

Service
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Service Manual



TABLE OF CONTENTS

	Page
Service AIDS & CD playability	1-1...1-4
Specifications	2
Connection & Controls	3
Disassembly Instructions	4
Block & Wiring diagrams	5
C-MUSIC & USB BOARD	6
KEY & USB JACK BOARD	7
POWER & AMP JACK BOARD	8
EXPLODE DIAGRAM	9
SERVICE PARTLIST	10
FACTORY PARTLIST	11

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Published by DB Service Audio Printed in The Netherlands Subject to modification



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

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



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



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 .

**CLASS 1
LASER PRODUCT**

INFORMATION ABOUT LEAD-FREE SOLDERING

Philips CE is producing lead-free sets from 1.1.2005 onwards.

IDENTIFICATION:

Regardless of special logo (not always indicated) one must treat all sets from 1 Jan 2005 onwards, according next rules:



- On our website www.atyourservice.ce.Philips.com you find more information to:
 - * BGA-de-/soldering (+ baking instructions)
 - * Heating-profiles of BGAs and other ICs used in Philips-sets
 - * Lead free

You will find this and more technical information within the "magazine", chapter "workshop news".

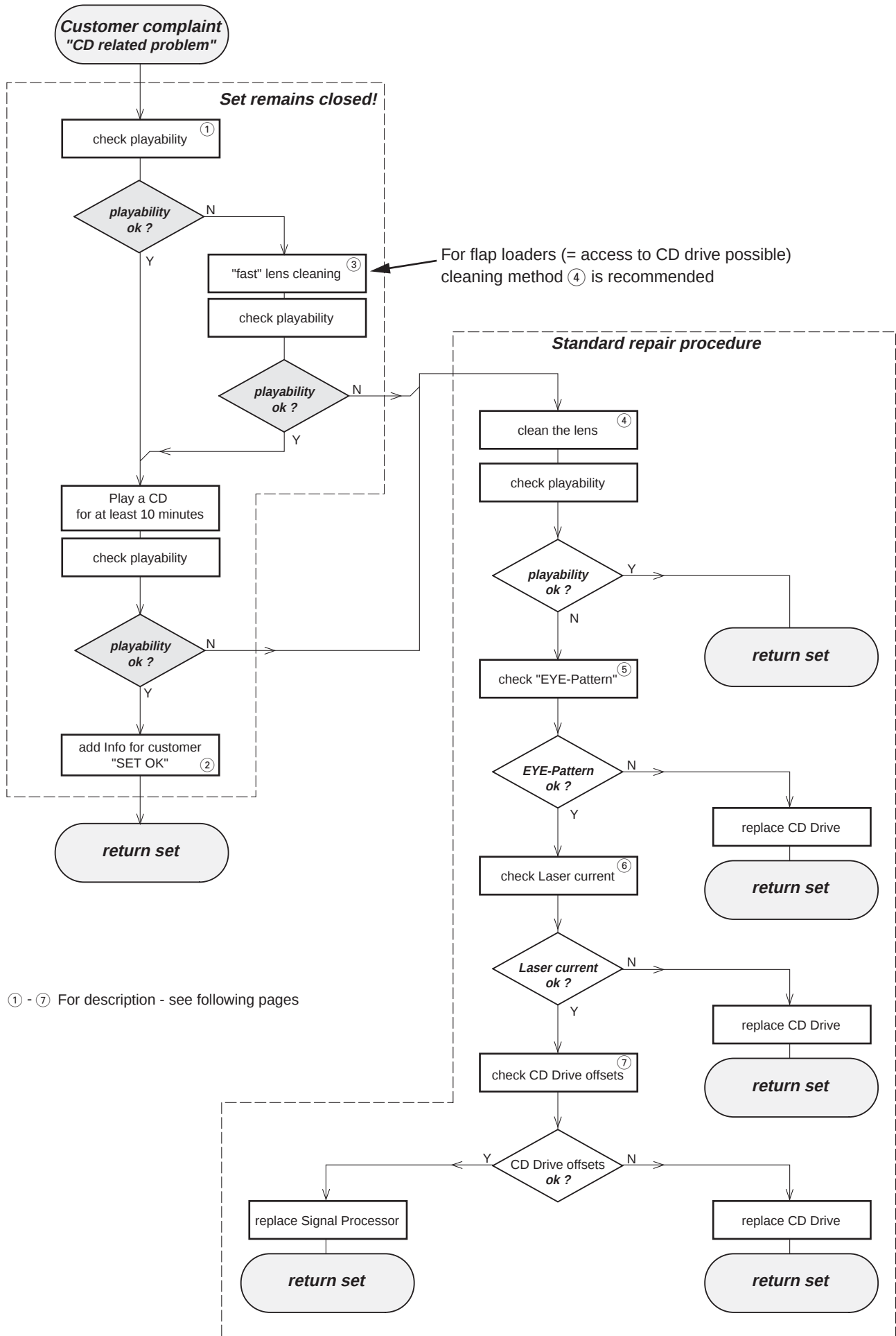
For additional questions please contact your local repair-helpdesk.

SERVICE INSTRUCTION

Safety regulations require that after a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the AC Power lead for external damage.
- Check the strain relief of the AC Power cord for proper function.
- Check the electrical DC resistance between the AC Power Plug and the secondary side (only for sets which have a AC Power isolated power supply):
 1. Unplug the AC Power cord and connect a wire between the two pins of the AC Power plug.
 2. Set the AC Power switch to the "on" position (keep the AC Power cord unplugged!).
 3. Measure the resistance value between the pins of the AC Power plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be larger than 4.5 Mohm (For U.S. it should be between 4.2 Mohm and 12 Mohm).
 4. Switch "off" the set, and remove the wire between the two pins of the AC Power plug.
- Check the cabinet for defects, to avoid touching of any inner parts by the customer.

CD PLAYABILITY CHECK



CD PLAYABILITY CHECK

①

PLAYABILITY CHECK

For sets which are compatible with **CD-RW** discs
 use CD-RW Printed Audio Disc7104 099 96611
 TR 3 (Fingerprint)
 TR 8 (600µ Black dot) **maximum at 01:00**

- playback of these two tracks without audible disturbance
 playing time for: Fingerprint ≥10seconds
 Black dot from 00:50 to 01:10
- jump forward/backward (search) within a reasonable time

For all other sets
 use CD-DA SBC 444A4822 397 30245
 TR 14 (600µ Black dot) **maximum at 01:15**
 TR 19 (Fingerprint)
 TR 10 (1000µ wedge)

- playback of all these tracks without audible disturbance
 playing time for: 1000µ wedge ≥10seconds
 Fingerprint ≥10seconds
 Black dot from 01:05 to 01:25
- jump forward/backward (search) within a reasonable time

②

CUSTOMER INFORMATION

It is proposed to add an addendum sheet to the set which informs the customer that the set has been checked carefully - but no fault was found.
 The problem was obviously caused by a scratched, dirty or copy-protected CD. In case problems remain, the customer is requested to contact the workshop directly.
 The lens cleaning (method ③) should be mentioned in the addendum sheet.

The final wording in national language as well as the printing is under responsibility of the Regional Service Organizations.

③

FAST LENS CLEANING (dry brush)

Use lens cleaning CD
 SBC AC3009082 100 00043

Insert the lens cleaning CD, press PLAY and follow the voice guide's instructions on the CD.

④

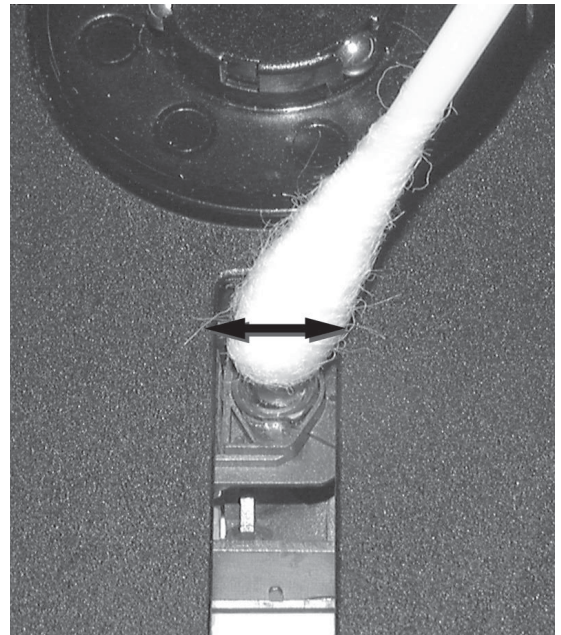
LIQUID LENS CLEANING

Before touching the lens it is advised to clean the surface of the lens by blowing clean air over it. This to avoid that little particles make scratches on the lens.

Because the material of the lens is synthetic and coated with a special anti-reflectivity layer, cleaning must be done with a non-aggressive cleaning fluid. It is advised to use "Cleaning Solvent B4-No2", available with codenumber 4822 389 10026.

The actuator is a very precise mechanical component and may not be damaged in order to guarantee its full function. Clean the lens gently (don't press too hard) with a soft and clean cotton bud moistened with the special lens cleaner.

The direction of cleaning must be in the way as indicated in the picture below.

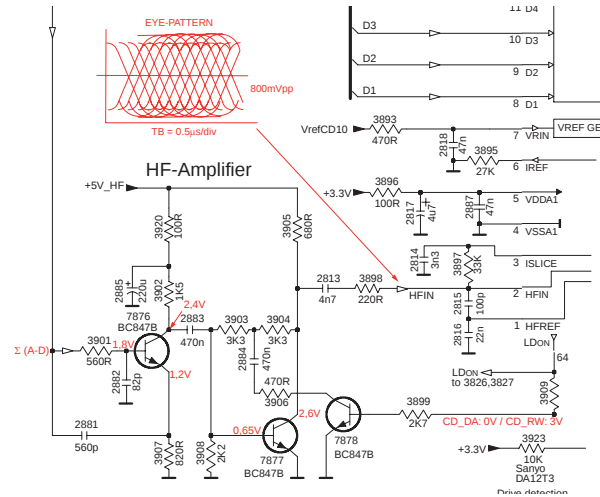


CD PLAYABILITY CHECK

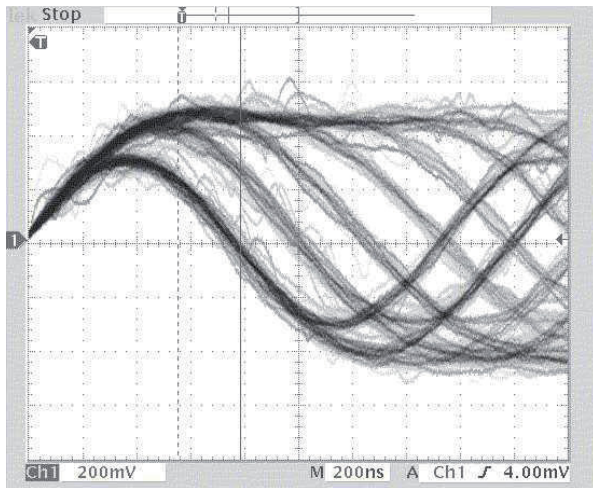
⑤

EYE-PATTERN SIGNAL – JITTER MEASUREMENT

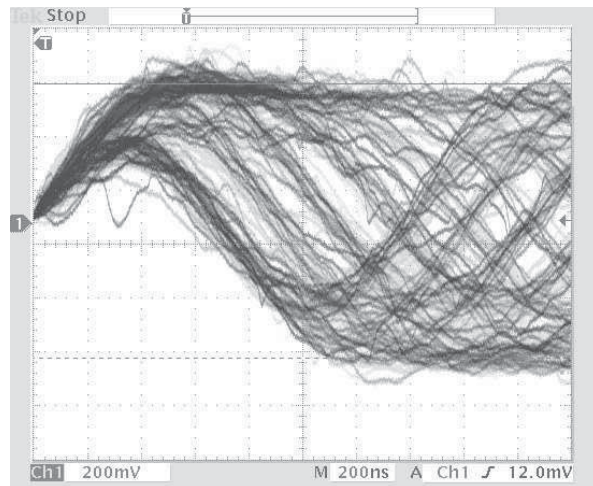
Measure the signal on the input of the Signal processor using an **analog** oscilloscope. Please find the exact measuring point in your Service Manual.



See below examples of the signal. Amplitude should read at least 700mVpp using SBC444A.



good



bad

If the oscilloscope shows a signal like the 'bad' one, and/or the amplitude decreases within 1 minute - the CD drive has to be replaced.

⑥

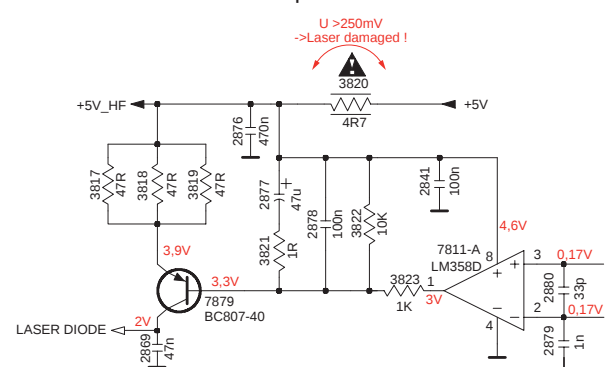
CD DRIVE – LASER CURRENT MEASUREMENT

The laser current can be measured as a voltage drop on a resistor. The resistor is marked in every Service Manual. The value depends on the type of CD drive.

	typical value	most probably defect
VAMxxxx	: 150-230mV	≥350mV
MCDxx	: 170-230mV	≥300mV
DA1x	: 210-250mV	≥350mV
DA2x	: 175-200mV	≥250mV

Use SBC444A (CD-DA) for measurement.

Laser power control



⑦

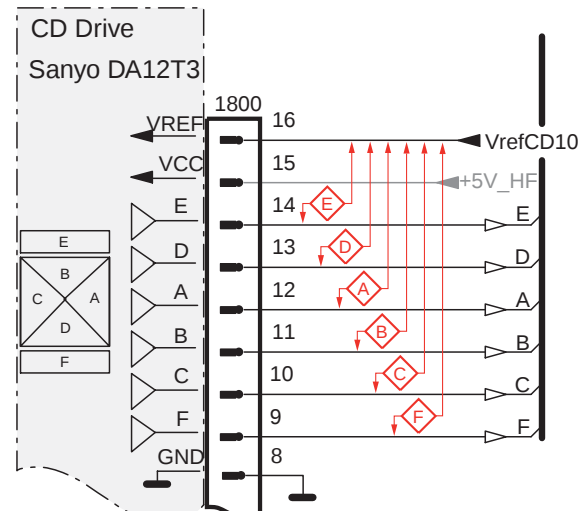
CD DRIVE – OFFSET MEASUREMENT

The photodiodes of the CD-drive may have an offset. These offsets have to be compensated by the signal processor. High offsets can lead to poor playability of some CDs (skipping tracks).

To measure the offset values, start the **Service Test Program** - section "Focus Test" without a CD.

The offsets can be measured with a DC Millivoltmeter directly on the connector (see drawing below). Pin numbering varies from drive to drive.

The values from diode A-D should read 0±10mV. Diodes E and F are less critical.



If one of the offsets is higher than ±10mV the CD drive has to be replaced. Otherwise replace the Signal Processor.

TECHNICAL SPECIFICATIONS (MCM238 & MCM239 & MCM239D)

AMPLIFIER

Output power 2 x 5 W RMS
 Signal-to-noise ratio ≥ 65 dBA
 Frequency response 100 – 18kHz, ± 3 dB
 Input sensitivity AUX 0.5 V (max. 1 V)
 Impedance loudspeakers $\geq 4 \Omega$
 Impedance headphones 32 Ω -1000 Ω
 <15mV

CD PLAYER

Frequency range 100 – 18kHz
 Signal-to-noise ratio 65 dBA

TUNER

FM wave range 87.5 – 108 MHz
 MW wave range 531 – 1602 kHz
 Number of presets 40
 Antenna
 FM 75 Ω wire
 MW Loop antenna

USB PLAYER (FOR MCM239/MCM239D only)

USB 12Mb/s, V1.1
 support MP3 and WMA files
 Number of albums/ folders maximum 99
 Number of tracks/titles maximum 999

SPEAKERS

Bass reflex system
 Dimensions (w x h x d) .. 158 x 250x 118 (mm)

GENERAL INFORMATION

AC Power 220 – 240 V / 50 Hz
 Dimensions (w x h x d, with/without the stand)
 211 x 250 x 160/211 x 250 x 126 (mm)
 Weight(with/without speakers) 2.9 / 1.23 kg
 Standby power consumption <2 W
 Eco power standby <1 W

Specifications and external appearance are subject to change without notice.

