Service
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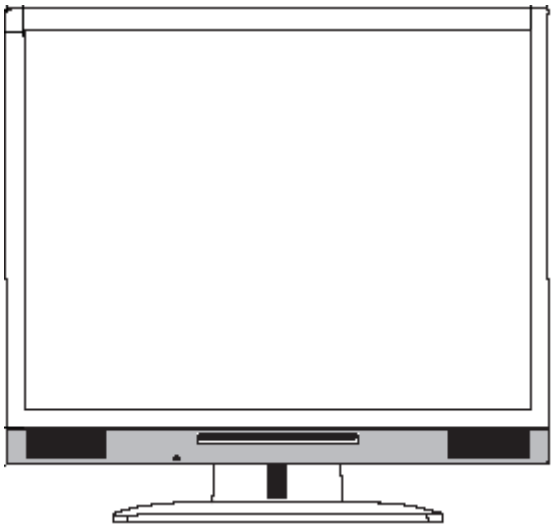
Service



Service Manual

TABLE OF CONTENTS

SAFETY NOTICE

ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFOMER FOR THIS UNIT WHEN SERVICING

Revision List

Revision	Date	Revision History	TPV Model
A00	Jun-19-06	Initial Release	TA90KSUHBYY3AP
			TA90KSUDBYY2AP

Important Safety Notice

Proper service and repair is important to the safe, reliable operation of all IIYAMA Company Equipment. The service procedures recommended by IIYAMA and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. IIYAMA could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, IIYAMA has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by IIYAMA must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.
Hereafter throughout this manual, IIYAMA Company will be referred to as IIYAMA.

WARNING

Use of substitute replacement parts, which do not have the same, specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from IIYAMA. IIYAMA assumes no liability, express or implied, arising out of any unauthorized modification of design.
Servicer assumes all liability.

FOR PRODUCTS CONTAINING LASER:
DANGER-Invisible laser radiation when open AVOID DIRECT EXPOSURE TO BEAM.
CAUTION-Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
CAUTION -The use of optical instruments with this product will increase eye hazard.

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE MANUAL.
Take care during handling the LCD module with backlight unit
-Must mount the module using mounting holes arranged in four corners.
-Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.
-Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
-Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
-Make certain that treatment person’s body is grounded through wristband.
-Do not leave the module in high temperature and in areas of high humidity for a long time.
-Avoid contact with water as it may a short circuit within the module.
-If the surface of panel becomes dirty, please wipe it off with a soft material. (Cleaning with a dirty or rough cloth may damage the panel.)

1. Monitor Specifications

LCD Panel	Driving system	a-Si TFT Active Matrix
	Size	Diagonal: 51cm / 20.1"
	Pixel pitch	0.255mm H × 0.255mm V
	Brightness	300cd/m² (Typical)
	Contrast ratio	900 : 1 (Typical)
	Viewable angle	Right / Left / Up / Down: 89 degrees each (Typical)
	Response time	16ms (Black, white, black), 8ms (Gray to Gray)
Display Colors		16,777,216 maximum
Sync Frequency		Analog: Horizontal 24.0-80.0kHz, Vertical 55-85Hz Digital: Horizontal 31.0-80.0kHz, Vertical 55-85Hz
Dot Clock		162MHz maximum
Maximum Resolution		1600 × 1200, 1.9 MegaPixels
Input Connector		D-Sub mini 15pin, DVI-D 24pin
Plug & Play		VESA DDC2B™
Input Sync Signal		Separate sync: TTL, Positive or Negative Composite sync: TTL, Positive or Negative Sync on green: 0.3Vp-p, Negative
Input Video Signal		Analog: 0.7Vp-p (Standard), 75Ω, Positive Digtal: DVI (Digital Visual Interface Standard Rev.1.0) compliance
Input Audio Connector		ø 3.5mm mini jack (Stereo)
Input Audio Signal		0.7Vrms maximum
Speakers		2.0W × 2 (Stereo speakers)

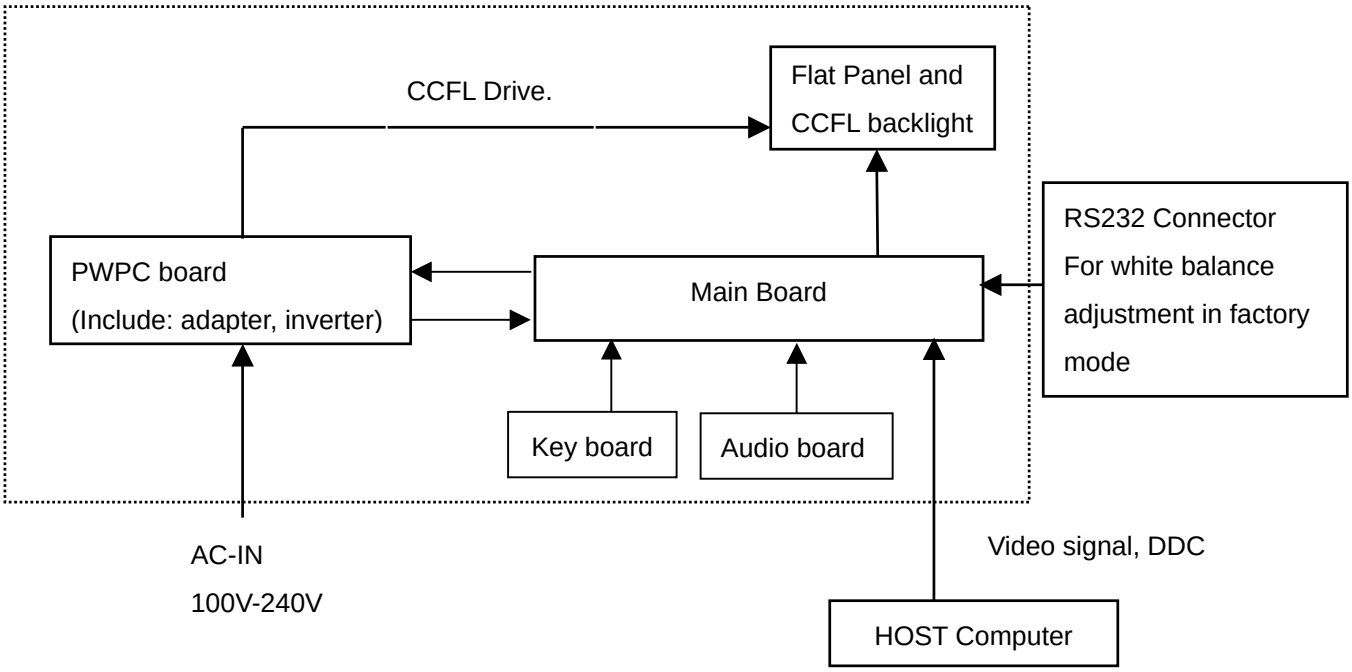
Headphone Connector	ø 3.5mm mini jack (Stereo)
Maximum Screen Size	408mm W × 306mm H / 16.1" W × 12" H
Power Source	100-240VAC, 50/60Hz, 1.5A
Power Consumption	55W maximum, Power management mode: 2W maximum*
Dimensions / Net Weight	446 × 423.5 × 215mm / 17.6 × 16.7 × 8.5" (W×H×D), 7.5kg / 16.5lbs
Tilt Angle	Up: 25 degrees, Down: 4 degrees
Environmental Considerations	Operating: Temperature 5 to 35°C / 41 to 95°F Humidity 10 to 80% (No condensation) Storage: Temperature -20 to 60°C / -4 to 140°F Humidity 5 to 85% (No condensation)
Approvals	TCO '03, CE, TÜV-GS / MPR Ⅲ (prEN50279) / ISO 13406-2, FCC-B, UL / C-UL, VCCI-B

2. LCD Monitor Description

The LCD MONITOR will contain a main board, a power board, key board and audio board which house the flat panel control logic, brightness control logic and DDC.

The power board will provide AC to DC Inverter voltage to drive the backlight of panel and the main board chips each voltage.

Monitor Block Diagram



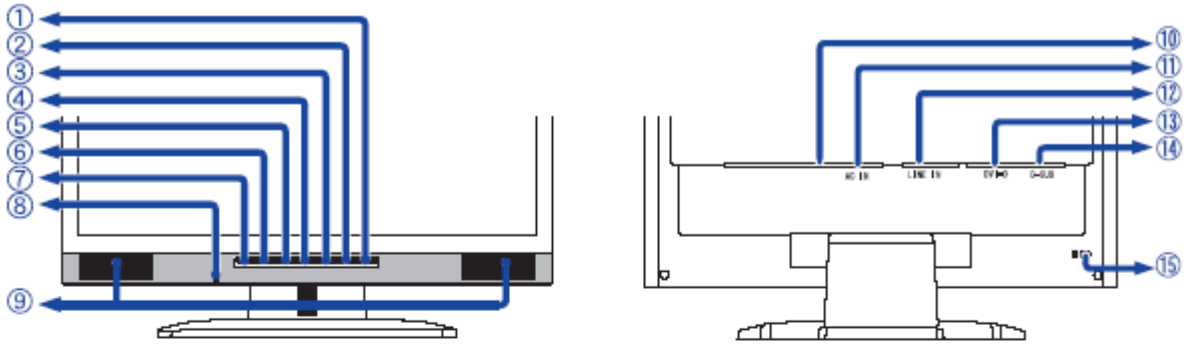
3. Operating Instructions

3.1 General Instructions

Press the power button to turn the monitor on or off. The other control buttons are located at front panel of the monitor. By changing these settings, the picture can be adjusted to your personal preferences.

- The power cord should be connected.
- Connect the video cable from the monitor to the video card.
- Press the power button to turn on the monitor, the power indicator will light up.

3.2 Control Button



<Front> <Back>

① Power Switch / Power Indicator (⏻)

NOTE Green: Normal operation (ProLite E511S)
Blue: Normal operation (ProLite E511S-B / ProLite E511S-S)
Orange: Power Management
The monitor enters into power management mode which reduces the power consumption to less than 2W when receiving no horizontal and/or vertical sync signal.

② Auto Button (AUTO)

③ Exit / Volume Button (EXIT / 🔊)

④ + / Brightness Button (+ / ☼)

⑤ – / Contrast Button (– / ◑)

⑥ Menu Button (MENU)

⑦ Input Button (INPUT)

⑧ Headphone Connector

⑨ Speakers

⑩ Main Power Switch

⑪ AC Connector (AC IN)

⑫ Audio Connector (LINE IN)

⑬ DVI-D 24pin Connector (DVI-D)

⑭ D-sub mini 15pin Connector (D-SUB)

⑮ Keyhole for Security Lock

NOTE You can fasten a security lock and cable to prevent the monitor from being removed without your permission.

Connecting your monitor

① Ensure that both the computer and the monitor are switched off.

② Connect the computer to the monitor with the signal cable. (See page 32 for CONNECTOR PIN ASSIGNMENT.)

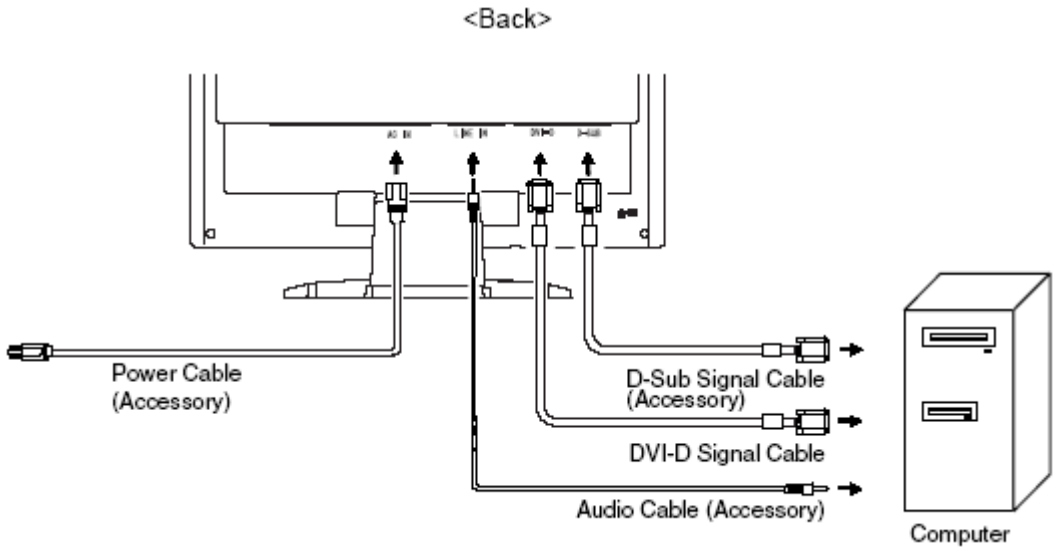
③ Connect the monitor to the audio equipment with the Audio Cable when using the audio features.

④ Connect the Power Cable to the monitor first and then to the power supply.

NOTE

- The signal cables used for connecting the computer and monitor may vary with the type of computer used. An incorrect connection may cause serious damage to both the monitor and the computer. The cable supplied with the monitor is for a standard 15 pin D-Sub connector. If a special cable is required please contact your local iiyama dealer or regional iiyama office.
- For connection to Macintosh computers, contact your local iiyama dealer or regional iiyama office for a suitable adaptor.
- Make sure you tighten the finger screws at each end of the signal cable.

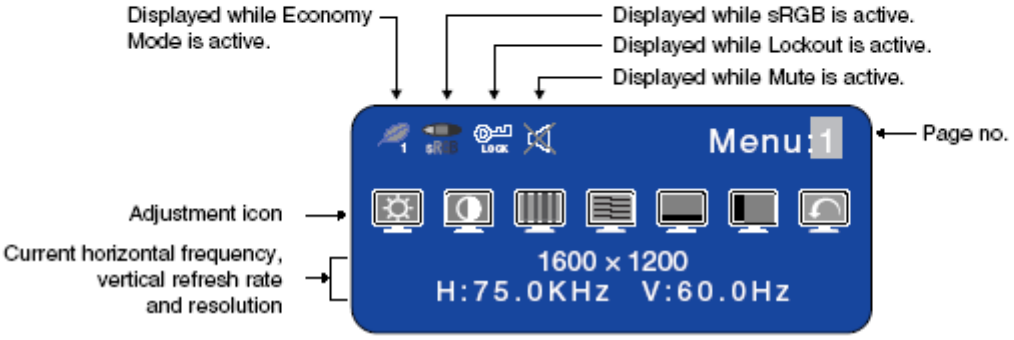
[Example of Connection]



3.3 Adjusting The Picture

To create the best picture, your iiyama LCD monitor has been preset at the factory with the COMPLIANT TIMING shown on page 31. You are also able to adjust the picture by following the button operation shown below. For more detailed adjustments, see page 22 for SCREEN ADJUSTMENTS.

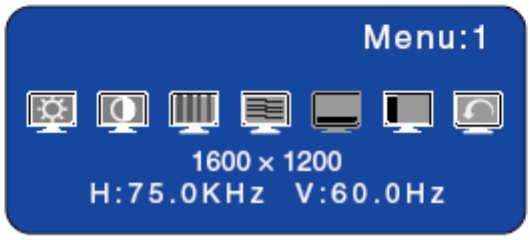
① Press the Menu Button to start the On Screen Display feature. There are additional Menu pages which can be switched by using the +/– Buttons.



② Select the Menu page which contains the adjustment icon relating to the adjustment you want to make. Press the Menu Button again. Then, use the +/– Buttons to highlight the desired adjustment icon. Press the Menu Button again.

③ Use the +/– Buttons to make the appropriate adjustment or setting.

For example, to correct for vertical position, select Menu page number 1 and then press the Menu Button. Then, select (V-Position) by using the +/– Buttons.



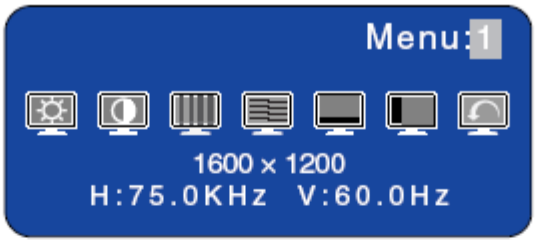
An adjustment scale appears after you press the Menu Button. Use the +/– Buttons to change the vertical position settings. The vertical position of the overall display should be changing accordingly while you are doing this.

NOTE

- When button operations are aborted during adjustment, On-Screen Display disappears when the time set for the OSD Off Timer has passed. The Exit button can be used to exit OSD window immediately.
- Adjustments for Clock, Phase and Position are saved for each signal timing. Except for these adjustments, all other adjustments have only one setting which applies to all signal timings.

Analog Input

Menu : 1
(Analog)



Adjustment Item	Problem / Option	Button to Press
Brightness *1 **Direct**	Too dark Too bright	+ / −
Contrast **Direct**	Too dull Too intense	+ / −
Clock *2	To correct flickering text or lines	+ / −
Phase *2	To correct flickering text or lines	+ / −
V-Position	Too low Too high	+ / −
H-Position	Too far to the left Too far to the right	+ / −
Return to Menu	Highlight “Menu :1” again.	

*1 Adjust the Brightness when you are using the monitor in a dark room and feel the screen is too bright.

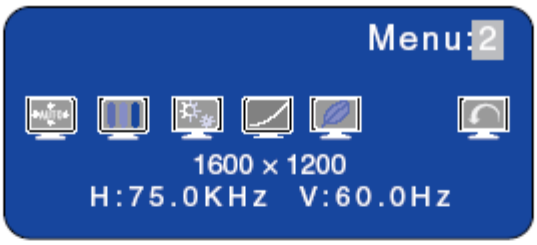
*2 See page 22 for SCREEN ADJUSTMENTS.

Direct

You can skip the Menu pages and display an adjustment scale directly by using the following button operations.

- Brightness: Press the Brightness Button when the Menu is not displayed.
- Contrast: Press the Contrast Button when the Menu is not displayed.

Menu : 2
(Analog)



Adjustment Item	Problem / Option		Button to Press
Auto Set-up *1 **Direct**	NO		Return to Menu.
	YES		Adjust Clock, Phase, V-Position and H-Position automatically.
	Setting	Off	The Auto Set-up is not performed when the signal input is changed.
		On	Adjust Clock, Phase, V-Position and H-Position automatically when the signal input is changed.

NOTE
- The brightness of screen varies for several seconds during the adjustment.
- This function is not performed automatically when changing the signal input because the factory-preset of “Setting” in Auto Set-up is set to Off.

Color Temp.	Cold		Bluish white
	Center		Normal white
	Warm		Warmer white
	s		sRGB
	(User)	R	Too weak / Too strong
		G	Too weak / Too strong
		B	Too weak / Too strong

NOTE
- sRGB is an international standard which defines and unifies the difference of color appearance between equipment.
- You can not adjust the Gamma and Economy Mode during sRGB mode because those settings are locked.
- sRGB is displayed while sRGB is active.

Sharpness	1 2 3 4 5 Adjust the picture quality at resolutions of less than 1600 × 1200. You can change the picture quality from 1 to 5 (sharp to soft). Press the + Button to change the picture quality in numerical order. Press the – Button to change the picture quality in reverse numerical order.

*1 For best results, use the Auto Set-up in conjunction with the adjustment pattern. See page 22 for SCREENADJUSTMENTS.

Direct

You can skip the Menu pages and display an adjustment scale directly by using the following button operations.

- Auto Set-up: Press the Auto Button when the Menu is not displayed.

Menu : 2
(Analog)

Adjustment Item	Problem / Option	
Gamma	Off	Normal
	Mode1	High contrast
	Mode2	Dark
Economy Mode **Direct**	Off	Normal
	Mode1	Brightness of back-light is reduced.
	Mode2	Brightness of back-light is reduced more than Mode1.
NOTE ■ is displayed while Economy Mode is active.		
Return to Menu	Highlight “Menu :2” again.	

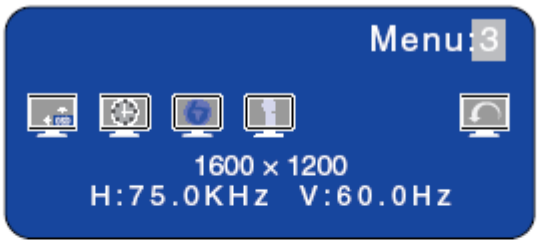
Direct

You can skip the Menu pages and display an adjustment scale directly by using the following button operations.

- Economy Mode: Press the Menu Button when the Menu is not displayed.
  Holding the Menu Button for 1-2 seconds will switch the Economy Mode.

  → Off → Mode1 → Mode2 →

Menu : 3
(Analog)

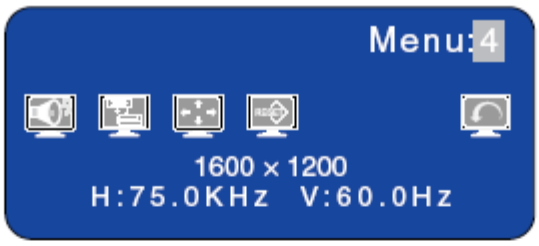


Adjustment Item	Problem / Option	Button to Press
OSD Position	1 2 3 4 5 You can move the OSD display area to any one of the following 5 positions within the overall display: Press the + Button to move the OSD in numerical order. Press the – Button to move the OSD in reverse numerical order.	+ / –
OSD Off Timer	Set the OSD Off Timer for 3-60 seconds.	+ / –
Language	English	English
	Deutsch	German
	Français	French
	Italiano	Italian
	Español	Spanish
	日本語	Japanese
Lockout	Off	Lockout is canceled.
	On	All adjustment items except this function are locked out.

NOTE ■ is displayed while Lockout is active.

Return to Menu	Highlight “Menu :3” again.

Menu : 4
(Analog)



Adjustment Item	Problem / Option	Button to Press
Volume **Direct**	Too soft Too loud	+ / −

NOTE ■ is displayed while Mute is active.

Signal Select **Direct**	Analog	Select the Analog input (D-SUB).
	Digital	Select the Digital input (DVI-D).

NOTE Select either Analog or Digital for the signal input when both of the signal inputs are connected to a signal source. Switch D-SUB and DVI-D whenever pressing the input button.
When only one of the two signal inputs is connected to the signal source, the one connected is automatically selected. Input Button is not available if there is no signal input from the selected connector or during the power management mode.

Full Screen	Off	The picture is displayed at the optimum resolution.
	Mode 1	Sretch the picture and keep the screen size ratio.
	Mode 2	Sretch the picture to fit the full screen.

NOTE Adjust the screen size at resolutions of less than 1600 × 1200.When selecting “1 ”or “2 ”displayed text or lines may be blurred, or brightness may not be uniform when inputting stripe pattern signal or the like.

Reset	NO	Return to Menu.
	YES	Factory-preset data is restored.
Return to Menu	Highlight “Menu :4” again.	

Direct

You can skip the Menu pages and display an adjustment scale directly by using the following button operations.

- Volume: Press the Volume Button when the Menu is not displayed.
  Holding the Volume Button for 1-2 seconds will switch the Mute function between ON and OFF.
- Signal Select: Press the Input Button when the Menu is not displayed.

Digital Input

Menu : 1
(Digital)

Adjustment Item	Problem / Option			Button to Press
Brightness *1 **Direct**	Too dark			+
	Too bright			−
Contrast **Direct**	Too dull			+
	Too intense			−
Color Temp.	Cold	Bluish white		
	Center	Normal white		
	Warm	Warmer white		
	s	sRGB		
	(User)	MENU	R	Too weak +
			G	
			B	Too strong −

NOTE
- sRGB is an international standard which defines and unifies the difference of color appearance between equipment.
- You can not adjust the Gamma and Economy Mode during sRGB mode because those settings are locked.
- sRGB is displayed while sRGB is active.

