

Service Service Service



Service Manual

COMPACT
disc
DIGITAL AUDIO

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**CLASS 1
LASER PRODUCT**

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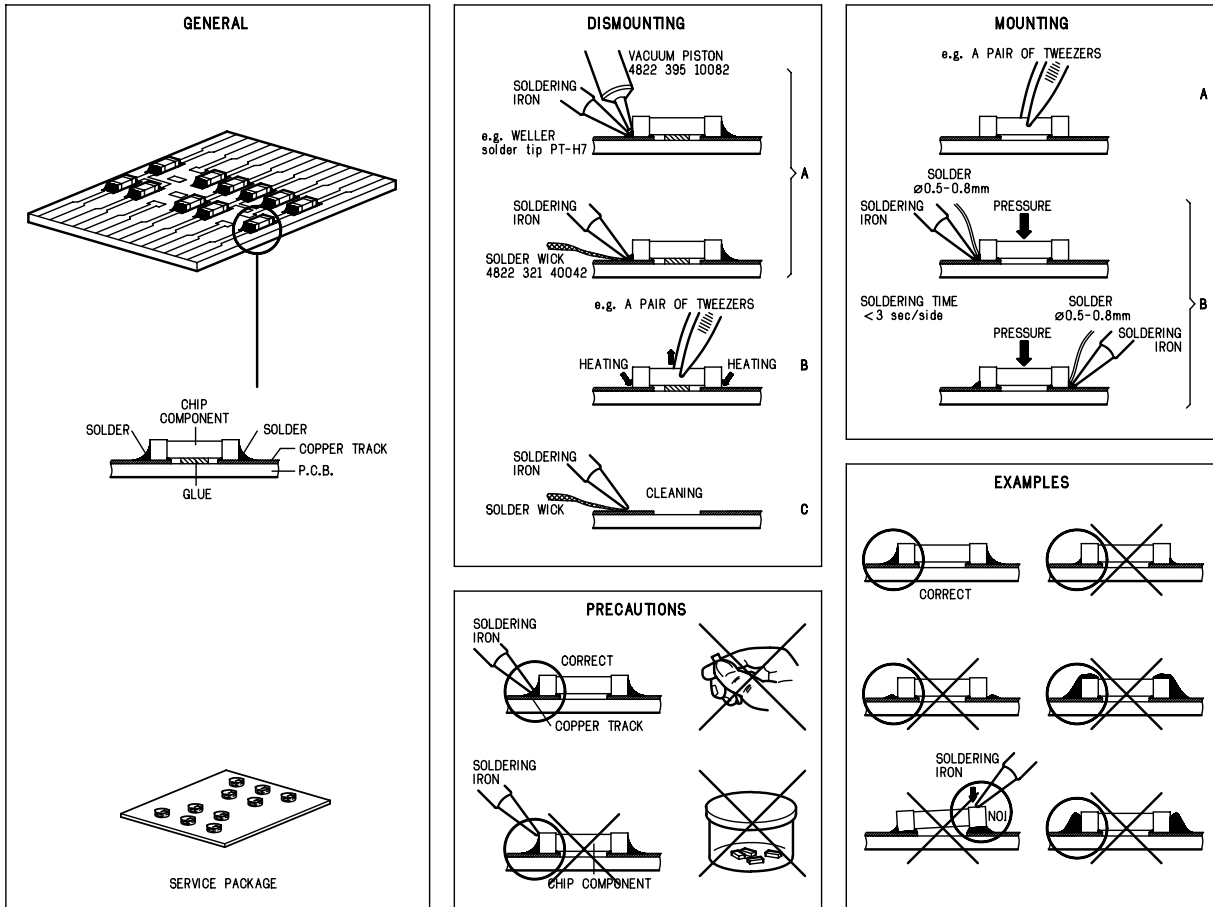
GB 3140 785 32051

Version 1.1



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 verminderen. 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 décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation. Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfilier le bracelet sert d'une résistance de sécurité. Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

(D) WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren. Sorgen Sie dafür, daß Sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes 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 longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza. Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

(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

(F)

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées. Les composants de sécurité sont marqués

SAFETY**(D)**

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Originalersatzteile zu verwenden. Sicherheitsbauteile sind durch das 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

(I)

Le norme di sicurezza estigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati. Componenti di sicurezza sono marcati con

(GB)

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

(S) Varning !

Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

(DK) Advarsel !

Usynlig laserstrålning ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

**CLASS 1
LASER PRODUCT**

(FIN) Varoitus !

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen !

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

TECHNICAL SPECIFICATIONS

GENERAL

Mains voltage	-/21/21M : 120 / 230 V
	-/22/30/33 : 230 V
	-/37 : 120 V
Mains frequency	-/22/30/33 : 50 Hz
	-/21/21M : 50 / 60 Hz
	-/37 : 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
	530 - 1700 kHz for /37
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

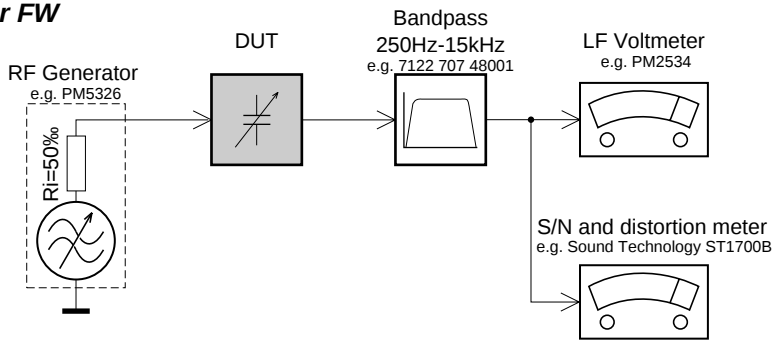
TORX T10 screwdriver with shaftlength 150mm.....	4822 395 50423
TORX screwdriver set SBC 163.....	4822 295 50145
Audio signal disc SBC 429.....	4822 397 30184
Playability test disc SBC 444.....	4822 397 30245
Test disc 5 (disc without errors) +	
Test disc 5A (disc with dropout errors, black spots and 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

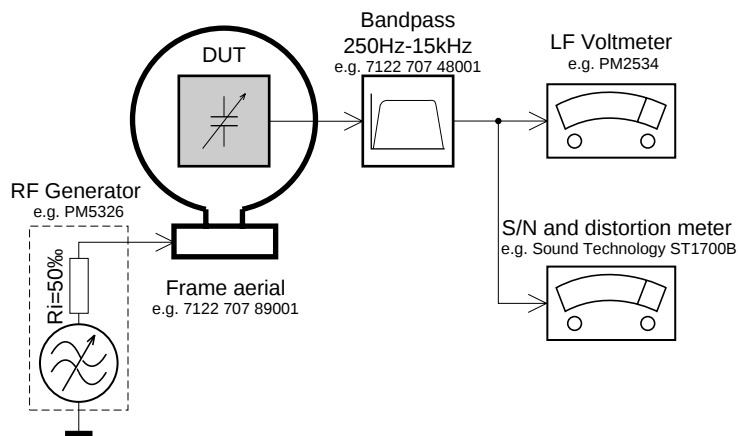
SERVICE MEASUREMENT

Tuner FW



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

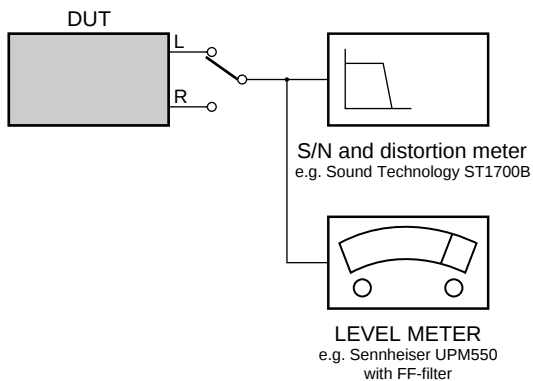
Tuner AM (MW, LW)



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).

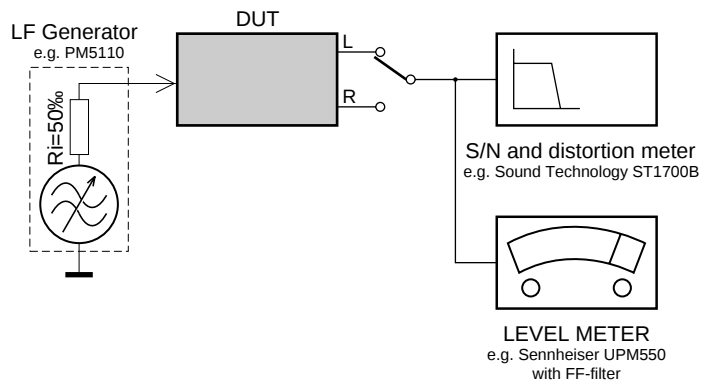
CD

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



RECORDER

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



CONNECTION AND CONTROLS

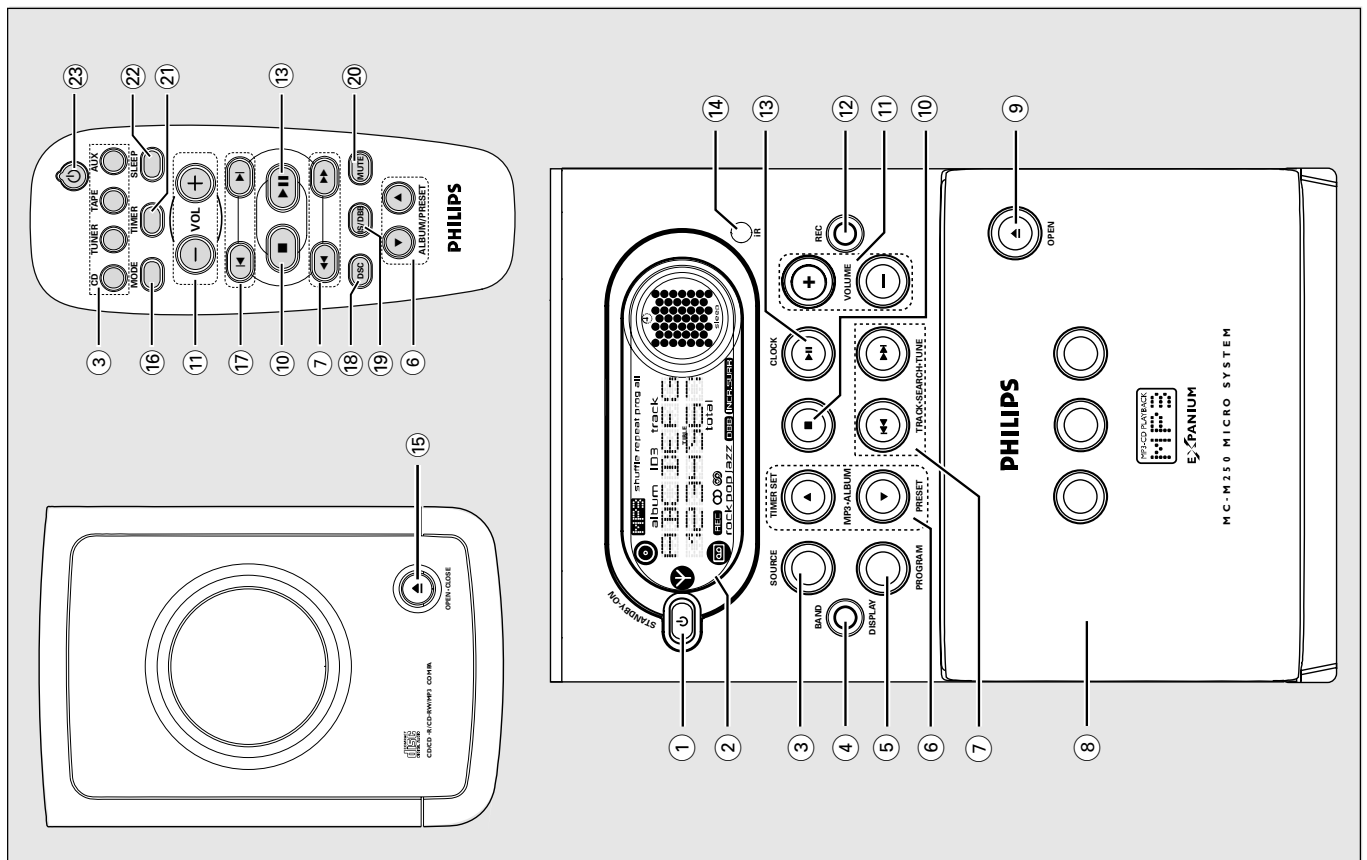
Controls

Controls on the system and remote control

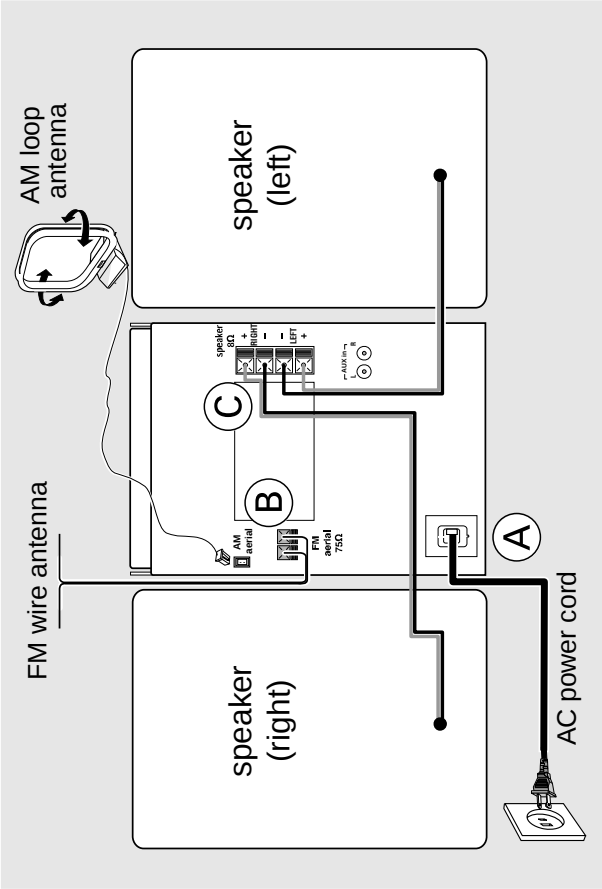
- ① **STANDBY ON**
 - to switch the system on or to standby mode.
- ② **Display screen**
 - to view the current status of the system.
- ③ **SOURCE**
 - to select the respective sound source : CD, TUNER, TAPE or AUX.
- ④ **BAND / DISPLAY**
 - for Tunerto select waveband : FM or AM.
 - for CD/MP3-CD...to select disc information display mode.
- ⑤ **PROGRAM**
 - for CD/MP3-CD...to program disc tracks.
 - for Tunerto program preset radio stations.
- ⑥ **▲▼ PRESET / MP3-ALBUM / TIMER SET**
 - for MP3-CDto select previous/next album.
 - for Tunerto select a preset radio station.
 - for Timer (▲) ... (on the system only) to set the timer function.
- ⑦ **◀▶▶▶▶ TRACK-SEARCH-TUNE**
 - (◀▶▶▶▶ on remote control)
 - for CD.....to fast reverse/forward the disc.
 - for CD/MP3-CD...(on the system only) to select a desired track.
 - for Tunerto tune to a lower or higher radio frequency.
 - for Tapeto rewind or fast forward.
- ⑧ **Tape deck**
- ⑨ **OPEN**
 - to open tape compartment.
- ⑩
 - for CD/MP3-CD...to stop playback or to clear a program.
 - for Tapeto stop playback or recording.
- ⑪ **VOLUME +/-**
 - to increase or decrease the volume.
 - (on the system only) to adjust the hours and minutes for the clock/timer functions.
- ⑫ **RECORD**
 - to start recording.
- ⑬ **▶ II / CLOCK**
 - for CD/MP3-CD...to start or interrupt playback for Tape.....to start playback.
 - for Clock.....(on the system only) to set the clock function.
- ⑭ **iR sensor**
 - infrared sensor for remote control.
- ⑮ **OPEN-CLOSE**
 - to open or close the disc tray.
- ⑯ **MODE**
 - to shuffle and repeat a track/disc.
- ⑰ **◀ / ▶**
 - to select a desired track.
- ⑱ **DSC (Digital Sound Control)**
 - to select the desired sound effect : OPTIMAL/ ROCK/JAZZ/POP .
- ⑲ **IS/DBB (Incredible Surround/Dynamic Bass Boost)**
 - to create a super-enhanced stereo effect.
 - to enhance the bass.
- ⑳ **MUTE**
 - interrupts and resumes sound reproduction.
- ㉑ **TIMER**
 - to activate/deactivate the timer function.
- ㉒ **SLEEP**
 - to activate/deactivate or set the sleep timer.
- ㉓
 - to switch the system to standby mode.

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 ▶, ◀, ▶).



CONNECTION AND CONTROLS



Rear connections

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

A Power

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

WARNING!

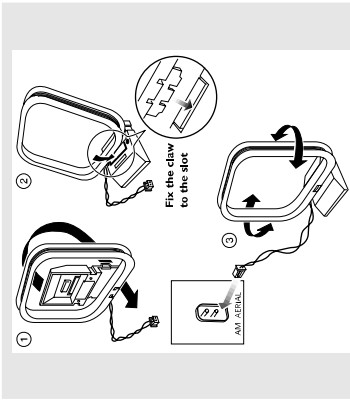
- For optimal performance, use only the original power cable.
- Never make or change connections with the power switched on.

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).

B AntennasConnection

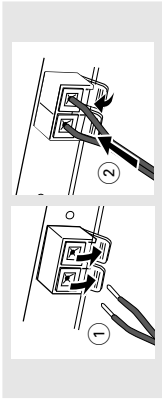
Connect the supplied AM loop antenna and FM antenna to the respective terminals. Adjust the position of the antenna for optimal reception.

AMAntenna



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

FM Antenna

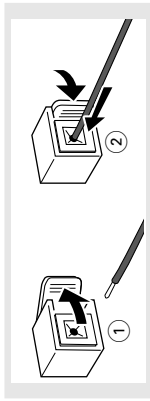


- For better FM stereo reception, connect an outdoor FM antenna to the FM AERIAL (FM ANTENNA) terminal.

C Speakers Connection

Front Speakers

Connect the speaker wires to the SPEAKERS terminals, right speaker to "RIGHT" and left speaker to "LEFT", colored (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

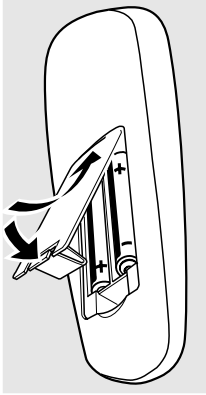
Connect the audio left and right OUT terminals of a TV, VCR, Laser Disc player, DVD player or CD Recorder to the **AUX IN** terminals.

Note:

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

Inserting batteries into the remote control

Insert two batteries (type R03 or AAA) into the remote control with the correct polarity as indicated by the "+" and "–" symbols inside the battery compartment.



CAUTION!

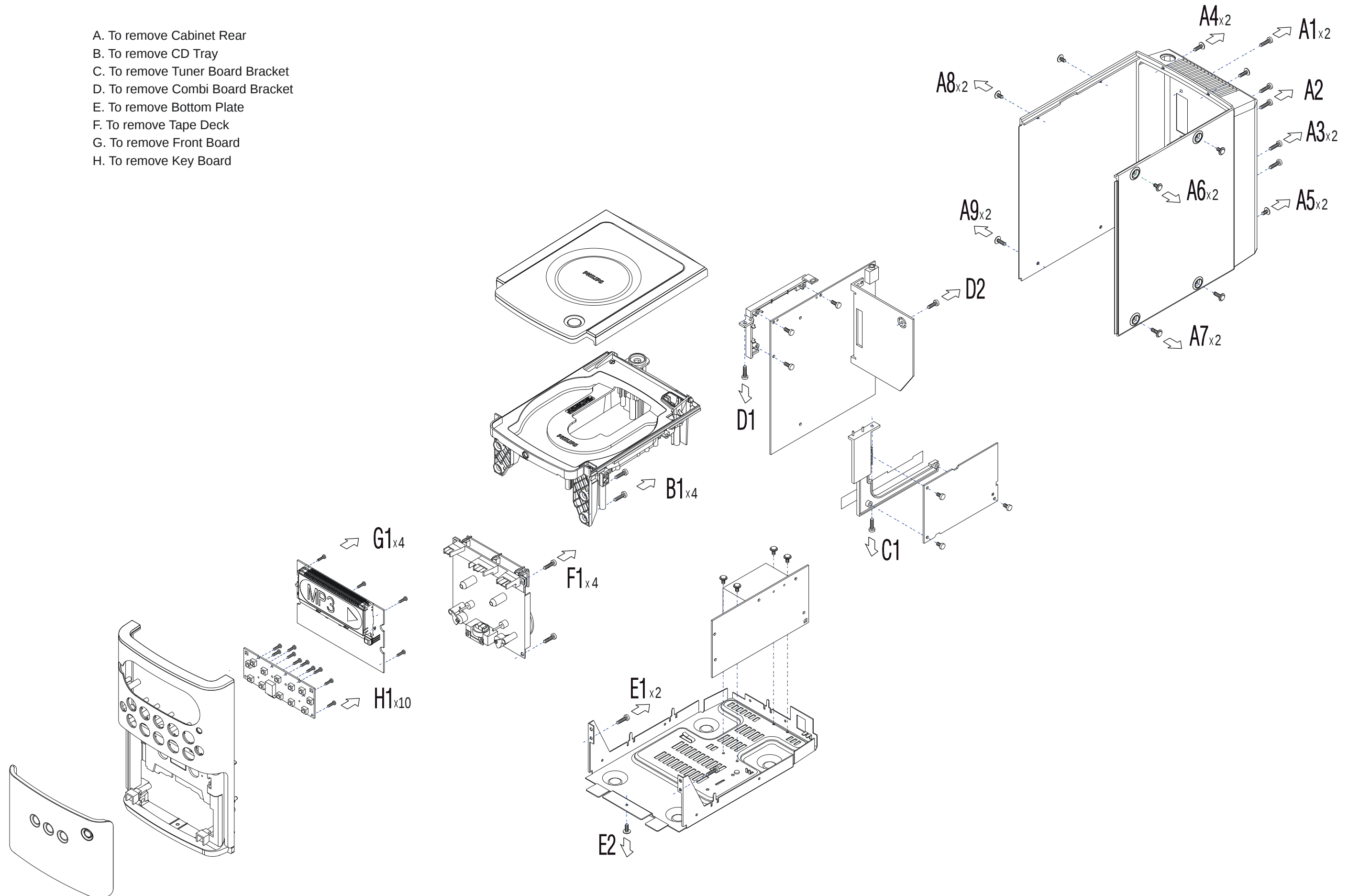
- Remove batteries if they are exhausted or will not be used for a long time.
- Do not use old and new or different types of batteries in combination.
- Batteries contain chemical substances, so they should be disposed off properly.

For more information on operation instruction please visit Philips Audio internet site :

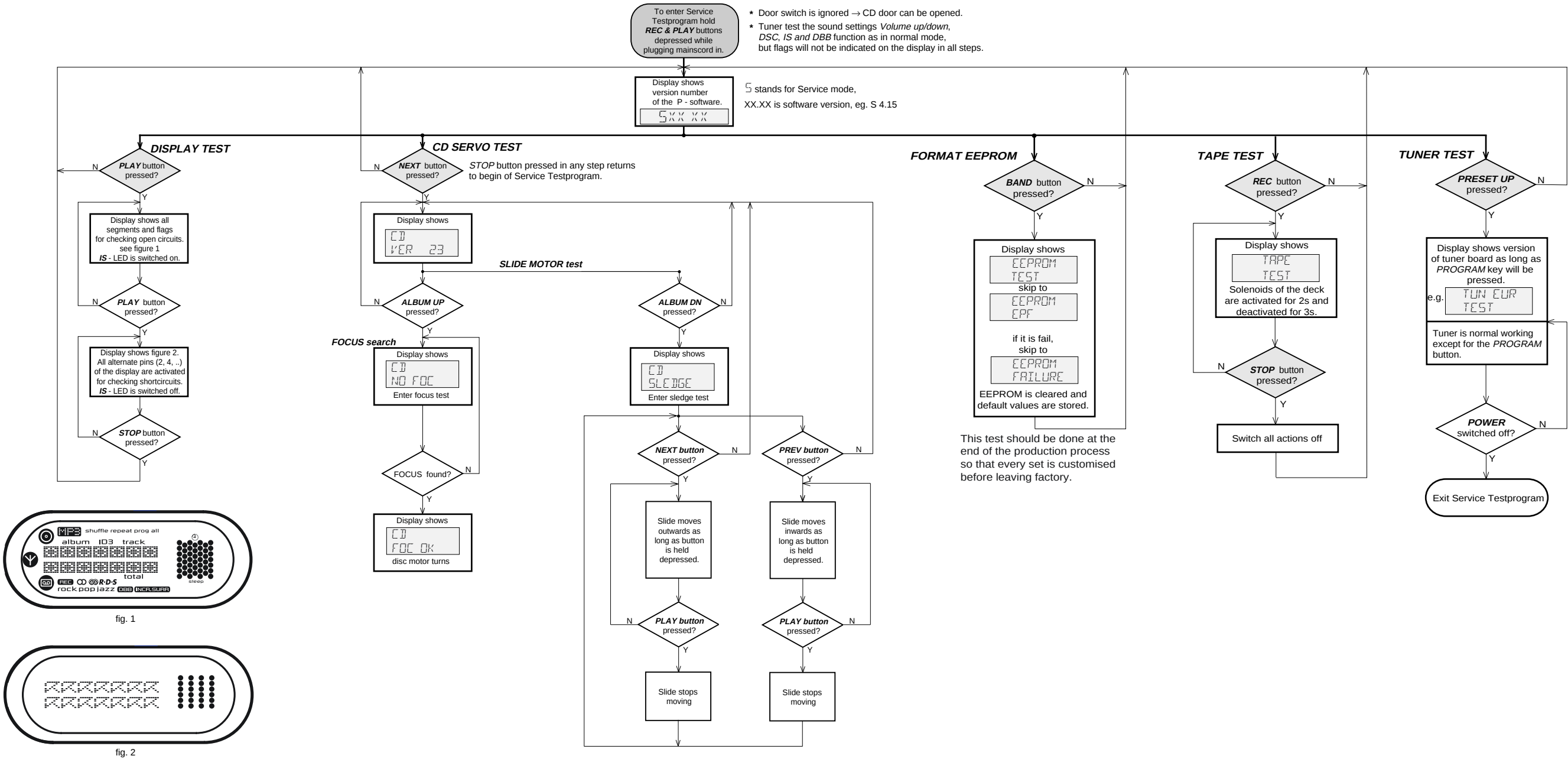
<http://www.audio.philips.com>

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
- H. To remove Key Board



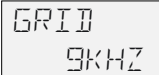
SERVICE TEST PROGRAM



TUNER VERSIONS			
REGION & SET VERSIONS	TUN EUR TEST	TUN USA TEST	TUN OSE TEST
	EUROPE FM/MW	USA FM/MW	OVERSEAS FM/MW
	/22/25	/37	¹⁾ Grid switchable 100/10kHz - 50/9kHz /21/21M/30

table 2

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

Display will show either  or , and show  or  when button released.

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

Abbreviations and Pin-description of CD Ics

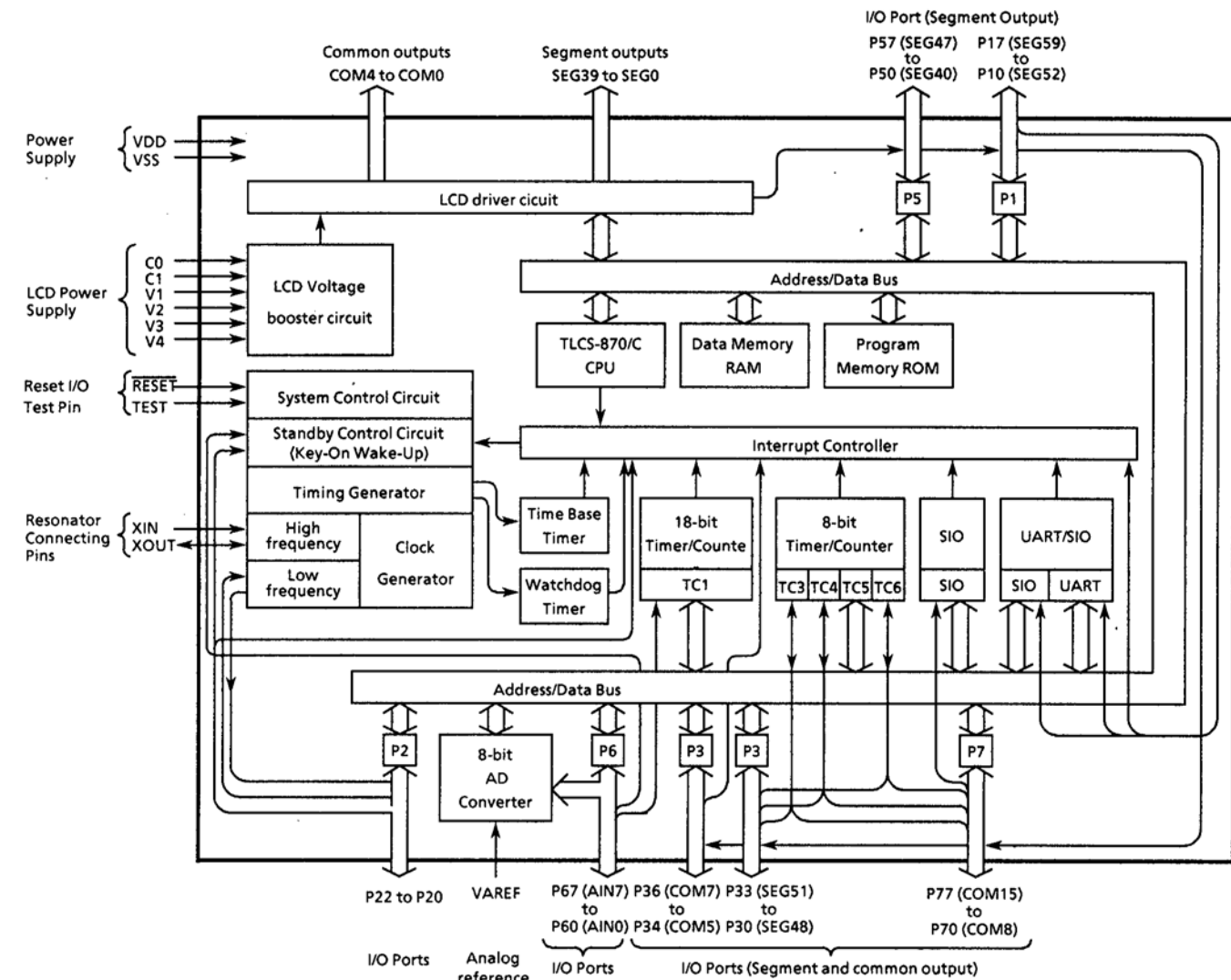
SERVO PROCESSOR SAA7325H

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 input 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 TMP86CS25F

