Acer AL1917
Service Guide

Service Guide Version and Revision

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1	1.0	Apr.-20-06	Initial release	T986KA5HKGAEAP

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ACER AL1917 Service Manual.

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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	Remind 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 BASIC CONFIGURATION 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 note 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 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. Dangerous 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 manufacturer or sold with the monitor. If you mount the monitor on a wall or shelf, uses a mounting kit approved by the manufacturer and follow the kit instructions.
- Slots and openings in the back and bottom of the cabinet are 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. 5A.
- The wall socket shall be installed near the equipment and shall be easily accessible.

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 on 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.

Table Of Contents

Monitor Features

Chapter 1

Introduction

Scope

This specification defines the requirements for the 19” MICROPROCESSOR based Multi-mode supported high resolution color LCD monitor. This monitor can be directly connected to general 15 pin D-sub VGA connector. It also supports VESA DPMS power management and plug & play function. There is a build-in stereo audio amplifier with OSD control to drive a pair of speakers.

Description

The LCD monitor is designed with the latest LCD technology to provide a performance oriented product with no radiation. This will alleviate the growing health concerns. It is also a space saving design, allowing more desktop space, and comparing to the traditional CRT monitor, it consumes less power and gets less weight in addition MTBF target is 50k hours or more.

Before you operate the monitor

Features

48 cm (19”) TFT Color LCD Monitor
Crisp, Clear Display for Windows
Recommended Resolutions: 1280 X 1024 @60Hz
EPA ENERGY STAR®
Ergonomic Design (TCO” 03 Approved)
Space Saving, Compact Case Design

Checking the contents of the package

The product package should include the following items:
1. LCD Monitor
2. Owner's Manual
3. Power Cord
4. 15-pin D-Sub Cable
5. Audio Cable
6. Quick Start Guide
7. Audio Cable

Electrical Requirements

Standard Test Conditions

All tests shall be performed under the following conditions, unless otherwise specified.

- Warm up time	＞ 30 min.
- AC supply voltage	230V± 5%, 50± 3 Hz
- Ambient temperature	20°C ± 5°C
- Humidity	65% ± 20%
- Display mode	1280x1024, 60 Hz, all white
- Contrast control	Set to factory preset value, which allows that the brightest two of 32 linear distributed gray-scales (0 ～ 700mv) can be distinguished.
- Color temperature	7800° K
- Brightness control	Set to Factory preset value (cut off raster)
- Analog Input signal	700 mVss
- Picture position and size	Factory preset value
-Viewing angle	90 ° H and V
-Viewing distance	40 cm for LCD performance, 20 cm for LCD failures
-Ambient illumination	Dark room (< 1 cd/m2)

LCD Monitor General Specification

Items	Description	
LCD Panel	Driving system	TFT Color LCD
	Panel	M190EN04 V5
	Size	48 cm(19")
	Pixel pitch	0.294 mm(H) × 0.294 mm(V)
	Brightness	270 cd /m2 (Typical)
	Contrast	550:1 (Typical)
	Viewable angle	140° (H) 135° (V)
	Response time	8 ms
Input	Video	R, G, B Analog Interface
	H-Frequency	30 kHz – 80 kHz
	V-Frequency	55-75 Hz
Display Colors	16.2M Colors	
Dot Clock	135 MHz	
Max. Resolution	1280 × 1024 @75 Hz	
Plug & Play	VESA DDC2BTM	
EPA ENERGY STAR®	ON Mode	≤ 37W
	OFF Mode	≤ 1W
Input Connector		D-Sub 15pin
Input Video Signal		Analog : 0.7 Vp-p (standard), 75 OHM, Positive
Maximum Screen Size		Horizontal : 376.32 mm
		Vertical : 301.056 mm
Power Source		100~264VAC,47~63 Hz
Environmental Considerations		Operating Temp: 5° to 50° C
		Storage Temp.: -20° to 65° C
		Operating Humidity: 10% to 85%
Dimensions		416(W)×429.4(H)×182(D)mm
Weight (N. W.)		4.8 kg

LCD Panel Specification

LCD Panel Model

Items	Unit	Specifications
Screen Diagonal	[mm]	480 (19.0”)
Active Area	[mm]	376.32 (H) x 301.06 (V)
Pixels H x V		1280(x3) x 1024
Pixel Pitch	[mm]	0.294 (per one triad) x 0.294
Pixel Arrangement		R.G.B. Vertical Stripe
White Luminance (Center)	[cd/m2]	270 (center, Typ) @ 7mA
Contrast Ratio		550 : 1 (Typ)
Optical Response Time	[msec]	8 ms(Typ, on/off)
Color Saturation		72% NTSC
Nominal Input Voltage VDD	[Volt]	+5.0 V
Weight	[Grams]	2700 (Max)
Physical Size	[mm]	396 (H) x 324 (V) x 18 (D) (Typ)
Support Color		16.2M colors (RGB 6-bit data+FRC data)
Temperature Range Operating Storage (Shipping)	 [^{0}C] [^{0}C]	 0 to + 50 - 20 to + 60
TCO’03 compliance		TCO’03 compliance
Surface Treatment		Hard-coating (3H), Non-Glare treatment
RoHS		RoHS Compliance

Optical Specifications

Measuring Condition: Ta = 25°C.

Item	Unit	Conditions	Min.	Typ.	Max.
Viewing Angle	[degree] [degree]	Horizontal (Right) CR = 10 (Left)	65 65	70 70	- -
	[degree] [degree]	Vertical (Up) CR = 10 (Down)	70 55	75 60	- -
Contrast ratio		Normal Direction	350	550	
Response Time	[msec]	Raising Time	-	5.6	8.4
	[msec]	Falling Time	-	2.4	3.6
	[msec]	Rising + Falling	-	8	12
Color / Chromaticity Coordinates (CIE)		Red x	0.604	0.634	0.664
		Red y	0.324	0.354	0.384
		Green x	0.257	0.287	0.317
		Green y	0.591	0.621	0.651
		Blue x	0.108	0.138	0.168
		Blue y	0.047	0.077	0.107
Color Coordinates (CIE) White		White x	0.283	0.313	0.343
		White y	0.299	0.329	0.359
White Luminance at CCFL 7.0mA (central point)	[cd/m^2]		215	270	-
Luminance Uniformity	[%]		70	75	-
Crosstalk (in75Hz)	[%]				1.5
Flicker	DB				-20

Supported Timing

STANDARD		RESOLUTION	HORIZONTAL FREQUENCY(kHz)	VERTICAL FREQUENCY(Hz)
VESA	VGA	640 × 480	31.469	59.940
		640 × 480	37.500	75.000
	SVGA	800 × 600	37.879	60.317
		800 × 600	46.875	75.000
	XGA	1024 × 768	48.363	60.004
		1024 × 768	56.476	70.069
		1024 × 768	60.023	75.029
	SXGA	1280 × 1024	64.000	60.000
		1280 × 1024	80.000	75.000
IBM	DOS	720 × 400	31.469	70.087
MAC	XGA	1024 × 768	48.780	60.001
		1024 × 768	60.241	74.927

Support Modes

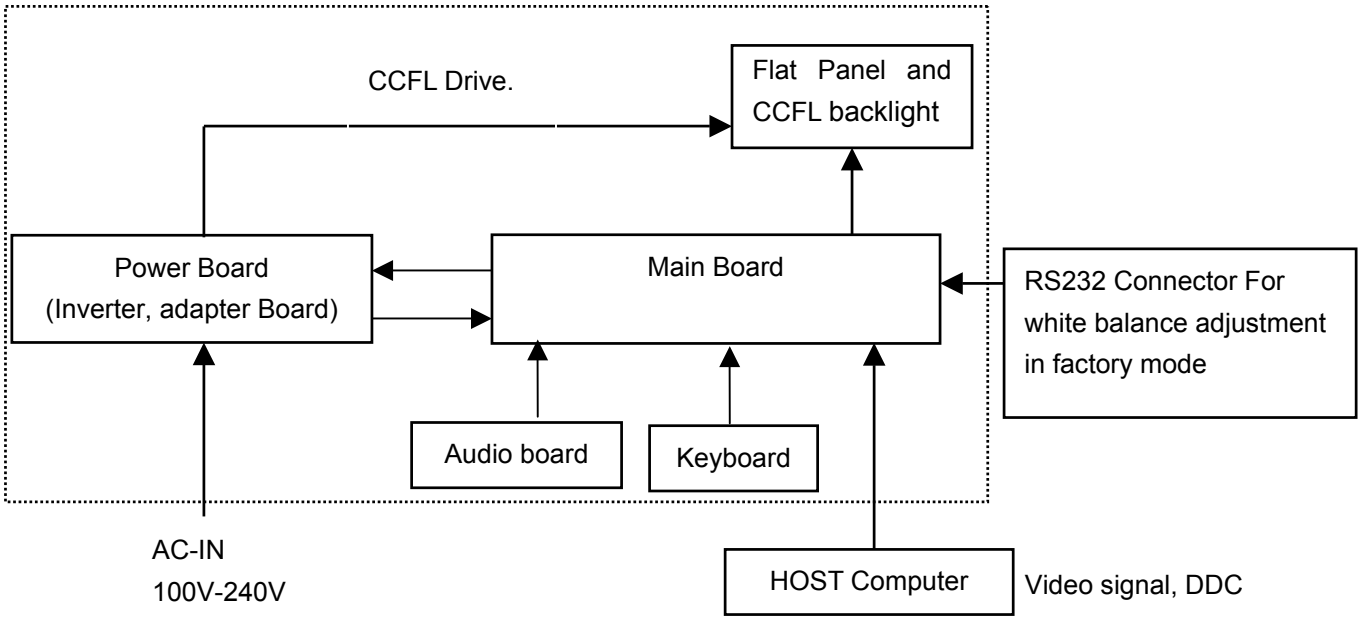
There will be 20 total support modes to accommodate the above mode and other video modes within the frequency range of the monitor.

85Hz refresh rate Support

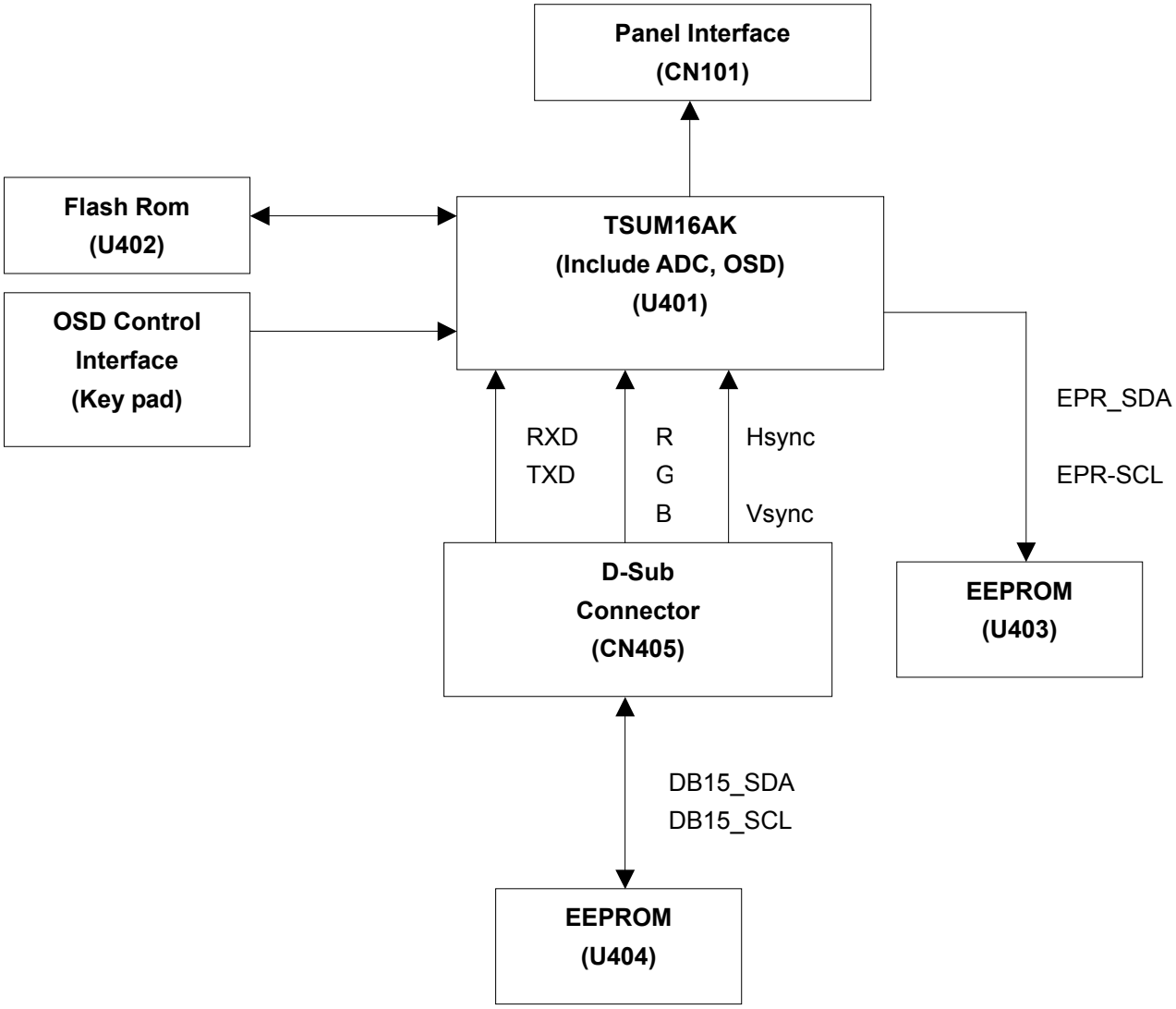
Monitor should display 85Hz refresh rate mode as emergency mode. Monitor should display “ Out of Range” warning menu at this mode.