SERVICE TOOLS

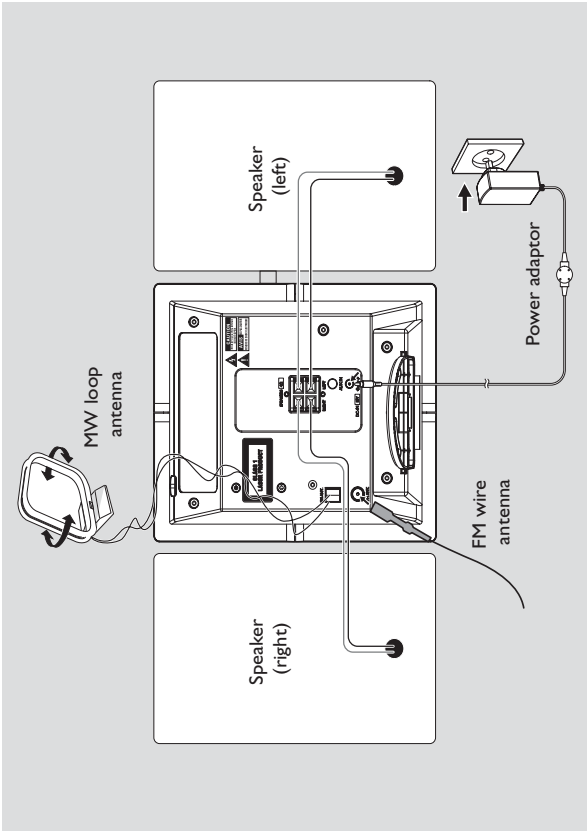
Audio signal disc SBC 429.....4822 397 30184
 Playability test disc SBC 444.....4822 397 30245
 Test disc 5 (disc without errors) +
 Test disc 5A (disc with dropout errors, black spots and fingerprints)
 SBC 426/426A4822 397 30096
 Burn in test disc (65 min. 1kHz signal at -30 dB level without “pause”)4822 397 30155

AVAILABLE ESD PROTECTION EQUIPMENT

anti-static table mat	large 1200x650x1.25mm	4822 466 10953
	small 600x650x1.25m	4822 466 10958
anti-static wristband		4822 395 10223
connection box (3 press stud connections, 1M Ω)		4822 320 11307
extendible cable (2m, 2M Ω , to connect wristband to connection box)		4822 320 11305
connecting cable (3m, 2M Ω , to connect table mat to connection box)		4822 320 11306
earth cable (1M Ω , 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

CONNECTION AND CONTROLS

Connection



Rear connections

- Warning:**
- Never make or change connections with the mains supply switched on.
 - Install your set near the AC outlet and where the AC power plug can be reached easily.

Ⓐ Speaker connections

Use the supplied speakers only. Using other speakers can damage the set or the sound quality will be negatively affected.

- Connect the cable of the left speaker to **LEFT** (red and black) and the cable of the right speaker to **RIGHT** (red and black) as follows:
 - Press the clip of the red terminal and fully insert the stripped portion of the colored (or marked) speaker cable into the socket; then release the clip
 - Press the clip of the black terminal and fully insert the stripped portion of the black (or unmarked) speaker cable into the socket; then release the clip

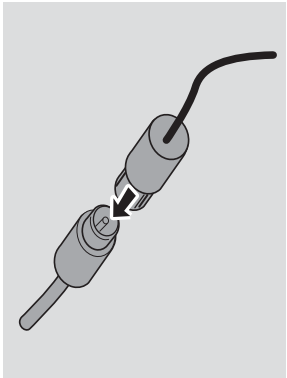
Connection

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

FM antenna

The wire antenna supplied can only be used to receive nearby stations. For better reception we recommend using a cable antenna system or an outdoor antenna.

- 1 Extend the wire antenna and fit it to FM ANTENNA as shown below



Note: If you are using a cable antenna system or an outdoor antenna, fit the antenna plug, instead of the wire antenna, to FM ANTENNA.

- 2 Move the antenna in different positions for optimal reception (as far away as possible from the TV/VCR or other radiation sources)
- 3 Fix the antenna's end to the wall.

Helpful hints:

- To receive optimal radio reception, put the main unit and the antennas as far away as possible from the power adaptor.

Connecting an additional appliance

It is possible to use an additional appliance, e.g. TV/VCR or CD recorder with the set. On MCM238, you can playback music from an external source.

- 1 Insert one plug of the audio cable (not supplied) to the socket **AUX IN** at the rear panel of the main set.
- 2 Connect the other end of the audio cable to the **AUDIO OUT** terminal of the additional appliance.
- 3 Select **AUX** mode on the set.

Helpful hints:

- Always refer to the owner's manual of other equipment for complete connection.

CONNECTION AND CONTROLS

Controls

Controls on the set

- 1

DOOR OPEN

press to open the CD door.

2

jack for the external USB mass storage device

3

PROGRAM

CD/USB: programs tracks
Tuner: programs preset radio stations

4

VOLUME

adjusts the volume level

5

CLOCK/TIMER

adjusts the hours and minutes

6

DISPLAY/CLOCK

Clock:
- displays the set time
- In standby mode: enters the clock setting mode (press and hold for more than 2 seconds)

7

TUNER/AUDIO CD/AUX

switches between clock display and playback display

8

MP3/WMA files

displays disc information during playback

9

ALBUM/ PRESET +/-

CD/USB: selects albums (for MP3/WMA only)
TUNER: selects a preset radio station

10

CD/USB: skips or searches CD tracks/titles backwards/forwards
Tuner: tunes to radio stations

11

CD/USB: starts or pauses playback

12

IR

sensor for the infrared remote control

13

Helpful hints

Always point the remote control towards this sensor.

14

DSC (Digital Sound Control)

selects predefined sound settings: ROCK, JAZZ, POP, CLASSIC, OPTIMAL

15

STANDBY-ON/ ECO POWER

press briefly to switch the set on or off (standby/ ECO POWER);
In standby or Eco Power mode: press and hold to toggle between Standby and ECO POWER mode (power-saving mode)

16

Red indicator

lights up red when the set is switched to ECO POWER mode
- 10

MUTE

switches the sound off temporarily

11

DBB (Dynamic Bass Boost)

turns the bass enhancement on/off

12

SOURCE

selects sound source CD, USB, TUNER, or AUX

13

In standby or Eco Power mode

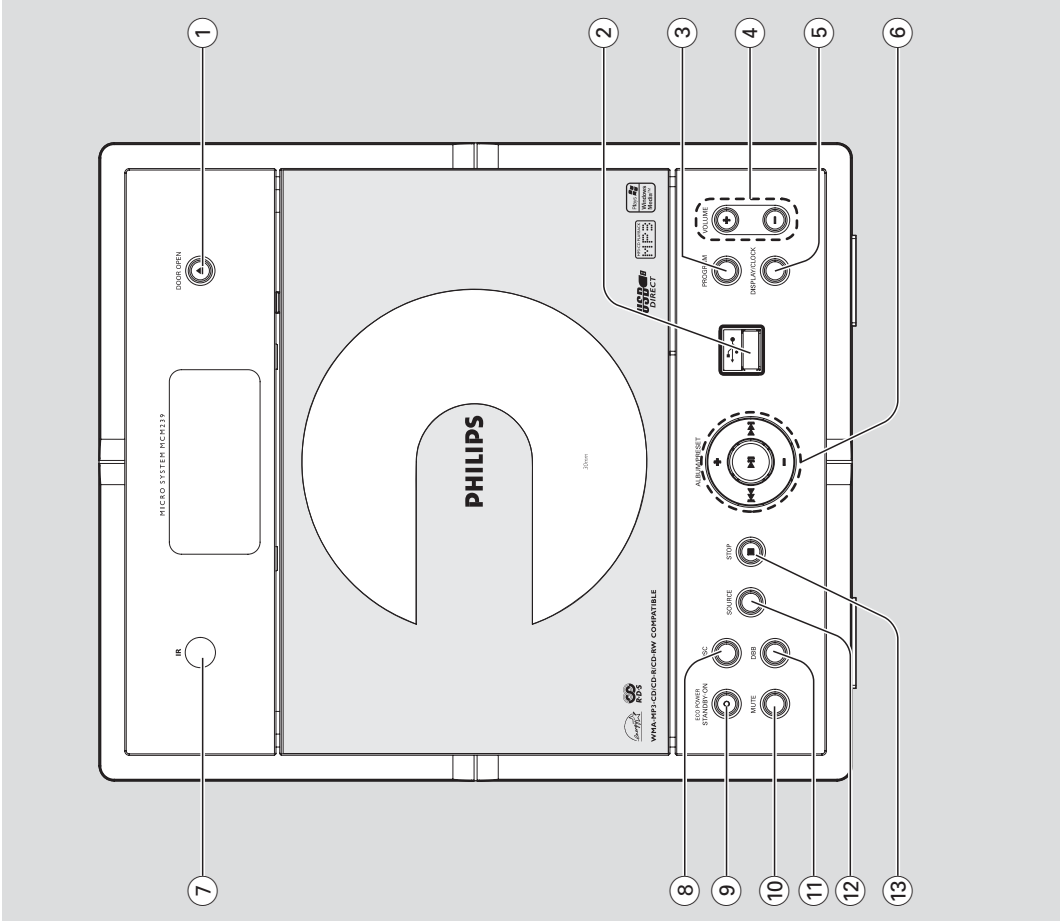
switches the set on and selects sound source CD, USB, TUNER or AUX

14

STOP

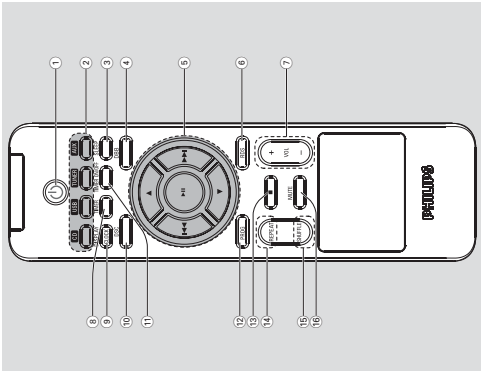
CD/USB: stops playback; erase a program

Controls



CONNECTION AND CONTROLS

Remote control



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 ► II, ◀ ◀ ►).
- ①
- press briefly to switch the set on or off (standby/ECO POWER);
 - **In standby or Eco Power mode:** press and hold to toggle between Standby and ECO POWER mode (power-saving mode)
- ② **Source buttons**
- USB**
- selects **USB** source
 - **In standby/Eco-power mode:** switches the set on and selects **USB** source.
- CD**
- selects **CD** source
 - **In standby/Eco-power mode:** switches the set on and selects **CD** source.
- TUNER**
- selects **TUNER** source and toggles between the wavebands: FM and MW
 - **In standby/Eco-power mode:** switches the set on and selects **TUNER** source

Controls

AUX

- selects the audio input from an additional connected appliance
 - **In standby/Eco-power mode:** switches the set on and selects the audio input from an additional connected appliance
- ③ **SLEEP**
- set the sleep timer
- ④ **DBB (Dynamic Bass Boost)**
- turns the bass enhancement on/off
- ⑤ ◀◀ / ▶▶▶
- **CD/USB:** skips or searches CD tracks backwards/forwards
 - **Tuner:** tunes to radio stations
- ▲ / ▼
- **CD/USB:** selects the next/previous album (for MP3/WMA only)
 - **TUNER:** selects a preset radio station
- ▶▶ II
- **CD/USB:** starts or pauses playback

⑥ **RDS**

- **Tuner:** selects RDS (Radio Data System) information
- sets RDS clock

⑦ **VOL +/-**

- adjusts the volume level

- **Clock/Timer:** adjusts the hours and minutes

⑧ **TIMER**

- enters the timer setting mode (press and hold for more than 2 seconds)

⑨ **DISPLAY/CLOCK**

- **Clock:** – displays the set time
- **In standby mode:** enters the clock setting mode (press and hold for more than 2 seconds)

- **TUNER/Audio CD/AUX:** switches between clock display and playback display

- **MP3/WMA files:** displays disc information during playback

⑩ **DSC (Digital Sound Control)**

- selects predefined sound settings: **ROCK, JAZZ, POP, CLASSIC, OPTIMAL**

⑪ **TIMER ON/OFF**

- switches the timer on/off

Controls

⑫ **PROG**

- **CD/USB:** programs tracks
- **Tuner:** programs preset radio stations

⑬ ■

- **CD/USB:** stops playback; erase a program

⑭ **REPEAT**

- selects continuous playback

⑮ **SHUFFLE**

- selects random playback

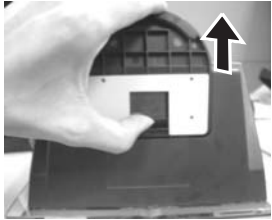
⑯ **MUTE**

- switches the sound off temporarily

DISASSEMBLY DIADRAMS

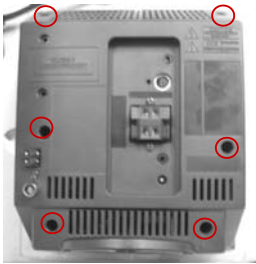
A. Remove stand

Release click and pull it out.



B. Remove Top Cabinet

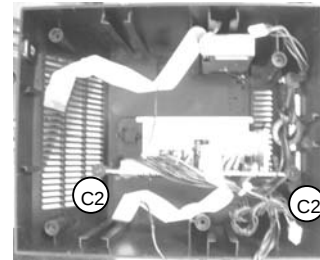
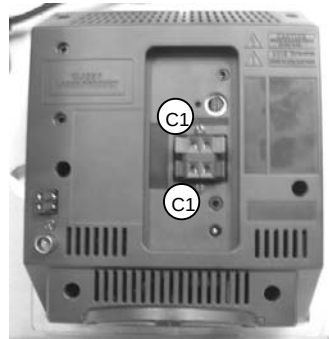
Remove screws MP 3x10 - 6 pcs.



C. Remove Amplifier board

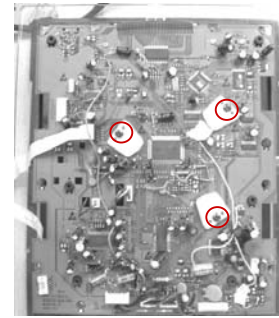
C1: Remove screws 2 pcs.

C2: Remove screws 2 pcs.



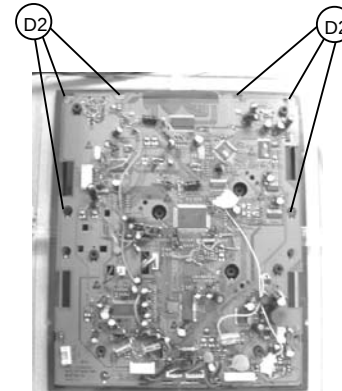
D. Remove Main board

D1: Remove screws MP 3x10 - 3 pcs.



D2: Remove screws MP 2x8 - 6 pcs.