Sharpness	1 2 3 4 5 + / − Adjust the picture quality at resolutions of less than 1600 × 1200. You can change the picture quality from 1 to 5 (sharp to soft). Press the + Button to change the picture quality in numerical order. Press the – Button to change the picture quality in reverse numerical order.		
Gamma	Off	Normal	
	Mode1	High contrast	
	Mode2	Dark	

*1 Adjust the Brightness when you are using the monitor in a dark room and feel the screen is too bright.

Direct

You can skip the Menu pages and display an adjustment scale directly by using the following button operations.

- Brightness: Press the Brightness Button when the Menu is not displayed.
- Contrast: Press the Contrast Button when the Menu is not displayed.

Menu : 1
(Digital)

Adjustment Item	Problem / Option	
Economy Mode **Direct**	Off	Normal
	Mode1	Brightness of back-light is reduced.
	Mode2	Brightness of back-light is reduced more than Mode1.
NOTE ■ is displayed while Economy Mode is active.		
Return to Menu	Highlight “Menu :1” again.	

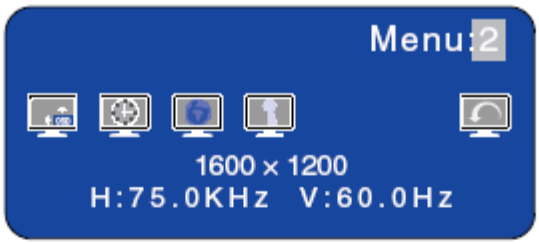
Direct

You can skip the Menu pages and display an adjustment scale directly by using the following button operations.

- Economy Mode: Press the Menu Button when the Menu is not displayed.
  Holding the Menu Button for 1-2 seconds will switch the Economy Mode.

  → Off → Mode1 → Mode2 →

Menu : 2
(Digital)

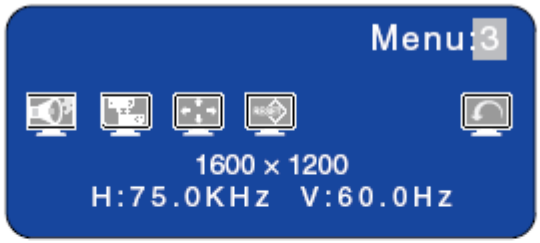


Adjustment Item	Problem / Option	Button to Press
OSD Position	1 2 3 4 5 You can move the OSD display area to any one of the following 5 positions within the overall display: Press the + Button to move the OSD in numerical order. Press the – Button to move the OSD in reverse numerical order.	+ / –
OSD Off Timer	Set the OSD Off Timer for 3-60 seconds.	+ / –
Language	English	English
	Deutsch	German
	Français	French
	Italiano	Italian
	Español	Spanish
	日本語	Japanese
Lockout	Off	Lockout is canceled.
	On	All adjustment items except this function are locked out.

NOTE ■ LOCK is displayed while Lockout is active.

Return to Menu	Highlight “Menu :2” again.

Menu : 3
(Digital)



Adjustment Item	Problem / Option	Button to Press
Volume **Direct**	Too soft Too loud	+ / −

NOTE ■ is displayed while Mute is active.

Signal Select **Direct**	Analog	Select the Analog input (D-SUB).
	Digital	Select the Digital input (DVI-D).

NOTE Select either Analog or Digital for the signal input when both of the signal inputs are connected to a signal source. Switch D-SUB and DVI-D whenever pressing the input button.
When only one of the two signal inputs is connected to the signal source, the one connected is automatically selected. Input Button is not available if there is no signal input from the selected connector or during the power management mode.

Full Screen	Off	The picture is displayed at the optimum resolution.
	Mode 1	Sretch the picture and keep the screen size ratio.
	Mode 2	Sretch the picture to fit the full screen.

NOTE Adjust the screen size at resolutions of less than 1600 × 1200.When selecting “1 ”or “2 ”displayed text or lines may be blurred, or brightness may not be uniform when inputting stripe pattern signal or the like.

Reset	NO	Return to Menu.
	YES	Factory-preset data is restored.
Return to Menu	Highlight “Menu :3” again.	

Direct

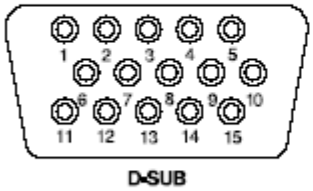
You can skip the Menu pages and display an adjustment scale directly by using the following button operations.

- Volume: Press the Volume Button when the Menu is not displayed.
  Holding the Volume Button for 1-2 seconds will switch the Mute function between ON and OFF.
- Signal Select: Press the Input Button when the Menu is not displayed.

4. Input/Output Specification

4.1 Input Signal Connector

■ D-Sub mini 15pin Connector

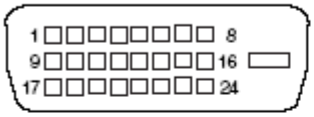


D-SUB

Pin	Input Signal	Pin	Input Signal
1	Red video	9	
2	Green video / Sync on green	10	Ground
3	Blue video	11	Reserved port
4	Reserved port	12	Data line (SDA)*
5	Ground	13	H-Sync/HV-Sync
6	Red video ground	14	V-Sync
7	Green video ground	15	Clock line (SCL)*
8	Blue video ground		

* Compliant to VESA DDC.

■ DVI-D 24pin Connector



DVI-D

Pin	Input Signal	Pin	Input Signal
1	T.M.D.S Data 2–	13	
2	T.M.D.S Data 2+	14	
3	T.M.D.S Data 2 Ground	15	Ground
4		16	Hot Plug Detect
5		17	T.M.D.S Data 0–
6	Clock line (SCL) *	18	T.M.D.S Data 0+
7	Data line (SDA) *	19	T.M.D.S Data 0 Ground
8		20	
9	T.M.D.S Data 1–	21	
10	T.M.D.S Data 1+	22	T.M.D.S Clock Ground
11	T.M.D.S Data 1 Ground	23	T.M.D.S Clock +
12		24	T.M.D.S Clock –

* Compliant to VESA DDC.

4.2 Factory Preset Display Modes

Video Mode			Horizontal Frequency	Vertical Frequency	Dot Clock
VESA	VGA	640 × 480	31.469kHz	59.940Hz	25.175MHz
			37.861kHz	72.809Hz	31.500MHz
			37.500kHz	75.000Hz	31.500MHz
			43.269kHz	85.008Hz	36.000MHz
	SVGA	800 × 600	35.156kHz	56.250Hz	36.000MHz
			37.879kHz	60.317Hz	40.000MHz
			48.077kHz	72.188Hz	50.000MHz
			46.875kHz	75.000Hz	49.500MHz
			53.674kHz	85.061Hz	56.250MHz
	XGA	1024 × 768	48.363kHz	60.004Hz	65.000MHz
			56.476kHz	70.069Hz	75.000MHz
			60.023kHz	75.029Hz	78.750MHz
			68.677kHz	84.997Hz	94.500MHz
	SXGA	1152 × 864	67.500kHz	75.000Hz	108.000MHz
		1280 × 1024	63.981kHz	60.020Hz	108.000MHz
			79.976kHz	75.025Hz	135.000MHz
	UXGA	1600 × 1200	75.000kHz	60.000Hz	162.000MHz
VGA TEXT		640 × 400	31.469kHz	70.087Hz	25.175MHz
Macintosh		640 × 480	35.000kHz	66.667Hz	30.240MHz
		832 × 624	49.725kHz	74.500Hz	57.283MHz
		1024 × 768	60.150kHz	74.720Hz	80.000MHz
PC9801		640 × 400	24.827kHz	56.424Hz	21.053MHz

4.3 Panel Specification

4.3.1 Features

High contrast ratio, high aperture structure
SPVA(Super Patterned Vertical Alignment) Mode
Wide viewing angle (±178°)
High speed response
UXGA (1600 x1200) resolution
Replaceable 2 triple CCFTs (Cold Cathode Fluorescent Tube)
Low Power consumption
DE only mode
Narrow bezel and compact design
Pb-free configuration
RoHS compliance

Applications

Workstation & desktop monitors
Display terminals for AV application products
Monitors for industrial and medical application products
If the module is used to other applications besides the above, please contact SEC in advance

4.3.2 Display Characteristics

Items	Specification	Unit
Pixel Pitch	0.255(H) x 0.255(W)	mm
Active Display Area	408(H) x 306(V)	mm
Surface Treatment	Haze 44% , Hard-coating (3H)	
Display Colors	16.7M (true 8-bit)	colors
Number of Pixels	1600 x 1200	pixel
Pixel Arrangement	RGB vertical stripe	
Display Mode	Normally Black	
Luminance of White	300(Typ.)	cd/㎡

Item		Min.	Typ.	Max.	Unit	Note
Module size	Horizontal (H)	431.5	432.0	432.5	mm	w/o inverter ass'y
	Vertical (V)	331.0	331.5	332.0	mm	
	Depth (D)			25.5	mm	
Weight				3,300	g	LCD module only
					g	w/ Inverter assembly

Note (1) Mechanical tolerance is ± 0.5mm unless there is a special comment.

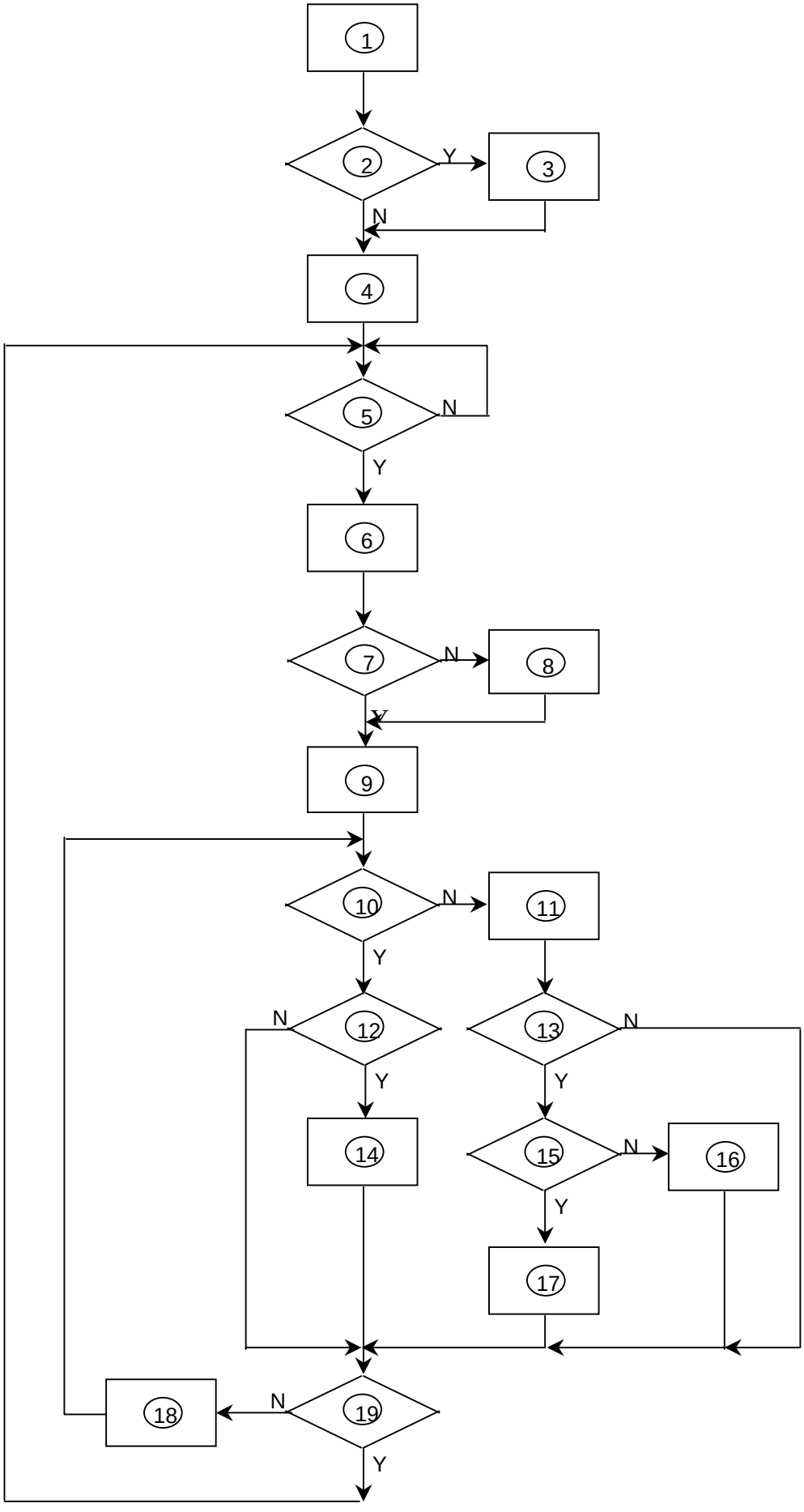
4.3.3 Optical Characteristics

The optical characteristics should be measured in a dark room or equivalent.
Measuring equipment : TOPCON BM-7,SPECTRORADIOMETER SR-3
(Ta = 25 ± 2°C, VDD=5V, fv= 60Hz, fDCLK=65.125MHz, IL = 7.5mArms)

Item		Symbol	Condition	Min.	Typ.	Max.	Unit
Contrast Ratio (Center of screen)		C/R		600	900	-	
Response Time	On/Off	Tr+Tf		-	16	20	msec
	G-To-G	$T_{G-G,AVG}$		-	8	-	msec
		$T_{G-G,long}$		-	12	-	msec
Luminance of White (Center of screen)		Y_L		250	300	-	cd/m2
Color Chromaticity (CIE 1931)	Red	Rx	Normal $\theta_{L,R}=0$ $\theta_{U,D}=0$ Viewing Angle	0.610	0.640	0.670	
		Ry		0.300	0.330	0.360	
	Green	Gx		0.270	0.300	0.330	
		Gy		0.570	0.600	0.630	
	Blue	Bx		0.120	0.150	0.180	
		By		0.030	0.060	0.090	
	White	Wx		0.283	0.313	0.343	
		Wy		0.299	0.329	0.359	
Color Chromaticity (CIE 1976)	Red	Ru'		-	0.451	-	
		Rv'		-	0.523	-	
	Green	Gu'		-	0.125	-	
		Gv'		-	0.563	-	
	Blue	Bu'		-	0.175	-	
		Bv'		-	0.158	-	
	White	Wu'		-	0.198	-	
		Wv'		-	0.468	-	
C.G.L	White	△u'v'		-	-	0.02	

5. Block Diagram

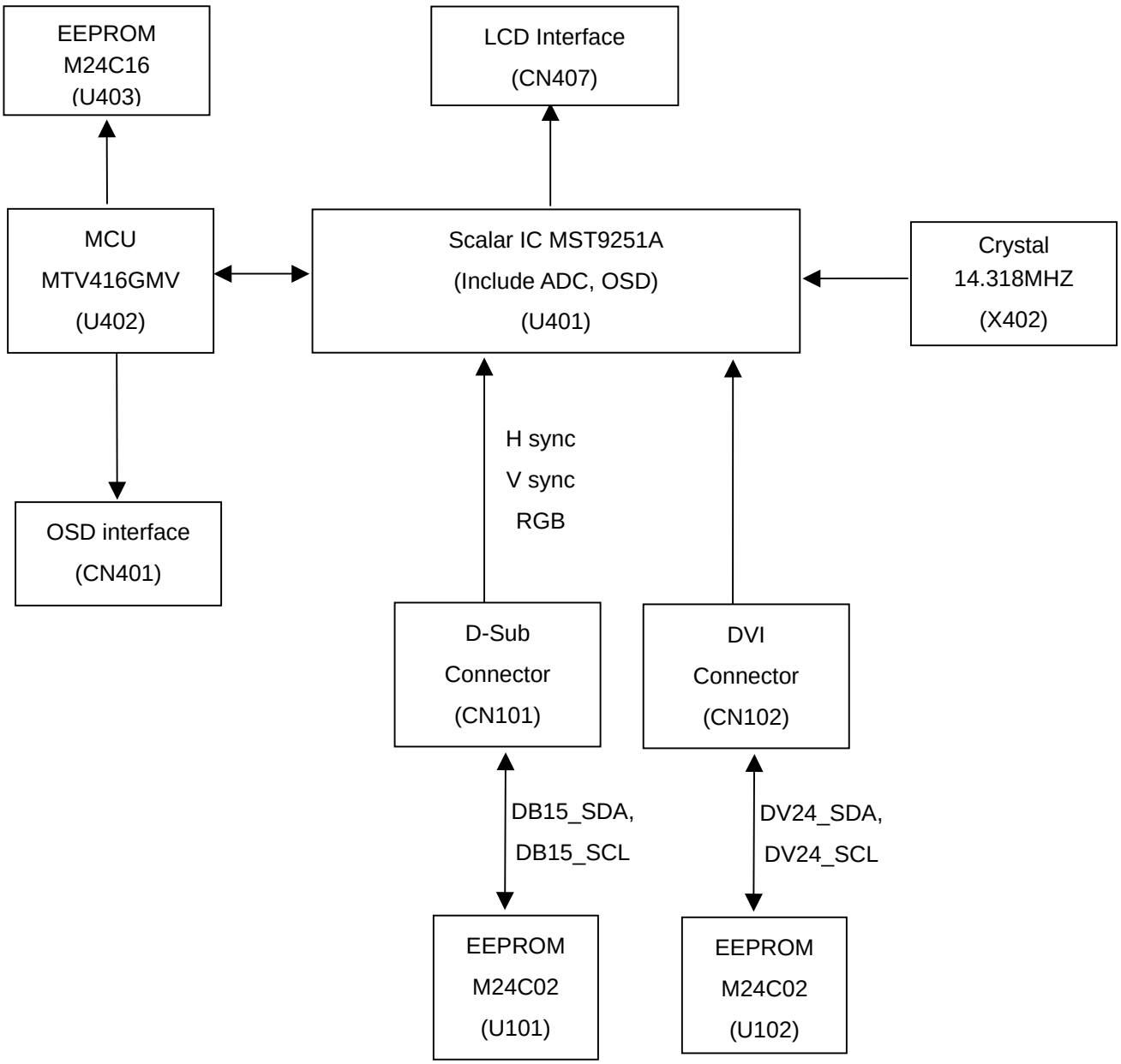
5.1 Software Flow Chart



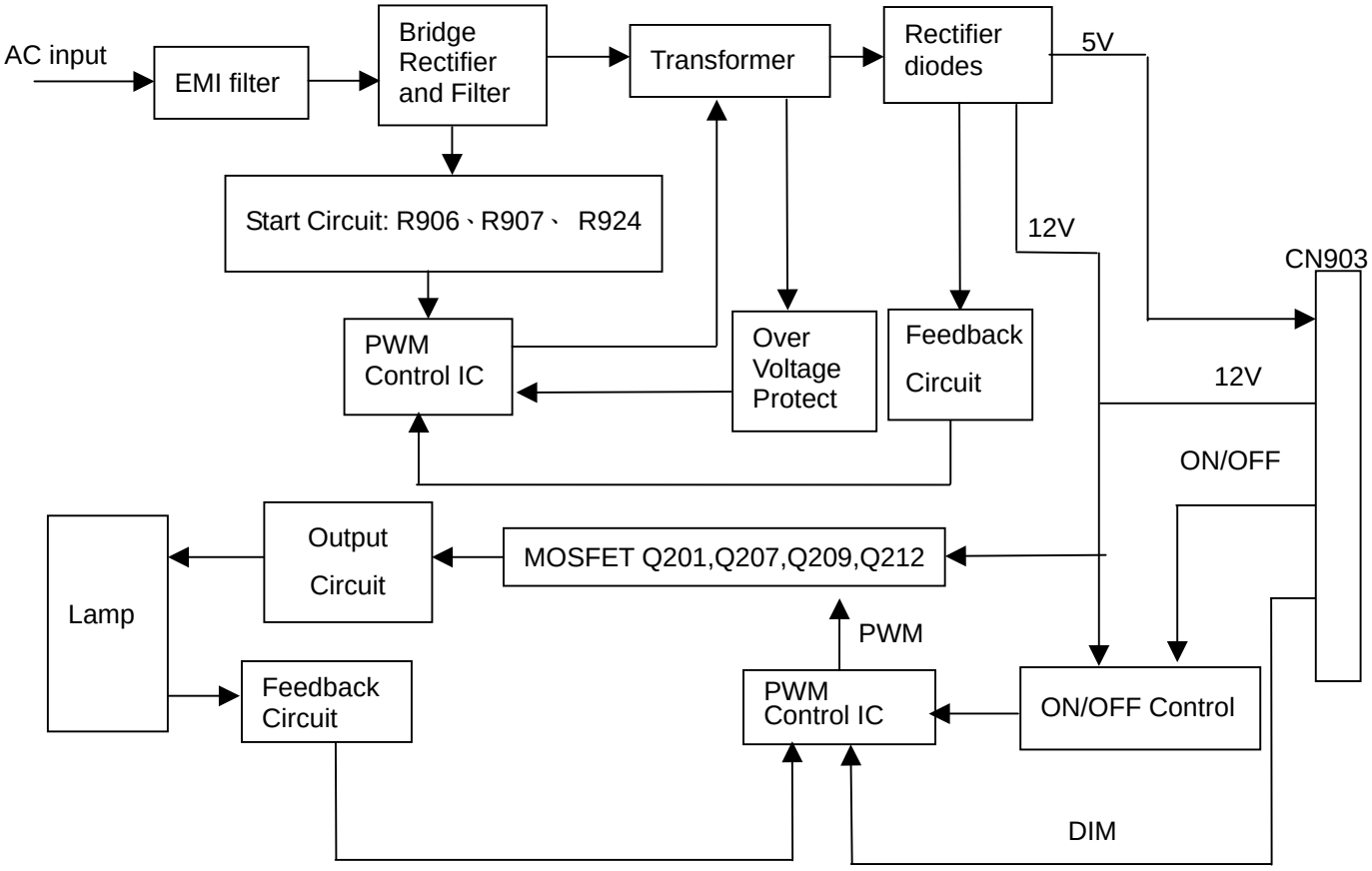
1) MCU initializes.
2) Is the EPROM blank?
3) Program the EPROM by default values.
4) Get the PWM value of brightness from EPROM.
5) Is the power key pressed?
6) Clear all global flags.
7) Are the AUTO and SELECT keys pressed?
8) Enter factory mode.
9) Save the power key status into EPROM.
   Turn on the LED and set it to green color.
   Scalar initializes.
10) In standby mode?
11) Update the lifetime of back light.
12) Check the analog port, are there any signals coming?
13) Does the scalar send out an interrupt request?
14) Wake up the scalar.
15) Are there any signals coming from analog port?
16) Display "No connection Check Signal Cable" message. And go into standby mode after the message disappears.
17) Program the scalar to be able to show the coming mode.
18) Process the OSD display.
19) Read the keyboard. Is the power key pressed?