Monitor Block Diagram

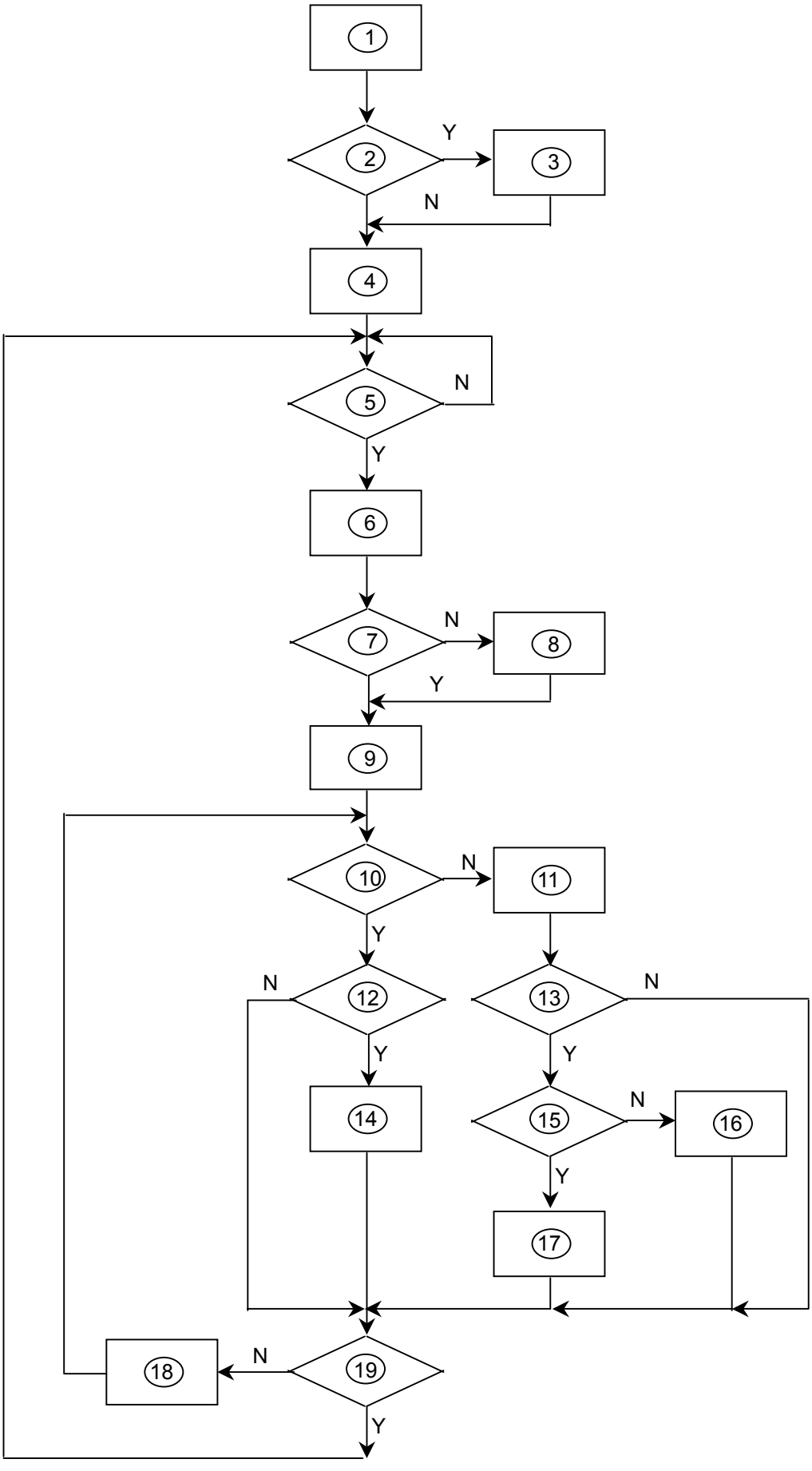
The LCD MONITOR will contain a main board, a power board, keypad board and audio board which house the flat panel control logic, brightness control logic and DDC.
The Inverter board will drive the backlight of panel.



Main Board Diagram



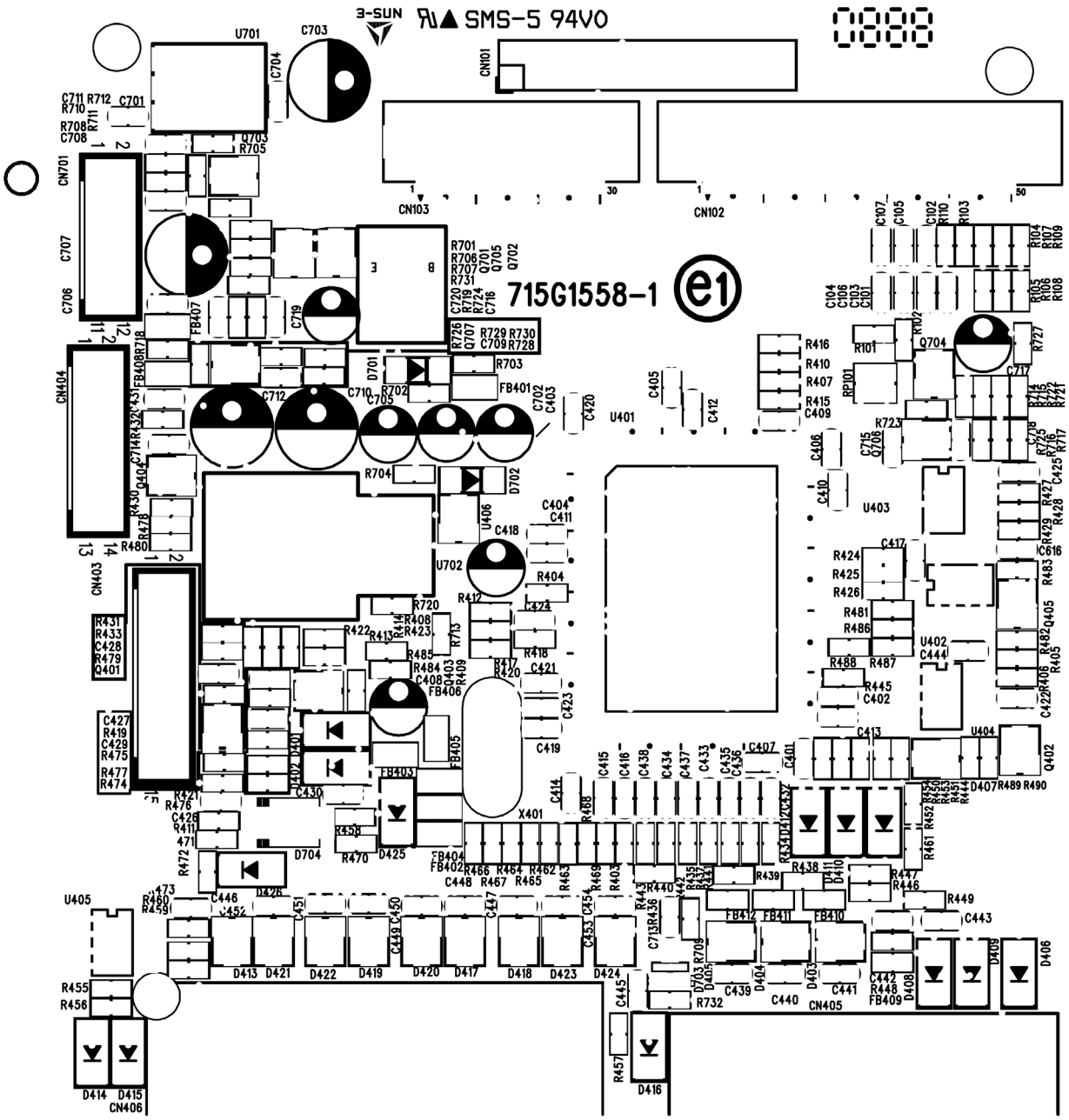
Software Flow Chart



Remark:

1) MCU initializes.
2) Is the EEPROM blank?
3) Program the EEPROM by default values.
4) Get the PWM value of brightness from EEPROM.
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 EEPROM. 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?

Main Board Layout

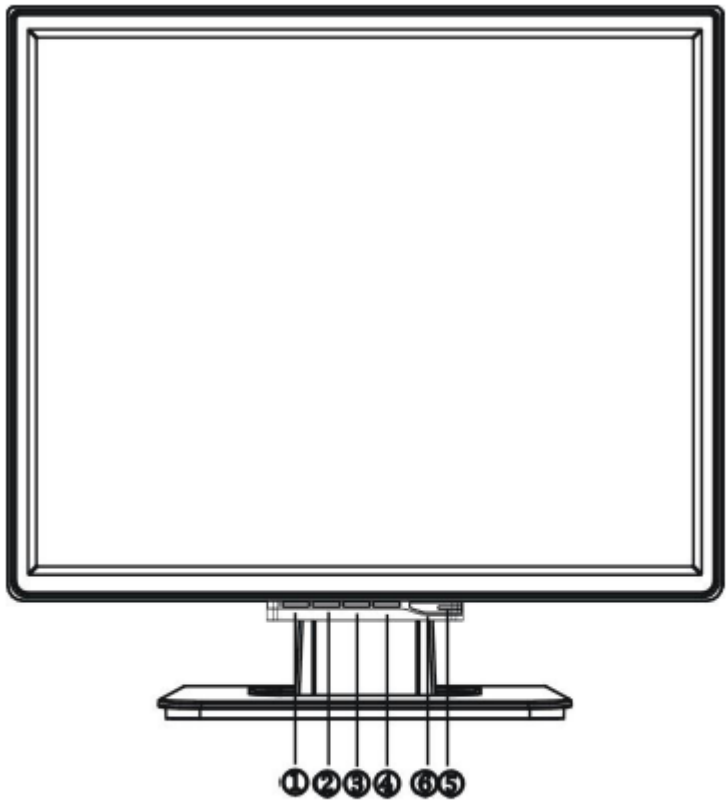


Label	Part Number	Description
U201	090G6093 1	HEAT SINK
U401	056G 562100	TSUM16AK
U702	056G 563 21	AP1084K33LA
U406	056G 643 5A	MAX810 STRG
U404	056G1133 34	M24C02-WMN6TP
U403	056G1133 56	M24C16-WMN6TP
CN901	087G 501 32 S	AC SOCKET
CN902	095G8014 12 42	HARNESS
CN102	033G8032 4C	WAFER
CN101	033G803412D	WAFER

Front Bezel

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 position, The power indicator will light up.



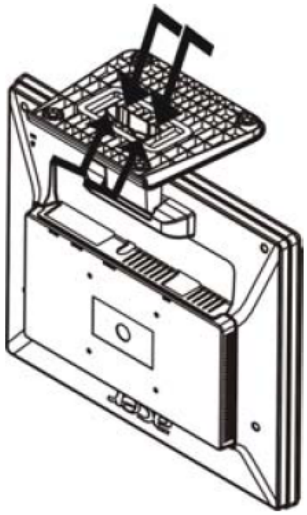
External Controls Front Panel Control

Item	Description	Item	Description
1.	Auto Adjust / Exit	4.	MENU/ENTER
2.	<	5.	Power Button
3.	>	6.	Power Indicator

Installation Instructions
Swivel Base

Install

Remove



Adjusting The Viewing Angle

· For optimal viewing it is recommended to look at the full face of the monitor, then adjust the monitor's angle to your own preference.
· Hold the stand so you do not topple the monitor when you change the monitor's angle.
· You are able to adjust the monitor's angle from -5° to 15°.

Chapter 2

Operating 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 position. The power indicator will light up.

Front Panel Control

- **⏻/Power Button:**
  Press this button to turn the monitor ON or OFF. And display the monitor's state.

- **Power Indicator:**
  Green – Power on mode.
  Orange – Off mode.

- **Menu / Enter:**
  Activate OSD menu when OSD is OFF or activate/de-activate adjustment function when OSD is ON or Exit OSD menu when in Volume Adjust OSD status.

- **</ Volume:**

  Activates the volume control when the OSD is OFF or navigate through adjustment icons when OSD is ON or adjust a function when function is activated.

- **>/ Volume:**

  Activates the volume control when the OSD is OFF or navigate through adjustment icons when OSD is ON or adjust a function when function is activated.

- **Auto Adjust button / Exit:**
  1. When OSD menu is in active status, this button will act as EXIT-KEY (EXIT OSD menu).
  2. When OSD menu is in off status, press this button for 2 seconds to activate the Auto Adjustment function.
     The Auto Adjustment function is used to set the HPos, VPos, Clock and Focus.

NOTES

- Do not install the monitor in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, or excessive dust or mechanical vibration or shock.
- Save the original shipping carton and packing materials, as they will come in handy if you ever have to ship your monitor.
- For maximum protection, repackage your monitor as it was originally packed at the factory.
- To keep the monitor looking new, periodically clean it with a soft cloth. Stubborn stains may be removed with a

cloth lightly dampened with a mild detergent solution. Never use strong solvents such as thinner, benzene, or abrasive cleaners, since these will damage the cabinet. As a safety precaution, always unplug the monitor before cleaning it.

Adjusting the Picture

a. How to Adjust the Setting

1. Press the MENU-button to activate the OSD window.
2. Press <or >to select the desired function.
3. Press the MENU-button to select the function that you want to adjust.
4. Press < or >to change the settings of the current function.
5. To exit and save, select the exit function. If you want to adjust any other function, repeat steps 2-4.

Analog Only Model

I. Analog-Only Model

Dual-Input model (Optional)

II. Dual-Input Model, Analog Signal Input

III. Dual-Input Model, Digital Signal Input

b. The Description For Control Function

Main Menu Icon	Sub Menu Item	Sub Menu Icon	Description
	Contrast		Contrast from Digital-register.
	Brightness		Backlight Adjustment
	Focus		Adjust Picture Phase to reduce Horizontal-Line noise
	Clock		Adjust picture Clock to reduce Vertical-Line noise.
	H. Position		Adjust the horizontal position of the picture.
	V. Position		Adjust the vertical position of the picture.
	Warm	N/A	Recall Warm Color Temperature from EEPROM.
	Cool	N/A	Recall Cool Color Temperature from EEPROM.
	User / Red		Red Gain from Digital-register.
	User/ Green		Green Gain Digital-register.
	User / Blue		Blue Gain from Digital-register.
	English	N/A	Set OSD display language to English.
	Traditional Chinese	N/A	Set OSD display language to Traditional Chinese.
	Deutsch	N/A	Set OSD display language to German.
	Français	N/A	Set OSD display language to French.
	Español	N/A	Set OSD display language to Spain.
	Italiano	N/A	Set OSD display language to Italian.
	Simplified Chinese	N/A	Set OSD display language to Simplified Chinese.
	Japanese	N/A	Set OSD display language to Japanese.
	H. Position		Adjust the horizontal position of the OSD.
	V. Position		Adjust the vertical position of the OSD.
	OSD Timeout		Adjust the OSD timeout.

Main Menu Icon	Sub Menu Item	Sub Menu Icon	Description
 (Analog-Only Model)	Auto Config	N/A	Auto Adjust the H/V Position, Focus and Clock of picture.
	Information	N/A	Show the resolution, H/V frequency and input port of current input timing.
	Reset	N/A	Clear each old status of Auto-configuration and set the color temperature to Cool.
	Exit	N/A	Exit OSD

Hot-Key Menu

a. Outline

OSD Message

b. The Description For OSD Message

Item	Description
Auto Config Please Wait	When Analog signal input, if User Press Hot-Key “Auto”, will show This message, and the monitor do the auto config function.
Input Not Supported	When the Hsync Frequency, Vsync Frequency or Resolution is out of The monitor support range will show this message. This message will Be flying.
Cable Not Connected	Analog-Only Model: When the video cable is not connected, will show This message. This message will be flying.
No Signal	Analog-Only Model: When the video cable is connected, but there is No active signal input, will show this message, then enter power saving.

