

C 546BEE

**COMPACT
DISC PLAYER**

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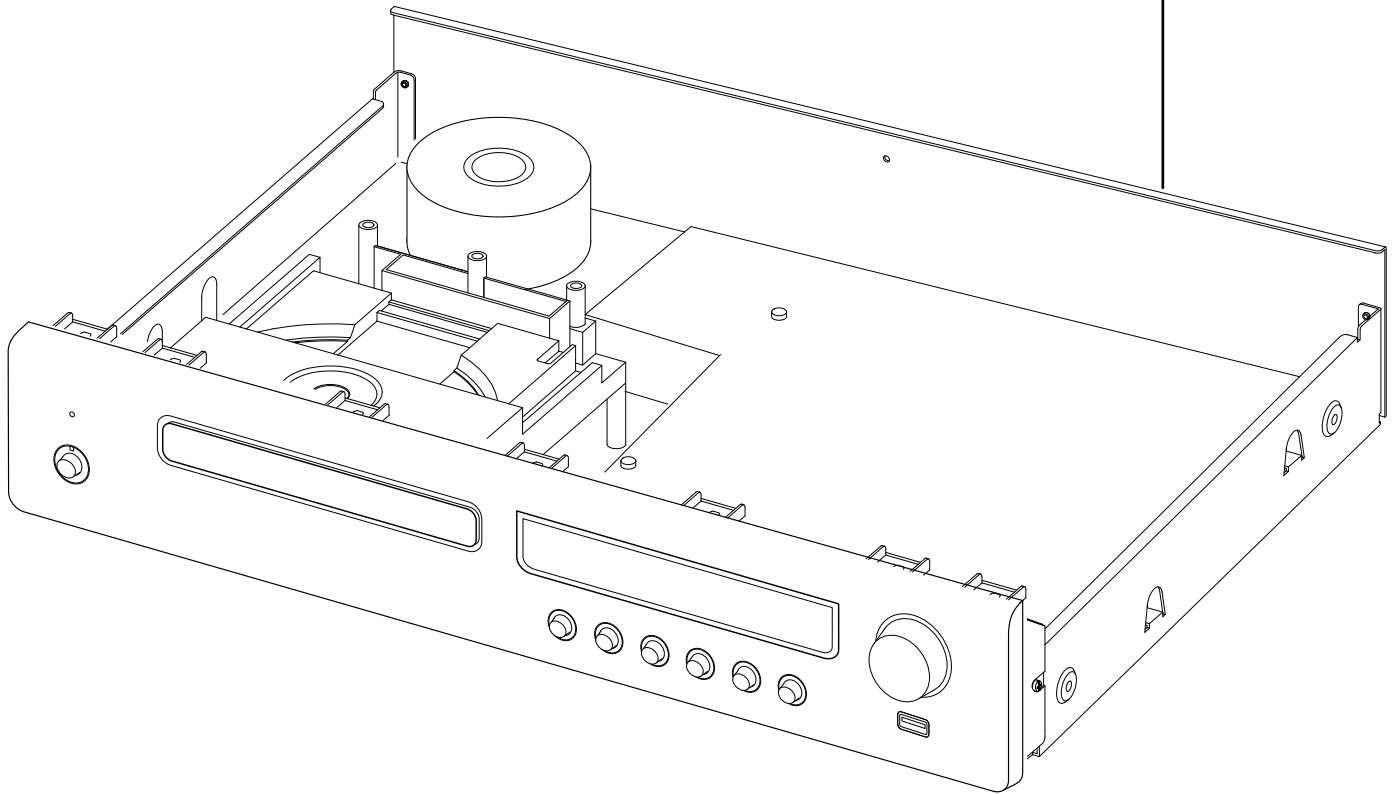
SERVICE MANUAL



SAFETY INFORMATION

CAUTION

**CLASS 1
LASER PRODUCT**



The lightning flash with arrowhead, within an equilateral triangle is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure; that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.
OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:-
(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND
(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED,
INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRABLE
OPERATION.

SERVICE SAFETY PRECAUTIONS

1. Replacing the fuses

CAUTION: FOR CONTINUED PROTECTION AGAINST THE RISK OF FIRE REPLACE ONLY WITH SAME TYPE OF FUSE.

Reference No	Part Number	Description
FC201 △	5120-0050+0	FUSE T1.6A/250V 5X20
FC202, FC204, FC205 △	5120-0018+0	FUSE T1A 250V 5X20
FC203 △	5120-0035+0	FU T100MA 250V
F101 △	5120-1169+0-C	FUSE 0.8A 250V 8.35X4.3

2. Safety check out

(Only U.S.A. model)

Before returning the product to the customer, make leakage current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit.

Parts marked with the symbol △ are critical with regard to the risk of fire and electric shock. Replace only with parts recommended by the manufacturer.

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SPECIFICATIONS

GENERAL PARAMETERS

Output level	Analog: 2.2 ± 0.1 V Optical: -22.5 ± 3.5 dBm Coaxial: 950 ± 100 mV
Frequency response	± 0.3 dB (ref. 0 dB 20 Hz-1 kHz) ± 0.5 dB (ref. 0 dB 5 kHz-20 kHz)
Total harmonic distortion	$<0.01\%$ (ref. 1 kHz, Audio LPF)
Signal/Noise ratio	118 dB (ref. 1 kHz, A-weighted LPF Stop, Pause)
Channel balance	± 0.5 dB (ref. 0dB 1kHz)
Dynamic range	95 dB
Channel separation	>90 dB
De-emphasis	-3.73 to -5.33 dB (ref. 0dB 1 kHz, 5 kHz) -8.04 to -10.04 dB (ref. 0dB 1 kHz, 16 kHz)
Linearity	± 0.01 dB (ref. 0dB 1 kHz at -3 dB) ± 0.02 dB (ref. 0dB 1 kHz at -6 dB) ± 0.02 dB (ref. 0dB 1 kHz at -10 dB) ± 0.05 dB (ref. 0dB 1 kHz at -20 dB) ± 0.15 dB (ref. 0dB 1 kHz at -60 dB)
Standby power	<0.5 W

USB

Output level	2.2 ± 0.2 V
Frequency response	± 1 dB (ref. 0 dB 20 Hz - 16 kHz)
Total harmonic distortion	$<0.03\%$ (ref. 0 dB 1 kHz, Audio LPF)
Signal/Noise ratio	118 dB (ref. 0 dB 1 kHz, A-weighted Pause)

DIMENSION AND WEIGHT

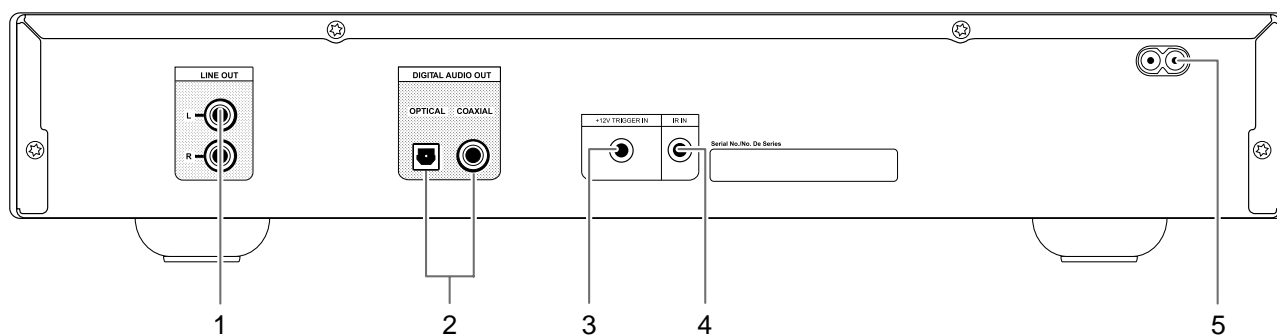
Unit Dimensions (W x H x D)	435 x 306 x 89 mm (Gross)* $17 \frac{1}{8} \times 12 \frac{1}{16} \times 3 \frac{9}{16}$ inches
Net weight	4.9 kg 10.8 lbs
Shipping weight	6.3 kg 13.9 lbs

* - Gross dimensions include feet, extended buttons and rear panel terminals.

Specifications are subject to change without notice. For updated documentation and features, please log onto www.NADelectronics.com for the latest information about C 546BEE.

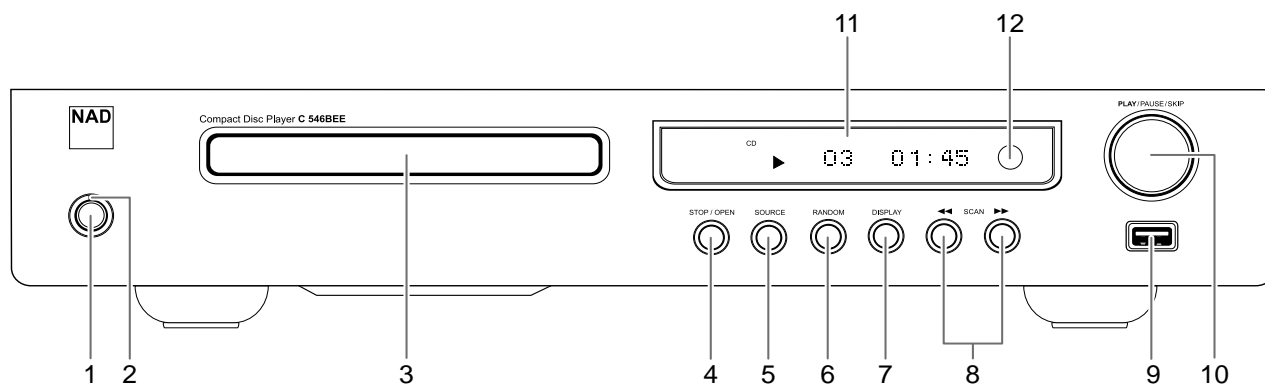
REAR PANEL / FRONT PANEL

REAR PANEL



1. LINE OUT
2. DIGITAL OUT (COAXIAL, OPTICAL)
3. +12V TRIGGER IN
4. IR IN
5. AC MAINS INPUT

FRONT PANEL



1. STANDBY BUTTON
2. STANDBY LED
3. DISC TRAY
4. STOP/OPEN
5. SOURCE
6. RANDOM
7. DISPLAY
8. SCAN
9. USB INPUT
10. PLAY/PAUSE/SKIP
11. VFD
12. REMOTE SENSOR

DISASSEMBLY INSTRUCTIONS

1. Remove machine screws M 4.0 x 6.0 (① to ④) from the side panels.
Remove tapping screw 3.0 x 8.5 (⑤) from the back panel.
Refer to **Figure No.1**.

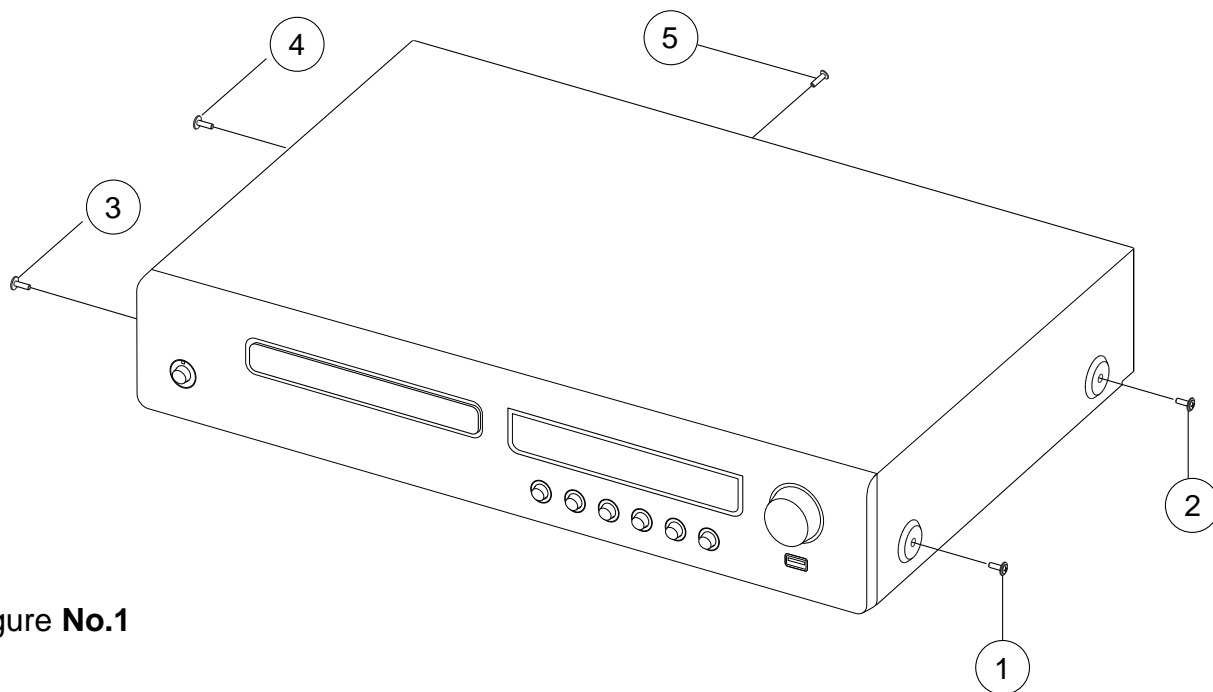


Figure No.1

2. Pull both sides of the TOP COVER slightly outwards (⑥) and tilt approx. 35° and then remove in the direction as indicated by the arrow (⑦). Refer to **Figure No.2**.

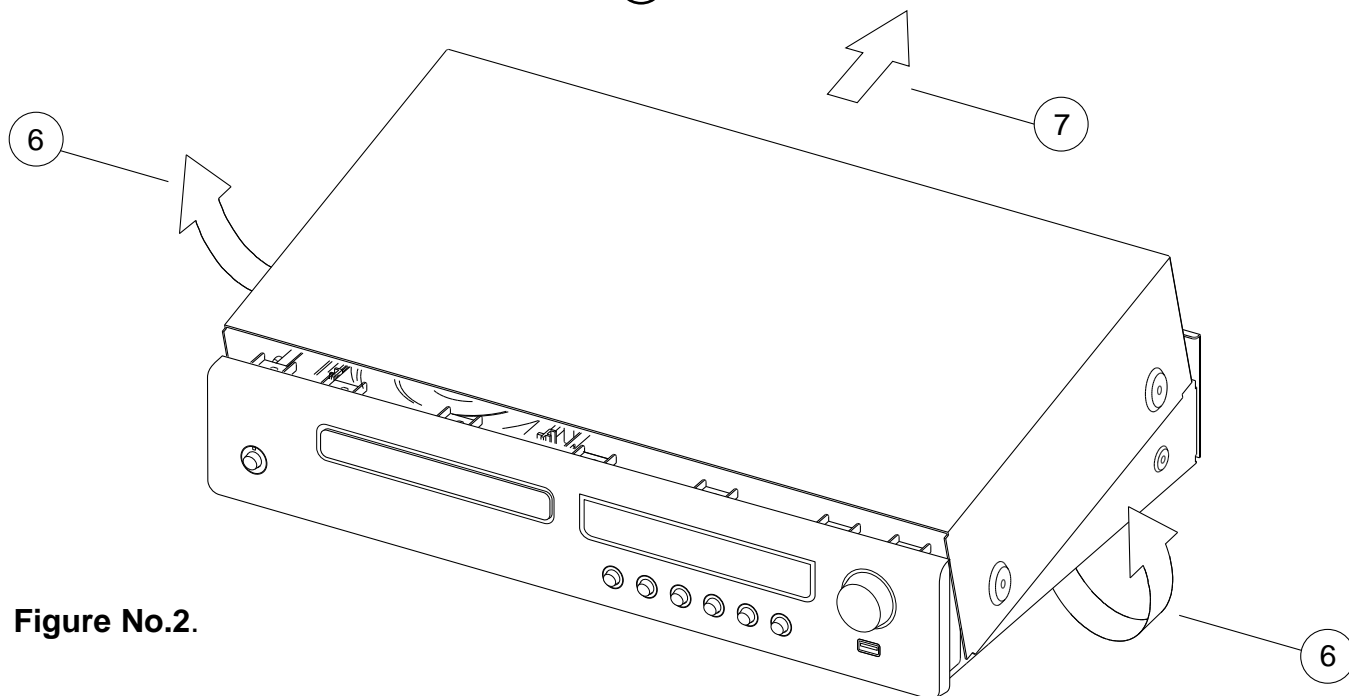
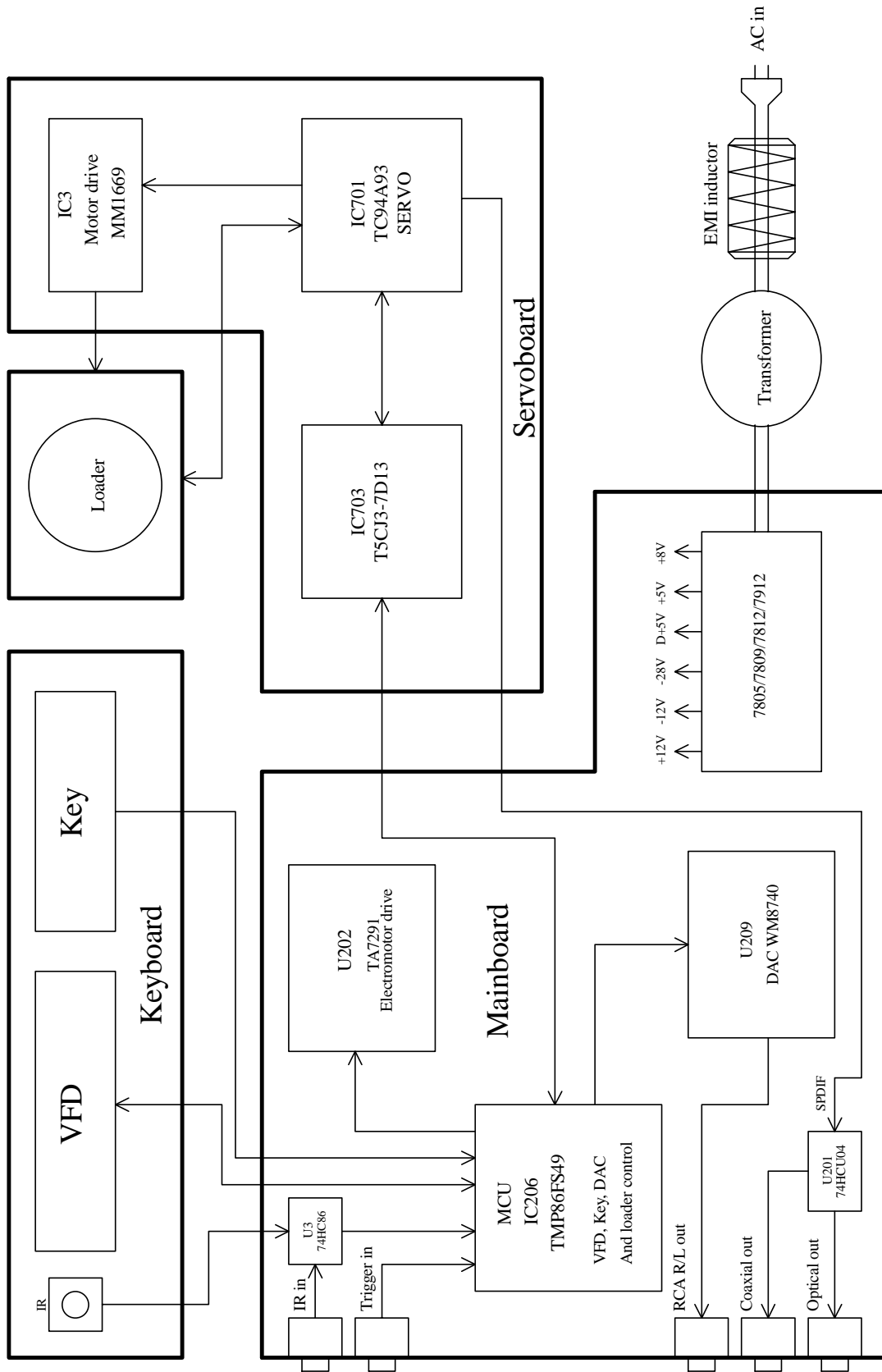
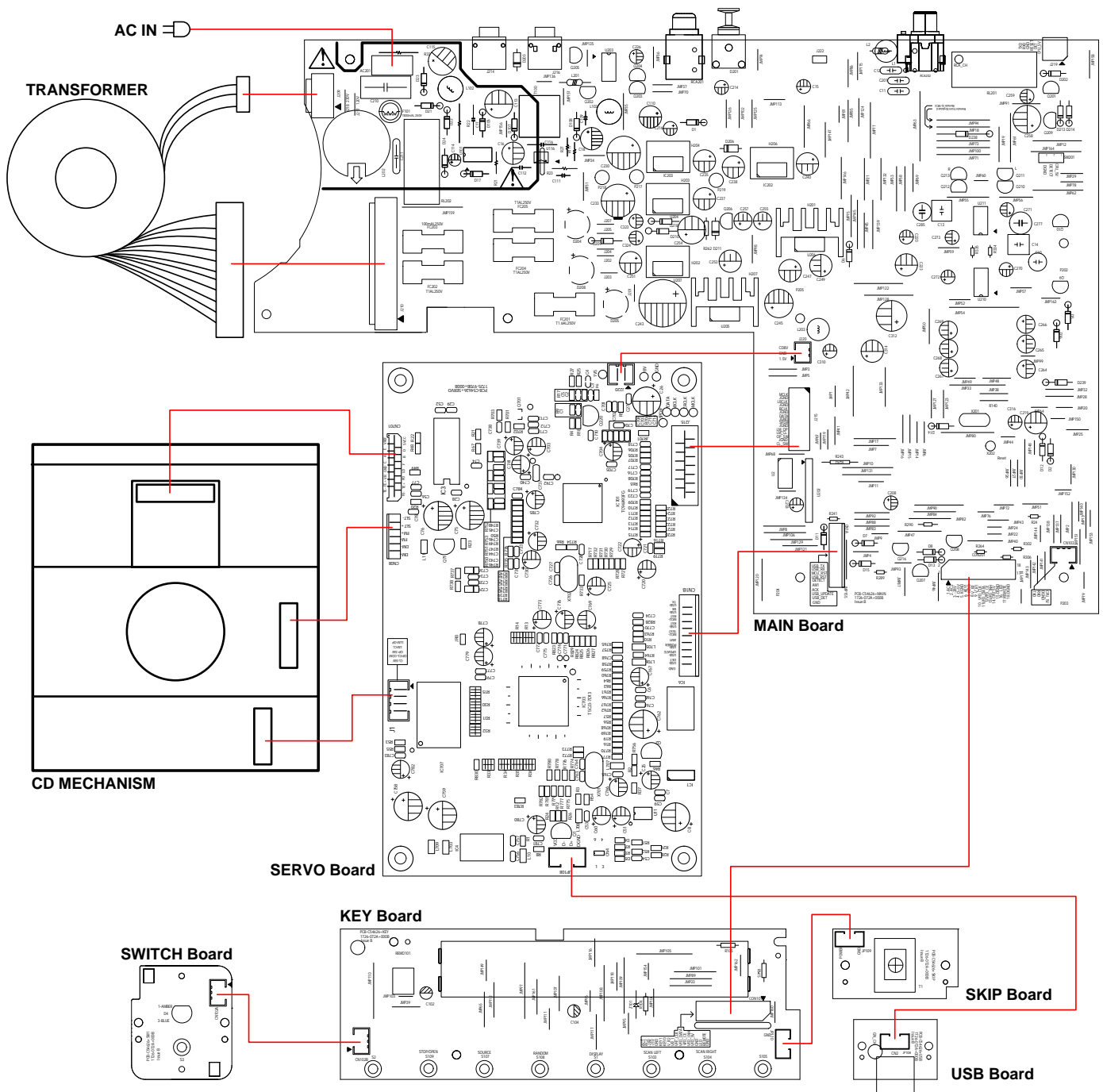


Figure No.2.

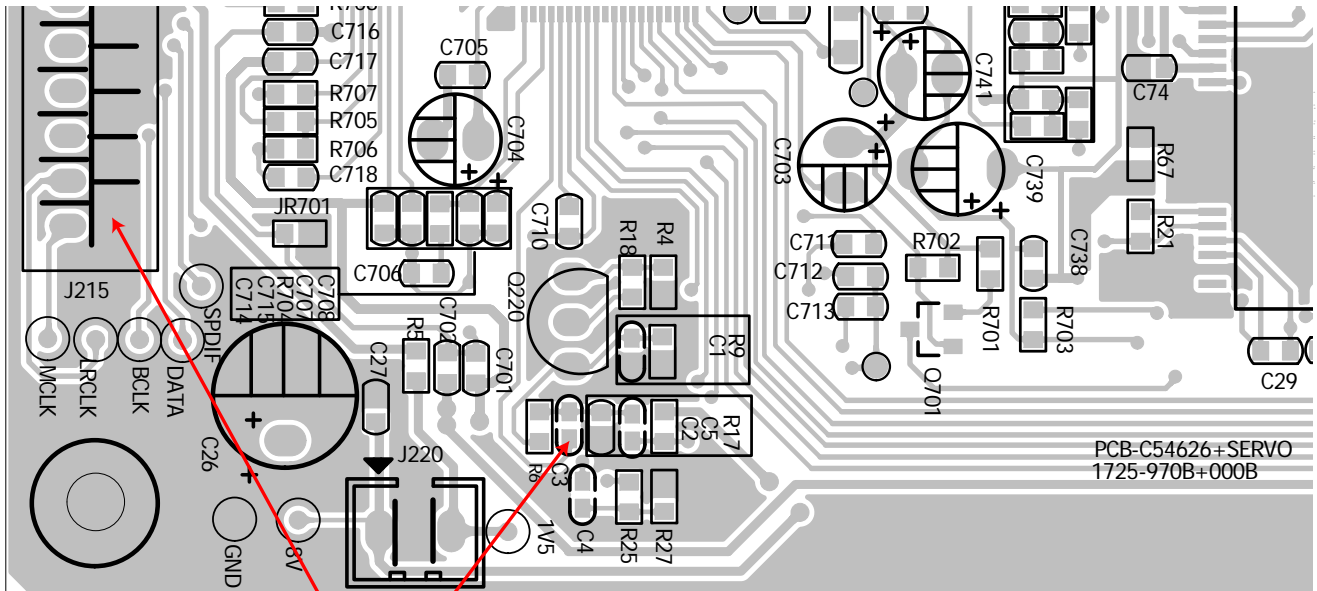
BLOCK DIAGRAM



WIRING DIAGRAM



RF PATTERN TESTING



Test Point

NAD - C 546BEE PCB TESTING POINTS DIAGRAM

TESTING PROCEDURE

- (1) Load the test disc (Sony Test CD YEDS-7) and set the unit into PLAY mode.
- (2) Connect the scope to C3 (Pin 4 of IC701) and DGND (J215).

