

Acer AL2023W

Service Guide

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Conventions

The following conventions are used in this manual:

Screen messages	Denotes actual messages that appear on screen
Note	Gives bits and pieces of additional information related to the current topic.
Warning	Alerts you to any damage that might result from doing or not doing specific actions.
Caution	Gives precautionary measures to avoid possible hardware or software problems.
Important	Reminds you to do specific actions relevant to the accomplishment of procedures.

Preface

Before using this information and the product it supports, please read the following general information.

1. this Service Guide provides you with all technical information relating to the BASICCONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.
2. please not WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide, for ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and Service of customer machines.

WARNING: (FOR FCC CERTIFIED MODELS)

NOTE: this equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, Which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

NOTICE:

1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
2. Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.
3. The manufacturer is not responsible for any radio or TV interference caused by unauthorized modification to this equipment. It is the responsibility of the user to correct such interference.

As an ENERGY STAR® Partner our company has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

WARNING:

To prevent fire or shock hazard, do not expose the monitor to rain or moisture. Dangerously high voltages are present inside the monitor. Do not open the cabinet. Refer servicing to qualified personnel only.

PRECAUTIONS

- Do not use the monitor near water, e.g. near a bathtub, washbowl, kitchen sink, laundry tub, Swimming pool or in a wet basement.
- Do not place the monitor on an unstable trolley, stand, or table. If the monitor falls, it can injure a person and cause serious damage to the appliance. Use only a trolley or stand recommended by the manufacture or sold with the monitor. If you mount the monitor on a wall or shelf, use a mounting kit approved by the manufacture and follow the kit instructions.
- Slots and openings in the back and bottom of the cabinet area provided for ventilation. To ensure reliable operation of the monitor and to protect it from overheating, be sure these openings are not blocked or covered. Do not place the monitor on a bed, sofa, rug or similar surface. Do not place the monitor near or over a radiator or heat register. Do not place the monitor in a bookcase or cabinet unless proper ventilation is provided.
- The monitor should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.
- The monitor is equipped with a three-pronged grounded plug, a plug with a third (grounding) pin. This plug will fit only into a grounded power outlet as a safety feature. If your outlet does not accommodate the three-wire plug, have an electrician install the correct outlet, or use an adapter to ground the appliance safely. Do not defeat the safety purpose of the grounded plug.
- Unplug the unit during a lightning storm or when it will not be used for long periods of time. This will protect the monitor from damage due to power surges.
- Do not overload power strips and extension cords. Overloading can result in fire or electric shock.
- Never push any object into the slot on the monitor cabinet. It could short circuit parts causing a fire or electric shock. Never spill liquids on the monitor.
- Do not attempt to service the monitor yourself; opening or removing covers can expose you to dangerous voltages and other hazards. Please refer all servicing to qualified service personnel.
- To ensure satisfactory operation, use the monitor only with UL listed computers which have appropriate configured receptacles marked between 100-240V AC, Min. 3.5A.
- The wall socket shall be installed near the equipment and shall be easily accessible.
- For use only with the attached power adapter (output 12V DC) which have UL,CSA listed license

SPECIAL NOTES ON LCD MONITORS

The following symptoms are normal with LCD monitor and do not indicate a problem.

NOTES

- Due to the nature of the fluorescent light, the screen may flicker during initial use. Turn off the Power Switch and then turn it on again to make sure the flicker disappears.
- You may find slightly uneven brightness in the screen depending on the desktop pattern you use.
- The LCD screen has effective pixels of 99.99% or more. It may include blemishes of 0.01% or less such as a missing pixel or a pixel lit all of the time.
- Due to the nature of the LCD screen, an afterimage of the previous screen may remain after switching the image, when the same image is displayed for hours. In this case, the screen is recovered slowly by changing the image or turning off the Power Switch for hours.

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Monitor Feature

LCD Panel	Driving system	TFT Color LCD
	Size	20"W
	Pixel pitch	0.258(H) * 0.258 (V)mm
	Viewable angle	80/80/80/80 degree
	Brightness	panel: 300 cd/m2(typ)
	Contrast Ratio	1000:1 (typ.);800:1(min.)
	Response time	5ms (Tr+Tf)
Input	Video	R,G,B Analog, DVI box (optional)
	Separate Sync	H/V TTL
	H-Frequency	31-81KHZ
	V-Frequency	56-75HZ
Display Color		16.7 million Colors
Maximum Dot Clock		162MHz
Max Resolution		1680X1050 @ 60Hz
Plug & Play		VESA FPMPMI
EPA ENERGY STAR	ON Mode	<47W
	OFF Mode	<1W
Audio output		Rated Power 2.0W rms(Per channel)
Input Connector		D-Sub 15 pin, DVI connector (on DVI box)
Input Video Signal		Analog : 0.7Vp-p,75OHM
Screen Size (Active)		Horizontal : 473.76mm
		Vertical : 296.1mm
Power Source		90~264 Vac, 47~63HZ
Environmental Considerations		Operating Temp : 5 to 40 degree ; Storage Temp : -20 to 60 degree ; Operating Humidity : 20% to 80%
Weight (N.W.)		5.2kg(fixed base); 7.0kg(adjusted base)
Dimension		Fixed base 513.8(W) x 417.7(H) x 203.8(D) mm Adjusted base 513.8(W)x 390.6(H)x 258.4(D)mm

External Controls :	Switch	<ul style="list-style-type: none"> * Power Switch * MENU / EXIT * < / Volume * > / Volume * AUTO / ENTER
		<ul style="list-style-type: none"> * Contrast/brightness * Focus * Clock * H.Position * W.Position * Language * OSD Color temperature * OSD Position & Timeout * Auto Config * Input * Information * Reset * Exit
Regulatory Compliance		cUL, FCC, TUV, CE, TCO03.

Timings

The product has 34 memory modes in total. 26 modes are preset and 8 modes are user definable.

MODE NO.	1	2	3	4
RESOLUTION	720 x 400	640 x 480	640x480	640 x 480
Dot clock(MHz)	28.321	25.175	30.24	31.5
f h	31.469kHz	31.469kHz	35.0kHz	37.861kHz
H-Total (us)	31.78(900dots)	31.778 (800 dots)	28.571(864 dots)	26.413 (832 dots)
H-Sync (us)	3.813(108dots)	3.813 (96 dots)	2.116 (64 dots)	1.270(40 dots)
H-B-P (us)	1.907(54dots)	1.907 (48 dots)	3.175 (96 dots)	4.064(128 dots)
H-Active (us)	25.42(720dots)	25.422 (640 dots)	21.164 (640 dots)	20.317(640 dots)
H-F-P (us)	0.636(18dots)	0.636 (16 dots)	2.116 (64 dots)	0.762(24 dots)
f v	70Hz(70.087)	60Hz (59.940)	66.7 HZ (66.667)	72.809Hz
V-Total (ms)	14.27(449 lines)	16.683 (525 lines)	15.000 (525 lines)	13.735(520 lines)
V-Sync (ms)	0.064(2 lines)	0.064 (2 lines)	0.086 (3 lines)	0.079(3 lines)
V-B-P (ms)	1.112(35 lines)	1.049 (33 lines)	1.114 (39 lines)	0.739(28 lines)
V-Active (ms)	12.71(400 lines)	15.253 (480 lines)	13.714 (480 lines)	12.678(480 lines)
V-F-P (ms)	0.384(12 lines)	0.317 (10 lines)	0.086 (3 lines)	0.237(9 lines)
SYNC. H/V	-/+	- / -	+/+	-/-
POLARITY			Or -/-	
SEP . SYNC	Y	Y	Y	Y

MODE NO.	5	6	7	8
RESOLUTION	640 x 480	800 x 600	800 x 600	800 x 600
Dot clock(MHz)	31.5	36	40	49.5
f h	37.500kHz	35.16kHz	37.879kHz	46.875kHz
H-Total (us)	26.667(840 dots)	28.44(1024 dots)	26.40 (1056 dots)	21.333 (1056dots)
H-Sync (us)	2.032 (64 dots)	2.00(72 dots)	3.200 (128 dots)	1.616 (80 dots)
H-B-P (us)	3.810 (120 dots)	3.56(128 dots)	2.200 (88 dots)	3.232 (160 dots)
H-Active (us)	20.317 (640 dots)	22.22(800 dots)	20.00 (800 dots)	16.162 (800 dots)
H-F-P (us)	0.508 (16 dots)	0.67(24 dots)	1.000 (40 dots)	0.323 (16 dots)
f v	75Hz (75)	56.25	60Hz (60.316)	75Hz (75.000)
V-Total (ms)	13.333 (500 lines)	17.78(625 lines)	16.58 (628 lines)	13.333 (625lines)
V-Sync (ms)	0.080 (3 lines)	0.06(2 lines)	0.106 (4 lines)	0.064 (3 lines)
V-B-P (ms)	0.427 (16 lines)	0.63(22 lines)	0.607 (23 lines)	0.448 (21 lines)
V-Active (ms)	12.80 (480 lines)	17.07(600 lines)	15.84 (600 lines)	12.80 (600lines)
V-F-P (ms)	0.027 (1 line)	0.03(1 line)	0.026 (1 line)	0.021 (1 line)
SYNC. H/V	- / -	+ / +	+ / +	+ / +
POLARITY				
SEP . SYNC	Y	Y	Y	Y

MODE NO.	9	10	11	12
RESOLUTION	800 x 600	832 x 624	1024 x 768	1024 x 768
Dot clock(MHz)	50	57.283	65	75
f h	48.077kHz	49.72kHz	48.363kHz	56.48kHz
H-Total (us)	20.80 (1040dots)	20.11(1152 dots)	20.677(1344 dots)	17.71(1328 dots)
H-Sync (us)	2.400 (120 dots)	1.12(64 dots)	2.092(136 dots)	1.81(136 dots)
H-B-P (us)	1.280 (64 dots)	3.91(224 dots)	2.462(160 dots)	1.92(144 dots)
H-Active (us)	16.00 (800 dots)	14.52(832 dots)	15.754(1024 dots)	13.65(1024 dots)
H-F-P (us)	1.120 (56 dots)	0.56(32 dots)	0.369(24 dots)	0.32(24 dots)
f v	72Hz (72.188)	74.55Hz	60.004Hz	70.07Hz
V-Total (ms)	13.85 (666 lines)	13.41(667 lines)	16.666(806 lines)	14.27(806 lines)
V-Sync (ms)	0.125 (6 lines)	0.06(3 lines)	0.124(6 lines)	0.11(6 lines)
V-B-P (ms)	0.478 (23 lines)	0.78(39 lines)	0.600(29 lines)	0.51(29 lines)
V-Active (ms)	12.48 (600 lines)	12.55 (624 lines)	15.880(768 lines)	13.60(768 lines)
V-F-P (ms)	0.770 (37 line)	0.02(1 line)	0.062(3 lines)	0.05(3 lines)
SYNC. H/V	+ / +	+/+	-/-	-/-
POLARITY				
SEP . SYNC	Y2	Y	Y	Y

MODE NO.	13	14	15	16
RESOLUTION	1024 x 768	1280 x 1024	1280 x 1024	1152 x 864
Dot clock(MHz)	78.75	108	135	108
f h	60.02kHz	63.981kHz	79.976KHz	67.5 KHz
H-Total (us)	16.66(1312 dots)	15.630 (1688 dots)	12.504 (1688 dots)	14.815(1600 dots)
H-Sync (us)	1.22 (96 dots)	1.037 (112 dots)	1.067 (144 dots)	1.185(128 dots)
H-B-P (us)	2.23 (176 dots)	2.296 (248 dots)	1.837 (248 dots)	2.370(256 dots)
H-Active (us)	13.00 (1024 dots)	11.852 (1280 dots)	9.481 (1280dots)	10.667(1152 dots)
H-F-P (us)	0.20 (16 dots)	0.444 (48 dots)	0.119 (16 dots)	0.593(64 dots)
f v	75.03Hz	60.020Hz	75.025 Hz	75.06 Hz
V-Total (ms)	13.33 (800 lines)	16.661 (1066 lines)	13.329 (1066 lines)	13.333(900 lines)
V-Sync (ms)	0.05 (3 lines)	0.047 (3 lines)	0.038 (3 lines)	0.044(3 lines)
V-B-P (ms)	0.47 (28 lines)	0.594 (38 lines)	0.475 (38 lines)	0.474(32 lines)
V-Active (ms)	12.80 (768 lines)	16.005 (1024 lines)	12.804(1024 lines)	12.800(864 lines)
V-F-P (ms)	0.02 (1 lines)	0.016 (1 line)	0.013 (1 lines)	0.015(1 lines)
SYNC. H/V	+/+	+/+	+/+	+/+
POLARITY				
SEP . SYNC	Y	Y	Y	Y

MODE NO.	17	18	19	20
RESOLUTION	1280 x 960	1600 x 1200	1280 x 720	1280 x 768
Dot clock(MHz)	108	162	74.481	79.5
f h	60.000 KHz	75.000 KHz	44.760KHz	47.776KHz
H-Total (us)	16.667 (1800dots)	13.333 (2160 dots)	22.341 (1664dots)	20.931 (1664dots)
H-Sync (us)	1.037 (112 dots)	1.185 (192 dots)	1.826 (136 dots)	1.61 (128 dots)
H-B-P (us)	2.889 (312 dots)	1.877 (304 dots)	2.578 (192 dots)	2.415 (192 dots)
H-Active (us)	11.852 (1280 dots)	9.877 (1600 dots)	17.186 (1280 dots)	16.101 (1280 dots)
H-F-P (us)	0.889 (96 dots)	0.395 (64 dots)	0.752 (56 dots)	0.805 (64 dots)
f v	60.00Hz	60.00 Hz	60.000Hz	59.87Hz
V-Total (ms)	16.667 (1000 lines)	16.667 (1250 lines)	16.667 (746 lines)	16.703 (798 lines)
V-Sync (ms)	0.050 (3 lines)	0.040 (3 lines)	0.067 (3 lines)	0.147 (7 lines)
V-B-P (ms)	0.600 (36 lines)	0.613 (46 lines)	0.492 (22 lines)	0.419 (20 lines)
V-Active (ms)	16.000 (960 lines)	16.000 (1200 lines)	16.086 (720 lines)	16.075 (768 lines)
V-F-P (ms)	0.017 (1 line)	0.013 (1 line)	0.022 (5 lines)	0.063 (3 lines)
SYNC. H/V	+ / +	+ / +	- / +	- / +
POLARITY				
SEP . SYNC	Y	Y	Y	Y

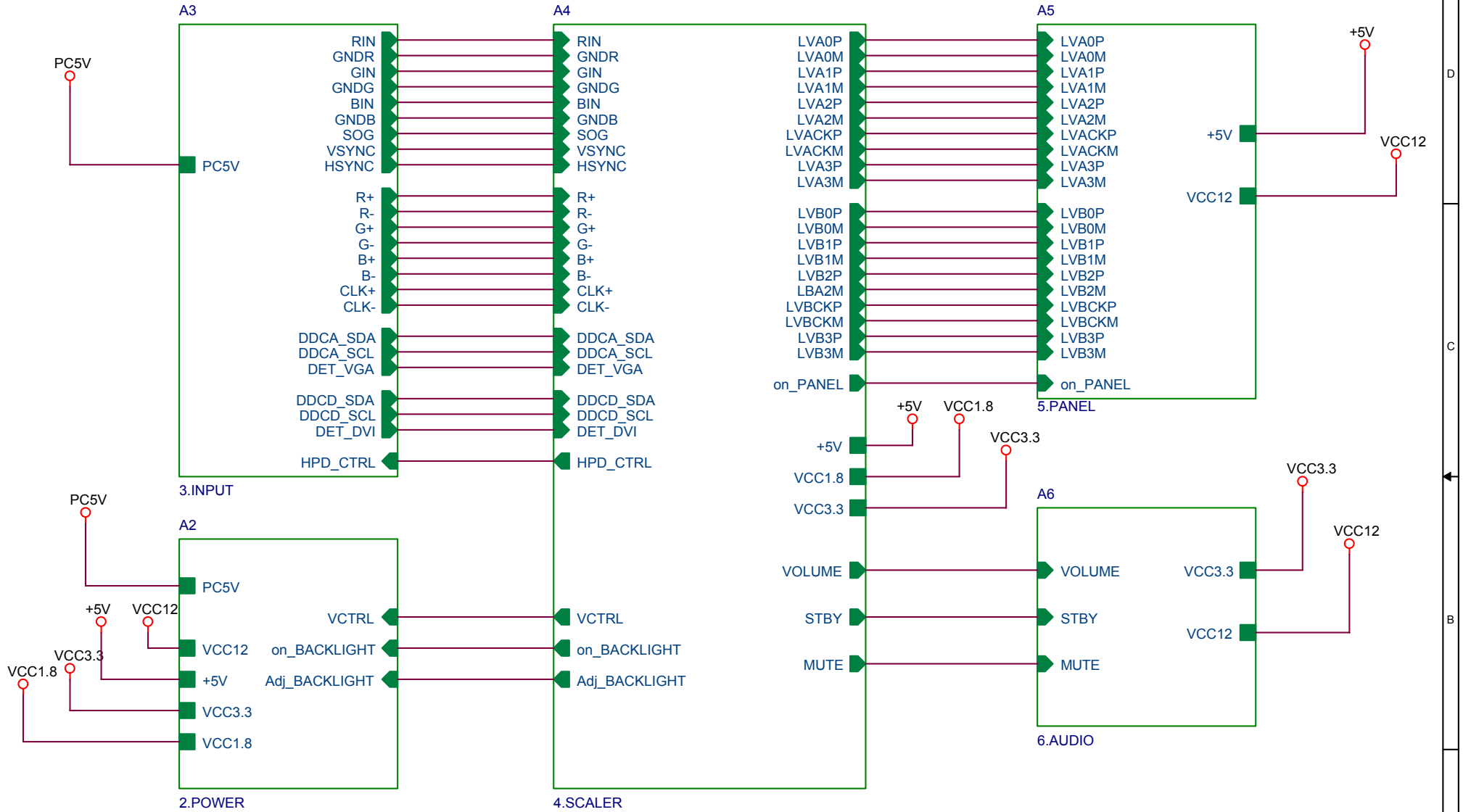
MODE NO.	21	22	23	24
RESOLUTION	1280 x 768	1360 x 768	1440 x 900	1440 x 900
Dot clock(MHz)	102.25	85.5	106.5	136.75
f h	60.289KHz	47.712KHz	55.935KHz	70.635KHz
H-Total (us)	16.587 (1696dots)	20.959 (1792dots)	17.878 (1904dots)	14.157 (1936dots)
H-Sync (us)	1.252 (128 dots)	1.31 (112 dots)	1.427 (152 dots)	1.112 (152 dots)
H-B-P (us)	2.034 (208 dots)	2.994 (256 dots)	2.178 (232 dots)	1.814 (248 dots)
H-Active (us)	12.518 (1280 dots)	15.906 (1360 dots)	13.521 (1440 dots)	10.53 (1440 dots)
H-F-P (us)	0.782 (80 dots)	0.749 (64 dots)	0.751 (80 dots)	0.702 (96 dots)
f v	74.893Hz	60.015Hz	59.887Hz	74.984Hz
V-Total (ms)	13.352 (805 lines)	16.662 (795 lines)	16.698 (934 lines)	13.336 (942 lines)
V-Sync (ms)	0.116 (7 lines)	0.126 (6 lines)	0.107 (6 lines)	0.085 (6 lines)
V-B-P (ms)	0.448 (27 lines)	0.377 (18 lines)	0.447 (25 lines)	0.467 (33 lines)
V-Active (ms)	12.739 (768 lines)	16.097 (768 lines)	16.09 (900 lines)	12.741 (900 lines)
V-F-P (ms)	0.05 (3 lines)	0.063 (3 lines)	0.054 (3 lines)	0.042 (3 lines)
SYNC. H/V	-/+	+ / +	-/+	-/+
POLARITY				
SEP . SYNC	Y	Y	Y	Y

