

Service
Service
Service



Service Manual

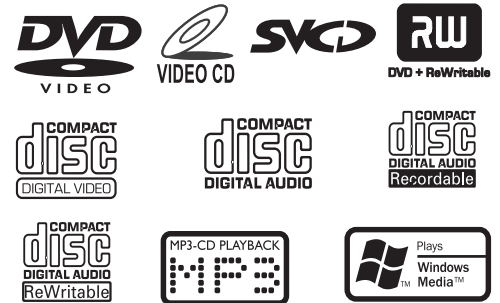


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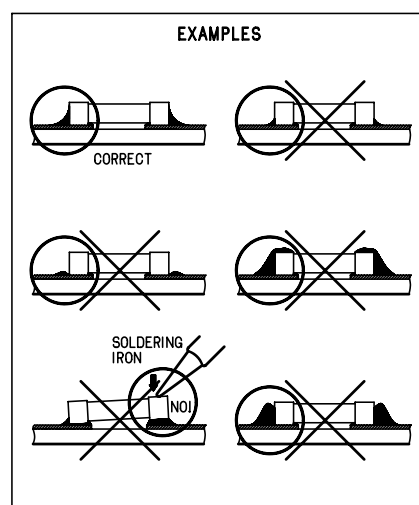
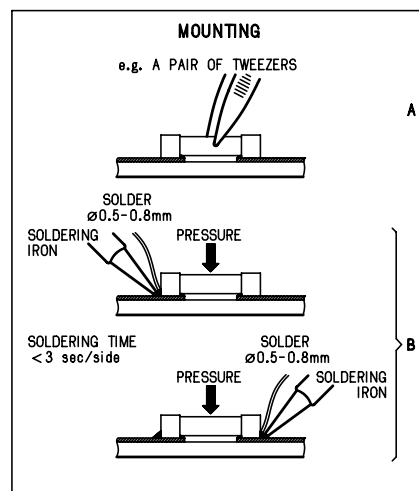
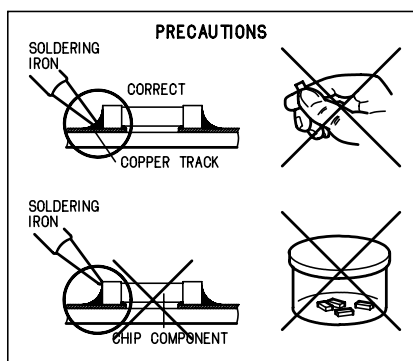
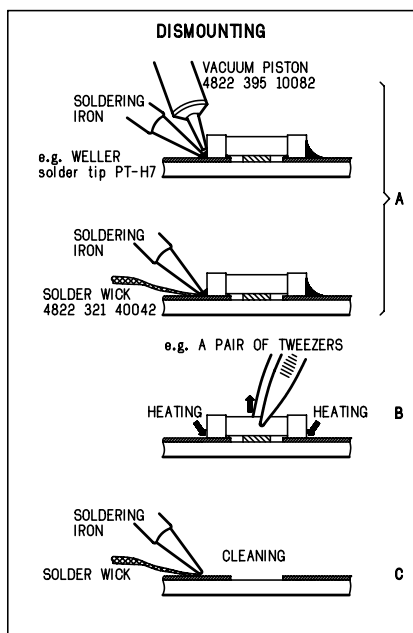
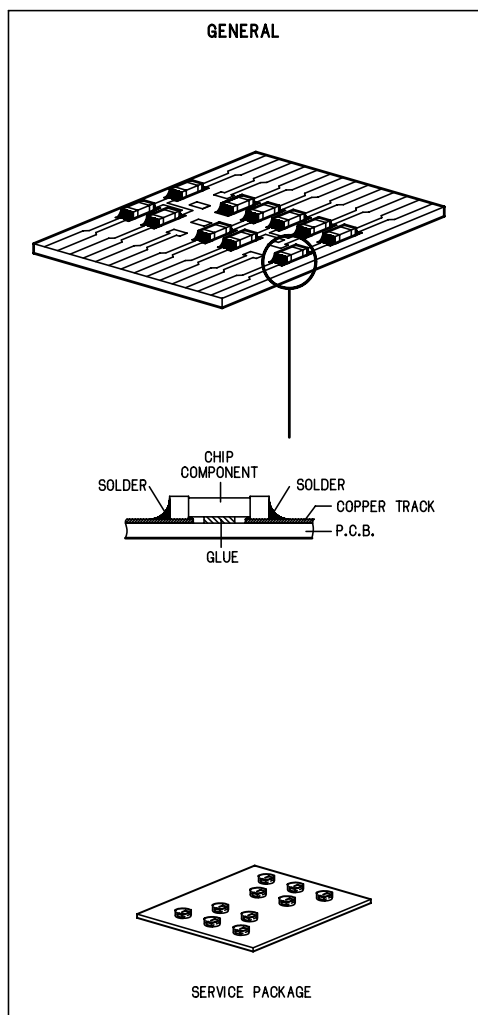
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HANDLING CHIP COMPONENTS



SERVICE TOOLS

- TORX T10 screwdriver with shaftlength 150mm.....4822 395 50423
- TORX screwdriver set SBC 163.....4822 295 50145
- Audio signal disc SBC 429.....4822 397 30184
- Playability test disc SBC 444.....4822 397 30245
- Test disc 5 (disc without errors) +
- Test disc 5A (disc with dropout errors, black spots and fingerprints)
SBC 426/426A.....4822 397 30096
- Burn in test disc (65 min. 1kHz signal at -30 dB level without "pause").....4822 397 30155
- Universal test cassette Fe SBC 420.....4822 397 30071

AVAILABLE ESD PROTECTION EQUIPMENT

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

INFORMATION ABOUT LEAD-FREE SOLDERING

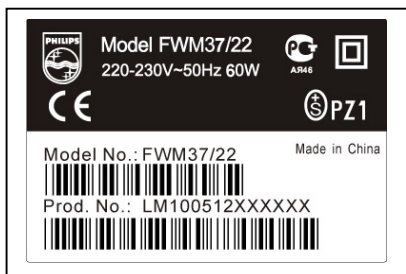
Philips CE is producing lead-free sets from 1.1.2005 onwards.

IDENTIFICATION:

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



Example S/N:



Bottom line of typeplate gives a 14-digit S/N. Digit 5&6 is the year, digit 7&8 is the week number, so in this case 2005 wk12

So from 0501 onwards = from 1 Jan 2005 onwards

Important note: In fact also products of year 2004 must be treated in this way as long as you avoid mixing solder-alloys (lead/ lead-free). So best to always use SAC305 and the higher temperatures belong to this.

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
 - To reach at least a solder-temperature of 400°C,
 - To stabilize the adjusted temperature at the solder-tip
 - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360°C – 380°C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed solder alloy types (leaded and lead-free).
If one cannot avoid or does not know whether product is lead-free, clean carefully the solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- **Special information for BGA-ICs:**
 - always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use the lead-free temperature profile, in case of doubt)
 - lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. (MSL=Moisture Sensitivity Level). This will be communicated via AYS-website. Do not re-use BGAs at all.
- For sets produced before 1.1.2005 (except products of 2004), containing leaded solder-alloy and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.
- 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

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.

SPECIFICATION

AMPLIFIER

Output power	2 x 75 W RMS
.....	2500 W PMPO
Signal-to-noise ratio	≥ 60 dBA
Frequency response	63 – 20000 Hz, +0.5 / -1 dB
Input sensitivity AUX	1.0 V (max. 2 V)
Impedance loudspeakers	6 Ω
Impedance headphones	32 Ω -1000 Ω

DVD PLAYER

Laser Type	Semiconductor
Disc Diameter	12cm / 8cm
Video Decoding	MPEG-2 / MPEG-1
Video DAC	10 Bits
Signal System	PAL / NTSC
Video Format	4:3 / 16:9
Video S/N	56 dB (minimum)
Composite Video Output	1.0 Vp-p, 75 Ω
S-Video Output	Y - 1.0 Vp-p, 75 Ω
.....	C - 0.286 Vp-p, 75 Ω
Audio DAC	24 Bits / 96 kHz
Frequency Response	4 Hz - 20 kHz (44.1kHz)
.....	4 Hz - 22 kHz (48kHz)
.....	4 Hz - 44 kHz (96kHz)
Digital Output
.....	SPDIF (Sony Philips digital interface) Coaxial
Number of programmable tracks	16
Signal-to-noise ratio	≥ 65 dBA
Channel separation	≥ 40 dB (1 kHz)
Total harmonic distortion	< 0.1% (1 kHz)

TUNER

FM wave range	87.5 – 108 MHz
MW wave range (9 kHz)	531 – 1602 kHz
MW wave range (10 kHz)	530 – 1700 kHz
Tuning grid	9/10 kHz
Sensitivity at 75 Ω	
– mono, 26 dB signal-to-noise ratio	2.8 μ V
– stereo, 46 dB signal-to-noise ratio	61.4 μ V
Selectivity	≥ 28 dB
Total harmonic distortion	$\leq 5\%$
Frequency response	63 – 5500 Hz (-6 dB)
Signal-to-noise-ratio	≥ 50 dBA

TAPE DECK

Frequency response	
Normal tape (type I)	125 – 6300 Hz (8 dB)
Signal-to-noise ratio	
Normal tape (type I)	40 dBA
Wow and flutter	$\leq 0.4\%$ DIN

SPEAKERS

2-way bass reflex system	
Woofer	2 x 13 cm
Tweeter	1 x 5 cm
Dimensions (w x h x d)
.....	165 x 410 x 285 (mm)

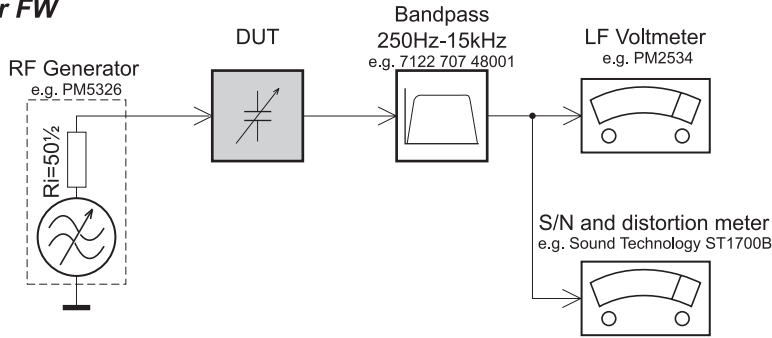
GENERAL INFORMATION

AC Power	110 – 127 / 220 – 240 V;
.....	50/60 Hz Switchable
Dimensions (w x h x d)
.....	177 x 292 x 341 (mm)
Weight(with/without speakers)	17.7 / 5.9 kg
Standby power consumption	≤ 7 W

Specifications and external appearance are subject to change without notice.

