

Service  
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# Service Manual



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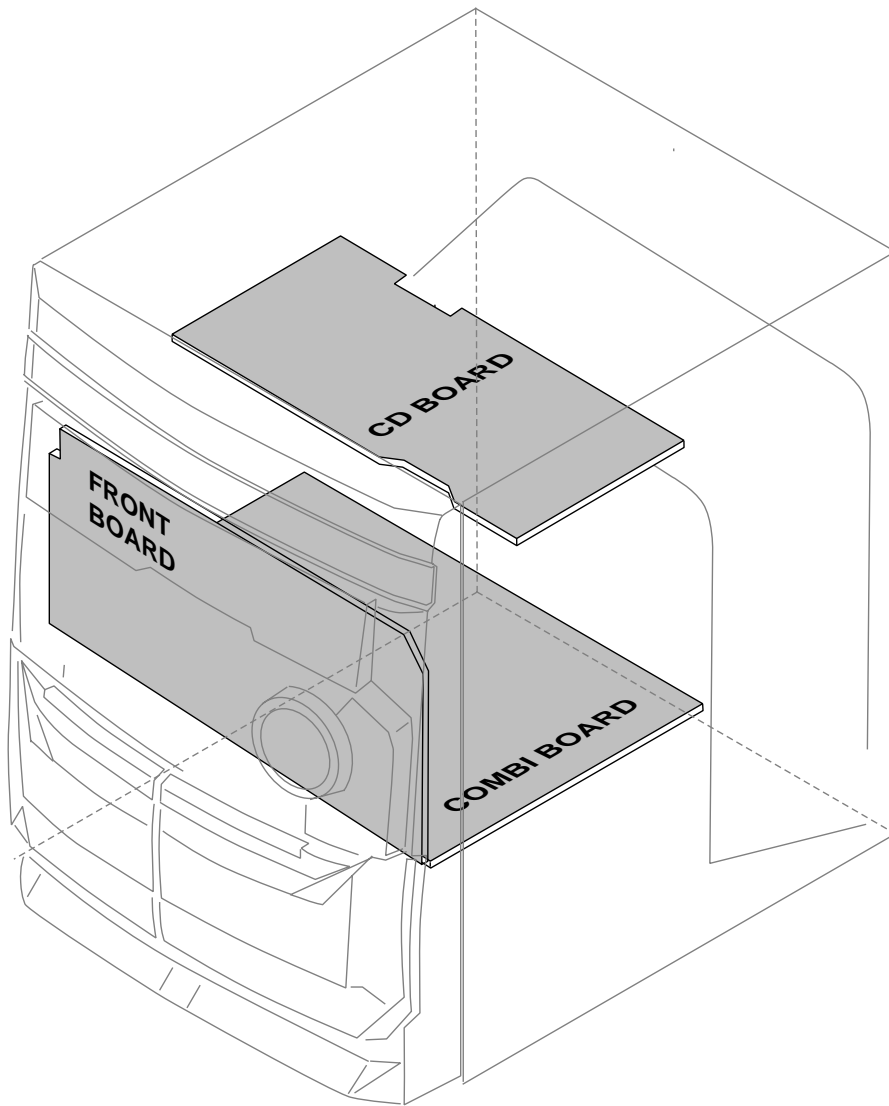


3140 785 32110



# PHILIPS

## LOCATION OF PC BOARDS



## SPECIFICATIONS

### GENERAL:

Mains voltage : 120V for /37  
 Mains frequency : 60Hz  
 Power consumption : < 11W at Standby  
                               25W Active  
 Clock accuracy : < 4 seconds per day  
 Dimension centre unit : 265 x 310 x 330mm

### AMPLIFIER:

Output power <sup>1)</sup> : 2 x 5W ± 1dB  
 Frequency response within -3dB : 50Hz-15kHz  
 Dynamic Bass Boost : DBB ON, DBB Off <sup>2)</sup>  
 Digital Sound Control : Jazz, Techno, Optimal, Rock <sup>2)</sup>  
 Headphone output at 32Ω : 900mV ± 1dB (max Vol.)

### TUNER:

#### FM

Tuning range : 87.5-108MHz  
 IF frequency : 10.7MHz ± 20kHz  
 Aerial input : 300Ω  
 Sensitivity at 26dB S/N : < 7μV  
 Selectivity at 600kHz bandwidth : > 25dB  
 Image rejection : > 25dB  
 Distortion at RF=1mV, dev. 75kHz : < 3%  
 -3dB Limiting point : < 8μV  
 Crosstalk at RF=1mV, dev. 40kHz : > 18dB

#### MW

Tuning range : 530-1700kHz  
 IF frequency : 450kHz ± 1kHz  
 Aerial input : Frame aerial  
 Sensitivity at 26dB S/N : < 4.4mV/M  
 Selectivity at 18kHz bandwidth : > 18dB  
 IF rejection : > 45dB  
 Image rejection : > 28dB  
 Distortion at RF=50mV, m=80% : < 5%

### CASSETTE RECORDER:

Number of track : 2 x 2 stereo  
 Tape speed : 4.76 cm/sec +2.5/-1.5%  
 Wow and flutter : < 0.35% DIN  
 Fast-wind/rewind time C60 : 130 sec  
 Bias system : 75kHz ± 5kHz  
 Rec/Pb frequency response within 8dB : 80Hz - 10kHz  
 Signal to noise ratio : > 48dBA

### COMPACT DISC:

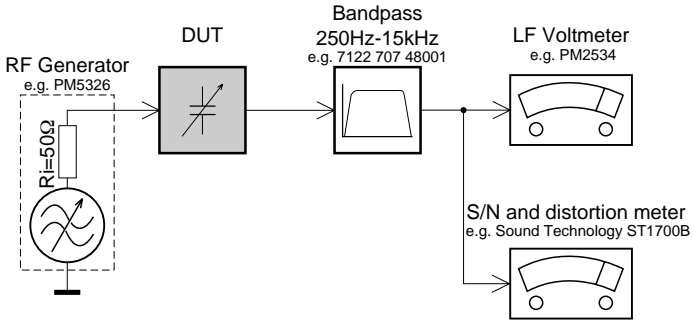
Measurement done at output conn. of the CDC module.  
 Frequency response within ± 1.5dB : 20Hz - 20kHz  
 Output level (in V<sub>rms</sub>) : 550mV, Z<sub>out</sub> = 100Ω  
 Signal/Noise ratio (A-weighted) : > 80dBA  
 Distortion at 1kHz : < 0.003%  
 Channel unbalance at 1kHz : ±1dB  
 Channel separation at 1kHz : > 60dB  
 De-emphasis : 0 or 15/50 mS (Switched by subcode on the disc)

<sup>1)</sup> 8 Ω, 1 kHz, 10% THD

<sup>2)</sup> Frequency response in each setting is software controlled.

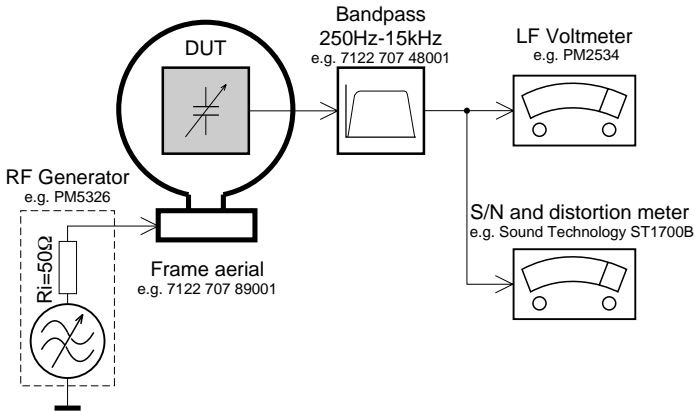
# MEASUREMENT SETUP

## Tuner FM



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

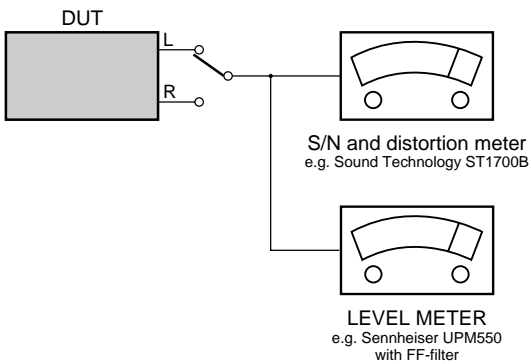
## Tuner AM (MW,LW)



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 250Hz) to eliminate hum (50Hz, 100Hz).

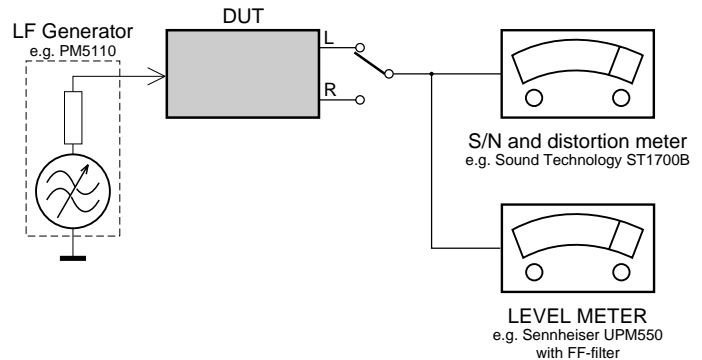
## CD

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



## Recorder

Use Universal Test Cassette **CrO2** SBC419 4822 397 30069 or Universal Test Cassette **Fe** SBC420 4822 397 30071





## SERVICE AIDS

### Service Tools:

Universal Torx driver holder .....	4822 395 91019
Torx bit T10 150mm .....	4822 395 50456
Torx driver set T6 - T20 .....	4822 395 50145
Torx driver T10 extended .....	4822 395 50423

### Cassette:

SBC419 Test cassette CrO2 .....	4822 397 30069
SBC420 Test cassette Fe .....	4822 397 30071
MTT150 Dolby level 200nWb/M .....	4822 397 30271

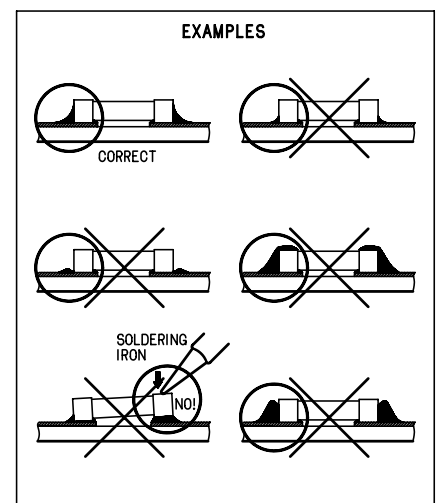
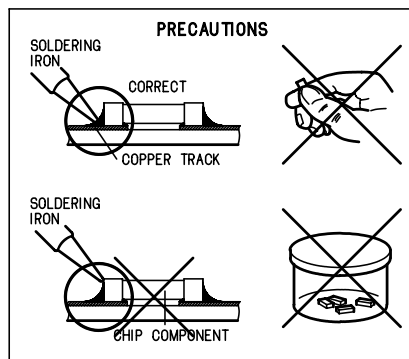
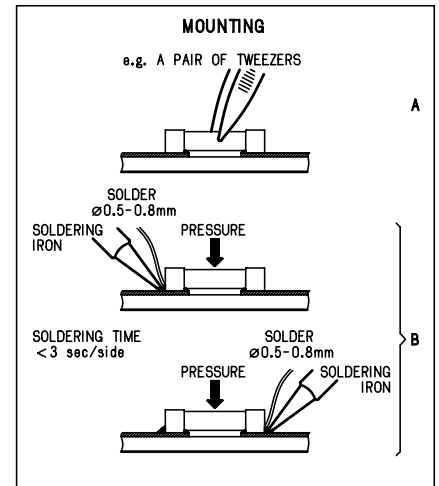
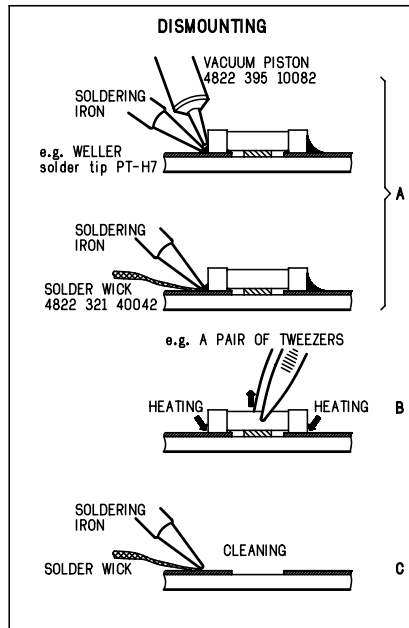
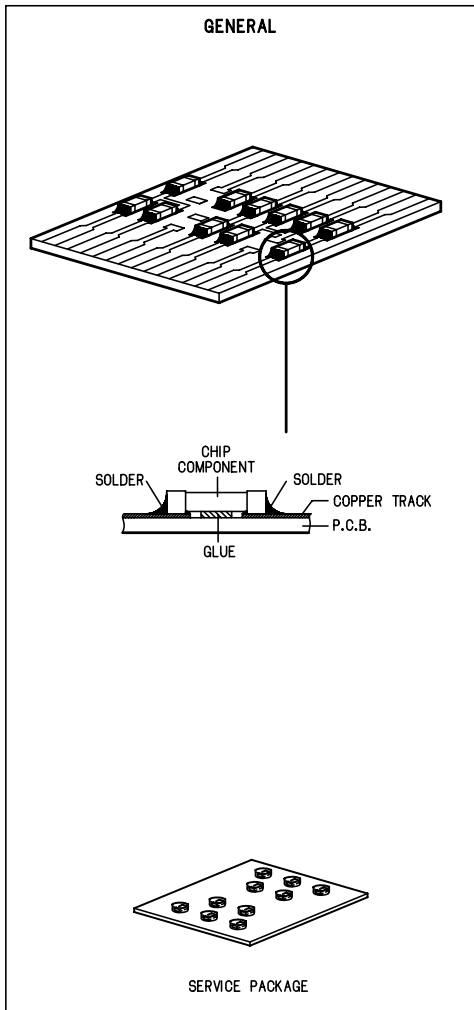
### Compact Disc:

SBC426/426A Test disc 5 + 5A .....	4822 397 30096
SBC442 Audio Burn-in Test disc 1kHz .....	4822 397 30155
SBC429 Audio Signals disc .....	4822 397 30184
Dolby Pro-logic Test Disc .....	4822 395 10216

### ESD Equipment:

Anti-static table mat - large 1200x650x1.25mm ...	4822 466 10953
Anti-static table mat - small 600x650x1.25mm .....	4822 466 10958
Anti-static wristband .....	4822 395 10223
Connector box (1M $\Omega$ ) .....	4822 320 11307
Extension cable (to connect wristband to conn. box) .....	4822 320 11305
Connecting cable (to connect table mat to conn. box) .....	4822 320 11306
Earth cable (to connect product to mat or box) ....	4822 320 11308
Complete kit ESD3 (combining all above products) .....	4822 320 10671
Wristband tester .....	4822 344 13999

## HANDLING CHIP COMPONENTS



**(GB) WARNING**

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.

When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.

Keep components and tools also at this potential.

**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 hetzelfde 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 enfilez le bracelet serti 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).

Unvorsichtige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.

Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.

Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

**(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.

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

**(NL)**

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

**(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.

**(GB) Warning !**

Invisible laser radiation when open.  
Avoid direct exposure to beam.

**(D)**

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

**(S) Varning !**

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

**(I)**

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

**(SF) Varoitus !**

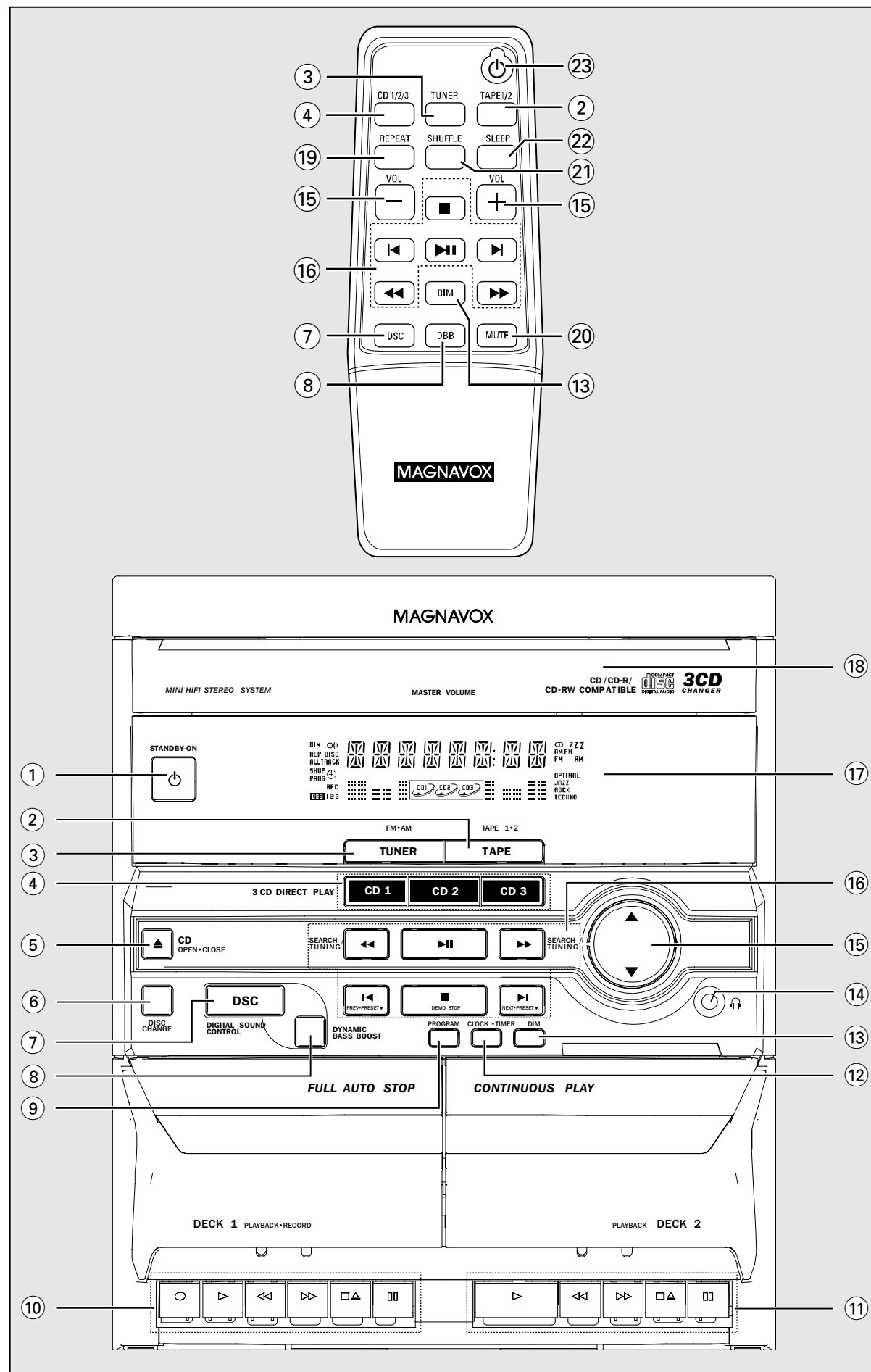
Avatussa laitteessa ja suojalukituksen ohitettaessa olet alltiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

**(DK) Advarse !**

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

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

## CONNECTION AND CONTROLS



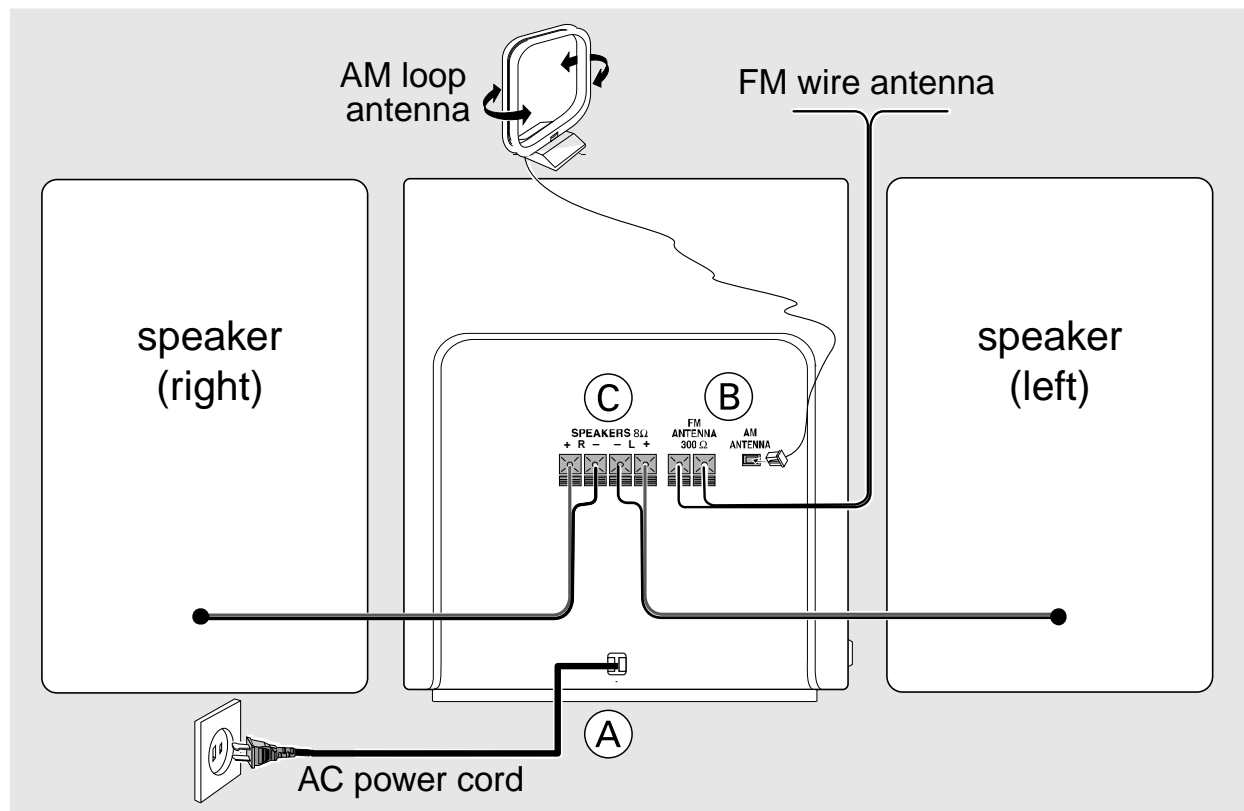
## Controls

### Controls on the system and remote control

- ① **STANDBY ON**
  - to switch the system on or to standby mode.
- ② **TAPE** (TAPE 1/2)
  - to select tape mode.
- ③ **TUNER** (FM+AM)
  - to select waveband : FM or AM.
- ④ **CD 1 / CD 2 / CD 3** (CD 1/2/3)
  - to select disc tray 1, 2 or 3.
- ⑤ **CD OPEN/CLOSE**
  - to open or close the disc tray.
- ⑥ **DISC CHANGE**
  - to change disc(s).
- ⑦ **DIGITAL SOUND CONTROL (DSC)**
  - to select the desired sound effect : JAZZ, ROCK, TECHNO or OPTIMAL.
- ⑧ **DYNAMIC BASS BOOST (DBB)**
  - to select the desired bass boost level.
- ⑨ **PROGRAM**
  - for CD .....to program disc tracks.
  - for Tuner .....to program preset radio stations.
  - for Clock .....to select 12- or 24-hour clock mode.
  - for Timer .....to select CD program mode as the wake up source.
- ⑩ **Tape deck 1 operation**
  - .....to start recording.
  - ▶ .....to start playback.
  - ◀ / ▶ .....to rewind or fast forward.
  - ▲ .....to stop playback/recording or to open the tape door.
  - || .....to interrupt playback or recording.
- ⑪ **Tape deck 2 operation**
  - ▶ .....to start playback.
  - ◀ / ▶ .....to rewind or fast forward.
  - ▲ .....to stop playback or to open the tape door.
  - || .....to interrupt playback.
- ⑫ **CLOCK-TIMER**
  - to view the clock, set the clock or set the timer.
- ⑬ **DIM**
  - to select different brightness for the display screen: DIM 1, DIM 2, DIM 3 or DIM OFF.

- ⑭
  - to connect headphones.
- ⑮ **MASTER VOLUME ▲ ▼ (VOL +/-)**
  - to increase or decrease the volume.
- ⑯ **Mode Selection**  
**PLAY-PAUSE ▶ II**
  - for CD .....to start or interrupt playback.
  - for Plug & Play...*(on the system only)* to initiate and start plug & play mode
- SEARCH/TUNING ◀ ▶**
  - for CD .....to search backward/forward.
  - for Tuner .....to tune to a lower or higher radio frequency.
  - for Clock .....*(on the system only)* to set the hour.
- STOP-CLEAR / DEMO STOP ■**
  - for CD .....to stop playback or to clear a program.
  - for Tuner .....*(on the system only)* to stop programming or to erase a selected preset.
  - for Demo .....*(on the system only)* to activate/deactivate the demonstration.
  - for Clock .....*(on the system only)* to exit clock setting or cancel timer.
  - for Plug & Play...*(on the system only)* to exit plug & play mode.
- PREV ◀ / NEXT ▶ (PRESET ▼ / ▲)**
  - for CD .....to skip to the beginning of the current, previous, or next track.
  - for Tuner .....to select a preset radio station.
  - for Clock .....*(on the system only)* to set the minute.
- ⑰ **Display screen**
  - to view the current status of the system.
- ⑱ **Disc tray**
- ⑲ **REPEAT**
  - to playback track(s)/disc(s)/program repeatedly.
- ⑳ **MUTE**
  - to interrupt or resume sound reproduction.
- ㉑ **SHUFFLE**
  - to playback all available discs and their tracks/program in random order.
- ㉒ **SLEEP**
  - to activate/deactivate or set the sleep timer.
- ㉓
  - to switch the system to standby mode.

## Preparations



### 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.

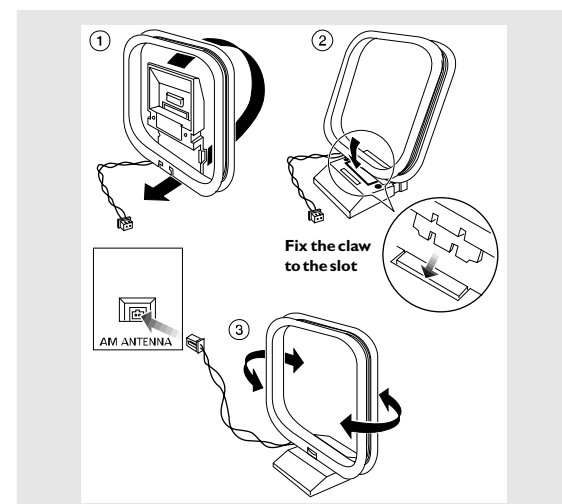
#### WARNING!

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

#### B Antennas Connection

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

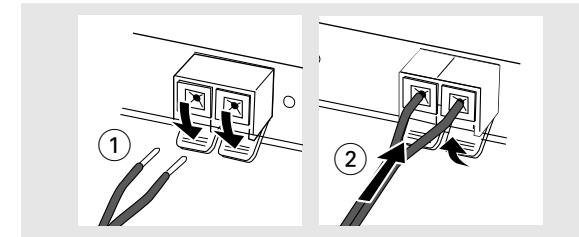
#### AM Antenna



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

## Preparations

### FM Antenna

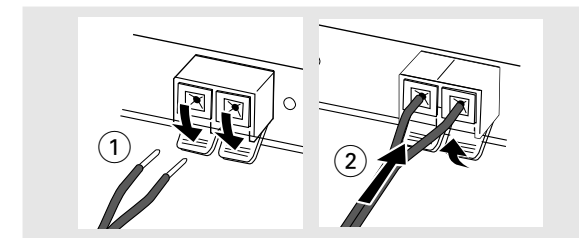


- For better FM stereo reception, connect an outdoor FM antenna to the FM AERIAL (FM ANTENNA) terminal.

#### C Speakers Connection

##### Front Speakers

Connect the speaker wires to the SPEAKERS terminals, right speaker to "R" and left speaker to "L", colored (marked) wire to "+" and black (unmarked) wire to "-".



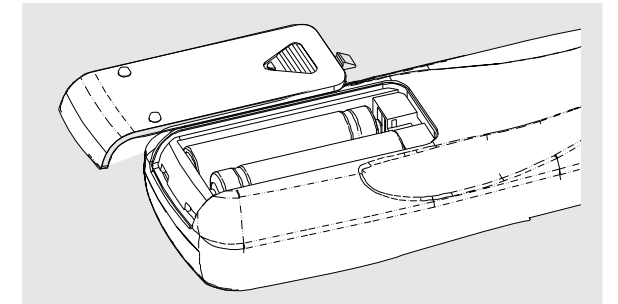
- Fully insert the stripped portion of the speaker wire into the terminal as shown.

#### 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.

### Inserting batteries into the remote control

Insert two batteries type R03 or AAA (not supplied) 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.

#### 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 1/2/3, TUNER).
- Then select the desired function (for example ▶, ◀, ▶|).

For more information on operation instruction please visit Philips Audio internet site :  
<http://www.audio.philips.com>

## DISMANTLING INSTRUCTIONS

### *Dismantling the 3CDC Module*

- 1) Loosen the 4 screws, slide Cover top (pos 30) towards the rear and remove it upwards.
- 2) Loosen 3 screws slide the Panel right (pos 26) towards the rear and remove it outwards. Do likewise for the Panel left (pos 27).
- 3) Push the gear slowly towards the front as shown in figure 3 until the CDC tray starts to move out of the Front Cabinet (pos 8). The CDC tray is now disengage and can be pulled out completely.
- 4) Remove the Cover Tray (pos 29) as shown in figure 2.
- 5) Loosen 4 screws A to remove the CDC Module (pos 28) as shown in figure 1.