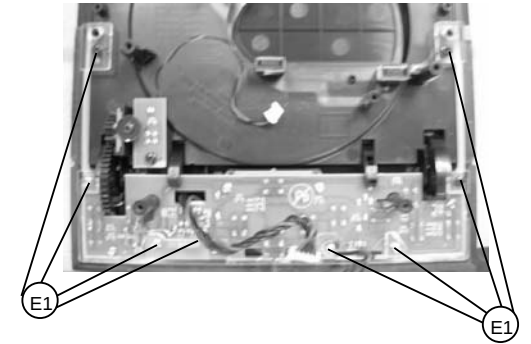
Then remove lens frame cosmetic top_right&left



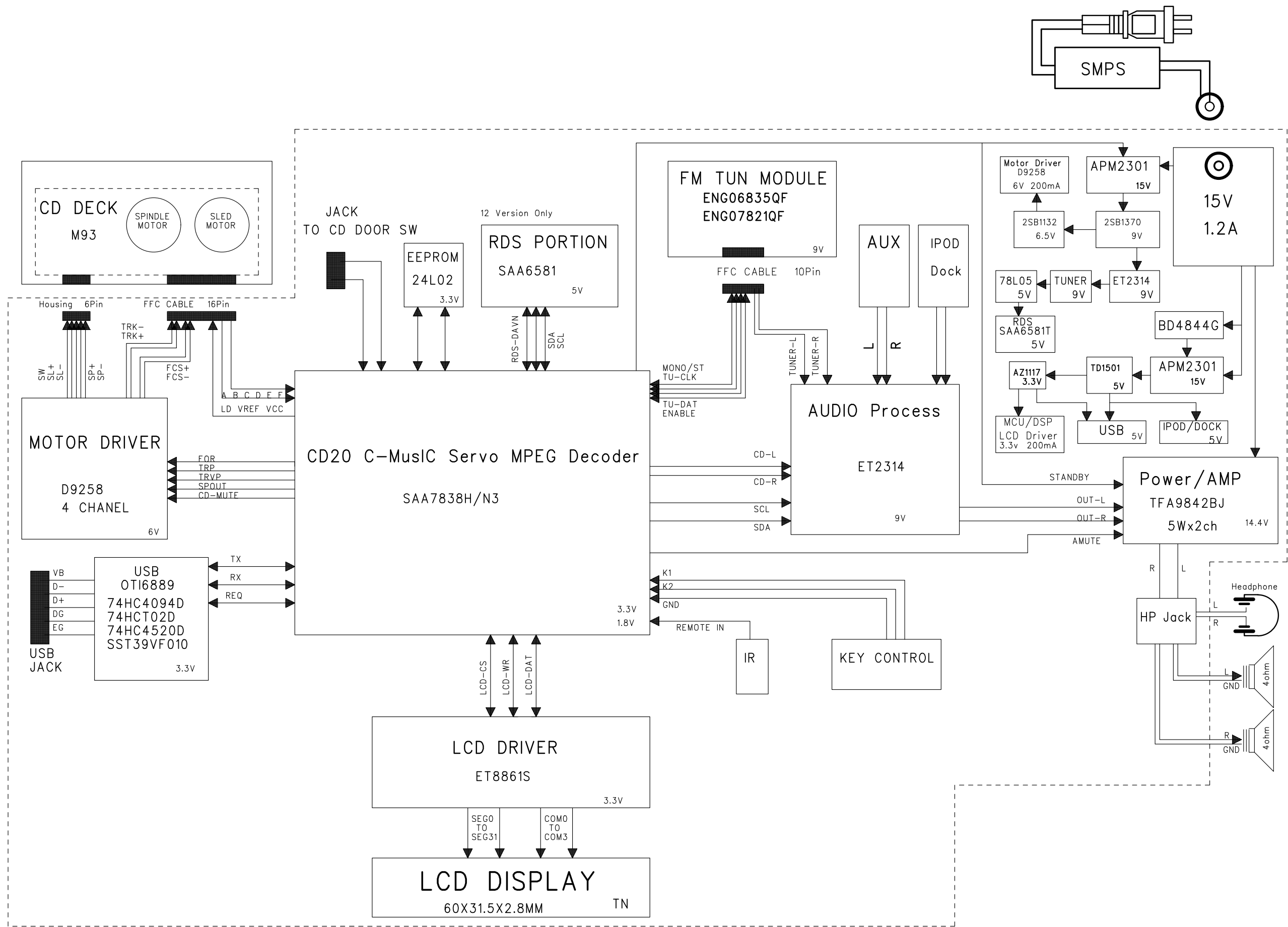
E. Remove Key board

E1: Remove screws MP 2x8 - 8 pcs.

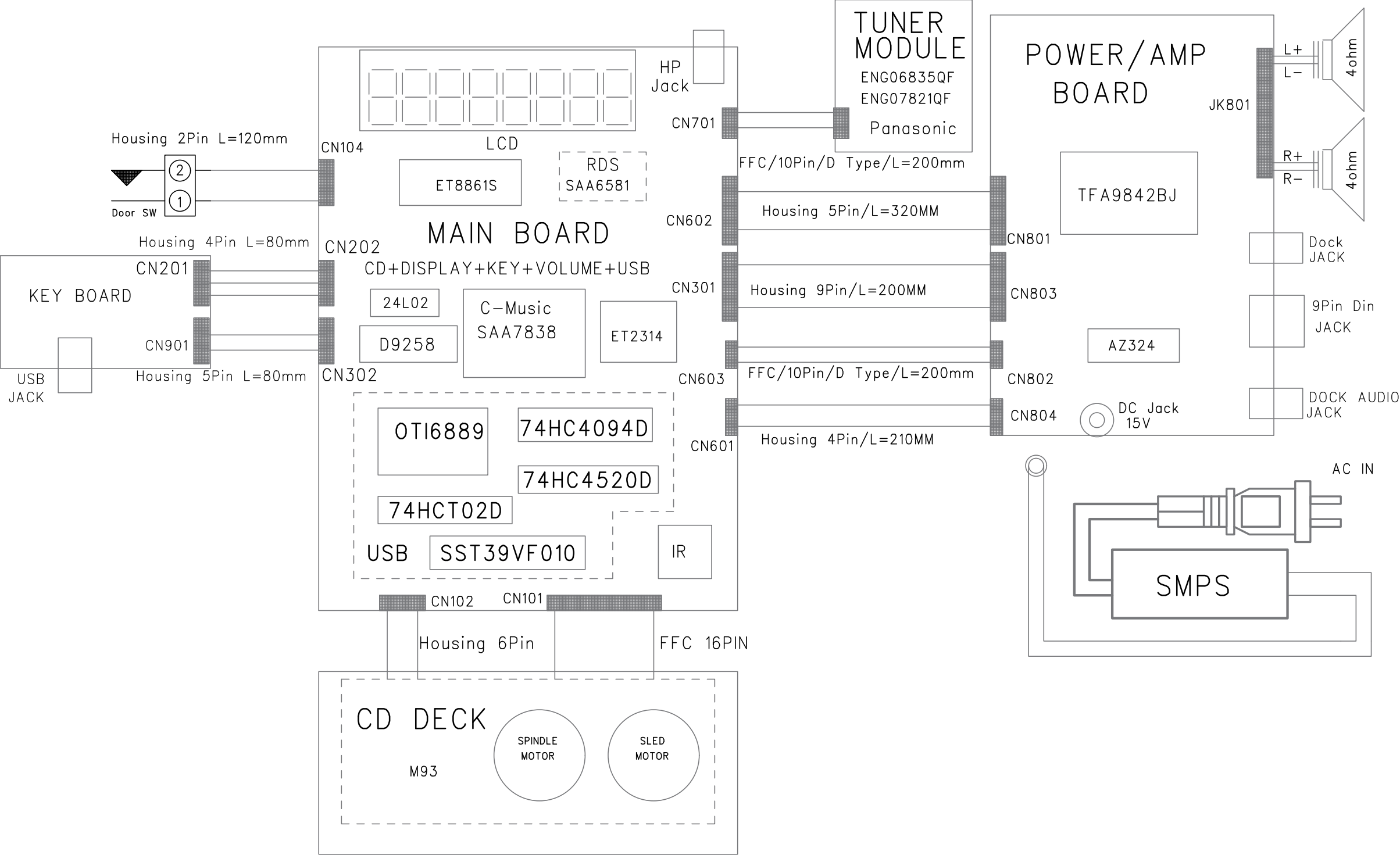
Then remove lens frame cosmetic bottom_right&left