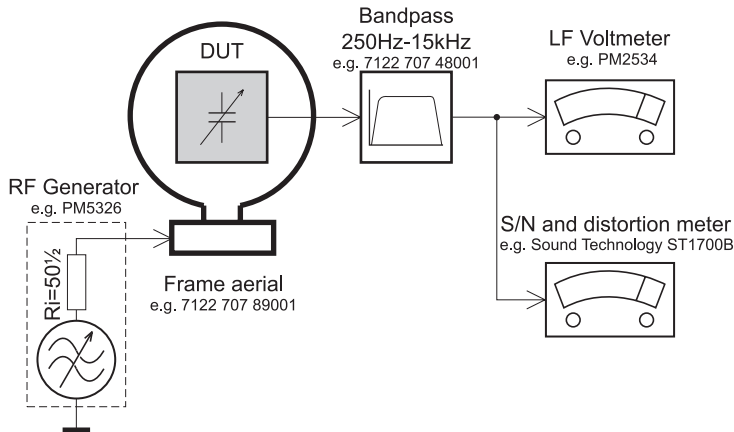
SERVICE MEASUREMENT

Tuner FW



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

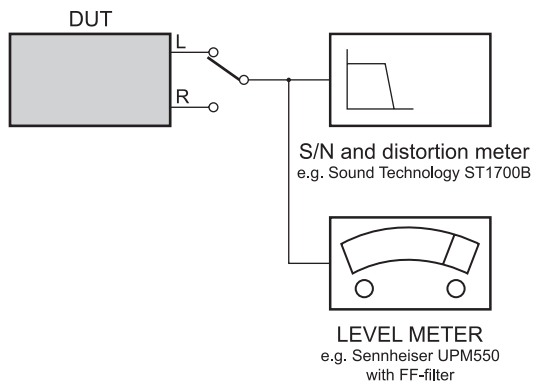
Tuner AM (MW,LW)



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

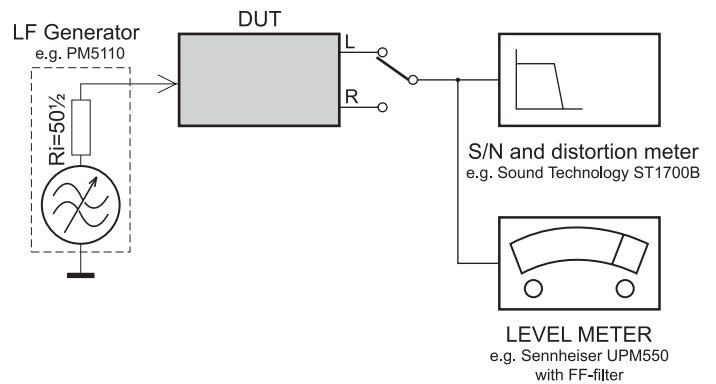
CD

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

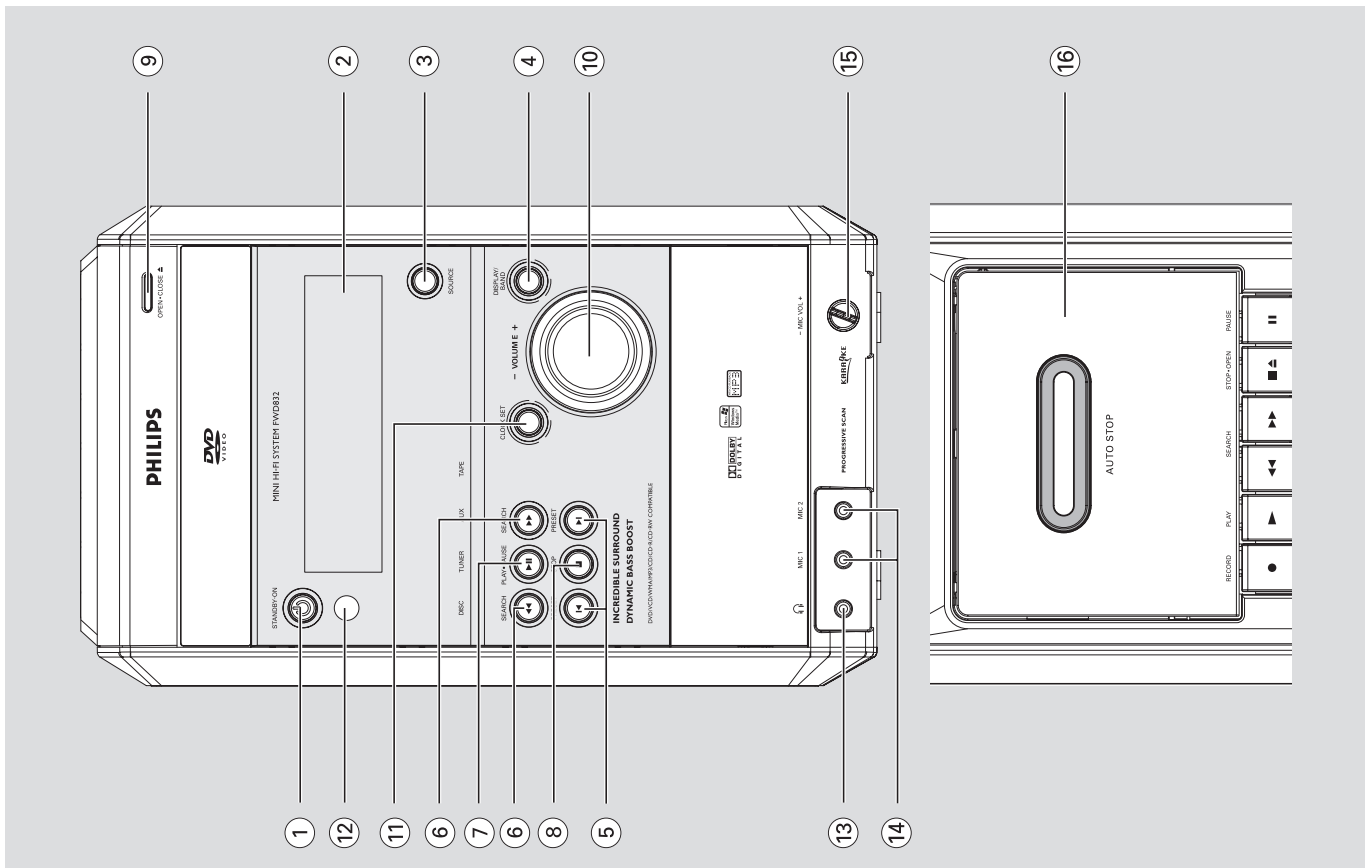
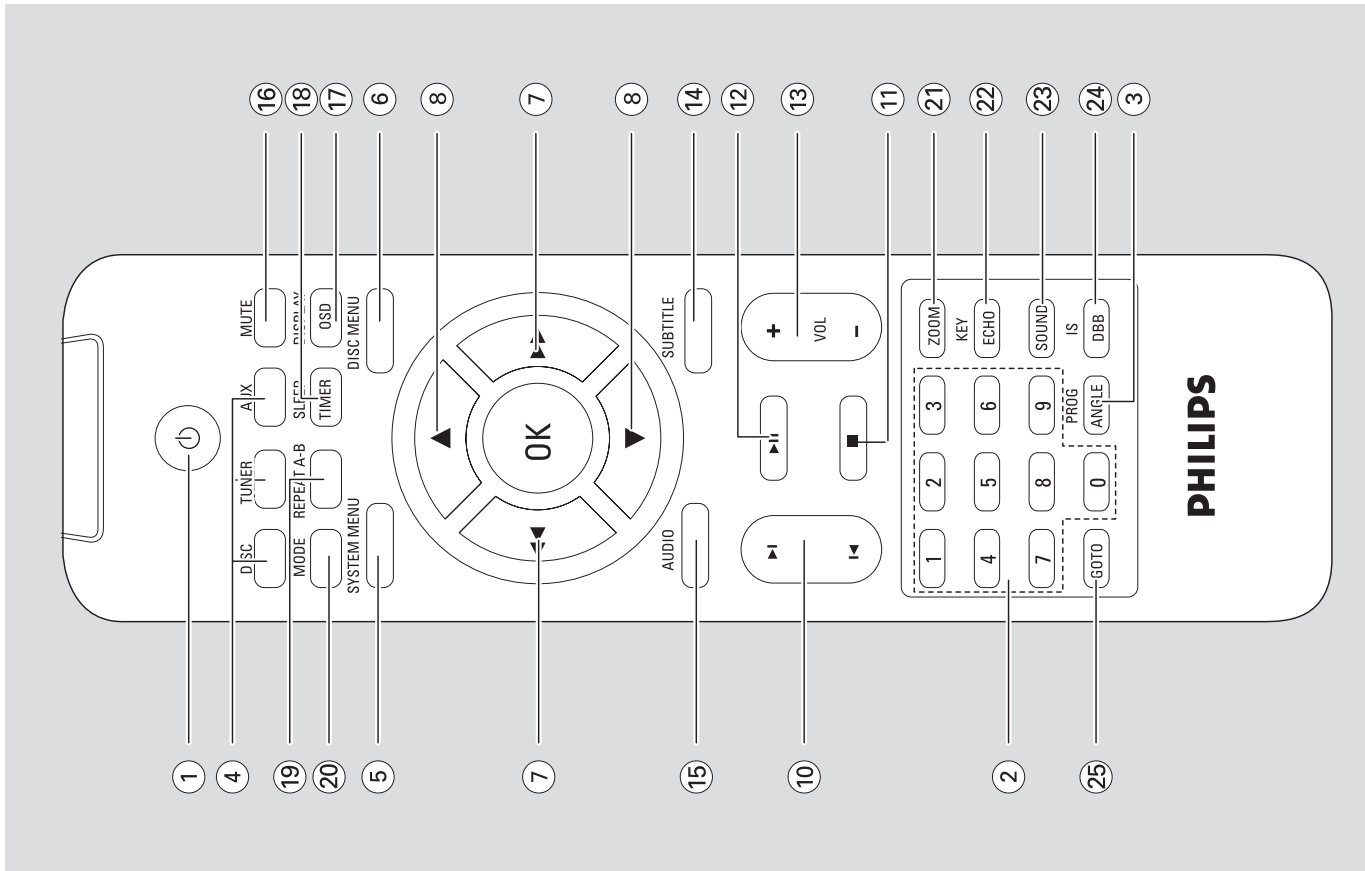


RECORDER

Use Universal Test Cassette Fe SBC420 4822 397 30071



CONNECTION AND CONTROLS



CONNECTION AND CONTROLS

Controls

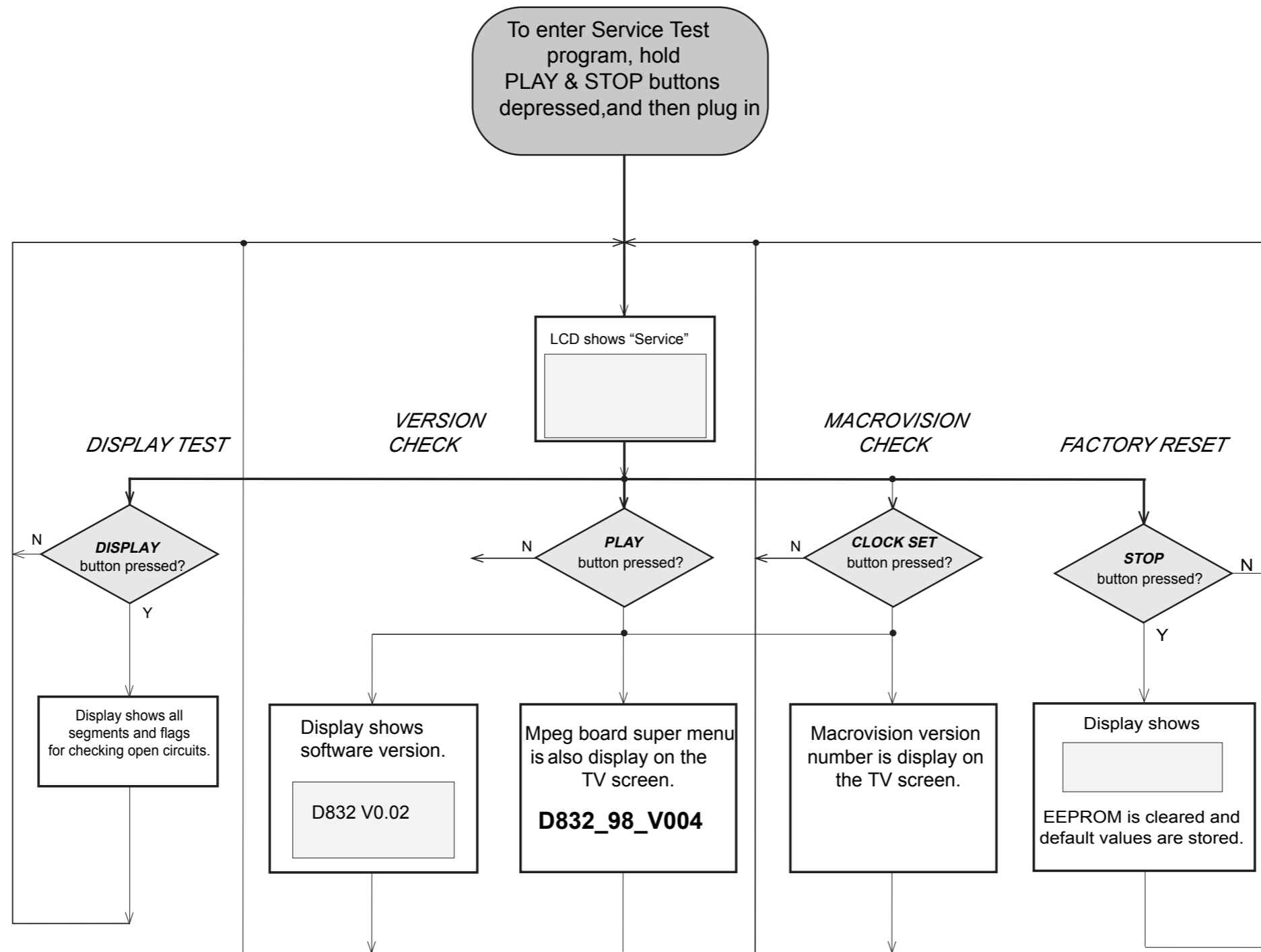
- 8 ▲/▼** In DISC mode, to select a movement direction in the disc menu or system menu bar.
 - moves an enlarged picture up/down.
 - (▼) selects different slow playback modes for a VCD/SVCD/DVD disc.
 - (▲) starts frame-by-frame playback during DVD/VCD/SVCD playback.
- 9 OK**
 - to exit or confirm the selection.
- 10 ◀/▶**
 - Disc: skips to the previous/next chapter/title/track.
 - to adjust the hours and minutes for the clock/timer function.
- 11 ■**
 - In DISC mode, to stop playback or clear a program.
- 12 ▶||**
 - In DISC mode, to start or interrupt playback.
- 13 VOL +/-**
 - adjusts the volume upward/downward.
 - adjusts the echo/key level in the karaoke mode.
- 14 SUBTITLE**
 - selects a subtitle language.
- 15 AUDIO**
 for VCD
 - sets Stereo, Mono-Left or Mono-Right sound mode.
 for DVD
 - selects an audio language.
- 16 MUTE**
 - to interrupt or resume sound reproduction.
- 17 DISPLAY (OSD)**
 - displays information on TV screen during playback.
- 18 SLEEP/TIMER**
 Standby mode
 - sets a time for switching on the system automatically.
 Power-on mode
 - sets the sleep timer function (auto-off).
- 19 REPEAT A-B**
 - for VCD/CD: to repeat a specific section within the same track.
 - for DVD: to repeat a specific section in a disc.
- 20 MODE**
 - to select various repeat modes or the shuffle play mode for a disc.
- 21 ZOOM**
 - DVD/VCD/Picture CD: enlarges or reduces a picture or active image on the TV screen.
- 22 KEY/ECHO**
 - turns on/off echo/key setting.
- 23 SOUND**
 - selects different types of preset sound equalizer settings: OPTIMAL, ROCK, JAZZ or TECHNO during CD/MP3/WMA playback; HALL, CINEMA or CONCERT during DVD/VCD playback.
- 24 IS/DBB**
 - *to create a super-enhanced stereo effect.
 - to select desired bass enhancement effect.
- 25 GOTO**
 - In DISC mode, to fast search in a disc by entering a time, title, chapter or track.

