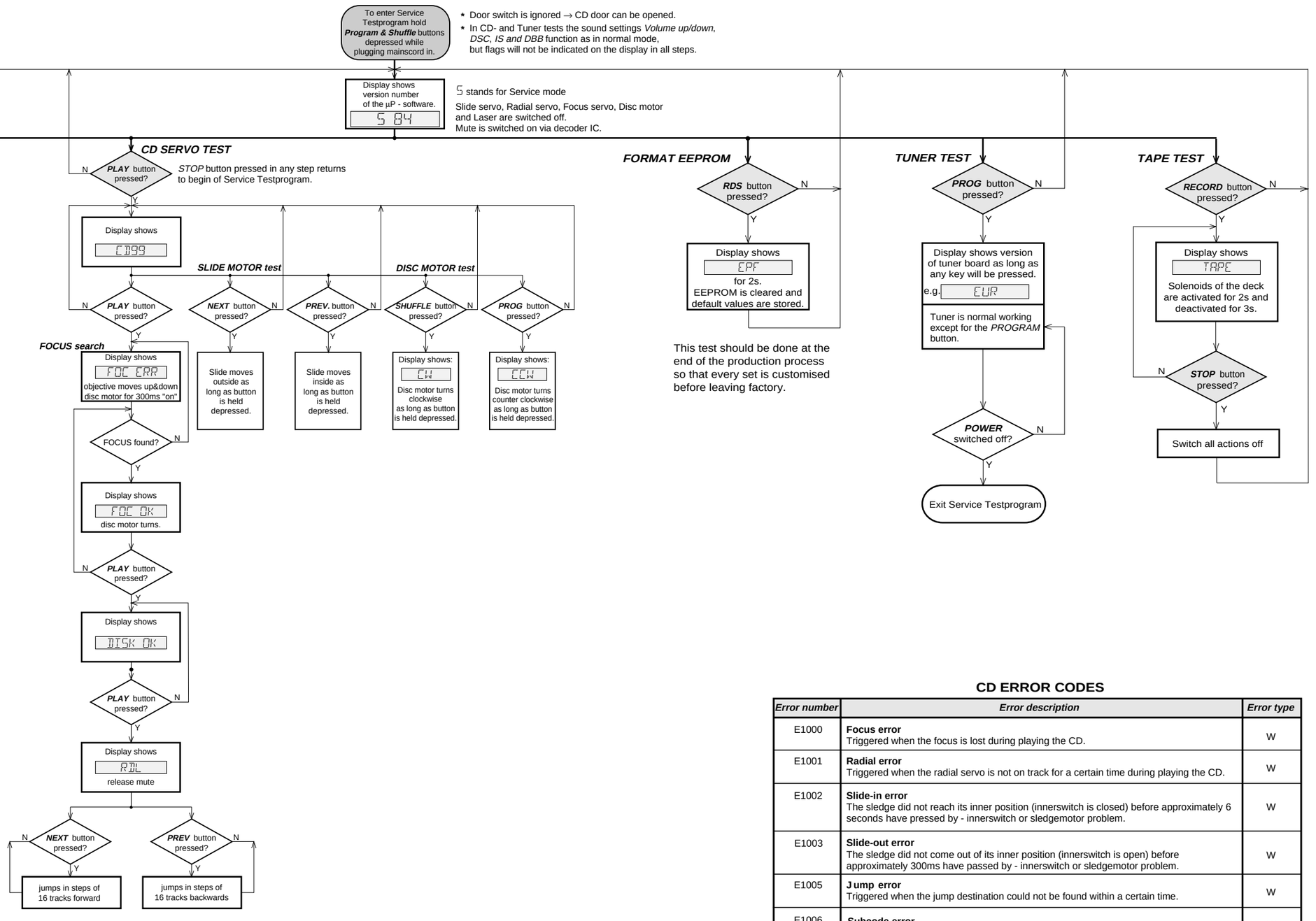


fig. 2



TUNER VERSIONS

	EUR	USA	OSE
REGION & SET VERSIONS	***EUROPE*** ***FM/MW*** /22/25	***USA*** ***FM/MW*** /37	***OVERSEAS*** ***FM/MW*** [1] Grid switchable 100/10kHz - 50/9kHz /21/21M/30

table 2

[1] To toggle frequency grid press ***SHUFFLE*** button for more than 5s in normal tuner mode (**not** in service testmode).

Display will show either GRID 9 or GRID 10 for 2 s.

CD ERROR CODES

Error number	*Error description*	*Error type*
E1000	**Focus error** Triggered when the focus is lost during playing the CD.	W
E1001	**Radial error** Triggered when the radial servo is not on track for a certain time during playing the CD.	W
E1002	**Slide-in error** The sledge did not reach its inner position (innerswitch is closed) before approximately 6 seconds have pressed by - innerswitch or sledgemotor problem.	W
E1003	**Slide-out error** The sledge did not come out of its inner position (innerswitch is open) before approximately 300ms have passed by - innerswitch or sledgemotor problem.	W
E1005	**Jump error** Triggered when the jump destination could not be found within a certain time.	W
E1006	**Subcode error** No valid subcode for a certain time during play.	W
E1007	**PLL error** The Phase-Lock-Loop could not lock within a certain time.	W
E1008	**Turntable motor error** Generated when the CD could not reach 75% of speed during start-up within a certain time. Discmotor problem.	W
E1020	**Focus search error** The focus point has not been found within a certain time.	F

table 1

Error type: W = Warning → set continues operation, message remains on the display until next error occurs or any key is pressed.

F = Fatal Error → set stops operation, message remains on the display.

Abbreviations and Pin-description of CD Ics

SERVO PROCESSOR SAA7325H

SYMBOL	PIN	DESCRIPTION
HFREF	1	comparator common mode input
HFIN	2	comparator signal input
ISLICE	3	current feedback output from data slicer
V_{SSA1}	4(1)	analog ground 1
V_{DDA1}	5(1)	analog supply voltage 1
I_{ref}	6	reference current output pin
V_{RIN}	7	reference voltage for servo ADC's
D1	8	unipolar current input (central diode signal input)
D2	9	unipolar current input (central diode signal input)
D3	10	unipolar current input (central diode signal input)
D4	11	unipolar current input (central diode signal input)
R1	12	unipolar current input (satellite diode signal input)
R2	13	unipolar current input (satellite diode signal input)
V_{SSA2}	14(1)	analog ground 2
CROUT	15	crystal/resonator output
CRIN	16	crystal/resonator input
V_{DDA2}	17(1)	analog supply voltage 2
LN	18	DAC left channel differential output - negative
LP	19	DAC left channel differential output - positive
V_{neg}	20	DAC negative reference input
V_{pos}	21	DAC positive reference input
RN	22	DAC right channel differential output - negative
RP	23	DAC right channel differential output - positive
SELPLL	24	selects whether internal clock multiplier PLL is used
TEST1	25	test control input 1; this pin should be tied LOW
CL16	26	16.9344 MHz system clock output
DATA	27	serial d4(1)ata output (3-state)
WCLK	28	word clock output (3-state)
SCLK	29	serial bit clock output (3-state)
EF	30	C2 error flag output (3-state)
TEST2	31	test control input 2; this pin should be tied LOW
KILL	32	kill output (programmable; open-drain)
V_{SSD1}	33(1)	digital ground 2
V2/V3	34	versatile I/O: input versatile pin 2 or output versatile pin 3 (open-drain)
WCLI	35	word clock iutput (for data loopback to DAC)
SDI	36	serial data input (for data loopback to DAC)
SCLI	37	serial bit clock input (for data loopback to DAC)
RESET	38	power-on reset input (active LOW)
SDA	39	microcontroller interface data I/O line (open-drain output)
SCL	40	microcontroller interface clock line input

4 - 3

Abbreviations and Pin-description of CD Ics

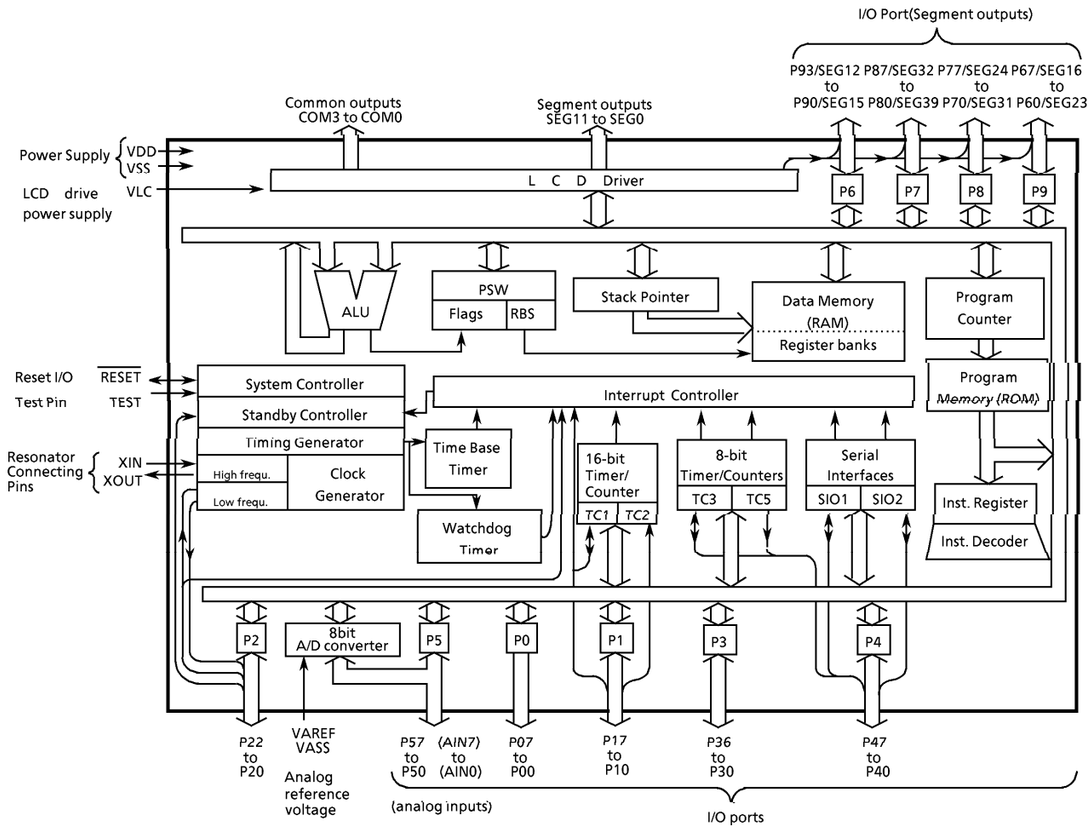
SERVO PROCESSOR SAA7325H

SYMBOL	PIN	DESCRIPTION
RAB	41	microcontroller interface R/W and load control line input (4-wire bus mode)
SILD	42	microcontroller interface R/W and load control line input (4-wire bus mode)
STATUS	43	servo interrupt request line/decoder status register output (open-drain)
TEST3	44	test control input 3; this pin should be tied LOW
RCK	45	subcode clock input
SUB	46	P-to-W subcode bits output (3-state)
SFSY	47	subcode frame sync output (3-state)
SBSY	48	subcode block sync output (3-state)
CL11/4	49	11.2896 MHz or 4.2336 MHz (for microcontroller) clock output
V_{SSD2}	50(1)	digital ground 3
DOBM	51	bi-phase mark output (externally buffered; 3-state)
$V_{DDD1(P)}$	52(1)	digital supply voltage 2 for periphery
CFLG	53	correction flag output (open-drain)
RA	54	radial actuator output
FO	55	focus actuator output
SL	56	sledge control output
$V_{DDD2(C)}$	57(1)	digital supply voltage 3 for core
V_{SSD3}	58(1)	digital ground 4
MOTO1	59	motor output 1; versatile (3-state)
MOTO2	60	motor output 2; versatile (3-state)
V4	61	versatile output pin 4
V5	62	versatile output pin 5
V1	63	versatile intput pin 1
LDON	64	laser drive on output (open-drain)

Note : All supply pins must be connected to the same external power supply voltage.

BLOCK DIAGRAM OF INTEGRATED CIRCUIT

IC 7400 TMP87CM23F



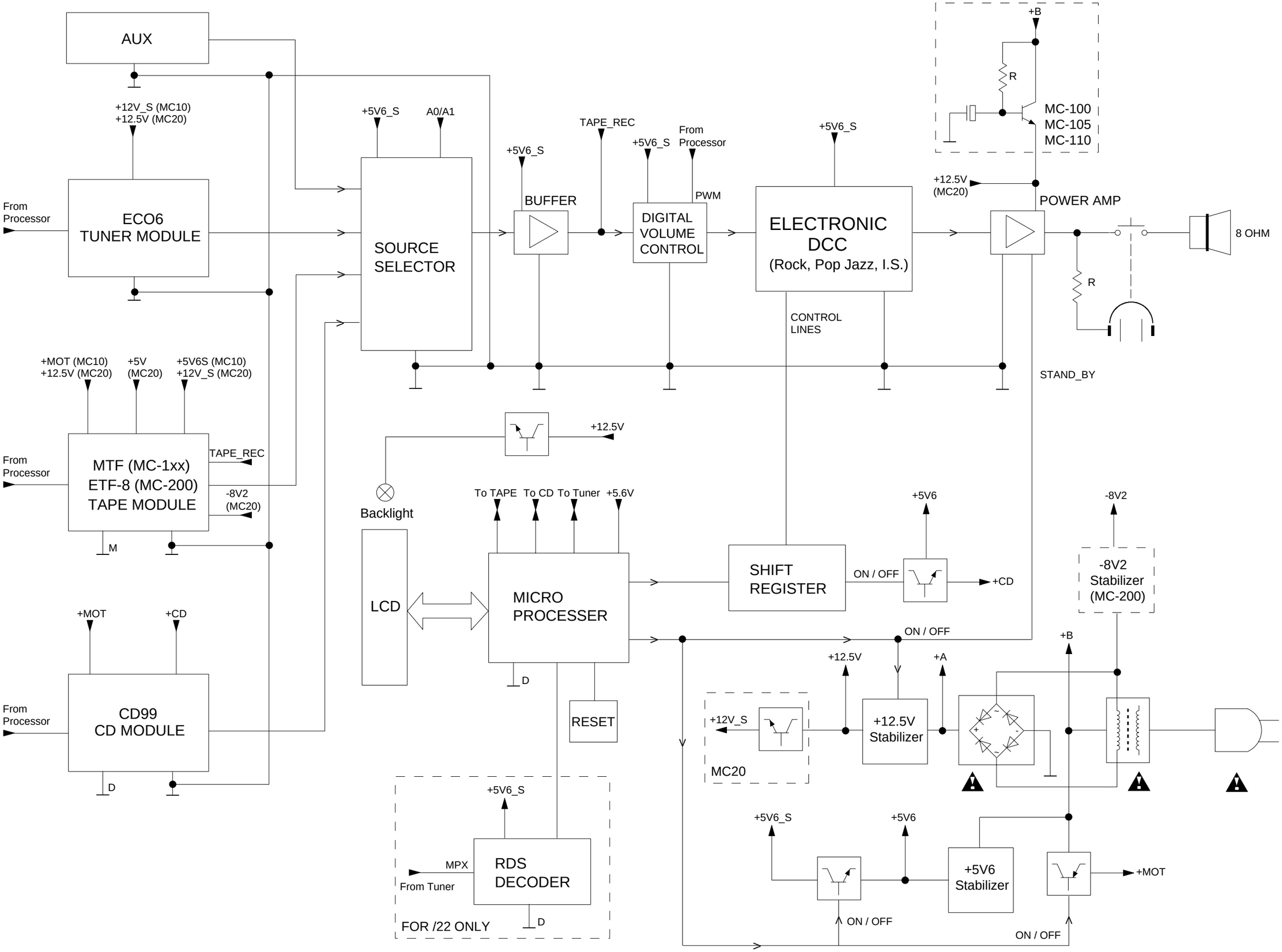
PINS DESCRIPTION OF IC 7400 TMP87CM23F

PIN FUNCTION

PIN NAME	Input / Output	FUNCTION	
P07 to P00	I/O	8-bit programmable input/output ports (tri-state).	
P17, P16			
P15 (TC2)	I/O (Input)	Each bit of these ports can be individually configured as an input or an output under software control. When used as timer/counter in or external interrupt input, the latch must be set to "0". When used as PPG output or divider output, the latch must be set to "1".	Timer/Counter 2 input
P14 ($\overline{PPG}$)	I/O (Output)		Programmable pulse generator output
P13 ($\overline{DVO}$)			Divider output
P12 (INT2 / TC1)	I/O (Input)		External interrupt input 2 or Timer/Counter 1 input
P11 (INT1)			External interrupt input 1
P10 ($\overline{INT0}$)			External interrupt input 0
P22 (XTOUT)	I/O (Output)	3-bit input/output port with latch. When used as an input port, the latch must be set to "1".	Resonator connecting pins (32.768kHz). For inputting external clock, XTIN is used and XTOUT is opened.
P21 (XTIN)	I/O (Input)		
P20 ($\overline{INT5}$/$\overline{STOP}$)			External interrupt input 5 or STOP mode release signal input
P36 to P30	I/O	7-bit input/output port with latch. When used as input port, the latch must be set to "1".	
P47 (SO2)	I/O (Output)	8-bit input/output port with latch. When used as input port or a SIO input/output port, the latch must be set to "1".	SIO2 serial data output
P46 (SI2)	I/O (Input)		SIO2 serial data input
P45 ($\overline{SCK2}$)	I/O (I/O)		SIO2 serial clock input/output
P44 (SO1)	I/O (Output)		SIO1 serial data output
P43 (SI1)	I/O (Input)		SIO1 serial data input
P42 ($\overline{SCK1}$)	I/O (I/O)		SIO1 serial clock input/output
P41 ($\overline{PWM}$/$\overline{PDO}$)	I/O (Output)		8-bit PWM output, 8-bit programmable divider output
P40 (INT3/TC3)	I/O (Input)		External interrupt input 3, Timer/Counter 3 input
P57 (AIN07) to P50 (AIN00)	I/O (Input)	8-bit programmable input/output port (tri-state). Each bit of the port can be individually configured as an input or an output under software control. When used as analog input, the latch must be set to "0".	A/D converter analog inputs
SEG39 (P80) to SEG32 (P87)	Output (I/O)	8-bit input/output port with latch. When used as an input port, the latch must be set to "1".	LCD segment outputs. When used as segment output, the control register of P6, P7, P8 and P9 must be set to "1".
SEG31 (P70) to SEG24 (P77)	Output (I/O)		
SEG23 (P60) to SEG16 (P67)	Output (I/O)		
SEG15 (P90) to SEG12 (P93)	Output (I/O)	4-bit input/output port with latch. When used as an input port, the latch must be set to "1".	
SEG11 to SEG0	Output	LCD segment outputs	
COM3 to COM0	Output	LCD common outputs	
XIN, XOUT	Input, Output	Resonator connecting pins for high-frequency clock. For inputting external clock, XIN is used and XOUT is opened.	
$\overline{RESET}$	I/O	Reset signal input or watchdog timer output/address-trap-reset output	
TEST	Input	Test pin for out-going test. Be fixed to low.	
VDD, VSS	Power Supply	+ 5 V, 0 V (GND)	
VAREF, VASS		Analog reference voltage inputs (High, Low)	
VLC	LCD drive power supply.		

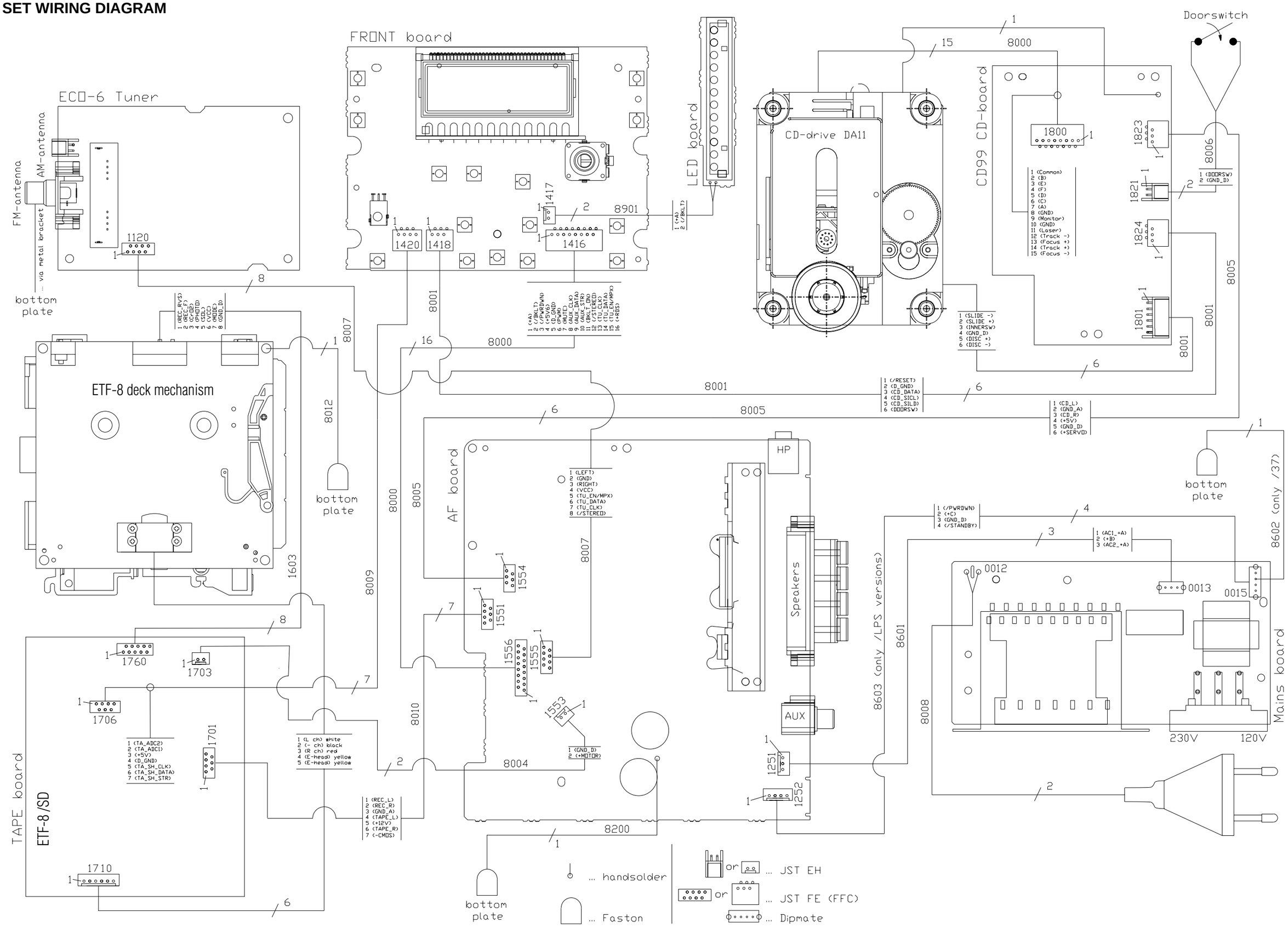
5 - 1

SET BLOCK DIAGRAM



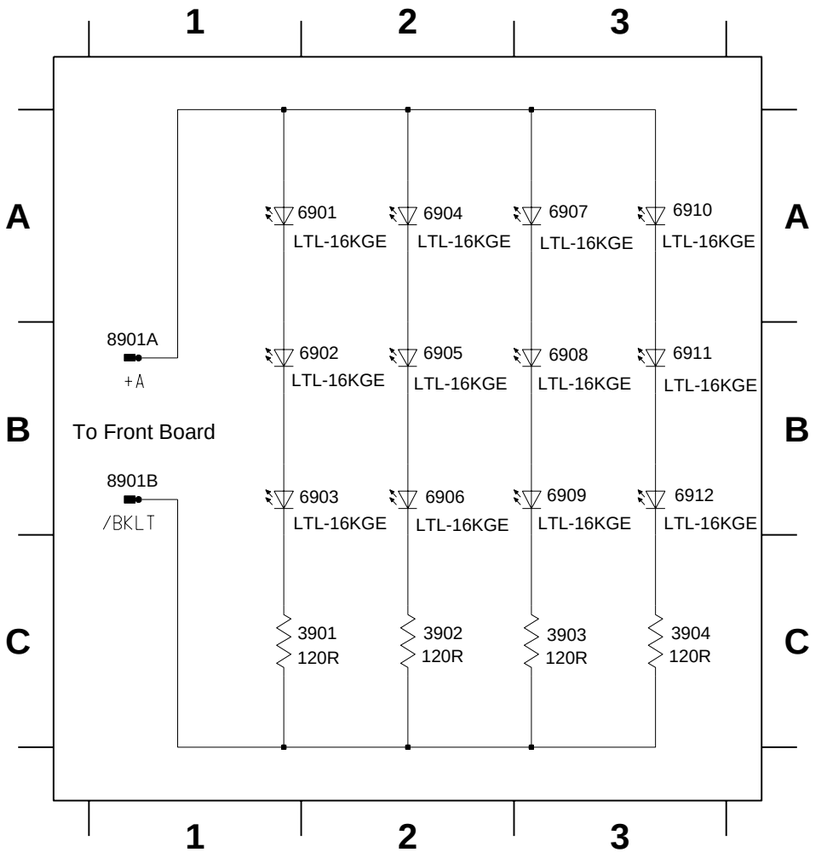
5 - 2

SET WIRING DIAGRAM



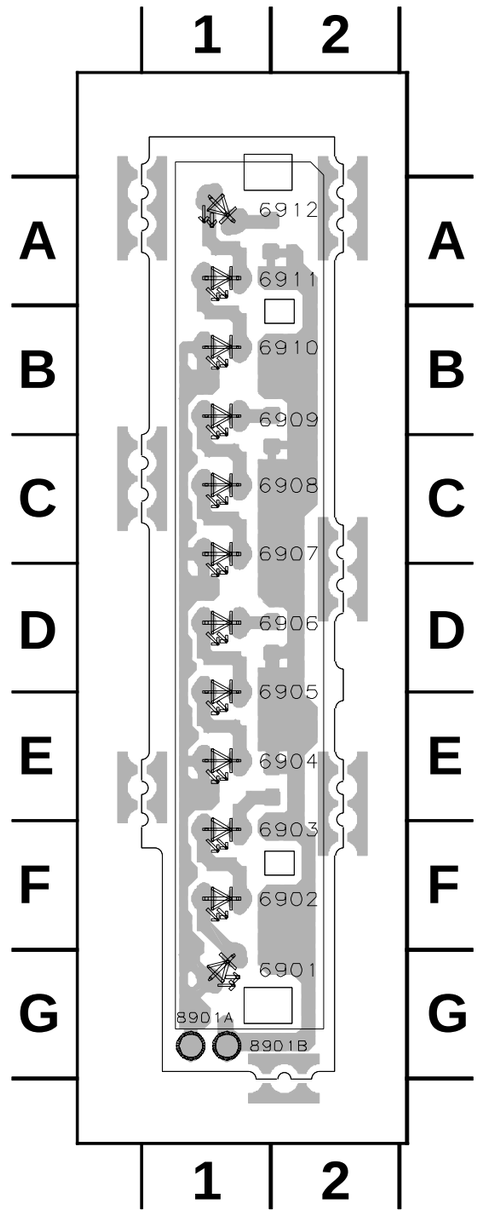
CIRCUIT DIAGRAM - LED BOARD

3901 C1	6903 B1	6909 B2
3902 C2	6904 A2	6910 A3
3903 C3	6905 B2	6911 B3
3904 C3	6906 B2	6912 B3
6901 A1	6907 A2	8901A B1
6902 B1	6908 B2	8901B B1