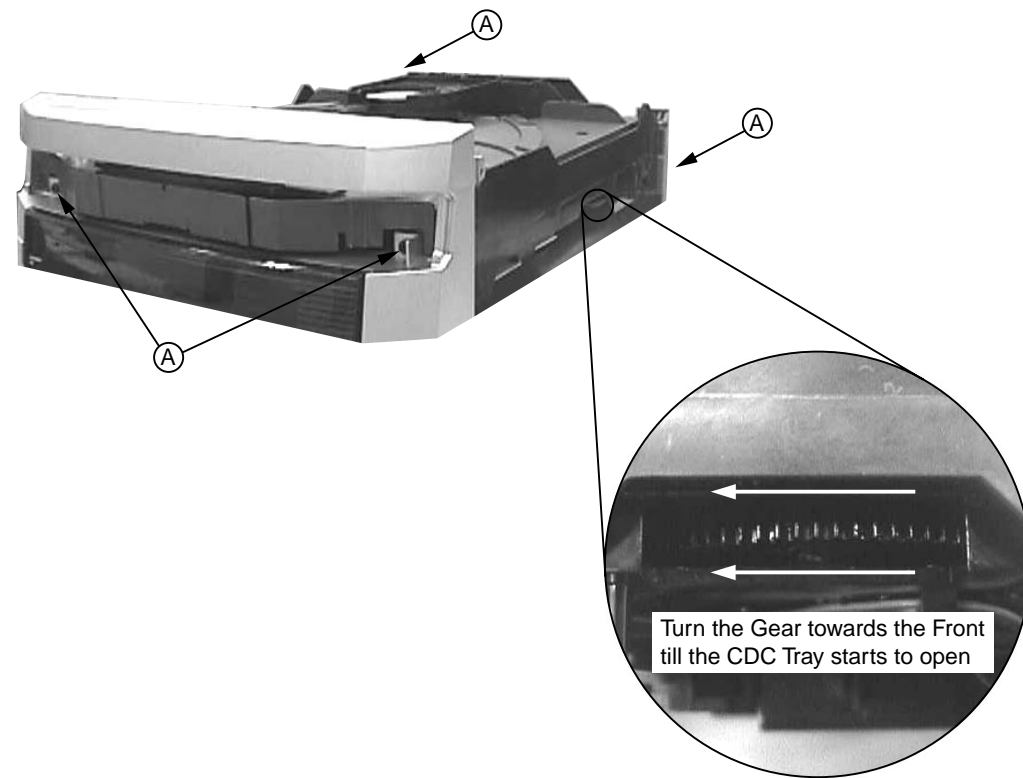


Figure 1

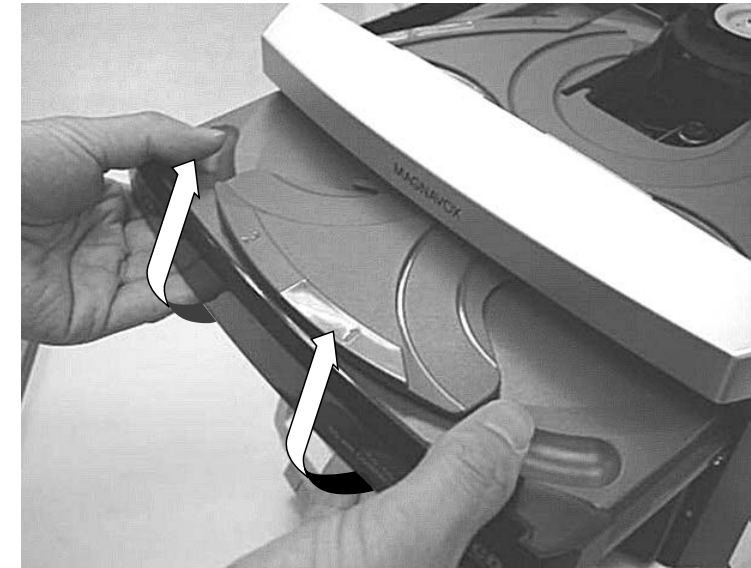


Figure 2

### *Dismantling of the Panel Rear*

- 1) Loosen 6 screws C on the Panel rear (pos 24).
- 2) Press the 2 catches C1 inwards and dismantle the Panel rear by pulling it towards the rear.

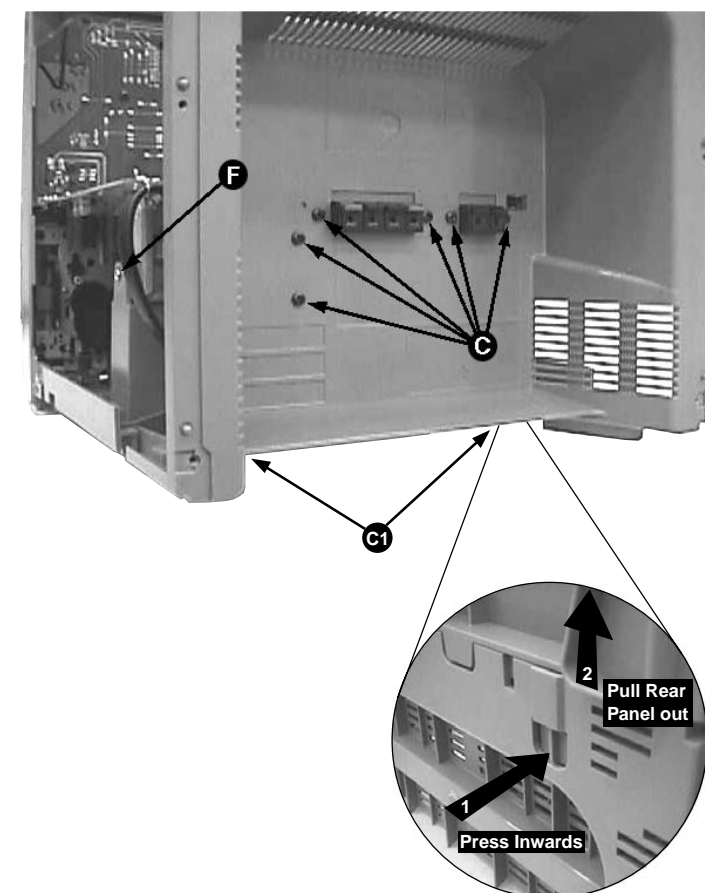


Figure 3



### Dismantling of the Front Panel and Bottom Panel assembly

- 1) Remove 9 screws D mounting the Front board.
- 2) Remove 1 screw E supporting the bracket, Combi board (pos 33) to the Panel front (pos 8).
- 3) Remove 1 screw F (see figure 3) mounting the Mains transformer body to the Panel Bottom (pos 25).

**Note: Care must be taken not to damage the board because of the heavy Mains transformer.**

- 4) The Front and Combi boards together with the Mains transformer can now be remove.
- 5) Loosen 6 screws G and eject both cassette doors to remove the Tape mechanism (pos 12).

**Note: During re-assembly of the Tape mechanism and Front board care must be taken to ensure the wires are properly dressed and not touching any moving parts on the Tape mechanism.**

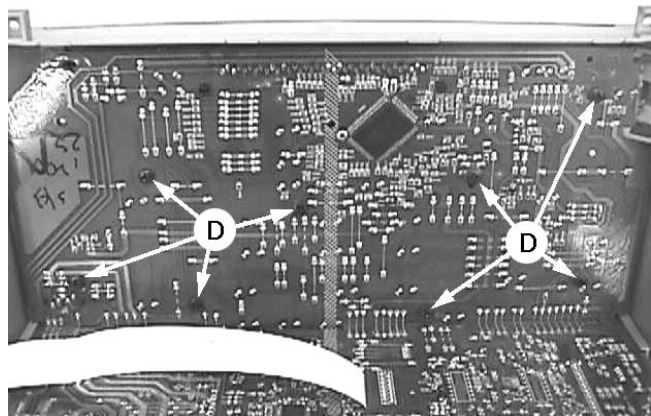


Figure 4

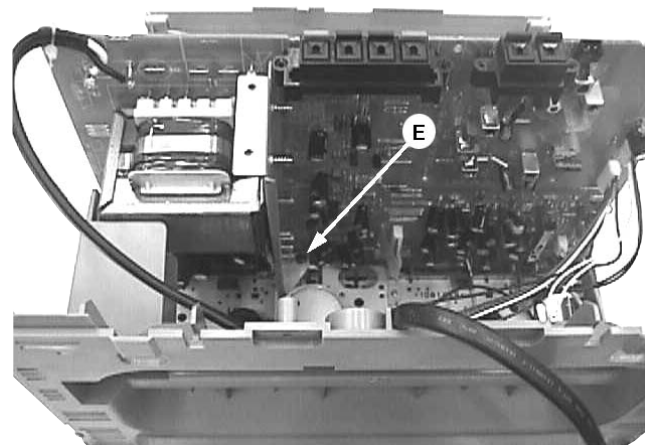


Figure 5

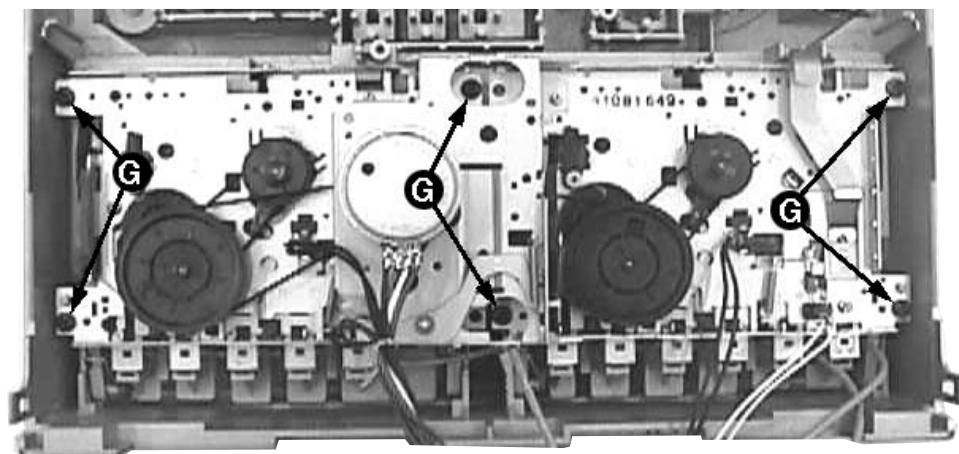
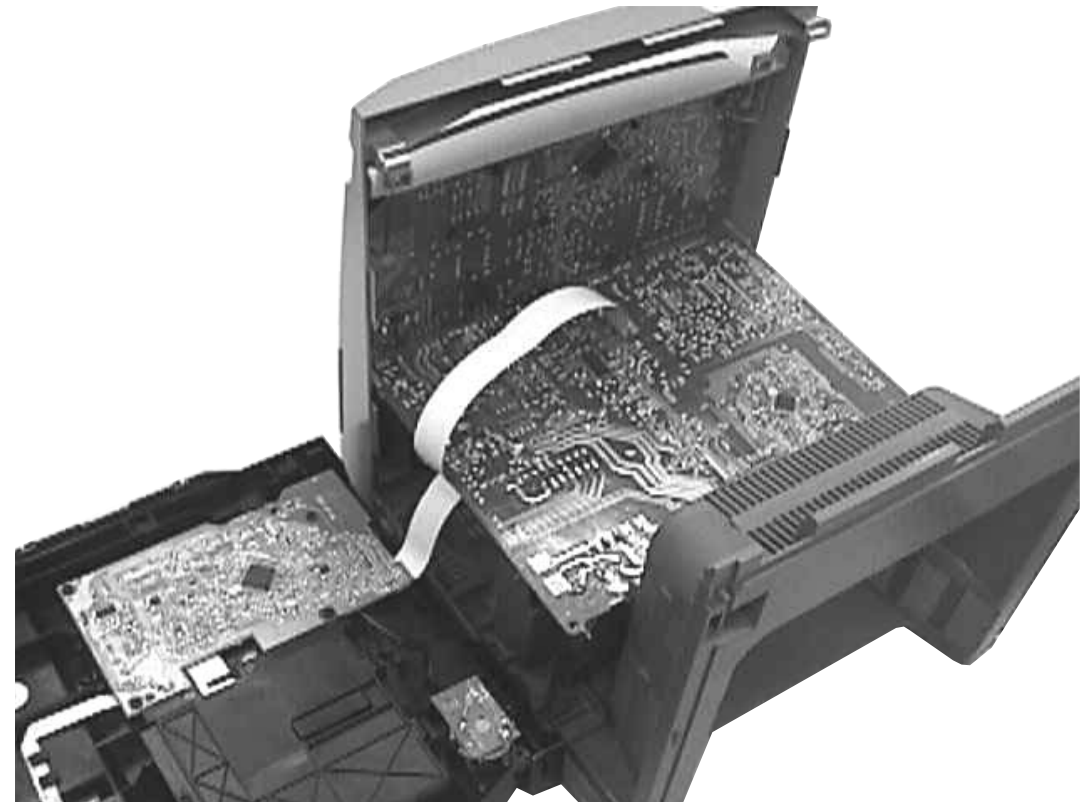


Figure 6

Service pos A



**Note: After re-assembly, it is very important to ensure the wires from the Tape mechanism are routed properly to ensure that they do not touch/obstruct all moving parts.**

Service pos B

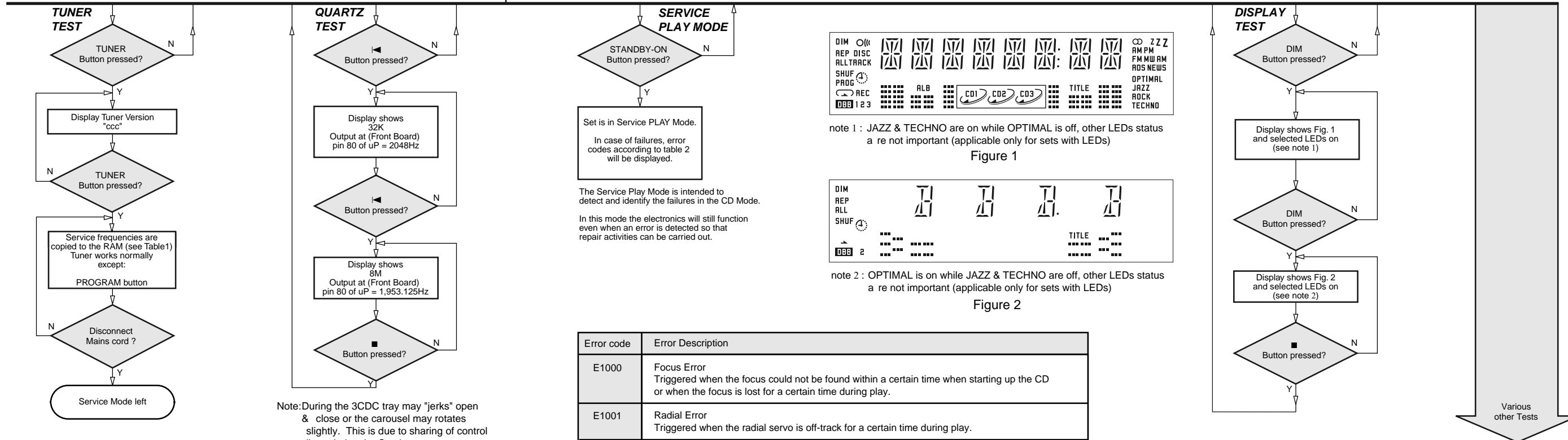


**SERVICE TEST PROGRAM**

To start service test program hold ► & TAPE depressed while plugging in the mains cord

Display shows the ROM version \* "S-Vyy" (Main menu)

S refers to Service Mode.  
V refers to Version.  
yy refers to Software version number of µProcessor. (Counting up from 01 to 99)



Note: During the 3CDC tray may "jerk" open & close or the carousel may rotate slightly. This is due to sharing of control lines during the Service test program.

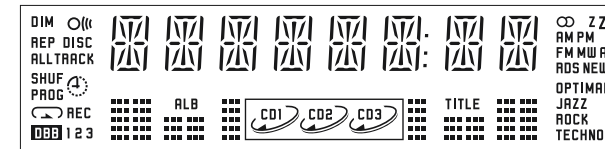
PRESET	Europe "EUR"	East Eur. Extended-band "EAS"	East Eur. "EAS"	USA "USA"	Oversea "OSE"
1	87.5MHz	65.81MHz	87.5MHz	87.5MHz	87.5MHz
2	108MHz	108MHz	108MHz	108MHz	108MHz
3	531kHz	74MHz	531kHz	530kHz	530/531kHz*
4	1602kHz	87.5MHz	1602kHz	1700kHz	1700/1602kHz*
5	558kHz	531kHz	558kHz	560kHz	560/558kHz*
6	1494kHz	1602kHz	1494kHz	1500kHz	1500/1494kHz*
7	87.5MHz	558kHz	87.5MHz	98MHz	98/87.5MHz*
8	87.5MHz	1494kHz	87.5MHz	87.5MHz	87.5MHz
9	87.5MHz	98MHz	87.5MHz	87.5MHz	87.5MHz
10	87.5MHz	70.01MHz	87.5MHz	87.5MHz	87.5MHz
11	98MHz	65.81MHz	98MHz	87.5MHz	87.5/98MHz*

Table 1

Note: \* Depending on the selected grid frequency (9 or 10kHz)  
By holding the TUNER and ► buttons depressed while switching on the Mains supply, one of the undermentioned features will be activated:  
-the tuning grid frequency is toggled between 9kHz and 10kHz for the Oversea (/21) version.  
-the extended FM1 (65.81MHz - 74MHz) is toggled on and off for East Eur. (/34) version.

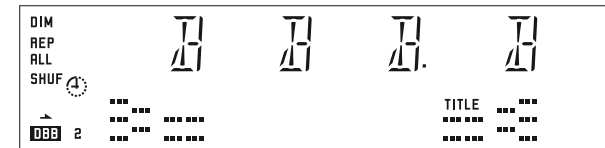
Error code	Error Description
E1000	Focus Error Triggered when the focus could not be found within a certain time when starting up the CD or when the focus is lost for a certain time during play.
E1001	Radial Error Triggered when the radial servo is off-track for a certain time during play.
E1002	Sledge In Error The sledge did not reach its inner position (inner-switch is still close) before approximately 6 Sec. have passed by. Inner-switch or sledge motor problem.
E1003	Sledge Out Error The sledge did not come out of its inner position (inner-switch is still open) before approximately 250 mSec. have passed by. Inner-switch or sledge motor problem.
E1005	Jump-offtrack error Triggered in normal play when the jump destination could not be found within a certain time. When this error occurred, software will try to recover by initiating the jump command again. If it is recoverable, the disc will continue to play.
E1006	Subcode Error Triggered when a new subcode was missing for a certain time during play.
E1007	PLL Error The Phase Lock Loop could not lock within a certain time.
E1008	Turntable Motor Error Generated when the CD could not reached 75% of speed during startup within a certain time. Discmotor problem.
E1020	Focus Search Error The focus point has not been found within a certain time.
E1070	This happens when the carousel switch is defective and closed all the time, or when the carousel is blocked when it is located exactly at a disc position.
E1071	This happens when the carousel switch is defective and does not closed electrically, or when the carousel is blocked in between two disc positions. The time-out is approximately 5 Sec.
E1079	The drawer could not open or enter the inside position and is opening again. This happen when the drawer is blocked and cannot go fully inside or when the drawer switch is defective and does not close.

Table 2



note 1 : JAZZ & TECHNO are on while OPTIMAL is off, other LEDs status are not important (applicable only for sets with LEDs)

Figure 1

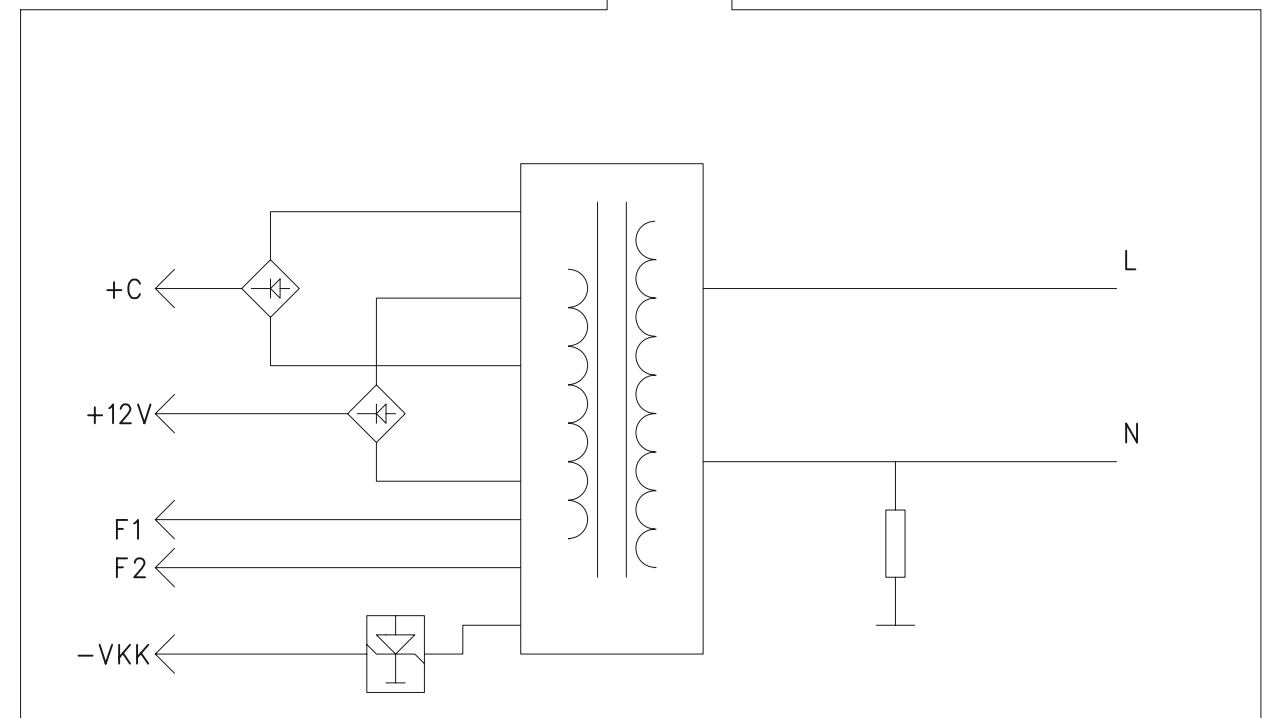
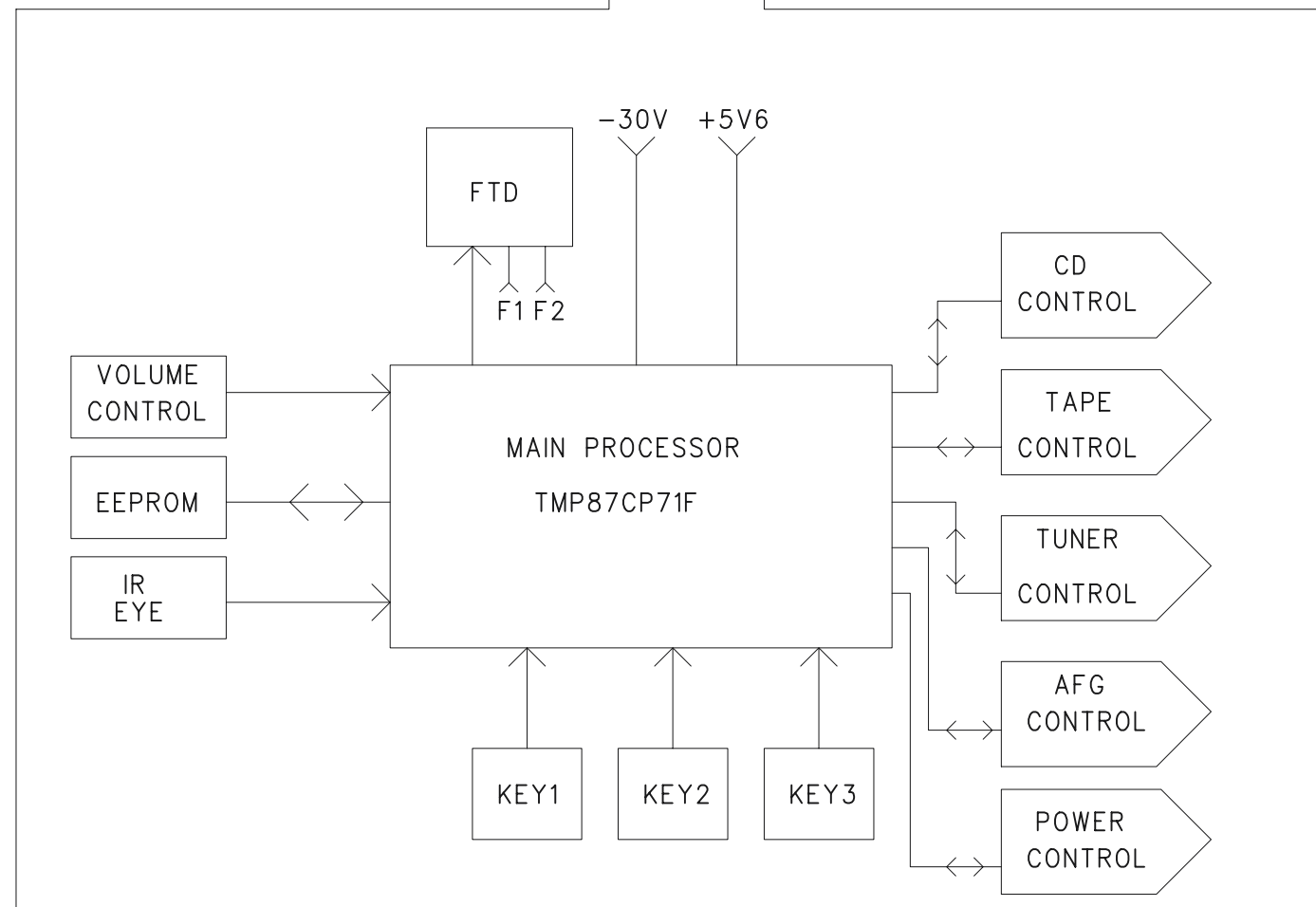
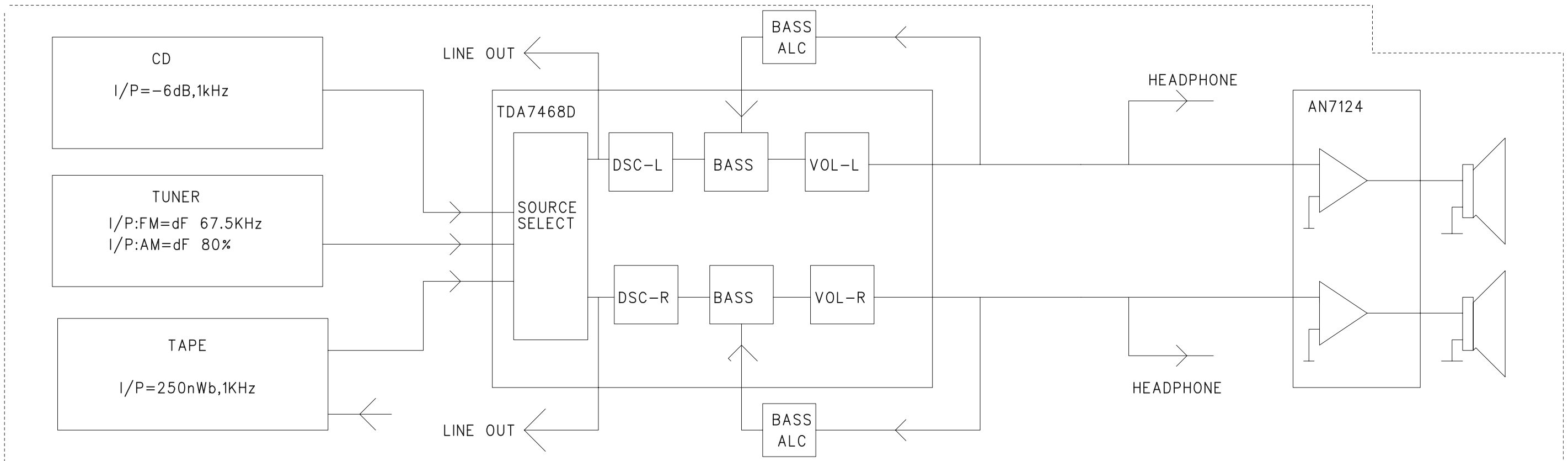


note 2 : OPTIMAL is on while JAZZ & TECHNO are off, other LEDs status are not important (applicable only for sets with LEDs)