Notes for remote control:
 - First, select the source you wish to control by pressing one of the source select keys on the remote control (DISC or TUNER, for example).
 - Then select the desired function (▶||, ◀, ▶| for example).

Controls

- 14 MIC 1/2**
 - to connect microphone
- 15 MIC VOL +/-**
 - to adjust the mixing level for Karaoke
- 16 Tape deck**
- Controls on the remote control**
- 1** **⏻**
 - switches the system on/off.
- 2 Numeric Keypad (0-9)**
 - inputs a track/title/chapter number of the disc.
- 3 PROG/ANGLE**
 - DVD/VCD/CD/MP3-CD: enters the program menu.
 - Tuner: programs preset radio stations.
 - DVD: selects a DVD camera angle.
- 4 SOURCE**
 - to select the respective sound source: DISC, TUNER or AUX.
- 5 SYSTEM MENU** (disc mode only)
 - to enter or exit the system menu bar.
- 6 DISC MENU** (disc mode only)
 - DVD/VCD: enters or exits the disc contents menu.
 - VCD2.0: in stop mode, switches the playback control mode on or off.
- 7 ◀◀/▶▶**
 Tuner
 - press to tune to a lower/higher radio frequency gradually.
 - press and hold, then release the key to start automatic search for a radio frequency downward/upward.
 Disc
 - (not for MP3 CD) searches backward/forward in a disc at different speeds.
 - In DISC mode, to select a movement direction in the disc menu or system menu bar.
 - moves an enlarged picture left/right.
 - for picture CD: rotates an image clockwise or counterclockwise.
- 1 Controls on the system**
- 1 STANDBY-ON** **⏻**
 - switches the system on/off.
- 2 Display screen**
 - to view the current status of the system.
- 3 SOURCE**
 - to select the respective sound source: DISC, TUNER, AUX or TAPE.
- 4 DISPLAY / BAND**
 for Tuner: to select waveband: FM or MW.
 for DVD/VCD/CD/MP3-CD displays disc information on the TV screen and system display panel during playback.
- 5 PRESET** **◀/▶**
 for Tuner: to select a preset radio station.
 for DVD/VCD/CD/MP3 CD ... to select a desired track.
- 6 SEARCH** **◀◀/▶▶**
 *for DVD/VCD/CD: to fast reverse/forward the disc. (It is impossible to fast reverse / forward for MP3-CD)
 for Tuner: to tune to a lower or higher radio frequency.
 For: clock/timer: to adjust the hours and minutes.
- 7 PLAY•PAUSE** **▶||**
 - to start or interrupt playback.
- 8 STOP** **■**
 for DVD/VCD/CD/MP3-CD ... to stop playback or to clear a program.
- 9 OPEN/CLOSE** **▲**
 - to open the disc compartment.
- 10 VOLUME** **-/+**
 - to increase or decrease the volume.
- 11 CLOCK SET**
 *for Clock: (on the system only) to set the clock function.
- 12 IR sensor**
 - infrared sensor for remote control.
- 13 f** **▶**
 - to connect headphones.

SOFTWARE VERSION AND UPGRADING



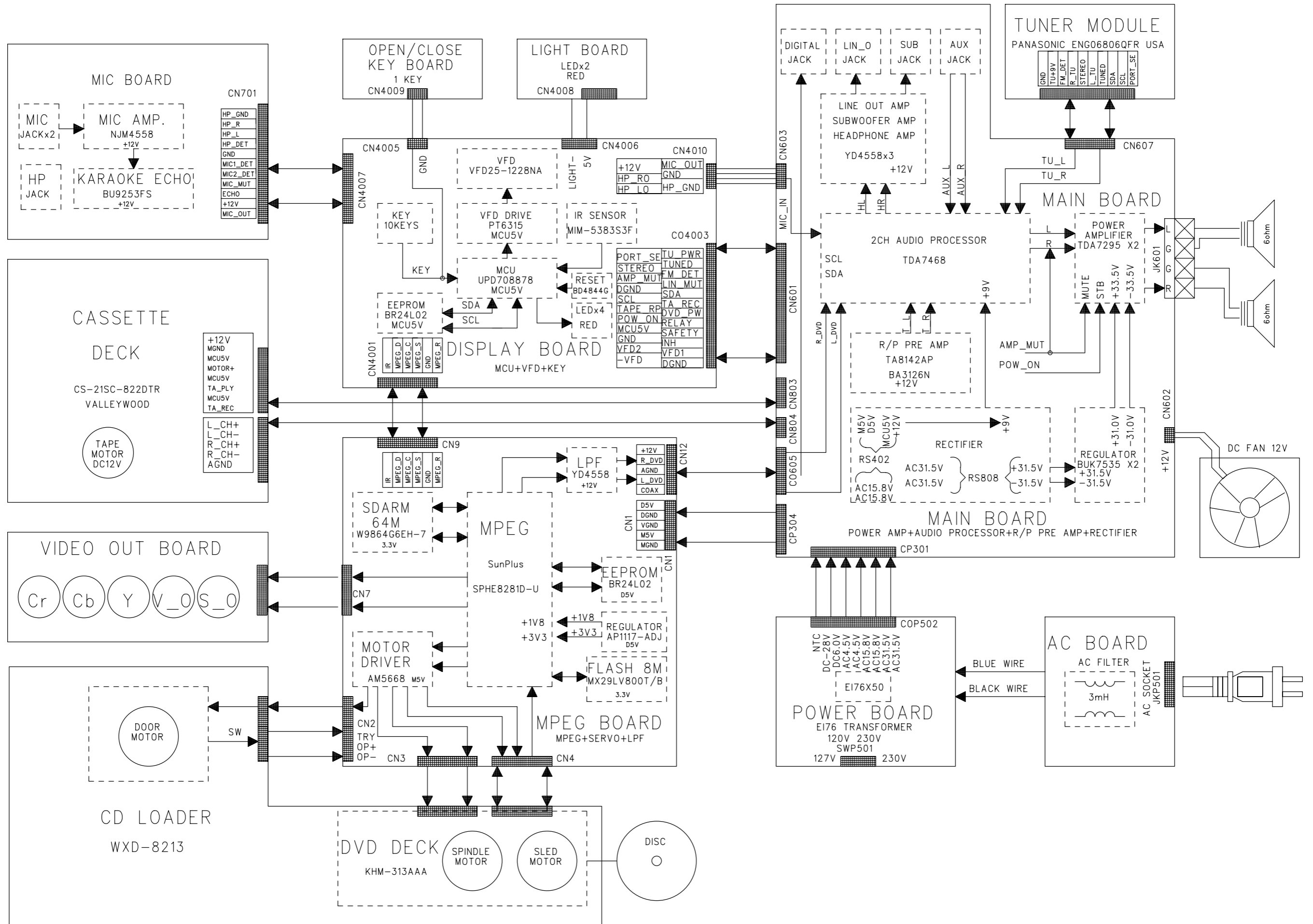
V0.02 is the software version,

D832_98_V004 :
The model number is D832.
Software version is V0.04.
Sale region is 98.

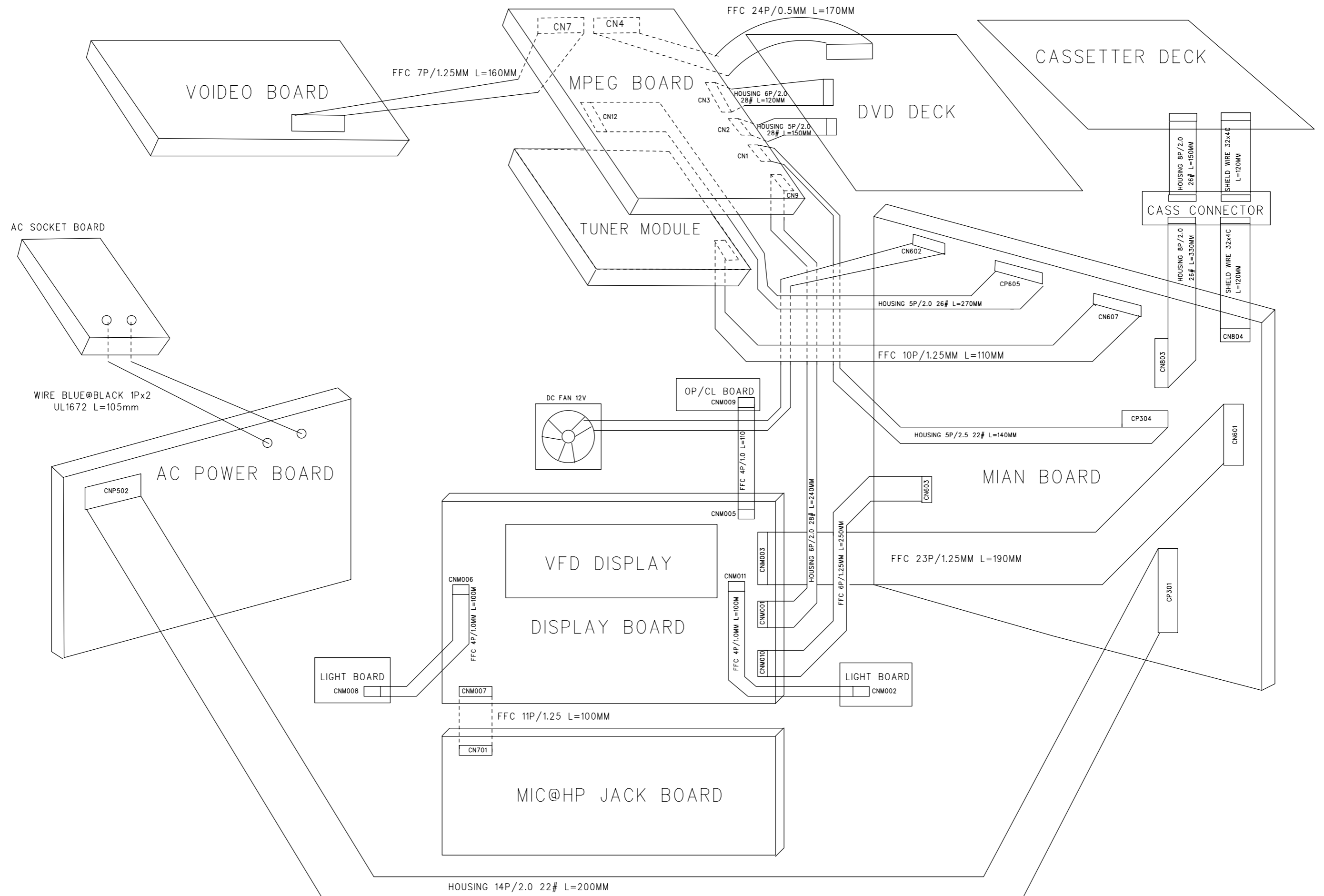
servo code version:
SO3SO3-SLM-791

This test should be done at the end of the production process so that every set is customised before leaving factory.