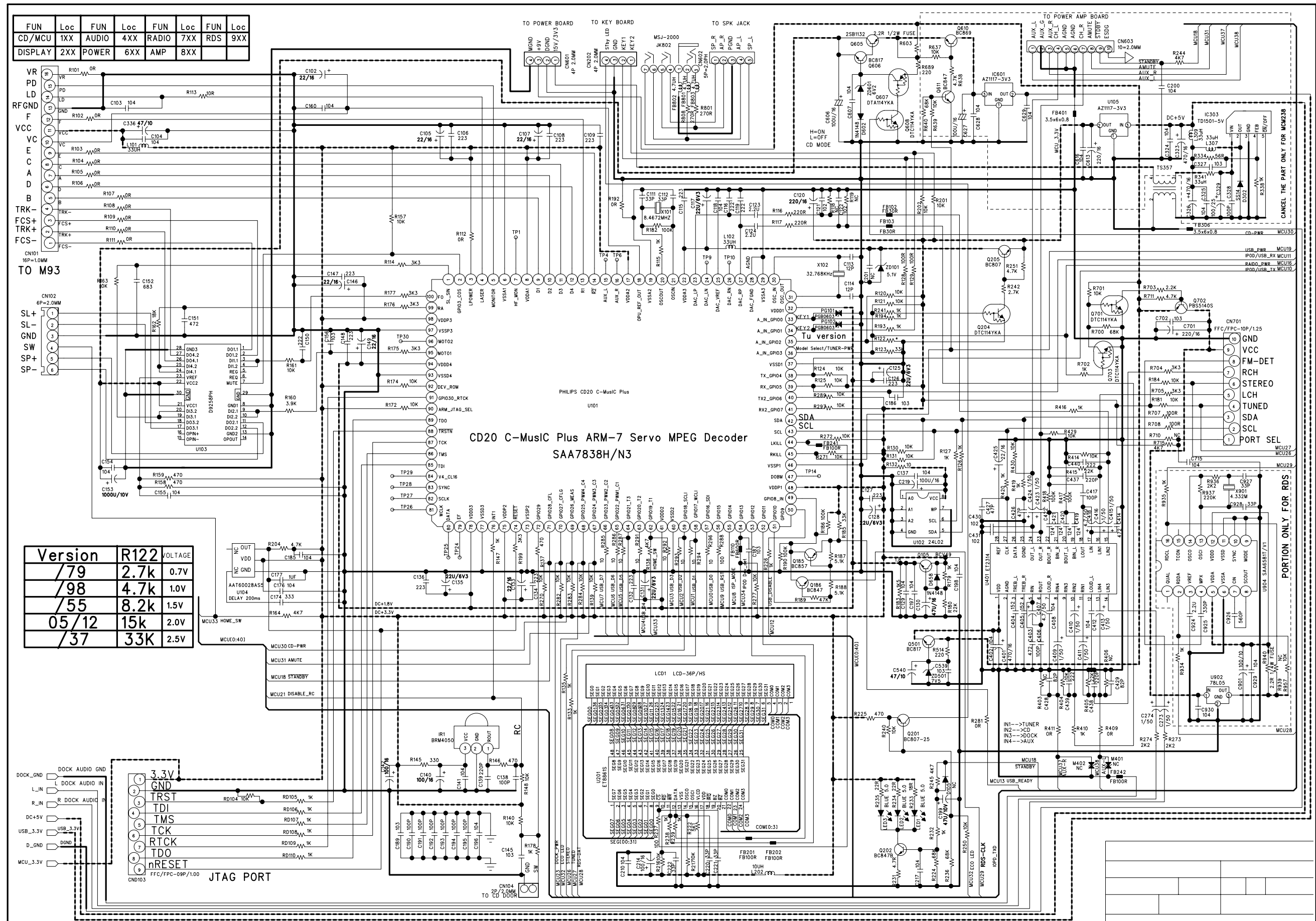


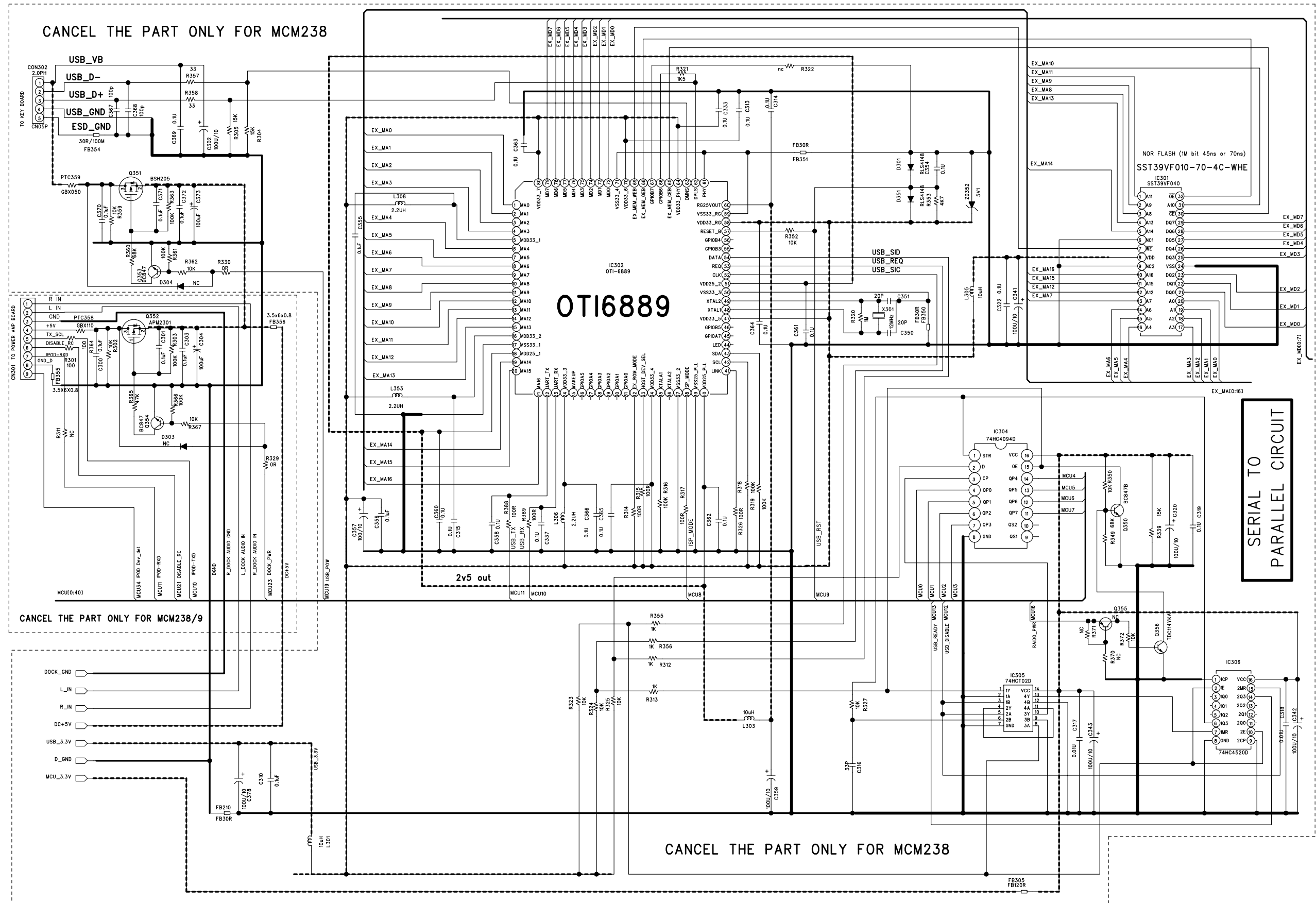
SET BLOCK DIAGRAM

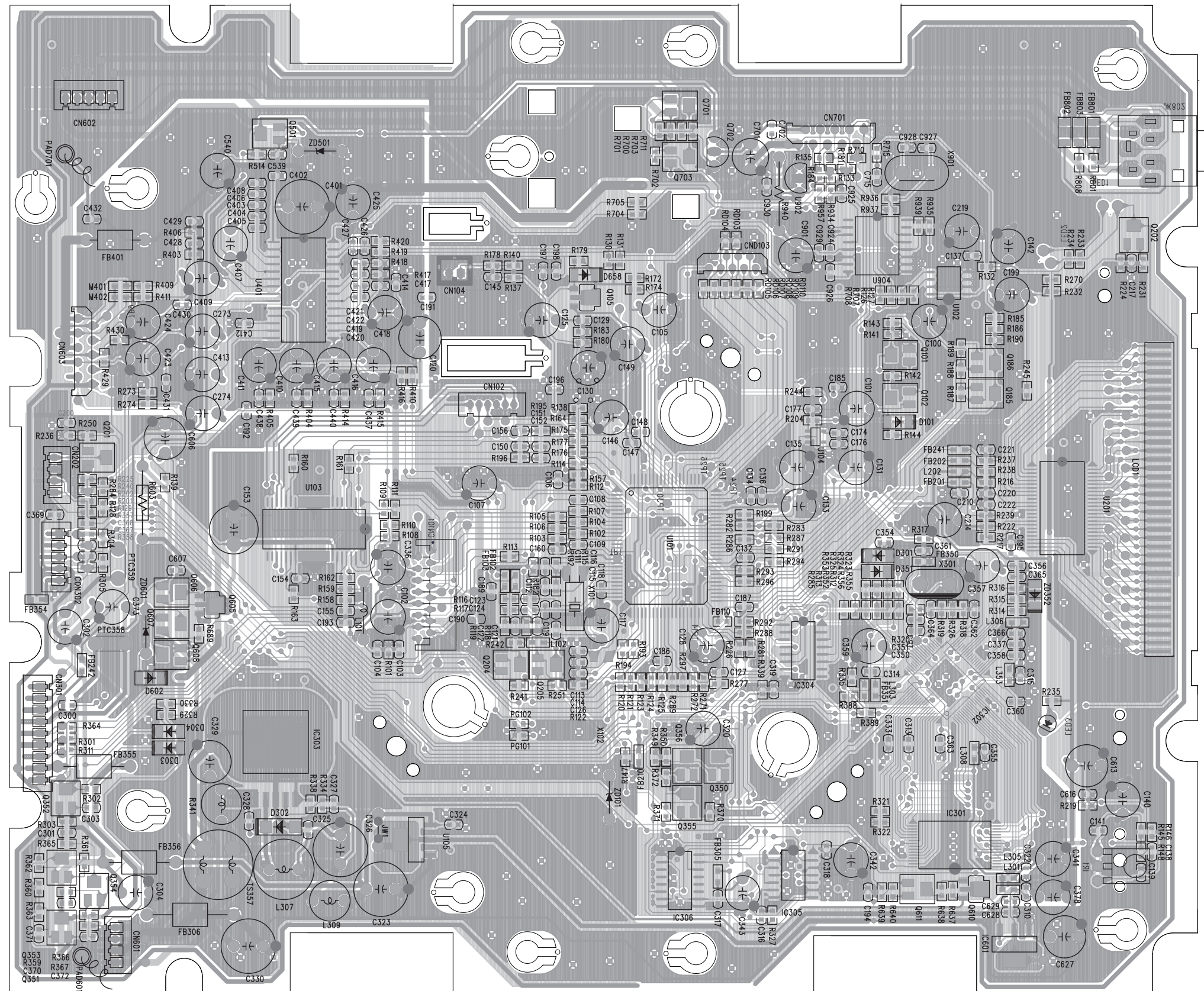


SET WRING DIAGRAM

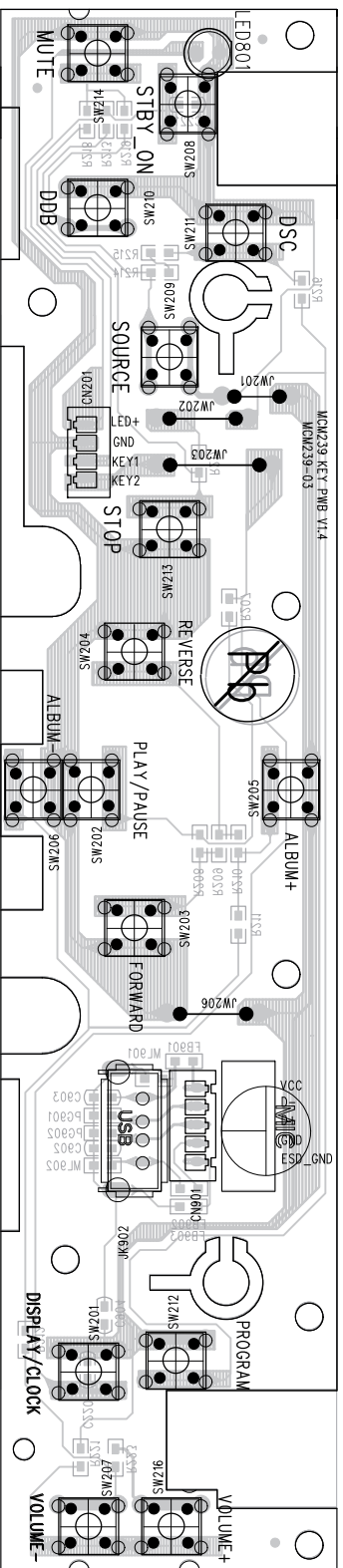
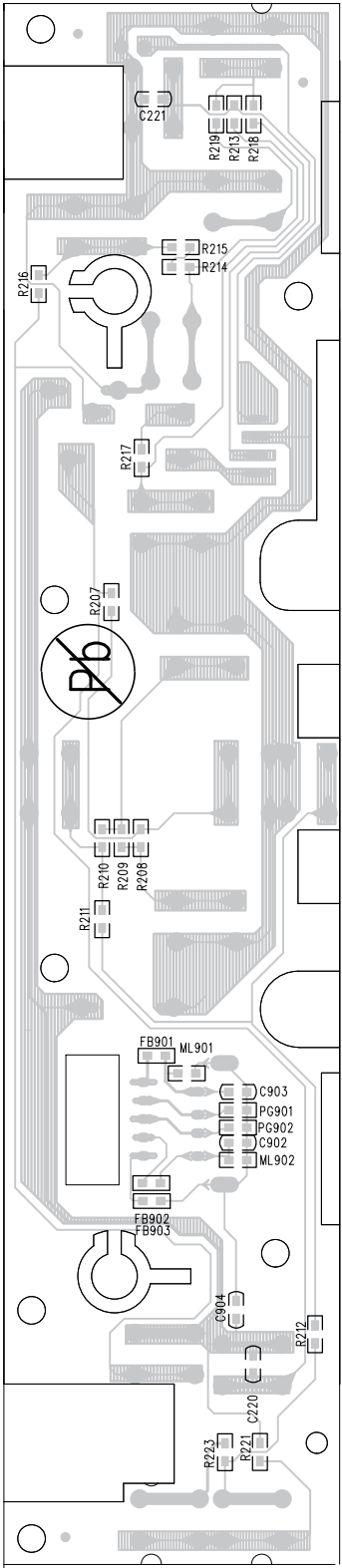
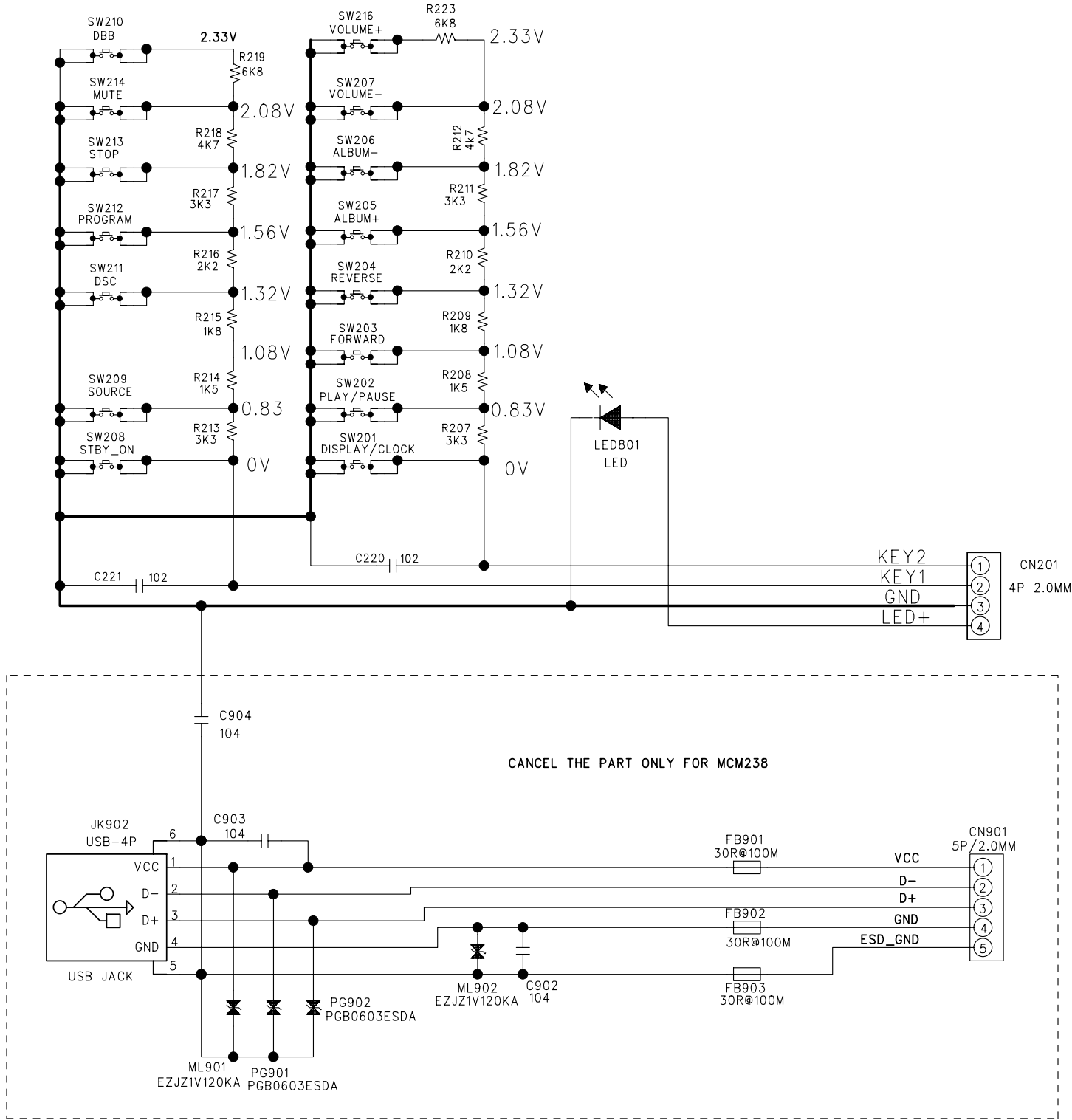