Scope setting:

Coupling	: AC.
Vertical sensitivity	: 0.2 V/ div.
Horizontal time base	: 0.5 μ S/div.

- (3) Observe the waveform is 1.5V p-p +/-5% and the eye pattern is at its best shape (see **FIG. 1**).

FIG. 1 (a)

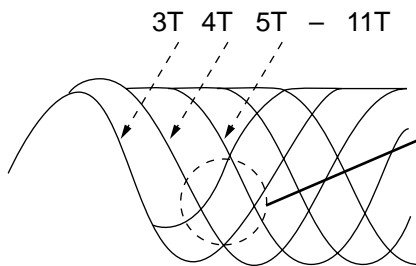


FIG. 1 (b) Poor eye pattern

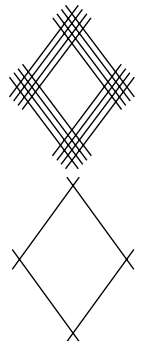


FIG. 1 (C) Good eye pattern

IMPORTANT NOTES

INSTRUCTION FOR HANDLING OPTICAL SYSTEM BLOCK PICK-UP

Electrostatic breakdown of the laser diode in the optical system block may occur due to a potential difference caused by electrostatic charge accumulated on clothing, human body, etc. A ground must be provided as follows to prevent any electrostatic charge during unpacking or repair work.

1. Ground for Human Body

Be sure to wear a ground band (1M ohm) that is properly to remove any static electricity that may be charged on the body.

2. Ground for Work Bench

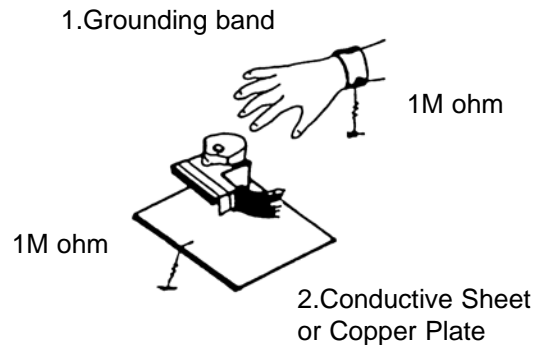
Be sure to place a conductive sheet (1M ohm) or copper plate with proper grounding on the work bench or other surface on which the pick-up is to be placed.

3. Because the static electricity charge on the clothing does not discharge through the body grounding band, do not let clothing to get in contact with the pick-up unit.

INCORRECT



CORRECT



NOTE: Laser diodes are so susceptible to damage from static electricity that even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly.

PRECAUTIONS FOR CHECKING BEAM EMISSION

The laser beam of this unit is focused on the reflecting surface of the objective lens in the optical system block. Therefore, keep your eyes at least 12 inches (30 cm) away from the objective lens when the laser diode is **ON**. (Operation Check Method for Laser Diode and Focus Search Function.)

When the **POWER** switch is turned **ON** after the chucking plate is removed, observe the objective lens and confirm that the following operations are performed properly.

(The optical system should be at the lead-in area position when it is checked at this time.)

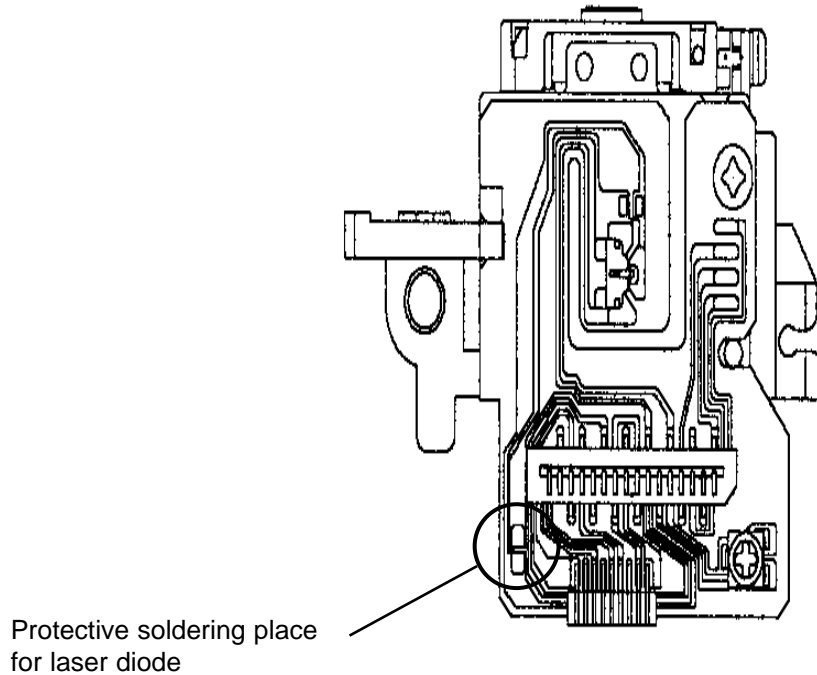
- (1) The laser should be at the innermost position after the chucking plate is removed.
- (2) The diffused light of the laser beam can be seen when the **POWER** switch is turned **ON**.
- (3) Vertical (up and down) movement of the objective lens (2 or 3 times) will take place.

PRECAUTIONS WHEN CHANGING LASER PICK-UP

When removing the pick-up assembly, short circuit the PCB tracks on the optical block as show in the drawing in order to protect the pick-up before removal.

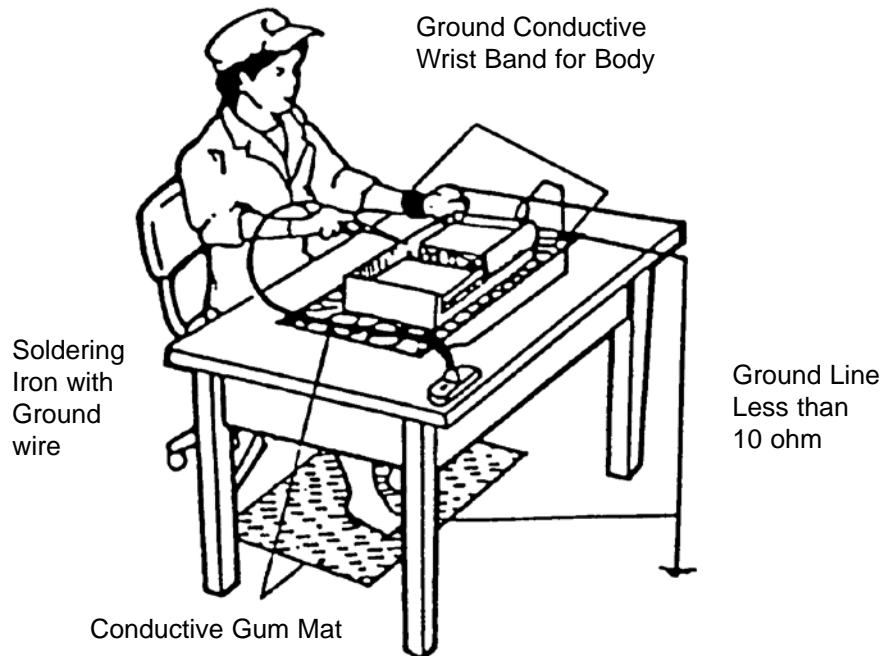
NOTE: Replacement pick-up assemblies are supplied with the PCB pattern already protected.

DO NOT REMOVE THE SHORT CIRCUITS UNTIL YOU HAVE FINISHED FITTING THE PICK-UP.



Caution:

Laser diodes are extremely susceptible to damage from static electricity. Even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly. When replacing the pick-up, use a conductive mat, a grounded soldering iron, and so on, to protect the laser diode from static damage.



MULTI-KEY TABLE FOR C546BEE

Item	Content	Multi-key
1	MCU Ver	Display + <<
2	Servo Ver	Display + >>
3	Factory Test	Display + K_PANEL_PLAY
4	TRAY COUNT	RANDOM + <<
5	PLAY TIME	RANDOM + >>
6	AUTOSTANDBY ENABLE/DISABLE	RANDOM + K_PANEL_PLAY
7	CLEAR ALL	Source + <<. Then input password "546546"

MCU UPGRADE PROCEDURE - TMP86FS49(MCU)

1. Upgrade via USB interface on C546BEE unit

Upgrading via USB interface is available for units with MCU ver 0.4.4 or later version. And every unit with any version can be upgrade via UART interface, maybe with different passwords.

Put the software file for upgrade into the root folder of a USB device and rename it as 'host.h16', and upgrade as following procedure:

1). Power on C546BEE, Long press the panel key 'Display + << (fast backward)', not at reading or playing status is better. The VFD will display the MCU software version such as 'MCU Ver 0.4.4' as below:



2). Press the panel 'Play' key while displaying the MCU software version, then the VFD will display 'Updt MCU SW?'.



3). Press panel 'Play' again and the VFD will display 'MCU Updating'.



MCU upgrading starts and it would last about 1 to 2 minutes. If upgrading is not successful or no file for upgrade in the USB device, the VFD will display 'MCU Updt Fail'. The unit will enter standby status after successfully upgrading.

2. Upgrade via UART interface

2.1 Hardware connection

1). Connect the programmer board to the unit through the FFC connector at the rear panel, shown as below picture:

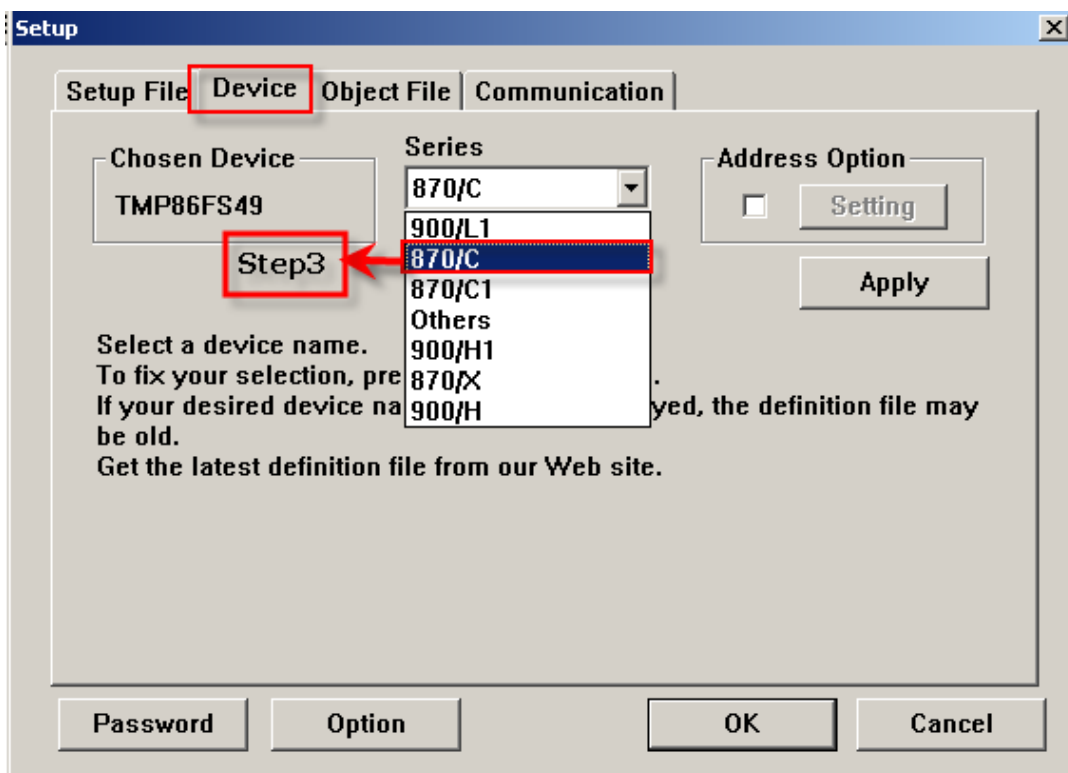


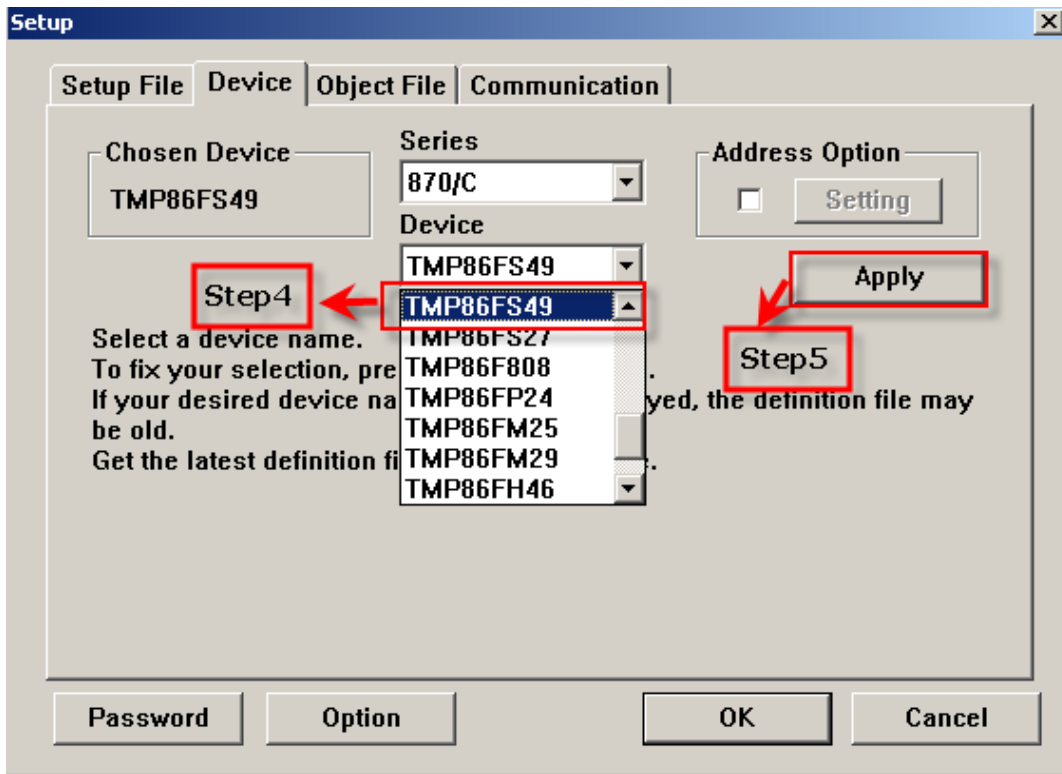
2.2 Software setup

Password setting is different for different version and other setting is the same as describe below:

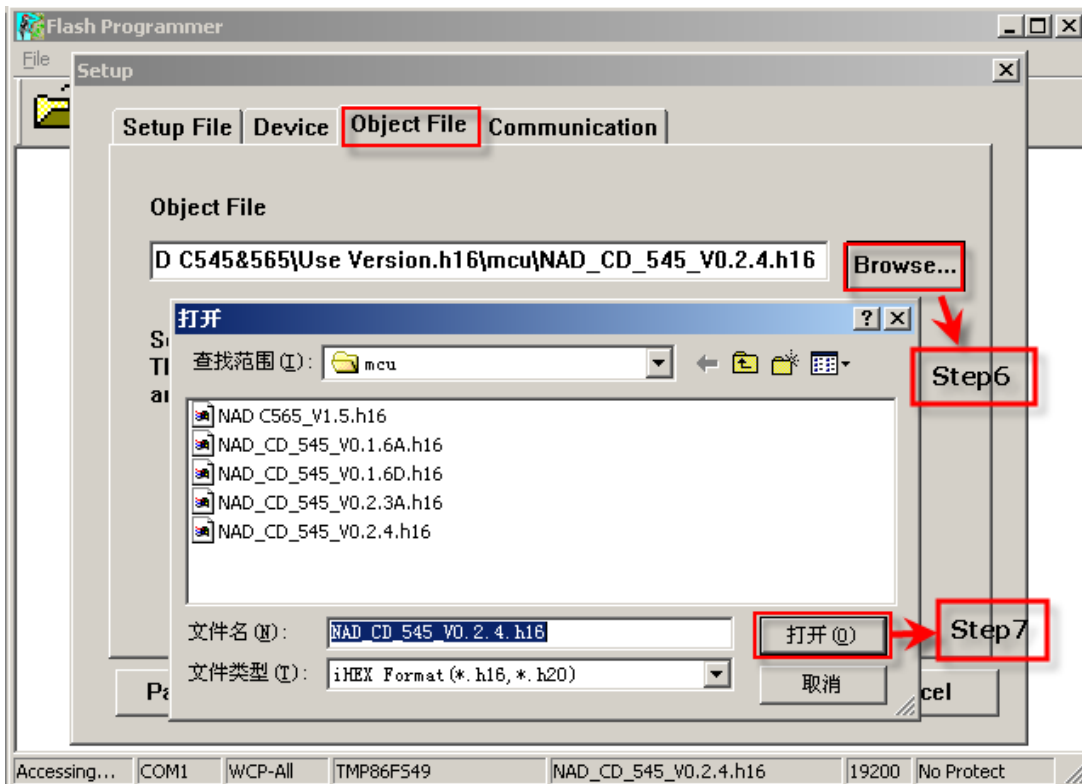
2.2.1 Upgrade from Ver0.4.3 to Ver 0.4.4 or later versions

2.2.1.1 Open Flash Programmer, click Setup, select Device, shown as below:

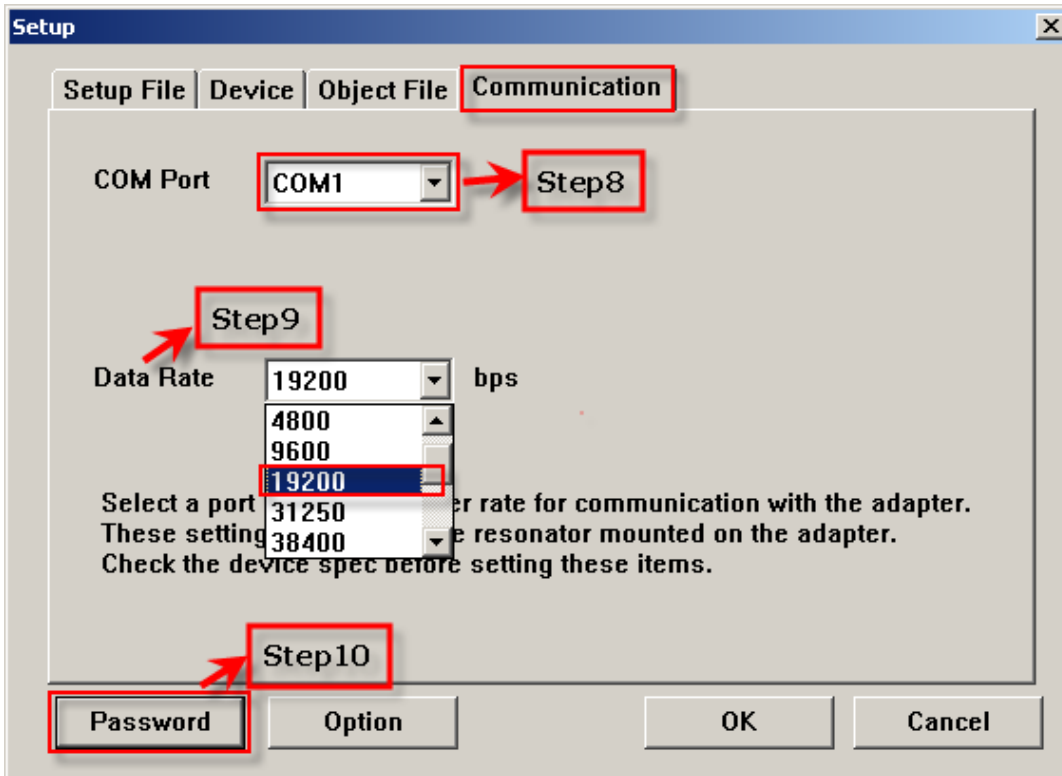




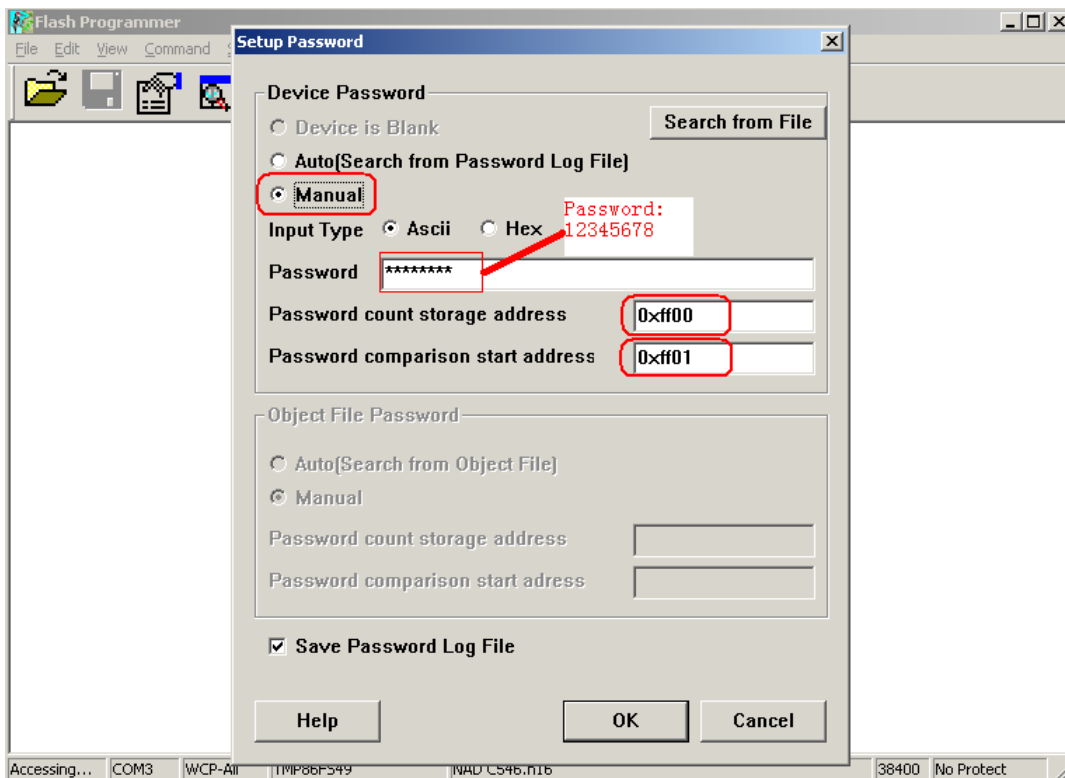
2.2.1.2 Browse to the file for upgrade.