Figure 2

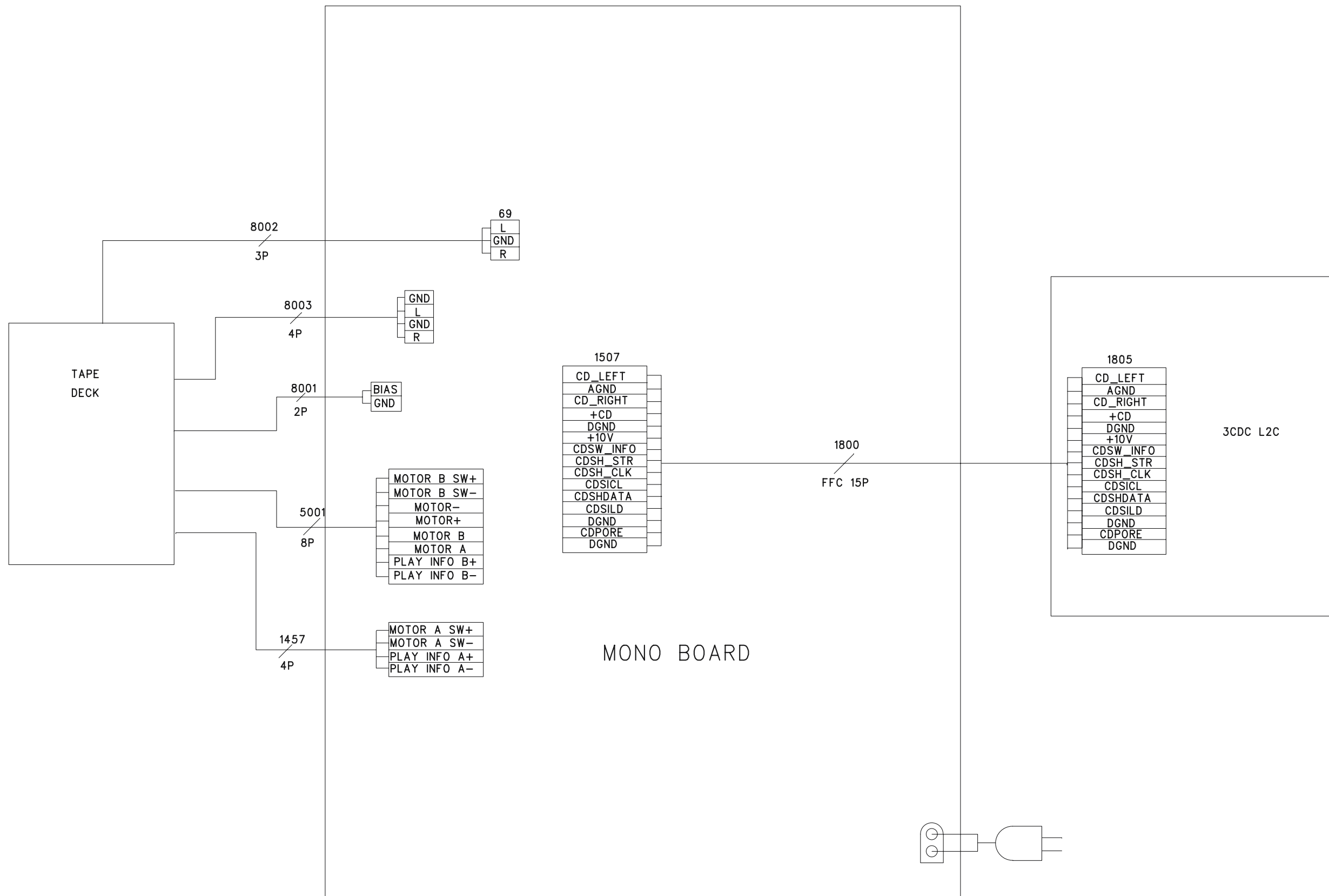
TEST	Activated with	ACTION
EEPROM TEST	►►	A test pattern will be sent to the EEPROM. "PASS" is displayed if the uProcessor read back the test pattern correctly, otherwise "FAIL" will be displayed.
EEPROM FORMAT	◄◄	Load default data. Display shows "NEW" for 1 second. <b>Caution!</b> <b>All presets from the customer will be lost!!</b>
ROTARY ENCODER TEST	Volume Knob or Jog Shuttle knob	Display shows value for 2 seconds. Values increases or decreases in steps of 1 until 0 (Min.) or 40 (Max.) is reached.
DEMO	DBB	DEMO will toggle on or off. The message: "DEMO ON" or "DEMO OFF" will scroll across the display to show the new status of the set.
LEAVE SERVICE TESTPROGRAM	Disconnect mains cord	

# BLOCK DIAGRAM





# SET WIRING DIAGRAM

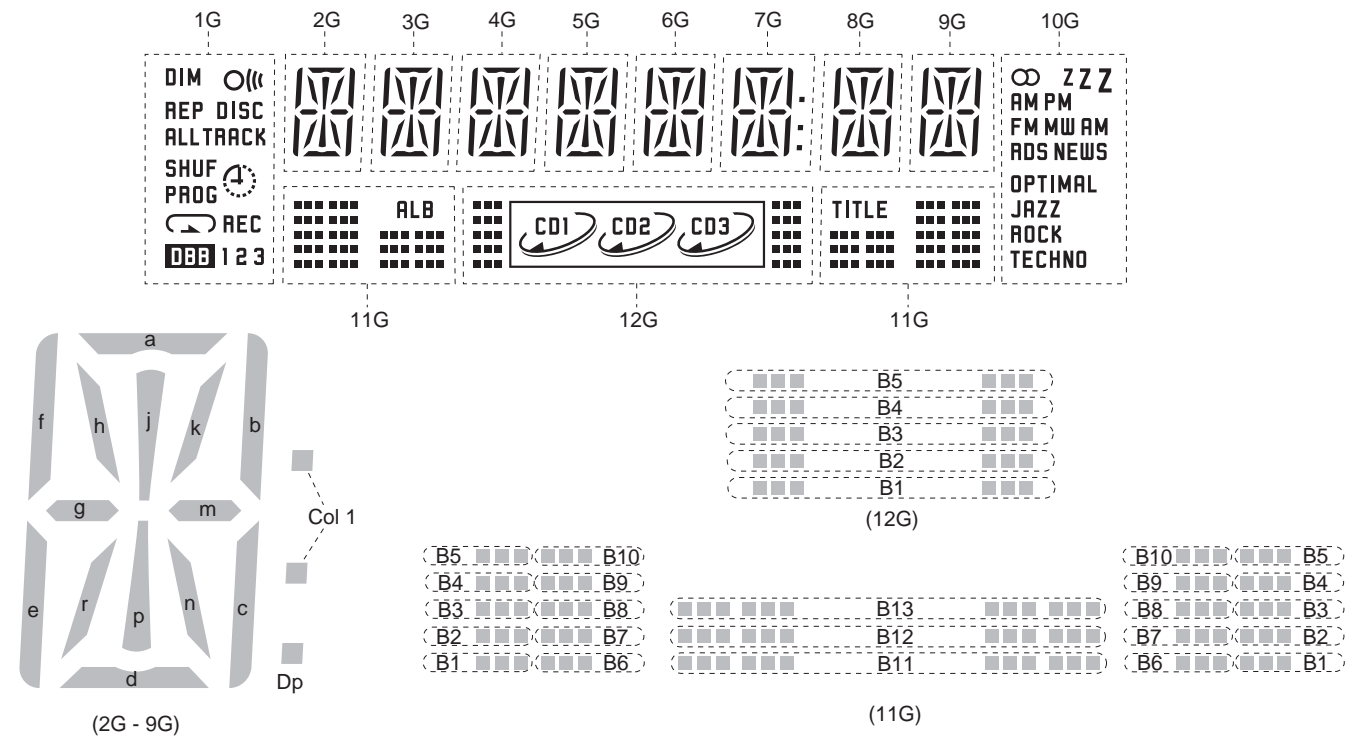


# COMBI & FRONT BOARDS

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## FTD DISPLAY PIN CONNECTIONS



	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	B1	B1	∞	a	a	a	a	a	a	a	a	DIM
P2	B2	B2	Z (Left)	h	h	h	h	h	h	h	h	⊕
P3	B3	B3	Z (Middle)	j, p	j, p	j, p	j, p	j, p	j, p	j, p	j, p	REP
P4	B4	B4	Z (Right)	k	k	k	k	k	k	k	k	DISC
P5	B5	B5	AM (Up)	b	b	b	b	b	b	b	b	ALL
P6	CD1	B6	PM	f	f	f	f	f	f	f	f	TRACK
P7	CD2	B7	FM	m	m	m	m	m	m	m	m	SHUF
P8	CD3	B8	MW	g	g	g	g	g	g	g	g	PROG
P9		B9	AM (Low)	c	c	c	c	c	c	c	c	
P10		B10	RDS	e	e	e	e	e	e	e	e	
P11		B11	NEWS	r	r	r	r	r	r	r	r	
P12		B12	OPTIMAL	n	n	n	n	n	n	n	n	REC
P13	-	B13	JAZZ	d	d	d	d	d	d	d	d	
P14	-	ALB	ROCK	-	-	Col	-	-	-	-	-	1
P15	-	TITLE	TECHNO	-	-	Dp	-	-	-	-	-	2
P16	-	-	-	-	-	-	-	-	-	-	-	3

FTD DISPLAY PIN NO.	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	9	8	7	6	5	4	3	2	1		
FUNCTION	F	-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	-	-	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-	-	F	
	2				G	G	G	G	G	G	G	G	G	G	G	G			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				1

# TAPE ADJUSTMENTS & MEASUREMENT

	TEST CASSETTE	RECORDER MODE	MEASURE ON	READ ON	ADJUST	
					with	to
<b>General</b>						
<b>ADJUST MOTOR SPEED</b>	SBC420 (4822 397 30071) 3150Hz	PLAY deck A or B	11 or 12 LEFT or RIGHT or headphone socket	frequency counter	3758	3150Hz ±1%
<b>CHECK WOW &amp; FLUTTER</b>	SBC420 (4822 397 30071) 3150Hz	PLAY deck A or B	11 or 12 LEFT or RIGHT or headphone socket	W&F-meter	check only	≤0.4 % DIN or ≤0.35 % CCIR
<b>ADJUST AZIMUTH</b>	SBC420 (4822 397 30071) 10kHz	PLAY deck A PLAY deck B	11 or 12 LEFT or RIGHT or headphone socket	mV-meter or oscilloscope	left hand screw	max. output level & left=right
<b>Playback</b>						
<b>CHECK PLAYBACK FREQUENCY RESPONSE</b>	SBC420 (4822 397 30071)	PLAY deck A PLAY deck B	11 or 12 LEFT or RIGHT	mV-meter	Check	limits see fig.1
<b>Recording</b>						
<b>PRE-ADJUST BIAS</b>	FERRO	RECORD	15	mV-meter	5701	14V <sub>rms</sub> (40V <sub>pp</sub> )
<b>CHECK OVERALL FREQUENCY RESPONSE</b>	FERRO	RECORD				
Input signal: 3mV 100Hz, 250Hz, 1kHz, 10kHz via 13 or 14	RECORDED CASSETTE	PLAY	11 or 12 LEFT or RIGHT	mV-meter	check only	limits see fig.2
<b>CHECK DISTORTION</b>	FERRO	RECORD				
Input signal: 300mV 1kHz via 13 or 14	RECORDED CASSETTE	PLAY	11 or 12 LEFT or RIGHT	THD-meter	check only	≤5%
Remark: If high frequencies are not within lower limit, decrease bias and re-measure. If distortion is too high increase bias and re-measure.						

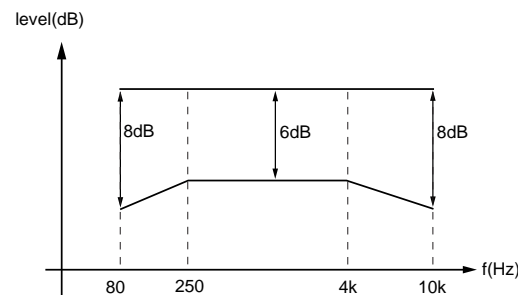


figure. 1

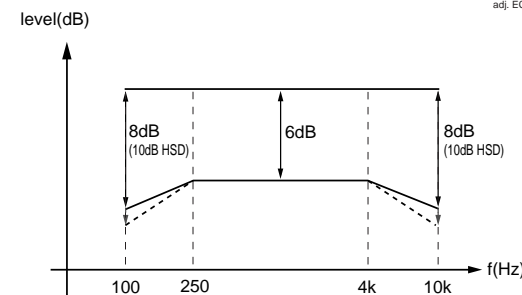


figure. 2

adj. ECO MTF DD AS, 110399

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

Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter	
<b>VARICAP ALIGNMENT</b>							
<b>FM</b> 87.5 - 108MHz (65.81 - 74, 87.5 - 108MHz)			108MHz	5130		8V ±0.2V	
			87.5MHz (65.81MHz)	check		4.3V ±0.5V (1.2V ±0.5V)	
<b>MW</b> FM/AM-version, 10kHz grid 530 - 1700kHz			1700kHz	5123		8V ±0.2V	
			530kHz	check		1.1V ±0.4V	
FM/MW-version, 9kHz grid 531 - 1602kHz			1602kHz	5123	1	6.9V ±0.2V	
			531kHz	check		1.1V ±0.4V	
<b>LW</b> 153 - 279kHz			279kHz	5122		8V ±0.2V	
			153kHz	check		1.1V ±0.4V	
<b>MW</b> FM/MW/LW- version, 9kHz grid 531 - 1602kHz			1602kHz	5123		8V ±0.2V	
			531kHz	check		1.1V ±0.4V	
<b>FM IF</b>							
<b>FM</b>	10.7MHz, 45mV continuous wave	D		5119	2	0 ± 3 mV DC	
<b>FM RF</b>							
<b>FM</b> 87.5 - 108MHz (65.81 - 74, 87.5 - 108MHz)	108MHz	A	108MHz	2155	4	MAX	
	87.5MHz (65.81MHz)	mod=1kHz Δf=±22.5kHz	87.5MHz (65.81MHz)	5131			
<b>VCO</b>							
<b>FM</b>	98MHz, 1mV continuous wave	A	98MHz	3142	3	152kHz ±1kHz <sup>1)</sup>	
<b>AM IF</b>							
<b>MW</b>	450kHz  connect pin 6 of IC 7101 (AM Osc.) with 3.3kΩ to Vcc	C	Δf=±10kHz V <sub>RF</sub> = 0.5mV (as low as possible)  see remark 2)		5111	5	
				5112			
<b>AM AFC</b>		C		5114	2	0 ± 2 mV DC	
<b>AM RF<sup>3)</sup></b>							
<b>MW<sup>4)</sup></b> FM/MW/LW- and FM/MW-version (9kHz grid) 531 - 1602kHz	1494kHz	B	1494kHz	2106	5		
	558kHz		558kHz	5102			
<b>LW</b>	198kHz		198kHz	5103			
<b>MW</b> FM/AM-version, 10kHz grid 530 - 1700kHz	1500kHz	B	1500kHz	2106	5		
	560kHz		560kHz	5102			

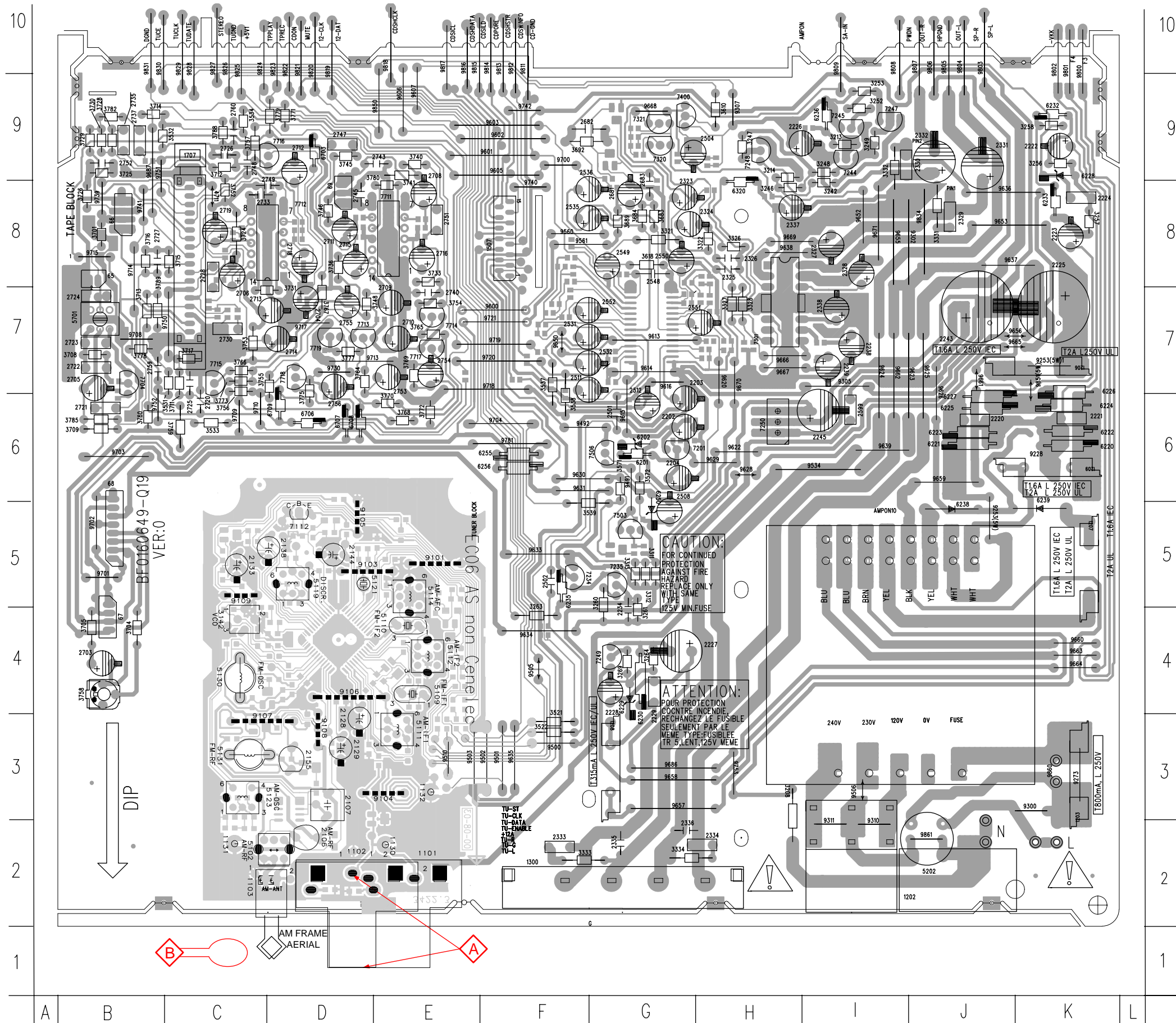
Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

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

↑ Repeat

ECO6, Sys + PA with frame aerial, 070799

# COMBI PART - COMPONENT LAYOUT

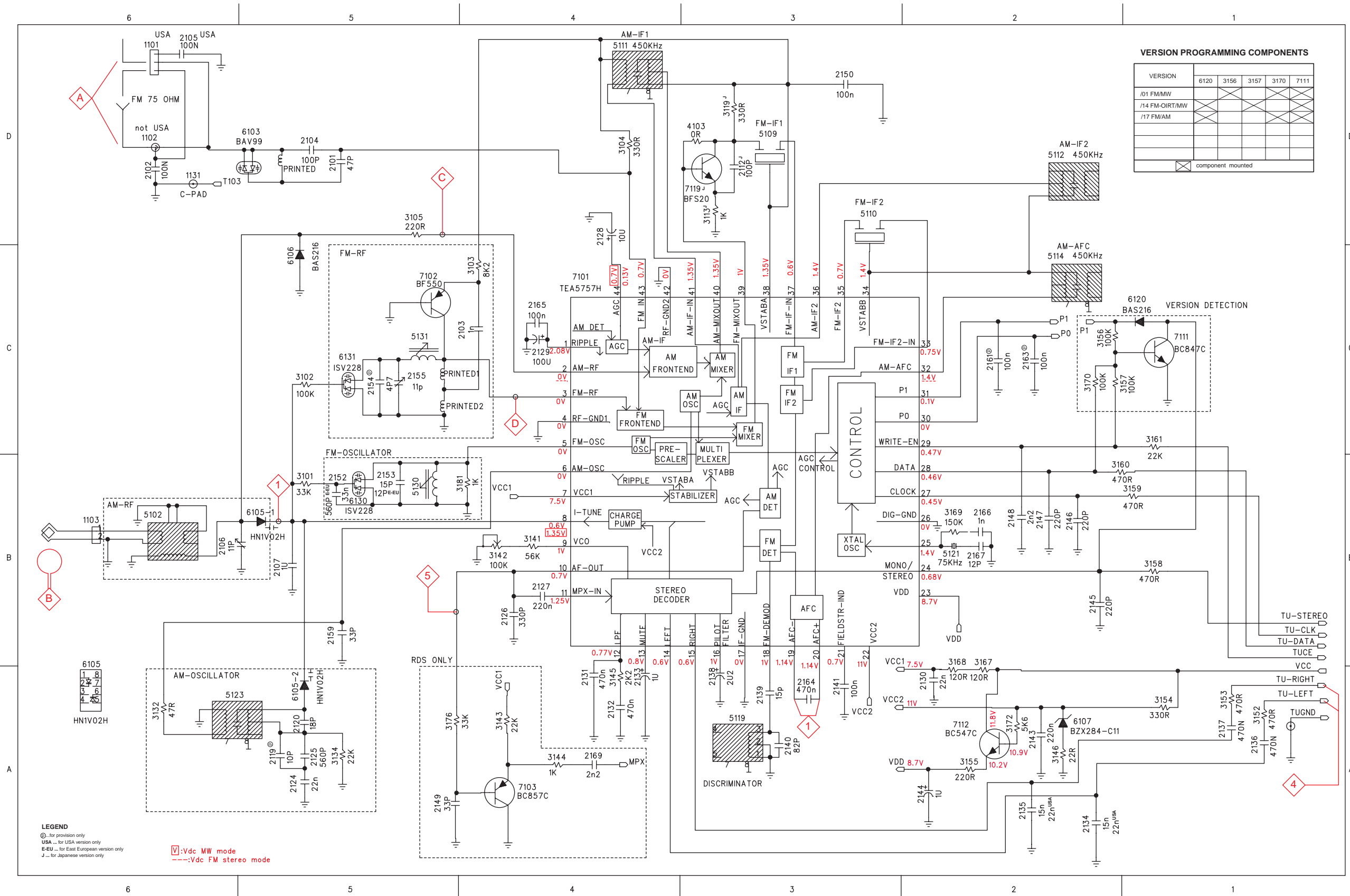


1	B8	2521	F7	3248	I9	3755	D7	9103	D5	9816	E9
2	B7	2522	H7	3249	I9	3756	C7	9104	E3	9817	E9
65	B8	2531	F7	3252	I9	3757	C9	9105	D5	9818	E9
66	B8	2532	F7	3253	I9	3758	B4	9106	D4	9819	D9
67	B5	2535	F8	3256	K9	3759	C6	9107	C3	9820	D9
68	B5	2536	F8	3257	K8	3760	B6	9108	D3	9821	D9
69	D8	2547	G8	3258	K9	3764	D7	9109	C5	9822	D9
1101	E2	2548	G8	3259	C2	3765	D7	9253(5W)	J6	9823	D9
1102	D2	2549	G8	3260	G5	3766	C7	9253(5W)1	K7	9824	C9
1103	C2	2550	G8	3261	G4	3767	D8	9300	K3	9825	C9
1202	I2	2551	G7	3263	F4	3768	E6	9302	H7	9826	C9
1203	K2	2552	F7	3264	G4	3769	E7	9305	I7	9827	C9
1206	K7	2560	H7	3269	G4	3770	E6	9307	H9	9828	C9
1207	K5	2561	G7	3272	I9	3771	D9	9310	I2	9829	C9
1208	G3	2565	F7	3311	G5	3772	E6	9311	I2	9830	C9
1209	K6	2566	H7	3312	G5	3773	D7	9491	G5	9831	B9
1300	G2	2589	F8	3313	G5	3774	C6	9492	G6	9834	J8
1507	F8	2590	H7	3318	G5	3775	D7	9500	F3	9850	E9
1707	C8	2591	F7	3321	G8	3776	D7	9501	F3	9851(5W)	K7
2101	D3	2592	H8	3322	H8	3777	D7	9502	F3	9861	J2
2102	D2	2593	F8	3325	H8	3778	B7	9503	E3	2726	C9
2103	C3	2594	H7	3326	H8	3779	D9	9505	F4	2733	C8
2104	E3	2597	G9	3327	H8	3780	E8	9506	I3	2749	C8
2105	D2	2598	H9	3328	H8	3781	C7	9510	E3	AM-ANT	C2
2106	D2	2599	I6	3329	G9	3782	B9	9534	H6	AMPON10	I5
2107	D3	2641	F8	3330	G9	3785	B6	9560	F8		
2112	E4	2642	G7	3331	J8	3787	B7	9561	F8		
2119	C3	2643	G7	3332	I8	3788	C9	9600	E7		
2120	C3	2681	G8	3333	F2	3789	B7	9601	F9		
2124	C2	2682	G9	3334	G2	4103	E4	9602	F9		
2125	C2	2683	G8	3335	H7	4106	D3	9603	F9		
2126	C5	2703	B4	3336	H7	4107	D4	9605	F9		
2127	D4	2704	D7	3337	H8	4108	D4	9606	E9		
2128	D3	2705	B7	3341	I7	4711	C8	9607	E10		
2129	D3	2706	C7	3342	I7	5102	C2	9613	G7		
2130	C4	2708	E8	3507	F8	5109	E4	9614	G7		
2131	D4	2709	E7	3509	H9	5110	E4	9615	G6		
2132	C5	2710	E7	3511	F7	5111	E3	9616	G7		
2133	C5	2711	D8	3512	F7	5112	E4	9620	H7		
2134	C5	2712	D8	3513	G6	5114	E5	9622	H6		
2135	C5	2713	C7	3514	F7	5119	D5	9623	J7		
2136	E4	2714	C7	3521	F3	5121	D5	9624	I7		
2137	E4	2715	D8	3522	F3	5123	C3	9625	J7		
2138	C5	2716	E8	3523	F4	5130	C4	9626	J7		
2139	D5	2718	D8	3524	F4	5131	C3	9628	H6		
2140	D5	2719	C8	3531	C6	5202	J2	9629	H6		
2141	D5	2720	C6	3532	B9	5701	B7	9630	G6		
2143	D5	2721	B6	3533	C6	6103	D3	9631	G6		
2144	D5	2722	B7	3534	C9	6105	D3	9633	F5		
2145	E4	2723	B7	3537	F7	6106	D2	9634	F4		
2146	E5	2724	B7	3538	F7	6107	D5	9635	F3		
2147	E4	2725	C6	3539	F5	6120	D4	9636	K8		
2148	E5	2726	C9	3545	F7	6130	C4	9637	J8		
2149	C5	2727	B8	3546	E7	6131	D3	9638	H8		
2150	E4	2728	C8	3562	F7	6201	G6	9639	I6		
2152	D4	2730	C7	3563	H7	6202	G8	9650	F7		
2153	D4	2731	C8	3568	G5	6220	K6	9652	I8		
2154	D4	2732	C7	3569	G5	6221	J6	9653	K8		
2155	D3	2733	C8	3571	G6	6222	K6	9655	I8		
2159	D4	2735	B9	3572	G6	6223	J6	9656	J7		
2161	E5	2737	B9	3591	F7	6224	K6	9657	H3		
2163	E5	2738	D8	3592	H8	6225	J6	9658	H3		
2164	D5	2740	E7	3593	F8	6226	K7	9659	J6		
2165	D4	2741	E7	3594	G8	6227	J6	9660	K4		
2166	D5	2743	E9	3610	H9	6228	K9	9661	J7		
2167	D5	2744	E7	3618	G8	6229	G4	9662	I7		
2169	E3	2745	D8	3683	G8	6230	G4	9663	K4		
2202	G6	2747	D9	3684	G8	6232	K9	9664	K4		
2203	G6	2748	C9	3686	G8	6233	K8	9665	J7		
2204	G6	2749	D8	3687	G9	6235	F5	9666	H7		
2205	G6	2751	E8	3688	G8	6236	I9	9667	H7		
2206	G6	2752	E9	3689	G8	6238	J5	9668	G9		
2220	J6	2753	E7	3692	F9	6239	K5	9669	H8		
2221	K6	2754	D7	3710	B8	6250	H6	9670	H6		
2222	K9	2755	D7	3704	B4	6255	F6	9671	I8		
2223	K8	2756	D7	3705	B4	6256	F6	9686	H3		
2224	K8	2759	B7	3706	B7	6320	H9	9687	B8		
2225	K7	2760	C9	3707	B6	6730	D9	9700	F9		
2226	H9	2761	C8	3708	B7	6706	D6	9701	B5		
2227	G4	2762	D8	3709	B6	6707	D6	9702	B6		
2228	G4	3101	C4	3711	C6	6708	D6	9703	B6		
2229	G4	3102	D3	3712	C9	6709	D6	9704	E6		
2234	G5	3103	D3	3713	B7	7101	D4	9708	B7		
2238	I7	3104	E3	3714	B9	7102	C3	9709	C6		
2239	I7	3105	D3	3715	C8	7103	C5	9710	C6		
2243	J7	3113	E4	3716	B8	7111	E4	9713	E7		
2245	I6	3119	E4	3717	C7	7112	D5	9714	B8		
2321	G9	3132	C4	3718	C8	7119	E4	9715	B8		
2322	G9	3134	C3	3719	C9	7201	G6	9717	D7		
2323	G8	3141	D4	3720	C7	7234	F5	9718	E7		
2324	G8	3142	C4	3721	C8	7235	G5	9719	F7		
2325	H8	3144	E5	3722	C8	7244	I9	9720	E7		
2326	H8	3145	D4	3724	C8	7245	I9	9721	E7		
2327	I8	3146	D5	3725	B9	7247	I9	9730	D7		
2328	I8	3152	E3	3726	B8	7248	H9	9739	B8		
2329	J8	3153	G3	3727	B9	7249	G4	9740	F8		
2330	I9	3154	D5	3728	B9	7250	H6	9741	B8		
2331	J9	3155	D5	3729	B9	7301	H7	9742	F9		
2332	J9	3156	E5	3730	B9	7320	G9	9750	C7		
2333	F2	3157	E5	3731	D7	7321	G9	9751	B8		
2334	H2	3158	E3	3733	E8	7400	G9	9752	B6		
2335	G2	3159	E4	3734	E8	7503	G5	9753	H3		
2336	G2	3160	E4	3736	D8	7504	G5	9781	F6		
2337	H8	3161	E4	3737	E8	7506	G6	9800	K9		
2338	I7	3167	E5	3738	E8	7511	G7	9801	K9		
2501	G6	3168	D6	3740	E9	7681	G9	9802	K9		
2502	F5	3169	D5	3741	E9	7682	G9	9803	J9		
2504	G9	3170	E5	3742	D8	7704	B7	9804	J9		
2507	G7	3172	D5	3743	D8	7711	E8	9805	J9		
2508	G5	3176	C5	3745	I9	7712	D8	9806	J9		
2511	F7	3181	C4	3746	D8	7713	D7	9807	J9		
2512	G6	3202	G6	3747	D8	7714	E7	9808	I9		
2513	G6	3208	H3	3748	D7	7715	C7	9809	I9		
2514	F6	3213	I9	3749	D8	7716	D9	9811	F9		
2517	G7	3214	H9	3750	D8	7717	E7	9812	F9		
2518	H7	3242	I8	3752	C9	7718	D7	9813	F9		
2519	F7	3246	I8	3753	C7	7719	D7	9814	F9		
2520	H7	3247	H9	3754	E7	9101	E5	9815	F9		