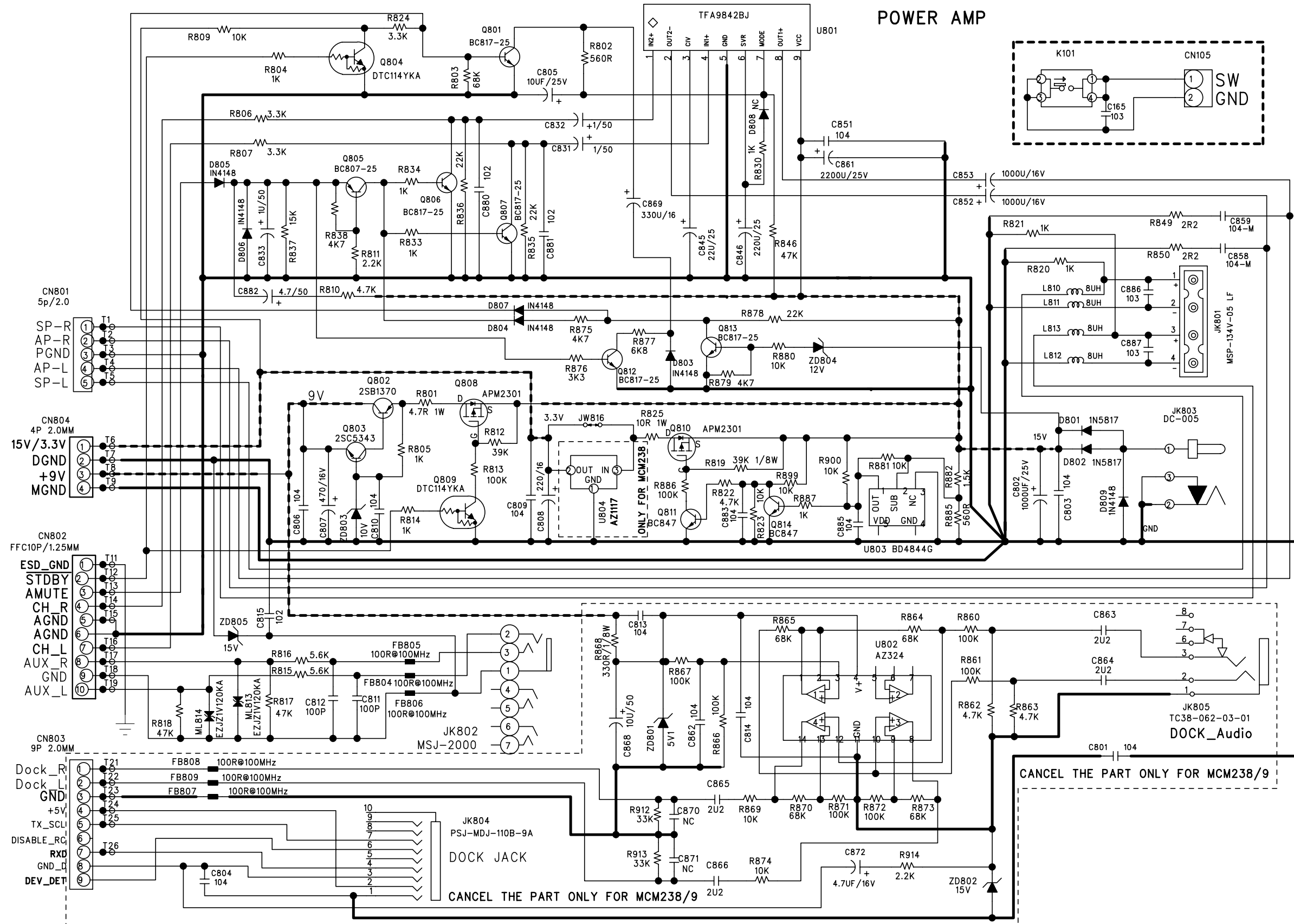




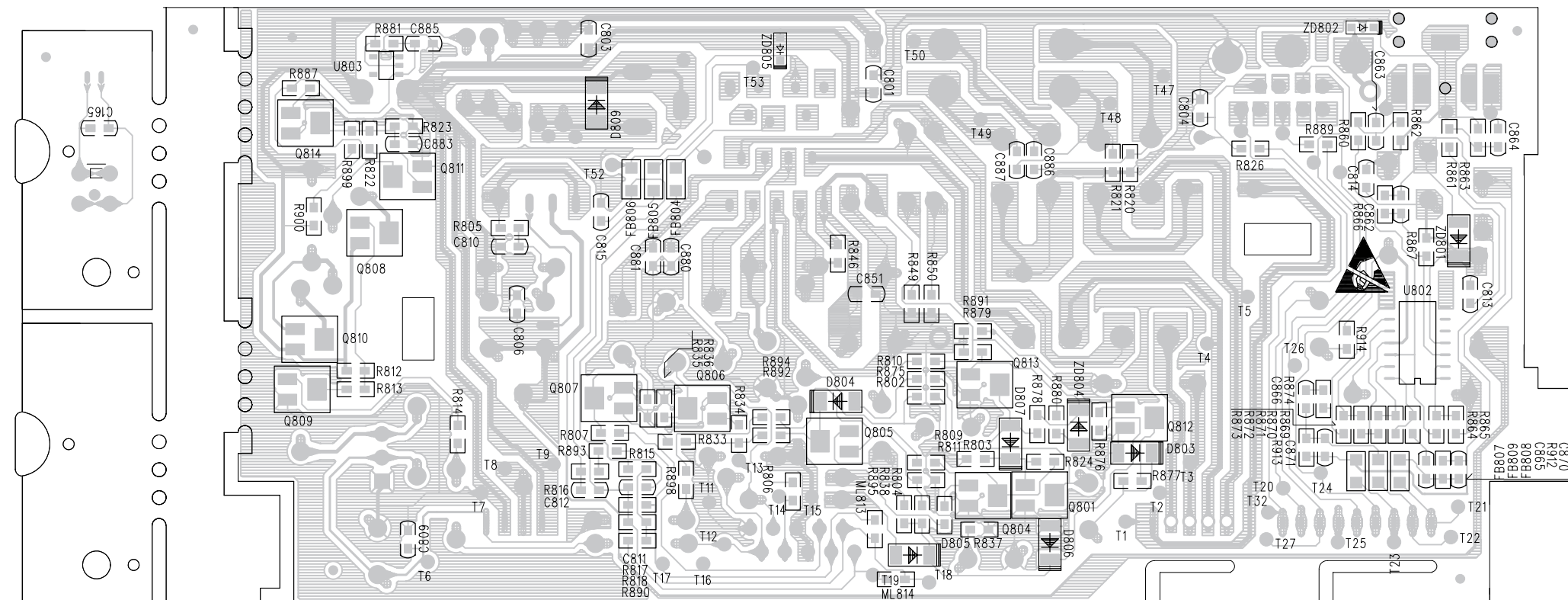
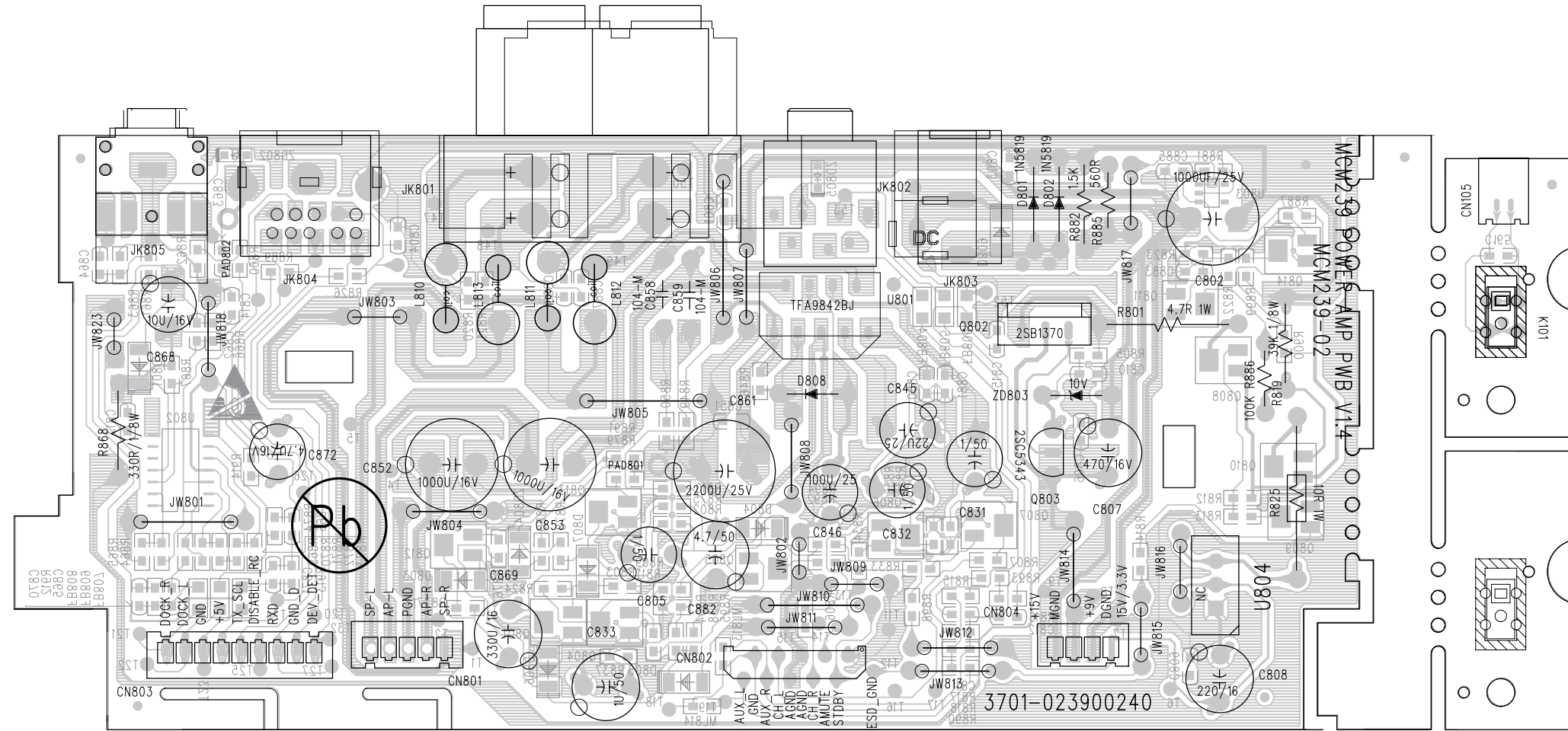
KEY & USB JACK BOARD



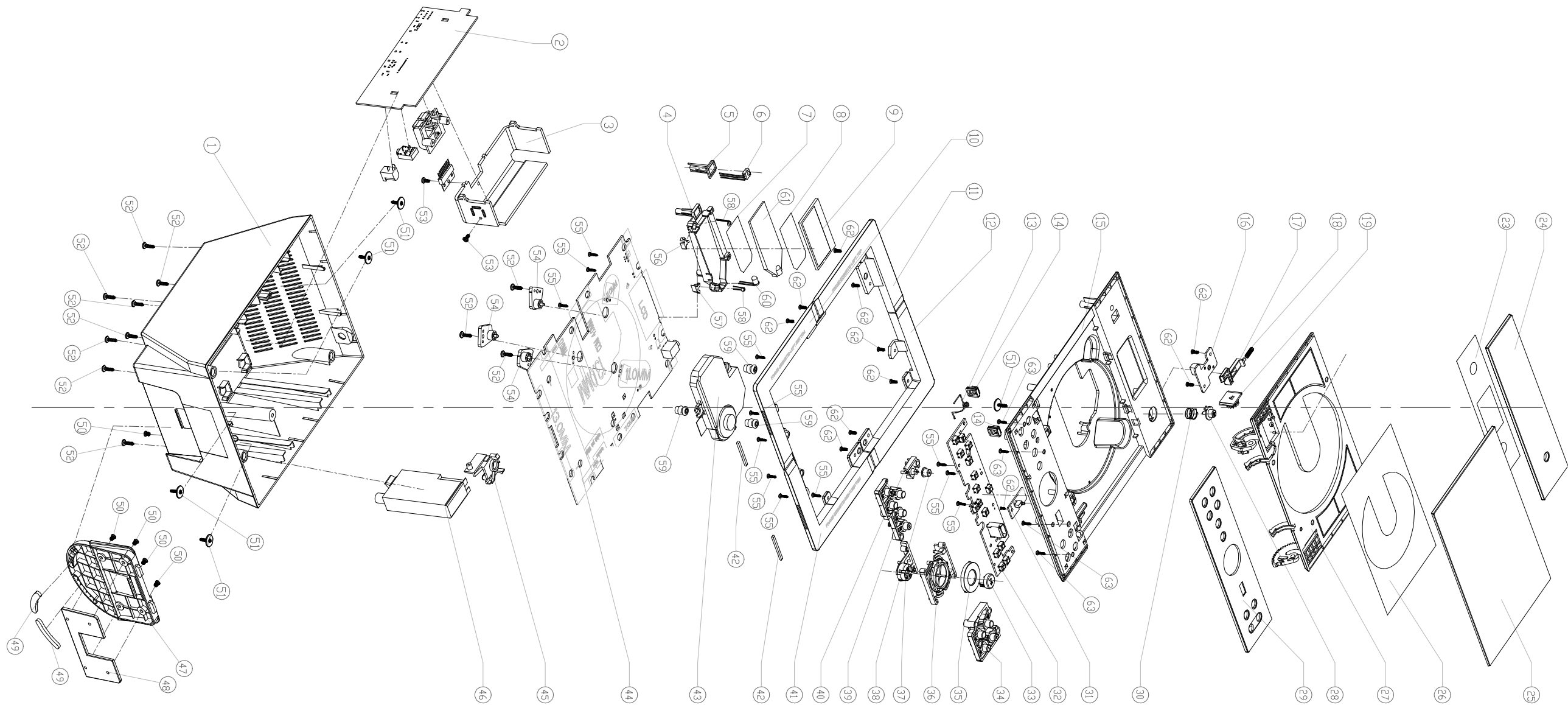
POWER AMP



LAYOUT DIAGRAM - POWER & AMP BOARD



EXPLODE DIAGRAM

[illegible]

ACCESSORY PARTS

9965 100 07021 REMOTE CTRL "PHILIPS" (MCM239)
 9965 100 07022 SPK BOX 4OHM 5W FOR MCM239/12
 9965 100 07022 SPK BOX 4OHM 5W FOR MCM239(for /55/96)
 9965 100 00131 AM LOOP ANT 18.1uH 8T
 9965 100 09657 FM ANT WIRE 75OHM UL1007 1.5M

⚠ 9965 100 07000 SMPS ADAPTOR 15V 1.2A (/12/98)
 ⚠ 9965 100 10441 SMPS ADAPTOR 15V 1.2A FOR (for /55)
 ⚠ 9965 100 09282 SMPS ADAPTOR 15V 1.2A FOR USA(/96)
 9965 100 07001 STAND PORTION OF MCM238/12

MECHNICAL&MISCELLANEOUS PARTS

CDMECH 9965 100 10437 CD MECHANISM M93BGP-BF
 FFC 9965 100 08761 FFC CABLE 10P P=1.25MM L=200MM
 TUNER 9965 100 00946 TUNER MODULE AM/FM ENG07821QF(/12)
 TUNER 9965 100 01360 TUNER MODULE ENG06835QF.(/55/98/96)

15 9965 100 06972 CABINET - FRONT FOR MCM238/12
 10 9965 100 06973 LENS FRAME COSMETIC TOP_LEFT
 11 9965 100 06974 LENS FRAME COSMETIC TOP_RIGHT
 12 9965 100 06975 LENS FRAME COSMETIC BOTTOM_L
 41 9965 100 06976 LENS FRAME COSMETIC BOTTOM_R

 25 9965 100 07017 LENS - CD DOOR FOR 12V (for /12)
 25 9965 100 08049 LENS - CD DOOR FOR 98V(for /98)
 25 9965 100 07037 LENS - CD DOOR FOR 79V(for /96/79/55)
 1 9965 100 06978 CABINET - REAR(for /12/55/96)
 1 9965 100 07028 CABINET - REAR FOR MCM239D(for /98)

 24 9965 100 07018 LENS - DISPLAY FOR MCM239/12V
 39 9965 100 06982 BUTTON SET FUNCTION-A
 34 9965 100 06983 BUTTON SET FUNCTION-B
 36 9965 100 10192 BUTTON SET-NAVIGATION V1
 37 9965 100 06980 BRACKET PLAY BUTTON

 38 9965 100 06981 COVER POWER BUTTON
 40 9965 100 06985 BUTTON POWER
 28 9965 100 06986 BUTTON OPEN
 16 9965 100 06987 OPEN-BUTTON-FIX
 17 9965 100 06988 OPEN-BUTTON-SOLID

 54 9965 100 06989 BRACKET CDM
 27 9965 100 07029 DOOR - CD
 57 9965 100 06993 LENS - CD AMBI LIGHT GUIDE L
 56 9965 100 06994 LENS - CD AMBI LIGHT GUIDE R
 29 9965 100 07020 CONTROL PANEL (only for /12)

 29 9965 100 08050 CONTROL PANEL (for /55/98/96)
 33 9965 100 06991 COVER PLAY BUTTON
 35 9965 100 06992 COVER NAVIGATION BUTTON
 19 9940 000 01664 DAMPER GEAR ASSEMBLY
 18 9965 100 06995 SPRING FOR OPEN-BUTTON-1

 30 9965 100 06996 SPRING FOR OPEN-BUTTON-2
 13 9965 100 06997 SPRING FOR DOOR CD

ELECTRICAL PARTS - MAIN BOARD

D302	9965 000 41722	SCHOTTKY SS14 SMA/DO-214AC
IC301	9965 100 07014	IC 1MFLASH MEMSST39VF010-70-4C
IC302	9965 100 07013	IC OTI-6889 USBDECODER TQFP-80
IC303	9965 100 07007	IC TD1501 TO263-5L 5V 4A DC/DC
IC304	9940 000 05676	IC 74HC4094D MEMORY
IC305	9965 100 07011	IC74HC02D NORGATE CMOS PHILIPS
IC306	9965 100 07012	IC, 74HC4520D HIGH SPEED CMOS
IC601	9965 000 40080	IC AP1117E33LA REGULATOR
IC601	9965 000 41892	IC AZ1117H-3.3 REGULATOR
IR1	9965 000 41893	IR RECEIVER BRM-4050-8-FB2.2
JK802	9940 000 03318	HP JACK D3.6MM
L307	9965 100 08762	TOROIDAL COIL 220UH+/-10%
LCD1	9965 100 06960	LCDVD70256AHTH(VBEST)60x31.5x2
LED1	9965 100 07006	LED 4.8X4.4MM ROUND BLUE XY
LED2	9965 100 07005	LED 3x3.6MM BLUE XY-030BL40
LED3	9965 100 07005	LED 3x3.6MM BLUE XY-030BL40
PTC359	9965 100 07015	PTC RESETTABLE FUSE70V0.5AJK60
Q105	9965 100 06952	CH-TRANSISTOR NPN BCV49 SOT89
Q185	9965 100 06951	CH-TRANSISTOR, BC857C
Q186	9965 100 06953	CH-TRANSISTOR, BC847C SOT-23
Q201	9965 100 00939	TRANSISTOR BC807-25 PNP
Q202	9965 100 06953	CH-TRANSISTOR, BC847C SOT-23
Q204	9965 000 41700	CH-TRANS. DTC114YKA NPN
Q205	9965 100 00939	TRANSISTOR BC807-25 PNP
Q350	9965 100 06953	CH-TRANSISTOR, BC847C SOT-23
Q351	9965 100 06966	MOSFET P-CH APM2301 SOT-23
Q351	9965 100 07010	CH-MOSFET TRANSISTOR BSH205 P
Q353	9965 100 06953	CH-TRANSISTOR, BC847C SOT-23
Q356	9965 100 06953	CH-TRANSISTOR, BC847C SOT-23
Q501	9965 100 06954	CH-TRANSISTOR,BC817-25
Q605	9965 100 00285	TRANSISTOR 2SB1132R
Q606	9965 100 06954	CH-TRANSISTOR,BC817-25
Q607	9965 000 41699	CH-TRANS. DTA114YKA SMT3
Q608	9965 000 41700	CH-TRANS. DTC114YKA NPN
Q610	9940 000 05691	TRANSISTOR PNP BC869SOT-89
Q611	9965 100 06953	CH-TRANSISTOR, BC847C SOT-23
Q701	9965 000 41700	CH-TRANS. DTC114YKA NPN
Q702	9940 000 05652	TRANSISTOR PBSS5140S
Q703	9965 000 41700	CH-TRANS. DTC114YKA NPN
R603	9965 100 07002	FUSE RES, 2.2R 1/2W +/-5%
TS357	9965 100 06959	28UH CORE:T9X5X3 6TURNS 715OHM
U101	9965 100 06957	IC SAA7838H/N3 MCU+MP3/WMA
U102	9940 000 05674	IC BR24L02F-WE2
U103	9965 100 06955	IC, D9258 MOTOR DRIVERCD
U104	9965 100 06956	IC RESET AAT60028AS5 SOT23-5
U104	9965 100 08047	IC RESET BD5228G SSOP5SOT-89
U105	9965 000 40080	IC AP1117E33LA REGULATOR
U105	9965 000 41892	IC AZ1117H-3.3 REGULATOR
U201	9965 100 06958	IC, ET8861S(SSOP48) LCD DRIVER
U401	9965 100 01347	IC ET2314 SOUND SO28