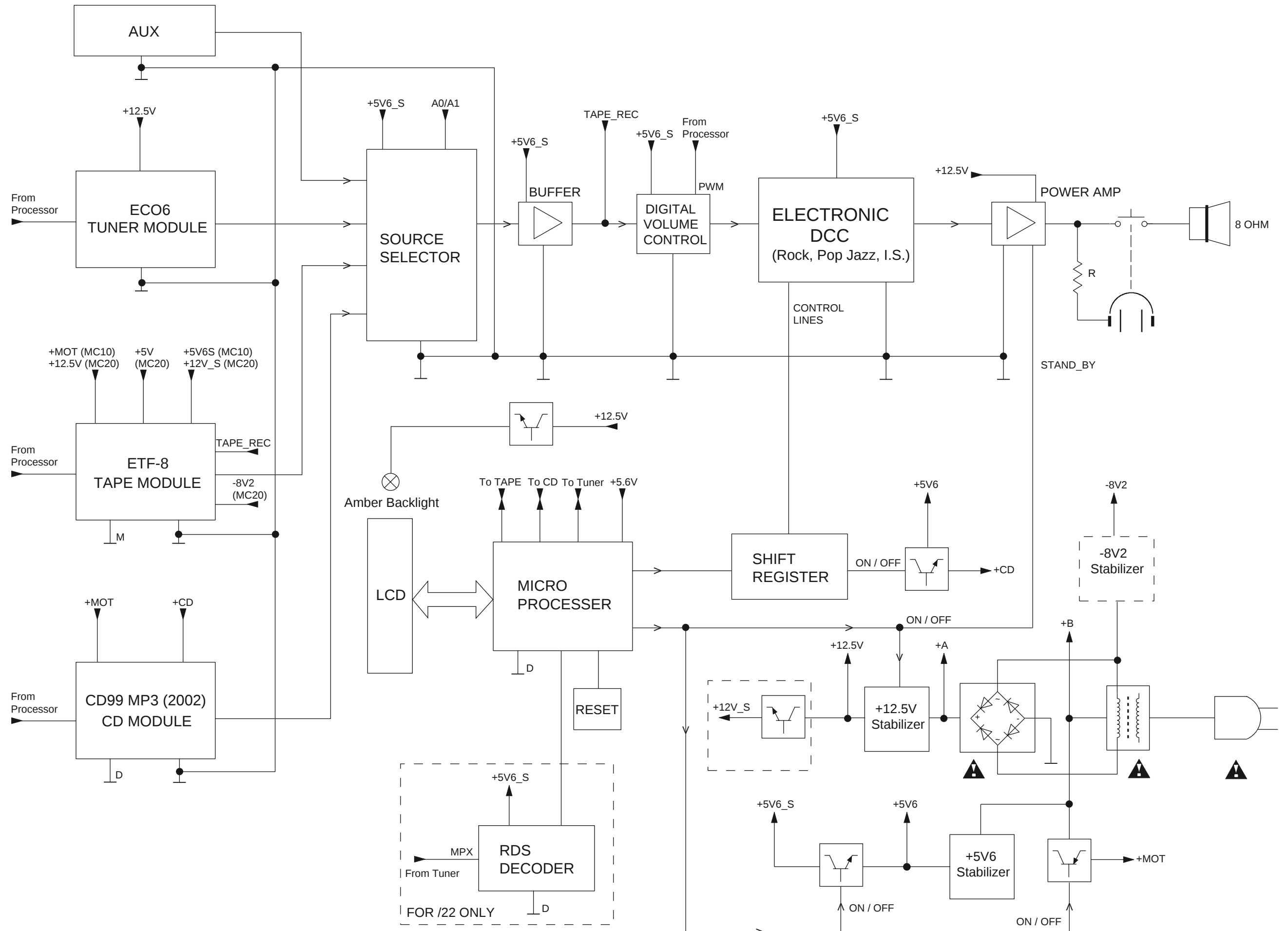


PINS DESCRIPTION OF IC 7400 TMP86CS25F

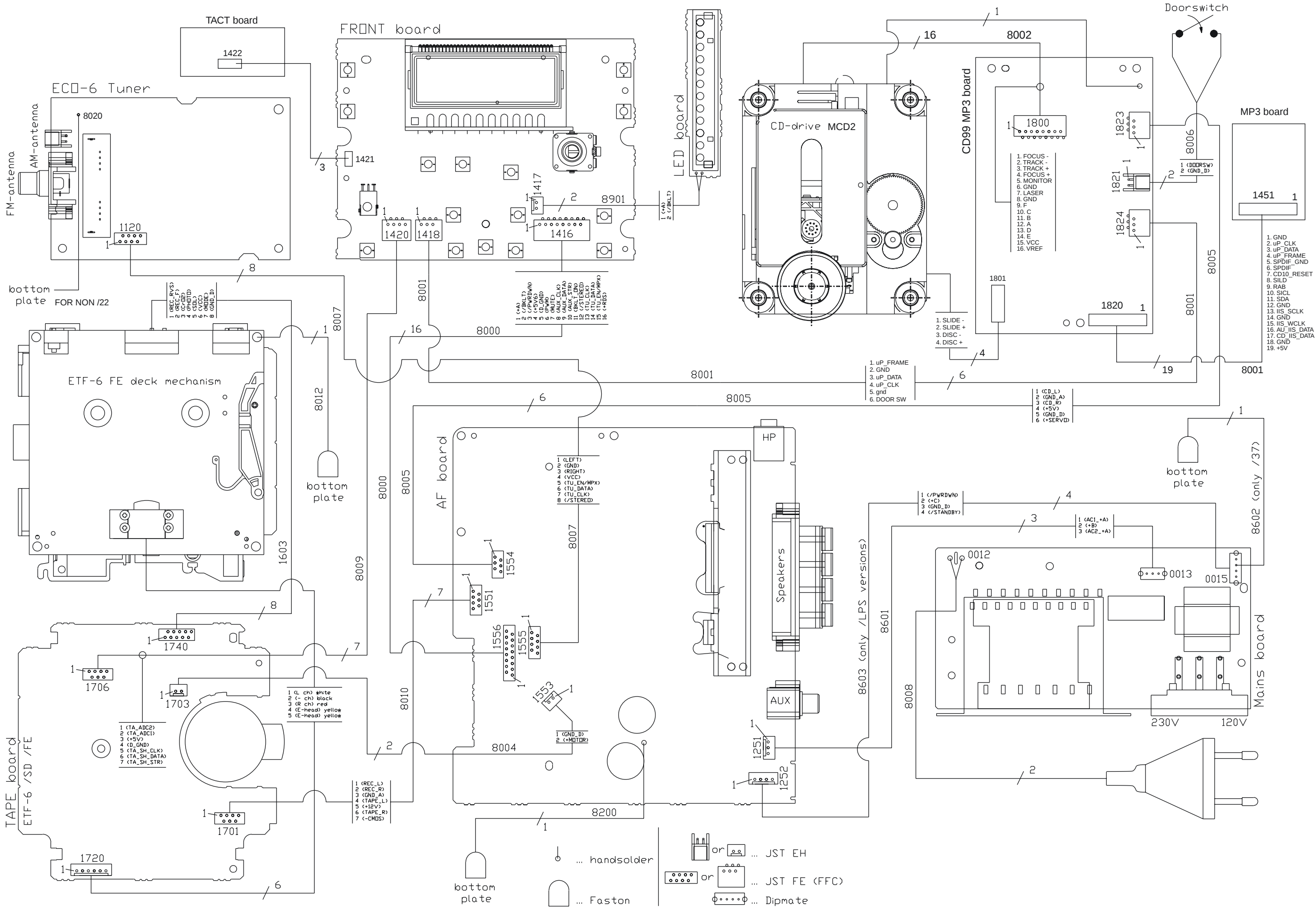
PIN FUNCTION

Pin Name	Input / Output	Function	
P17 (SEG24, SCK)	I/O (I/O)	Serial clock input / output	LCD segment outputs.
P16 (SEG25, TxD, SO)	I/O (Output)	UART data output	
P15 (SEG26, RxD, SI)	I/O (I/O)	Serial data output	
P14 (SEG27, MUL6)	I/O (I/O)	UART data input	
P13 (SEG28, MUL5)	I/O (I/O)	Serial data input	
P12 (SEG29, MUL4)	I/O (I/O)	External interrupt 3 input	
P11 (SEG30)	I/O (Output)	External interrupt 2 input	
P10 (SEG31)	I/O (Output)	External interrupt 1 input	
P22 (XTOUT)	I/O (Output)	Resonator connecting pins (32.768 kHz)	LCD segment outputs.
P21 (XTIN)	I/O (Input)	For inputting external clock, XTIN is used and XOUT is opened.	
P20 (INT5, STOP)	I/O (Input)	External interrupt input 5 or STOP mode release signal input	
P36 (COM7, MUL6)	I/O (I/O)	External interrupt 3 input	
P35 (COM6, MUL5)	I/O (I/O)	External interrupt 2 input	
P34 (COM5, MUL4)	I/O (I/O)	External interrupt 1 input	
P33 (SEG51, MUL3)	I/O (I/O)	Timer / counter 6 input / output	
P32 (SEG50, MUL2)	I/O (I/O)	Timer / counter 4 input / output	AD converter analog inputs
P31 (SEG49, MUL1)	I/O (I/O)	Timer / counter 3 input / output	
P30 (SEG48, MUL0)	I/O (Output)	Divider output	
P57 (SEG16) to P50 (SEG23)	I/O (Output)	8-bit input / output port with latch. When used as a LCD segment output, the P5LCR must be set to "1".	
P67 (AIN7, STOP5)	I/O (Input)	STOP5 input	
P66 (AIN6, STOP4)	I/O (Input)	STOP4 input	
P65 (AIN5, STOP3)	I/O (Input)	STOP3 input	
P64 (AIN4, STOP2)	I/O (Input)	STOP2 input	AD converter analog inputs
P63 (AIN3, INT0)	I/O (Input)	External interrupt 0 input	
P62 (AIN2, ECNT)	I/O (Input)	Timer / counter 1 input	
P61 (AIN1, ECIN)	I/O (Input)	Timer / counter 1 input	
P60 (AIN0)	I/O (Input)	Timer / counter 1 input	
P70 (COM8)	I/O (Output)	Divider output	
P71 (COM9, MUL0)	I/O (I/O)	Timer / counter 3 input / output	
P72 (COM10, MUL1)	I/O (I/O)	Timer / counter 4 input / output	AD converter analog inputs
P73 (COM11, MUL2)	I/O (I/O)	Timer / counter 6 input / output	
P74 (COM12, MUL3)	I/O (I/O)	Serial data input	
P75 (COM13, SI1)	I/O (I/O)	Serial data output	
P76 (COM14, SO1)	I/O (Output)	Serial clock input / output	
P77 (COM15, SCK1)	I/O (I/O)	Serial clock input / output	
SEG29 to SEG0	Output	LCD segment outputs	AD converter analog inputs
COM4 to COM0	Output	LCD common outputs	
V 4 to V 1 C1 to C0	LCD voltage booster pin	LCD voltage booster pin. Capacitors are required between C0 and C1 pin and V1/V2/V3/V4 pin and GND.	
XIN, XOUT	Input Output	Resonator connecting pins for high-frequency clock. For inputting external clock, XIN is used and XOUT is opened.	
RESET	Input	Reset signal input	
TEST	Input	Test pin for out-going test. Be fixed to low.	
VDD, VSS	Power Supply	+ 5 V, 0 (GND)	
VAREF	Power Supply	Analog reference voltage input.	

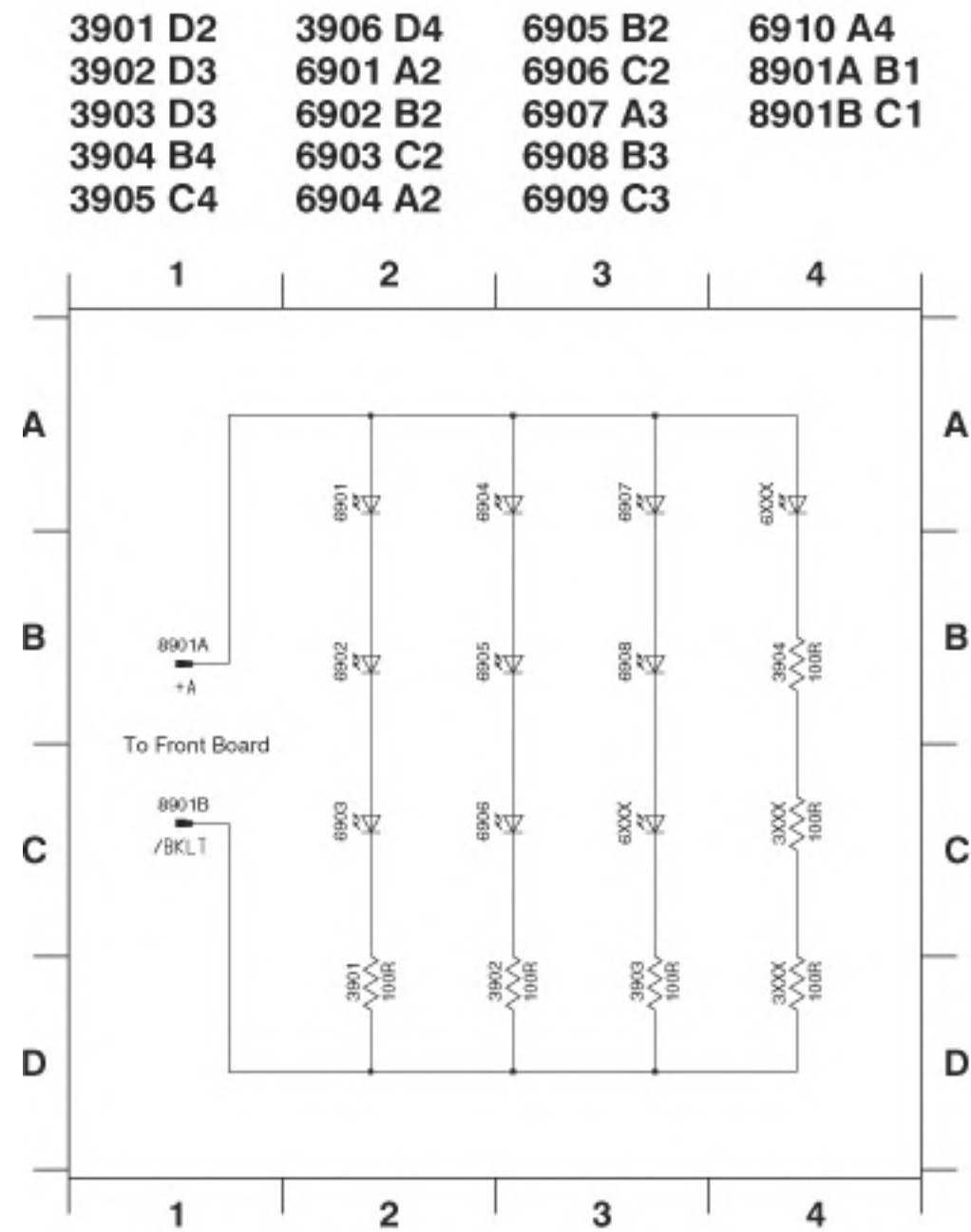
SET BLOCK DIAGRAM



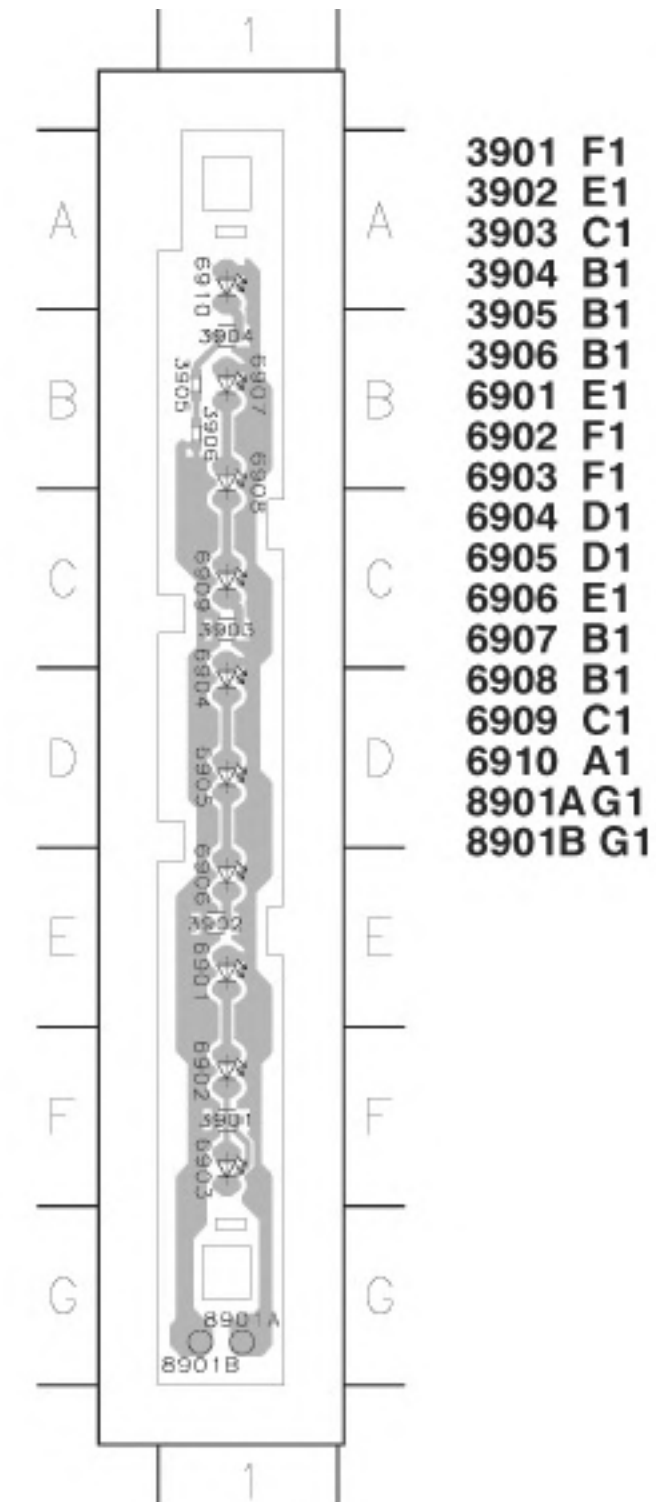
SET WIRING DIAGRAM



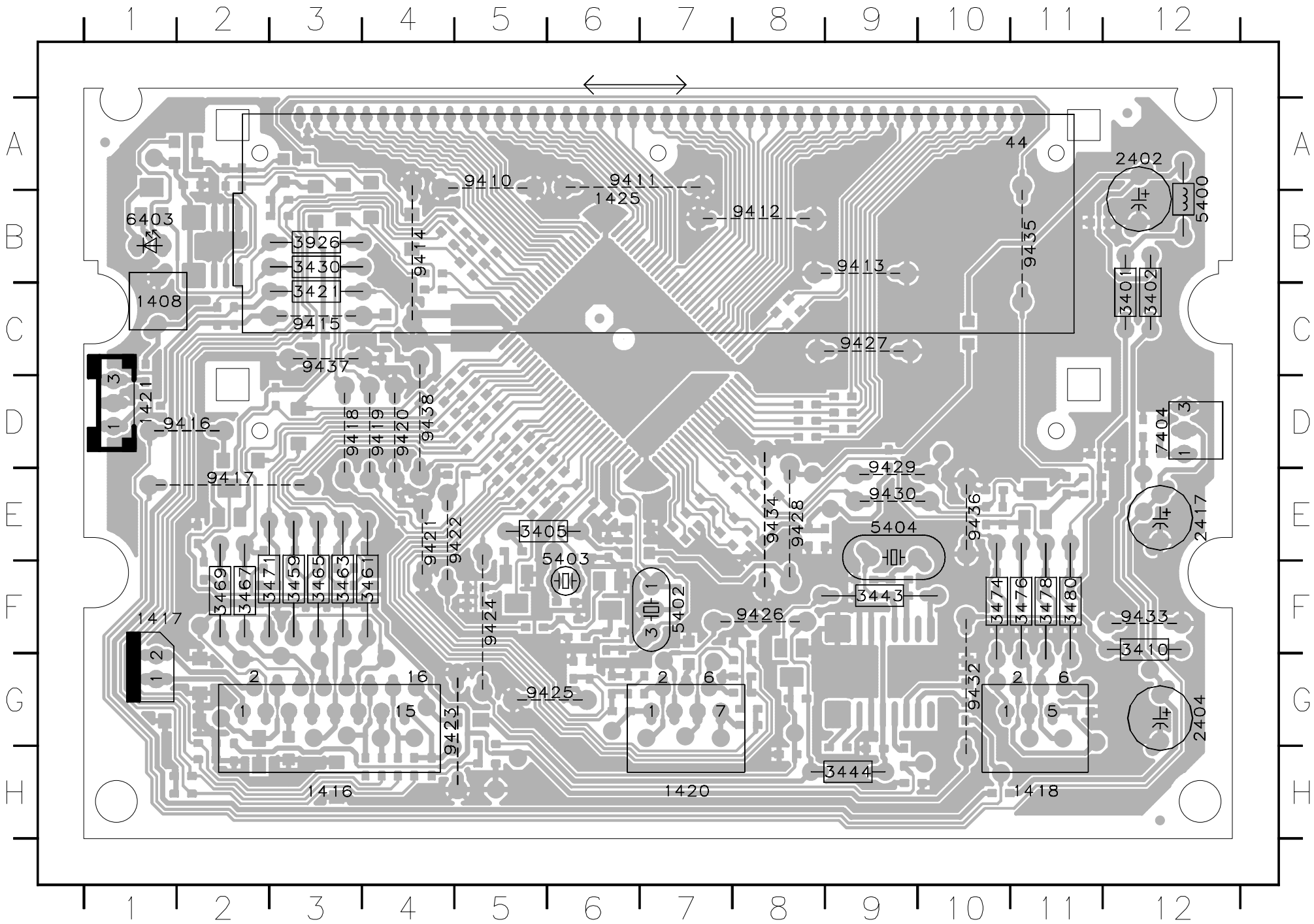
CIRCUIT DIAGRAM - LED BOARD



LAYOUT DIAGRAM - LED BOARD

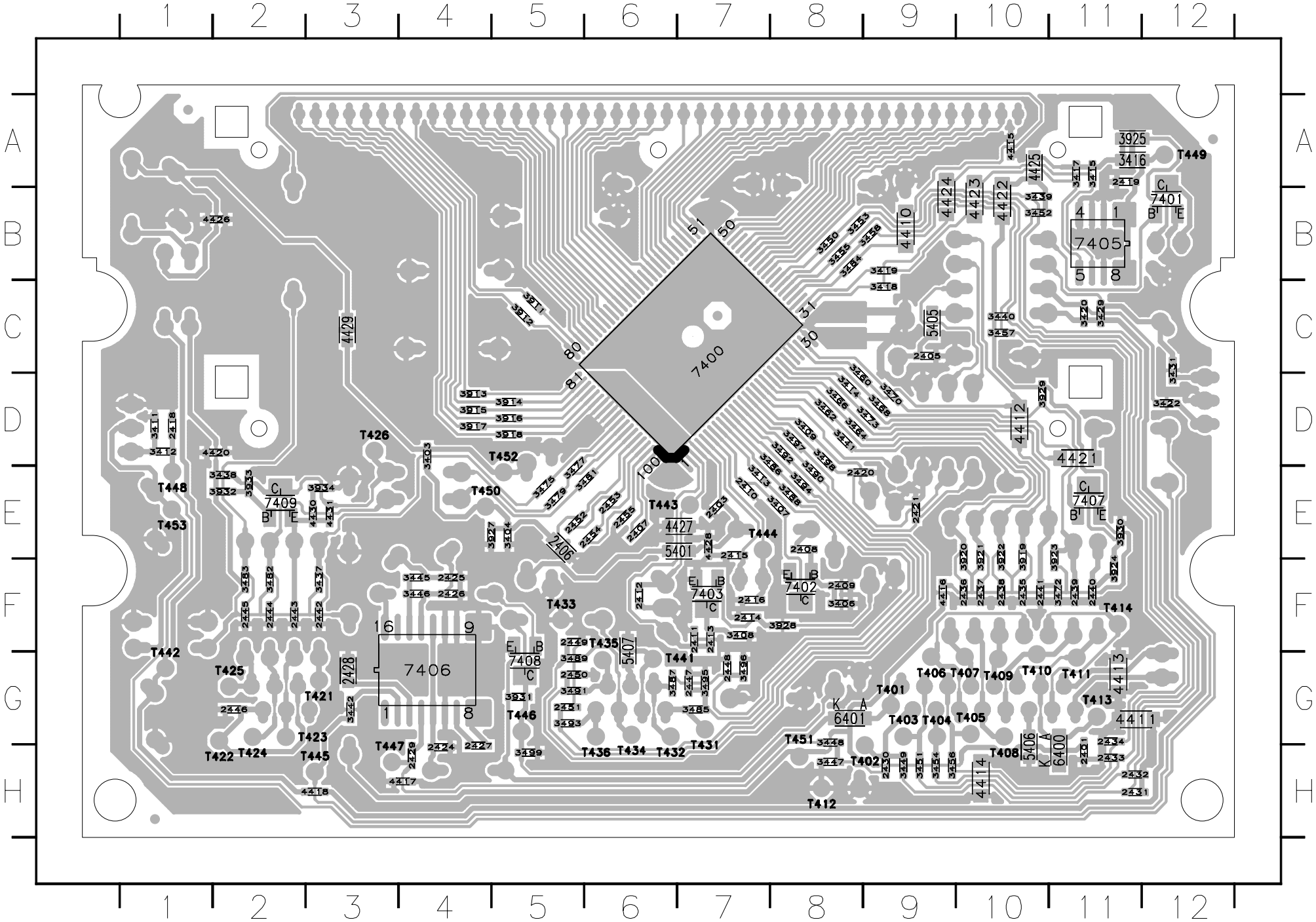


LAYOUT DIAGRAM - FRONT BOARD



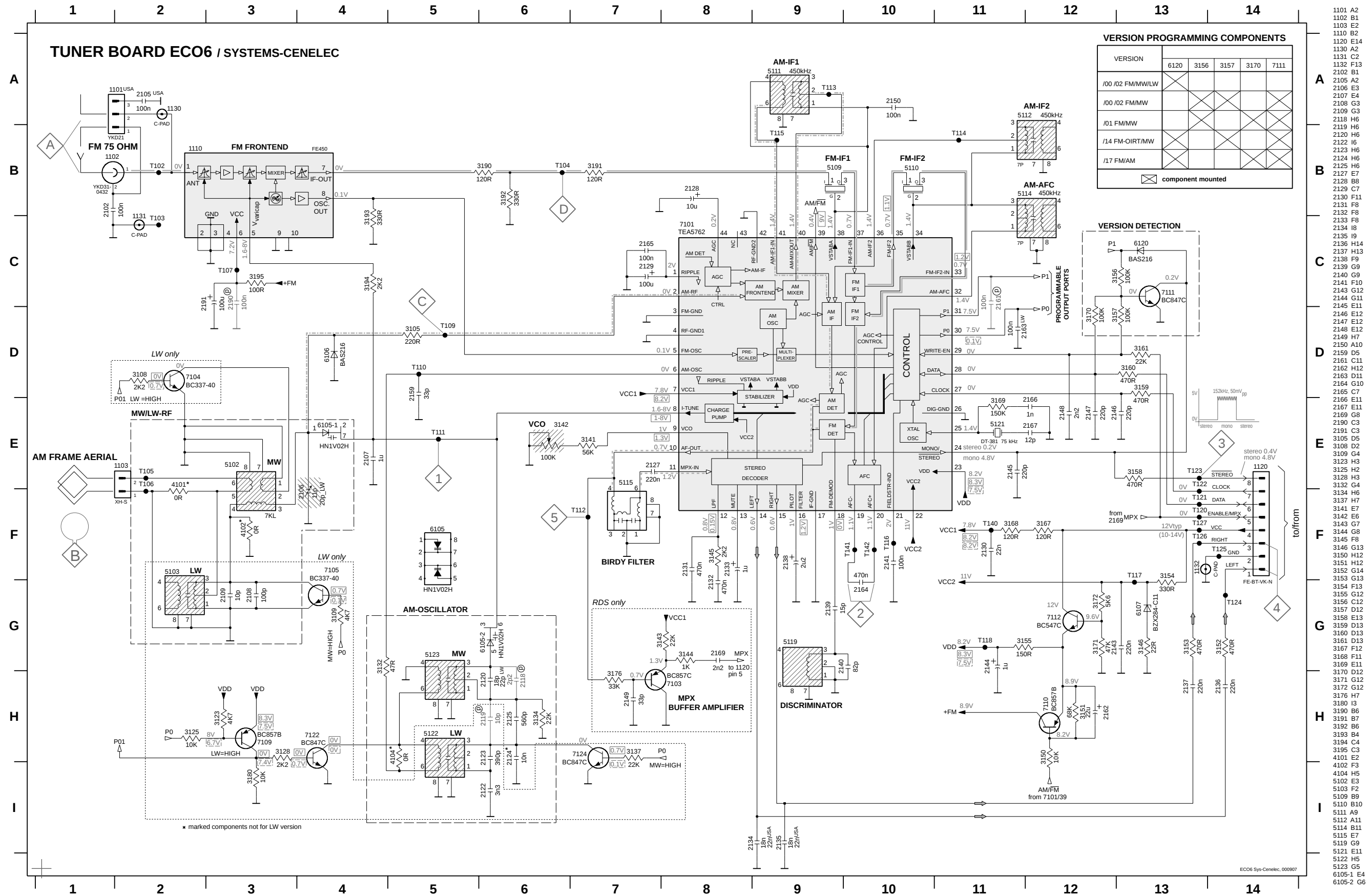
1408	C1	9430	E9
1416	H3	9432	G10
1417	F1	9433	F12
1418	H11	9434	E8
1420	H7	9435	B11
1421	D1	9436	E10
1425	B6	9437	C3
2402	A12	9438	D4
2404	G12		
2417	E12		
3401	C12		
3402	C12		
3405	E5		
3410	F12		
3421	C3		
3430	B3		
3443	F9		
3444	H9		
3459	F3		
3461	F4		
3463	F3		
3465	F3		
3467	F2		
3469	F2		
3471	F2		
3474	F10		
3476	F11		
3478	F11		
3480	F11		
3926	B3		
5400	B12		
5402	F7		
5403	E6		
5404	F9		
6403	B1		
7404	D12		
9410	A5		
9411	A6		
9412	B8		
9413	B9		
9414	B4		
9415	C3		
9416	D2		
9417	F2		
9418	D3		
9419	D4		
9420	D4		
9421	F4		
9422	F5		
9423	G4		
9424	F5		
9425	G6		
9426	F8		
9427	C9		
9428	F8		
9429	D9		

LAYOUT DIAGRAM - FRONT BOARD



2401	H11	3411	D1	3493	G5	640
2403	E7	3412	D1	3494	E8	740
2405	C9	3413	E7	3495	G7	740
2406	E5	3414	D8	3496	G7	740
2407	E6	3415	A11	3497	D8	740
2408	E8	3416	A11	3498	D8	740
2409	F8	3417	A11	3499	H5	740
2410	E7	3418	C9	3911	C5	740
2411	F7	3419	B9	3912	C5	740
2412	F6	3420	C11	3913	D4	740
2413	F7	3422	D12	3914	D5	
2414	F7	3429	C11	3915	D4	
2415	E7	3431	C12	3916	D5	
2416	F7	3437	F3	3917	D4	
2418	D1	3438	E2	3918	D5	
2419	A11	3439	B10	3919	E10	
2420	E8	3440	C10	3920	E10	
2421	E9	3441	D8	3921	E10	
2424	H4	3442	G3	3922	E10	
2425	F4	3445	F4	3923	E11	
2426	F4	3446	F4	3924	F11	
2427	H4	3447	H8	3925	A11	
2428	G3	3448	G8	3927	E4	
2429	H4	3449	H9	3928	F8	
2430	H9	3450	B8	3929	D10	
2431	H11	3451	H9	3930	E11	
2432	H11	3452	B10	3931	G5	
2433	H11	3453	B8	3932	E2	
2434	G11	3454	H9	3933	E2	
2435	F10	3455	B8	3934	E3	
2436	F10	3456	H9	4410	B9	
2437	F10	3457	C10	4411	G11	
2438	F10	3458	B9	4412	D10	
2439	F11	3460	D8	4413	G11	
2440	F11	3462	D8	4414	H10	
2441	F10	3464	D8	4415	A10	
2442	F3	3466	D8	4416	F9	
2443	F2	3468	D9	4417	H4	
2444	F2	3470	D9	4418	H3	
2445	F2	3472	F11	4420	D2	
2446	G2	3473	D9	4421	D11	
2447	G7	3475	E5	4422	B10	
2448	G7	3477	E5	4423	B10	
2449	F5	3479	E5	4424	B9	
2450	G5	3481	E6	4425	A10	
2451	G5	3482	F2	4426	B2	
2452	E5	3483	F2	4427	E7	
2453	E6	3484	B8	4428	E7	
2454	E6	3485	G7	4429	C3	
2455	E6	3486	D8	4430	E3	
3403	D4	3487	G6	4431	E3	
3404	E5	3488	E8	5401	E7	
3406	F8	3489	G5	5405	C9	
3407	E8	3490	E8	5406	H10	
3408	F7	3491	G5	5407	F6	
3409	D8	3492	D8	6400	H11	

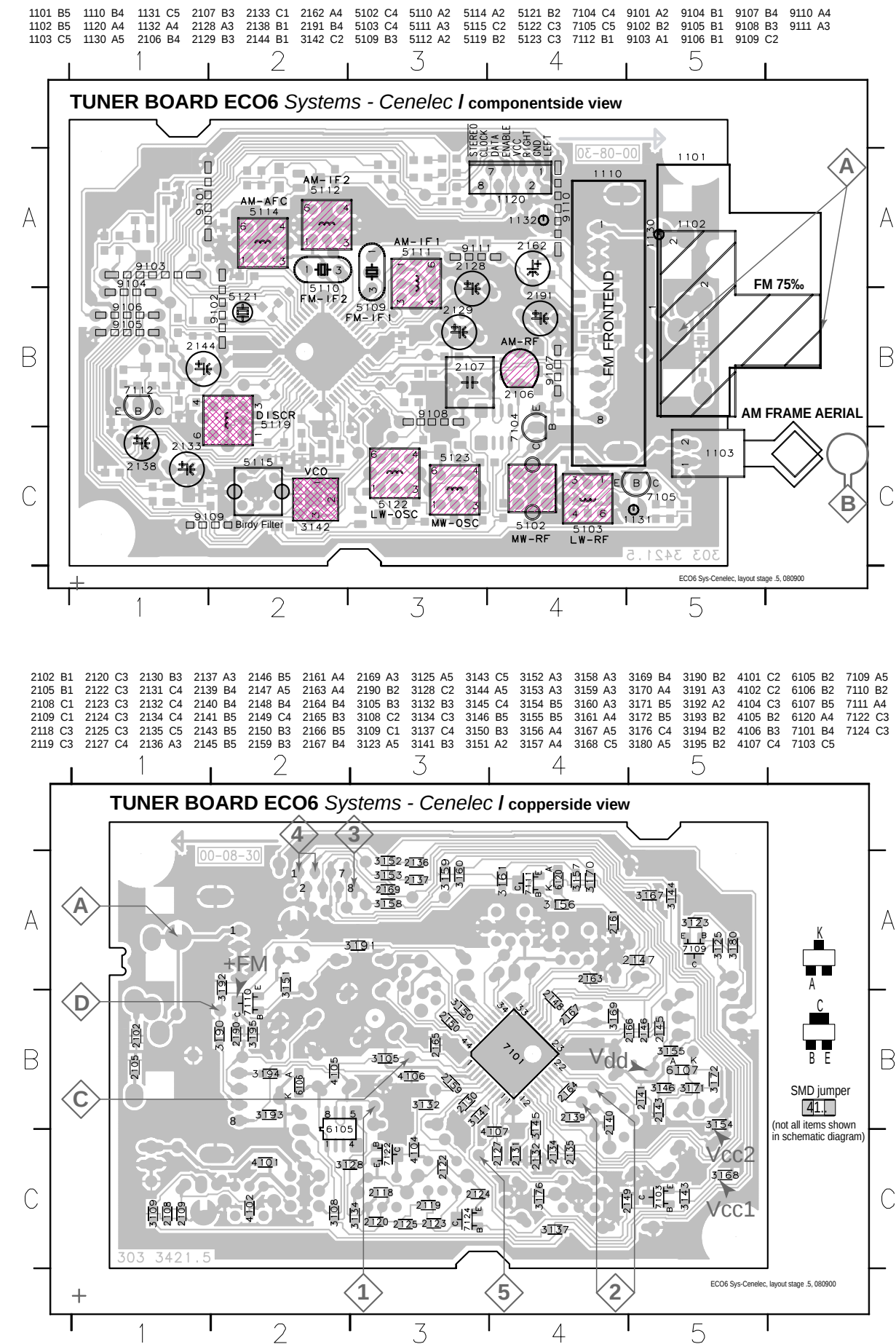
CIRCUIT DIAGRAM - ECO6 SYSTEM CENELEC BOARD



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
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

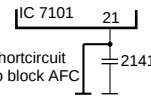
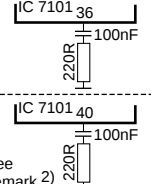
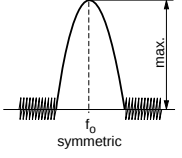
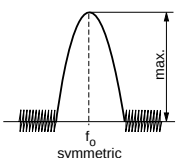
6106 D4
6107 G13
6120 C13
7101 C8
7103 H8
7104 D2
7105 F4
7109 H3
7110 H12
7111 C13
7112 G12
7122 H4
7124 H7
7125 B2
7126 B2
7127 H4
7128 H4
7129 H3
7130 B1
7131 H12
7132 F13
7133 F13
7134 F13
7135 F13
7136 F13
7137 F13
7138 F13
7139 F13
7140 F13
7141 F10
7142 F10

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.