# TUNER CIRCUIT



**VERSION PROGRAMMING COMPONENTS**

VERSION	6120	3156	3157	3170	7111
/01 FMMW					
/14 FM-OIRT/MW					
/17 FMAM					

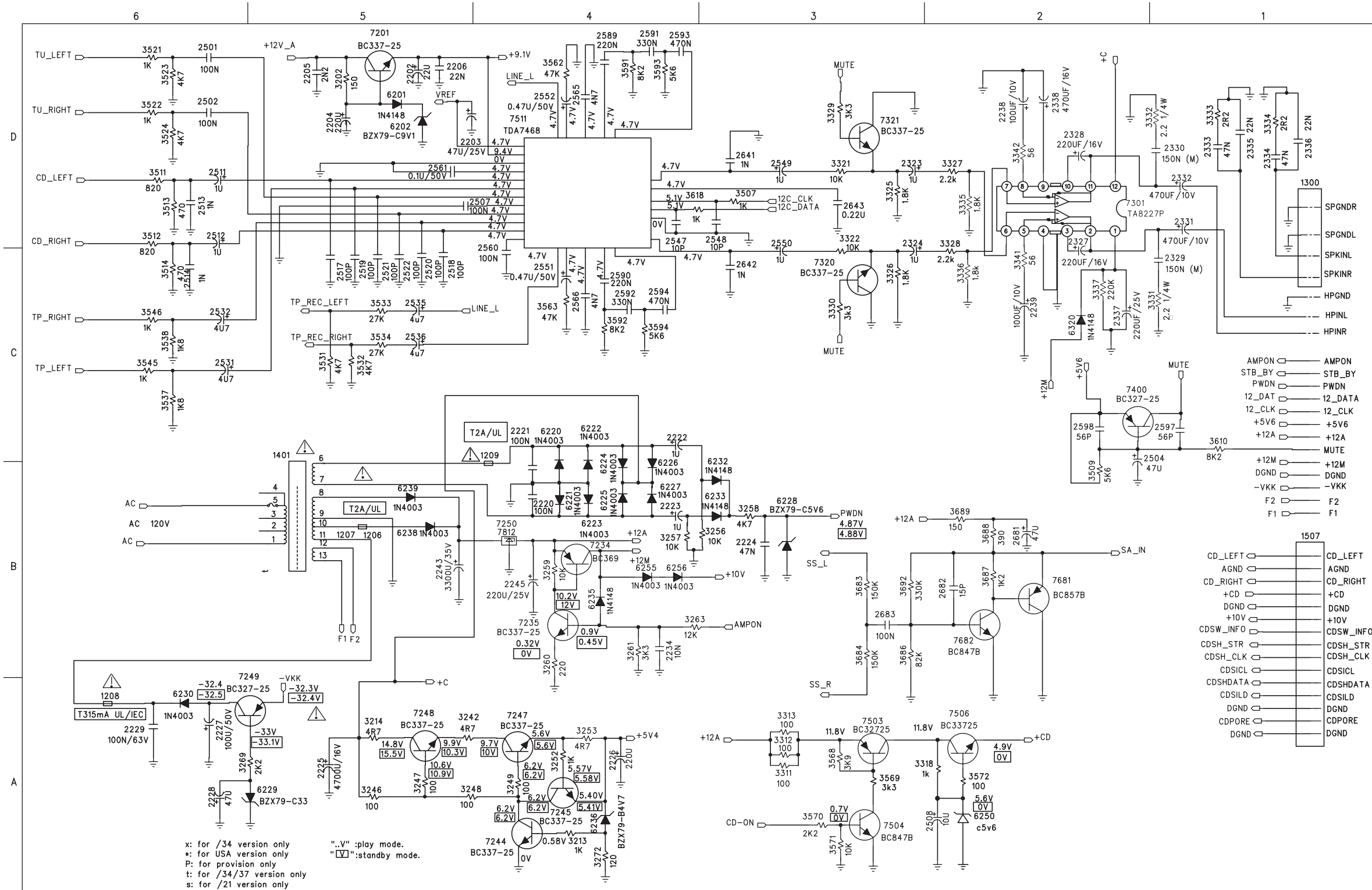
⊗ component mounted

- 1101 D6 6105-2 A5
- 1102 D6 6106 C5
- 1103 B6 6107 A2
- 1131 D6 6120 C1
- 2101 D5 6130 B5
- 2102 D6 6131 C5
- 2103 C4 7101 C4
- 2104 D5 7102 C5
- 2105 D6 7103 A4
- 2106 B6 7111 C1
- 2107 B5 7112 A2
- 2112 D3 7119 D3
- 2119 A5
- 2120 A5
- 2124 A5
- 2125 A5
- 2126 B4
- 2127 B4
- 2128 D4
- 2129 C4
- 2130 A2
- 2131 A4
- 2132 A4
- 2133 A4
- 2134 A2
- 2135 A2
- 2136 A1
- 2137 A1
- 2138 A3
- 2139 A3
- 2140 A3
- 2141 A3
- 2143 A2
- 2144 A2
- 2145 B2
- 2146 B2
- 2147 B2
- 2148 B2
- 2149 A5
- 2150 D3
- 2152 B5
- 2153 B5
- 2154 C5
- 2155 C5
- 2159 B5
- 2161 C2
- 2163 C2
- 2164 A3
- 2165 C4
- 2166 B2
- 2167 B2
- 2169 A4
- 3101 B5
- 3102 C5
- 3103 C4
- 3104 D4
- 3105 D5
- 3113 D3
- 3119 D3
- 3132 A6
- 3134 A5
- 3141 B4
- 3142 B4
- 3143 A4
- 3144 A4
- 3145 A4
- 3146 A2
- 3152 A1
- 3153 A1
- 3154 A1
- 3155 A2
- 3156 C2
- 3157 C1
- 3158 B1
- 3159 B1
- 3160 B1
- 3161 C1
- 3167 A2
- 3168 A2
- 3169 B2
- 3170 C2
- 3172 A2
- 3176 A5
- 3181 B4
- 4103 D3
- 5102 B6
- 5109 D3
- 5110 D3
- 5111 D4
- 5112 D2
- 5114 C2
- 5119 A3
- 5121 B2
- 5123 A5
- 5130 B5
- 5131 C5
- 6103 D5
- 6105-1 B5

**LEGEND**  
 @... for provision only  
 USA ... for USA version only  
 E-EU ... for East European version only  
 J ... for Japanese version only

⊗ Vdc MW mode  
 ⊗ Vdc FM stereo mode

# SUPPLY & POWER AMPLIFIER CIRCUIT



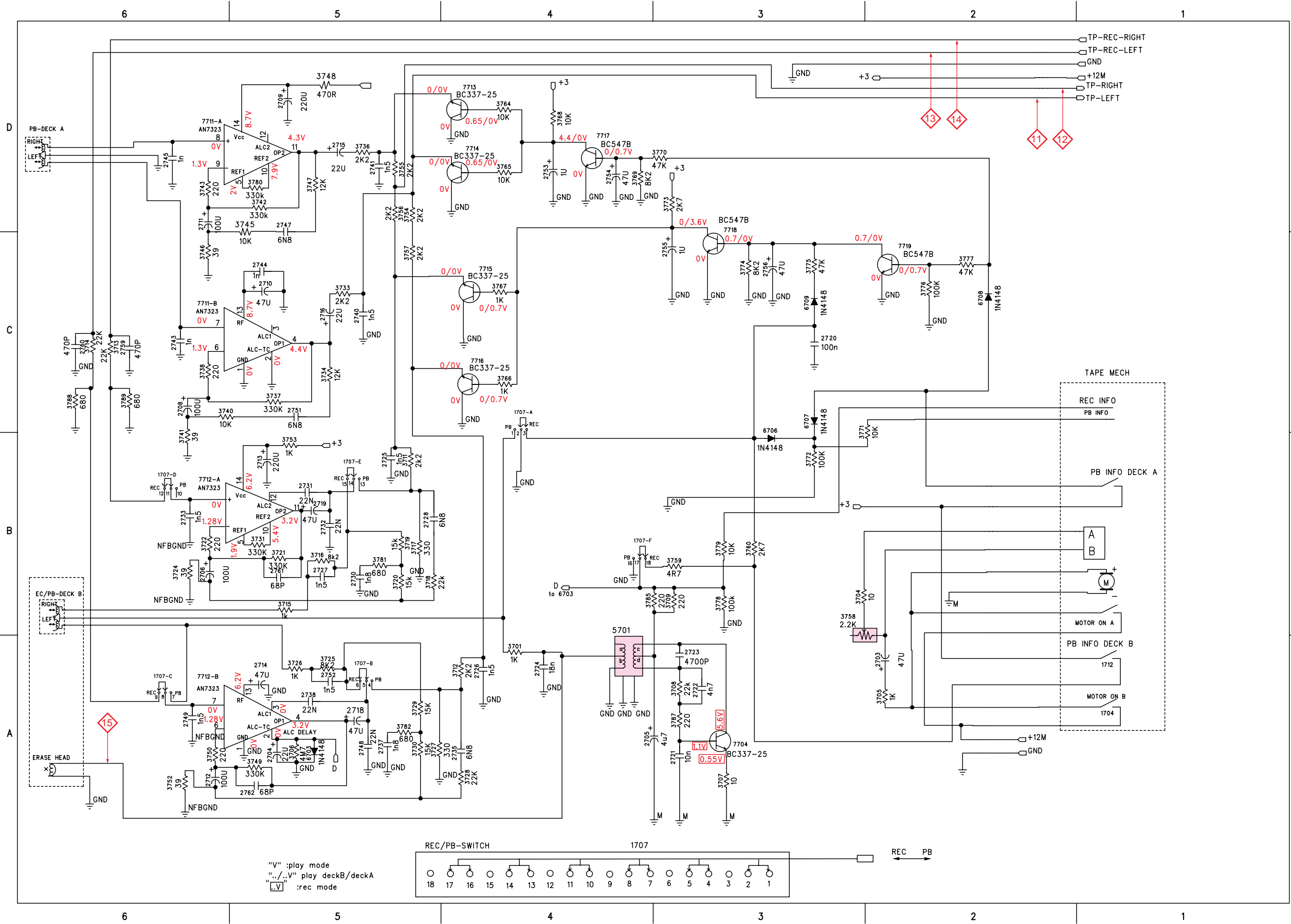
1207	B5	3242	A5	6232	B4
1208	A6	3246	A5	6233	B3
1209	B4	3247	A5	6235	B4
1300	D1	3248	A5	6236	A4
1401	B5	3249	A4	6238	B5
1507	B1	3252	A4	6239	B5
2202	D5	3253	A4	6255	B4
2203	D5	3256	B3	6256	B4
2204	D5	3257	B4	6320	C2
2205	D5	3258	B3	7201	D5
2206	D5	3259	B4	7234	B4
2220	B4	3260	B4	7235	B4
2221	B3	3261	B4	7244	A4
2222	C4	3263	B4	7245	A4
2223	B4	3269	A5	7247	A4
2224	A6	3272	A4	7248	A5
2225	A5	3311	A3	7249	A5
2226	A4	3312	A3	7250	B4
2227	A6	3313	A3	7301	D2
2228	A6	3321	D3	7320	C3
2229	B4	3322	C3	7321	D3
2234	C1	3325	D3	7400	C2
2238	D2	3326	C3	7503	A3
2239	C2	3327	D2	7504	A3
2243	B5	3328	C2	7506	A2
2245	B4	3329	D3	7511	D4
2323	D3	3330	C3	7681	B2
2324	C3	3331	C1	7682	B2
2327	C2	3332	D1		
2328	D2	3333	D1		
2329	D1	3334	D1		
2330	D1	3335	D2		
2331	D1	3336	C2		
2332	D1	3337	C2		
2333	D1	3341	C2		
2334	D1	3342	D2		
2335	D1	3507	D3		
2336	D1	3509	B2		
2337	C2	3511	D6		
2338	D2	3512	D6		
2501	D6	3513	D6		
2502	D6	3514	C6		
2504	C2	3521	D6		
2507	D5	3522	D6		
2508	A2	3523	D6		
2511	D6	3524	D6		
2512	D6	3531	C5		
2513	D6	3532	C5		
2514	C6	3533	C5		
2517	C5	3534	C5		
2518	C5	3537	C6		
2519	C5	3538	C6		
2520	C5	3545	C6		
2521	C5	3546	C6		
2522	C5	3562	D4		
2531	C6	3563	C4		
2532	C6	3568	A3		
2535	C5	3570	A3		
2536	C5	3571	A3		
2547	D4	3591	D4		
2548	D3	3592	C4		
2549	D3	3593	D4		
2550	C3	3594	C4		
2551	C4	3610	C1		
2552	D4	3618	D4		
2560	C4	3683	B3		
2565	D4	3684	B3		
2566	C4	3686	B3		
2589	D4	3687	B2		
2590	C4	3688	B2		
2591	D4	3689	B2		
2592	C4	3692	B3		
2593	C4	6201	D5		
2594	C4	6202	D5		
2597	C1	6220	B4		
2598	C2	6221	B4		
2641	D3	6222	B4		
2642	C3	6223	B4		
2643	D3	6224	C4		
2681	B2	6225	B4		
2682	B2	6226	C4		
2683	B3	6227	B4		
3202	D5	6228	B3		
3213	A4	6229	A5		
3214	A5	6230	A6		

x: for /34 version only  
 #: for USA version only  
 P: for provision only  
 t: for /34/37 version only  
 s: for /21 version only

"..V": play mode.  
 "V": standby mode.



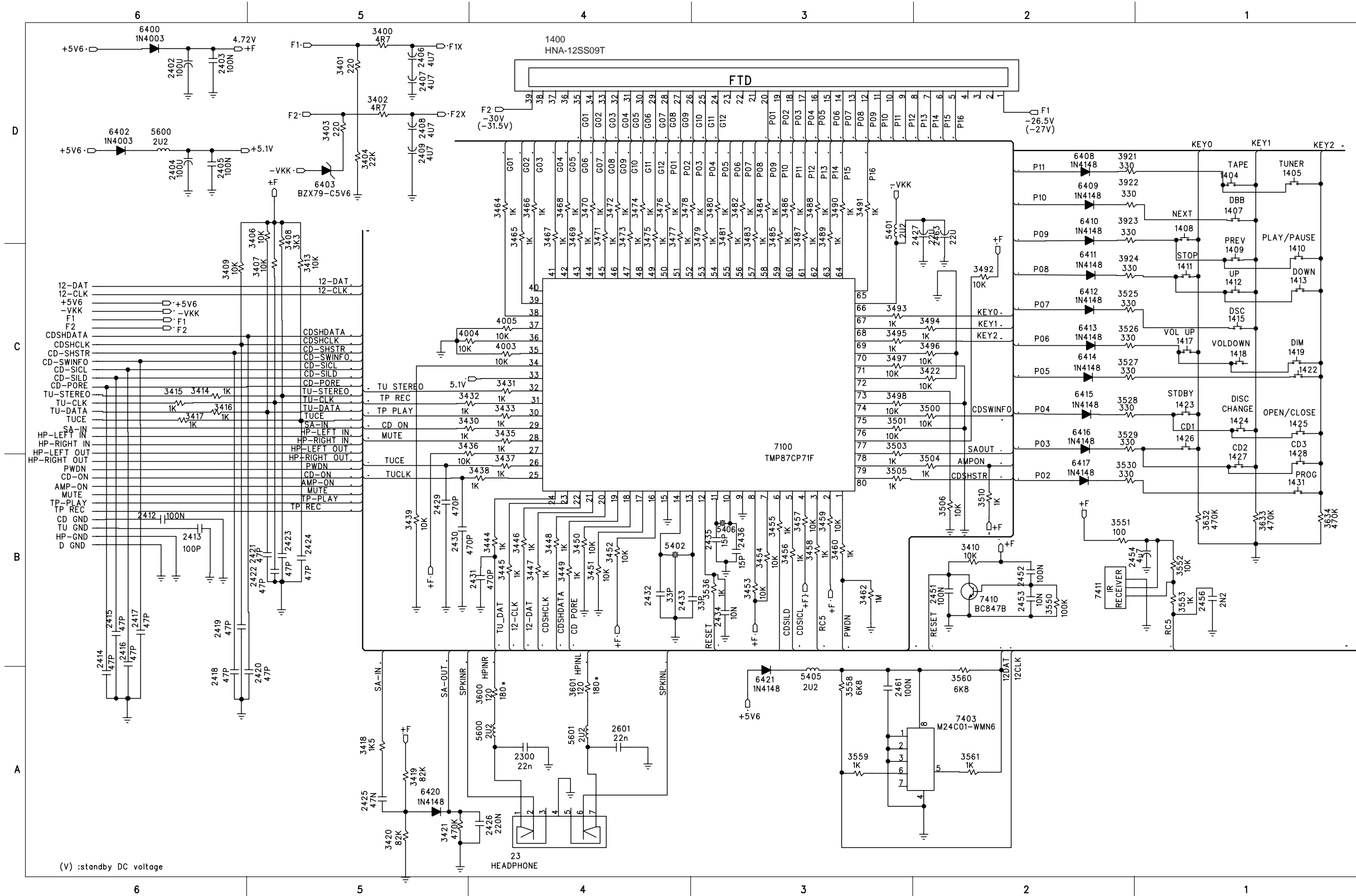
# TAPE CIRCUIT



1707-A	C4	3752	A6
1707-B	A5	3753	B5
1707-C	A6	3754	D5
1707-D	B6	3755	D5
1707-E	B5	3756	D5
1707-F	B4	3757	C5
2703	A2	3758	B2
2704	A5	3759	B3
2705	A3	3760	B3
2706	B6	3764	D4
2708	C6	3765	D4
2709	D5	3766	C4
2710	C5	3767	C4
2711	D6	3768	D4
2712	A6	3769	D4
2713	B5	3770	D3
2714	A5	3771	B2
2715	D5	3772	B3
2716	C5	3773	D3
2718	A5	3774	C3
2719	B5	3775	C3
2720	C3	3776	C2
2721	A3	3777	C2
2722	A3	3778	B3
2723	A3	3779	B3
2724	A4	3780	D5
2725	B5	3781	B5
2726	A4	3782	A5
2727	B5	3785	B3
2728	B4	3787	A3
2730	B5	3788	C6
2731	B5	3789	C6
2732	B5	5701	A4
2733	B6	6703	A5
2735	A4	6706	B3
2737	A5	6707	C3
2738	A5	6708	C2
2740	C5	6709	C3
2741	D5	7704	A3
2743	C6	7711-A	A6
2744	C5	7711-B	B6
2745	D6	7712-A	B6
2747	C5	7712-B	A6
2748	A5	7713	D4
2749	A6	7714	D4
2751	C5	7715	C4
2752	A5	7716	C4
2753	D4	7717	D4
2754	D4	7718	C3
2755	C3	7719	C2
2756	C3		
2759	C6		
2760	C6		
2761	B5		
2762	A5		
3701	A4		
3704	B2		
3705	A2		
3706	A5		
3707	A3		
3708	A3		
3709	B3		
3711	B5		
3712	A4		
3713	C6		
3714	C6		
3715	B5		
3716	B5		
3717	B5		
3718	B5		
3719	B5		
3720	B5		
3721	B5		
3722	B6		
3724	B6		
3725	A5		
3726	A5		
3727	A4		
3728	A4		
3729	A5		
3730	A5		
3731	B5		
3733	C5		
3734	C5		
3736	D5		
3737	C5		
3738	C6		
3740	C6		
3741	B6		
3742	D5		
3743	D6		
3745	D5		
3746	C6		
3747	D5		
3748	D5		
3749	A5		
3750	A6		
3750	A6		

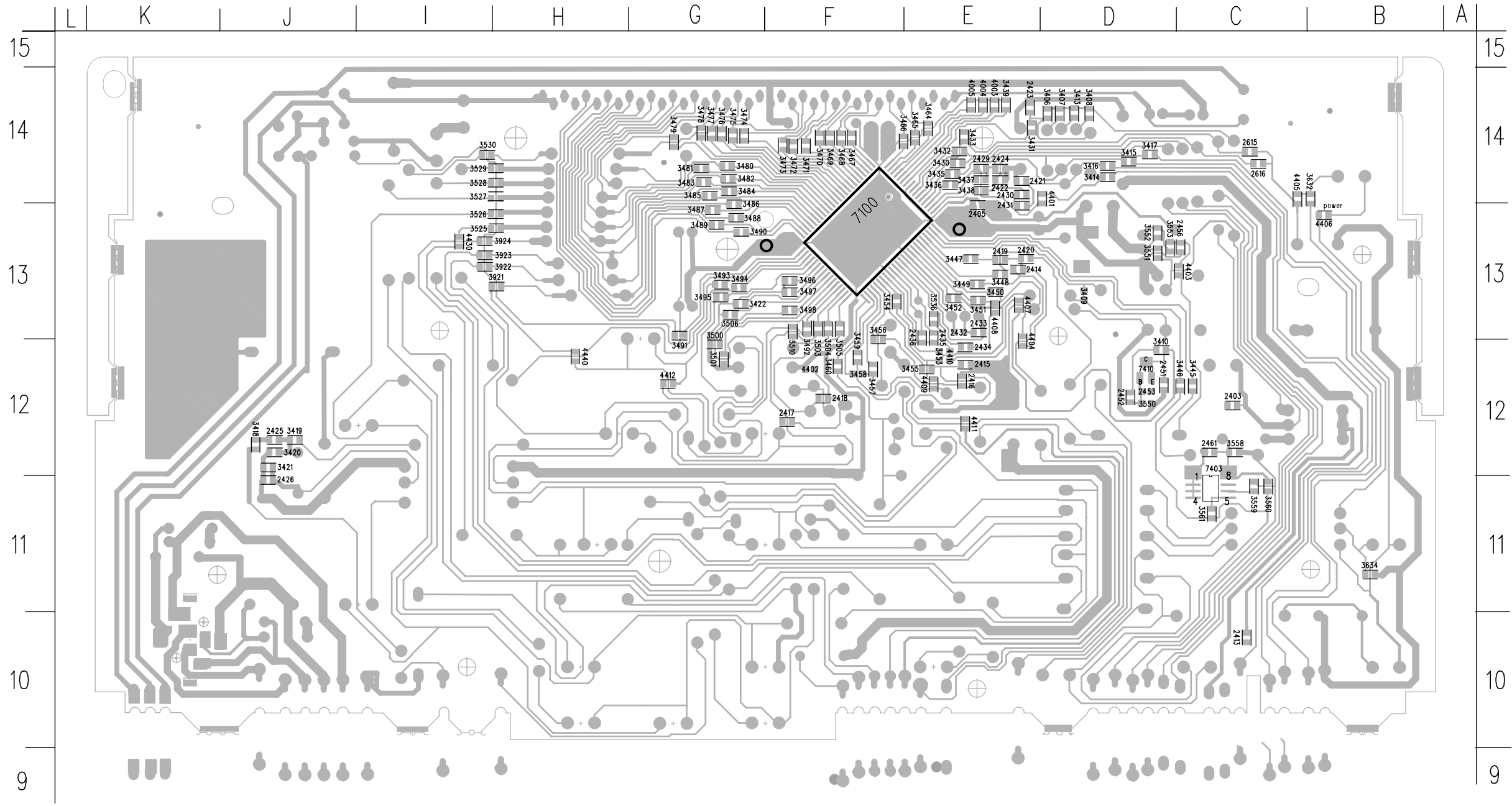


# FRONT CIRCUIT



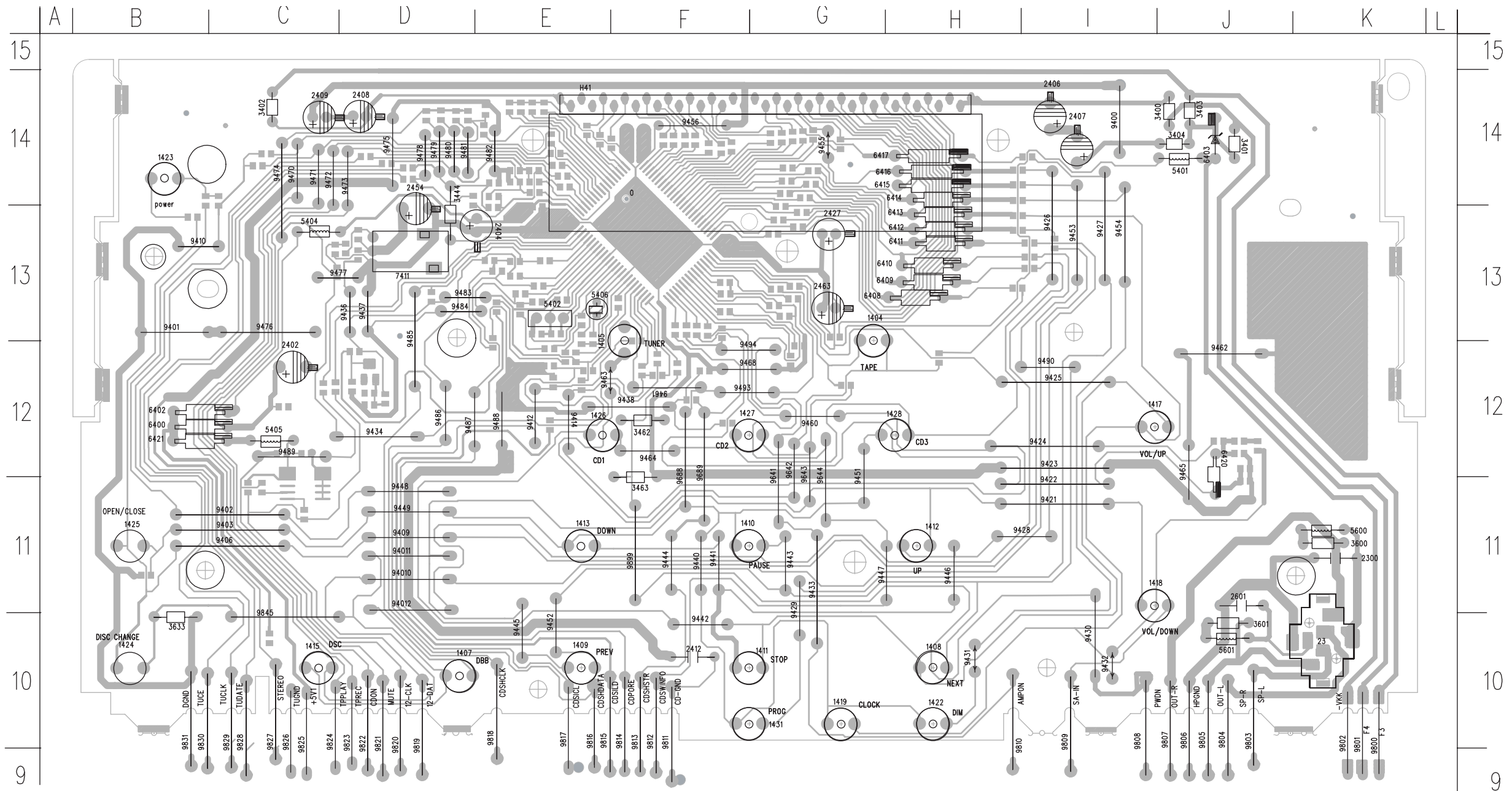
23	A4	3449	B4	6415	C2
1400	D4	3450	B4	6416	C2
1404	D1	3451	B4	6417	B2
1405	D1	3452	B4	6420	A5
1407	D1	3453	B3	6421	A3
1408	D1	3454	B3	7100	C3
1409	C1	3455	B3	7403	A2
1410	C1	3456	B3	7410	B2
1411	C1	3457	B3	7411	B2
1412	C1	3458	B3		
1413	C1	3459	B3		
1415	C1	3460	B3		
1417	C1	3462	B3		
1418	C1	3464	D4		
1419	C1	3465	D4		
1422	C1	3466	D4		
1423	C1	3467	D4		
1424	C1	3468	D4		
1425	C1	3469	D4		
1426	C1	3470	D4		
1427	B1	3471	D4		
1428	B1	3472	D4		
1430	A1	3473	D4		
2300	A4	3474	D4		
2402	D6	3475	D4		
2403	D6	3476	D4		
2404	D6	3477	D4		
2405	D6	3478	D4		
2406	D5	3479	D3		
2407	D5	3480	D3		
2408	D5	3481	D3		
2409	D5	3482	D3		
2412	B6	3483	D3		
2413	B6	3484	D3		
2414	B6	3485	D3		
2415	B6	3486	D3		
2416	B6	3487	D3		
2417	B6	3488	D3		
2418	A6	3489	D3		
2419	B6	3490	D3		
2420	A5	3491	D3		
2421	B5	3492	C2		
2422	B5	3493	C2		
2423	B5	3494	C2		
2424	B5	3495	C2		
2425	A5	3496	C2		
2426	A4	3497	C3		
2427	D2	3498	C3		
2429	B5	3500	C2		
2430	B5	3501	C3		
2431	B4	3503	B2		
2432	B4	3504	B2		
2433	B3	3505	B3		
2434	B3	3506	B2		
2435	B3	3510	B2		
2436	B3	3525	C2		
2451	B2	3526	C2		
2452	B2	3527	C2		
2453	B2	3528	C2		
2454	B1	3529	C2		
2456	B1	3530	B2		
2461	A3	3536	B3		
2463	D2	3550	B2		
2601	A4	3551	B2		
3400	D5	3552	B1		
3401	D5	3553	B1		
3402	D5	3558	A3		
3403	D5	3559	A3		
3404	D5	3560	A2		
3406	D5	3561	A2		
3407	C5	3600	A4		
3408	D5	3601	A4		
3409	C6	3632	B1		
3410	B2	3633	B1		
3413	C5	3634	B1		
3414	C6	3921	D2		
3415	C6	3922	D2		
3416	C6	3923	D2		
3417	C6	3924	C2		
3418	A5	4003	C4		
3419	A5	4004	C5		
3420	A5	4005	C4		
3421	A5	5401	D3		
3422	C2	5402	B4		
3430	C5	5405	A3		
3431	C4	5406	B3		
3432	C5	5600	A4		
3433	C4	5601	A4		
3435	C4	6400	D6		
3436	B5	6402	D6		
3437	B4	6403	D5		
3438	B4	6408	D2		
3439	B5	6409	D2		
3444	B4	6410	D2		
3445	B4	6411	C2		
3446	B4	6412	C2		
3447	B4	6413	C2		
3448	B4	6414	C2		