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 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 signals 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

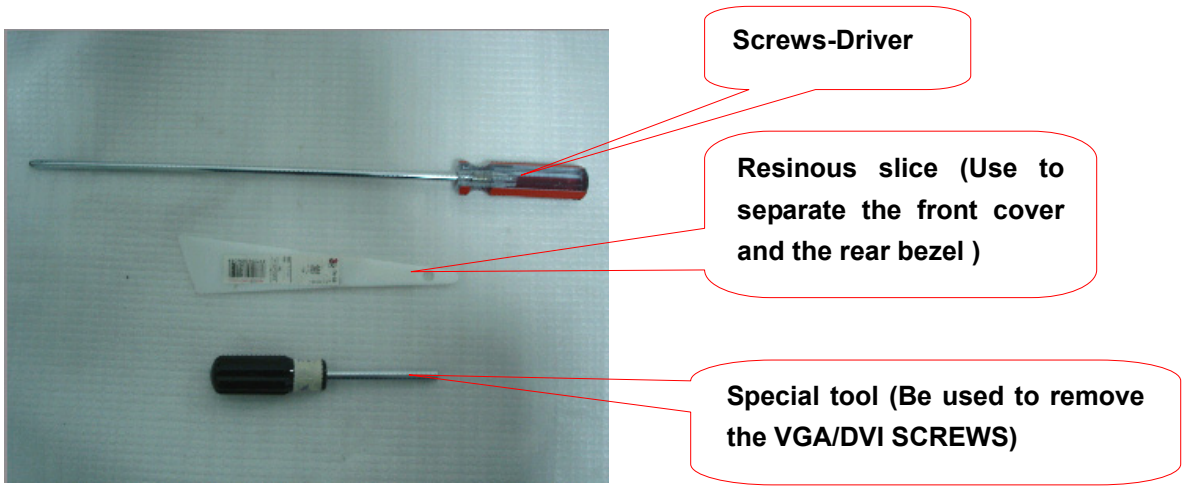
The accessory power cord for the Northern American region is the wallet plug with NEMA 5-15 style and is UL listed and CSA labeled. The voltage rating for the power cord shall be 125 volts AC.
Supplied with units intended for connection to power outlet of personal computer: Please use a cord set consisting 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 cord needs to use VDE 0602, 0625, 0821 approval power cord in European counties.

Machine Disassembly

Chapter 3

This chapter contains step-by-step procedures on how to assemble the monitor for maintenance.

The tools for disassemble:



Disassembly Procedure

Disassemble the base

1. Remove hinge cover. (Fig 1-2)
2. Remove four screws mark in red to remove stand base. (Fig 3-4)

Fig (1)

Fig(2)

Fig (3)

Fig(4)

Disassemble the rear bezel

1. Remove four screws mark in red to remove back cover. (Fig 5-7)

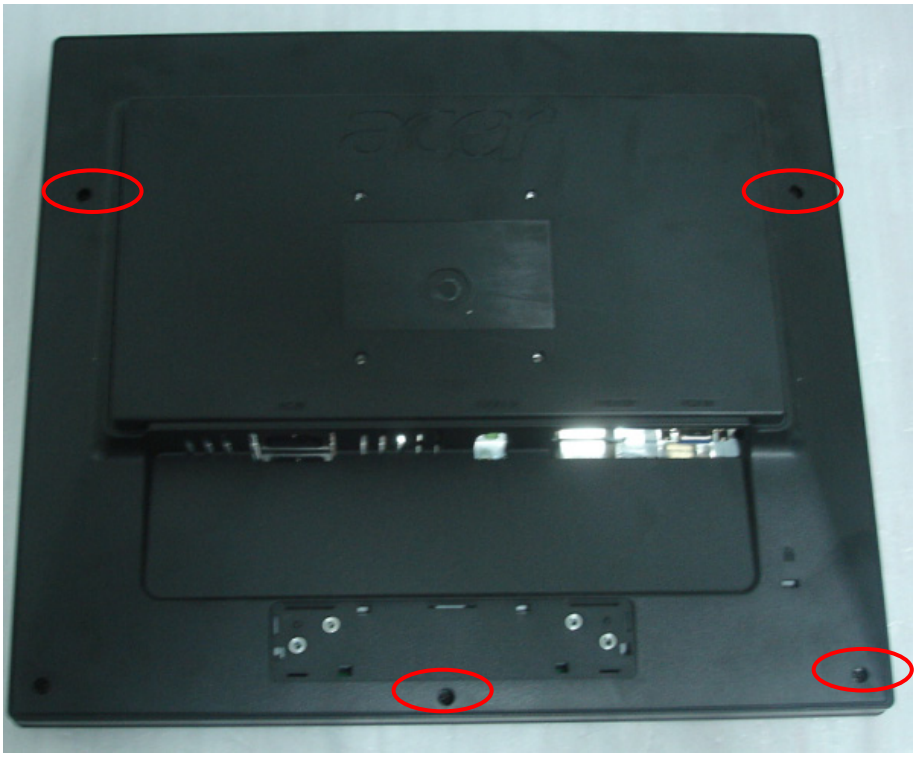


Fig (5)

Fig (6)

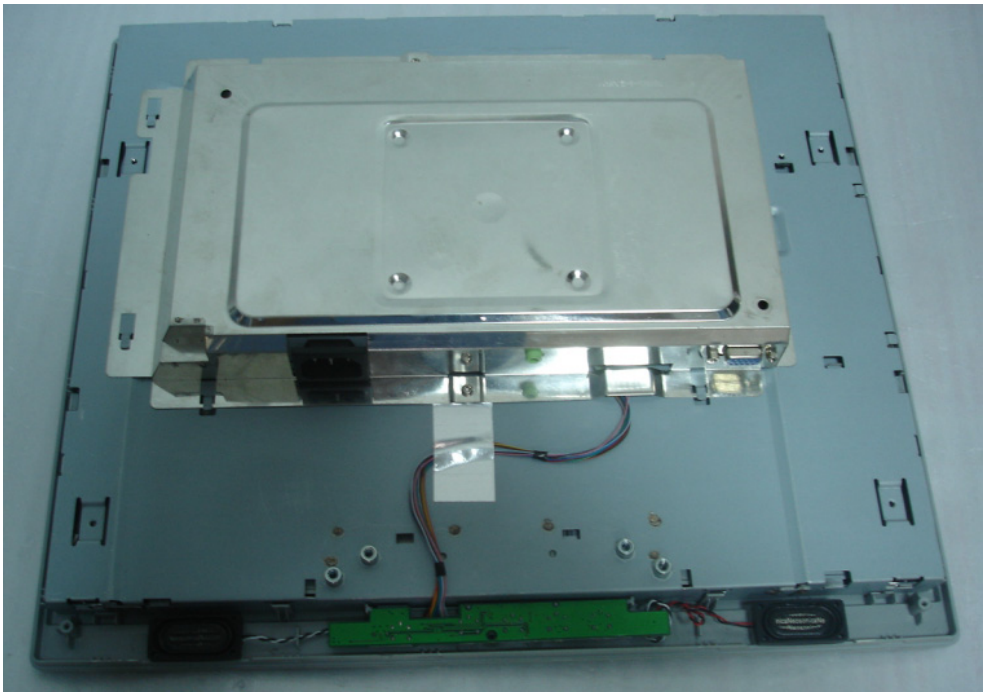


Fig (7)

Disassemble the shield

1. Remove four screws mark in red to remove the shield. (Fig 8-9)
   (Remove the shield as arrow direction).

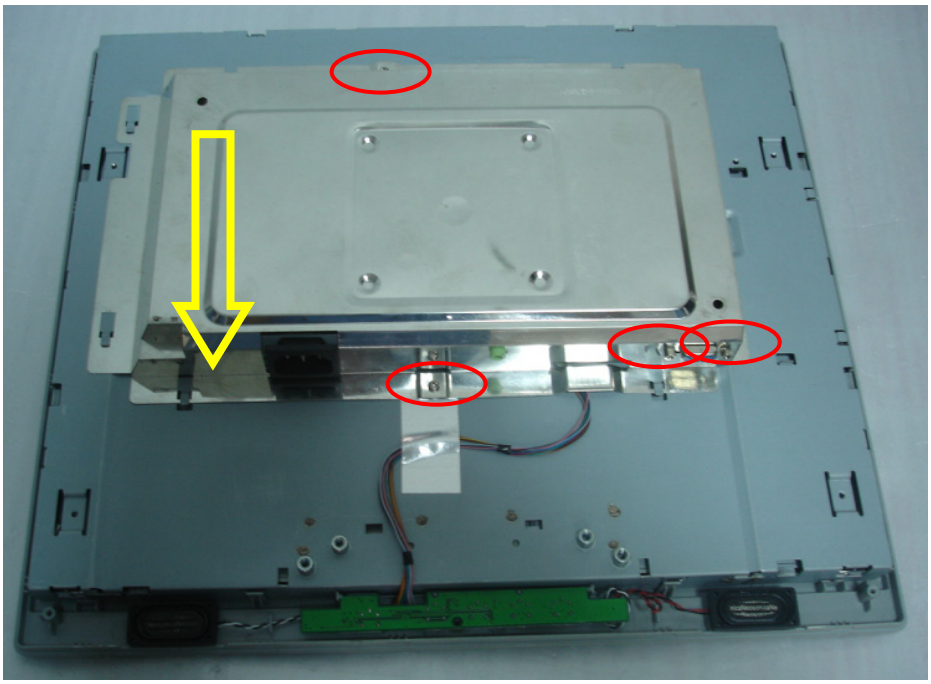


Fig (8)

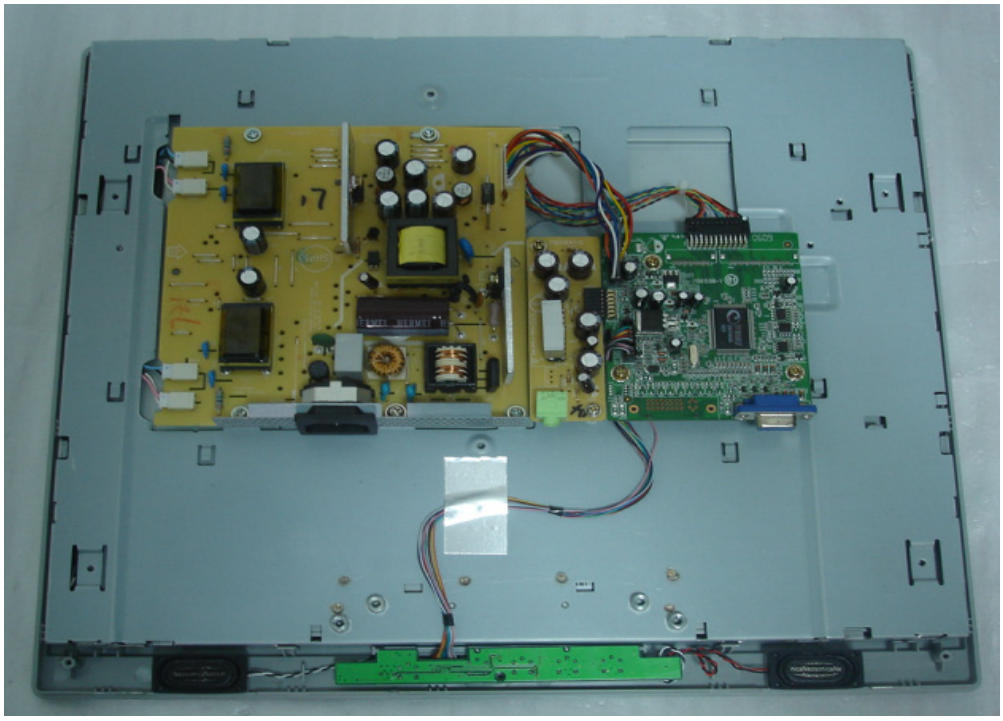
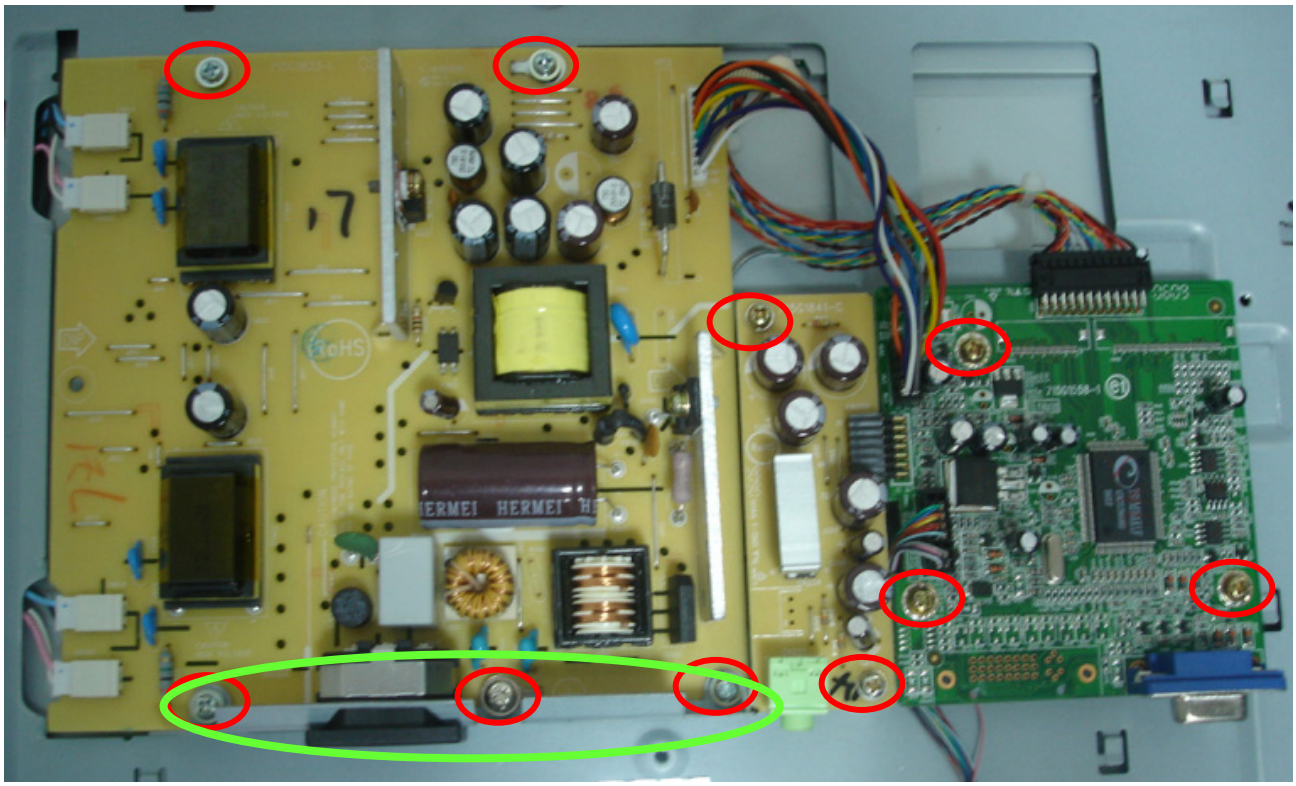


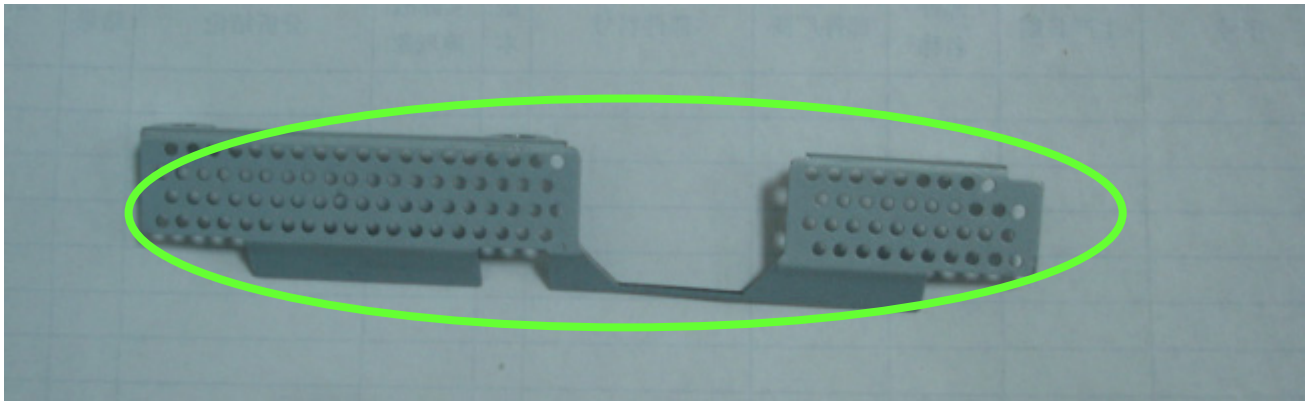
Fig (9)

Disassemble the main board (Fig 10-12)

1. Remove three screws mark in red to remove main board.
2. Remove two screws mark in red to remove audio board.
3. Remove five screws mark in red and remove AC-BKT with green to remove Power board.
4. Remove connector wire with main, audio and power board.