ELECTRICAL PARTS - MAIN BOARD

X101	9965 100 06950	CRYSTAL 8.4672MHZ+/-20PPM 30PF
X102	9940 000 05671	XTAL 32.768KHZ +/-20PPM 12PF
X301	9965 100 07008	CRYST 12MHZHC-49/S20PF+/-20PPM
ZD501	9965 100 07004	ZENER DIODE 7V5 1/2W TAPING
ZD352	9965 100 07009	CH-ZENER DIODE RLZ5.1B LL-34
ZD601	9965 100 07003	ZENER DIODE 6.2V 1/2W TAPING
R940	⚠ 9940 000 04221	FUSE RES 2.2R 1/4W +/-5% (only for /12)
U902	9965 100 01350	IC LM78L05 3-TERMINAL TO-92 (only for /12)
U904	9965 100 06962	IC SAA6581T RDS (PHILIPS)SO16 (only for /12)
X901	9965 100 06961	CRYSTALHC-49/U4.332MHZ+/-20PPM (only for /12)
FB356	9940 000 04215	FILTER BEAD RH3.5X6X0.8
IC301	9965 100 07014	IC 1MFLASH MEMSST39VF010-70-4C
IC302	9965 100 07013	IC OTI-6889 USBDECODER TQFP-80
IC304	9940 000 05676	IC 74HC4094D MEMORY
IC305	9965 100 07011	IC74HC02D NOR GATE CMOS PHILIPS
IC306	9965 100 07012	IC, 74HC4520D HIGH SPEED CMOS
L301	9940 000 01597	CHOCK COIL 10UH 0603
L303	9940 000 01597	CHOCK COIL 10UH 0603
L305	9940 000 01597	CHOCK COIL 10UH 0603
PTC359	9965 100 07015	PTC RESETTABLE FUSE70V0.5AJK60
Q350	9965 100 06953	CH-TRANSISTOR, BC847C SOT-23
Q351	9965 100 07010	CH-MOSFET TRANSISTOR BSH205 P
Q353	9965 100 06953	CH-TRANSISTOR, BC847C SOT-23
Q356	9965 100 06953	CH-TRANSISTOR, BC847C SOT-23
X301	9965 100 07008	CRYST 12MHZHC-49/S20PF+/-20PPM
ZD352	9965 100 07009	CH-ZENER DIODE RLZ5.1B LL-34

ELECTRICAL PARTS - POWER BOARD

D801	9965 100 06964	DIODE 1N5819 DO-41
D802	9965 100 06964	DIODE 1N5819 DO-41
JK801	9940 000 01619	SP TERMINAL MSP-134V-05
JK802	9940 000 03318	HP JACK D3.6MM
JK803	9965 100 08915	DC JACK 3PINPIN2.35MM DIA6.3MM
K101	9965 100 06970	SWITCH OPEN/CLOSEDTS-031P1T2.4
ML813	9940 000 04264	MULT. VAR. 10.6-15.4V
ML814	9940 000 04264	MULT. VAR. 10.6-15.4V
Q801	9965 100 06954	CH-TRANSISTOR,BC817-25
Q802	9965 000 41725	TRANS. 2SB1370PNP TO-220FP
Q803	9965 000 41726	TRANS. 2SC5343 NPN TO-92
Q804	9965 000 41700	CH-TRANS. DTC114YKA NPN
Q805	9965 100 00939	TRANSISTOR BC807-25 PNP
Q806	9965 100 06954	CH-TRANSISTOR,BC817-25
Q807	9965 100 06954	CH-TRANSISTOR,BC817-25

ELECTRICAL PARTS - POWER BOARD

Q808	9965 100 06966	MOSFET P-CH APM2301 SOT-23
Q809	9965 000 41700	CH-TRANS. DTC114YKA NPN
Q810	9965 100 06966	MOSFET P-CH APM2301 SOT-23
Q811	9965 100 06953	CH-TRANSISTOR, BC847C SOT-23
Q812	9965 100 06954	CH-TRANSISTOR,BC817-25
Q813	9965 100 06954	CH-TRANSISTOR,BC817-25
Q814	9965 100 06953	CH-TRANSISTOR, BC847C SOT-23
U801	9965 100 01348	IC POWER AMPLIFIER TFA9842BJ.
U803	9965 000 41716	IC, CMOS RESET BD4844G SSOP5
ZD803	9965 000 41721	ZENER DIODE BZX79-C10
ZD804	9965 100 06965	CH-ZENER DIODE RLZ12B LL-34
ZD804	9965 100 08048	CH-ZENER DIODE ZMM12B LL-34.
ZD805	9965 100 07016	CH-ZENER DIODE UDZSTE-1715B

ELECTRICAL PARTS - KEY BOARD

JK902	9940 000 04263	USB JACK USB-1400A 4P
LED801	9965 100 06971	LED 3MM XY-030RDL10
ML901	9940 000 04264	MULT. VAR. 10.6-15.4V
ML902	9940 000 04264	MULT. VAR. 10.6-15.4V
TACTSW	9940 000 04259	SWITCH TACT TSA-06430-150

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

FACTORY PARTLIST

Level	Item	Component	Desc	Unit	Qty	Location
0	0010	9008-023900012	PHILIPS MCM239//12	SET	1.000	
.1	0010	8900-071100500	ELECTRICAL SECTION OF MCM239/12.	SET	1.000	
.2	0010	8901-071100400	MAIN/USB/TUNER PWB ASSEMBLY OF MCM239/12.	SET	1.000	
...3	0010	3702-023900130	MAIN PWB 204.2X196X1.2MM FR4 MCM239D-01V1.2	PC	1.000	
...3	0020	8901-071100500	MAIN PWB ASSEMBLY OF MCM239/12.	SET	1.000	
....4	0010	1001-000327200	CRYSTAL, 32.768KHZ +/-20PPM 12PF	PC	1.000	X102
....4	0020	1001-084672220	CRYSTAL, 8.4672MHZ +/-20PPM 30PF 3x8	PC	1.000	X101
....4	0030	1112-226033020	CAP, ELECT, 22UF6.3V+/-20%4X5MM	PC	5.000	C117, C125, C128, C131, C135
....4	0040	1112-477053220	CAP, ELECT, 470UF16V+/-20%8X12	PC	3.000	C323, C326, C401
....4	0050	1112-107053100	CAP, ELECT, 100UF16V+/-20%6.3X11	PC	6.000	C140, C142, C214, C219, C606, C627
....4	0060	1112-107063320	CAP, ELECT, 100UF25V+/-20% 8X7	PC	1.000	C329
....4	0070	1112-108043290	CAP, ELECT, 1000UF10V+/-20%8X14	PC	1.000	C153
....4	0080	1121-220081020	CH-CAP, CER22PF50V+/-5%0603 NPO	PC	2.000	C113, C114
....4	0090	1121-330081020	CH-CAP, CER33PF50V+/-5%0603	PC	2.000	C111, C112
....4	0100	1121-470081020	CH-CAP, CER47PF50V+/-5%0603	PC	2.000	C426, C427
....4	0110	1121-101081020	CH-CAP, CER100PF50V+/-5%0603	PC	3.000	C138, C406, C417
....4	0120	1121-221081020	CH-CAP, CER220PF50V+/-5%0603	PC	1.000	C139
....4	0130	1121-820081020	CH-CAP, CER82PF50V+/-5%0603 NPO	PC	2.000	C428, C429
....4	0140	1121-102081020	CH-CAP, CER 1000PF50V+/-5%0603	PC	5.000	C121, C122, C190, C437, C438
....4	0150	1121-222082020	CH-CAP, CER 2200PF50V+/-10%0603	PC	5.000	C116, C119, C150, C439, C440
....4	0160	1121-152081020	CH-CAP, CER1500PF50V+/-5%0603	PC	2.000	C404, C405
....4	0170	1121-472082020	CH-CAP, CER4700PF50V+/-10%0603	PC	3.000	C151, C403, C414
....4	0180	1121-223082020	CH-CAP, CER 0.022UF 50V +/-10% 0603	PC	11.000	C106, C108, C109, C115, C126, C127, C132, C134, C136, C147, C148
....4	0190	1121-103082020	CH-CAP, CER0.01UF50V+/-10%0603	PC	8.000	C145, C156, C186, C187, C189, C327, C539, C702
....4	0195	1121-333082020	CH-CAP, CER0.033UF50V+/-10%0603	PC	1.000	C174
....4	0200	1121-683082020	CH-CAP, 0.068UF50V+/-10%0603	PC	1.000	C152
....4	0210	1121-104084020	CH-CAP, CER0.1UF50V+80%-20%0603	PC	22.000	C103, C104, C118, C129, C137, C141, C154, C155, C160, C176, C200, C210, C217, C324, C328, C402, C408, C412, C607, C616, C628, C629
....4	0215	1121-124084020	CH-CAP, CER 0.12UF 50V +80%/-20%0603	PC	4.000	C419, C420, C421, C422
....4	0220	1121-105041020	CH-CAP, CER 1UF 10V +/-5% 0603	PC	1.000	C177
....4	0225	1121-225041020	CH-CAP, CER 2.2UF 10V +/-5% 0603	PC	2.000	C123, C124
....4	0230	1132-105083060	CAP, ELECT 1UF 50V +/-20% 5X11 TAPING	PC	8.000	C409, C410, C411, C413, C415, C416, C423, C424
....4	0240	1132-475083060	CAP ELECT, 4.7UF 50V +/-20% 5X11 TAPING	PC	2.000	C407, C418
....4	0250	1132-226063060	CAP ELECT, 22UF 25V +/-20% 5X11 TAPING	PC	7.000	C102, C105, C107, C133, C146, C149, C425
....4	0260	1132-476043060	CAP, ELECT, 47UF10V+/-20%5X11 TAPING	PC	3.000	C199, C336, C540
....4	0270	1132-476063060	CAP ELECT, 47UF 25V +/-20% 5X11 TAPING	PC	1.000	C130
....4	0280	1132-227053060	CAP ELECT, 220UF 16V +/-20% 5X11 TAPING	PC	3.000	C120, C613, C701
....4	0300	1213-022012000	FUSE RES, 2.2R 1/2W +/-5%	PC	1.000	R603
....4	0310	1221-000062020	CH-RES, 0 OHM1/16W+/-5%0603	PC	17.000	R101, R102, R103, R104, R105, R106, R107, R108, R109, R110, R111, R112, R192, R195, R281, R409, R411
....4	0320	1221-047062020	CH-RES, 4.7R1/16W+/-5%0603	PC	1.000	R231
....4	0330	1221-100062020	CH-RES, 10R1/16W+/-5%0603	PC	10.000	R113, R132, R285, R286, R287, R291, R292, R293, R294, R296
....4	0340	1221-180062020	CH-RES, 18R1/16W+/-5%0603	PC	1.000	R233
....4	0350	1221-220062020	CH-RES, 22R1/16W+/-5%0603	PC	2.000	R234, R235
....4	0360	1221-560062020	CH-RES, 56R 1/16W+/-5%0603	PC	1.000	R334
....4	0370	1221-101062020	CH-RES, 100R1/16W+/-5%0603	PC	4.000	R237, R288, R707, R708
....4	0380	1221-221062020	CH-RES, 220R1/16W+/-5%0603	PC	4.000	R116, R117, R514, R689
....4	0385	1221-271062020	CH-RES, 270R1/16W+/-5%0603	PC	2.000	R801, R808
....4	0390	1221-331062020	CH-RES, 330R1/16W+/-5%0603	PC	1.000	R145
....4	0400	1221-471062020	CH-RES, 470R1/16W+/-5%0603	PC	5.000	R137, R146, R158, R159, R225
....4	0420	1221-102062020	CH-RES, 1K1/16W+/-5%0603	PC	27.000	R115, R126, R127, R128, R129, R133, R135, R147, R178, R179, R226, R232, R238, R239, R241, R338, R410, R416, R419, R420, R702, RD105, RD106, RD107, RD108, RD109, RD110
....4	0430	1221-152062020	CH-RES, 1.5K1/16W+/-5%0603	PC	1.000	R183
....4	0440	1221-222062020	CH-RES, 2.2K1/16W+/-5%0603	PC	1.000	R703
....4	0450	1221-272062020	CH-RES, 2.7K1/16W+/-5%0603	PC	1.000	R242
....4	0460	1221-332062020	CH-RES, 3.3K1/16W+/-5%0603	PC	9.000	R114, R130, R131, R175, R176, R177, R199, R704, R705
....4	0470	1221-392062020	CH-RES, 3.9K1/16W+/-5%0603	PC	1.000	R160
....4	0480	1221-472062020	CH-RES, 4.7K1/16W+/-5%0603	PC	8.000	R138, R164, R204, R244, R245, R251, R638, R711
....4	0490	1221-512062020	CH-RES, 5.1K 1/16W+/-5%0603	PC	3.000	R187, R188, R222
....4	0500	1221-562062020	CH-RES, 5.6K1/16W+/-5%0603	PC	2.000	R417, R418