6 - 1

LAYOUT DIAGRAM - LED BOARD



6901	G2
6902	F2
6903	F2
6904	E2
6905	D2
6906	D2
6907	C2
6908	C2
6909	B2
6910	B2
6911	A2
6912	A2
8901A	G1
8901B	G2

7 - 1

CIRCUIT DIAGRAM - FRONT BOARD

FRONT BOARD

DISPLAY CONNECTION TABLE

Pin	COM0	COM1	COM2	COM3
1	1e	1g	1f	ROCK
2	1m	1i	1h	POP
3	1d	1l	1j	1a
4	1c	1k	1b	JAZZ
5	2e	2g	2f	I.S.
6	2m	2i	2h	DBB
7	2d	2l	2j	2a
8	2c	2k	2b	NEWS
9	3e	3g	3f	EON
10	3m	3i	3h	RDS
11	3d	3l	3j	3a
12	3c	3k	3b	SIDE B
13	4e	4g	4f	SIDE A
14	4m	4i	4h	Y3
15	4d	4l	4j	4a
16	4c	4k	4b	Y1
17	5e	5g	5f	Y2
18	5m	5i	5h	RECORD
19	5d	5l	5j	5a
20	5c	5k	5b	PROGRAM
21	6e	6g	6f	CD
22	6m	6i	6h	REPEAT
23	6d	6l	6j	6a
24	6c	6k	6b	SHUFFLE
25	7e	7g	7f	TIMER
26	7m	7i	7h	ALL
27	7d	7l	7j	7a
28	7c	7k	7b	DOT
29	8e	8g	8f	COLON
30	8m	8i	8h	FM
31	8d	8l	8j	8a
32	8c	8k	8b	MW
33	AM	LW	STEREO	TUNER
34	--	--	--	COM3
35	--	--	COM2	--
36	--	COM1	--	--
37	COM0	--	--	--

PIN 55 to 63 2.8V
PIN 68 to 95 2.8V

7400
TMP87CM23F

DC VOLTAGES MEASURED IN TUNER MODE
UNLESS OTHERWISE STATED
(230V MAINS SUPPLY)

ITEM / MODEL	1412	2447	2448	3485	3487	3495	3496
MC-1xx	X	X	X	2K2	2K2	56K	56K
MC-200	✓	470p	470p	3K9	3K9	X	150K

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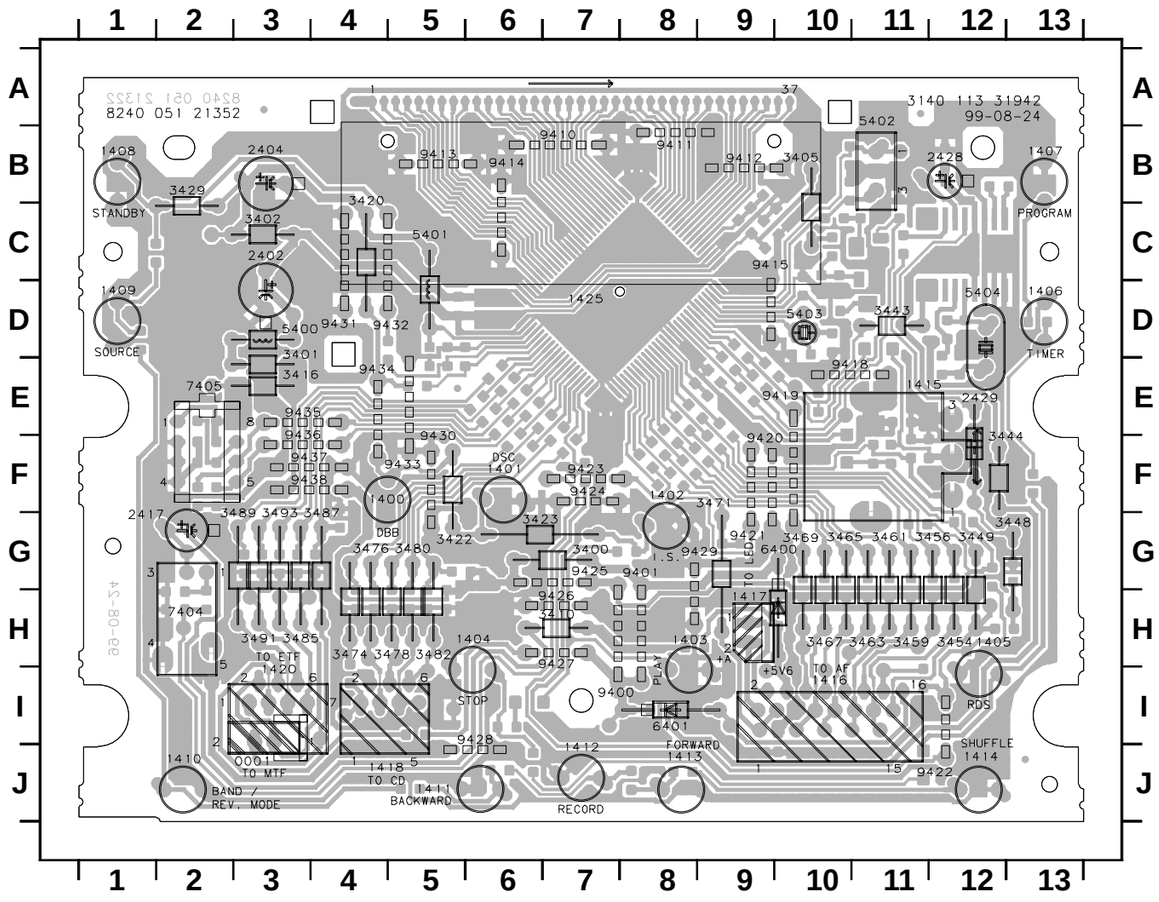
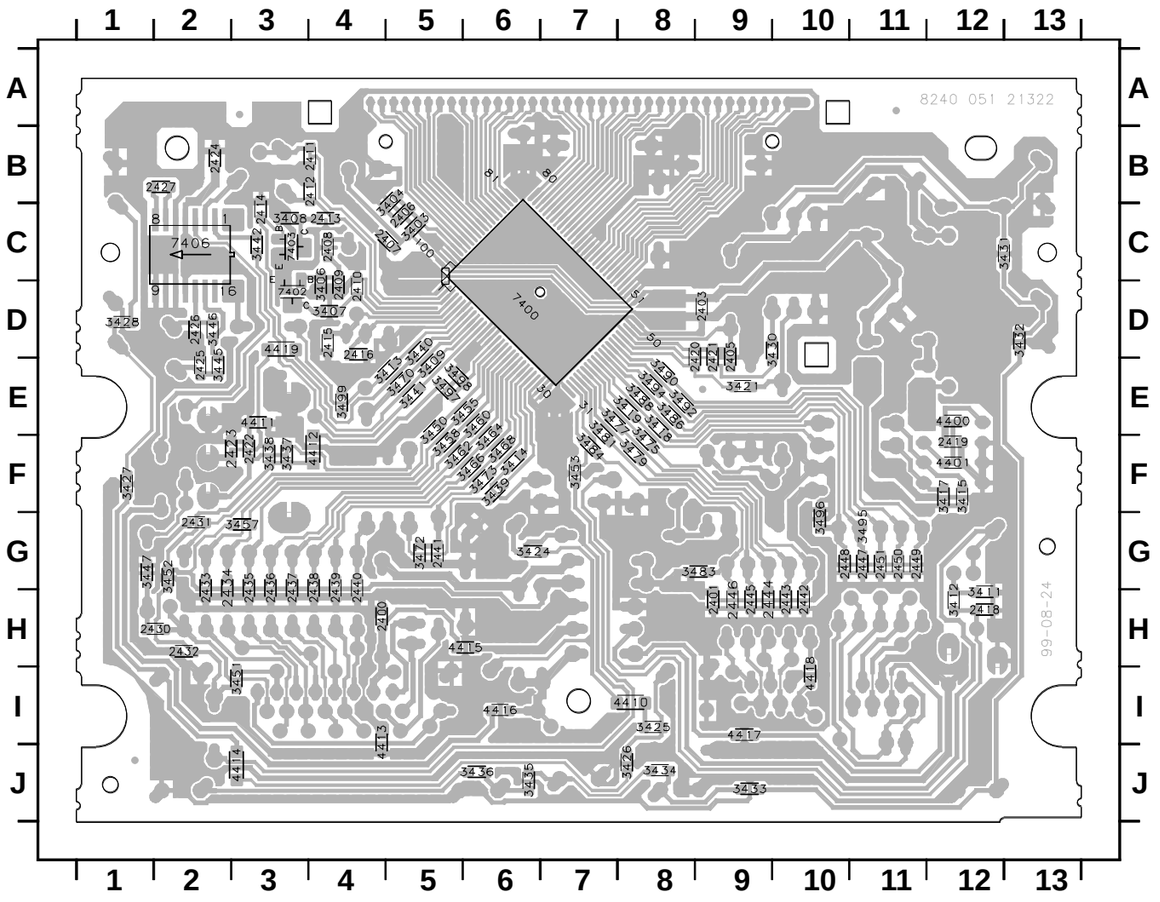
LAYOUT DIAGRAM - FRONT BOARD

0001 J3
1400 F4
1401 F6
1402 F8
1403 H8
1404 H6
1405 H12
1406 D13
1407 B13
1408 B1
1409 D1
1410 J2
1411 J5
1412 J7
1413 J8
1414 J12
1415 E11
1416 I10
1417 H9
1418 J4
1420 I3
1425 D7
2402 J3
2404 B3
2417 G1
2428 B12
2429 E12
3400 G7
3401 D3
3402 C3
3405 B10
3410 H7
3416 E3
3420 B4
3422 G5
3423 G6
3429 B2
3443 D11
3444 F12
3448 G13
3449 G12
3454 H12
3456 G12
3459 H11
3461 G11
3463 H11
3465 G10
3467 H10
3469 G10
3471 F9
3474 H4
3476 G4
3478 H5
3480 G5
3482 G7
3485 H3
3487 G4
3489 G3
3491 H3
3493 G3
5400 D3
5401 C5
5402 A11
5403 D10
5404 D12
6400 G10
6401 I8
7404 H2
7405 E2
9400 I7
9401 G8
9410 B7
9411 B8
9412 B9
9413 B5
9414 B6
9415 C9
9418 E10
9419 E10
9420 I6
9421 G9
9422 J12
9423 F7
9424 F7
9425 G7
9426 H7
9427 H7
9428 I6
9429 G9
9430 F5
9431 D4
9432 D5
9433 F5
9434 E4
9435 E3
9436 E3
9437 F3
9438 F3

2400 H4
2401 H9
2403 D9
2405 D9
2406 C5
2407 C5
2408 C4
2409 D4
2410 D4
2411 B4
2412 B4
2413 C4
2414 C3
2415 D4
2416 D4
2418 H12
2419 F12
2420 D8
2421 D9
2422 F3
2423 F2
2424 B2
2425 E2
2426 D2
2427 B2
2430 H2
2431 G2
2432 H2
2433 G2
2434 G2
2435 G3
2436 G3
2437 G3
2438 G4
2439 G4
2440 G4
2441 G5
2442 H10
2443 H10
2444 H9
2445 H9
2446 H9
2447 G11
2448 G10
2449 G11
2450 G11
2451 G11
3403 C5
3404 B5
3406 D4
3407 D4
3408 C3
3409 E5
3411 H12
3412 H12
3413 E5
3414 F6
3415 F12
3417 F12
3418 E8
3419 E8
3421 E9
3424 G6
3425 I8
3426 J8
3427 F1
3428 D1
3430 D9
3431 C12
3432 D13
3433 J9
3434 J8
3435 J6
3436 J6
3437 F3
3438 F3
3439 F6
3440 D5
3441 E5
3442 C3
3445 E2
3446 D2
3447 G1
3450 E5
3451 I3
3452 G2
3453 F7
3455 E6
3457 G3
3458 F5
3460 E6
3462 F5
3464 F6
3466 F6
3468 F6
3470 E5
3472 G5
3473 F6
3475 F8
3477 E7
3479 F8
3481 E7
3483 G9
3484 F7
3486 E8
3488 E8
3490 E8
3492 E8
3494 E8
3495 G11
3496 G10
3497 E5
3498 E5
3499 E4
4400 E12
4401 F12
4410 I8
4411 E3
4412 F4
4413 I4
4414 J3
4415 H6
4416 I6
4417 I9
4418 I10
4419 D3
7400 D6
7402 D3
7403 C3
7406 C2





8 - 1

CIRCUIT DIAGRAM - ECO6 SYSTEM CENELEC BOARD

TUNER BOARD ECO6 / SYSTEMS-CENELEC

VERSION PROGRAMMING COMPONENTS

VERSION	6120	3156	3157	3170	7111
/00 /02 FM/MW/LW	X				
/00 /02 FM/MW		X	X	X	X
/01 FM/MW				X	X
/14 FM-OIRT/MW	X				X
/17 FM/AM		X	X	X	

X component mounted

VERSION DETECTION

PROGRAMMABLE OUTPUT PORTS

BIRDY FILTER

AM-OSCILLATOR

MPX BUFFER AMPLIFIER

DISCRIMINATOR

LEGEND

* ... only assembled in FM/AM-version
(p)...for provision only
USA ... for USA version only
LW ... for LW version only

SMD j umper 41xx 0R

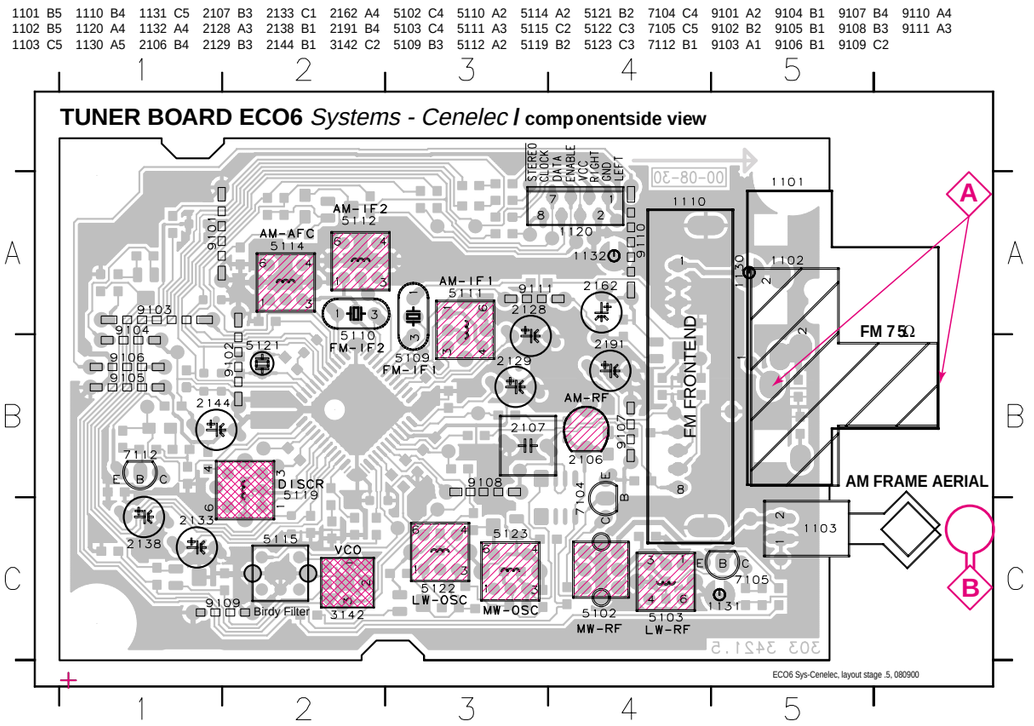
EVM ...V FM mode stereo; ...V MW mode; ...V LW mode
voltages measured while set is tuned to a strong transmitter

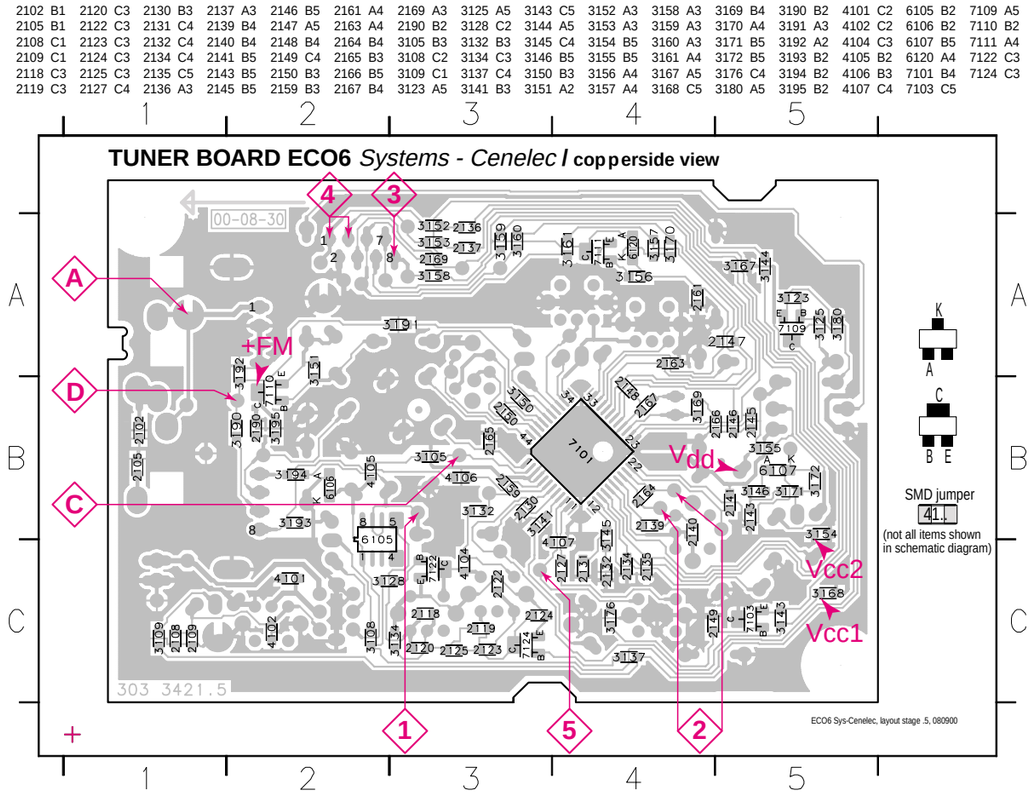
Signal path: FM; AM; MPX (Audio Frequency); AF - left/right

ECO6 Sys-Cenelec, 000907

1101 A2
1102 B1
1103 E2
1110 B2
1120 E14
1130 A2
1131 C2
1132 F13
2102 B1
2105 A2
2106 E3
2107 E4
2108 G3
2109 G3
2118 H6
2119 H6
2120 H6
2122 I6
2123 H6
2124 H6
2125 H6
2126 H6
2127 E7
2128 B8
2129 C7
2130 F11
2131 F8
2132 F8
2133 F8
2134 I8
2135 I9
2136 H14
2137 H13
2138 F9
2139 G9
2140 G9
2141 F10
2143 G12
2144 G11
2145 E11
2146 E12
2147 E12
2148 E12
2149 H7
2150 A10
2159 D5
2161 C11
2162 H12
2163 D11
2164 G10
2165 C7
2166 E11
2167 E11
2169 G8
2190 C3
2191 C3
3105 D5
3108 D2
3109 G4
3123 H3
3125 H2
3128 H3
3132 G4
3134 H6
3137 H7
3141 E7
3142 E6
3143 G7
3144 G8
3145 F8
3146 G13
3150 H12
3151 H12
3152 G14
3153 G13
3154 F13
3155 G12
3156 C12
3157 D12
3158 E13
3159 D13
3160 D13
3161 D13
3167 F12
3168 F11
3169 E11
3170 D12
3171 G12
3172 G12
3176 H7
3180 I3
3190 B6
3191 B7
3192 B6
3193 B4
3194 C4
3195 C3
4101 E2
4102 F3
4104 H5
5102 E3
5103 F2
5109 B9
5110 B10
5111 A9
5112 A11
5114 B11
5115 E7
5119 G9
5121 E11
5122 H5
5123 G5
6105-1 E4
6105-2 G6
6106 D4
6107 G13
6120 C13
7101 C8
7103 H8
7104 D2
7105 F4
7109 H3
7110 H12
7111 C13
7112 G12
7122 H4
7124 H7
T102 B2
T103 B2
T104 B6
T105 E2
T106 E2
T107 C3
T109 D5
T110 D5
T111 E5
T112 F7
T113 A9
T114 B11
T115 F10
T116 F10
T117 F13
T118 G11
T120 F13
T121 F13
T122 E13
T123 E13
T124 G14
T125 F14
T126 F13
T127 F13
T140 F10
T141 F13
T142 F10

LAYOUT DIAGRAM - ECO6 SYSTEM CENELEC BOARD





These assembly drawings show a summary of all possible versions.
For components used in a specific version see schematic diagram respectively partslist.

8 - 2

TUNER ADJUSTMENT TABLE (ECO6 Cenelec 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 (50kHz grid)			108MHz	check	1	8V ±1.2V
			87.5MHz	check		1.6V ±0.5V
MW 531 - 1602kHz (9kHz grid)			1602kHz	5123		8V ±0.2V 3-band 6.9V ±0.2V 2-band
			531kHz	check		1.1V ±0.4V
LW 153 - 279kHz (3kHz grid)			279kHz	5122		8V ±0.2V
			153kHz	check		1.1V ±0.4V
FM - IF						
FM	10.7MHz, 45mV continuous wave	D	IC 7101 pin 21 shortcircuit to block AFC 2141	5119	2	0mV ±3mV
FM - VCO						
FM	98MHz, 1mV continuous wave	A	98MHz	3142	3	152kHz ±1kHz 1)
FM RF (channel separation)	Note: The FM-frontend unit has already been adjusted by the factory and needs therefore no further adjustments for service purposes.					
FM	98MHz, 1mV 90% Left + 9% pilot mod=1kHz	A	98MHz	IF coil inside FM frontend 1110	4	right channel min.
AM IF						
MW	450kHz connect pin 6 of IC 7101 (AM Osc.) with 3.3kΩ to Vcc	C Δf = ±10kHz V_{RF} = 0.5mV (as low as possible)	IC 7101 pin 36 — 100nF — 220R	5111	5	max. / f_o / symmetric
			see remark 2) IC 7101 pin 40 — 100nF — 220R	5112		
AM AFC **MW**		C continuous wave V_{RF} = 2mV		5114	2	0mV ±2mV
AM RF 3)						
MW	1494kHz	B Δf = ±30kHz V_{RF} as low as possible	1494kHz	2106	5	max. / f_o / symmetric
	558kHz		558kHz	5102		
LW	198kHz		198kHz	5103		

ECO6 Sys Cenelec, 190599

Use Service Testprogram. 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! MW has to be aligned before LW.

↕ Repeat

8 - 3

CIRCUIT DIAGRAM - ECO6 SYSTEM NON-CENELEC BOARD

TUNER BOARD ECO6 / SYSTEMS NON CENELEC

VERSION PROGRAMMING COMPONENTS

VERSION	6120	3156	3157	3170	7111
/00 /02 FM/MW/LW					
/00 /02 FM/MW					
/01 FM/MW					
/14 FM-OIRT/MW					
/17 FM/AM					
/06 FM-Japan/AM					

component mounted

VERSION DETECTION

LEGEND

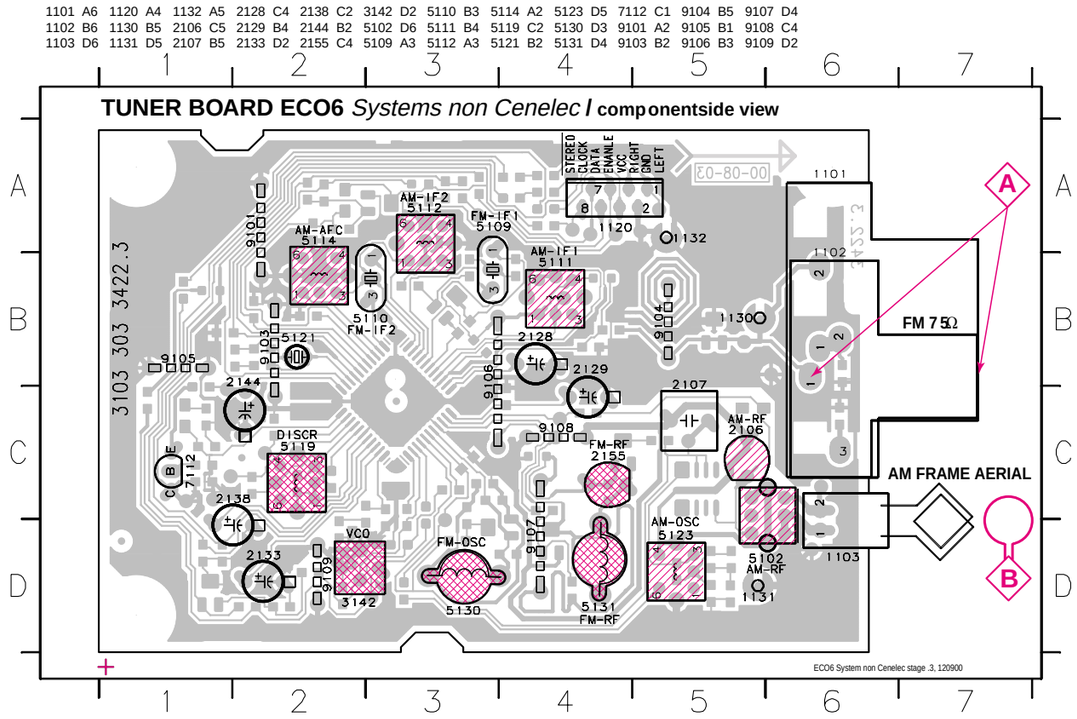
ⓟ...for provision only
USA . . for USA version only
E-EU . . for East European version only
J . . for Japanese version only

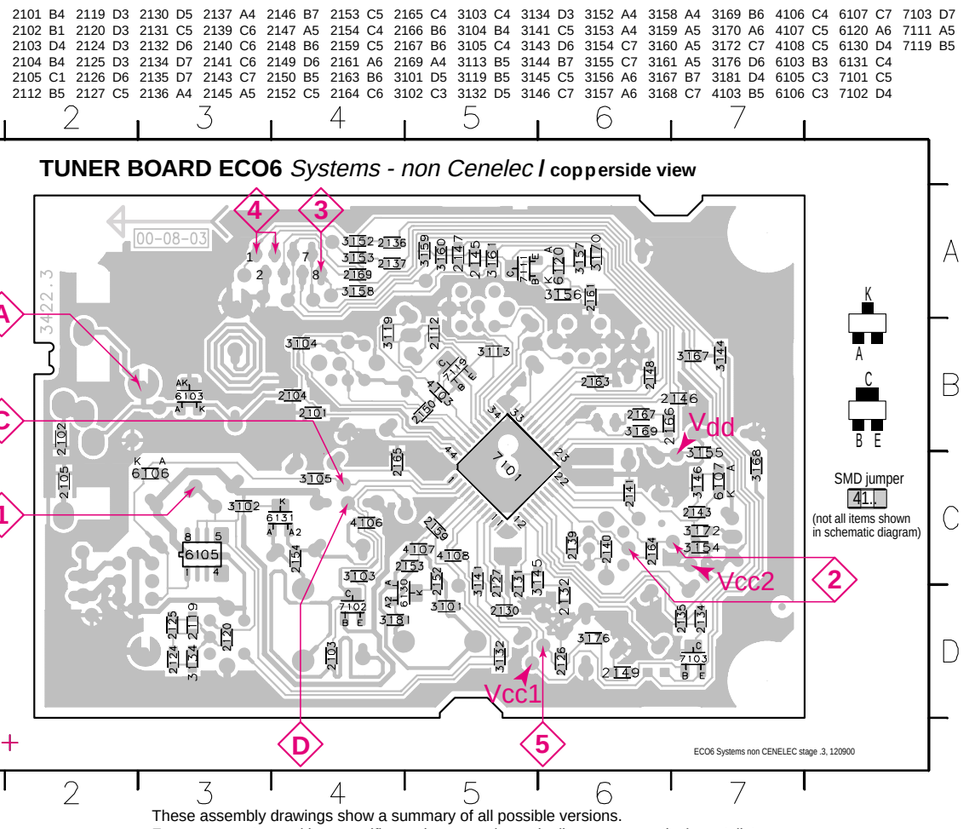
...V FM mode stereo
...V MW mode
...V LW mode
EVM
voltages measured while set is tuned to a strong transmitter

Signal path
FM
AM
MPX (Audio Frequency)
AF - left/right

ECO6 Sys-non Cenelec, 000911

LAYOUT DIAGRAM - ECO6 SYSTEM NON-CENELEC BOARD





These assembly drawings show a summary of all possible versions.
For components used in a specific version see schematic diagram respectively partslist.