SET BLOCK DIAGRAM

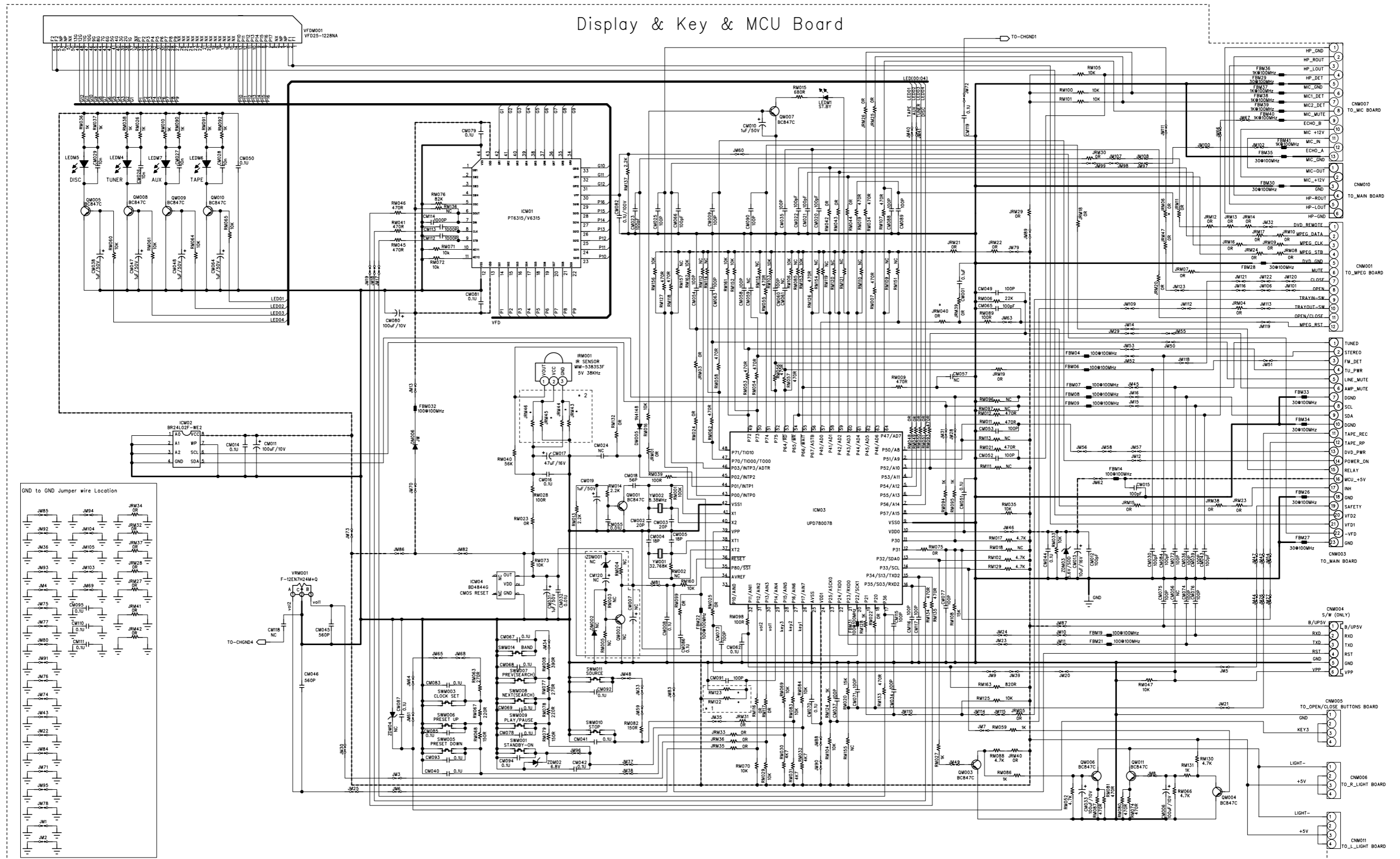


SET WIRING DIAGRAM



CIRCUIT DIAGRAM - DISPLAY BOARD
PART 1

Display & Key & MCU Board

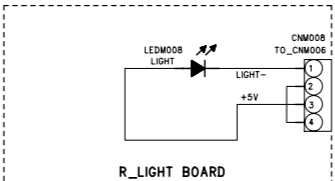
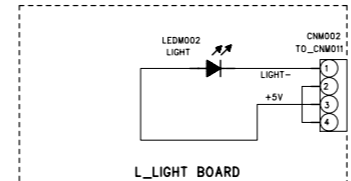
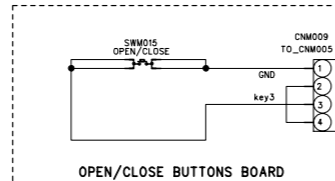


* 1

location	98 (FWD832)	55 (FWD831)
RM122	10K	NC
RM123	NC	1K

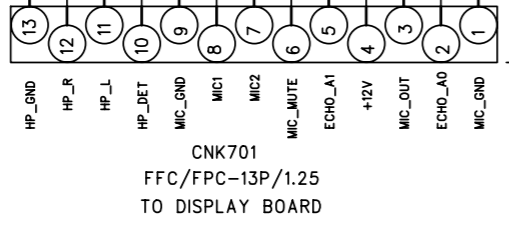
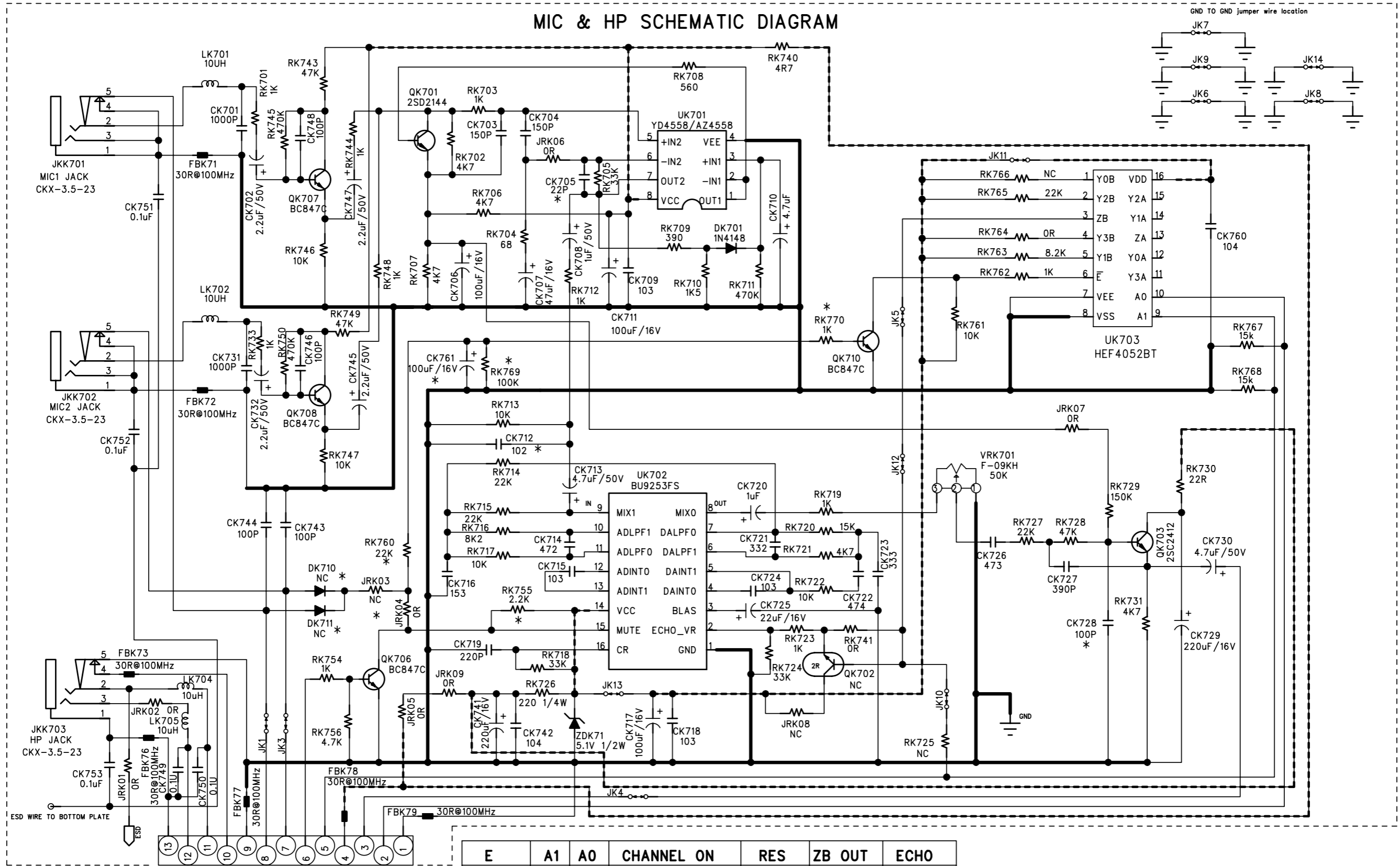
* 2

IR sensor location	MM-538353F	TSOP4836ZC1
JRM43	OR	NC
JRM44	NC	OR
JRM45	NC	OR
JRM46	OR	NC