5.2 Electrical Block Diagram

5.2.1 Main Board



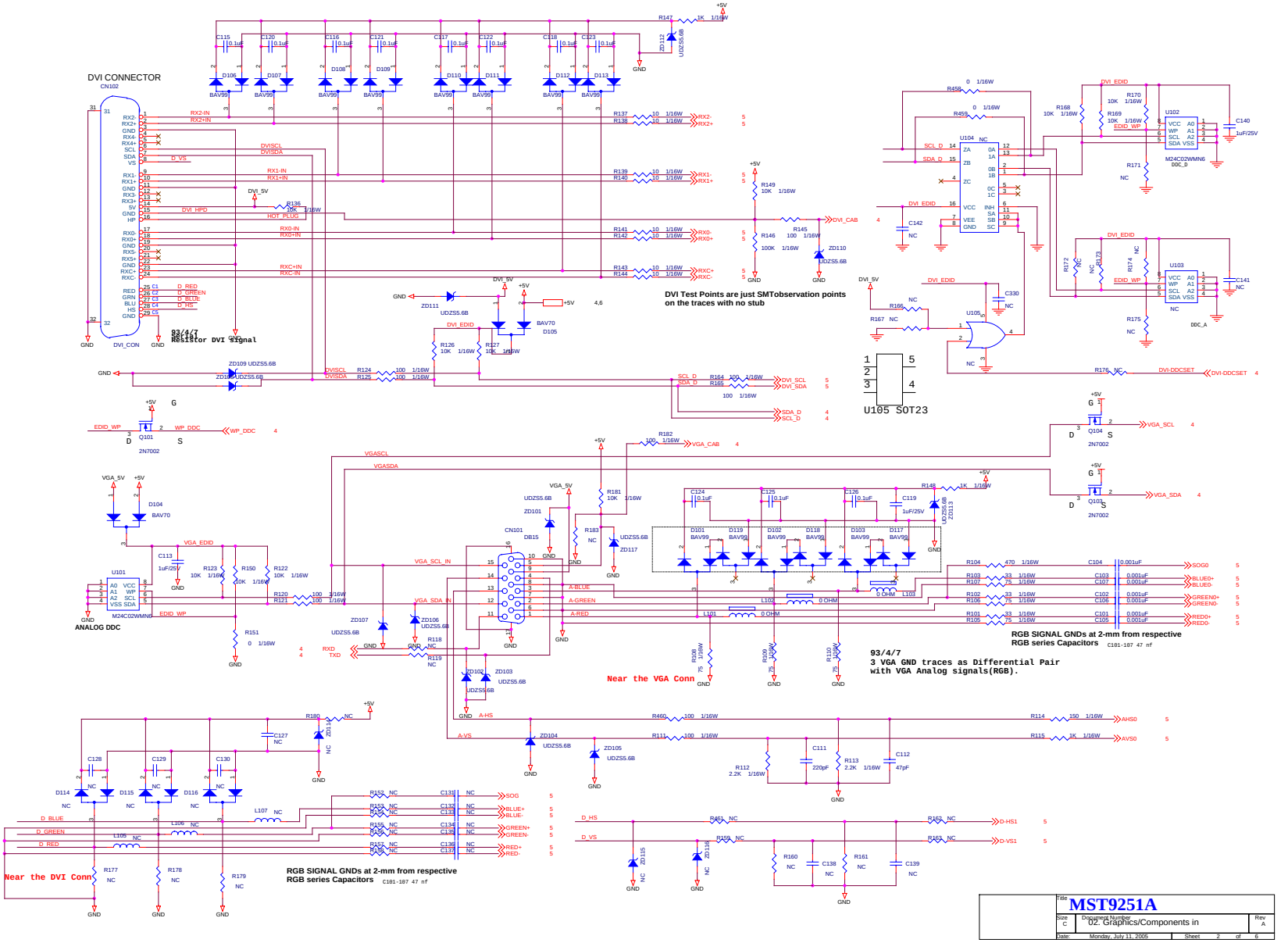
5.2.2 Inverter/Power Board

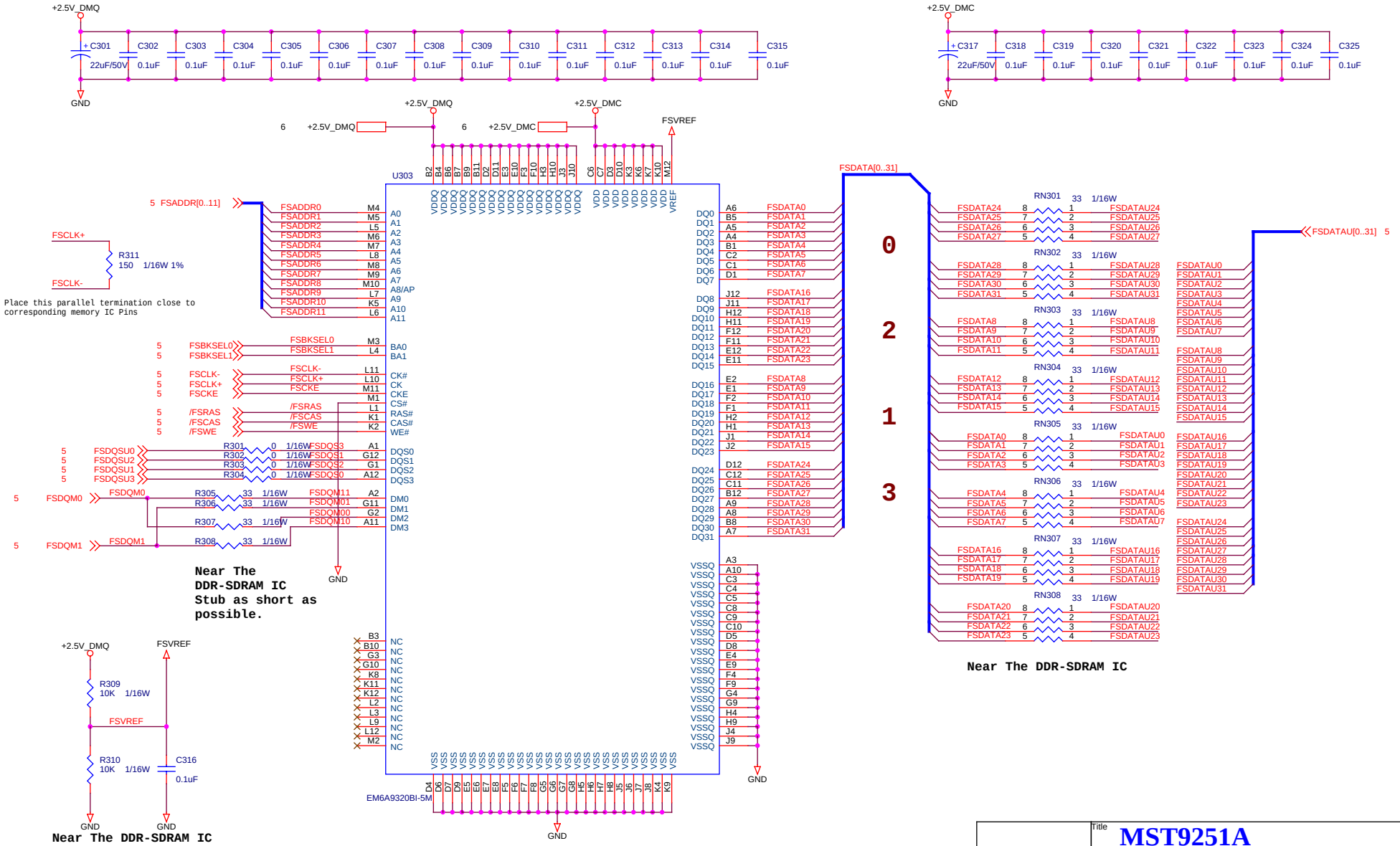


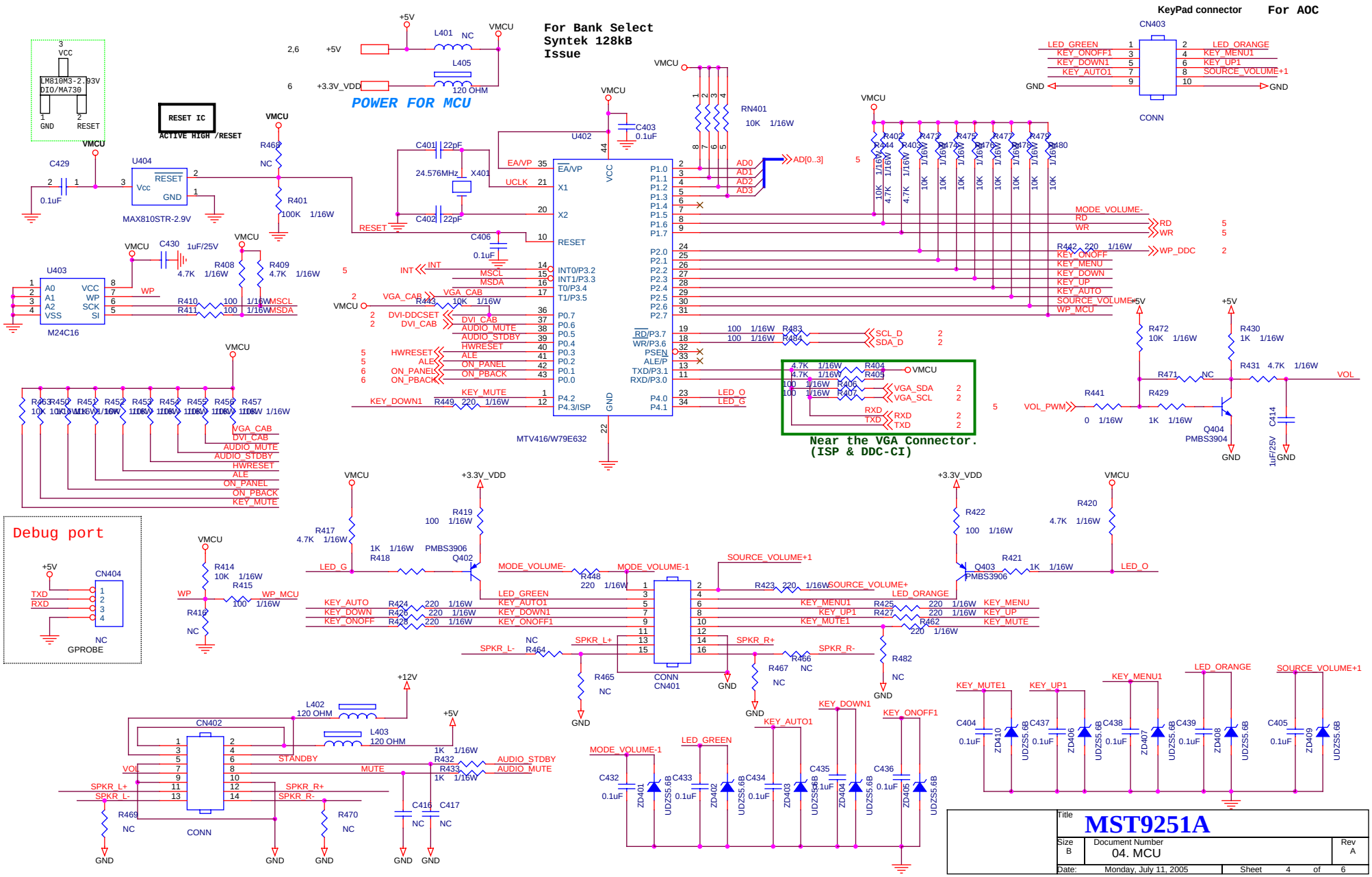
6. Schematic

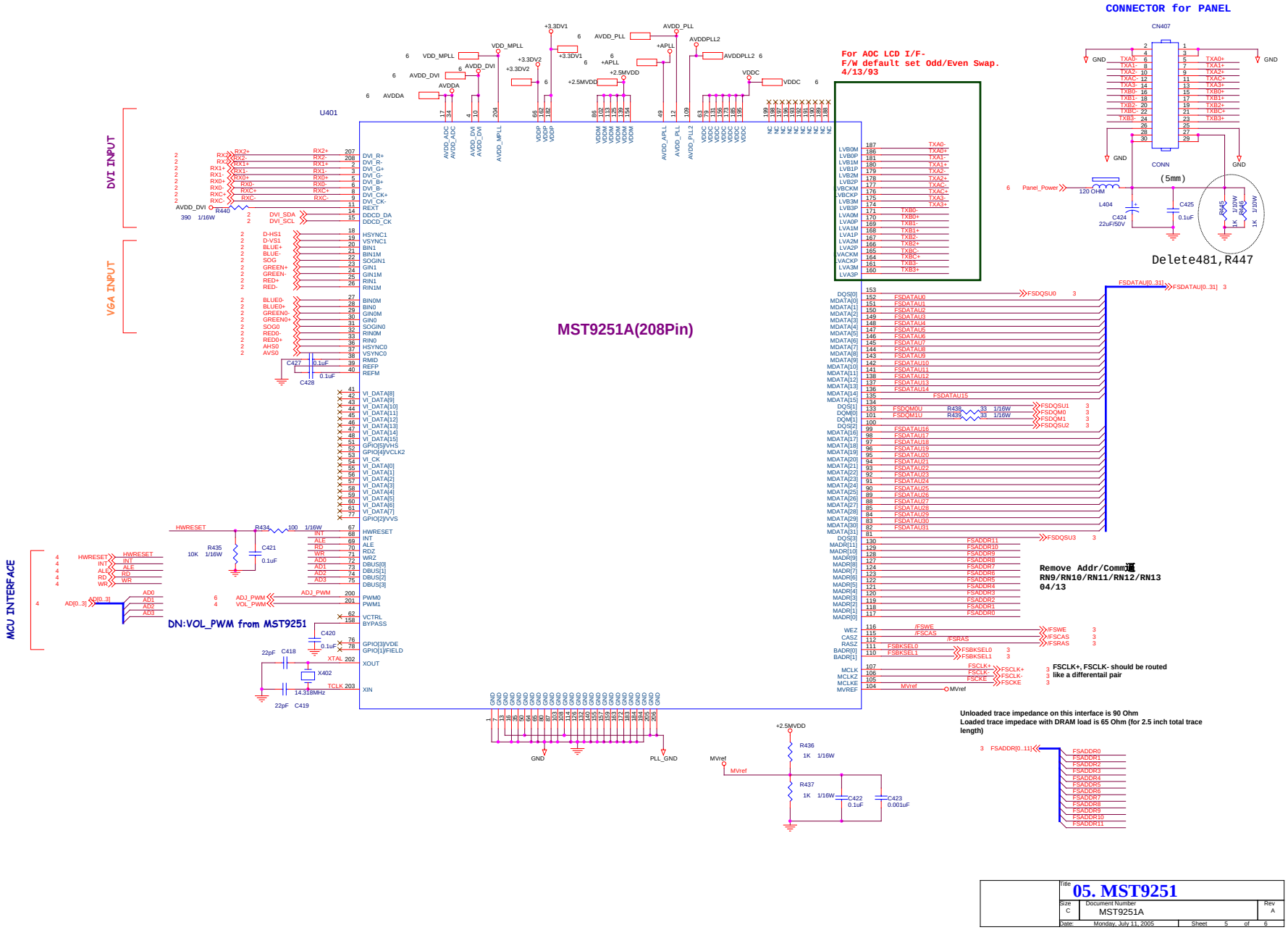
6.1 Main Board

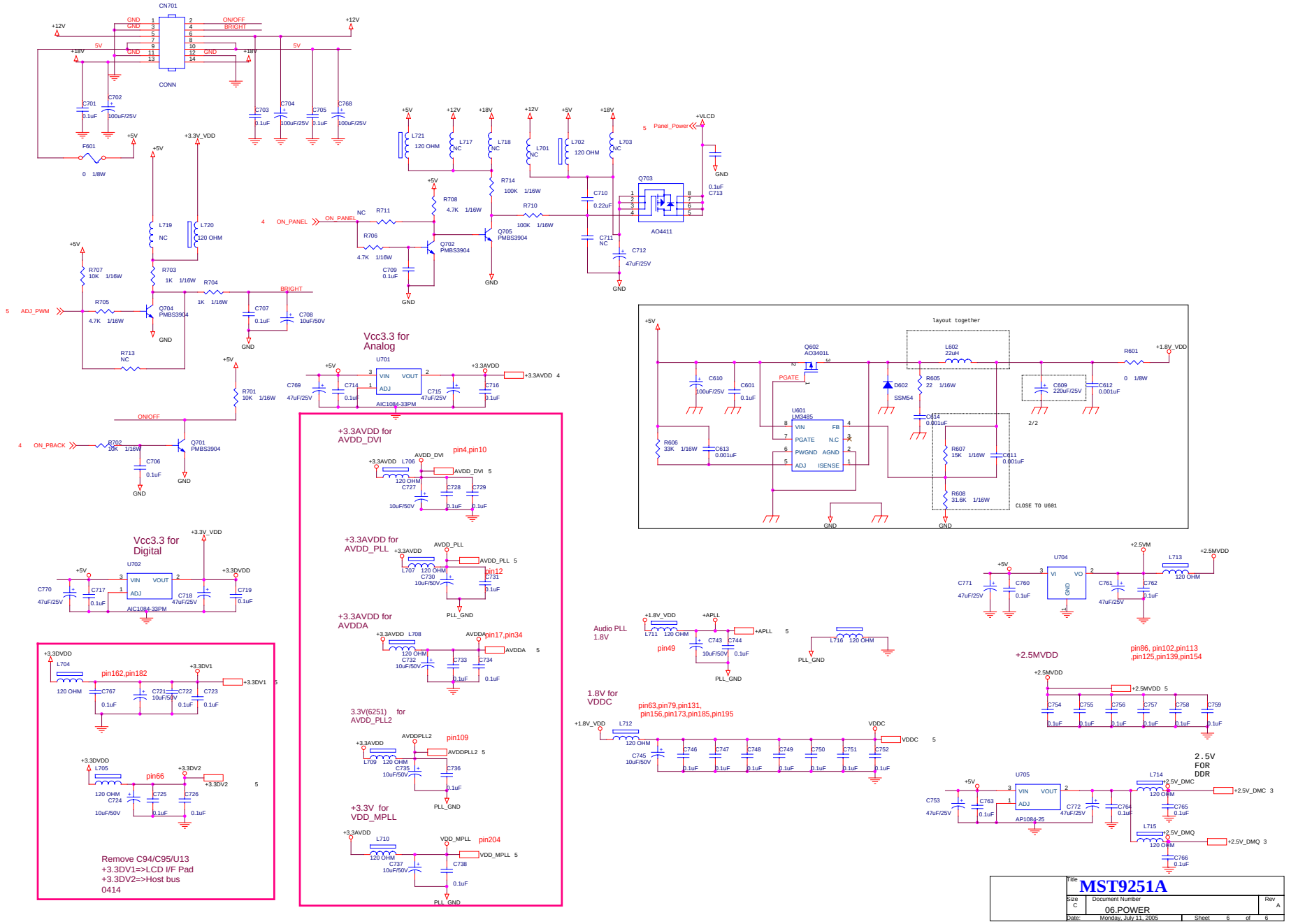
715G1603-1




+2.5V_DMQ
C301 22uF/50V
C302 0.1uF
C303 0.1uF
C304 0.1uF
C305 0.1uF
C306 0.1uF
C307 0.1uF
C308 0.1uF
C309 0.1uF
C310 0.1uF
C311 0.1uF
C312 0.1uF
C313 0.1uF
C314 0.1uF
C315 0.1uF
GND
+2.5V_DMC
C317 22uF/50V
C318 0.1uF
C319 0.1uF
C320 0.1uF
C321 0.1uF
C322 0.1uF
C323 0.1uF
C324 0.1uF
C325 0.1uF
GND
FSVREF
U303
EM6A9320BI-5M
FSADDR[0..11]
FSCLK+
FSCLK-
R311 150 1/16W 1%
Place this parallel termination close to corresponding memory IC Pins
FSBKSEL0
FSBKSEL1
FSCLK-
FSCLK+
FSCKE
/FSRAS
/FSCAS
/FSWE
FSDQSU0
FSDQSU2
FSDQSU1
FSDQSU3
FSDQM0
FSDQM1
R301 0 1/16W
R302 0 1/16W
R303 0 1/16W
R304 0 1/16W
R305 33 1/16W
R306 33 1/16W
R307 33 1/16W
R308 33 1/16W
FSDATA[0..31]
0
2
1
3
RN301 33 1/16W
RN302 33 1/16W
RN303 33 1/16W
RN304 33 1/16W
RN305 33 1/16W
RN306 33 1/16W
RN307 33 1/16W
RN308 33 1/16W
FSDATAU[0..31]
Near The DDR-SDRAM IC Stub as short as possible.
Near The DDR-SDRAM IC
R309 10K 1/16W
R310 10K 1/16W
C316 0.1uF
Near The DDR-SDRAM IC
Title MST9251A
Size B
Document Number 03. Frame Memory
Rev A
Date: Monday, July 11, 2005
Sheet 3 of 6

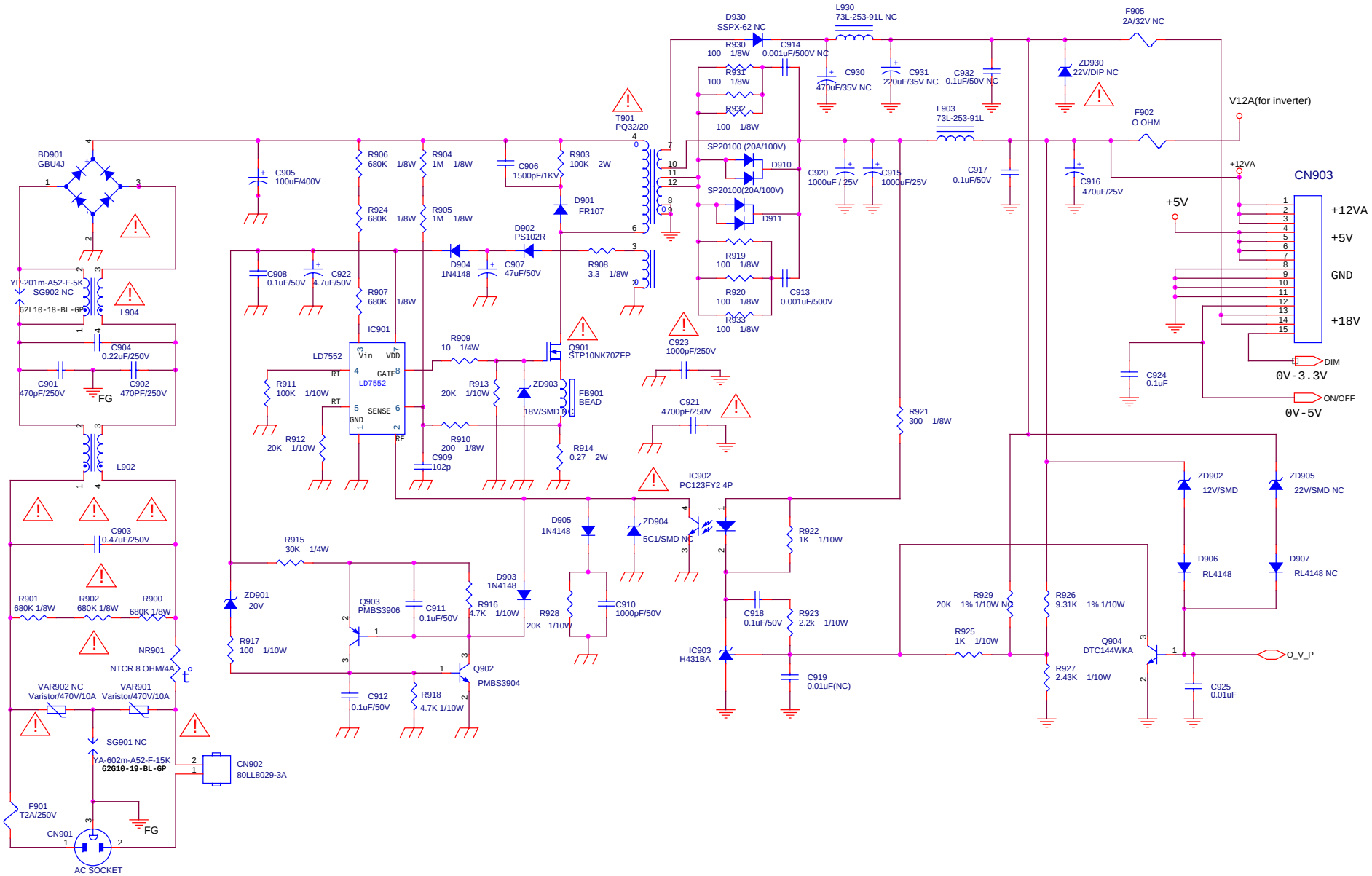

KeyPad connector
For AOC
For Bank Select
Syntek 128kB
Issue
POWER FOR MCU
RESET IC
ACTIVE HIGH /RESET
MAX810STR-2.9V
M24C16
MTV416/W79E632
Near the VGA Connector.
(ISP & DDC-CI)
Debug port
GPROBE
CONN
VMCU
+5V
+3.3V_VDD
+12V
MST9251A
Size B
Document Number 04. MCU
Rev A
Date: Monday, July 11, 2005
Sheet 4 of 6