TUNER ADJUSTMENT TABLE (ECO6 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	5130	1	8V ±0.2V
			87.5MHz (65.81MHz)	check		4.3V ±0.5V (1.2V ±0.5V)
MW FM/AM-version, 10kHz grid 530 - 1700kHz			1700kHz	5123		8V ±0.2V
			530kHz	check		1.1V ±0.4V
FM/MW-version, 9kHz grid 531 - 1602kHz			1602kHz	5123		6.9V ±0.2V
			531kHz	check		1.1V ±0.4V
LW 153 - 279kHz			279kHz	5122		8V ±0.2V
			153kHz	check		1.1V ±0.4V
MW FM/MW/LW- version, 9kHz grid 531 - 1602kHz			1602kHz	5123		8V ±0.2V
			531kHz	check		1.1V ±0.4V
FM IF						
FM	10.7MHz, 45mV continuous wave	D	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	A	108MHz	2155	4	MAX
	87.5MHz (65.81MHz)	mod=1kHz Δf=±22.5kHz	87.5MHz (65.81MHz)	5131		
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 3.3kΩ to Vcc	C Δf=±10kHz V_{RF} = 0.5mV (as low as possible)	IC 7101 36 100nF 220R	5111	5	max. f_o symmetric
			IC 7101 40 100nF 220R see remark 2)	5112		
AM AFC **MW**		C continuous wave V_{RF} = 2mV		5114	2	0 ± 2 mV DC
AM RF 3)						
MW 4) FM/MW/LW- and FM/MW-version (9kHz grid) 531 - 1602kHz	1494kHz	B Δf = ±30kHz V_{RF} as low as possible	1494kHz	2106	5	max. f_o symmetric
	558kHz		558kHz	5102		
LW	198kHz		198kHz	5103		
MW FM/AM-version, 10kHz grid 530 - 1700kHz	1500kHz		1500kHz	2106		
	560kHz		560kHz	5102		

ECO6, Sys + PA with frame aerial, 070799

Use Service Testprogram. 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.

↕ Repeat

9 -1

CIRCUIT DIAGRAM - ETF8 SD

EH-B 1703 · FE-BT-VK-N 1706 · TO / FROM FRONT BOARD · SHIFT REGISTER 7610 HEF4094BT · TO / FROM MECHANISM FE-ST-VK-N 1760 · TO / FROM AF BOARD 1701 FE-BT-VK-N · FE-ST-VK-N 1710 · TAPE PRE-AMP IC AN17150A 7720 · MUTING CIRCUIT · ERASE OSCILLATOR CLNS-2A833 YEZ 5703 · ★REC EQ · BIAS LEVEL

DC Voltages measured with Fe Recording.
(xxV) Voltages during Solenoid On.

★ : Provision part.

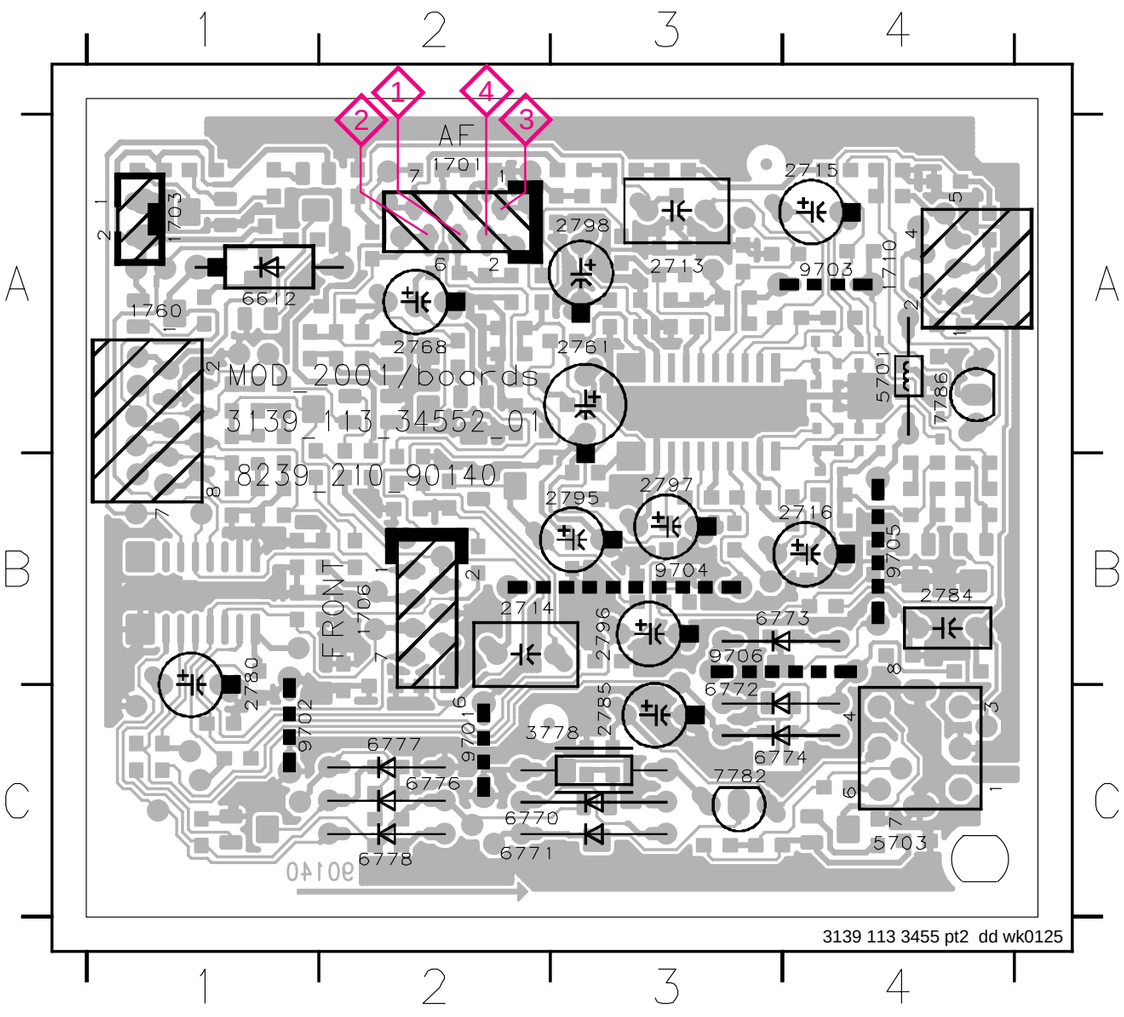
Note : Some values may varies, see respective parts list for correct value.

3139 118 54890...for 90140...3455 pt2 dd wk0125

1701 D14	3768 D13
1703 A1	3769 H5
1706 A1	3770 I2
1710 F1	3771 I3
1760 A14	3772 I3
2621 A3	3774 H3
2622 A3	3775 I3
2623 A2	3776 I2
2625 C5	3777 I2
2701 D2	3778 H1
2702 E3	3779 G3
2703 E13	3780 G2
2704 F12	3781 G2
2709 E7	3786 I5
2710 G7	3789 I4
2711 D9	3790 D9
2712 I8	3791 G9
2713 D9	3792 F6
2714 I8	3793 F5
2715 D8	3794 F5
2716 H8	3795 F5
2717 D5	3796 E10
2718 E5	3797 C11
2719 F4	3800 G11
2720 F4	5701 G2
2721 D7	5703 I1
2722 H7	6612 A10
2723 D7	6770 H2
2724 H7	6771 H2
2725 D10	6772 H1
2727 D3	6773 G2
2728 E3	6774 G3
2729 E8	6776 I4
2730 H8	6777 H3
2731 E9	6778 H5
2732 G2	7610 B5
2743 I1	7612 A9
2747 D13	7614 A10
2749 D2	7618 B9
2750 E2	7620 B9
2761 F10	7624 C11
2768 H13	7720 F8
2769 E12	7780 I4
2770 F11	7781 I3
2780 I3	7782 H2
2781 I3	7783 I2
2782 I2	7784 G3
2784 I1	7786 G2
2785 I2	7788 G13
2786 G1	7789 G12
2787 H3	7790 G12
2788 E13	7792 F6
2789 E8	7793 F4
2790 G8	7794 F4
2791 E8	
2793 F7	
2794 G8	
2795 G5	
2796 G9	
2797 G9	
2798 E9	
2799 F10	
3607 A11	
3608 B10	
3609 A11	
3610 B11	
3611 A10	
3612 B11	
3614 C11	
3624 A9	
3626 A10	
3628 A9	
3630 A9	
3678 B8	
3680 B9	
3686 C11	
3709 D8	
3710 I8	
3711 E7	
3712 G7	
3717 D5	
3718 E5	
3719 E4	
3720 E5	
3721 E4	
3722 E4	
3723 D3	
3724 E3	
3733 E13	
3734 F13	
3735 E13	
3736 E13	
3737 G13	
3738 G12	
3739 G13	
3740 G14	
3743 E12	
3744 F11	
3745 D12	
3746 D11	
3762 H2	
3764 F10	

LAYOUT DIAGRAM - ETF8 SD BOARD

1701 A2	2715 A4	2795 B3	6612 A1	6777 C2	9704 B3
1703 A1	2716 B4	2796 B3	6770 C2	6778 C2	9705 B4
1706 B2	2761 A3	2797 B3	6771 C2	7782 C3	9706 B3
1710 A4	2768 A2	2798 A3	6772 C3	7786 A4	
1760 A1	2780 B1	3778 C3	6773 B3	9701 C2	
2713 A3	2784 B4	5701 A4	6774 C3	9702 C1	
2714 B2	2785 C3	5703 C4	6776 C2	9703 A4	



3139 113 3455 pt2 dd wk0125

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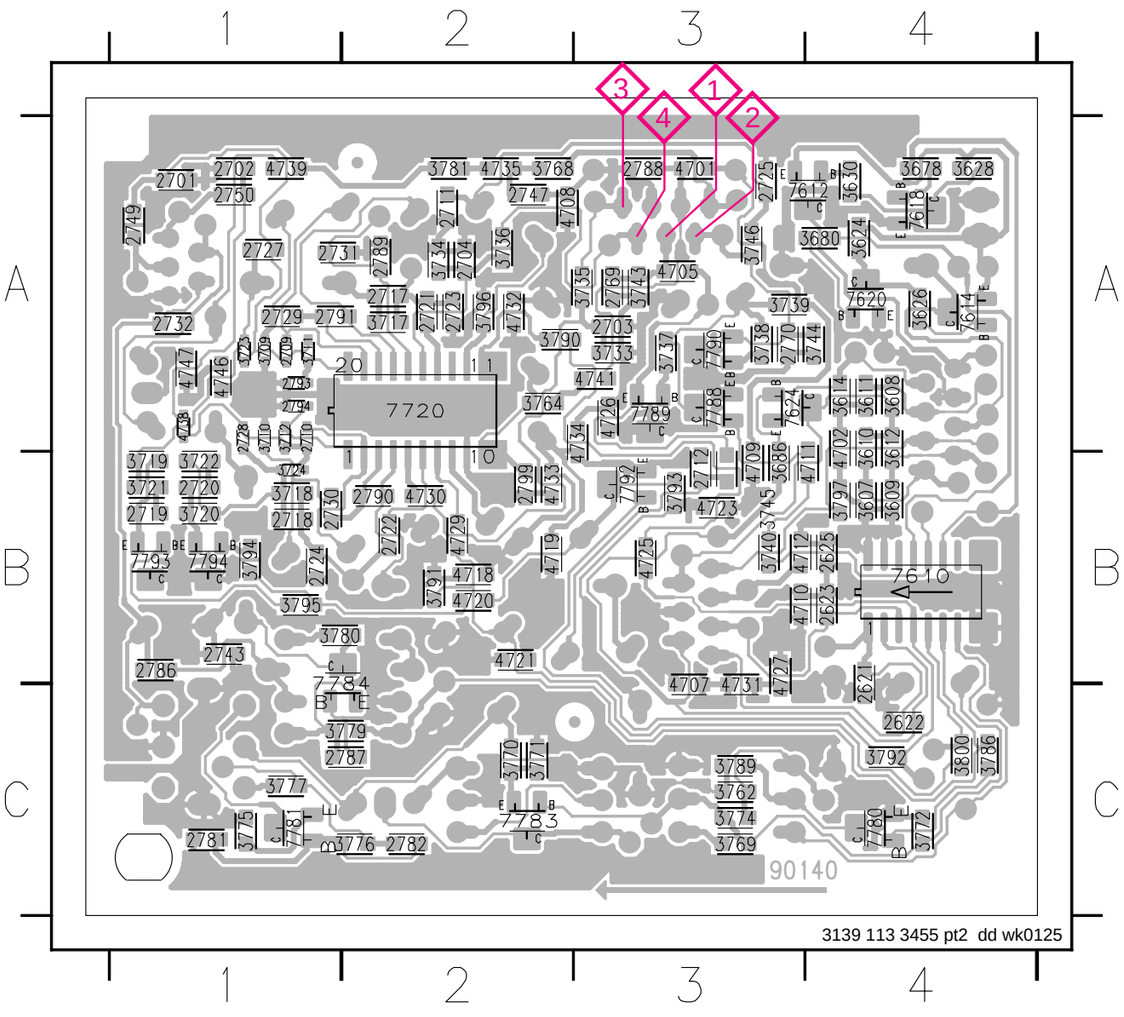
CHIP LAYOUT - ETF8 SD BOARD

2621 B4	2729 A1	3609 B4	3724 B1	3777 C1	4712 B3	7614 A4
2622 C4	2730 B1	3610 A4	3733 A3	3779 C2	4718 B2	7618 A4
2623 B4	2731 A1	3611 A4	3734 A2	3780 B1	4719 B2	7620 A4
2625 B4	2732 A1	3612 A4	3735 A3	3781 A2	4720 B2	7624 A3
2701 A1	2743 B1	3614 A4	3736 A2	3786 C4	4721 B2	7720 A2
2702 A1	2747 A2	3624 A4	3737 A3	3789 C3	4723 B3	7780 C4
2703 A3	2749 A1	3626 A4	3738 A3	3790 A2	4725 B3	7781 C1
2704 A2	2750 A1	3628 A4	3739 A3	3791 B2	4726 A3	7783 C2
2709 A1	2769 A3	3630 A4	3740 B3	3792 C4	4727 B3	7784 B1
2710 A1	2770 A3	3678 A4	3743 A3	3793 B3	4729 B2	7788 A3
2711 A2	2781 C1	3680 A4	3744 A4	3794 B1	4730 B2	7789 A3
2712 B3	2782 C2	3686 B3	3745 B3	3795 B1	4731 C3	7790 A3
2717 A2	2786 B1	3709 A1	3746 A3	3796 A2	4732 A2	7792 B3
2718 B1	2787 C2	3710 A1	3762 C3	3797 B4	4733 B2	7793 B1
2719 B1	2788 A3	3711 A1	3764 A2	3800 C4	4734 A3	7794 B1
2720 B1	2789 A2	3712 A1	3768 A2	4701 A3	4735 A2	
2721 A2	2790 B2	3717 A2	3769 C3	4702 A4	4738 A1	
2722 B2	2791 A1	3718 B1	3770 C2	4705 A3	4739 A1	
2723 A2	2793 A1	3719 B1	3771 C2	4707 C3	4741 A3	
2724 B1	2794 A1	3720 B1	3772 C4	4708 A2	4746 A1	
2725 A3	2799 B2	3721 B1	3774 C3	4709 B3	4747 A1	
2727 A1	3607 B4	3722 B1	3775 C1	4710 B3	7610 B4	
2728 A1	3608 A4	3723 A1	3776 C2	4711 B4	7612 A4	



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TAPE ADJUSTMENT & CHECK TABLE

	TEST CASSETTE	RECORDER MODE	MEASURE ON	READ ON	ADJUST	
					with	to
MOTOR SPEED	SBC420 3150Hz	PLAY	◇1 or ◇2 LEFT RIGHT	frequency counter	check	3150Hz +/- 2%
WOW & FLUTTER	SBC420 3150Hz	PLAY		W&F-meter	check	< 0.4 % DIN
ADJUST AZIMUTH	SBC420 10kHz	PLAY FWD		mV-meter	left hand screw	max. output level & left=right
		PLAY REV ^			right hand screw	
PLAYBACK LEVEL & FREQ. RESPONSE	SBC420 315Hz	PLAY		mV-meter	check	125mV +/- 3dB (see fig.1 for freq. response)
CHECK RECORD/PLAYBACK FREQUENCY AND DISTORTION						
Inject 3mV signals 100Hz, 250Hz, 1kHz, 10kHz, 12.5kHz via ◇3 or ◇4	SBC419A or SBC420	RECORD				
	RECORDED CASSETTE	PLAY	◇1 or ◇2 LEFT RIGHT	mV-meter	check	limits see fig. 2 *
Inject 1kHz 8.85mV via ◇3 or ◇4	SBC419A or SBC420	RECORD				
	RECORDED CASSETTE	PLAY	◇1 or ◇2 LEFT RIGHT	THD-meter	check	< 3% *

SBC419A : 4822 397 30069
SBC420 : 4822 397 30071

^ For Auto-reverse version only
* If high frequencies are not within limits, decrease bias and re-measure.
If distortion is too high, increase bias and re-meaure

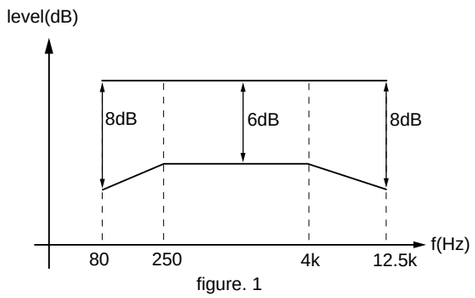

figure. 1

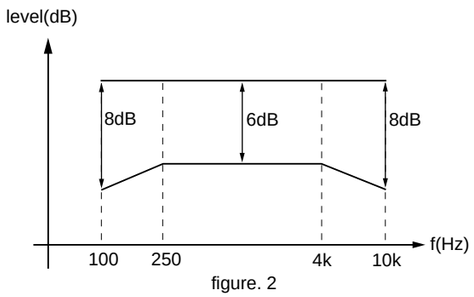

figure. 2

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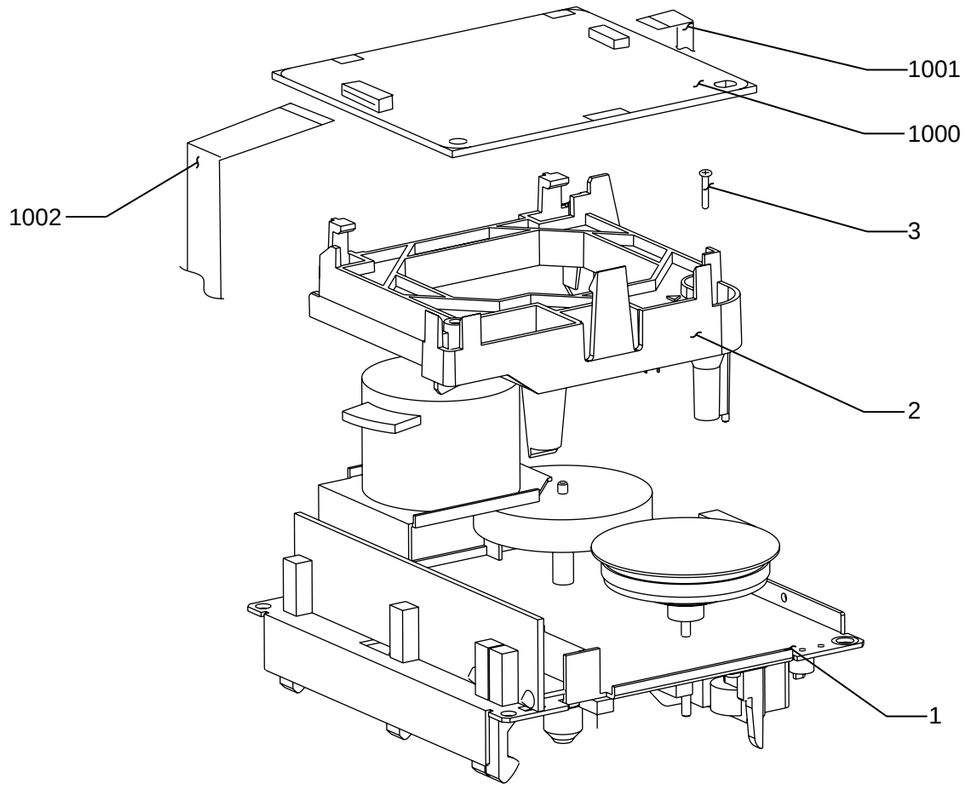
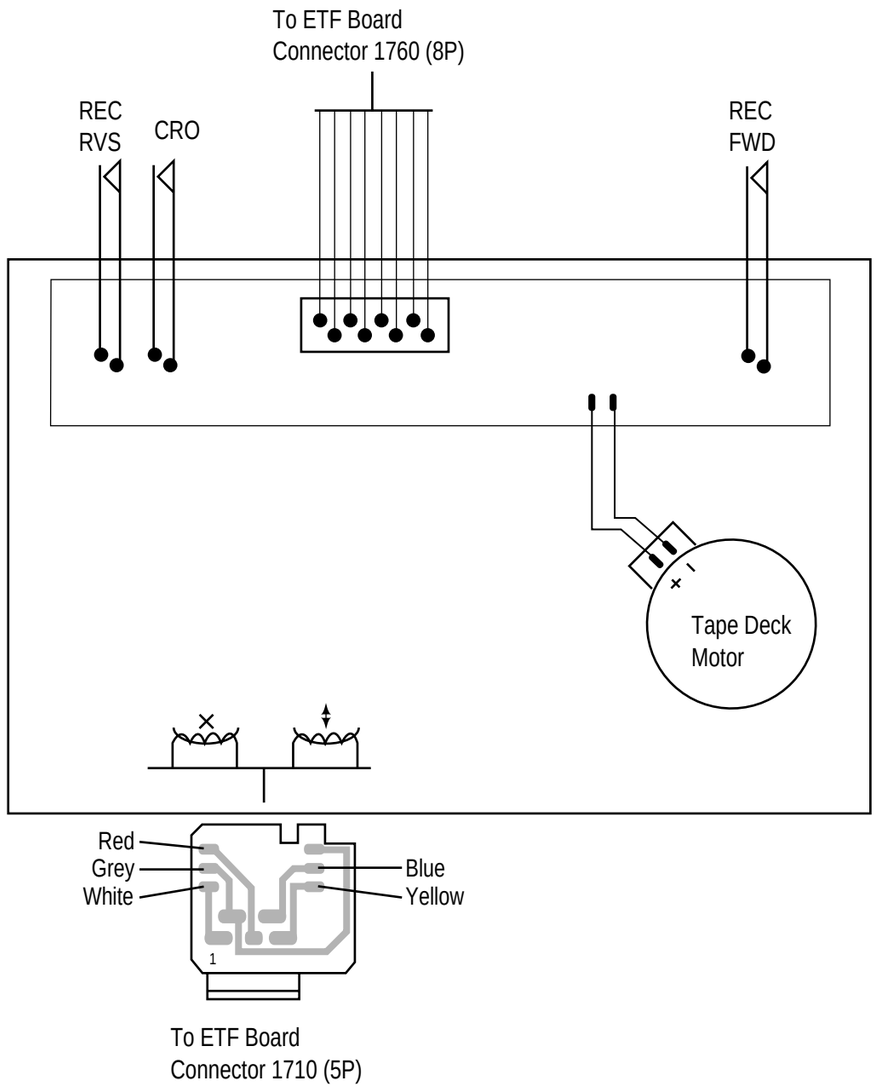
EXPLODED VIEW - TAPE MODULE



3139 118 78730_Module Tape Deck ETF8 SD dd wk0125

TAPE DECK WIRING



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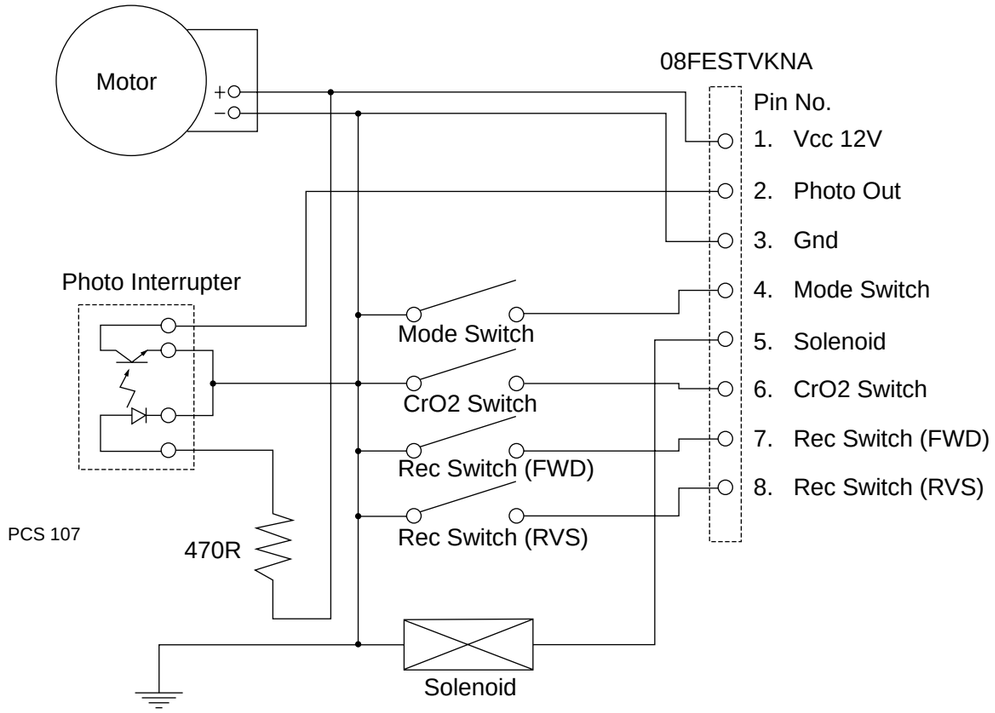
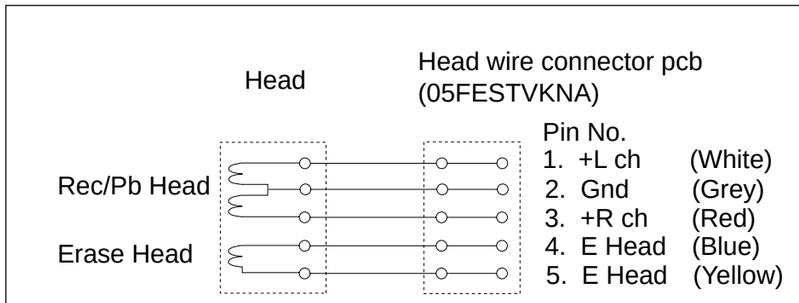
TAPE MECHANISM ELECTRONICS