2.2.1.3 Setup communication Port and data rate.



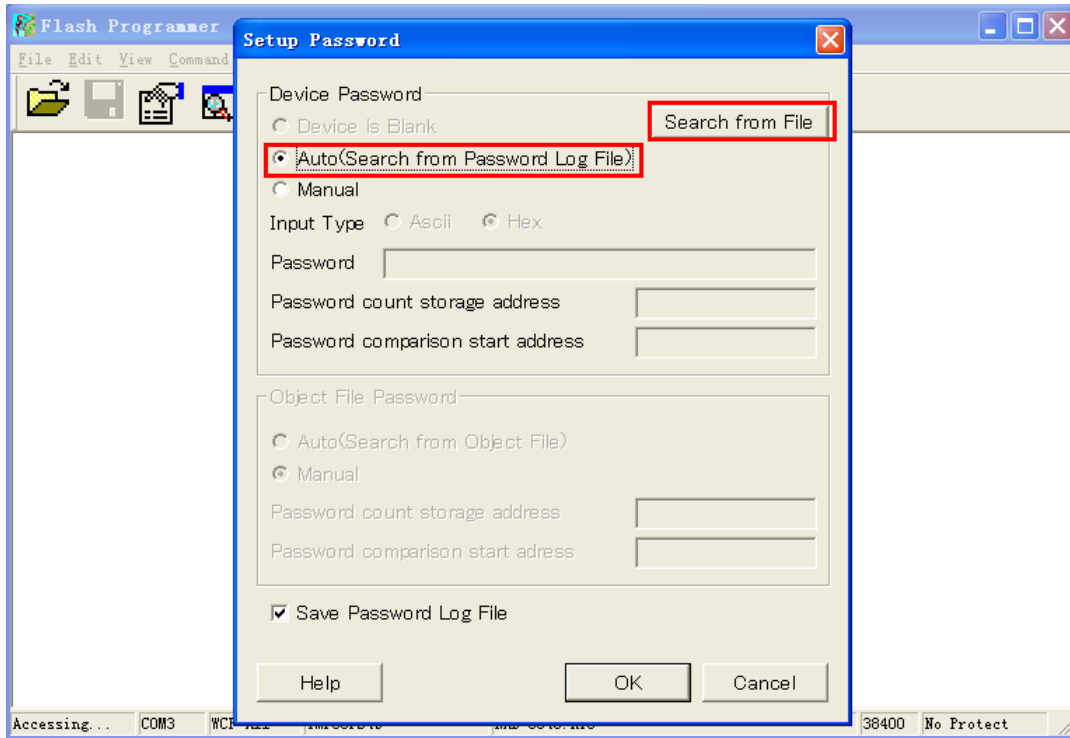
2.2.1.4 Setup password, Shown as below:



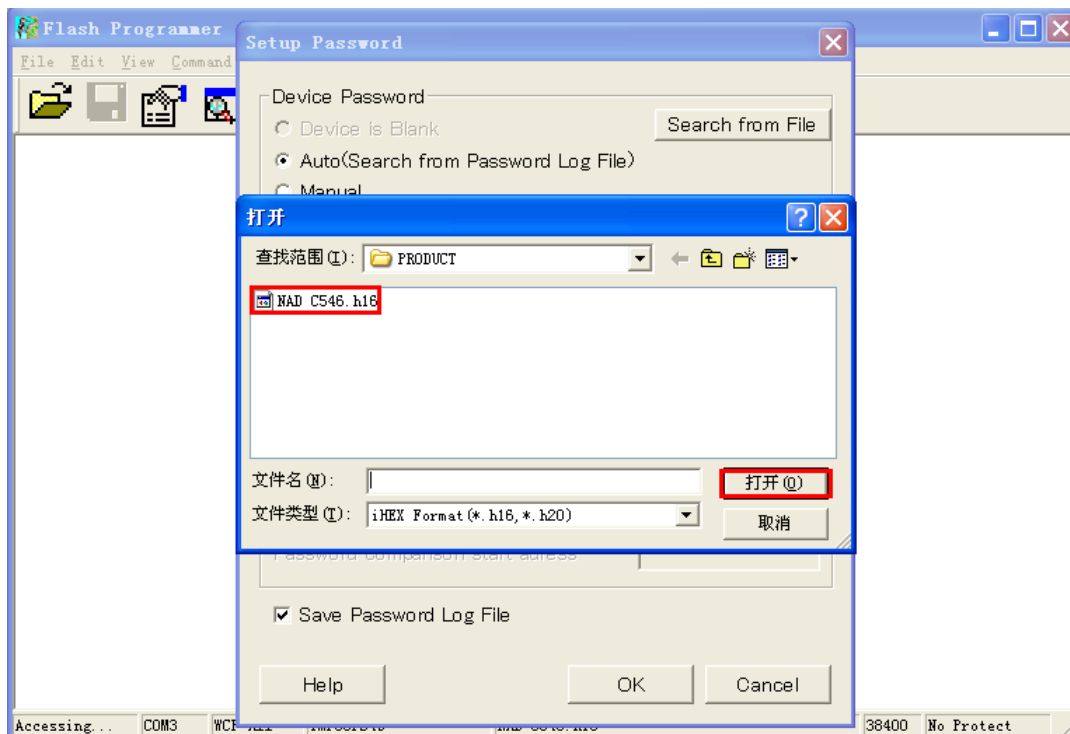
2.2.2 Upgrade from Ver0.4.4 or later versions to another later version

2.2.2.1 Setup Password, Shown as below:

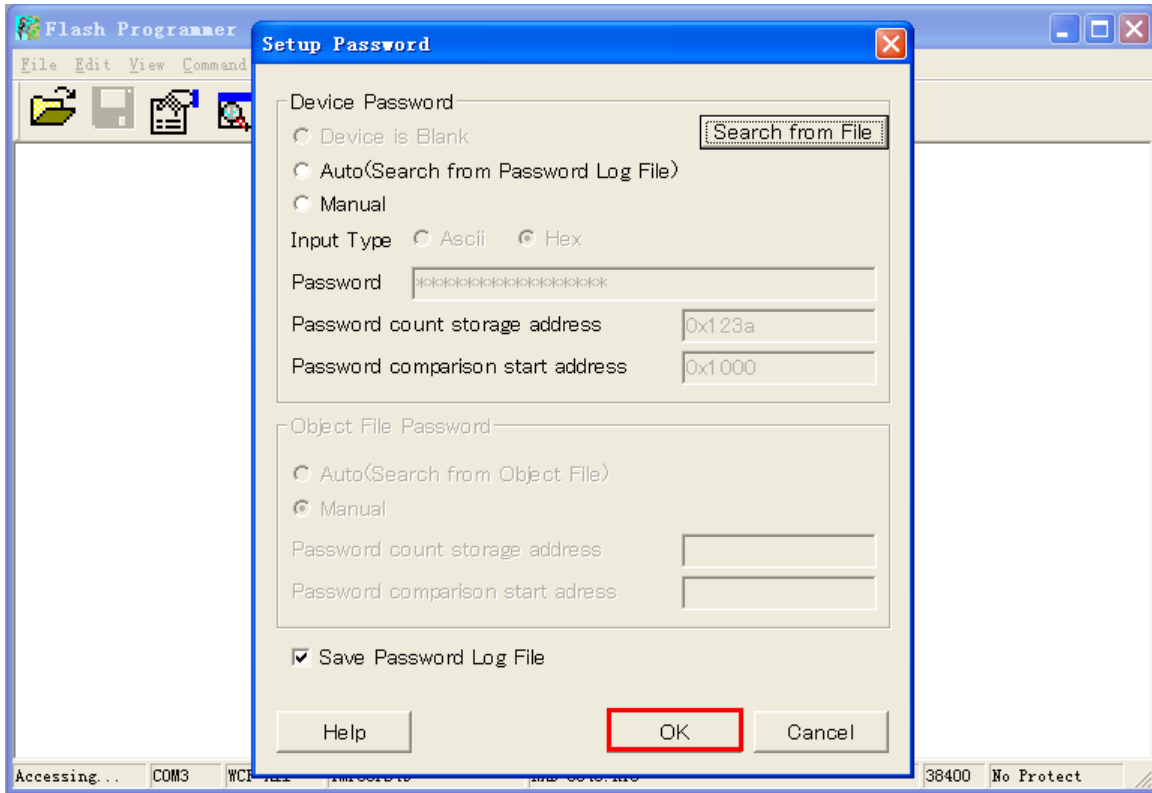
Click Auto(Search from Password Log File), then click Search from file, shown as below:



Then a pop up window would require you choose the file for upgrade, browse to the file and select it.

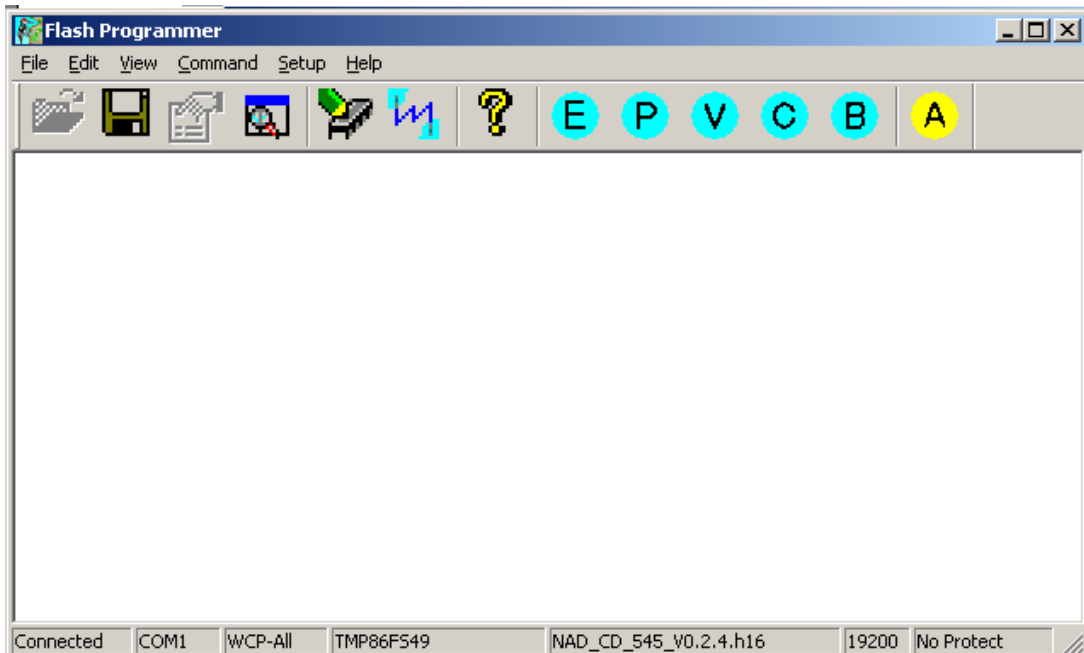


Click OK and it will show as below.

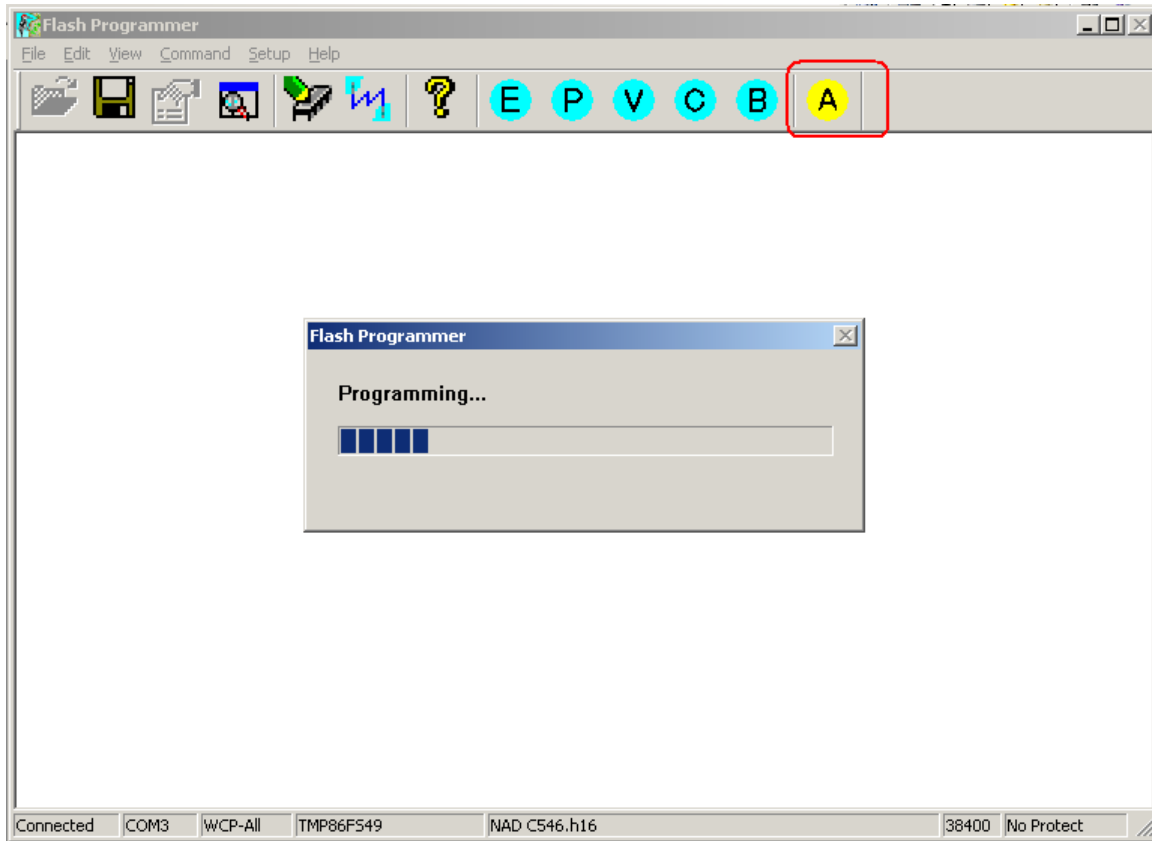


2.3 Upgrade procedure

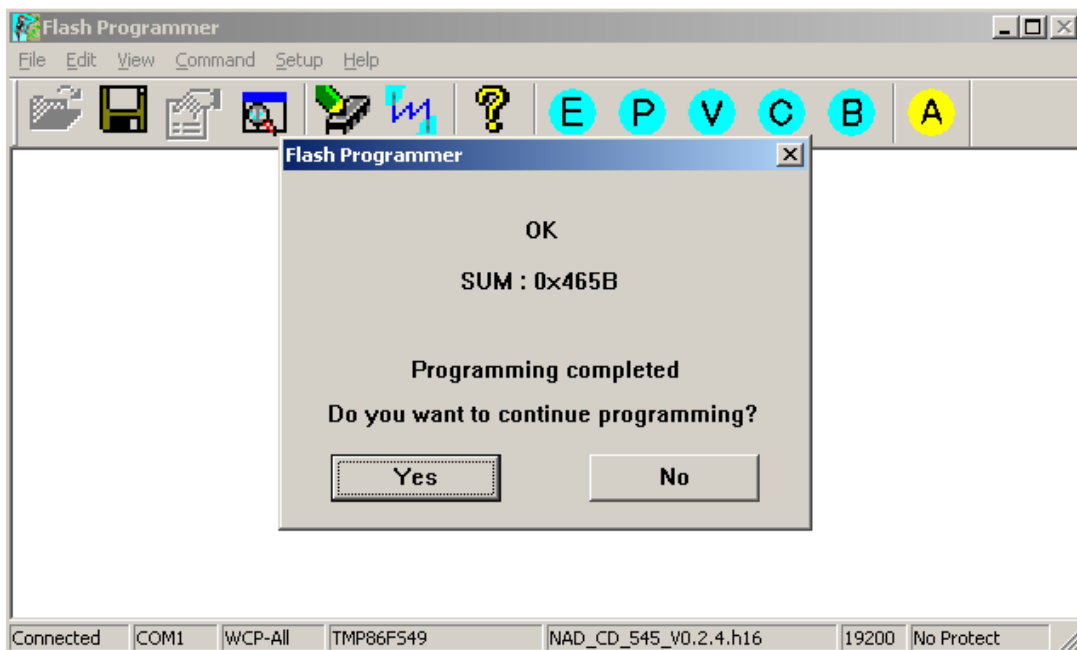
1). Open Flash Programmer and plug in C546BEE, the buttons will be illuminated. If the buttons are still grey, try to unplug and plug in the unit again.



2). Click A button, it will start auto programming.



3). When the programming finishes, it will pop up the below window, Click No to finish the upgrading.



4). User can press the panel keys to check the MCU version as below for different software version:

Source + << (fast backward): Ver 0.4.3 and elder versions.

Display + << (fast backward): Ver 0.4.4 and later versions.

SERVO UPGRADE PROCEDURE

1. Upgrade servo software via USB interface

Put the software file for upgrade into the root folder of a USB device and rename it as 'bp2.s24', plug the USB device into the unit, and upgrade as following procedure:

1). Power on C546BEE, Long press the panel key 'Display + >> (fast forward)', not at reading or playing status is better. The VFD will display the servo software version such as 'Servo Ver 0.7' as below:



2). Press the panel 'Play' key while displaying the servo software version, then the VFD will display 'Updt BP SW?'



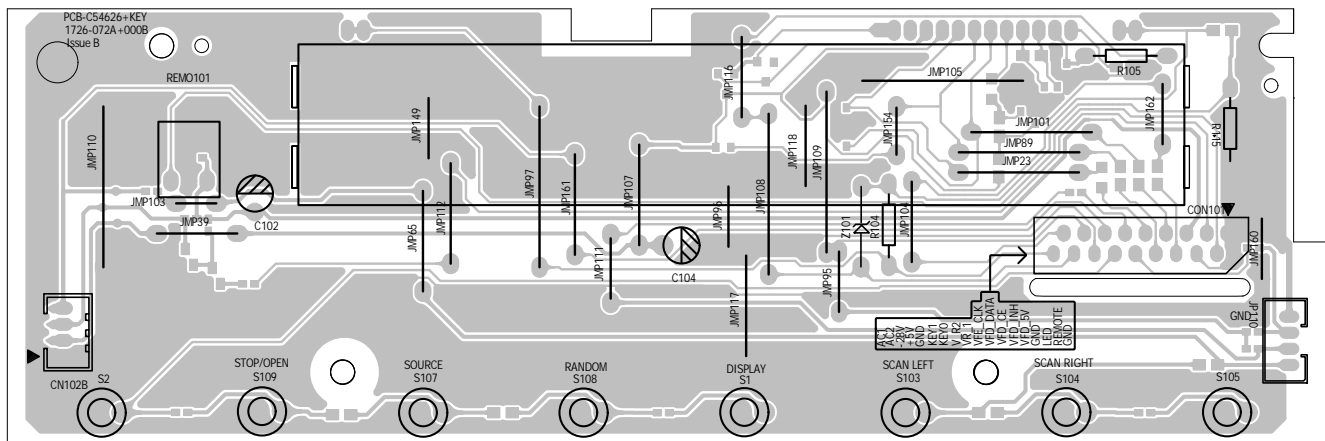
3). Press panel 'Play' again and the VFD will display 'BP Updating'.



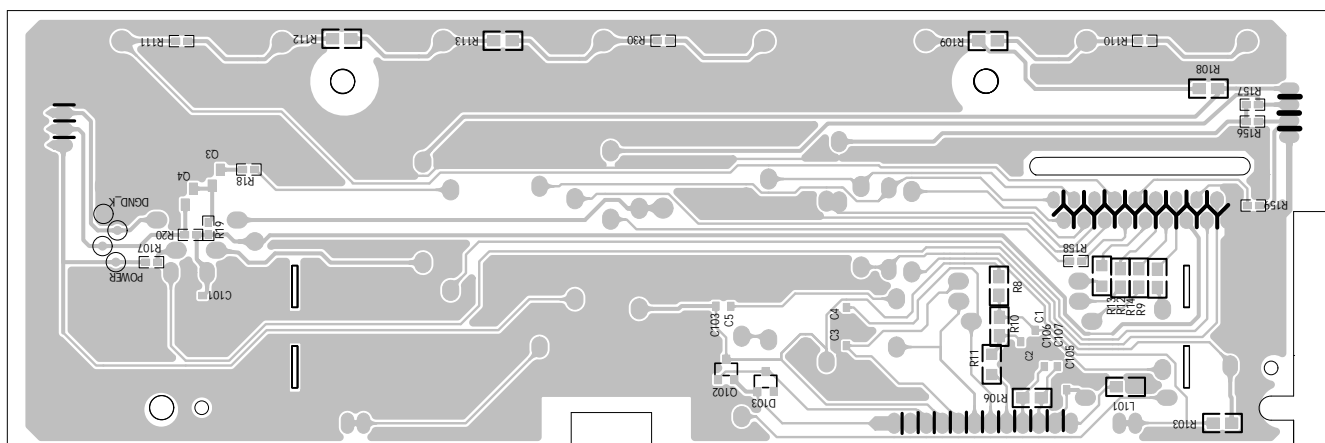
Servo upgrading starts and the whole procedure would last about 1 to 2 minutes. If there is no USB device, the VFD will display 'USB Not Ready', and display 'No File' when there is no file for upgrade. The system will enter standby state when it finishes upgrading.