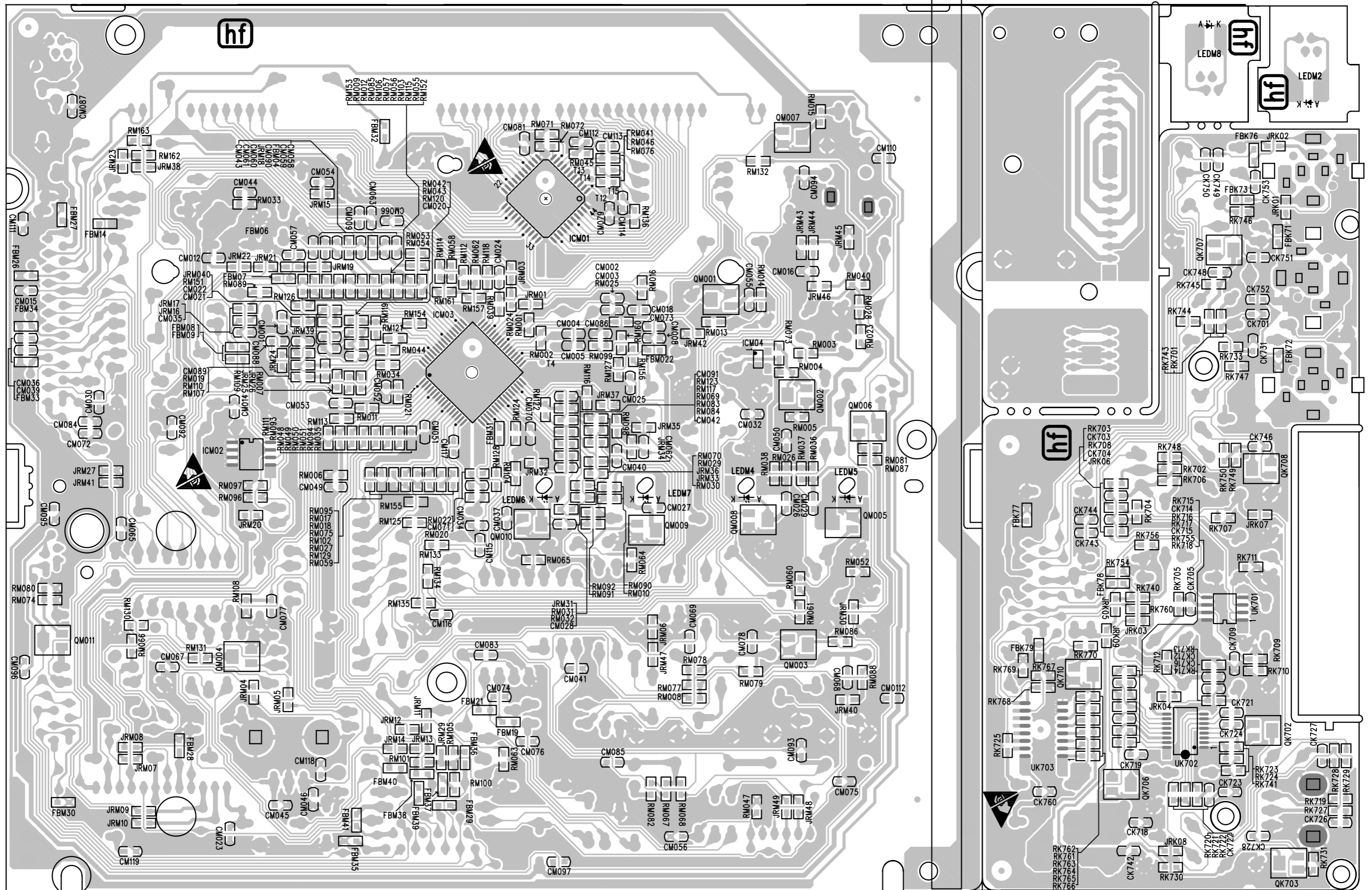
CIRCUIT DIAGRAM - DISPLAY BOARD
PART 2

MIC & HP SCHEMATIC DIAGRAM

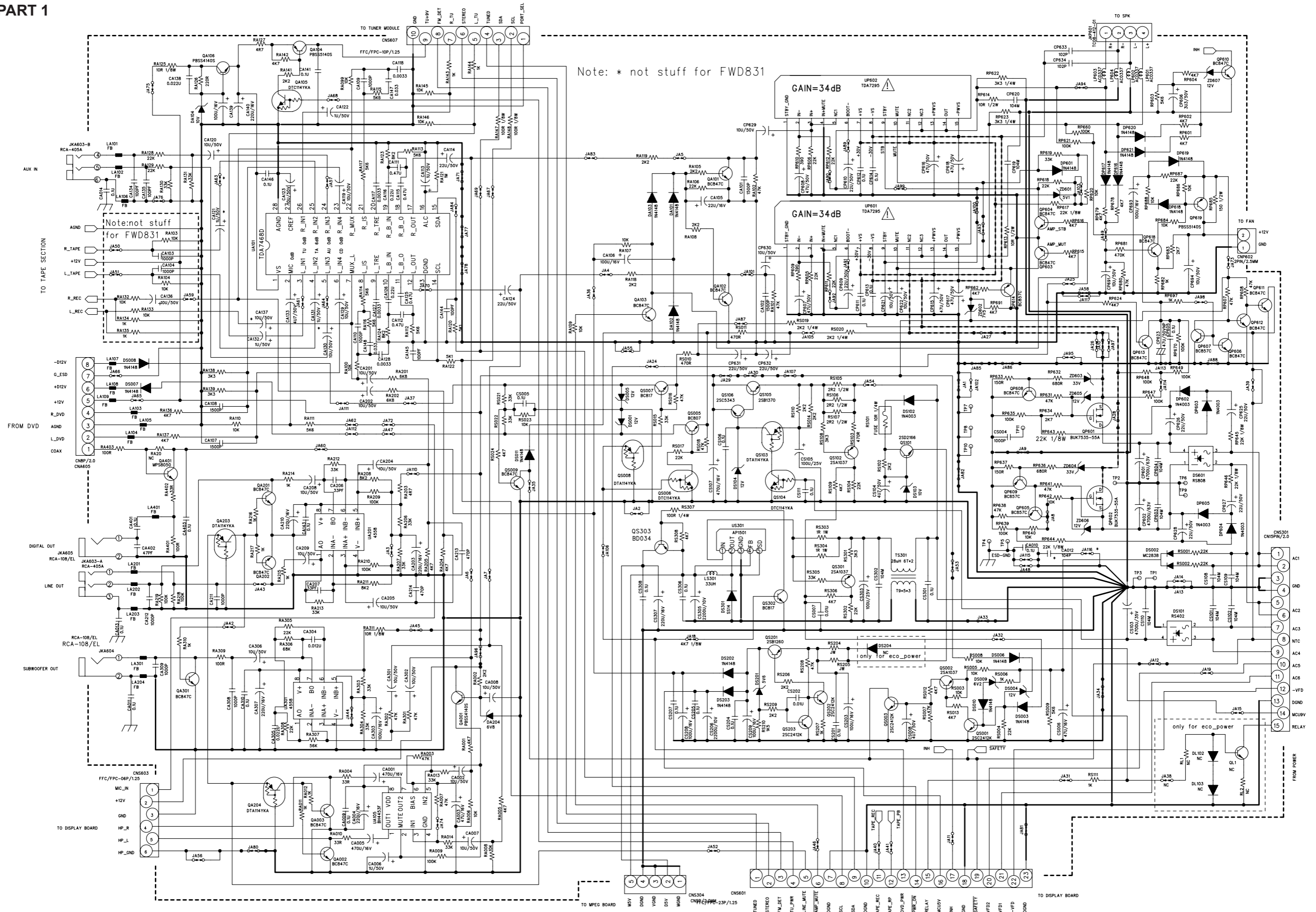


E	A1	A0	CHANNEL ON	RES	ZB OUT	ECHO
L	L	L	Y0	RK766 NC	0V	MIN (OFF)
L	L	H	Y1	RK763 8.2K	4.12V	+ 2
L	H	L	Y2	RK765 22K	3.10V	+ 1
L	H	H	Y3	RK764 OR	5.12V	MAX
H	X	X	NONE			

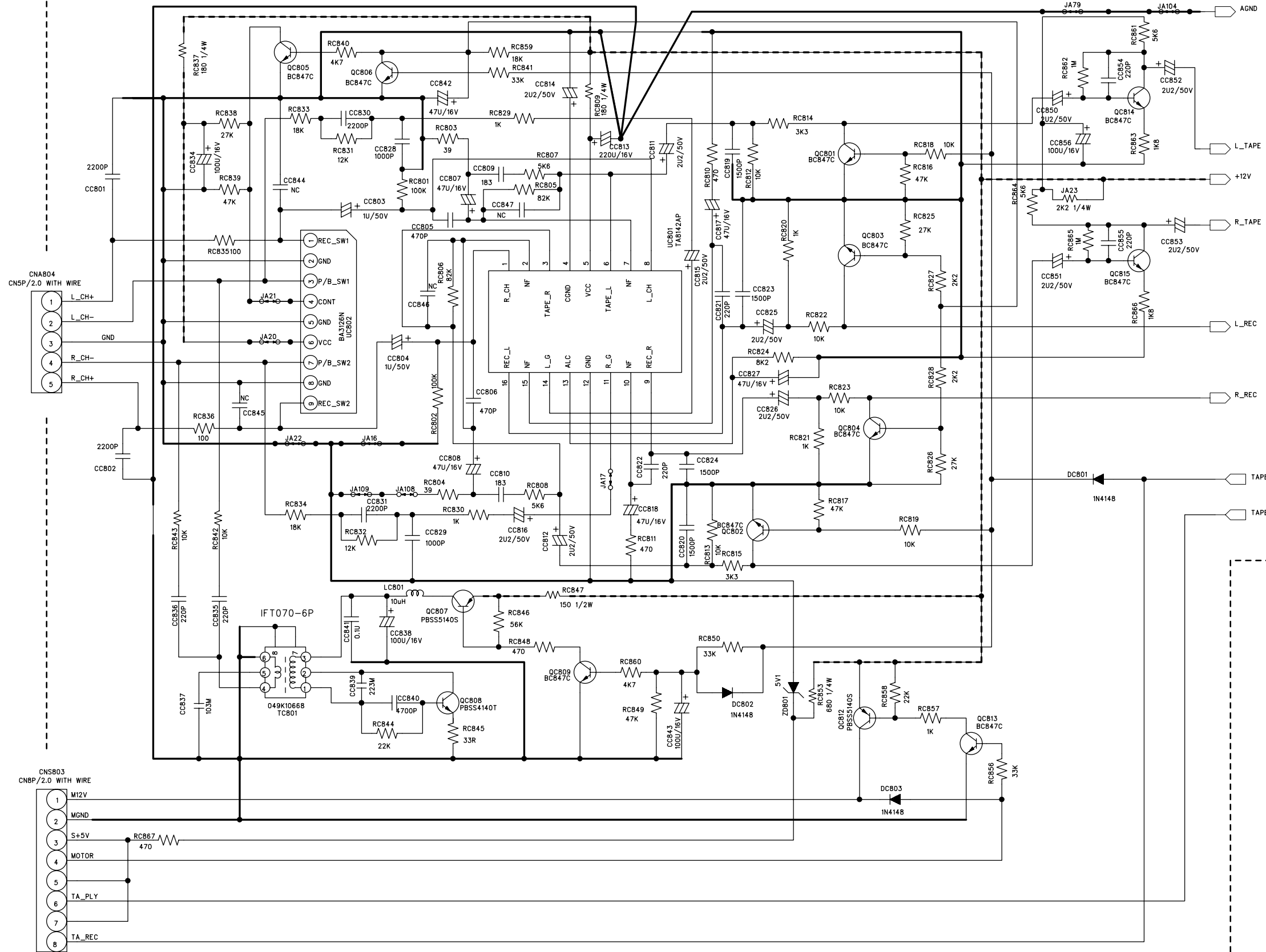
LAYOUT DIAGRAM - DISPLAY BOARD
COPPER SIDE