TUNER ADJUSTMENT TABLE (ECO6 Cenelec FM/MW - and FM/MW/LW - versions with AM-frame aerial)

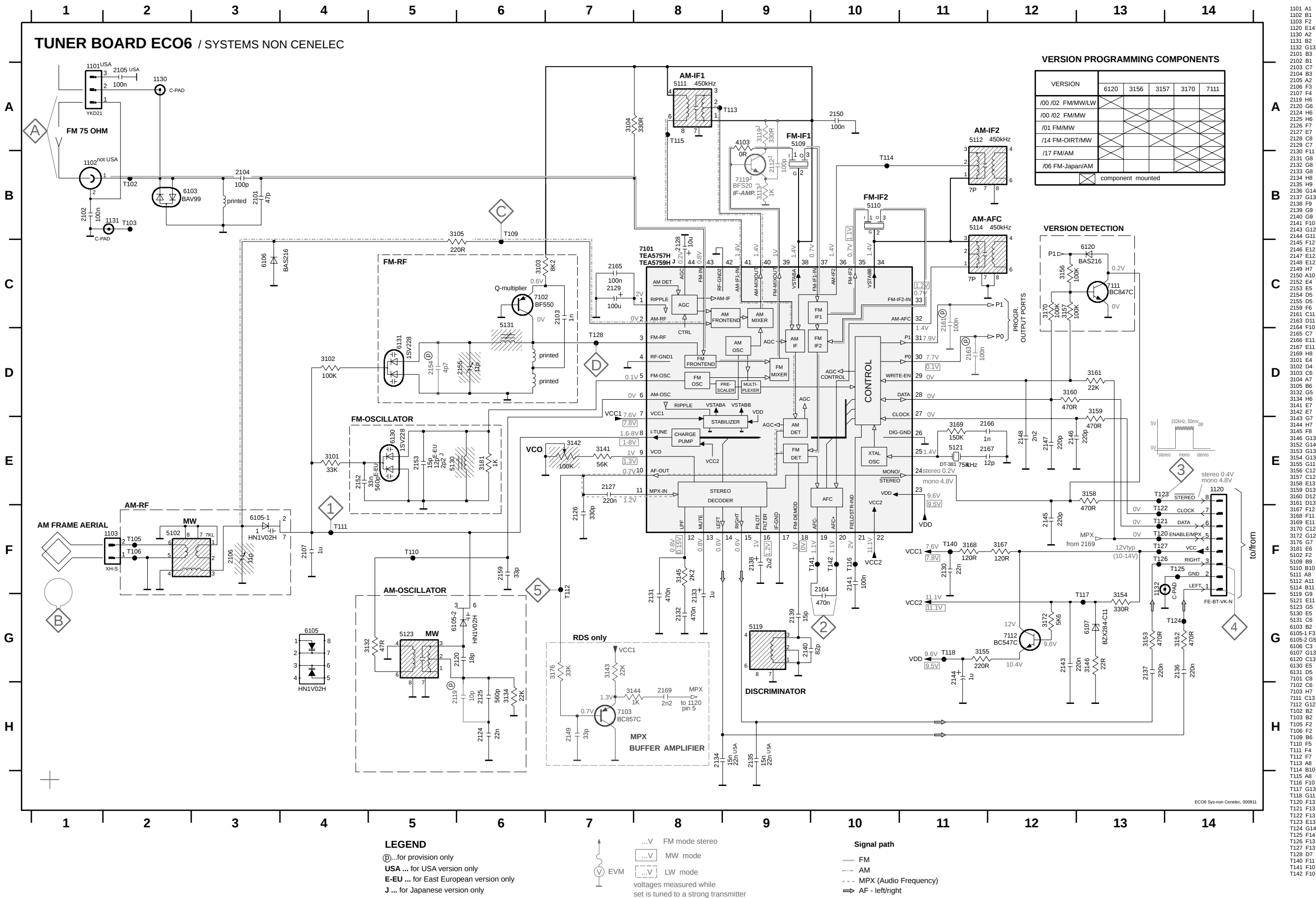
Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter
VARICAP ALIGNMENT						
FM 87.5 - 108MHz (50kHz grid)			108MHz	check	1	8V ±1.2V
			87.5MHz	check		1.6V ±0.5V
MW 531 - 1602kHz (9kHz grid)			1602kHz	5123		8V ±0.2V 3-band 6.9V ±0.2V 2-band
			531kHz	check		1.1V ±0.4V
LW 153 - 279kHz (3kHz grid)			279kHz	5122		8V ±0.2V
			153kHz	check		1.1V ±0.4V
FM - IF						
FM	10.7MHz, 45mV continuous wave	D		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		5111	5	
		Δf = ±10kHz V _{RF} = 0.5mV (as low as possible)		5112		
AM AFC MW		C	continuous wave V _{RF} = 2mV	5114	2	0mV ±2mV
AM RF ³⁾						
MW	1494kHz	B	1494kHz	2106	5	
	558kHz		558kHz	5102		
LW	198kHz	Δf = ±30kHz V _{RF} as low as possible	198kHz	5103		

Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

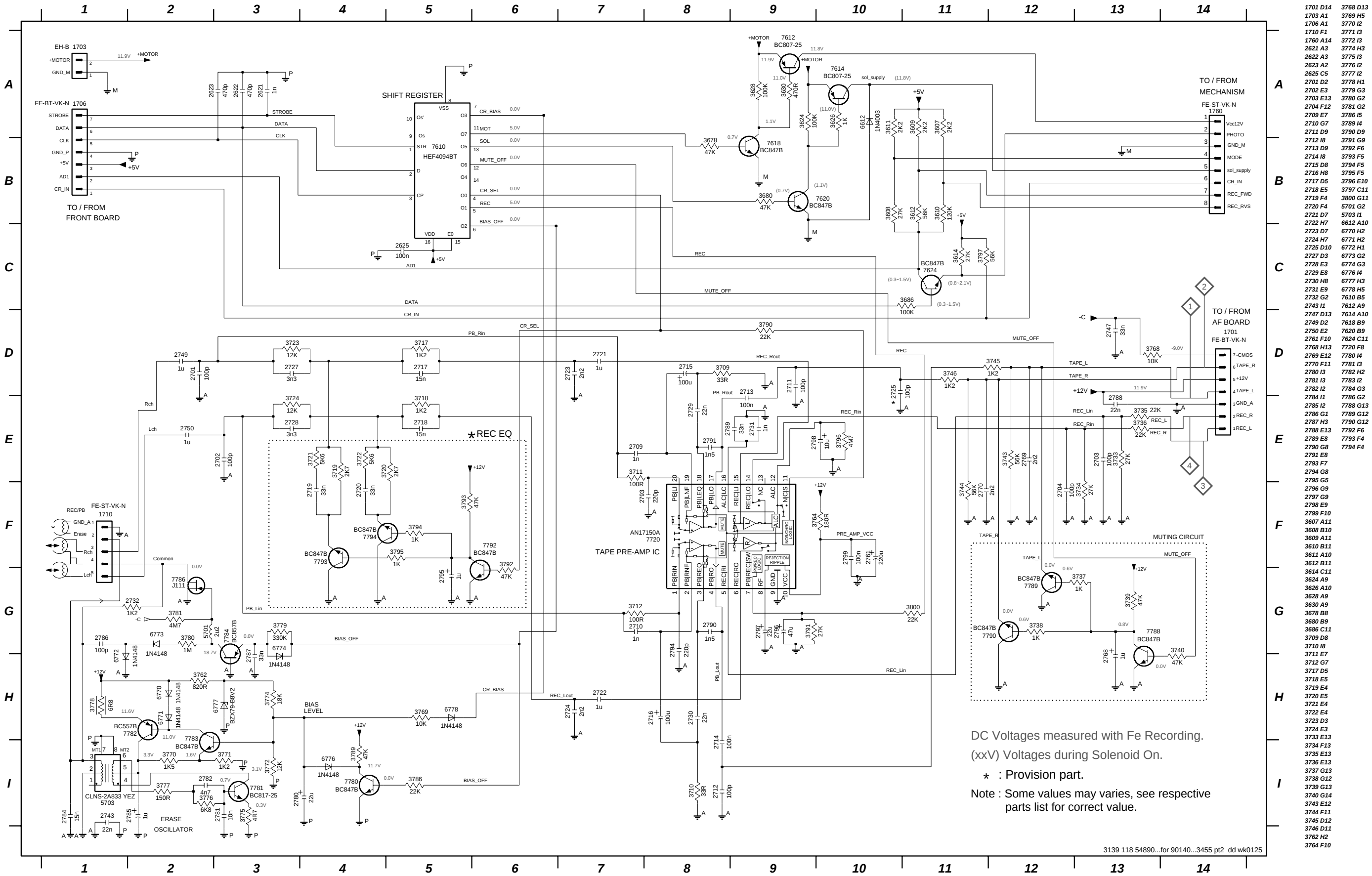
- ¹⁾ If sensitivity of frequency counter is too low adjust to max. channel separation
(input signal: stereo left 90% + 9%, adjust output on right channel to minimum)
- ²⁾ RC network serves for damping the IF-filter while adjusting the other one.
- ³⁾ For AM RF adjustments the original frame antenna has to be used!
MW has to be aligned before LW.

↑ Repeat

CIRCUIT DIAGRAM - ECO6 SYSTEM NON-CENELEC BOARD



CIRCUIT DIAGRAM - ETF8 SD

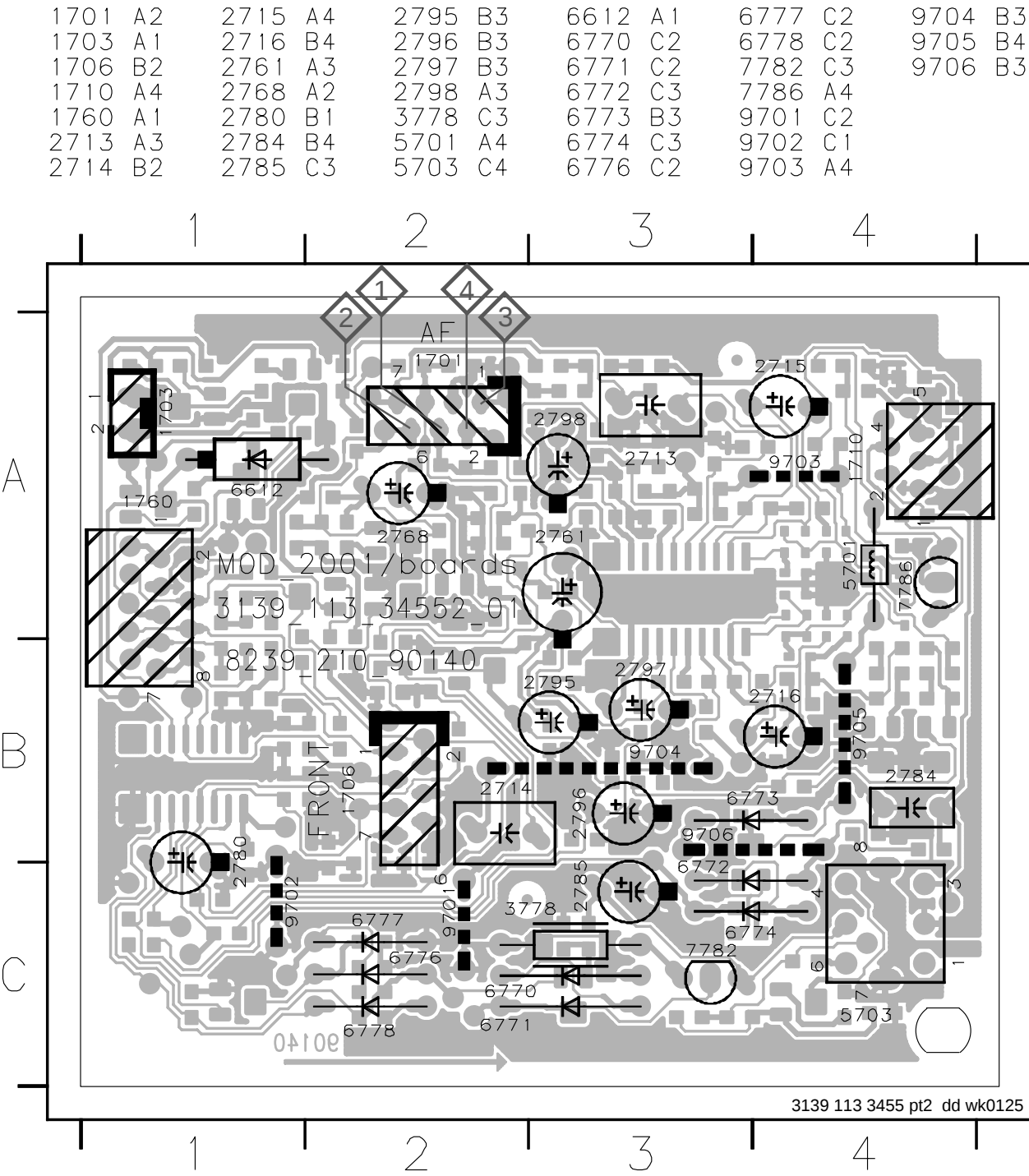


DC Voltages measured with Fe Recording.
(xxV) Voltages during Solenoid On.

* : Provision part.

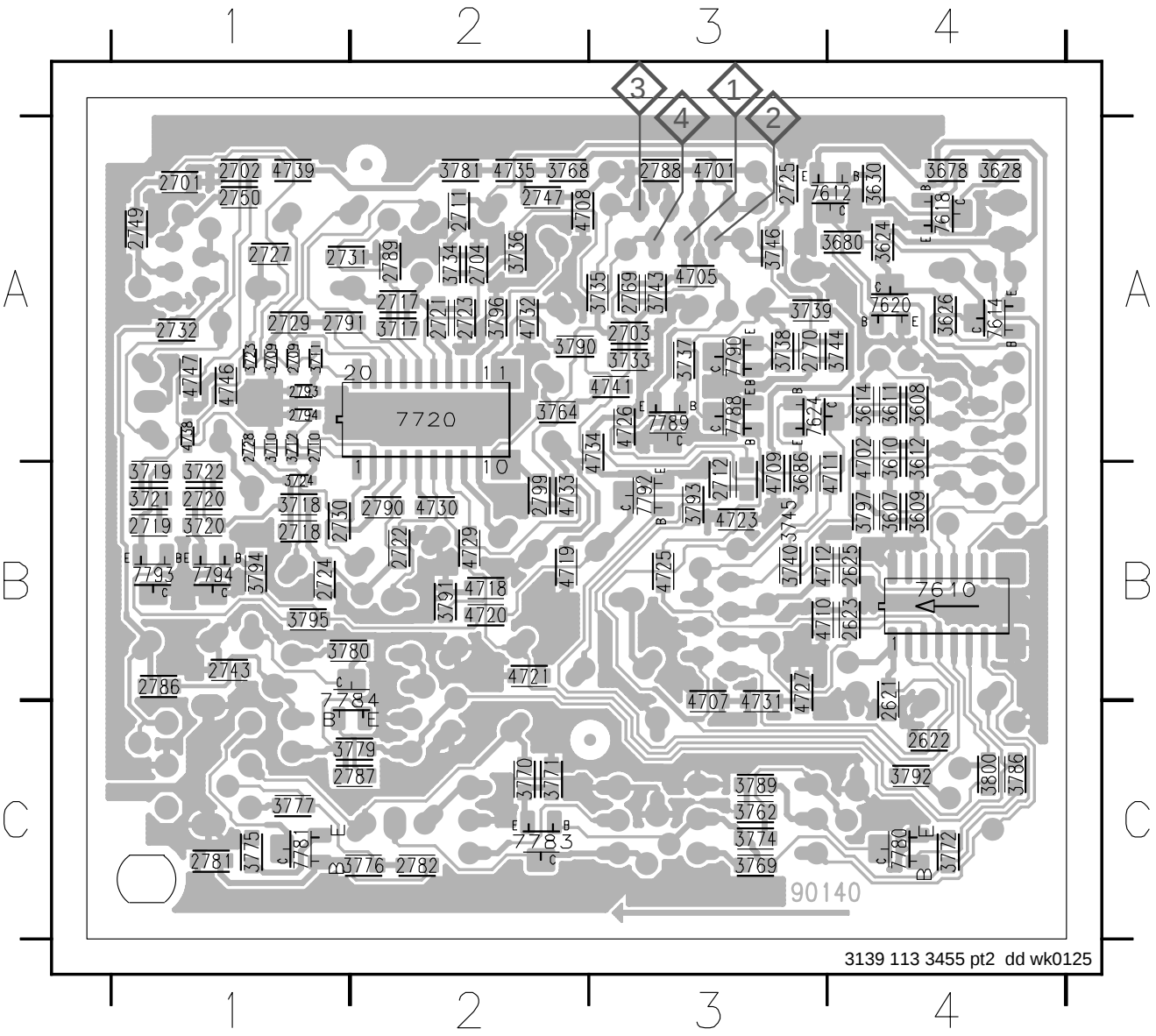
Note : Some values may varies, see respective parts list for correct value.

LAYOUT DIAGRAM - ETF8 SD BOARD



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	

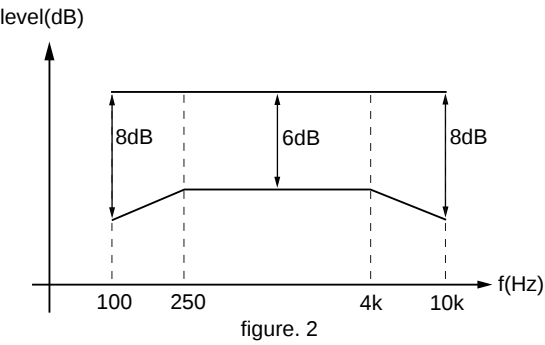
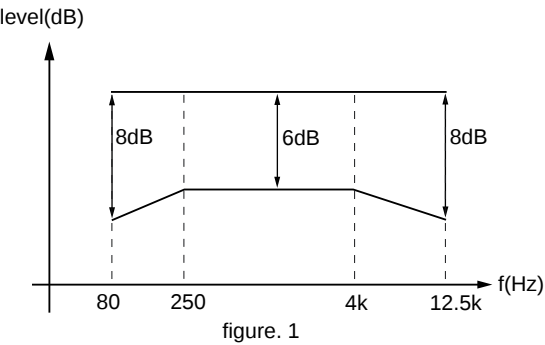


TAPE ADJUSTMENT & CHECK TABLE

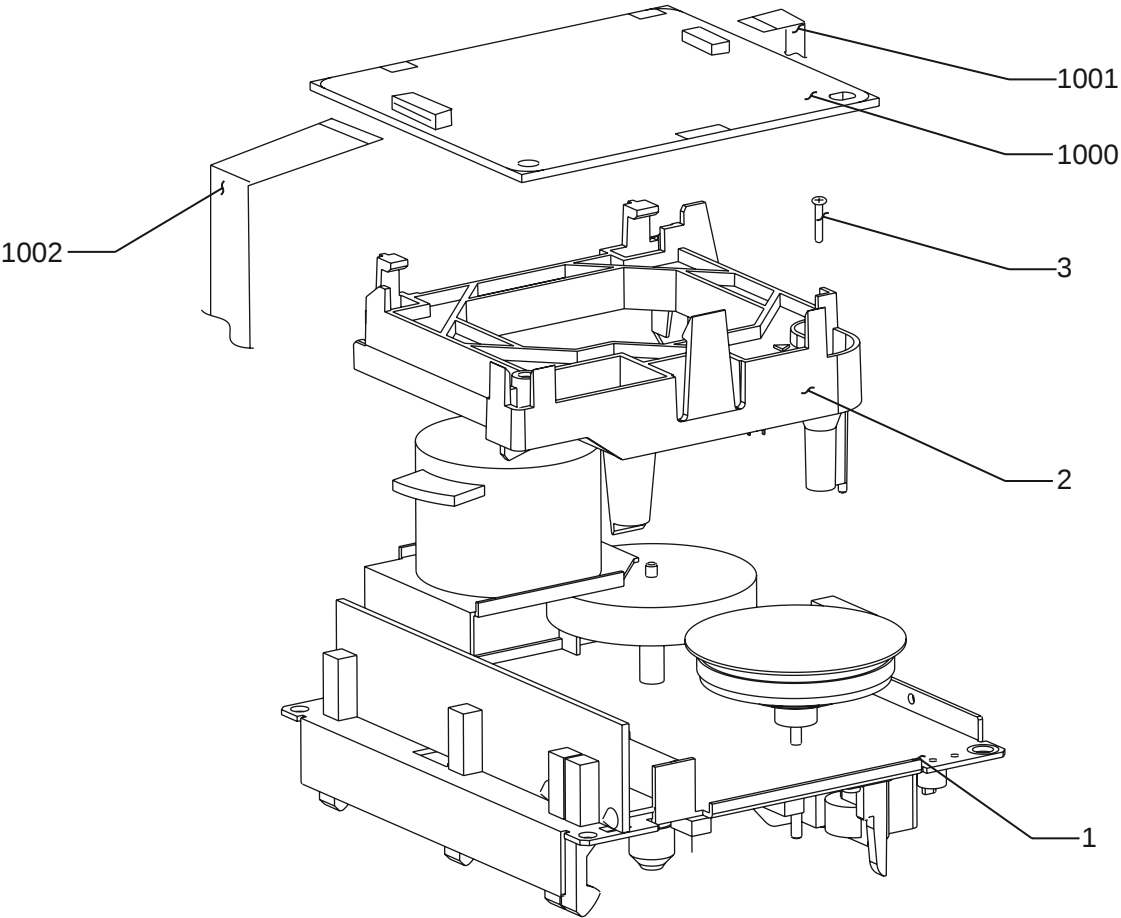
	TEST CASSETTE	RECORDER MODE	MEASURE ON	READ ON	ADJUST	
					with	to
MOTOR SPEED	SBC420 3150Hz	PLAY	1 or 2 LEFT RIGHT	frequency counter	check	3150Hz +/- 2%
WOW & FLUTTER	SBC420 3150Hz	PLAY		W&F-meter	check	< 0.4 % DIN
ADJUST AZIMUTH	SBC420 10kHz	PLAY FWD		mV-meter	left hand screw	max. output level & left=right
		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

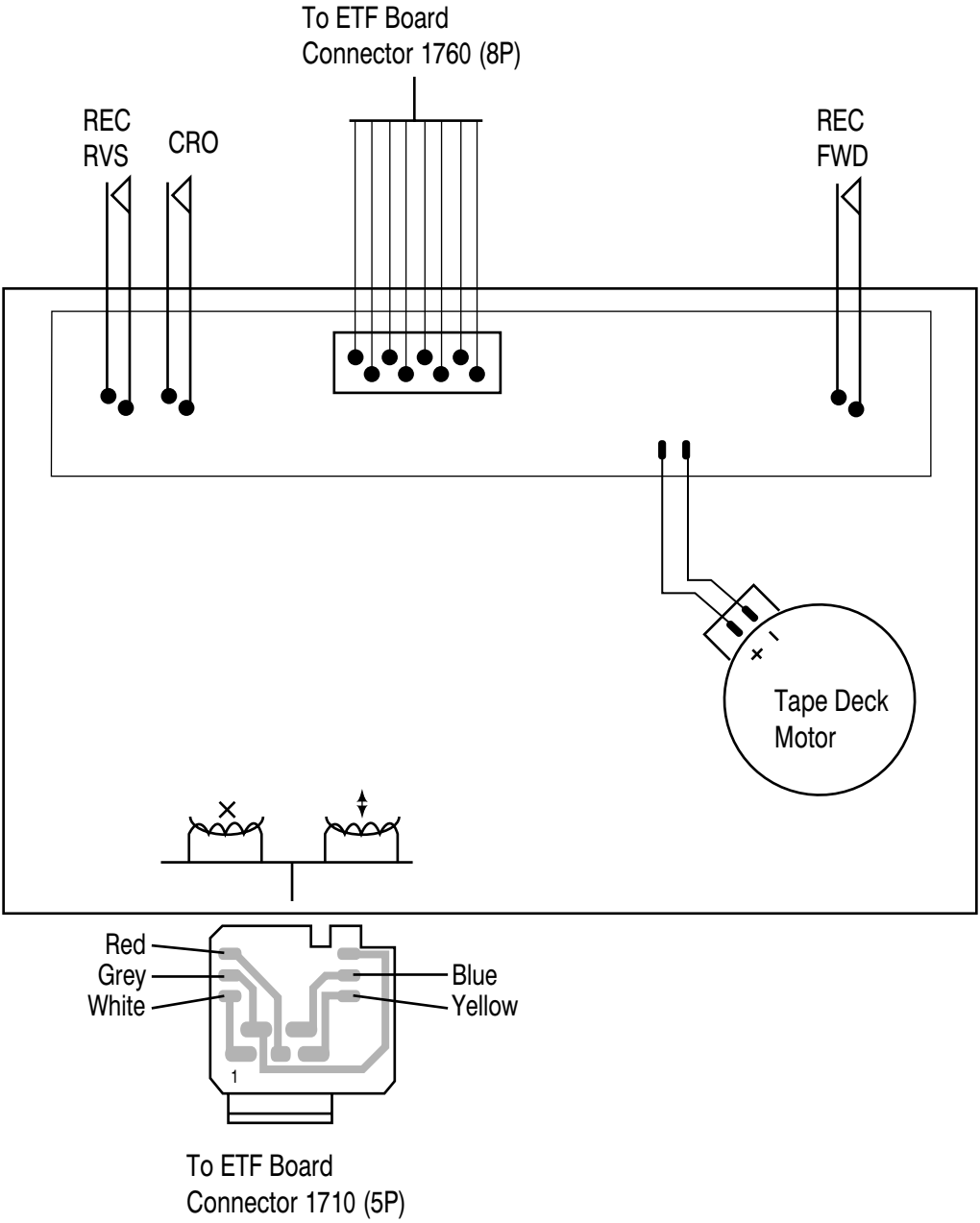
^ For Auto-reverse version only
* If high frequencies are not within limits, decrease bias and re-measure.
If distortion is too high, increase bias and re-measure



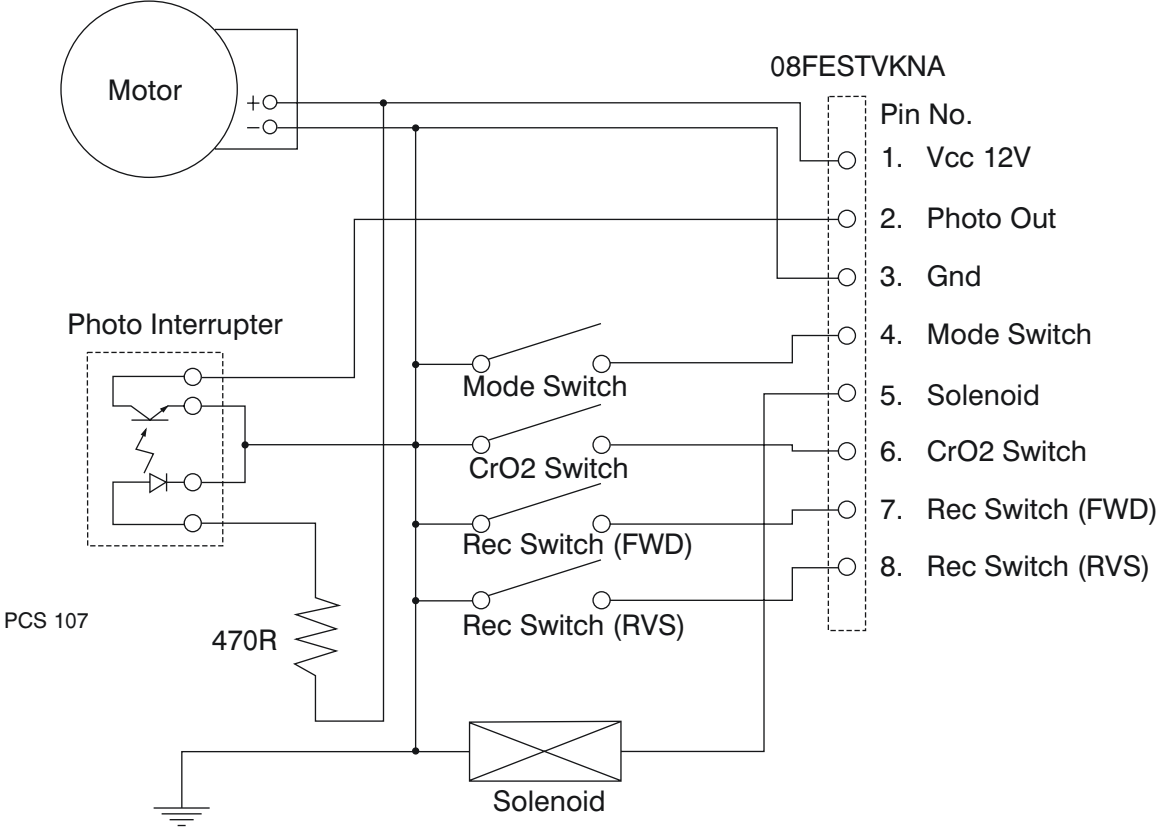
EXPLODED VIEW - TAPE MODULE



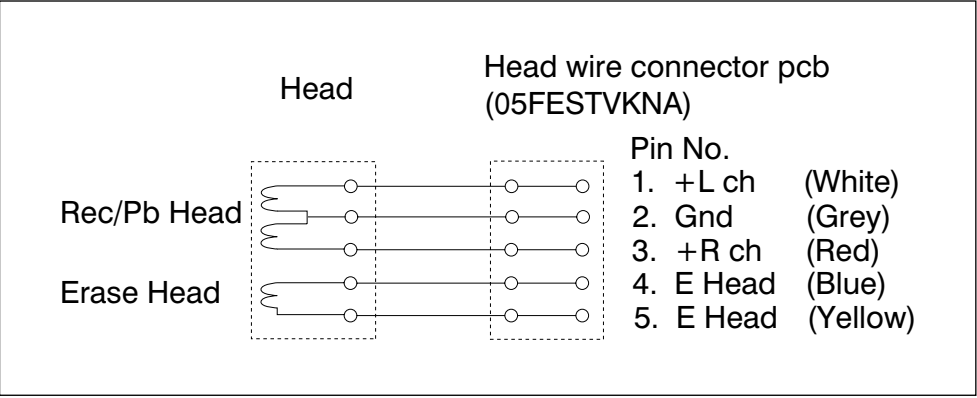
TAPE DECK WIRING



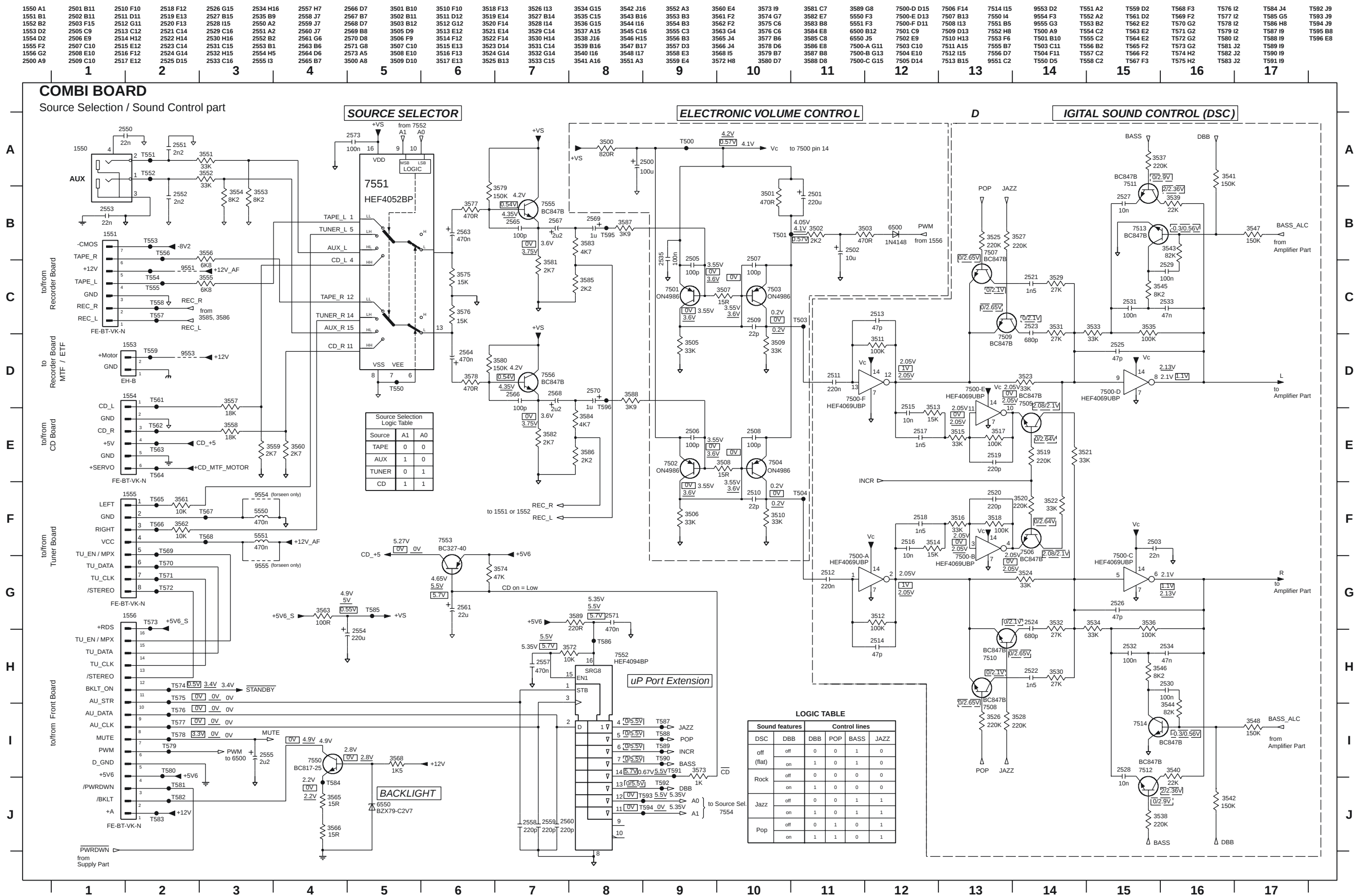
TAPE MECHANISM ELECTRONICS



Mechanism Head Wires Soldering



CIRCUIT DIAGRAM - COMBI BOARD (Part 1)