PCB LAYOUT

KEY BOARD

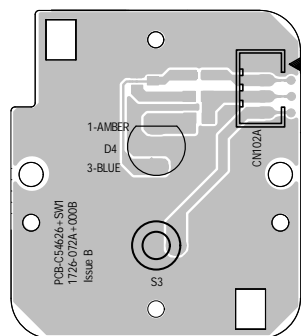


top side

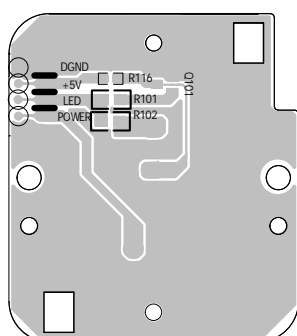


bottom side

SWITCH BOARD

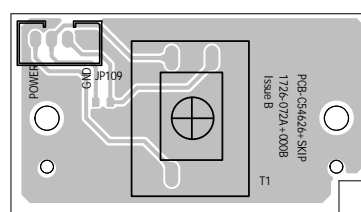


top side

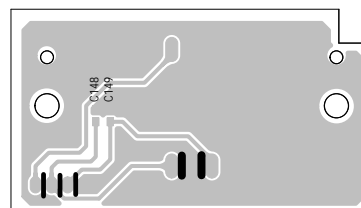


bottom side

SKIP BOARD

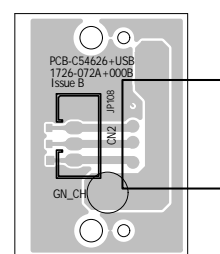


top side

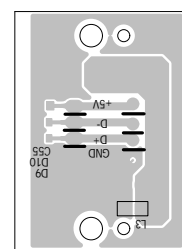


bottom side

USB BOARD

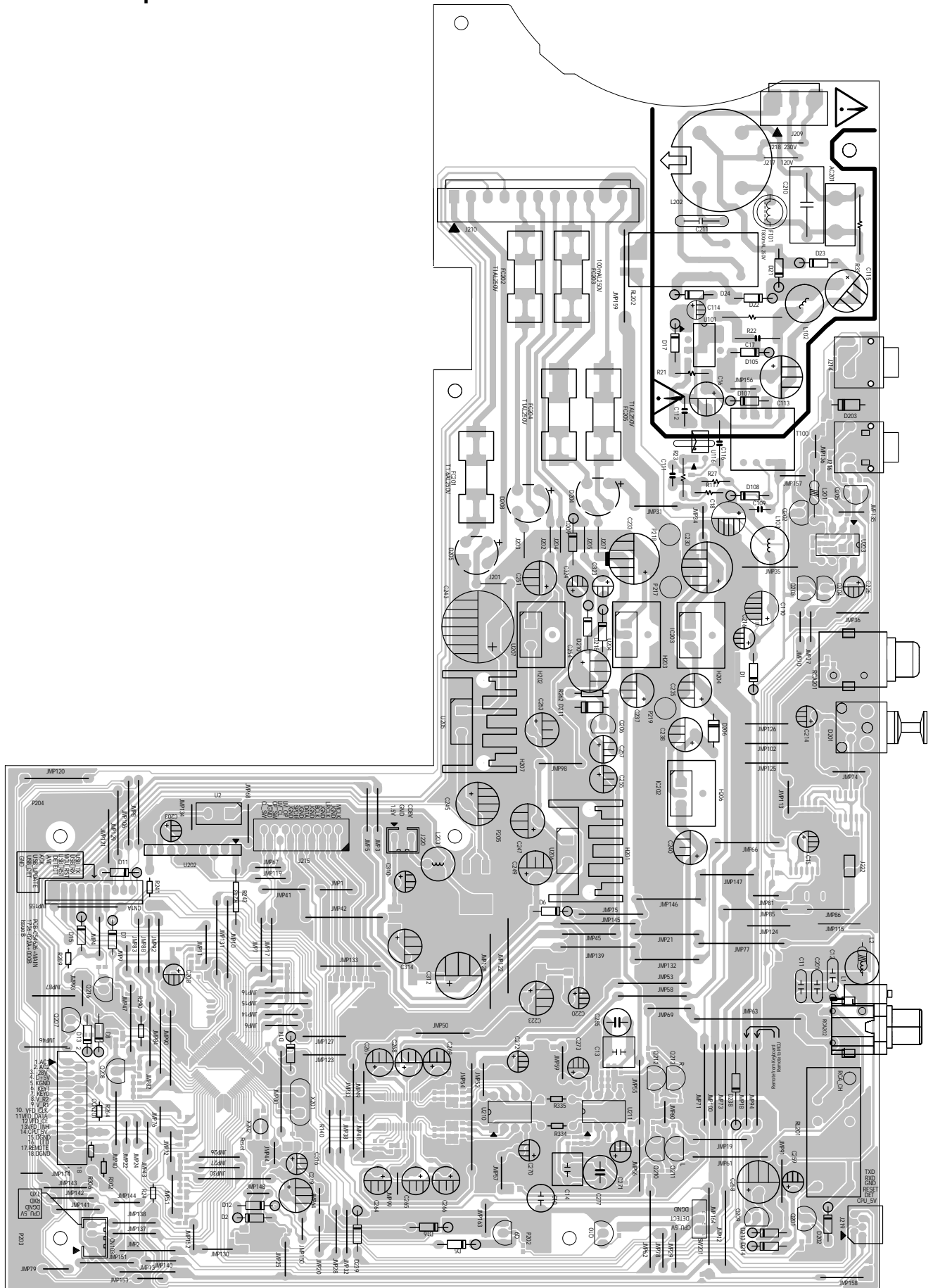


top side

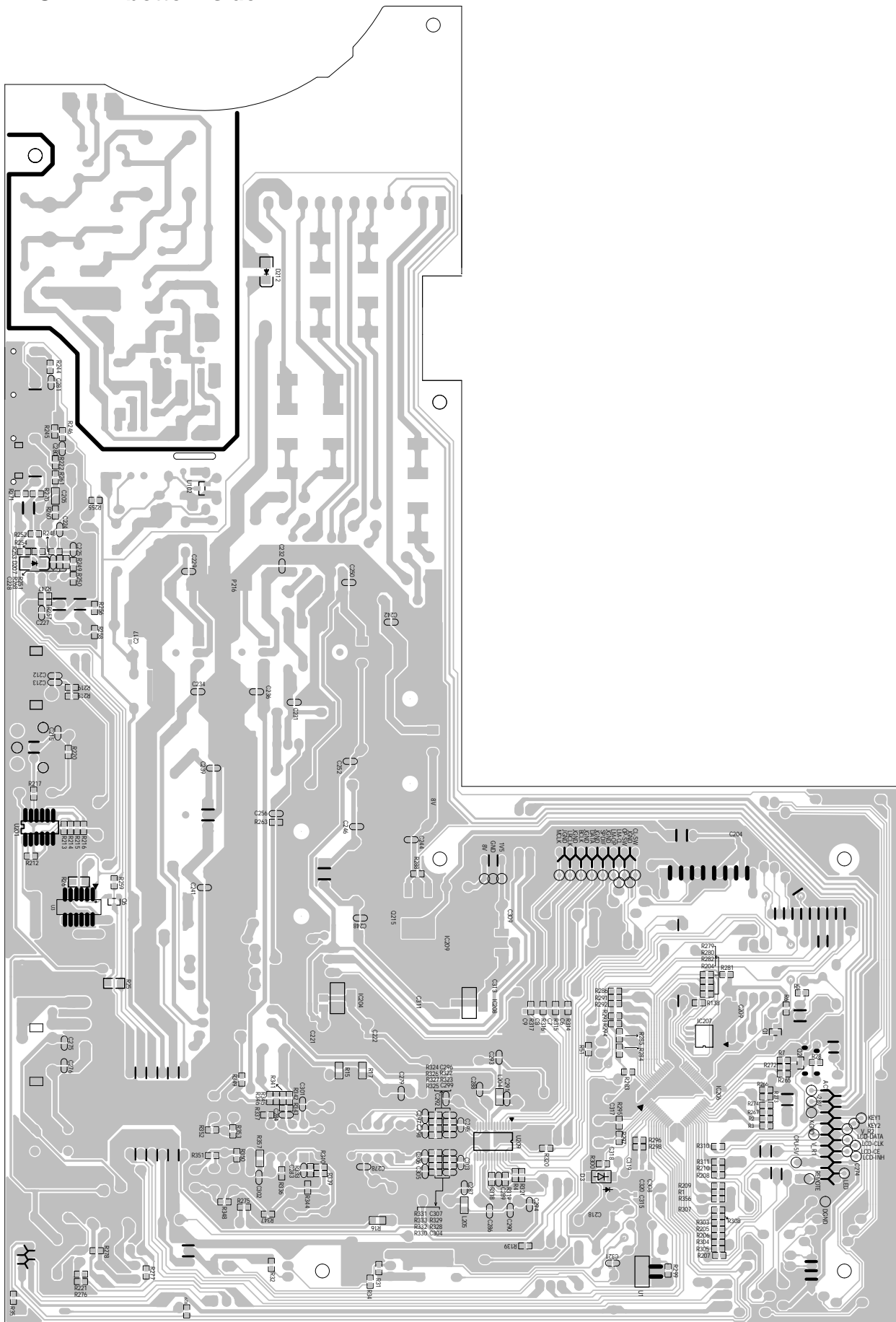


bottom side

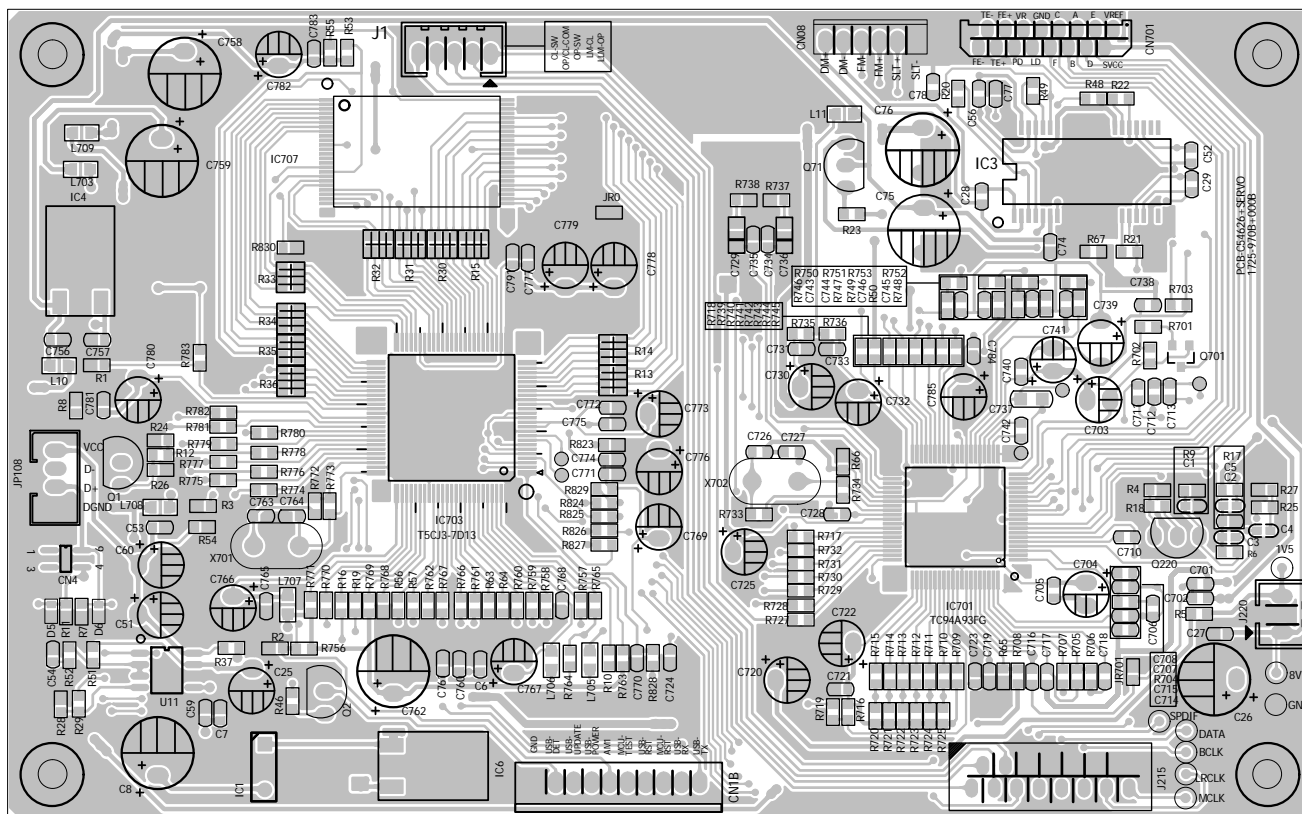
MAIN BOARD - top side



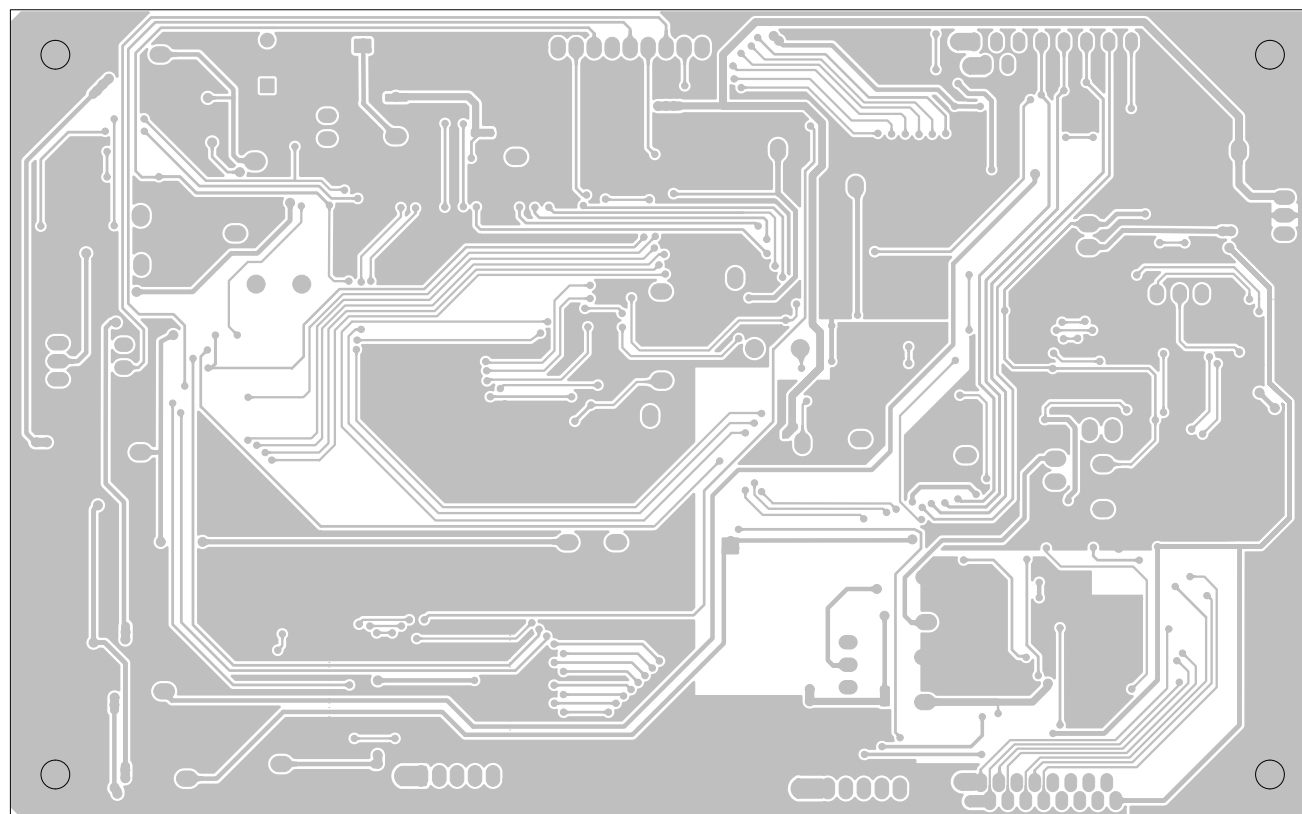
MAIN BOARD - bottom side



SERVO BOARD



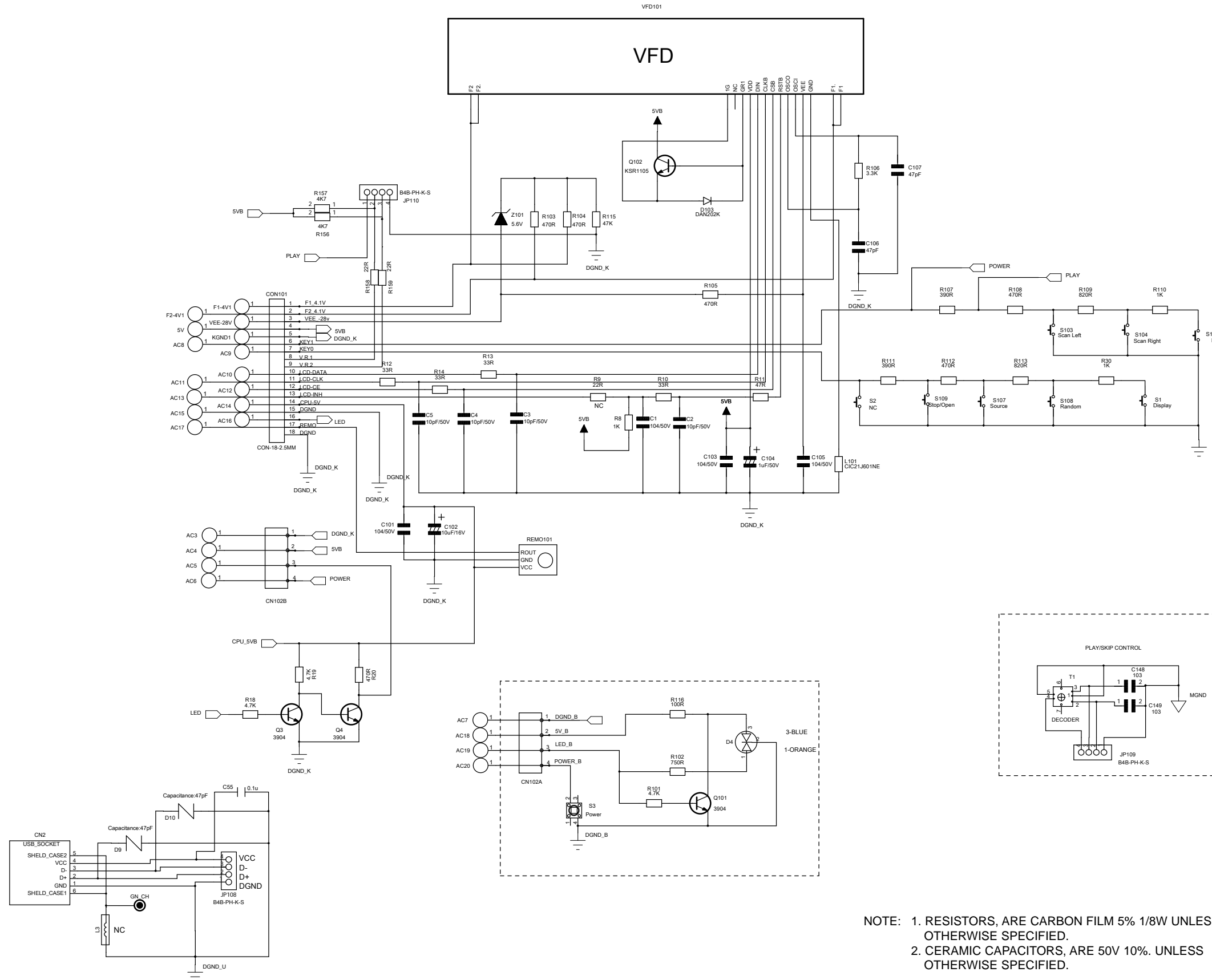
top side



bottom side

SCHEMATIC DIAGRAM

KEY



MCU

D

D

C

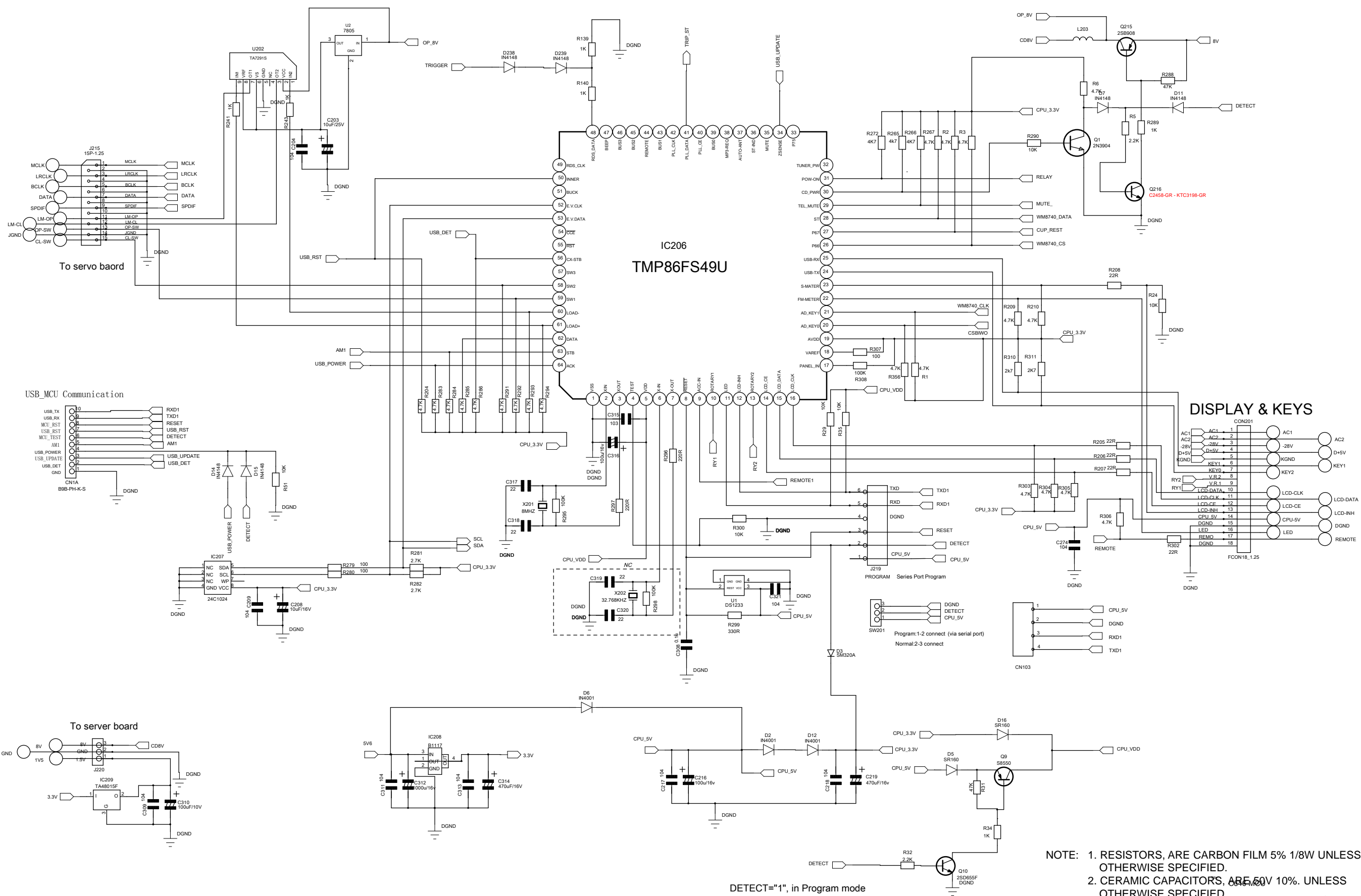
C

B

B

A

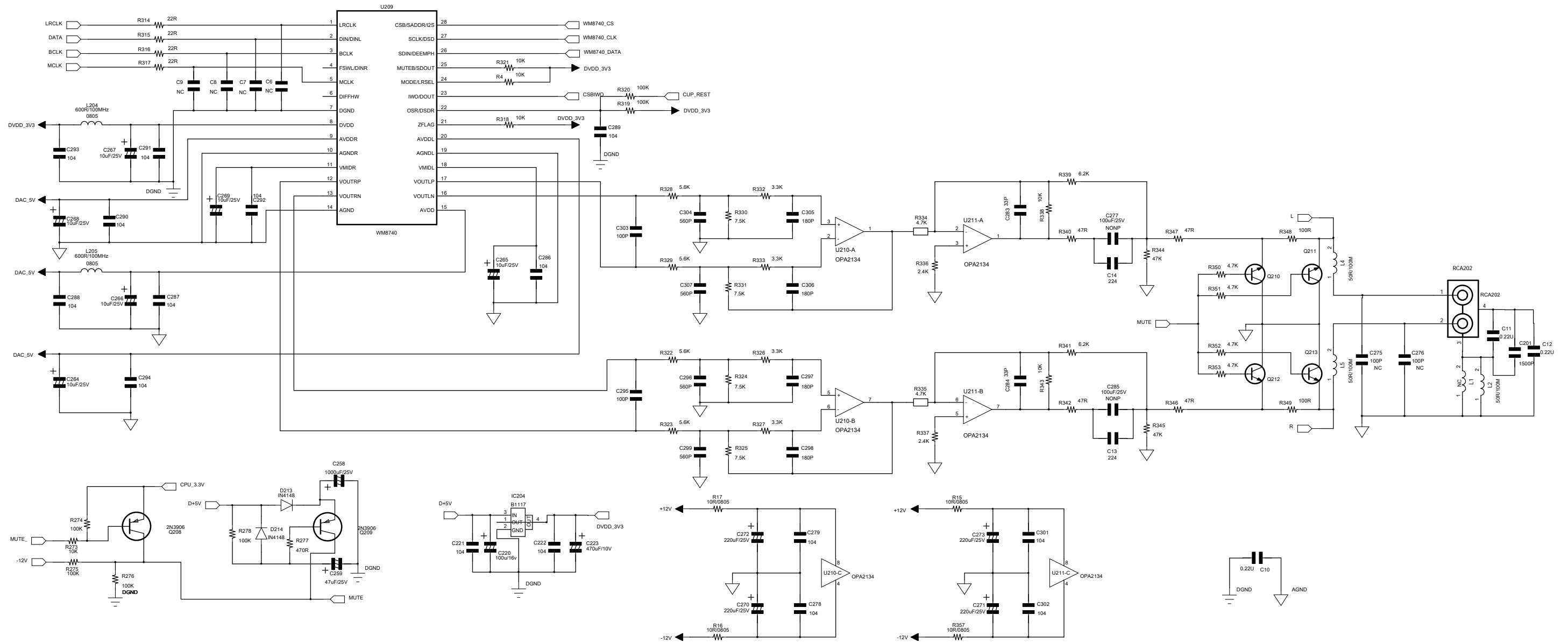
A



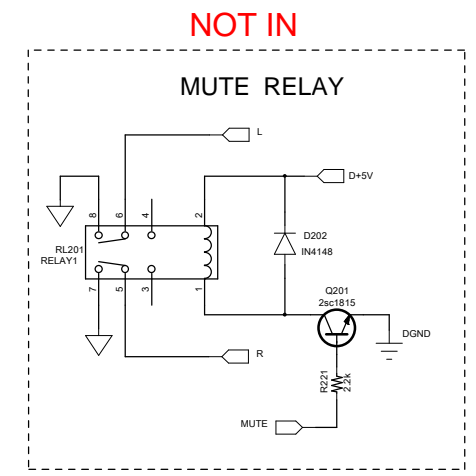
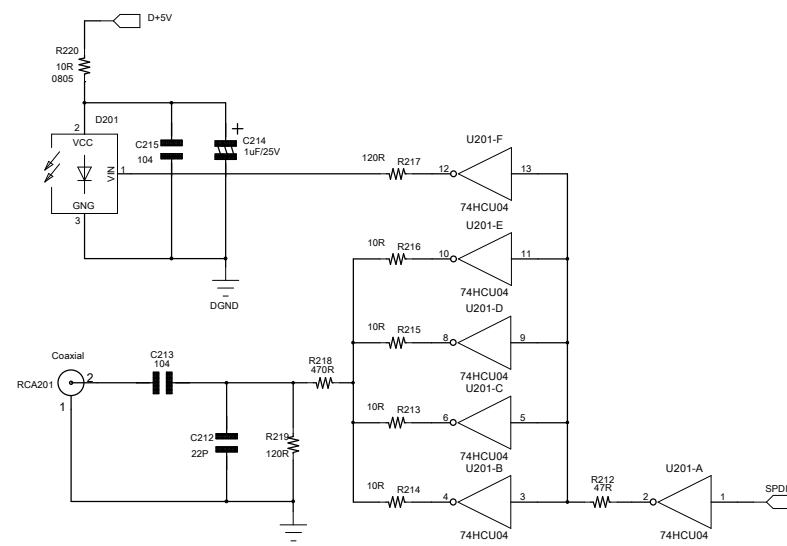
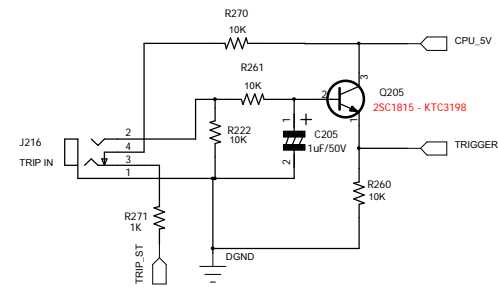
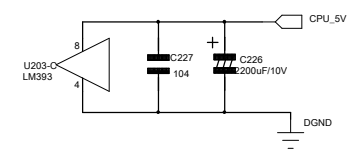
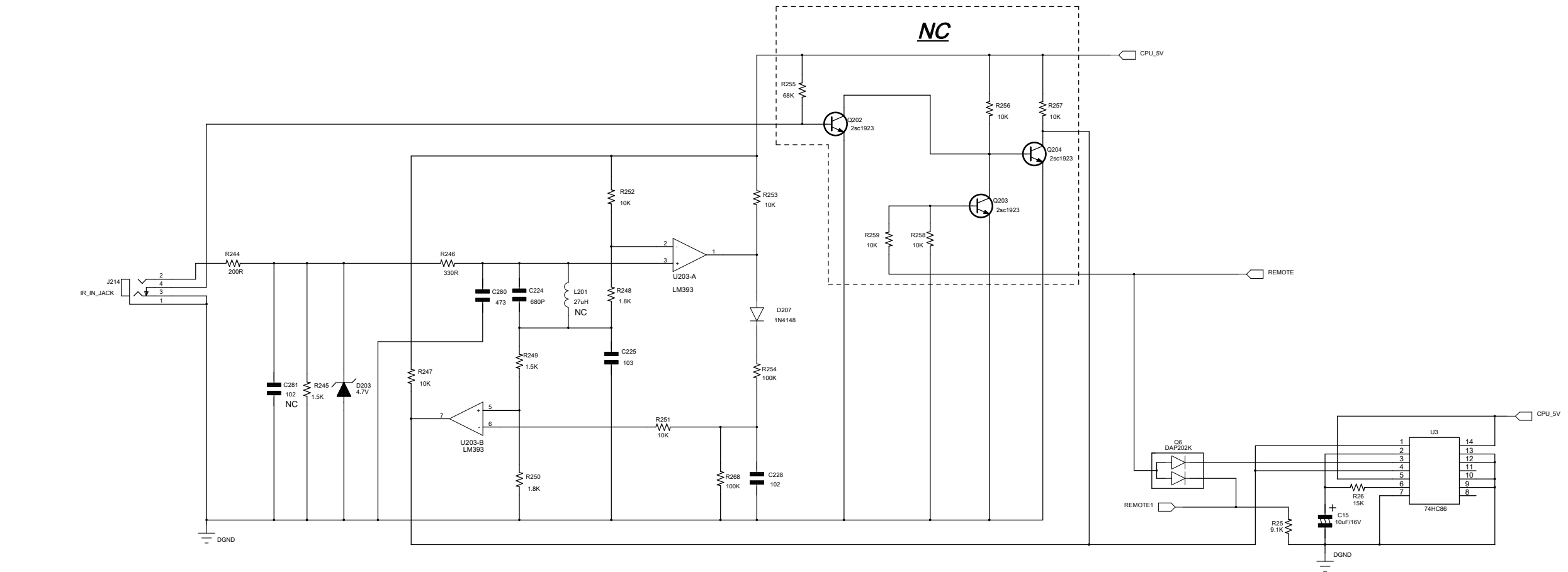
NOTE: 1. RESISTORS, ARE CARBON FILM 5% 1/8W UNLESS OTHERWISE SPECIFIED.
 2. CERAMIC CAPACITORS, ARE 50V 10%. UNLESS OTHERWISE SPECIFIED.