MODE NO.	25	26
RESOLUTION	1680 x 1050	848 x 480
Dot clock(MHz)	146.25	33.75
f h	65.29 KHz	31.02 KHz
H-Total (us)	15.316 (2240 dots)	32.237 (1088 dots)
H-Sync (us)	1.203 (176 dots)	3.319 (112 dots)
H-B-P (us)	1.915 (280 dots)	3.319 (112 dots)
H-Active (us)	11.487 (1680 dots)	25.126 (848 dots)
H-F-P (us)	0.711 (104 dots)	0.474 (16 dots)
f v	59.954 Hz	60 Hz
V-Total (ms)	16.679 (1089 lines)	16.667 (517 lines)
V-Sync (ms)	0.092 (6 lines)	0.258 (8 lines)
V-B-P (ms)	0.459 (30 lines)	0.741 (23 lines)
V-Active (ms)	16.082 (1050 lines)	15.474 (480 lines)
V-F-P (ms)	0.046 (3 line)	0.193 (6 lines)
SYNC. H/V	-/+	+ / +
POLARITY		
SEP . SYNC	Y	Y

A : H-Total O : V-Total
 B : H- Sync width P : V- Sync width
 C : H- Back porch Q : V- Back porch
 D : H- Video width R : V- Video width
 E : H- Front porch S : V- Front porch

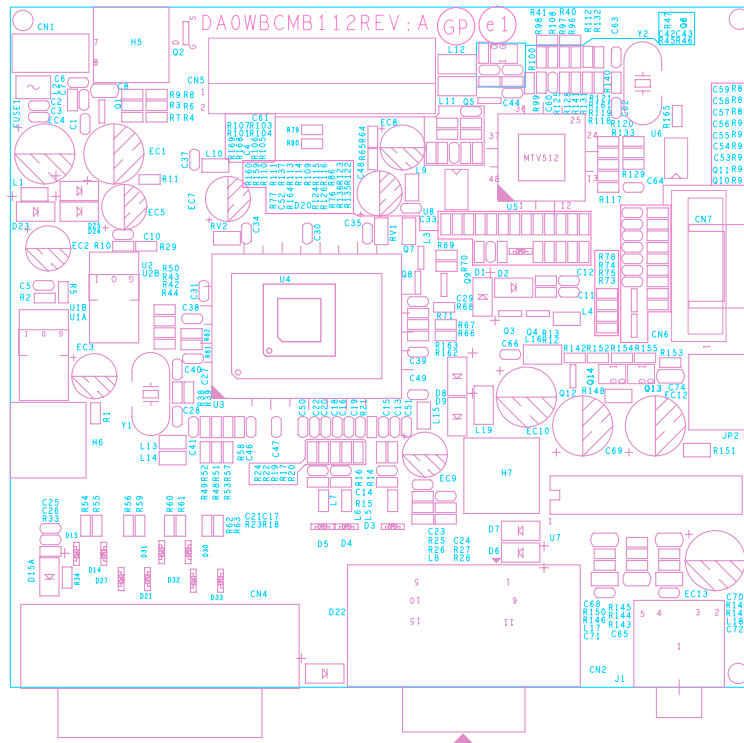
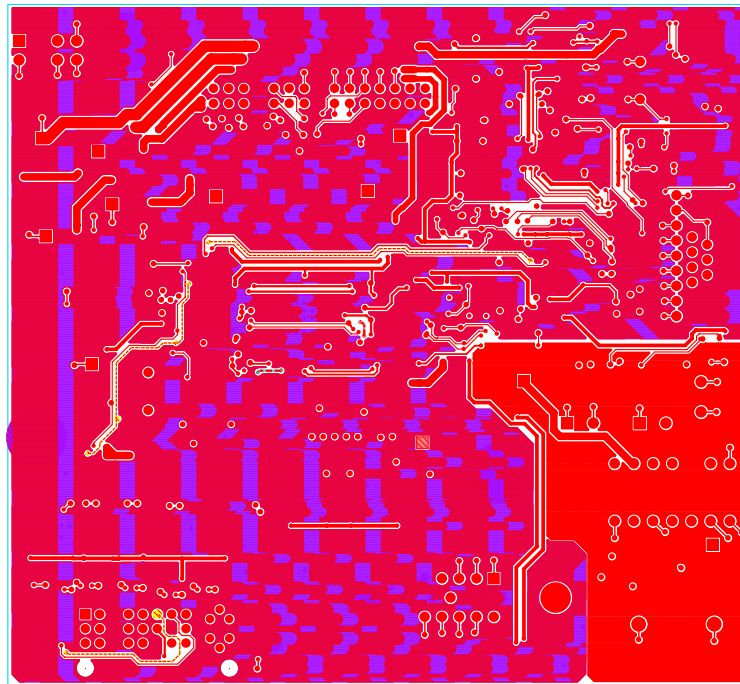
Monitor block diagram

Main Board

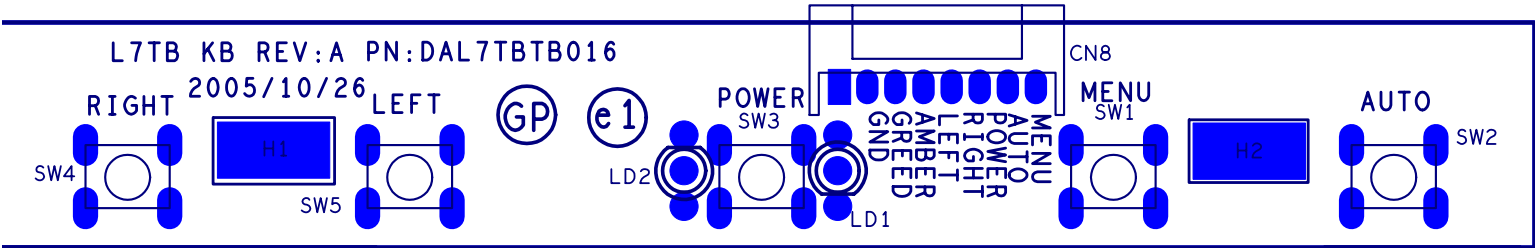
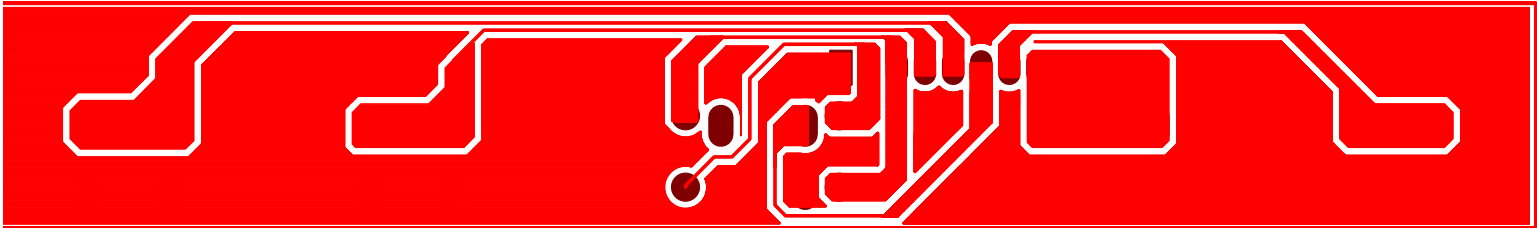