# FRONT PART - SMD LAYOUT



0	F14	3466	E14	9414	E12
23	K10	3467	F14	9421	H11
1404	H13	3468	F14	9422	H11
1405	F12	3469	F14	9423	H12
1407	D10	3470	F14	9424	H12
1408	H10	3471	F14	9425	H12
1409	E10	3472	F14	9426	I13
1410	G11	3473	F14	9427	I13
1411	F10	3474	G14	9428	H11
1412	H11	3475	G14	9429	G10
1413	E11	3476	G14	9430	I10
1415	C10	3477	G14	9431	H10
1417	I12	3478	G14	9432	I10
1418	J11	3479	G14	9433	G10
1419	G10	3480	G14	9434	D12
1422	H10	3481	G14	9436	D13
1423	B14	3482	G14	9437	D13
1424	B14	3483	G14	9438	E12
1425	B11	3484	G14	9440	F11
1426	F12	3485	G14	9441	F11
1427	H12	3486	G13	9442	F10
1428	F12	3487	G13	9443	G11
1431	G10	3488	G13	9444	F11
2300	K11	3489	G13	9445	E10
2402	C12	3490	G13	9446	H11
2403	C12	3491	G13	9447	H11
2404	E13	3492	F13	9448	D11
2405	E13	3493	G13	9449	D11
2406	I14	3494	G13	9451	G11
2407	I14	3495	G13	9452	E10
2408	D14	3496	F13	9453	I14
2409	C14	3497	F13	9454	I14
2412	F10	3498	F13	9455	G14
2413	C10	3500	G12	9456	F14
2414	E13	3501	G12	9460	G12
2415	E12	3503	F13	9461	F12
2416	F12	3504	F13	9462	J12
2417	F12	3505	F13	9463	F12
2418	F12	3506	G13	9464	F12
2419	E13	3510	G13	9465	J11
2420	E13	3525	H13	9468	F12
2421	E14	3526	H13	9470	G14
2422	E14	3527	H14	9471	C14
2423	E14	3528	H14	9472	C14
2424	E14	3529	H14	9473	D13
2425	J12	3530	I14	9474	C13
2426	J11	3536	E14	9475	D14
2427	G13	3550	D12	9476	C13
2429	E14	3551	D13	9477	C13
2430	E14	3552	D13	9478	D14
2431	E13	3553	D13	9479	D14
2432	E13	3558	C12	9480	D14
2433	F13	3559	C11	9481	D14
2434	E13	3560	C11	9482	E14
2435	E13	3561	C11	9483	E14
2436	J11	3600	K11	9484	E13
2451	D12	3601	J10	9485	D12
2452	D12	3632	C14	9486	D12
2453	D12	3633	B10	9487	D12
2454	D13	3634	B11	9488	E12
2456	C13	3921	H13	9489	C12
2461	C12	3922	I13	9490	H12
2463	G13	3923	I13	9493	F12
2601	J11	3924	H13	9494	F12
2615	C14	4003	E14	9461	G11
2616	C14	4004	E14	9462	G11
3400	J14	4005	E14		
3401	J14	4001	D14		
3402	C14	4402	F12		
3403	J14	4403	C13		
3404	J14	4404	E12		
3406	D14	4405	B14		
3407	D14	4406	B13		
3408	D14	4407	E13		
3409	D13	4408	E13		
3410	D12	4409	E12		
3413	D14	4410	E12		
3414	D14	4411	E12		
3415	E12	4412	G12		
3416	D14	4430	I13		
3417	D14	4440	H12		
3418	J12	5401	J14		
3419	J12	5402	E13		
3420	J12	5404	C13		
3421	J12	5405	C12		
3422	G13	5406	E13		
3430	E14	5600	K11		
3431	E14	5601	J10		
3433	E14	6400	B12		
3435	E14	6410	H13		
3436	E14	6402	B12		
3437	E14	6403	J14		
3438	E14	6408	H13		
3439	E14	6409	H13		
3444	D14	6411	H13		
3445	C12	6412	H13		
3446	C12	6413	H13		
3447	E13	6414	H14		
3448	E13	6415	H14		
3449	E13	6416	H14		
3450	E13	6417	H14		
3451	E13	6420	J12		
3452	E13	6421	B12		
3453	E12	7100	F13		
3454	F13	7403	C12		
3455	E12	7410	D12		
3456	F13	7411	D13		
3457	F13	9400	I14		
3458	F12	9401	B13		
3459	F12	9402	B11		
3460	F12	9403	B11		
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3463	F12	9409	D11		
3464	E14	9410	B13		
3465	E14	9412	B12		

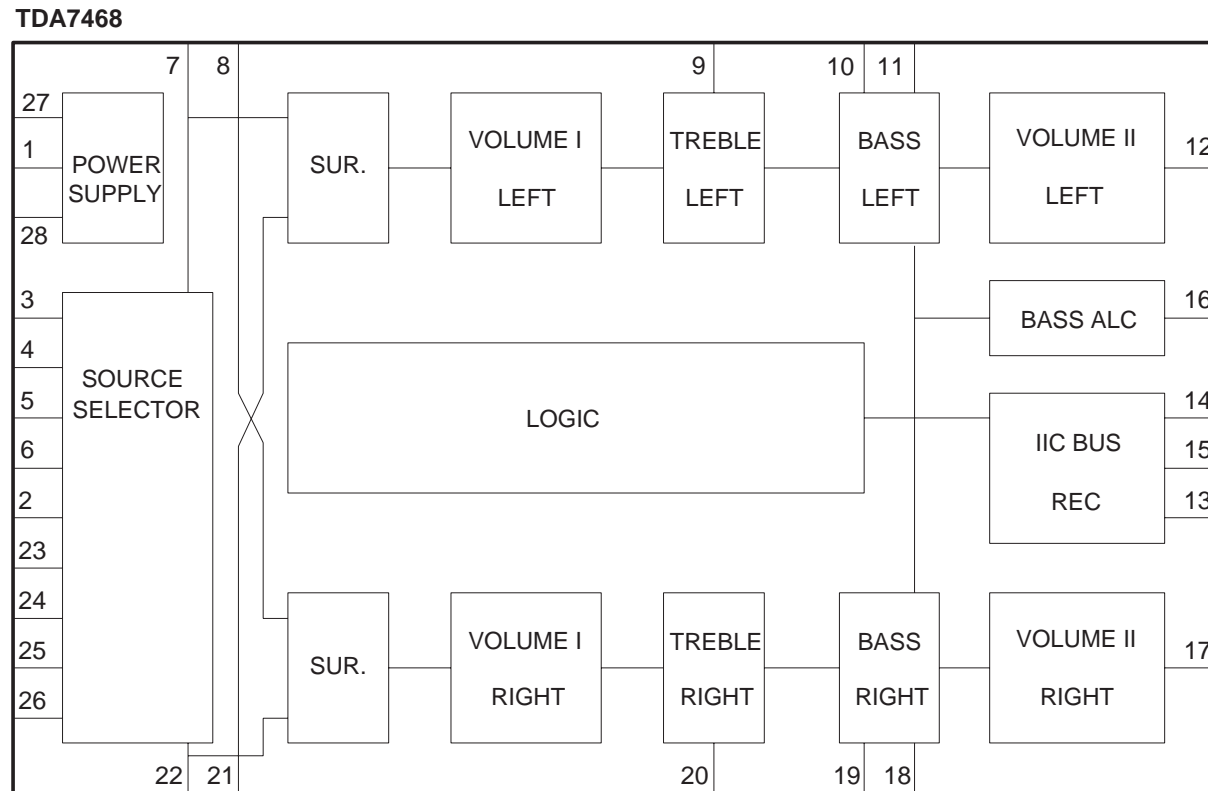
# FRONT PART - COMPONENT LAYOUT



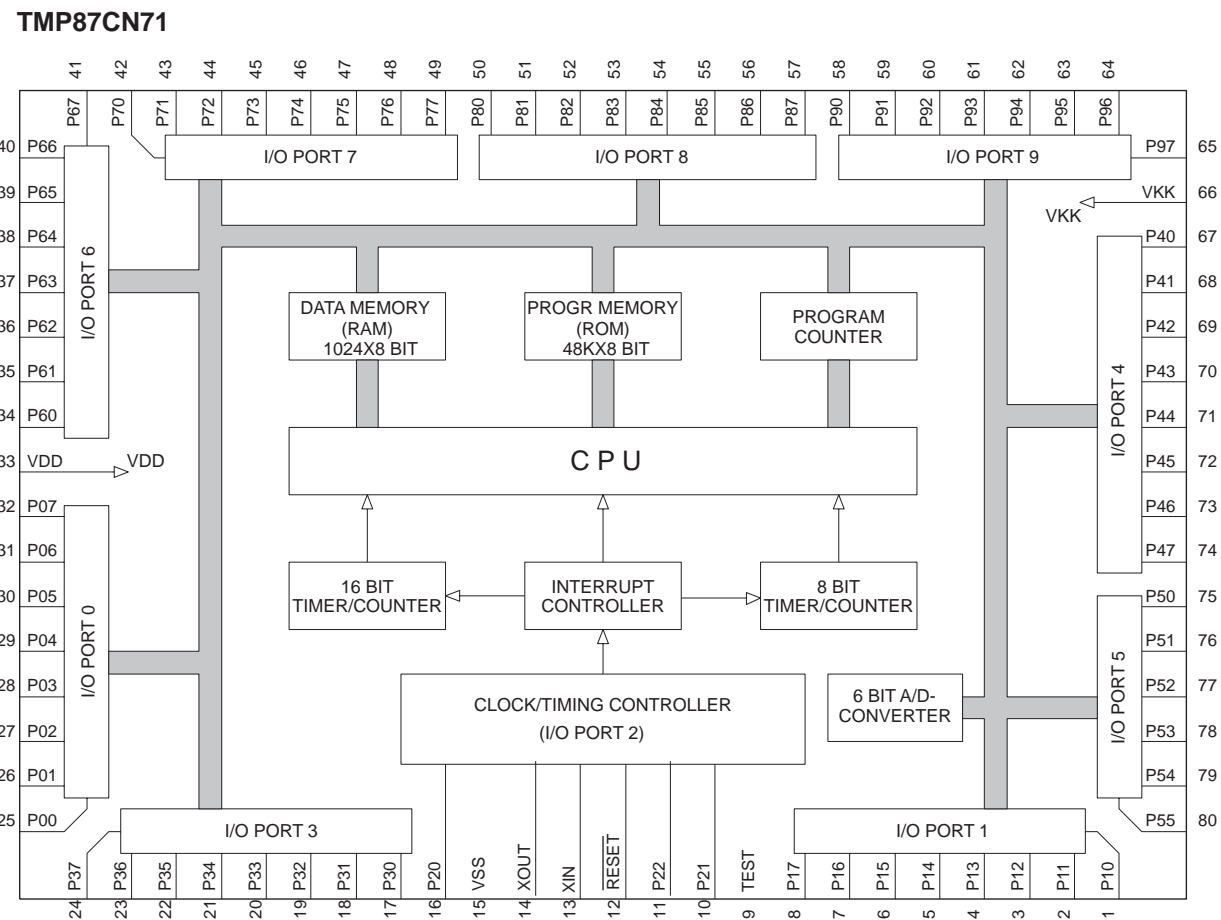
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1404	H13	3468	F14	9422	H11
1405	F12	3469	F14	9423	H12
1407	D10	3470	F14	9424	H12
1408	H10	3471	F14	9425	H12
1409	E10	3472	F14	9426	I13
1410	G11	3473	F14	9427	I13
1411	F10	3474	G14	9428	H11
1412	H11	3475	G14	9429	G10
1413	E11	3476	G14	9430	I10
1415	C10	3477	G14	9431	H10
1417	I12	3478	G14	9432	I10
1418	J11	3479	G14	9433	G10
1419	G10	3480	G14	9434	D12
1422	H10	3481	G14	9436	D10
1423	B14	3482	G14	9437	D13
1424	B14	3483	G14	9438	E12
1425	B11	3484	G14	9440	F11
1426	F12	3485	G14	9441	F11
1427	F12	3486	G13	9442	G10
1428	H12	3487	G13	9443	F11
1431	G10	3488	G13	9444	F11
2300	K11	3489	G13	9445	E10
2402	C12	3490	G13	9446	H11
2403	C12	3491	G13	9447	H11
2404	E13	3492	F13	9448	D11
2405	E13	3493	G13	9449	D11
2406	I14	3494	G13	9451	G11
2407	I14	3495	G13	9452	E10
2408	D14	3496	F13	9453	I14
2409	C14	3497	F13	9454	I14
2412	F10	3498	F13	9455	G14
2413	C10	3500	G12	9456	F14
2414	E13	3501	G12	9460	G12
2415	E12	3503	F13	9461	F12
2416	F12	3504	F13	9462	J12
2417	F12	3505	F13	9463	F12
2418	F12	3506	G13	9464	F12
2419	E13	3510	F13	9465	J11
2420	E13	3525	H13	9468	F12
2421	E14	3526	H13	9470	G14
2422	E14	3527	H14	9471	C14
2423	E14	3528	H14	9472	C14
2424	E14	3529	H14	9473	D13
2425	J12	3530	I14	9474	C13
2426	J11	3536	E13	9475	D14
2427	G13	3550	D12	9476	C13
2429	E14	3551	D13	9477	C13
2430	E14	3552	D13	9478	D14
2431	E13	3553	D13	9479	D14
2432	E13	3558	C12	9480	D14
2433	F13	3559	C11	9481	D14
2434	E13	3560	C11	9482	E14
2435	E13	3561	C11	9483	E14
2436	J11	3600	K11	9484	D12
2451	D12	3601	J10	9485	D12
2452	D12	3632	C14	9486	D12
2453	D12	3633	B10	9487	D12
2454	D13	3634	B11	9488	E12
2456	C13	3921	H13	9489	C12
2461	C12	3922	I13	9490	H12
2463	G13	3923	I13	9493	F12
2601	J11	3924	I13	9494	F12
2615	C14	4003	E14	9461	G11
2616	C14	4004	E14	9462	G11
3400	J14	4005	E14		
3401	J14	4401	D14		
3402	C14	4402	F12		
3403	J14	4403	C13		
3404	J14	4404	E14		
3406	D14	4405	B12		
3407	D14	4406	B13		
3408	D14	4407	E13		
3409	D13	4408	E13		
3410	D12	4409	E12		
3413	D14	4410	E12		
3414	D14	4411	E12		
3415	E12	4412	G12		
3416	D14	4430	I13		
3417	D14	4440	H12		
3418	J12	5401	J14		
3419	J12	5402	E13		
3420	J12	5404	C13		
3421	J12	5405	C12		
3422	G13	5406	E13		
3430	E14	5600	K11		
3431	E14	5601	J10		
3433	E14	6400	B12		
3435	E14	6410	H13		
3436	E14	6402	B12		
3437	E14	6403	J14		
3438	E14	6408	H13		
3439	E14	6409	H13		
3444	D14	6411	H13		
3445	C12	6412	H13		
3446	C12	6413	H13		
3447	E13	6414	H14		
3448	E13	6415	H14		
3449	E13	6416	H14		
3450	E13	6417	H14		
3451	E13	6420	J12		
3452	E13	6421	B12		
3453	E12	7100	F13		
3454	F13	7403	C12		
3455	E12	7410	D12		
3456	F13	7411	D13		
3457	F12	9400	I14		
3458	F12	9401	B13		
3459	F12	9402	B11		
3460	F12	9403	B11		
3462	F12	9406	B11		
3463	F12	9409	D11		
3464	E14	9410	B13		
3465	E14	9412	B12		



# TDA7468 INTERNAL BLOCK DIAGRAM



# MICROPROCESSOR TMP87CN71 INTERNAL BLOCK DIAGRAM



## ELECTRICAL PARTSLIST - FRONT PART & COMBI PART

### - MISCELLANEOUS -

23	9965 000 11366	HEADPHONE SOCKET D3,5	2136	9965 000 11574	CHIP CAP 0,47UF/50V +80/-20%
1101	9965 000 13635	SPEAKER TERMINAL 2P	2137	9965 000 11574	CHIP CAP 0,47UF/50V +80/-20%
1207	4822 070 32002	218002.(2A)	2138	9965 000 11477	ELEC CAP 2,2U/50V SME TP=5MM
1208	9965 000 11350	△ FUSE 315MA 250V T 218	2139	9965 000 11490	CHIP CAP N750 15P/50V 0603
1209	4822 070 32002	218002.(2A)	2140	4822 126 14226	82PF 5% NP0 50V 0603
1300	9965 000 13636	SPEAKER TERMINAL4P 94V0	2141	9965 000 11247	CHIP CAP 0,1UF/25(Z) F
	9965 000 13637	FTD 12-ST-29GNK	2143	9965 000 11249	CHIP CAP Y5V 0,22U/25V F0603
1404	9965 000 11259	TACT SWITCH	2144	9965 000 11236	ELEC CAP Y5V/50V SME TP=5MM
1405	9965 000 11259	TACT SWITCH	2145	4822 126 13883	220PF 5% 50V
1407	9965 000 11259	TACT SWITCH	2146	4822 126 13883	220PF 5% 50V
1408	9965 000 11259	TACT SWITCH	2147	4822 126 13883	220PF 5% 50V
1409	9965 000 11259	TACT SWITCH	2148	4822 126 14238	CER2 0603 X7R 50V 2N2 COL R
1410	9965 000 11259	TACT SWITCH	2150	9965 000 11247	CHIP CAP 0,1UF/25(Z) F
1411	9965 000 11259	TACT SWITCH	2152	4822 126 13648	0,033UF K81 50V
1412	9965 000 11259	TACT SWITCH	2153	4822 122 33752	15PF 5%NP0 50V
1413	9965 000 11259	TACT SWITCH	2155	9965 000 13638	CER TRIM 3P-11P100V N450
1415	9965 000 11259	TACT SWITCH	2159	2222 867 15339	CER1 0603 NP0 50V 33P PM5
1417	9965 000 11259	TACT SWITCH	2164	9965 000 11574	CHIP CAP 0,47UF/50V +80/-20%
1418	9965 000 11259	TACT SWITCH	2165	9965 000 11247	CHIP CAP 0,1UF/25(Z) F
1419	9965 000 11259	TACT SWITCH	2166	5322 126 11578	1NF10% X7R 50V 0603
1422	9965 000 11259	TACT SWITCH	2167	4822 126 11663	12PF
1423	9965 000 11259	TACT SWITCH	2202	9965 000 11238	ELEC CAP 22U/50V (M) SME P=5MM
1424	9965 000 11259	TACT SWITCH	2203	9965 000 11242	ELEC CAP47UF/50V (M) TP=5MM
1425	9965 000 11259	TACT SWITCH	2204	9965 000 11240	ELEC CAP 220UF/50V M(S) TP=5MM
1426	9965 000 11259	TACT SWITCH	2205	4822 126 14238	CER2 0603 X7R 50V 2N2 COL R
1427	9965 000 11259	TACT SWITCH	2206	9965 000 13639	CHIP CAP U 0.022UF/25V 5% B
1428	9965 000 11259	TACT SWITCH	2220	9965 000 11225	M, CAP 0,1UF/50V (J)
1431	9965 000 11259	TACT SWITCH	2221	9965 000 11225	M, CAP 0,1UF/50V (J)
1507	9965 000 11353	SOCKET, FLEX CABLE 15PIN	2222	9965 000 11236	ELEC CAP 1UF/50V SME TP=5MM
1707	9965 000 11378	SWITCH SLIDE 6P2T	2223	9965 000 11236	ELEC CAP 1UF/50V SME TP=5MM

### - CAPACITORS -

2101	4822 126 11785	CER1 0603 NP0 50V47P PM5	2228	9965 000 11242	ELEC CAP47UF/50V (M) TP=5MM
2102	9965 000 11247	CHIP CAP 0,1UF/25(Z) F	2229	9965 000 11225	M, CAP 0,1UF/50V (J)
2103	5322 126 11578	1NF10% X7R 50V 0603	2234	9965 000 11267	AX,CAP 0,01UF/50V(Z)F TP=52MM
2104	9965 000 11253	CHIP CAP100P/50V (J) CH 0603	2238	9965 000 11234	E,C,100UF/10V 6,3X5 TP=5MM
2105	9965 000 11247	CHIP CAP 0,1UF/25(Z) F	2239	9965 000 11234	E,C,100UF/10V 6,3X5 TP=5MM
2106	9965 000 13638	CER TRIM 3P-11P100V N450	2243	9965 000 11371	EL CAP 3300UF/35V
2107	9965 000 11223	CAP MPOL 1UF/50V S	2245	9965 000 11240	ELEC CAP 220UF/50V M(S) TP=5MM
2120	4822 126 14507	18PF 5% 50V 0603 NP0	2300	9965 000 11264	CAP 0,022UF +80/-20% 25V 26MM
2124	9965 000 13639	CHIP CAP U 0.022UF/25V 5% B	2323	9965 000 11236	ELEC CAP 1UF/50V SME TP=5MM
2125	9965 000 13640	C-CHIP 560P/50V 1% 0805	2324	9965 000 11236	ELEC CAP 1UF/50V SME TP=5MM
2126	4822 126 14241	CER1 0603 NP0 50V 330P COL R	2327	9965 000 11241	ELEC CAP 220U/25V SME TP=5MM
2127	9965 000 11249	CHIP CAP Y5V 0,22U/25V F0603	2328	9965 000 11241	ELEC CAP 220U/25V SME TP=5MM
2128	9965 000 11232	ELEC CAP10UF/50V SME TP=5MM	2329	9965 000 13644	M,CAP 0.15UF/50V
2129	9965 000 11233	ELEC CAP100UF/10V SME TP=5MM	2330	9965 000 13644	M,CAP 0.15UF/50V
2130	9965 000 13639	CHIP CAP U 0.022UF/25V 5% B	2331	9965 000 13645	ELEC CAP470UF/16V20%S
2131	9965 000 11574	CHIP CAP 0,47UF/50V +80/-20%	2332	9965 000 13645	ELEC CAP470UF/16V20%S
2132	9965 000 11574	CHIP CAP 0,47UF/50V +80/-20%	2333	9965 000 11228	MYLAR CAP 0,047UF/50V
2133	9965 000 11236	ELEC CAP 1UF/50V SME TP=5MM	2334	9965 000 11228	MYLAR CAP 0,047UF/50V
2134	9965 000 13639	CHIP CAP U 0.022UF/25V 5% B	2335	9965 000 11264	CAP 0,022UF +80/-20% 25V 26MM
2135	9965 000 13639	CHIP CAP U 0.022UF/25V 5% B	2336	9965 000 11264	CAP 0,022UF +80/-20% 25V 26MM

**ELECTRICAL PARTSLIST - FRONT PART & COMBI PART**

**- CAPACITORS -**

Table listing electrical components for capacitors, including part numbers, descriptions, and quantities. Items include various capacitor types such as CHIP CAP, ELEC CAP, and MYLAR CAP with different specifications like voltage and tolerance.

**ELECTRICAL PARTSLIST - FRONT PART & COMBI PART**

**- CAPACITORS -**

Table listing electrical components for capacitors, including part numbers, descriptions, and quantities. Items include various capacitor types such as AX,CAP, MYLAR CAP, and CHIP CAP with different specifications.

**- RESISTORS -**

Table listing electrical components for resistors, including part numbers, descriptions, and quantities. Items include various resistor types such as 33K 5% 0,062W, 100K 1% 0603 0.62W, and 8K2 1% 0.063W 0603.