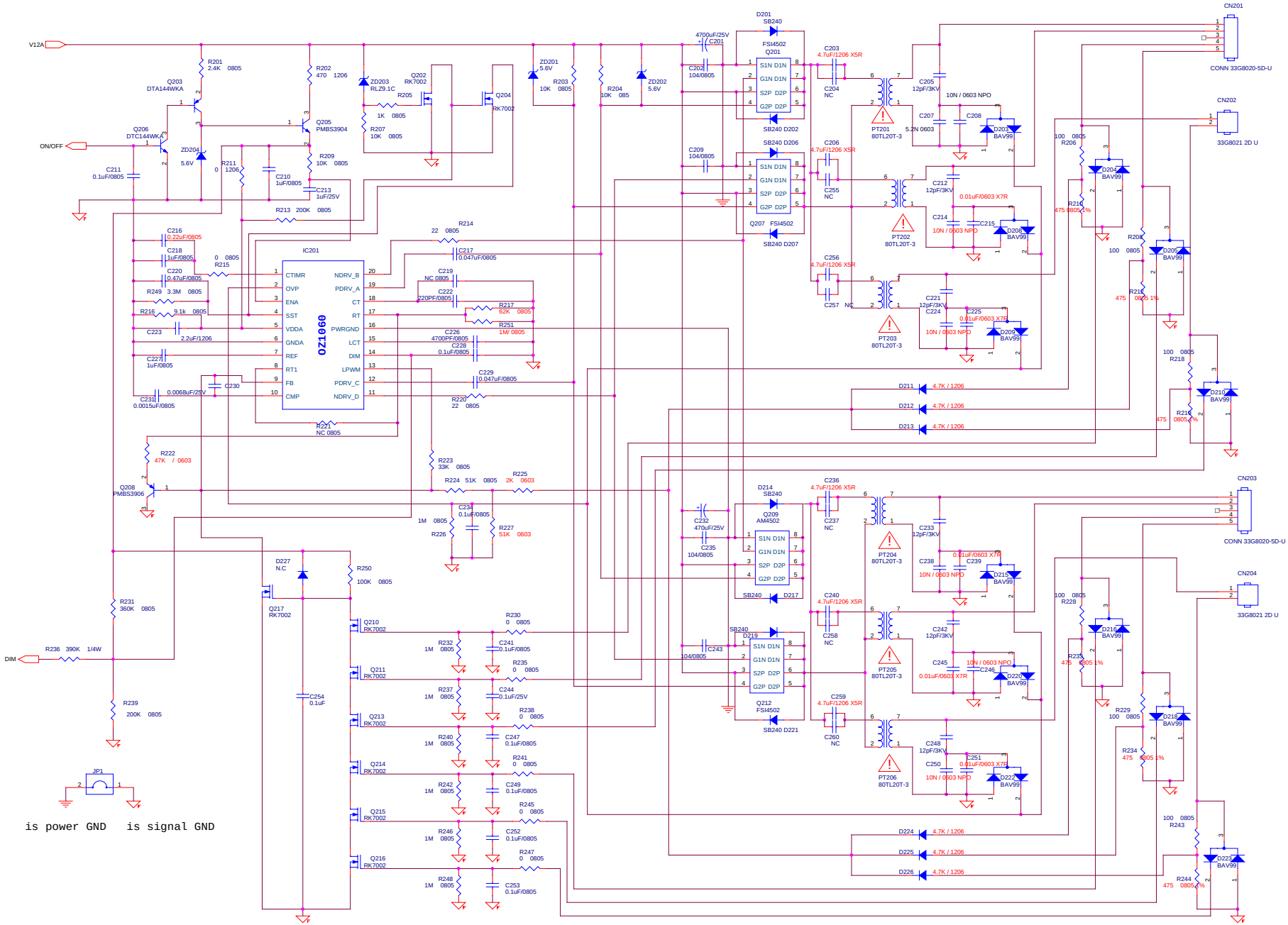

CONNECTOR for PANEL
For AOC LCD I/F-
F/W default set Odd/Even Swap.
4/13/93
MST9251A(208Pin)
U401
DVI INPUT
VGA INPUT
MCU INTERFACE
DN:VOL_PWM from MST9251
Remove Addr/Comm電
RN9/RN10/RN11/RN12/RN13
04/13
FSCLK+, FSCLK- should be routed
like a differentail pair
Unloaded trace impedance on this interface is 90 Ohm
Loaded trace impedace with DRAM load is 65 Ohm (for 2.5 inch total trace
length)
Delete481,R447
05. MST9251
MST9251A


CN701
CONN
ON/OFF
BRIGHT
F601
L719
L720
L721
L717
L718
L701
L702
L703
Q703
AO4411
Q702
PMBS3904
Q704
PMBS3904
Q705
PMBS3904
Q701
PMBS3904
ON_PANEL
ADJ_PWM
ON_PBACK
Panel_Power
+VLCD
Vcc3.3 for Analog
U701
AIC1084-33PM
Vcc3.3 for Digital
U702
+3.3AVDD for AVDD_DVI
pin4,pin10
+3.3AVDD for AVDD_PLL
pin12
+3.3AVDD for AVDDA
pin17,pin34
3.3V(6251) for AVDD_PLL2
pin109
+3.3V for VDD_MPLL
pin204
Remove C94/C95/U13
+3.3DV1=>LCD I/F Pad
+3.3DV2=>Host bus
0414
layout together
Q602
AO3401L
U601
LM3485
CLOSE TO U601
Audio PLL 1.8V
pin49
1.8V for VDDC
pin63,pin79,pin131, pin156,pin173,pin185,pin195
+2.5MVDD
pin86, pin102,pin113 ,pin125,pin139,pin154
U704
U705
AP1084-25
2.5V FOR DDR
MST9251A
06.POWER
Monday, July 11, 2005

6.2 Power Board

715G1646 1

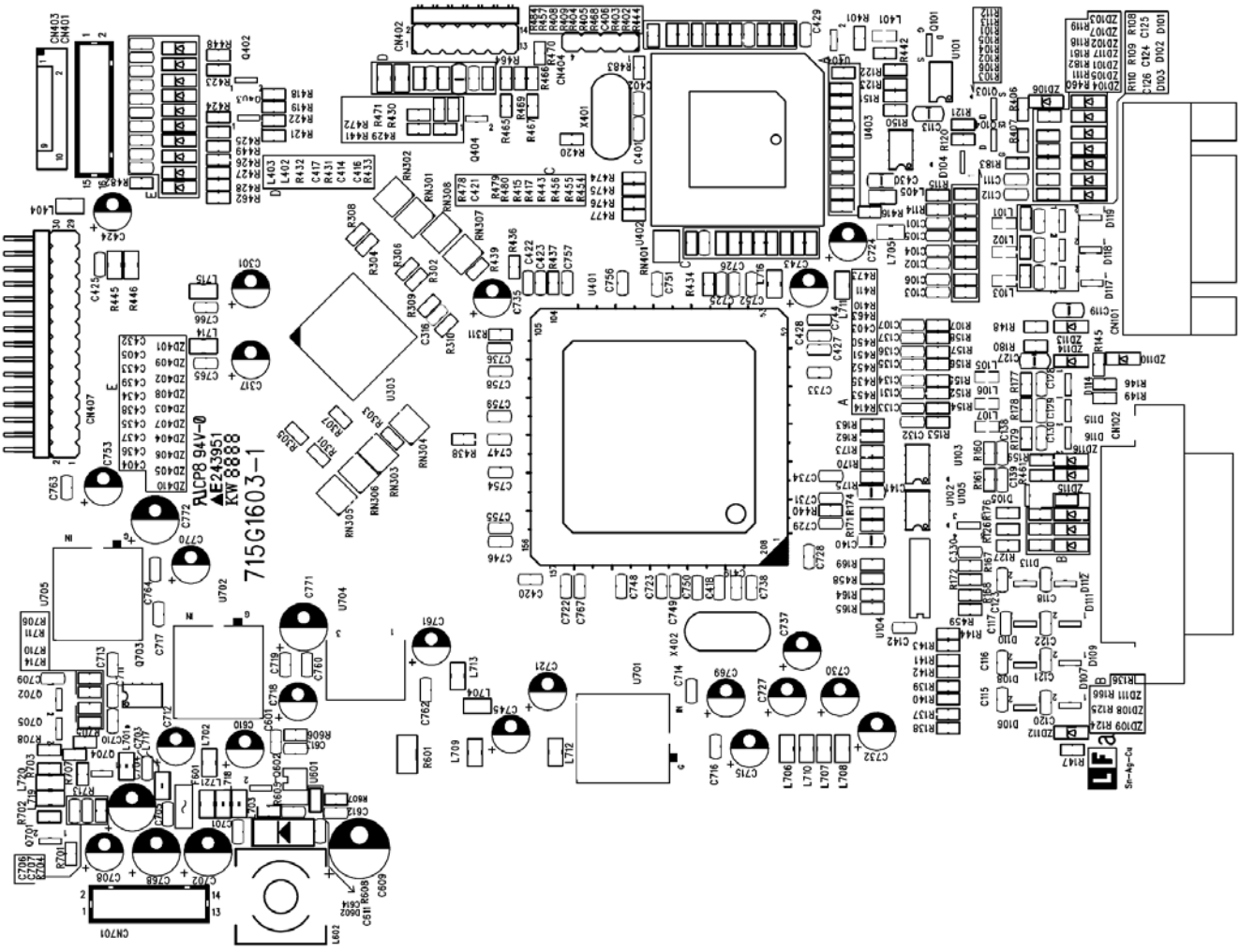


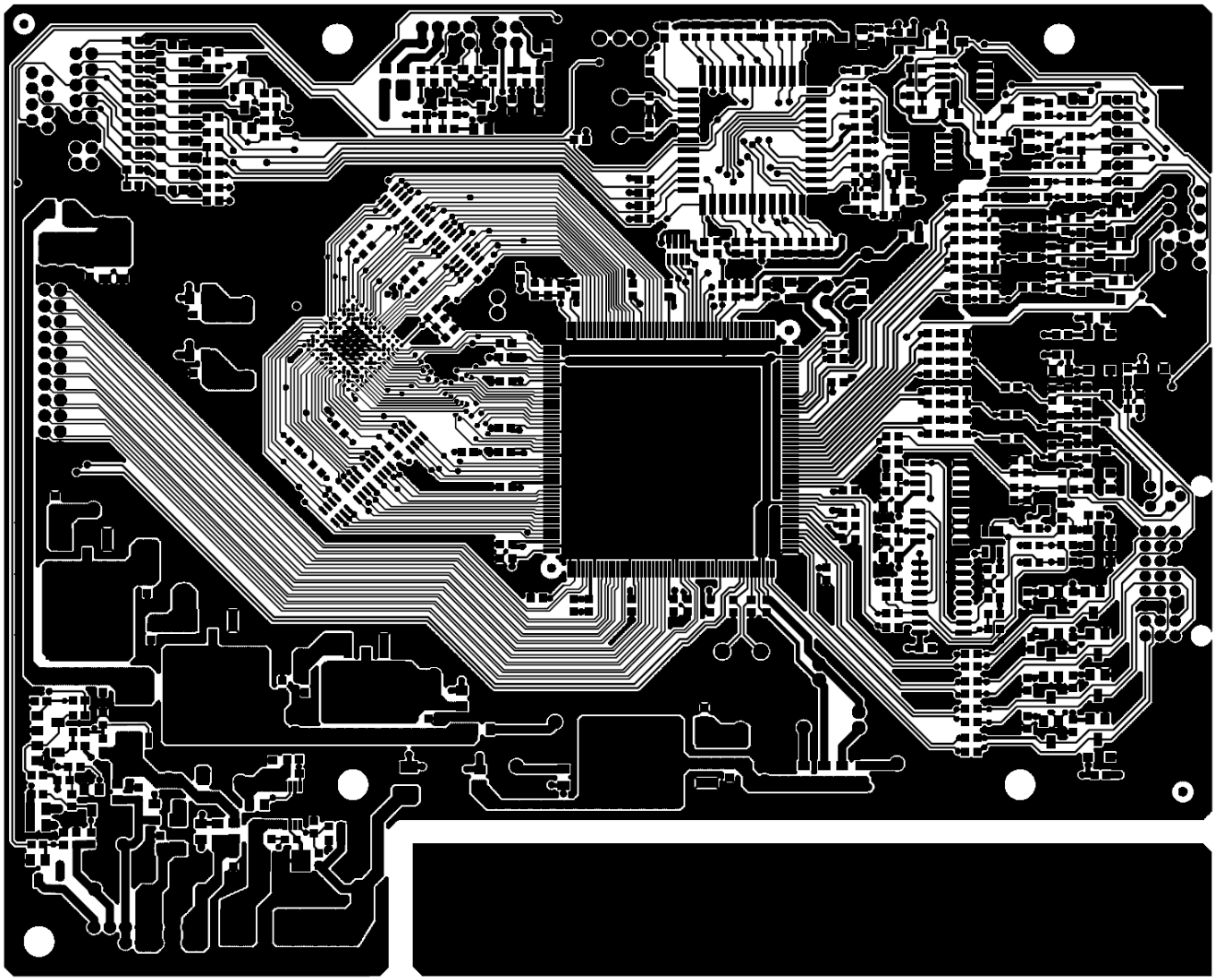

V12A
ON/OFF
DIM
IC201
09012O
CTIMR
OVP
ENA
SST
VDDA
GNDA
REF
RT1
FB
CMP
NDRV_B
PDRV_A
CT
RT
PWRGND
LCT
DIM
LPWM
PDRV_C
NDRV_D
CN201
CONN 33G8020-5D-U
CN202
33G8021 2D U
CN203
CONN 33G8020-5D-U
CN204
33G8021 2D U
is power GND
is signal GND