CIRCUIT DIAGRAM - MAIN BOARD PART 1

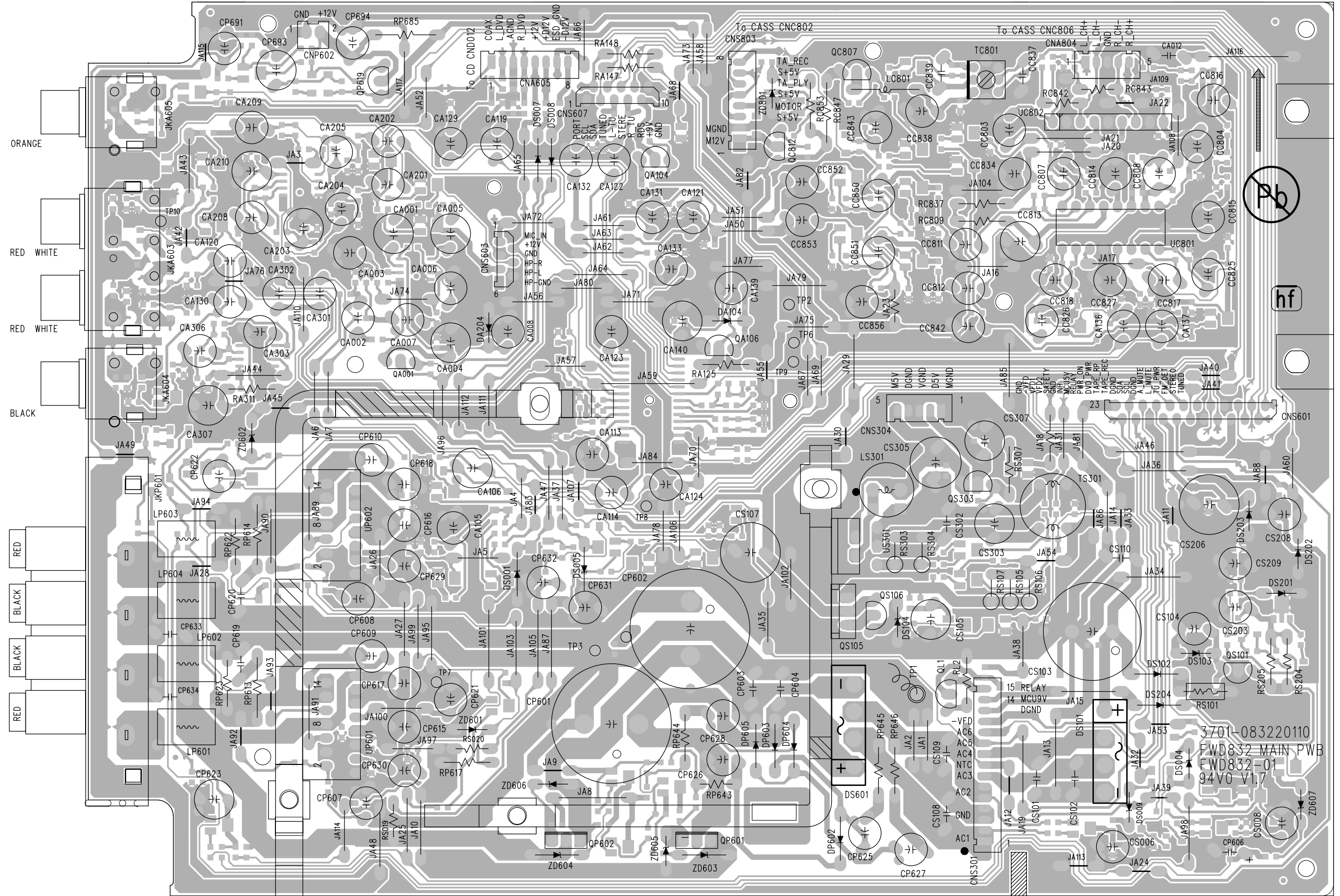


CIRCUIT DIAGRAM - MAIN BOARD PART 2

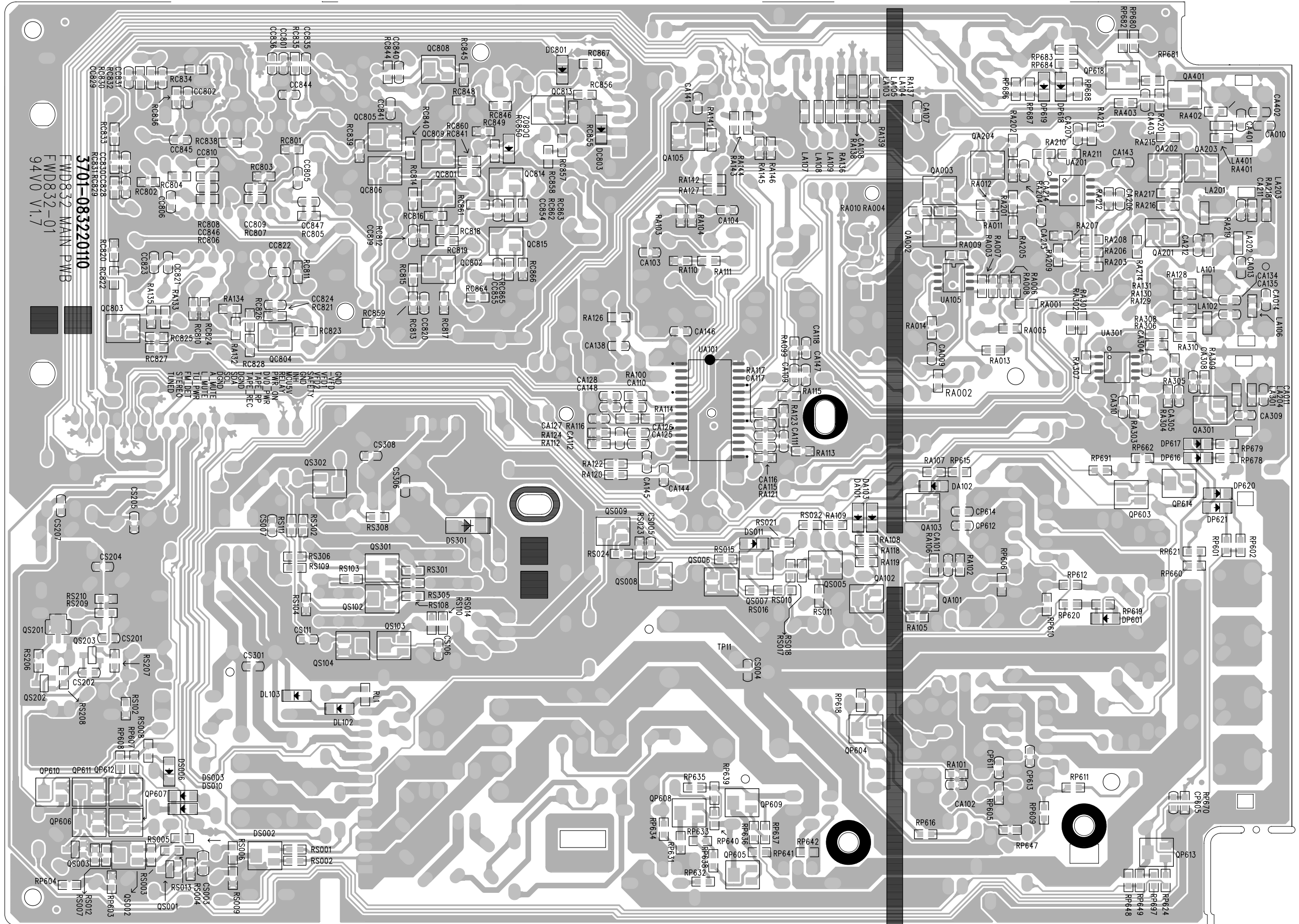


TO MAIN SECTION

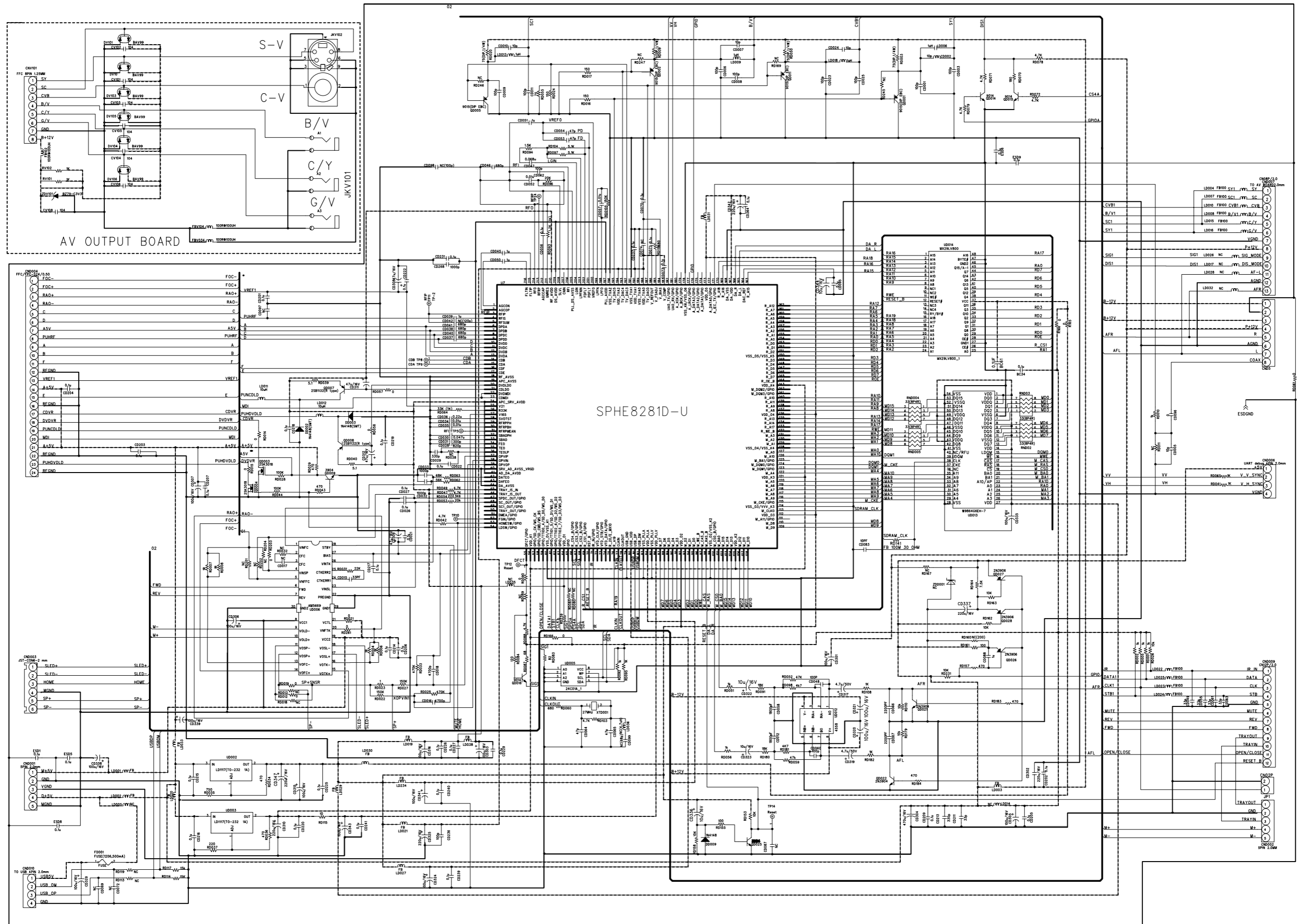
LAYOUT DIAGRAM - MAIN BOARD
COMPONENT SIDE