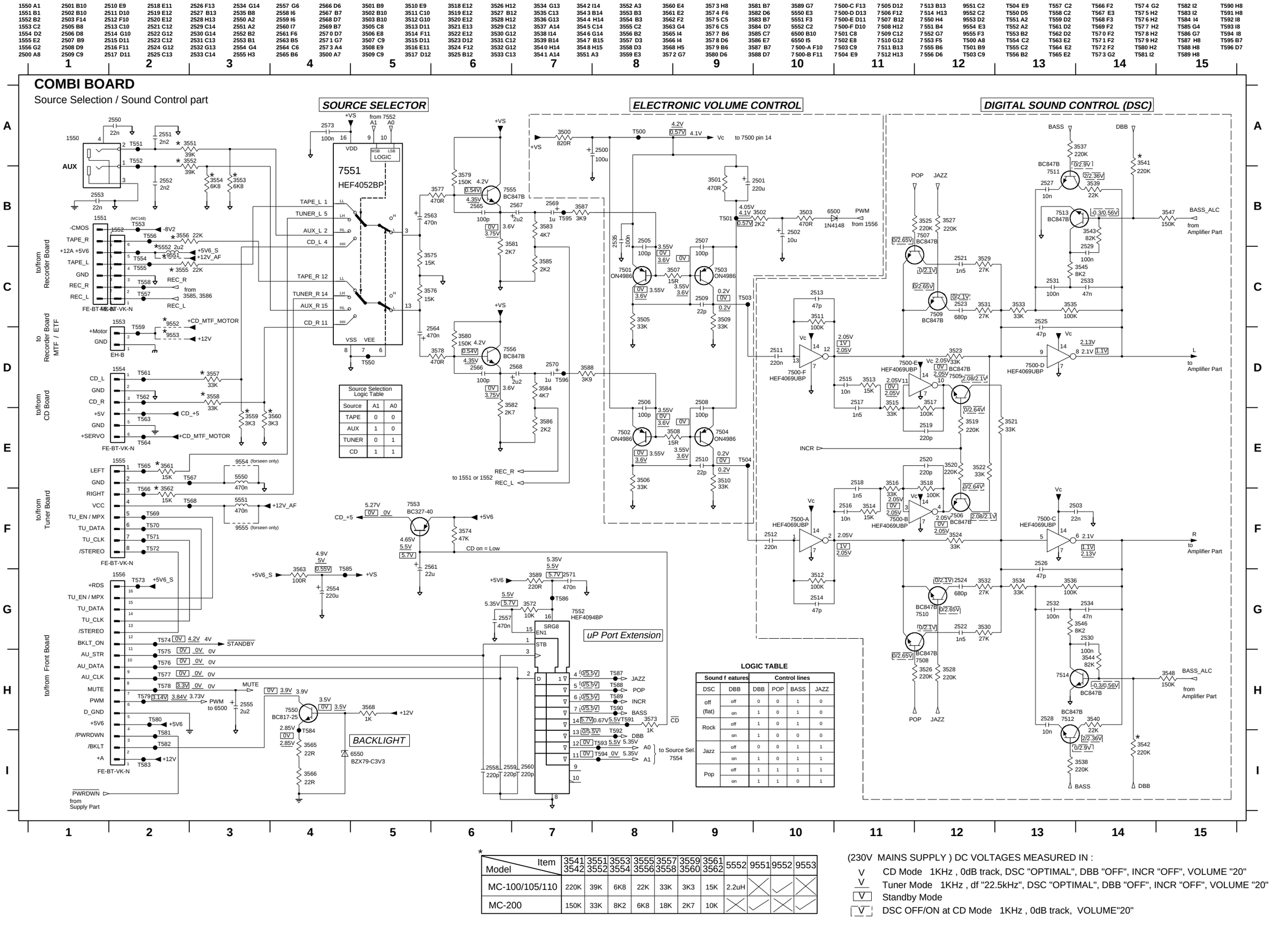


Mechanism Head Wires Soldering



10 - 1

CIRCUIT DIAGRAM - COMBI BOARD (Part 1)



* Item / Model	3541 3542	3551 3552	3553 3554	3555 3556	3557 3558	3559 3560	3561 3562	5552	9551	9552	9553
MC-100/105/110	220K	39K	6K8	22K	33K	3K3	15K	2.2uH	X	✓	X
MC-200	150K	33K	8K2	6K8	18K	2K7	10K	X	✓	X	✓

(230V MAINS SUPPLY) DC VOLTAGES MEASURED IN :

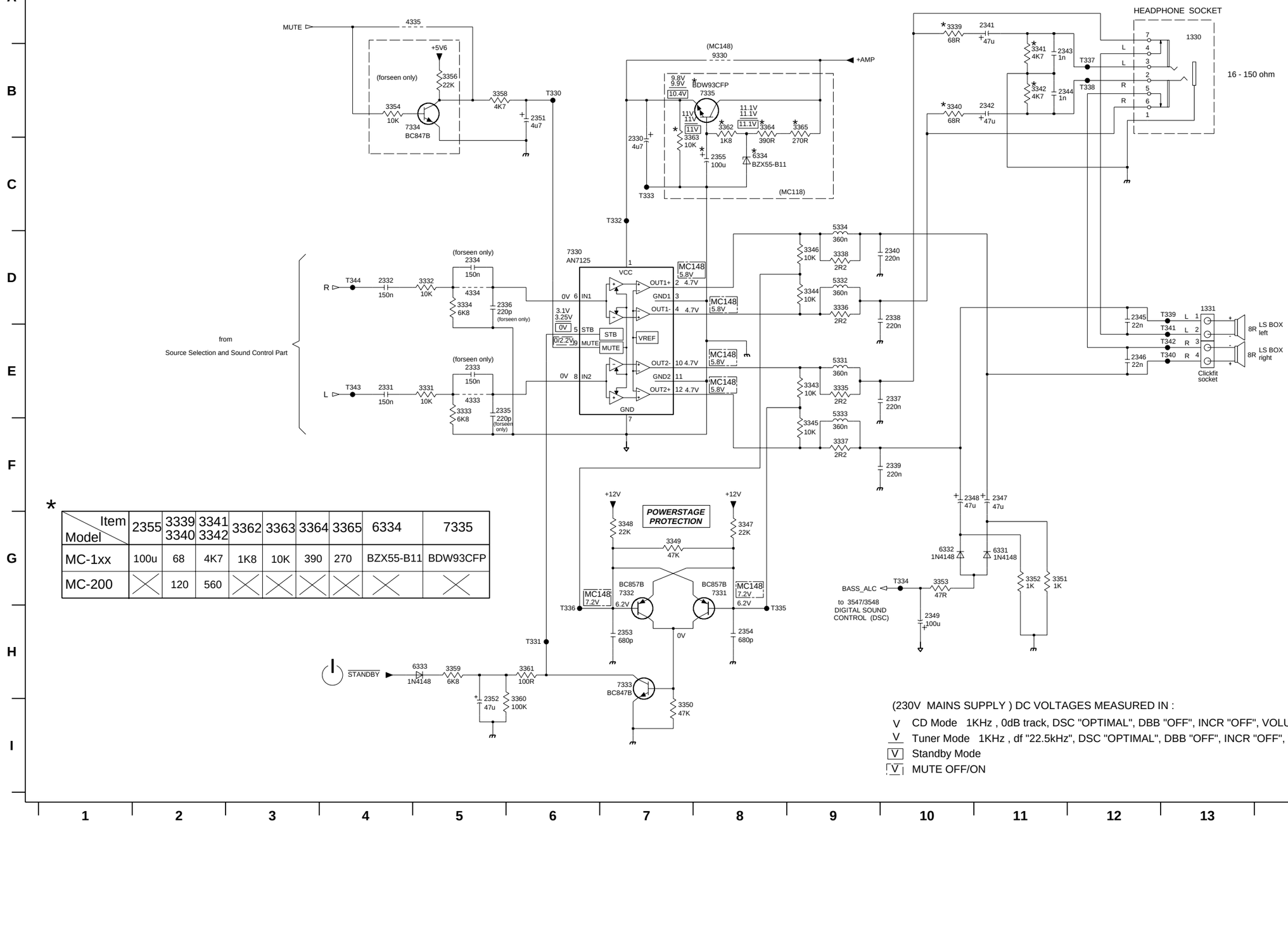
- V — CD Mode 1KHz , 0dB track, DSC "OPTIMAL", DBB "OFF", INCR "OFF", VOLUME "20"
- V — Tuner Mode 1KHz , df "22.5kHz", DSC "OPTIMAL", DBB "OFF", INCR "OFF", VOLUME "20"
- [V] — Standby Mode
- [V] — DSC OFF/ON at CD Mode 1KHz , 0dB track, VOLUME"20"

10 - 2

CIRCUIT DIAGRAM - COMBI BOARD (Part 2)

COMBI BOARD

Power amplifier part



*

Item / Model	2355	3339 3340	3341 3342	3362	3363	3364	3365	6334	7335
MC-1xx	100u	68	4K7	1K8	10K	390	270	BZX55-B11	BDW93CFP
MC-200	X	120	560	X	X	X	X	X	X

(230V MAINS SUPPLY) DC VOLTAGES MEASURED IN :

V CD Mode 1KHz , 0dB track, DSC "OPTIMAL", DBB "OFF", INCR "OFF", VOLUME "20"

V Tuner Mode 1KHz , df "22.5kHz", DSC "OPTIMAL", DBB "OFF", INCR "OFF", VOLUME "20"

V Standby Mode

V MUTE OFF/ON

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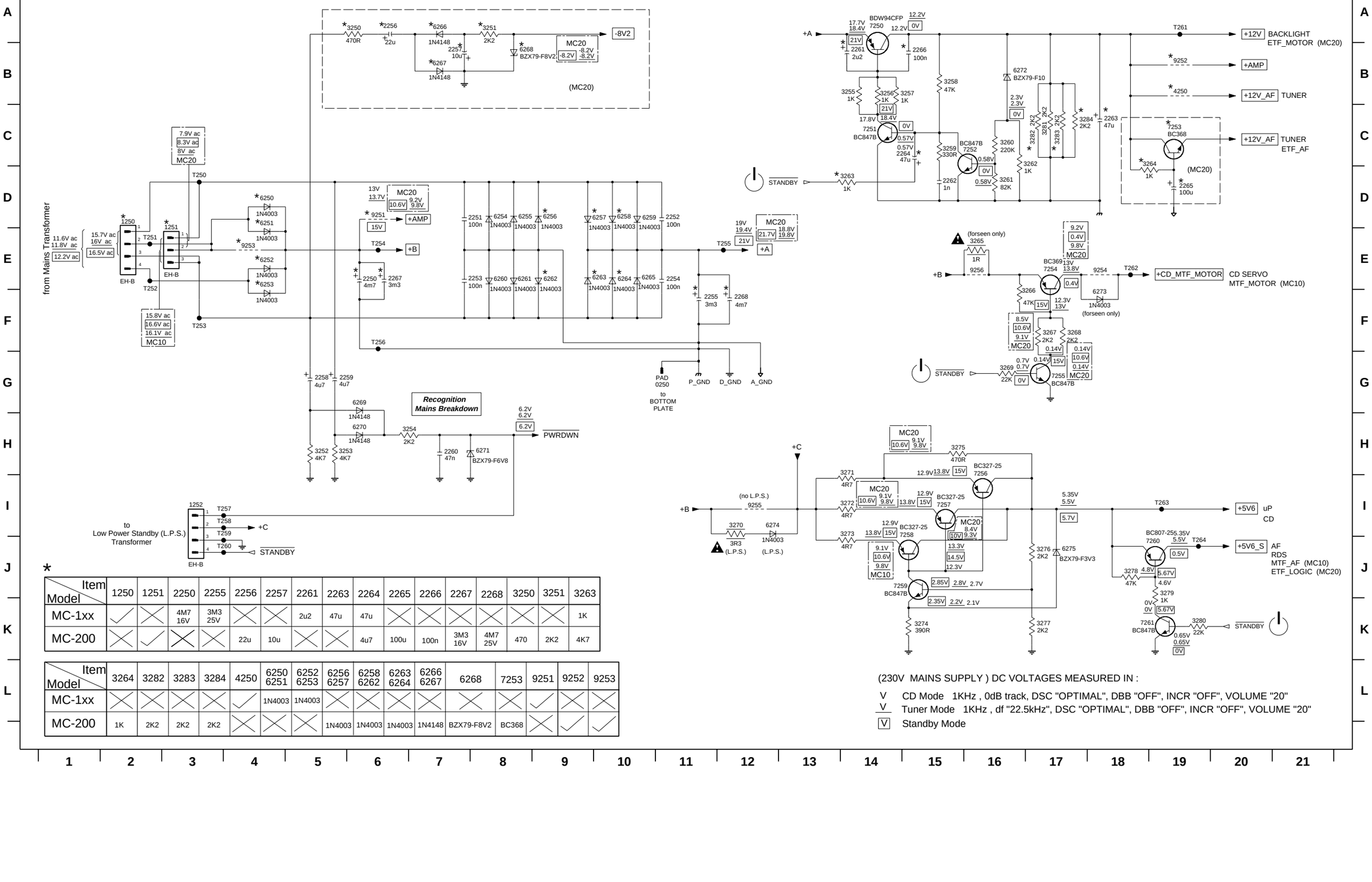
CIRCUIT DIAGRAM - COMBI BOARD (Part 3)

COMBI BOARD

Supply part



*

Item / Model	1250	1251	2250	2255	2256	2257	2261	2263	2264	2265	2266	2267	2268	3250	3251	3263
MC-1xx	✓	✗	4M7 16V	3M3 25V	✗	✗	2u2	47u	47u	✗	✗	✗	✗	✗	✗	1K
MC-200	✗	✓	✗	✗	22u	10u	✗	✗	4u7	100u	100n	3M3 16V	4M7 25V	470	2K2	4K7

Item / Model	3264	3282	3283	3284	4250	6250 6251	6252 6253	6256 6257	6258 6262	6263 6264	6266 6267	6268	7253	9251	9252	9253
MC-1xx	✗	✗	✗	✗	✓	1N4003	1N4003	✗	✗	✗	✗	✗	✗	✓	✗	✗
MC-200	1K	2K2	2K2	2K2	✗	✗	✗	1N4003	1N4003	1N4003	1N4148	BZX79-F8V2	BC368	✗	✓	✓

(230V MAINS SUPPLY) DC VOLTAGES MEASURED IN :

V CD Mode 1KHz , 0dB track, DSC "OPTIMAL", DBB "OFF", INCR "OFF", VOLUME "20"

V Tuner Mode 1KHz , df "22.5kHz", DSC "OPTIMAL", DBB "OFF", INCR "OFF", VOLUME "20"

[V] Standby Mode

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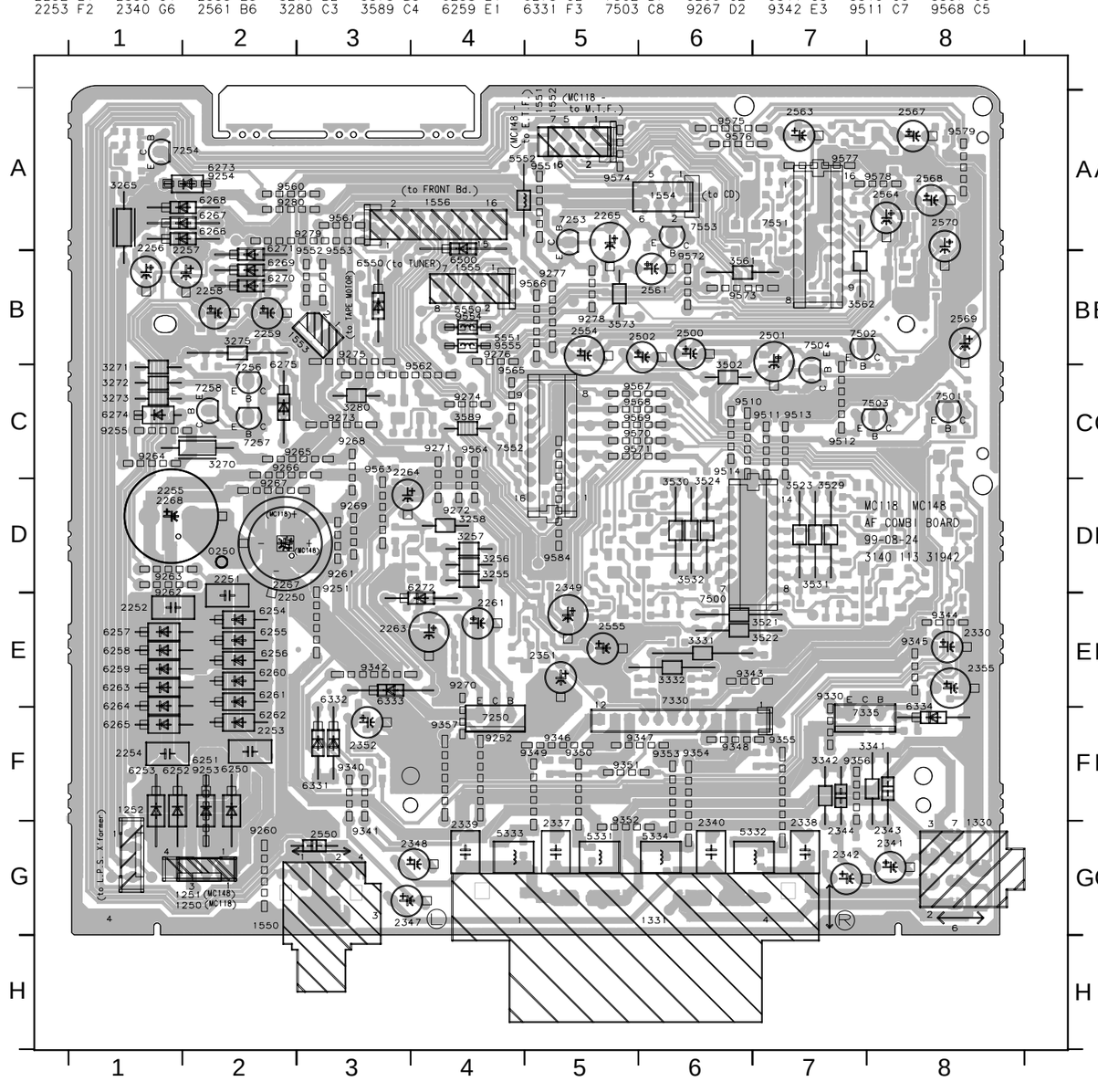
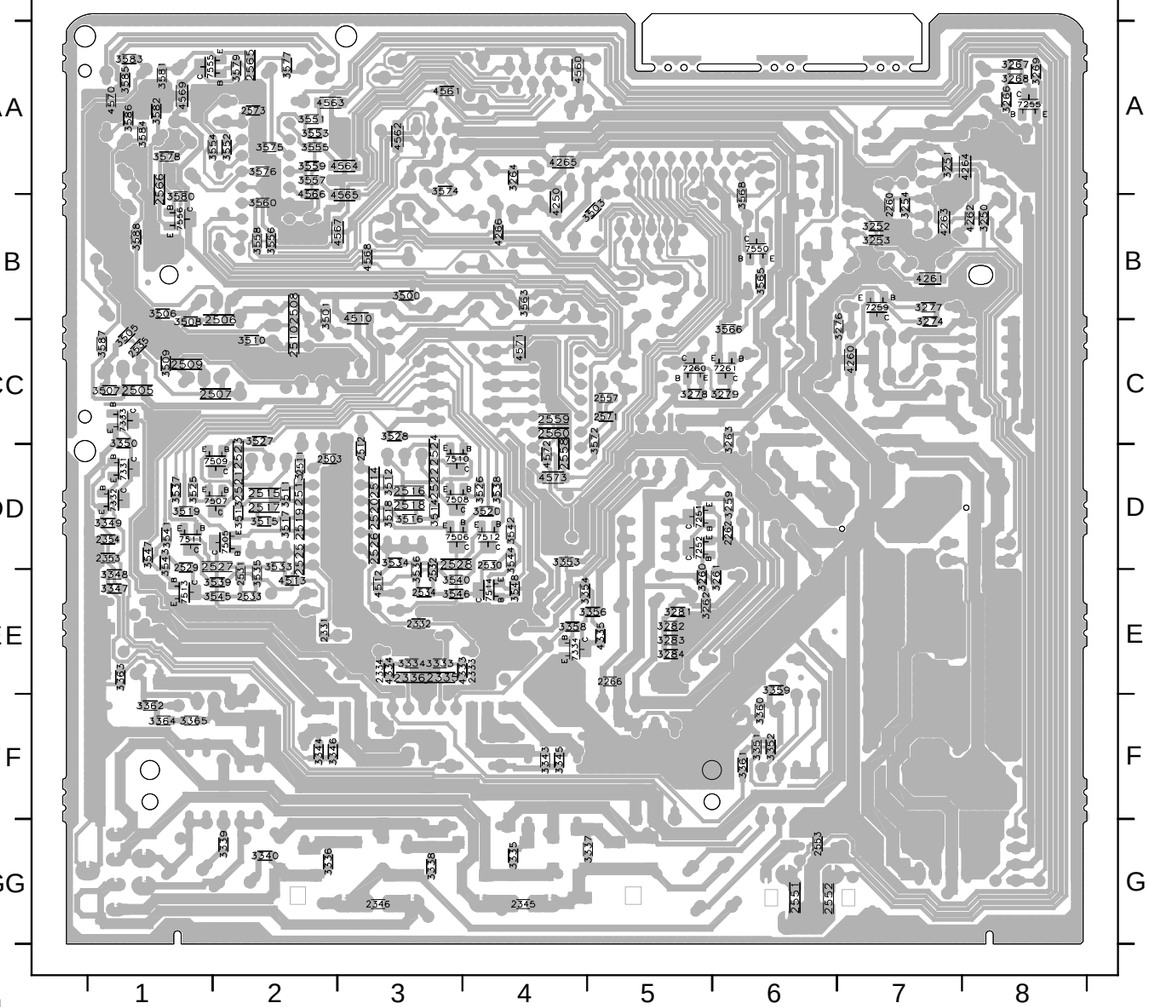
LAYOUT DIAGRAM - COMBI BOARD

0250 D2 2254 F1 2341 G8 2563 A7 3331 E6 5331 G5 6260 E2 6332 E3 7504 B7 9268 C3 9343 E6 9512 C7 9569 C5
1250 G2 2255 D1 2342 G7 2564 A8 3332 E6 5332 G7 6261 E2 6333 E3 7551 A7 9269 D3 9344 E8 9513 C7 9570 C5
1251 G2 2256 A1 2343 G8 2567 A8 3341 F8 5333 G4 6262 F2 6334 E8 7552 C4 9270 E4 9345 E8 9514 C6 9571 C5
1252 F1 2257 A2 2344 G7 2568 A8 3342 F7 5334 G6 6263 E1 6500 B4 7553 A6 9271 C4 9346 F5 9551 A5 9572 B6
1330 G8 2258 B2 2347 G3 2569 B8 3502 C6 5550 B4 6264 E1 6550 B3 9251 D3 9272 D4 9347 F6 9552 B3 9573 B6
1331 G6 2259 B2 2348 G4 2570 A8 3521 E7 5551 B4 6265 F1 7250 F4 9252 F4 9273 C3 9348 F6 9553 B3 9574 A5
1550 G2 2261 E4 2349 D5 3255 D4 3522 E7 5552 A4 6266 A2 7253 A5 9253 F2 9274 C4 9349 F5 9554 B4 9575 A6
1551 A5 2263 E3 2351 E5 3256 D4 3523 D7 6250 F2 6267 A2 7254 A2 9254 A2 9275 B3 9350 F5 9555 B4 9576 A6
1552 A5 2264 C3 2352 F3 3257 D4 3524 D6 6251 F2 6268 A2 7256 C2 9255 C1 9276 B4 9351 F5 9560 A2 9577 A7
1553 B3 2265 A5 2355 E8 3258 D4 3529 D7 6252 F1 6269 B2 7257 C2 9260 G2 9277 B5 9352 F5 9561 A3 9578 A8
1554 A6 2267 D2 2500 B6 3265 A1 3530 D6 6253 F1 6270 B2 7258 C2 9261 D3 9278 B5 9353 F6 9562 C4 9579 A8
1555 B4 2268 D1 2501 B7 3270 C2 3531 D7 6254 E2 6271 A2 7330 E6 9262 D1 9279 A3 9354 F6 9563 C3 9584 D5
1556 A4 2330 E8 2502 B6 3271 C1 3532 D6 6255 E2 6272 D4 7335 F7 9263 D1 9280 A2 9355 F7 9564 C4
2250 E2 2337 G5 2550 G3 3272 C1 3561 B6 6256 E2 6273 A2 7500 E6 9264 C1 9330 E7 9356 F7 9565 C4
2251 D2 2338 G7 2554 B5 3273 C1 3562 B7 6257 E1 6274 C1 7501 C8 9265 C3 9340 F3 9357 F4 9566 B5
2252 E1 2339 G4 2555 E5 3275 B2 3573 B5 6258 E1 6275 C2 7502 B7 9266 C2 9341 G3 9510 C6 9567 C5
2253 F2 2340 G6 2561 B6 3280 C3 3589 C4 6259 E1 6331 F3 7503 C8 9267 D2 9342 E3 9511 C7 9568 C5