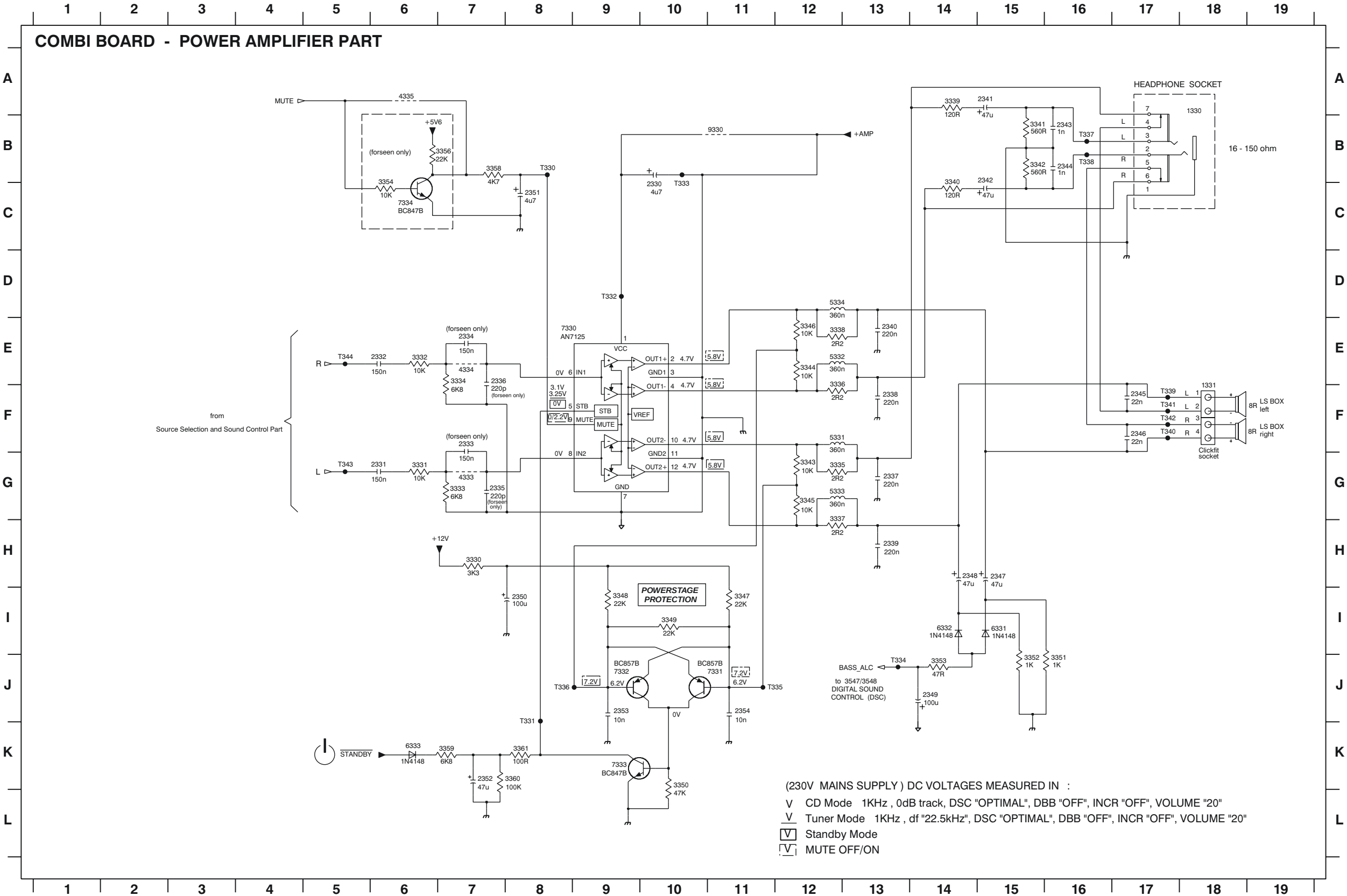


(230V MAINS SUPPLY) DC VOLTAGES MEASURED IN :

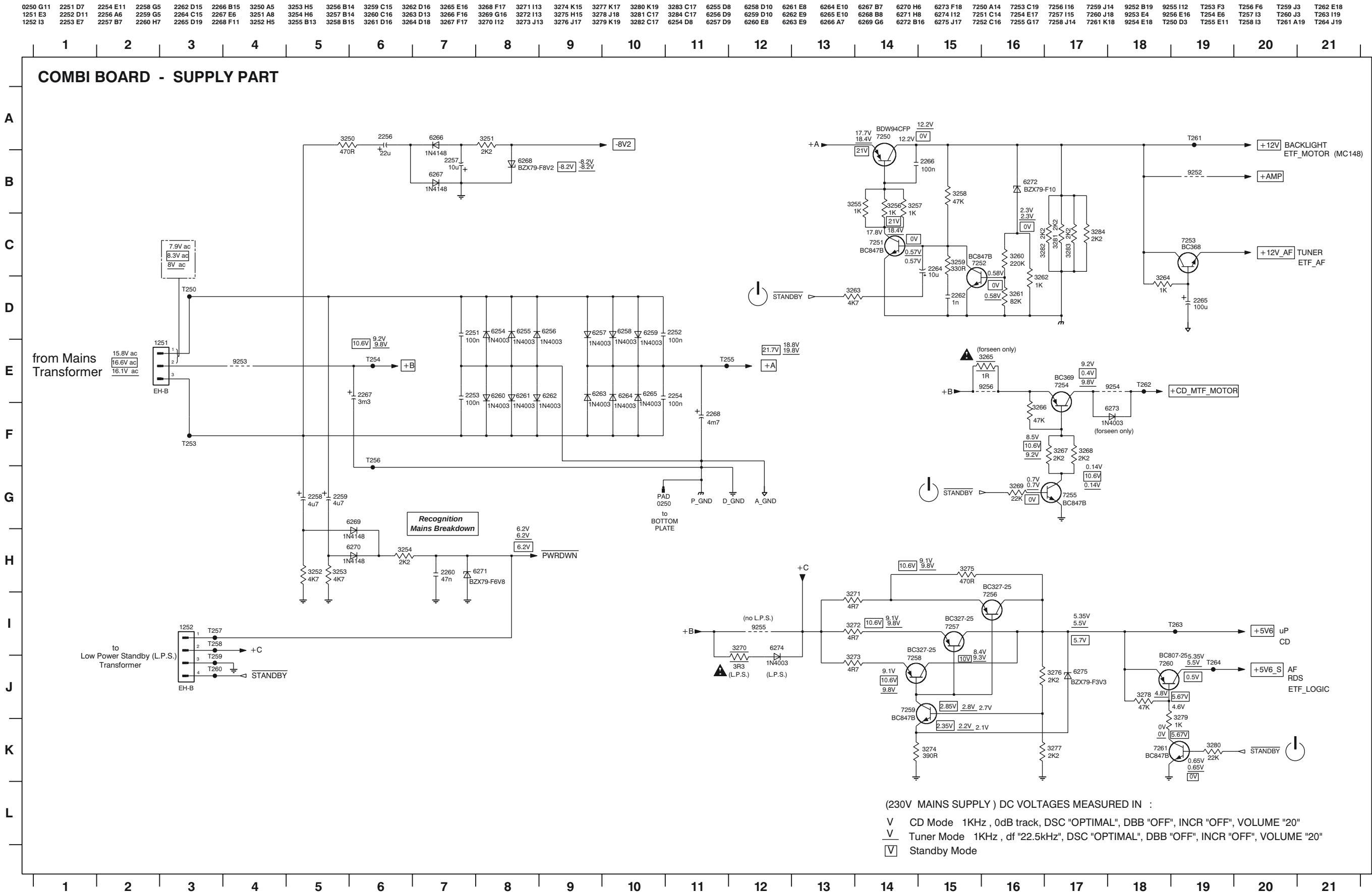
- V CD Mode 1KHz , 0dB track, DSC "OPTIMAL", DBB "OFF", INCR "OFF", VOLUME "20"
 V Tuner Mode 1KHz , df "22.5kHz", DSC "OPTIMAL", DBB "OFF", INCR "OFF", VOLUME "20"
 V Standby Mode
 V DSC OFF/ON at CD Mode 1KHz , 0dB track, VOLUME "20"

CIRCUIT DIAGRAM - COMBI BOARD (Part 2)

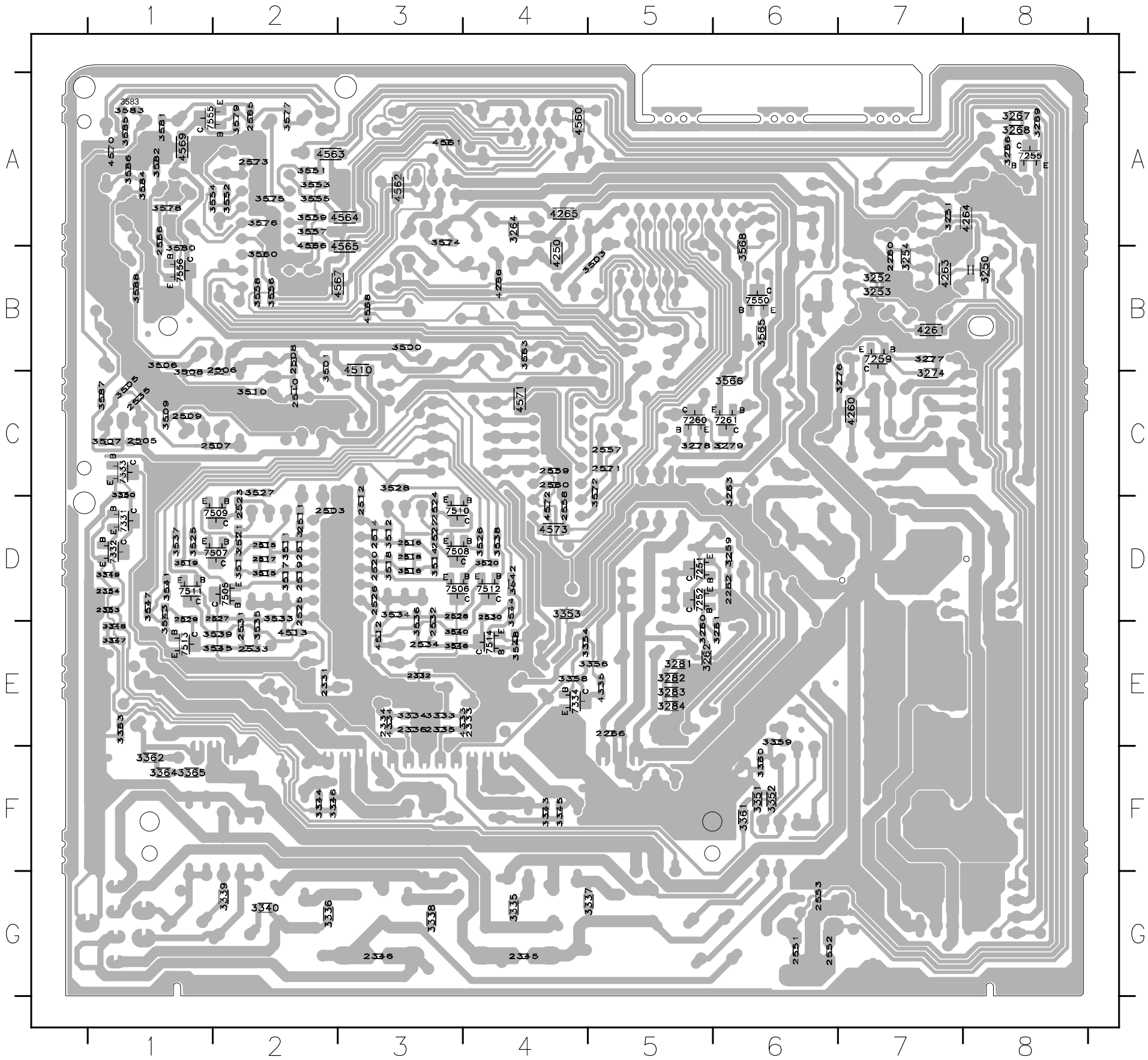
1330 B18	2331 G6	2334 E7	2337 G13	2340 E13	2343 B16	2346 F17	2349 J14	2352 K7	3330 H7	3333 G7	3336 F12	3339 A14	3342 B15	3345 G12	3348 I9	3351 J16	3354 C6	3359 K7	4333 G7	5331 F12	5334 D12	6333 K6	7332 J9	9330 B11	T332 D9	T335 J12	T338 B16	T341 F17	T344 E5
1331 F18	2332 E6	2335 G7	2338 F13	2341 A15	2344 B16	2347 H15	2350 I8	2353 J9	3331 G6	3334 F7	3337 H12	3340 C14	3343 G12	3346 E12	3349 I10	3352 J15	3356 B7	3360 K8	4334 E7	5332 E12	6331 I15	7330 E8	7333 K9	T330 B8	T333 C10	T336 J8	T339 F17	T342 F17	
2330 C10	2333 F7	2336 F7	2339 H13	2342 B15	2345 F17	2348 H14	2351 C8	2354 J11	3332 E6	3335 G12	3338 E12	3341 B15	3344 E12	3347 I11	3350 L10	3353 J14	3358 B7	3361 K8	4335 A6	5333 G12	6332 I14	7331 J11	7334 C6	T331 K8	T334 J13	T337 B16	T340 F17	T343 G5	



CIRCUIT DIAGRAM - COMBI BOARD (Part 3)

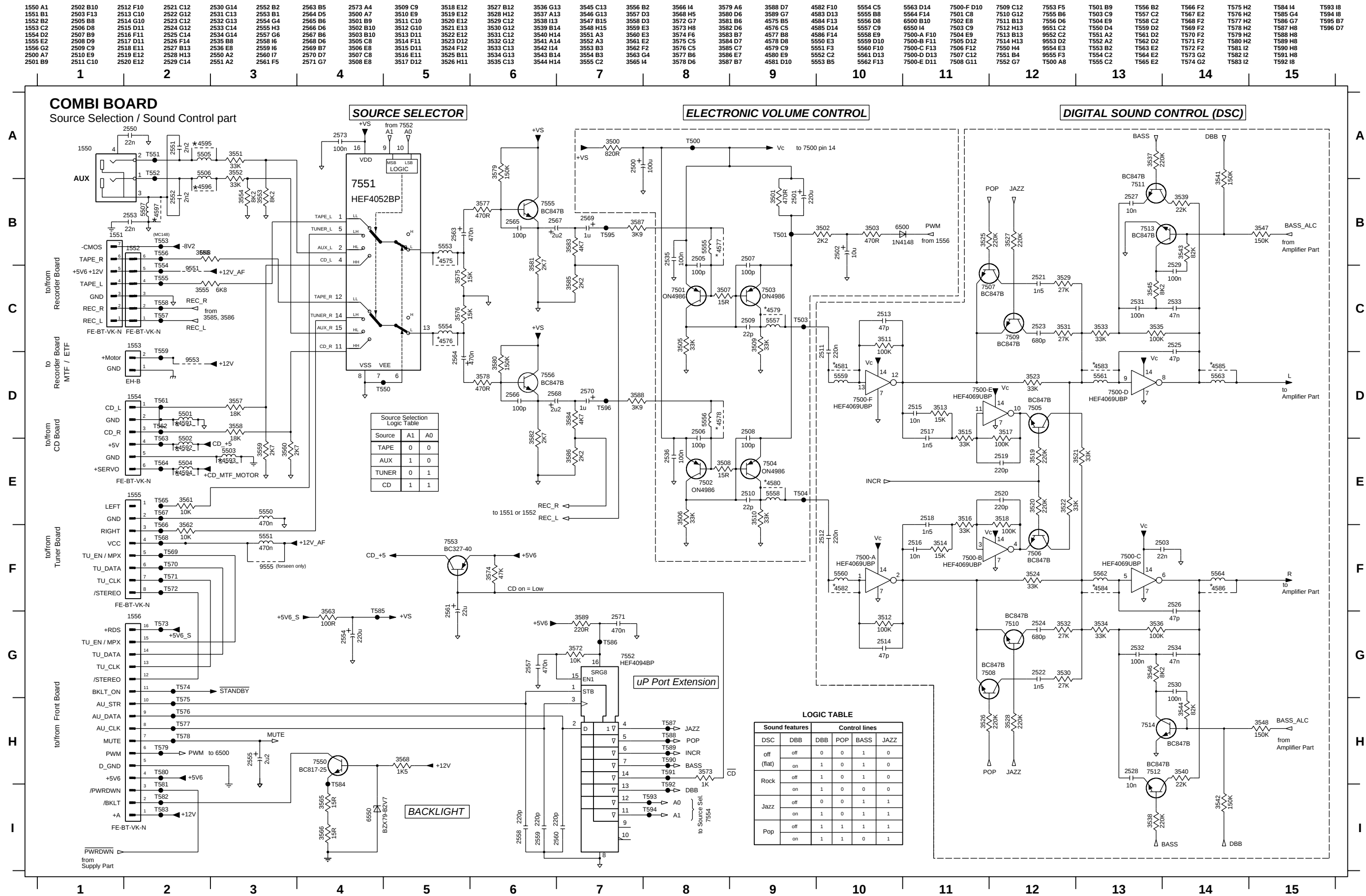


LAYOUT DIAGRAM - COMBI BOARD



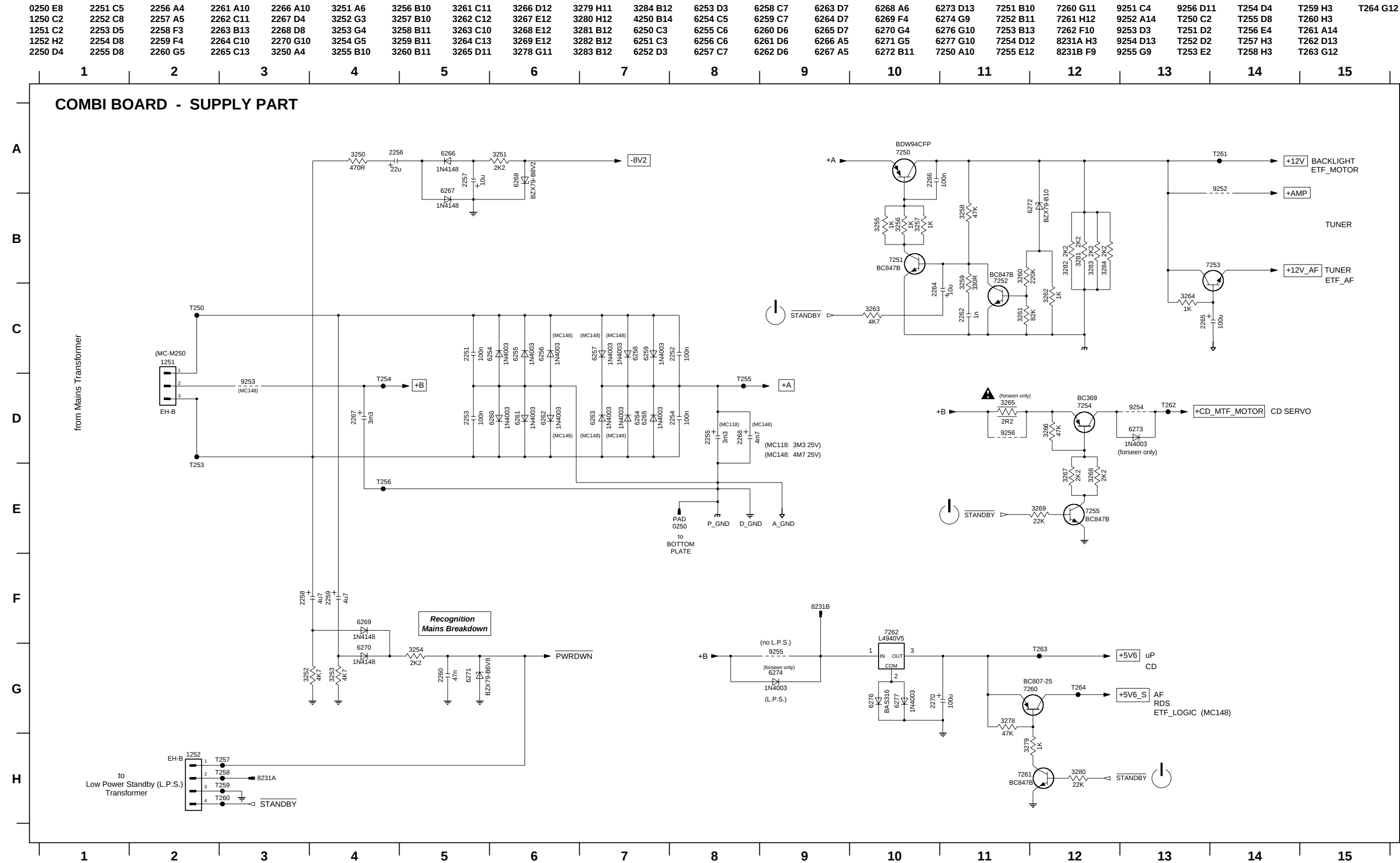
2260	B7	3276	C7	3545	E2	7505	D2
2262	D6	3277	B7	3546	E3	7506	D3
2266	E5	3278	C5	3547	D1	7507	D2
2331	E2	3279	C6	3548	E4	7508	D3
2332	E3	3281	E5	3551	A2	7509	D2
2333	E4	3282	E5	3552	A2	7510	D3
2334	E3	3283	E5	3553	A2	7511	D1
2335	E3	3284	E5	3554	A2	7512	D4
2336	E3	3333	E3	3555	A2	7513	E1
2345	G4	3334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

COMBI BOARD - CIRCUIT DIAGRAM
(For production after week 0303)

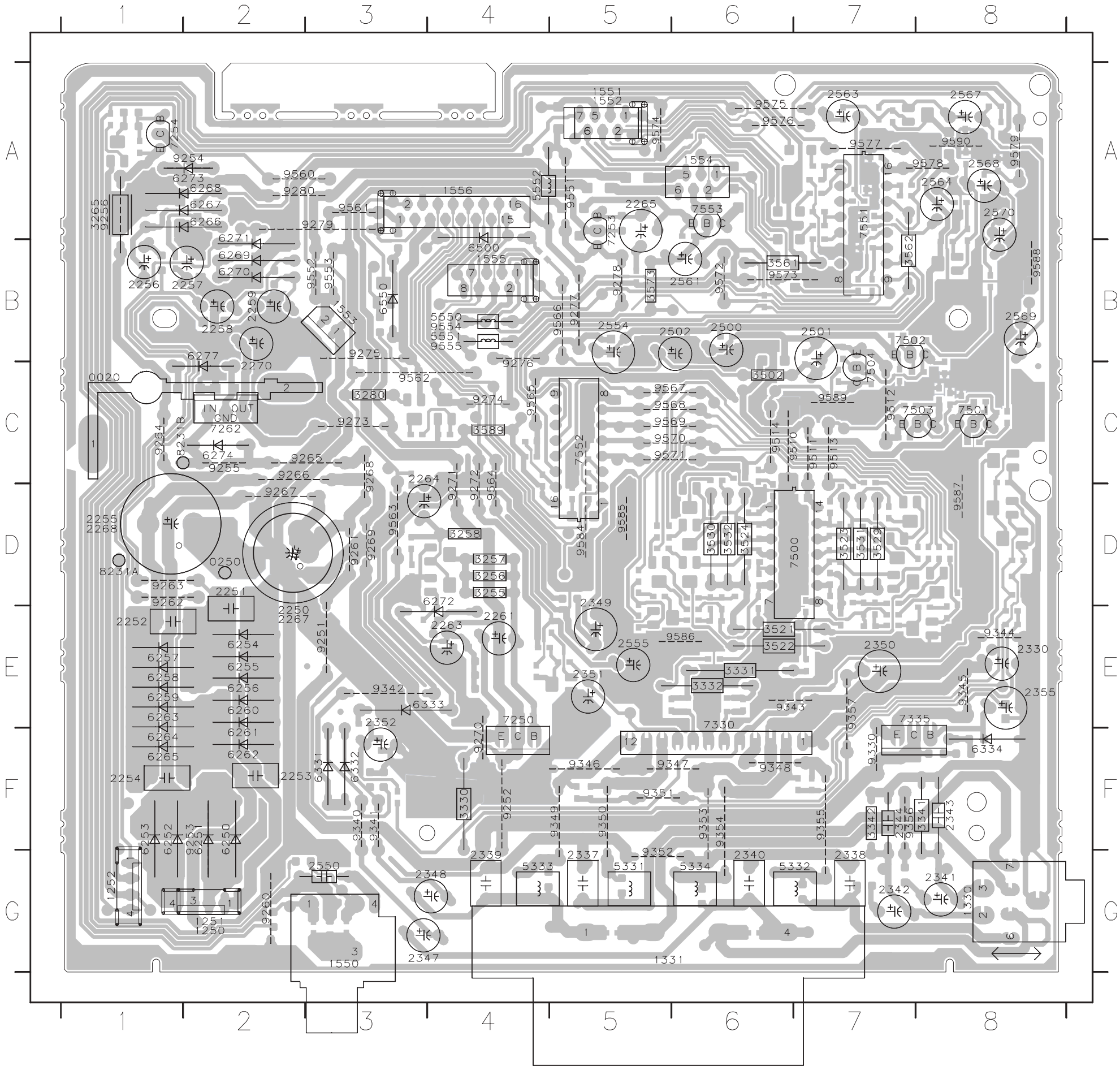


* FOR NON /22 VERSIONS

COMBI BOARD - CIRCUIT DIAGRAM
(For production after week 0303)

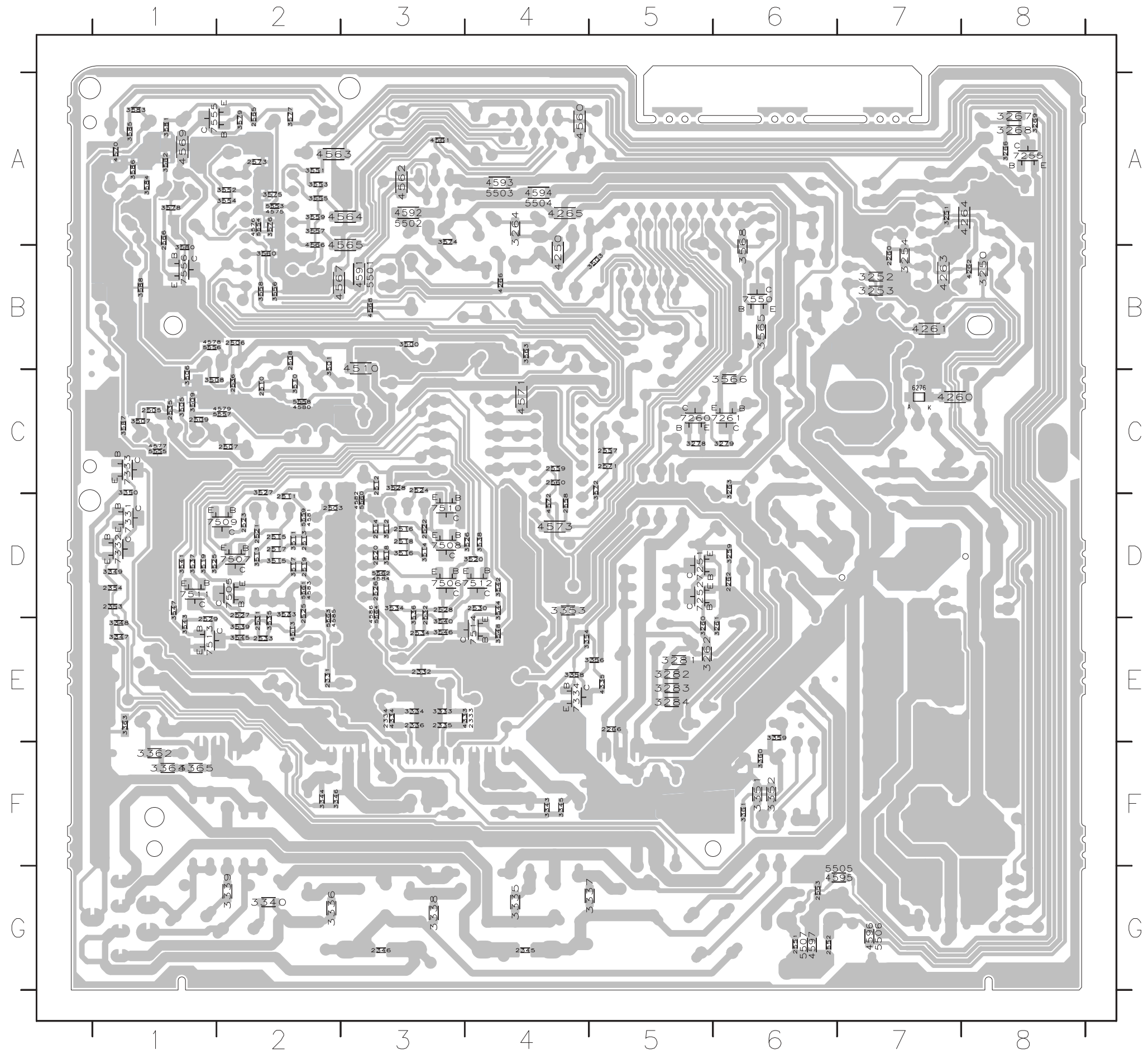


COMBI BOARD - LAYOUT DIAGRAM
(For production after week 0303)



0020	C1	3521	E6	9256	A1	9585	D5
0250	D2	3522	E6	9260	G2	9586	E6
1250	G2	3523	D7	9261	D3	9587	D8
1251	G2	3524	D6	9262	D1	9588	B8
1252	G1	3529	D7	9263	D1	9589	C7
1330	G8	3530	D6	9264	C1	9590	A8
1331	G5	3531	D7	9265	C3		
1550	G3	3532	D6	9266	C2		
1551	A5	3561	B6	9267	D2		
1552	A5	3562	B7	9268	C3		
1553	B3	3573	B5	9269	D3		
1554	A6	3589	C4	9270	F4		
1555	B4	5331	G5	9271	D4		
1556	A4	5332	G7	9272	D4		
2250	E2	5333	G4	9273	C3		
2251	D2	5334	G6	9274	C4		
2252	E1	5550	B4	9275	B3		
2253	F2	5551	B4	9276	C4		
2254	F1	5552	A4	9277	B5		
2255	D1	6250	F2	9278	B5		
2256	B1	6251	F2	9279	A3		
2257	B2	6252	F1	9280	A2		
2258	B2	6253	F1	9330	F7		
2259	B2	6254	E2	9340	F3		
2261	E4	6255	E2	9341	F3		
2263	E4	6256	E2	9342	E3		
2264	C3	6257	E1	9343	E6		
2265	A5	6258	E1	9344	E8		
2267	E2	6259	E1	9345	E8		
2268	D1	6260	E2	9346	F5		
2270	C2	6261	F2	9347	F6		
2330	E8	6262	F2	9348	F6		
2337	G5	6263	E1	9349	F5		
2338	G7	6264	F1	9350	F5		
2339	G4	6265	F1	9351	F5		
2340	G6	6266	A2	9352	G5		
2341	G8	6267	A2	9353	F6		
2342	G7	6268	A2	9354	F6		
2343	F8	6269	B2	9355	F7		
2344	F7	6270	B2	9356	F7		
2347	G3	6271	A2	9357	E7		
2348	G4	6272	D4	9510	C6		
2349	D5	6273	A2	9511	C7		
2350	E7	6274	C2	9512	C7		
2351	E5	6277	B2	9513	C7		
2352	E3	6331	F3	9514	C6		
2355	E8	6332	F3	9551	A5		
2500	B6	6333	E4	9552	B3		
2501	B7	6334	F8	9553	B3		
2502	B6	6500	B4	9554	B4		
2550	G3	6550	B3	9555	B4		
2554	B5	7250	E4	9560	A2		
2555	E5	7253	A5	9561	A3		
2561	B6	7254	A1	9562	C3		
2563	A7	7262	C2	9563	D3		
2564	A8	7330	E6	9564	D4		
2567	A8	7335	E7	9565	C4		
2568	A8	7500	D7	9566	B5		
2569	B8	7501	C8	9567	C5		
2570	A8	7502	B7	9568	C5		
3255	D4	7503	C8	9569	C5		
3256	D4	7504	C7	9570	C5		
3257	D4	7551	A7	9571	C5		
3258	D4	7552	C5	9572	B6		
3265	A1	7553	A6	9573	B6		
3280	C3	8231A	D1	9574	A5		
3330	F4	8231B	C1	9575	A6		
3331	E6	9251	E3	9576	A6		
3332	E6	9252	F4	9577	A7		
3341	F8	9253	F2	9578	A8		
3342	F7	9254	A2	9579	A8		
3502	C6	9255	C2	9584	D5		