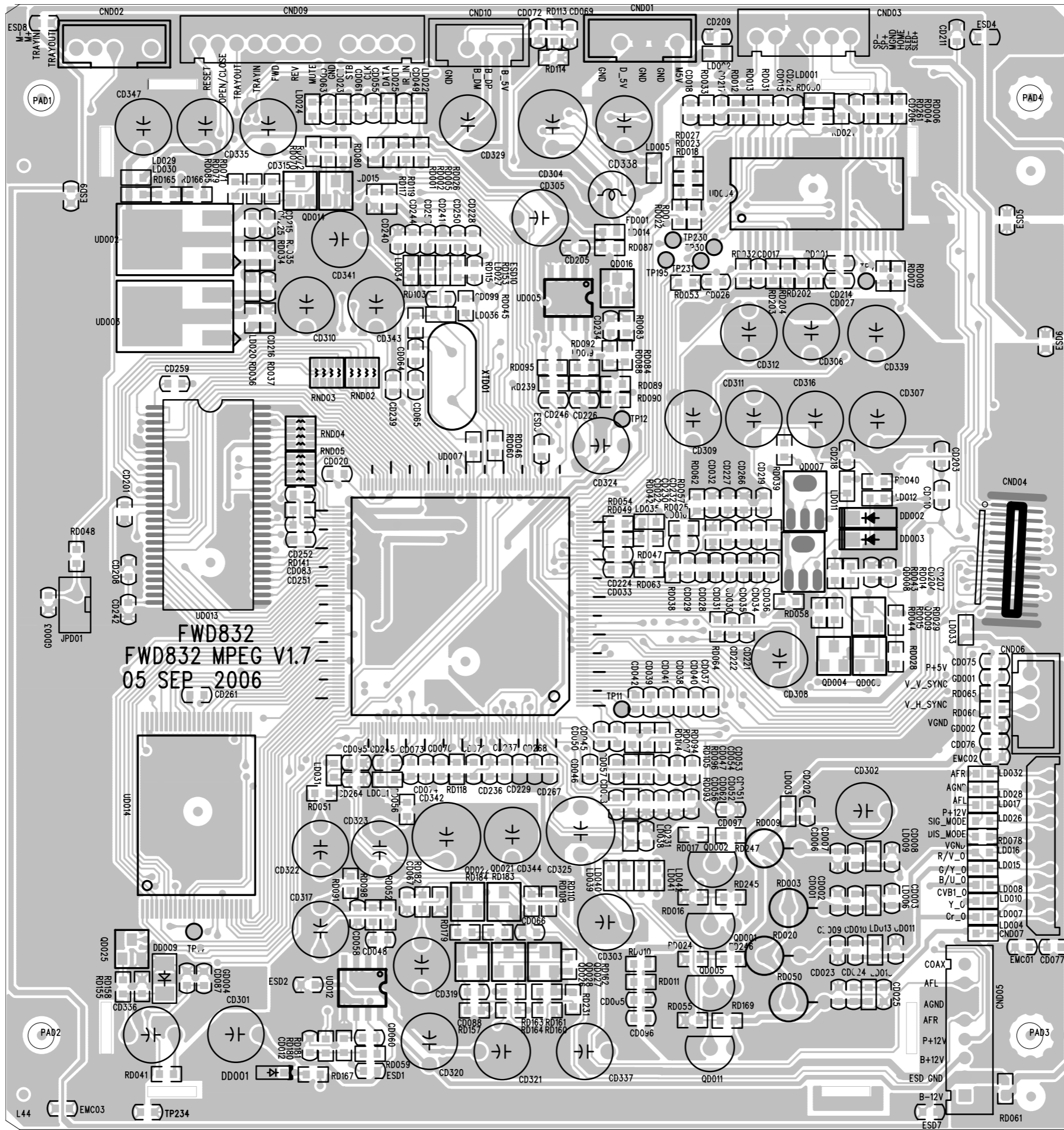
LAYOUT DIAGRAM - MAIN BOARD
COPPER SIDE



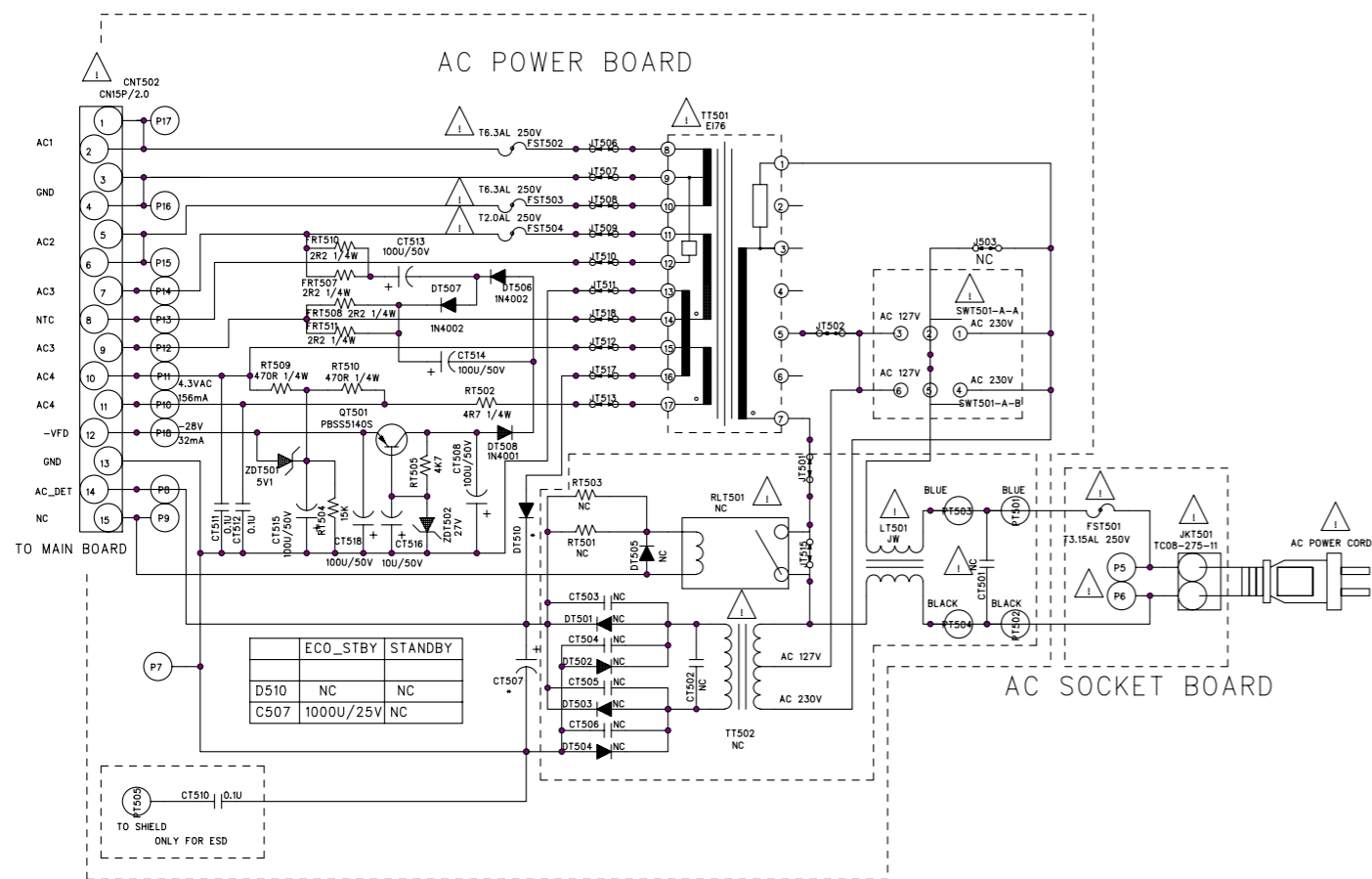
CIRCUIT DIAGRAM - DVD MPEG BOARD



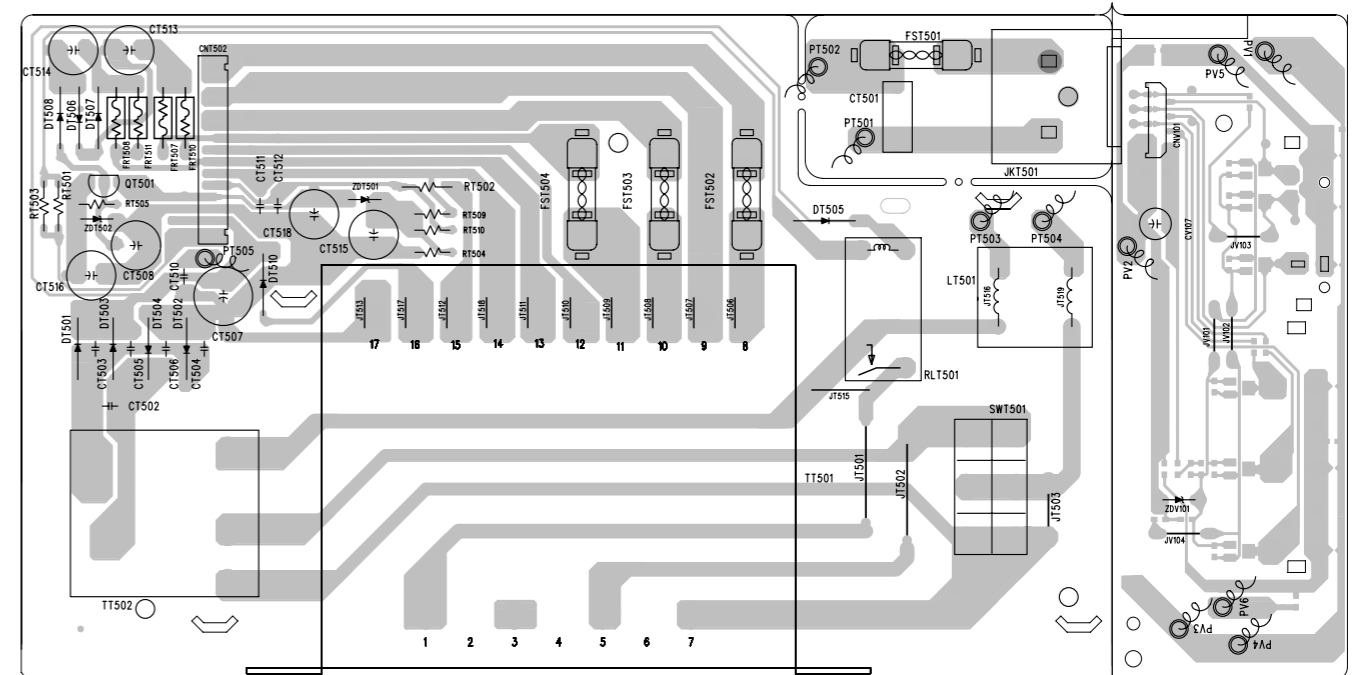
LAYOUT DIAGRAM -DVD MPEG BOARD



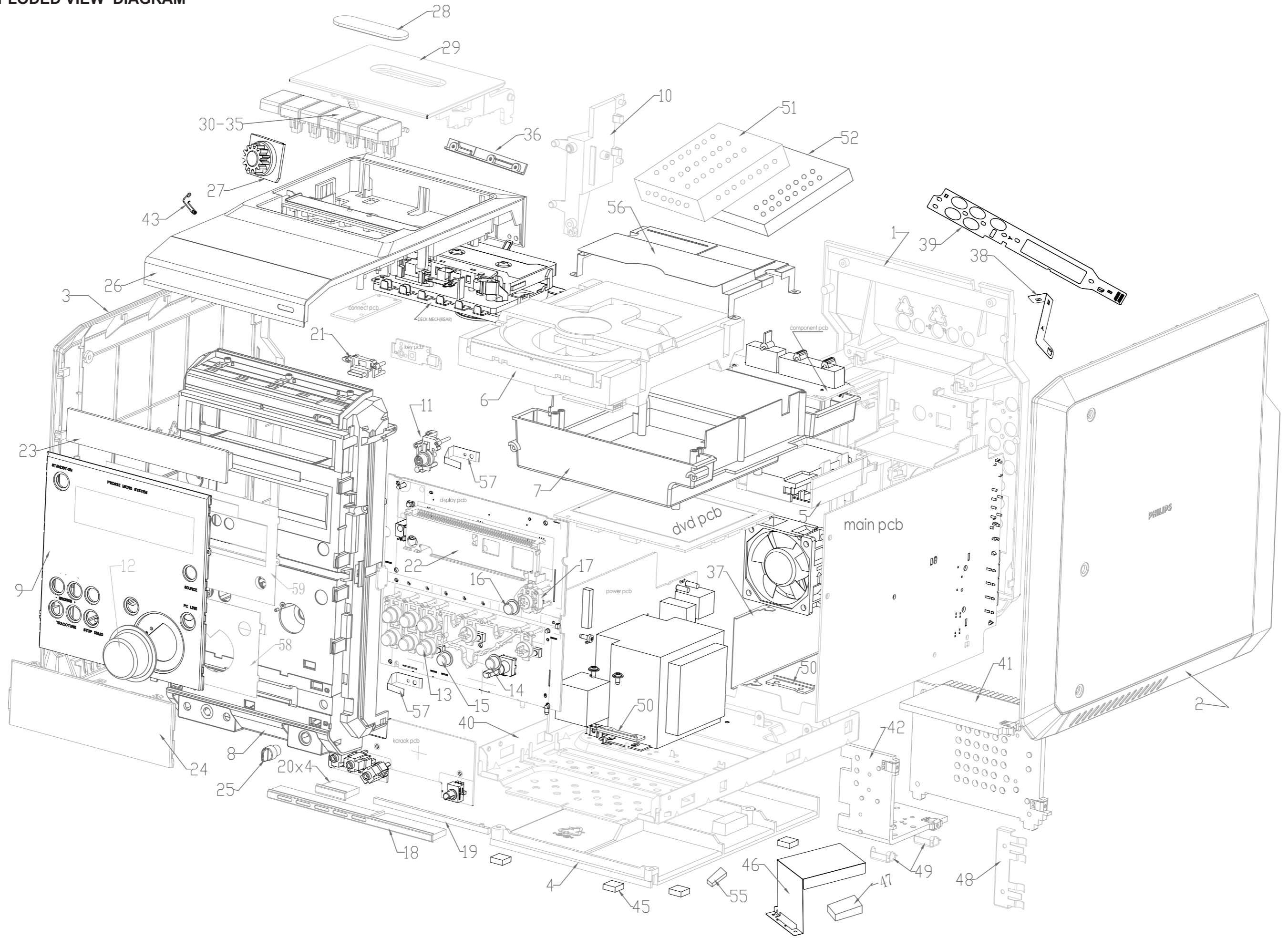
CIRCUIT DIAGRAM - DC POWER BOARD



LAYOUT DIAGRAM - DC POWER BOARD



EXPLODED VIEW DIAGRAM



ACCESSORIES

9965 000 41694	REMOTE CONTROL "PHILIPS"
9940 000 03386	POWER CORD VDE 230V
9965 000 41695	SPEAKER BOX 6OHM 75W 1 PC
9940 000 03388	FM ANT WIRE 75OHM 1.0M
9940 000 02597	RCA CABLE VIDEO (YELLOW)
9940 000 02598	RCA CABLE AUDIO (RED/WHITE)
9940 000 02596	RCA CABLE COMP VIDEO (R/B/G)
9965 000 41696	AM LOOP ANT