2260 B7 2509 C1 2527 D2 2571 C5 3276 C7 3345 F4 3365 F1 3519 D1 3545 E2 3572 C5 4261 B7 4566 A2 7505 D2
2262 D6 2510 C2 2528 D3 2573 A2 3277 B7 3346 F2 3500 B3 3520 D4 3546 E3 3574 A3 4262 B8 4567 B3 7506 D3
2266 E5 2511 D2 2529 D1 3250 B8 3278 C5 3347 E1 3501 B2 3525 D1 3547 D1 3575 A2 4263 B7 4568 B3 7507 D2
2331 E2 2512 D3 2530 D4 3251 A7 3279 C6 3348 E1 3503 B5 3526 D4 3548 E4 3576 A2 4264 A8 4569 A1 7508 D3
2332 E3 2513 D2 2531 E2 3252 B7 3281 E5 3349 D1 3505 C1 3527 C2 3551 A2 3577 A2 4265 A4 4570 A1 7509 D2
2333 E4 2514 D3 2532 E3 3253 B7 3282 E5 3350 C1 3506 B1 3528 C3 3552 A2 3578 A1 4266 B4 4571 C4 7510 D3
2334 E3 2515 D2 2533 E2 3254 B7 3283 E5 3351 F6 3507 C1 3533 D2 3553 A2 3579 A2 4333 E4 4572 D4 7511 D1
2335 E3 2516 D3 2534 E3 3259 D6 3284 E5 3352 F6 3508 C1 3534 D3 3554 A2 3580 B1 4334 E3 4573 D4 7512 D4
2336 E3 2517 D2 2535 C1 3260 E5 3333 E3 3353 D4 3509 C1 3535 E2 3555 A2 3581 A1 4335 E5 7251 D5 7513 E1
2345 G4 2518 D3 2551 G6 3261 E6 3334 E3 3354 E4 3510 C2 3536 E3 3556 B2 3582 A1 4510 B3 7252 D5 7514 E4
2346 G3 2519 D2 2552 G6 3262 E5 3335 G4 3356 E5 3511 D2 3537 D1 3557 A2 3583 A1 4512 E3 7255 A8 7550 B6
2353 D1 2520 D3 2553 G6 3263 C6 3336 G2 3358 E4 3512 D3 3538 D4 3558 B2 3584 A1 4513 E2 7259 B7 7555 A1
2354 D1 2521 D2 2557 C5 3264 A4 3337 G5 3359 E6 3513 D2 3539 E2 3559 A2 3585 A1 4560 A4 7260 C5 7556 B1
2503 D2 2522 D3 2558 D4 3266 A8 3338 G3 3360 F6 3514 D3 3540 E3 3560 B2 3586 A1 4561 A3 7261 C6
2505 C1 2523 D2 2559 C4 3267 A8 3339 G2 3361 F6 3515 D2 3541 D1 3563 B4 3587 C1 4562 A3 7331 D1
2506 C2 2524 D3 2560 C4 3268 A8 3340 G2 3362 F1 3516 D3 3542 D4 3565 B6 3588 B1 4563 A2 7332 D1
2507 C2 2525 D2 2565 A2 3269 A8 3343 F4 3363 E1 3517 D2 3543 D1 3566 C6 4250 B4 4564 A3 7333 C1
2508 B2 2526 D3 2566 A1 3274 C7 3344 F2 3364 F1 3518 D3 3544 D4 3568 B6 4260 C7 4565 B3 7334 E4





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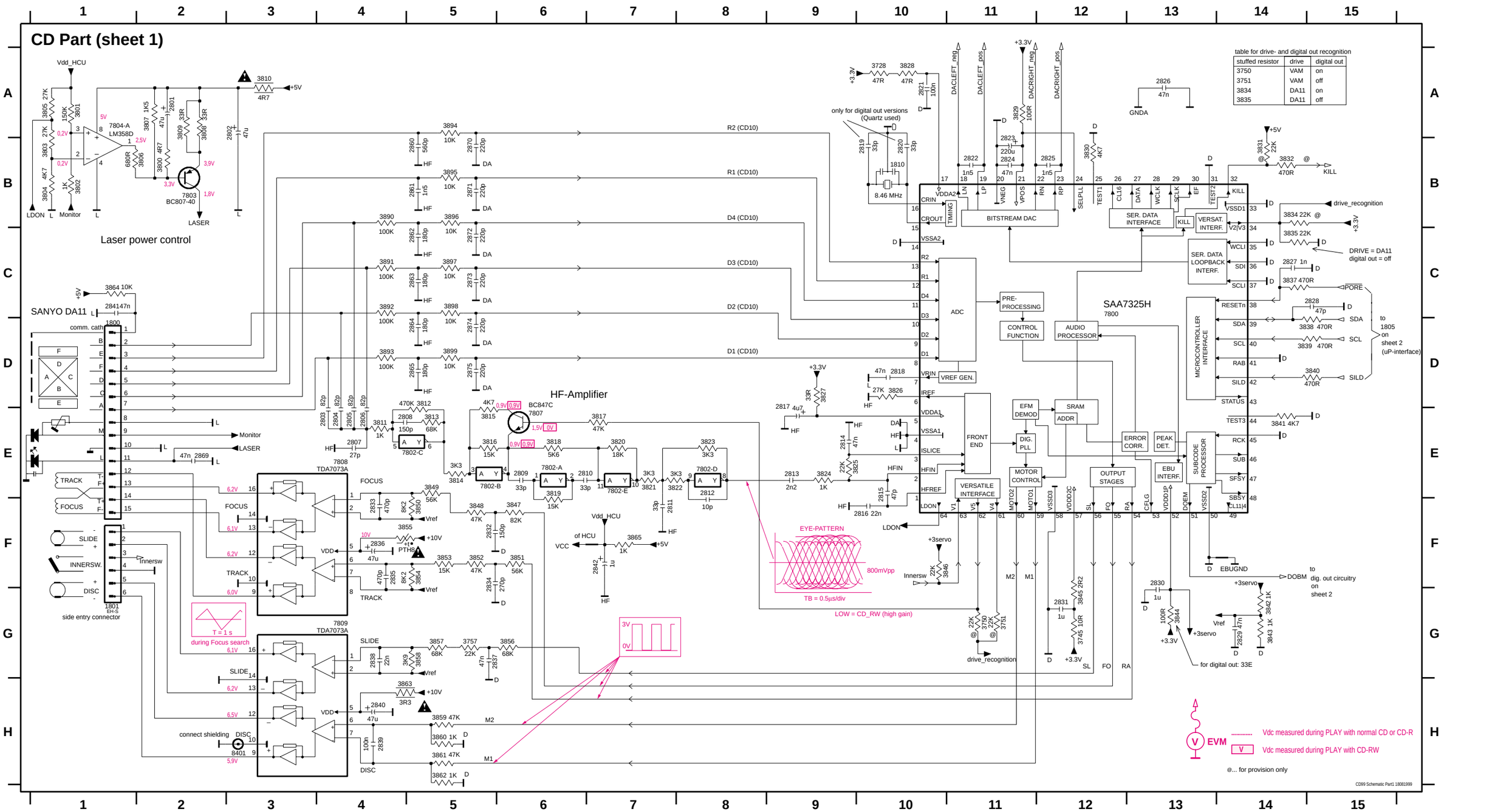
CIRCUIT DIAGRAM - CD99/ DA11 BOARD (Part 1)

1800 D1	2806 E4	2813 E9	2820 B10	2827 C14	2834 F5	2841 C1	2865 D5	2875 D5	3801 A1	3808 A2	3815 E5	3822 E7	3829 A11	3838 D14	3845 G12	3852 F5	3859 H5	3890 B4	3897 C5	7802-D E8	7808 E4
1801 G1	2807 E4	2814 E9	2821 B11	2828 C14	2835 F4	2842 F7	2869 E2	3728 A10	3802 B1	3809 A2	3816 E5	3823 E8	3830 B12	3839 D14	3846 F10	3853 F5	3860 H5	3891 C4	3898 C5	7802-E E7	7809 G4
2801 A2	2808 E4	2815 E10	2822 B11	2829 G14	2836 F4	2860 B5	2870 D0 B5	3745 G12	3803 B1	3810 A3	3817 E7	3824 E9	3831 B14	3840 D15	3847 F6	3854 F5	3861 H5	3892 C4	3899 D5	7802-F F8	8401 H3
2802 A3	2809 E6	2816 F10	2823 B11	2830 F13	2837 G5	2861 B5	2871 B5	3750 G11	3804 B1	3811 E4	3818 E6	3825 E9	3832 B14	3841 E14	3848 F5	3855 F4	3862 H5	3893 D4	7800 D12	7803 B2	
2803 E4	2810 E6	2817 D9	2824 B11	2831 G12	2838 G4	2862 C5	2872 C5	3751 G11	3805 A1	3812 D5	3819 E6	3826 D10	3833 B14	3842 G14	3849 E5	3856 G6	3863 H4	3894 A5	7802-A E6	7804 -A A1	
2804 E4	2811 F7	2818 D9	2825 B12	2832 F5	2839 H4	2863 C5	2873 C5	3757 G5	3806 B2	3813 E5	3820 E7	3827 D9	3834 B14	3843 G14	3850 F5	3857 G5	3864 C1	3895 B5	7802-B E5	7804 -B C3	
2805 E4	2812 E8	2819 B10	2826 A13	2833 F4	2840 H4	2864 D5	2874 C5	3800 B2	3807 A2	3814 E5	3821 E7	3828 A10	3835 C14	3844 G13	3851 F6	3858 G5	3865 F7	3896 B5	7802-C E5	7807 E6	



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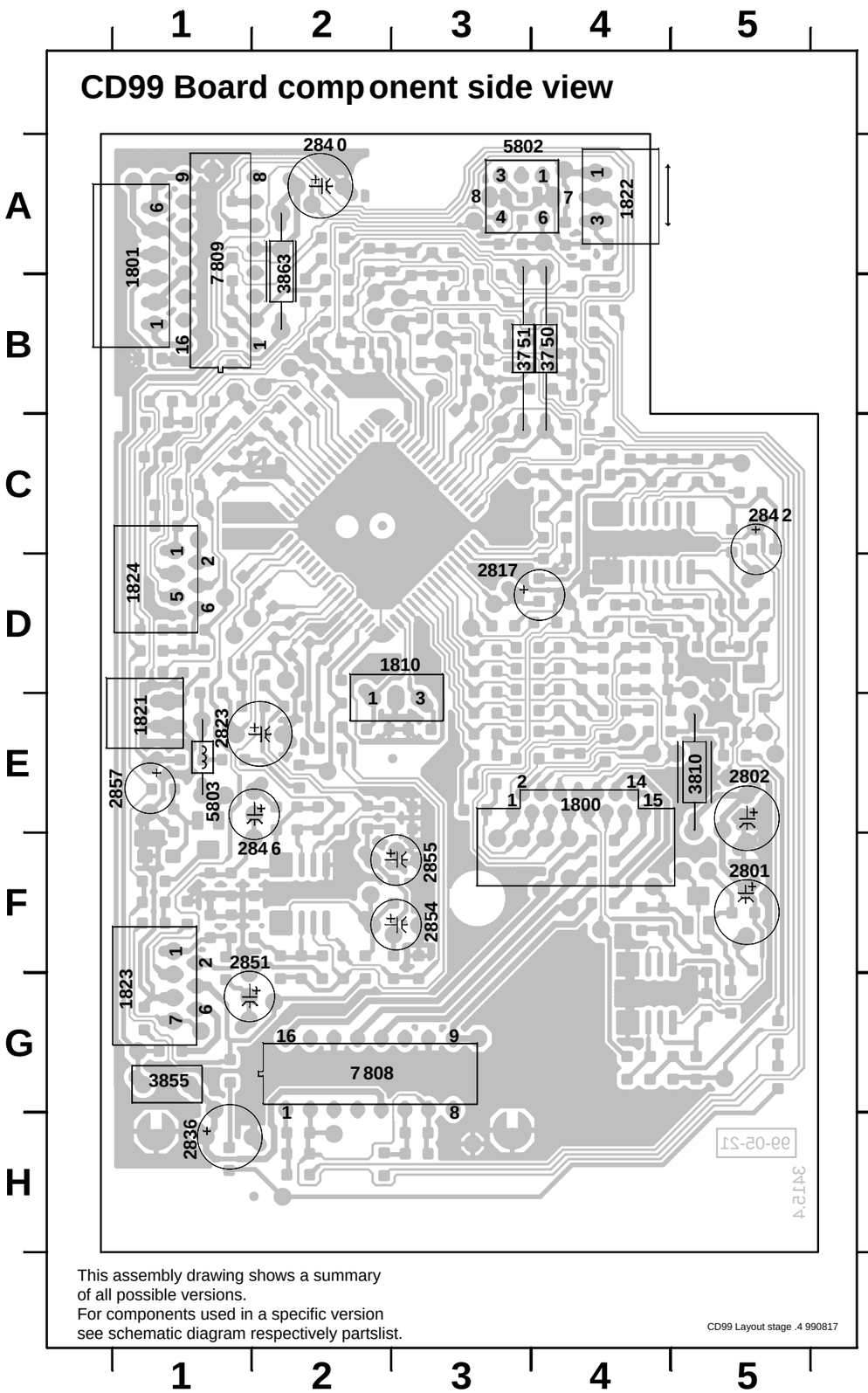
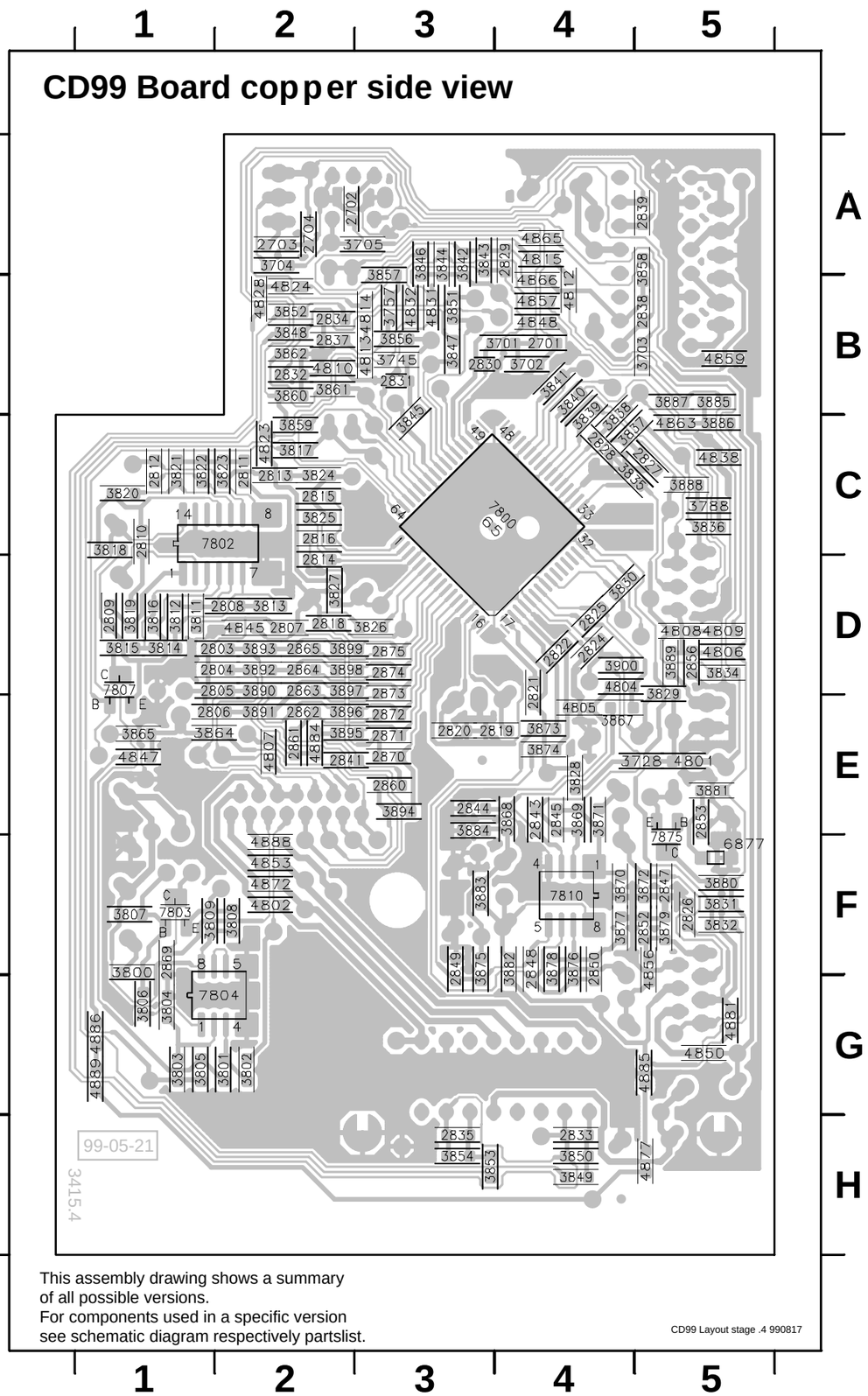
LAYOUT DIAGRAM - CD99/ DA11 BOARD



This assembly drawing shows a summary
of all possible versions.
For components used in a specific version
see schematic diagram respectively partslist.

CD99 Layout stage .4 990817

1800	F2	3703	B5	3876	F4
1801	A5	3704	A2	3877	F4
1810	D3	3705	A3	3878	F4
1821	E5	3728	E5	3879	F5
1822	A2	3745	B3	3880	F5
1823	G5	3750	B2	3881	E5
1824	D5	3751	B2	3882	F4
2701	B4	3757	B3	3883	F3
2702	A2	3788	C5	3884	E3
2703	A2	3800	F1	3885	B5
2704	A2	3801	G2	3886	C5
2801	F1	3802	G2	3887	B5
2802	E1	3803	G1	3888	C5
2803	D2	3804	G1	3889	D5
2804	D2	3805	G1	3890	D2
2805	D2	3806	G1	3891	E2
2806	E1	3807	F1	3892	D2
2807	D2	3808	F2	3893	D2
2808	D2	3809	F1	3894	E3
2809	D1	3810	E1	3895	E2
2810	C1	3811	D1	3896	E2
2811	C2	3812	D1	3897	D2
2812	C1	3813	D2	3898	D2
2813	C2	3814	D1	3899	D2
2814	D2	3815	D1	3900	D4
2815	C2	3816	D1	4801	E5
2816	C2	3817	C2	4802	F2
2817	D2	3818	C1	4804	D4
2818	D2	3819	D1	4805	E4
2819	E4	3820	C1	4806	D5
2820	E3	3821	C1	4807	E2
2821	D4	3822	C1	4808	D5
2822	D4	3823	C2	4809	D5
2823	E4	3824	C2	4810	B2
2824	D4	3825	C2	4812	B4
2825	D4	3826	D3	4813	B3
2826	F5	3827	D2	4814	B3
2827	C5	3828	E4	4815	A4
2828	C4	3829	D5	4823	C2
2829	A4	3830	D4	4824	B2
2830	B3	3831	F5	4828	B2
2831	B3	3832	F5	4831	B3
2832	B2	3834	D5	4832	B3
2833	H4	3835	C4	4838	C5
2834	B2	3836	C5	4845	D2
2835	H3	3837	C4	4847	E1
2836	G5	3838	C4	4848	B4
2837	B2	3839	C4	4850	G5
2838	B5	3840	B4	4853	F2
2839	A5	3841	B4	4856	F5
2840	A4	3842	A3	4857	B4
2841	E2	3843	A3	4859	B5
2842	C1	3844	A3	4863	C5
2843	E4	3845	C3	4865	A4
2844	E3	3846	A3	4866	B4
2845	E4	3847	B3	4872	F2
2846	E4	3848	B2	4877	H5
2847	F5	3849	H4	4881	G5
2848	F4	3850	H4	4884	E2
2849	F3	3851	B3	4885	G5
2850	F4	3852	B2	4886	G1
2851	G4	3853	H3	4888	F2
2852	F5	3854	H3	4889	G1
2853	E5	3855	G5	5802	A2
2854	F3	3856	B3	5803	E5
2855	E3	3857	B3	6877	F5
2856	D5	3858	A5	7800	C4
2857	E5	3859	C2	7802	C2
2860	E3	3860	B2	7803	F1
2861	E2	3861	B2	7804	G2
2862	E2	3862	B2	7807	D1
2863	D2	3863	A4	7808	G4
2864	D2	3864	E1	7809	A5
2865	D2	3865	E1	7810	F4
2869	F1	3867	E4	7875	F5
2870	E3	3868	E4	8401	H3
2871	E3	3869	E4	8402	H5
2872	E3	3870	F4		
2873	D3	3871	E4		
2874	D3	3872	F5		
2875	D3	3873	E4		
3701	B4	3874	E4		
3702	B4	3875	F3		



This assembly drawing shows a summary
of all possible versions.
For components used in a specific version
see schematic diagram respectively partslist.

CD99 Layout stage .4 990817

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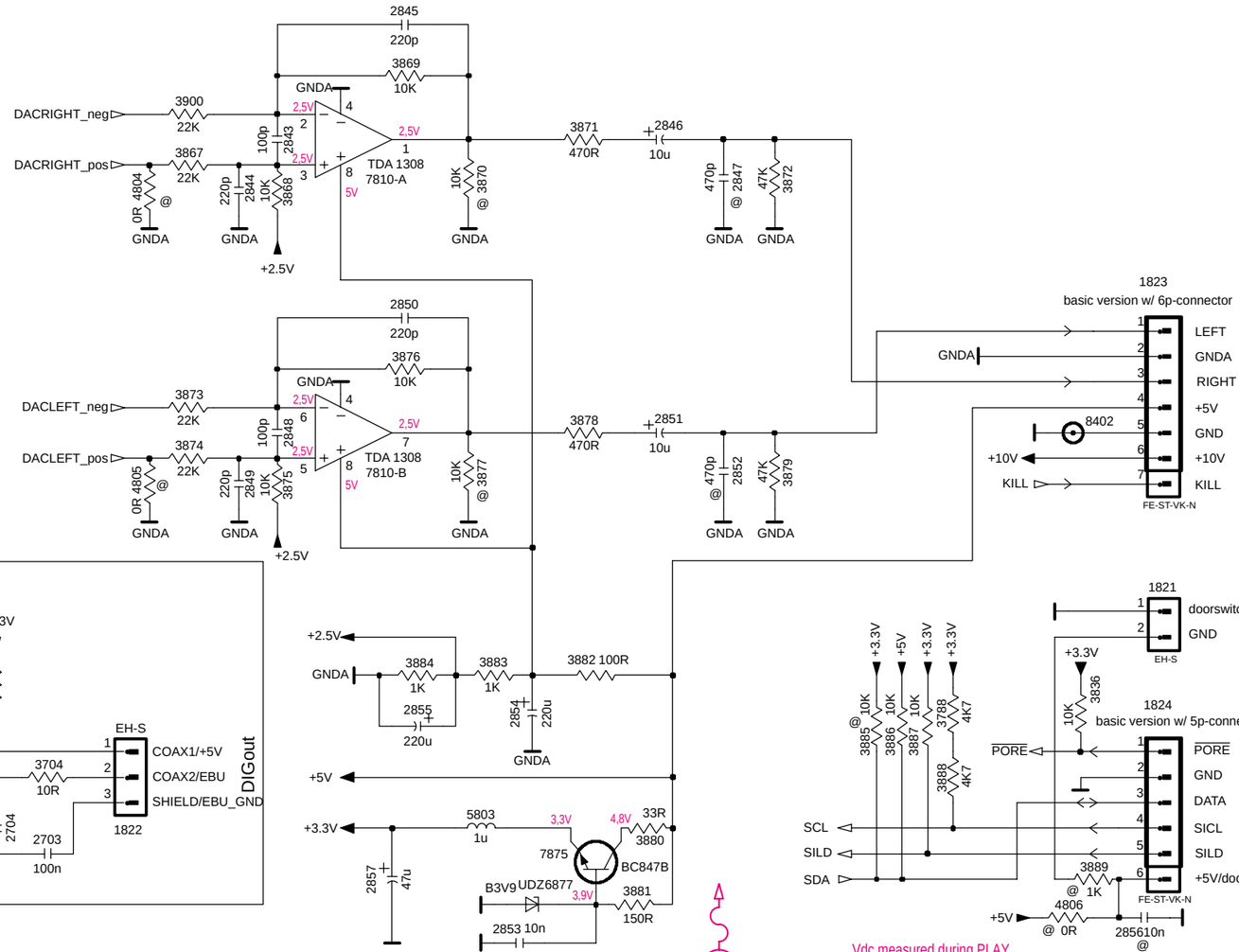
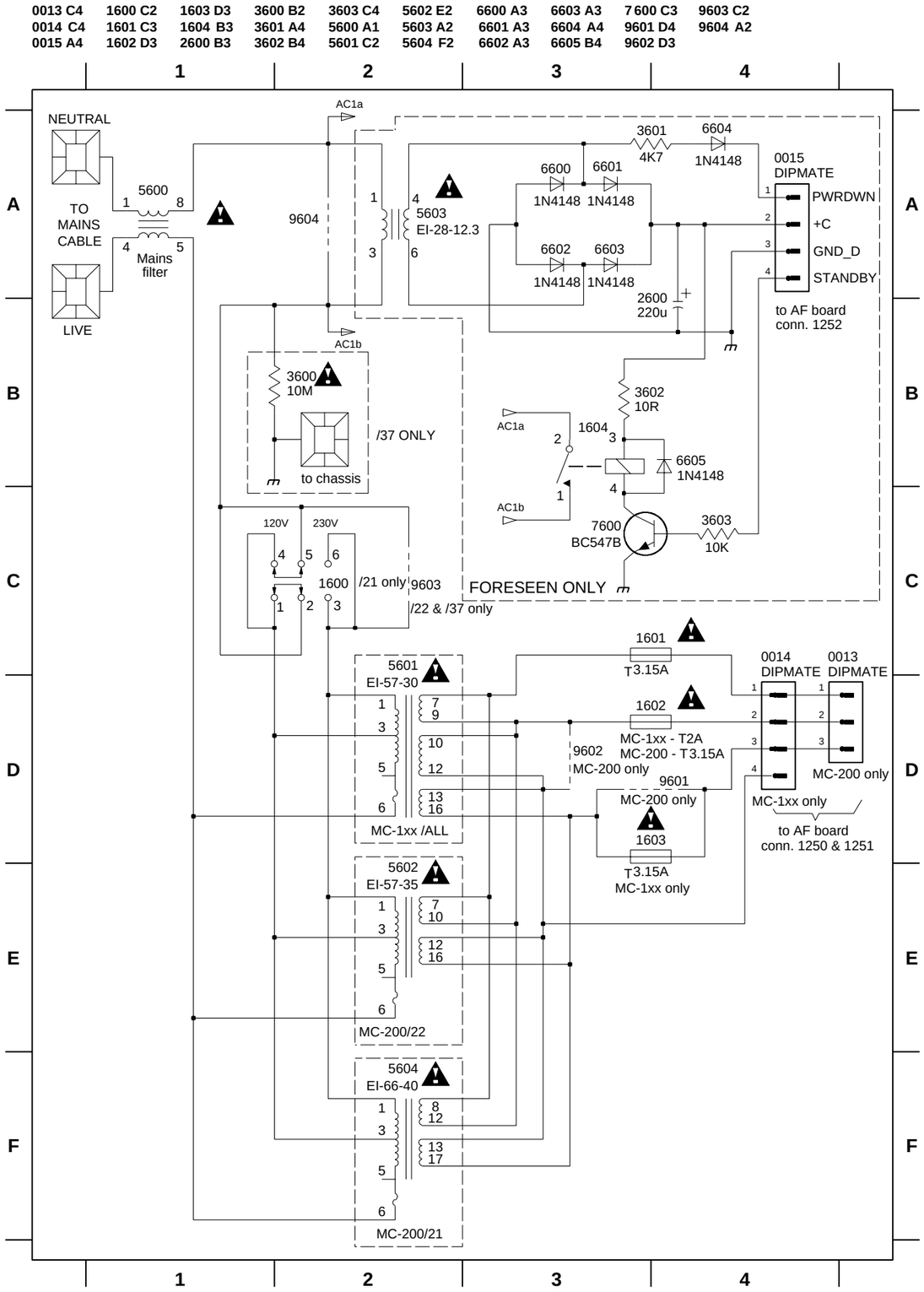
CIRCUIT DIAGRAM - CD99/ DA11 BOARD (Part 2)

1821 D10
1822 E4
1823 B10
1824 D10
27 01 E2
27 02 E2
27 03 E4
27 04 E3
28 43 A5
28 44 A5
28 45 A6
28 46 A7
28 47 A8
28 48 C5
28 49 C5
2850 B6
2851 C7
2852 C8
2853 E6
2854 D6
2855 D6
2856 E10
37 01 E1
37 02 E2
37 03 D3
37 04 E4
37 05 D3
37 88 E9
3836 D10
3867 A5
3868 A5
3869 A6
38 70 A6
38 71 A7
38 72 C5
38 73 C5
38 74 C5
38 75 C5
38 76 B6
38 77 C6
38 78 C7
38 79 C8
3880 E7
3881 E7
3882 D7
3883 D6
3884 D6
3885 E8
3886 E8
3887 E9
3888 E9
3889 E10
3900 A5
48 04 A4
48 05 C4
48 06 E9
5802 D3
5803 E6
687 7 E7
7810-A A5
7810-B C5
7875 E7
8402 C9