PCB LAYOUT

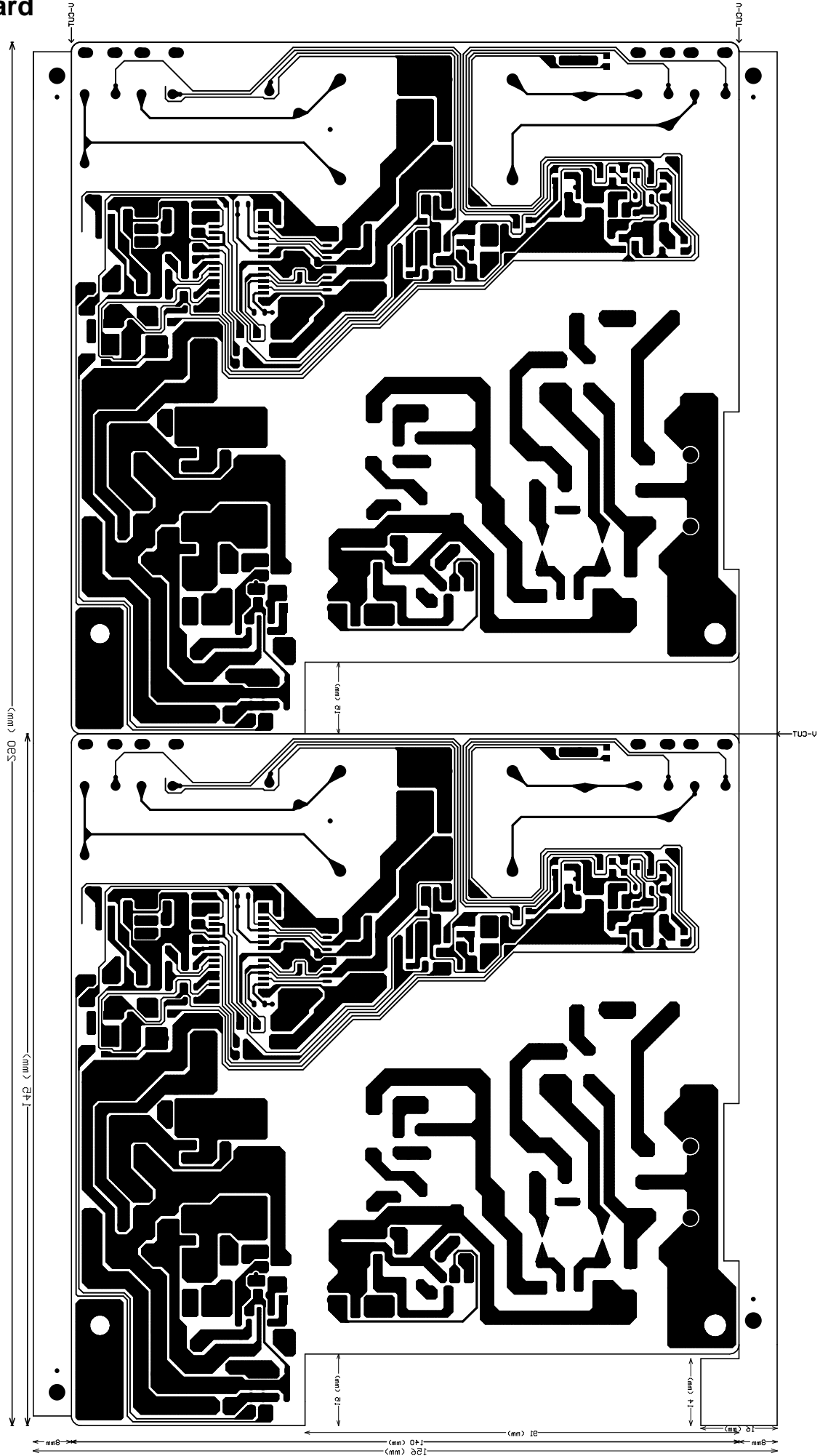
Main Board

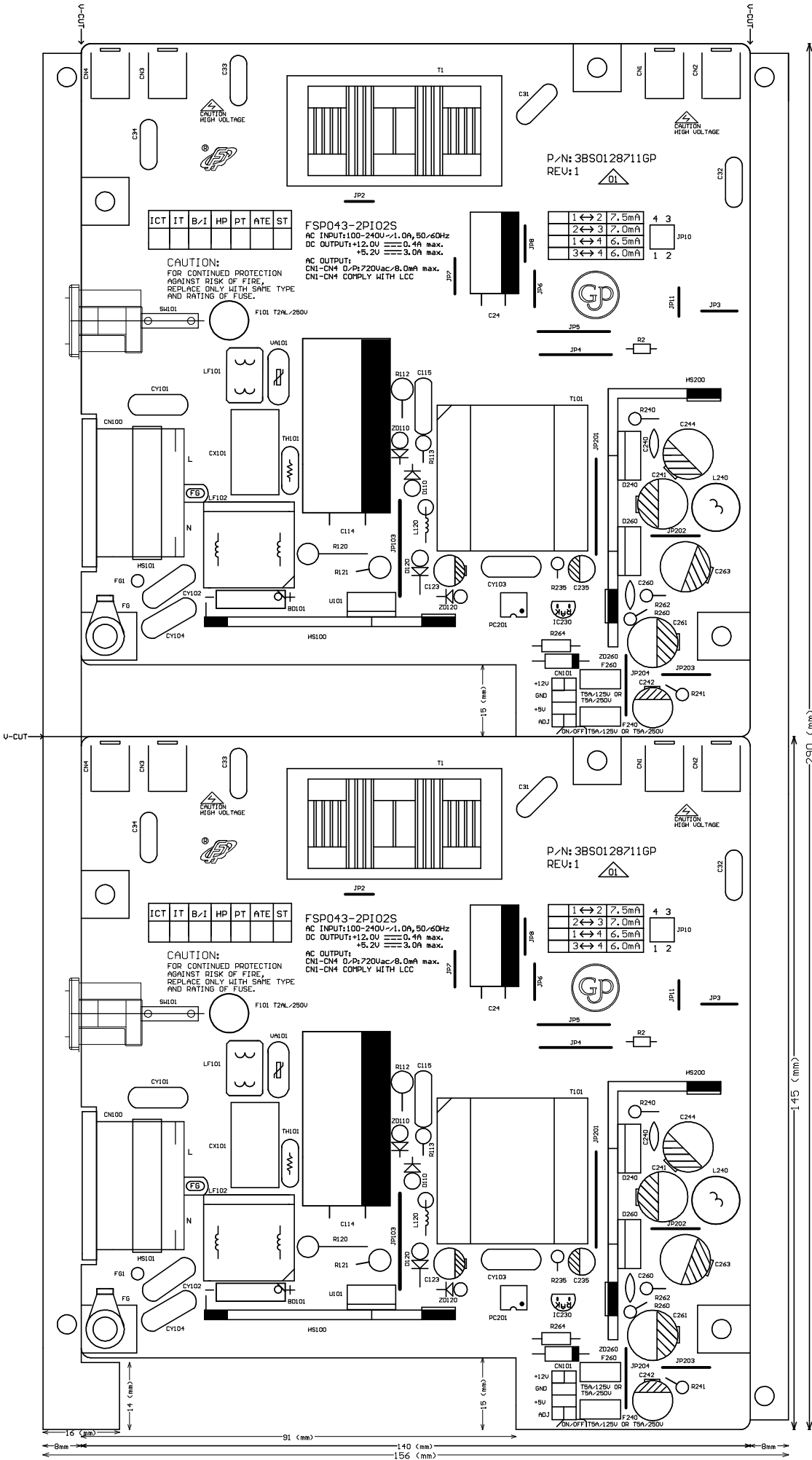


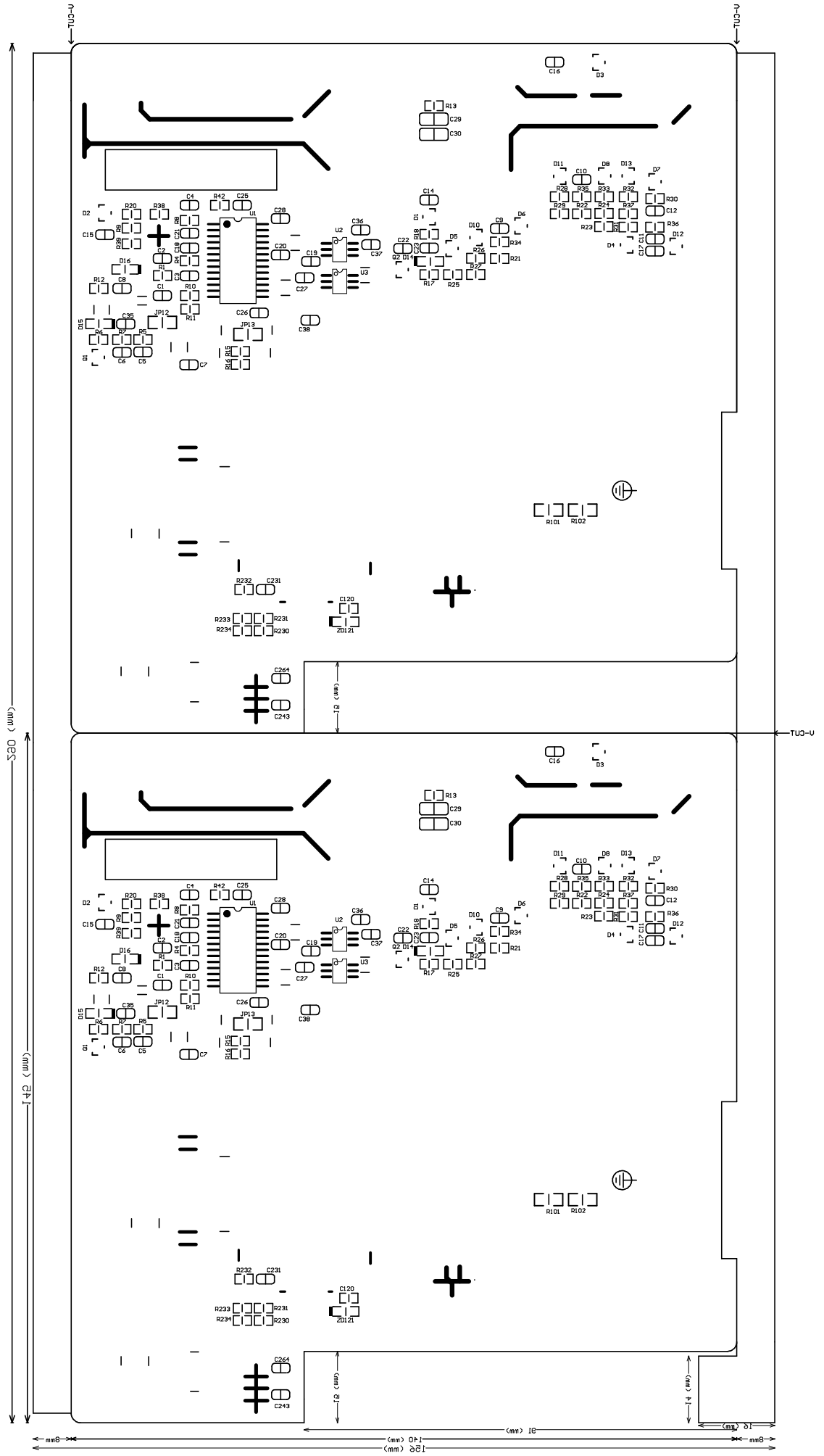
Button Board



Power Board







OPERATING INSTRUCTIONS

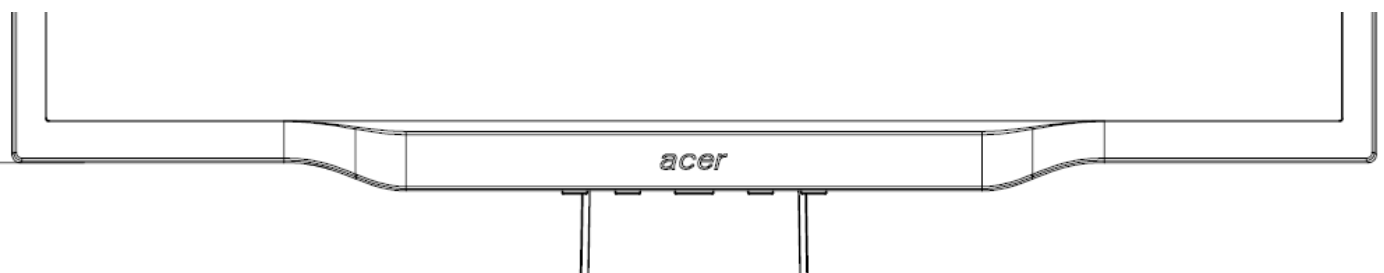
Front Panel Definition

This Section defines the front panel User Interface for Led Indicator and Key function.


Key Definition:

There are five keys defined in this system and described bellows.

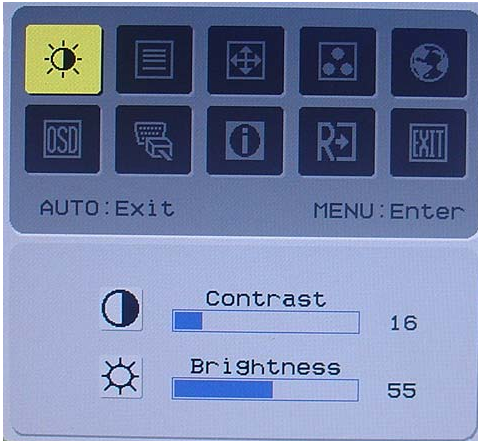
* Adjusting display settings



External Controls

1		POWER	Power on/off Green: power on Amber: in sleep mode
2	MENU	OSD Function	Press to view OSD. Press again to exit a selection in OSD.
3	<	Left/ Plus	If OSD is active, press to select or adjust OSD options. If OSD is inactive, press once, then press the buttons marked < or > to adjust the volume.
4	>	Right/ Plus	If OSD is active, press to select or adjust OSD options. If OSD is inactive, press once, then press the buttons marked < or > to adjust the volume.
5	AUTO	AUTO	If OSD is active, press to enter a selection in OSD. If OSD is inactive, press and the monitor will automatically optimize the position, focus and clock of your display.

OSD menu

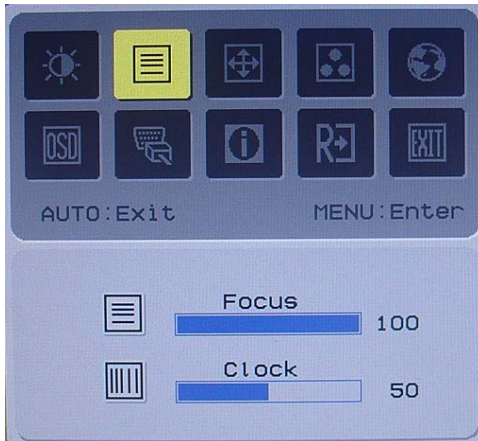


Contrast:

This adjusts dark and light shades of color relative to each other.

Brightness:

This adjusts the brightness of the picture on the screen.

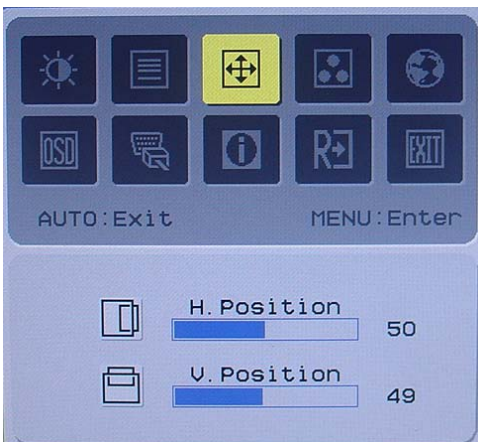


Focus:

This removes any horizontal distortion and makes the picture clear and sharp.

Clock:

If there are any vertical stripes seen on the background of the screen, this renders them less noticeable by minimizing their size. It also changes the size of the horizontal screen.

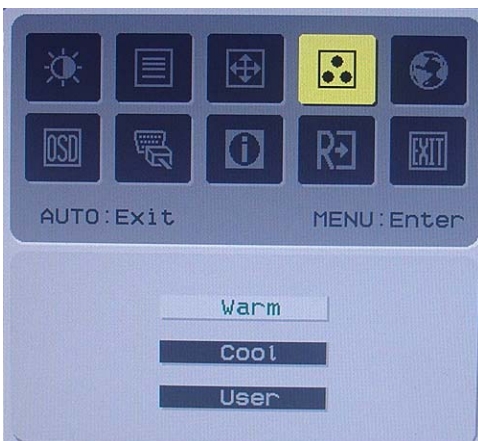


H-Position:

This adjusts the horizontal.

V-Position:

This adjusts the vertical.



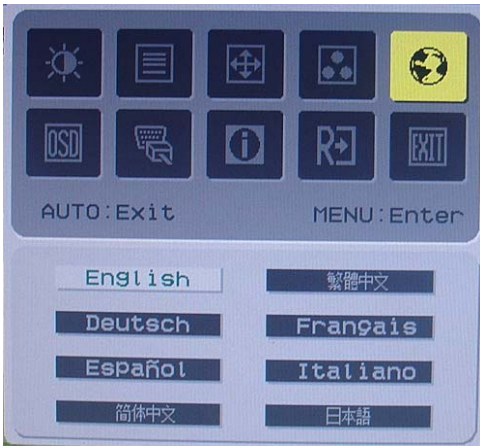
Color adjustment:

There are three ways to adjust color:

Warm (reddish white)

Cool (bluish white)

User (you can adjust the colors red, green and blue to the intensity you desire)



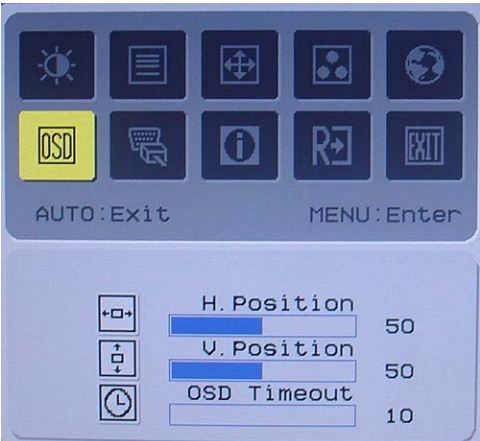
Language for Asia:

Select the OSD menu language. Select from English, German, Spanish, Simplified Chinese, Traditional Chinese, French, Italian, and Japanese.



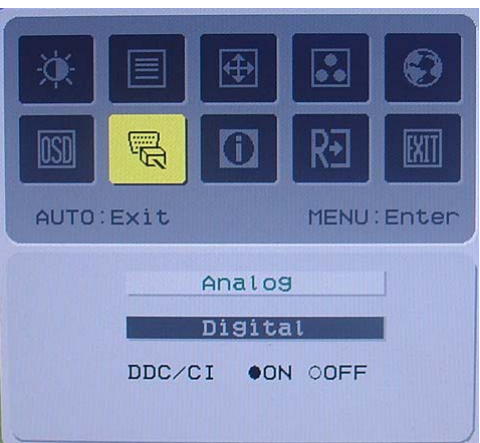
Language for EMEA:

Select the OSD menu language. Select from English, German, Spanish, Russia, Netherlands, French, Italian, and Finnish.



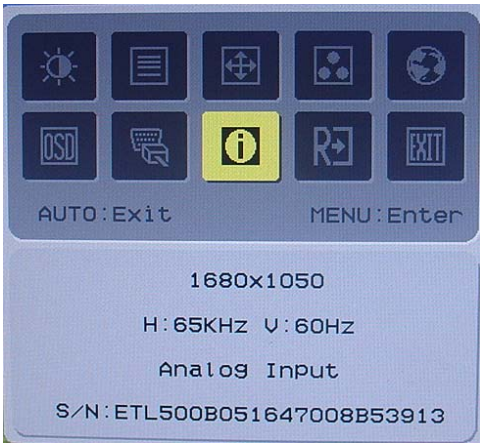
OSD Settings:

This changes the position of the OSD window on the screen and the staying time.



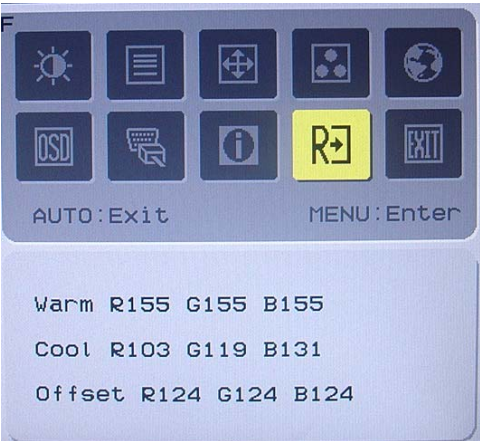
Input signal:

Select either **Analog Input** or **Digital Input** video.



Information:

This shows information about the screen.



This page only be visible in factory mode

R,G,B OFFSET :

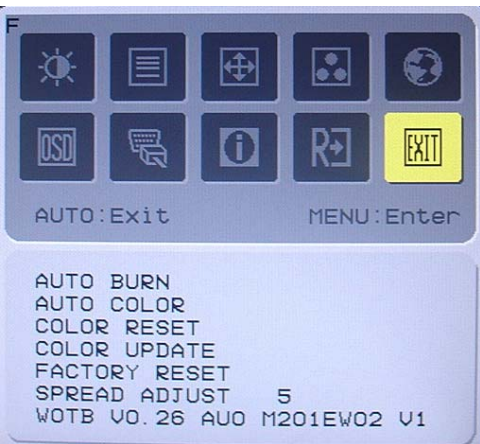
Adjust current RGB cut off level

R,G,B GAIN :

Adjust current RGB Driver value.

SPREAD :

Adjust chip set internal frequency spread effect for EMI testing.



This page only be visible in factory mode

AUTO BURN :

Use the chip set internal pattern for hot running monitor panel and inverter.

AUTO COLOR :

Perform Auto Balance measurement by chip set internal signal. And reference these values to initial all other color temperature detail parameters.

COLOR UPDATE:

Force presently R,G,B offset and gain parameters update to currently temperature memory address.

FACTORY RESET :

Recall to factory setting and power off immediately.

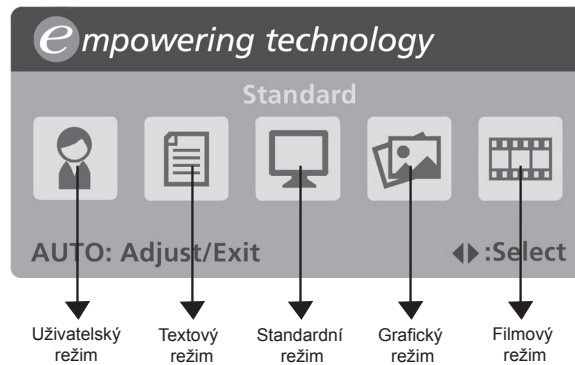
VERSION :

Display F/W version and panel vender and DDC serial no.

Acer e -Color management



	Brightness	Contrast
User	77	50
Text	44	50
Standard	77	50
Graphics	97	60
Movie	77	56



LED Definition

The system equips one dual color (green/amber) led to indict system status and defined as bellows :

LED Color	System Status
Green	System in normal operation mode
Amber	System in power-saving mode
Dark	System in power-off mode

LOGO :

When the monitor is power on, the LOGO will be showed in the center, and disappear slowly.



HOW TO OPTIMIZE THE DOS-MODE

Plug and play

Plug & play DDC2B feature

This monitor is equipped with VESA DDC2B capabilities according to the VESA DDC STANDARD. It allows the monitor to inform the host system of its identity and, depending on the level of DDC used, communicate additional information about its display capabilities. The communication channel is defined in two levels, DDC2B. The DDC2B is a bi-directional data channel based on the I²C protocol. The host can request EDID information over the DDC2B channel.

THIS MONITOR WILL APPEAR TO BE NON-FUNCTIONAL IF THERE IS NO VIDEO INPUT SIGNAL. IN ORDER FOR THIS MONITOR TO OPERATE PROPERLY, THERE MUST BE A VIDEO INPUT SIGNAL.

This monitor meets the Green monitor standards as set by the Video Electronics Standards Association(VESA) and/or the United States Environmental Protection Agency (EPA) and The Swedish Confederation Employees (NUTEK). This feature is designed to conserve electrical energy by reducing power consumption when there is no video-input signal present. When there is no video input signal this monitor, following a time-out period, will automatically switch to an OFF mode. This reduces the monitor's internal power supply consumption. After the video input signal is restored, full power is restored and the display is automatically redrawn. The appearance is similar to a "Screen Saver" feature except the display is completely off. The display is restored by pressing a key on the keyboard, or clicking the mouse.

USING THE RIGHT POWER CORD

The accessory power cord for the Northern American region is the wallet plug with NEMA 5-15 style and is UL listed and CSA labeled. The voltage rating for the power cord shall be 125 volt AC.

Supplied with units intended for connection to power outlet of personal computer: Please use a cord set consisting of a minimum No. 18 AWG, type SJT or SVT three conductors flexible cord. One end terminates with a grounding type attachment plug, rated 10A, 250V,CEE-22 male configuration. The other end terminates with a molded-on type connector body, rated 10A, 250V, having standard CEE-22 female configuration.