DETECT="1", in Program mode

DAC

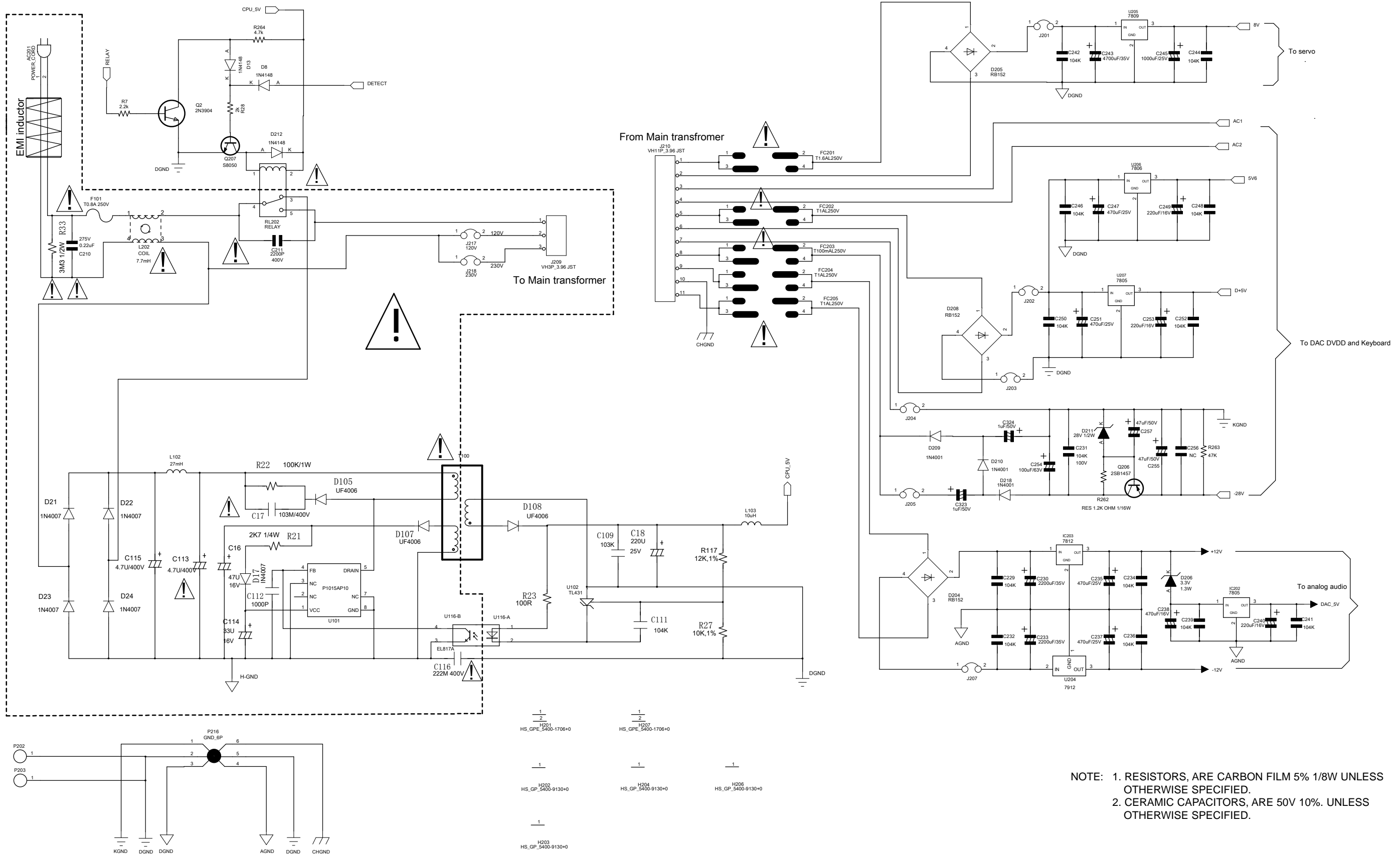


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 2. CERAMIC CAPACITORS, ARE 50V 10%. UNLESS OTHERWISE SPECIFIED.



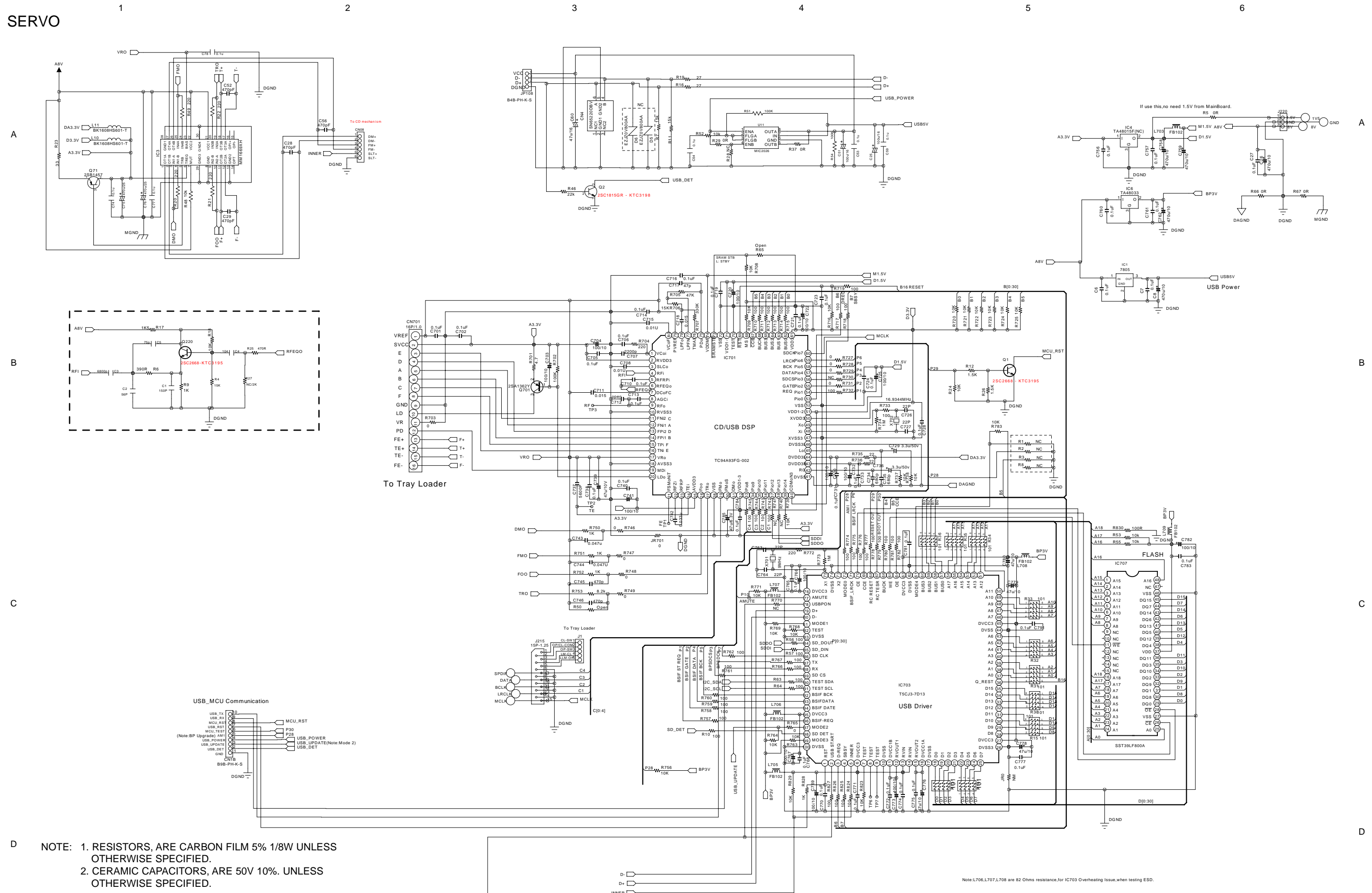
NOTE: 1. RESISTORS, ARE CARBON FILM 5% 1/8W UNLESS OTHERWISE SPECIFIED.
 2. CERAMIC CAPACITORS, ARE 50V 10%. UNLESS OTHERWISE SPECIFIED.

POWER



NOTE: 1. RESISTORS, ARE CARBON FILM 5% 1/8W UNLESS OTHERWISE SPECIFIED.
 2. CERAMIC CAPACITORS, ARE 50V 10%. UNLESS OTHERWISE SPECIFIED.

SERVO



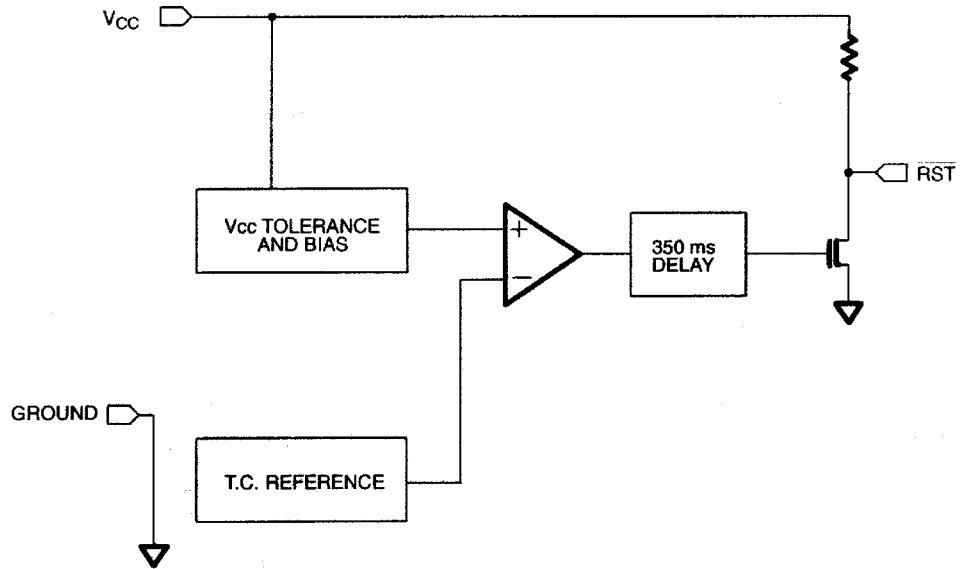
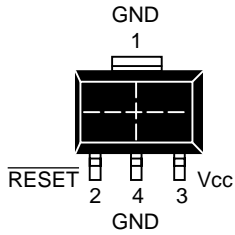
D NOTE: 1. RESISTORS, ARE CARBON FILM 5% 1/8W UNLESS OTHERWISE SPECIFIED.
 2. CERAMIC CAPACITORS, ARE 50V 10%. UNLESS OTHERWISE SPECIFIED.

Note:L706,L707,L708 are 82 Ohms resistance,for IC703 Overheating Issue,when testing ESD.

IC BLOCK DIAGRAM

MAIN BOARD

U1: DS123DZ-5+T&R



MAIN BOARD

U2, U207, IC202: NJM7805FA-#ZZZB

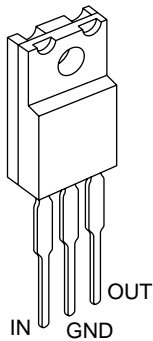
U205: NJM7809FA

U206: 6V 3-TERMINAL REGULAT OR NJM7806

IC203: NJM7812FA-#ZZZB

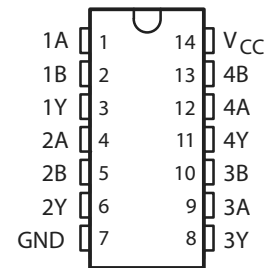
SERVO BOARD

IC1: NJM7805FA-#ZZZB



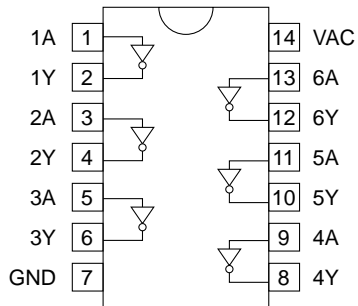
MAIN BOARD

U3: QUAD 2INPUT EXCLUSIVE



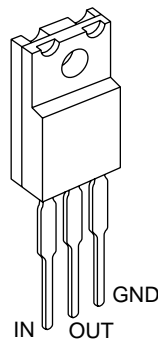
MAIN BOARD

U201: SN74HCU04D (SOP)



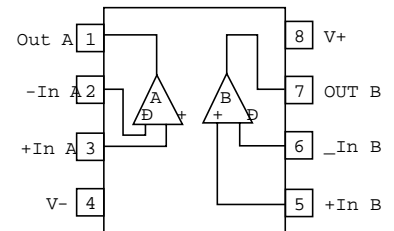
MAIN BOARD

U204: NJM7912FA-#ZZZB

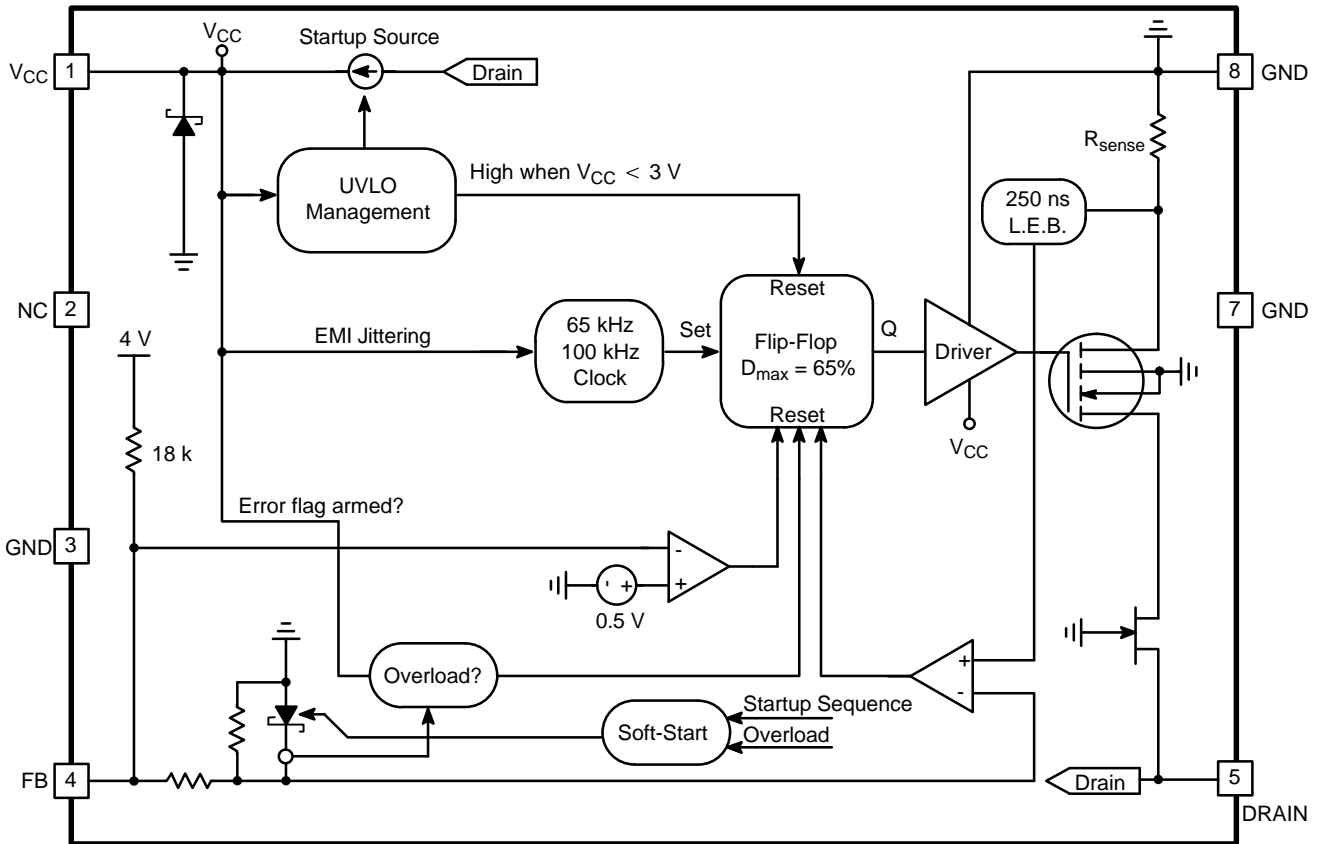
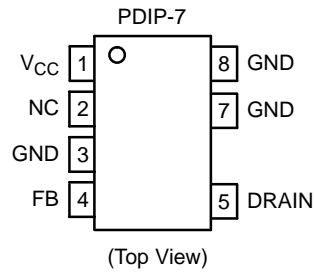


MAIN BOARD

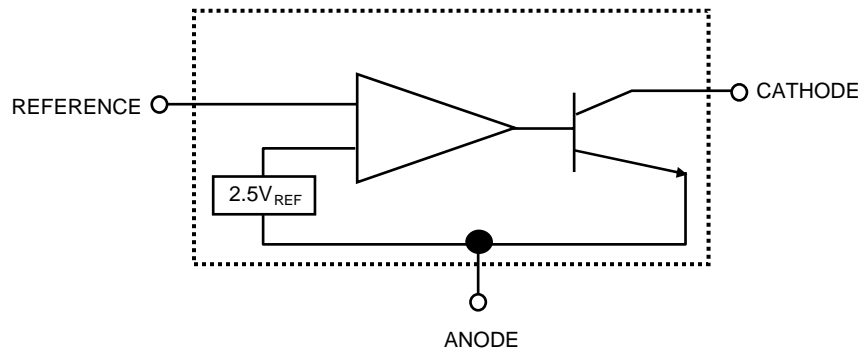
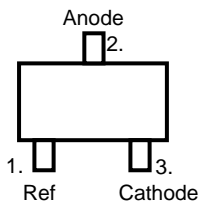
U210, U211: OPA2134PA DIP OP AMP



MAIN BOARD
U101: POWER NCP1015AP100G

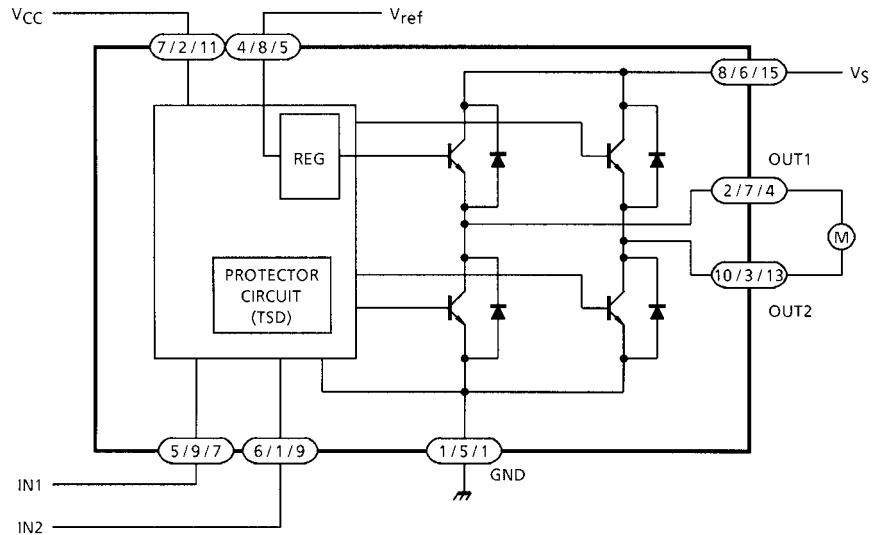
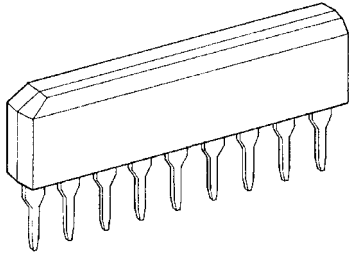


MAIN BOARD
U102: ADJUST SHUNT REG



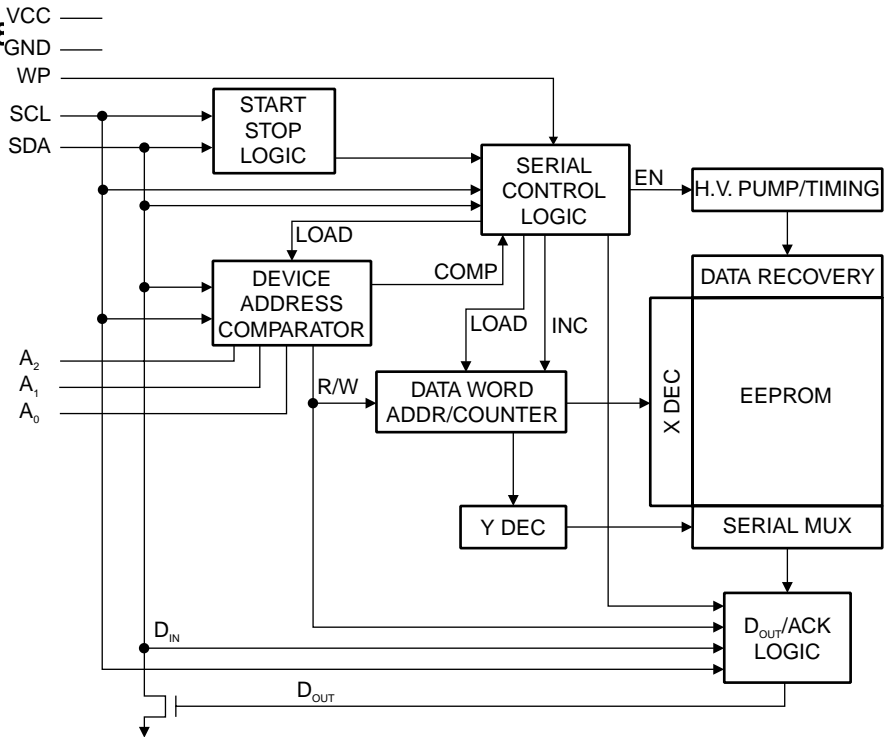
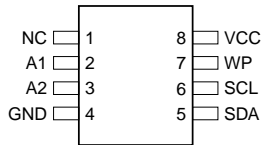
MAIN BOARD

U202: TA7291SG(5M)22240239



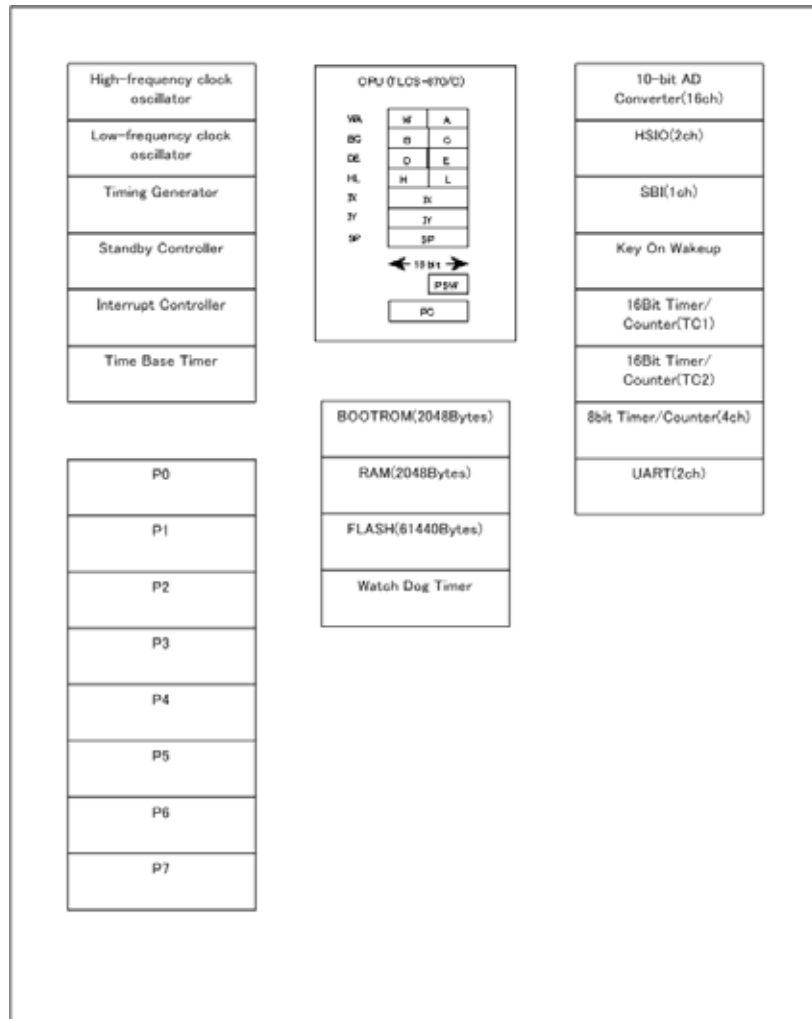
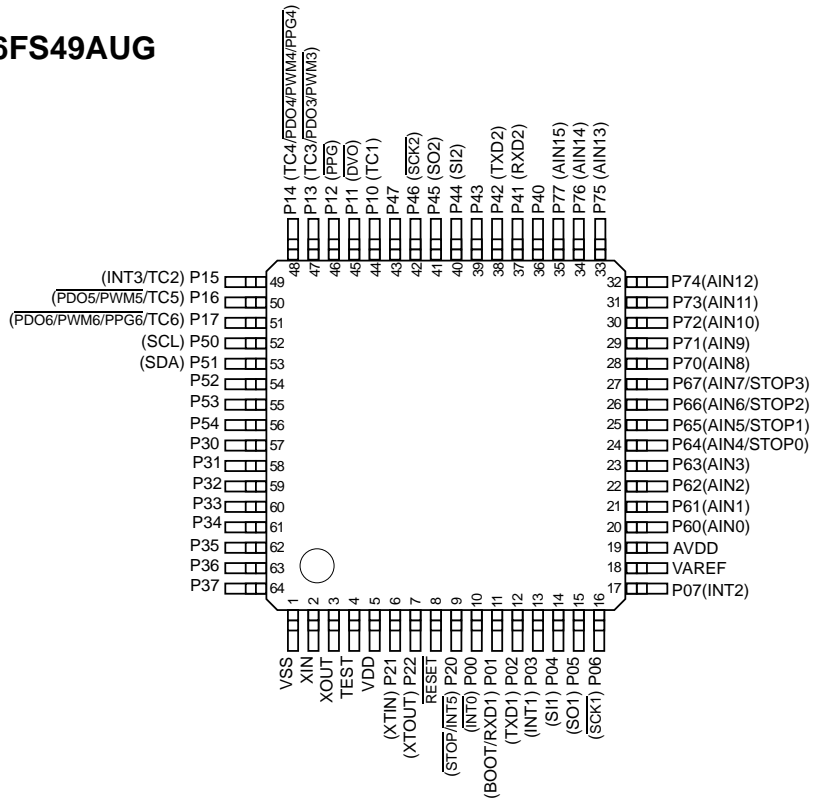
MAIN BOARD