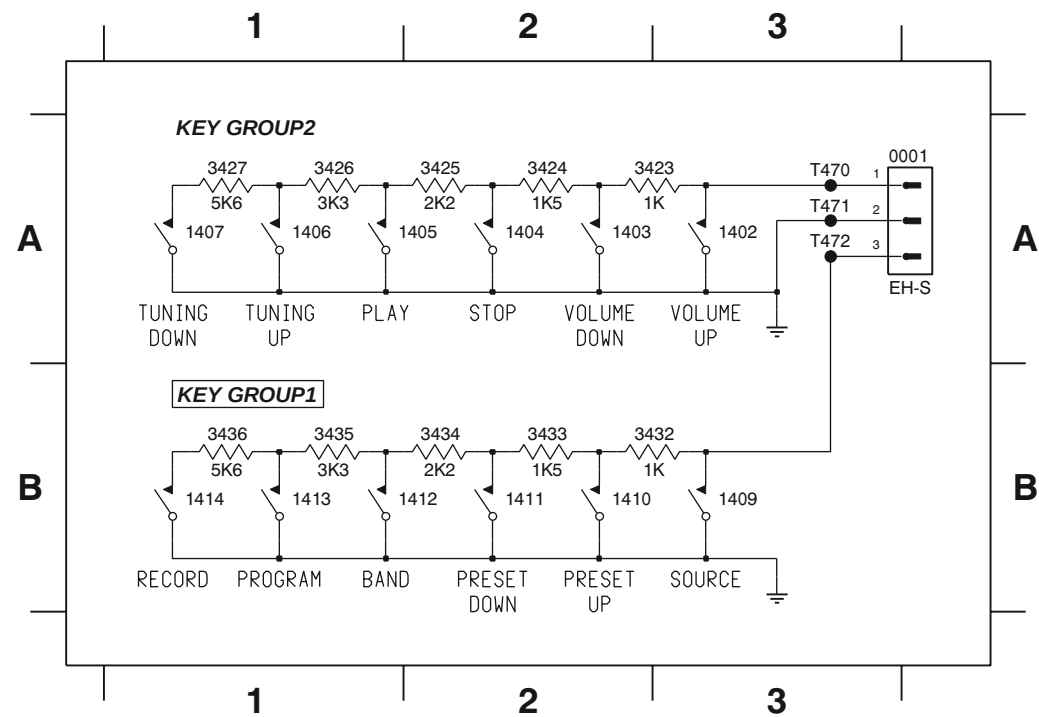
COMBI BOARD - LAYOUT DIAGRAM
(For production after week 0303)



2260	B7	3278	C5	3547	D1	4592	A3
2262	D6	3279	C6	3548	E4	4593	A4
2266	E5	3281	E5	3551	A2	4594	A4
2331	E2	3282	E5	3552	A2	4595	G7
2332	E3	3283	E5	3553	A2	4596	G7
2333	E4	3284	E5	3554	A2	4597	G6
2334	E3	3333	E3	3555	A2	5501	B3
2335	E3	3334	E3	3556	B2	5502	A3
2336	E3	3335	G4	3557	A2	5503	A4
2345	G4	3336	G2	3558	B2	5504	A4
2346	G3	3337	G5	3559	A2	5505	G7
2353	D1	3338	G3	3560	B2	5506	G7
2354	D1	3339	G2	3563	B4	5507	G6
2503	D2	3340	G2	3565	B6	5553	A2
2505	C1	3343	F4	3566	C6	5554	A2
2506	B2	3344	F2	3568	B6	5555	C1
2507	C2	3345	F4	3572	C5	5556	B1
2508	B2	3346	F2	3574	A3	5557	C2
2509	C1	3347	E1	3575	A2	5558	C2
2510	C2	3348	E1	3576	A2	5559	D2
2511	D2	3349	D1	3577	A2	5560	D3
2512	C3	3350	C1	3578	A1	5561	D2
2513	D2	3351	F6	3579	A2	5562	D3
2514	D3	3352	F6	3580	B1	5563	E2
2515	D2	3353	D4	3581	A1	5564	D3
2516	D3	3354	E4	3582	A1	6276	C7
2517	D2	3356	E5	3583	A1	7251	D5
2518	D3	3358	E4	3584	A1	7252	D5
2519	D2	3359	E6	3585	A1	7255	A8
2520	D3	3360	F6	3586	A1	7260	C5
2521	D2	3361	F6	3587	C1	7261	C6
2522	D3	3362	F1	3588	B1	7331	D1
2523	D2	3363	E1	4250	B4	7332	D1
2524	C3	3364	F1	4260	C7	7333	C1
2525	D2	3365	F1	4261	B7	7334	E4
2526	D3	3500	B3	4262	B8	7505	D2
2527	D2	3501	B2	4263	B7	7506	D3
2528	D3	3503	B5	4264	A8	7507	D2
2529	E1	3505	C1	4265	A4	7508	D3
2530	D4	3506	C1	4266	B4	7509	D2
2531	E2	3507	C1	4333	E4	7510	D3
2532	D3	3508	C1	4334	E3	7511	D1
2533	E2	3509	C1	4335	E5	7512	D4
2534	E3	3510	C2	4510	B3	7513	E1
2535	C1	3511	D2	4513	E2	7514	E4
2536	C2	3512	D3	4560	A4	7550	B6
2551	G6	3513	D2	4561	A3	7555	A1
2552	G6	3514	D3	4562	A3	7556	B1
2553	G6	3515	D2	4563	A2		
2557	C5	3516	D3	4564	A3		
2558	D4	3517	D2	4565	A3		
2559	C4	3518	D3	4566	A2		
2560	C4	3519	D1	4567	B2		
2565	A2	3520	D4	4568	B3		
2566	A1	3525	D1	4569	A1		
2571	C5	3526	D4	4570	A1		
2573	A2	3527	C2	4571	C4		
3250	B8	3528	C3	4572	D4		
3251	A7	3533	D2	4573	D4		
3252	B7	3534	D3	4575	A2		
3253	B7	3535	E2	4576	A2		
3254	B7	3536	D3	4577	C1		
3259	D6	3537	D1	4578	B1		
3260	E5	3538	D4	4579	C2		
3261	E6	3539	E2	4580	C2		
3262	E5	3540	E3	4581	D2		
3263	C6	3541	D1	4582	D3		
3264	A4	3542	D4	4583	D2		
3266	A8	3543	E1	4584	D3		
3267	A8	3544	D4	4585	E2		
3268	A8	3545	E2	4586	D3		
3269	A8	3546	E3	4591	B3		

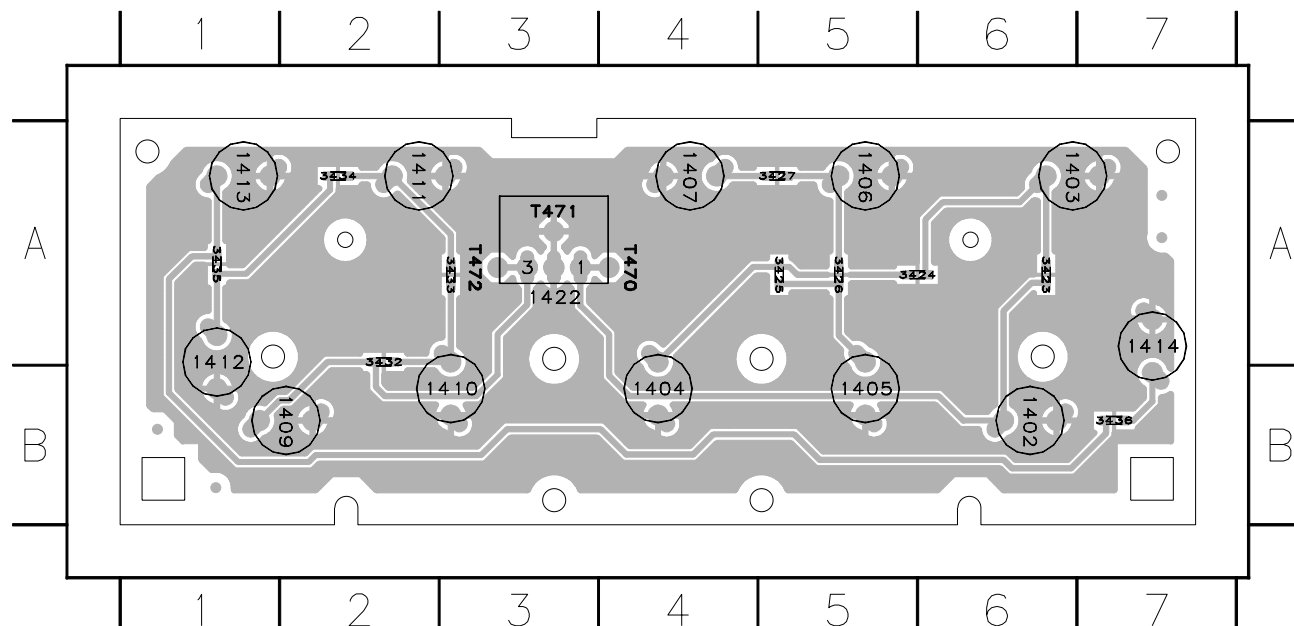
CIRCUIT DIAGRAM - SWITCH BOARD

1402 A3	1409 B3	1422 A3	3432 B3	T471 A3
1403 A2	1410 B2	3423 A3	3433 B2	T472 A3
1404 A2	1411 B2	3424 A2	3434 B2	
1405 A1	1412 B1	3425 A2	3435 B1	
1406 A1	1413 B1	3426 A1	3436 B1	
1407 A1	1414 B1	3427 A1	T470 A3	



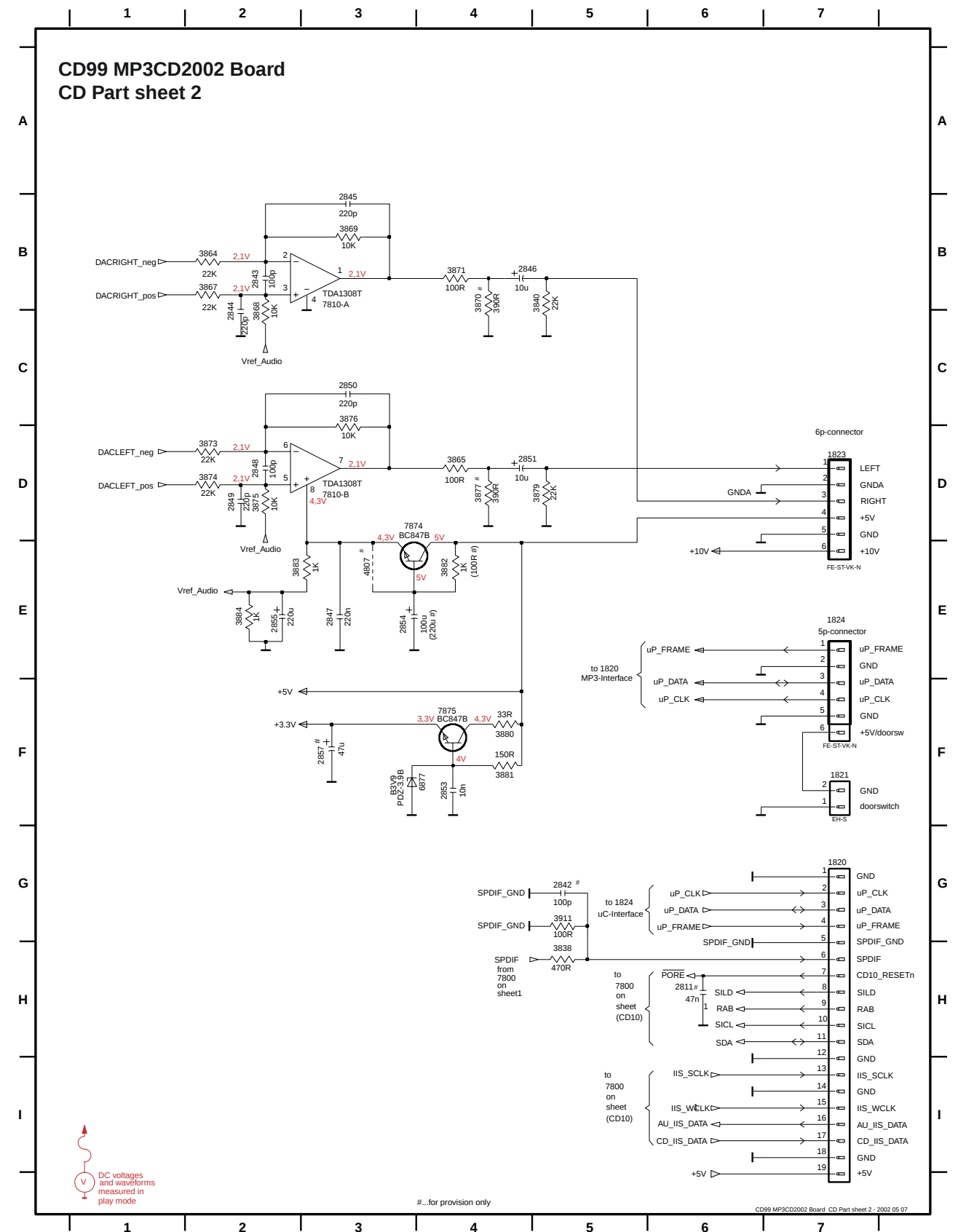
LAYOUT DIAGRAM - SWITCH BOARD

1402 B6	1405 B5	1409 B2	1412 A1	1422 A3	3425 A5	3432 A2	3435 A1
1403 A6	1406 A5	1410 B3	1413 A1	3423 A6	3426 A5	3433 A3	3436 B7
1404 B4	1407 A4	1411 A2	1414 A7	3424 A5	3427 A5	3434 A2	

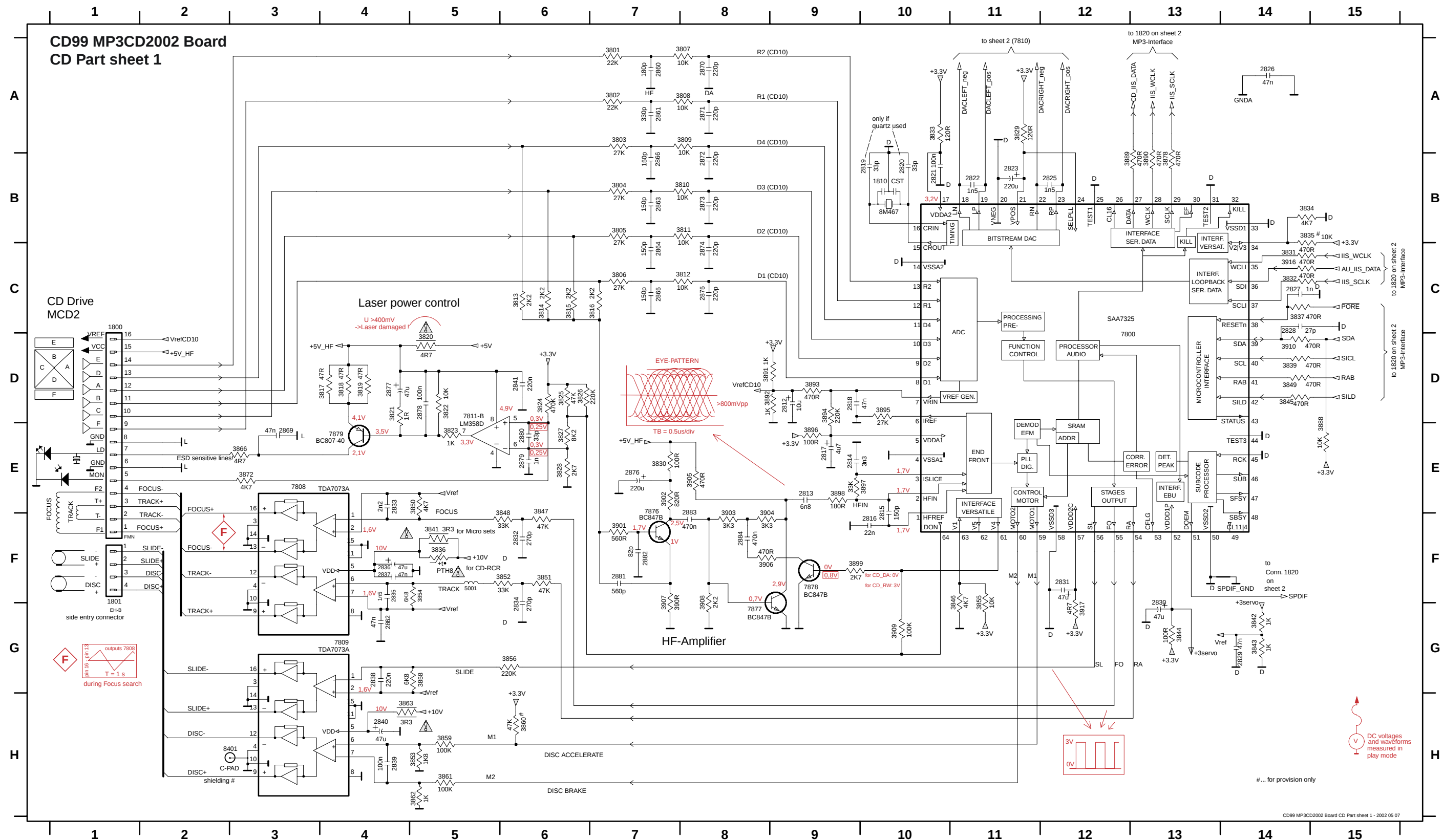


CIRCUIT DIAGRAM - CD99 MP3CD2002 BOARD (Part 2)

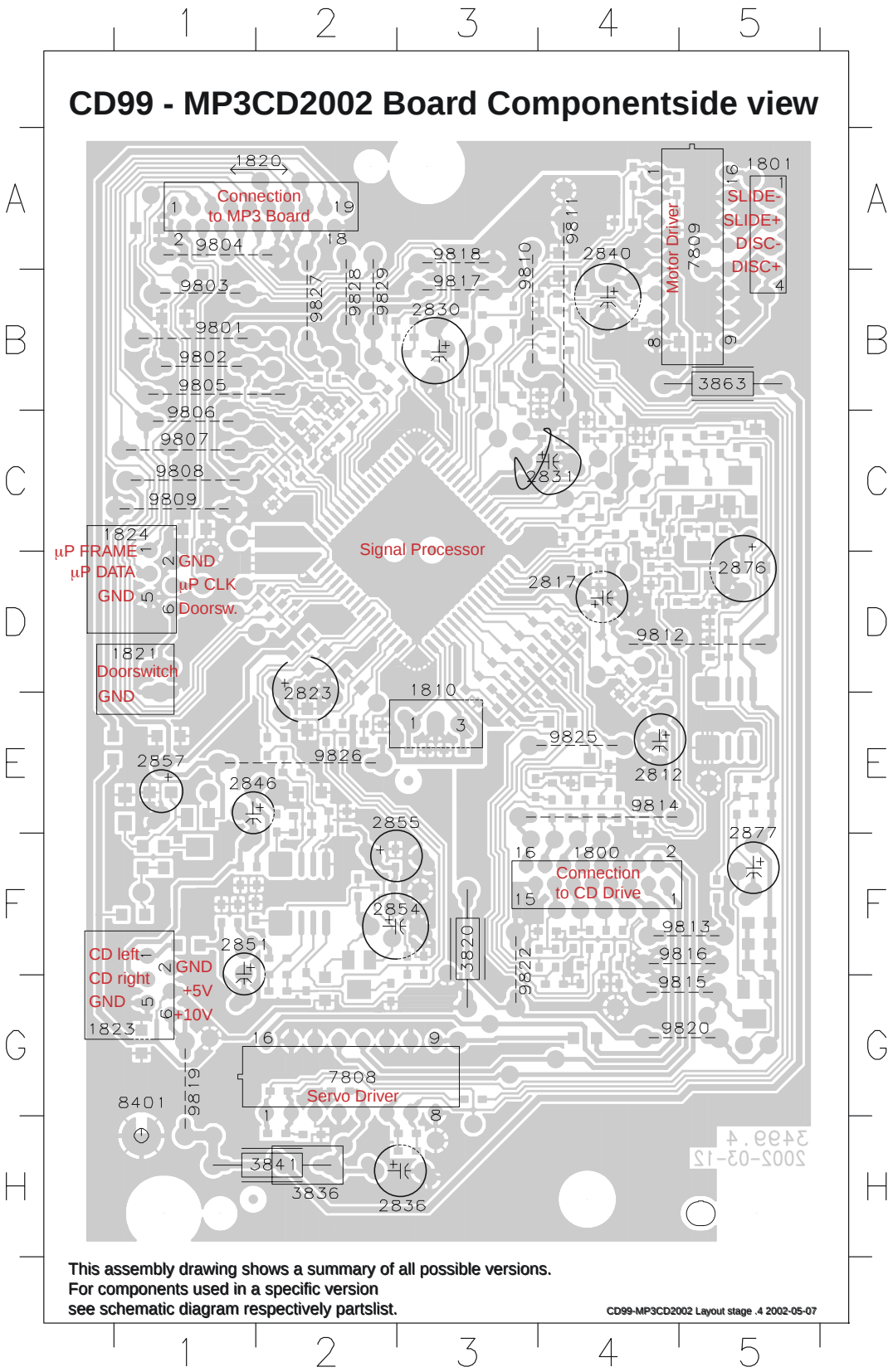
1820 D3	1824 E7	2843 B2	2846 B4	2849 D2	2853 F4	2857 F3	3864 B2	3868 B2	3871 B4
1821 F7	2811 E2	2844 B2	2847 E3	2850 C3	2854 E3	3838 E1	3865 D4	3869 B3	3873 C2
1823 D7	2842 D1	2845 B3	2848 D2	2851 D4	2855 E2	3840 B4	3867 B2	3870 B4	3874 D2



1800 C1	2815 E10	2821 B10	2828 C14	2834 G6	2840 H4	2864 C7	2872 B8	2878 D5	2884 F8	3806 C7	3812 C8	3818 D4	3824 D6	3830 E7	3836 F5	3844 G13	3850 E5	3856 G6	3863 H4	3890 B13	3896 E9	3903 F8	3909 G10	7808 E3	7879 E4
1801 G1	2816 F10	2822 B11	2829 G14	2835 F4	2841 D6	2865 C7	2873 B8	2879 E6	2801 A7	3807 A8	3813 C6	3819 D4	3825 D6	3831 C14	3837 C14	3845 D14	3851 F6	3858 G5	3866 E3	3891 D8	3897 E10	3904 F8	3910 D14	7809 G4	8401 H2
1810 B10	2817 E9	2823 B11	2830 G13	2836 F4	2860 A7	2866 B7	2874 C8	2880 E6	3802 A7	3808 A8	3814 C6	3820 D5	3826 D6	3832 C14	3839 D14	3846 F11	3852 F6	3859 H5	3872 E3	3892 D8	3898 E9	3905 E8	3916 C14	7811 D5	
2812 D9	2818 D9	2825 B12	2831 F12	2837 F4	2861 A7	2869 E3	2875 C8	2881 F7	3803 A7	3809 A8	3815 C6	3821 D4	3827 E6	3833 A10	3841 F5	3847 E6	3853 H5	3860 H6	3878 B13	3893 D9	3899 F9	3906 F8	3917 G12	7876 F7	
2813 E9	2819 B10	2826 A14	2832 F6	2838 G4	2862 G4	2870 A8	2876 E7	2882 F7	3804 B7	3810 B8	3816 C7	3822 D5	3828 E6	3834 B14	3842 G14	3848 F6	3854 F5	3861 H5	3888 E5	3894 D9	3901 F7	3907 F7	5001 F5	7877 G8	
2814 E9	2820 B10	2827 C14	2833 E4	2839 H4	2863 B7	2871 A8	2877 D4	2883 F8	3805 B7	3811 B8	3817 D3	3823 E5	3829 A11	3835 B14	3843 G14	3849 D14	3855 F11	3862 H5	3889 B12	3895 D10	3902 E7	3908 F8	7800 C12	7878 F9	



LAYOUT DIAGRAM - CD99 MP3CD2002 BOARD



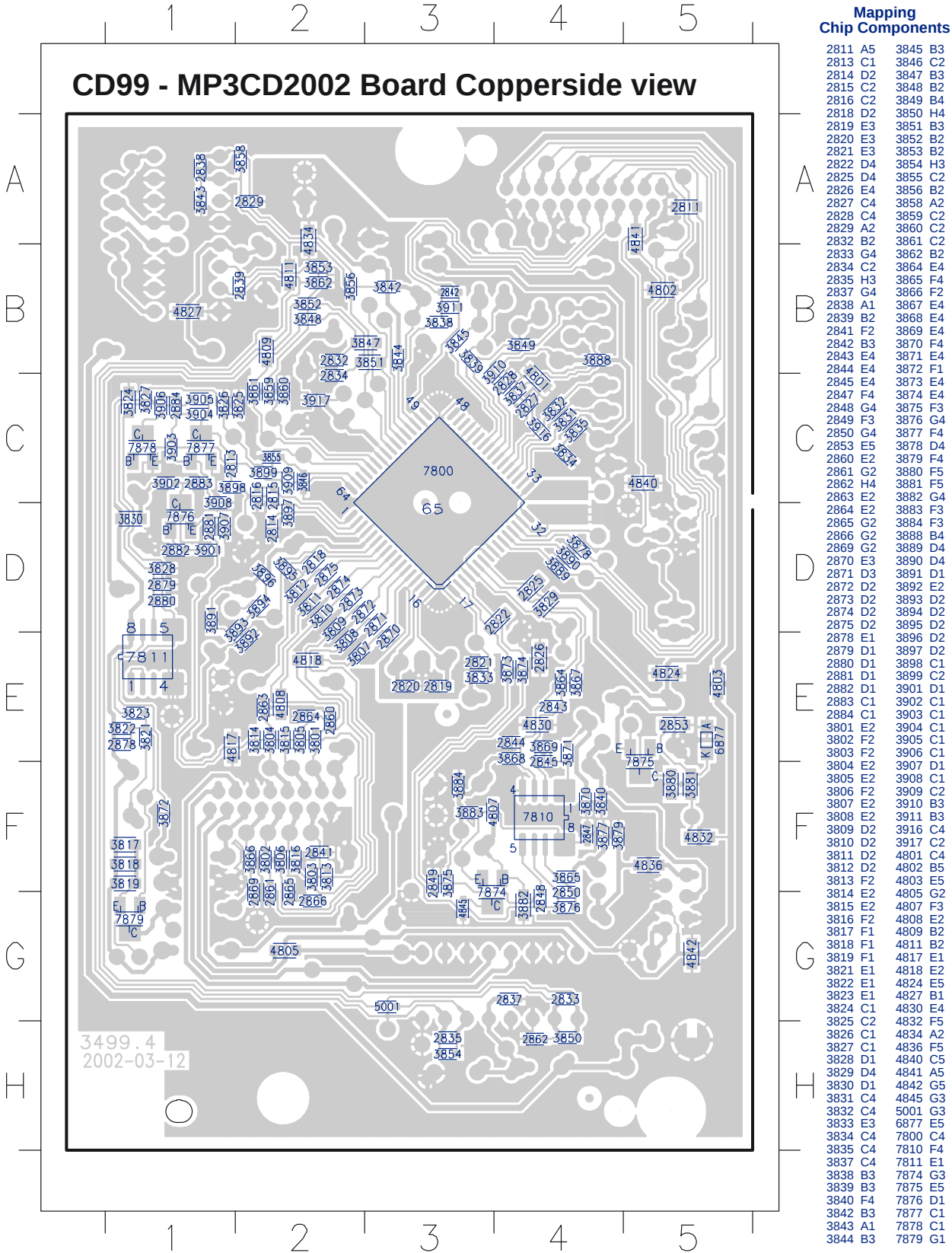
This assembly drawing shows a summary of all possible versions.
For components used in a specific version
see schematic diagram respectively partslist.

CD99-MP3CD2002 Layout stage .4 2002-05-07

Mapping Hole Mounted Components

1800 F4	1823 G1	2830 B3	2851 F2	2877 F5	7808 G4	9803 B1	9808 C1	9813 F5	9818 A3	9826 E2
1801 A5	1824 D1	2831 C4	2852 F3	2878 F6	7809 A5	9804 A2	9809 C1	9814 E4	9819 G1	9827 B2
1810 E3	2812 E5	2836 H4	2855 E3	3836 H2	8401 H1	9805 B2	9810 B4	9815 G5	9820 G5	9828 B2
1820 A2	2817 D4	2840 A3	2857 E1	3841 H2	8402 H1	9806 C1	9811 B4	9816 F5	9822 F3	9829 B3
1821 D1	2823 D2	2846 E2	2876 C5	3863 B5	9802 B1	9807 C1	9812 D5	9817 B3	9825 E4	

LAYOUT DIAGRAM - CD99 MP3CD2002 BOARD



Mapping
Chip Components

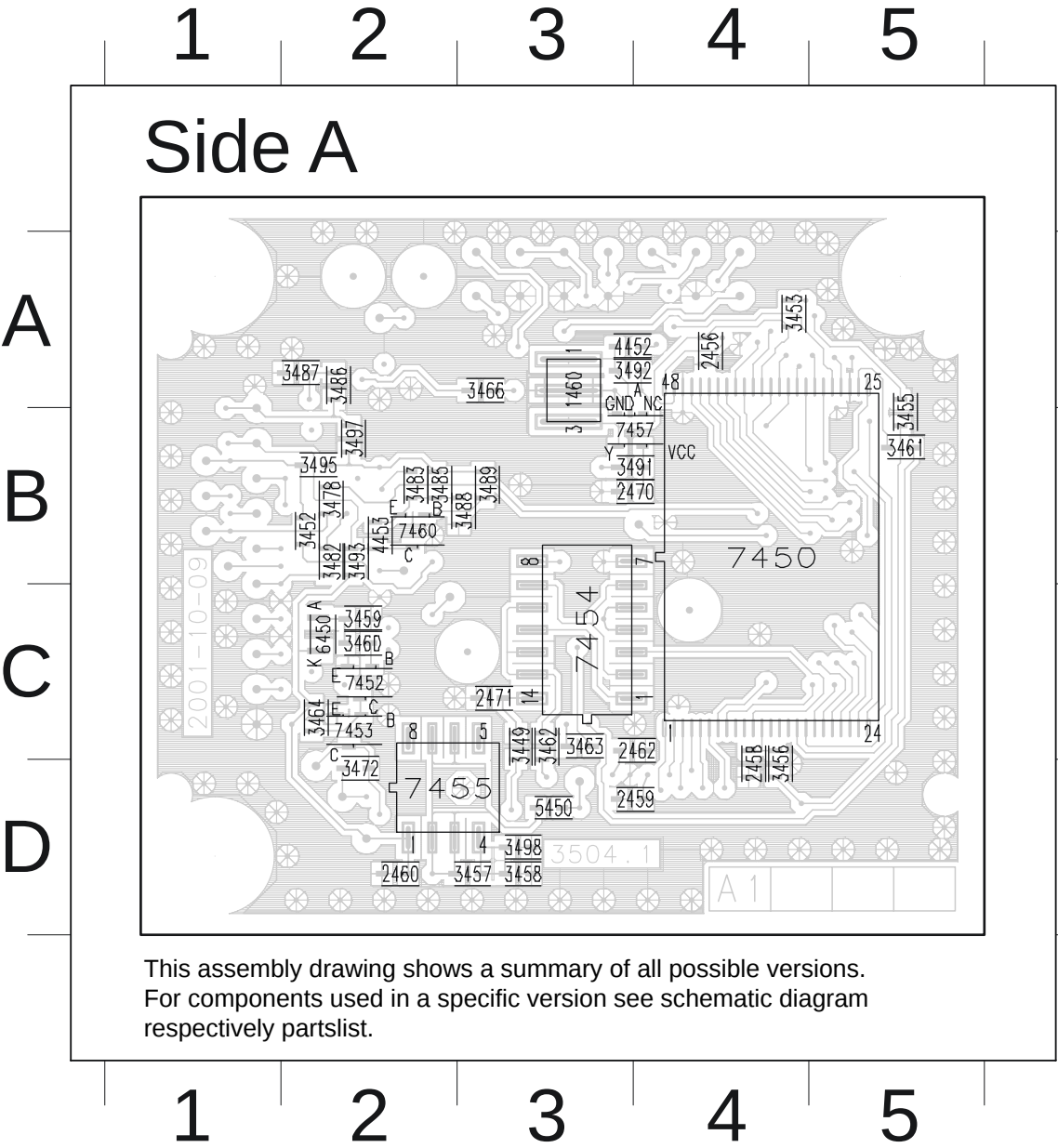
2811 A5	3845 B3
2813 C1	3846 C2
2814 D2	3847 B3
2815 C2	3848 B2
2816 C2	3849 B4
2818 D2	3850 H4
2819 E3	3851 B3
2820 E3	3852 B2
2821 E3	3853 B2
2822 D4	3854 H3
2825 D4	3855 C2
2826 E4	3856 B2
2827 C4	3858 A2
2828 C4	3859 C2
2829 A2	3860 C2
2832 B2	3861 C2
2833 G4	3862 B2
2834 C2	3864 E4
2835 H3	3865 F4
2837 G4	3866 F2
2838 A1	3867 E4
2839 B2	3868 E4
2841 F2	3869 E4
2842 B3	3870 F4
2843 E4	3871 E4
2844 E4	3872 F1
2845 E4	3873 E4
2847 F4	3874 E4
2848 G4	3875 F3
2849 F3	3876 G4
2850 G4	3877 F4
2853 E5	3878 D4
2860 E2	3879 F4
2861 G2	3880 F5
2862 H4	3881 F5
2863 E2	3882 G4
2864 E2	3883 F3
2865 G2	3884 F3
2866 G2	3888 B4
2869 G2	3889 D4
2870 E3	3890 D4
2871 D3	3891 D1
2872 D2	3892 E2
2873 D2	3893 D2
2874 D2	3894 D2
2875 D2	3895 D2
2878 E1	3896 D2
2879 D1	3897 D2
2880 D1	3898 C1
2881 D1	3899 C2
2882 D1	3901 D1
2883 C1	3902 C1
2884 C1	3903 C1
3801 E2	3904 C1
3802 F2	3905 C1
3803 F2	3906 C1
3804 E2	3907 D1
3805 E2	3908 C1
3806 F2	3909 C2
3807 E2	3910 B3
3808 E2	3911 B3
3809 D2	3916 C4
3810 D2	3917 C2
3811 D2	4801 C4
3812 D2	4802 B5
3813 F2	4803 E5
3814 E2	4805 G2
3815 E2	4807 F3
3816 F2	4808 E2
3817 F1	4809 B2
3818 F1	4811 B2
3819 F1	4817 E1
3821 E1	4818 E2
3822 E1	4824 E5
3823 E1	4827 B1
3824 C1	4830 E4
3825 C2	4832 F5
3826 C1	4834 A2
3827 C1	4836 F5
3828 D1	4840 C5
3829 D4	4841 A5
3830 D1	4842 G5
3831 C4	4845 G3
3832 C4	5001 G3
3833 E3	6877 E5
3834 C4	7800 C4
3835 C4	7810 F4
3837 C4	7811 E1
3838 B3	7874 G3
3839 B3	7875 E5
3840 F4	7876 D1
3842 B3	7877 C1
3843 A1	7878 C1
3844 B3	7879 G1