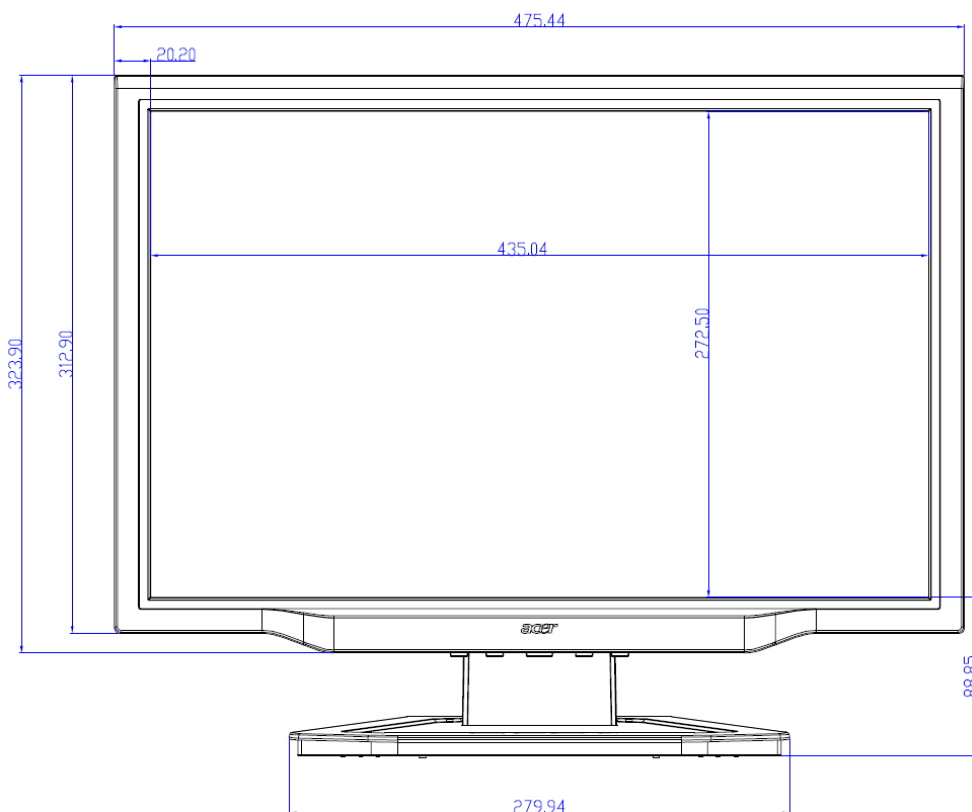
Please note that power supply card needs to use VDE 0602, 0625, 0821 approval power cord in European countries.

Machine assembly

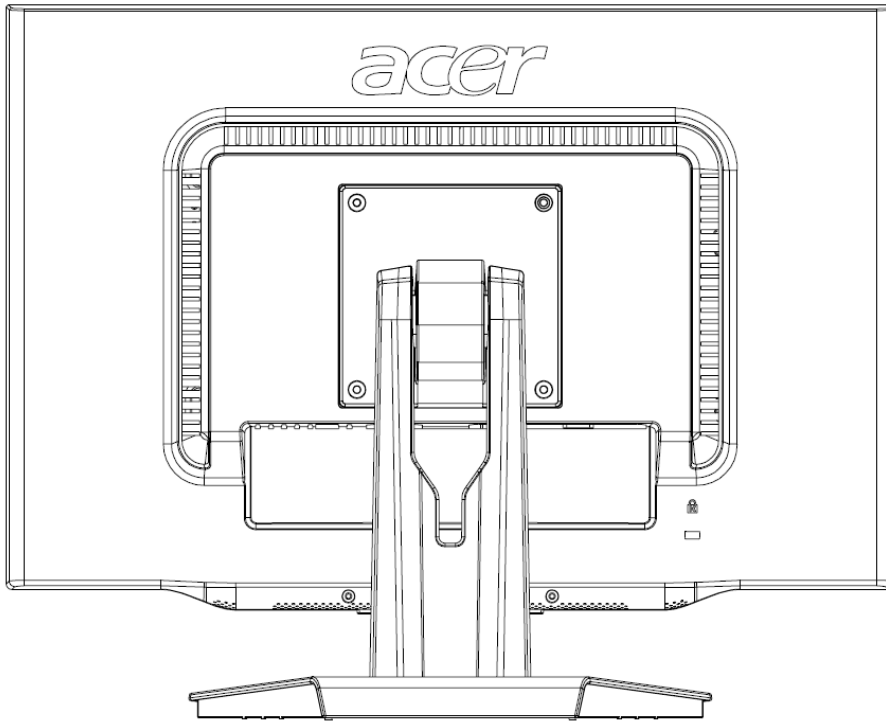
This chapter contains step-by-step procedures on how to assemble the monitor for maintenance and trouble shooting

- NOTE :**
1. The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding to avoid mismatch when putting back the components.
 2. Note : The monitor surface is susceptible to scratching! Therefore, lay the monitor on a soft surface when mounting or removing the base.
 3. Wear gloves.

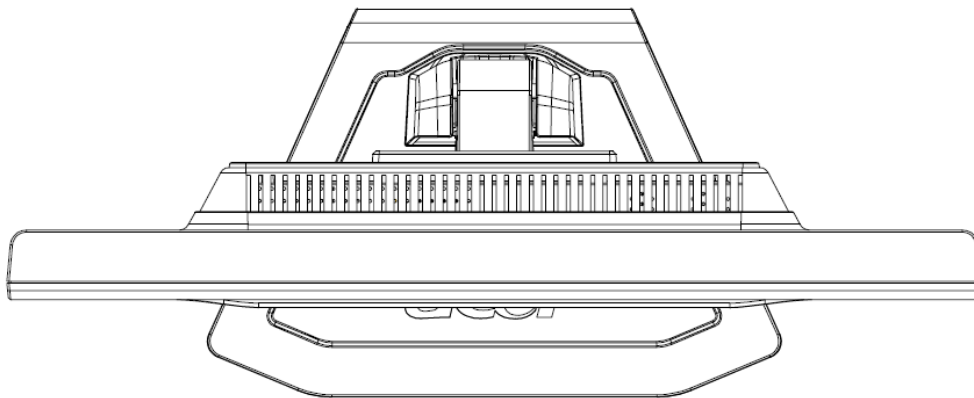
Front View: (unit : mm)



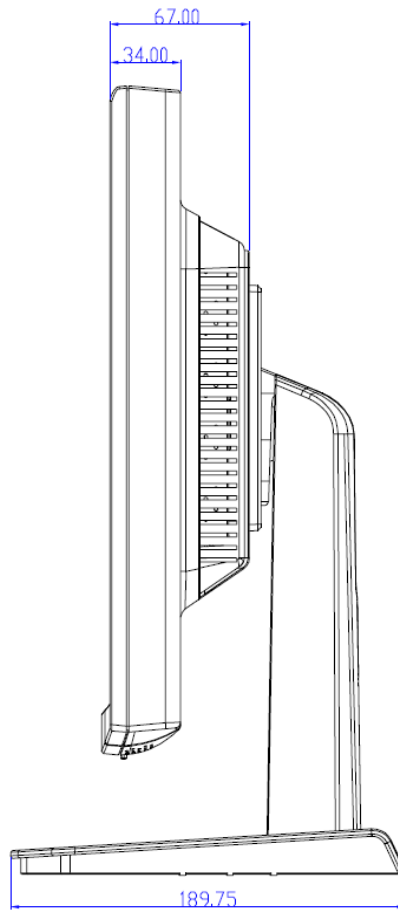
Real View:





Top View:

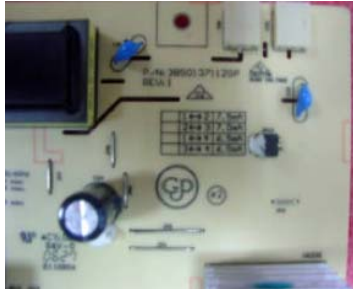


Side View: (unit : mm)



Assembly process

PICTURE	DESCRIPTION
	<p>CHECKING THE FOAM CUSHION AND PUT IT TO THE PRODUCTION LINE</p> <p>CHECKING THE SHIELDING AND PUT IT TO THE PRODUCTION LINE</p> <p>PUT 1*PCS FLOW CARD TO PRODUCTION LINE</p>
	<p>GET THE MAIN BOARD AND CHECKING</p> <p>CHECKING THE LVDS CABLE AND INSERT IT TO THE SINK OF MAIN BOARD</p> <p>CHECKING THE BUTTON BOARD CABLE AND INSERT IT TO SINK OF MAIN BOARD</p> <p>PUT THEM TO THE PRODUCTION LINE</p>



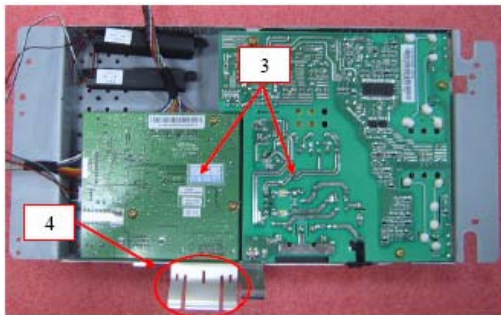
CHECKING THE POWER BOARD AND SCAN THE S/N AND P/B OF FLOW CODE.

CHANGE THE JUMPER NUMBER OF P/B ACCORDING PANEL

CONNECT THE P/B AND JUMPER CABLE WITH COLLOID

MARK THE LOCATION AS LEFT SHOW WITH COLOR PEN

PUT THE P/B TO THE PRODUCTION LINE



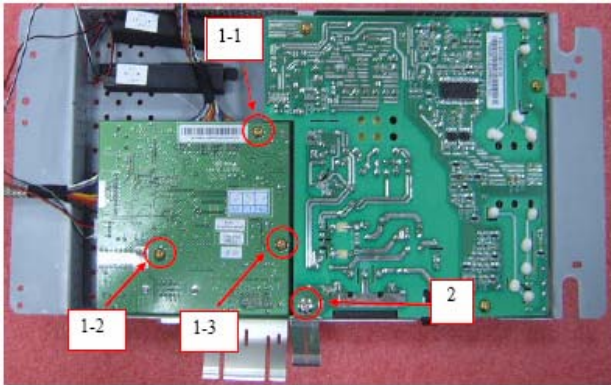
GET THE SPEAKER AND CHECKING

INSERT THE SPEAKER TO THE SINK OF MAIN BOARD

CONNECT THE MIAN BOARD AND POWER BOARD

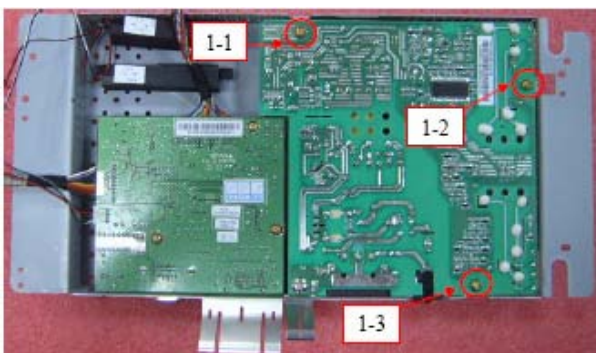
PUT 1*PCS SPRING TO THE DVI SINK OF MIAN BOARD, AND PUT THE M/B AND P/B TO THE SHIELDING

SETTLED SPEAKER AND PUT IT TO THE SHIELDING

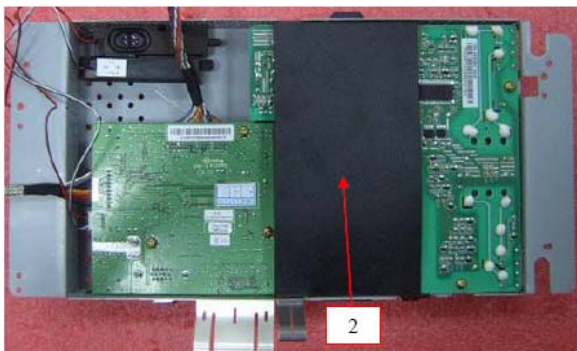


LOCK UP 3*PCS SCREWS TO THE LOCATION OF MAIN BOARD

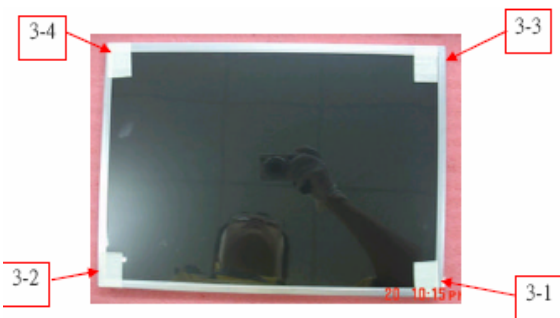
LOCK UP 1*PCS SCREW(M4*8-B) TO THE LOCATION OF POWER BOARD



LOCK UP 3*PCS SCREWS TO THE LOCATION OF POWER BOARD AS LEFT SHOW

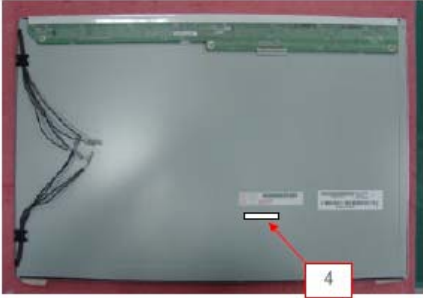


GET THE MYLAR OF P/B AND INSERT IT TO THE SHIELDING OF P/B



TEAR OFF THE PACKING OF PANEL

PUT THE PANEL TO THE PRODUCTION LINE AND TEAR OFF THE PLASTIC FILM

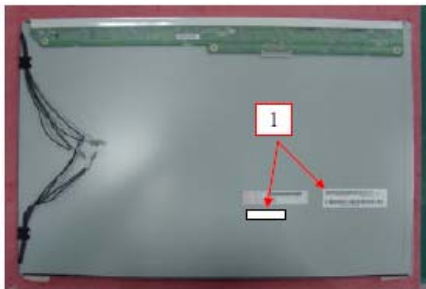


TEAR OFF THE PROTECT FILM OF PANEL AND CHECKING WHETHER DIRTY AND SCRAPE

STICK PROTECT FILM TO PANEL

TURN OFF IT AND TEAR OFF PLASTIC FILM

PUT 1*PCS FLOW CODE TO THE PANEL



SCAN THE FLOW CODE, S/N CODE AND PANEL

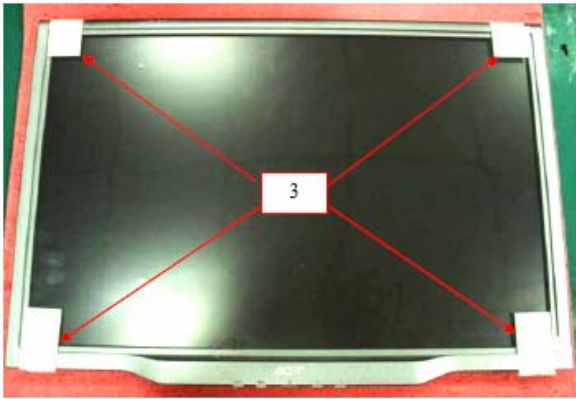
GET THE RIGHT BRACKET AND CHECKING

PUT THE RIGHT BRACKET TO THE LEFTSIDE AND LOCK UP 2*PCS SCREWS TO FIX IT



GET THE LEFT BRACKET AND PUT IT THE RIGHTSIDE, LOCK UP 2*PCS SCREWS TO FIX IT

TURN OVER IT AND TEAR OFF THE PROTECT FILM

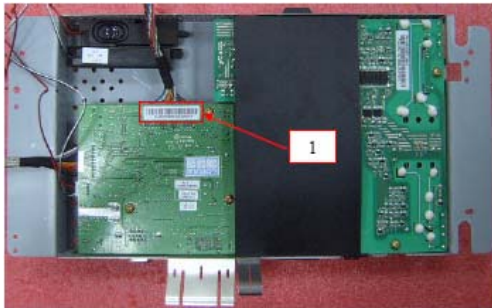


GET THE BEZEL AND CHECKING

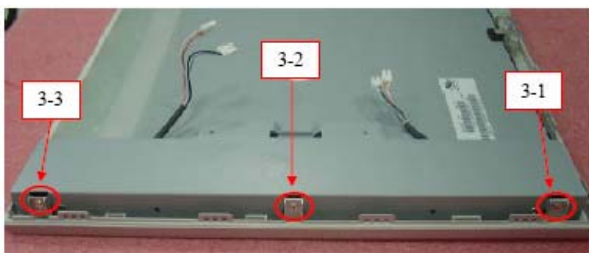
PUT THE BEZEL TO THE PANEL

STICK PROTECT FILM TO THE BEZEL

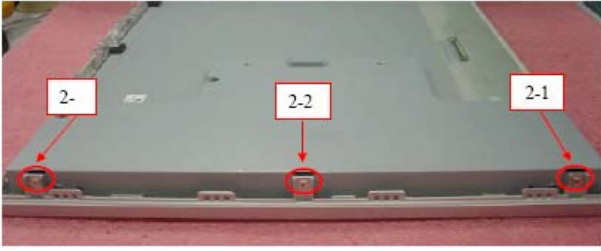
TURN OVER IT



SCAN THE S/N CODE AND MAIN BOARD CODE



LOCK UP 3*PCS SCREWS TO FIX THE RIGHTSIDE OF BEZEL



LOCK UP 3*PCS SCREWS TO FIX THE LEFTSIDE OF BEZEL

TEAR OFF THE PROTECT FILM AND RECLAIM



PUT THE SHIELDING TO THE LEFT AND RIGHT BRACKETS

INSERT THE LCD CABLE TO THE SINK OF PANEL

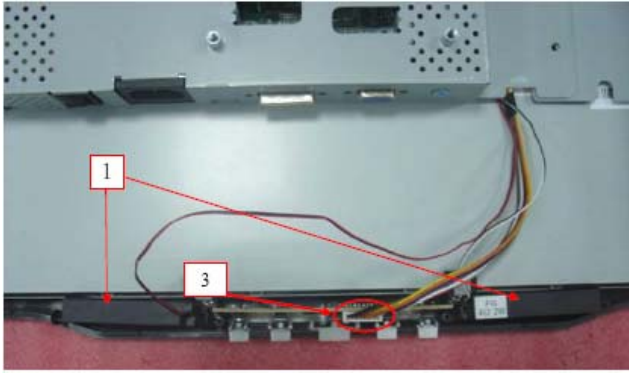


STICK 1*PCS ADHESIVE TAPE ON THE LCD CABLE

SETTLED CABLE AND FIX SHIELDING



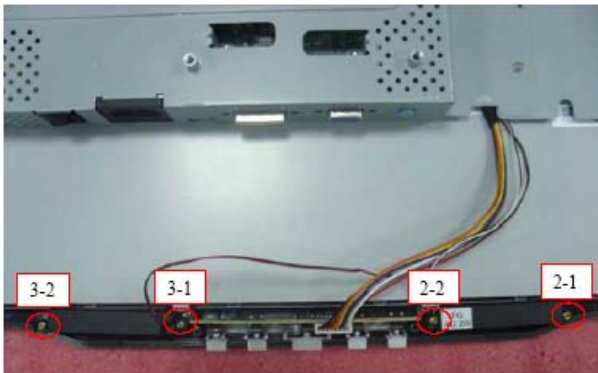
LOCK UP 4*PCS SCREWS TO FIX THE SHIELDING