IC207: MEMORY 24C1024 SOIC8



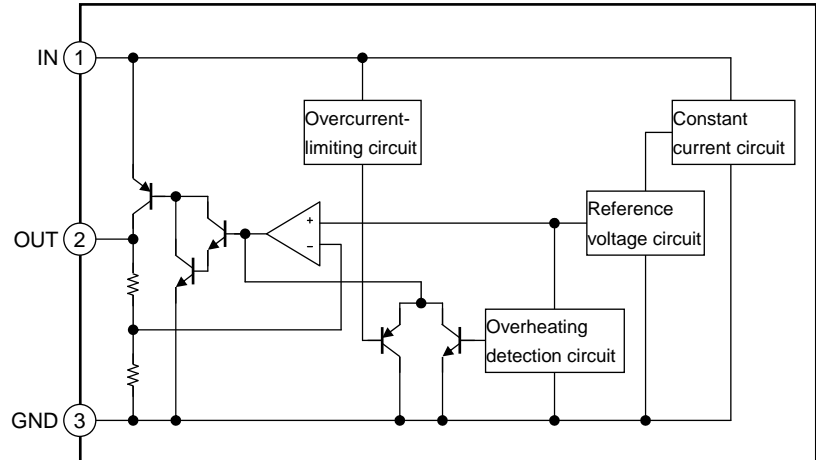
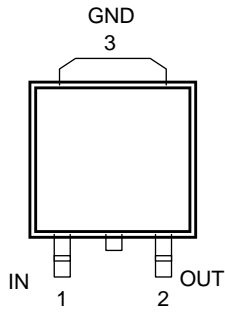
MAIN BOARD

IC206: MCU TMP86FS49AUG



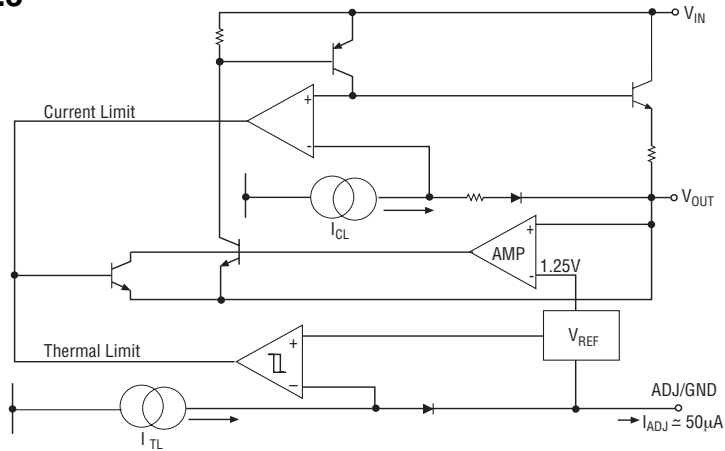
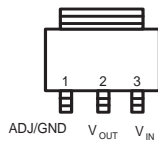
MAIN BOARD

IC209: REGULATOR TA48015F



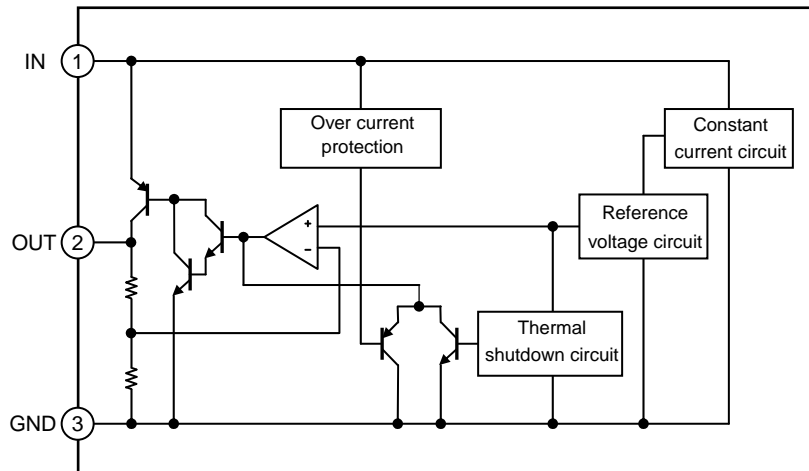
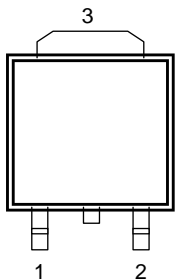
MAIN BOARD

IC204, IC208: LM1117S-3.3



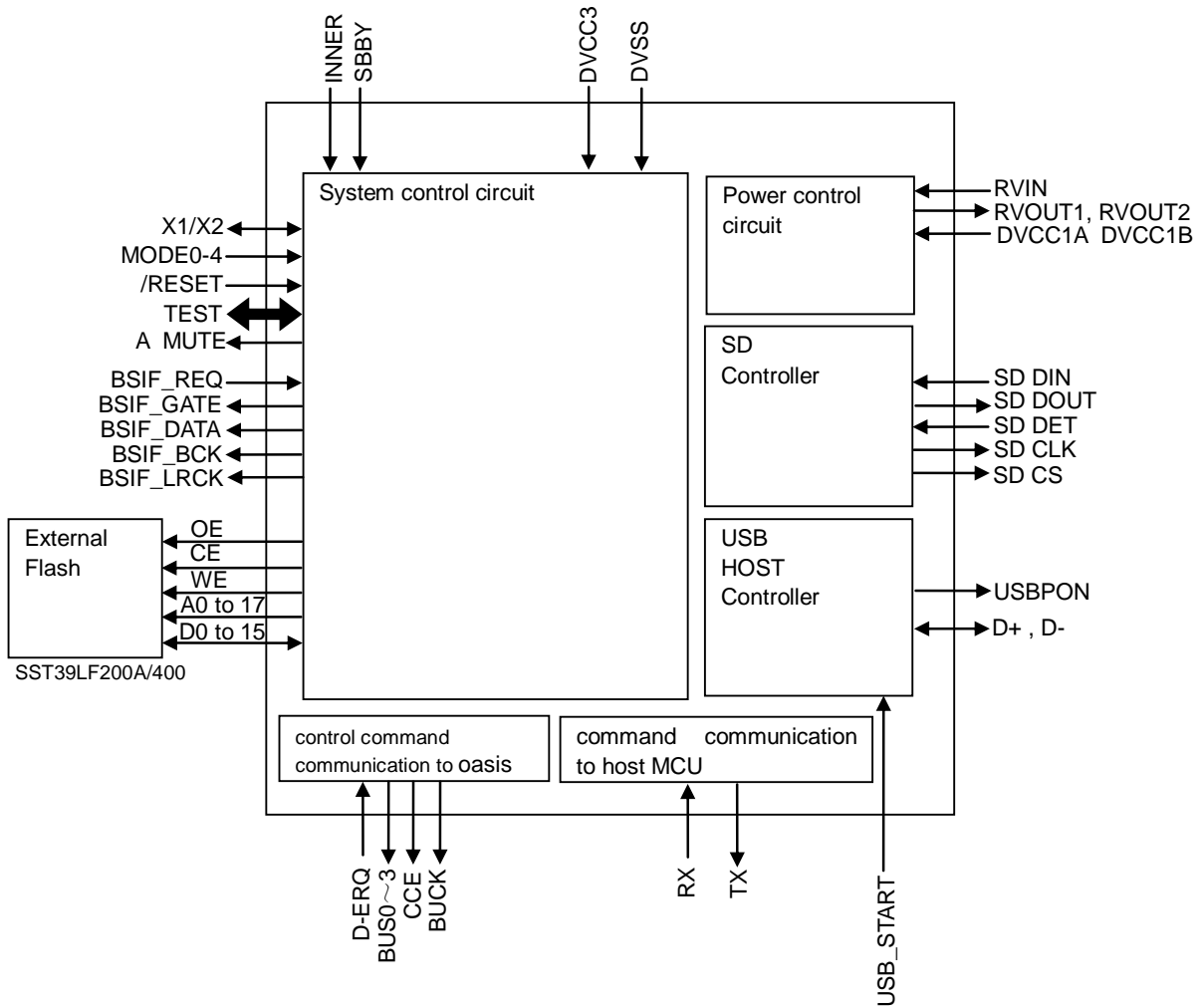
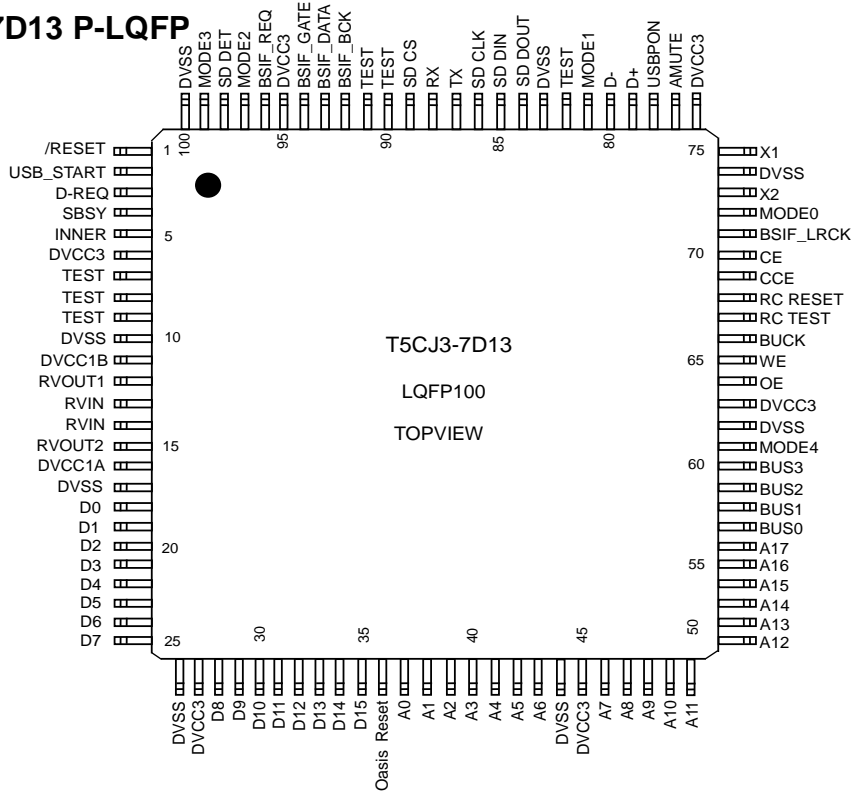
SERVO BOARD

IC6: REGULATOR TA48033BF



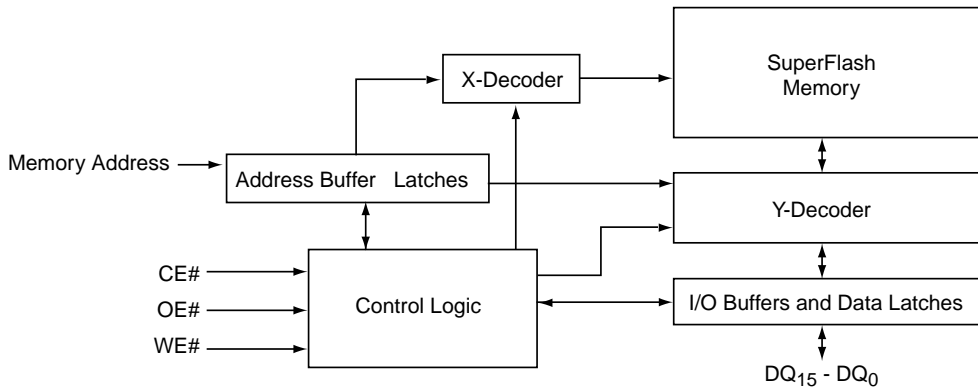
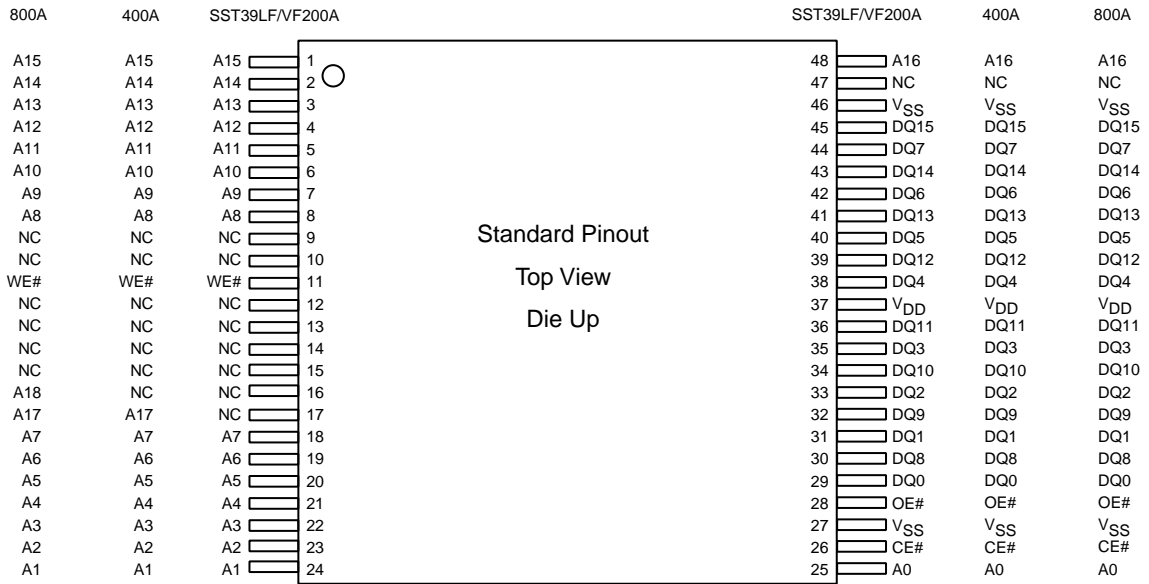
SERVO BOARD

IC703: DSP T5CJ3-7D13 P-LQFP



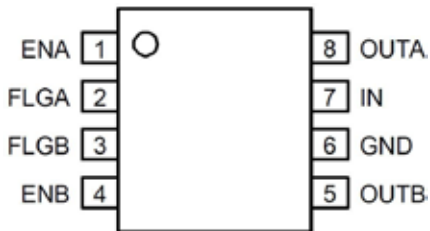
SERVO BOARD

IC707: MULTI-PURPOSE FLASH



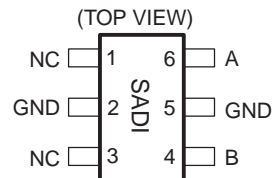
SERVO BOARD

U11: DUAL CH POWER DIST SW

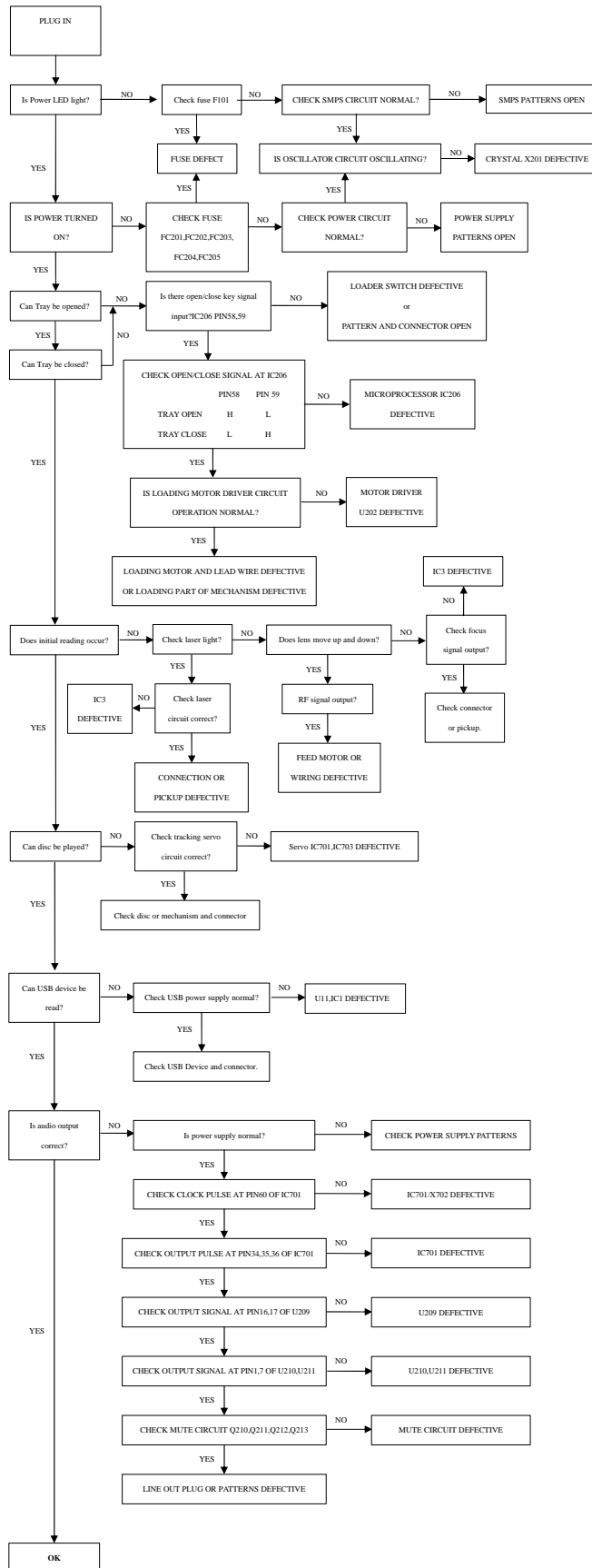


SERVO BOARD

CN4: POWER TRANSIENT VOL



TROUBLESHOOTING GUIDE



ELECTRICAL PARTS LIST

<u>Location</u>	<u>Part Number</u>	<u>Description</u>
PCB ASSY MAIN		
A *AH	PCB-C54616+MAIN	PCB ASSY MAIN US C546
A *C	PCB-C54626+MAIN	PCB ASSY MAIN EU
PC BAORD		
H1	1726-072A+000C	PCB MAIN COB HAL PTH SS
CAPACITOR		
C10	157D-107M+K-LUNY	CE 16V 100U 20% RLT 6.3X
C109	150F-103K+2-DC	CC 50V 0.01U 10% AT
C11	153I-224J+V-NL	CM 63V 0.22U 5% RBT
C111	150F-104K+2-FC	CC 50V 0.1UF 10% AT
C112	150F-102K+2-DC	CC 50V 1000P 10% AT
C113	157T-475M+5-S5T	CE 400V 4.7U 20% RL
C114	157D-336M+5-GM	CE 16V 33UF 20% RL 4X7
C115	157T-475M+5-S5T	CE 400V 4.7U 20% RL
C116	150T-222M+5-SIQZ	CC 400V 2200P 20% RL P10
C12	153I-224J+V-NL	CM 63V 0.22U 5% RBT
C13, C14	153H-224K+V-NNMJ	CM 100V 0.22U 10% RBT
C15	157D-106M+K-IU	CE 16V 10U 20% RLT 5X11
C16	157Q-476M+5-LUA	CE 35V 47U 20% RL 6.5X11
C17	8910-0091+0	CC 400V 0.01UF +-20% RL
C18	157D-227M+K-OME	CE 16V 220U 20% RLT 8X7
C201	153F-152J+K-JM	CM 50V 1500P 5% RLT
C203	157E-106M+K-IUE	CE 25V 10U 20% RLT P5.0
C204	150F-104K+P-AC	CC 50V 0.1uF 10%
C205	150F-105K+J-BD	CC 50V 1U 10% 0805
C208	157D-106M+K-IU	CE 16V 10U 20% RLT 5X11
C209	150F-104K+P-AC	CC 50V 0.1uF 10%
C210	153Z-224K+F-6O	CM 275V 0.22UF 10% RLS
C211	150T-222M+5-SK	CC 400V 2200P 20% RL
C212	15CH-220J+P-AC	CTC 0/60 22pF 5% 0603
C213	150F-104K+P-AC	CC 50V 0.1uF 10%
C214	157F-105M+K-GM	CE 50V 1U 20% RLT 4X7
C215	150F-104K+P-AC	CC 50V 0.1uF 10%
C216	157D-107M+K-IUE	CE 16V 100U 20% RLT 5X11
C217, C218	150F-104K+P-AC	CC 50V 0.1uF 10%
C219	157D-477M+K-OVE	CE 16V 470U 20% RLT
C220	157D-107M+K-IUE	CE 16V 100U 20% RLT 5X11
C221, C222	150F-104K+P-AC	CC 50V 0.1uF 10%

Location	Part Number	Description
C223	157C-477M+K-OVE	CE 10V 470U 20% RLT
C224	150F-681J+P-AC	CC 50V 680P 5% 0603
C225	150F-103J+P-AC	CC 50V 0.01U 5% 0603
C226	157C-228M+5-S9	CE 10V 2200uF 20% RL
C227	150F-104K+P-AC	CC 50V 0.1uF 10%
C228	150F-102J+P-AC	CC 50V 1000P 5% 0603 X7R
C229	150F-104K+P-AC	CC 50V 0.1uF 10%
C230	157Q-108M+K-X&TR	CE 35V 1000U 20% RLT
C231	150H-104K+P-AC	CC 100V 0.1U 10% 0603
C232	150F-104K+P-AC	CC 50V 0.1uF 10%
C233	157Q-108M+K-X&TR	CE 35V 1000U 20% RLT
C234	150F-104K+P-AC	CC 50V 0.1uF 10%
C235	157E-477M+K-OV	CE 25V 470U 20% RLT
C236	150F-104K+P-AC	CC 50V 0.1uF 10%
C237	157E-477M+K-OV	CE 25V 470U 20% RLT
C238	157D-477M+K-OVE	CE 16V 470U 20% RLT
C239	150F-104K+P-AC	CC 50V 0.1uF 10%
C240	157D-227M+K-OME	CE 16V 220U 20% RLT 8X7
C241, C242, C244	150F-104K+P-AC	CC 50V 0.1uF 10%
C243	157E-478M+5-5\$T	CE 25V 4700U 20% RL
C245	157E-108M+K-S9E	CE 25V 1000U 20% RLT
C246	150F-104K+P-AC	CC 50V 0.1uF 10%
C247	157E-477M+K-OV	CE 25V 470U 20% RLT
C248	150F-104K+P-AC	CC 50V 0.1uF 10%
C249	157D-227M+K-OME	CE 16V 220U 20% RLT 8X7
C250	150F-104K+P-AC	CC 50V 0.1uF 10%
C251	157E-477M+K-OV	CE 25V 470U 20% RLT
C252	150F-104K+P-AC	CC 50V 0.1uF 10%
C253	157D-227M+K-OME	CE 16V 220U 20% RLT 8X7
C254	157I-107M+5-SX	CE 63V 100uF 20% RL
C255, C257	157F-476M+K-LUG	CE 50V 47U 20% GS
C258	157E-108M+K-S9E	CE 25V 1000U 20% RLT
C259	157E-476M+K-IUE	CE 25V 47U 20% RLT 5X11
C264, C265, C266, C267, C268, C269	157E-336M+K-LUNE	CE 25V 33U 20% RLT 6.3X1
C270, C271, C272, C273	157E-106M+K-IUE	CE 25V 10U 20% RLT P5.0
C274	150F-104K+P-AC	CC 50V 0.1uF 10%
C277	157D-107M+K-LUNY	CE 16V 100U 20% RLT 6.3X
C278, C279	150F-104K+P-AC	CC 50V 0.1uF 10%
C280	150F-473K+P-AC	CC 50V 0.047uF 10% 0603
C283, C284	15CH-330J+P-AC	CTC 0/60 33pF 5% 0603
C285	157D-107M+K-LUNY	CE 16V 100U 20% RLT 6.3X
C286, C287, C288, C289, C290, C291, C292, C293, C294	150F-104K+P-AC	CC 50V 0.1uF 10%
C295	150F-101J+P-AC	CC 50V 100P 5% 0603/1608