FACTORY PARTLIST

Level	Item	Component	Desc	Unit	Qty	Location
....4	0510	1221-103062020	CH-RES, 10K1/16W+/-5%0603	PC	36. 000	R120, R121, R124, R125, R139, R140, R148, R157, R161, R163, R172, R174, R201, R202, R216, R217, R240, R250, R270, R271, R272, R277, R282, R283, R284, R289, R297, R404, R414, R429, R430, R637, R639, R701, RD103, RD104
....4	0530	1221-153062020	CH-RES, 15K1/16W+/-5%0603	PC	1. 000	R122
....4	0540	1221-183062020	CH-RES, 18K1/16W+/-5%0603	PC	1. 000	R162
....4	0550	1221-223062020	CH-RES, 22K1/16W+/-5%0603	PC	3. 000	R180, R405, R415
....4	0560	1221-333062020	CH-RES, 33K1/16W+/-5%0603	PC	2. 000	R123, R185
....4	0570	1221-473062020	CH-RES, 47K1/16W+/-5%0603	PC	1. 000	R189
....4	0580	1221-683062020	CH-RES, 68K1/16W+/-5%0603	PC	4. 000	R224, R236, R640, R700
....4	0590	1221-104062020	CH-RES, 100K1/16W+/-5%0603	PC	4. 000	R141, R182, R186, R190
....4	0600	1313-000620010	ZENER DIODE 6.2V 1/2W TAPING	PC	1. 000	ZD601
....4	0610	1313-000750010	ZENER DIODE 7V5 1/2W TAPING	PC	1. 000	ZD501
....4	0620	1316-030300000	LED 3x3.6MM BLUE XY-030BL40	PC	2. 000	LED2, LED3
....4	0630	1316-048300000	LED 4.8X4.4MM ROUND BLUE XY-048BL30	PC	1. 000	LED1
....4	0640	1321-041480020	CH-DIODE RLS4148 LL-34	PC	2. 000	D602, D658
....4	0650	1322-000140000	CH-DIODE, SCHOTTKY SS14 SMA/DO-214AC	PC	1. 000	D302
....4	0660	1411-051400020	TRANSISTOR, PBSS5140S (BLUE ROCKET)	PC	1. 000	Q702
....4	0670	1421-001140000	CH-TRANSISTOR DTA114YKA SMT3	PC	1. 000	Q607
....4	0680	1421-008570020	CH-TRANSISTOR, BC857C	PC	1. 000	Q185
....4	0690	1421-008690000	CH-TRANSISTOR PNP BC869 SOT-89	PC	1. 000	Q610
....4	0700	1421-211320010	CH-TRANSISTOR, 2SB1132RSOT-89	PC	1. 000	Q605
....4	0710	1421-807250010	CH-TRANSISTOR, BC807-25 PNP SOT23	PC	2. 000	Q201, Q205
....4	0720	1422-000490000	CH-TRANSISTOR NPN BCV49 SOT89	PC	1. 000	Q105
....4	0730	1422-001140000	CH-TRANSISTOR, DTC114YKA NPN SMT3	PC	4. 000	Q204, Q608, Q701, Q703
....4	0740	1422-008470010	CH-TRANSISTOR, BC847C SOT-23.	PC	3. 000	Q186, Q202, Q611
....4	0750	1422-817250000	CH-TRANSISTOR, BC817-25	PC	2. 000	Q501, Q606
....4	0760	1502-002314010	IC ET2314 SOUND S028	PC	1. 000	U401
....4	0770	1503-009258000	IC, D9258 MOTOR DRIVERCD	PC	1. 000	U103
....4	0780	1508-060028000	IC RESET AAT60028AS5 SOT23-5	PC	1. 000	U104
....4	0790	1509-007838000	IC SAA7838H/N3 MCU+MP3/WMA DECODER QFP100	PC	1. 000	U101
....4	0800	1511-002402030	IC, BR24L02F-WE2	PC	1. 000	U102
....4	0810	1512-001117100	IC AP1117E33LA REGULATOR SOT223	PC	2. 000	IC601, U105
....4	0820	1512-001117130	IC, AZ1117H-3.3TRE1 REGULATOR SOT-223	PC	2. 000	IC601, U105
....4	0830	1512-001501000	IC TD1501 T0263-5L 5V 4A DC/DC 150KHZ	PC	1. 000	IC303
....4	0840	1513-008861000	IC, ET8861S (SSOP48) LCD DRIVER	PC	1. 000	U201
....4	0850	1606-047090000	CH-INDUCTOR4.7UH+/-10% DCR=0.9R Q=45 CMI3216-4R7K	PC	3. 000	FB801, FB802, FB803
....4	0860	1606-100185000	CHOCK COIL 10UH Q=30 DCR=1.85OHM 0603	PC	1. 000	L202
....4	0865	1606-330125000	CH-INDUCTOR SDFL2012T330KT 33UH Q=30 DCR=1.25OHM 0805	PC	1. 000	L102
....4	0870	1614-330005000	POWER INDUCTOR, 1014P-330K 33UH DIP	PC	1. 000	L307
....4	0890	1614-330094000	INDUCTOR 33UH+/-10% 0.94OHM	PC	3. 000	L101, L309, R341
....4	0900	1703-000000090	28UH CORE:T9X5X3 6TURNS 715OHM 1.2A (TX2409033628LF)	PC	1. 000	TS357
....4	0910	1801-000000150	IR RECEIVER BRM-4050-8-FB2.2	PC	1. 000	IR1
....4	0920	2105-000000030	FILTER BEAD RH3.5X6X0.8 TAPING	PC	2. 000	FB306, FB401
....4	0930	2403-000000710	LCD VD70256AHTH (VBEST) 60x31.5x2.8MM PH1.8	PC	1. 000	LCD1
....4	0940	2721-101020000	FERRITE BEAD SMD 100OHM +/-25%/100MHZ 0603 GZ1608D101	PC	4. 000	FB201, FB202, FB241, FB242
....4	0945	2721-601020020	FERRITE BEAD 100MHZ/600 OHM 0603.	PC	1. 000	FB110
....4	0950	2721-300020010	FERRITE BEAD SMD 300HM +/-25%/100MHZ 0603 PZ1608D300-3ROT	PC	3. 000	FB102, FB103, FB210
....4	0960	3106-101621040	FFC CONNECTOR PH=1.0MM 16P HORIZONTALWHITE 1.0S-12X-16PW	PC	1. 000	CN101
....4	0970	3101-150621010	HEADER 6PIN 1.5MM STRAIGHT	PC	1. 000	CN102
....4	0980	3101-200221010	HEADER 2PIN 2.0MM STRAIGHT	PC	1. 000	CN104
....4	0990	3101-200421010	HEADER 4PIN 2.0MM STRAIGHT	PC	2. 000	CN202, CN601
....4	1000	3101-200511010	HEADER 5PIN 2.0MM 90ANGLE WHITE	PC	1. 000	CN602
....4	1010	3106-100921010	FFC CONNECTOR 9PIN P=1.0MM STRAIGHT	PC	1. 000	CND103
....4	1020	3106-121021000	CONNECTOR FFC 10PIN P=1.25MM 180DEGREE	PC	2. 000	CN603, CN701
....4	1030	3202-070236000	HP JACK MSJ2000 (ST) 7P DIA.3.6MM 1800	PC	1. 000	JK802
....4	1040	8016-000000100	FM ANT CONTACT PIN	PC	2. 000	PAD601, PAD701
....4	1050	5603-061100100	BRACKET - LCD /IR	PC	1. 000	
....4	1060	5603-061100200	BRACKET IR	PC	1. 000	
....4	1070	5502-061100100	LENS - DISPLAY LIGHT GUIDE	PC	1. 000	
....4	1080	6214-061100100	LCD DIFFUSION SHEET	PC	1. 000	
....4	1090	6214-061100200	LCD REFLECT SHEET	PC	1. 000	
....4	1100	6011-220080300	SCREW, ST P B 2X8 S A222008003	PC	3. 000	2-BRACKETLCD-IR, 1-BRACKETIR
...3	0030	8902-071100100	TUNER PORTION OF MCM239/12 W/RDS	SET	1. 000	
....4	0010	1003-043320200	CRYSTAL HC-49/U 4.332MHZ +/-20PPM TAPING	PC	1. 000	X901

FACTORY PARTLIST

Level	Item	Component	Desc	Unit	Qty	Location
....4	0020	1121-330081020	CH-CAP, CER33PF50V+/-5%0603	PC	2.000	C927, C928
....4	0030	1121-331081020	CH-CAP, CER330PF50V+/-5%0603	PC	1.000	C925
....4	0040	1121-561081020	CH-CAP, CER560PF50V+/-5%0603	PC	1.000	C926
....4	0050	1121-104084020	CH-CAP, CER0.1UF50V+80%-20%0603	PC	2.000	C929, C930
....4	0060	1121-225044020	CH-CAP, CER2.2UF10V+80%-20%0603	PC	1.000	C924
....4	0070	1132-107044040	CAP ELECT 100UF10V+80%-20% 5X5(TAPING PH=2.5MM)	PC	1.000	C901
....4	0080	1221-102062020	CH-RES, 1K1/16W+/-5%0603	PC	2.000	R934, R935
....4	0090	1221-222062020	CH-RES, 2.2K1/16W+/-5%0603	PC	1.000	R936
....4	0100	1221-103062020	CH-RES, 10K1/16W+/-5%0603	PC	3.000	R181, R184, R957
....4	0110	1221-224062020	CH-RES, 220K1/16W+/-5%0603	PC	1.000	R937
....4	0120	1233-022022000	FUSE RES, 2.2 1/4W +/-5% TAPING	PC	1.000	R940
....4	0130	1501-006581000	IC SAA6581T RDS (PHILIPS) (935268605118)S016	PC	1.000	U904
....4	0140	1512-007805030	IC LM78L05 3-TERMINAL POSITIVE REGULATORS T0-92	PC	1.000	U902
...3	0040	8931-071100100	USB PORTION OF MCM239D/12	SET	1.000	
....4	0010	1001-120000200	CRYSTAL 12MHZ HC-49/S 20PF+/-20PPM	PC	1.000	X301
....4	0020	1121-200051020	CH-CAP, CER 20PF16V+/-5%0603	PC	2.000	C350, C351
....4	0030	1121-330051020	CH-CAP, CER 33PF16V+/-5%0603	PC	1.000	C316
....4	0040	1121-101081020	CH-CAP, CER100PF50V+/-5%0603	PC	2.000	C367, C368
....4	0050	1121-103082020	CH-CAP, CER0.01UF50V+/-10%0603	PC	2.000	C317, C318
....4	0060	1121-104084020	CH-CAP, CER0.1UF50V+80%-20%0603	PC	23.000	C310, C313, C314, C315, C319, C322, C333, C337, C354, C355, C356, C358, C360, C361, C362, C363, C364, C365, C366, C369, C370, C371, C372
....4	0080	1132-107043080	CAP ELECT, 100UF 10V +/-20% 6.3x5 TAPING	PC	9.000	C302, C320, C341, C342, C343, C357, C359, C373, C378
....4	0090	1221-000062020	CH-RES, 0 OHM1/16W+/-5%0603	PC	1.000	R330
....4	0100	1221-330062020	CH-RES, 33R1/16W+/-5%0603	PC	2.000	R357, R358
....4	0110	1221-101062020	CH-RES, 100R1/16W+/-5%0603	PC	6.000	R314, R315, R317, R326, R388, R389
....4	0120	1221-102062020	CH-RES, 1K1/16W+/-5%0603	PC	4.000	R312, R313, R355, R356
....4	0130	1221-152062020	CH-RES, 1.5K1/16W+/-5%0603	PC	1.000	R321
....4	0150	1221-472062020	CH-RES, 4.7K1/16W+/-5%0603	PC	1.000	R353
....4	0160	1221-103061020	CH-RES, 10K1/16W+/-1%0603	PC	9.000	R323, R324, R325, R327, R350, R352, R359, R362, R372
....4	0170	1221-153061020	CH-RES, 15K1/16W+/-1%0603	PC	3.000	R304, R305, R339
....4	0190	1221-683062020	CH-RES, 68K1/16W+/-5%0603	PC	2.000	R349, R360
....4	0200	1221-104061020	CH-RES, 100K1/16W+/-1%0603	PC	5.000	R316, R318, R319, R361, R363
....4	0210	1221-105062020	CH-RES, 1M1/16W+/-5%0603	PC	1.000	R320
....4	0220	1321-041480020	CH-DIODE RLS4148 LL-34	PC	2.000	D301, D351
....4	0230	1323-000510040	CH-ZENER DIODE RLZ5.1B LL-34	PC	1.000	ZD352
....4	0250	1422-008470010	CH-TRANSISTOR, BC847C SOT-23.	PC	3.000	Q350, Q353, Q356
....4	0260	1424-002050000	CH-MOSFET TRANSISTOR BSH205 P-CHANNEL SOT-23	PC	1.000	Q351
....4	0280	1508-007402000	IC, 74HC02D NOR GATE CMOS(PHILIPS) S014	PC	1.000	IC305
....4	0290	1508-744520000	IC, 74HC4520D HIGH SPEED CMOS(PHILIPS) S016	PC	1.000	IC306
....4	0300	1509-006889000	IC, OTI-6889 USB DECODER TQFP-80	PC	1.000	IC302
....4	0310	1511-390107000	IC 1M FLASH MEM SST39VF010-70-4C-WHE TSOP32	PC	1.000	IC301
....4	0320	1511-744094000	IC 74HC4094D MEMORY(PHILIPS) (933714850653) S016	PC	1.000	IC304
....4	0330	1606-022020000	CH-FIXED INDUCTOR 0.20HM 2.2UH+/-10% 0603	PC	3.000	L306, L308, L353
....4	0340	1606-100185000	CHOCK COIL 10UH Q=30 DCR=1.85OHM 0603	PC	3.000	L301, L303, L305
....4	0345	2004-050070000	PTC RESETTABLE FUSE 70V 0.5A JK60-050.	PC	1.000	PTC359
....4	0350	2105-000000030	FILTER BEAD RH3.5X6X0.8 TAPING	PC	1.000	FB356
....4	0360	2721-120020000	FERRITE BEAD SMD 120ohm@100MHz 1A PZ1608D121-1R0T(f) 0603	PC	1.000	FB305
....4	0370	2721-300020010	FERRITE BEAD SMD 300HM +/-25%/100MHZ 0603 PZ1608D300-3R0T	PC	3.000	FB350, FB351, FB354
....4	0380	3101-200521010	HEADER 5PIN 2.0MM STRAIGHT	PC	1.000	CON302
..2	0020	8905-071100500	KEY/POWER PWB ASSEMBLY OF MCM239/12	SET	1.000	
...3	0010	3701-023900210	PWB 214X185.6X1.6MM/2(POWER/KEY) 94V0 MCM239D-02	PC	1.000	
...3	0020	8905-071100300	POWER PWB ASSEMBLY OF MCM239D/79	SET	1.000	
....4	0010	1112-106063100	CAP, ELECT, 10UF25V+/-20%6.3X11	PC	1.000	C805
....4	0020	1112-226063060	CAP, ELECT, 22UF25V+/-20%5X11	PC	1.000	C845
....4	0030	1112-337053060	CAP ELECT, 330UF16V+/-20%5X11	PC	1.000	C869
....4	0040	1112-108053140	CAP, ELECT, 1000UF16V+/-20%10X16	PC	2.000	C852, C853
....4	0050	1112-108063141	CAP ELECT 1000UF25V+/-20%10X16 105DEGREE	PC	1.000	C802
....4	0060	1112-228063180	CAP, ELECT, 2200UF25V+/-20%12X25	PC	1.000	C861
....4	0070	1121-101081020	CH-CAP, CER100PF50V+/-5%0603	PC	2.000	C811, C812
....4	0080	1121-102081020	CH-CAP, CER 1000PF50V+/-5%0603	PC	3.000	C815, C880, C881
....4	0090	1121-103082020	CH-CAP, CER0.01UF50V+/-10%0603	PC	3.000	C165, C886, C887
....4	0100	1121-104084020	CH-CAP, CER0.1UF50V+80%-20%0603	PC	11.000	C801, C803, C804, C806, C809, C810, C813, C814, C851, C883, C885
....4	0110	1132-105083061	CAP, ELECT 1UF 50V +/-20% 5X11 105DEGREE TAPING	PC	3.000	C831, C832, C833