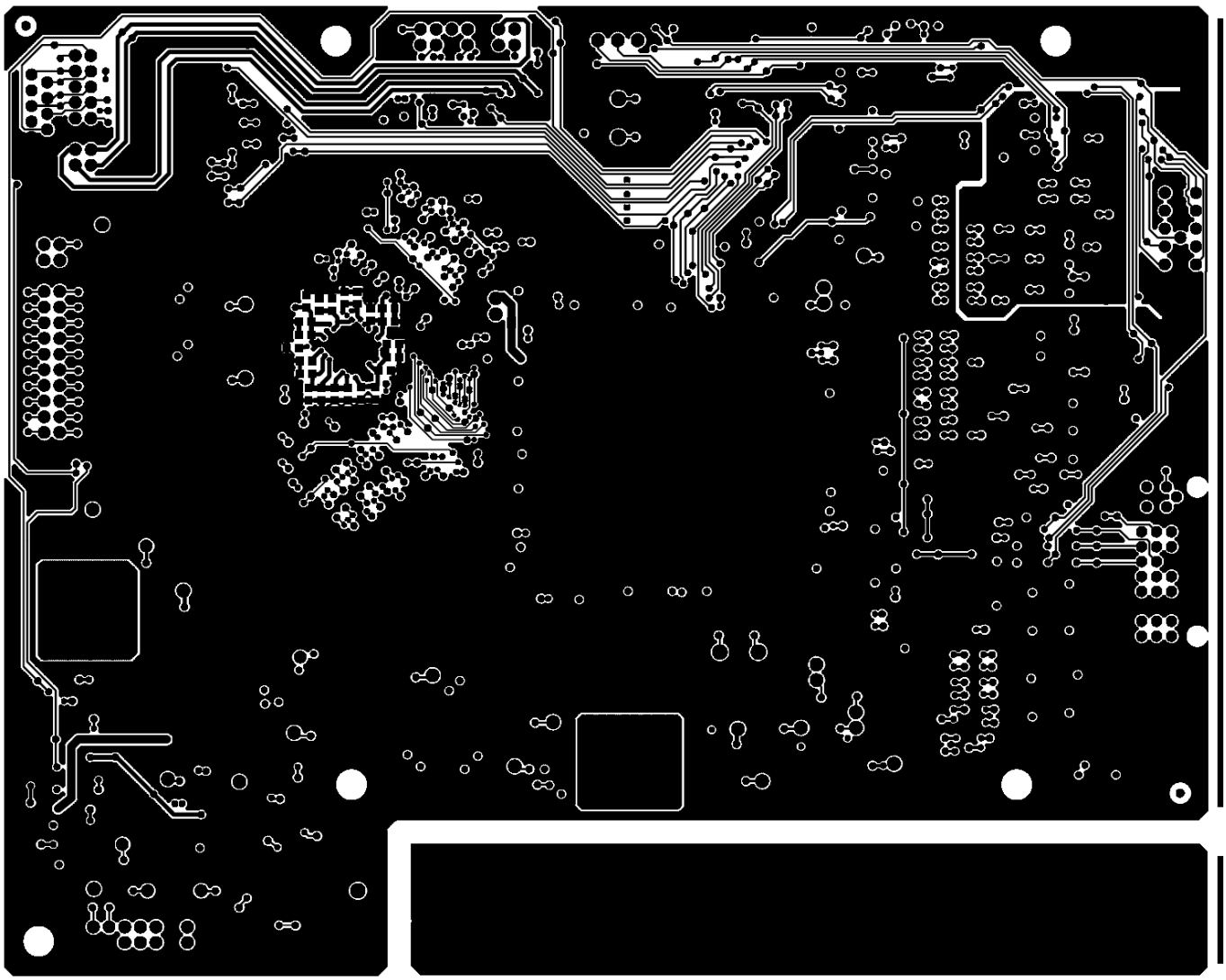
7. PCB Layout

7.1 Main Board

715G1603-1

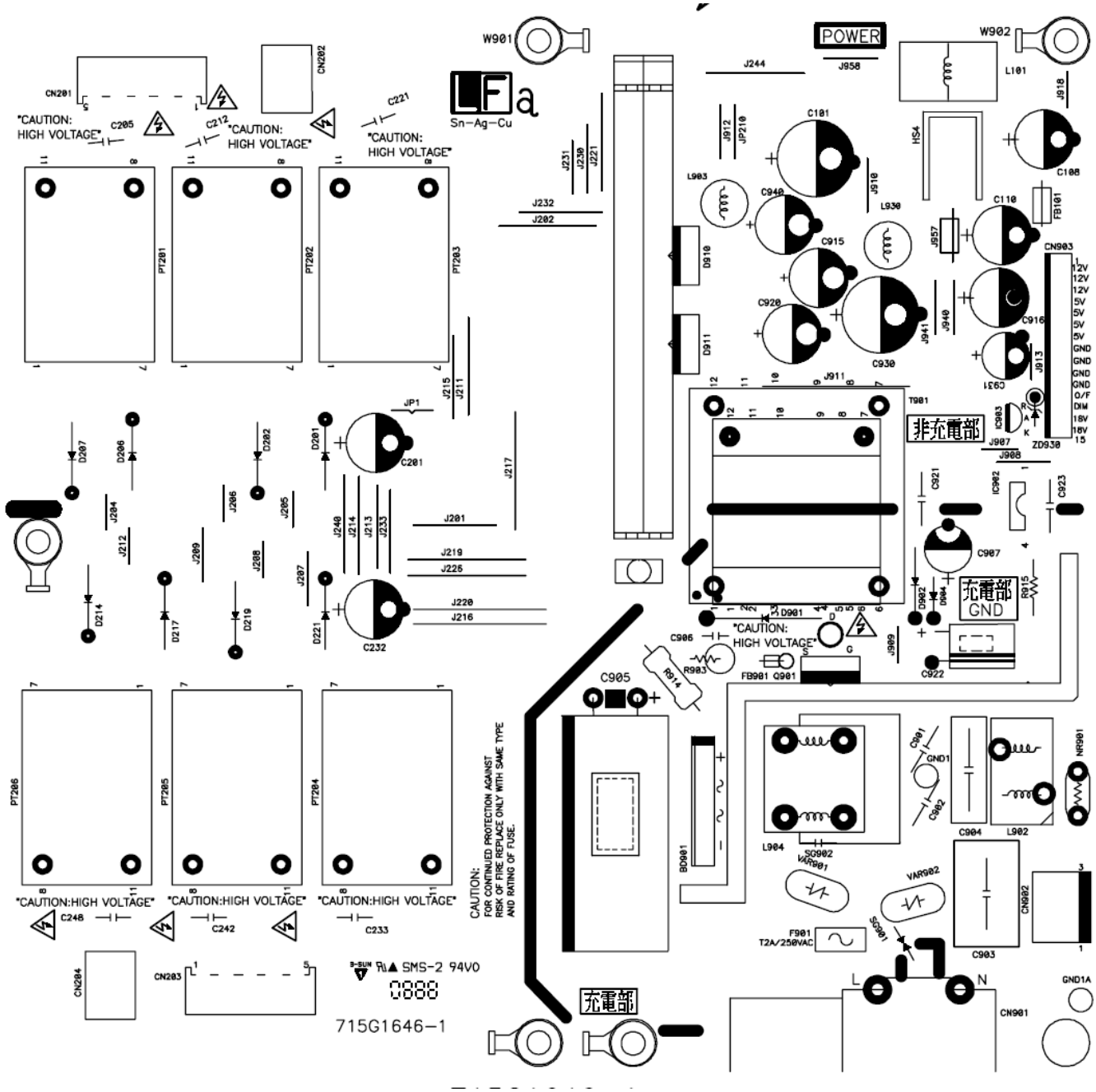


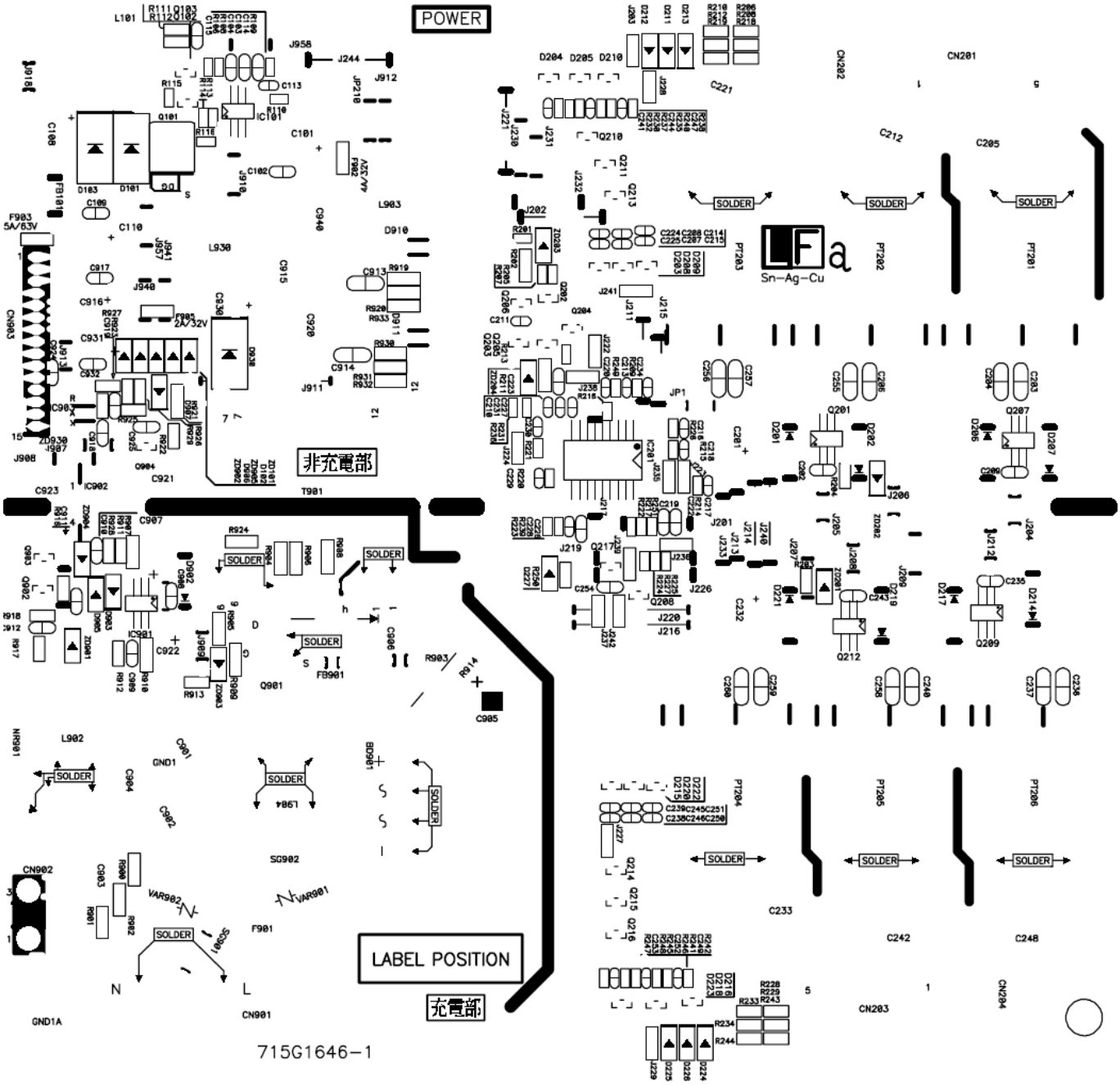




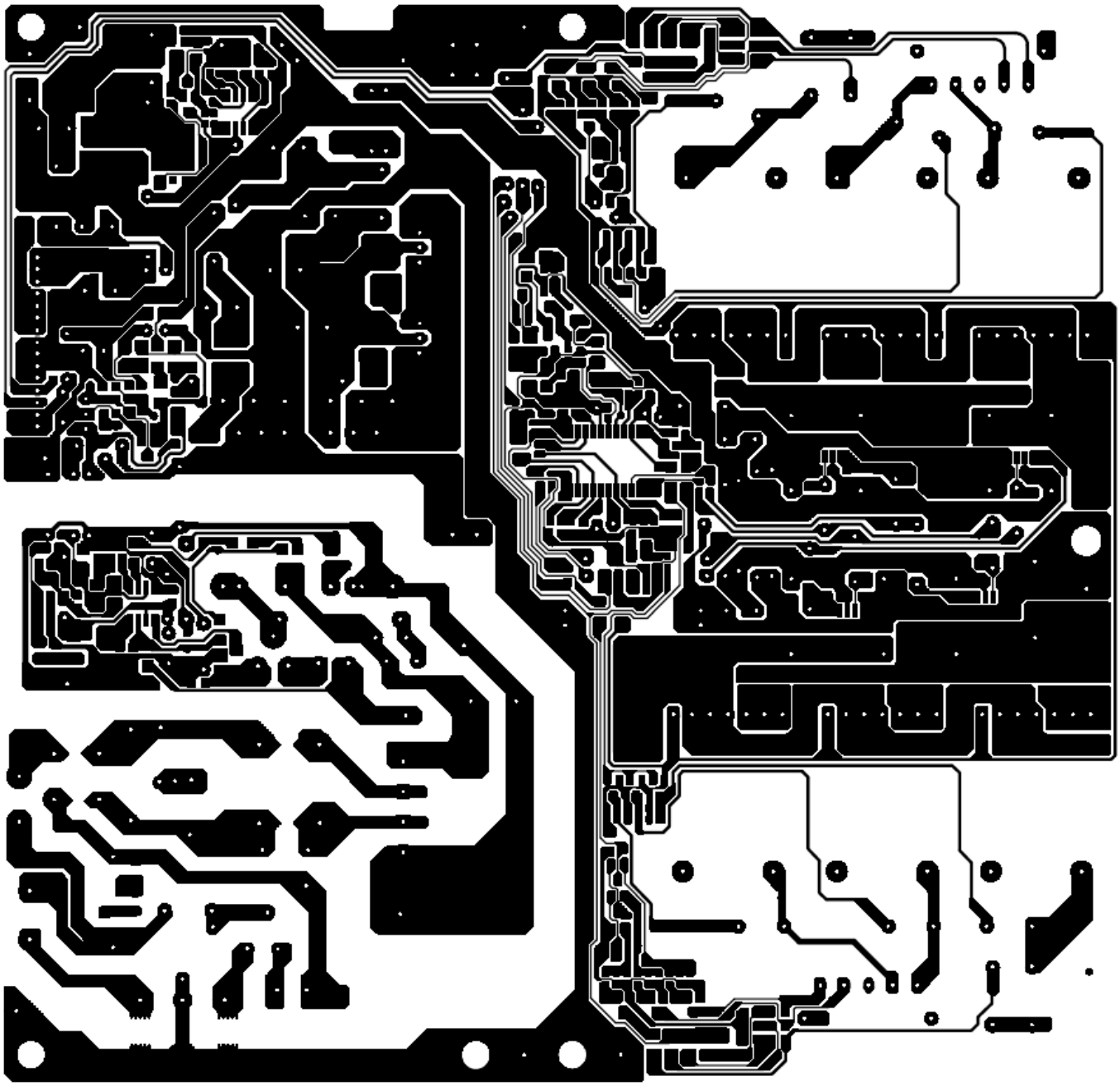
7.2 Power Board

715G1646 1



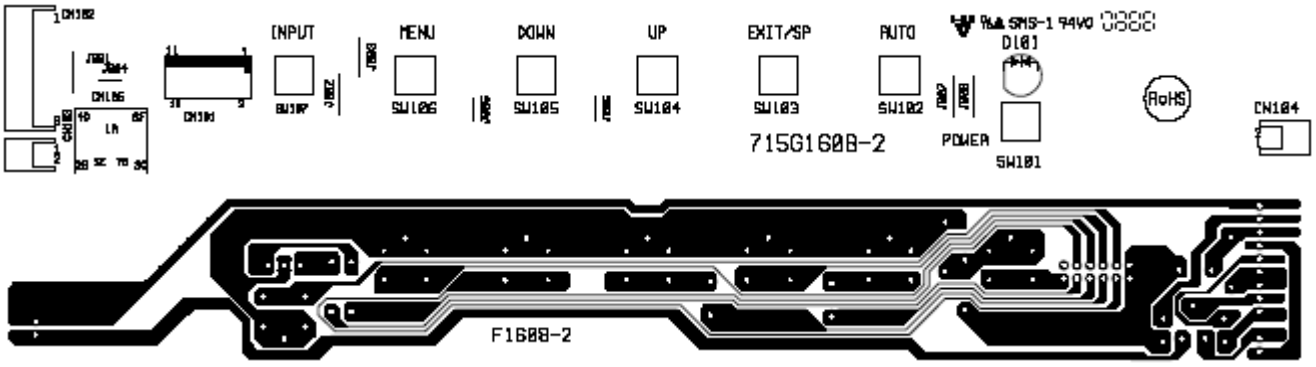


715G1646-1



7.3 Key Board

715G1608 2



8. Maintainability

8.1 Equipments And Tools Requirement

1. Voltmeter.
2. Oscilloscope.
3. Pattern Generator.
4. DDC Tool with an IBM Compatible Computer.
5. Alignment Tool.
6. LCD Color Analyzer.
7. Service Manual.
8. User Manual.

If the monitor fails to operate correctly, please follow the steps below for a possible solution.

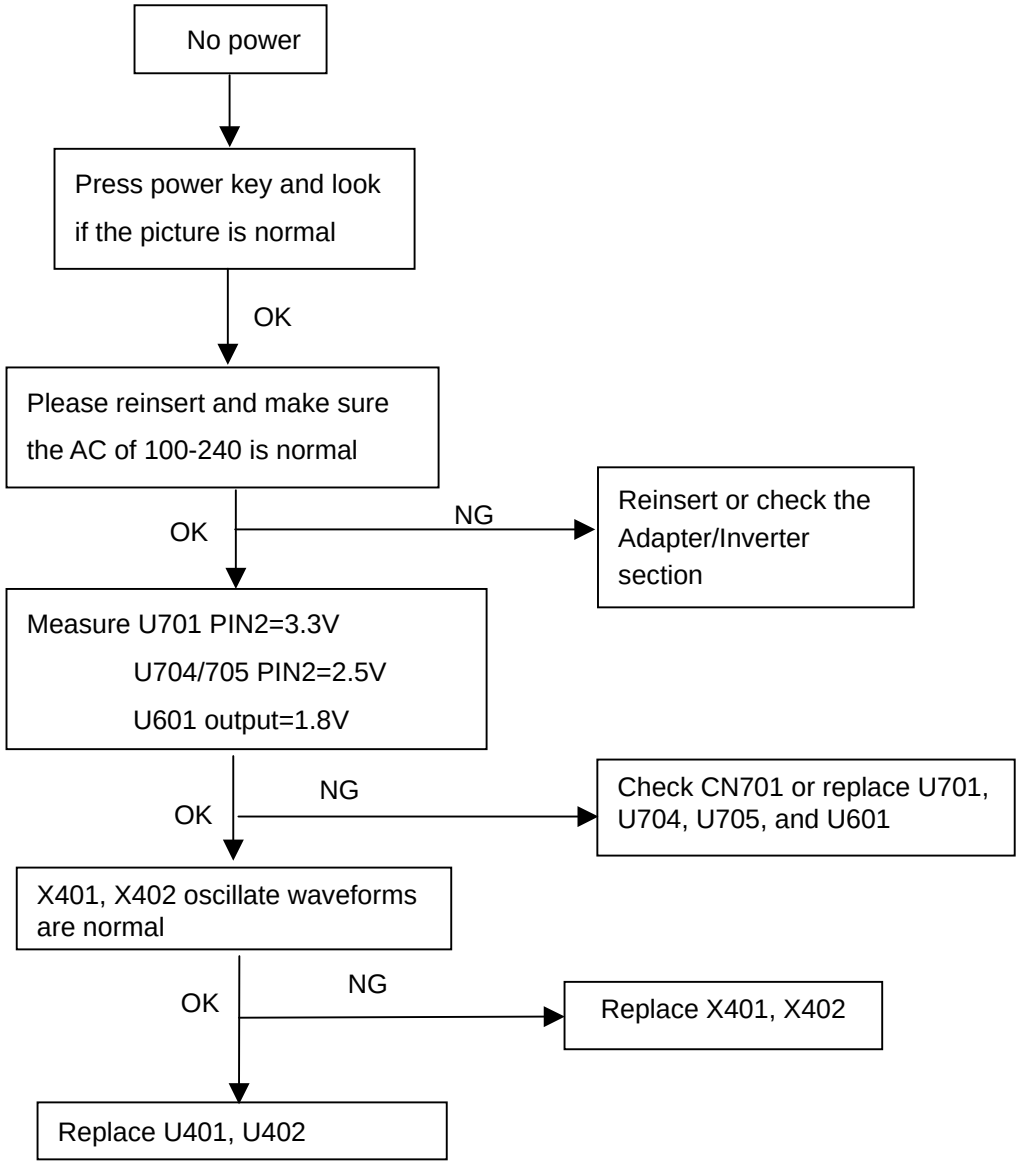
1. Perform the adjustments described in OPERATING THE MONITOR, depending on the problem you have. If the monitor does not get a picture, skip to 2.
2. Consult the following items if you cannot find an appropriate adjustment item in OPERATING THE MONITOR or if the problem persists.
3. If you are experiencing a problem which is not described below or you cannot correct the problem, discontinue using the monitor and contact your dealer or iiyama service center for further assistance.

Problem	Check
① The picture does not appear.	
(Power indicator does not light up.)	☐ The Power Cable is firmly seated in the socket. ☐ The Power Switch is turned ON. ☐ The AC socket is live. Please check with another piece of equipment.
(Power indicator is green/blue.)	☐ If the blank screen saver is in active mode, touch the keyboard or the mouse. ☐ Increase the Contrast and/or Brightness. ☐ The computer is ON. ☐ The Signal Cable is properly connected. ☐ The signal timing of the computer is within the specification of the monitor.
(Power indicator is orange.)	☐ If the monitor is in power management mode, touch the keyboard or the mouse. ☐ The computer is ON. ☐ The Signal Cable is properly connected. ☐ The signal timing of the computer is within the specification of the monitor.
② The screen is not synchronized.	☐ The Signal Cable is properly connected. ☐ The signal timing of the computer is within the specification of the monitor. ☐ The video output level of the computer is within the specification of the monitor.
③ The screen position is not in the center.	☐ The signal timing of the computer is within the specification of the monitor.
④ The screen is too bright or too dark.	☐ The video output level of the computer is within the specification of the monitor.
⑤ The screen is shaking.	☐ The power voltage is within the specification of the monitor. ☐ The signal timing of the computer is within the specification of the monitor.

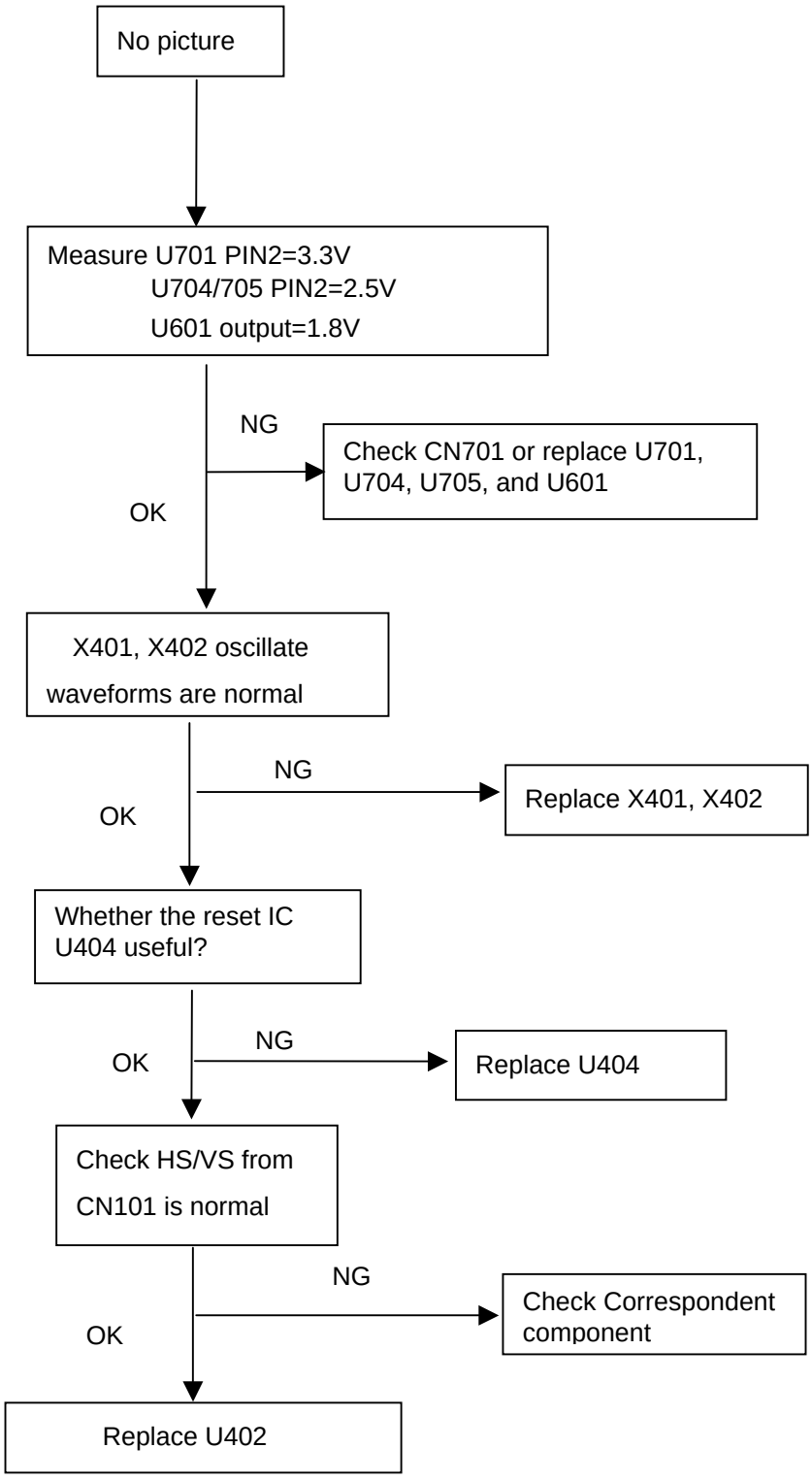
8.2 Trouble Shooting

8.2.1 Main Board

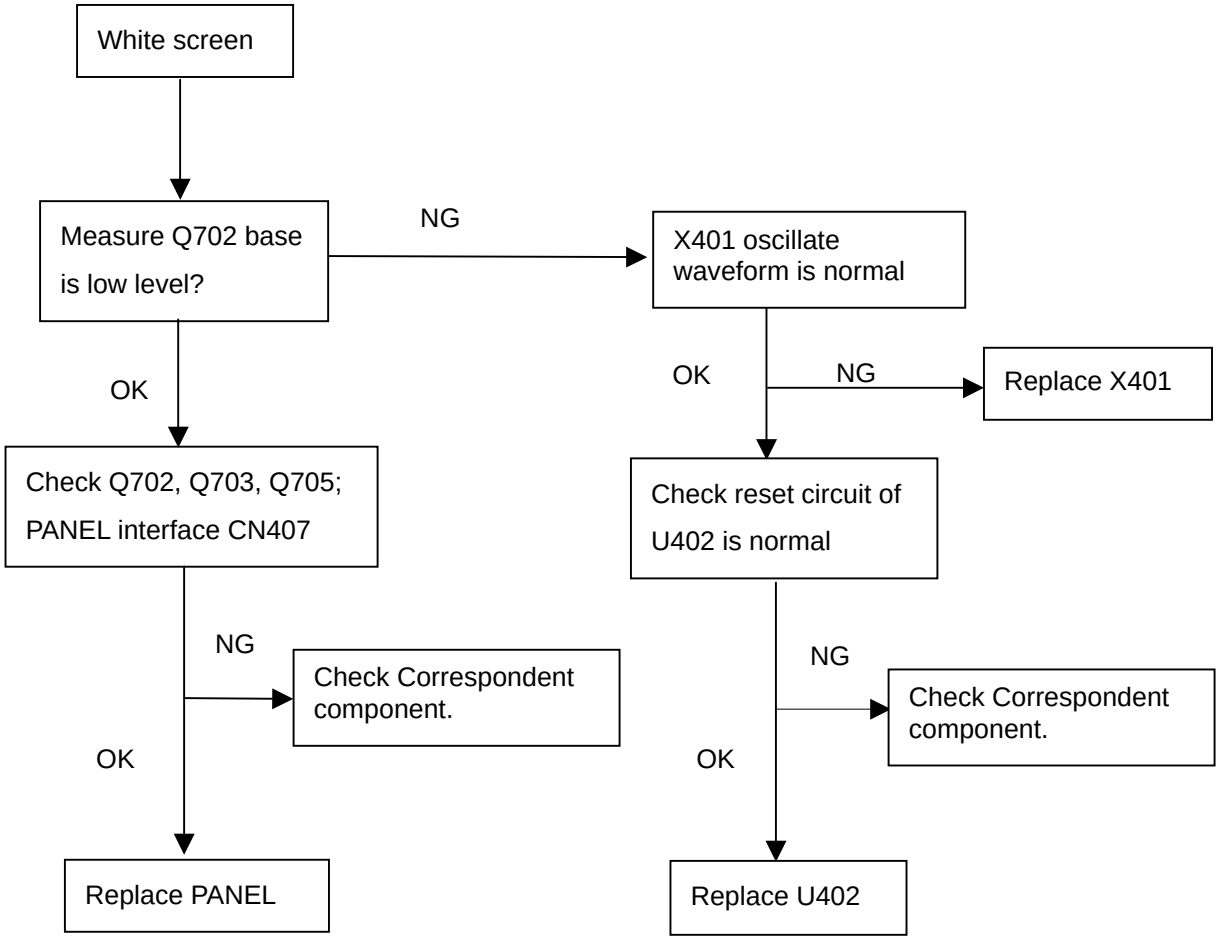
No power



No picture (LED orange)