CD Part (sheet 2)

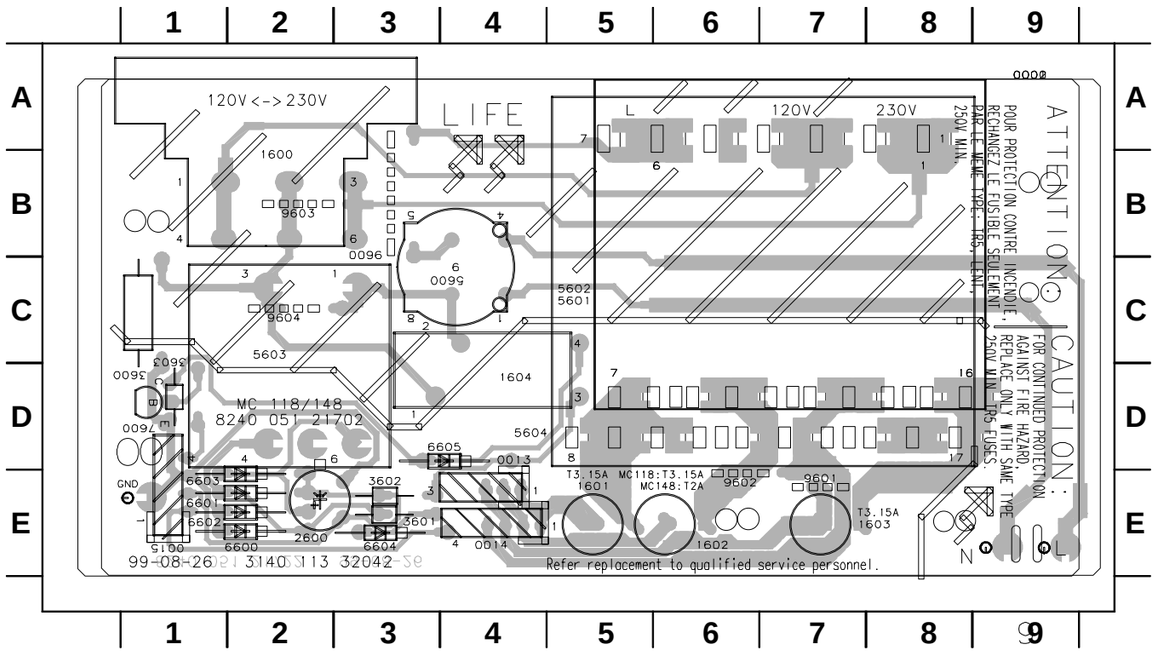


CIRCUIT DIAGRAM - POWER BOARD



LAYOUT DIAGRAM - POWER BOARD

0000 A9	0015 E1	1604 D4	3603 C1	5604 D4	6604 E3	9602 E6
0001 A9	1600 B2	2600 E2	5600 C4	6600 E2	6605 D4	9603 B2
0002 A9	1601 E5	3600 D1	5601 C5	6601 E1	7600 D1	9604 C2
0013 D4	1602 E6	3601 E3	5602 C5	6602 E1	9600 B3	
0014 E4	1603 E8	3602 E3	5603 C2	6603 E1	9601 E7	



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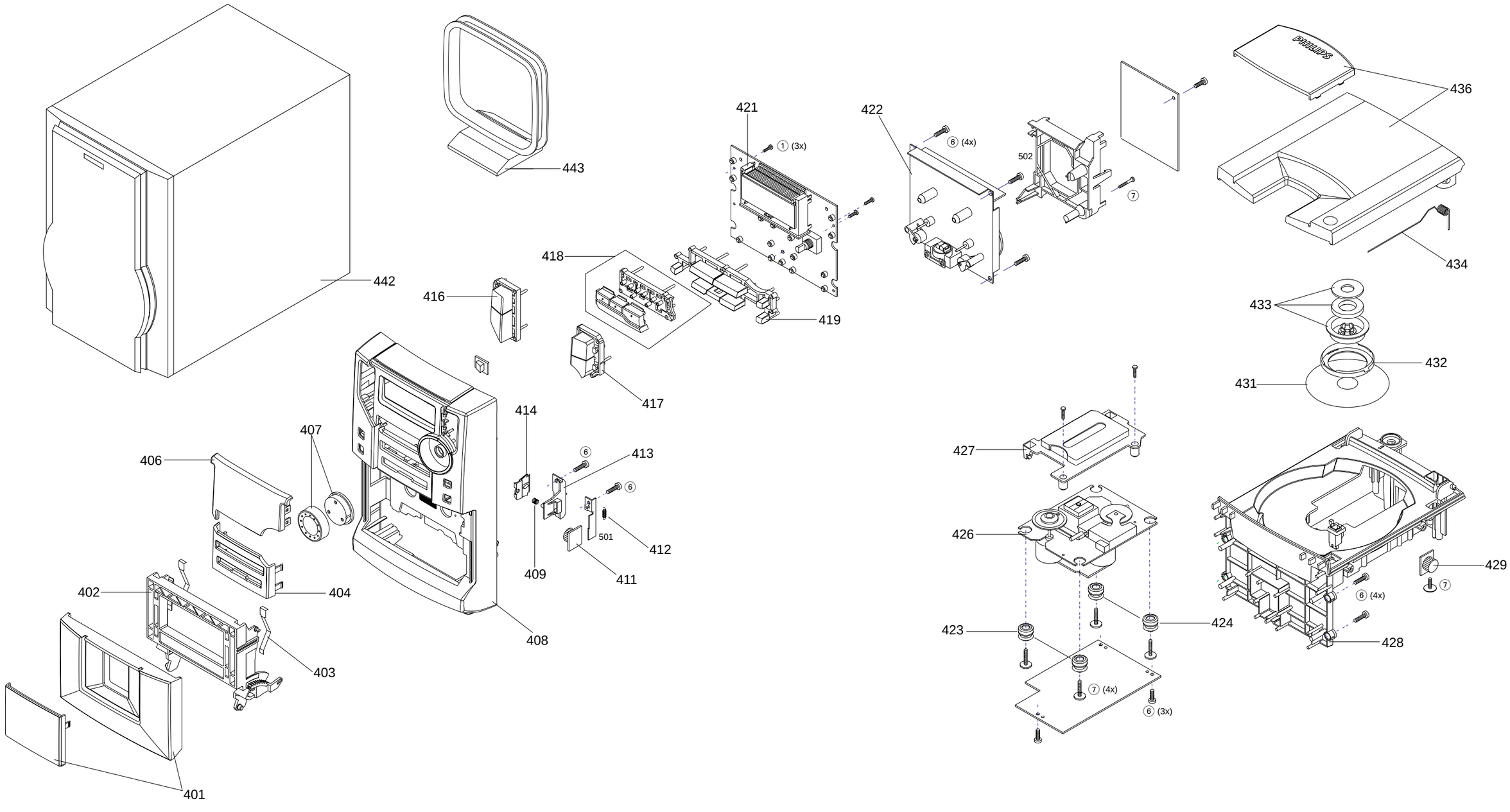
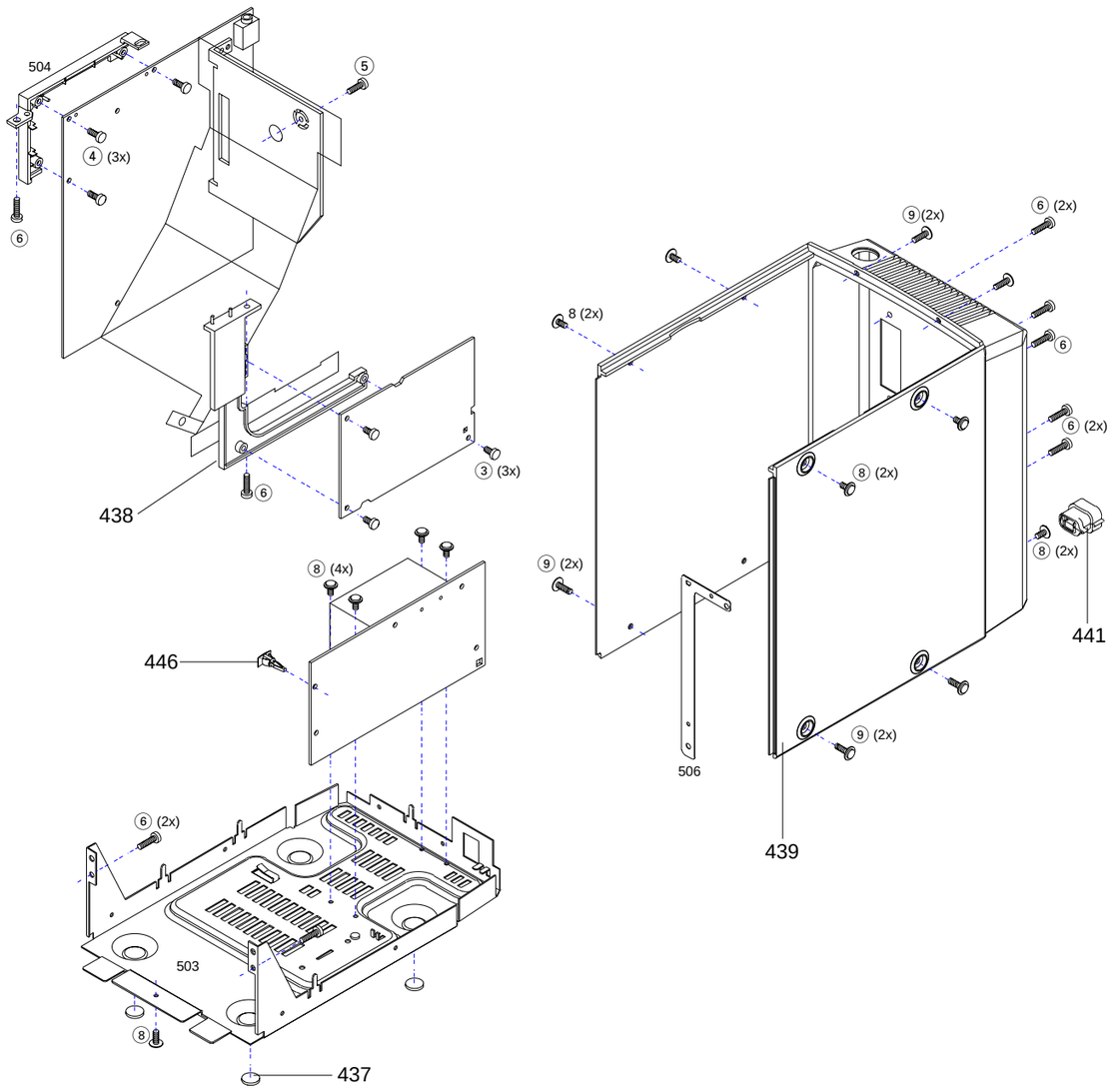
EXPLODED VIEW DIAGRAM



SCREW LIST

1. T2 x 10
2. T2.5 x 10
3. T3 x 6
4. T3 x 8
5. T3 x10
6. T3 x12
7. P/W C2.5 x 10
8. P/W T3 x 6
9. P/W T3 x 10



MECHANICAL PARTSLIST

401	3140 117 61880	CASSETTE DOOR ASSY
402	3139 114 73920	DOOR CASSETTE ETF SD
403	4822 492 42787	SPRING CASSETTE
404	3140 114 40100	FRONT CABINET COVER
406	3140 117 61850	FRONT WINDOW ASSY
407	3140 117 59350	VOLUME KNOB ASSY
408	3140 117 61820	FRONT CABINET ASSY (/21 /30 /33)
408	3140 117 61830	FRONT CABINET ASSY/ RDS (/22)
409	4822 492 11344	SPRING COMPRESSION
411	4822 529 10322	DAMPER ASSY
412	4822 492 11345	SPRING TENSION
413	4822 402 11246	BRACKET CASSETTE-RIGHT
414	4822 402 10621	PUSH-CATCH
416	3140 114 40010	FRONT KNOBS SOURCE
417	3140 114 40020	FRONT KNOBS PROGRAM
418	3140 117 61870	CHROME KNOBS ASSY
419	3140 114 40110	FRONT KNOBS PRESET
421	3140 114 29180	LCD HOLDER
422	3139 118 78740	TAPE DECK CRL 4438
423	4822 529 10387	DAMPER - RUBBER (40 DEG)
424	4822 529 10386	DAMPER - RUBBER (30 DEG)
426	3103 309 05290	CD DA11N DRIVE ASSY
427	4822 529 10322	CD DRIVE COVER
428	3140 114 42590	CD-TRAY
429	4822 529 10322	DAMPER ASSY
431	4822 535 60096	DISC
432	4822 532 13153	RING (CD LID)
433	4822 532 12798	PRESSURE RING ASSY
434	4822 492 11741	SPRING CD
436	3140 117 61840	CD DOOR ASSY
437	4822 462 40692	RUBBER STAND
438	3140 114 29310	TUNER BRACKET
439	3140 114 40140	REAR CABINET
441	3140 113 21880	MAINS CORD RELIEF
446	4822 466 93148	PCB SPACER

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

ACCESSORIES

3140 118 51000	LOUDSPEAKER BOX ASSY
3140 118 51010	REMOTE CONTROL
4822 303 50063	FM AERIAL
4822 303 50082	MW LOOP AERIAL
3140 115 28690	I.F.U. /22
3140 115 28680	I.F.U. /21, /21M, /30

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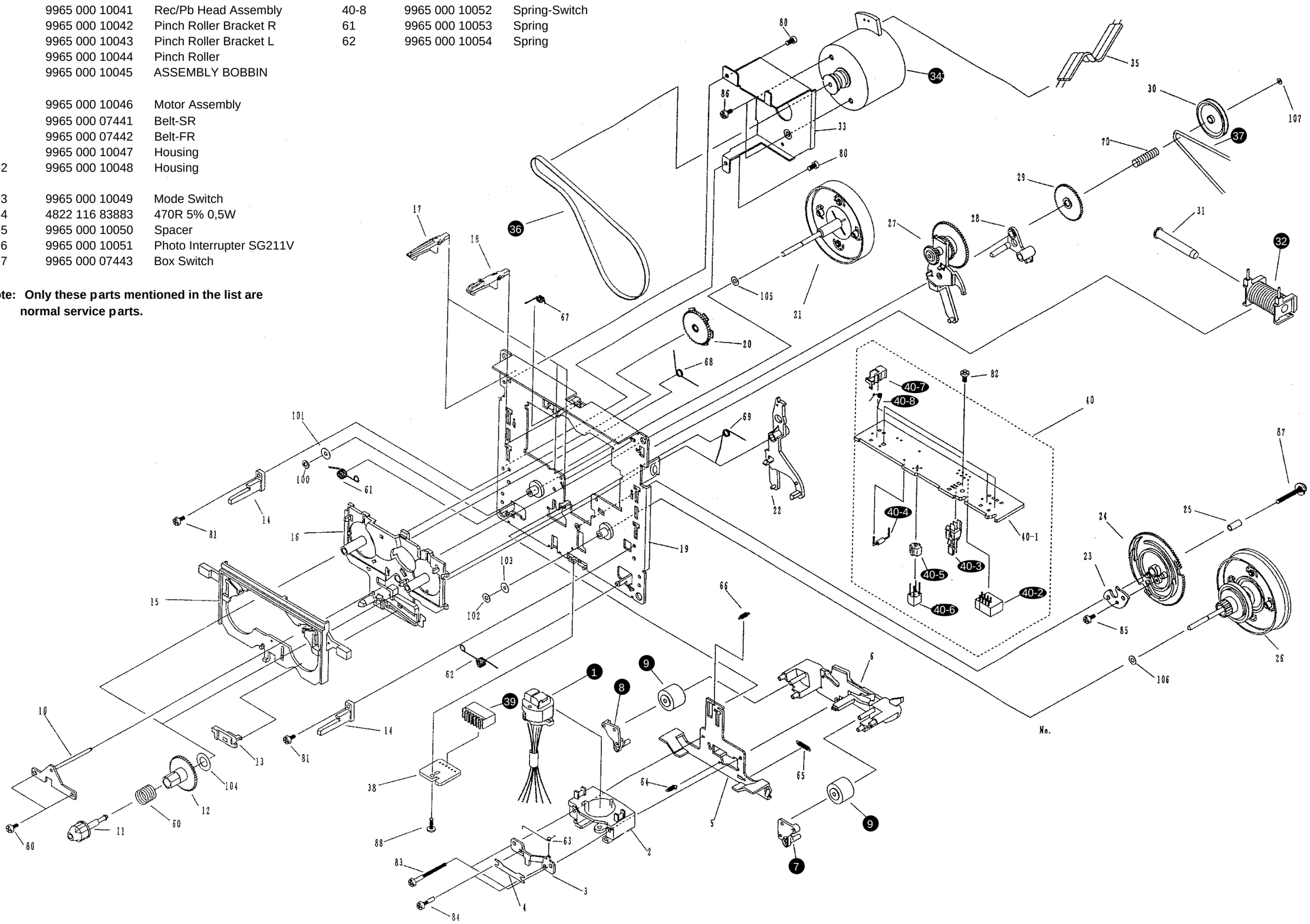
EXPLODED VIEW DIAGRAM - ETF8 TAPE DECK

1	9965 000 10041	Rec/Pb Head Assembly
7	9965 000 10042	Pinch Roller Bracket R
8	9965 000 10043	Pinch Roller Bracket L
9	9965 000 10044	Pinch Roller
32	9965 000 10045	ASSEMBLY BOBBIN
34	9965 000 10046	Motor Assembly
36	9965 000 07441	Belt-SR
37	9965 000 07442	Belt-FR
39	9965 000 10047	Housing
40-2	9965 000 10048	Housing
40-3	9965 000 10049	Mode Switch
40-4	4822 116 83883	470R 5% 0,5W
40-5	9965 000 10050	Spacer
40-6	9965 000 10051	Photo Interrupter SG211V
40-7	9965 000 07443	Box Switch
40-8	9965 000 10052	Spring-Switch
61	9965 000 10053	Spring
62	9965 000 10054	Spring

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



ELECTRICAL PARTSLIST - FRONT BOARD

MISCELLANEOUS

1400	4822 276 13775	Switch-Push
1401	4822 276 13775	Switch-Push
1402	4822 276 13775	Switch-Push
1403	4822 276 13775	Switch-Push
1404	4822 276 13775	Switch-Push
1405	4822 276 13775	Switch-Push
1406	4822 276 13775	Switch-Push
1407	4822 276 13775	Switch-Push
1408	4822 276 13775	Switch-Push
1409	4822 276 13775	Switch-Push
1410	4822 276 13775	Switch-Push
1411	4822 276 13775	Switch-Push
1412	4822 276 13775	Switch-Push
1413	4822 276 13775	Switch-Push
1414	4822 276 13775	Switch-Push
1415	2422 129 16349	Rotary Encoder 24P
1416	2422 025 14546	FFC Socket 16P
1418	4822 265 11207	FFC Socket 6P
1420	4822 267 10956	FFC Socket 7P
1425	3140 110 51000	LCD Panel

CAPACITORS

2400	5322 126 11583	10nF 10% X7R 50V
2401	5322 126 11583	10nF 10% X7R 50V
2402	4822 124 23432	100µF 20% 10V
2403	4822 126 14305	100nF 10% X7R 16V
2404	4822 124 23432	100µF 20% 10V
2405	5322 126 11583	10nF 10% X7R 50V
2406	5322 126 11583	10nF 10% X7R 50V
2407	4822 126 14305	100nF 10% X7R 16V
2408	4822 126 14305	100nF 10% X7R 16V
2409	5322 126 11583	10nF 10% X7R 50V
2410	5322 126 11583	10nF 10% X7R 50V
2411	4822 122 33752	15pF 5% NP0 50V
2412	4822 122 33752	15pF 5% NP0 50V
2413	4822 122 33777	47pF 5% NP0 63V
2414	5322 126 11583	10nF 10% X7R 50V
2415	4822 126 11669	27pF 10% 50V
2416	4822 126 11669	27pF 10% 50V
2417	4822 124 40433	47µF 20% 25V
2418	5322 126 11578	1nF 10% X7R 50V
2419	4822 126 14305	100nF 10% X7R 16V
2420	5322 126 11583	10nF 10% X7R 50V
2421	5322 126 11583	10nF 10% X7R 50V
2422	4822 122 31765	100pF 2% NP0 63V
2423	4822 122 31765	100pF 2% NP0 63V
2424	4822 126 14305	100nF 10% X7R 16V

CAPACITORS

2425	2222 867 15339	33pF 5% NP0 50V
2426	4822 122 33761	22pF 5% NP0 50V
2427	4822 126 14249	560pF 10% X7R 50V
2428	4822 124 22652	2,2µF 20% 50V
2429	4822 126 12787	330pF 10% Y5V 50V
2430	5322 126 11578	1nF 10% X7R 50V
2431	4822 126 13193	4,7nF 10% X7R 63V
2432	4822 122 31765	100pF 2% NP0 63V
2433	4822 126 13881	470pF 5% 50V
2434	4822 122 31765	100pF 2% NP0 63V
2435	4822 126 13881	470pF 5% 50V
2436	4822 126 13881	470pF 5% 50V
2437	4822 126 13881	470pF 5% 50V
2438	4822 126 13881	470pF 5% 50V
2439	4822 126 13881	470pF 5% 50V
2440	4822 126 14238	2,2nF 20% 50V
2441	5322 126 11583	10nF 10% X7R 50V
2442	4822 126 13883	220pF 5% 50V
2443	4822 126 13883	220pF 5% 50V
2444	4822 126 13883	220pF 5% 50V
2445	4822 126 13883	220pF 5% 50V
2446	5322 126 11583	10nF 10% X7R 50V
2447	4822 126 13881	470pF 5% 50V
2448	4822 126 13881	470pF 5% 50V
2449	4822 126 13881	470pF 5% 50V
2450	4822 126 13881	470pF 5% 50V
2451	4822 126 13881	470pF 5% 50V

RESISTORS

3400	4822 116 52176	10R 5% 0,5W
3401	4822 116 52182	15R 5% 0,5W
3402	4822 116 52175	100R 5% 0,5W
3403	4822 051 30682	6K8 5% 0,1W
3404	4822 051 30332	3K3 5% 0,1W
3405	4822 050 11002	1K 1% 0,4W
3406	4822 117 13632	100K 1% 0,1W
3407	4822 051 30102	1K 5% 0,1W
3408	4822 051 30474	470K 5% 0,1W
3409	4822 051 30103	10K 5% 0,1W
3410	4822 116 52175	100R 5% 0,5W
3411	4822 117 13632	100K 1% 0,1W
3412	4822 051 30103	10K 5% 0,1W
3413	4822 051 30102	1K 5% 0,1W
3414	4822 051 30333	33K 5% 0,1W
3415	4822 051 30153	15K 5% 0,1W
3416	4822 116 83872	220R 5% 0,5W
3417	4822 051 30153	15K 5% 0,1W
3418	4822 051 30152	1K5 5% 0,1W
3419	4822 051 30152	1K5 5% 0,1W

ELECTRICAL PARTSLIST - FRONT BOARD

RESISTORS

3420	4822 050 21003	10K 1% 0,6W
3421	4822 051 30562	5K6 5% 0,1W
3422	4822 116 83883	470R 5% 0,5W
3423	4822 050 11002	1K 1% 0,4W
3424	4822 051 30152	1K5 5% 0,1W
3425	4822 051 30222	2K2 5% 0,1W
3426	4822 051 30332	3K3 5% 0,1W
3427	4822 051 30562	5K6 5% 0,1W
3428	4822 051 30103	10K 5% 0,1W
3429	4822 050 21003	10K 1% 0,6W
3430	4822 051 30562	5K6 5% 0,1W
3431	4822 051 30471	470R 5% 0,1W
3432	4822 051 30102	1K 5% 0,1W
3433	4822 051 30152	1K5 5% 0,1W
3434	4822 051 30222	2K2 5% 0,1W
3435	4822 051 30332	3K3 5% 0,1W
3436	4822 051 30562	5K6 5% 0,1W
3437	4822 051 30223	22K 5% 0,1W
3438	4822 051 30223	22K 5% 0,1W
3439	4822 051 30102	1K 5% 0,1W
3440	4822 051 30102	1K 5% 0,1W
3441	4822 051 30102	1K 5% 0,1W
3442	4822 051 30333	33K 5% 0,1W
3443	4822 050 23303	33K 1% 0,6W
3444	4822 116 52175	100R 5% 0,5W
3445	4822 051 30222	2K2 5% 0,1W
3446	4822 117 12891	220K 1% 0,1W
3447	4822 051 30103	10K 5% 0,1W
3448	4822 116 52243	1K5 5% 0,5W
3449	4822 116 52257	22K 5% 0,5W
3450	4822 051 30103	10K 5% 0,1W
3451	4822 051 30471	470R 5% 0,1W
3452	4822 051 30103	10K 5% 0,1W
3453	4822 051 30102	1K 5% 0,1W
3454	4822 050 11002	1K 1% 0,4W
3455	4822 051 30102	1K 5% 0,1W
3456	4822 050 11002	1K 1% 0,4W
3457	4822 051 30103	10K 5% 0,1W
3458	4822 051 30102	1K 5% 0,1W
3459	4822 116 83872	220R 5% 0,5W
3460	4822 051 30471	470R 5% 0,1W
3461	4822 116 52283	4K7 5% 0,5W
3462	4822 051 30472	4K7 5% 0,1W
3463	4822 116 52283	4K7 5% 0,5W
3464	4822 051 30472	4K7 5% 0,1W
3465	4822 116 52283	4K7 5% 0,5W
3466	4822 051 30472	4K7 5% 0,1W
3467	4822 116 52256	2K2 5% 0,5W
3468	4822 051 30222	2K2 5% 0,1W
3469	4822 116 83883	470R 5% 0,5W

RESISTORS

3470	4822 051 30272	2K7 5% 0,1W
3471	4822 050 23303	33K 1% 0,6W
3472	4822 051 30474	470K 5% 0,1W
3473	4822 051 30472	4K7 5% 0,1W
3474	4822 050 11002	1K 1% 0,4W
3475	4822 051 30331	330R 5% 0,1W
3476	4822 116 83883	470R 5% 0,5W
3477	4822 051 30471	470R 5% 0,1W
3478	4822 116 83883	470R 5% 0,5W
3479	4822 051 30471	470R 5% 0,1W
3480	4822 050 11002	1K 1% 0,4W
3481	4822 051 30471	470R 5% 0,1W
3482	4822 050 11002	1K 1% 0,4W
3483	4822 051 30153	15K 5% 0,1W
3484	4822 051 30103	10K 5% 0,1W
3485	4822 116 52276	3K9 5% 0,5W
3486	4822 051 30101	100R 5% 0,1W
3487	4822 116 52276	3K9 5% 0,5W
3488	4822 051 30101	100R 5% 0,1W
3489	4822 050 11002	1K 1% 0,4W
3490	4822 051 30102	1K 5% 0,1W
3491	4822 050 11002	1K 1% 0,4W
3492	4822 051 30102	1K 5% 0,1W
3493	4822 050 11002	1K 1% 0,4W
3494	4822 051 30102	1K 5% 0,1W
3496	4822 051 30154	150K 5% 0,1W
3497	4822 051 30103	10K 5% 0,1W
4401	4822 051 20008	0R Jumper 0805
4410	4822 051 20008	0R Jumper 0805
4411	4822 051 20008	0R Jumper 0805
4412	4822 051 20008	0R Jumper 0805
4413	4822 051 20008	0R Jumper 0805
4414	4822 051 20008	0R Jumper 0805
4415	4822 051 20008	0R Jumper 0805
4416	4822 051 20008	0R Jumper 0805
4417	4822 051 20008	0R Jumper 0805
4418	4822 051 20008	0R Jumper 0805
4419	4822 051 20008	0R Jumper 0805