**ELECTRICAL PARTSLIST - FRONT PART & COMBI PART****- RESISTORS -**

4103	4822 051 30008	OR JUMPER
4106	4822 051 30008	OR JUMPER
4107	4822 051 30008	OR JUMPER
4108	4822 051 30008	OR JUMPER
4401	4822 051 30008	OR JUMPER
4402	4822 051 30008	OR JUMPER
4403	4822 051 30008	OR JUMPER
4404	4822 051 30008	OR JUMPER
4405	4822 051 30008	OR JUMPER
4406	4822 051 30008	OR JUMPER
4407	4822 051 30008	OR JUMPER
4408	4822 051 30008	OR JUMPER
4409	4822 051 30008	OR JUMPER
4410	4822 051 30008	OR JUMPER
4411	4822 051 30008	OR JUMPER
4412	4822 051 30008	OR JUMPER
4430	4822 051 30008	OR JUMPER
4440	4822 051 30008	OR JUMPER

**- COILS & FILTERS -**

5102	9965 000 11354	MW RF COIL
5109	9965 000 11355	CERAMIC FILTER SFE10,7MS3AZ
5110	9965 000 11355	CERAMIC FILTER SFE10,7MS3AZ
5111	9965 000 11356	IND VER 7MM 7PY450 KHZ B
5112	9965 000 11357	IND VAR 7MM 7P450KHZ
5114	9965 000 11357	IND VAR 7MM 7P450KHZ
5119	9965 000 11358	OSC COIL
5121	9965 000 11359	X'TAL 75KHZ
5123	9965 000 11360	IND VAR 7MM 7PY 796 KHZ
5130	9965 000 11364	RF COIL 1,5 TURNS
5131	9965 000 11364	RF COIL 1,5 TURNS
5401	9965 000 11361	FIXED IND 2,2UH K CECS TP=52MM
5402	9965 000 11372	X'TAL 8MHZ
5404	9965 000 11361	FIXED IND 2,2UH K CECS TP=52MM
5405	9965 000 11361	FIXED IND 2,2UH K CECS TP=52MM
5406	9965 000 11373	X'TAL 32,768KHZ
5600	9965 000 11361	FIXED IND 2,2UH K CECS TP=52MM
5601	9965 000 11361	FIXED IND 2,2UH K CECS TP=52MM
5701	9965 000 11376	IND VAR 7MM 7PA100KHZ B

**- DIODES -**

6103	9965 000 11218	CHIP DIODE BAV99LT1
6105	4822 130 83075	HN1V02H-B
6106	9340 255 30135	BAS216
6107	9340 386 90115	BZX284-C11
6120	9340 255 30135	BAS216
6130	4822 130 82833	1SV228
6131	4822 130 82833	1SV228
6201	4822 130 30621	1N4148
6202	4822 130 30862	BZX79-B9V1

6220	4822 130 31878	1N4003G
6221	4822 130 31878	1N4003G
6222	4822 130 31878	1N4003G
6223	4822 130 31878	1N4003G
6224	4822 130 31878	1N4003G
6225	4822 130 31878	1N4003G
6226	4822 130 31878	1N4003G
6227	4822 130 31878	1N4003G
6228	4822 130 34173	BZX79-B5V6
6229	4822 130 34142	BZX79-B33
6230	4822 130 31878	1N4003G
6232	4822 130 30621	1N4148
6233	4822 130 30621	1N4148
6235	4822 130 30621	1N4148
6236	4822 130 34174	BZX79-B4V7
6238	4822 130 31878	1N4003G
6239	4822 130 31878	1N4003G
6250	4822 130 34173	BZX79-B5V6
6255	4822 130 31878	1N4003G
6256	4822 130 31878	1N4003G
6320	4822 130 30621	1N4148
6400	4822 130 31878	1N4003G
6402	4822 130 31878	1N4003G
6403	4822 130 34173	BZX79-B5V6
6408	4822 130 30621	1N4148
6409	4822 130 30621	1N4148
6410	4822 130 30621	1N4148
6411	4822 130 30621	1N4148
6412	4822 130 30621	1N4148
6413	4822 130 30621	1N4148
6414	4822 130 30621	1N4148
6415	4822 130 30621	1N4148
6416	4822 130 30621	1N4148
6417	4822 130 30621	1N4148
6420	4822 130 30621	1N4148
6421	4822 130 30621	1N4148
6703	4822 130 30621	1N4148
6706	4822 130 30621	1N4148
6707	4822 130 30621	1N4148
6708	4822 130 30621	1N4148
6709	4822 130 30621	1N4148

**- IC & TRANSISTORS -**

7100	9965 000 13652	IC TMP87CS71F-3R84
7101	9351 740 80557	IC SM TEA5757H/V1 (PHSE) Y
7102	4822 13042131	BF550
7111	5322 13042755	BC847C
7112	4822 13040959	BC547B
7201	4822 13040981	BC337-25
7234	5322 13044593	BC369
7235	4822 13040981	BC337-25
7244	4822 13040981	BC337-25

**ELECTRICAL PARTSLIST - FRONT PART & COMBI PART****- IC & TRANSISTORS -**

7245	4822 13040981	BC337-25
7247	4822 13040981	BC337-25
7248	4822 13040981	BC337-25
7249	4822 13041246	BC327-25
7250	9965 000 11394	IC KIA7812API
7301	4822 209 31544	TA8227P
7320	4822 13040981	BC337-25
7321	4822 13040981	BC337-25
7400	4822 13041246	BC327-25
7403	9965 000 04931	M24C01-WMN6
7410	5322 130 60159	BC846B
7411	9965 000 11375	SENSOR RECEIVER
7503	4822 13041246	BC327-25
7504	5322 130 60159	BC846B
7506	4822 13040981	BC337-25
7511	9322 150 74668	IC SM TDA7468D
7681	4822 130 60373	BC856B
7682	5322 130 60159	BC846B
7704	4822 13040981	BC337-25
7711	4822 209 17498	AN7323
7712	4822 209 17498	AN7323
7713	4822 13040981	BC337-25
7714	4822 13040981	BC337-25
7715	4822 13040981	BC337-25
7716	4822 13040981	BC337-25
7717	4822 13040959	BC547B
7718	4822 13040959	BC547B
7719	4822 13040959	BC547B

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





# 3CDC-LLC-MCD1

(3 Disc Carousel Changer)

Layout stage .3

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**Service hints**

**CAUTION**

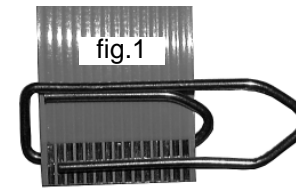
**CHARGED CAPACITORS ON THE SERVO BOARD MAY DAMAGE THE CD DRIVE ELECTRONICS WHEN CONNECTING A NEW CD MECHANISM. THAT'S WHY, BESIDES THE SAFETY MEASURES LIKE**

- SWITCH OFF POWER SUPPLY
- ESD PROTECTION

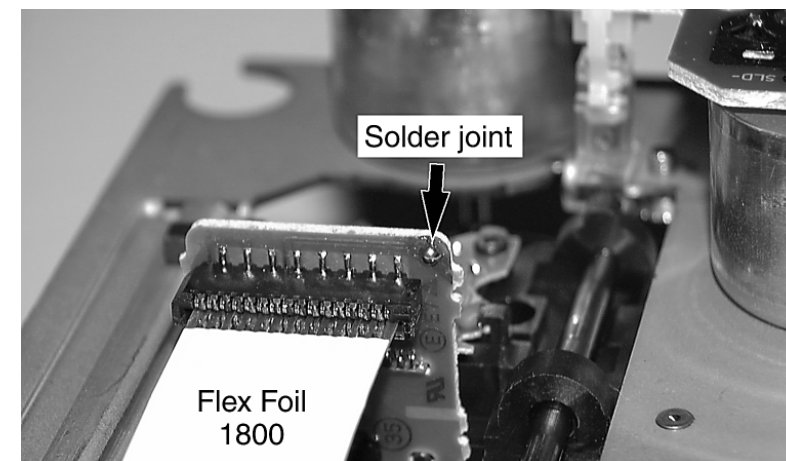
**ADDITIONAL ACTIONS MUST BE TAKEN BY THE REPAIR TECHNICIAN.**

The following steps have to be done when replacing the CD mechanism:

1. Disconnect flexfoil cable from the old CD drive
2. Put a paperclip on the flexfoil to short-circuit the contacts (fig.1)
3. Remove the old CD drive
4. Remove paperclip from the flexfoil and connect it to the new drive
5. Position the new CD drive in its studs
6. Remove solder joint from the Laserunit

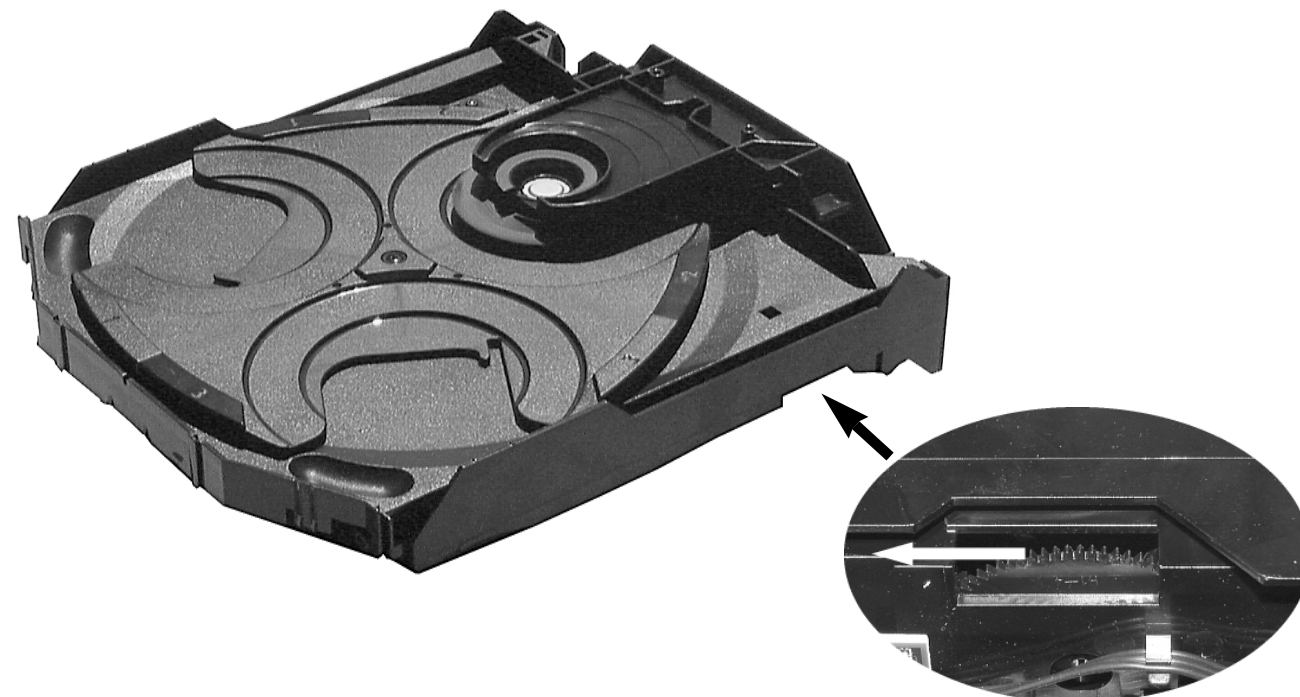


**Attention:** The laser diode of this CD drive is protected against ESD by a solder joint which shortcircuits the laserdiode to ground.  
 For proper functionality of the CD drive this solder joint must be removed **after** connection the drive to the set.



**Emergency open**

- In case of a Supply fault, the tray can be opened manually.
1. Remove the top cover of the set to get access to the Changer Module.
  2. Turn gearwheel clockwise (as shown in picture below).



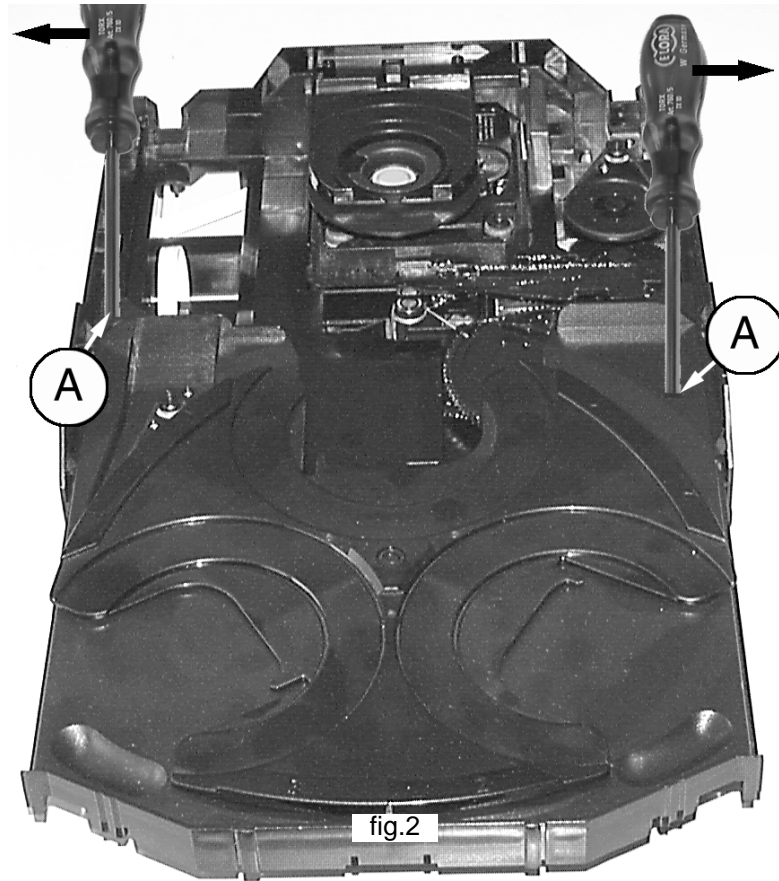
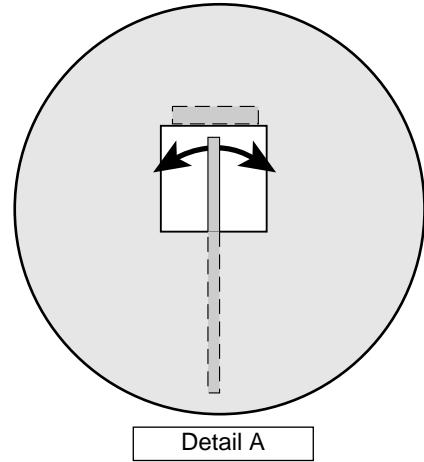


## Service hints

10-3

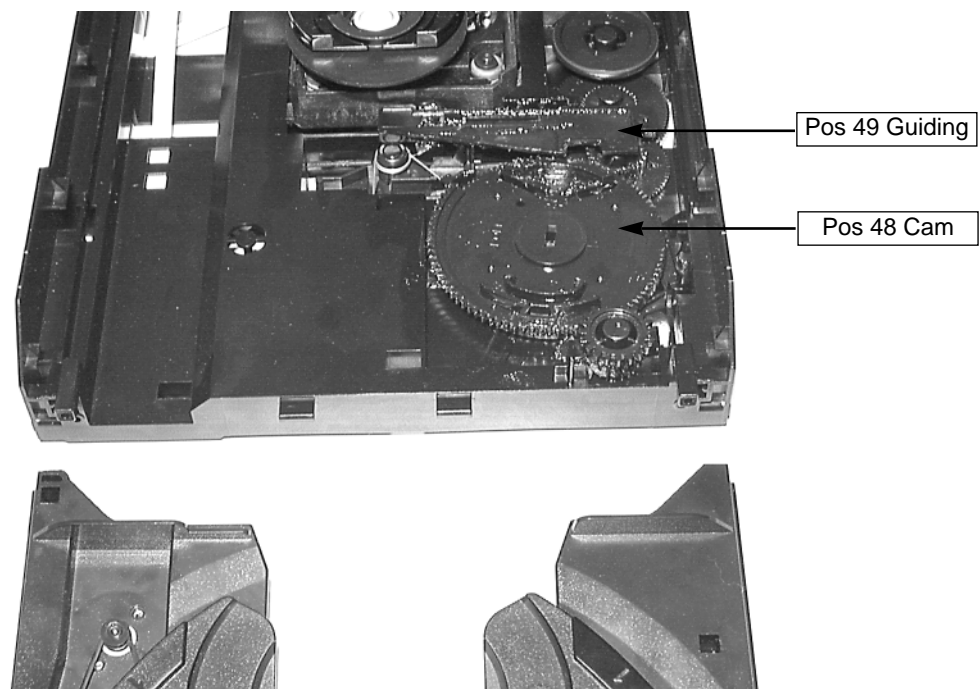
### Dismantling of Tray

1. Open the tray.
2. Release 2x catch as shown in fig. 2 and Detail A
3. Pull tray out.



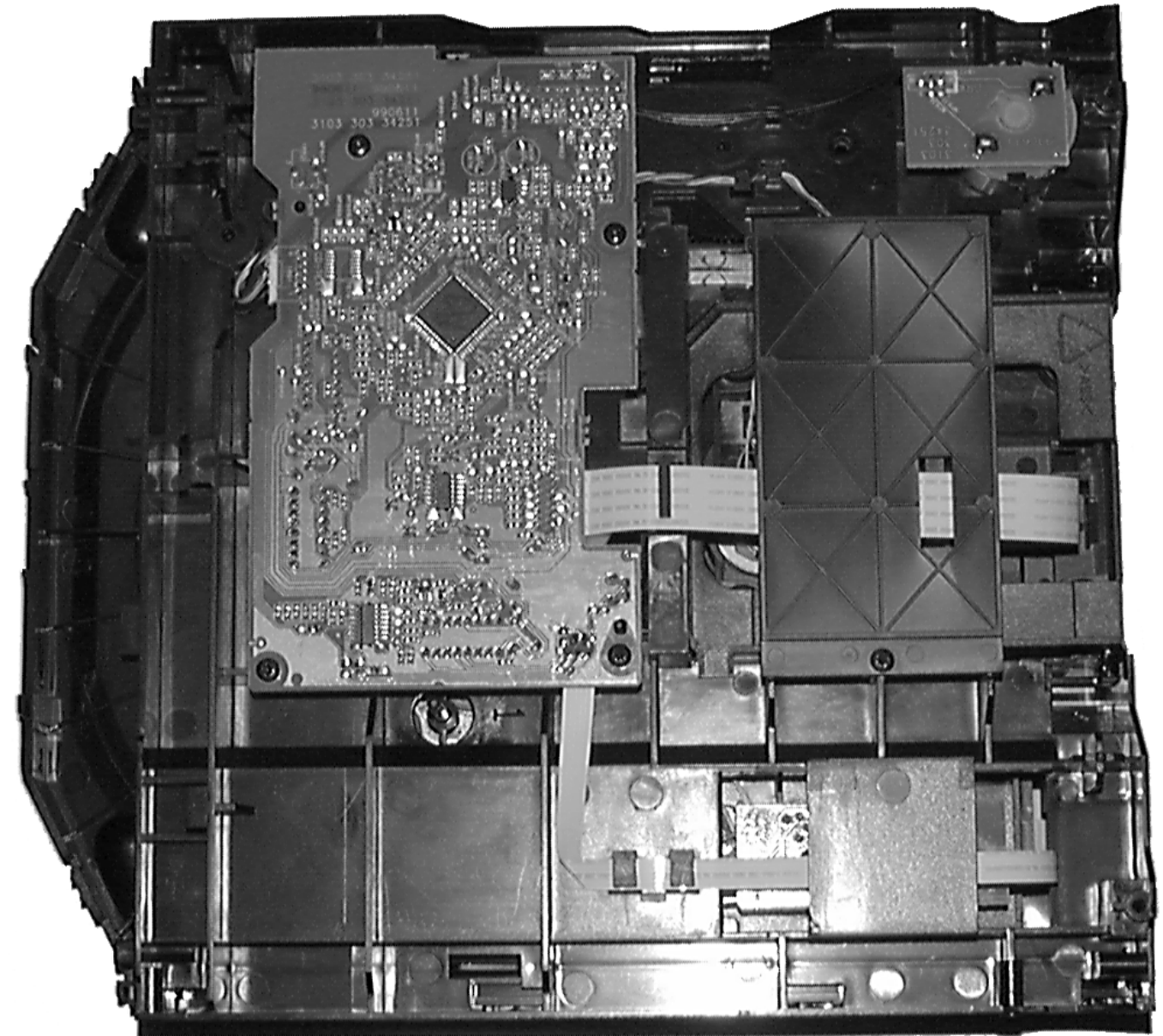
### Assembling of Tray

1. Turn Cam (pos. 48) clockwise to end position.
2. If necessary - move Guiding (pos. 49) to the right end position.
3. Insert the Tray.