The schematic diagram illustrates the MP3-CD-2002 circuit board, centered around a DSP (Digital Signal Processor) and a Flash EPROM. The DSP is labeled "DSP" and has two versions: "For Flash version: TMS320VC5416" and "For ROM version: TMS320VC5406". The Flash EPROM is labeled "Flash EPROM" and is connected to the DSP via a bus. The circuit includes various power supply regulators, including a 7451 LM317D voltage stabilizer and a 7455 LM317D voltage stabilizer. It also features a 7457 74HCT1G04 inverter, a 7454 74HCT00D NAND gate, and a 7452 74HCT00D NAND gate. The board is populated with numerous passive components, including resistors (e.g., 2450, 3465, 3454, 2455, 3451, 3455, 2457, 3456, 3457, 3458, 3459, 3460, 3461, 3462, 3463, 3464, 3465, 3466, 3467, 3468, 3469, 3470, 3471, 3472, 3473, 3474, 3475, 3476, 3477, 3478, 3479, 3480, 3481, 3482, 3483, 3484, 3485, 3486, 3487, 3488, 3489, 3490, 3491, 3492, 3493, 3494, 3495, 3496, 3497, 3498, 3499, 3500, 3501, 3502, 3503, 3504, 3505, 3506, 3507, 3508, 3509, 3510, 3511, 3512, 3513, 3514, 3515, 3516, 3517, 3518, 3519, 3520, 3521, 3522, 3523, 3524, 3525, 3526, 3527, 3528, 3529, 3530, 3531, 3532, 3533, 3534, 3535, 3536, 3537, 3538, 3539, 3540, 3541, 3542, 3543, 3544, 3545, 3546, 3547, 3548, 3549, 3550, 3551, 3552, 3553, 3554, 3555, 3556, 3557, 3558, 3559, 3560, 3561, 3562, 3563, 3564, 3565, 3566, 3567, 3568, 3569, 3570, 3571, 3572, 3573, 3574, 3575, 3576, 3577, 3578, 3579, 3580, 3581, 3582, 3583, 3584, 3585, 3586, 3587, 3588, 3589, 3590, 3591, 3592, 3593, 3594, 3595, 3596, 3597, 3598, 3599, 3600, 3601, 3602, 3603, 3604, 3605, 3606, 3607, 3608, 3609, 3610, 3611, 3612, 3613, 3614, 3615, 3616, 3617, 3618, 3619, 3620, 3621, 3622, 3623, 3624, 3625, 3626, 3627, 3628, 3629, 3630, 3631, 3632, 3633, 3634, 3635, 3636, 3637, 3638, 3639, 3640, 3641, 3642, 3643, 3644, 3645, 3646, 3647, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668, 3669, 3670, 3671, 3672, 3673, 3674, 3675, 3676, 3677, 3678, 3679, 3680, 3681, 3682, 3683, 3684, 3685, 3686, 3687, 3688, 3689, 3690, 3691, 3692, 3693, 3694, 3695, 3696, 3697, 3698, 3699, 3700, 3701, 3702, 3703, 3704, 3705, 3706, 3707, 3708, 3709, 3710, 3711, 3712, 3713, 3714, 3715, 3716, 3717, 3718, 3719, 3720, 3721, 3722, 3723, 3724, 3725, 3726, 3727, 3728, 3729, 3730, 3731, 3732, 3733, 3734, 3735, 3736, 3737, 3738, 3739, 3740, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3748, 3749, 3750, 3751, 3752, 3753, 3754, 3755, 3756, 3757, 3758, 3759, 3760, 3761, 3762, 3763, 3764, 3765, 3766, 3767, 3768, 3769, 3770, 3771, 3772, 3773, 3774, 3775, 3776, 3777, 3778, 3779, 3780, 3781, 3782, 3783, 3784, 3785, 3786, 3787, 3788, 3789, 3790, 3791, 3792, 3793, 3794, 3795, 3796, 3797, 3798, 3799, 3800, 3801, 3802, 3803, 3804, 3805, 3806, 3807, 3808, 3809, 3810, 3811, 3812, 3813, 3814, 3815, 3816, 3817, 3818, 3819, 3820, 3821, 3822, 3823, 3824, 3825, 3826, 3827, 3828, 3829, 3830, 3831, 3832, 3833, 3834, 3835, 3836, 3837, 3838, 3839, 3840, 3841, 3842, 3843, 3844, 3845, 3846, 3847, 3848, 3849, 3850, 3851, 3852, 3853, 3854, 3855, 3856, 3857, 3858, 3859, 3860, 3861, 3862, 3863, 3864, 3865, 3866, 3867, 3868, 3869, 3870, 3871, 3872, 3873, 3874, 3875, 3876, 3877, 3878, 3879, 3880, 3881, 3882, 3883, 3884, 3885, 3886, 3887, 3888, 3889, 3890, 3891, 3892, 3893, 3894, 3895, 3896, 3897, 3898, 3899, 3900, 3901, 3902, 3903, 3904, 3905, 3906, 3907, 3908, 3909, 3910, 3911, 3912, 3913, 3914, 3915, 3916, 3917, 3918, 3919, 3920, 3921, 3922, 3923, 3924, 3925, 3926, 3927, 3928, 3929, 3930, 3931, 3932, 3933, 3934, 3935, 3936, 3937, 3938, 3939, 3940, 3941, 3942, 3943, 3944, 3945, 3946, 3947, 3948, 3949, 3950, 3951, 3952, 3953, 3954, 3955, 3956, 3957, 3958, 3959, 3960, 3961, 3962, 3963, 3964, 3965, 3966, 3967, 3968, 3969, 3970, 3971, 3972, 3973, 3974, 3975, 3976, 3977, 3978, 3979, 3980, 3981, 3982, 3983, 3984, 3985, 3986, 3987, 3988, 3989, 3990, 3991, 3992, 3993, 3994, 3995, 3996, 3997, 3998, 3999, 4000, 4001, 4002, 4003, 4004, 4005, 4006, 4007, 4008, 4009, 4010, 4011, 4012, 4013, 4014, 4015, 4016, 4017, 4018, 4019, 4020, 4021, 4022, 4023, 4024, 4025, 4026, 4027, 4028, 4029, 4030, 4031, 4032, 4033, 4034, 4035, 4036, 4037, 4038, 4039, 4040, 4041, 4042, 4043, 4044, 4045, 4046, 4047, 4048, 4049, 4050, 4051, 4052, 4053, 4054, 4055, 4056, 4057, 4058, 4059, 4060, 4061, 4062, 4063, 4064, 4065, 4066, 4067, 4068, 4069, 4070, 4071, 4072, 4073, 4074, 4075, 4076, 4077, 4078, 4079, 4080, 4081, 4082, 4083, 4084, 4085, 4086, 4087, 4088, 4089, 4090

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# .... only for FLASH version
* .... only for ROM version
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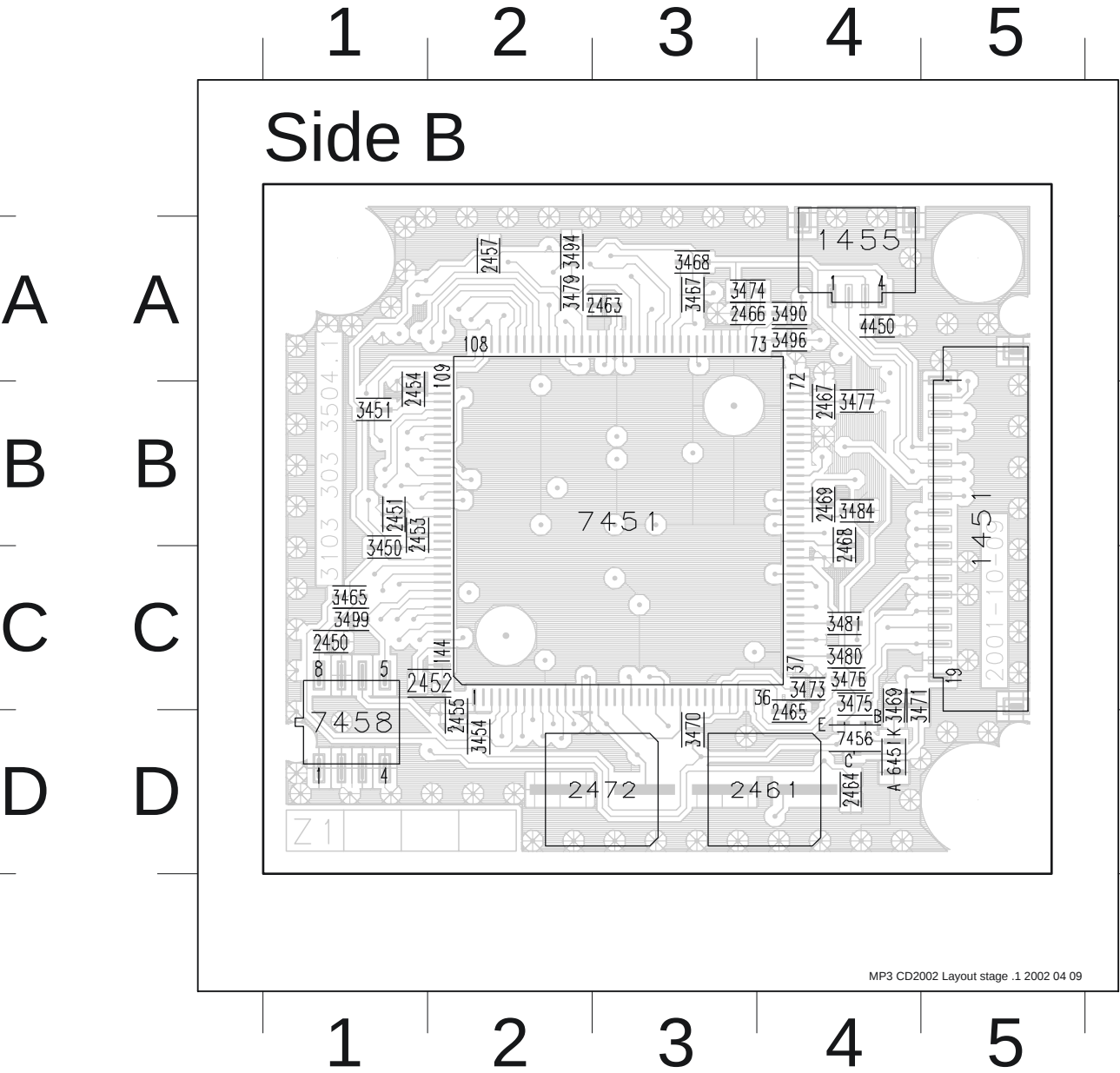
LAYOUT DIAGRAM - MP3CD2002 BOARD

1460 A3	3449 C3	3460 C2	3482 B2	3492 A3	6450 C2
2456 A4	3452 B2	3461 B5	3483 B2	3493 B2	7450 B4
2458 D4	3453 A4	3462 C3	3485 B2	3495 B2	7452 C2
2459 D4	3455 B5	3463 C3	3486 A2	3497 B2	7453 C2
2460 D2	3456 D4	3464 C2	3487 A2	3498 D3	7454 C3
2462 C4	3457 D3	3466 A3	3488 B3	4452 A3	7455 D2
2470 B4	3458 D3	3472 D2	3489 B3	4453 B2	7457 B4
2471 C3	3459 C2	3478 B2	3491 B4	5450 D3	7460 B2



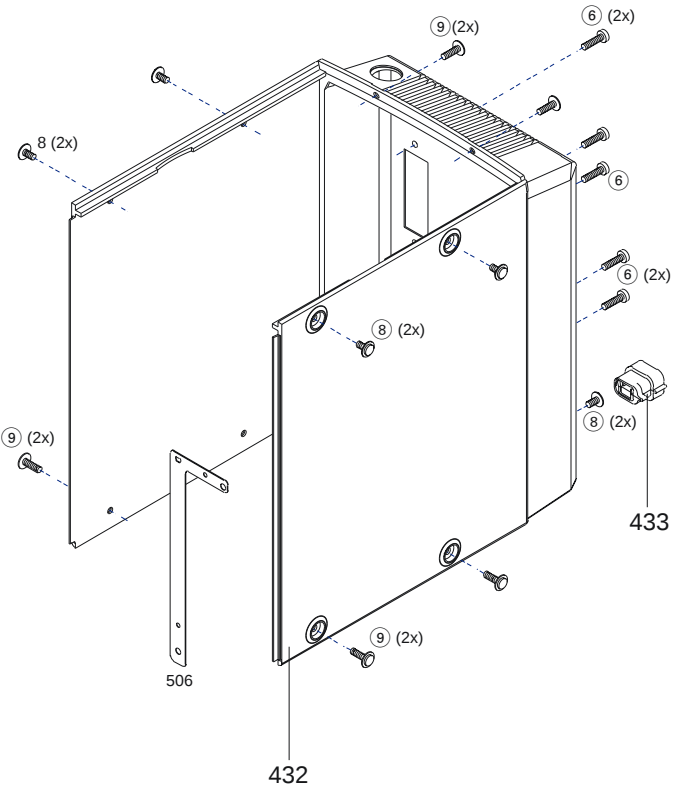
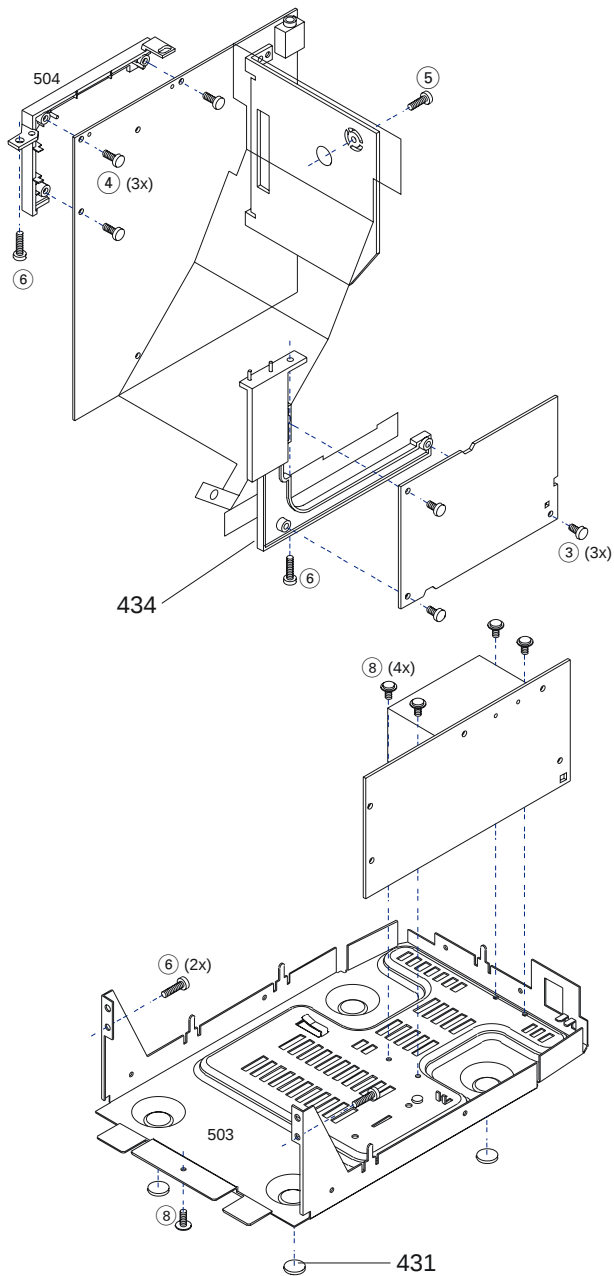
LAYOUT DIAGRAM - MP3CD2002 BOARD

1451 B5	2457 A2	2469 B4	3469 C4	3479 A2	4450 A4
1455 A4	2461 D4	2472 D3	3470 D3	3480 C4	6451 D4
2450 C1	2463 A3	3450 C1	3471 C4	3481 C4	7451 B3
2451 B1	2464 D4	3451 B1	3473 C4	3484 B4	7456 D4
2452 C2	2465 D4	3454 D2	3474 A3	3490 A4	7458 D1
2453 B1	2466 A3	3465 C1	3475 C4	3494 A2	
2454 B1	2467 B4	3467 A3	3476 C4	3496 A4	
2455 D2	2468 B4	3468 A3	3477 B4	3499 C1	



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

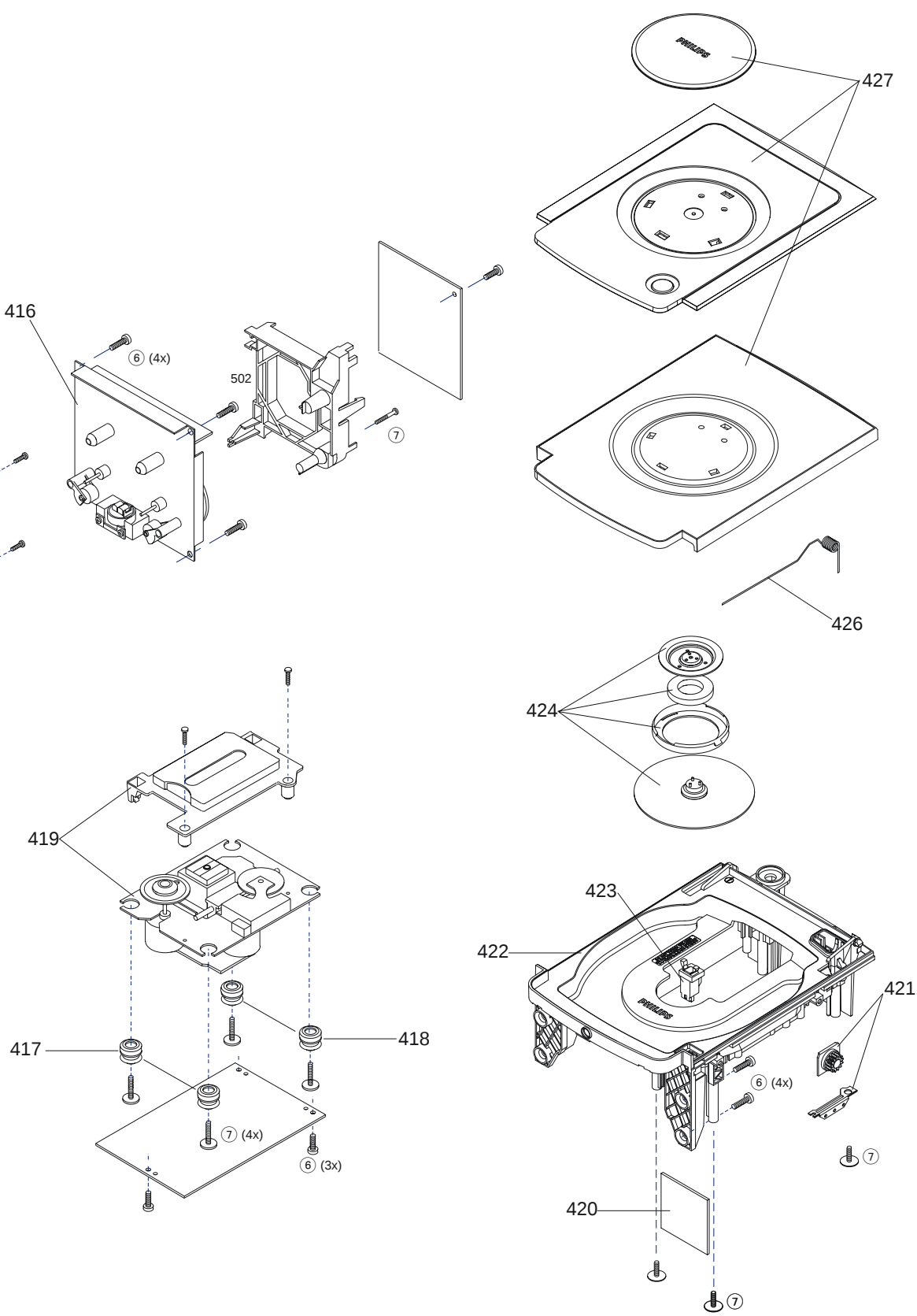
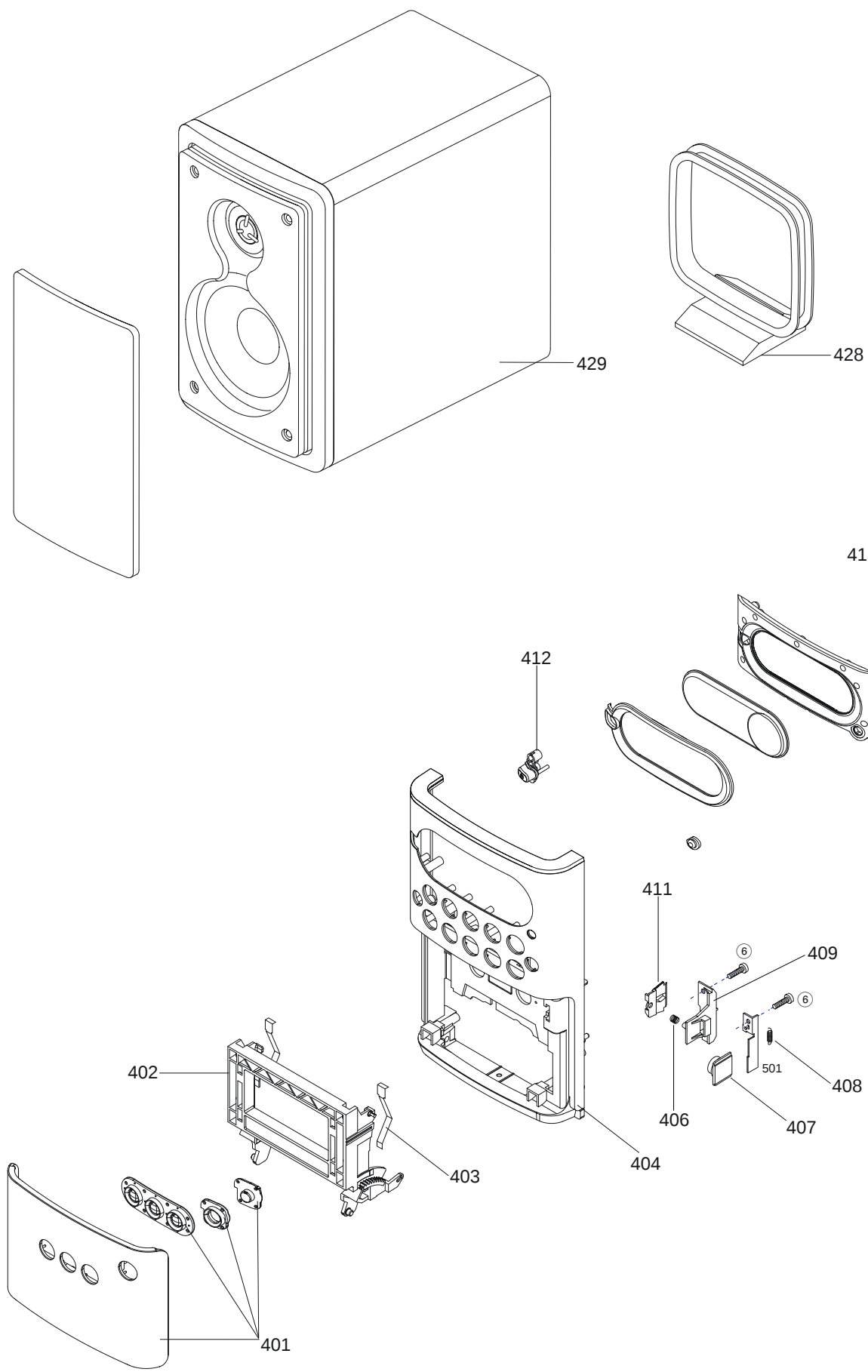
401	3140 117 63060	CASSETTE-DOOR-ASSY
402	3140 114 44390	TECHNICAL DOOR
403	4822 492 42787	SPRING CASSETTE
404	3140 117 63200	CABINET-FRONT-ASSY /21/21M/30
404	3140 117 63210	CABINET-FRONT-ASSY/RDS /22
404	3140 117 63050	CABINET-FRONT-ASSY /37
406	4822 492 11344	SPRING COMPRESSION
407	4822 529 10322	DAMPER ASSY
408	4822 492 11345	SPRING TENSION
409	4822 402 11246	BRACKET RIGHT
411	4822 402 10621	PUSH-CATCH
412	3140 114 43900	BUTTON SET POWER
413	3140 114 43910	BUTTON SET CONTROL
414	3140 114 44090	LCD BRACKET
416	3139 118 79220	TAPE DECK CFL 4217
417	4822 529 10387	DAMPER - RUBBER (40 DEG)
418	4822 529 10386	DAMPER - RUBBER (30 DEG)
419	3103 309 05380	CD MCD2 ASSY
420	3103 308 66791	PBAS 8 MP3CD2002 ROM TXT
421	4822 529 10322	DAMPER ASSY
422	3140 117 63370	CD-TRAY-ASSY /21/21M/22/30
422	3140 117 63360	CD-TRAY-ASSY /37
423	4822 276 13963	CD DOOR SWITCH
424	3140 117 59800	CLAMPER RING ASSY CDM-DA11
426	3140 111 01240	SPRING-CD
427	3140 117 63070	CD-DOOR-ASSY
431	3140 104 06370	RUBBER STAND
432	3140 114 43890	REAR-CABINET /21/21M/22/30
432	3140 114 44590	REAR-CABINET /37
433	3140 113 21880	MAINS CORD RELIEF /21/21M/22/30
433	3140 113 22100	MAINS CORD RELIEF /37
434	3140 114 29310	TUNER BRACKET

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

ACCESSORIES

429	3140 118 51090	SPK-ASSY /21/21M/22/30
429	3141 118 85630	SPK-ASSY/37
	3140 118 51100	REMOTE CONTROL
	4822 303 50063	FM AERIAL
428	2422 549 45067	ANT AM LOOP

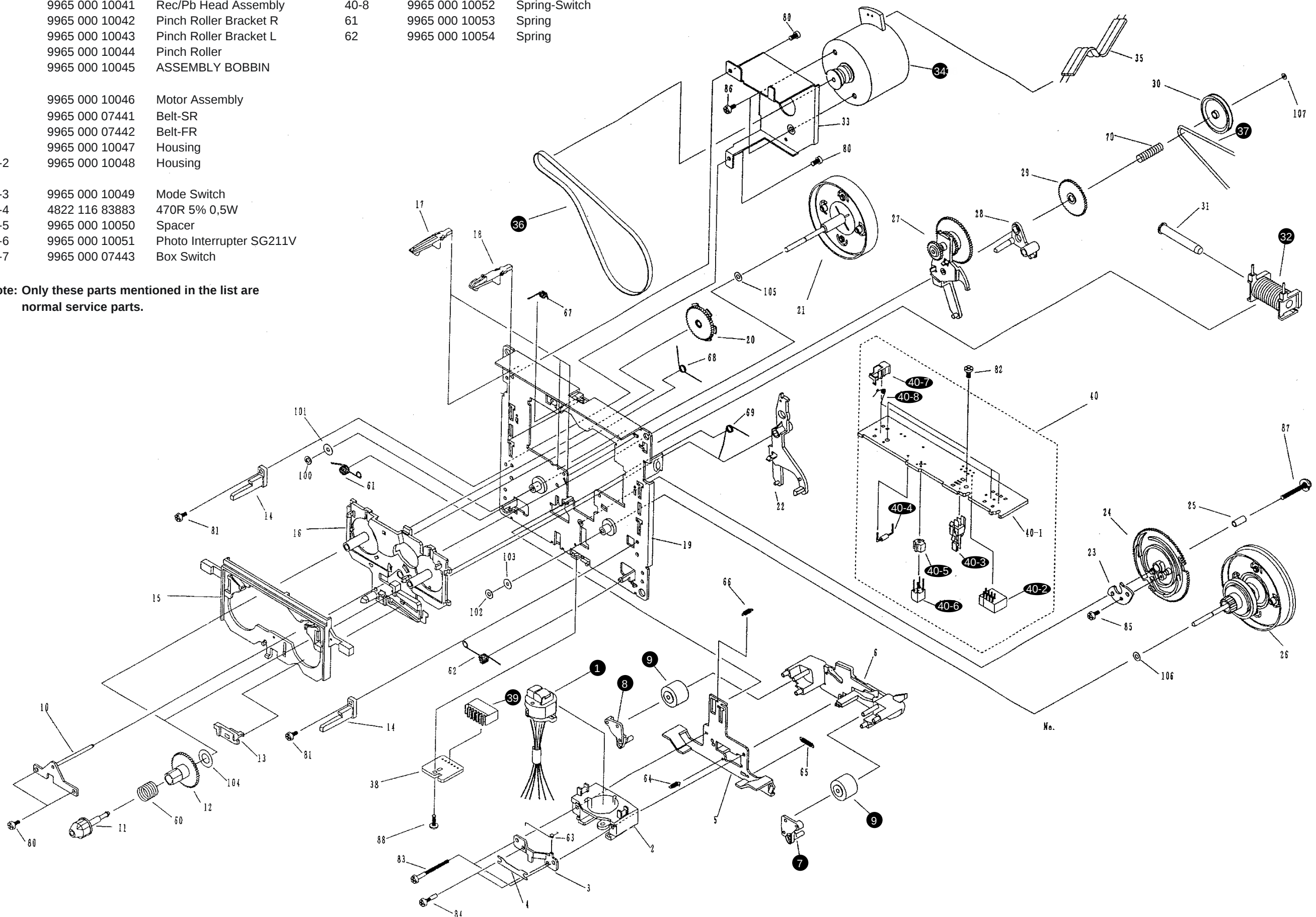
EXPLODED VIEW DIAGRAM



EXPLODED VIEW DIAGRAM - ETF8 TAPE DECK

1	9965 000 10041	Rec/Pb Head Assembly	40-8	9965 000 10052	Spring-Switch
7	9965 000 10042	Pinch Roller Bracket R	61	9965 000 10053	Spring
8	9965 000 10043	Pinch Roller Bracket L	62	9965 000 10054	Spring
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			

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



ELECTRICAL PARTSLIST - ETF8 SD BOARD**- MISCELLANEOUS -**

1701	4822 267 10953	FFC Connector 7P
1706	4822 267 10953	FFC Connector 7P
1710	4822 267 10958	FFC Connector 5P
1760	4822 265 11535	FFC Socket 8P

- CAPACITORS -

2621	5322 126 11578	1nF 10% X7R 50V
2622	4822 126 13881	470pF 5% 50V
2623	4822 126 13881	470pF 5% 50V
2625	2238 586 59812	100nF +80-20% Y5V 50V
2701	2020 552 94427	100pF 5% NP0 50V

2702	2020 552 94427	100pF 5% NP0 50V
2703	2020 552 94427	100pF 5% NP0 50V
2704	2020 552 94427	100pF 5% NP0 50V
2709	5322 126 11578	1nF 10% X7R 50V
2710	5322 126 11578	1nF 10% X7R 50V

2711	2020 552 94427	100pF 5% NP0 50V
2712	2020 552 94427	100pF 5% NP0 50V
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	100µF 20% 10V
2721	3198 017 41050	1µF Y5V 10V
2722	3198 017 41050	1µF Y5V 10V
2723	4822 126 14238	2,2nF X7R 50V
2724	4822 126 14238	2,2nF X7R 50V

2725	4822 126 13883	220pF 5% 50V
2727	4822 126 14238	2,2nF X7R 50V
2728	4822 126 14238	2,2nF 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 Y5V 10V
2743	4822 126 14494	22nF 10% X7R 25V
2747	4822 126 14549	33nF X7R 16V
2761	4822 124 40196	220µF 20% 16V

2768	4822 124 40756	1µF 20% 100V
2769	4822 126 14238	2,2nF X7R 50V
2770	4822 126 14238	2,2nF X7R 50V
2780	4822 124 81151	22µF 50V
2781	5322 126 11583	10nF 10% X7R 50V

2768	4822 124 40756	1µF 20% 100V
2769	4822 126 14238	2,2nF X7R 50V
2770	4822 126 14238	2,2nF X7R 50V
2780	4822 124 81151	22µF 50V
2781	5322 126 11583	10nF 10% X7R 50V