Location	Part Number	Description
C296	150F-561K+P-AC	CC 50V 560P 10%
C297, C298	150F-181K+P-AC	CC 50V 180P 10% 0603
C299	150F-561K+P-AC	CC 50V 560P 10%
C301, C302	150F-104K+P-AC	CC 50V 0.1uF 10%
C303	150F-101J+P-AC	CC 50V 100P 5% 0603/1608
C304	150F-561K+P-AC	CC 50V 560P 10%
C305, C306	150F-181K+P-AC	CC 50V 180P 10% 0603
C307	150F-561K+P-AC	CC 50V 560P 10%
C308, C309	150F-104K+P-AC	CC 50V 0.1uF 10%
C310	157C-107M+K-IURT	CE 10V 100U 20% RLT 5X11
C311	150F-104K+P-AC	CC 50V 0.1uF 10%
C312	157D-108M+K-S5	CE 16V 1000U 20% RLT 10x
C313	150F-104K+P-AC	CC 50V 0.1uF 10%
C314	157D-477M+K-OVE	CE 16V 470U 20% RLT
C315	150F-103J+P-AC	CC 50V 0.01U 5% 0603
C316	157D-107M+K-IUE	CE 16V 100U 20% RLT 5X11
C317, C318	15CH-220J+P-AC	CTC 0/60 22pF 5% 0603
C321	150F-104K+P-AC	CC 50V 0.1uF 10%
C323, C324	157F-105M+K-GME	CE 50V 1U 20% RLT 4X7
DIODE		
D105, D107	4840-8530+2	RECTIFIER UF4006-T GI AT
D108	4801-A600+2	DIODE SCHOTTKY 60V 2A
D11	4804-1480+C	DIODE 1N4148M-A(WA) ATS
D12	4804-0010+2	DIODE W1N4001-A(WA) AT
D13	4804-1480+2	DIODE 1N4148T AT
D14, D15	4804-1480+C	DIODE 1N4148M-A(WA) ATS
D16	480R-1600+C	DIODE SCHOTTKY 60V 1.0A
D17	4804-0070+2	DIODE IN4007-F AT
D2	4804-0010+2	DIODE W1N4001-A(WA) AT
D201	4811-111A+3	LIGHT TX JST1111A
D203	4837-4V76+2	DZ 1/2W 4.7V TEMIC AT
D204, D205	4840-0490+0	BRIDGE RECTIFIER RB152-B
D206	4840-1140+0	DZ 1.3W 3.3V 5% AT
D207	4804-1480+3	DIODE LL4148 SM
D208	4840-0490+0	BRIDGE RECTIFIER RB152-B
D209	4804-0010+2	DIODE W1N4001-A(WA) AT
D21	4804-0070+2	DIODE IN4007-F AT
D210	4804-0010+2	DIODE W1N4001-A(WA) AT
D211	4837-30D1+2	DZ 1/2W 29.02-30.51V
D212	4804-1480+3	DIODE LL4148 SM
D213, D214	4804-1480+C	DIODE 1N4148M-A(WA) ATS
D218	4804-0010+2	DIODE W1N4001-A(WA) AT
D22, D23	4804-0070+2	DIODE IN4007-F AT

Location	Part Number	Description
D238, D239	4804-1480+2	DIODE 1N4148T AT
D24	4804-0070+2	DIODE IN4007-F AT
D3	4840-9050+3	DIODE SCHOTTKY SM330A
D5	480R-1600+C	DIODE SCHOTTKY 60V 1.0A
D6	4804-0010+2	DIODE W1N4001-A(WA) AT
D7	4804-1480+C	DIODE 1N4148M-A(WA) ATS
D8	4804-1480+2	DIODE 1N4148T AT
Q6	4802-02K0+3	DIODE SW 80V 300MA
WAFER/SOCKET		
CN103	2102-040S+003	WAFER 4P P2.0 STRAIGHT
CN1A	2102-100S+003	WAFER 10 PIN P2
J209	2101-9400+0	JM2422-3M WAFER
J215	2101-3149+0	CONNECTOR FFC 15P P1.25
J220	2102-030S+003	3P ST.WAFER P=2.0
SW201	2101-1495+0	WAFER 3PIN P=2.54 ST 6MM
JACK/SOCKET		
J214	2113-2036+0	PHONE JACK D315 BK
RCA202	2113-3203+0	SOCKET RCA COAXAL
COIL		
L102	1807-273J+PS	COIL 27MH 5% 8.3X9.7
L103, L203	1807-100Q+P-K	FERRITE COIL 10UH 15%
L2	1808-0680+0	FERRITE BEAD INDUCTOR
L202	1806-4041+0000	CHOKE COIL 7.7MH 10%
L204, L205	1808-0887+0	FERRITE BEAD 1.25X2 0805
L4, L5	1808-0680+0	FERRITE BEAD INDUCTOR
CRYSTAL		
X201	2300-2990+0	X'TAL 8MHZ HC-49/U-S
RELAY		
RL202	4500-0762+0	RELAY 5VDC 10A SPDT
TRANSISTOR		
Q1, Q2	4860-0640+3	TR 3904 HFE 100-300 SM
Q10	4852-874B+K	TR NPN KTC2874 HFE
Q205	4860-0700+K	TR KTC3198 - GR
Q206	4851-4570+5	TR PNP 2SB1457 TO-92 RL
Q207	4860-0050+K	TR SS8050 C/D RLT
Q208, Q209	4860-2390+K	TR 2N3906 RLT TO92
Q210, Q211, Q212, Q213	4852-874B+K	TR NPN KTC2874 HFE
Q215	485B-9080+3	TR PNP 2SB908 2000

Location	Part Number	Description
Q216	4852-458G+K	TR KTC3198 - GR
Q9	4860-0060+K	TR SS8550 C/DTA RLT
RESISTOR		
R1	4723-472A+P	RMG 1/16W 4.7K 1%.
R117	4711-123A+2	RMF 1/8W 12K 1% AT
R139	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R140	4711-102A+2	RMF 1/8W 1K 1% AT
R15, R16, R17	4720-100A+J	RMG 1/10W 10R 1% 0805
R2, R204	4723-472A+P	RMG 1/16W 4.7K 1%.
R205, R206, R207, R208	4723-220A+P	RMG 1/16W 22R 1% 0603
R209	4723-472A+P	RMG 1/16W 4.7K 1%.
R21	4715-152A+2	RMF 1/4W 1.5K 1% AT
R212	4723-470A+P	RMG 1/16W 47R 1% 0603
R213, R214, R215, R216	4723-100A+P-R	RMG 1/16W 10R 1% 0603
R217	4723-121A+P-R	RMG 1/16W 120R 1% 0603
R218	4723-471A+P-R	RMG 1/16W 470R 1% 0603
R219	4723-121A+P-R	RMG 1/16W 120R 1% 0603
R22	4718-104J+2	RMF 1W 100K 5% AT
R220	4723-100A+P-R	RMG 1/16W 10R 1% 0603
R222	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R23	4711-101A+2	RMF 1/8W 100R 1% AT
R24	4711-103A+2	RMF 1/8W 10K 1% AT
R241, R243	4711-102A+2	RMF 1/8W 1K 1% AT
R244	4723-221A+P	RMG 1/16W 220R 1%
R245	4723-152A+P-R	RMG 1/16W 1.5K 1% 0603
R246	4723-331A+P	RMG 1/16W 330R 1% 0603
R247	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R248	4723-182A+P-R	RMG 1/16W 1.8K 1% 0603
R249	4723-152A+P-R	RMG 1/16W 1.5K 1% 0603
R25	4720-912A+J	RMG 1/10W 9.1K 1% 0805
R250	4723-182A+P-R	RMG 1/16W 1.8K 1% 0603
R251, R252, R253	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R254	4723-000J+P-R	RMG 1/16W 0R 5% 0603
R26	4720-153A+J	RMG 1/10W 15K 1% 0805
R260, R261	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R262	4711-122A+2	RMF 1/8W 1.2K 1% AT
R263	4723-473A+P-R	RMG 1/16W 47K 1% 0603
R265, R266, R267	4723-472A+P	RMG 1/16W 4.7K 1%.
R268	4723-104A+P-R	RMG 1/16W 100K 1% 0603
R27	4711-103A+2	RMF 1/8W 10K 1% AT
R270	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R271	4723-102A+P	RMG 1/16W 1K 1%
R272	4723-472A+P	RMG 1/16W 4.7K 1%.

Location	Part Number	Description
R273	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R274, R275, R276	4723-104A+P-R	RMG 1/16W 100K 1% 0603
R277	4723-471A+P-R	RMG 1/16W 470R 1% 0603
R278	4723-104A+P-R	RMG 1/16W 100K 1% 0603
R279	4723-101A+P	RMG 1/16W 100R 1% 0603
R28	4723-202A+P	RMG 1/16W 2K 1%
R280	4723-101A+P	RMG 1/16W 100R 1% 0603
R281, R282	4723-272A+P	RMG 1/16W 2.7K 1%
R283, R284, R285, R286	4723-472A+P	RMG 1/16W 4.7K 1%.
R288	4723-473A+P-R	RMG 1/16W 47K 1% 0603
R289	4711-102A+2	RMF 1/8W 1K 1% AT
R29	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R290	4711-103A+2	RMF 1/8W 10K 1% AT
R291, R292, R293, R294	4723-472A+P	RMG 1/16W 4.7K 1%.
R295	4723-104A+P-R	RMG 1/16W 100K 1% 0603
R296, R297	4723-221A+P	RMG 1/16W 220R 1%
R299	4723-331A+P	RMG 1/16W 330R 1% 0603
R3	4723-472A+P	RMG 1/16W 4.7K 1%.
R300	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R302	4711-220A+2	RMF 1/8W 22R 1% AT
R303, R304, R305	4723-472A+P	RMG 1/16W 4.7K 1%.
R306	4711-472A+2	RMF 1/8W 4.7K 1% AT
R307	4723-101A+P	RMG 1/16W 100R 1% 0603
R308	4723-104A+P-R	RMG 1/16W 100K 1% 0603
R31	4723-473A+P-R	RMG 1/16W 47K 1% 0603
R310, R311	4723-472A+P	RMG 1/16W 4.7K 1%.
R314, R315, R316, R317	4723-220A+P	RMG 1/16W 22R 1% 0603
R318	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R319	4723-104A+P-R	RMG 1/16W 100K 1% 0603
R32	4723-222A+P	RMG 1/16W 2.2K 1%
R321	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R322, R323	4723-562A+P	RMG 1/16W 5.6K 1%
R324, R325	4723-752A+P	RMG 1/16W 7.5K 1%
R326, R327	4723-332A+P-R	RMG 1/16W 3.3K 1% 0603
R328, R329	4723-562A+P	RMG 1/16W 5.6K 1%
R33	4717-335J+2-S1	RMF 1/2W 3.3M 5% AT
R330, R331	4723-752A+P	RMG 1/16W 7.5K 1%
R332, R333	4723-332A+P-R	RMG 1/16W 3.3K 1% 0603
R334, R335	4711-472A+2	RMF 1/8W 4.7K 1% AT
R336, R337	4723-242A+P	RMG 1/16W 2.4K 1% 0603
R338	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R339	4723-622A+P	RMG 1/16W 6.2K 1%
R34	4723-102A+P	RMG 1/16W 1K 1%
R340	4723-470A+P	RMG 1/16W 47R 1% 0603

<u>Location</u>	<u>Part Number</u>	<u>Description</u>
R341	4723-622A+P	RMG 1/16W 6.2K 1%
R342	4723-470A+P	RMG 1/16W 47R 1% 0603
R343	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R344, R345	4723-473A+P-R	RMG 1/16W 47K 1% 0603
R346, R347	4723-470A+P	RMG 1/16W 47R 1% 0603
R348, R349	4723-101A+P	RMG 1/16W 100R 1% 0603
R35	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R350, R351, R352, R353, R356	4723-472A+P	RMG 1/16W 4.7K 1%.
R357	4720-100A+J	RMG 1/10W 10R 1% 0805
R4	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R5	4723-222A+P	RMG 1/16W 2.2K 1%
R51	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R6	4723-472A+P	RMG 1/16W 4.7K 1%.
R7	4723-222A+P	RMG 1/16W 2.2K 1%
SPK	4705-472J+C	RCF 1/4W 4.7K 5% ATS
<i>IC</i>		
IC202	3130-2020+2	IC NJM7805FA-#ZZZB
IC203	3130-2520+2	IC NJM7812FA-#ZZZB
IC204, IC208	3132-2821+0	IC LM1117S-3.3
IC206	3132-6791+0-20	IC MCU TMP86FS49AUG
IC207	3132-1441+1	IC MEMORY EEPROM
IC209	3132-6740+0	IC REGULATOR TA48015F
U1	3131-3970+0	IC DS1233DZ-5+T&R
U101	3132-8411+0-11	IC POWER NCP1015AP100G
U102	3132-2981+0	IC ADJUST SHUNT REG
U2	3130-2020+2	IC NJM7805FA-#ZZZB
U201	3131-9100+0	IC SN74HCU04D (SOP)
U202	3131-7990+0	IC TA7291SG(5/M)22240239
U203	3131-5160+0	IC DUAL VOLTAGE
U204	3130-3800+0	IC NJM7912FA-#ZZZB
U205	3132-8051+0	IC REGULATOR NJM7809FA
U206	3132-4321+0	IC 6V 3-TERMINAL REGULAT
U207	3130-2020+2	IC NJM7805FA-#ZZZB
U209	3131-9940+0	IC D/A CONVERTER WM8740E
U210, U211	3131-7620+0	IC OPA2134PA DIP OP AMP
U3	3131-9330+0	IC QUAD 2INPUT EXCLUSIVE
<i>HEATSINK</i>		
H201	5400-1702+0	HEATSINK 23.5X17X50
H202, H203, H204, H206	5400-9130+0	HEAT SINK FOR 7805 2438-
H207	5400-1702+0	HEATSINK 23.5X17X50

<u>Location</u>	<u>Part Number</u>	<u>Description</u>
SCREW		
Screw001	2954-3008+0000	SCREW B-TITE BIND M3X8
Screw002	2954-2606+0000	SCREWS BT 2.6X6
MISCELLANEOUS		
AC201	7013-2341+0	WIRE-CONN 2P P7.92 #18
CON201	2101-3235+0	CONNECTOR FFC 18P P1.25
EMI	1808-0830+0	EMI CORE GSRC-110-B
F101	5120-1169+0-C	FUSE 0.8A 250V 8.35X4.3
FC201, FC202, FC203, FC204, FC205	4131-9131+0	FUSE HOLDER 6.5MM PITCH
HT	2601-2604+0471	FIBRE WASHER M2.6X0.4X4.
IC206	3000-9812+0	BLANK LABEL (5X10)
IC206	312A-1250+04	SOFTWARE MCU V0.4.9 6CFE
IC206-S	3005-5361+0	RIBBON 60MMX300M BLACK
J210	2101-3233+0	WAFER SOCKET 11P P3.96
J216	2113-2036+1	JACK PHONE 4P RED D315
J219	2101-3256+0	CONNECTOR FFC 6P P1.0
P202, P203, P204, P205	4132-1061+0	SOLDER TAG
RCA201	2113-2021+2	JACK RCA 1P ORANGE
T100	1806-4170+0008	TRANSFORMER SW 230V 3W
U116	481C-817A+3	PHOTOCOUPLER LTV817A
PCB ASSY KEY		
C	PCB-C54626+KEY	PCB ASSY KEY EU C546
PC BOARD		
I1	1726-072A+000C	PCB MAIN COB HAL PTH SS
CAPACITOR		
C1, C101	150F-104K+P-AC	CC 50V 0.1uF 10%
C102	157D-106M+K-GME	CE 16V 10U 20% RLT 4X7
C103	150F-104K+P-AC	CC 50V 0.1uF 10%
C104	157F-105M+K-GM	CE 50V 1U 20% RLT 4X7
C105	150F-104K+P-AC	CC 50V 0.1uF 10%
C106, C107	150F-470J+P-AC	CC 50V 47P 5% 0603 1x2
C2, C3, C4, C5	150F-100J+P-AC	CC 50V 10P 5% 0603
DIODE		
D103	4840-9233+3	DIODE FAST DAN202K
Z101	4837-5B61+2	DZ 1/2W 5.45-5.73 ROHM
WAFER/SOCKET		
CN102B	2102-040R+J01	WAFER 4P P2.0 90DEG

<u>Location</u>	<u>Part Number</u>	<u>Description</u>
JP110	2102-040S+003	WAFER 4P P2.0 STRAIGHT
TRANSISTOR		
Q102	485C-1140+3	TR DTC114YKA 2216470R2
Q3, Q4	4860-0640+3	TR 3904 HFE 100-300 SM
RESISTOR		
R10	4720-330A+J	RMG 1/10W 33R 1% 0805
R103	4720-471A+J	RMG 1/10W 470R 1% 0805
R104, R105	4711-471A+2	RMF 1/8W 470R 1% AT
R106	4720-332A+J	RMG 1/10W 3.3K 1% 0805
R107	4723-391A+P	RMG 1/16W 390R 1%
R108	4720-471A+J	RMG 1/10W 470R 1% 0805
R109	4720-821A+J	RMG 1/10W 820R 1% 0805
R11	4720-470A+J	RMG 1/10W 47R 1% 0805
R111	4723-391A+P	RMG 1/16W 390R 1%
R112	4720-471A+J	RMG 1/10W 470R 1% 0805
R113	4720-821A+J	RMG 1/10W 820R 1% 0805
R115	4711-473A+2	RMF 1/8W 47K 1% AT
R12, R13, R14	4720-330A+J	RMG 1/10W 33R 1% 0805
R156, R157	4723-472A+P	RMG 1/16W 4.7K 1%.
R158, R159	4723-220A+P	RMG 1/16W 22R 1% 0603
R18, R19	4723-472A+P	RMG 1/16W 4.7K 1%.
R20	4723-221A+P	RMG 1/16W 220R 1%
R30	4723-102A+P	RMG 1/16W 1K 1%
R8	4720-102A+J	RMG 1/10W 1K 1% 0805
R9	4720-220J+J	RMG 1/10W 22R 5% 0805
MISCELLANEOUS		
CON101	2101-3237+0	CONNECTOR FFC 18P P1.25
L101	1808-0887+0	FERRITE BEAD 1.25X2 0805
M101, M102	4135-8341+0	HOLDER-VFD TINNED STEEL
M103	4154-4881+1	CUSHION 21X8X2
REM101	4151-9671+1	SPONGE 12X10X3
REMO101	4816-043T+3	IR SENSOR KSM-603TM2
S1, S103, S104, S107, S108, S109	5200-4905+0	SW TACT 6X6 H=5 2P
VFD101	2460-2270+4	DISPLAY VFD-MODULE 110.2
PCB ASSY PLAY/SKIP		
D	PCB-C54626+SKIP	PCB ASSY PLAY/SKIP
PC BOARD		
J1	1726-072A+000C	PCB MAIN COB HAL PTH SS

<u>Location</u>	<u>Part Number</u>	<u>Description</u>
CAPACITOR		
C148, C149	150F-103J+P-AC	CC 50V 0.01U 5% 0603
MISCELLANEOUS		
JP109	7013-0490+1	WIRE-CONN 4P P2.0 #28 UL
T1	5200-4978+0	ENCODER PUSH ROTARY SPST
PCB ASSY SW1		
B	PCB-C54626+SW1	PCB ASSY SW1 EU C546
PC BOARD		
K1	1726-072A+000C	PCB MAIN COB HAL PTH SS
TRANSISTOR		
Q101	4860-0640+3	TR 3904 HFE 100-300 SM
RESISTOR		
R101	4720-472A+J	RMG 1/10W 4.7K 1% 0805
R102	4720-751A+J	RMG 1/10W 750R 1% 0805
R116	4723-101A+P	RMG 1/16W 100R 1% 0603
MISCELLANEOUS		
CN102A	7013-0530+0	WIRE-CONN 4P P2.0 #28
D4	3700-2858+AB	LED SP 5X5XL0.5 AM/BU
S3	5200-4905+0	SW TACT 6X6 H=5 2P
PCB ASSY USB		
E	PCB-C54626+USB	PCB ASSY USB EU C546
PC BOARD		
L1	1726-072A+000C	PCB MAIN COB HAL PTH SS
CAPACITOR		
C55	150F-104K+P-AC	CC 50V 0.1uF 10%
D10, D9	15CH-470J+P-AC	CTC 0/60 47PF 5% 0603
JACK/SOCKET		
CN2	2113-3205+0	SOCKET USB USB-A-S-01
MISCELLANEOUS		
GN_CH	7012-6965+1	WIRE-CONN 1P P2.0 #18
JP108	7013-0601+0	WIRE-SHILED 4P P2.0 #24

<u>Location</u>	<u>Part Number</u>	<u>Description</u>
<u>PCB ASSY SERVO</u>		
AB	PCB-C54626+SERVO	PCB ASSY SERVO EU C546
<u>PC BOARD</u>		
G	1725-970B+000B	PCB SERVO HAL PTH DS
<u>CAPACITOR</u>		
C1	150F-151J+P-AC	CC 50V 150P 5% 0603
C2	150F-560J+P-AC	CC 50V 56P 5% 0603
C25	157D-107M+K-IUE	CE 16V 100U 20% RLT 5X11
C26	157C-477M+K-OVTU	CE 10V 470U 20% RLT
C27	150F-104K+P-AC	CC 50V 0.1uF 10%
C28, C29	150F-471K+P-AC	CC 50V 470P 10%
C3	150F-682K+P-AC	CC 50V 6800P 10%
C4	150F-104J+P-AC	CC 50V 0.1U 5% 0603
C5	150F-750J+P-AC	CC 50V 75P 5% 0603
C51	157D-107M+K-IUE	CE 16V 100U 20% RLT 5X11
C52	150F-471K+P-AC	CC 50V 470P 10%
C53, C54	150F-104K+P-AC	CC 50V 0.1uF 10%
C56	150F-471K+P-AC	CC 50V 470P 10%
C59, C6	150F-104K+P-AC	CC 50V 0.1uF 10%
C60	157D-476M+K-IU	CE 16V 47U 20% RLT 5X11
C7, C701, C702	150F-104K+P-AC	CC 50V 0.1uF 10%
C703, C704	157C-107M+H-IUE	CE 10V 100U 20% RLR 5X11
C705, C706	150F-104K+P-AC	CC 50V 0.1uF 10%
C707	150F-222K+P-AC	CC 50V 2200pF 10% 0603 0
C708	150F-103J+P-AC	CC 50V 0.01U 5% 0603
C710	150F-104K+P-AC	CC 50V 0.1uF 10%
C711	150F-153J+P-AC	CC 50V 0.015U 5% 0603
C713, C714	150F-104K+P-AC	CC 50V 0.1uF 10%
C715	150F-103J+P-AC	CC 50V 0.01U 5% 0603
C716	150F-104K+P-AC	CC 50V 0.1uF 10%
C717	15CH-470J+P-AC	CTC 0/60 47PF 5% 0603
C718	150F-153J+P-AC	CC 50V 0.015U 5% 0603
C719	150F-104K+P-AC	CC 50V 0.1uF 10%
C720	157C-107M+H-IUE	CE 10V 100U 20% RLR 5X11
C721	150F-104K+P-AC	CC 50V 0.1uF 10%
C722	157C-107M+H-IUE	CE 10V 100U 20% RLR 5X11
C723, C724	150F-104K+P-AC	CC 50V 0.1uF 10%
C725	157C-107M+H-IUE	CE 10V 100U 20% RLR 5X11
C726, C727	150F-220K+P-AC	CC 50V 22pF 10%
C728	150F-104K+P-AC	CC 50V 0.1uF 10%
C730	157C-107M+H-IUE	CE 10V 100U 20% RLR 5X11
C731	150F-104K+P-AC	CC 50V 0.1uF 10%

Location	Part Number	Description
C732	157C-107M+H-IUE	CE 10V 100U 20% RLR 5X11
C733	150F-104K+P-AC	CC 50V 0.1uF 10%
C734, C735	150F-681J+P-AC	CC 50V 680P 5% 0603
C737	150F-562J+J-BD	CC 50V 5600pF 5% 0805 1.
C738	150F-104K+P-AC	CC 50V 0.1uF 10%
C739	157D-476M+K-IU	CE 16V 47U 20% RLT 5X11
C74, C740	150F-104K+P-AC	CC 50V 0.1uF 10%
C741	157C-107M+H-IUE	CE 10V 100U 20% RLR 5X11
C742	150E-333K+P-AC	CC 25V 0.033UF 10%
C743, C744	150F-473K+P-AC	CC 50V 0.047uF 10% 0603
C745, C746	150F-471J+P-AC	CC 50V 470P 5% 0603
C75	157E-477M+K-OV	CE 25V 470U 20% RLT
C756, C757	150F-104K+P-AC	CC 50V 0.1uF 10%
C758, C759	157C-477M+K-OVTU	CE 10V 470U 20% RLT
C76	157E-477M+K-OV	CE 25V 470U 20% RLT
C760, C761	150F-104K+P-AC	CC 50V 0.1uF 10%
C762	157C-477M+K-OVTU	CE 10V 470U 20% RLT
C763, C764	150F-220K+P-AC	CC 50V 22pF 10%
C765	150F-104K+P-AC	CC 50V 0.1uF 10%
C766, C767	157C-107M+H-IUE	CE 10V 100U 20% RLR 5X11
C768	150F-104K+P-AC	CC 50V 0.1uF 10%
C769	157C-107M+H-IUE	CE 10V 100U 20% RLR 5X11
C77, C770, C771, C772	150F-104K+P-AC	CC 50V 0.1uF 10%
C773	157C-107M+H-IUE	CE 10V 100U 20% RLR 5X11
C774, C775	150F-104K+P-AC	CC 50V 0.1uF 10%
C776	157D-476M+K-IU	CE 16V 47U 20% RLT 5X11
C777	150F-104K+P-AC	CC 50V 0.1uF 10%
C778, C779	157D-476M+K-IU	CE 16V 47U 20% RLT 5X11
C78	150F-104K+P-AC	CC 50V 0.1uF 10%
C780	157D-476M+K-IU	CE 16V 47U 20% RLT 5X11
C781	150F-104K+P-AC	CC 50V 0.1uF 10%
C782	157C-107M+H-IUE	CE 10V 100U 20% RLR 5X11
C783, C784	150F-104K+P-AC	CC 50V 0.1uF 10%
C785	157D-476M+K-IU	CE 16V 47U 20% RLT 5X11
C791	150F-104K+P-AC	CC 50V 0.1uF 10%
C8	157C-477M+K-OVTU	CE 10V 470U 20% RLT
WAFER/SOCKET		
J1	2102-050S+003	5P ST. WAFER P=2.0
J215	2101-3149+0	CONNECTOR FFC 15P P1.25
J220	2102-030S+003	3P ST.WAFER P=2.0
JP108	2102-040S+003	WAFER 4P P2.0 STRAIGHT