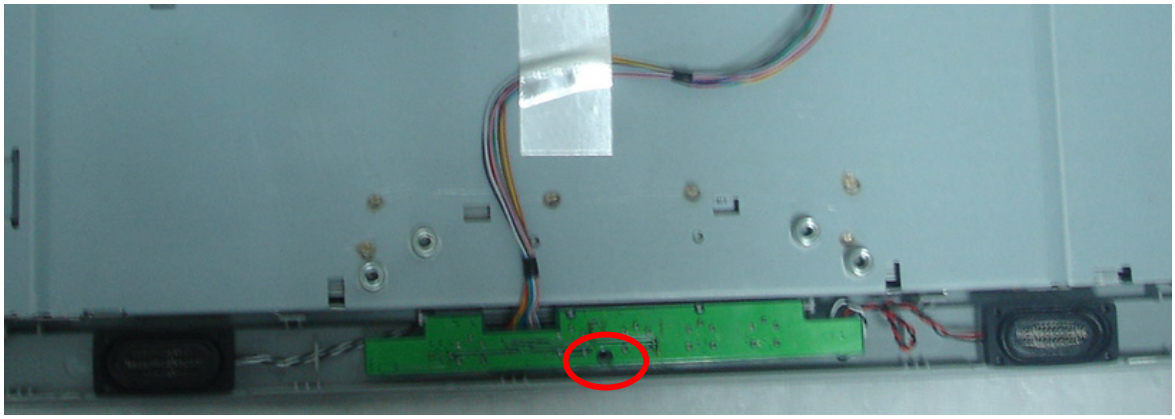


Fig(10)



Fig(11)

5. Remove one screws mark in red to remove Key board. Fig(11-12)



Fig(11)

Fig(12)

Disassemble the front cover (Fig 13)

1. Pay attention to some hooks, then open it with little force till the front cover and Panel frame separated.
2. The position marked with ellipse exists some hooks.

Fig (13)

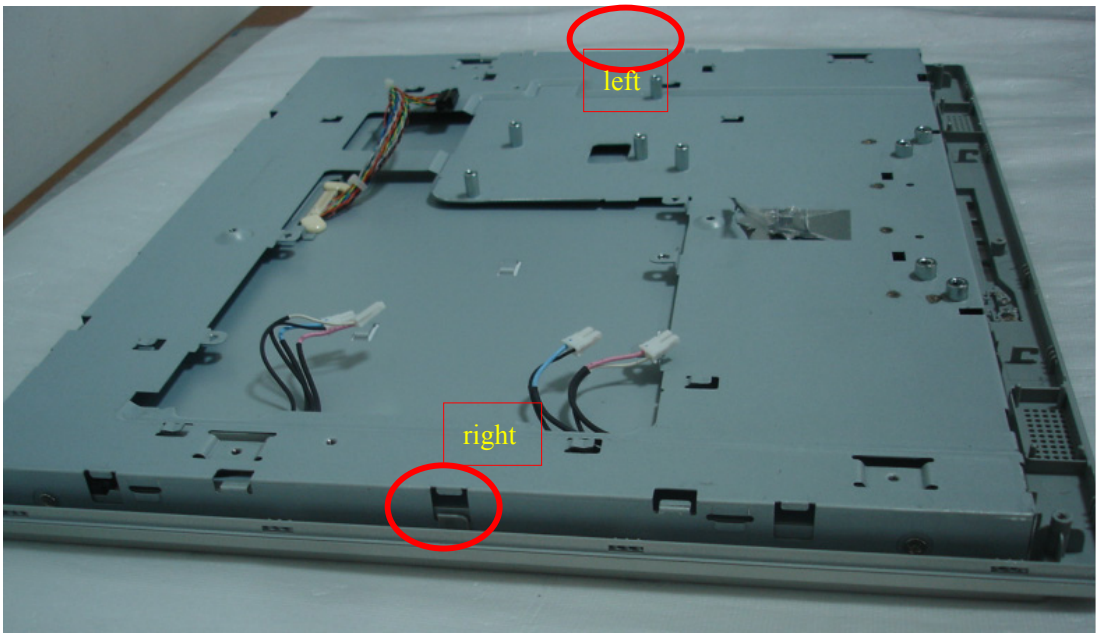
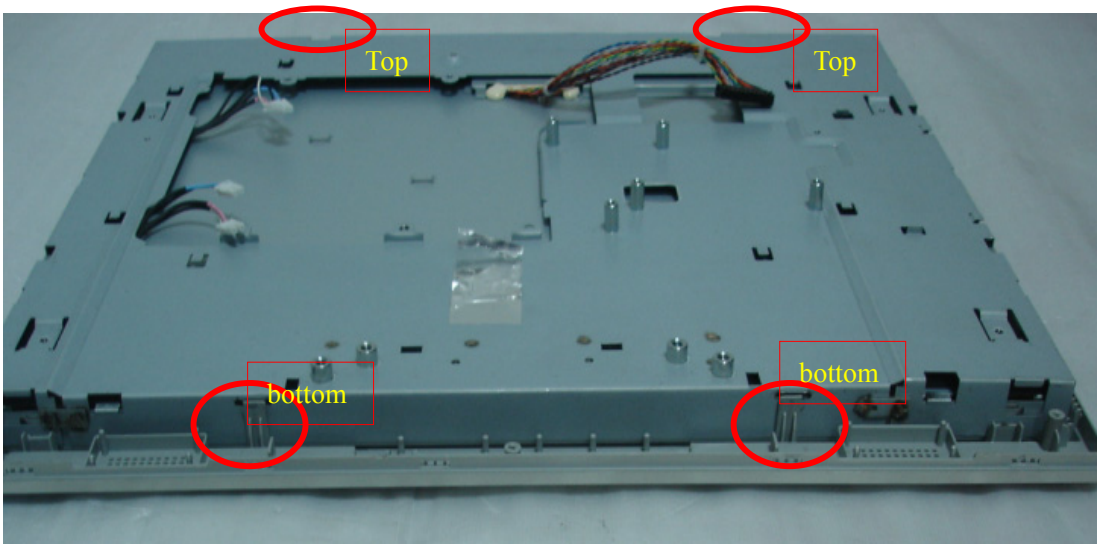


Fig (14)



Fig(15)

Fig (16)

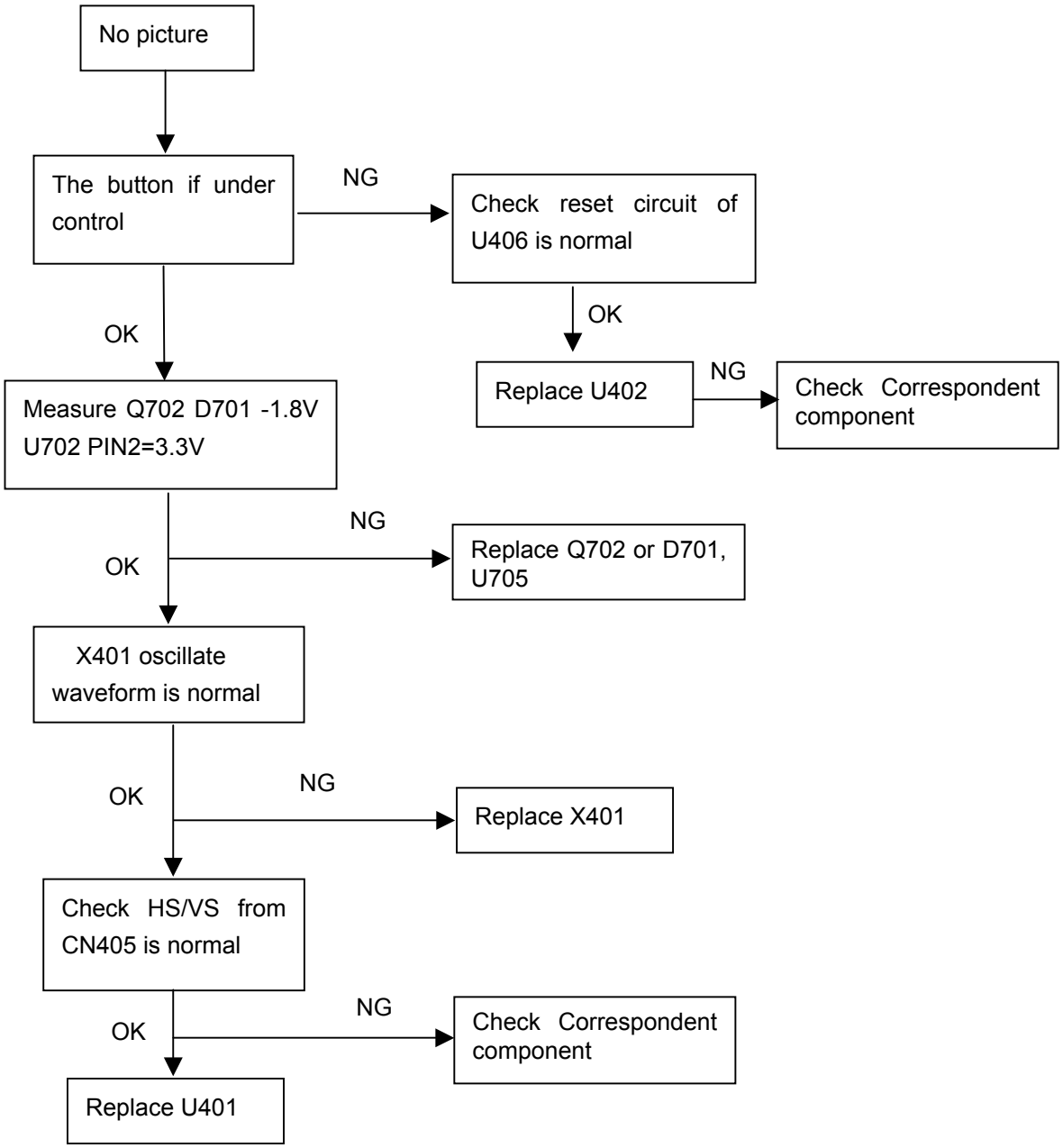
Fig (17)

Troubleshooting

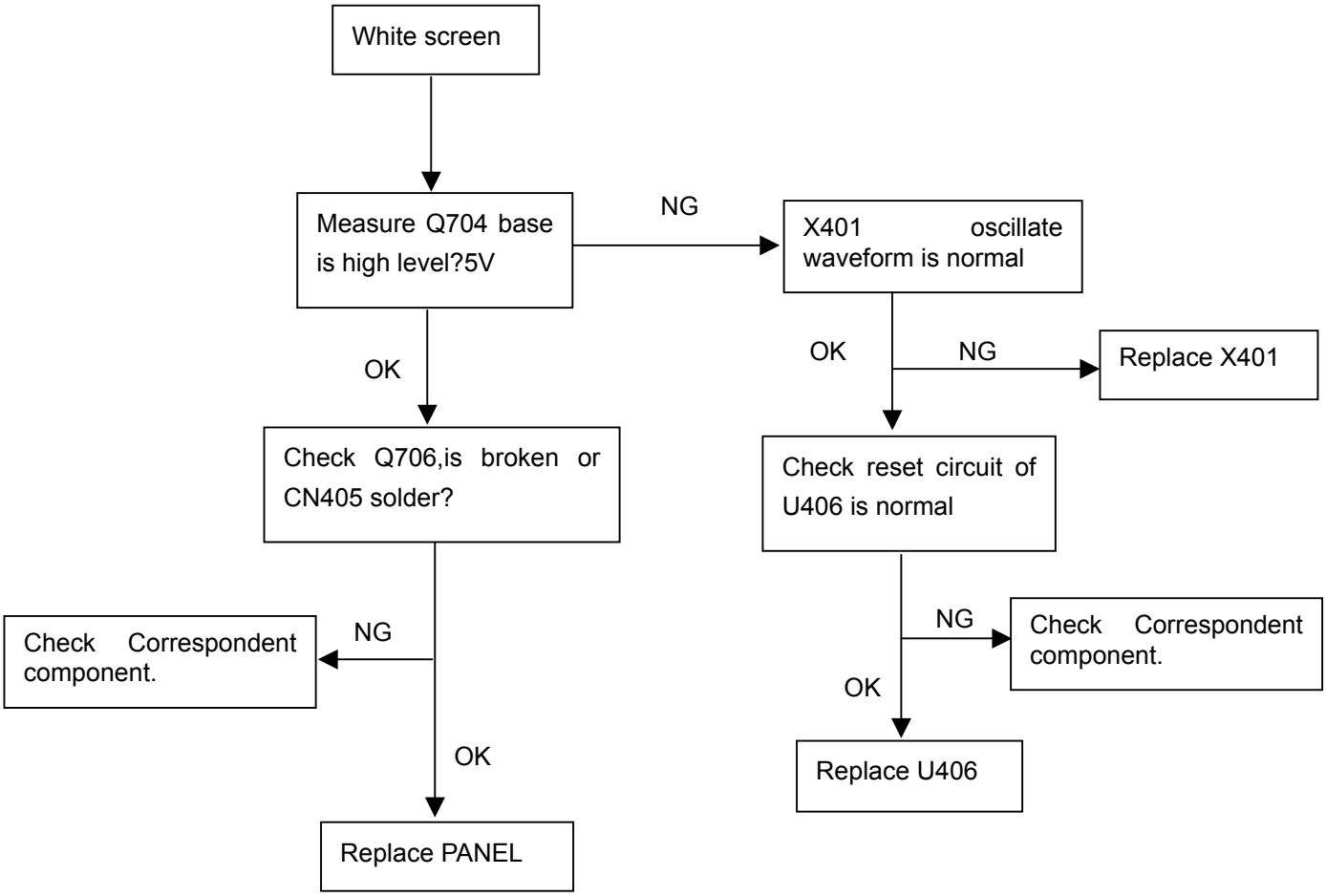
Chapter 4

This chapter provides troubleshooting information for the AL1917:

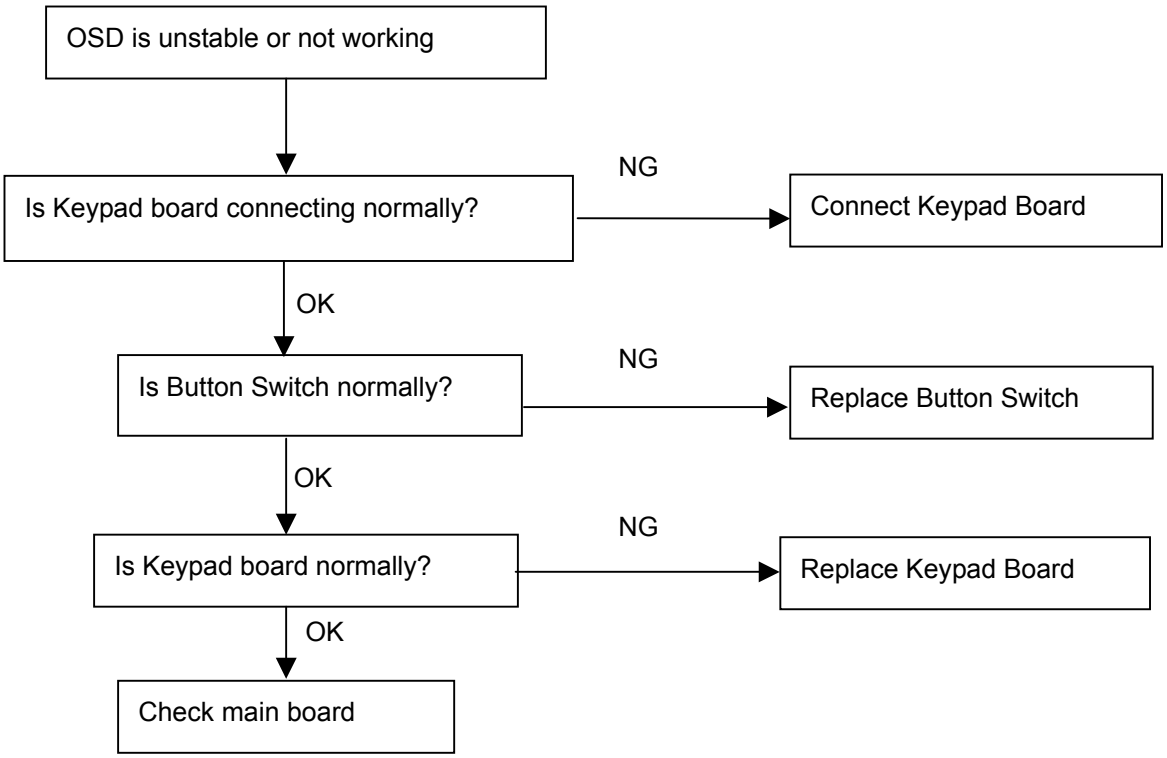
1. No picture (LED orange)



White screen

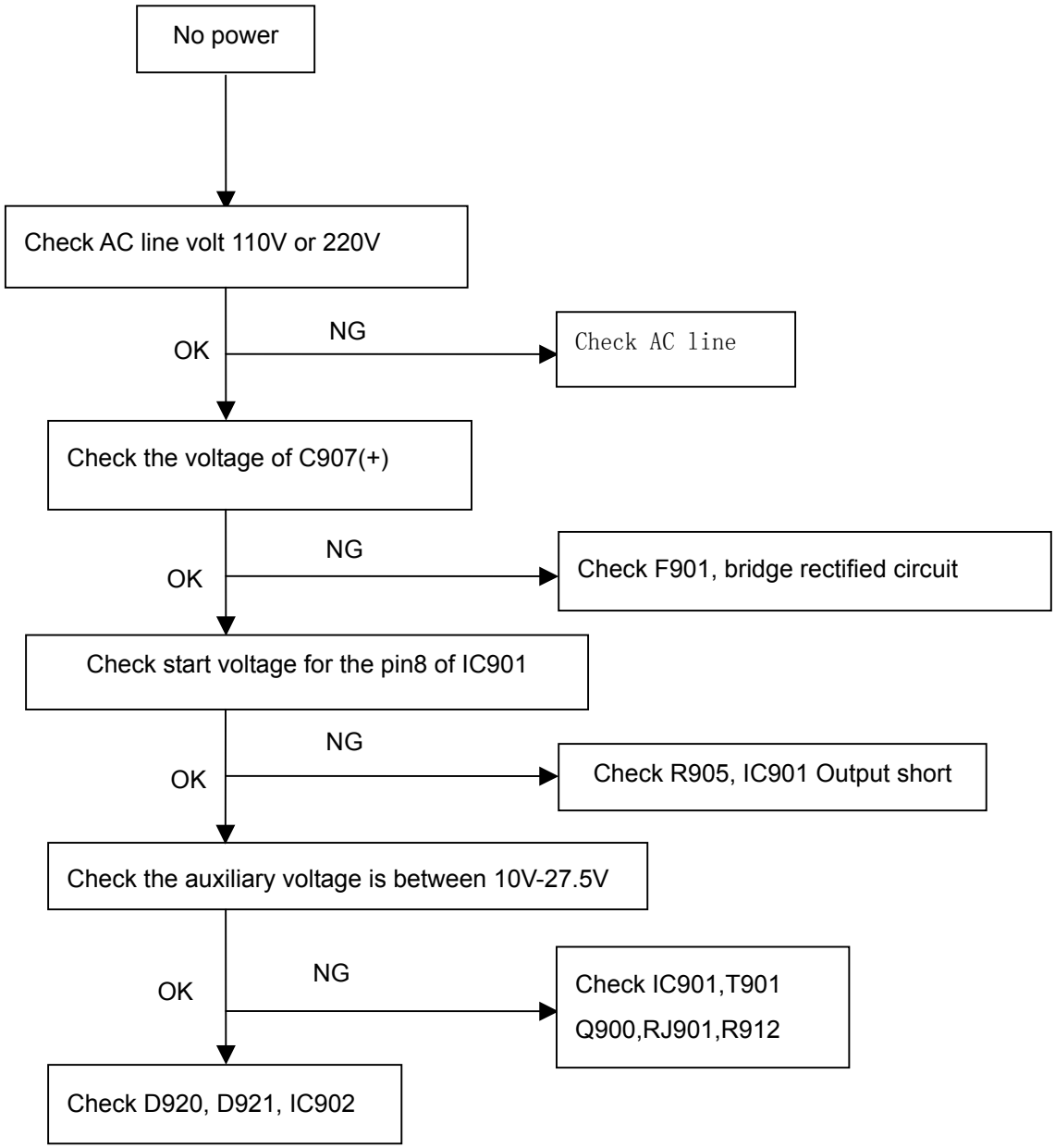


Keypad Board

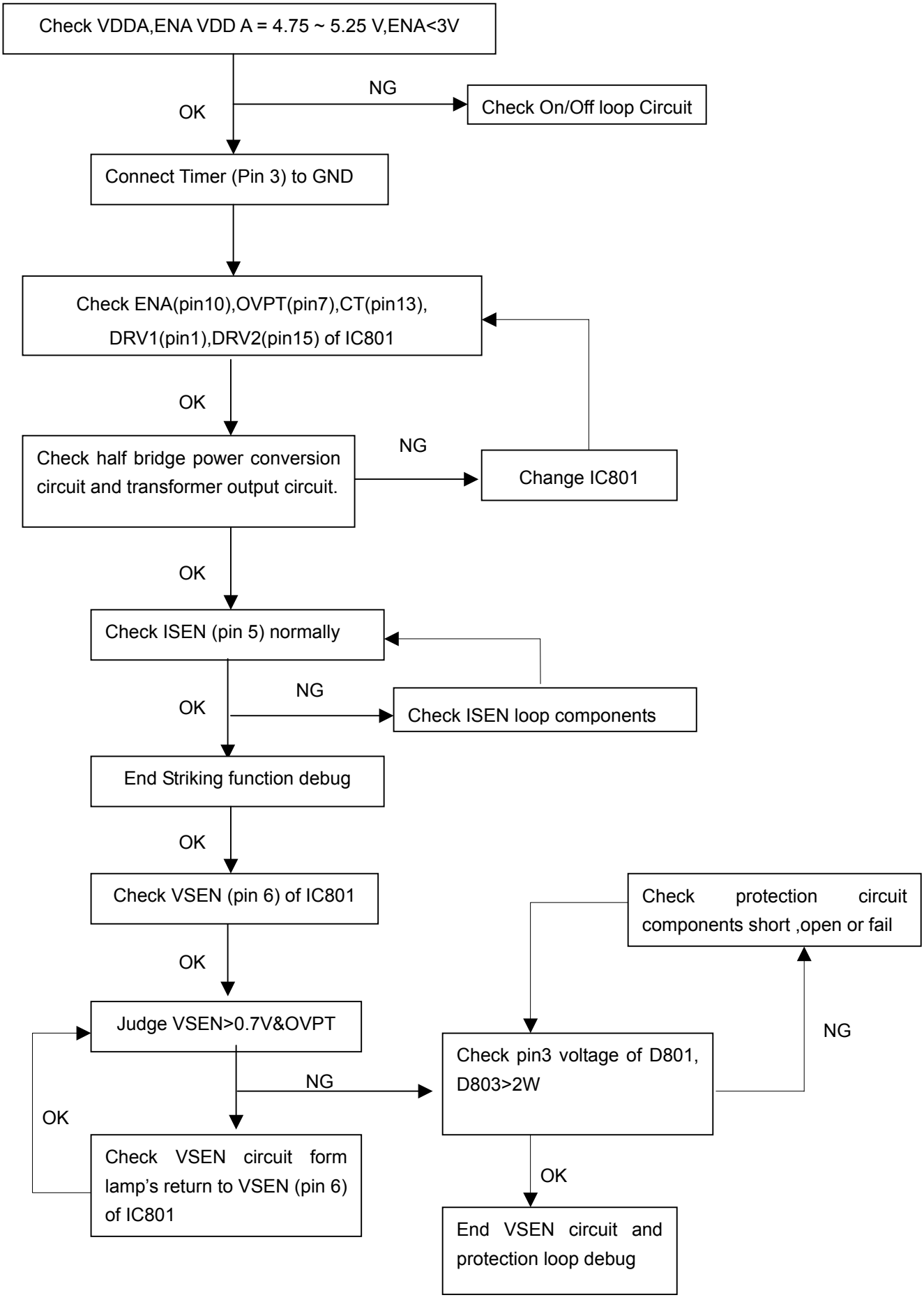


2. PWPC

No Power



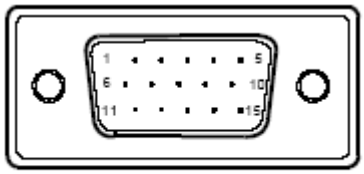
No Backlight



Connector Information

The following figure shows the connector locations on the main board:

Pin No.	Description	Pin No.	Description
1.	Red Video	9.	+5V
2.	Green Video	10.	Logic Ground
3.	Blue Video	11.	Monitor Ground
4.	Monitor Ground	12.	DDC-Serial Data
5.	DDC-Return	13.	H-Sync
6.	R-Ground	14.	V-Sync
7.	G-Ground	15.	DDC-Serial Clock
8.	B-Ground		



15 - Pin Color Display Signal Cable

FRU (Field Replaceable Unit) List

Chapter 6

This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of AL1917.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 from 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 for 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 to dispose it properly, or follow the rules set by your regional Acer office on how to return it.

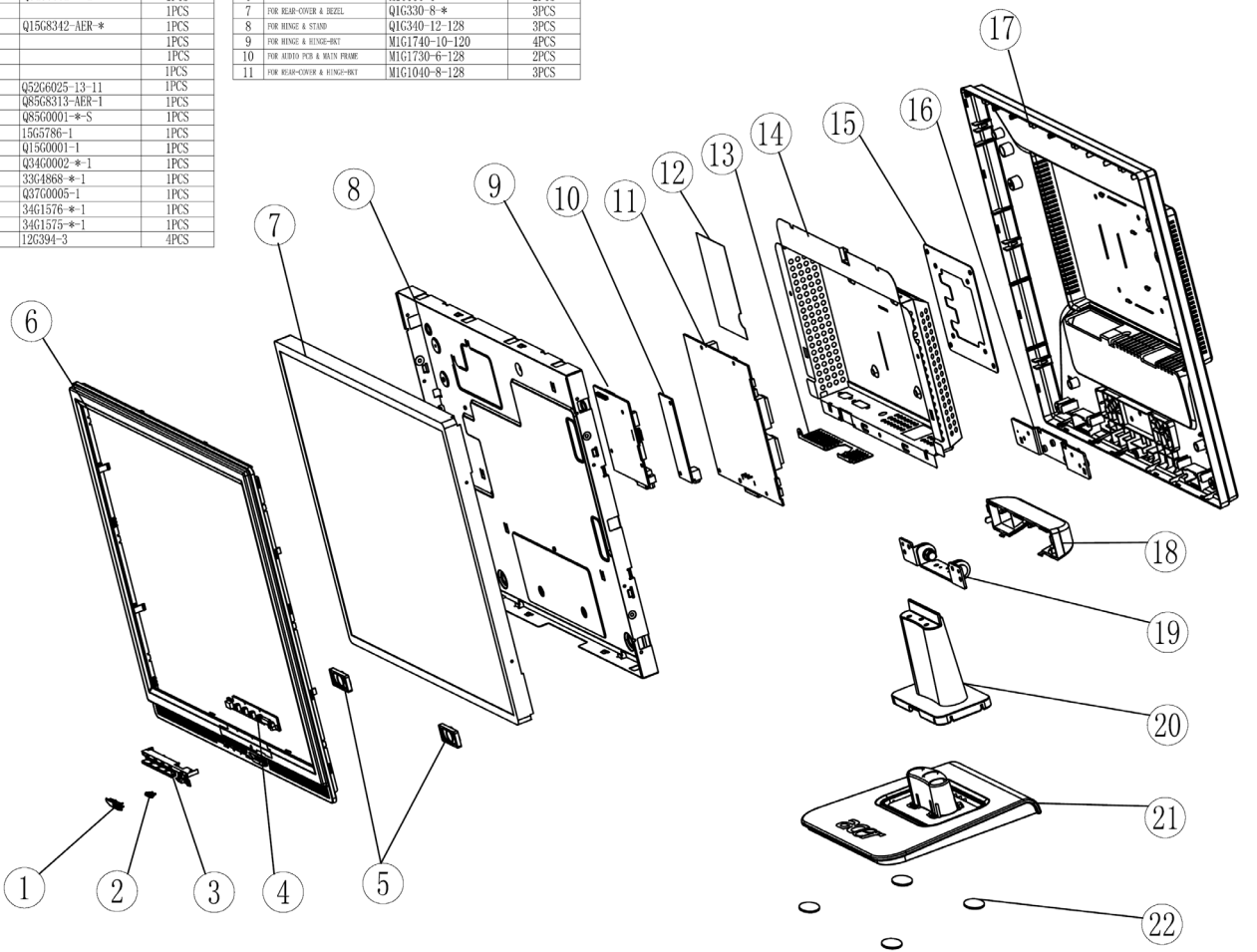
AL1917-FOR PSWG PANEL-EXPLODE

MAIN COMPONENT LIST

NO.	PART NAME	PART NUMBER	QUANTITY
1	POWER BUTTON	33G4866-*-1	1PCS
2	POWER LENS	33G4867-*-1	1PCS
3	FUNCTION BUTTON	Q33G0001-*-1	1PCS
4	KEY PCB		1PCS
5	SPEAKER		2PCS
6	BEZEL	Q34G0001-*-1	1PCS
7	PANEL		1PCS
8	MAIN FRAME	Q15G8342-AER-*	1PCS
9	MAIN PCB		1PCS
10	AUDIO PCB		1PCS
11	POWER PCB		1PCS
12	MYLAR FOR POWER PCB	Q52G6025-13-11	1PCS
13	AC BKT	Q85G8313-AER-1	1PCS
14	SHIELD	Q85G0001-*-S	1PCS
15	VESA BKT	15G5786-1	1PCS
16	HINGE BKT	Q15G0001-1	1PCS
17	REAR COVER	Q34G0002-*-1	1PCS
18	HINGE COVER	33G4868-*-1	1PCS
19	HINGE	Q37G0005-1	1PCS
20	STAND	34G1576-*-1	1PCS
21	BASE	34G1575-*-1	1PCS
22	RUBBER FOOT	12G394-3	4PCS