- CAPACITORS -

2788	4822 126 14494	22nF 10% X7R 25V
2789	4822 126 14549	33nF 16V X7R
2790	4822 126 14247	1,5nF X7R 50V
2791	4822 126 14247	1,5nF X7R 50V
2793	4822 126 13883	220pF 5% 50V
2794	4822 126 13883	220pF 5% 50V
2796	4822 124 40433	47µF 20% 25V
2797	4822 124 81151	22µF 50V
2798	4822 124 21732	10µF 20% 25V
2799	2238 586 59812	100nF +80-20% Y5V 50V

- RESISTORS -

3607	4822 051 30222	2,2K 5% 0,062W
3608	4822 051 30273	27K 5% 0,062W
3609	4822 051 30222	2,2K 5% 0,062W
3610	4822 051 20124	120K 5% 0,1W
3611	4822 051 30222	2,2K 5% 0,062W

3612	4822 051 30563	56K 5% 0,062W
3614	4822 051 30273	27K 5% 0,062W
3624	4822 117 13632	100K 1% 0,62W
3626	4822 051 30102	1K 5% 0,062W
3628	4822 117 13632	100K 1% 0,62W

3630	4822 051 30471	470R 5% 0,062W
3678	4822 117 12925	47K 1% 0,063W
3680	4822 117 12925	47K 1% 0,063W
3686	4822 117 13632	100K 1% 0,62W
3709	4822 051 30339	33R 5% 0,062W

3710	4822 051 30339	33R 5% 0,062W
3711	4822 051 30101	100R 5% 0,062W
3712	4822 051 30101	100R 5% 0,062W
3723	4822 051 30223	22K 5% 0,062W
3724	4822 051 30223	22K 5% 0,062W

3733	4822 051 30273	27K 5% 0,062W
3734	4822 051 30273	27K 5% 0,062W
3735	4822 051 30223	22K 5% 0,062W
3736	4822 051 30223	22K 5% 0,062W
3737	4822 051 30102	1K 5% 0,062W

3738	4822 051 30102	1K 5% 0,062W
3739	4822 117 12925	47K 1% 0,063W
3740	4822 117 12925	47K 1% 0,063W
3743	4822 051 30563	56K 5% 0,062W
3744	4822 051 30563	56K 5% 0,062W

3745	4822 117 11817	1,2K 1% 1/16W
3746	4822 117 11817	1,2K 1% 1/16W
3749	4822 051 30121	120R 5% 0,062W
3750	4822 051 30121	120R 5% 0,062W
3762	4822 117 12968	820R 5% 0,62W

ELECTRICAL PARTSLIST - ETF8 SD BOARD**- RESISTORS -**

3764	4822 051 30181	180R 5% 0,062W
3768	4822 051 30103	10K 5% 0,062W
3769	4822 051 30183	18K 5% 0,062W
3770	4822 051 30152	1,5K 5% 0,062W
3771	4822 117 11817	1,2K 1% 1/16W
3772	4822 051 30123	12K 5% 0,062W
3774	4822 051 30183	18K 5% 0,062W
3775	4822 117 13608	4,7R 5% 0,0016W
3776	4822 051 30682	6,8K 5% 0,062W
3777	4822 051 30151	150R 5% 0,062W
3778	4822 052 10688	6,8R 5% 0,33W
3779	4822 051 30334	330K 5% 0,062W
3780	4822 051 30105	1M 5% 0,062W
3781	4822 051 30475	4,7M 5% 0,062W
3786	4822 051 30223	22K 5% 0,062W
3789	4822 117 12925	47K 1% 0,063W
3790	4822 051 30223	22K 5% 0,062W
3791	4822 051 30273	27K 5% 0,062W
3796	4822 051 30475	4,7M 5% 0,062W
3797	4822 051 30563	56K 5% 0,062W
3800	4822 051 30223	22K 5% 0,062W
4701	4822 051 30008	0R Jumper
4702	4822 051 30008	0R Jumper
4705	4822 051 30008	0R Jumper
4707	4822 051 30008	0R Jumper
4708	4822 051 30008	0R Jumper
4709	4822 051 30008	0R Jumper
4710	4822 051 30008	0R Jumper
4711	4822 051 30008	0R Jumper
4712	4822 051 30008	0R Jumper
4718	4822 051 30008	0R Jumper
4719	4822 051 30008	0R Jumper
4720	4822 051 30008	0R Jumper
4721	4822 051 30008	0R Jumper
4723	4822 051 30008	0R Jumper
4725	4822 051 30008	0R Jumper
4726	4822 051 30008	0R Jumper
4727	4822 051 30008	0R Jumper
4729	4822 051 30008	0R Jumper
4730	4822 051 30008	0R Jumper
4731	4822 051 30008	0R Jumper
4732	4822 051 30008	0R Jumper
4733	4822 051 30008	0R Jumper
4734	4822 051 30008	0R Jumper
4735	4822 051 30008	0R Jumper
4736	4822 051 30008	0R Jumper
4737	4822 051 30008	0R Jumper
4738	4822 051 30008	0R Jumper
4739	4822 051 30008	0R Jumper
4741	4822 051 30008	0R Jumper

- RESISTORS -

4746	4822 051 30008	0R Jumper
4747	4822 051 30008	0R Jumper

- COILS & FILTERS -

5701	4822 157 62552	2,2 H 5%
5703	4822 156 20946	OSC 100KHz

- 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	4822 130 34382	BZX79-B8V2
6778	4822 130 30621	1N4148

- IC & TRANSISTORS -

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	J111
7788	4822 130 60511	BC847B
7789	4822 130 60511	BC847B
7790	4822 130 60511	BC847B

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

ELECTRICAL PARTSLIST - CD99 MP3 2002 BOARD**- MISCELLANEOUS -**

1601	△	2422 086 10785	FUSE 3,15A 250V
1602	△	2422 086 10783	FUSE 2A 250V
1800		4822 267 11028	FFC Connector 16P
1823		4822 265 11207	FFC Socket 6P
1824		4822 265 11207	FFC Socket 6P

8001		3103 308 92680	FFC Foil 19P
8002		3103 308 93040	FFC Foil 16P

- CAPACITORS -

2812		4822 124 40248	10 μ F 20% 63V
2813		5322 126 11582	6,8nF 10% X7R 63V
2814		5322 126 11579	3,3nF10% X7R 63V
2815		4822 122 33753	150pF 5% NP0 50V
2816		4822 126 14494	22nF 10% X7R 25V
2817		4822 124 40769	4,7 μ F 20% 100V
2818		3198 017 34730	47nF X7R 16V
2821		2238 586 59812	100nF +80-20% Y5V 50V
2822		4822 126 13344	1,5nF 5% 63V
2823		4822 124 42383	220 μ F 20% 4V
2825		4822 126 13344	1,5nF 5% 63V
2826		3198 017 34730	47nF X7R 16V
2827		5322 126 11578	1nF 10% X7R 50V
2828		4822 126 11669	27pF NP0 50V
2829		3198 017 34730	47nF X7R 16V

2830		4822 124 81286	47 μ F 20% 16V
2831		4822 124 81286	47 μ F 20% 16V
2832		4822 126 14506	270pF 5% 50V NP0
2833		4822 126 14238	2,2nF X7R 50V
2834		4822 126 14506	270pF 5% 50V NP0
2835		4822 126 14247	1,5nF X7R 50V
2836		4822 124 40433	47 μ F 20% 25V
2837		3198 017 34730	47nF X7R 16V
2838		4822 126 13879	220nF +80-20% 16V
2839		2238 586 59812	100nF +80-20% Y5V 50V

2840		4822 124 81286	47 μ F 20% 16V
2841		4822 126 13879	220nF +80-20% 16V
2843		2020 552 94427	100pF 5% NP0 50V
2844		4822 126 13883	220pF 5% 50V
2845		4822 126 13883	220pF 5% 50V

2846		4822 124 21732	10 μ F 20% 25V
2847		4822 126 13879	220nF +80-20% 16V
2848		2020 552 94427	100pF 5% NP0 50V
2849		4822 126 13883	220pF 5% 50V
2850		4822 126 13883	220pF 5% 50V

2851		4822 124 11947	10 μ F 20% 16V
2853		5322 126 11583	10nF 10% X7R 50V
2854		4822 124 23052	100 μ F 20% 16V
2855		4822 124 11912	220 μ F 20% 6,3V
2860		4822 126 14508	180pF 5% 50V NP0

- CAPACITORS -

2861		4822 126 14241	330pF NP0 50V
2862		3198 017 34730	47nF X7R 16V
2863		4822 122 33753	150pF 5% NP0 50V
2864		4822 122 33753	150pF 5% NP0 50V
2865		4822 122 33753	150pF 5% NP0 50V

2866		4822 122 33753	150pF 5% NP0 50V
2869		3198 017 34730	47nF X7R 16V
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
2876		4822 124 40196	220 μ F 20% 16V
2877		4822 124 40433	47 μ F 20% 25V
2878		2238 586 59812	100nF +80-20% Y5V 50V
2879		5322 126 11578	1nF 10% X7R 50V
2880		2222 867 15339	33pF 5% NP0 50V
2881		4822 126 14249	560pF 10% X7R 50V
2882		4822 126 14226	82pF 5% NP0 50V

2883		3198 017 44740	470nF Y5V 10V
2884		3198 017 44740	470nF Y5V 10V

- RESISTORS

3801		4822 051 30223	22K 5% 0,062W
3802		4822 051 30223	22K 5% 0,062W
3803		4822 051 30273	27K 5% 0,062W
3804		4822 051 30273	27K 5% 0,062W
3805		4822 051 30273	27K 5% 0,062W
3806		4822 051 30273	27K 5% 0,062W
3807		4822 051 30103	10K 5% 0,062W
3808		4822 051 30103	10K 5% 0,062W
3809		4822 051 30103	10K 5% 0,062W
3810		4822 051 30103	10K 5% 0,062W

3811		4822 051 30103	10K 5% 0,062W
3812		4822 051 30103	10K 5% 0,062W
3813		4822 051 30222	2,2K 5% 0,062W
3814		4822 051 30222	2,2K 5% 0,062W
3815		4822 051 30222	2,2K 5% 0,062W

3816		4822 051 30222	2,2K 5% 0,062W
3817		4822 051 30479	47R 5% 0,062W
3818		4822 051 30479	47R 5% 0,062W
3819		4822 051 30479	47R 5% 0,062W
3820		4822 052 10478	4R705% 0,33W

3821		4822 117 12917	1R 5% 0,062W
3822		4822 051 30103	10K 5% 0,062W
3823		4822 051 30102	1K 5% 0,062W
3824		4822 051 20474	470K 5% 0,1W
3825		5322 117 13029	47K 1% 0,063W

ELECTRICAL PARTSLIST - CD99 MP3 2002 BOARD**- RESISTORS -**

3826	4822 117 12891	220K 1%
3827	5322 117 13056	8,2K 1% 0,063
3828	5322 117 13052	2,7K 1% 0,063W
3829	4822 051 30121	120R 5% 0,062W
3830	4822 117 11373	100R 1%

3831	4822 051 30471	470R 5% 0,062W
3832	4822 051 30471	470R 5% 0,062W
3833	4822 051 30121	120R 5% 0,062W
3834	4822 051 30472	4,7K 5% 0,062W
3836	4822 116 40227	4,6R 25% 12V

3837	4822 051 30471	470R 5% 0,062W
3839	4822 051 30471	470R 5% 0,062W
3840	4822 051 30223	22K 5% 0,062W
3842	4822 051 30102	1K 5% 0,062W
3843	4822 051 30102	1K 5% 0,062W

3844	4822 051 30101	100R 5% 0,062W
3845	4822 051 30471	470R 5% 0,062W
3846	4822 051 30472	4,7K 5% 0,062W
3847	4822 117 10834	47K1% 0,1W
3848	4822 051 30333	33K 5% 0,062W

3849	4822 051 30471	470R 5% 0,062W
3850	4822 051 30472	4,7K 5% 0,062W
3851	4822 117 10834	47K 1% 0,1W
3852	4822 051 30333	33K 5% 0,062W
3853	4822 117 12903	1,8K 1% 0,063W

3854	4822 051 30682	6,8K 5% 0,062W
3856	4822 117 12891	220K 1% ERJ3E
3858	4822 051 30682	6,8K 5% 0,062W
3859	4822 117 13632	100K 1% 0,62W
3861	4822 117 13632	100K 1% 0,62W

3862	4822 051 30102	1K 5% 0,062W
3863	4822 052 10338	3,3R 5% 0,33W
3864	4822 051 30223	22K 5% 0,062W
3865	4822 051 30101	100R 5% 0,062W
3866	4822 117 13608	4,7R5% 0,0016W

3867	4822 051 30223	22K 5% 0,062W
3868	4822 051 30103	10K 5% 0,062W
3869	4822 051 30103	10K 5% 0,062W
3871	4822 051 30101	100R 5% 0,062W
3872	4822 051 30101	100R 5% 0,062W

3873	4822 051 30223	22K 5% 0,062W
3874	4822 051 30223	22K 5% 0,062W
3875	4822 051 30103	10K 5% 0,062W
3876	4822 051 30103	10K 5% 0,062W
3878	4822 051 30471	470R 5% 0,062W

3879	4822 051 30223	22K 5% 0,062W
3880	4822 051 30339	33R 5% 0,062W
3881	4822 051 30151	150R 5% 0,062W
3882	4822 051 10102	1K 2% 0,25W
3883	4822 051 30102	1K 5% 0,062W

- RESISTORS -

3884	4822 051 30102	1K 5% 0,062W
3888	4822 051 30103	10K 5% 0,062W
3889	4822 051 30471	470R 5% 0,062W
3890	4822 051 30471	470R 5% 0,062W
3891	4822 051 30102	1K 5% 0,062W

3892	4822 051 30102	1K 5% 0,062W
3893	4822 051 30471	470R 5% 0,062W
3894	4822 117 12891	220K 1% ERJ3E
3895	4822 051 30273	27K 5% 0,062W
3896	4822 051 30101	100R 5% 0,062W

3897	4822 051 30333	33K 5% 0,062W
3898	4822 051 30181	180R 5% 0,062W
3899	4822 051 30272	2,7K 5% 0,062W
3907	4822 051 30391	390R 5% 0,062W
3908	4822 051 30222	2,2K 5% 0,062W

3909	4822 117 13632	100K 1% 0,62W
3910	4822 051 30471	470R 5% 0,062W
3916	4822 051 30471	470R 5% 0,062W
3917	4822 117 13608	4,7R 5% 0,0016W
4801	4822 051 20008	OR Jumper 0805

4802	4822 051 20008	OR Jumper 0805
4803	4822 051 20008	OR Jumper 0805
4805	4822 051 20008	OR Jumper 0805
4808	4822 051 20008	OR Jumper 0805
4809	4822 051 20008	OR Jumper 0805

4811	4822 051 20008	OR Jumper 0805
4817	4822 051 30008	OR Jumper
4818	4822 051 20008	OR Jumper 0805
4824	4822 051 20008	OR Jumper 0805
4827	4822 051 20008	OR Jumper 0805

4830	4822 051 20008	OR Jumper 0805
4832	4822 051 20008	OR Jumper 0805
4834	4822 051 20008	OR Jumper 0805
4836	4822 051 20008	OR Jumper 0805
4840	4822 051 20008	OR Jumper 0805

4841	4822 051 20008	OR Jumper 0805
4842	4822 051 20008	OR Jumper 0805
4845	4822 051 30008	OR Jumper

- COILS & FILTERS -

1810	2422 540 98519	8MHz 467CSTS*MG03A
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- DIODES -

6877	9322 129 34685	DIO REG SM BZM55-C3V9
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- IC & TRANSISTORS -

7800	9352 684 20557	SAA7325H/T/M2B
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ELECTRICAL PARTSLIST - CD99 MP3 2002 BOARD

- IC & TRANSISTORS -

7808	4822 209 32852	TDA7073A/N2
7809	4822 209 32852	TDA7073A/N2
7810	4822 209 33165	TDA1308T/N1
7811	5322 209 82941	LM358D
7874	5322 130 60159	BC846B
7875	5322 130 60159	BC846B
7876	5322 130 60159	BC846B
7877	5322 130 60159	BC846B
7878	5322 130 60159	BC846B
7879	5322 130 60123	BC807-40

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	1 μ F 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	10 μ F 20% 63V
2129	4822 124 41584	100 μ F 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	1 μ F 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	2,2 μ F 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	1 μ F 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	22 μ F 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	100 μ F 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 0,1 ∞ H 5%
5119	4822 157 11443	FM Disc 2,4 ∞ H 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	1 μ F 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	10 μ F 20% 63V
2129	4822 124 41584	100 μ F 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	1 μ F 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	2,2 μ F 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	1 μ F 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 2,4 μ H 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
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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 - COMBI BOARD**- MISCELLANEOUS -**

1330	2422 026 05099	Headphone Socket
1331	4822 265 10912	Speaker Socket
1402	2422 128 02917	Switch-Tact
1403	2422 128 02917	Switch-Tact
1404	2422 128 02917	Switch-Tact
1405	2422 128 02917	Switch-Tact
1406	2422 128 02917	Switch-Tact
1407	2422 128 02917	Switch-Tact
1408	2422 128 02922	Switch-Tact
1409	2422 128 02917	Switch-Tact
1410	2422 128 02917	Switch-Tact
1411	2422 128 02917	Switch-Tact
1412	2422 128 02917	Switch-Tact
1413	2422 128 02917	Switch-Tact
1414	2422 128 02917	Switch-Tact
1416	2422 025 14546	FFC Connector 16P
1418	4822 265 11207	FFC Connector 6P
1420	4822 267 10956	FFC Connector 7P
1425	3140 110 51550	LCD Panel
1550	4822 265 20553	Aux,In Socket
1551	4822 267 10953	FFC Connector 7P
1554	4822 267 10731	FFC Connector 6P
1555	4822 265 11515	FFC Connector 8P
1556	2422 025 14526	FFC Connector 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	22 μ F 50V
2257	4822 124 40248	10 μ F 20% 63V
2258	4822 124 40769	4,7 μ F 20% 100V
2259	4822 124 40769	4,7 μ F 20% 100V
2260	3198 017 34730	4,7nF 20% X7R 16V
2262	3198 016 31020	1nF 20% NP0 25V
2264	4822 124 40248	10 μ F 20% 63V
2265	4822 124 40207	100 μ F 20% 25V
2266	2238 586 59812	100nF +80-20% 50V
2267	4822 124 40784	3300 μ F 20% 16V
2268	4822 124 12012	4700 μ F 20% 25V
2330	4822 124 40769	4,7 μ F 20% 100V
2331	2238 786 19852	150nF +80-20%16V
2332	2238 786 19852	150nF +80-20% 16V
2337	4822 121 42408	220nF 5% 63V
2338	4822 121 42408	220nF 5% 63V

- CAPACITORS -

2339	4822 121 42408	220nF 5% 63V
2340	4822 121 42408	220nF 5% 63V
2341	4822 124 40433	47 μ F 20% 25V
2342	4822 124 40433	47 μ F 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	47 μ F 20% 25V
2348	4822 124 40433	47 μ F 20% 25V
2349	4822 124 40207	100 μ F 20% 25V
2350	4822 124 40207	100 μ F 20% 25V
2351	4822 124 40769	4,7 μ F 20% 100V
2352	4822 124 40433	47 μ F 20% 25V
2353	5322 126 11583	10nF 10% X7R 50V
2354	5322 126 11583	10nF 10% X7R 50V
2401	2238 586 59812	100nF +80-20% Y5V 50V
2402	4822 124 23432	100 μ F 20% 10V
2403	2238 586 59812	100nF +80-20% Y5V 50V
2404	4822 124 23432	100 μ F 20% 10V
2405	2238 586 59812	100nF +80-20% Y5V 50V
2406	5322 126 14103	2,2 μ F +80-20% Y5V 10V
2407	2238 586 59812	100nF +80-20% Y5V 50V
2408	2238 586 59812	100nF +80-20% Y5V 50V
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 126 14225	56pF 5% NP0 50V
2414	5322 126 11583	10nF 10% X7R 50V
2415	4822 126 11669	27pF
2416	4822 126 11669	27pF
2417	4822 124 81286	47 μ F 20% 16V
2418	5322 126 11578	1nF 10% X7R 50V
2419	2238 586 59812	100nF +80-20% Y5V 50V
2420	5322 126 11583	10nF 10% X7R 50V
2421	5322 126 11583	10nF 10% X7R 50V
2424	2238 586 59812	100nF +80-20% Y5V 50V
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	5322 126 14103	2,2 μ F +80-20% Y5V 10V
2429	4822 126 14241	330pF NP0 50V
2430	5322 126 11578	1nF 10% X7R 50V
2431	4822 126 13193	4,7nF10% X7R 63V
2432	2020 552 94427	100pF 5% NP0 50V
2433	4822 126 13881	470PF 5% 50V
2434	2020 552 94427	100P 5% NP0 50V
2435	4822 126 13881	470pF 5% 50V
2436	4822 126 13881	470pF 5% 50V

ELECTRICAL PARTSLIST - COMBI BOARD**- CAPACITORS -**

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 X7R 50V
2441	5322 126 11583	10nF 10% X7R 50V
2442	4822 126 13883	220pF 5% 50V
2443	4822 126 11785	47pF 5% NP0 50V
2444	4822 126 11785	47pF 5% NP0 50V
2445	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
2452	2238 586 59812	100nF +80-20% Y5V50V
2453	2238 586 59812	100nF +80-20% Y5V50V
2454	2238 586 59812	100nF +80-20% Y5V50V
2455	2238 586 59812	100nF +80-20% Y5V50V
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
2505	2020 552 94427	100pF 5% NP0 50V
2506	2020 552 94427	100pF 5% NP0 50V
2507	2020 552 94427	100pF 5% NP0 50V
2508	2020 552 94427	100pF 5% NP0 50V
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 126 11785	47pF 5% NP0 50V
2514	4822 126 11785	47pF 5% NP0 50V
2515	5322 126 11583	10nF 10% X7R 50V
2516	5322 126 11583	10nF 10% X7R 50V
2517	4822 126 14247	1,5nF X7R 50V
2518	4822 126 14247	1,5nF X7R 50V
2519	4822 126 13883	22pF 5% 50V
2520	4822 126 13883	220pF 5% 50V
2521	4822 126 14247	1,5nF X7R 50V
2522	4822 126 14247	1,5nF X7R 50V
2523	3198 016 36810	680pF NP0 25V
2524	3198 016 36810	680pF NP0 25V
2525	4822 126 11785	47pF 5% NP0 50V
2526	4822 126 11785	47pF 5% NP0 50V
2527	5322 126 11583	10nF 10% X7R 50V
2528	5322 126 11583	10nF 10% X7R 50V
2529	2238 586 59812	100nF +80-20% Y5V 50V
2530	2238 586 59812	100nF +80-20% Y5V 50V
2531	2238 586 59812	100nF +80-20% Y5V 50V
2532	2238 586 59812	100nF +80-20% Y5V 50V

- CAPACITORS -

2533	3198 017 34730	47nF X7R 16V
2534	3198 017 34730	47nF X7R 16V
2535	2238 586 59812	100nF+80-20%Y5V 50V
2550	4822 126 11585	22nF+80-20% Y5V 25V
2551	4822 126 14238	2,2nF X7R 50V
2552	4822 126 14238	2,2nF X7R 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 Y5V 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 50V
2563	4822 124 41407	0,47µF 20% 63V
2564	4822 124 41407	0,47µF 20% 63V
2565	2020 552 94427	100pF 5% NP0 50V
2566	2020 552 94427	100pF 5% NP0 50V
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
2571	3198 017 44740	470nF Y5V 10V
2573	2238 586 59812	100nF +80-20% Y5V 50V

- RESISTORS -

3250	4822 051 20471	470R 5% 0,1W
3251	4822 051 30222	2K2 5% 0,062W
3252	4822 051 30472	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% 0,062W
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% 0,063W
3267	4822 117 11449	2K2 5% 0,1W
3268	4822 117 11449	2K2 5% 0,1W
3269	4822 051 30223	22K 5% 0,062W
3271	4822 050 24708	4R7 1% 0,6W

ELECTRICAL PARTSLIST - COMBI BOARD**- RESISTORS -**

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% 0,062W
3277	4822 051 30222	2K2 5% 0,062W
3278	4822 117 12925	47K 1% 0,063W
3279	4822 051 30102	1K 5% 0,062W
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% 0,062W
3334	4822 051 30682	6K8 5% 0,062W
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
3342	4822 116 52226	560R 5% 0,5W
3343	4822 051 30103	10K 5% 0,062W
3344	4822 051 30103	10K 5% 0,062W
3345	4822 051 30103	10K 5% 0,062W
3346	4822 051 30103	10K 5% 0,062W
3347	4822 051 30223	22K 5% 0,062W
3348	4822 051 30223	22K 5% 0,062W
3349	4822 051 30223	22K 5% 0,062W
3350	4822 117 12925	47K 1% 0,063W
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% 0,062W
3359	4822 051 30682	6K8 5% 0,062W
3360	4822 117 13632	100K 1% 0,62W
3361	4822 117 11373	100R 1% 0,1W
3401	4822 116 52182	15R 5% 0,5W
3402	4822 116 52175	100R 5% 0,5W
3403	4822 117 12903	1K8 1% 0,063W
3404	4822 051 30562	5K6 5% 0,063W
3405	4822 050 11002	1K 1% 0,4W
3406	4822 117 13632	100K 1% 0,62W
3407	4822 051 30102	1K 5% 0,062W
3408	4822 051 30474	470K 5% 0,062W
3409	4822 051 30472	4K7 5% 0,062W

- RESISTORS -

3410	4822 116 52175	100R 5% 0,5W
3411	4822 051 30474	470K 5% 0,062W
3412	4822 051 30103	10K 5% 0,062W
3413	4822 051 30102	1K 5% 0,062W
3414	4822 051 30333	33K 5% 0,062W
3415	4822 051 30153	15K 5% 0,062W
3416	4822 117 11503	220R 1% 0,1W
3417	4822 051 30153	15K 5% 0,062W
3418	4822 051 30152	1K5 5% 0,062W
3419	4822 051 30152	1K5 5% 0,062W
3425	4822 051 30222	2K2 5% 0,062W
3426	4822 051 30332	3K3 5% 0,062W
3427	4822 051 30562	5K6 5% 0,063W
3429	4822 051 30103	10K 5% 0,062W
3430	4822 116 52289	5K6 5% 0,5W
3431	4822 051 30471	470R 5% 0,062W
3432	4822 051 30102	1K 5% 0,062W
3433	4822 051 30152	1K50 5% 0,062W
3434	4822 051 30222	2K2 5% 0,062W
3435	4822 051 30332	3K30 5% 0,062W
3436	4822 051 30562	5K6 5% 0,063W
3439	4822 051 30103	10K 5% 0,062W
3440	4822 051 30103	10K 5% 0,062W
3441	4822 051 30102	1K 5% 0,062W
3442	4822 051 30333	33K 5% 0,062W
3443	4822 050 23303	33K 1% 0,6W
3444	4822 116 52175	100R 5% 0,5W
3445	4822 051 30222	2K2 5% 0,062W
3446	4822 117 12891	220K 1% 0,1W
3447	4822 051 30103	10K 5% 0,062W
3448	4822 051 30152	1K5 5% 0,062W
3449	4822 051 30223	22K 5% 0,062W
3450	4822 051 30102	1K 5% 0,062W
3451	4822 051 30471	470R 5% 0,062W
3452	4822 051 30103	10K 5% 0,062W
3453	4822 051 30331	330R 5% 0,062W
3454	4822 051 30102	1K 5% 0,062W
3455	4822 051 30102	1K 5% 0,062W
3456	4822 051 30102	1K 5% 0,062W
3457	4822 051 30103	10K 5% 0,062W
3458	4822 051 30102	1K 5% 0,062W
3459	4822 116 83872	220R 5% 0,5W
3460	4822 051 30221	220R 5% 0,062W
3461	4822 116 52283	4K7 5% 0,5W
3462	4822 051 30102	1K 5% 0,062W
3463	4822 116 52283	4K7 5% 0,5W
3464	4822 051 30102	1K 5% 0,062W
3465	4822 116 52283	4K7 5% 0,5W
3466	4822 051 30102	1K 5% 0,062W
3467	4822 116 52256	2K2 5% 0,5W

ELECTRICAL PARTSLIST - COMBI BOARD**- RESISTORS -**

3468	4822 051 30471	470R 5% 0,062W
3469	4822 116 83883	470R 5% 0,5W
3470	4822 051 30103	10K 5% 0,062W
3471	4822 050 23303	33K 1% 0,6W
3472	4822 051 30474	470K 5% 0,062W
3473	4822 051 30102	1K 5% 0,062W
3474	4822 116 83883	470R 5% 0,5W
3475	4822 051 30471	470R 5% 0,062W
3476	4822 116 83883	470R 5% 0,5W
3477	4822 051 30102	1K 5% 0,062W
3478	4822 116 83883	470R 5% 0,5W
3479	4822 051 30221	220R 5% 0,062W
3480	4822 050 11002	1K 1% 0,4W
3481	4822 051 30471	470R 5% 0,062W
3483	4822 051 30103	10K 5% 0,062W
3484	4822 051 30103	10K 5% 0,062W
3485	4822 051 30392	3K9 5% 0,063W
3486	4822 051 30101	100R 5% 0,062W
3487	4822 051 30392	3K9 5% 0,063W
3488	4822 051 30101	100R 5% 0,062W
3489	4822 051 30102	1K 5% 0,062W
3490	4822 051 30102	1K 5% 0,062W
3491	4822 051 30102	1K 5% 0,062W
3492	4822 051 30102	1K 5% 0,062W
3493	4822 051 30102	1K 5% 0,062W
3494	4822 051 30102	1K 5% 0,062W
3495	4822 051 30154	150K 5% 0,062W
3496	4822 051 30154	150K 5% 0,062W
3497	4822 051 30102	1K 5% 0,062W
3498	4822 051 30102	1K 5% 0,062W
3499	3198 021 32230	22K 5% (not for /22)
3500	4822 117 12968	820R 5% 0,62W
3501	4822 051 30471	470R 5% 0,062W
3502	4822 116 52256	2K2 5% 0,5W
3503	4822 051 30471	470R 5% 0,062W
3505	4822 051 20333	33K 5% 0,1W
3506	4822 051 20333	33K 5% 0,1W
3507	4822 117 12971	15R 5% 0,62W
3508	4822 117 12971	15R 5% 0,62W
3509	4822 051 20333	33K 5% 0,1W
3510	4822 051 20333	33K 5% 0,1W
3511	4822 117 13632	100K 1% 0,62W
3512	4822 117 13632	100K 1% 0,62W
3513	4822 051 30153	15K 5% 0,062W
3514	4822 051 30153	15K 5% 0,062W
3515	4822 051 30333	33K 5% 0,062W
3516	4822 051 30333	33K 5% 0,062W
3517	4822 117 13632	100K 1% 0,62W
3518	4822 117 13632	100K 1% 0,62W
3519	4822 117 12891	220K 1% 0,1W

- RESISTORS -

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% 0,062W
3534	4822 051 30333	33K 5% 0,062W
3535	4822 117 13632	100K 1% 0,62W
3536	4822 117 13632	100K 1% 0,62W
3537	4822 117 12891	220K 1% 0,1W
3538	4822 117 12891	220K 1% 0,1W
3539	4822 051 30223	22K 5% 0,062W
3540	4822 051 30223	22K 5% 0,062W
3541	4822 051 30154	150K 5% 0,062W
3542	4822 051 30154	150K 5% 0,062W
3543	4822 117 12864	82K 5% 0,6W
3544	4822 117 12864	82K 5% 0,6W
3545	4822 117 12902	8K2 1% 0,063W
3546	4822 117 12902	8K2 1% 0,063W
3547	4822 051 30154	150K 5% 0,062W
3548	4822 051 30154	150K 5% 0,062W
3551	4822 051 30333	33K 5% 0,062W
3552	4822 051 30333	33K 5% 0,062W
3553	4822 117 12902	8K2 1% 0,063W
3554	4822 117 12902	8K2 1% 0,063W
3555	4822 051 30682	6K8 5% 0,062W
3556	4822 051 30682	6K8 5% 0,062W
3557	4822 051 30183	18K 5% 0,062W
3558	4822 051 30183	18K 5% 0,062W
3559	4822 051 30272	2K7 5% 0,062W
3560	4822 051 30272	2K7 5% 0,062W
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 20159	15R 5% 0,1W
3566	4822 051 20159	15R 5% 0,1W
3568	4822 117 11139	1K5 1% 0,1W
3572	4822 051 30103	10K 5% 0,062W
3573	4822 050 11002	1K 1% 0,4W
3574	4822 117 12925	47K 1% 0,063W
3575	4822 051 30153	15K 5% 0,062W
3576	4822 051 30153	15K 5% 0,062W

ELECTRICAL PARTSLIST - COMBI BOARD**- RESISTORS -**

3577	4822 051 30471	470R 5% 0,062W
3578	4822 051 30471	470R 5% 0,062W
3579	4822 051 30154	150K 5% 0,062W
3580	4822 051 30154	150K 5% 0,062W
3581	4822 051 30272	2K7 5% 0,062W

3582	4822 051 30272	2K7 5% 0,062W
3583	4822 051 30472	4K7 5% 0,062W
3584	4822 051 30472	4K7 5% 0,062W
3585	4822 051 30222	2K2 5% 0,062W
3586	4822 051 30222	2K2 5% 0,062W

3587	4822 051 30392	3K9 5% 0,063W
3588	4822 051 30392	3K9 5% 0,063W
3589	4822 116 83872	220R 5% 0,5W
3901	4822 051 30101	100R 5% 0,062W
3902	4822 051 30101	100R 5% 0,062W

3903	4822 051 30101	100R 5% 0,062W
3904	4822 051 30101	100R 5% 0,062W
3905	4822 051 30101	100R 5% 0,062W
3906	4822 051 30101	100R 5% 0,062W
3911	4822 051 30102	1K 5% 0,062W