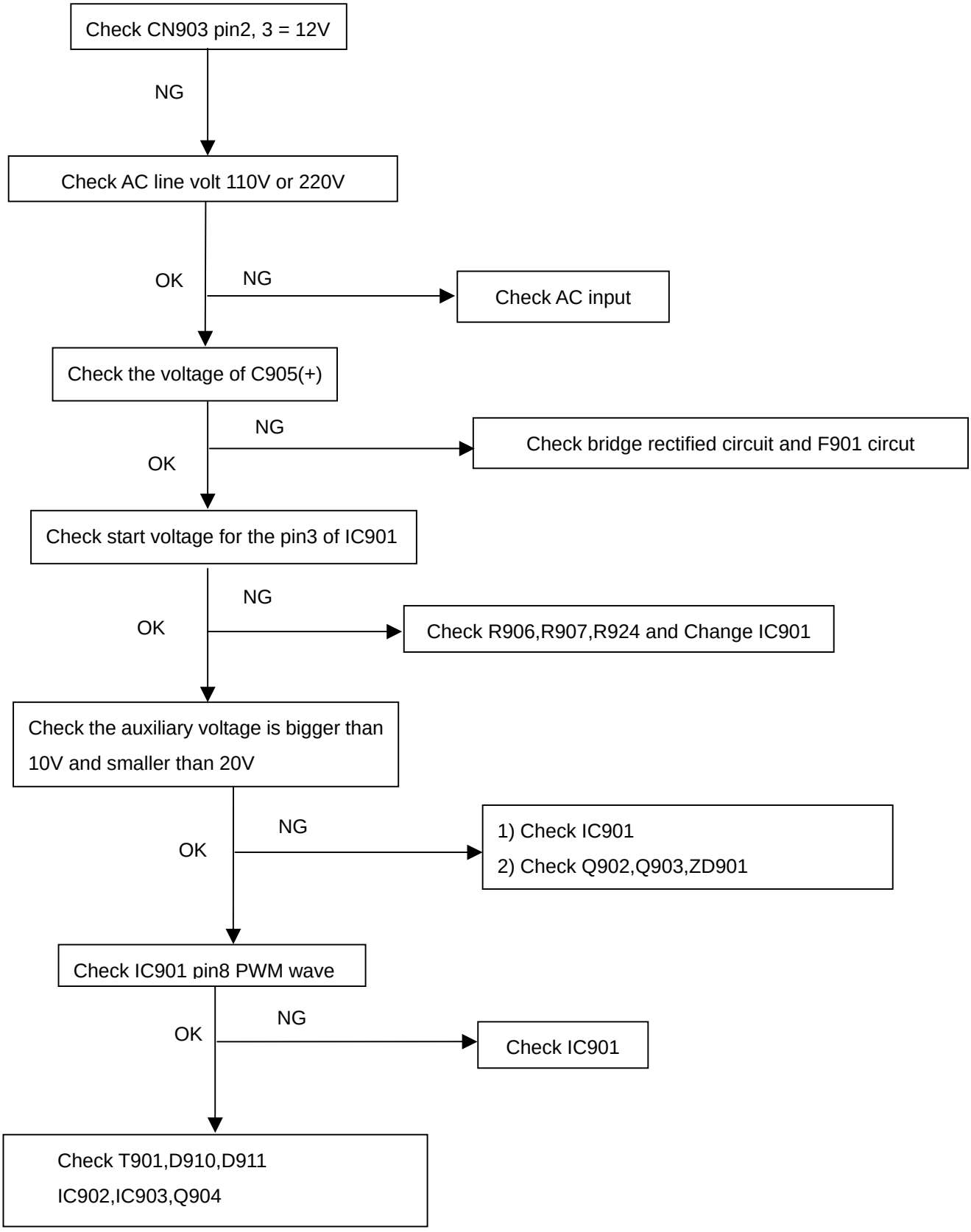


White screen

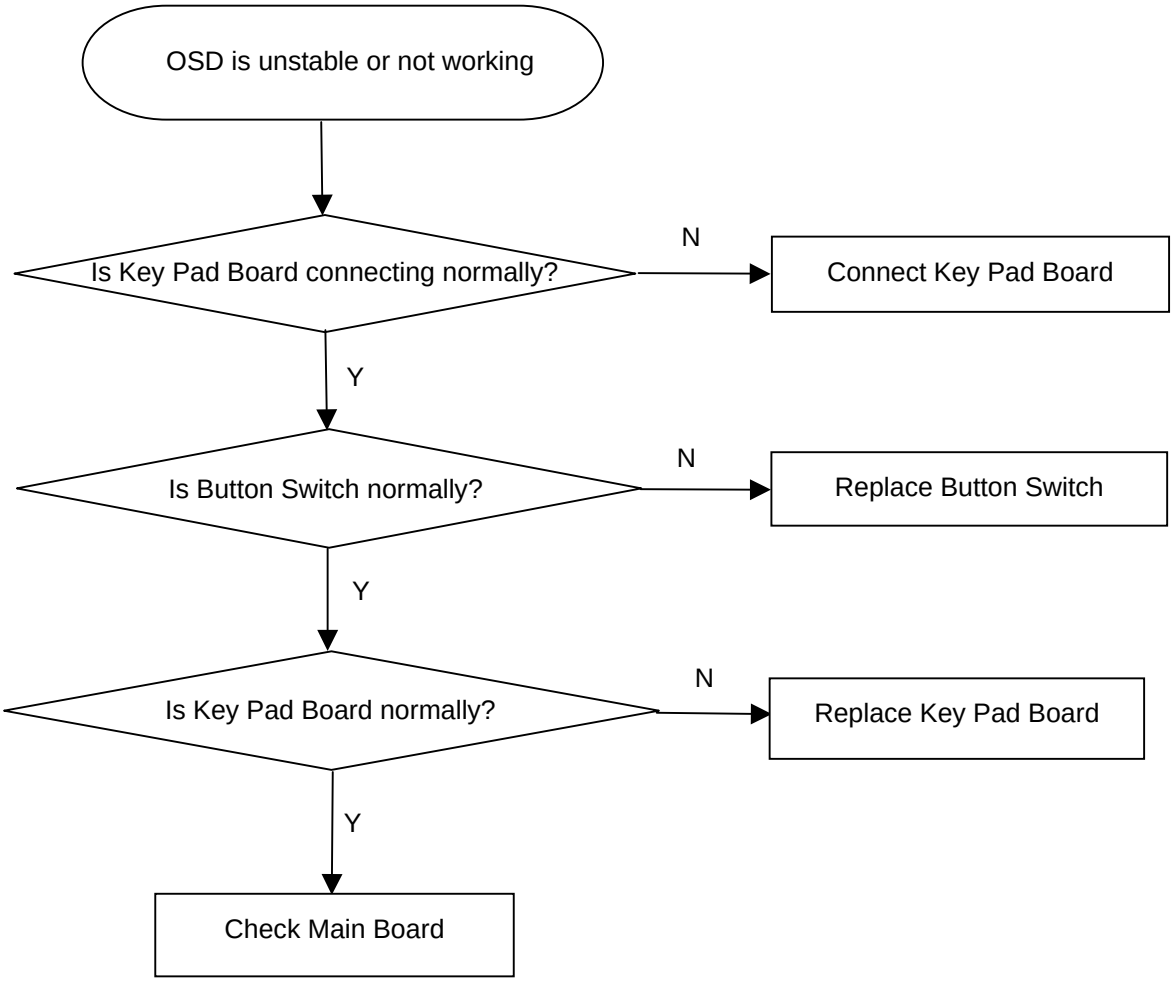


8.2.2 Power/Inverter Board

No power



8.2.3 Key Board



9. White-Balance, Luminance Adjustment

Approximately 30 minutes should be allowed for warm up before proceeding White-Balance adjustment.

1. How to do the Chroma-7120 MEM. Channel setting

   A. Reference to chroma 7120 user guide

   B. Use “ **SC**” key and “ **NEXT**” key to modify x, y, Y value and use “**ID**” key to modify the TEXT description Following is the procedure to do white-balance adjust

2. Setting the color temp. you want

   A. MEM.CHANNEL 3 (7800 color):

   7800 color temp. parameter is x = 299 ±20 y = 315 ±20, Y >170 cd/m^2 ,

   B. MEM.CHANNEL 4 (6500 color):

   6500 color temp. parameter is x = 313±20, y = 329 ±20, Y >170 cd/m^2

3. Into factory mode of PLE511S-B&W2U

   Turn on power, press the MENU button, pull out the power cord, and then plug the power cord. Then the factory OSD will be at the left top of the panel.

4. Bias adjustment:

   Set the **Contrast** to 50; Adjust the **Brightness** to 80.

5. Gain adjustment:

Move cursor to “-F-” and press MENU key

   A. Adjust 7800 color-temperature

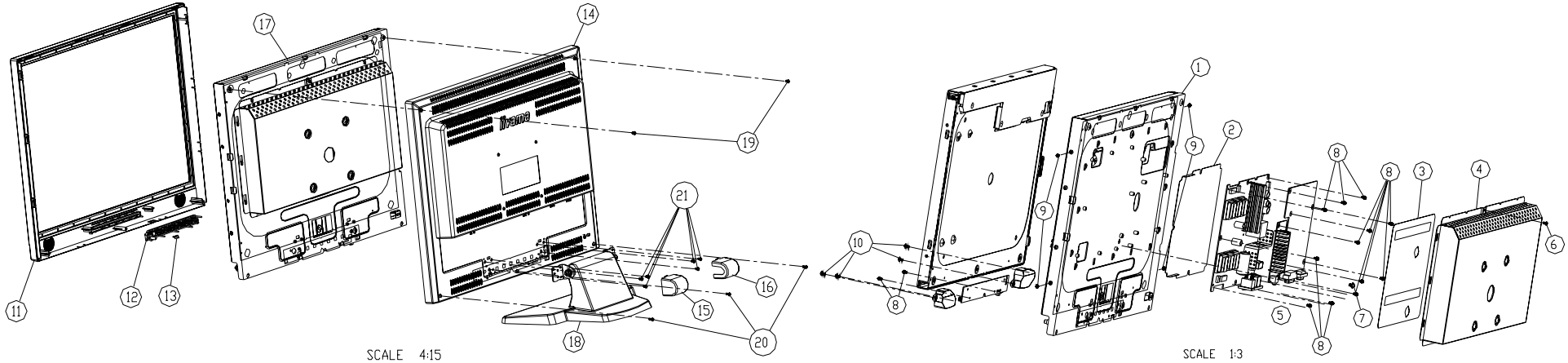
      1. Switch the Chroma-7120 to **RGB-Mode** (with press “MODE” button)
      2. Switch the MEM. Channel to Channel 3 (with up or down arrow on chroma 7120)
      3. The LCD-indicator on chroma 7120 will show x = 299 ±20 y = 315 ±30, Y >170 cd/m^2 ,
      4. Adjust the RED of color1 on factory window until chroma 7120 indicator reached the value R=100
      5. Adjust the GREEN of color1 on factory window until chroma 7120 indicator reached the value G=100
      6. Adjust the BLUE of color1 on factory window until chroma 7120 indicator reached the value B=100
      7. Repeat above procedure (item 4,5,6) until chroma 7120 RGB value meet the tolerance =100±2

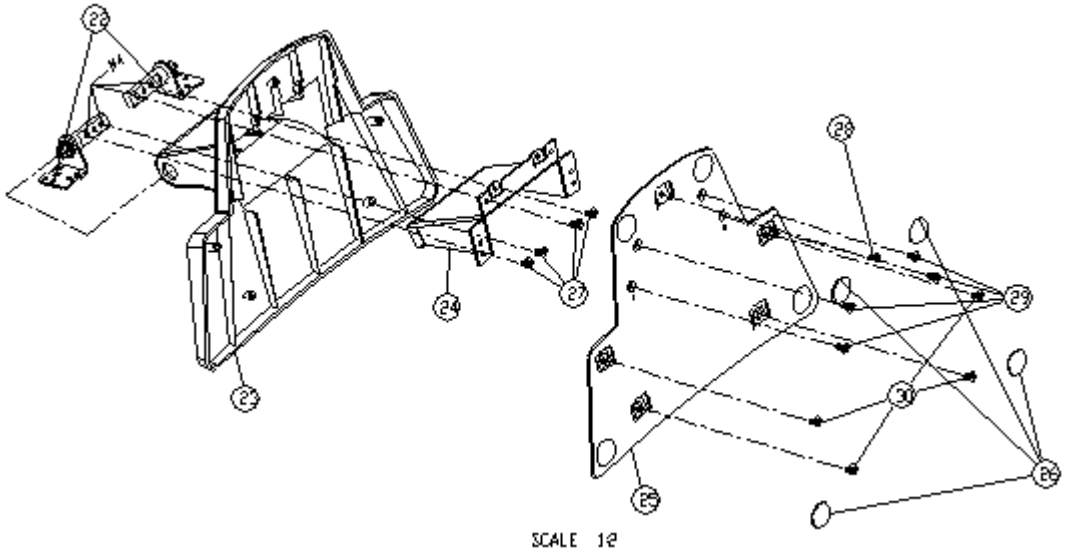
   B. Adjust 6500 color-temperature

      1. Switch the chroma-7120 to **RGB-Mode** (with press “MODE” button)
      2. Switch the MEM.channel to Channel 4(with up or down arrow on chroma 7120)
      3. The LCD-indicator on chroma 7120 will show x = 313±20, y = 329 ±20, Y >170 cd/m^2
      4. Adjust the RED of color3 on factory window until chroma 7120 indicator reached the value R=100
      5. Adjust the GREEN of color3 on factory window until chroma 7120 indicator reachedthe value G=100
      6. Adjust the BLUE of color3 on factory window until chroma 7120 indicator reached the value B=100
      7. Repeat above procedure (item 4,5,6) until chroma 7120 RGB value meet the tolerance =100±2

   C. Turn the Power-button off to quit from factory mode.

10. Monitor Exploded View





Index	Parts name	Parts number	Qty	Index	Parts name	Parts number	Qty
1	Main frame	15GB197-1	1	6	Screw(shielding)	MIG-330-5-128	1
2	Mylor(panel)	5EL6025-11-857	1	7	Screw(grounding)	MIG-1140-6-128	1
3	Mylor(power)	5EL6025-11-858	1	8	Screw(PCB)	MIG-1730-6-128	16
4	Shielding	15GB198-1	1	9	Screw(panel)	MIG-2430-5-47	4
5	AC-lock-bracket	15GB201-1	1	10	Screw(speaker)	MIG-1030-8-128	4

Index	Parts name	Parts number	Qty	Index	Parts name	Parts number	Qty
11	Bezel	34G1645-1	1	17	Chassis Assy.		1
12	Knob-control	33G4901-1	1	18	Stand Assy.		1
13	Lens	33G4902-1	1	19	Screw	MIG-330-5-128	2
14	Rear cover	34G1646-1	1	20	Screw	OIG-330-8-128	3
15	Hinge cover-R	33G4903-1	1	21	Screw(hinge)	MIG-330-5-125	6
16	Hinge cover-L	33G4903-2	1				

Index	Parts name	Parts number	Qty	Index	Parts name	Parts number	Qty
22	Hinge	37G542	1	27	Screw(hinge)	MIG140-8-125	4
23	Stand	34G1647-1	1	28	Screw	OIG330-8-128	1
24	Bracket-neck	15GB199	1	29	Screw	MIG140-8-128	4
25	Base-plate	15GB200	1	30	Screw	OIG140-8-128	4
26	Rubber foot	[illegible]	4				

11. BOM List

TA90KSUHBYY3AP

Location	Part NO.	Description
	015G6312 1	AC HOLDER
	015G8198 1	SHIEL DING
	033G4902 1	LENS
	040G 581695 1A	SERIAL LABEL
	040G 581695 6A	EUROPE LABEL
	044G6002608 7A	PAPER PLATE
	044G9003210	CORNER PAPER
	045G 76 28 RN	PE BAG FO MANUAL/BASE
	045G 88626 8	PE BAG FOR MOUITOR
	052G 1185	MIDDLE TAPE FOR CARTON
	052G 1186	SMALL TAPE
	089G 173 56 8	AUDIO CABLE
	089G1748GAA12B	SIGNAL CABLE
	095G8014 14 27	HARNESS 12P-12P 70MM
	095G8018 30668	WIRE HARNESS
	0M1G 330 4128	SCREW M3X4
	0M1G 330 5 47	SCREW
	0M1G 330 8125	SCREW
	0M1G1140 6128	SCREW 4X6
	0M1G1730 6128	SCREW M3x6
	0M1G3030 5 47	SCREW
	0Q1G 330 8 47	SCREW 3X8mm
	0Q1G 330 8128	SCREW PH K30X8 PT
	705GQAK0M34001	20.1" LCD MAIN FRAME ASS'Y
	705GQAK0P34002	19" LCD STAND COVER ASS'Y
	750GLSA1U11 11	SEC 20.1" PANEL
	AUPCA90A1P	AUDIO BOARD FOR TA90*
	CBPCA90KS3Y4P	CONVERSION BOARD FOR TA90*
	KEPCA90KY2P	KEY BOARD FOR TA90*
	PWPC2066SEY1P	POWER BOARD
	Q07G 7 T 25	COMPOUND PALLET
	Q07G 7 T 26	COMPOUND PALLET
	Q07G 7 T 27	COMPOUND PALLET
	Q07G 7 T 28	COMPOUND PALLET
	Q33G4901 DZ 1L	KNOB-CONTROL
	Q33G4903 DZ 1L	HINGE COVER R

	Q33G4903 DZ 2L	HINGE COVER L
	Q34G1645 DZA1B	BEZEL
	Q34G1646 DZ 1B	REAR COVER
	Q40G 20N695 3A	Rating label
	Q41G2002695 2A	Manual
	Q44G6002101103	Paper board
	Q44GA003 1	EPS(L)
	Q44GA003 2	EPS(R)
	Q44GA003 3EPE	EPE
	Q44GA003695 1A	CARTON
	Q45G 88609 34	EPE COVER
	Q52G6025 11857	MYLAR
	Q52G6025 11858	MYLAR
	012G6206 1	PORON
	015G8197 1	MAIN FRAME
E078L	078G 311 3 LB	SPEAKER
E078R	078G 311 3 RB	SPEAKER
E095A	095G8014 9532 X	WIRE HARNESS
	095G8014 16 47	WIRE HARNESS
	0M1G1030 8128	WCREW M3X8
	Q52G6025 11944	MYLAR
	012G 394 3	RUBBER FOOT
	015G8199 1	BRACKET-NECK
	015G8200 1	BASE-PLATE
	037G 542 1	HINGE
	037G 542 2	HINGE
	0M1G 140 8125	SCREW
	0M1G 140 8128	SCREW M4X8
	0Q1G 140 8120	SCREW T4X8
	0Q1G 330 6120	SCREW
	Q34G1647 DZ 1B	STAND
CN107	033G3802 9	WAFER 9P RIGHT ANELE PITCH
CN602	033G8027 14	WAFER 14P 2.0MM DIP DUAL ROW
C620	067G215B471 3H	470UF 16V LTR471M1CF11VR 8*11m
C601	067G215Y100 7R	LOW E.S.R 10UF +/-20% 50V
C605	067G215Y100 7R	LOW E.S.R 10UF +/-20% 50V
C617	067G215Y100 7R	LOW E.S.R 10UF +/-20% 50V
C625	067G215Y100 7R	LOW E.S.R 10UF +/-20% 50V
C636	067G215Y100 7R	LOW E.S.R 10UF +/-20% 50V

C643	067G305V221 3	220UF/16V
C638	067G305V221 3	220UF/16V
CN601	088G 30214K	PHONE JACK 5PIN
	AUPCA90A1SMTP	AUDIO BOARD FOR TA90* SMT
U602	Q90G6119 4	HEAT SINK
CN701	033G8027 14	WAFER 14P 2.0MM DIP DUAL ROW
CN402	033G8027 14	WAFER 14P 2.0MM DIP DUAL ROW
CN401	033G8027 16	WAFER 16PIN 2.0mm DIP
CN407	033G8027 30 H	WAFER 30P 2.0MM RIGHT ANGLE
	040T 457624 1B	CPU LABEL
	040T 45762412B	CBPC LABEL
C768	067G215V101 4N	KY25VB100M-CC3(6.3*11)
C610	067G215V101 4R	LOW E.S.R 100UF +/-20% 25V
C704	067G215V101 4R	LOW E.S.R 100UF +/-20% 25V
C609	067G215V221 4R	LOW E.S.R 220UF +/-20% 25V
C770	067G215V470 4N	KY25VB47-M-CC3.0 5*11MM
C771	067G215V470 4N	KY25VB47-M-CC3.0 5*11MM
C772	067G215V470 4R	LOW E.S.R 47UF +/-20% 25V
C769	067G215V470 4R	LOW E.S.R 47UF +/-20% 25V
C761	067G215V470 4R	LOW E.S.R 47UF +/-20% 25V
C753	067G215V470 4R	LOW E.S.R 47UF +/-20% 25V
C718	067G215V470 4R	LOW E.S.R 47UF +/-20% 25V
C715	067G215V470 4R	LOW E.S.R 47UF +/-20% 25V
C712	067G215V470 4R	LOW E.S.R 47UF +/-20% 25V
C745	067G215Y100 7R	LOW E.S.R 10UF +/-20% 50V
C743	067G215Y100 7R	LOW E.S.R 10UF +/-20% 50V
C737	067G215Y100 7R	LOW E.S.R 10UF +/-20% 50V
C735	067G215Y100 7R	LOW E.S.R 10UF +/-20% 50V
C732	067G215Y100 7R	LOW E.S.R 10UF +/-20% 50V
C730	067G215Y100 7R	LOW E.S.R 10UF +/-20% 50V
C727	067G215Y100 7R	LOW E.S.R 10UF +/-20% 50V
C724	067G215Y100 7R	LOW E.S.R 10UF +/-20% 50V
C721	067G215Y100 7R	LOW E.S.R 10UF +/-20% 50V
C708	067G215Y100 7R	LOW E.S.R 10UF +/-20% 50V
C424	067G215Y2207RV	RUBYCON 50V 22UF
C317	067G215Y2207RV	RUBYCON 50V 22UF
C301	067G215Y2207RV	RUBYCON 50V 22UF
CN101	088G 35315F H	D-SUB 15PIN
CN102	088G 35424F H	DVI CONNECTOR 24PIN

U401	090G 372 2	HEAT SINK
X402	093G 22 53	CRYSTAL 14.318MHzHC-49US
X401	093G 22 58 H	24.576MHZ/20PF/49US
	AICA90KS3Y4P	MAIN BOARD FOR TA90*
CN104	033G3802 2H	WAFER 2P RIGHT ANGLE
CN103	033G3802 2H	WAFER 2P RIGHT ANGLE
CN102	033G3802 9H	WAFER 9P RIGHT ANELE PITCH
CN101	033G8027 12 H	PIN HEADER 2*6 R/A
SW103	077G 600 1GCJ	TACT SWITCH TSPB-2 -NP
SW102	077G 600 1GCJ	TACT SWITCH TSPB-2 -NP
SW101	077G 600 1GCJ	TACT SWITCH TSPB-2 -NP
SW107	077G 600 1GCJ	TACT SWITCH TSPB-2 -NP
SW105	077G 600 1GCJ	TACT SWITCH TSPB-2 -NP
SW106	077G 600 1GCJ	TACT SWITCH TSPB-2 -NP
SW104	077G 600 1GCJ	TACT SWITCH TSPB-2 -NP
D101	081G 12 2 GP	GP36032ME/50-ZO
CN105	088G 30211K	PHONE JACK 5PIN
	AIKA90KY1P	KEY BOARD FOR AI
CN203	033G8020 5D U	CONNECTOR
CN201	033G8020 5D U	CONNECTOR
CN202	033G8021 2D U	3.5mm WAFER
CN204	033G8021 2D U	3.5mm WAFER
CN902	033G8029 3A	3PIN (2PIN NC)
	040G 45762420A	LABEL 25x6mm
IC902	056G 139 3A	PC123Y22FZOF
VAR901	061G 46 6 GP	TNR 10V471K
NR901	061G 5810T	8 OHM 4A NTCR BY THINKING
R914	061G152M278 64	0.27 OHM 5% 2W
C205	065G 3J1206EM	12PF 5% 3KV MURATA
C212	065G 3J1206EM	12PF 5% 3KV MURATA
C221	065G 3J1206EM	12PF 5% 3KV MURATA
C233	065G 3J1206EM	12PF 5% 3KV MURATA
C242	065G 3J1206EM	12PF 5% 3KV MURATA
C248	065G 3J1206EM	12PF 5% 3KV MURATA
C901	065G306K4712BM GP	Y1 CAP 470PF 250VAC MURATA 10%
C902	065G306K4712BM GP	Y1 CAP 470PF 250VAC MURATA 10%
C923	065G306M1022BM	Y1.CAP.001UF 250VAC MURATA
C921	065G306M4722BP	4700PF +-20% 400VAC
C940	067G215L102 4N GP	KY25VB1000M-L 12.5*20