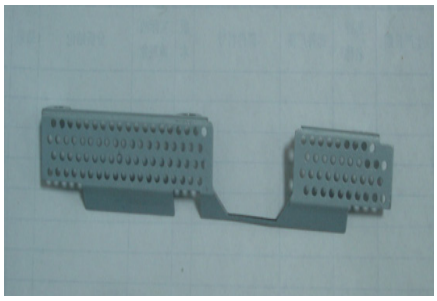
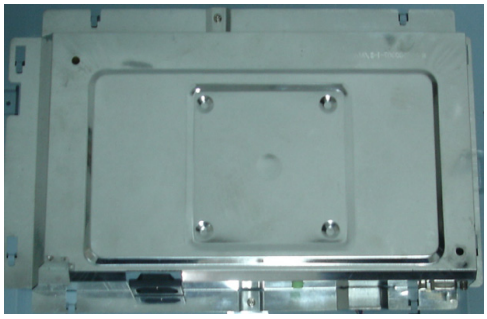
SCREW LIST

NO.	PART NAME	PART NUMBER	QUANTITY
1	FOR PANEL & MAIN FRAME	M1G130-5-120	4PCS
2	FOR POWER PCB & MAIN FRAME	G1G1130-8-120	4PCS
3	FOR MAIN PCB & MAIN FRAME	M1G1730-6-128	3PCS
4	FOR GROUND	M1G1140-6-120	1PCS
5	FOR SHIELD & MAIN FRAME	M1G330-4-120	2PCS
6	FOR REAR-COVER & MAIN FRAME	M1G330-5-*	2PCS
7	FOR REAR-COVER & BEZEL	Q1G330-8-*	3PCS
8	FOR HINGE & STAND	Q1G340-12-128	3PCS
9	FOR HINGE & HINGE-BKT	M1G1740-10-120	4PCS
10	FOR AUDIO PCB & MAIN FRAME	M1G1730-6-128	2PCS
11	FOR REAR-COVER & HINGE-BKT	M1G1040-8-128	3PCS



Part List

Above picture show the description of the following component.

Item	Picture	Part No.
1		Q34G0002 RX 1B
2		033G4868 RX L
3		Q34G0001 QWA1B
4		Q15G8313AER 1
		Q85G0001 1 S

Schematic Diagram

Main board

CONTENTS

REVISION HISTORY

Date	Author	Ver	SHEET	Comments
03/02/05		A		Preliminary
03/16/05		B		ADD_KEY_A,KEY_B,KEY_C function power pinэ 25 PIN
04/01/05		C		ADD_R484&R485 pull high CN406_PCB 竚いみ└オ簿0.5mm
04/26/05		D		Add_FB410~FB412,U406 D-SUB_pin4&pin11_NC
05/09/05		E		U402 PIN-3 э,CN404いみ飂└狾娩簿1mm,Q702э SOT-223 Type
05/26/05		F		эPCB Layout, EMI癸郸~

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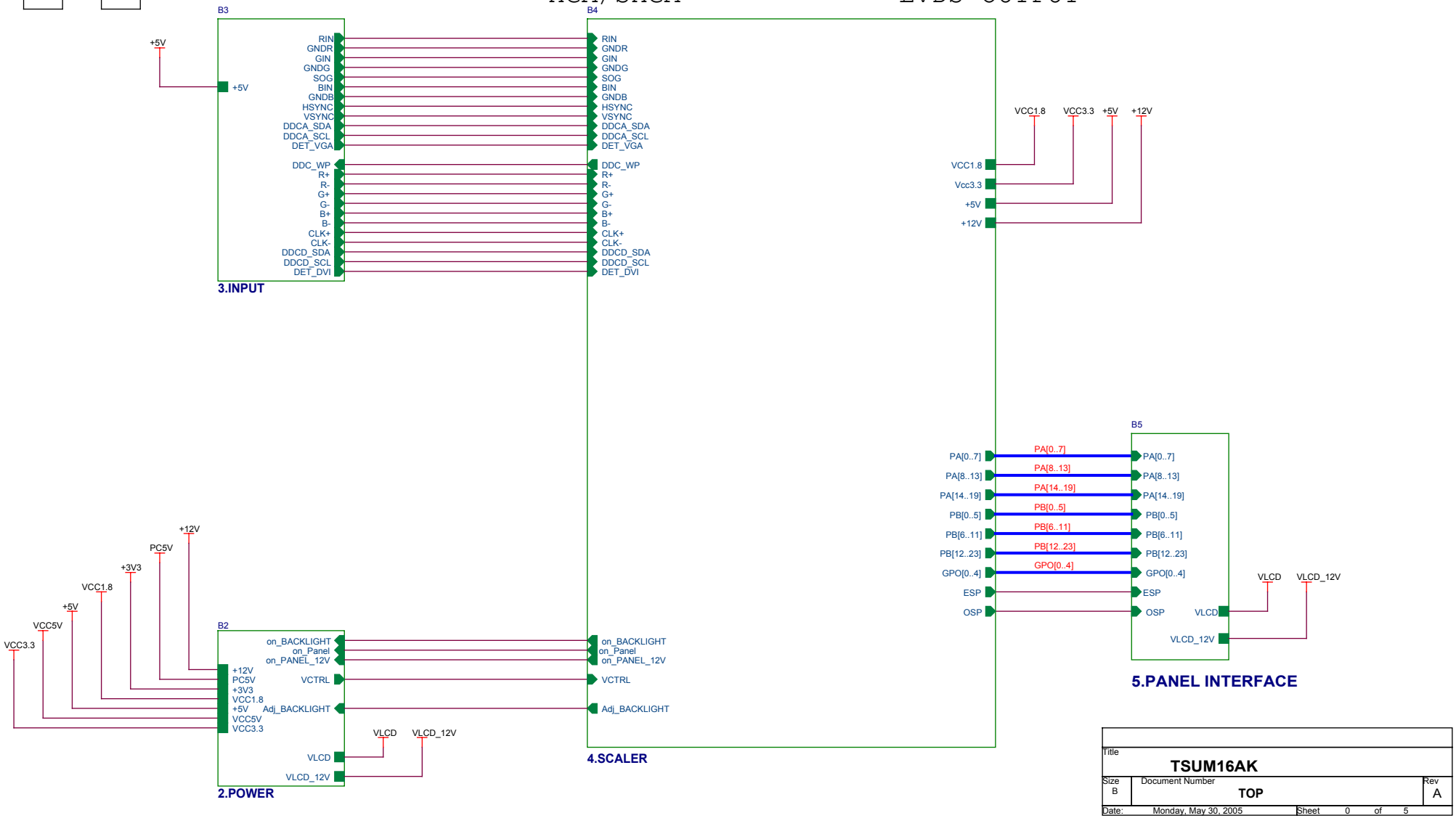
TSUM16AK SCHEMATIC

XGA/SXGA LVDS OUTPUT



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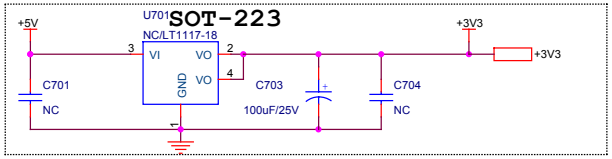
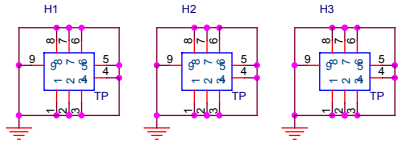
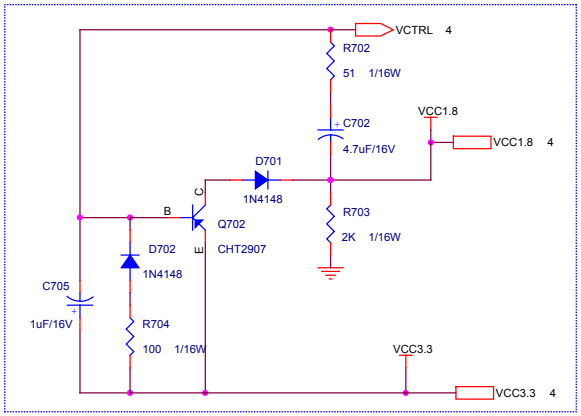
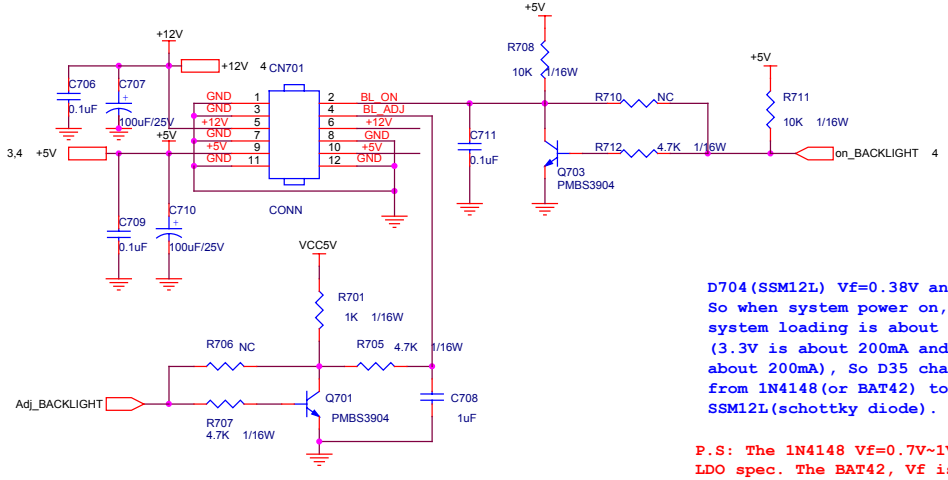


BL_ADJ(DC)	R31	C51	R32	R29	R33	Q4
0V ~ 3.3V	4.7K	1UF	0	X	X	X
0V ~ 5V	4.7K	1UF	X	1K	4.7K	MMBT3904

BL_ADJ	R31	C32
P W M	47	N.C
D C	4K7	1uF





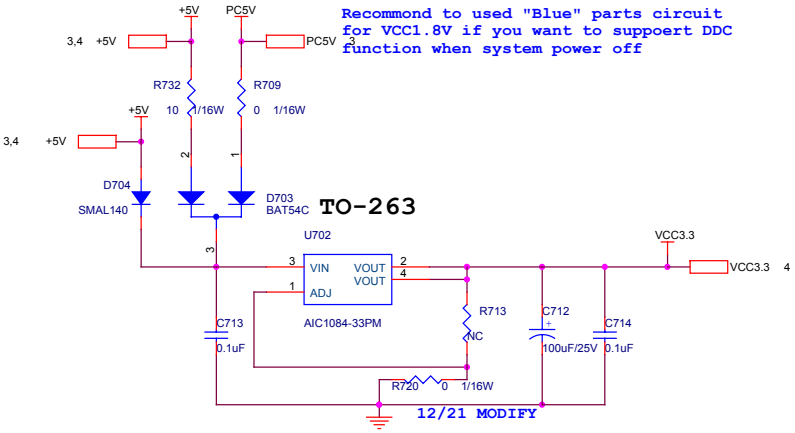


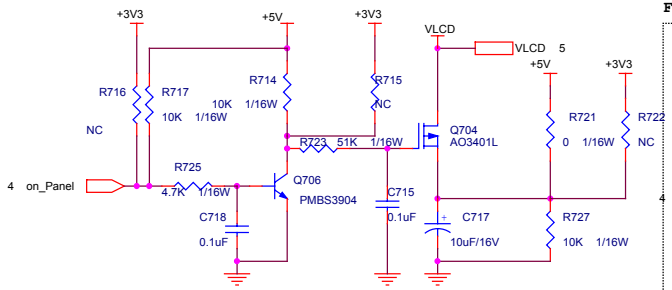
4

D704(SSM12L) Vf=0.38V and If=1A. So when system power on, the system loading is about 400mA (3.3V is about 200mA and 1.8V is about 200mA), So D35 changed from 1N4148(or BAT42) to SSM12L(schottky diode).

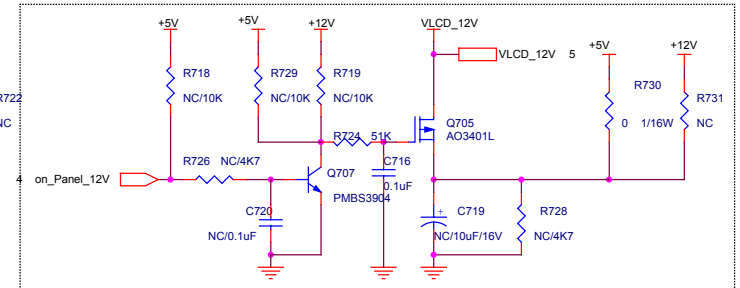
P.S: The 1N4148 Vf=0.7V~1V can't meet LDO spec. The BAT42, Vf is OK but the If=200mA(forward current) can not meet current spec.