3912	4822 051 30102	1K 5% 0,062W
3913	4822 051 30102	1K 5% 0,062W
3914	4822 051 30102	1K 5% 0,062W
3915	4822 051 30102	1K 5% 0,062W
3916	4822 051 30102	1K 5% 0,062W

3917	4822 051 30102	1K 5% 0,062W
3918	4822 051 30102	1K 5% 0,062W
3919	4822 051 30222	2K2 5% 0,062W
3920	4822 051 30103	10K 5% 0,062W
3921	4822 051 30103	10K 5% 0,062W

3922	4822 051 30103	10K 5% 0,062W
3929	4822 117 12925	47K 1% 0,063W
3930	4822 051 30102	1K 5% 0,062W
3931	4822 051 30333	33K 5% 0,062W
4260	4822 051 20008	0R Jumper 0805

4261	4822 051 20008	0R Jumper 0805
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
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 30008	0R Jumper

- RESISTORS -

4416	4822 051 30008	0R Jumper
4417	4822 051 30008	0R Jumper
4418	4822 051 30008	0R Jumper
4420	4822 051 30008	0R Jumper
4421	4822 051 20008	0R Jumper 0805

4422	4822 051 20008	0R Jumper 0805
4423	4822 051 20008	0R Jumper 0805
4424	4822 051 20008	0R Jumper 0805
4425	4822 051 20008	0R Jumper 0805
4426	4822 051 30008	0R Jumper

4427	4822 051 20008	0R Jumper 0805
4428	4822 051 30008	0R Jumper
4429	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 & 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%
5400	4822 157 11228	100µH 5%

5401	2422 549 44393	100MH 2K7
5402	2422 540 98518	Resonator 8MHz
5403	2422 543 01069	Crystal 32,768kHz
5404	4822 242 11033	Crystal 4,332kHz
5405	2422 549 44393	Inductor Fixed 100MHZ 2K7

5406	2422 549 44393	Inductor Fixed 100MHZ 2K7
5407	2422 549 44393	Inductor Fixed 100MHZ 2K7
5550	4822 157 10686	0,47µF Choke Coil
5551	4822 157 10686	0,47µF Choke Coil

ELECTRICAL PARTSLIST - COMBI BOARD**- 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
6264	4822 130 31878	1N4003G
6265	4822 130 31878	1N4003G
6266	4822 130 30621	1N4148
6267	4822 130 30621	1N4148
6268	4822 130 34382	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
6400	4822 130 11397	BAS316
6401	4822 130 11397	BAS316
6403	8240 009 51220	LED AMBER
6500	4822 130 30621	1N4148
6550	4822 130 82714	BZX79-B2V7

- IC & TRANSISTORS -

7250	9322 139 24687	BDW94CFP
7251	5322 130 60159	BC846B
7252	5322 130 60159	BC846B
7253	5322 130 44647	BC368
7254	5322 130 44593	BC369
7255	5322 130 60159	BC846B
7256	4822 130 41246	BC327-25
7257	4822 130 41246	BC327-25
7258	4822 130 41246	BC327-25
7259	5322 130 60159	BC846B
7260	5322 130 60845	BC807-25
7261	5322 130 60159	BC846B
7330	9322 133 18682	AN7125P
7331	4822 130 60373	BC856B
7332	4822 130 60373	BC856B
7333	5322 130 60159	BC846B
7400	3140 110 51540	TMP86CS25F
7401	5322 130 60159	BC846B
7402	5322 130 60159	BC846B
7403	5322 130 60159	BC846B

- IC & TRANSISTORS -

7404	9322 155 82667	TSOP2236
7405	9965 000 04931	M24C01-WMN6
7406	4822 209 31981	SAA6579T
7407	4822 130 60373	BC856B
7408	5322 130 60159	BC846B
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	5322 130 60159	BC846B
7506	5322 130 60159	BC846B
7507	5322 130 60159	BC846B
7508	5322 130 60159	BC846B
7509	5322 130 60159	BC846B
7511	5322 130 60159	BC846B
7512	5322 130 60159	BC846B
7513	5322 130 60159	BC846B
7514	5322 130 60159	BC846B
7550	4822 130 42804	BC817-25
7551	4822 209 10263	HEF4052BP
7552	5322 209 10421	HEF4094BP
7553	9322 003 63676	TBC327-40
7555	5322 130 60159	BC846B
7556	5322 130 60159	BC846B

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

ELECTRICAL PARTSLIST - LED BOARD

- RESISTORS -

3901	4822 051 30561	560R 5% 0,062W
3902	4822 117 12968	820R 5% 0,62W
3903	4822 051 30332	3,3K 5% 0,062W
3904	4822 051 30332	3,3K 5% 0,062W
3905	4822 051 30471	470R 5% 0,062W
3906	4822 051 30471	470R 5% 0,062W

- DIODES -

6901	8240 009 51220	LED AMBER
6902	8240 009 51220	LED AMBER
6903	8240 009 51220	LED AMBER
6904	8240 009 51220	LED AMBER
6905	8240 009 51220	LED AMBER
6906	8240 009 51220	LED AMBER
6907	8240 009 51220	LED AMBER
6908	8240 009 51220	LED AMBER
6909	8240 009 51220	LED AMBER
6910	8240 009 51220	LED AMBER

ELECTRICAL PARTSLIST - POWER BOARD AND MISCELLANEOUS

1025	4822 276 13963	CD DOOR SWITCH
1600	 2422 129 15195	VOLTAGE SELECTOR (/21/21M)
5001	2422 549 44607	IND FXD 100MHz 600R
5600	 4822 157 11832	FILTER 400~H 3A
5601	 3140 118 32430	TRANSFORMER (/22/33/30)
5601	 3140 118 32440	TRANSFORMER (/21/21M)
5601	 3140 118 32450	TRANSFORMER (/37 only)
8000	3139 110 36220	FFC FOIL 16P/180/16P AD
8001	3139 110 35130	FFC FOIL 06P/180/06P AD
8005	3140 110 21210	FFC FOIL 6P/220/6P AD
8007	3140 110 21240	FFC FOIL 8P/180/8P AD
8009	3139 110 34480	FFC FOIL 07P/140/07P AD
8010	3140 110 21840	FFC COIL 7P/120/7P AD
8008	2422 070 98122	MAINS CORD 125V 10A(/37)
8008	4822 321 10781	MAINS CORD EUR 2A5 (/21/21M/22)
8008	4822 321 10971	MAINS CORD SAA (/30)

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

ELECTRICAL PARTSLIST - COMBI BOARD**- MISCELLANEOUS -**

1330	2422 026 05099	Headphone socket
1331	4822 265 10912	Speaker Terminal
1402	2422 128 02917	Switch-Tact
1403	2422 128 02917	Switch-Tact
1404	2422 128 02917	Switch-Tact
1405	2422 128 02917	Switch-Tact
1406	2422 128 02917	Switch-Tact
1407	2422 128 02917	Switch-Tact
1408	2422 128 02922	Switch-Tact
1409	2422 128 02917	Switch-Tact
1410	2422 128 02917	Switch-Tact
1411	2422 128 02917	Switch-Tact
1412	2422 128 02917	Switch-Tact
1413	2422 128 02917	Switch-Tact
1414	2422 128 02917	Switch-Tact
1416	2422 025 14546	Connector 16P FFC
1418	4822 265 11207	Connector 6P FFC
1420	4822 267 10956	Connector 7P FFC
1425	3140 110 51550	LCD Panel MC-M250
1550	4822 265 20553	Aux. In Socket
1551	4822 267 10953	Connector 7P FFC
1554	4822 267 10731	Connector 6P FFC
1555	4822 265 11515	Connector 8P FFC
1556	2422 025 14526	Connector 16P FFC

- CAPACTORS -

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 X7R 16V
2262	3198 016 31020	1nF NP0 25V
2264	4822 124 40248	10µF 20% 63V
2265	4822 124 40207	100µF 20% 10V
2266	2238 586 59812	100nF Y5V +80-20% 50V
2267	4822 124 40784	3300µF 20% 16V
2268	4822 124 12012	4700µF 20% 25V
2270	4822 124 41584	100µF 20% 10V
2330	4822 124 40769	4,7µF 20% 100V
2331	2238 786 19852	150nF Y5V +80-20% 16V
2332	2238 786 19852	150nF Y5V +80-20% 16V
2337	4822 121 42408	220nF 5% 63V

- CAPACTORS -

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	2238 916 15641	22nF X7R 10% 25V
2346	2238 916 15641	22nF X7R 10% 25V
2347	4822 124 40433	47µF 20% 25V
2348	4822 124 40433	47µF 20% 25V
2349	4822 124 40207	100µF 20% 10V
2350	4822 124 40207	100µF 20% 10V
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
2401	2238 586 59812	100nF Y5V +80-20% 50V
2402	4822 124 23432	100µF 20% 10V
2403	2238 586 59812	100nF Y5V +80-20% 50V
2404	4822 124 23432	100µF 20% 10V
2405	2238 586 59812	100nF Y5V +80-20% 50V
2406	4822 126 14491	2.2µF 10V 20%
2407	2238 586 59812	100nF Y5V +80-20% 50V
2408	2238 586 59812	100nF Y5V +80-20% 50V
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 126 14225	56pF 5% NP0 50V
2414	5322 126 11583	10nF 10% X7R 50V
2415	4822 126 11669	27pF 5% 50V
2416	4822 126 11669	27pF 5% 50V
2417	4822 124 81286	47µF 20% 16V
2418	5322 126 11578	1nF 10% X7R 50V
2419	2238 586 59812	100nF Y5V +80-20% 50V
2420	5322 126 11583	10nF 10% X7R 50V
2421	5322 126 11583	10nF 10% X7R 50V
2424	2238 586 59812	100nF Y5V +80-20% 50V
2425	2222 867 15339	33pF NP0 5% 50V
2426	4822 122 33761	22pF 5% NP0 50V
2427	4822 126 14249	560pF 10% X7R 50V
2428	4822 126 14491	2.2µF 10V 20%
2429	4822 126 14241	330pF NPO 50V
2430	5322 126 11578	1nF 10% X7R 50V
2431	4822 126 13193	4,7nF 10% X7R 63V
2432	2020 552 94427	100pF NP0 5% 50V
2433	4822 126 13881	470pF 5% 50V
2434	2020 552 94427	100pF NP0 5% 50V
2435	4822 126 13881	470pF 5% 50V

ELECTRICAL PARTSLIST - COMBI BOARD**- CAPACTORS -**

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 X7R 50V

2441 5322 126 11583 10nF 10% X7R 50V
 2442 4822 126 13883 220pF 5% 50V
 2443 4822 126 11785 47pF NP0 5% 50V
 2444 4822 126 11785 47pF NP0 5% 50V
 2445 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

2452 2238 586 59812 100nF Y5V +80-20% 50V
 2453 2238 586 59812 100nF Y5V +80-20% 50V
 2454 2238 586 59812 100nF Y5V +80-20% 50V
 2455 2238 586 59812 100nF Y5V +80-20% 50V
 2500 4822 124 41584 100µF 20% 10V

2501 4822 124 40196 220µF 20% 16V
 2502 4822 124 40248 10µF 20% 63V
 2503 2238 916 15641 22nF X7R 10% 25V
 2505 2020 552 94427 100pF NP0 5% 50V
 2506 2020 552 94427 100pF NP0 5% 50V

2507 2020 552 94427 100pF NP0 5% 50V
 2508 2020 552 94427 100pF NP0 5% 50V
 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 126 11785 47pF NP0 5% 50V
 2514 4822 126 11785 47pF NP0 5% 50V
 2515 5322 126 11583 10nF 10% X7R 50V
 2516 5322 126 11583 10nF 10% X7R 50V

2517 4822 126 14247 1,5nF X7R 50V
 2518 4822 126 14247 1,5nF X7R 50V
 2519 4822 126 13883 220pF 5% 50V
 2520 4822 126 13883 220pF 5% 50V
 2521 4822 126 14247 1,5nF X7R 50V

2522 4822 126 14247 1,5nF X7R 50V
 2523 3198 016 36810 680pF NP0 25V
 2524 3198 016 36810 680pF NP0 25V
 2525 4822 126 11785 47pF NP0 5% 50V
 2526 4822 126 11785 47pF NP0 5% 50V

2527 5322 126 11583 10nF 10% X7R 50V
 2528 5322 126 11583 10nF 10% X7R 50V
 2529 2238 586 59812 100nF Y5V +80-20% 50V
 2530 2238 586 59812 100nF Y5V +80-20% 50V
 2531 2238 586 59812 100nF Y5V +80-20% 50V

- CAPACTORS -

2532 2238 586 59812 100nF Y5V +80-20% 50V
 2533 3198 017 34730 47nF X7R 16V
 2534 3198 017 34730 47nF X7R 16V
 2535 2238 586 59812 100nF Y5V +80-20% 50V
 2536 2238 586 59812 100nF Y5V +80-20% 50V

2550 4822 126 11585 22nF +80-20% Y5V 25V
 2551 4822 126 14238 2,2nF X7R 50V
 2552 4822 126 14238 2,2nF X7R 50V
 2553 2238 916 15641 22nF X7R 10% 25V
 2554 4822 124 40196 220µF 20% 16V

2555 4822 124 22652 2,2µF 20% 50V
 2557 3198 017 44740 470nF Y5V 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 2020 552 94427 100pF NP0 5% 50V
 2566 2020 552 94427 100pF NP0 5% 50V

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
 2571 3198 017 44740 470nF Y5V 10V

2573 2238 586 59812 100nF Y5V +80-20% 50V

- RESISTORS -

3250 4822 051 20471 470R 5% 0,1W
 3251 4822 051 30222 2,2K 5% 0,062W
 3252 4822 051 20472 4,7K 5% 0,1W
 3253 4822 051 20472 4,7K 5% 0,1W
 3254 4822 117 11449 2,2K 5% 0,1W 0805

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% 0,062W

3260 4822 117 12891 220K 1% ERJ3E
 3261 4822 117 12864 82K 5% 0,6W
 3262 4822 051 10102 1K 2% 0,25W
 3263 4822 051 30472 4,7K 5% 0,062W
 3264 4822 051 10102 1K 2% 0,25W

3266 4822 117 12925 47K 1% 0,063W
 3267 4822 117 11449 2,2K 5% 0,1W 0805
 3268 4822 117 11449 2,2K 5% 0,1W 0805
 3269 4822 051 30223 22K 5% 0,062W
 3278 4822 117 12925 47K 1% 0,063W

ELECTRICAL PARTSLIST - COMBI BOARD**- RESISTORS -**

3279	4822 051 30102	1K 5% 0,062W
3280	4822 116 52257	22K 5% 0,5W
3281	4822 117 11449	2,2K 5% 0,1W 0805
3282	4822 117 11449	2,2K 5% 0,1W 0805
3283	4822 117 11449	2,2K 5% 0,1W 0805
3284	4822 117 11449	2,2K 5% 0,1W 0805
3330	4822 116 52269	3,3K 5% 0,5W
3331	4822 050 21003	10K 1% 0,6W
3332	4822 050 21003	10K 1% 0,6W
3333	4822 051 30682	6,8K 5% 0,062W
3334	4822 051 30682	6,8K 5% 0,062W
3335	4822 051 20228	2,2R 5% 0,1W
3336	4822 051 20228	2,2R 5% 0,1W
3337	4822 051 20228	2,2R 5% 0,1W
3338	4822 051 20228	2,2R 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
3342	4822 116 52226	560R 5% 0,5W
3343	4822 051 30103	10K 5% 0,062W
3344	4822 051 30103	10K 5% 0,062W
3345	4822 051 30103	10K 5% 0,062W
3346	4822 051 30103	10K 5% 0,062W
3347	4822 051 30223	22K 5% 0,062W
3348	4822 051 30223	22K 5% 0,062W
3349	4822 051 30223	22K 5% 0,062W
3350	4822 117 12925	47K 1% 0,063W
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	4,7K 5% 0,062W
3359	4822 051 30682	6,8K 5% 0,062W
3360	4822 117 13632	100K 1% 0603 0.62W
3361	4822 051 30101	100R 5% 0,062W
3401	4822 116 52182	15R 5% 0,5W
3402	4822 116 52175	100R 5% 0,5W
3403	4822 117 12903	1,8K 1% 0.063W
3404	4822 051 30562	5,6K 5% 0,063W
3405	4822 050 11002	1K 1% 0,4W
3406	4822 117 13632	100K 1% 0603 0.62W
3407	4822 051 30102	1K 5% 0,062W
3408	4822 051 30474	470K 5% 0,062W
3409	4822 051 30472	4,7K 5% 0,062W
3410	4822 116 52175	100R 5% 0,5W
3411	4822 051 30474	470K 5% 0,062W
3412	4822 051 30103	10K 5% 0,062W
3413	4822 051 30102	1K 5% 0,062W
3414	4822 051 30333	33K 5% 0,062W
3415	4822 051 30153	15K 5% 0,062W
3416	4822 117 11503	220R 1% 0.1W

- RESISTORS -

3417	4822 051 30153	15K 5% 0,062W
3418	4822 051 30152	1,5k 5% 0,062W
3419	4822 051 30152	1,5k 5% 0,062W
3420	4822 051 30103	10K 5% 0,062W
3421	4822 116 52289	5,6K 5% 0,5W
3422	4822 051 30471	470R 5% 0,062W
3423	4822 051 30102	1K 5% 0,062W
3424	4822 051 30152	1,5k 5% 0,062W
3425	4822 051 30222	2,2K 5% 0,062W
3426	4822 051 30332	3,3K 5% 0,5W
3427	4822 051 30562	5,6K 5% 0,063W
3429	4822 051 30103	10K 5% 0,062W
3430	4822 116 52289	5,6K 5% 0,5W
3431	4822 051 30471	470R 5% 0,062W
3432	4822 051 30102	1K 5% 0,062W
3433	4822 051 30152	1,5k 5% 0,062W
3434	4822 051 30222	2,2K 5% 0,062W
3435	4822 051 30332	3,3K 5% 0,5W
3436	4822 051 30562	5,6K 5% 0,063W
3438	4822 051 30103	10K 5% 0,062W
3439	4822 051 30103	10K 5% 0,062W
3440	4822 051 30103	10K 5% 0,062W
3441	4822 051 30102	1K 5% 0,062W
3442	4822 051 30333	33K 5% 0,062W
3443	4822 050 23303	33K 1% 0,6W
3444	4822 116 52175	100R 5% 0,5W
3445	4822 051 30222	2,2K 5% 0,062W
3446	4822 117 12891	220K 1% ERJ3E
3447	4822 051 30103	10K 5% 0,062W
3448	4822 051 30152	1,5k 5% 0,062W
3449	4822 051 30223	22K 5% 0,062W
3450	4822 051 30102	1K 5% 0,062W
3451	4822 051 30471	470R 5% 0,062W
3452	4822 051 30103	10K 5% 0,062W
3453	4822 051 30331	330R 5% 0,062W
3454	4822 051 30102	1K 5% 0,062W
3455	4822 051 30102	1K 5% 0,062W
3456	4822 051 30102	1K 5% 0,062W
3457	4822 051 30103	10K 5% 0,062W
3458	4822 051 30102	1K 5% 0,062W
3459	4822 116 83872	220R 5% 0,5W
3460	4822 051 30221	220R 5% 0,062W
3461	4822 116 52283	4,7K 5% 0,5W
3462	4822 051 30102	1K 5% 0,062W
3463	4822 116 52283	4,7K 5% 0,5W
3464	4822 051 30102	1K 5% 0,062W
3465	4822 116 52283	4,7K 5% 0,5W
3466	4822 051 30102	1K 5% 0,062W
3467	4822 116 52256	2,2K 5% 0,5W
3468	4822 051 30471	470R 5% 0,062W

ELECTRICAL PARTSLIST - COMBI BOARD**- RESISTORS -**

3469	4822 116 83883	470R 5% 0,5W
3470	4822 051 30103	10K 5% 0,062W
3471	4822 050 23303	33K 1% 0,6W
3472	4822 051 30474	470K 5% 0,062W
3473	4822 051 30102	1K 5% 0,062W
3474	4822 116 83883	470R 5% 0,5W
3475	4822 051 30471	470R 5% 0,062W
3476	4822 116 83883	470R 5% 0,5W
3477	4822 051 30102	1K 5% 0,062W
3478	4822 116 83883	470R 5% 0,5W
3479	4822 051 30221	220R 5% 0,062W
3480	4822 050 11002	1K 1% 0,4W
3481	4822 051 30471	470R 5% 0,062W
3483	4822 051 30103	10K 5% 0,062W
3484	4822 051 30103	10K 5% 0,062W
3485	4822 051 30392	3,9K 5% 0.063W
3486	4822 051 30101	100R 5% 0,062W
3487	4822 051 30392	3,9K 5% 0.063W
3488	4822 051 30101	100R 5% 0,062W
3489	4822 051 30102	1K 5% 0,062W
3490	4822 051 30102	1K 5% 0,062W
3491	4822 051 30102	1K 5% 0,062W
3492	4822 051 30102	1K 5% 0,062W
3493	4822 051 30102	1K 5% 0,062W
3494	4822 051 30102	1K 5% 0,062W
3495	4822 051 30154	150K 5% 0,062W
3496	4822 051 30154	150K 5% 0,062W
3497	4822 051 30102	1K 5% 0,062W
3498	4822 051 30102	1K 5% 0,062W
3500	4822 117 12968	820R 5% 0,62W
3501	4822 051 30471	470R 5% 0,062W
3502	4822 116 52256	2,2K 5% 0,5W
3503	4822 051 30471	470R 5% 0,062W
3505	4822 051 30333	33K 5% 0,062W
3506	4822 051 30333	33K 5% 0,062W
3507	4822 117 12971	15R 5% 0,62W
3508	4822 117 12971	15R 5% 0,62W
3509	4822 051 30333	33K 5% 0,062W
3510	4822 051 30333	33K 5% 0,062W
3511	4822 117 13632	100K 1% 0603 0.62W
3512	4822 117 13632	100K 1% 0603 0.62W
3513	4822 051 30153	15K 5% 0,062W
3514	4822 051 30153	15K 5% 0,062W
3515	4822 051 30333	33K 5% 0,062W
3516	4822 051 30333	33K 5% 0,062W
3517	4822 117 13632	100K 1% 0603 0.62W
3518	4822 117 13632	100K 1% 0603 0.62W
3519	4822 117 12891	220K 1% ERJ3E
3520	4822 117 12891	220K 1% ERJ3E
3521	4822 050 23303	33K 1% 0,6W

- RESISTORS -

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% ERJ3E
3526	4822 117 12891	220K 1% ERJ3E
3527	4822 117 12891	220K 1% ERJ3E
3528	4822 117 12891	220K 1% ERJ3E
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% 0,062W
3534	4822 051 30333	33K 5% 0,062W
3535	4822 117 13632	100K 1% 0603 0.62W
3536	4822 117 13632	100K 1% 0603 0.62W
3537	4822 117 12891	220K 1% ERJ3E
3538	4822 117 12891	220K 1% ERJ3E
3539	4822 051 30223	22K 5% 0,062W
3540	4822 051 30223	22K 5% 0,062W
3541	4822 051 30154	150K 5% 0,062W
3542	4822 051 30154	150K 5% 0,062W
3543	4822 117 12864	82K 5% 0,6W
3544	4822 117 12864	82K 5% 0,6W
3545	4822 117 12902	8,2K 1% 0,063W
3546	4822 117 12902	8,2K 1% 0,063W
3547	4822 051 30154	150K 5% 0,062W
3548	4822 051 30154	150K 5% 0,062W
3551	4822 051 30333	33K 5% 0,062W
3552	4822 051 30333	33K 5% 0,062W
3553	4822 117 12902	8,2K 1% 0,063W
3554	4822 117 12902	8,2K 1% 0,063W
3555	4822 051 30682	6,8K 5% 0,062W
3556	4822 051 30682	6,8K 5% 0,062W
3557	4822 051 30183	18K 5% 0,062W
3558	4822 051 30183	18K 5% 0,062W
3559	4822 051 30272	2,7K 5% 0,062W
3560	4822 051 30272	2,7K 5% 0,062W
3561	4822 050 21003	10K 1% 0,6W
3562	4822 050 21003	10K 1% 0,6W
3563	4822 051 30101	100R 5% 0,062W
3565	4822 051 20159	15R 5% 0,1W
3566	4822 051 20159	15R 5% 0,1W
3568	4822 117 11139	1,5K 1% 0,1W
3572	4822 051 30103	10K 5% 0,062W
3573	4822 050 11002	1K 1% 0,4W
3574	4822 117 12925	47K 1% 0,063W
3575	4822 051 30153	15K 5% 0,062W
3576	4822 051 30153	15K 5% 0,062W
3577	4822 051 30471	470R 5% 0,062W
3578	4822 051 30471	470R 5% 0,062W

ELECTRICAL PARTSLIST - COMBI BOARD**- RESISTORS -**

3579	4822 051 30154	150K 5% 0,062W
3580	4822 051 30154	150K 5% 0,062W
3581	4822 051 30272	2,7K 5% 0,062W
3582	4822 051 30272	2,7K 5% 0,062W
3583	4822 051 30472	4,7K 5% 0,062W
3584	4822 051 30472	4,7K 5% 0,062W
3585	4822 051 30222	2,2K 5% 0,062W
3586	4822 051 30222	2,2K 5% 0,062W
3587	4822 051 30392	3,9K 5% 0,063W
3588	4822 051 30392	3,9K 5% 0,063W
3589	4822 116 83872	220R 5% 0,5W
3901	4822 051 30101	100R 5% 0,062W
3902	4822 051 30101	100R 5% 0,062W
3903	4822 051 30101	100R 5% 0,062W
3904	4822 051 30101	100R 5% 0,062W
3905	4822 051 30101	100R 5% 0,062W
3906	4822 051 30101	100R 5% 0,062W
3911	4822 051 30102	1K 5% 0,062W
3912	4822 051 30102	1K 5% 0,062W
3913	4822 051 30102	1K 5% 0,062W
3914	4822 051 30102	1K 5% 0,062W
3915	4822 051 30102	1K 5% 0,062W
3916	4822 051 30102	1K 5% 0,062W
3917	4822 051 30102	1K 5% 0,062W
3918	4822 051 30102	1K 5% 0,062W
3919	4822 051 30222	2,2K 5% 0,062W
3920	4822 051 30103	10K 5% 0,062W
3921	4822 051 30103	10K 5% 0,062W
3922	4822 051 30103	10K 5% 0,062W
3923	4822 051 30272	2,7K 5% 0,062W
3924	4822 051 30272	2,7K 5% 0,062W
3925	4822 117 11503	220R 1% 0.1W
3926	4822 116 52257	22K 5% 0,5W
3928	4822 051 30472	4,7K 5% 0,062W
3929	4822 117 12925	47K 1% 0,063W
3930	4822 051 30102	1K 5% 0,062W
3931	4822 051 30333	33K 5% 0,062W
3932	4822 051 30103	10K 5% 0,062W
3933	4822 051 30103	10K 5% 0,062W
3934	4822 117 13632	100K 1% 0603 0.62W
4260	4822 051 20008	OR JUMPER (0805)
4261	4822 051 20008	OR JUMPER (0805)
4262	4822 051 30008	OR JUMPER (0603)
4263	4822 051 20008	OR JUMPER (0805)
4264	4822 051 20008	OR JUMPER (0805)
4265	4822 051 20008	OR JUMPER (0805)
4266	4822 051 30008	OR JUMPER (0603)
4333	4822 051 30008	OR JUMPER (0603)
4334	4822 051 30008	OR JUMPER (0603)
4335	4822 051 30008	OR JUMPER (0603)

- RESISTORS -

4410	4822 051 20008	OR JUMPER (0805)
4411	4822 051 20008	OR JUMPER (0805)
4412	4822 051 20008	OR JUMPER (0805)
4413	4822 051 20008	OR JUMPER (0805)
4414	4822 051 20008	OR JUMPER (0805)
4415	4822 051 30008	OR JUMPER (0603)
4416	4822 051 30008	OR JUMPER (0603)
4417	4822 051 30008	OR JUMPER (0603)
4418	4822 051 30008	OR JUMPER (0603)
4420	4822 051 30008	OR JUMPER (0603)
4421	4822 051 20008	OR JUMPER (0805)
4422	4822 051 20008	OR JUMPER (0805)
4423	4822 051 20008	OR JUMPER (0805)
4424	4822 051 20008	OR JUMPER (0805)
4425	4822 051 20008	OR JUMPER (0805)
4426	4822 051 30008	OR JUMPER (0603)
4427	4822 051 20008	OR JUMPER (0805)
4428	4822 051 30008	OR JUMPER (0603)
4429	4822 051 20008	OR JUMPER (0805)
4430	4822 051 30008	OR JUMPER (0603)
4510	4822 051 20008	OR JUMPER (0805)
4513	4822 051 30008	OR JUMPER (0603)
4560	4822 051 20008	OR JUMPER (0805)
4561	4822 051 30008	OR JUMPER (0603)
4562	4822 051 20008	OR JUMPER (0805)
4563	4822 051 20008	OR JUMPER (0805)
4564	4822 051 20008	OR JUMPER (0805)
4565	4822 051 20008	OR JUMPER (0805)
4566	4822 051 30008	OR JUMPER (0603)
4567	4822 051 20008	OR JUMPER (0805)
4568	4822 051 30008	OR JUMPER (0603)
4569	4822 051 20008	OR JUMPER (0805)
4570	4822 051 30008	OR JUMPER (0603)

- COILS & 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%
5400	4822 157 11228	100μH 5% LAN02
5401	2422 549 44393	Inductor SM 100MHz 2K7
5402	2422 540 98518	Res. CER 8MHZ
5403	2422 543 01069	Crystal 32.768KHz
5404	4822 242 11033	Crystal 4,332MHz
5405	2422 549 44393	Inductor SM 100MHz 2K7
5406	2422 549 44393	Inductor SM 100MHz 2K7
5407	2422 549 44393	Inductor SM 100MHz 2K7
5501	2422 549 44919	Inductor SM 100MHz 600R
5502	2422 549 44919	Inductor SM 100MHz 600R
5503	2422 549 44919	Inductor SM 100MHz 600R

ELECTRICAL PARTSLIST - COMBI BOARD**- COILS & FILTERS -**

5504	2422 549 44919	Inductor SM 100MHz 600R
5505	4822 157 71206	BLM21A601SPT
5506	4822 157 71206	BLM21A601SPT
5507	4822 157 71206	BLM21A601SPT
5550	4822 157 10686	CHOKE COIL 0.47µF

5551	4822 157 10686	CHOKE COIL 0.47µF
5553	2422 549 44607	Inductor SM 100MHz 600R
5554	2422 549 44607	Inductor SM 100MHz 600R
5555	2422 549 44607	Inductor SM 100MHz 600R
5556	2422 549 44607	Inductor SM 100MHz 600R

5557	2422 549 44607	Inductor SM 100MHz 600R
5558	2422 549 44607	Inductor SM 100MHz 600R
5559	2422 549 44607	Inductor SM 100MHz 600R
5560	2422 549 44607	Inductor SM 100MHz 600R
5561	2422 549 44607	Inductor SM 100MHz 600R

5562	2422 549 44607	Inductor SM 100MHz 600R
5563	2422 549 44607	Inductor SM 100MHz 600R
5564	2422 549 44607	Inductor SM 100MHz 600R

- 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

6264	4822 130 31878	1N4003G
6265	4822 130 31878	1N4003G
6266	4822 130 31878	1N4003G
6267	4822 130 30621	1N4148
6268	4822 130 30621	1N4148

6269	4822 130 30621	1N4148
6270	4822 130 30621	1N4148
6271	4822 130 30621	1N4148
6272	4822 130 30621	1N4148
6276	4822 130 30621	1N4148

6277	4822 130 30621	1N4148
6331	4822 130 11397	BAS316
6332	4822 130 11397	BAS316
6333	4822 130 11397	BAS316
6400	4822 130 61219	BZX79-B10

6401	4822 130 82714	BZX79-B2V7
6403	4822 130 34278	BZX79-B6V8
6500	4822 130 34382	BZX79-B8V2
6550	8240 009 51220	LED AMBER

- TRANSISTORS AND IC -

7250	9322 139 24687	BDW94CFP
7251	5322 130 60159	BC846B
7252	5322 130 60159	BC846B
7253	5322 130 44647	BC368
7254	5322 130 44593	BC369

7255	5322 130 60159	BC846B
7260	5322 130 60845	BC807-25
7261	5322 130 60159	BC846B
7262	4822 209 13061	L4940V5
7330	9322 133 18682	AN7125P

7331	4822 130 60373	BC856B
7332	4822 130 60373	BC856B
7333	5322 130 60159	BC846B
7400	3140 110 51540	TMP86CS25F MC-M250
7401	5322 130 60159	BC846B

7402	5322 130 60159	BC846B
7403	5322 130 60159	BC846B
7404	9322 155 82667	IR RECEIVER TSOP2236
7405	9965 000 04931	M24C01-WMN6
7406	4822 209 31981	SAA6579T

7407	4822 130 60373	BC856B
7408	5322 130 60159	BC846B
7409	5322 130 60159	BC846B
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	5322 130 60159	BC846B
7506	5322 130 60159	BC846B

7507	5322 130 60159	BC846B
7508	5322 130 60159	BC846B
7509	5322 130 60159	BC846B
7510	5322 130 60159	BC846B
7511	5322 130 60159	BC846B

7512	5322 130 60159	BC846B
7513	5322 130 60159	BC846B
7514	5322 130 60159	BC846B
7550	4822 130 42804	BC817-25
7551	4822 209 10263	HEF4052BP

7552	5322 209 10421	HEF4094BP
7553	4822 130 41327	BC327-40
7555	5322 130 60159	BC846B
7556	5322 130 60159	BC846B

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

17. Revision list

17.1 service manual 3140 785 32051

From week 0303 onwards, the Combi Board Assembly is changed in order to fulfill European GSM interference rule.

COMBI BOARD (for production after week 0303)

circuit diagram	11-6...11-8
layout diagram	11-9...11-10

Electrical partslist (for production after week 0303)	16-17...16-22
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