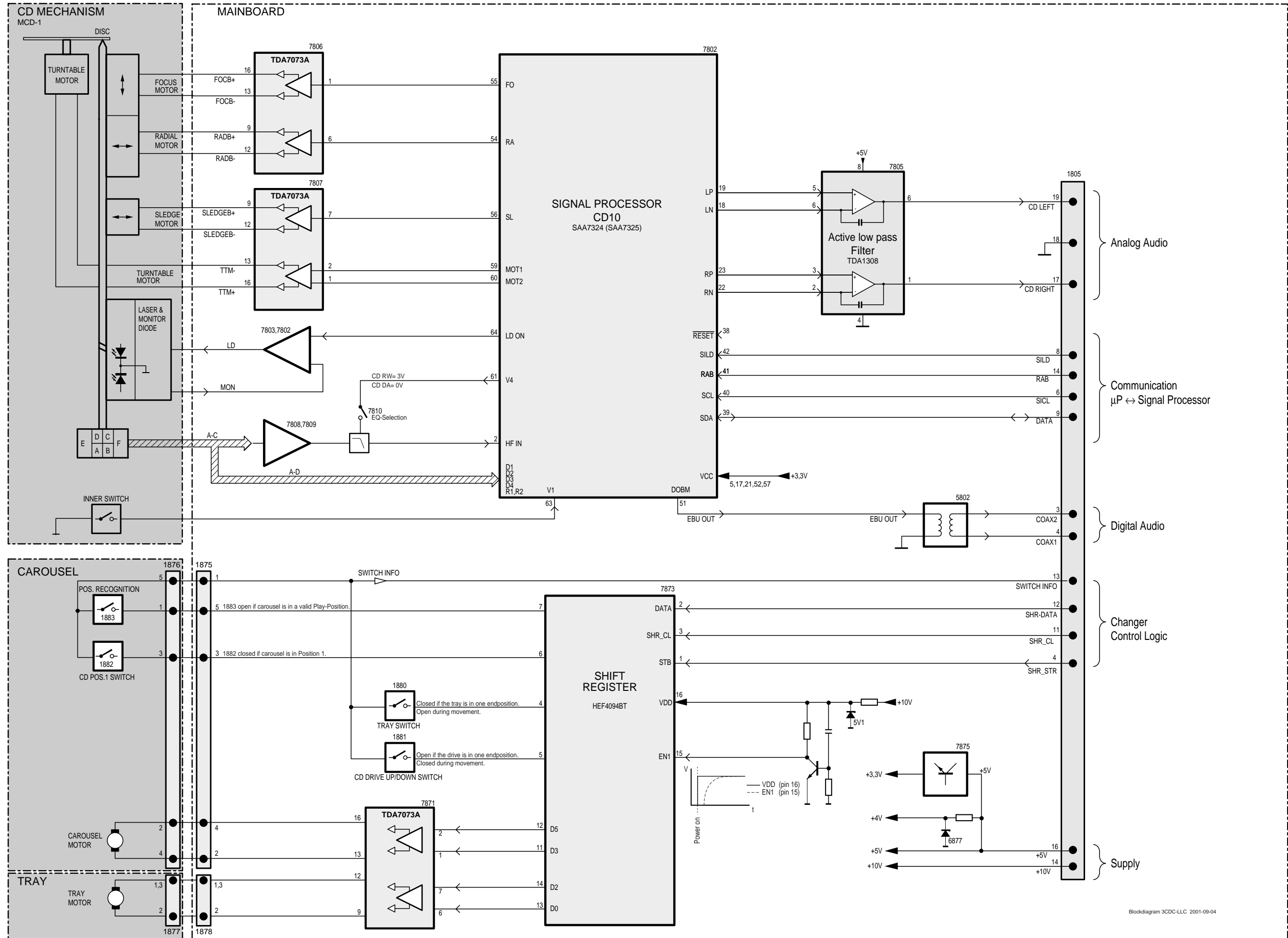


10-4

### Service Position

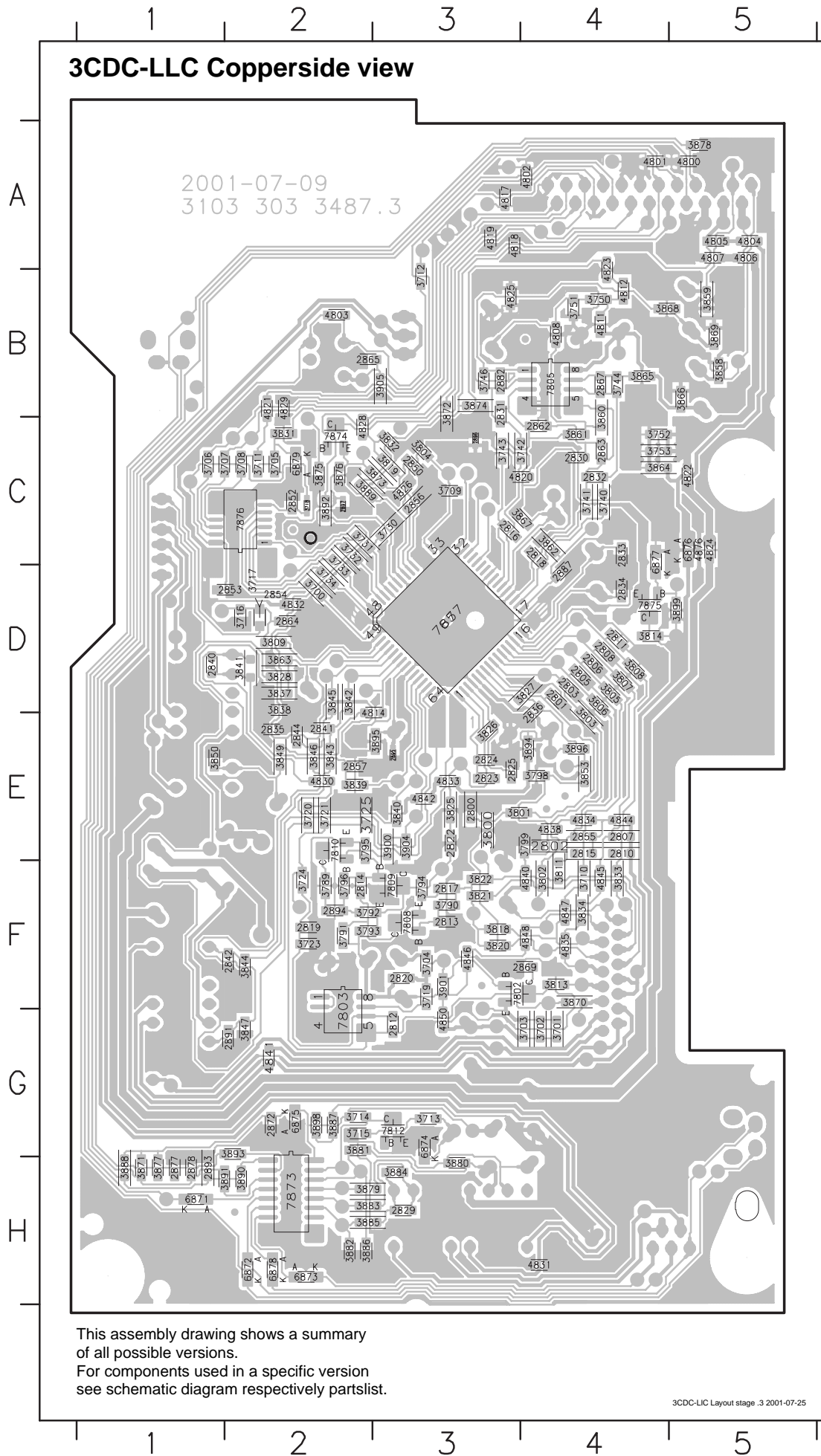


# BLOCK DIAGRAM 3CDC-LLC-MCD1



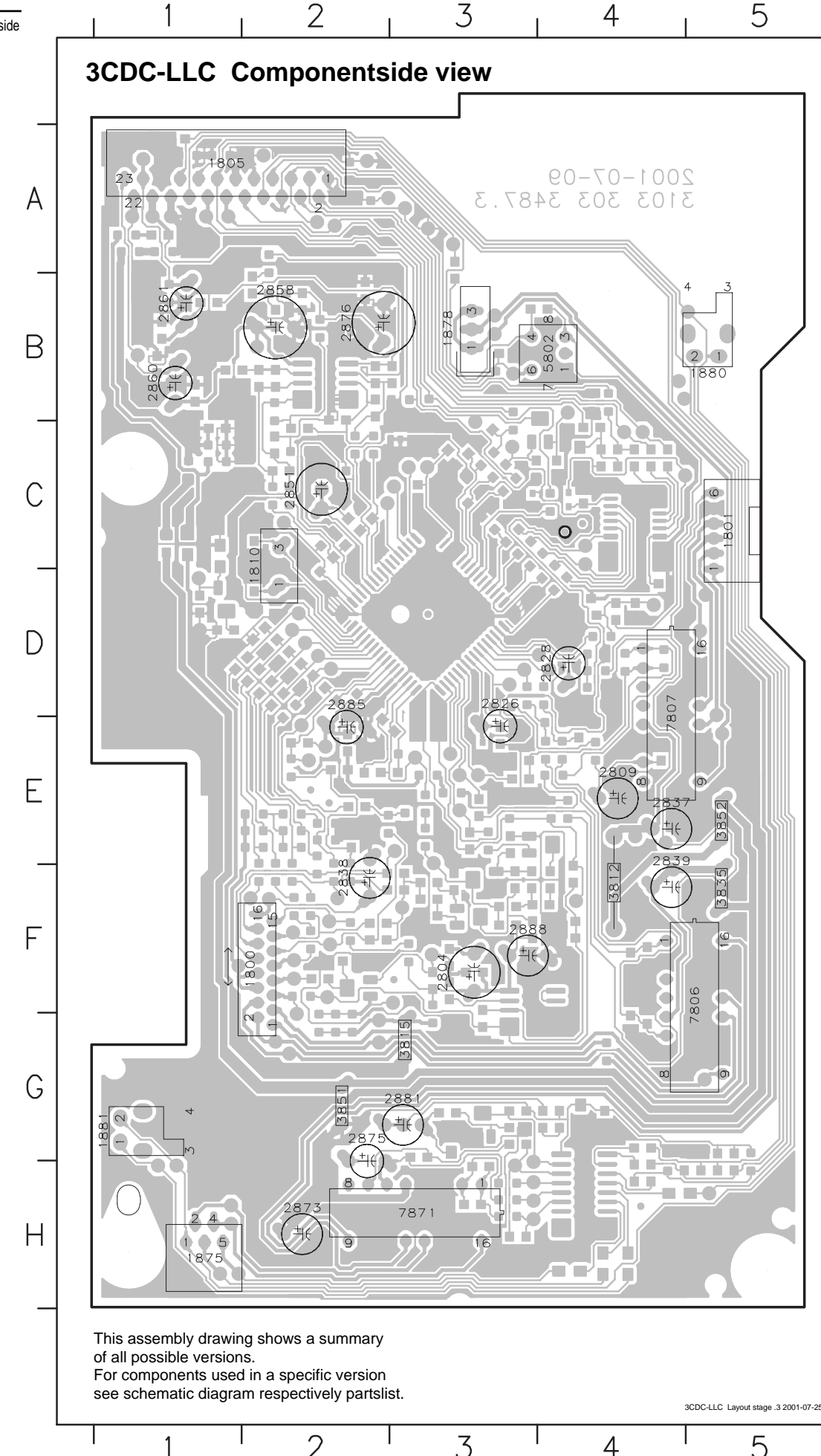
Mapping

3CDC-LLC Copperside view



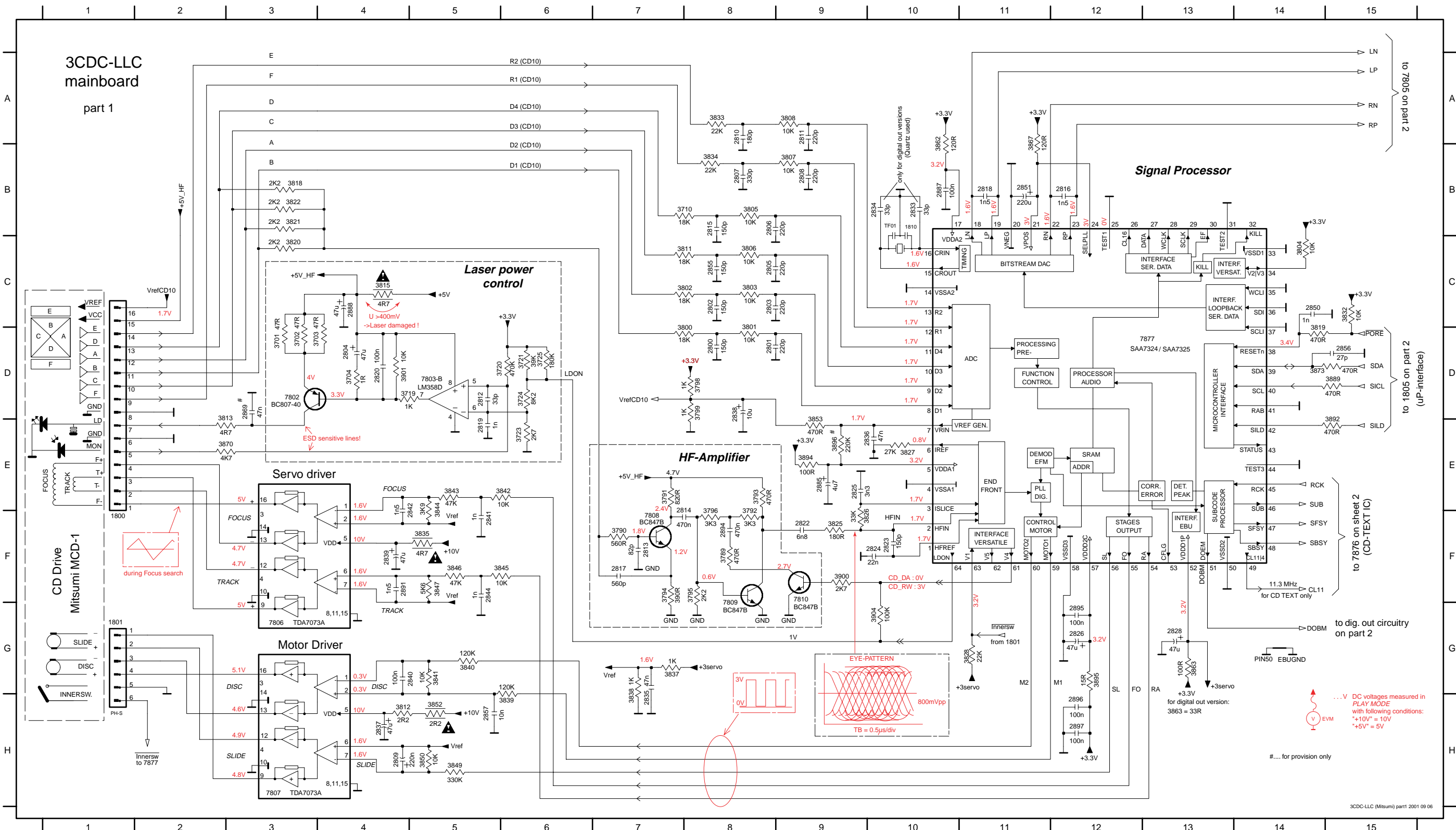
Copperside		Componentside	
2800 E3	3741 C4	3889 C2	1800 F2
2801 D4	3742 C4	3890 H2	1801 C5
2802 E4	3743 C3	3891 H2	1805 A2
2803 D4	3744 B4	3892 C2	1810 C2
2805 D4	3746 B3	3893 G2	1875 H1
2806 E4	3750 B4	3894 E4	1878 B3
2807 E4	3751 B4	3895 E3	1880 B5
2808 D4	3752 C4	3896 E4	1881 G1
2810 E4	3753 C4	3898 G2	2804 F3
2811 D4	3789 F2	3899 D5	2809 E4
2812 G3	3790 F3	3900 E3	2826 D3
2813 F3	3791 F2	3901 F3	2828 D4
2814 F2	3792 F3	3904 E3	2837 E5
2815 E4	3793 F3	3905 B3	2838 F2
2816 C3	3794 F3	4800 A5	2839 E5
2817 F3	3795 E2	4801 A4	2851 C2
2818 C4	3796 F2	4802 A4	2858 B2
2819 F2	3798 E4	4803 B2	2860 B1
2820 F3	3799 E4	4804 A5	2861 B1
2822 E3	3800 E3	4805 A5	2873 H2
2823 E3	3801 E4	4806 A5	2875 G3
2824 E3	3802 F4	4807 A5	2876 B2
2825 E3	3803 D4	4808 B4	2881 G3
2829 H3	3804 C3	4811 B4	2885 D2
2830 C4	3805 D4	4812 B4	2888 F4
2831 B3	3806 D4	4814 D3	3812 F4
2832 C4	3807 D4	4817 A3	3815 G3
2833 C4	3808 D4	4818 A3	3835 F5
2834 D4	3809 D2	4819 A3	3851 G2
2835 E2	3811 F4	4820 C4	3852 E5
2836 D4	3813 F4	4821 B2	5802 B4
2840 D1	3814 D4	4822 C5	7806 F5
2841 E2	3818 F3	4823 A4	7807 D5
2842 F2	3819 C3	4824 C5	7871 H3
2844 E2	3820 F3	4825 B3	
2850 C3	3821 F3	4826 C3	
2852 C2	3822 F3	4828 C2	
2853 D2	3825 E3	4829 B2	
2854 D2	3826 E3	4830 E2	
2855 E4	3827 D4	4831 H4	
2856 C3	3828 D2	4832 D2	
2857 E2	3831 C2	4833 E3	
2862 C4	3832 C3	4834 F4	
2863 C4	3833 F4	4835 F4	
2864 D2	3834 F4	4838 E4	
2865 B3	3837 D2	4840 F4	
2867 B4	3838 D2	4841 G2	
2869 F4	3839 E2	4842 E3	
2872 G2	3840 E3	4844 E4	
2877 H1	3841 D2	4845 F4	
2878 H1	3842 D2	4846 F3	
2882 B3	3843 E2	4847 F4	
2887 C4	3844 F2	4848 F4	
2891 G2	3845 D2	4850 G3	
2893 H1	3846 E2	4876 C5	
2894 F2	3847 G2	6871 H1	
2895 E3	3849 E2	6872 H2	
2896 C3	3850 E1	6873 H2	
2897 C2	3853 E4	6874 G3	
3700 D2	3858 B5	6875 G2	
3701 G4	3859 B5	6876 C5	
3702 G4	3860 B4	6877 C4	
3703 G4	3861 C4	6878 H2	
3704 F3	3862 C4	6879 C2	
3705 C2	3863 D2	7802 F4	
3706 C1	3864 C4	7803 F2	
3707 C2	3865 B4	7805 B4	
3708 C2	3866 B5	7808 F3	
3709 C3	3867 C4	7809 F3	
3710 F4	3868 B5	7810 E2	
3711 C2	3869 B5	7812 G3	
3712 A3	3870 F4	7873 H2	
3713 G3	3871 H1	7874 C2	
3714 G2	3872 B3	7875 D4	
3715 G2	3873 C3	7876 C2	
3716 D2	3874 B3	7877 D3	
3717 D2	3875 C2		
3718 C2	3876 C2		
3719 F3	3877 H1		
3720 E2	3878 A5		
3721 E2	3879 H3		
3723 F2	3880 G3		
3724 F2	3881 G2		
3725 E2	3882 H2		
3730 C3	3883 H3		
3731 C2	3884 H3		
3732 C2	3885 H3		
3733 C2	3886 H2		
3734 D2	3887 G2		
3740 C4	3888 H1		

3CDC-LLC Componentside view





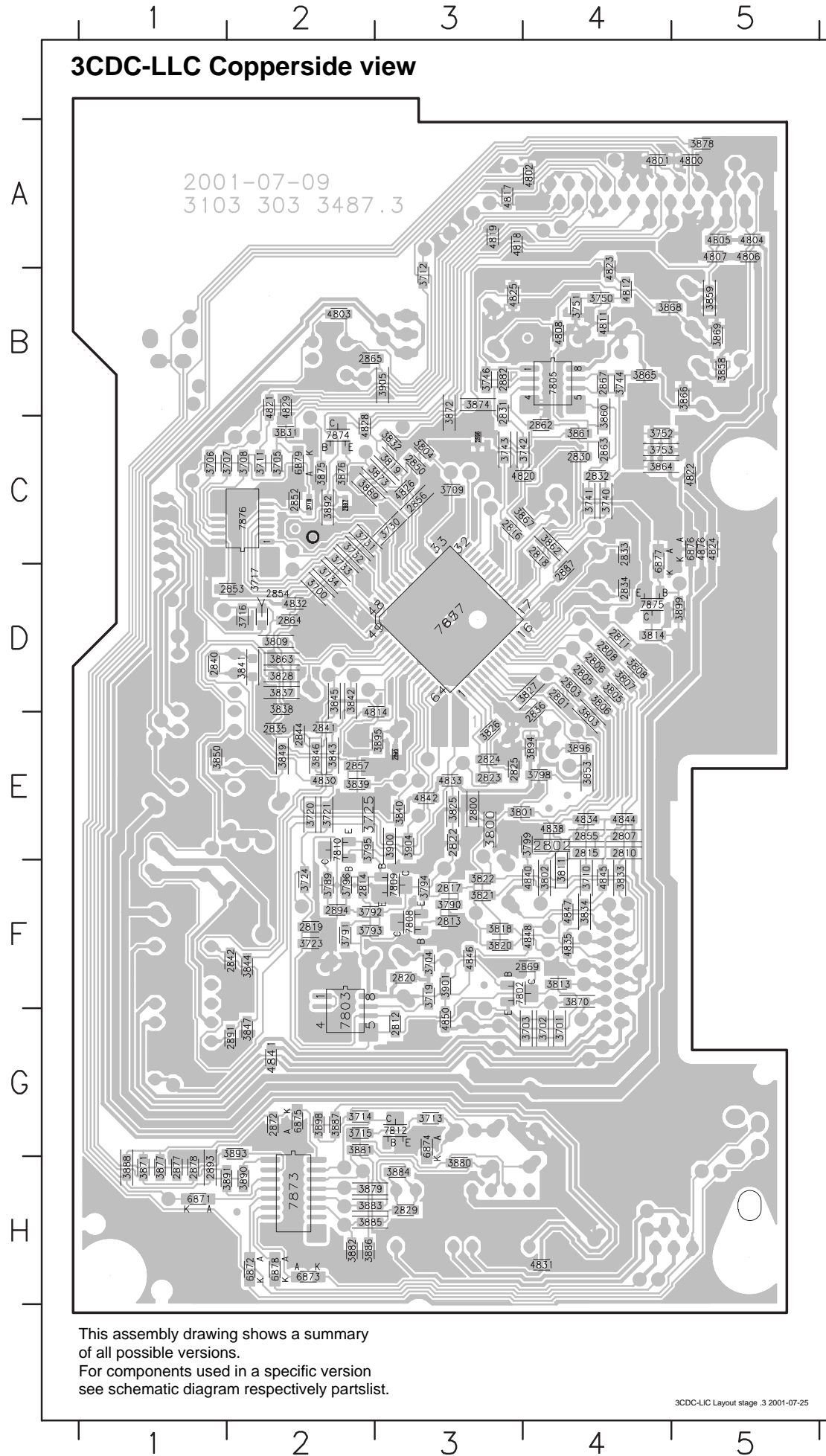
1800 F1	2804 D4	2811 A9	2818 B11	2826 G12	2838 D8	2851 B11	2888 C4	3702 D3	3721 D6	3792 F8	3800 D8	3807 B9	3819 D14	3828 G11	3839 H6	3846 F5	3863 G13	3895 G12	7803-B D5	MP713 C9	MP743 D2	MP813 B3	MP820 F8	MP837 D4	MP844 E9	MP851 E2	MP873 H4	MP884 C5	
1801 G1	2805 C8	2812 D5	2819 E5	2828 G13	2839 F4	2855 C8	2891 F4	3703 D3	3723 E6	3793 F8	3801 D8	3806 A8	3820 C3	3832 C15	3840 G5	3847 F5	3867 A11	3896 F9	7806 G3	MP715 D9	MP744 C2	MP814 G2	MP821 C15	MP838 G6	MP845 F4	MP852 C2	MP875 F13	MP893 F10	
1810 B10	2806 B8	2813 F7	2820 D4	2833 B10	2840 G4	2856 D15	2894 F8	3704 D4	3724 D6	3794 F7	3802 C8	3811 C8	3821 B3	3834 A8	3841 G5	3849 H5	3870 E2	3900 F9	7807 H3	MP716 B9	MP745 E2	MP815 E3	MP827 B10	MP839 G6	MP846 H2	MP853 G2	MP876 E2		
2800 D8	2807 B8	2814 F7	2822 F9	2834 B10	2841 F5	2857 H5	2895 G12	3709 C14	3725 D6	3795 F8	3803 C8	3812 H4	3822 B3	3834 B8	3842 E6	3850 H5	3873 D14	3901 D4	7808 F7	MP717 A9	MP800 E2	MP816 A3	MP828 G11	MP840 E6	MP847 H2	MP858 G8	MP877 E3		
2801 D8	2808 B9	2815 B8	2823 F10	2835 H7	2842 E5	2869 D3	2896 H12	3710 B8	3789 F8	3796 F8	3804 C14	3813 E2	3825 F9	3835 F5	3843 E5	3852 H5	3889 D15	3904 G10	7809 G8	MP729 B9	MP802 B15	MP817 A3	MP829 A3	MP841 F6	MP848 E2	MP859 E10	MP878 B13		
2802 C8	2809 H4	2816 B12	2824 F10	2836 E10	2844 F5	2885 E9	2897 H12	3719 D4	3790 F7	3798 D8	3805 B8	3815 C4	3826 F9	3837 G7	3844 E5	3853 E9	3892 E15	7802 D3	7810 F9	MP730 C9	MP809 D10	MP818 C4	MP829 A3	MP831 A4	MP842 H6	MP849 E2	MP860 C2	MP879 B11	
2803 C8	2810 A8	2817 F7	2825 E9	2837 H4	2850 C14	2887 B10	3701 D3	3720 D5	3791 E7	3799 D8	3806 C8	3818 B3	3827 E10	3838 H7	3845 F6	3862 A10	3894 E9	7803-A B5	7877 D12	MP731 B13	MP812 G2	MP819 F10	MP836 D3	MP843 G7	MP850 E2	MP872 C15	MP883 C4		



Mapping

3CDC-LLC Copperside view

3CDC-LLC Componentside view

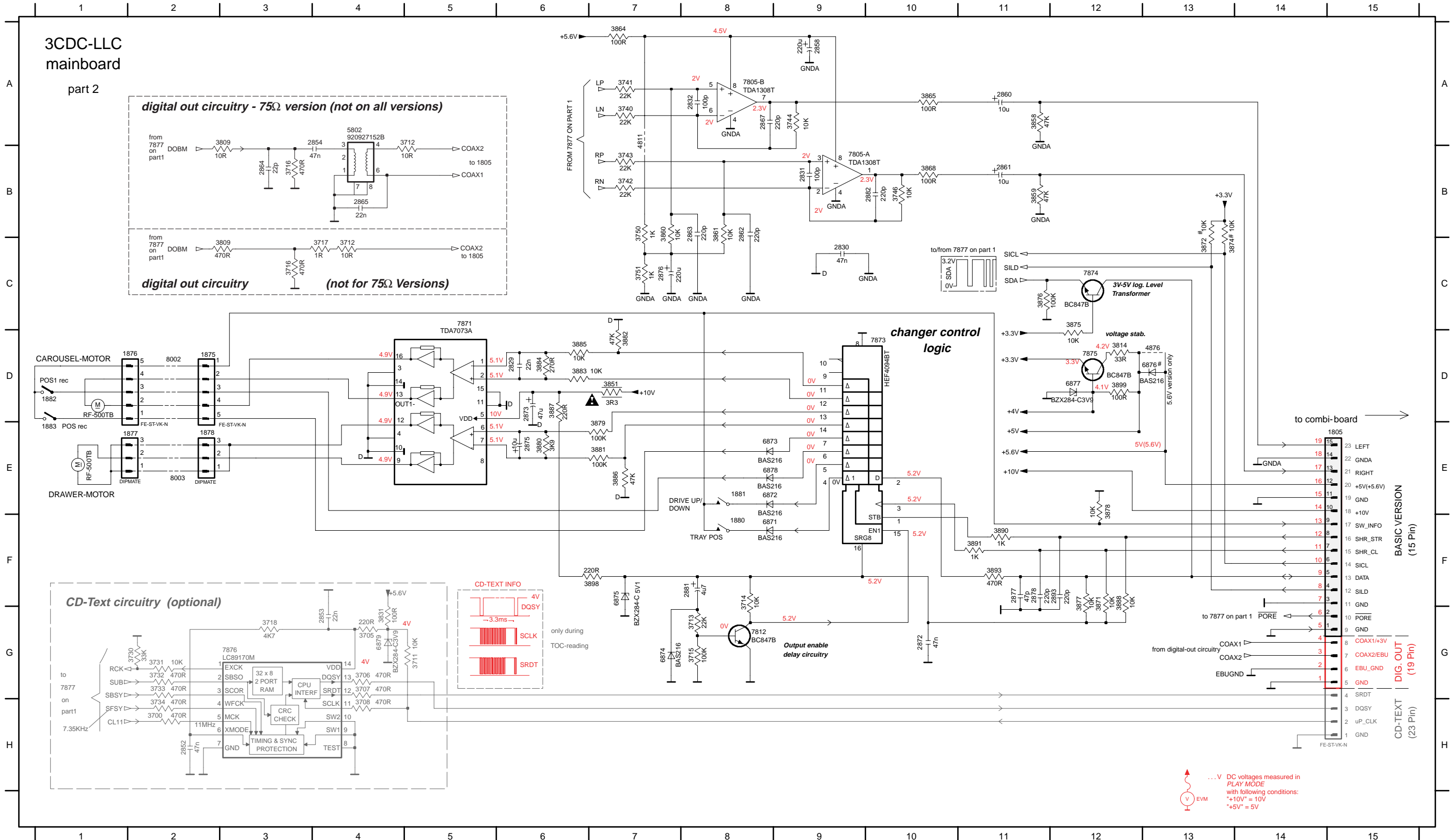


Copperside		Componentside	
2800 E3	3741 C4	3889 C2	1800 F2
2801 D4	3742 C4	3890 H2	1801 C5
2802 E4	3743 C3	3891 H2	1805 A2
2803 D4	3744 B4	3892 C2	1810 C2
2805 D4	3746 B3	3893 G2	1875 H1
2806 D4	3750 B4	3894 E4	1878 B3
2807 E4	3751 B4	3895 E3	1880 B5
2808 D4	3752 C4	3896 E4	1881 G1
2810 E4	3753 C4	3898 G2	2804 F3
2811 D4	3789 F2	3899 D5	2809 E4
2812 G3	3790 F3	3900 E3	2826 D3
2813 F3	3791 F2	3901 F3	2828 D4
2814 F2	3792 F3	3904 E3	2837 E5
2815 E4	3793 F3	3905 B3	2838 F2
2816 C3	3794 F3	4800 A5	2839 E5
2817 F3	3795 E2	4801 A4	2851 C2
2818 C4	3796 F2	4802 A4	2858 B2
2819 F2	3798 E4	4803 B2	2860 B1
2820 F3	3799 E4	4804 A5	2861 B1
2822 E3	3800 E3	4805 A5	2873 H2
2823 E3	3801 E4	4806 A5	2875 G3
2824 E3	3802 F4	4807 A5	2876 B2
2825 E3	3803 D4	4808 B4	2881 G3
2829 H3	3804 C3	4811 B4	2885 D2
2830 C4	3805 D4	4812 B4	2888 F4
2831 B3	3806 D4	4814 D3	3812 F4
2832 C4	3807 D4	4817 A3	3815 G3
2833 C4	3808 D4	4818 A3	3835 F5
2834 D4	3809 D2	4819 A3	3851 G2
2835 E2	3811 F4	4820 C4	3852 E5
2836 D4	3813 F4	4821 B2	5802 B4
2840 D1	3814 D4	4822 C5	7806 F5
2841 E2	3818 F3	4823 A4	7807 D5
2842 F2	3819 C3	4824 C5	7871 H3
2844 E2	3820 F3	4825 B3	
2850 C3	3821 F3	4826 C3	
2852 C2	3822 F3	4828 C2	
2853 D2	3825 E3	4829 B2	
2854 D2	3826 E3	4830 E2	
2855 E4	3827 D4	4831 H4	
2856 C3	3828 D2	4832 D2	
2857 E2	3831 C2	4833 E3	
2862 C4	3832 C3	4834 E4	
2863 C4	3833 F4	4835 F4	
2864 D2	3834 F4	4838 E4	
2865 B3	3837 D2	4840 F4	
2867 B4	3838 D2	4841 G2	
2869 F4	3839 E2	4842 E3	
2872 G2	3840 E3	4844 E4	
2877 H1	3841 D2	4845 F4	
2878 H1	3842 D2	4846 F3	
2882 B3	3843 E2	4847 F4	
2887 C4	3844 F2	4848 F4	
2891 G2	3845 D2	4850 G3	
2893 H1	3846 E2	4876 C5	
2894 F2	3847 G2	6871 H1	
2895 E3	3849 E2	6872 H2	
2896 C3	3850 E1	6873 H2	
2897 C2	3853 E4	6874 G3	
3700 D2	3858 B5	6875 G2	
3701 G4	3859 B5	6876 C5	
3702 G4	3860 B4	6877 C4	
3703 G4	3861 C4	6878 H2	
3704 F3	3862 C4	6879 C2	
3705 C2	3863 D2	7802 F4	
3706 C1	3864 C4	7803 F2	
3707 C2	3865 B4	7805 B4	
3708 C2	3866 B5	7808 F3	
3709 C3	3867 C4	7809 F3	
3710 F4	3868 B5	7810 E2	
3711 C2	3869 B5	7812 G3	
3712 A3	3870 F4	7873 H2	
3713 G3	3871 H1	7874 C2	
3714 G2	3872 B3	7875 D4	
3715 G2	3873 C3	7876 C2	
3716 D2	3874 B3	7877 D3	
3717 D2	3875 C2		
3721 E2	3879 H3		
3723 F2	3880 G3		
3724 F2	3881 G2		
3725 E2	3882 H2		
3730 C3	3883 H3		
3731 C2	3884 H3		
3732 C2	3885 H3		
3733 C2	3886 H2		
3734 D2	3887 G2		
3740 C4	3888 H1		

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

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

1805 E15	2830 C9	2858 A9	2865 C4	2877 F11	3705 G4	3713 G8	3730 G2	3741 A7	3751 C7	3851 D7	3865 A10	3874 C13	3880 E6	3886 E7	3898 F7	4876 D13	6875 F7	7805-B A8	7876 G3	MP726 D8	MP804 G14	MP811 F14	MP832 G9	MP863 C11	MP871 D6	MP888 G5	MP898 E13
1875 D2	2831 B9	2860 A11	2867 A8	2878 F11	3706 G4	3714 F8	3731 G2	3742 B7	3752 A6	3858 A11	3866 A10	3875 C12	3881 E7	3887 D6	3899 D12	5802 B4	6876 D13	7812 G8	7812 G8	MP721 C8	MP740 H14	MP805 F13	MP822 E3	MP865 D11	MP874 D12	MP889 G5	MP899 E14
1878 E2	2832 A8	2861 B11	2872 G10	2881 F8	3707 G4	3715 G8	3732 G2	3743 B7	3753 A6	3859 B11	3868 B10	3876 C11	3882 D7	3888 F12	3905 C5	6871 F8	6877 D12	7871 C5	7871 C5	MP722 E8	MP741 G14	MP806 F13	MP823 E3	MP835 F14	MP866 E8	MP881 G2	MP890 B3
1880 F8	2852 H2	2862 B8	2873 D6	2882 B10	3708 H4	3716 B3	3733 G2	3744 A8	3809 B2	3860 B7	3869 B10	3877 F12	3883 D6	3890 F11	4803 B4	6872 E8	6878 E8	7873 D10	7873 D10	MP723 D8	MP742 G14	MP807 F14	MP824 D4	MP854 A13	MP867 E8	MP882 G2	MP891 B5
1881 E8	2853 G4	2863 B8	2875 E6	2883 F12	3711 G5	3717 B3	3734 H2	3746 B10	3814 D12	3861 B8	3871 F12	3878 E12	3884 D6	3891 F11	4811 A7	6873 E8	6879 G4	7874 C12	7874 C12	MP724 D8	MP801 E12	MP808 F13	MP825 D4	MP856 E14	MP868 F8	MP886 G3	MP892 B5
2829 D6	2854 B3	2864 B3	2876 C7	3700 H2	3712 B4	3718 G3	3740 A7	3750 B7	3831 G4	3864 A7	3872 C13	3879 D7	3885 D6	3893 F11	4812 B7	6874 G7	7805-A B9	7875 D12	7875 D12	MP725 D8	MP803 F10	MP810 F13	MP830 A7	MP857 B13	MP869 C12	MP887 H5	MP897 E13

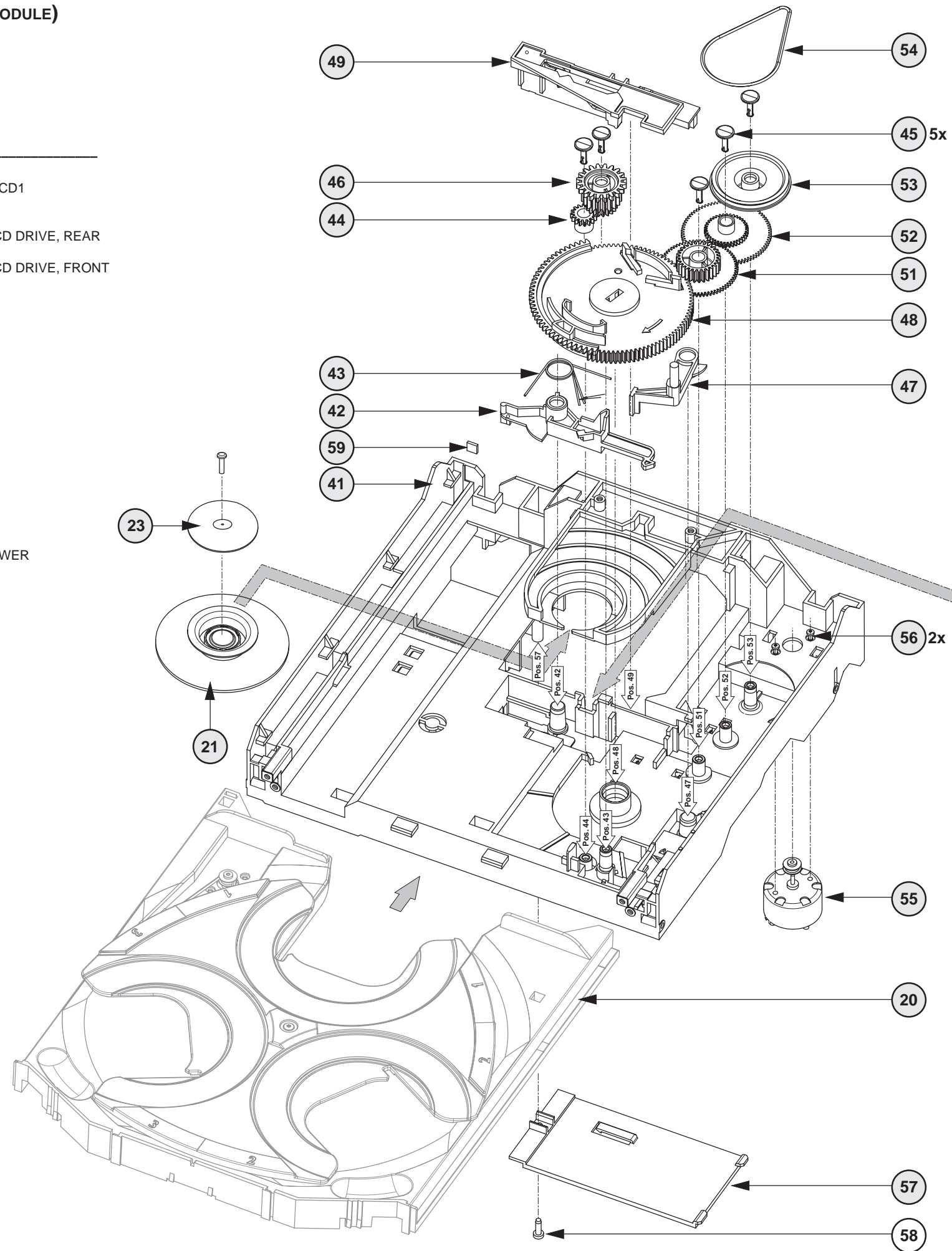




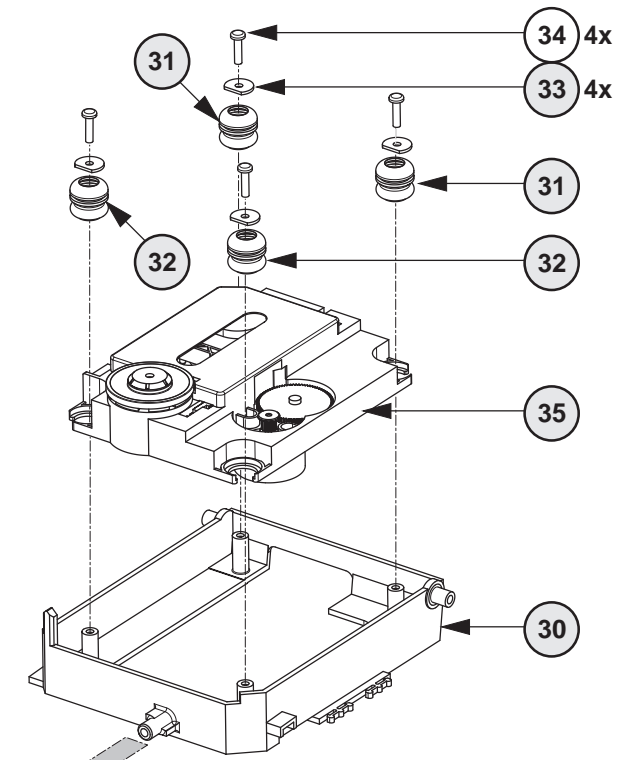
**EXPLODED VIEW (3CDC-LC MODULE)**

**MECHANICAL PARTS Loader → this page**

20	3103 304 66500	DRAWER
21	3140 114 29070	PRESSURE RING-MCD1
23	3140 111 21270	METAL RING-MCD1
30	3103 304 66560	SUPPORT
31	4822 529 10386	RUBBER DAMPER CD DRIVE, REAR
32	4822 529 10387	RUBBER DAMPER CD DRIVE, FRONT
33	3103 304 06970	WASHER
35	3103 309 05350	CD DRIVE MCD1B
41	3103 304 66480	FRAME
42	3103 304 66540	BRACKET-GUIDING
43	3103 301 06460	SPRING-GUIDING
44	3103 304 06890	GEAR-3
45	3103 304 06980	NAIL FIXATION
46	3103 304 06880	GEAR-2
47	3103 304 66530	BRACKET-LOAD
48	3103 304 06910	CAM
49	3103 304 66510	GUIDING
51	3103 304 06900	GEAR-4
52	3103 304 06870	GEAR-1
53	3103 304 06960	PULLEY-FRAME
54	3103 304 66910	DRIVING-BELT-DRAWER
55	4822 361 10753	TRAY MOTOR
56	4822 502 12548	SCREW M2,6X3,5
57	3103 304 69880	COVER-MCD1
59	4822 466 12146	RUBBER