Recommond to used "Blue" parts circuit for VCC1.8V if you want to suppoert DDC function when system power off





For RSDS and Panel VCC=12V



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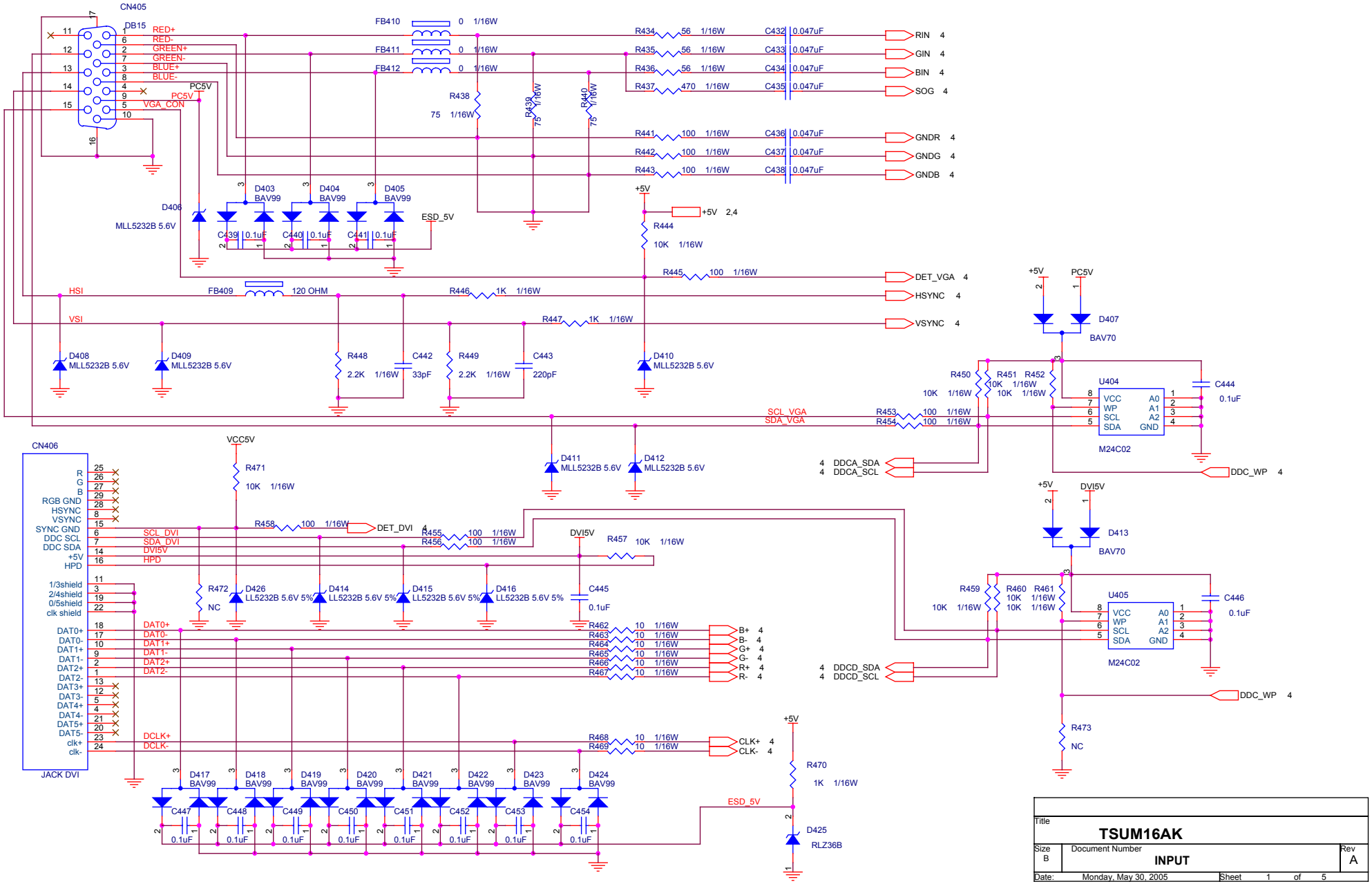
CN405
DB15
RED+
RED-
GREEN+
GREEN-
BLUE+
BLUE-
PC5V
VGA_CON
FB410
FB411
FB412
0 1/16W
R434 56 1/16W
R435 56 1/16W
R436 56 1/16W
R437 470 1/16W
C432 0.047uF
C433 0.047uF
C434 0.047uF
C435 0.047uF
RIN 4
GIN 4
BIN 4
SOG 4
R438 75 1/16W
R439 75 1/16W
R440 75 1/16W
R441 100 1/16W
R442 100 1/16W
R443 100 1/16W
C436 0.047uF
C437 0.047uF
C438 0.047uF
GNDR 4
GNDG 4
GNDB 4
D403 BAV99
D404 BAV99
D405 BAV99
D406 MLL5232B 5.6V
ESD_5V
C439 0.1uF
C440 0.1uF
C441 0.1uF
+5V
+5V 2,4
R444 10K 1/16W
R445 100 1/16W
DET_VGA 4
HSYNC 4
VSYNC 4
HSI
VSI
FB409 120 OHM
R446 1K 1/16W
R447 1K 1/16W
D408 MLL5232B 5.6V
D409 MLL5232B 5.6V
R448 2.2K 1/16W
C442 33pF
R449 2.2K 1/16W
C443 220pF
D410 MLL5232B 5.6V
D411 MLL5232B 5.6V
D412 MLL5232B 5.6V
SCL_VGA
SDA_VGA
R453 100 1/16W
R454 100 1/16W
4 DDCA_SDA
4 DDCA_SCL
PC5V
D407 BAV70
R450 10K 1/16W
R451 10K 1/16W
R452 10K 1/16W
U404
M24C02
C444 0.1uF
DDC_WP 4
CN406
JACK DVI
R 25
G 26
B 27
RGB GND 28
HSYNC 29
VSYNC 8
SYNC GND 15
DDC SCL 6
DDC SDA 7
+5V 14
HPD 16
1/3shield 11
2/4shield 3
0/5shield 19
clk shield 22
VCC5V
R471 10K 1/16W
R458 100 1/16W
DET_DVI 4
SCL_DVI
SDA_DVI
DVI5V
HPD
R455 100 1/16W
R456 100 1/16W
DVI5V
R457 10K 1/16W
R472 NC
D426 LL5232B 5.6V 5%
D414 LL5232B 5.6V 5%
D415 LL5232B 5.6V 5%
D416 LL5232B 5.6V 5%
C445 0.1uF
DAT0+
DAT0-
DAT1+
DAT1-
DAT2+
DAT2-
DAT3+
DAT3-
DAT4+
DAT4-
DAT5+
DAT5-
clk+
clk-
R462 10 1/16W
R463 10 1/16W
R464 10 1/16W
R465 10 1/16W
R466 10 1/16W
R467 10 1/16W
B+ 4
B- 4
G+ 4
G- 4
R+ 4
R- 4
4 DDCD_SDA
4 DDCD_SCL
DVI5V
D413 BAV70
R459 10K 1/16W
R460 10K 1/16W
R461 10K 1/16W
U405
M24C02
C446 0.1uF
DDC_WP 4
R473 NC
DCLK+
DCLK-
R468 10 1/16W
R469 10 1/16W
CLK+ 4
CLK- 4
D417 BAV99
D418 BAV99
D419 BAV99
D420 BAV99
D421 BAV99
D422 BAV99
D423 BAV99
D424 BAV99
C447 0.1uF
C448 0.1uF
C449 0.1uF
C450 0.1uF
C451 0.1uF
C452 0.1uF
C453 0.1uF
C454 0.1uF
+5V
R470 1K 1/16W
ESD_5V
D425 RLZ36B
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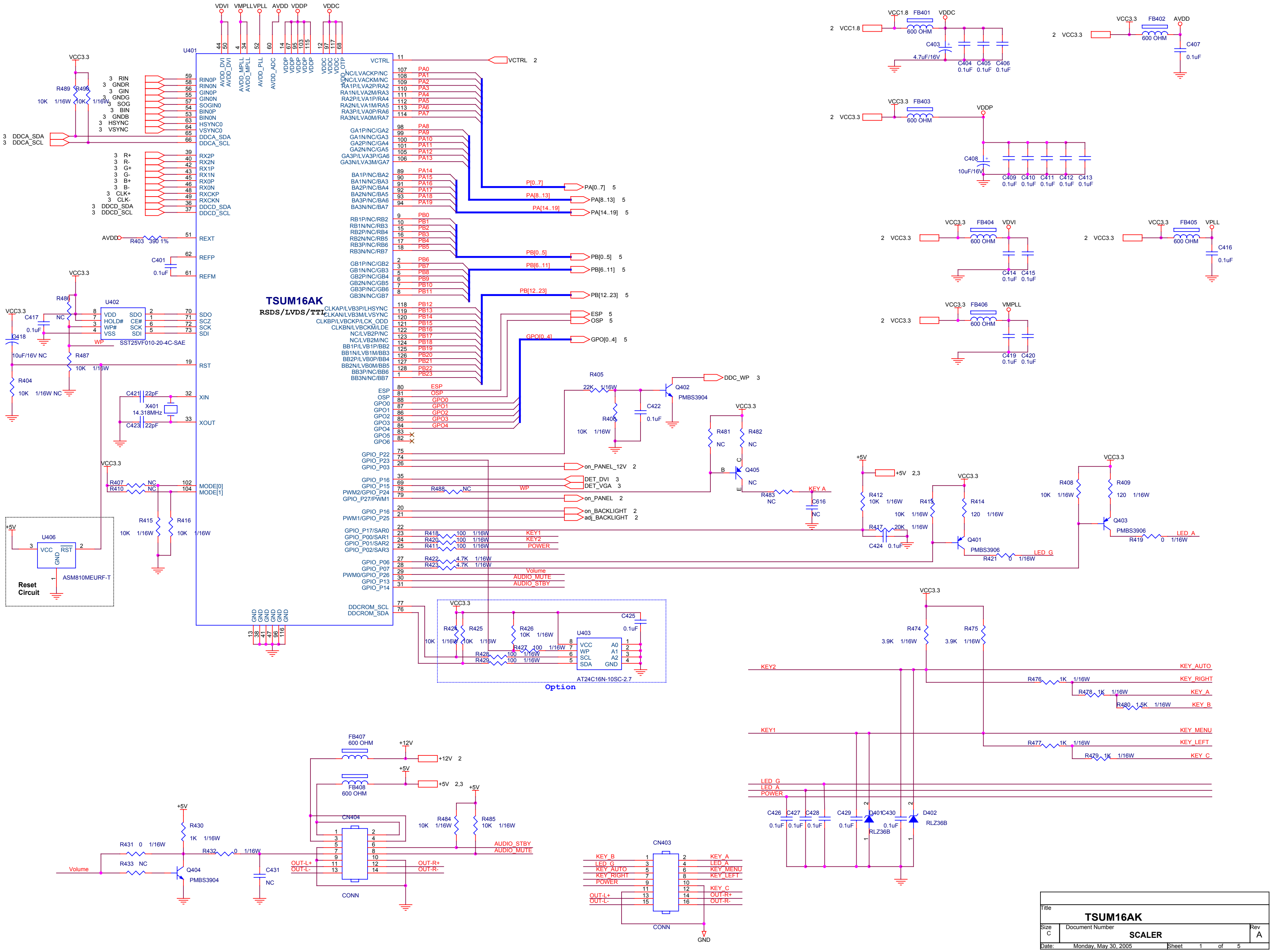
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RSDS/LVDS/TTL
Reset Circuit
Option
TSUM16AK
SCALER
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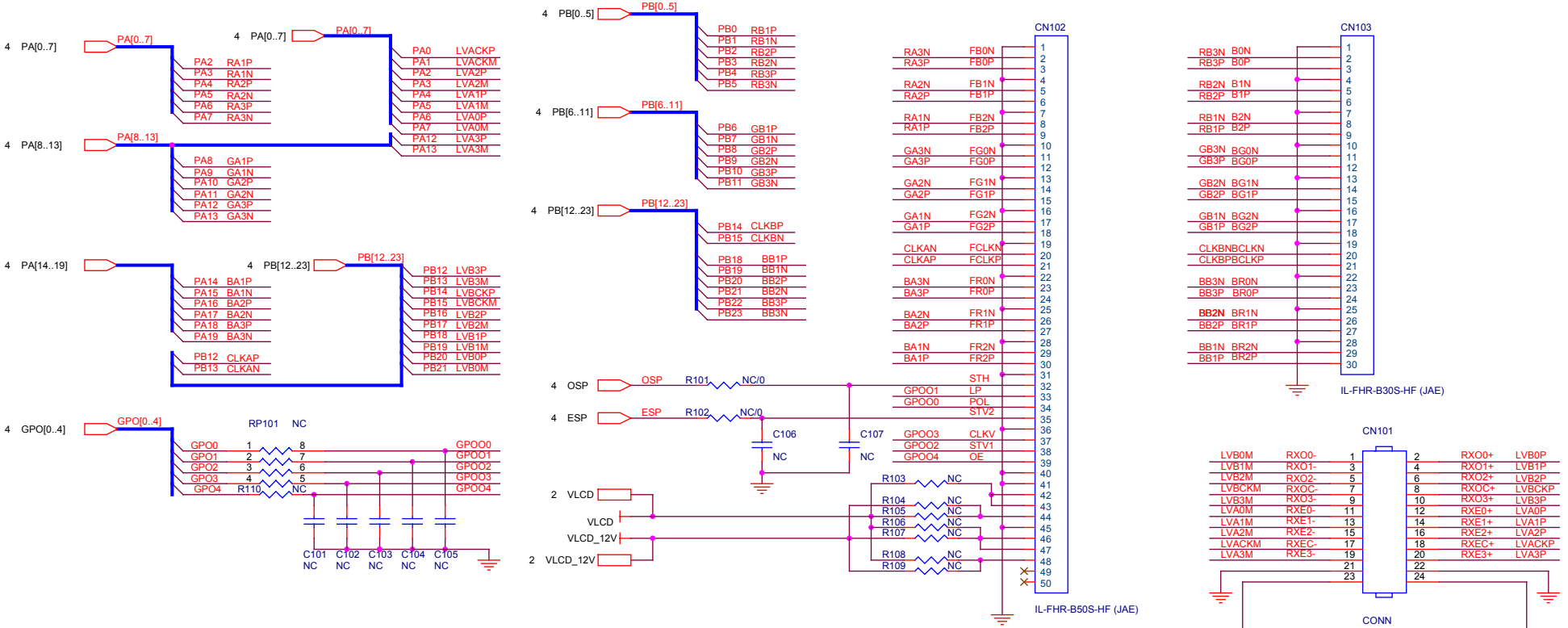

	CN7	CN8	CN9	RP1	R88	R89	R91	Table 1
LVDS Panel	X	X	V	X	X	X	X	X
RSDS Panel	V	V	X	V	V	V	V	V

Table 1	R90	R92	R93	R94	R95	R96	R97
AU 17	NC	NC	5V 0R	5V 0R	NC	5V 0R	NC
QDI 17 CPT 17	3.3V 0R	12V 0R	NC	NC	12V 0R	NC	12V 0R
INNOLUX 15	3.3V 0R	NC	3.3V 0R	NC	NC	NC	NC
HannStar 15 CPT 15	3.3V 0R	NC	3.3V 0R	NC	12V 0R	NC	NC
LG 15	3.3V 0R	NC	3.3V 0R	NC	NC	NC	NC
Innolux 17"	NC	NC	3.3V 0R	3.3V 0R	NC	3.3V 0R	NC