PUT THE LEFT AND RIGHT SPEAKERS TO THE LOCATION OF BEZEL

INSERT THE BUTTON BOARD CABLE TO THE JACK OF B/B

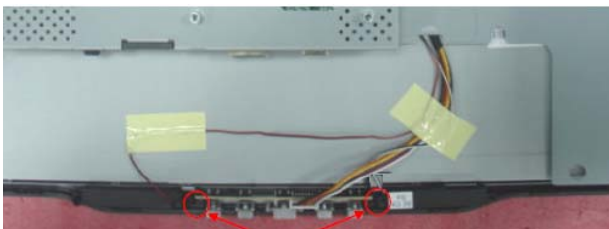
GET THE CARD OF B/B AND STICK 1*PCS ADHESIVE TAPE



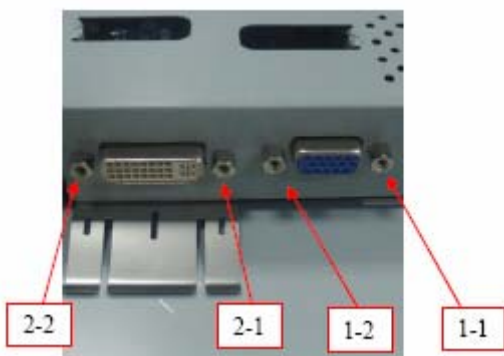
CHECKING THE SPEAKER

LOCK UP 2*PCS SCREWS TO FIX THE RIGHT SPEAKER

LOCK UP 2*PCS SCREWS TO FIX THE LEFT SPEAKER

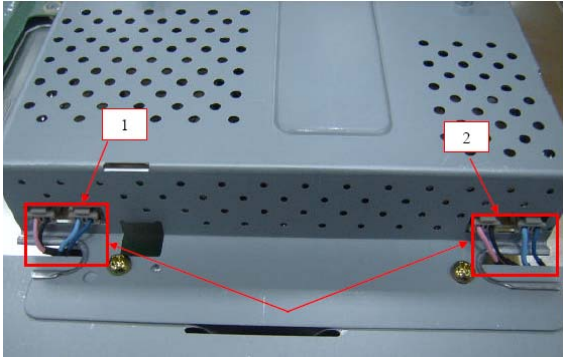


CHECKING THE SPEAKER AND STICK 2*PCS ADHESIVE TAPE ON THE CABLE



LOCK UP 2*PCS IO NUT ON THE VGA JACK OF MAIN BOARD

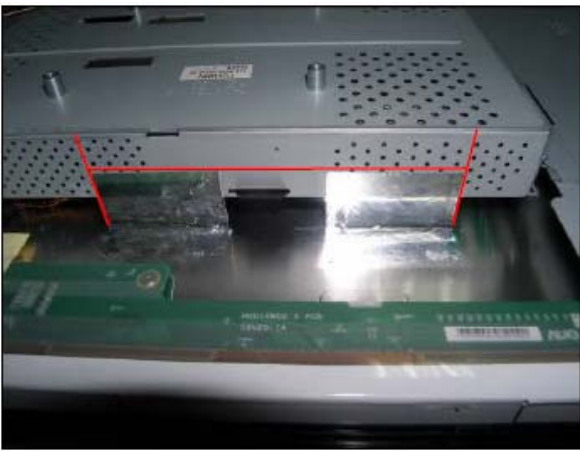
LOCK UP 2*PCS IO NUT ON THE DVI JACK OF MAIN BOARD



INSERT THE UPSIDE LAMP CABLE

INSERT THE DOWNSIDE LAMP CABLE

CHECKING THE LAMP CABLE WHETHER SETTLED WITH THE TOOLS



STICK 2*PCS AL FOIL(50*40) BETWEEN THE PANEL AND SHIELDING

SETTLED THE AL FOIL BY HANDS



CHECKING THE AL FOIL AND ADHESIVE TAPE WHETHER SETTLED

CHECKING THE B/B AND SPEAKER CABLE WHETHER SETTLED

MAKE THE AL FOIL AND ADHESIVE TAPE SMOOTH BY RAG



TURN OVER THE LCD AND CHECKING WHETHER ANY THING IN IT

1&2



3

CHECKING THE REAR COVER

PUT THE REAR COVER TO THE BEZEL

STICK 1*PCS FLOW CARD TO THE LOCATION OF REAR COVER



2-2

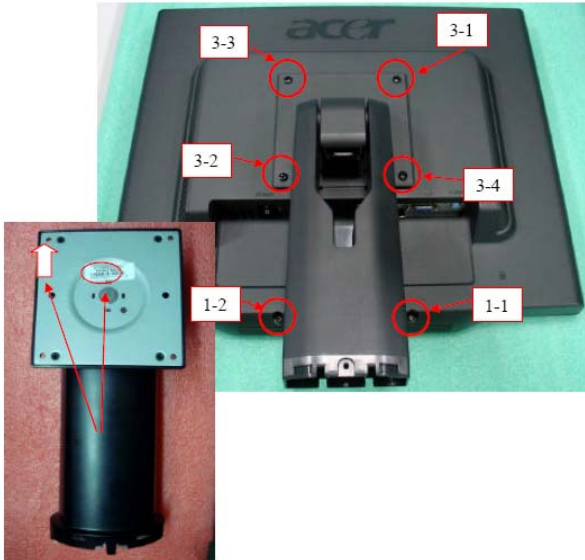
2-1

CHECKING THE REAR COVER WHETHER SETTLED

LOCK UP 2*PCS SCREWS TO FIX THE REAR COVER



GET THE STAND NECK AND PUT IT TO THE PRODUCTION LINE



CHECING THE SCREWS ON THE REAR COVER WHETHER UNLOCKED

PUT THE STAND NECK TO THE LOCATION OF REAR COVER

LOCK UP 4*PCS SCREWS ON THE STAND NECK



INSERT THE VGA SIGNAL CABLE TO THE SINK OF LCD

GET THE BASE AND PUT IT TO THE STAND NECK



STAND UP THE LCD

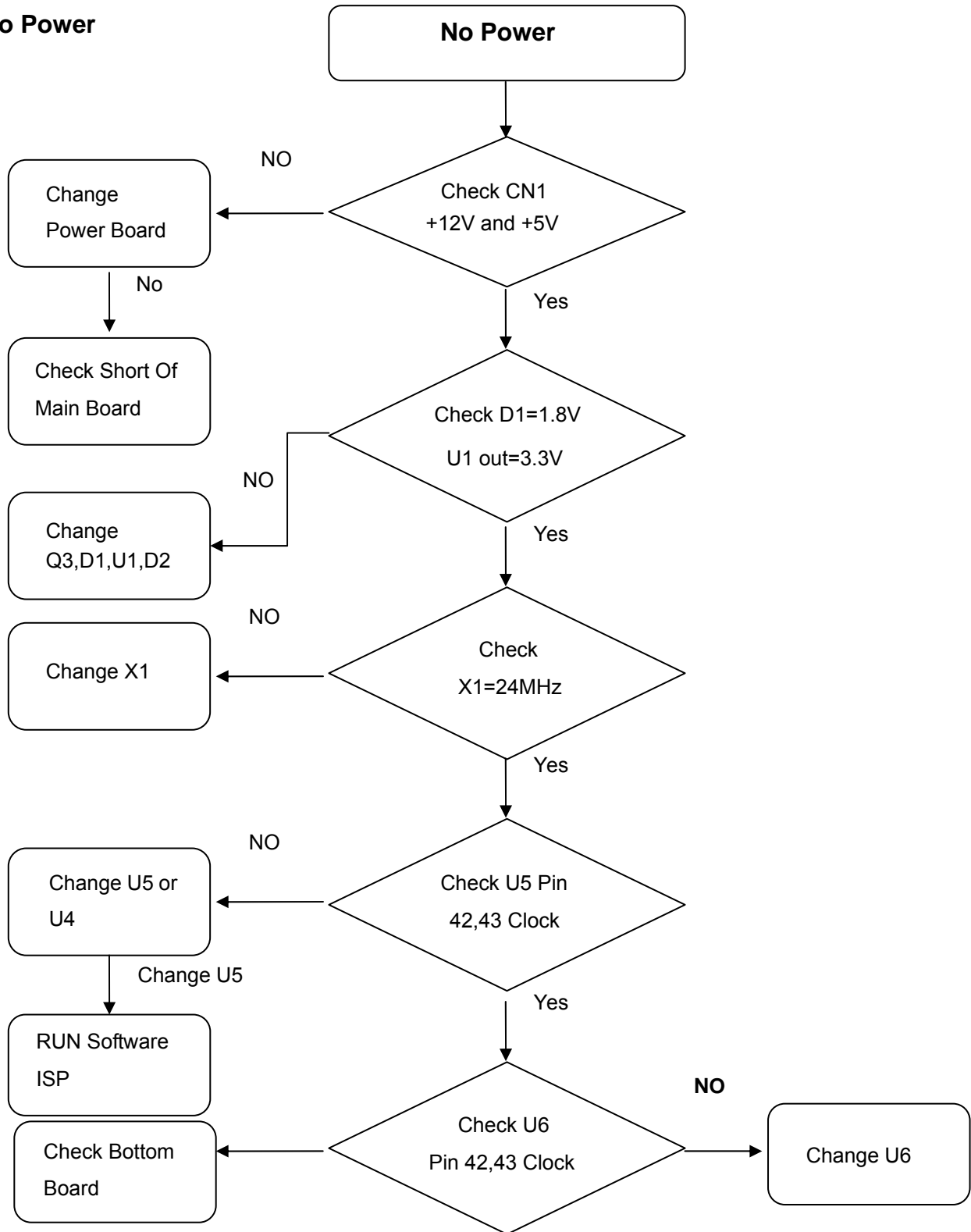
INSERT THE POWER CABLE TO THE JACK AND TURN ON