FACTORY PARTLIST

Level	Item	Component	Desc	Unit	Qty	Location
....4	0120	1132-475083060	CAP ELECT, 4.7UF 50V +/-20% 5X11 TAPING	PC	1.000	C882
....4	0130	1132-227063220	CAP ELECT, 220UF 25V +/-20% 8X12 TAPING	PC	1.000	C846
....4	0140	1132-227053061	CAP ELECT, 220UF 16V +/-20% 5X11 105DEGREE TAPING	PC	1.000	C808
....4	0150	1132-477053220	CAP ELECT, 470UF 16V +/-20% 8X12 TAPING	PC	1.000	C807
....4	0160	1138-104082110	CAP MMF HMFS 0.1UF 50V +/-10% 6.8x5.0 TAPING	PC	2.000	C858, C859
....4	0170	1211-047072000	RES, 4.7R1W+/-5%	PC	1.000	R801
....4	0180	1211-561052000	RES, 560R1/10W+/-5%	PC	1.000	R885
....4	0190	1231-393042000	RES, 39K 1/8W +/-5% TAPING	PC	1.000	R819
....4	0200	1211-152042000	RES, A11.5K OMH+/-5% 1/8W	PC	1.000	R882
....4	0210	1211-104042000	RES, A1100K OMH+/-5% 1/8W	PC	1.000	R886
....4	0220	1221-000062020	CH-RES, 0 OHM1/16W+/-5%0603	PC	7.000	R890, R891, R892, R893, R894, R895, R898
....4	0230	1221-022062020	CH-RES, 2.2R1/16W+/-5%0603	PC	2.000	R849, R850
....4	0240	1221-102062020	CH-RES, 1K1/16W+/-5%0603	PC	8.000	R804, R805, R814, R820, R821, R833, R834, R887
....4	0250	1221-222062020	CH-RES, 2.2K1/16W+/-5%0603	PC	1.000	R811
....4	0260	1221-332062020	CH-RES, 3.3K1/16W+/-5%0603	PC	4.000	R806, R807, R824, R876
....4	0270	1221-472062020	CH-RES, 4.7K1/16W+/-5%0603	PC	5.000	R810, R822, R838, R875, R879
....4	0280	1221-682062020	CH-RES, 6.8K1/16W+/-5%0603	PC	1.000	R877
....4	0290	1221-103062020	CH-RES, 10K1/16W+/-5%0603	PC	8.000	R809, R815, R816, R823, R880, R881, R899, R900
....4	0300	1221-561062020	CH-RES, 560R1/16W+/-5%0603	PC	1.000	R802
....4	0310	1221-153062020	CH-RES, 15K1/16W+/-5%0603	PC	1.000	R837
....4	0320	1221-223062020	CH-RES, 22K1/16W+/-5%0603	PC	3.000	R835, R836, R878
....4	0330	1221-393062020	CH-RES, 39K1/16W+/-5%0603	PC	1.000	R812
....4	0340	1221-473062020	CH-RES, 47K1/16W+/-5%0603	PC	3.000	R817, R818, R846
....4	0350	1221-683062020	CH-RES, 68K1/16W+/-5%0603	PC	1.000	R803
....4	0360	1221-104062020	CH-RES, 100K1/16W+/-5%0603	PC	1.000	R813
....4	0370	1312-158190000	DIODE 1N5819 DO-41	PC	2.000	D801, D802
....4	0380	1313-079100000	ZENER DIODE BZX79-C10 TAPING	PC	1.000	ZD803
....4	0390	1321-041480020	CH-DIODE RLS4148 LL-34	PC	6.000	D803, D804, D805, D806, D807, D809
....4	0400	1323-001200020	CH-ZENER DIODE RLZ12B LL-34.	PC	1.000	ZD804
....4	0410	1424-023010010	MOSFET P-CHANNEL APM2301 SOT-23	PC	2.000	Q808, Q810
....4	0415	1323-001500000	CH-ZENER DIODE UDZSTE-1715B	PC	2.000	ZD802, ZD805
....4	0420	1411-213700000	TRANSISTOR, 2SB1370PNP TO-220FP	PC	1.000	Q802
....4	0430	1412-253430000	TRANSISTOR, 2SC5343 NPN TO-92	PC	1.000	Q803
....4	0440	1421-807250010	CH-TRANSISTOR, BC807-25 PNP SOT23	PC	1.000	Q805
....4	0450	1422-001140000	CH-TRANSISTOR, DTC114YKA NPN SMT3	PC	2.000	Q804, Q809
....4	0460	1422-008470010	CH-TRANSISTOR, BC847C SOT-23.	PC	2.000	Q811, Q814
....4	0470	1422-817250000	CH-TRANSISTOR, BC817-25	PC	5.000	Q801, Q806, Q807, Q812, Q813
....4	0480	1502-009842010	IC POWER AMPLIFIER TFA9842BJ.	PC	1.000	U801
....4	0490	1508-004844000	IC, CMOS RESET BD4844G SSOP5	PC	1.000	U803
....4	0500	1614-080006010	INDUCTOR 3A1868N 8UH +/-20% 0.06R (ONE SHORT PIN)	PC	4.000	L810, L811, L812, L813
....4	0505	3001-000180130	WIRE 1P UL1007 AWG#22 L=180MM BALCK.	PC	1.000	PAD801
....4	0510	2721-101020000	FERRITE BEAD SMD 1000HM +/-25%/100MHZ 0603 GZ1608D101	PC	6.000	FB804, FB805, FB806, FB807, FB808, FB809
....4	0520	3005-000000000	JUMPER WIRE	PC	19.000	JW801, JW802, JW803, JW804, JW805, JW806, JW807, JW808, JW809, JW810, JW811, JW812, JW813, JW814, JW815, JW816, JW817, JW823, R825
....4	0530	3503-050322000	HOUSING 5PIN P=2.0MM AWG#22 L=320MM PLUG TO BOARD IN	PC	1.000	CN801
....4	0540	3503-040152000	HOUSING 4P UL1007 AWG#26 P=2.0MM L=150MMPLUG TO BOARD IN (180 DEGREE)	PC	1.000	CN804
....4	0550	3106-121021000	CONNECTOR FFC 10PIN P=1.25MM 180DEGREE	PC	1.000	CN802
....4	0570	3501-020122010	HOUSING 2PIN P=2.0MM L=120MM AWG#30 UL1571 SINGLE PLUG (RED/BLACK)	PC	1.000	CN105
....4	0580	3201-030163000	DC JACK 3PIN DC-005 DIA6.3MM 90DEGREE.	PC	1.000	JK803
....4	0590	3202-070236000	HP JACK MSJ2000 (ST) 7P DIA.3.6MM 1800	PC	1.000	JK802
....4	0600	3312-010124030	SWITCH, OPEN/CLOSE DTS-03 1P1T 2.4MM	PC	1.000	K101
....4	0610	3401-000000010	SP TERMINAL MSP-134V-05 LF	PC	1.000	JK801
....4	0620	3601-106000010	CH-MULT.VAR. EZJZ1V120KA 10.6-15.4V 0603	PC	2.000	ML813, ML814
....4	0630	6600-061100200	HEATSINK	PC	1.000	
....4	0640	6011-230060400	SCREW, STTP M 3X6 A013006000	PC	2.000	2-IC&HEATSINK
....4	0650	8016-000000100	FM ANT CONTACT PIN	PC	1.000	PAD802
...3	0030	8910-071100100	KEY PWB ASSEMBLY OF MCM239D/12	SET	1.000	
....4	0010	1121-102081020	CH-CAP, CER 1000PF50V+/-5%0603	PC	2.000	C220, C221
....4	0020	1121-104084020	CH-CAP, CERO. 1UF50V+80%-20%0603	PC	3.000	C902, C903, C904
....4	0030	1221-000062020	CH-RES, 0 OHM1/16W+/-5%0603	PC	1.000	R221
....4	0050	1221-152062020	CH-RES, 1.5K1/16W+/-5%0603	PC	2.000	R208, R214
....4	0060	1221-182062020	CH-RES, 1.8K1/16W+/-5%0603	PC	2.000	R209, R215

FACTORY PARTLIST

Level	Item	Component	Desc	Unit	Qty	Location
...4	0070	1221-222062020	CH-RES, 2. 2K1/16W+/-5%0603	PC	2. 000	R210, R216
...4	0080	1221-332062020	CH-RES, 3. 3K1/16W+/-5%0603	PC	4. 000	R207, R211, R213, R217
...4	0090	1221-472062020	CH-RES, 4. 7K1/16W+/-5%0603	PC	2. 000	R212, R218
...4	0100	1221-682062020	CH-RES, 6. 8K1/16W+/-5%0603	PC	2. 000	R219, R223
...4	0110	1316-033470000	LED 3MM 3R4HD-7(RED) TAPING	PC	1. 000	LED801
...4	0120	2721-300020010	FERRITE BEAD SMD 300HM +/-25%/100MHZ 0603 PZ1608D300-3ROT	PC	3. 000	FB901, FB902, FB903
...4	0130	3005-000000000	JUMPER WIRE	PC	5. 000	JW201, JW202, JW203, JW205, JW206
...4	0140	3505-040082010	HOUSING 4PIN P=2.0MM AWG#28 L=80MM PLUGTO BOARD IN	PC	1. 000	CN201
...4	0150	3505-050082010	HOUSING 5P P=2.0MM AWG#28 UL1007 L=80MM PLUG TO BOARD IN	PC	1. 000	CN901
...4	0160	3209-040200000	USB JACK USB-1400A 4P	PC	1. 000	JK902
...4	0170	3302-010143020	SWITCH TACT TSA-06430-150 LUP FUNG	PC	15. 000	SW201, SW202, SW203, SW204, SW205, SW206, SW207, SW208, SW209, SW210, SW211, SW212, SW213, SW214, SW216
...4	0180	3601-106000010	CH-MULT. VAR. EZJZ1V120KA 10.6-15.4V 0603	PC	2. 000	ML901, ML902
...4	0190	8022-000000600	PULSE GUARD 0603ESDA-TR1	PC	2. 000	PG901, PG902
.1	0020	8900-071100600	ELECTRICAL ENCASING ASSY. OF MCM239/12.	SET	1. 000	
..2	0005	2712-000020000	FERRITE CORE T16X12X8	PC	1. 000	
..2	0015	3001-000100160	WIRE 1P UL1007 AWG#24 L=100MM BLACK	PC	1. 000	TUNERTOPAD701
..2	0015	3002-100200900	FFC CABLE 10P P=1.25MM L=200MM C TYPE WHITE	PC	2. 000	CN802TOCN603, CN701TOTUNER
..2	0020	3001-000150120	WIRE 1P UL1007 AWG#24 L=150MM BLACK.	PC	1. 000	
..2	0030	3801-000000090	TUNER MODULE AM/FM ENG07821QF (EUROPE).	PC	1. 000	
..2	0040	4401-120009320	CD MECHANISM CMS-M93BGPJ (SAMSUNG, FORROHM SOLUTION)	PC	1. 000	CDMECHA
.1	0030	8940-071100100	MECHANICAL PART OF MCM239/12	SET	1. 000	
..2	0010	8941-071100100	PLASTIC PART OF MCM239/12	SET	1. 000	
...3	0010	5001-061100200	CABINET - FRONT FOR MCM238/12	PC	1. 000	
...3	0020	5506-061100100	LENS FRAME COSMETIC TOP_LEFT	PC	1. 000	
...3	0030	5506-061100200	LENS FRAME COSMETIC TOP_RIGHT	PC	1. 000	
...3	0040	5506-061100300	LENS FRAME COSMETIC BOTTOM_LEFT	PC	1. 000	
...3	0050	5506-061100400	LENS FRAME COSMETIC BOTTOM_RIGHT	PC	1. 000	
...3	0060	5503-071100100	LENS - CD DOOR FOR 12V	PC	1. 000	
...3	0070	5002-061100100	CABINET - REAR	PC	1. 000	
...3	0080	5501-071100100	LENS - DISPLAY FOR MCM239/12V.	PC	1. 000	
...3	0090	5403-061100200	BUTTON SET FUNCTION-A	PC	1. 000	
...3	0100	5404-061100200	BUTTON SET FUNCTION-B	PC	1. 000	
...3	0110	5417-061100100	BUTTON SET NAVIGATION	PC	1. 000	
...3	0120	5618-061100300	BRACKET PLAY BUTTON	PC	1. 000	
...3	0130	5902-061100400	COVER POWER BUTTON	PC	1. 000	
...3	0140	5408-061100200	BUTTON POWER	PC	1. 000	
...3	0160	5304-061100100	BUTTON OPEN	PC	1. 000	
...3	0170	5935-061100100	OPEN-BUTTON-FIX	PC	1. 000	
...3	0180	5935-061100200	OPEN-BUTTON-SOLID	PC	1. 000	
...3	0210	5608-061100100	BRACKET CDM	PC	3. 000	
...3	0230	5201-061100100	DOOR - CD	PC	1. 000	
...3	0240	5502-061100200	LENS - CD AMBI LIGHT GUIDE	PC	1. 000	
...3	0250	5502-061100200	LENS - CD AMBI LIGHT GUIDE	PC	1. 000	
...3	0260	5105-071100100	CONTROL PANNEL FOR MCM239D/12V.	PC	1. 000	
...3	0270	5902-061100500	COVER PLAY BUTTON	PC	1. 000	
...3	0280	5902-061100600	COVER NAVIGATION BUTTON	PC	1. 000	
...3	0290	5703-030600200	DAMPER GEAR ASSEMBLY	SET	1. 000	
..2	0020	8942-071100100	METAL PART OF MCM239D/12	SET	1. 000	
...3	0010	6102-061100100	SPRING FOR OPEN-BUTTON-1	PC	1. 000	
...3	0020	6102-061100200	SPRING FOR OPEN-BUTTON-2	PC	1. 000	
...3	0030	6105-061100100	SPRING FOR DOOR CD	PC	1. 000	
...3	0040	6406-050700101	CUSHION CD MECHANISM A	PC	2. 000	
...3	0050	6405-050700100	CD DAMPER (BLACK) 20DEGREE	PC	2. 000	
...3	0055	6405-071100100	CD DAMPER (BLACK) 30DEGREE	PC	1. 000	
...3	0060	6404-061100100	RUBBER FOOT FOR FRAME-COSMETIC	PC	2. 000	
...3	0070	8036-000000200	CABLE TIE	PC	2. 000	
...3	0080	7902-061100200	NITTO 500 DOUBLE SIDE TAPE 191X47MM	PC	1. 000	
...3	0090	7902-061100300	NITTO 500 DOUBLE SIDE TAPE 191X125MM	PC	1. 000	
...3	0100	6700-071100100	FELT SHEET 188x9.0x0.30	PC	4. 000	
..2	0030	8946-061100100	SCREW PART OF MCM238/12	SET	1. 000	
...3	0010	6011-230100100	SCREW, ST 3.0X10 PB	PC	11. 000	6-CABINETREAR, 3-BRACKETCDM, 2-SPEAKERJACK

FACTORY PARTLIST

Level	Item	Component	Desc	Unit	Qty	Location
... 3	0030	6011-226060100	SCREW , ST 2.6X6 PB (BLACK)	PC	11.000	1-FORSWITCHPCBFRONTCABINET, 8-FORLENSFRAMECOSMETIC, 2-FOROPENFIXFRONT
... 3	0040	6021-230060100	SCREW, M3.0X6 PB	PC	1.000	1-FORRADIOMODULE
... 3	0050	6011-220080300	SCREW, ST P B 2X8 S A222008003	PC	10.000	6-FOR LENS FRAME COSMETIC, 4-FOR KEY PCBFRONT CABINET
... 3	0060	6013-220060100	SCREW, ST B B 2X6B	PC	4.000	FRONT CABINET
... 3	0070	6012-226100110	SCREW, PTTN M 2.6X10 PB(DIA.:12.0)	PC	4.000	1-FORDAMPERGEAR, 2-FORPOWERPCBREARCABINET, 1-FORREARCABINET
.. 2	0040	8943-071100100	PACKING PART OF MCM239/12	SET	1.000	
... 3	0010	7103-030300100	LABEL DON'T TOUCH THE LENS	PC	1.000	
... 3	0020	7107-030600100	LABEL (QC)	PC	1.000	
... 3	0030	7111-071100100	LABEL TYPE PLATE 37X60MM (MCM239/12)	PC	1.000	
... 3	0040	7101-071100100	LABEL CARTON BOX 83x103MM (MCM239/12)	PC	1.000	
... 3	0050	7112-050700100	LABEL "UWAGA!	PC	1.000	
... 3	0060	7112-050700200	LABEL "VIGYAZAT!	PC	1.000	
... 3	0070	7112-050700300	LABEL "CHRASTE SE	PC	1.000	
... 3	0080	7202-071100100	INSTRUCTION BOOK-11 LANGUAGE (MCM239/12)	PC	1.000	
... 3	0090	7202-071100200	INSTRUCTION BOOK-5 LANGUAGE (MCM239/12)	PC	1.000	
... 3	0100	7203-071100100	QUICK START GUIDE ENG+FRE LANGUAGE (MCM229/12)	PC	1.000	
... 3	0110	7203-071100200	QUICK START GUIDE SPA+GER LANGUAGES (MCM239/12)	PC	1.000	
... 3	0120	7203-071100300	QUICK START GUIDE DUT+ITA LANGUAGES (MCM239/12)	PC	1.000	
... 3	0130	7201-041900200	GUARANTEE LEAFLET 10/07/2006 (9965 000 38986)	PC	1.000	
... 3	0140	7603-071100100	DISPLAY BOX W=A.	PC	1.000	
... 3	0150	7401-061100100	POLYFOAM TOP (MCM238)	PC	1.000	
... 3	0160	7402-061100200	POLYFOAM BOTTOM (MCM238)	PC	1.000	
... 3	0170	7903-061100100	EPE BAG L370xW330MM W/PE-LD04 MARK	PC	1.000	
... 3	0180	7502-050700100	POLYBAG FOR I/B 203x305x0.04MM W/PE-LD04.	PC	2.000	2-FIU
... 3	0190	7502-042200100	POLYBAG 9 x 14" W/WARNING & RECYCLE MARK	PC	1.000	1-QSG
... 3	0200	7905-030600200	POLYBAG FOR AM RING 155X203MM	PC	2.000	1-AMANDFMANTENNA, 1-STAND
... 3	0210	7905-061100100	POLYBAG 110x130x0.04MM W/PE-LD04	PC	1.000	1-STAND
... 3	0220	7907-042500100	ACETATE CLOTH ADHESIVE TAPE L95xW9MM	PC	1.000	STICKONCDDOOR
... 3	0230	7206-030800100	SLIP SHEET 1400X1250MM	PC	0.016	
... 3	0240	7206-042500100	FITTING PALLET 46.125"X38.75" (3140 10638732)	PC	0.016	
... 3	0250	7206-030500200	WRAP FILM	M	0.329	
.. 1	0040	8944-071100100	ACCESSORIES OF MCM239/12	SET	1.000	
.. 2	0010	1901-000004400	REMOTE CONTROL "PHILIPS" (MCM239)	PC	1.000	
.. 2	0020	8919-071100100	SPEAKER BOX 40HM 5W FOR MCM239/12 W/POS.	PAA	1.000	
.. 2	0030	5926-060300100	AM LOOP ANT 18.1uH 8T	PC	1.000	
.. 2	0040	3009-001000100	FM ANT WIRE 750HM L=1.0M BLACK W/STV8-1H	PC	1.000	
.. 2	0045	4011-060600010	SMPS ADAPTOR 15V 1.2A FOR EUROPE (IMPORT230~240V) VDE	PC	1.000	
.. 2	0060	8951-061100100	STAND PORTION OF MCM238/12	SET	1.000	
... 3	0010	5912-061100100	AND BASE	PC	1.000	
... 3	0020	6802-061100200	STEEL FOR STAND BASE.	PC	1.000	
... 3	0030	6404-061100200	RUBBER FOOT FOR STAND BASE	PC	2.000	
... 3	0040	6023-230040100	SCREW, M B B3X4B (TOYO:A023004002)	PC	4.000	4-STEELSTANDBASE