<u>Location</u>	<u>Part Number</u>	<u>Description</u>
JACK/SOCKET		
CN08	2113-1837+0	NPLG-6P-134 25055150
CRYSTAL		
X701	2300-3317+0	CRYSTAL 9.0MHZ +/-30PPM
X702	2300-0110+0	CRYSTAL 16.9344 MHZ
TRANSISTOR		
Q1	4852-668Y+U	TR NPN KTC3195
Q2	4860-0700+K	TR KTC3198
Q220	4852-668Y+U	TR NPN KTC3195
Q701	4851-362Y+3	TR PNP 2SA1362Y HFE
Q71	4851-4570+5	TR PNP 2SB1457 TO-92 RL
RESISTOR		
JR701	4723-000J+P-R	RMG 1/16W 0R 5% 0603
L706, L707, L708	4723-820A+P	RMG 1/16W 82R 1% 0603
R10	4723-101A+P	RMG 1/16W 100R 1% 0603
R11	4723-153A+P	RMG 1/16W 15K 1%
R12	4723-152A+P-R	RMG 1/16W 1.5K 1% 0603
R13, R14, R15	4703-101J+P-04	RCFA 1/16W 100RX4 5%
R16	4723-270A+P	RMG 1/16W 27R 1% 0603
R17	4723-152A+P-R	RMG 1/16W 1.5K 1% 0603
R18	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R19	4723-270A+P	RMG 1/16W 27R 1% 0603
R23	4723-330J+P-R	RMG 1/16W 33R 5% 0603
R24	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R25	4723-471A+P-R	RMG 1/16W 470R 1% 0603
R26	4723-152A+P-R	RMG 1/16W 1.5K 1% 0603
R29, R37	4723-000J+P-R	RMG 1/16W 0R 5% 0603
R30, R31, R32, R33, R34, R35, R36	4703-101J+P-04	RCFA 1/16W 100RX4 5%
R4	4723-153A+P	RMG 1/16W 15K 1%
R46	4723-223A+P-R	RMG 1/16W 22K 1% 0603
R48	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R5	4723-000J+P-R	RMG 1/16W 0R 5% 0603
R51	4723-104A+P-R	RMG 1/16W 100K 1% 0603
R52, R53	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R54	4723-104A+P-R	RMG 1/16W 100K 1% 0603
R55	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R56, R57	4723-101A+P	RMG 1/16W 100R 1% 0603
R6	4723-391A+P	RMG 1/16W 390R 1%
R63, R64	4723-101A+P	RMG 1/16W 100R 1% 0603
R66, R67	4723-000J+P-R	RMG 1/16W 0R 5% 0603
R7	4723-153A+P	RMG 1/16W 15K 1%

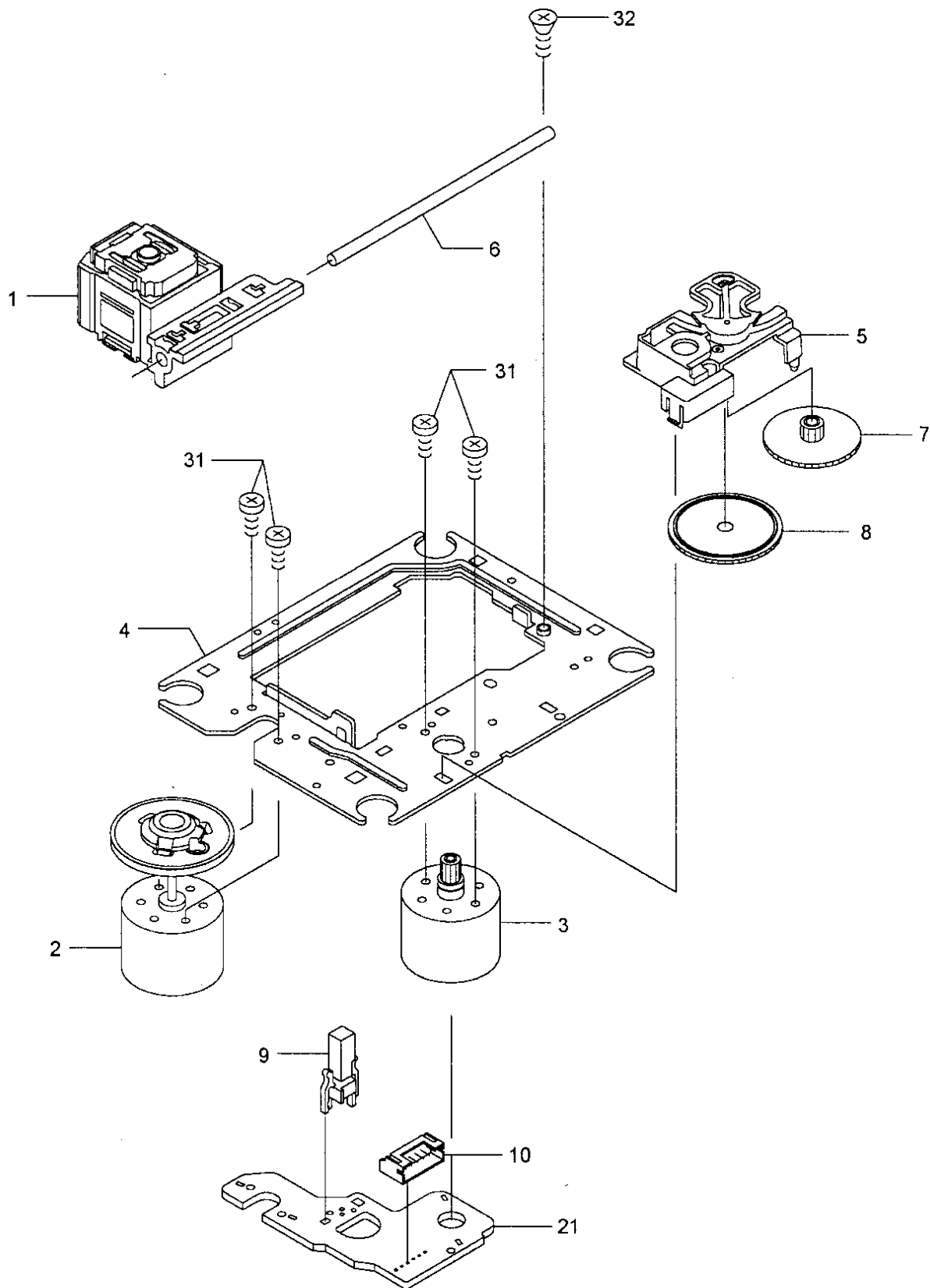
Location	Part Number	Description
R701	4723-4R7J+P	RMG 1/16W 4.7R 5%
R702	4723-104A+P-R	RMG 1/16W 100K 1% 0603
R703	4723-000J+P-R	RMG 1/16W 0R 5% 0603
R704	4723-221A+P	RMG 1/16W 220R 1%
R705	4723-473A+P-R	RMG 1/16W 47K 1% 0603
R706	4723-153A+P	RMG 1/16W 15K 1%
R707	4723-334J+P	RMG 1/16W 330K 5%
R708, R709	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R710, R711, R712, R713, R714, R715	4723-101A+P	RMG 1/16W 100R 1% 0603
R716	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R717, R718, R719	4723-101A+P	RMG 1/16W 100R 1% 0603
R720, R721, R722, R723, R724, R725	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R727, R728, R729, R731	4723-000J+P-R	RMG 1/16W 0R 5% 0603
R732, R733	4723-101A+P	RMG 1/16W 100R 1% 0603
R734	4723-105A+P	RMG 1/16W 1M 1% 0603
R735, R736	4723-220A+P	RMG 1/16W 22R 1% 0603
R737, R738, R739	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R742, R743, R744, R745	4723-101A+P	RMG 1/16W 100R 1% 0603
R746, R747, R748, R749	4723-000J+P-R	RMG 1/16W 0R 5% 0603
R750, R751, R752	4723-102A+P	RMG 1/16W 1K 1%
R753	4723-822A+P	RMG 1/16W 8.2K 1%
R756	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R757, R758, R759, R760, R761, R762	4723-101A+P	RMG 1/16W 100R 1% 0603
R763, R764	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R765	4723-000J+P-R	RMG 1/16W 0R 5% 0603
R766, R767	4723-101A+P	RMG 1/16W 100R 1% 0603
R768, R769, R771	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R772	4723-221A+P	RMG 1/16W 220R 1%
R773	4723-105A+P	RMG 1/16W 1M 1% 0603
R774, R775, R776, R777, R778, R779, R780, R781, R782	4723-101A+P	RMG 1/16W 100R 1% 0603
R783, R823	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R824, R825, R826, R827	4723-101A+P	RMG 1/16W 100R 1% 0603
R828	4723-102A+P	RMG 1/16W 1K 1%
R829	4723-103A+P-R	RMG 1/16W 10K 1% 0603
R830	4723-101A+P	RMG 1/16W 100R 1% 0603
R9	4723-102A+P	RMG 1/16W 1K 1%
IC		
CN4	3132-6770+0	IC POWER TRANSIENT VOL
IC1	3130-2020+2	IC NJM7805FA-#ZZZB
IC3	3132-8391+0	IC MOTOR DRVIER MM1669AH
IC6	3132-8621+0	IC REGULATOR TA48033BF
IC701	3132-8611+0-20	IC DSP TC94A93MFG LQFP80

<u>Location</u>	<u>Part Number</u>	<u>Description</u>
IC703	3132-8601+0-20	IC DSP T5CJ3-7D13 P-LQFP
IC707	3132-8591+0-31	IC MULTI-PURPOSE FLASH
U11	3132-6860+0-39	IC DUAL CH POWER DIST SW
MISCELLANEOUS		
CN1B	7012-7033+1	WIRE-CONN 10P P2.0 #26
CN701	2101-3102+0	CONNECTOR FFC 16PIN P1.0
IC707	312A-1260+01	SOFTWARE SERVO MCU V10 3
IC707-LB	3000-9812+0	BLANK LABEL (5X10)
IC707-S	3005-5361+0	RIBBON 60MMX300M BLACK
L10, L11, L703, L705, L709	1803-0066+0	LL1608-FS47NJ MULTILAYER

- NOTE:**
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 - <*AH > : USA, Canadian model only.
 - <*C > : European model only.
 - Capacitors : CP-Polystyrene, CM-Mylar, CE-Electrolytic, CC-Ceramic, CTC-NPO.
 - Resistors : RMF-Metal Film, RCF-Carbon Film, RWR-Wirewound Metal Oxide.

TRAVERSE EXPLODED VIEW

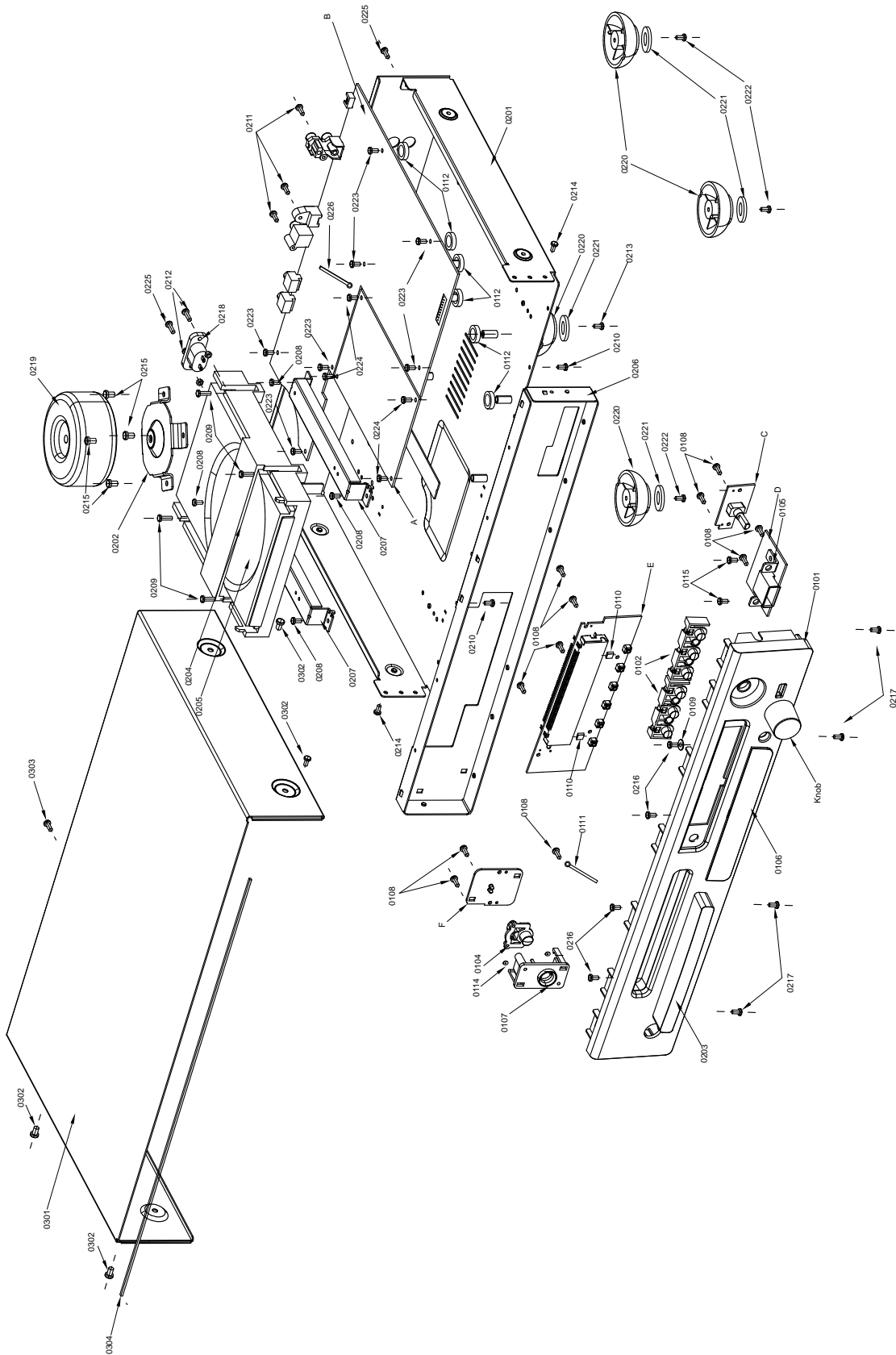
DA11VZ



TRAVERSE EXPLODED VIEW PARTS LIST NSP

<u>Item</u>	<u>Part No.</u>	<u>Description</u>	<u>Qty</u>
1		ASSY, PICKUP, LASER, P101NRVZ (P101VZ)	1
2		ASSY, MOTOR, SPINDLE	1
3		ASSY, MOTOR, SLED	1
4		CHASSIS	1
5		COVER, GEAR	1
6		SAHT, SLIDE	1
7		GEAR, MIDDLE	1
8		GEAR, DRIVE	1
9		SWITCH, LEAF	1
10		CONNECTOR-6P	1
21		MOTOR	1
31		SPECIAL SCREW M2.0uP.0	4
32		SPECIAL SCREW M2.6u6.0	1

EXPLODED VIEW



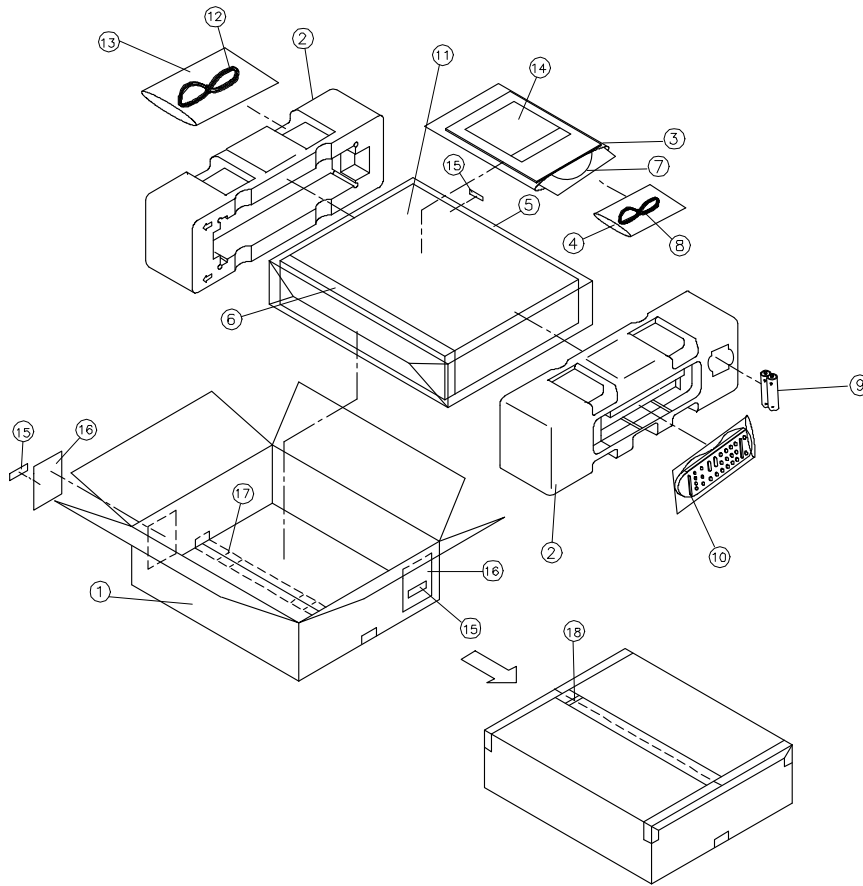
EXPLODED VIEW PARTS LIST

	<u>Item</u>	<u>P/N</u>	<u>Description</u>	<u>Q'ty</u>
Knob	* Grey	2448-0002+0	KNOB FRONT D25XH23.5 ABS	1
	* Titanium	2448-0001+0		
0101	* Grey	1468-3904+3	PANEL-FRONT ABS	1
	* Titanium	1468-3903+3		
0102	* Grey	2447-7201+0	BUTTOM TRIO INPUT FRONT	2
	* Titanium	2447-7202+0		
0103	* Grey	2447-7201+0	BUTTOM TRIO INPUT FRONT	1
	* Titanium	2447-7202+0		
0104	* Grey	2447-7301+0	BUTTON-POWER	1
	* Titanium	2447-7302+0		
0105		4135-7521+0	BRACKET-PHONE SECC	2
0106		3717-6811+0	LENS-DISPLAY	1
0107	* Grey	3717-7012+1	PC LENS FRONT	1
	* Titanium	3717-7011+1		
0108		2954-3008+3000	SCREW B-TITE BIND M3X8	11
0109		2600-3005+0800	WASHER	1
0110		4154-4881+1	CUSHION 21X8X2	2
0111		4135-3291+0	CLIP 27255004-1 CP701	1
0112		1808-0900+0	EMI CORE	6
0114		2611-3202+0801	PC WASHER	2
0115		2901-2605+3000	SCREW MACHINE FLAT-CS	2
0201	* C	1402-352S+2	CHASSIS MAIN SECC	1
	* AH	1402-352U+2		
0202		4104-3721+0	TRANSFORMER BRACKET	1
0203	* Grey	1468-4001+0	CD DOOR FRONT ABS	1
	* Titanium	1468-4002+0		
0204		SVC-C54516+MECH	DECKCD CDM DA11VZ	1
		SVC-C56516+MECH		
0206		4135-8331+1	STRIP-TOP 421X47X19 SECC	1
0207		4135-8351+0	BRACKET-CD SECC	1
0208		2904-3005+0000	SCREW M3X6	4
0209		2904-3010+3000	SCREW M3X10 (BLK)	4
0210	* Grey	2904-3005+3000	SCREW M3X6 BINDING (BLK)	2
	* Titanium	2904-3005+4000		
0211		2954-3008+3000	SCREW B-TITE BIND HEAD	3
0212		2904-3008+3000	SCREW M3X10 (BLK)	2
0213		2904-3008+3000	SCREW M3X8 (BLK)	1
0214		2904-3005+0000	SCREW M3X6	2
0215		2900-4006+3010	M4X0.5PX6MM	4
0216		2904-3005+0000	SCREW M3X6	4
0217	* Grey	2904-3005+3000	SCREW M3X6 BINDING (BLK)	4
	* Titanium	2904-3005+4000		
0218		2113-3317+0	SOCKET AC 2PIN 250V 7A	1
0219	△	1806-4047+0100	TRANSFORMER PWR	1
0220		4157-0501+1	RUBBER FOOT	4
0221		4152-4641+1	CUSHION FOOT W/RUBBER	4
0222		2954-3008+3000	SCREW M3X6 BINDING (BLK)	3
0223		2904-3006+0000	SCREW M3X6	7
0224		2904-3006+0000	SCREW M3X6	4

<u>Item</u>	<u>P/N</u>	<u>Description</u>	<u>Q'ty</u>
0225	2954-3008+3000	SCREW B-TITE BIND HEAD	2
0226	4135-3291+0	CLIP 27255004-1 CP701	1
0301	* Grey 1402-3535+0	TOP COVER SILVER (C542)	1
	* Titanium 1402-3536+0		
0302	* Grey 2900-4006+3010	M4X0.5PX6MM	4
	* Titanium 2900-4006+2010		
0303	* Grey 2954-3008+3000	SCREW B-TITE BIND HEAD	1
	* Titanium 2954-3010+4000		
0304	4153-3331+0	EVA GASKET 5*500	1
A	SVC-C54616+SERVO	PCB ASSY SERVO	1
B	* C SVC-C54626+MAIN	PCB ASSY MAIN	1
	* AH SVC-C54616+MAIN		
C	SVC-C54616+SKIP	PCB ASSY PLAY/SKIP	1
D	SVC-C54616+USB	PCB ASSY USB EU C546	1
E	SVC-C54616+KEY	PCB ASSY KEY	1
F	SVC-C54616+SW1	PCB ASSY SW1 EU C546	1

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PACKING DIAGRAM



ITEM	P/N	DESCRIPTION	Q'TY
1	1439-5601+0-2	CARTON-SHIPPING	1
2	1490-4982+3	POLYFOAM PACK	2
3	1497-4122+0	P.BAG 10**14'	1
4	1497-1932+0	POLYBAG 04x5x9	1
5	1497-7492+0	HDPE BAG 600X600(OPEN)X0.04	1
6	4201-0010+0	NON WOVEN CLOTH BAG	1
7	4115-0026+0	CD-MANUAL C546	1
8	2103-7302+1	RCA PLUG (MALE)	1
9	4060-0930+0	GREENCELL AA SIZE GP15G	2
10	8912-0110+0	REMOTE CONTROL	1
11	1450-2520+0	WHITE PAPER A3-SIZE	1
12	* C 7012-9301+0	CORD-AC GS 250V 2.5A 2C	1
	* AH 7012-9331+0	CORD-AC UL 125V 7A 2C	
13	1497-5232+0	BAG-FOAM BUNG	1
14	* AH 3030-1225+1	WARRANTY CARD AH NICKEL	1
15	* C 3001-3029+0	LABEL-S/N 60X12 EU C546	3
	* AH 3001-3033+0	LABEL-S/N 60X12 US&CA C546	
	* AH Grey 3001-3035+0	LABEL-BARCODE	
16	* C Titanium 3001-3036+0	LABEL-BARCODE	2
	* C Grey 3001-3037+0	LABEL-BARCODE	
17	9500-0190+0	LOCK STAPLES 18MM	8
18	9500-0070+0	TAPE PP (PVC) 2INCH	1.5

Proprietary information for servicing purposes only. The information herein may not be used commercially without the prior written agreement of NAD Electronics International, Toronto, Canada.

HISTORY CHANGE

Old Part	New Part	Affected Part	Affected Serial NO.
2SD655F	KTC2874	Q10, Q210, Q211, Q212 and Q213	Start from G21C546BEET03506, except 3706~3874, 3878, 3879, 3881, 3894, 3895, 3917, 3922, 3925, 3929, 3935, 3940, 3953, 3975, 3982, 3987, 4015, 4018, 4020, 4030, 4072, 4175, 4179, 4198, 4247, 4333, 4341, 4401, 4428, 4519, 4535, 4539 and 4595
1726-072A+000B	1726-072A+000C	MCU PCB	Start from G23C546BEET04706, except 5368, 5369, 5371~5376, 5378, 5383, 5385, 5392, 5395, 5396, 5401 and 5402
SOFTWARE MCU V0.4.8	SOFTWARE MCU V0.4.9	SOFTWARE MCU	Start from G21C546BEET03506
SOFTWARE SERVO MCU V0.7	SOFTWARE SERVO MCU V1.0	SOFTWARE SERVO	Start from G21C546BEET03506

Note: the history change is collected before June 2012.