COILS AND FILTERS

5400	3198 018 11580	1,5µH 5%
5401	3198 018 11580	1,5µH 5%
5402	2422 540 98518	Resonator 8MHz
5403	2422 543 01069	Crystal 32,768kHz
5404	4822 242 11033	Crystal 4,332MHz

ELECTRICAL PARTSLIST - FRONT BOARD

DIODES

6400	4822 130 30621	1N4148
6401	4822 130 30621	1N4148

TRANSISTORS & IC

7400	3140 110 51200	TMP87CP23F / MC20
7402	4822 130 60511	BC847B
7403	4822 130 60511	BC847B
7404	9322 155 22667	REMOTE RECEIVER
7405	9322 140 83682	M24C01-BN6
7406	4822 209 31981	SAA6579T

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

ELECTRICAL PARTSLIST - TUNER BOARD ECO6 (Cenelec)

MISCELLANEOUS

1102	4822 267 10283	FM Ant. Socket
1103	4822 265 31184	AM Ant. Socket
1110	2422 542 90071	FM Frontend FE450-G01

CAPACITORS

2102	4822 126 14305	100nF 10% X7R 16V
2106	2020 800 00204	CTRM 4,2-20 pF N750
2107	4822 121 51319	1µF 10% 63V
2108	4822 122 31765	100pF 2% NP0 63V
2109	4822 122 33741	10pF 10% NP0 50V
2120	4822 122 33761	22pF 5% NP0 50V
2122	5322 126 11579	3,3nF 10% X7R 63V
2123	2238 861 18391	390pF 10% NP0 50V
2125	2238 861 18561	560pF 10% NP0 50V
2127	4822 126 13879	220nF +80-20% 16V
2128	4822 124 40248	10µF 20% 63V
2129	4822 124 41584	100µF 20% 10V
2130	4822 126 14494	22nF 10% X7R 25V
2131	3198 017 44740	470nF +80-20% 10V
2132	3198 017 44740	470nF +80-20% 10V
2133	4822 124 21913	1µF 20% 63V
2134	2020 552 94387	18nF 10% X7R 50V
2134	3198 017 31530	15nF 10% X7R 50V
2135	3198 017 31530	15nF 10% X7R 50V
2135	4822 122 33893	18nF10% X7R 63V
2136	4822 126 13879	220nF +80-20% 16V
2137	4822 126 13879	220nF +80-20% 16V
2138	4822 124 22652	2,2µF 20% 50V
2139	4822 122 33752	15pF 5% NP0 50V
2140	4822 126 14226	82pF 5% NP0 50V
2141	4822 126 14305	100nF 10% X7R 16V
2143	4822 126 13879	220nF +80-20% 16V
2144	4822 124 21913	1µF 20% 63V
2145	4822 126 13883	220pF 5% 50V
2146	4822 122 33575	220pF 5% NP0 63V
2147	4822 122 33575	220pF 5% NP0 63V
2148	4822 122 33127	2,2nF10% X7R 63V
2149	4822 126 11671	33pF 1% 50V
2150	4822 126 13838	100nF +80-20% 50V
2159	4822 126 11671	33pF 1% 50V
2162	4822 124 81151	22µF 20% 50V
2163	4822 126 14305	100nF 10% X7R 16V
2164	3198 017 44740	470nF +80-20% 10V
2165	4822 126 14305	100nF 10% X7R 16V
2166	5322 122 31647	1nF10% X7R 63V
2167	4822 126 11663	12pF 1% 50V
2169	4822 126 14238	2,2nF 20% X7R 50V
2180	5322 126 11583	10nF 10% X7R 50V
2191	4822 124 41584	100µF 20% 10V

RESISTORS

3105	4822 051 30221	220R 5% 0,1W
3108	4822 051 30222	2K2 5% 0,1W
3109	4822 051 30472	4K7 5% 0,1W
3123	4822 051 30472	4K7 5% 0,1W
3125	4822 051 30103	10K 5% 0,1W
3128	4822 051 30222	2K2 5% 0,1W
3130	4822 117 12968	820R 5% 0,6W
3131	4822 117 12968	820R 5% 0,6W
3132	4822 051 30479	47R 5% 0,1W
3134	4822 051 30223	22K 5% 0,1W
3135	4822 051 30102	1K 5% 0,1W
3137	4822 051 30223	22K 5% 0,1W
3141	4822 051 30563	56K 5% 0,1W
3142	4822 100 12159	100K 30%
3143	4822 051 30223	22K 5% 0,1W
3144	4822 051 30102	1K 5% 0,1W
3145	4822 051 30222	2K2 5% 0,1W
3146	4822 117 12139	22R 5% 0,1W
3150	4822 051 30103	10K 5% 0,1W
3151	4822 051 30683	68K 5% 0,1W
3152	4822 051 30471	470R 5% 0,1W
3153	4822 051 30471	470R 5% 0,1W
3154	4822 051 30331	330R 5% 0,1W
3155	4822 051 30151	150R 5% 0,1W
3158	4822 051 30471	470R 5% 0,1W
3159	4822 051 30471	470R 5% 0,1W
3160	4822 051 30471	470R 5% 0,1W
3161	4822 051 30223	22K 5% 0,1W
3167	4822 051 20121	120R 5% 0,1W
3168	4822 051 30121	120R 5% 0,1W
3169	4822 051 30154	150K 5% 0,1W
3171	4822 117 12925	47K 1% 0,1W
3172	4822 051 30562	5K6 5% 0,1W
3176	4822 051 30333	33K 5% 0,1W
3180	4822 051 30103	10K 5% 0,1W
3190	4822 051 30121	120R 5% 0,1W
3191	4822 051 30121	120R 5% 0,1W
3192	4822 051 30331	330R 5% 0,1W
3193	4822 051 30331	330R 5% 0,1W
3194	4822 051 30222	2K2 5% 0,1W
3195	4822 051 30101	100R 5% 0,1W
4105	4822 051 20008	0R Jumper 0805
4106	4822 051 30008	0R Jumper 0603
4107	4822 051 20008	0R Jumper 0805

ELECTRICAL PARTSLIST - TUNER BOARD ECO6 (Cenelec)

COILS AND FILTERS

5102	4822 157 71634	MW Aerial Coil
5103	2422 549 44107	LW Aerial Coil
5109	4822 157 71639	FM IF SFE10,7MJA10H-A
5110	4822 242 70665	FM IF SFE10,7MS3-A
5111	2422 549 44023	AM IF 7PY 450KHZ
5112	4822 157 70302	AM IF F7MCS-12216N
5114	4822 157 70302	AM IF F7MCS-12216N
5115	4822 157 71636	Birdie Filter Coil
5118	2422 535 95881	Inductor 0,1µH 5%
5119	4822 157 11443	FM Disc 2,4µH 10,7MHz
5121	4822 242 10261	Crystal 75KHz T6252F00
5122	2422 549 44108	MW Osc Coil
5123	2422 549 44108	LW Osc Coil

DIODES

6105	4822 130 83075	HN1V02H-B
6106	4822 130 83757	BAS216
6107	9340 386 90115	BZX284-C11
6120	4822 130 83757	BAS216

TRANSISTORS & IC

7101	9351 772 20557	TEA5762H/V1
7103	5322 130 42756	BC857C
7104	4822 130 40855	BC337
7105	4822 130 40855	BC337
7109	4822 130 60373	BC856B
7110	4822 130 60373	BC856B
7112	4822 130 44503	BC547C
7122	5322 130 42755	BC847C
7124	5322 130 42755	BC847C

ELECTRICAL PARTSLIST - TUNER BOARD ECO6 (Non cenelec)

MISCELLANEOUS

1102	4822 267 10283	FM Ant. Socket
1103	4822 265 31184	AM Ant. Socket
1120	4822 265 11515	FFC Socket 8P

CAPACITORS

2101	4822 122 33777	47pF 5% NP0 63V
2102	4822 126 14305	100nF 10% X7R 16V
2103	5322 126 11578	1nF 10% X7R 50V
2104	4822 122 31765	100pF 2% NP0 63V
2106	2020 800 00191	CTRM 3P-11P N450
2107	4822 121 51319	1µF 10% 63V
2120	4822 126 14507	18pF 5% 50V
2124	4822 126 14494	22nF 10% X7R 25V
2125	2238 861 18561	560pF 1% NP0 50V
2126	4822 126 14241	330pF 10% NP0 50V
2127	4822 126 13879	220nF +80-20% 16V
2128	4822 124 40248	10µF 20% 63V
2129	4822 124 41584	100µF 20% 10V
2130	4822 126 14494	22nF 10% X7R 25V
2131	3198 017 44740	470nF +80-20% 10V
2132	3198 017 44740	470nF +80-20% 10V
2133	4822 124 21913	1µF 20% 63V
2134	3198 017 31530	15nF 20% X7R 50V
2135	3198 017 31530	15nF 20% X7R 50V
2136	4822 126 13879	220nF +80-20% 16V
2137	4822 126 13879	220nF +80-20% 16V
2138	4822 124 22652	2,2µF 20% 50V
2139	4822 122 33752	15pF 5% NP0 50V
2140	4822 126 14226	82pF 5% NP0 50V
2141	4822 126 14305	100nF 10% X7R 16V
2143	4822 126 13879	220nF +80-20% 16V
2144	4822 124 21913	1µF 20% 63V
2145	4822 126 13883	220pF 5% 50V
2146	4822 126 13883	220pF 5% 50V
2147	4822 126 13883	220pF 5% 50V
2148	4822 126 14238	2,2nF 10% X7R 50V
2150	4822 126 14585	100nF 10% X7R 50V
2152	4822 126 14549	33nF 10% 16V
2153	4822 122 33752	15pF 5% NP0 50V
2155	2020 800 00191	CTRM 3P-11P N450
2159	4822 126 11671	33pF 1% 50V
2164	3198 017 44740	470nF +80-20% 10V
2165	4822 126 14305	100nF 10% X7R 16V
2166	5322 126 11578	1nF 10% X7R 50V
2167	4822 126 11663	12pF 1% 50V

RESISTORS

3101	4822 051 30333	33K 5% 0,1W
3102	4822 117 13632	100K 1% 0,62W
3103	4822 117 12902	8K2 1% 0,1W
3104	4822 117 13577	330R 1% 0,25W
3105	4822 051 30221	220R 5% 0,1W
3132	4822 051 30479	47R 5% 0,1W
3134	4822 051 30223	22K 5% 0,1W
3141	4822 051 30563	56K 5% 0,1W
3142	4822 100 12159	100K 30% Var.
3145	4822 051 30222	2K2 5% 0,1W
3146	4822 117 12139	22R 5% 0,1W
3152	4822 051 30471	470R 5% 0,1W
3153	4822 051 30471	470R 5% 0,1W
3154	4822 051 30331	330R 5% 0,1W
3155	4822 051 30221	220R 5% 0,1W
3156	4822 117 13632	100K 1% 0,62W
3158	4822 051 30471	470R 5% 0,1W
3159	4822 051 30471	470R 5% 0,1W
3160	4822 051 30471	470R 5% 0,1W
3161	4822 051 20223	22K 5% 0,1W
3167	4822 051 20121	120R 5% 0,1W
3168	4822 051 30121	120R 5% 0,1W
3169	4822 051 30154	150K 5% 0,1W
3170	4822 117 13632	100K 1% 0,62W
3172	4822 051 30562	5K6 5% 0,1W
3181	4822 051 30102	1K 5% 0,1W
4103	4822 051 30008	0R Jumper 0603
4106	4822 051 20008	0R Jumper 0805
4107	4822 051 30008	0R Jumper 0603
4108	4822 051 30008	0R Jumper 0603

COILS AND FILTERS

5102	4822 157 71634	MW Aerial Coil
5109	4822 242 70665	FM IF SFE10,7MS3-A
5110	4822 242 70665	FM IF SFE10,7MS3-A
5111	2422 549 44023	AM IF 7PY 450KHZ
5112	4822 157 70302	AM IF F7MCS-12216N
5114	4822 157 70302	AM IF F7MCS-12216N
5119	4822 157 11443	FM Disr 2,4µH 10,7MHz
5121	4822 242 10261	Crystal 75KHz T6252F00
5123	2422 549 44108	MW Osc Coil
5130	4822 157 11843	FM RF Coil
5131	4822 157 11843	FM RF Coil

ELECTRICAL PARTSLIST - TUNER BOARD ECO6 (Non cenelec)

DIODES

6103	5322 130 34337	BAV99
6105	4822 130 83075	HN1V02H-B
6106	4822 130 83757	BAS216
6107	9340 386 90115	BZX284-C11
6130	4822 130 82833	1SV228
6131	4822 130 82833	1SV228

TRANSISTORS & IC

7101	9351 740 80557	TEA5757H/V1
7102	4822 130 42131	BF550
7111	5322 130 42755	BC847C
7112	4822 130 40959	BC547B

ELECTRICAL PARTSLIST - ETF8 SD BOARD

- CAPACITORS -

2621	5322 126 11578	1nF 10% X7R 50V
2622	4822 126 13881	470pF 5% 50V
2623	4822 126 13881	470pF 5% 50V
2625	4822 126 14305	100nF 10% X7R 16V
2701	4822 122 31765	100pF 2% NP0 63V
2702	4822 122 31765	100pF 2% NP0 63V
2703	4822 122 31765	100pF 2% NP0 63V
2704	4822 122 31765	100pF 2% NP0 63V
2709	5322 126 11578	1nF 10% X7R 50V
2710	5322 126 11578	1nF 10% X7R 50V
2711	4822 122 31765	100pF 2% NP0 63V
2712	4822 122 31765	100pF 2% NP0 63V
2713	5322 121 42386	100nF 5% 63V
2714	5322 121 42386	100nF 5% 63V
2715	4822 124 41584	100µF 20% 10V
2716	4822 124 41584	100 F 20% 10V
2717	3198 017 31530	15nF 20% X7R 50V
2718	3198 017 31530	15nF 20% X7R 50V
2719	4822 126 14549	33nF 10% X7R 16V
2720	4822 126 14549	33nF 10% X7R 16V
2721	3198 017 41050	1µF 20% Y5V 10V
2722	3198 017 41050	1µF 20% Y5V 10V
2723	4822 126 14238	2,2nF 20% X7R 50V
2724	4822 126 14238	2,2nF 20% X7R 50V
2725	4822 126 13883	220pF 5% 50V
2727	4822 126 14238	2,2nF 20% X7R 50V
2728	4822 126 14238	2,2nF 20% X7R 50V
2729	4822 126 14494	22nF 10% X7R 25V
2730	4822 126 14494	22nF 10% X7R 25V
2731	5322 126 11578	1nF 10% X7R 50V
2732	3198 017 41050	1µF 20% Y5V 10V
2743	4822 126 14494	22nF 10% X7R 25V
2747	4822 126 14549	33nF 10% X7R 16V
2761	4822 124 40196	220µF 20% 16V
2768	4822 124 40756	1µF 20% 100V
2769	4822 126 14238	2,2nF 20% X7R 50V
2770	4822 126 14238	2,2nF 20% X7R 50V
2780	4822 124 81151	22µF 20% 50V
2781	5322 126 11583	10nF 10% X7R 50V
2782	4822 126 13193	4,7nF 10% X7R 63V
2784	4822 121 51305	15nF 10% 50V
2785	4822 124 21913	1µF 20% 63V
2786	4822 122 31765	100pF 2% NP0 63V
2787	4822 126 14549	33nF 10% X7R 16V
2782	4822 126 13193	4,7nF 10% X7R 63V
2784	4822 121 51305	15nF 10% 50V
2785	4822 124 21913	1µF 20% 63V
2786	4822 122 31765	100pF 2% NP0 63V
2787	4822 126 14549	33nF 10% X7R 16V
2788	4822 126 14494	22nF 10% X7R 25V

- CAPACITORS -

2789	4822 126 14549	33nF 10% X7R 16V
2790	4822 126 14247	1,5nF 20% X7R 50V
2791	4822 126 14247	1,5nF 20% X7R 50V
2793	4822 126 13883	220pF 5% 50V
2794	4822 126 13883	220pF 5% 50V
2795	4822 124 40756	1µF 20% 100V
2796	4822 124 40433	47µF 20% 25V
2797	4822 124 81151	22µF 20% 50V
2798	4822 124 21732	10µF 20% 25V
2799	4822 126 14305	100nF 10% X7R 16V

RESISTORS

2732	4822 117 11817	1,2K 1% 0,1W
3607	4822 051 30222	2,2K 5% 0,1W
3608	4822 051 30273	27K 5% 0,1W
3609	4822 051 30222	2,2K 5% 0,1W
3610	4822 051 20124	120K 5% 0,1W
3611	4822 051 30222	2,2K 5% 0,1W
3612	4822 051 30563	56K 5% 0,1W
3614	4822 051 30273	27K 5% 0,1W
3624	4822 117 13632	100K 1% 0.1W
3626	4822 051 30102	1K 5% 0,1W
3628	4822 117 13632	100K 1% 0.1W
3630	4822 051 30471	470R 5% 0,1W
3678	4822 117 12925	47K 1% 0,1W
3680	4822 117 12925	47K 1% 0,1W
3686	4822 117 13632	100K 1% 0.1W
3709	4822 051 30339	33R 5% 0,1W
3710	4822 051 30339	33R 5% 0,1W
3711	4822 051 30101	100R 5% 0,1W
3712	4822 051 30101	100R 5% 0,1W
3717	4822 117 11817	1,2K 1% 0,1W
3718	4822 117 11817	1,2K 1% 0,1W
3719	4822 051 30272	2,7K 5% 0,1W
3720	4822 051 30272	2,7K 5% 0,1W
3721	4822 051 30562	5,6K 5% 0,1W
3722	4822 051 30562	5,6K 5% 0,1W
3723	4822 051 30183	18K 5% 0,1W
3724	4822 051 30183	18K 5% 0,1W
3733	4822 051 30273	27K 5% 0,1W
3734	4822 051 30273	27K 5% 0,1W
3735	4822 051 30223	22K 5% 0,1W
3736	4822 051 30223	22K 5% 0,1W
3737	4822 051 30102	1K 5% 0,1W
3738	4822 051 30102	1K 5% 0,1W
3739	4822 117 12925	47K 1% 0,1W
3740	4822 117 12925	47K 1% 0,1W

ELECTRICAL PARTSLIST - ETF8 SD BOARD

RESISTORS

3743	4822 051 30563	56K 5% 0,1W
3744	4822 051 30563	56K 5% 0,1W
3745	4822 117 11817	1,2K 1% 0,1W
3746	4822 117 11817	1,2K 1% 0,1W
3749	4822 051 30121	120R 5% 0,1W
3750	4822 051 30121	120R 5% 0,1W
3762	4822 117 12968	820R 5% 0,1W
3764	4822 051 30181	180R 5% 0,1W
3768	4822 051 30103	10K 5% 0,1W
3769	4822 051 30223	22K 5% 0,1W
3770	4822 051 30152	1,5K 5% 0,1W
3771	4822 117 11817	1,2K 1% 0,1W
3772	4822 051 30153	15K 5% 0,1W
3774	4822 051 30183	18K 5% 0,1W
3775	4822 117 13608	4,7R 5% 0,1W
3776	4822 051 30682	6,8K 5% 0,1W
3777	4822 051 30151	150R 5% 0,1W
3778	4822 052 10688	6,8R 5% 0,33W
3779	4822 051 30334	330K 5% 0,1W
3780	4822 051 30105	1M 5% 0,1W
3781	4822 051 30475	4,7M 5% 0,1W
3786	4822 051 30223	22K 5% 0,1W
3789	4822 117 12925	47K 1% 0,1W
3790	4822 051 30223	22K 5% 0,1W
3791	4822 051 30273	27K 5% 0,1W
3792	4822 117 12925	47K 1% 0,1W
3793	4822 117 12925	47K 1% 0,1W
3794	4822 051 30102	1K 5% 0,1W
3795	4822 051 30102	1K 5% 0,1W
3796	4822 051 30475	4,7M 5% 0,1W
3797	4822 051 30563	56K 5% 0,1W
3800	4822 051 30273	27K 5% 0,1W
4701	4822 051 30008	0R JUMPER 0603
4702	4822 051 30008	0R JUMPER 0603
4705	4822 051 30008	0R JUMPER 0603
4707	4822 051 30008	0R JUMPER 0603
4708	4822 051 30008	0R JUMPER 0603
4709	4822 051 30008	0R JUMPER 0603
4710	4822 051 30008	0R JUMPER 0603
4711	4822 051 30008	0R JUMPER 0603
4712	4822 051 30008	0R JUMPER 0603
4718	4822 051 30008	0R JUMPER 0603
4719	4822 051 30008	0R JUMPER 0603
4720	4822 051 30008	0R JUMPER 0603
4721	4822 051 30008	0R JUMPER 0603
4723	4822 051 30008	0R JUMPER 0603
4725	4822 051 30008	0R JUMPER 0603
4726	4822 051 30008	0R JUMPER 0603
4727	4822 051 30008	0R JUMPER 0603
4729	4822 051 30008	0R JUMPER 0603

RESISTORS

4730	4822 051 30008	0R JUMPER 0603
4731	4822 051 30008	0R JUMPER 0603
4732	4822 051 30008	0R JUMPER 0603
4733	4822 051 30008	0R JUMPER 0603
4734	4822 051 30008	0R JUMPER 0603
4735	4822 051 30008	0R JUMPER 0603
4738	4822 051 30008	0R JUMPER 0603
4739	4822 051 30008	0R JUMPER 0603
4741	4822 051 30008	0R JUMPER 0603
4746	4822 051 30008	0R JUMPER 0603
4747	4822 051 30008	0R JUMPER 0603

COILS & FILTERS

5701	4822 157 62552	Coil 2,2µH 5%
5703	4822 156 20946	Osc Coil 100MHz

DIODES

6612	4822 130 31878	1N4003G
6770	4822 130 30621	1N4148
6771	4822 130 30621	1N4148
6772	4822 130 30621	1N4148
6773	4822 130 30621	1N4148
6774	4822 130 30621	1N4148
6776	4822 130 30621	1N4148
6777	3198 010 58280	BZX79-B8V2
6778	4822 130 30621	1N4148

TRANSISTORS & IC

7610	5322 209 11306	HEF4094BT
7612	4822 130 11201	PMBT2907
7614	4822 130 11201	PMBT2907
7618	4822 130 60511	BC847B
7620	4822 130 60511	BC847B
7624	4822 130 60511	BC847B
7720	9322 167 09668	AN17150ATA
7780	4822 130 60511	BC847B
7781	4822 130 42804	BC817-25
7782	4822 130 44568	BC557B
7783	4822 130 60511	BC847B
7784	4822 130 60373	BC856B
7786	4822 130 63494	FET J111
7788	4822 130 60511	BC847B
7789	4822 130 60511	BC847B
7790	4822 130 60511	BC847B

ELECTRICAL PARTSLIST - ETF8 SD BOARD

MISCELLANEOUS

1701	4822 267 10953	FFC Socket 7 pin Ver.
1706	4822 267 10953	FFC Socket 7 pin Ver.
1710	4822 267 10958	FFC Socket 5 pin Hor.
1760	4822 265 11535	FFC Socket 8 pin Hor.