C920	067G215L102 4N GP	KY25VB1000M-L 12.5*20
C101	067G215L102 4N GP	KY25VB1000M-L 12.5*20
C201	067G215L471 4N GP	KY25VB470M-L10*16
C232	067G215L471 4N GP	KY25VB470M-L10*16
C916	067G215L471 4N GP	KY25VB470M-L10*16
C905	067G215S10115N GP	EC CAP 450V/100
FB901	071G 55 29	FERRITE BEAD
L903	073G 253 91 T	CHOKE
L101	073G 253163 LA	CHOKE
L904	073L 174 40LSG	LINE FILTER
L902	073L 174 50 LH	LINE FILTER
T901	080GL20T 10 T	X'FMR
PT206	080TL20T 3 DN	X'FMR
PT205	080TL20T 3 DN	X'FMR
PT204	080TL20T 3 DN	X'FMR
PT203	080TL20T 3 DN	X'FMR
PT202	080TL20T 3 DN	X'FMR
PT201	080TL20T 3 DN	X'FMR
HS4	090G6212 1	HEAT SINK
BD901	093G 50460 16	U4KB80R
	095G 900 72	WIRE HARNESS
CN903	095G8013 15 1	HOUSING B2513H02 CR SCN-
	705G 20 57 04	Q901 ASS'Y
	705G 20 61 02	R903 ASS'Y
	705G 20 87 03	CN901 ASS'Y
	705G 20 93 05	D910/D911 ASS'Y
	PW2066SEY1SMTP	POWER BOARD FOR SMT
U601	056G 616 6	TPA3003D2PFBRG4 TQFP-48
U602	056G 616 19	TPA6112A2 MSOP-10
R602	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R628	061L0603100 2F	10K 1% 1/10W
R619	061L0603101	CHIPR 100 OHM +-5% 1/16W
R614	061L0603101	CHIPR 100 OHM +-5% 1/16W
R630	061L0603102	CHIPR 1K OHM +-5% 1/16W
R632	061L0603103	CHIPR 10K OHM +-5% 1/16W
R631	061L0603103	CHIPR 10K OHM +-5% 1/16W
R623	061L0603103	CHIPR 10K OHM +-5% 1/16W
R622	061L0603103	CHIPR 10K OHM +-5% 1/16W
R616	061L0603103	CHIPR 10K OHM +-5% 1/16W

R615	061L0603103	CHIPR 10K OHM +-5% 1/16W
R609	061L0603103	CHIPR 10K OHM +-5% 1/16W
R601	061L0603103	CHIPR 10K OHM +-5% 1/16W
R633	061L0603103	CHIPR 10K OHM +-5% 1/16W
R624	061L0603110 2F	CHIP 11KOHM 1/16W 1%
R625	061L0603110 2F	CHIP 11KOHM 1/16W 1%
R610	061L0603122	1.2K OHM 1/10W 5%
R612	061L0603122	1.2K OHM 1/10W 5%
R617	061L0603122	1.2K OHM 1/10W 5%
R620	061L0603122	1.2K OHM 1/10W 5%
R627	061L0603123	CHIP 12K OHM 1/16W
R626	061L0603123	CHIP 12K OHM 1/16W
R603	061L0603124	CHIP 120KOHM 1/10W
R607	061L0603124	CHIP 120KOHM 1/10W
R608	061L0603180 1F	CHIP 1.8K OHM 1/10W 1%
R611	061L0603203	CHIPR 20K OHM+-5% 1/10W
R613	061L0603203	CHIPR 20K OHM+-5% 1/10W
R618	061L0603203	CHIPR 20K OHM+-5% 1/10W
R621	061L0603203	CHIPR 20K OHM+-5% 1/10W
R604	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
C602	065G0603102 32	1000PF +-10% 50V X7R
C603	065G0603102 32	1000PF +-10% 50V X7R
C604	065G0603102 32	1000PF +-10% 50V X7R
C612	065G0603102 32	1000PF +-10% 50V X7R
C615	065G0603102 32	1000PF +-10% 50V X7R
C630	065G0603102 32	1000PF +-10% 50V X7R
C631	065G0603102 32	1000PF +-10% 50V X7R
C632	065G0603102 32	1000PF +-10% 50V X7R
C607	065G0603103 32	0.01UF +-10% 50V X7R
C608	065G0603103 32	0.01UF +-10% 50V X7R
C626	065G0603103 32	0.01UF +-10% 50V X7R
C629	065G0603103 32	0.01UF +-10% 50V X7R
C628	065G0603104 12	CER2 0603 X7R 16V 100N PM10 R
C627	065G0603104 12	CER2 0603 X7R 16V 100N PM10 R
C621	065G0603104 12	CER2 0603 X7R 16V 100N PM10 R
C618	065G0603104 12	CER2 0603 X7R 16V 100N PM10 R
C609	065G0603104 12	CER2 0603 X7R 16V 100N PM10 R
C606	065G0603104 12	CER2 0603 X7R 16V 100N PM10 R
C610	065G0603105 12	CHIP 1UF 16VX7R 0603

C611	065G0603105 12	CHIP 1UF 16VX7R 0603
C613	065G0603105 12	CHIP 1UF 16VX7R 0603
C614	065G0603105 12	CHIP 1UF 16VX7R 0603
C616	065G0603105 12	CHIP 1UF 16VX7R 0603
C619	065G0603105 12	CHIP 1UF 16VX7R 0603
C623	065G0603105 12	CHIP 1UF 16VX7R 0603
C634	065G0603105 12	CHIP 1UF 16VX7R 0603
C635	065G0603105 12	CHIP 1UF 16VX7R 0603
C637	065G0603105 12	CHIP 1UF 16VX7R 0603
C640	065G0603105 12	CHIP 1UF 16VX7R 0603
C642	065G0603105 12	CHIP 1UF 16VX7R 0603
C644	065G0603105 12	CHIP 1UF 16VX7R 0603
C622	065G0603221 32	CHIP 220PF 50V NPO
C633	065G0603472 32	CHIP 4700PF 50V X7R
C639	065G0603472 32	CHIP 4700PF 50V X7R
C641	065G0603472 32	CHIP 4700PF 50V X7R
C645	065G0603472 32	CHIP 4700PF 50V X7R
FB601	071G 57G601	TI3216JIG
FB602	071G 57G601	TI3216JIG
FB604	071G 57G601	TI3216JIG
FB605	071G 57G601	TI3216JIG
FB606	071G 57G601	TI3216JIG
FB607	071G 57G601	TI3216JIG
FB608	071G 57G601	TI3216JIG
FB609	071G 57G601	TI3216JIG
FB610	071G 57G601	TI3216JIG
FB612	071G 57G601	TI3216JIG
	715G1604 1	PCB
U601	056G 133 32 NS	LM3485 MSOP-8 NS
U401	056G 562106	MST9251A-LF-165 PQFP-208
U702	056G 563 7	AIC1084-33PM
U701	056G 563 7	AIC1084-33PM
U705	056G 563 45	AP1084K25GA TO-263 ATC
U704	056G 585 7	RT9164-25PL
U303	056G 615 9	EM6A9320BI-5MG FBGA-144
U404	056G 643 5A	MAX810 STRG
U402	056G1125175SY1	MTV416GMV
U101	056G1133 34	M24C02-WMN6TP
U102	056G1133 34	M24C02-WMN6TP

U403	056G1133 56	M24C16-WMN6TP
Q404	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q701	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q702	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q704	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q705	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q402	057G 417 6	PMBS3906/PHILIPS-SMT(06)
Q403	057G 417 6	PMBS3906/PHILIPS-SMT(06)
Q101	057G 759 2	RK7002
Q103	057G 759 2	RK7002
Q104	057G 759 2	RK7002
Q602	057G 763 1	A03401 SOT23 BY AOS(A1)
Q703	057G 763 3	AO4411 SO-8
RN401	061L 125103 8	CHIP AR 8P4R 10KOHM +-5% 1/16W
RN301	061L 125330 8	CHIP AR 894R 33OHM +-5% 1/16W
RN302	061L 125330 8	CHIP AR 894R 33OHM +-5% 1/16W
RN303	061L 125330 8	CHIP AR 894R 33OHM +-5% 1/16W
RN304	061L 125330 8	CHIP AR 894R 33OHM +-5% 1/16W
RN305	061L 125330 8	CHIP AR 894R 33OHM +-5% 1/16W
RN306	061L 125330 8	CHIP AR 894R 33OHM +-5% 1/16W
RN307	061L 125330 8	CHIP AR 894R 33OHM +-5% 1/16W
RN308	061L 125330 8	CHIP AR 894R 33OHM +-5% 1/16W
R459	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R458	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R441	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R304	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R303	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R302	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R301	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R151	061L0603000	RST SM 0603 JUMP MAX 0R05 R
L103	061L0603000	RST SM 0603 JUMP MAX 0R05 R
L102	061L0603000	RST SM 0603 JUMP MAX 0R05 R
L101	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R143	061L0603100	CHIP 10 OHM 1/10W
R142	061L0603100	CHIP 10 OHM 1/10W
R141	061L0603100	CHIP 10 OHM 1/10W
R140	061L0603100	CHIP 10 OHM 1/10W
R139	061L0603100	CHIP 10 OHM 1/10W
R138	061L0603100	CHIP 10 OHM 1/10W

R137	061L0603100	CHIP 10 OHM 1/10W
R144	061L0603100	CHIP 10 OHM 1/10W
R484	061L0603101	CHIPR 100 OHM +-5% 1/16W
R483	061L0603101	CHIPR 100 OHM +-5% 1/16W
R460	061L0603101	CHIPR 100 OHM +-5% 1/16W
R434	061L0603101	CHIPR 100 OHM +-5% 1/16W
R422	061L0603101	CHIPR 100 OHM +-5% 1/16W
R419	061L0603101	CHIPR 100 OHM +-5% 1/16W
R415	061L0603101	CHIPR 100 OHM +-5% 1/16W
R411	061L0603101	CHIPR 100 OHM +-5% 1/16W
R410	061L0603101	CHIPR 100 OHM +-5% 1/16W
R407	061L0603101	CHIPR 100 OHM +-5% 1/16W
R406	061L0603101	CHIPR 100 OHM +-5% 1/16W
R182	061L0603101	CHIPR 100 OHM +-5% 1/16W
R165	061L0603101	CHIPR 100 OHM +-5% 1/16W
R164	061L0603101	CHIPR 100 OHM +-5% 1/16W
R145	061L0603101	CHIPR 100 OHM +-5% 1/16W
R125	061L0603101	CHIPR 100 OHM +-5% 1/16W
R124	061L0603101	CHIPR 100 OHM +-5% 1/16W
R121	061L0603101	CHIPR 100 OHM +-5% 1/16W
R120	061L0603101	CHIPR 100 OHM +-5% 1/16W
R111	061L0603101	CHIPR 100 OHM +-5% 1/16W
R115	061L0603102	CHIPR 1K OHM +-5% 1/16W
R147	061L0603102	CHIPR 1K OHM +-5% 1/16W
R148	061L0603102	CHIPR 1K OHM +-5% 1/16W
R418	061L0603102	CHIPR 1K OHM +-5% 1/16W
R421	061L0603102	CHIPR 1K OHM +-5% 1/16W
R429	061L0603102	CHIPR 1K OHM +-5% 1/16W
R430	061L0603102	CHIPR 1K OHM +-5% 1/16W
R432	061L0603102	CHIPR 1K OHM +-5% 1/16W
R433	061L0603102	CHIPR 1K OHM +-5% 1/16W
R436	061L0603102	CHIPR 1K OHM +-5% 1/16W
R437	061L0603102	CHIPR 1K OHM +-5% 1/16W
R703	061L0603102	CHIPR 1K OHM +-5% 1/16W
R704	061L0603102	CHIPR 1K OHM +-5% 1/16W
R444	061L0603103	CHIPR 10K OHM +-5% 1/16W
R443	061L0603103	CHIPR 10K OHM +-5% 1/16W
R435	061L0603103	CHIPR 10K OHM +-5% 1/16W
R414	061L0603103	CHIPR 10K OHM +-5% 1/16W

R310	061L0603103	CHIPR 10K OHM +-5% 1/16W
R309	061L0603103	CHIPR 10K OHM +-5% 1/16W
R181	061L0603103	CHIPR 10K OHM +-5% 1/16W
R170	061L0603103	CHIPR 10K OHM +-5% 1/16W
R450	061L0603103	CHIPR 10K OHM +-5% 1/16W
R451	061L0603103	CHIPR 10K OHM +-5% 1/16W
R452	061L0603103	CHIPR 10K OHM +-5% 1/16W
R453	061L0603103	CHIPR 10K OHM +-5% 1/16W
R454	061L0603103	CHIPR 10K OHM +-5% 1/16W
R455	061L0603103	CHIPR 10K OHM +-5% 1/16W
R456	061L0603103	CHIPR 10K OHM +-5% 1/16W
R457	061L0603103	CHIPR 10K OHM +-5% 1/16W
R463	061L0603103	CHIPR 10K OHM +-5% 1/16W
R472	061L0603103	CHIPR 10K OHM +-5% 1/16W
R473	061L0603103	CHIPR 10K OHM +-5% 1/16W
R474	061L0603103	CHIPR 10K OHM +-5% 1/16W
R475	061L0603103	CHIPR 10K OHM +-5% 1/16W
R476	061L0603103	CHIPR 10K OHM +-5% 1/16W
R477	061L0603103	CHIPR 10K OHM +-5% 1/16W
R478	061L0603103	CHIPR 10K OHM +-5% 1/16W
R479	061L0603103	CHIPR 10K OHM +-5% 1/16W
R480	061L0603103	CHIPR 10K OHM +-5% 1/16W
R701	061L0603103	CHIPR 10K OHM +-5% 1/16W
R702	061L0603103	CHIPR 10K OHM +-5% 1/16W
R707	061L0603103	CHIPR 10K OHM +-5% 1/16W
R169	061L0603103	CHIPR 10K OHM +-5% 1/16W
R122	061L0603103	CHIPR 10K OHM +-5% 1/16W
R123	061L0603103	CHIPR 10K OHM +-5% 1/16W
R126	061L0603103	CHIPR 10K OHM +-5% 1/16W
R127	061L0603103	CHIPR 10K OHM +-5% 1/16W
R136	061L0603103	CHIPR 10K OHM +-5% 1/16W
R149	061L0603103	CHIPR 10K OHM +-5% 1/16W
R150	061L0603103	CHIPR 10K OHM +-5% 1/16W
R168	061L0603103	CHIPR 10K OHM +-5% 1/16W
R146	061L0603104	RST SM 0603 RC0603 100K PM5 R
R401	061L0603104	RST SM 0603 RC0603 100K PM5 R
R710	061L0603104	RST SM 0603 RC0603 100K PM5 R
R714	061L0603104	RST SM 0603 RC0603 100K PM5 R
R311	061L0603150 0F	CHIPR150OHM 1/10W 1%

R607	061L0603150 2F	CHIPR 15KOHM +-1% 1/10W
R114	061L0603151	CHIPR 150 OHM +-5% 1/16W
R605	061L0603220	CHIPR 22 OHM+-5% 1/16W
R442	061L0603221	CHIPR 220 OHM+-5% 1/16W
R448	061L0603221	CHIPR 220 OHM+-5% 1/16W
R449	061L0603221	CHIPR 220 OHM+-5% 1/16W
R462	061L0603221	CHIPR 220 OHM+-5% 1/16W
R428	061L0603221	CHIPR 220 OHM+-5% 1/16W
R427	061L0603221	CHIPR 220 OHM+-5% 1/16W
R426	061L0603221	CHIPR 220 OHM+-5% 1/16W
R425	061L0603221	CHIPR 220 OHM+-5% 1/16W
R424	061L0603221	CHIPR 220 OHM+-5% 1/16W
R423	061L0603221	CHIPR 220 OHM+-5% 1/16W
R112	061L0603222	CHIPR 2.2K OHM+-5% 1/16W
R113	061L0603222	CHIPR 2.2K OHM+-5% 1/16W
R608	061L0603316 2F	CHIP 31.6K OHM 1/10W 1%
R103	061L0603330	CHIPR 33 OHM +-5% 1/10W
R305	061L0603330	CHIPR 33 OHM +-5% 1/10W
R306	061L0603330	CHIPR 33 OHM +-5% 1/10W
R307	061L0603330	CHIPR 33 OHM +-5% 1/10W
R308	061L0603330	CHIPR 33 OHM +-5% 1/10W
R438	061L0603330	CHIPR 33 OHM +-5% 1/10W
R439	061L0603330	CHIPR 33 OHM +-5% 1/10W
R102	061L0603330	CHIPR 33 OHM +-5% 1/10W
R101	061L0603330	CHIPR 33 OHM +-5% 1/10W
R440	061L0603391	CHIP 390 OHM 1/10W
R104	061L0603471	CHIPR 470 OHM+-5% 1/16W
R405	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R408	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R409	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R417	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R420	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R431	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R705	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R706	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R708	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R402	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R403	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R404	061L0603472	CHIPR 4.7K OHM +-5% 1/16W

R606	061L0603683	CHIP 68K OHM 1/16W
R105	061L0603750 9F	75OHM 1% 1/10W
R106	061L0603750 9F	75OHM 1% 1/10W
R107	061L0603750 9F	75OHM 1% 1/10W
R108	061L0603750 9F	75OHM 1% 1/10W
R109	061L0603750 9F	75OHM 1% 1/10W
R110	061L0603750 9F	75OHM 1% 1/10W
R445	061L0805102	CHIPR 1K OHM +-5% 1/10W
R446	061L0805102	CHIPR 1K OHM +-5% 1/10W
F601	061L1206000	CHIPR 0 OHM +-5% 1/8W
R601	061L1206000	CHIPR 0 OHM +-5% 1/8W
C101	065G0603102 32	1000PF +-10% 50V X7R
C102	065G0603102 32	1000PF +-10% 50V X7R
C103	065G0603102 32	1000PF +-10% 50V X7R
C104	065G0603102 32	1000PF +-10% 50V X7R
C105	065G0603102 32	1000PF +-10% 50V X7R
C106	065G0603102 32	1000PF +-10% 50V X7R
C107	065G0603102 32	1000PF +-10% 50V X7R
C423	065G0603102 32	1000PF +-10% 50V X7R
C611	065G0603102 32	1000PF +-10% 50V X7R
C612	065G0603102 32	1000PF +-10% 50V X7R
C613	065G0603102 32	1000PF +-10% 50V X7R
C614	065G0603102 32	1000PF +-10% 50V X7R
C601	065G0603104 32	CHIP 0.1UF 50V X7R
C703	065G0603104 32	CHIP 0.1UF 50V X7R
C705	065G0603104 32	CHIP 0.1UF 50V X7R
C706	065G0603104 32	CHIP 0.1UF 50V X7R
C707	065G0603104 32	CHIP 0.1UF 50V X7R
C709	065G0603104 32	CHIP 0.1UF 50V X7R
C713	065G0603104 32	CHIP 0.1UF 50V X7R
C714	065G0603104 32	CHIP 0.1UF 50V X7R
C716	065G0603104 32	CHIP 0.1UF 50V X7R
C717	065G0603104 32	CHIP 0.1UF 50V X7R
C719	065G0603104 32	CHIP 0.1UF 50V X7R
C722	065G0603104 32	CHIP 0.1UF 50V X7R
C723	065G0603104 32	CHIP 0.1UF 50V X7R
C725	065G0603104 32	CHIP 0.1UF 50V X7R
C439	065G0603104 32	CHIP 0.1UF 50V X7R
C420	065G0603104 32	CHIP 0.1UF 50V X7R

C421	065G0603104 32	CHIP 0.1UF 50V X7R
C422	065G0603104 32	CHIP 0.1UF 50V X7R
C425	065G0603104 32	CHIP 0.1UF 50V X7R
C427	065G0603104 32	CHIP 0.1UF 50V X7R
C428	065G0603104 32	CHIP 0.1UF 50V X7R
C429	065G0603104 32	CHIP 0.1UF 50V X7R
C432	065G0603104 32	CHIP 0.1UF 50V X7R
C433	065G0603104 32	CHIP 0.1UF 50V X7R
C434	065G0603104 32	CHIP 0.1UF 50V X7R
C435	065G0603104 32	CHIP 0.1UF 50V X7R
C436	065G0603104 32	CHIP 0.1UF 50V X7R
C437	065G0603104 32	CHIP 0.1UF 50V X7R
C438	065G0603104 32	CHIP 0.1UF 50V X7R
C752	065G0603104 32	CHIP 0.1UF 50V X7R
C754	065G0603104 32	CHIP 0.1UF 50V X7R
C755	065G0603104 32	CHIP 0.1UF 50V X7R
C756	065G0603104 32	CHIP 0.1UF 50V X7R
C757	065G0603104 32	CHIP 0.1UF 50V X7R
C758	065G0603104 32	CHIP 0.1UF 50V X7R
C759	065G0603104 32	CHIP 0.1UF 50V X7R
C760	065G0603104 32	CHIP 0.1UF 50V X7R
C762	065G0603104 32	CHIP 0.1UF 50V X7R
C763	065G0603104 32	CHIP 0.1UF 50V X7R
C764	065G0603104 32	CHIP 0.1UF 50V X7R
C765	065G0603104 32	CHIP 0.1UF 50V X7R
C766	065G0603104 32	CHIP 0.1UF 50V X7R
C767	065G0603104 32	CHIP 0.1UF 50V X7R
C751	065G0603104 32	CHIP 0.1UF 50V X7R
C726	065G0603104 32	CHIP 0.1UF 50V X7R
C728	065G0603104 32	CHIP 0.1UF 50V X7R
C729	065G0603104 32	CHIP 0.1UF 50V X7R
C731	065G0603104 32	CHIP 0.1UF 50V X7R
C733	065G0603104 32	CHIP 0.1UF 50V X7R
C734	065G0603104 32	CHIP 0.1UF 50V X7R
C736	065G0603104 32	CHIP 0.1UF 50V X7R
C738	065G0603104 32	CHIP 0.1UF 50V X7R
C744	065G0603104 32	CHIP 0.1UF 50V X7R
C746	065G0603104 32	CHIP 0.1UF 50V X7R
C747	065G0603104 32	CHIP 0.1UF 50V X7R