MECHANICAL PARTSLIST

1	9965 000 41666	CABINET-REAR
2	9965 000 41668	PANEL-LEFT
3	9965 000 41669	PANEL-RIGHT
4	9965 000 41670	FOOT BOTTOM
6	9965 000 41671	CDM LOADER WXD-8213 (FOR DVD)
7	9965 000 41672	CD TRAY
8	9965 000 41673	CABINET FRONT
9	9965 000 41674	LENS-DISPLAY
11	9965 000 41675	BUTTON-STANDBY CHROME
12	9965 000 41676	KNOB-VOLUME
14	9965 000 41678	CAP-OCLINK-CHROME
15	9965 000 41680	CAP-BROWSE-CHROME
16	9965 000 41681	CAP-SOURCE-CHROME
17	9965 000 41679	BUTTON-SET-SOURCE
18	9965 000 41682	LENS-LIGHT GUIDE-SOURCE-2
19	9965 000 41683	LENS-LIGHT GUIDE-SOURCE-3
20	9965 000 41684	LENS-LIGHT GUIDE-SOURCE-A
21	9965 000 41685	BUTTON EJECT CHROME
22	9965 000 41686	BRACKET VFD
23	9965 000 41687	CD DOOR
24	9965 000 41688	COVER FRONT
25	9965 000 41689	MIC KNOB
26	9965 000 41667	CABINET TOP
27	9940 000 01664	DAMPER GEAR ASSEMBLY
28	9940 000 02606	LENS CASSETTE DOOR
29	9965 000 41690	CASSETTE DOOR
30	9940 000 02607	KEY CASSETTE- PLAY
31	9940 000 02608	KEY CASSETTE- PAUSE
32	9940 000 02609	KEY CASSETTE- REC
33	9940 000 02611	KEY CASSETTE- F.F
34	9940 000 02612	KEY CASSETTE- REW
35	9940 000 02613	KEY CASSETTE- STOP
36	9940 000 02614	BRACKET CASSETTE KEY
43	9940 000 02633	SPRING CASSETTE
45	9940 000 02094	RUBBER-FOOT 4MM
56	9965 000 41691	DUST COVER
	9965 000 41692	CASSETTE DECK MECHANISM
	9965 000 41693	DVD MECHANISM KHM-313AAA

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

ELECTRICAL PARTSLIST - MAIN BOARD**- MISCELLANEOUS -**

CNA605	9965 000 41704	HEADER 8PIN P=2.0MM STRAIGHT
JKA604	9965 000 41705	JACK RCA-107B-02 1PORT(BLACK)
JKA605	9965 000 41706	JACK RCA-107B-04 1PORT (ORANGE)
JKA603	9940 000 03315	JACK RCA-405A-04 WHITE/RED
JKP601	9940 000 02095	SPK TERMINAL TC08-412-0
TC801	9965 000 41709	IFT 049K10668 TYPE 7CDA BLACK

- COILS -

LP601	9940 000 05659	FM COIL AC0377 18.5TX5.6X0.5MM
LP602	9940 000 05659	FM COIL AC0377 18.5TX5.6X0.5MM
LP603	9940 000 05659	FM COIL AC0377 18.5TX5.6X0.5MM
LP604	9940 000 05659	FM COIL AC0377 18.5TX5.6X0.5MM

- IC & TRANSISTORS -

QA106	9965 000 41697	TRANSISTOR PBSS4140S
QA401	9965 000 41698	CH-TRANS. 8050M SOT23
QA203	9965 000 41699	CH-TRANS. DTA114YKA SMT3
QA204	9965 000 41699	CH-TRANS. DTA114YKA SMT3
QA105	9965 000 41700	CH-TRANS. DTC114YKA NPN
UA101	9965 000 41701	IC TDA7468D SOUND SO28
UA201	9965 000 41702	IC, AZ4558 OPERATIONALL
UA301	9965 000 41702	IC, AZ4558 OPERATIONALL
UA105	9965 000 41703	IC, BH4453F
QP619	9940 000 05652	TRANSISTOR PBSS5140S
QP601	9965 000 38552	MOSFET BUK7535-55A
QP602	9965 000 38552	MOSFET BUK7535-55A
UP601	9940 000 05655	IC TDA7295 AMPLIFIER 80V-80W
UP602	9940 000 05655	IC TDA7295 AMPLIFIER 80V-80W
QC808	9940 000 05653	TRANSISTOR PBSS4140T
QC807	9940 000 05652	TRANSISTOR PBSS5140S
QC812	9940 000 05652	TRANSISTOR PBSS5140S
UC802	9965 000 41707	IC BA3126N
UC801	9965 000 41708	IC TA8142AP

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

ELECTRICAL PARTSLIST - DISPLAY BOARD

- MISCELLANEOUS -

SWM001	9940 000 04259	SWITCH TACT
SWM003	9940 000 04259	SWITCH TACT
SWM005	9940 000 04259	SWITCH TACT
SWM006	9940 000 04259	SWITCH TACT
SWM007	9940 000 04259	SWITCH TACT
SWM008	9940 000 04259	SWITCH TACT
SWM009	9940 000 04259	SWITCH TACT
SWM010	9940 000 04259	SWITCH TACT
SWM011	9940 000 04259	SWITCH TACT
SWM014	9940 000 04259	SWITCH TACT
IRM001	9965 000 41711	IR RECEIVER TSOP4836ZC1
YM002	9940 000 03343	CRYSTAL 8.38MHZ /-20PPM
YM001	9940 000 05671	XTAL 32.768KHZ /-20PPM
VFD001	9965 000 41718	VFD, VFD25-1228NA
VRM001	9965 000 41719	ROTARY ENCODER F-12EN7H24M Q

- DIODES -

LED001	9940 000 02115	LED 3MM 3R4HD-7(RED)
LED004	9965 000 41710	CH-LED 67-21SURC-S530 RED
LED005	9965 000 41710	CH-LED 67-21SURC-S530 RED
LED006	9965 000 41710	CH-LED 67-21SURC-S530 RED
LED007	9965 000 41710	CH-LED 67-21SURC-S530 RED

- IC & TRANSISTORS -

ICM001	9965 000 41715	IC, VFD DRIVER V6315 LSFP44
ICM004	9965 000 41716	IC, CMOS RESET BD4844G SSOP5
ICM003	9965 000 41717	IC MICROCONTROLLER UPD780078
ICM002	9940 000 02671	IC, BR24L02F-WE2

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

ELECTRICAL PARTSLIST - DC POWER BOARD**- MISCELLANEOUS -**

RS101  9940 000 05648 FUSE RES 22R 1/4W +/-5%

- DIODES -

DS601 9940 000 05313 RECTIFIER BRIDGE DIODE RS808
 DS003 9940 000 03599 DIODE RLS4148 LL-34
 DS006 9940 000 03599 DIODE RLS4148 LL-34
 DS004 9940 000 04222 ZENER DIODE 9.1V
 DS002 9965 000 41720 SWITCHING DIODE SDS2838F

DS103 9965 000 41721 ZENER DIODE BZX79-C10
 DS301 9965 000 41722 SCHOTTKY SS14 SMA/DO-214AC

- IC & TRANSISTORS -

QS005 9965 000 41699 CH-TRANS. DTA114YKA SMT3
 QS008 9965 000 41699 CH-TRANS. DTA114YKA SMT3
 QS103 9965 000 41699 CH-TRANS. DTA114YKA SMT3
 QS006 9965 000 41700 CH-TRANS. DTC114YKA NPN
 QS007 9965 000 41700 CH-TRANS. DTC114YKA NPN

 QS104 9965 000 41700 CH-TRANS. DTC114YKA NPN
 QS302 9965 000 41700 CH-TRANS. DTC114YKA NPN
 QS101 9965 000 41723 TRANS. 2SD2166-R NPN TO-126FP
 QS303 9940 000 02642 TRANSISTOR, 3CA8550
 QS201 9965 000 41724 TRANS.2SB1260RPNP TO-92

 QS105 9965 000 41725 TRANS. 2SB1370PNP TO-220FP
 QS106 9965 000 41726 TRANS. 2SC5343 NPN TO-92
 QS002 9965 000 41727 TRANS. 2SA1037AK PNP SMT3
 QS102 9965 000 41727 TRANS. 2SA1037AK PNP SMT3
 QS301 9965 000 41727 TRANS. 2SA1037AK PNP SMT3

 QS001 9965 000 41728 TRANS.2SC2412 NPN SMT3
 QS003 9965 000 41728 TRANS.2SC2412 NPN SMT3
 QS202 9965 000 41728 TRANS.2SC2412 NPN SMT3
 QS203 9965 000 41728 TRANS.2SC2412 NPN SMT3
 US301 9965 000 41730 IC TD1501 TO220B-5L 5V 3A 150K

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

ELECTRICAL PARTSLIST

- MISCELLANEOUS -

QT501	9940 000 05652	TRANSISTOR PBSS5140S
QK703	9965 000 41728	TRANS.2SC2412 NPN SMT3
QK701	9965 000 41729	TRANSISTOR, 2SD2144 NPN TO-92
UK703	9965 000 41731	IC,HEF4052BT(SOP16) DUAL4-CH
UK701	9965 000 41702	IC, AZ4558 OPERATIONALL
UK702	9965 000 41732	KARAOKE ECHO IC BU9253FS
LED002	9965 000 41733	CH-LED 67-21SUBC BLUE
LED008	9965 000 41733	CH-LED 67-21SUBC BLUE
SWM015	9940 000 04259	SWITCH TACT
JKK701	9940 000 03605	MICRO PHONE JACK
JKK702	9940 000 03605	MICRO PHONE JACK
JKK703	9940 000 03605	MICRO PHONE JACK
FRT507	△ 9940 000 04221	FUSE RES 2.2R 1/4W
FRT508	△ 9940 000 04221	FUSE RES 2.2R 1/4W
FRT510	△ 9940 000 04221	FUSE RES 2.2R 1/4W
FRT511	△ 9940 000 04221	FUSE RES 2.2R 1/4W
SWT501	△ 9940 000 01674	VOLTAGE SELECT 110/220V
JKT501	△ 9940 000 03327	AC POWER SOCKET 2PIN
JKV101	9965 000 41734	VIDEO JACK RCA-314/PB
JKV102	9965 000 41735	VIDEO JACK DASW-13
	9965 000 41736	FFC CABLE 4P WHITE
	9965 000 41737	FFC CABLE 6P P=1.25MM WHITE
	9965 000 41738	FFC CABLE 8P WHITE
	9965 000 41739	FFC CABLE 10P P=1.25MM
	9965 000 41740	FFC CABLE 13P P=1.25MM
	9965 000 41741	FFC CABLE 23P P=1.25MM
	9965 000 41742	FFC CABLE 24P P=0.5MM
FST504	4822 070 32002	218002.(2A)
FST501	△ 9940 000 05593	FUSE S506 T3.15AL 250V 5X20MM
FST502	△ 9940 000 05594	FUSE S506 T6.3AL 250V 5X20MM
FST503	△ 9940 000 05594	FUSE S506 T6.3AL 250V 5X20MM
TT501	△ 9965 000 41743	POWER TRANSFORMER AC127-230V
	9965 000 41744	TUNER MODULE A F ENG06806QRF
	9965 000 41745	SERVO AND MPEG PWB ASSEMBLY

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