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

ELECTRICAL PARTSLIST - CD99/DA11 BOARD

MISCELLANEOUS

1800	4822 265 10925	FFC Socket 15P
1823	4822 265 11207	FFC Socket 6P
1824	4822 265 11207	FFC Socket 6P

CAPACITORS

2801	4822 124 41751	47µF 20% 50V
2802	4822 124 41751	47µF 20% 50V
2803	4822 126 14226	82pF 5% NP0 50V
2804	4822 126 14226	82pF 5% NP0 50V
2805	4822 126 14226	82pF 5% NP0 50V
2806	4822 126 13695	82pF 1% NP0 63V
2807	4822 126 11669	27pF 5% 50V
2808	5322 122 33538	150pF 2% NP0 63V
2809	4822 126 11669	27pF 5% 50V
2810	4822 126 13692	47pF 1% NP0 63V
2811	4822 126 11671	33pF 5% 50V
2812	4822 122 33741	10pF 10% NP0 50V
2813	4822 126 14238	2,2nF X7R 50V
2814	3198 024 44730	47nF Y5V 50V
2815	4822 122 33777	47pF 5% NP0 63V
2816	5322 122 32654	22nF 10% 63V
2817	4822 124 40769	4,7µF 20% 100V
2818	3198 024 44730	47nF Y5V 50V
2821	4822 126 14305	100nF 10% X7R 16V
2822	4822 126 13344	1,5nF 5% 63V
2823	4822 124 42383	220µF 20% 4V
2824	4822 126 13751	47nF 10% X7R 63V
2825	4822 126 13344	1,5nF 5% 63V
2826	3198 024 44730	47nF Y5V 50V
2827	5322 126 11578	1nF 10% X7R 50V
2828	4822 122 33777	47pF 5% NP0 63V
2829	3198 024 44730	47nF Y5V 50V
2830	3198 017 41050	1µF Y5V 10V
2831	4822 126 14043	1µF +80-20% 16V
2832	4822 122 33753	150pF 5% NP0 50V
2833	4822 126 13881	470pF 5% 50V
2834	4822 126 14506	270pF 5% 50V
2835	4822 126 13881	470pF 5% 50V
2836	4822 124 41751	47µF 20% 50V
2837	3198 024 44730	47nF Y5V 50V
2838	3198 017 42230	22nF Y5V 50V
2839	4822 126 14305	100nF 10% X7R 16V
2840	4822 124 41751	47µF 20% 50V
2841	4822 126 13751	47nF 10% X7R 63V
2842	4822 124 21913	1µF 20% 63V
2843	4822 122 31765	100pF 2% NP0 63V
2844	4822 126 13883	220pF 5% 50V
2845	4822 126 13883	220pF 5% 50V
2846	4822 124 40248	10µF 20% 63V
2848	4822 122 31765	100pF 2% NP0 63V

CAPACITORS

2849	4822 126 13883	220pF 5% 50V
2850	4822 126 13883	220pF 5% 50V
2851	4822 124 40248	10µF 20% 63V
2853	5322 126 11583	10nF 10% X7R 50V
2854	4822 124 11912	220µF 20% 6,3V
2855	4822 124 11912	220µF 20% 6,3V
2857	4822 124 12362	47µF 20% 4V
2860	5322 116 80853	560pF 5% 63V
2861	4822 126 13344	1,5nF 5% 63V
2862	4822 126 14508	180pF 5% 50V
2863	4822 126 14508	180pF 5% 50V
2864	4822 126 14508	180pF 5% 50V
2865	4822 126 14508	180pF 5% 50V
2869	3198 024 44730	47nF Y5V 50V
2870	4822 126 13883	220pF 5% 50V
2871	4822 126 13883	220pF 5% 50V
2872	4822 126 13883	220pF 5% 50V
2873	4822 126 13883	220pF 5% 50V
2874	4822 126 13883	220pF 5% 50V
2875	4822 126 13883	220pF 5% 50V

RESISTORS

3728	4822 051 20479	47R 5% 0,1W
3745	4822 051 30338	3R3 5% 0,1W
3757	4822 051 20223	22K 5% 0,1W
3788	4822 051 20472	4K7 5% 0,1W
3800	4822 117 13608	4R7 5% 0,1W
3801	4822 051 30154	150K 5% 0,1W
3802	4822 051 30102	1K 5% 0,1W
3803	4822 051 30273	27K 5% 0,1W
3804	4822 051 30472	4K7 5% 0,1W
3805	4822 051 30273	27K 5% 0,1W
3806	4822 117 10361	680R 1% 0,1W
3807	4822 051 30152	1K5 5% 0,1W
3808	4822 051 30339	33R 5% 0,1W
3809	4822 051 30339	33R 5% 0,1W
3810	4822 052 10478	4R7 5% 0,33W
3811	4822 051 30102	1K 5% 0,1W
3812	4822 051 30474	470K 5% 0,1W
3813	4822 051 30683	68K 5% 0,1W
3814	4822 051 30332	3K3 5% 0,1W
3815	4822 051 30472	4K7 5% 0,1W
3816	4822 051 30153	15K 5% 0,1W
3817	4822 117 10834	47K 1% 0,1W
3818	4822 051 20562	5K6 5% 0,1W
3819	4822 051 30153	15K 5% 0,1W
3820	4822 051 30183	18K 5% 0,1W

ELECTRICAL PARTSLIST - CD99/DA11 BOARD

RESISTORS

3821	4822 051 20332	3K3 5% 0,1W
3822	4822 051 30332	3K3 5% 0,1W
3823	4822 051 20332	3K3 5% 0,1W
3824	4822 051 30102	1K 5% 0,1W
3825	4822 051 30223	22K 5% 0,1W
3826	4822 051 30273	27K 5% 0,1W
3827	4822 051 20339	33R 5% 0,1W
3828	4822 051 20479	47R 5% 0,1W
3829	4822 051 30101	100R 5% 0,1W
3830	4822 051 30472	4K7 5% 0,1W
3835	4822 051 30223	22K 5% 0,1W
3836	4822 117 10833	10K 1% 0,1W
3837	4822 051 20471	470R 5% 0,1W
3838	4822 051 20471	470R 5% 0,1W
3839	4822 051 30471	470R 5% 0,1W
3840	4822 051 30471	470R 5% 0,1W
3841	4822 051 30472	4K7 5% 0,1W
3842	4822 051 10102	1K 2% 0,25W
3843	4822 051 30102	1K 5% 0,1W
3844	4822 051 30101	100R 5% 0,1W
3845	2120 108 92668	3R3 5% 0,1W
3846	4822 051 20223	22K 5% 0,1W
3847	4822 117 12864	82K 5% 0,6W
3848	4822 117 10834	47K 1% 0,1W
3849	4822 051 30563	56K 5% 0,1W
3850	4822 117 12902	8K2 1% 0,1W
3851	4822 051 30563	56K 5% 0,1W
3852	4822 117 10834	47K 1% 0,1W
3853	4822 051 30153	15K 5% 0,1W
3854	4822 117 12902	8K2 1% 0,1W
3855	4822 116 40227	4R6 25% 12V
3856	4822 051 20683	68K 5% 0,1W
3857	4822 051 20154	150K 5% 0,1W
3858	4822 051 30392	3K9 5% 0,1W
3859	4822 117 10834	47K 1% 0,1W
3860	4822 051 30102	1K 5% 0,1W
3861	4822 117 10834	47K 1% 0,1W
3862	4822 051 10102	1K 2% 0,25W
3863	4822 052 10338	3R3 5% 0,33W
3864	4822 117 10833	10K 1% 0,1W
3865	4822 051 30102	1K 5% 0,1W
3867	4822 051 20223	22K 5% 0,1W
3868	4822 051 30103	10K 5% 0,1W
3869	4822 051 30103	10K 5% 0,1W
3871	4822 051 30471	470R 5% 0,1W
3872	4822 117 12925	47K 1% 0,1W
3873	4822 051 30223	22K 5% 0,1W
3874	4822 051 30223	22K 5% 0,1W
3875	4822 051 30103	10K 5% 0,1W
3876	4822 051 30103	10K 5% 0,1W

RESISTORS

3878	4822 051 30471	470R 5% 0,1W
3879	4822 117 12925	47K 1% 0,1W
3880	4822 051 20339	33R 5% 0,1W
3881	4822 051 30151	150R 5% 0,1W
3882	4822 117 11373	100R 1% 0.1W
3883	4822 051 30102	1K 5% 0,1W
3884	4822 051 30102	1K 5% 0,1W
3886	4822 117 10833	10K 1% 0,1W
3887	4822 117 10833	10K 1% 0,1W
3888	4822 051 20472	4K7 5% 0,1W
3889	4822 051 30102	1K 5% 0,1W
3890	4822 117 10837	100K 1% 0,1W
3891	4822 117 10837	100K 1% 0,1W
3892	4822 117 13632	100K 1% 0,62W
3893	4822 117 13632	100K 1% 0,62W
3894	4822 117 10833	10K 1% 0,1W
3895	4822 117 10833	10K 1% 0,1W
3896	4822 117 10833	10K 1% 0,1W
3897	4822 117 10833	10K 1% 0,1W
3898	4822 117 10833	10K 1% 0,1W
3899	4822 117 10833	10K 1% 0,1W
3900	4822 051 30223	22K 5% 0,1W
4801	4822 051 30008	0R Jumper 0603
4802	4822 051 20008	0R Jumper 0805
4807	4822 051 20008	0R Jumper 0805
4808	4822 051 30008	0R Jumper 0603
4809	4822 051 20008	0R Jumper 0805
4810	4822 051 20008	0R Jumper 0805
4812	4822 051 20008	0R Jumper 0805
4813	4822 051 20008	0R Jumper 0805
4814	4822 051 20008	0R Jumper 0805
4815	4822 051 20008	0R Jumper 0805
4823	4822 051 20008	0R Jumper 0805
4824	4822 051 20008	0R Jumper 0805
4828	4822 051 20008	0R Jumper 0805
4831	4822 051 20008	0R Jumper 0805
4832	4822 051 20008	0R Jumper 0805
4838	4822 051 20008	0R Jumper 0805
4845	4822 051 20008	0R Jumper 0805
4847	4822 051 20008	0R Jumper 0805
4848	4822 051 20008	0R Jumper 0805
4850	4822 051 20008	0R Jumper 0805
4853	4822 051 20008	0R Jumper 0805
4856	4822 051 30008	0R Jumper 0603
4857	4822 051 20008	0R Jumper 0805
4859	4822 051 20008	0R Jumper 0805
4863	4822 051 20008	0R Jumper 0805
4865	4822 051 20008	0R Jumper 0805
4866	4822 051 20008	0R Jumper 0805
4872	4822 051 20008	0R Jumper 0805

ELECTRICAL PARTSLIST - CD99/DA11 BOARD

RESISTORS

4877	4822 051 30008	0R Jumper 0603
4881	4822 051 20008	0R Jumper 0805
4884	4822 051 20008	0R Jumper 0805
4885	4822 051 30008	0R Jumper 0603
4886	4822 051 20008	0R Jumper 0805
4888	4822 051 20008	0R Jumper 0805
4889	4822 051 20008	0R Jumper 0805

COILS AND FILTERS

1810	4822 242 73557	CST8,46MTW-TF01
5803	4822 157 11231	1µH 5%

DIODES

6877	9322 129 34685	BZM55-C3V9

TRANSISTORS & IC

7800	9352 690 17557	SAA7325H/T/M2B/WD
7802	5322 209 11517	PC74HCU04T
7803	5322 130 60123	BC807-40
7804	5322 209 82941	LM358D
7807	5322 130 42755	BC847C
7808	4822 209 32852	TDA7073A/N2
7809	4822 209 32852	TDA7073A/N2
7810	4822 209 33165	TDA1308T/N1
7875	4822 130 60511	BC847B

ELECTRICAL PARTSLIST - COMBI BOARD

MISCELLANEOUS

1330	2422 026 05099	Headphone socket
1331	4822 267 31176	Speaker Socket
1550	4822 265 20553	Aux. In Socket
1551	4822 267 10953	FFC Socket 7P
1554	4822 267 10731	Connector 6P
1555	4822 265 11515	FFC Socket 8P
1556	2422 025 14526	FFC Socket 16P

CAPACITORS

2251	5322 121 42386	100nF 5% 63V
2252	5322 121 42386	100nF 5% 63V
2253	5322 121 42386	100nF 5% 63V
2254	5322 121 42386	100nF 5% 63V
2256	4822 124 81151	22µF 20% 50V
2257	4822 124 40248	10µF 20% 63V
2258	4822 124 40769	4,7µF 20% 100V
2259	4822 124 40769	4,7µF 20% 100V
2260	3198 017 34730	47nF 20% X7R 16V
2262	3198 016 31020	1nF 20% NP0 25V
2264	4822 124 40769	4,7µF 20% 100V
2265	4822 124 40207	100µF 20% 25V
2266	4822 126 14305	100nF 10% X7R 16V
2267	4822 124 40784	3300µF 20% 16V
2268	4822 124 12012	4700µF 20% 25V
2330	4822 124 40769	4,7µF 20% 100V
2331	2238 786 19852	150pF +80-20% 16V
2332	2238 786 19852	150pF +80-20% 16V
2337	4822 121 42408	220nF 5% 63V
2338	4822 121 42408	220nF 5% 63V
2339	4822 121 42408	220nF 5% 63V
2340	4822 121 42408	220nF 5% 63V
2341	4822 124 40433	47µF 20% 25V
2342	4822 124 40433	47µF 20% 25V
2343	4822 122 33197	1nF 10% 50V
2344	4822 122 33197	1nF 10% 50V
2345	4822 126 14494	22nF 10% X7R 25V
2346	4822 126 14494	22nF 10% X7R 25V
2347	4822 124 40433	47µF 20% 25V
2348	4822 124 40433	47µF 20% 25V
2349	4822 124 40207	100µF 20% 25V
2350	4822 124 40207	100µF 20% 25V
2351	4822 124 40769	4,7µF 20% 100V
2352	4822 124 40433	47µF 20% 25V
2353	5322 126 11583	10nF 10% X7R 50V
2354	5322 126 11583	10nF 10% X7R 50V
2500	4822 124 41584	100µF 20% 10V
2501	4822 124 40196	220µF 20% 16V
2502	4822 124 40248	10µF 20% 63V
2503	4822 126 14494	22nF 10% X7R 25V

CAPACITORS

2505	4822 122 31765	100pF 2% NP0 63V
2506	4822 122 31765	100pF 2% NP0 63V
2507	4822 122 31765	100pF 2% NP0 63V
2508	4822 122 31765	100pF 2% NP0 63V
2509	4822 122 33761	22pF 5% NP0 50V
2510	4822 122 33761	22pF 5% NP0 50V
2511	4822 126 13879	220nF +80-20% 16V
2512	4822 126 13879	220nF +80-20% 16V
2513	4822 122 33777	47pF 5% NP0 63V
2514	4822 122 33777	47pF 5% NP0 63V
2515	5322 126 11583	10nF 10% X7R 50V
2516	5322 126 11583	10nF 10% X7R 50V
2517	4822 126 14247	1,5nF 20% 50V
2518	4822 126 14247	1,5nF 20% 50V
2519	4822 126 13883	220pF 5% 50V
2520	4822 126 13883	220pF 5% 50V
2521	4822 126 14247	1,5nF 20% 50V
2522	4822 126 14247	1,5nF 20% 50V
2523	3198 016 36810	680pF 20% NP0 25V
2524	3198 016 36810	680pF 20% NP0 25V
2525	4822 122 33777	47pF 5% NP0 63V
2526	4822 122 33777	47pF 5% NP0 63V
2527	5322 126 11583	10nF 10% X7R 50V
2528	5322 126 11583	10nF 10% X7R 50V
2529	4822 126 14305	100nF 10% X7R 16V
2530	4822 126 14305	100nF 10% X7R 16V
2531	4822 126 14305	100nF 10% X7R 16V
2532	4822 126 14305	100nF 10% X7R 16V
2533	3198 017 34730	47nF 20% X7R 16V
2534	3198 017 34730	47nF 20% X7R 16V
2535	4822 126 14305	100nF 10% X7R 16V
2550	4822 126 11585	22nF +80-20% 25V
2551	4822 126 14238	2,2nF 20% 50V
2552	4822 126 14238	2,2nF 20% 50V
2553	4822 126 14494	22nF 10% X7R 25V
2554	4822 124 40196	220µF 20% 16V
2555	4822 124 22652	2,2µF 20% 50V
2557	3198 017 44740	470nF +80-20% 10V
2558	4822 126 13883	220pF 5% 50V
2559	4822 126 13883	220pF 5% 50V
2560	4822 126 13883	220pF 5% 50V
2561	4822 124 81151	22µF 20% 50V
2563	4822 124 41407	0,47µF 20% 63V
2564	4822 124 41407	0,47µF 20% 63V
2565	4822 122 31765	100pF 2% NP0 63V
2566	4822 122 31765	100pF 2% NP0 63V
2567	4822 124 22652	2,2µF 20% 50V
2568	4822 124 22652	2,2µF 20% 50V
2569	4822 124 21913	1µF 20% 63V
2570	4822 124 21913	1µF 20% 63V

ELECTRICAL PARTSLIST - COMBI BOARD

CAPACITORS

2571	3198 017 44740	470nF +80-20% 10V
2573	4822 126 14305	100nF 10% X7R 16V

RESISTORS

3250	4822 051 20471	470R 5% 0,1W
3251	4822 051 30222	2K2 5% 0,1W
3252	4822 051 20472	4K7 5% 0,1W
3253	4822 051 20472	4K7 5% 0,1W
3254	4822 117 11449	2K2 5% 0,1W
3255	4822 050 11002	1K 1% 0,4W
3256	4822 050 11002	1K 1% 0,4W
3257	4822 050 11002	1K 1% 0,4W
3258	4822 116 83884	47K 5% 0,5W
3259	4822 051 30331	330R 5% 0,1W
3260	4822 117 12891	220K 1% 0,1W
3261	4822 117 12864	82K 5% 0,6W
3262	4822 051 10102	1K 2% 0,25W
3263	4822 051 20472	4K7 5% 0,1W
3264	4822 051 10102	1K 2% 0,25W
3266	4822 117 12925	47K 1% 0,1W
3267	4822 117 11449	2K2 5% 0,1W
3268	4822 117 11449	2K2 5% 0,1W
3269	4822 051 30223	22K 5% 0,1W
3271	4822 050 24708	4R7 1% 0,6W
3272	4822 050 24708	4R7 1% 0,6W
3273	4822 050 24708	4R7 1% 0,6W
3274	4822 051 20391	390R 5% 0,1W
3275	4822 116 83883	470R 5% 0,5W
3276	4822 051 30222	2K2 5% 0,1W
3277	4822 051 30222	2K2 5% 0,1W
3278	4822 117 12925	47K 1% 0,1W
3279	4822 051 30102	1K 5% 0,1W
3280	4822 116 52257	22K 5% 0,5W
3281	4822 117 11449	2K2 5% 0,1W
3282	4822 117 11449	2K2 5% 0,1W
3283	4822 117 11449	2K2 5% 0,1W
3284	4822 117 11449	2K2 5% 0,1W
3330	4822 116 52269	3K3 5% 0,5W
3331	4822 050 21003	10K 1% 0,6W
3332	4822 050 21003	10K 1% 0,6W
3333	4822 051 30682	6K8 5% 0,1W
3334	4822 051 30682	6K8 5% 0,1W
3335	4822 051 20228	2R2 5% 0,1W
3336	4822 051 20228	2R2 5% 0,1W
3337	4822 051 20228	2R2 5% 0,1W
3338	4822 051 20228	2R2 5% 0,1W
3339	4822 051 20121	120R 5% 0,1W
3340	4822 051 20121	120R 5% 0,1W
3341	4822 116 52226	560R 5% 0,5W

RESISTORS

3342	4822 116 52226	560R 5% 0,5W
3343	4822 051 30103	10K 5% 0,1W
3344	4822 051 30103	10K 5% 0,1W
3345	4822 051 30103	10K 5% 0,1W
3346	4822 051 30103	10K 5% 0,1W
3347	4822 051 30223	22K 5% 0,1W
3348	4822 051 30223	22K 5% 0,1W
3349	4822 051 30223	22K 5% 0,1W
3350	4822 117 12925	47K 1% 0,1W
3351	4822 051 10102	1K 2% 0,25W
3352	4822 051 10102	1K 2% 0,25W
3353	4822 051 20479	47R 5% 0,1W
3358	4822 051 30472	4K7 5% 0,1W
3359	4822 051 30682	6K8 5% 0,1W
3360	4822 117 13632	100K 1% 0,1W
3361	4822 117 11373	100R 1% 0,1W
3500	4822 117 12968	820R 5% 0,1W
3501	4822 051 30471	470R 5% 0,1W
3502	4822 116 52256	2K2 5% 0,5W
3503	4822 051 30471	470R 5% 0,1W
3505	4822 051 30333	33K 5% 0,1W
3506	4822 051 30333	33K 5% 0,1W
3507	4822 117 12971	15R 5% 0,1W
3508	4822 117 12971	15R 5% 0,1W
3509	4822 051 30333	33K 5% 0,1W
3510	4822 051 30333	33K 5% 0,1W
3511	4822 117 13632	100K 1% 0,1W
3512	4822 117 13632	100K 1% 0,1W
3513	4822 051 30153	15K 5% 0,1W
3514	4822 051 30153	15K 5% 0,1W
3515	4822 051 30333	33K 5% 0,1W
3516	4822 051 30333	33K 5% 0,1W
3517	4822 117 13632	100K 1% 0,1W
3518	4822 117 13632	100K 1% 0,1W
3519	4822 117 12891	220K 1% 0,1W
3520	4822 117 12891	220K 1% 0,1W
3521	4822 050 23303	33K 1% 0,6W
3522	4822 050 23303	33K 1% 0,6W
3523	4822 050 23303	33K 1% 0,6W
3524	4822 050 23303	33K 1% 0,6W
3525	4822 117 12891	220K 1% 0,1W
3526	4822 117 12891	220K 1% 0,1W
3527	4822 117 12891	220K 1% 0,1W
3528	4822 117 12891	220K 1% 0,1W
3529	4822 116 52264	27K 5% 0,5W
3530	4822 116 52264	27K 5% 0,5W
3531	4822 116 52264	27K 5% 0,5W
3532	4822 116 52264	27K 5% 0,5W
3533	4822 051 30333	33K 5% 0,1W
3534	4822 051 30333	33K 5% 0,1W

ELECTRICAL PARTSLIST - COMBI BOARD

RESISTORS

3535	4822 117 13632	100K 1% 0,1W
3536	4822 117 13632	100K 1% 0,1W
3537	4822 117 12891	220K 1% 0,1W
3538	4822 117 12891	220K 1% 0,1W
3539	4822 051 30223	22K 5% 0,1W
3540	4822 051 30223	22K 5% 0,1W
3541	4822 051 30154	150K 5% 0,1W
3542	4822 051 30154	150K 5% 0,1W
3543	4822 117 12864	82K 5% 0,6W
3544	4822 117 12864	82K 5% 0,6W
3545	4822 117 12902	8K2 1% 0,1W
3546	4822 117 12902	8K2 1% 0,1W
3547	4822 051 30154	150K 5% 0,1W
3548	4822 051 30154	150K 5% 0,1W
3551	4822 051 30333	33K 5% 0,1W
3552	4822 051 30333	33K 5% 0,1W
3553	4822 117 12902	8K2 1% 0,1W
3554	4822 117 12902	8K2 1% 0,1W
3555	4822 051 30682	6K8 5% 0,1W
3556	4822 051 30682	6K8 5% 0,1W
3557	4822 051 30183	18K 5% 0,1W
3558	4822 051 30183	18K 5% 0,1W
3559	4822 051 30272	2K7 5% 0,1W
3560	4822 051 30272	2K7 5% 0,1W
3561	4822 050 21003	10K 1% 0,6W
3562	4822 050 21003	10K 1% 0,6W
3563	4822 117 11373	100R 1% 0,1W
3565	4822 051 20229	22R 5% 0,1W
3566	4822 051 20229	22R 5% 0,1W
3568	4822 051 10102	1K 2% 0,25W
3572	4822 051 30103	10K 5% 0,1W
3573	4822 050 11002	1K 1% 0,4W
3574	4822 117 12925	47K 1% 0,1W
3575	4822 051 30153	15K 5% 0,1W
3576	4822 051 30153	15K 5% 0,1W
3577	4822 051 30471	470R 5% 0,1W
3578	4822 051 30471	470R 5% 0,1W
3579	4822 051 30154	150K 5% 0,1W
3580	4822 051 30154	150K 5% 0,1W
3581	4822 051 30272	2K7 5% 0,1W
3582	4822 051 30272	2K7 5% 0,1W
3583	4822 051 30472	4K7 5% 0,1W
3584	4822 051 30472	4K7 5% 0,1W
3585	4822 051 30222	2K2 5% 0,1W
3586	4822 051 30222	2K2 5% 0,1W
3587	4822 051 30392	3K9 5% 0,1W
3588	4822 051 30392	3K9 5% 0,1W
3589	4822 116 83872	220R 5% 0,5W
4260	4822 051 20008	0R Jumper 0805
4261	4822 051 20008	0R Jumper 0805

RESISTORS

4262	4822 051 20008	0R Jumper 0805
4263	4822 051 20008	0R Jumper 0805
4264	4822 051 20008	0R Jumper 0805
4265	4822 051 20008	0R Jumper 0805
4266	4822 051 20008	0R Jumper 0805
4333	4822 051 20008	0R Jumper 0805
4334	4822 051 20008	0R Jumper 0805
4335	4822 051 20008	0R Jumper 0805
4510	4822 051 20008	0R Jumper 0805
4512	4822 051 20008	0R Jumper 0805
4513	4822 051 20008	0R Jumper 0805
4560	4822 051 20008	0R Jumper 0805
4561	4822 051 20008	0R Jumper 0805
4562	4822 051 20008	0R Jumper 0805
4563	4822 051 20008	0R Jumper 0805
4564	4822 051 20008	0R Jumper 0805
4565	4822 051 20008	0R Jumper 0805
4566	4822 051 20008	0R Jumper 0805
4567	4822 051 20008	0R Jumper 0805
4568	4822 051 20008	0R Jumper 0805
4569	4822 051 20008	0R Jumper 0805
4570	4822 051 20008	0R Jumper 0805
4571	4822 051 20008	0R Jumper 0805
4572	4822 051 20008	0R Jumper 0805
4573	4822 051 20008	0R Jumper 0805

COILS AND FILTERS

5331	4822 157 11837	0,36µH 10%
5332	4822 157 11837	0,36µH 10%
5333	4822 157 11837	0,36µH 10%
5334	4822 157 11837	0,36µH 10%
5550	4822 157 10686	0,47µH 10%
5551	4822 157 10686	0,47µH 10%

DIODES

6254	4822 130 31878	1N4003G
6255	4822 130 31878	1N4003G
6256	4822 130 31878	1N4003G
6257	4822 130 31878	1N4003G
6258	4822 130 31878	1N4003G
6259	4822 130 31878	1N4003G
6260	4822 130 31878	1N4003G
6261	4822 130 31878	1N4003G
6262	4822 130 31878	1N4003G
6263	4822 130 31878	1N4003G

ELECTRICAL PARTSLIST - COMBI BOARD

DIODES

6264	4822 130 31878	1N4003G
6265	4822 130 31878	1N4003G
6266	4822 130 30621	1N4148
6267	4822 130 30621	1N4148
6268	3198 010 58280	BZX79-B8V2
6269	4822 130 30621	1N4148
6270	4822 130 30621	1N4148
6271	4822 130 34278	BZX79-B6V8
6272	4822 130 61219	BZX79-B10
6275	3198 010 53380	BZX79-B3V3
6331	4822 130 30621	1N4148
6332	4822 130 30621	1N4148
6333	4822 130 30621	1N4148
6500	4822 130 30621	1N4148
6550	3198 010 53380	BZX79-B3V3

TRANSISTORS & IC

7514	4822 130 60511	BC847B
7550	4822 130 42804	BC817-25
7551	4822 209 10263	HEF4052BP
7552	5322 209 10421	HEF4094BP
7553	9322 003 63676	TBC327-40
7555	4822 130 60511	BC847B
7556	4822 130 60511	BC847B

TRANSISTORS & IC

7250	9322 139 24687	BDW94CFP
7251	4822 130 60511	BC847B
7252	4822 130 60511	BC847B
7253	5322 130 44647	BC368
7254	5322 130 44593	BC369
7255	4822 130 60511	BC847B
7256	4822 130 41246	BC327-25
7257	4822 130 41246	BC327-25
7258	4822 130 41246	BC327-25
7259	4822 130 60511	BC847B
7260	5322 130 60845	BC807-25
7261	4822 130 60511	BC847B
7330	9322 133 18682	AN7125P
7331	4822 130 60373	BC856B
7332	4822 130 60373	BC856B
7333	4822 130 60511	BC847B
7500	4822 209 10264	HEF4069UBP
7501	4822 130 44568	BC557B
7502	4822 130 44568	BC557B
7503	4822 130 44568	BC557B
7504	4822 130 44568	BC557B
7505	4822 130 60511	BC847B
7506	4822 130 60511	BC847B
7507	4822 130 60511	BC847B
7508	4822 130 60511	BC847B
7509	4822 130 60511	BC847B
7510	4822 130 60511	BC847B
7511	4822 130 60511	BC847B
7512	4822 130 60511	BC847B
7513	4822 130 60511	BC847B

ELECTRICAL PARTSLIST - LED BOARD

RESISTORS

3901	4822 051 20121	120R 5% 0,1W
3902	4822 051 20121	120R 5% 0,1W
3903	4822 051 20121	120R 5% 0,1W
3904	4822 051 20121	120R 5% 0,1W

DIODES

6901	9322 033 20682	LED TLHG4405
6902	9322 033 20682	LED TLHG4405
6903	9322 033 20682	LED TLHG4405
6904	9322 033 20682	LED TLHG4405
6905	9322 033 20682	LED TLHG4405
6906	9322 033 20682	LED TLHG4405
6907	9322 033 20682	LED TLHG4405
6908	9322 033 20682	LED TLHG4405
6909	9322 033 20682	LED TLHG4405
6910	9322 033 20682	LED TLHG4405
6911	9322 033 20682	LED TLHG4405
6912	9322 033 20682	LED TLHG4405

ELECTRICAL PARTSLIST - POWER BOARD AND MISCELLANEOUS

1025	4822 276 13963	CD DOOR SWITCH
1600	⚠ 4822 272 10269	Voltage selector (/21 only)
1601	⚠ 4822 071 53152	Fuse 3,15A
1602	⚠ 2422 086 10783	Fuse 2A 250V
5600	⚠ 4822 157 11832	Mains filter 400µH 3A
5601	⚠ 3140 118 32430	Mains Transformer 230V
5601	⚠ 3140 118 32440	Mains Transformer 120/230V
8000	3140 110 21250	FFC Foil 16P 220mm AD
8001	3140 110 21220	FFC Foil 6P 220mm AD
8005	3140 110 21210	FFC Foil 6P 220mm AD
8007	3140 110 21240	FFC Foil 8P 180mm AD
8008	⚠ 4822 321 10781	Mains Cord Set (/21 /22)
8008	⚠ 4822 321 10971	Mains Cord Set SAA (/30)
8009	3140 110 21850	FFC Foil 7P 180mm AD
8010	3140 110 21840	FFC Foil 7P 120mm AD
8800	4822 320 12178	FFC Foil 15P 65mm