C748	065G0603104 32	CHIP 0.1UF 50V X7R
C749	065G0603104 32	CHIP 0.1UF 50V X7R
C750	065G0603104 32	CHIP 0.1UF 50V X7R
C406	065G0603104 32	CHIP 0.1UF 50V X7R
C308	065G0603104 32	CHIP 0.1UF 50V X7R
C307	065G0603104 32	CHIP 0.1UF 50V X7R
C306	065G0603104 32	CHIP 0.1UF 50V X7R
C305	065G0603104 32	CHIP 0.1UF 50V X7R
C304	065G0603104 32	CHIP 0.1UF 50V X7R
C303	065G0603104 32	CHIP 0.1UF 50V X7R
C302	065G0603104 32	CHIP 0.1UF 50V X7R
C126	065G0603104 32	CHIP 0.1UF 50V X7R
C125	065G0603104 32	CHIP 0.1UF 50V X7R
C124	065G0603104 32	CHIP 0.1UF 50V X7R
C123	065G0603104 32	CHIP 0.1UF 50V X7R
C122	065G0603104 32	CHIP 0.1UF 50V X7R
C121	065G0603104 32	CHIP 0.1UF 50V X7R
C120	065G0603104 32	CHIP 0.1UF 50V X7R
C118	065G0603104 32	CHIP 0.1UF 50V X7R
C117	065G0603104 32	CHIP 0.1UF 50V X7R
C116	065G0603104 32	CHIP 0.1UF 50V X7R
C115	065G0603104 32	CHIP 0.1UF 50V X7R
C309	065G0603104 32	CHIP 0.1UF 50V X7R
C405	065G0603104 32	CHIP 0.1UF 50V X7R
C404	065G0603104 32	CHIP 0.1UF 50V X7R
C403	065G0603104 32	CHIP 0.1UF 50V X7R
C325	065G0603104 32	CHIP 0.1UF 50V X7R
C324	065G0603104 32	CHIP 0.1UF 50V X7R
C323	065G0603104 32	CHIP 0.1UF 50V X7R
C322	065G0603104 32	CHIP 0.1UF 50V X7R
C321	065G0603104 32	CHIP 0.1UF 50V X7R
C320	065G0603104 32	CHIP 0.1UF 50V X7R
C310	065G0603104 32	CHIP 0.1UF 50V X7R
C311	065G0603104 32	CHIP 0.1UF 50V X7R
C312	065G0603104 32	CHIP 0.1UF 50V X7R
C313	065G0603104 32	CHIP 0.1UF 50V X7R
C314	065G0603104 32	CHIP 0.1UF 50V X7R
C315	065G0603104 32	CHIP 0.1UF 50V X7R
C316	065G0603104 32	CHIP 0.1UF 50V X7R

C318	065G0603104 32	CHIP 0.1UF 50V X7R
C319	065G0603104 32	CHIP 0.1UF 50V X7R
C401	065G0603220 31	CER1 0603 NP0 50V 22P PM5 R
C402	065G0603220 31	CER1 0603 NP0 50V 22P PM5 R
C418	065G0603220 31	CER1 0603 NP0 50V 22P PM5 R
C419	065G0603220 31	CER1 0603 NP0 50V 22P PM5 R
C111	065G0603221 31	CER1 0603 NP0 50V 220P PM5 R
C112	065G0603470 31	CHIP 47PF 50V NPO
C710	065G0603683 32	CHIP 0.068UF 50L X7R
C113	065G0805105 22	CHIP 1UF 25V X7R 0805
C119	065G0805105 22	CHIP 1UF 25V X7R 0805
C140	065G0805105 22	CHIP 1UF 25V X7R 0805
C414	065G0805105 22	CHIP 1UF 25V X7R 0805
C430	065G0805105 22	CHIP 1UF 25V X7R 0805
L403	071G 56K121 M	CHIP BEAD
L402	071G 56K121 M	CHIP BEAD
L404	071G 56K121 M	CHIP BEAD
L405	071G 56K121 M	CHIP BEAD
L702	071G 56K121 M	CHIP BEAD
L704	071G 56K121 M	CHIP BEAD
L705	071G 56K121 M	CHIP BEAD
L706	071G 56K121 M	CHIP BEAD
L707	071G 56K121 M	CHIP BEAD
L708	071G 56K121 M	CHIP BEAD
L709	071G 56K121 M	CHIP BEAD
L710	071G 56K121 M	CHIP BEAD
L711	071G 56K121 M	CHIP BEAD
L712	071G 56K121 M	CHIP BEAD
L713	071G 56K121 M	CHIP BEAD
L714	071G 56K121 M	CHIP BEAD
L715	071G 56K121 M	CHIP BEAD
L716	071G 56K121 M	CHIP BEAD
L720	071G 56K121 M	CHIP BEAD
L721	071G 56K121 M	CHIP BEAD
L602	073G M5822020T	22UH +-20%
D104	093G 64 42 P	BAV70 SOT-23
D105	093G 64 42 P	BAV70 SOT-23
D101	093G 6433P	BAV99
D102	093G 6433P	BAV99

D103	093G 6433P	BAV99
D106	093G 6433P	BAV99
D107	093G 6433P	BAV99
D108	093G 6433P	BAV99
D109	093G 6433P	BAV99
D110	093G 6433P	BAV99
D111	093G 6433P	BAV99
D112	093G 6433P	BAV99
D113	093G 6433P	BAV99
D117	093G 6433P	BAV99
D118	093G 6433P	BAV99
D119	093G 6433P	BAV99
ZD103	093G 39S 34 T	UDZS5.6B
ZD104	093G 39S 34 T	UDZS5.6B
ZD105	093G 39S 34 T	UDZS5.6B
ZD106	093G 39S 34 T	UDZS5.6B
ZD107	093G 39S 34 T	UDZS5.6B
ZD108	093G 39S 34 T	UDZS5.6B
ZD109	093G 39S 34 T	UDZS5.6B
ZD110	093G 39S 34 T	UDZS5.6B
ZD111	093G 39S 34 T	UDZS5.6B
ZD112	093G 39S 34 T	UDZS5.6B
ZD113	093G 39S 34 T	UDZS5.6B
ZD117	093G 39S 34 T	UDZS5.6B
ZD401	093G 39S 34 T	UDZS5.6B
ZD402	093G 39S 34 T	UDZS5.6B
ZD403	093G 39S 34 T	UDZS5.6B
ZD404	093G 39S 34 T	UDZS5.6B
ZD405	093G 39S 34 T	UDZS5.6B
ZD406	093G 39S 34 T	UDZS5.6B
ZD407	093G 39S 34 T	UDZS5.6B
ZD408	093G 39S 34 T	UDZS5.6B
ZD409	093G 39S 34 T	UDZS5.6B
ZD410	093G 39S 34 T	UDZS5.6B
ZD102	093G 39S 34 T	UDZS5.6B
ZD101	093G 39S 34 T	UDZS5.6B
D602	093G5004 2	DIODE SSM54 5A 40V
	715G1603 1	MAIN BOARD PCB
	715G1608 2	KEY BOARD PCB

Q901	057G 667 21	STP10NK70ZFP
	090G6256 1	HEATSINK
	0M1G1730 8128	SCREW M3x8
R903	061G152M10458F	100K OHM 5% 2W
	096G 29 6	SHRINK TUBE UL/CSA
CN901	077G 306 24 RF	AC SOCKET
	095G 900612	HARNESS
	095G8021 3 12	HARNESS
	096G 29 6	SHRINK TUBE UL/CSA
	090G6257 1	HEAT SINK
D910	093G 60247	FME-220A
D911	093G 60247	FME-220A
	0M1G1730 8128	SCREW M3x8
IC101	056G 379 37	FP5001DR
IC901	056G 379 52	LD7552BS
IC201	056G 608 6	02 960G SOP20
Q102	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q205	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q902	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q103	057G 417 6	PMBS3906/PHILIPS-SMT(06)
Q903	057G 417 6	PMBS3906/PHILIPS-SMT(06)
Q208	057G 417 6	PMBS3906/PHILIPS-SMT(06)
Q212	057G 600 61	AM4502C-TI-PF S0-8
Q209	057G 600 61	AM4502C-TI-PF S0-8
Q201	057G 600 61	AM4502C-TI-PF S0-8
Q207	057G 600 61	AM4502C-TI-PF S0-8
Q213	057G 759 2	RK7002
Q214	057G 759 2	RK7002
Q215	057G 759 2	RK7002
Q211	057G 759 2	RK7002
Q210	057G 759 2	RK7002
Q204	057G 759 2	RK7002
Q202	057G 759 2	RK7002
Q216	057G 759 2	RK7002
Q217	057G 759 2	RK7002
Q203	057G 760 4	DTA144WKA BY ROHM SMT
Q206	057G 760 5	DTC144WKA BY ROHM SMT
Q904	057G 760 5	DTC144WKA BY ROHM SMT
Q101	057G 763 7	A0D405L

R247	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R245	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R241	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R238	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R235	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R230	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R215	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R113	061L0603101	CHIPR 100 OHM +-5% 1/16W
R114	061L0603102	CHIPR 1K OHM +-5% 1/16W
R116	061L0603102	CHIPR 1K OHM +-5% 1/16W
R205	061L0603102	CHIPR 1K OHM +-5% 1/16W
R207	061L0603103	CHIPR 10K OHM +-5% 1/16W
R209	061L0603103	CHIPR 10K OHM +-5% 1/16W
R226	061L0603105	RST SM 0603 RC0603 1M PM5 R
R232	061L0603105	RST SM 0603 RC0603 1M PM5 R
R251	061L0603105	RST SM 0603 RC0603 1M PM5 R
R248	061L0603105	RST SM 0603 RC0603 1M PM5 R
R246	061L0603105	RST SM 0603 RC0603 1M PM5 R
R242	061L0603105	RST SM 0603 RC0603 1M PM5 R
R240	061L0603105	RST SM 0603 RC0603 1M PM5 R
R237	061L0603105	RST SM 0603 RC0603 1M PM5 R
R231	061L0603154	CHIP 150K OHM 1/10W
R225	061L0603200 1F	CHIP 2KOHM 1% 1/10W
R213	061L0603204	CHIPR 200KOHM +-5% 1/10W
R115	061L0603220	CHIPR 22 OHM+-5% 1/16W
R214	061L0603220	CHIPR 22 OHM+-5% 1/16W
R220	061L0603220	CHIPR 22 OHM+-5% 1/16W
R236	061L0603224	CHIP 220K OHM 1/10W
R201	061L0603242	CHIP 2.4K OHM +-5% 1/10W
R239	061L0603244	CHIP 240KOHM 1/16W
R109	061L0603300 1F	CHIP 3KOHM 1% 1/10W
R106	061L0603333	CHIP 33K OHM 1/16W
R223	061L0603333	CHIP 33K OHM 1/16W
R110	061L0603360 1F	CHIP 3.6KOHM 1% 1/10W
R108	061L0603473	RST SM 0603 RC0603 47K PM5 R
R227	061L0603510 2F	51K 1%
R224	061L0603513	CHIP 51K OHM
R217	061L0603680 2F	CHIP 68KOHM 1% 1/10W
R222	061L0603823	CHIPR 82KOHM +-5% 1/16W

R216	061L0603912	CHIPR 9.1KOHM +-5% 1/10W
C103	061L0805000	CHIPR 0OHM +-5% 1/10W
R911	061L0805100 3F	CHIP 100KOHM +-1% 1/8W
R917	061L0805101	CHIPR 100 OHM +-5% 1/10W
R243	061L0805101	CHIPR 100 OHM +-5% 1/10W
R229	061L0805101	CHIPR 100 OHM +-5% 1/10W
R228	061L0805101	CHIPR 100 OHM +-5% 1/10W
R218	061L0805101	CHIPR 100 OHM +-5% 1/10W
R208	061L0805101	CHIPR 100 OHM +-5% 1/10W
R206	061L0805101	CHIPR 100 OHM +-5% 1/10W
R922	061L0805102	CHIPR 1K OHM +-5% 1/10W
R925	061L0805102	CHIPR 1K OHM +-5% 1/10W
R203	061L0805103	CHIPR 10K OHM +-5% 1/10W
R204	061L0805103	CHIPR 10K OHM +-5% 1/10W
R250	061L0805104	CHIPR 100K OHM+-5% 1/10W
R111	061L0805153	CHIPR 15K OHM+-5% 1/8W
R912	061L0805203	CHIPR 20KOHM +-5% 1/8W
R913	061L0805203	CHIPR 20KOHM +-5% 1/8W
R928	061L0805203	CHIPR 20KOHM +-5% 1/8W
R923	061L0805222	CHIP 2.2KOHM 5% 0805 1/8W
R927	061L0805243 1F	CHIP 2.43K OHM 1/8W 1%
R112	061L0805272	CHIP 2.7K OHM 1/8W
R916	061L0805472	CHIRP 4.7K OHM +-5% 1/10W
R918	061L0805472	CHIRP 4.7K OHM +-5% 1/10W
R244	061L0805510 0F	CHIP 510 OHM 1% 1/8W
R234	061L0805510 0F	CHIP 510 OHM 1% 1/8W
R233	061L0805510 0F	CHIP 510 OHM 1% 1/8W
R219	061L0805510 0F	CHIP 510 OHM 1% 1/8W
R212	061L0805510 0F	CHIP 510 OHM 1% 1/8W
R210	061L0805510 0F	CHIP 510 OHM 1% 1/8W
R926	061L0805931 1F	CHIP 9.31K OHM 1/8W 1%
F903	061L1206000	CHIPR 0 OHM +-5% 1/8W
J203	061L1206000	CHIPR 0 OHM +-5% 1/8W
J241	061L1206000	CHIPR 0 OHM +-5% 1/8W
J242	061L1206000	CHIPR 0 OHM +-5% 1/8W
J239	061L1206000	CHIPR 0 OHM +-5% 1/8W
J238	061L1206000	CHIPR 0 OHM +-5% 1/8W
J237	061L1206000	CHIPR 0 OHM +-5% 1/8W
J236	061L1206000	CHIPR 0 OHM +-5% 1/8W

J235	061L1206000	CHIPR 0 OHM +-5% 1/8W
J229	061L1206000	CHIPR 0 OHM +-5% 1/8W
F902	061L1206000	CHIPR 0 OHM +-5% 1/8W
J228	061L1206000	CHIPR 0 OHM +-5% 1/8W
J227	061L1206000	CHIPR 0 OHM +-5% 1/8W
J224	061L1206000	CHIPR 0 OHM +-5% 1/8W
J223	061L1206000	CHIPR 0 OHM +-5% 1/8W
J222	061L1206000	CHIPR 0 OHM +-5% 1/8W
R909	061L1206100	CHIPR 10 OHM+-5% 1/8W
R211	061L1206100	CHIPR 10 OHM+-5% 1/8W
R919	061L1206101	CHIP 100 OHM 5% 1/8W
R920	061L1206101	CHIP 100 OHM 5% 1/8W
R930	061L1206101	CHIP 100 OHM 5% 1/8W
R931	061L1206101	CHIP 100 OHM 5% 1/8W
R932	061L1206101	CHIP 100 OHM 5% 1/8W
R933	061L1206101	CHIP 100 OHM 5% 1/8W
R904	061L1206105	CHIP 1MOHM 5% 1/4W
R905	061L1206105	CHIP 1MOHM 5% 1/4W
R910	061L1206221	CHIP 220 OHM 1/4W
R921	061L1206301	CHIP 300OHM 1/4W
R908	061L1206339	CHIP 3.3OHM 1/4W
R202	061L1206471	CHIPR 470 OHM+-5% 1/8W
D211	061L1206472	CHIP 4.7KOHM 5% 1/4W
D212	061L1206472	CHIP 4.7KOHM 5% 1/4W
D213	061L1206472	CHIP 4.7KOHM 5% 1/4W
D224	061L1206472	CHIP 4.7KOHM 5% 1/4W
D225	061L1206472	CHIP 4.7KOHM 5% 1/4W
D226	061L1206472	CHIP 4.7KOHM 5% 1/4W
R924	061L1206684	CHIPR 680K OHM+-5% 1/8W
R907	061L1206684	CHIPR 680K OHM+-5% 1/8W
R906	061L1206684	CHIPR 680K OHM+-5% 1/8W
R902	061L1206684	CHIPR 680K OHM+-5% 1/8W
R901	061L1206684	CHIPR 680K OHM+-5% 1/8W
R900	061L1206684	CHIPR 680K OHM+-5% 1/8W
C207	065G0603103 31	CHIP 0.01UF 50V NPO
C215	065G0603103 31	CHIP 0.01UF 50V NPO
C225	065G0603103 31	CHIP 0.01UF 50V NPO
C239	065G0603103 31	CHIP 0.01UF 50V NPO
C245	065G0603103 31	CHIP 0.01UF 50V NPO

C251	065G0603103 31	CHIP 0.01UF 50V NPO
C252	065G0603104 32	CHIP 0.1UF 50V X7R
C249	065G0603104 32	CHIP 0.1UF 50V X7R
C247	065G0603104 32	CHIP 0.1UF 50V X7R
C253	065G0603104 32	CHIP 0.1UF 50V X7R
C228	065G0603104 32	CHIP 0.1UF 50V X7R
C211	065G0603104 32	CHIP 0.1UF 50V X7R
C244	065G0603104 32	CHIP 0.1UF 50V X7R
C241	065G0603104 32	CHIP 0.1UF 50V X7R
C234	065G0603104 32	CHIP 0.1UF 50V X7R
C227	065G0603105 12	CHIP 1UF 16VX7R 0603
C210	065G0603105 12	CHIP 1UF 16VX7R 0603
C213	065G0603105 12	CHIP 1UF 16VX7R 0603
C218	065G0603105 12	CHIP 1UF 16VX7R 0603
C246	065G0603123 32	CAP:CER 0.012UF 5% 50V 0603
C250	065G0603123 32	CAP:CER 0.012UF 5% 50V 0603
C238	065G0603123 32	CAP:CER 0.012UF 5% 50V 0603
C224	065G0603123 32	CAP:CER 0.012UF 5% 50V 0603
C214	065G0603123 32	CAP:CER 0.012UF 5% 50V 0603
C208	065G0603123 32	CAP:CER 0.012UF 5% 50V 0603
C231	065G0603152 32	1500PF +-10% 50V X7R 06
C216	065G0603224 12	CHIP 0.22UF +-10% 16V X7R
C217	065G0603473 32	CHIP 0.047UF 50V X7R
C229	065G0603473 32	CHIP 0.047UF 50V X7R
C220	065G0603474 27	CHIP 0.47UF 25V Y5V
C230	065G0603682 32	CHIP 0.0068UF 50V X7R 0603
C910	065G0805102 31	1000PF 50V NPO
C925	065G0805103 22 GP	CHIP 0.01UF 25V X7R 0805
C254	065G0805104 32	CHIP 0.1U 50V X7R
C908	065G0805104 32	CHIP 0.1U 50V X7R
C911	065G0805104 32	CHIP 0.1U 50V X7R
C912	065G0805104 32	CHIP 0.1U 50V X7R
C917	065G0805104 32	CHIP 0.1U 50V X7R
C918	065G0805104 32	CHIP 0.1U 50V X7R
C924	065G0805104 32	CHIP 0.1U 50V X7R
C109	065G0805104 32	CHIP 0.1U 50V X7R
C104	065G0805104 32	CHIP 0.1U 50V X7R
C102	065G0805104 32	CHIP 0.1U 50V X7R
C243	065G0805104 32	CHIP 0.1U 50V X7R

C235	065G0805104 32	CHIP 0.1U 50V X7R
C209	065G0805104 32	CHIP 0.1U 50V X7R
C202	065G0805104 32	CHIP 0.1U 50V X7R
C115	065G0805104 32	CHIP 0.1U 50V X7R
C114	065G0805104 32	CHIP 0.1U 50V X7R
C223	065G0805105 22	CHIP 1UF 25V X7R 0805
C909	065G0805201 32	CHIP 200PF 50V MPO 0805
C222	065G0805221 31	220PF 50V NPO
C226	065G0805472 31	CHIP 4700PF 50V X7R 0805
C913	065G1206102 72	CHIP 1000PF 500V X7R
C259	065G1206475 22	4.7U/25V X7R
C256	065G1206475 22	4.7U/25V X7R
C240	065G1206475 22	4.7U/25V X7R
C236	065G1206475 22	4.7U/25V X7R
C206	065G1206475 22	4.7U/25V X7R
C203	065G1206475 22	4.7U/25V X7R
D223	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D222	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D220	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D218	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D216	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D215	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D210	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D209	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D208	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D205	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D204	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D203	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D906	093G 6432V	LL4148-GS08
D905	093G 6432V	LL4148-GS08
D903	093G 6432V	LL4148-GS08
D227	093G 6432V	LL4148-GS08
D102	093G 6432V	LL4148-GS08
ZD901	093G 39S 20 T	RLZ22B LLDS
ZD201	093G 39S 24 T	RLZ 5.6B LLDS
ZD202	093G 39S 24 T	RLZ 5.6B LLDS
ZD204	093G 39S 24 T	RLZ 5.6B LLDS
ZD203	093G 39S 35 T	RLZ 9.1C LLDS
ZD902	093G 39S 40 T	RLZ 13B LLDS

ZD101	093G 39S 48 T	RLZ6B ROHM
D101	093G8004 2	SBM84 BY CHENMKO
	PW2066SEY1AIP	POWER BOARD FOR AI
CN901	006G 31500	EYELET
L902	006G 31502	1.5MM RIVET
C905	006G 31502	1.5MM RIVET
L904	006G 31502	1.5MM RIVET
NR901	006G 31502	1.5MM RIVET
PT201	006G 31502	1.5MM RIVET
PT202	006G 31502	1.5MM RIVET
PT203	006G 31502	1.5MM RIVET
PT204	006G 31502	1.5MM RIVET
PT205	006G 31502	1.5MM RIVET
PT206	006G 31502	1.5MM RIVET
Q901	006G 31502	1.5MM RIVET
T901	006G 31502	1.5MM RIVET
	715G1646 1	PCB BOARD PCB
R915	061G 17230352T	30K OHM5%1/4W
FB101	071G 55 29	FERRITE BEAD
J957	071G 55 29	FERRITE BEAD
D221	093G 521ZJ26T	SB240
D219	093G 521ZJ26T	SB240
D217	093G 521ZJ26T	SB240
D214	093G 521ZJ26T	SB240
D207	093G 521ZJ26T	SB240
D206	093G 521ZJ26T	SB240
D202	093G 521ZJ26T	SB240
D201	093G 521ZJ26T	SB240
D901	093G 6026T52T	RECTIFIER DIODE FR107
D902	093G 6038P52T	PS102R
D904	093G 64 1152T	1N4148
IC903	056G 158 10 T	IC AZ431AZ-AE1 TO-92 BY AAC
C906	065G 1K152 1T	1.5NF/1KV Z5F+-10%
C907	067G 2154707NT	KY50VB47M-TP5 6.3*11
C922	067G 2154797NT	LOW ESR 4.7UF+-20% 50V BY CHEM
F901	084G 56 1	FUSE 2A 250V WICKMANN

12. Different Parts List

Diversity of TA90KSUDBYY2AP compared with TA90KSUHBYY3AP		
Location	**Part No. for TPV**	**Description**
	089G 173 56 11	AUDIO CABLE
E089B	089G1748GAB12B	SIGNAL CABEL DB15-DB15
	095G8014 14639	WIRB HARNESS
	0M1G 330 5120	SCREW
	0Q1G 330 8120	SCREW 3X8mm
	705GQAK0P34001	20.1" LCD STAND COVER ASS'Y
	KEPCA90KY1P	KEY BOARD FOR TA90*
	Q33G4901 F1 1L	KNOB CONTROL
	Q33G4903 F1 1L	HINGE COVER R
	Q33G4903 F1 2L	HINGE COVER L
	Q34G1645 F1A1B	BEZEL
	Q34G1646 F1 1B	REAR COVER
	Q40G 20N695 2A	Rating label
	Q34G1647 F1 1B	STAND
	040G 457624 1B	LABEL-CPU
	040G 45762412B	CBPC LABEL
D101	081G 12 1 GP	GP32032ME