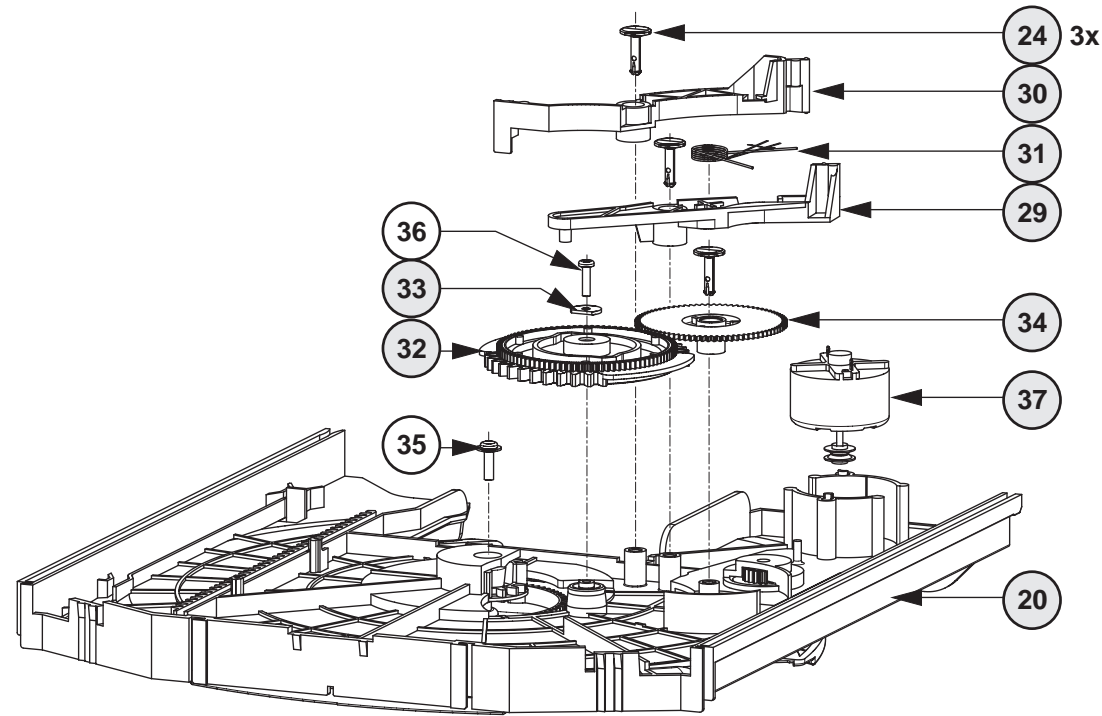
**X** spare part  
**Y** non spare part



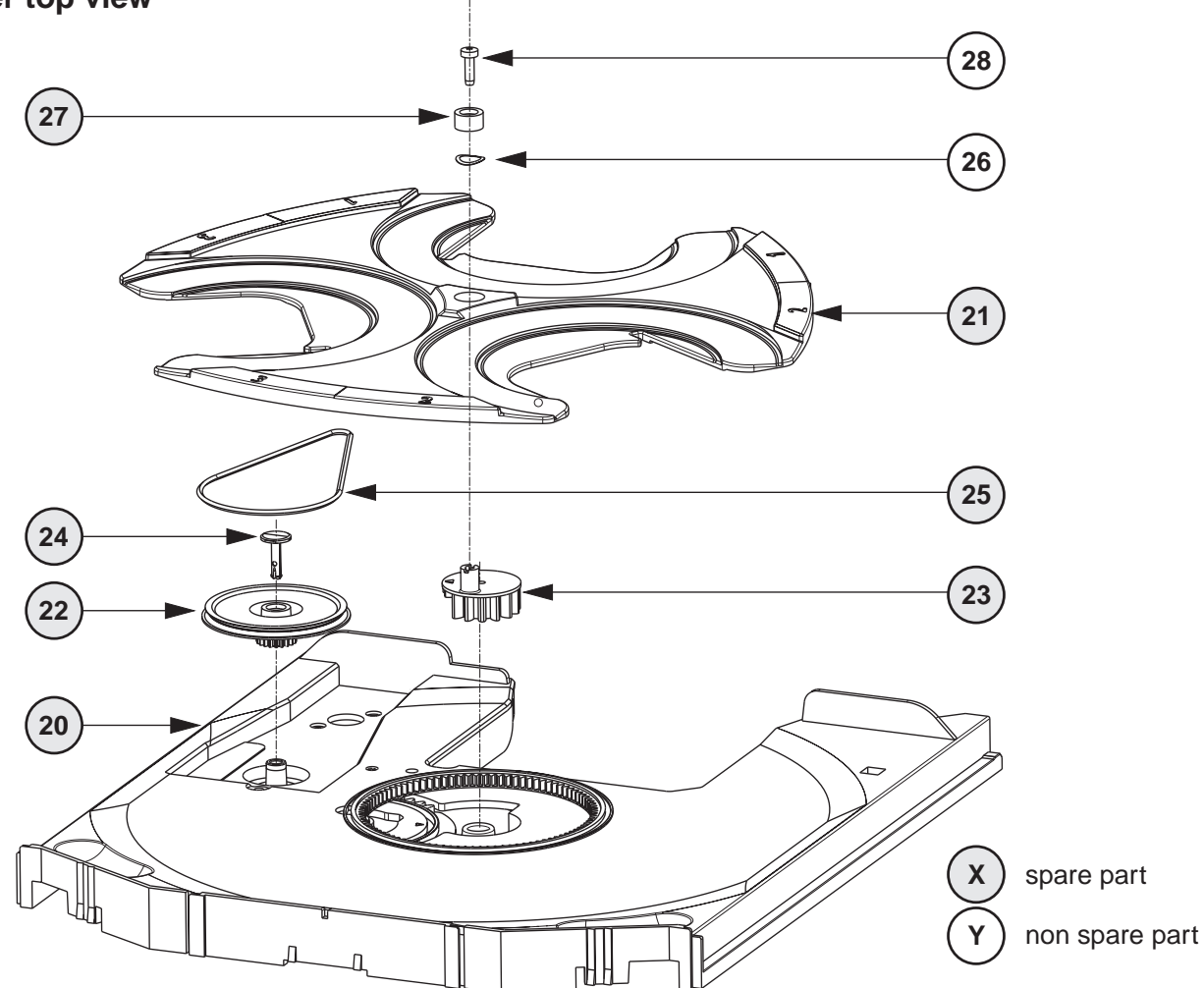
**MECHANICAL PARTS Drawer → Chapter 10-11**

20	3103 304 66500	DRAWER
21	3103 304 66490	CAROUSEL
22	3103 304 06860	PULLEY-DRAWER
23	3103 304 06850	ECCENTRIC GEAR WHEEL
24	3103 304 06980	NAIL FIXATION
25	3103 304 66850	DRIVING BELT CAROUSEL
27	4822 532 12365	BUSH DRAWER (height=5,5mm,d=9,4mm)
27	3103 304 07100	BUSH DRAWER (height=8,5mm,d=16mm)
29	3103 304 66550	BRACKET-DISC
30	3103 304 66520	TUMBLER
31	3103 301 06470	SPRING-DISC
32	3103 304 06920	CONTROL-DISC
34	3103 304 06870	GEAR-1
37	4822 361 10753	CAROUSEL MOTOR

Drawer bottom view



Drawer top view



ELECTRICAL PARTSLIST 3CDC-LLC-MCD1 MODULE

MISCELLANEOUS

35	3103 309 05350	CD DRIVE MCD1B
37	4822 361 10753	CAROUSEL MOTOR
55	4822 361 10753	TRAY MOTOR
1800	2422 025 17389	FLEX FOIL CONNECTOR 16Pin
1805	4822 265 10979	FLEX FOIL CONNECTOR 15Pin
1805	4822 265 11545	FLEX FOIL CONNECTOR 19Pin
1875	4822 267 10958	FLEX FOIL CONNECTOR 5Pin
1876	2422 025 08332	FLEX FOIL CONNECTOR 5Pin
1880	4822 276 13503	SWITCH, Tray switch
1881	4822 276 13503	SWITCH, Drive UP/DOWN
1882	4822 276 13503	SWITCH, CD Pos.1 recognized
1883	4822 276 13503	SWITCH, valid CD Play position
8002	3103 308 91990	FLEX FOIL CABLE 5P, 200mm 1:n
8005	3103 308 92930	FLEX FOIL CABLE 16P 170mm 1:n

CAPACITORS

2800	4822 122 33172	390pF	5%	50V
2801	4822 126 13883	220pF	5%	50V
2802	4822 122 33172	390pF	5%	50V
2803	4822 126 13883	220pF	5%	50V
2804	4822 124 41751	47µF	20%	16V
2805	4822 126 13883	220pF	5%	50V
2806	4822 126 13883	220pF	5%	50V
2807	5322 122 31863	330pF	5%	50V
2808	4822 126 13883	220pF	5%	50V
2809	4822 124 40746	0,22µF	20%	63V

2810	4822 126 10326	180pF	5%	
2811	4822 126 13883	220pF	5%	50V
2812	2222 867 15339	33pF	5%	50V
2813	4822 126 14226	82pF		50V
2814	2238 246 59858	450nF	20%	10V

2815	4822 122 33172	390pF	5%	50V
2816	4822 126 14247	1,5nF	10%	50V
2817	4822 126 14249	560pF	10%	50V
2818	4822 126 13344	1,5nF	5%	63V
2819	5322 126 11578	1nF	10%	63V

2820	4822 126 14305	100nF	10%	16V
2822	5322 122 31866	6,8nF	10%	63V
2823	3198 016 31510	150pF	10%	50V
2824	5322 122 32654	22nF	10%	63V
2825	4822 122 33891	3,3nF	10%	63V

2826	4822 124 12362	47µF	20%	4V
2828	4822 124 12362	47µF	20%	4V
2829	3198 017 42230	22nF	10%	50V
2830	4822 126 13751	47nF	10%	50V
2831	4822 122 31765	100pF	5%	50V

2832	4822 122 31765	100pF	5%	50V
2835	3198 024 44730	47nF	5%	50V
2836	3198 024 44730	47nF	5%	50V
2837	4822 124 40433	47µF	20%	25V
2838	4822 124 40248	10µF	20%	63V

2839	4822 124 40433	47µF	20%	25V
2840	4822 126 14585	100nF	10%	50V
2841	5322 126 10511	1nF	5%	50V
2842	4822 126 14247	1,5nF	10%	50V
2844	3198 016 31020	1nF	5%	25V

2850	5322 126 11578	1nF	10%	63V
2851	4822 124 42383	220µF	20%	4V
2855	4822 122 33172	390pF	5%	50V
2856	4822 126 13691	27pF	1%	63V
2857	5322 126 11583	10nF	10%	63V

2858	4822 124 12245	220µF	20%	16V
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CAPACITORS

2860	4822 124 11947	10µF	20%	16V
2861	4822 124 11947	10µF	20%	16V
2862	4822 126 13883	220pF	5%	50V
2863	4822 126 13883	220pF	5%	50V
2865	4822 126 14494	22nF	10%	25V

2867	4822 126 13883	220pF	5%	50V
2872	3198 024 44730	47nF	5%	50V
2873	4822 124 80231	47µF	20%	16V
2875	4822 124 11947	10µF	20%	16V
2876	4822 124 12245	220µF	20%	16V

2877	4822 122 33777	47pF	5%	63V
2878	4822 126 13883	220pF	5%	50V
2881	4822 124 40769	4,7µF	20%	100V
2882	4822 126 13883	220pF	5%	50V
2885	4822 124 40769	4,7µF	20%	100V

2887	4822 126 14585	100nF	10%	50V
2888	4822 124 80231	47µF	20%	16V
2891	4822 126 14247	1,5nF	10%	50V
2893	4822 122 33575	220pF	5%	50V
2894	3198 017 44740	470nF	20%	10V

2895	4822 126 14305	100nF	10%	16V
2896	4822 126 14305	100nF	10%	16V
2897	4822 126 14305	100nF	10%	16V

RESISTORS

3701	4822 051 20479	47Ω	5%	0,1W
3702	4822 051 20479	47Ω	5%	0,1W
3703	4822 051 20479	47Ω	5%	0,1W
3704	4822 117 12917	1Ω	5%	0,06W
3710	4822 051 51831	18kΩ	5%	0,1W

3712	4822 051 30109	10Ω	5%	0,06W
3713	4822 051 30223	22kΩ	5%	0,06W
3714	4822 051 30103	10kΩ	5%	0,06W
3715	4822 117 13632	100kΩ	1%	0,06W
3716	4822 051 30471	470Ω	5%	0,06W

3717	4822 117 12917	1Ω	5%	0,06W
3719	4822 051 30102	1kΩ	5%	0,06W
3720	4822 051 20474	470kΩ	5%	0,1W
3721	4822 051 20393	39kΩ	5%	0,1W
3723	4822 051 30272	2,7kΩ	5%	0,06W

3724	4822 117 12902	8,2kΩ	1%	0,06W
3725	4822 051 30184	180kΩ	5%	0,06W
3730	4822 051 20333	33kΩ	5%	0,1W
3740	4822 051 20223	22kΩ	5%	0,1W
3741	4822 051 20223	22kΩ	5%	0,1W

3742	4822 051 20223	22kΩ	5%	0,1W
3743	4822 051 20223	22kΩ	5%	0,1W
3744	4822 051 30103	10kΩ	5%	0,06W
3746	4822 051 30103	10kΩ	5%	0,06W
3750	4822 051 30102	1kΩ	5%	0,06W

3751	4822 051 30102	1kΩ	5%	0,06W
3789	4822 051 30471	470Ω	5%	0,06W
3790	4822 051 30561	560Ω	5%	0,06W
3791	4822 117 12968	820Ω	5%	0,06W
3792	4822 051 30332	3,3kΩ	5%	0,06W

3793	4822 051 20471	470Ω	5%	0,1W
3794	4822 051 30391	390Ω	5%	0,06W
3795	4822 051 30222	2,2kΩ	5%	0,06W
3796	4822 051 30332	3,3kΩ	5%	0,06W
3798	4822 051 30102	1kΩ	5%	0,06W

3799	4822 051 30102	1kΩ	5%	0,06W
3800	4822 051 51831	18kΩ	5%	0,1W



## ELECTRICAL PARTSLIST 3CDC-LLC-MCD1 MODULE

## RESISTORS

3801	4822 051 30103	10kΩ	5%	0,06W
3802	4822 051 51831	18kΩ	5%	0,1W
3803	4822 117 10833	10kΩ	1%	0,1W
3804	4822 051 30103	10kΩ	5%	0,06W
3805	4822 051 30103	10kΩ	5%	0,06W
3806	4822 051 30103	10kΩ	5%	0,06W
3807	4822 051 30103	10kΩ	5%	0,06W
3808	4822 051 30103	10kΩ	5%	0,06W
3809	4822 051 20471	470Ω	5%	0,1W
3811	4822 051 51831	18kΩ	5%	0,1W
3812	4822 053 10228	2,2Ω	5%	1W
3813	4822 117 13608	4,7Ω	5%	0,06W
3814	4822 051 30339	33Ω	5%	0,06W
3815	4822 052 10478	4,7Ω	5%	NFR
3818	4822 051 30222	2,2kΩ	5%	0,06W
3819	4822 051 20471	470Ω	5%	0,1W
3820	4822 051 30222	2,2kΩ	5%	0,06W
3821	4822 051 30222	2,2kΩ	5%	0,06W
3822	4822 051 30222	2,2kΩ	5%	0,06W
3825	4822 051 20181	180Ω	5%	0,1W
3826	4822 051 30333	33kΩ	5%	0,06W
3827	4822 051 20273	27kΩ	5%	0,1W
3828	4822 051 20223	22kΩ	5%	0,1W
3831	4822 051 30101	100Ω	5%	0,06W
3832	4822 051 30103	10kΩ	5%	0,06W
3833	4822 051 30223	22kΩ	5%	0,06W
3834	4822 051 20223	22kΩ	5%	0,1W
3835	4822 052 10478	4,7Ω	5%	NFR
3837	4822 051 10102	1kΩ	2%	0,25W
3838	4822 051 30102	1kΩ	5%	0,06W
3839	4822 051 20124	120kΩ	5%	0,1W
3840	4822 051 30124	120kΩ	5%	0,06W
3841	4822 117 10833	10kΩ	1%	0,1W
3842	4822 117 10833	10kΩ	1%	0,1W
3843	4822 117 10834	47kΩ	1%	0,1W
3844	4822 051 20392	3,9kΩ	5%	0,1W
3845	4822 117 10833	10kΩ	1%	0,1W
3846	4822 117 10834	47kΩ	1%	0,1W
3847	4822 051 20562	5,6kΩ	5%	0,1W
3849	4822 051 20334	330kΩ	5%	0,1W
3850	4822 051 30103	10kΩ	5%	0,06W
3851	4822 052 10338	3,3Ω		NFR25
3852	4822 052 10228	2,2Ω	5%	0,33W
3853	4822 051 20471	470Ω	5%	0,1W
3858	4822 117 12925	47kΩ	1%	0,06W
3859	4822 117 10834	47kΩ	1%	0,1W
3860	4822 117 10833	10kΩ	1%	0,1W
3861	4822 051 30103	10kΩ	5%	0,06W
3862	4822 051 20121	120Ω	5%	0,1W
3863	4822 117 11373	100Ω	1%	0,1W
3864	4822 117 11373	100Ω	1%	0,1W
3865	4822 051 30101	100Ω	5%	0,06W
3867	4822 051 30121	120Ω	5%	0,06W
3868	4822 051 30101	100Ω	5%	0,06W
3870	4822 051 20472	4,7kΩ	5%	0,1W
3871	4822 051 30103	10kΩ	5%	0,06W
3873	4822 051 20471	470Ω	5%	0,1W
3875	4822 051 30103	10kΩ	5%	0,06W
3876	4822 117 13632	100kΩ	1%	0,06W
3877	4822 051 30103	10kΩ	5%	0,06W
3878	4822 051 30103	10kΩ	5%	0,06W
3879	4822 117 10837	100kΩ	1%	0,1W

## RESISTORS

3880	4822 051 30392	3,9kΩ	5%	0,06W
3881	4822 117 13632	100kΩ	1%	0,06W
3882	4822 117 12925	47kΩ	1%	0,06W
3883	4822 117 10833	10kΩ	1%	0,1W
3884	4822 051 30271	270Ω	5%	0,06W
3885	4822 117 10833	10kΩ	1%	0,1W
3886	4822 117 12925	47kΩ	1%	0,06W
3887	4822 051 30221	220Ω	5%	0,06W
3888	4822 117 10833	10kΩ	1%	0,1W
3889	4822 051 20471	470Ω	5%	0,1W
3890	4822 051 30102	1kΩ	5%	0,06W
3891	4822 051 30102	1kΩ	5%	0,06W
3892	4822 051 20471	470Ω	5%	0,1W
3893	4822 051 30471	470Ω	5%	0,06W
3894	4822 051 30101	100Ω	5%	0,06W
3895	4822 117 12971	15Ω	5%	0,06W
3898	4822 051 30221	220Ω	5%	0,06W
3899	4822 051 30101	100Ω	5%	0,06W
3900	4822 117 12955	2,7kΩ	1%	0,1W
3901	4822 117 10833	10kΩ	1%	0,1W
3904	4822 117 13632	100kΩ	1%	0,06W
4800	4822 051 20008			CHIP JUMPER 0805
4801	4822 051 20008			CHIP JUMPER 0805
4802	4822 051 20008			CHIP JUMPER 0805
4803	4822 051 30008			CHIP JUMPER 0603
4804	4822 051 20008			CHIP JUMPER 0805
4805	4822 051 30008			CHIP JUMPER 0603
4806	4822 051 20008			CHIP JUMPER 0805
4807	4822 051 20008			CHIP JUMPER 0805
4808	4822 051 20008			CHIP JUMPER 0805
4811	4822 051 20008			CHIP JUMPER 0805
4814	4822 051 20008			CHIP JUMPER 0805
4817	4822 051 20008			CHIP JUMPER 0805
4818	4822 051 20008			CHIP JUMPER 0805
4819	4822 051 20008			CHIP JUMPER 0805
4820	4822 051 20008			CHIP JUMPER 0805
4821	4822 051 20008			CHIP JUMPER 0805
4822	4822 051 20008			CHIP JUMPER 0805
4823	4822 051 20008			CHIP JUMPER 0805
4824	4822 051 30008			CHIP JUMPER 0603
4825	4822 051 30008			CHIP JUMPER 0603
4826	4822 051 20008			CHIP JUMPER 0805
4828	4822 051 20008			CHIP JUMPER 0805
4829	4822 051 20008			CHIP JUMPER 0805
4830	4822 051 20008			CHIP JUMPER 0805
4831	4822 051 20008			CHIP JUMPER 0805
4832	4822 051 30008			CHIP JUMPER 0603
4833	4822 051 20008			CHIP JUMPER 0805
4834	4822 051 20008			CHIP JUMPER 0805
4835	4822 051 20008			CHIP JUMPER 0805
4838	4822 051 30008			CHIP JUMPER 0603
4840	4822 051 20008			CHIP JUMPER 0805
4841	4822 051 30008			CHIP JUMPER 0603
4842	4822 051 20008			CHIP JUMPER 0805
4844	4822 051 20008			CHIP JUMPER 0805
4845	4822 051 20008			CHIP JUMPER 0805
4846	4822 051 20008			CHIP JUMPER 0805
4847	4822 051 20008			CHIP JUMPER 0805
4848	4822 051 20008			CHIP JUMPER 0805
4850	4822 051 20008			CHIP JUMPER 0805
4876	4822 051 20008			CHIP JUMPER 0805

## ELECTRICAL PARTSLIST 3CDC-LLC-MCD1 MODULE

## COILS

1810 4822 242 73557 CERAMIC RES. 8,46MHz

## DIODES

6871 4822 130 11397 BAS316  
 6872 4822 130 11397 BAS316  
 6873 4822 130 11397 BAS316  
 6874 4822 130 11397 BAS316  
 6875 9340 548 52115 BZX284-C5V1  
 6877 9322 129 34685 BZX284-C3V9  
 6878 4822 130 11397 BAS316  
 6879 9322 129 34685 BZX284-C3V9

## TRANSISTORS

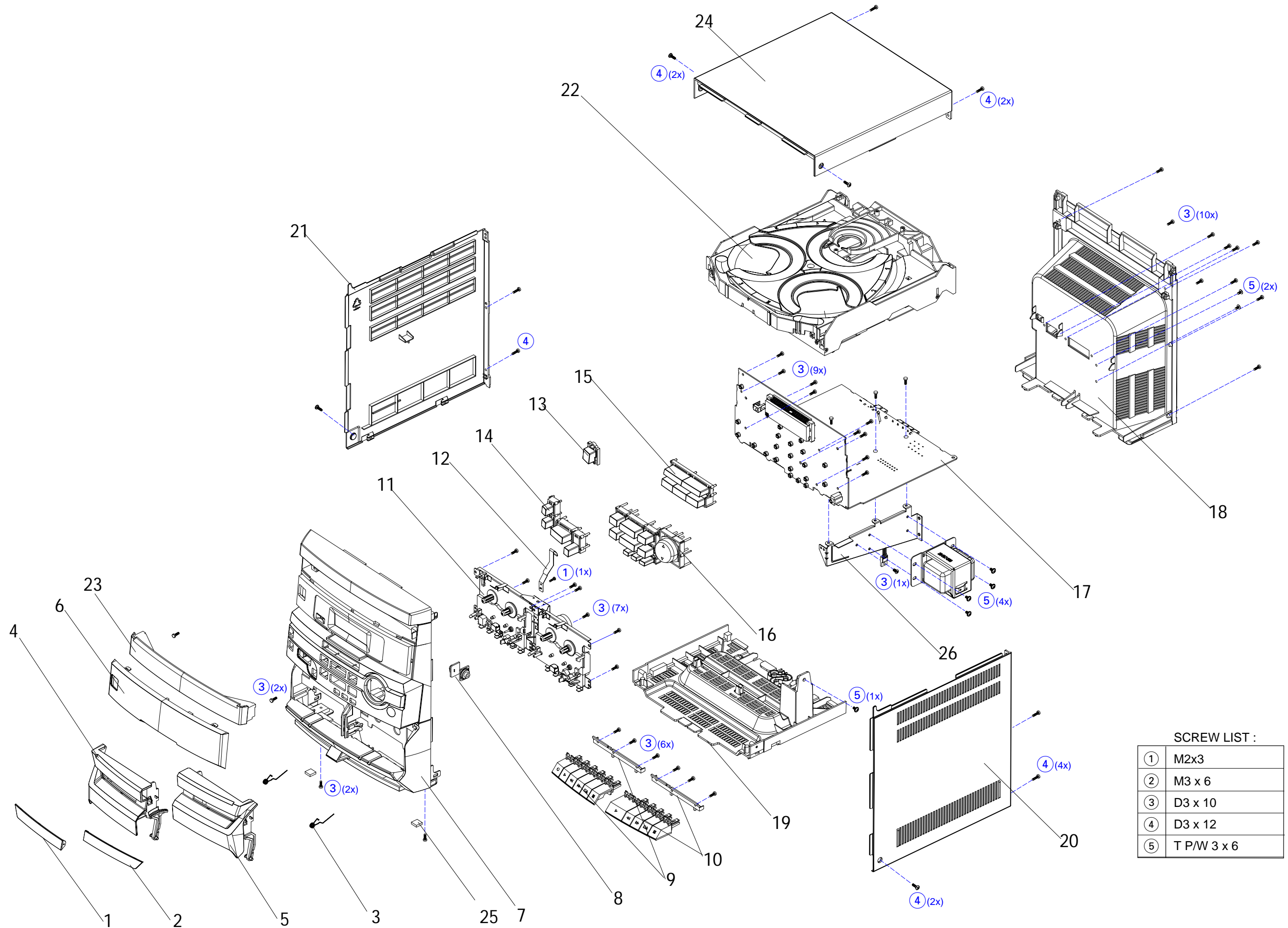
7802 5322 130 60123 BC807-40  
 7808 4822 130 60511 BC847B  
 7809 4822 130 60511 BC847B  
 7810 4822 130 60511 BC847B  
 7812 4822 130 60511 BC847B

7874 4822 130 60511 BC847B  
 7875 4822 130 60511 BC847B

## INTEGRATED CIRCUITS

7803 5322 209 82941 LM358D, Dual Opamp  
 7805 4822 209 33165 TDA1308T/N1  
 7806 4822 209 32852 TDA7073A/N2  
 7807 4822 209 32852 TDA7073A/N2  
 7871 4822 209 32852 TDA7073A/N2  
 7873 5322 209 11306 HEF4094BT, SHIFT REGISTER  
 7877 9352 641 80557 SAA7324H/M2B,"CD10" SIGN.PROC.

EXPLODED VIEW - MAIN UNIT



SCREW LIST :

①	M2x3
②	M3 x 6
③	D3 x 10
④	D3 x 12
⑤	T P/W 3 x 6

**MECHANICAL & ACCESSORIES PARTS LIST - MAIN UNIT**

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1	9965 000 13632	LENS CASSETTE LEFT
2	9965 000 13633	LENS CASSETTE RIGHT
3	9965 000 11170	CASSETTE DOOR SPRING
4	9965 000 13630	DOOR CASSETTE LEFT
5	9965 000 13631	DOOR CASSETTE RIGHT
6	9965 000 13629	WINDOW DISPLAY
7	9965 000 13621	FRONT CABINET V2
8	9965 000 13634	DAMPER ASSY MODULE 0.8
9	9965 000 13623	CASSETTE-KEY LEFT
10	9965 000 13624	CASSETTE-KEY RIGHT
11	9965 000 13617	CASSETTE DECK
13	9965 000 13625	BUTTON SET POWER
14	9965 000 13626	BUTTON SET DBB
15	9965 000 13627	BUTTON SET MODE
16	9965 000 13628	BUTTON SET CONTROL
23	9965 000 13622	DOOR-CDC
25	9965 000 11186	FOOT RUBBER (SQ)
1401	9965 000 13616	△ MAINS TRANS. 57X30
1800	9965 000 11188	FLEX CABLE 15PIN 1,25MM 35CM
	9965 000 13618	△ AC CORD BLACK
	9965 000 11165	FM ANTENNA WIRE
	9965 000 13619	AM FRAME AERIAL ANTENNA
	9965 000 13620	REMOTE CONTROL
	9965 000 13614	RIGHT LOUDSPEAKER BOX
	9965 000 13615	LEFT LOUDSPEAKER BOX