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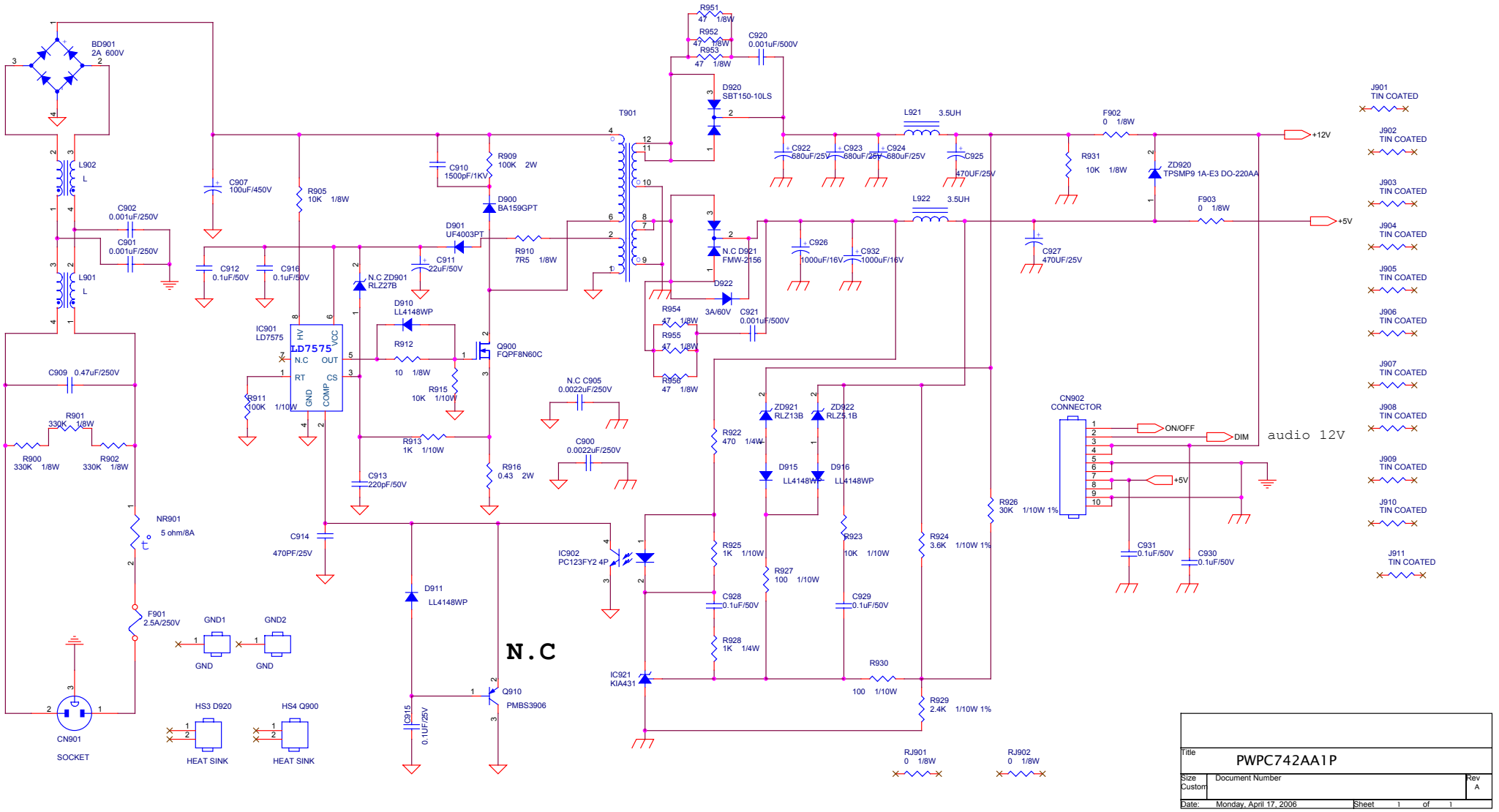
Power board


BD901
2A 600V
L902
L
L901
L
C902
0.001uF/250V
C901
0.001uF/250V
C909 0.47uF/250V
R901
330K 1/8W
R900
330K 1/8W
R902
330K 1/8W
NR901
5 ohm/8A
F901
2.5A/250V
CN901
SOCKET
GND1
GND2
GND
GND
HS3 D920
HS4 Q900
HEAT SINK
HEAT SINK
C907
100uF/450V
C912
0.1uF/50V
C916
0.1uF/50V
R905
10K 1/8W
C910
1500pF/1KV
R909
100K 2W
D900
BA159GPT
D901
UF4003PT
R910
7R5 1/8W
C911
22uF/50V
N.C ZD901
RLZ27B
D910
LL4148WP
IC901
LD7575
LD7575
HV
VCC
N.C
OUT
RT
CS
GND
COMP
R911
100K 1/10W
R912
10 1/8W
R915
10K 1/10W
R913
1K 1/10W
C913
220pF/50V
R916
0.43 2W
Q900
FQPF8N60C
N.C C905
0.0022uF/250V
C900
0.0022uF/250V
C914
470PF/25V
D911
LL4148WP
Q910
PMBS3906
C915
0.1UF/25V
N.C
T901
R951
47 1/8W
R952
47 1/8W
R953
47 1/8W
C920
0.001uF/500V
D920
SBT150-10LS
L921 3.5UH
L922 3.5UH
C922
680uF/25V
C923
680uF/25V
C924
680uF/25V
C925
470UF/25V
C926
1000uF/16V
C932
1000uF/16V
C927
470UF/25V
F902
0 1/8W
R931
10K 1/8W
ZD920
TPSMP9 1A-E3 DO-220AA
F903
0 1/8W
+12V
+5V
N.C D921
FMW-2156
D922
3A/60V
C921
0.001uF/500V
R954
47 1/8W
R955
47 1/8W
R956
47 1/8W
ZD921
RLZ13B
ZD922
RLZ5.1B
D915
LL4148WP
D916
LL4148WP
R922
470 1/4W
R923
10K 1/10W
R924
3.6K 1/10W 1%
R925
1K 1/10W
R927
100 1/10W
C928
0.1uF/50V
C929
0.1uF/50V
R928
1K 1/4W
R930
100 1/10W
R929
2.4K 1/10W 1%
R926
30K 1/10W 1%
IC902
PC123FY2 4P
IC921
KIA431
RJ901
0 1/8W
RJ902
0 1/8W
CN902
CONNECTOR
ON/OFF
DIM
+5V
audio 12V
C931
0.1uF/50V
C930
0.1uF/50V
J901
TIN COATED
J902
TIN COATED
J903
TIN COATED
J904
TIN COATED
J905
TIN COATED
J906
TIN COATED
J907
TIN COATED
J908
TIN COATED
J909
TIN COATED
J910
TIN COATED
J911
TIN COATED
Title
PWPC742AA1P
Size
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Rev
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Date:
Monday, April 17, 2006
Sheet
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of
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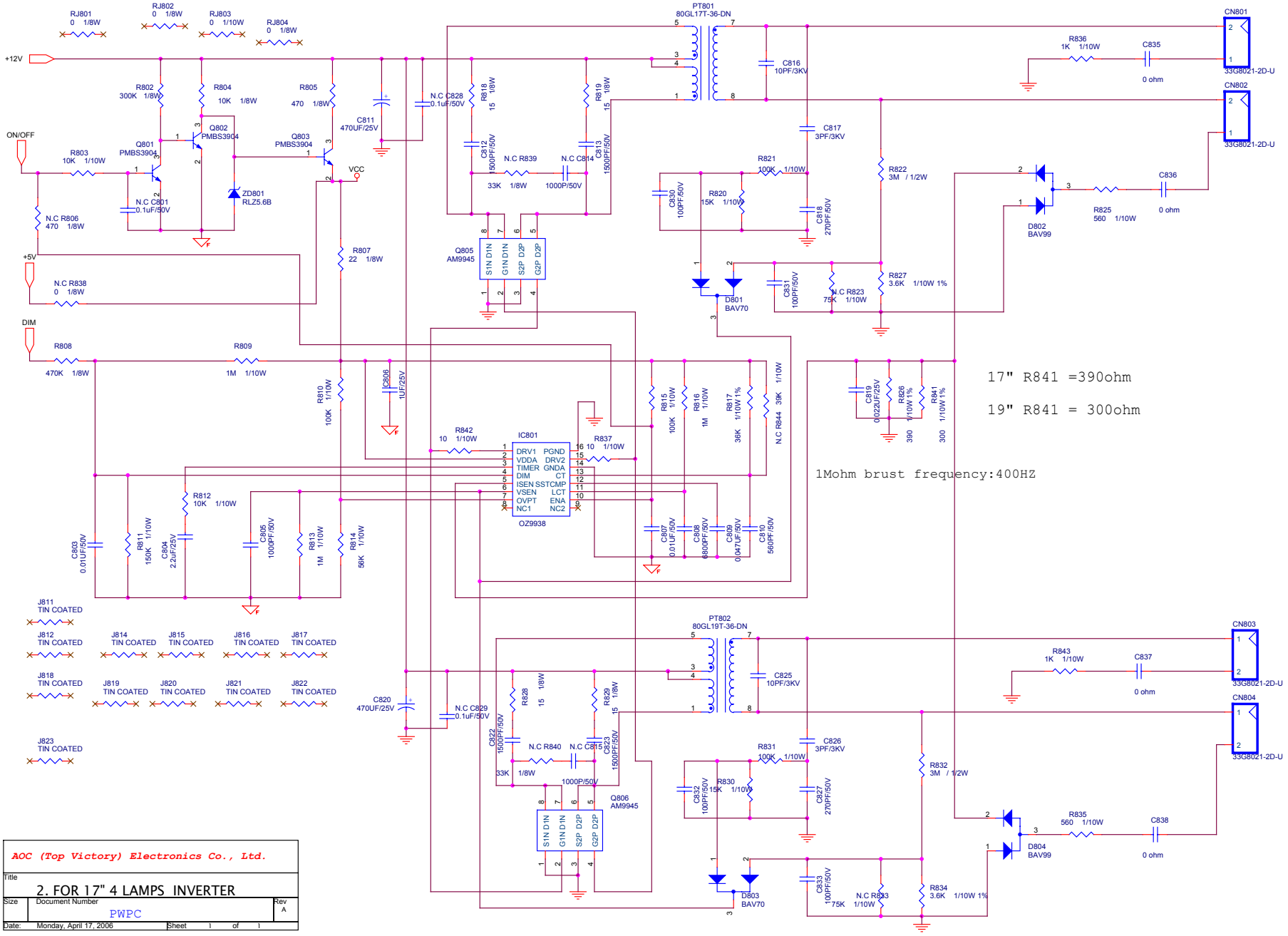
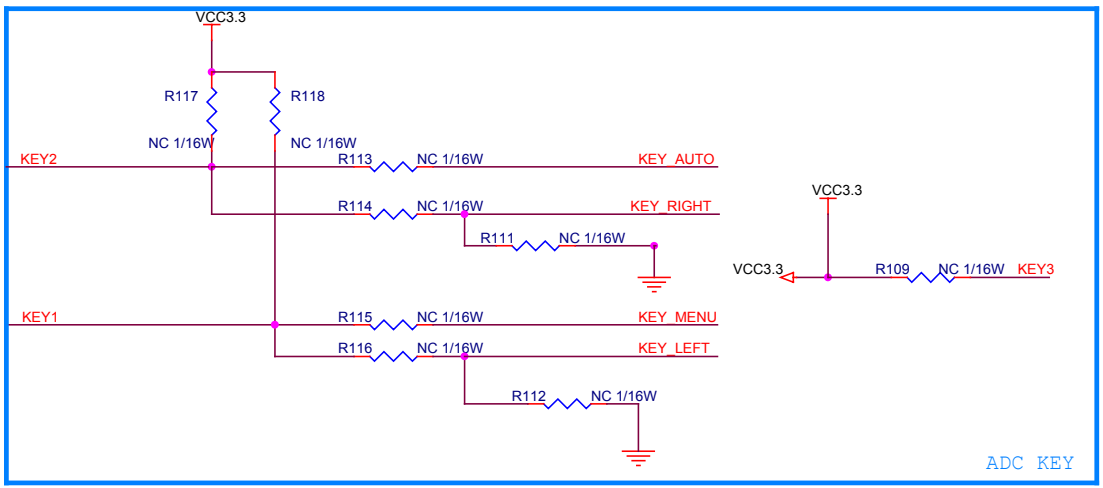
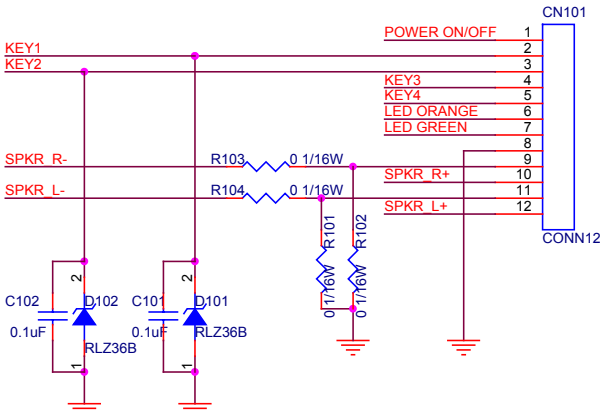
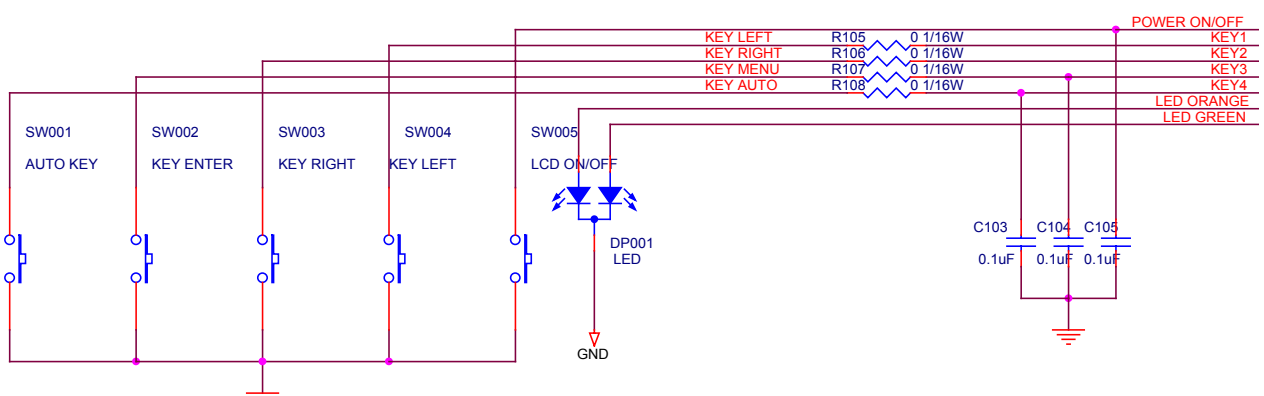
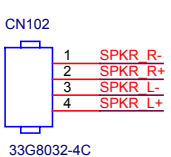

17" R841 =390ohm
19" R841 = 300ohm
1Mohm brust frequency:400HZ
AOC (Top Victory) Electronics Co., Ltd.
2. FOR 17" 4 LAMPS INVERTER
PWPC
Monday, April 17, 2006

Key Board


VCC3.3
R117
R118
NC 1/16W
NC 1/16W
KEY2
R113
NC 1/16W
KEY_AUTO
R114
NC 1/16W
KEY_RIGHT
R111
NC 1/16W
KEY1
R115
NC 1/16W
KEY_MENU
R116
NC 1/16W
KEY_LEFT
R112
NC 1/16W
VCC3.3
VCC3.3
R109
NC 1/16W
KEY3
ADC KEY


CN101
POWER ON/OFF
KEY1
KEY2
KEY3
KEY4
LED ORANGE
LED GREEN
SPKR_R-
SPKR_L-
R103
0 1/16W
R104
0 1/16W
SPKR_R+
SPKR_L+
CONN12
C102
0.1uF
D102
RLZ36B
C101
0.1uF
D101
RLZ36B
R101
0 1/16W
R102
0 1/16W


KEY LEFT
KEY RIGHT
KEY MENU
KEY AUTO
R105
R106
R107
R108
0 1/16W
POWER ON/OFF
KEY1
KEY2
KEY3
KEY4
LED ORANGE
LED GREEN
SW001
AUTO KEY
SW002
KEY ENTER
SW003
KEY RIGHT
SW004
KEY LEFT
SW005
LCD ON/OFF
DP001
LED
GND
C103
C104
C105
0.1uF
0.1uF
0.1uF


CN102
1
2
3
4
SPKR_R-
SPKR_R+
SPKR_L-
SPKR_L+
33G8032-4C