STICK 1*PCS FLOW CARD TO THE RIGHTSIDE OF BEZEL

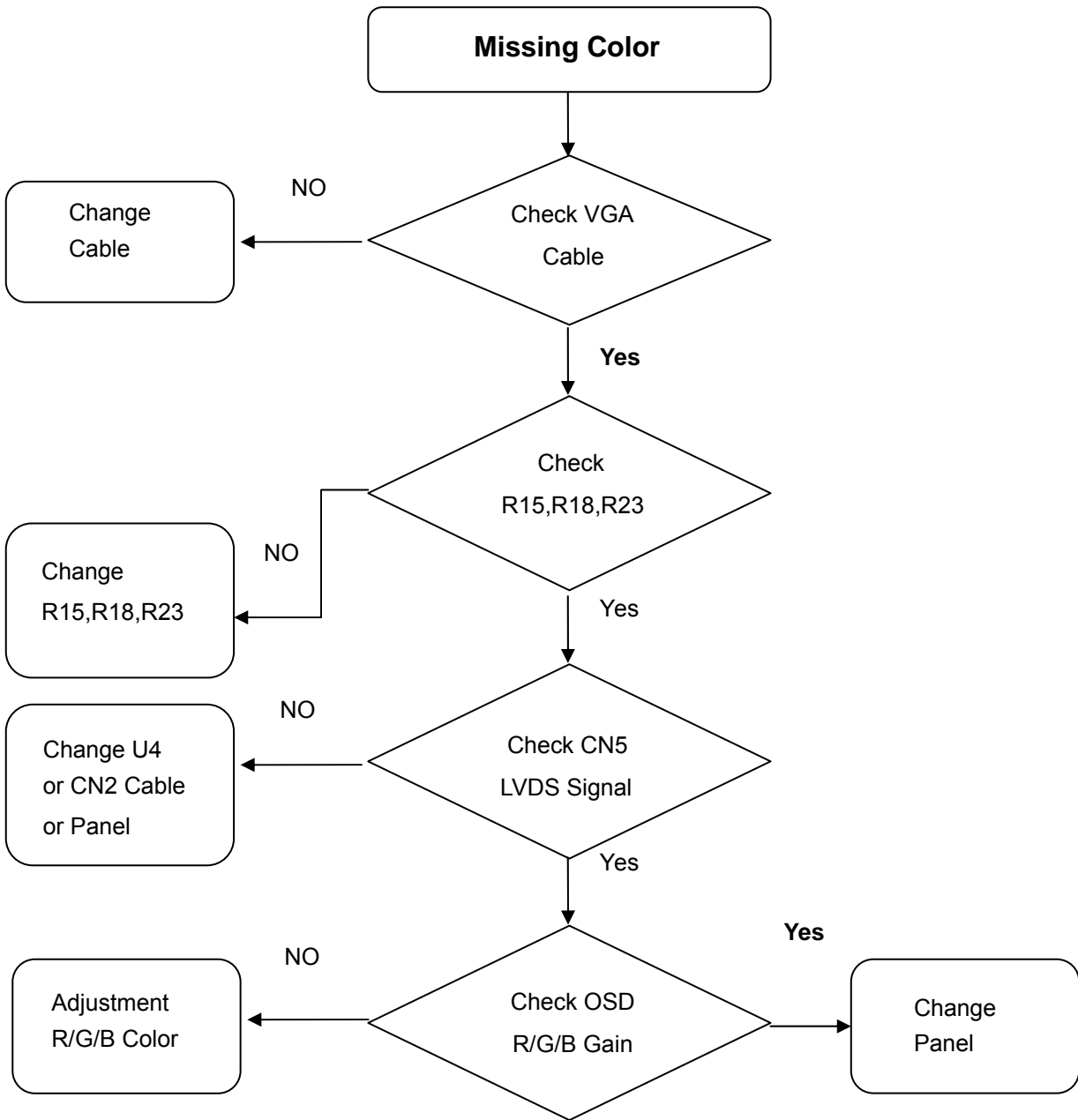
TROUBLE SHOOTING

This chapter provides trouble shooting information for AL2023W

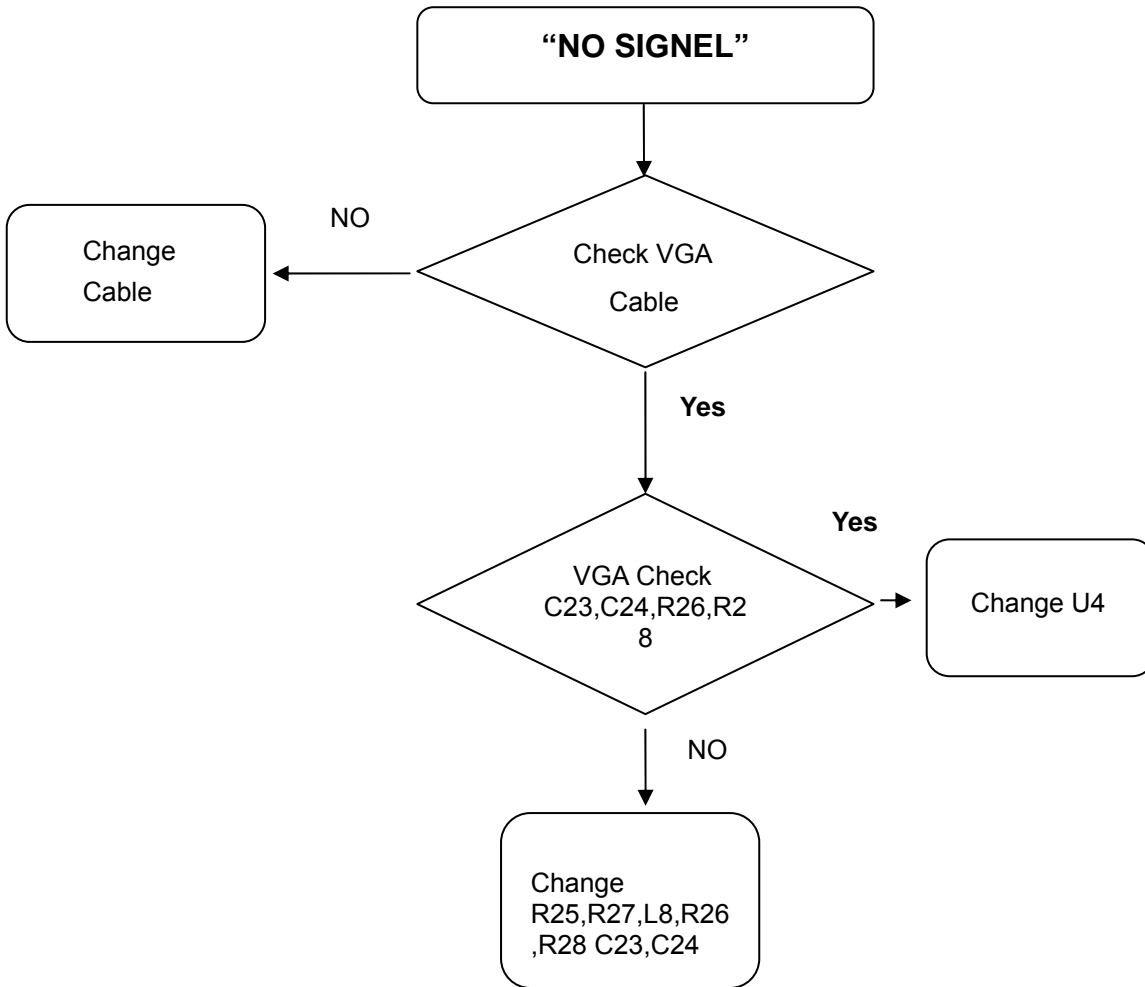
1. No Power



2. Missing Color



3. Always show "NO SIGNAL"



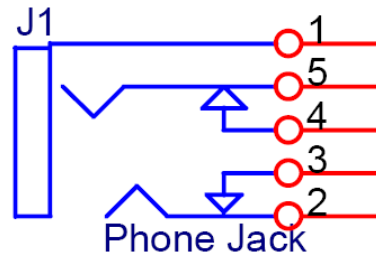
Connector Information

Phonejack stereo

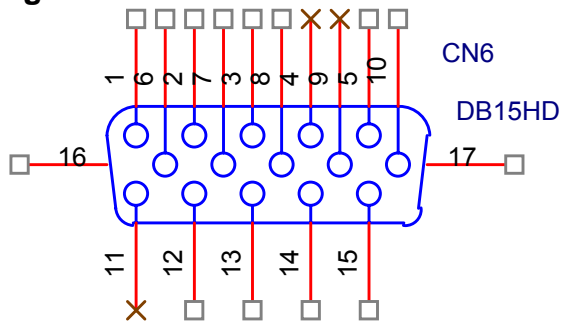
PIN1. AC power cord : CEE22 typed connector

PIN2. Audio cable

PIN3. Audio : Line-in receptacle



Video signal connector 15P Mini D-Sub connector x 1



PIN	MNEMO	SIGNAL
1	RV	Red Video
2	GV	Green Video
3	BV	Blue Video
4	NC	None
5	GND	Ground(DDC return)
6	RG	Red GND
7	GG	Green GND
8	BG	Blue GND
9	+5V	+ 5V (for DDC)
10	SG	Sync GND
11	NC	None
12	SDA	DDC Data
13	HS	Horizontal Sync
14	VS	Vertical Sync
15	SCL	DDC Clock

DVI-D connector

The PIN assignment of the 24 pin DVI-D connector / cable is as follows:

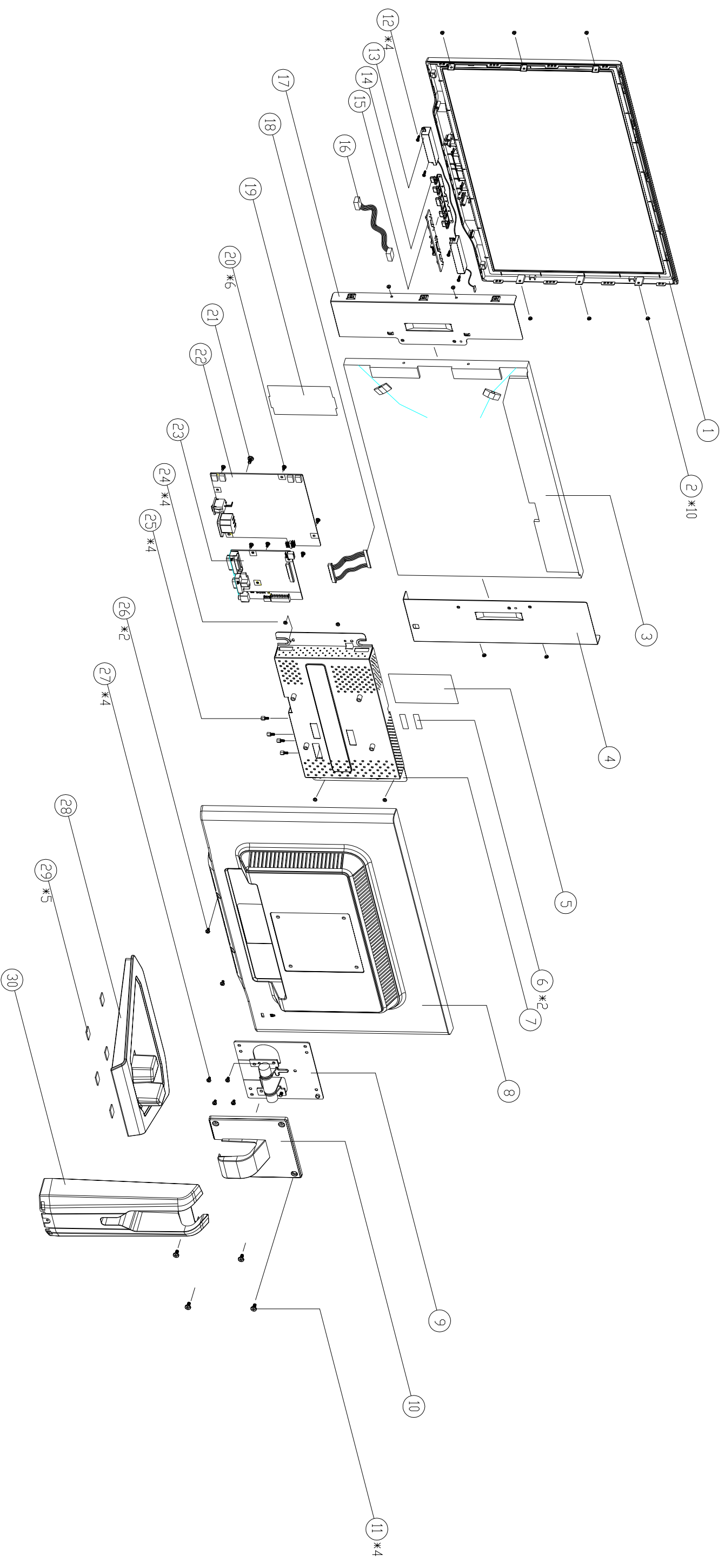
PIN	Signal
1	TMDS data2-
2	TMDS data2+
3	TMDS data2 shield
4	NC
5	NC
6	DDC clock
7	DDC data
8	Not connected
9	TMDS data1-
10	TMDS data1+
11	TMDS data1 shield
12	NC
13	NC
14	+5V
15	Ground (return for +5 V and H/V sync)
16	Hot plug detect
17	TMDS data0-
18	TMDS data0+
19	TMDS data0 shield
20	NC
21	NC
22	TMDS clock shield
23	TMDS clock+
24	TMDS clock-

FRU (Field Replaceable Unit) list

This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of AL1511. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

NOTE : Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel(<http://aicsl.acer.com.tw/spl/>). For whatever reasons a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts repair and service of customer machines.

NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how best to dispose it, or follow the rules set by your regional Acer office on how to return it.



Item	Part Number	Part Description	Qty
1	EAW0TB01011	LCD BEZEL W0TB-S W0TB	1
2	MM300301BJ4	SCREW M3*3-I-NI	6
3	AAM201EW121	LCD(BKT)20" M201EW02 V8	1
4	FAW0TB02018	LCD BKT-R W0TB	1
5	FCL7TA01018	SHIELDING MYLAR L7TA	1
6	FCL9TB04017	SCALAR BOARD MYLAR L9TB	2
7	FAL9TB01016	POWER SHIELDING L9TB	1
8	EAW0TB02018	LCD COVER W0TB	1
9	FAL9TB04015	HINGE ASSY L9TB	1
10	EBL9TB02013	HINGE COVER L9TB	1
11	MM40100B244	SCREW M4.0*10-B BLACK (NYLDR)	4
12	MF25080PJ8	SCREW F2.5*8.0-P GP	4
13	DN006316046	SPK ASSY L9ZC-5U X06316N-010 2W*2	1
14	EBL9TB01017	FUNCTION BUTTON L9TB	1
15	23L7TB001	L7TB BUTTON/B ASSY	1
16	DDL01DBU000	CABLE MB-BUTTON	1
17	FAW0TB01011	LCD BKT-L W0TB	1

Item	Part Number	Part Description	Qty
18	DDM0TWLC010	CABLE LVDS	1
19	FCL9TB01018	POWER MYLAR L9TB	1
20	MF30060TJB2	SCREW F3.0*6.0-T(MC)GP	6
21	MM40080BBW1	SCREW M4.0*8.0-B(NI,WASHER)	1
22	AS05B312426	ADP/INV,FSPO43-2PI02S 90~264V	1
23	21WBCOMB060	WBC-H M/B ASSY(FDR W0TB)	1
24	MM30040BBJ5	SCREW M3.0*4.0-B(NI)	4
25	MBL11004018	ID NUT L11	4
26	MF30080BJ27	SCREW F3.0*8.0-B(NI) GP	2
27	MF400801BJ1	SCREW F4.0*8-I(NI)	4
28	EAL9TB04015	BASE L9TB	1
29	GAL7TA01016	RUBBER FOOT L7TA	5
30	EAL9TB03019	STAND L9TB	1

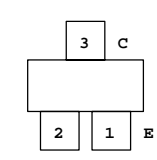
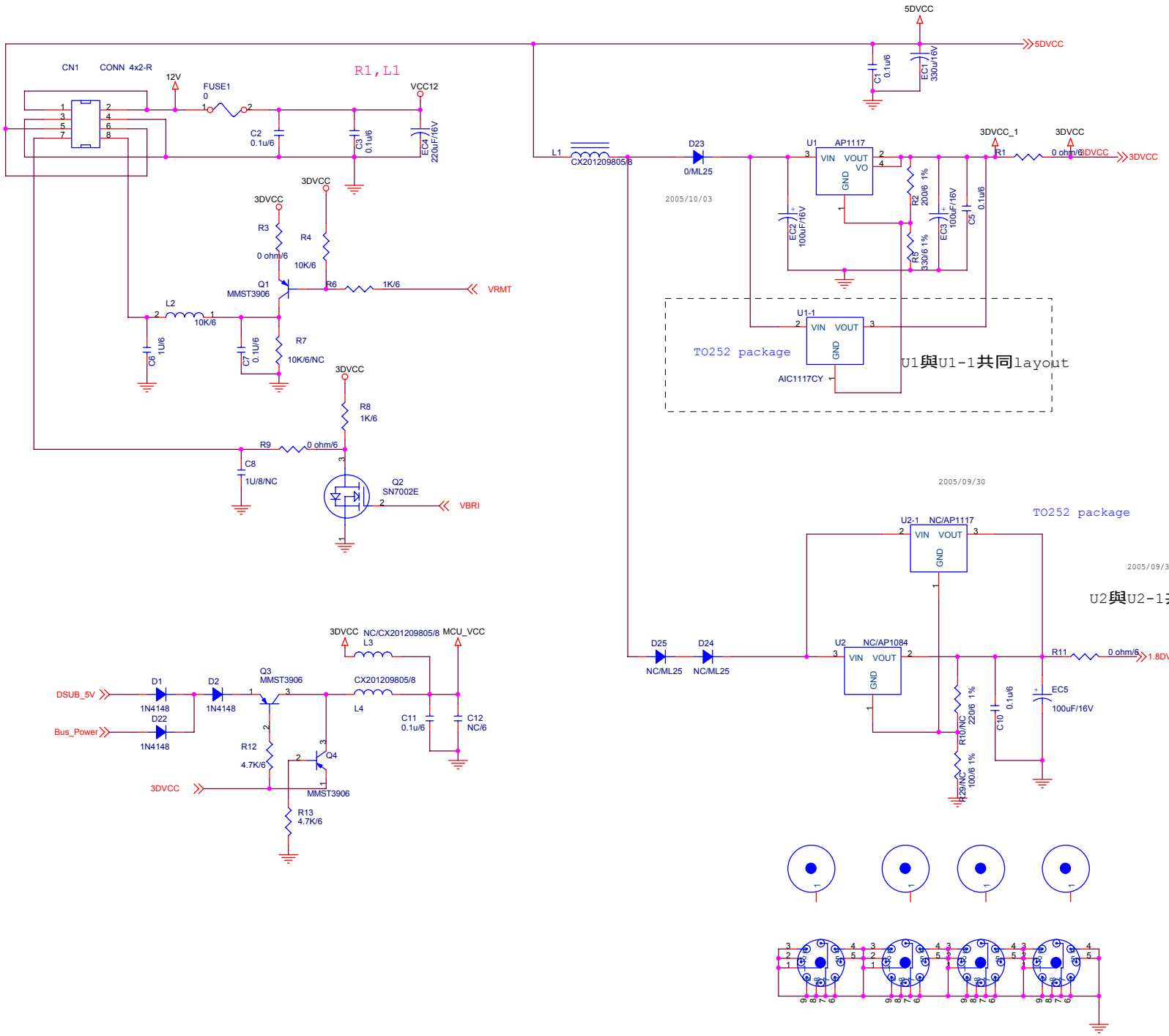
Part Number of Exploded View

Item	Part Number	Part Description	Q'TY	Item	Part Number	Part Description	Q'TY
1	EAW0TB01011	LCD BEZEL W0TB-S W0TB	1	16	DDL0TDBU000	CABLE MB-BUTTON	1
2	MM30030IBJ4	SCREW M3*3-I-NI	6	17	FAW0TB01011	LCD BKT-L W0TB	1
3	AAM201EW121	LCD (TFT)20*M201EW02 V8	1	18	DDM0TWLC010	CABLE LVDS	1
4	FAW0TB02018	LCD BKT-R W0TB	1	19	FCL9TB01018	POWER MYLAR L9TB	1
5	FCL7TA01018	SHIELDING MYLAR L7TA	1	20	MF30060TJB2	SCREW F3.0*6.0-T(MC) GP	6
6	FCL9TB01017	SCALAR BOARD MYLAR L9TB	2	21	MM40080BBW1	SCREW M4.0*8.0-B(NI,WASHER)	1
7	FAL9TB01016	POWER SHIELDING L9TB	1	22	AS05B312426	ADP/INV,FSP043-2PI02S 90~264V	1
8	EAW0TB02018	LCD COVER W0TB	1	23	21WBC0MB060	WBC-H M/B ASSY(FOR W0TB)	1
9	FAL9TB04015	HINGE ASSY L9TB	1	24	MM30040BBJ5	SCREW M3.0*4.0-B(NI)	4
10	EBL9TB02013	HINGE COVER L9TB	1	25	MBLI1004018	IO NUT LI1	4
11	MM40100B244	SCREW M4.0*10-B BLACK (NYL0K)	4	26	MF30080BJ27	SCREW F3.0*8,B(BNI) GP	2
12	MF25080PJB8	SCREW F2.5*8.0-P GP	4	27	MF40080IBJ1	SCREW F4.0*8-I(NI)	4
13	DN006316046	SPK ASSY L9ZC-5U X06316N-010 2W*2	1	28	EAL9TB04015	BASE L9TB	1
14	EBL9TB01017	FUNCTION BUTTON L9TB	1	29	GAL7TA01016	RUBBER FOOT L7TA	5
15	23L7TBBB001	L7TB BUTTON/B ASSY	1	30	EAL9TB03019	STAND L9TB	1

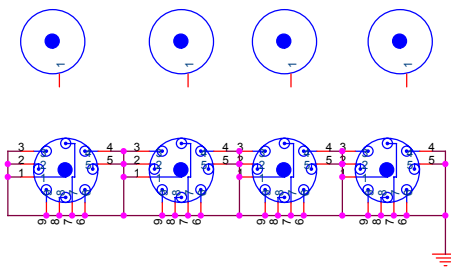
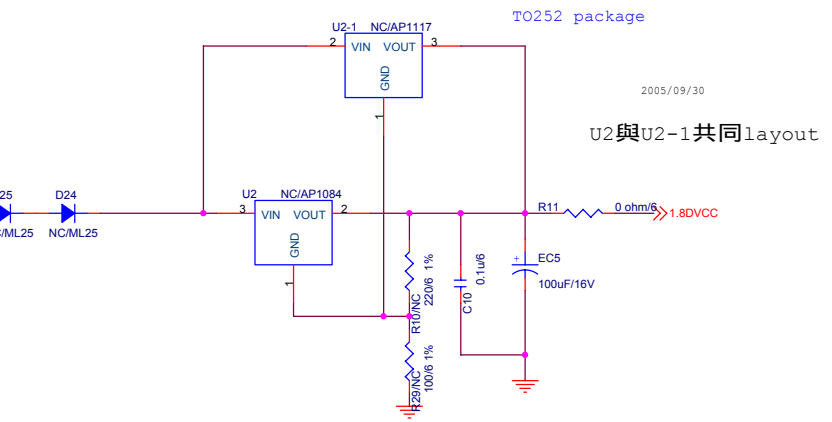
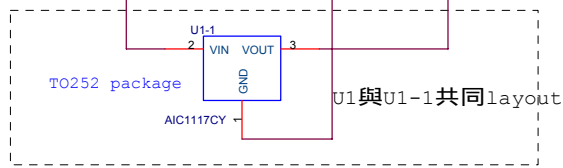
Chapter 7

SCHEMATIC DIAGRAM

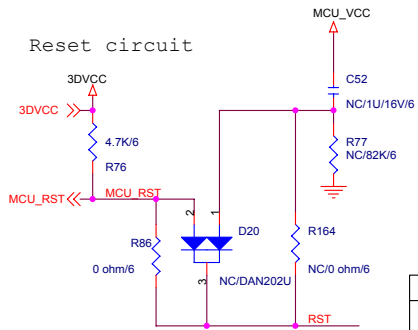
Main Board



RTD 3DVCC

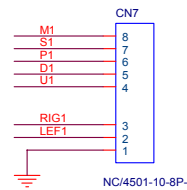
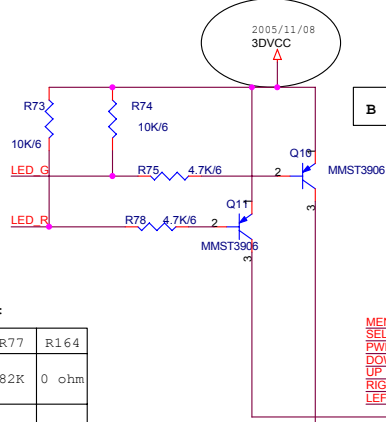


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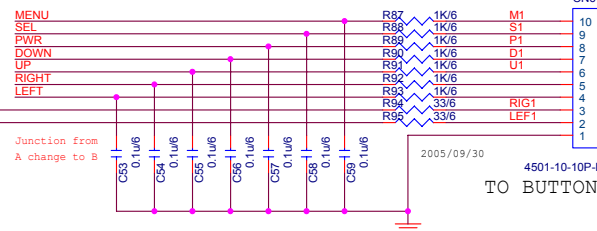
*Co-lay RTD2553V/RTD2525L note:

	R76	R86	C52	R77	R164
RTD2525L	NC	NC	1U/16V	82K	0 ohm
RTD2553VH	4.7K	0 ohm	NC	NC	NC



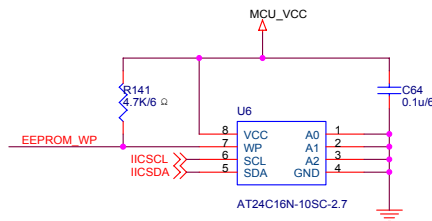
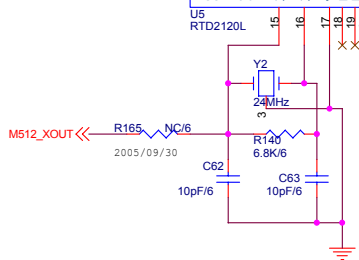
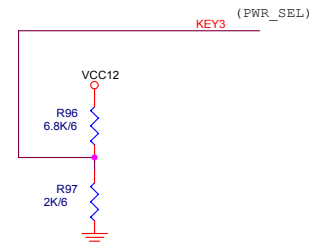
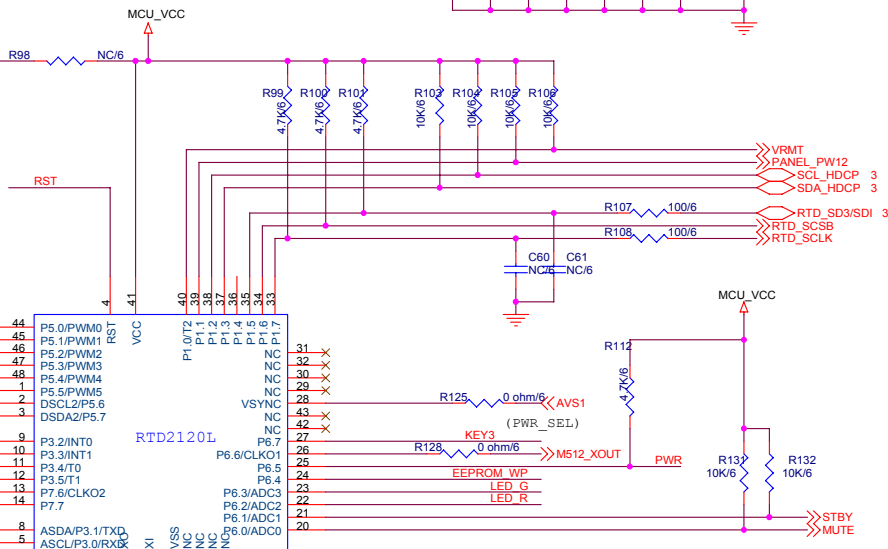
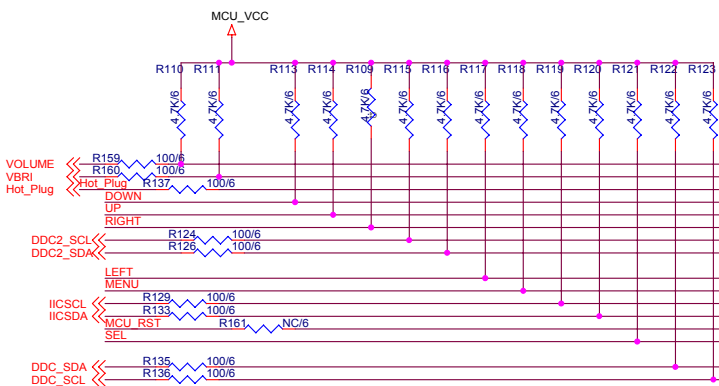
*Co-lay CN6/CN7 note:

	R92	R93	C53	C54	R109	R117
CN7	NC	NC	NC	NC	NC	NC
CN6	1K	1K	0.1u	0.1u	4.7k	4.7k



4501-10-10P-R
TO BUTTON BOARD

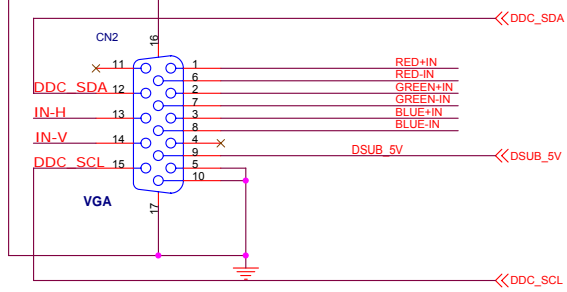
Add
R159, R160, R161, R164, R165



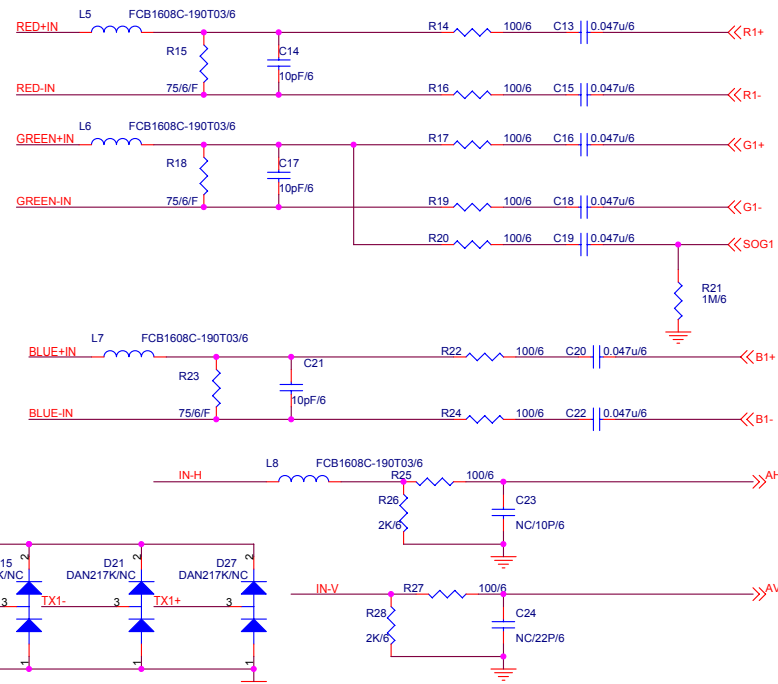
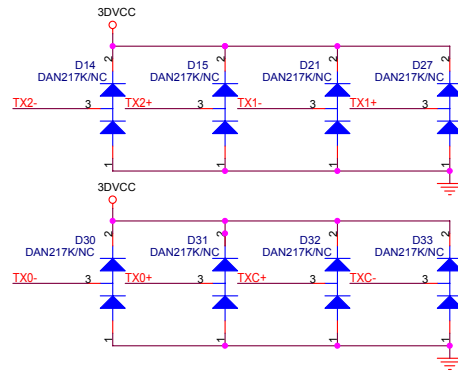
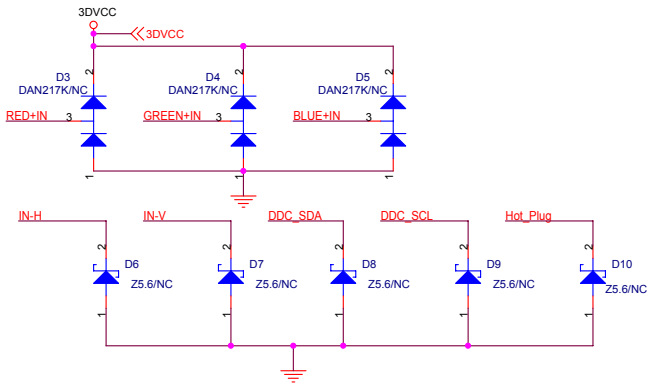
PROJECT NAME: WOTB

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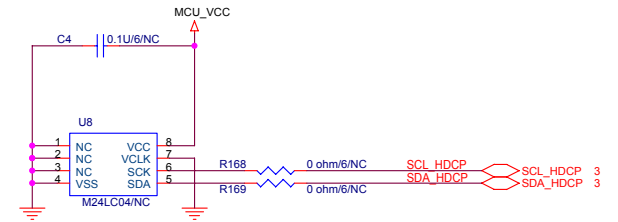
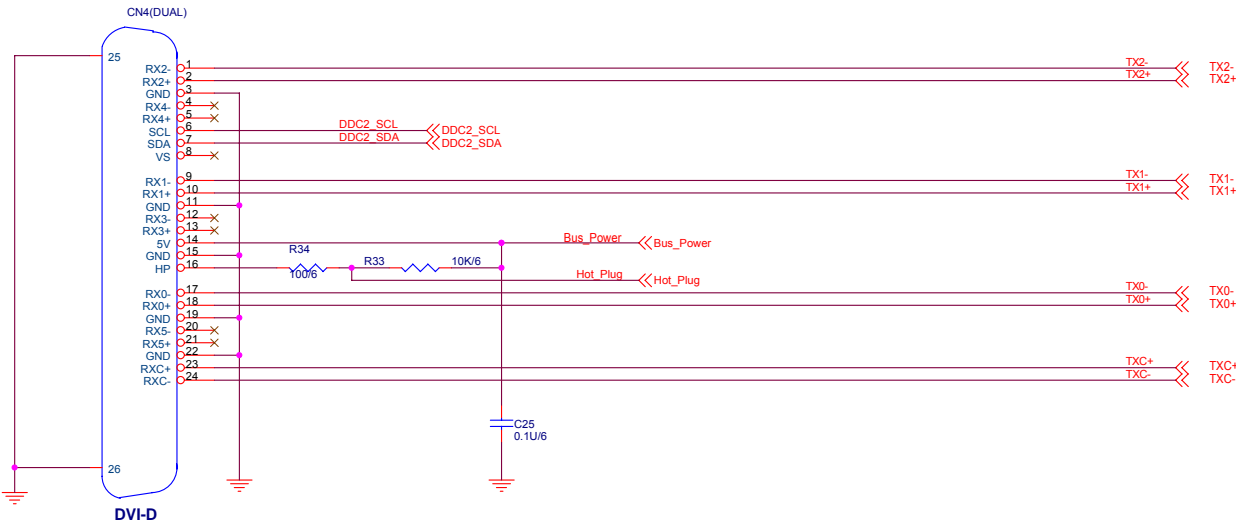
PAGE1 VGA INPUT



Connection Diagram

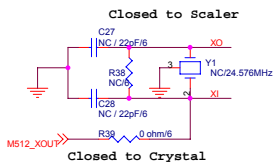


	C16	C19	R17	R20
RTD2525L	NC	0.047u	NC	100
RTD2553VH	0.047u	0.047u	100	100

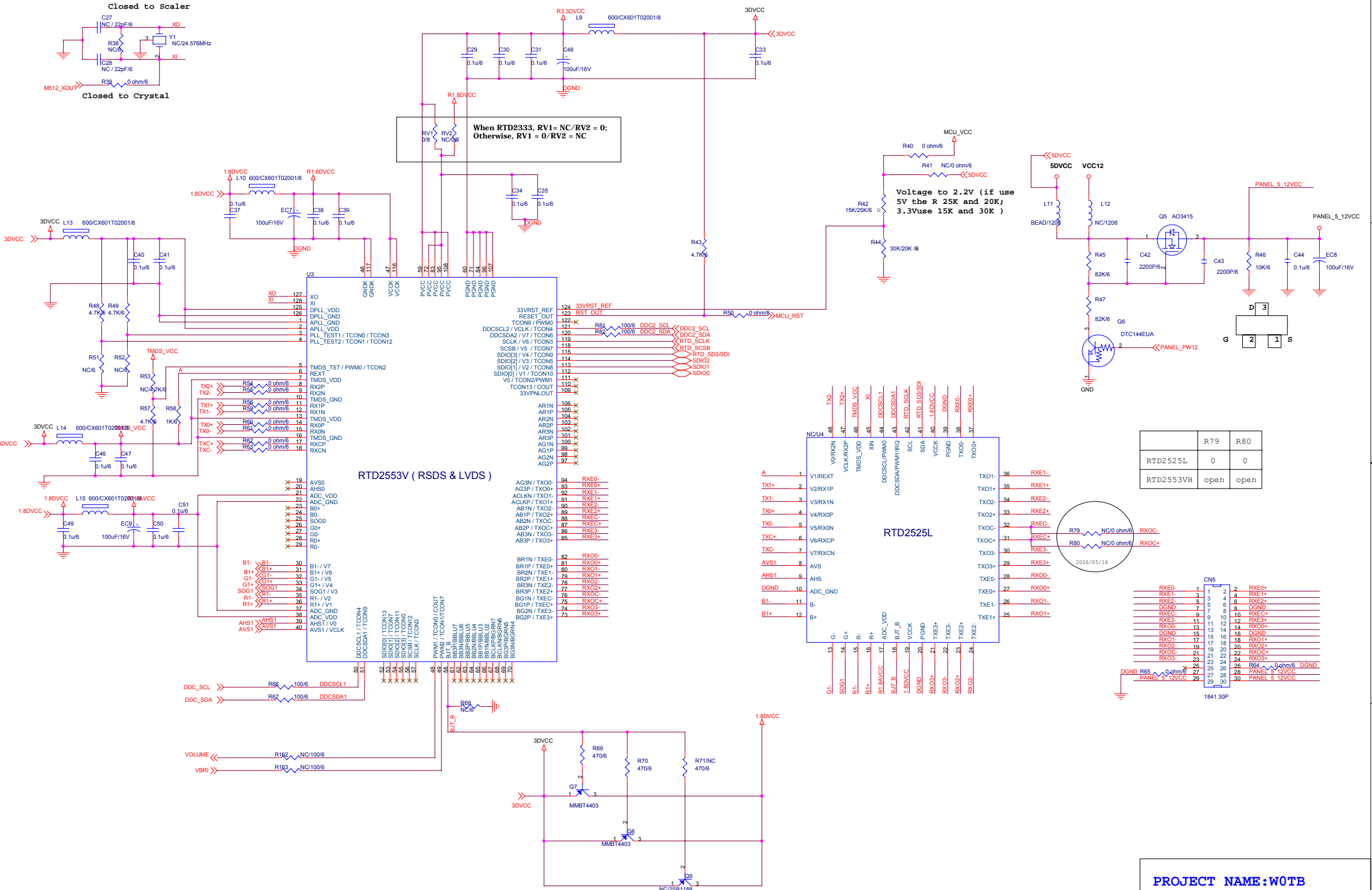


PROJECT NAME:W0TB

Title		
VGA AND DVI INPUT		
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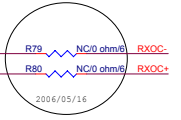
When RTD2333, RV1 = NC / RV2 = 0;
Otherwise, RV1 = 0 / RV2 = NC



MCU_VCC
MCU_RST

Voltage to 2.2V (if use
5V the R 25K and 20K;
3.3V use 15K and 30K)

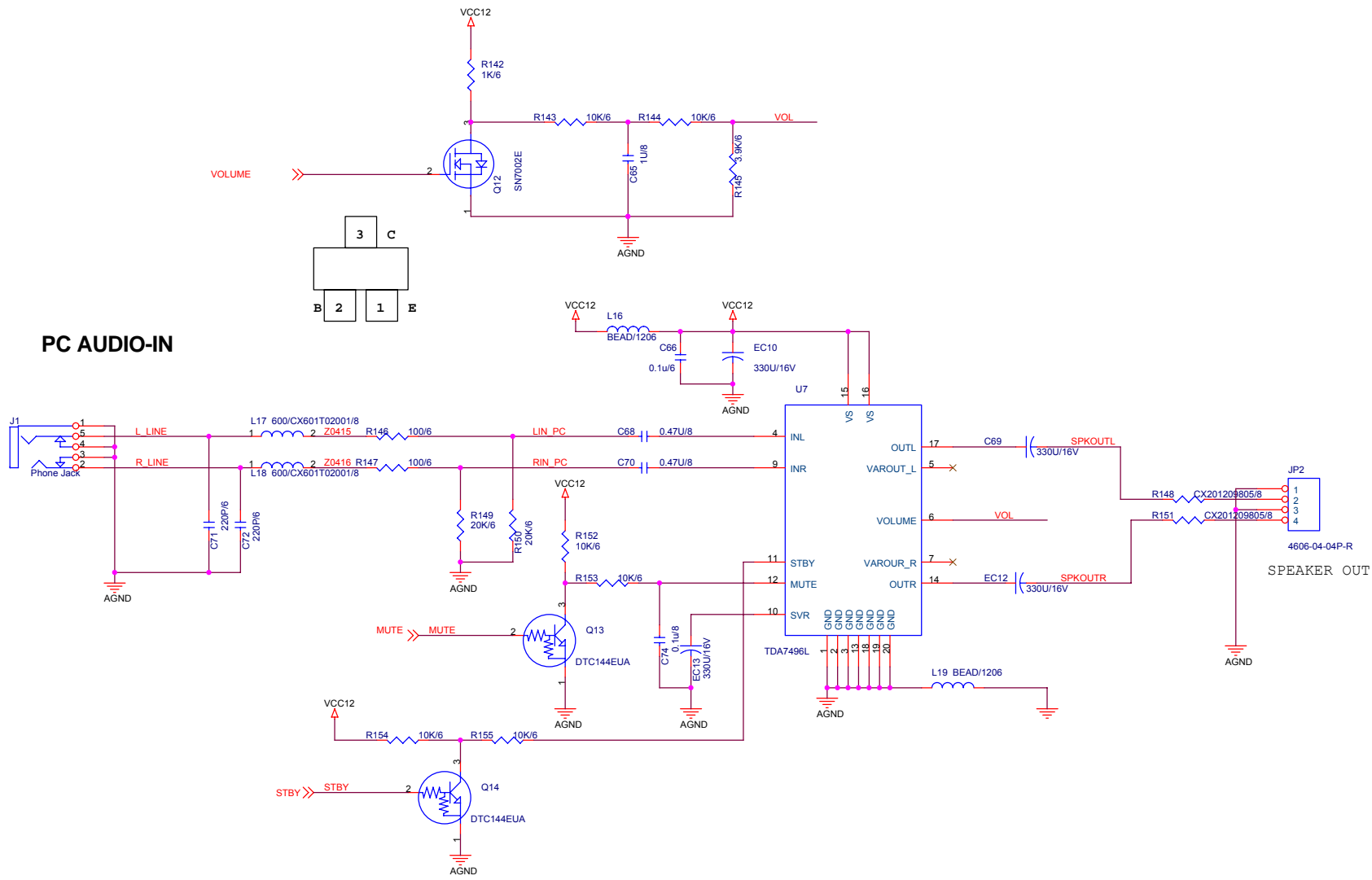
	R79	R80
RTD2525L	0	0
RTD2533VH	open	open



RXE0-	1	2	RXE0+
RXE1-	3	4	RXE1+
RXE2-	5	6	RXE2+
DGND	7	8	DCND
RXE3-	9	10	RXE3+
RXE4-	11	12	RXE4+
RXD0-	13	14	RXD0+
DGND	15	16	DGND
RXD1-	17	18	RXD1+
RXD2-	19	20	RXD2+
RXD3-	21	22	RXD3+
RXD4-	23	24	RXD4+
DGND	25	26	DGND
RXD5-	27	28	RXD5+
PANEL_5_12VCC	29	30	PANEL_5_12VCC

PROJECT NAME: WOTB

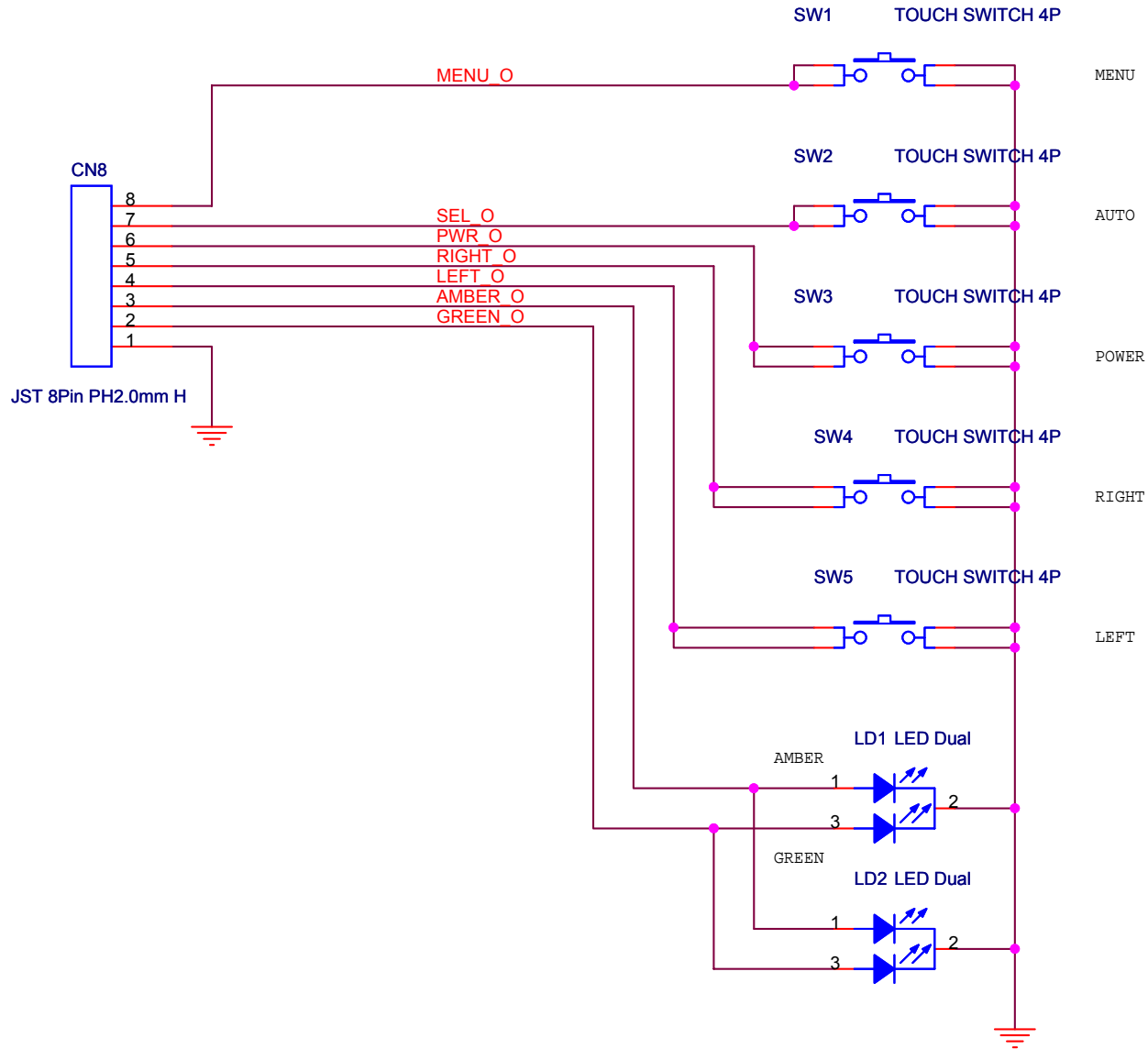
PC AUDIO-IN



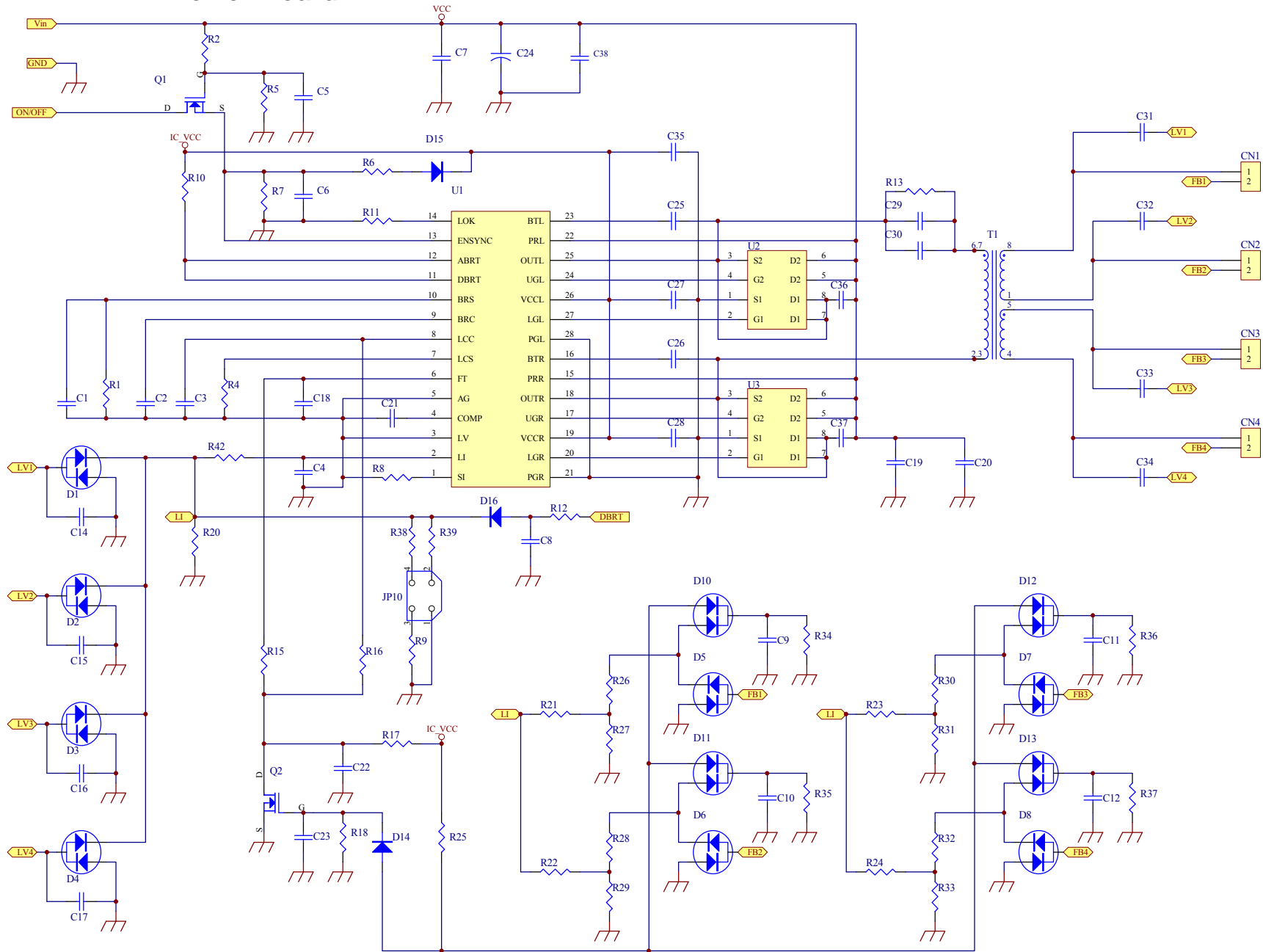
PROJECT NAME: W0TB

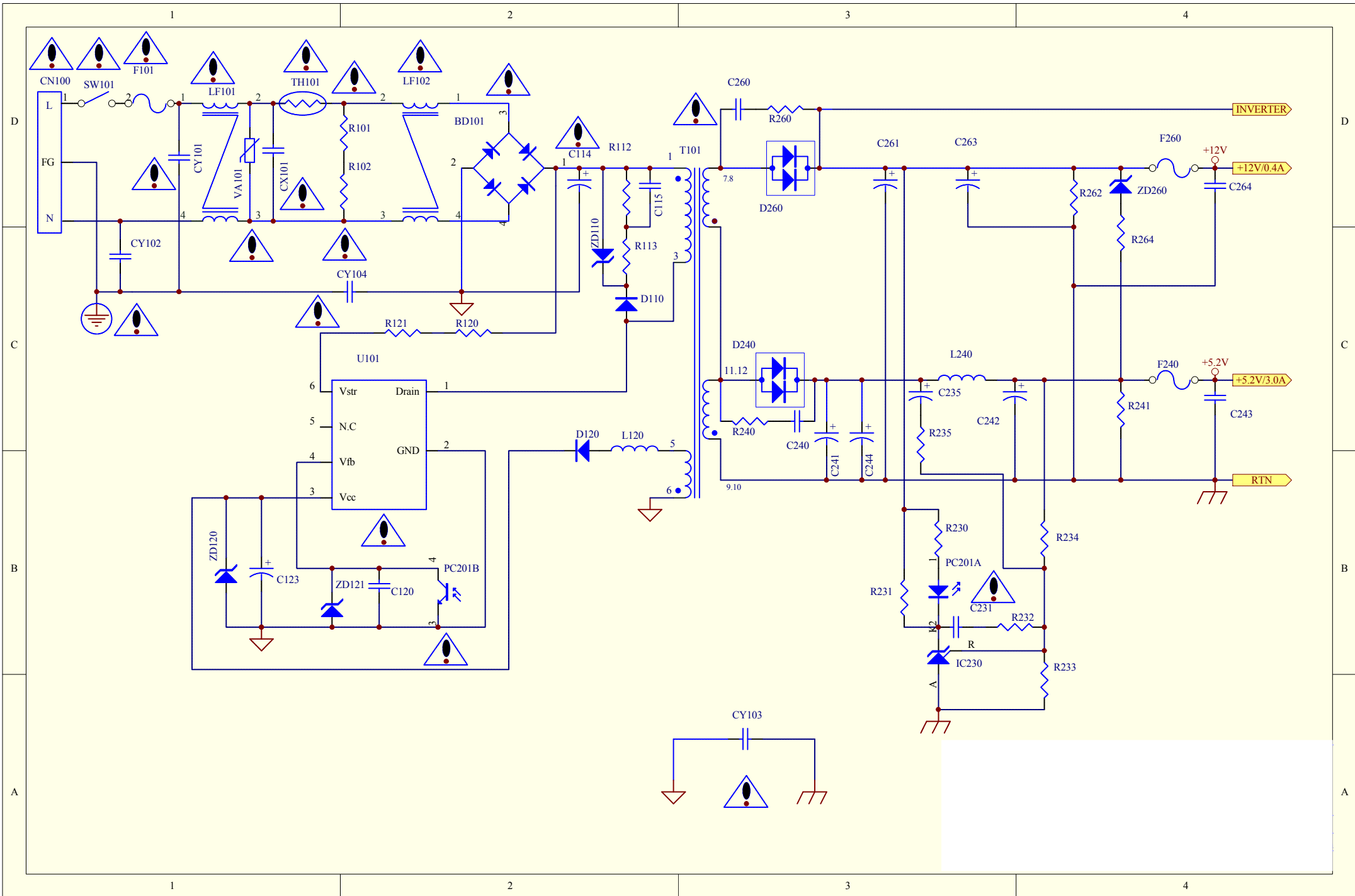
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Button Board



Power Board

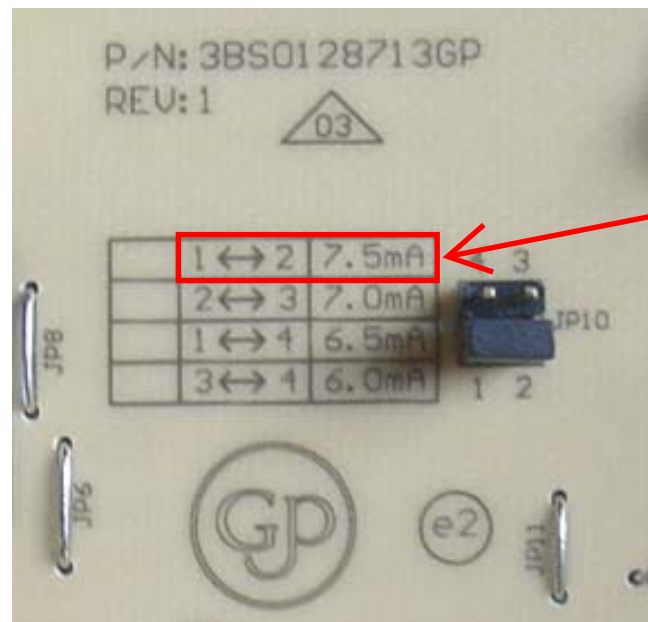




Power Board Information

Panel P/N	Description	Current Type Value
AAM201EW121	LCD(TFT)20" M201EW02 V8 FOR ACER CON GP	7.5mA

P/B P/N	Description
AS05B312426	ADP/INV,FSP055-2PI02(90-264V,6.~7.5MA)GP



When the lamp current value is 7.5mA, the jumper should be done as the picture left shows.