

**DAEWOO**

**Service Manual**  
**XGA COLOR MONITOR**  
**Model : L500B1**

**DAEWOO ELECTRONICS CO., LTD.**

*<http://svc.dwe.co.kr>*

*November, 2000*

# CONTENTS

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SAFETY PRECAUTIONS	1
GENERAL SAFETY INFORMATION	2
SERVICING PRECAUTIONS	3
TECHNICAL INFORMATION	6
GENERAL INFORMATION	7
PIN CONNECTOR	8
CAUTIONS FOR ADJUSTMENT AND REPAIR	8
OPERATION & ADJUSTMENT	9
ALIGNMENT PROCEDURE	14
TROUBLESHOOTING HINTS	15
BLOCK DIAGRAM	22
PCB LAYOUT	23
SCHEMATIC DIAGRAM	27
EXPLODED VIEW & MECHANICAL PARTS LIST	28
INFORMATION OF PART DESCRIPTION	29
ELECTRICAL PARTS LIST	30

# SAFETY PRECAUTIONS

**CAUTION:** No modifications of any circuits should be attempted. Service work should be performed only after you are thoroughly familiar with all of the following safety checks and servicing guidelines.

## ◆ Safety Check

Care should be taken while servicing this analog color display because of the high voltages used in the deflection circuits. These voltages are exposed in such areas as the associated flyback and yoke circuits.

## ◆ Fire & Shock Hazard

- Insert an isolation transformer between the analog color display and AC power line before servicing the chassis.
- When servicing, pay close attention to the original lead dress especially in the high voltage circuit area; if a short circuit is found, replace all parts which have been overheated as a result of the short circuit.
- All the protective devices must be reinstalled per original design.
- Soldering must be inspected for possible cold solder points, frayed leads, damaged insulation, solder splashes or sharp solder points. Be certain to remove all foreign materials.

## ◆ Implosion Protection

Picture tube in this monitor employs intergral implosion protection system, but care should be taken to avoid damage and scratching during installation.

Only use same type replacement picture tubes.

**IMPORTANT SAFETY NOTICE:** There are special components used in this analog color display, which are important for safety. These parts are shaded on the schematic diagram and on the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-Ray, shock, fire or other hazards. Do not modify the original design without getting written permission from DAEWOO ELECTRONICS CO. or this will void the original parts and labor warranty.

## ◆ X-Ray

**WARNING:** The only potential source of X-Ray is the picture tube. However when the high voltage circuitry is operating properly, there is no possibility of an X-Ray problem. The basic precaution which must be exercised is to keep the high voltage at the following factory recommended level.

**NOTE:** It is important to use an accurate, periodically, calibrated high voltage meter.

- To measure the high voltage, use a high-impedance high-voltage meter. Connect(-) to chassis and (+) to the CRT anode button.
- Turn the Contrast & Brightness Control fully counterclockwise.
- Measure the high voltage. The high voltage meter should indicate the following factory recommended levels.
- If the upper meter indication exceeds the maximum level, immediate service is required to prevent the possibility of premature component failure.
- To prevent X-Ray possibility, it is essential to use the specified picture tube.
- The normal high voltage is 25.5KV or below and must not exceed 29KV at zero beam current at rated voltage.

# GENERAL SAFETY INFORMATION

## ◆ Terms in the manual

- CAUTION Statements identify conditions or practices that could result in damage to the equipment or other property.
- WARNING Statements identify conditions or practices that could result in personal injury or loss of life.

## ◆ Terms as marked on equipment

- CAUTION Statements indicate a personal injury hazard not immediately accessible as one reads the marking or a hazard which is properly included on the equipment itself.
- WARNING Statements are clearly concerning indicated personal injury hazards.

## ◆ Symbols in the manual

The symbols indicate where applicable cautionary or other information is to be found.

## ◆ Symbols as marked on equipment

Protective GROUND terminal



## ◆ High Voltage Warning And Critical Component Warning Label

The following warning label is on the CRT PWB shield case inside the unit.

**Warning:** This product includes critical mechanical and electrical parts which are essential for x ray protection. For continued safety, replace critical components that are indicated in the service manual with exact replacement parts given in the parts list.  
Operating high voltage with this product is 29Kv at minimum brightness. Refer to service manual for measurement procedures and proper service adjustments.

## SERVICING PRECAUTIONS

**CAUTION:** Before servicing instruments covered by this service manual, its supplements, and addendum, please read and follow the SAFETY PRECAUTIONS of this manual.

**NOTE:** If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 1 of this manual, always follow the safety precautions. Remember: Safety First.

### ◆ General Servicing Precautions

1. Always unplug the AC power cord from the AC power source before:
  - a. Removing or reinstalling any component, circuit board, module, or any other instrument assembly.
  - b. Disconnecting or reconnecting any electrical plug or other electrical connection.
  - c. Connecting a test substitute in parallel with an electrolytic capacitor in the instrument.

**CAUTION:** A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in a explosion.

- d. Discharging the picture tube anode.
2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM. etc.) equipped with a suitable high voltage probe. Do not test high voltage by “drawing an arc”.
3. Discharge the picture tube anode only by: (a) first connecting one end of an insulated clip lead to the degaussing or line grounding system shield at the point where the picture tube socket ground lead is connected, and then (b) touching the other end of the insulated clip lead to the picture tube anode button, using an insulating handle to avoid personal contact with high voltage.
4. Do not any spray chemicals on or near this instrument, or any of its assemblies.
5. Unless otherwise specified in this service manual, only clean electrical contacts by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick, or comparable nonabrasive applicator: 10% (by volume) Aceton and 90% (by volume) isopropyl alcohol (90%-99% strength).

**CAUTION:** This is a flammable mixture. Unless specified in this service manual, lubrication of contacts is not required.

6. Do not damage any plug/socket B+ voltage interlocks with which instruments covered by this service manual might be equipped.
7. Do not apply AC power to this instrument and/or any other of its electrical assemblies unless all the solid-state device heat sinks are correctly installed.
8. Always connect the test instrument ground lead to the appropriate instrument chassis ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.
9. Only use the test fixtures specified in this service manual with this instrument.

**CAUTION:** Do not connect the test fixture ground strap to any heatsink in this instrument.

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## ◆ Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity.

Such components are commonly called Electrostatically Sensitive (ES) Devices.

The typical examples of ES devices are integrated circuits, some field-effect transistors, and semiconductor “chip” components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, wipe off any electrostatic charge on your body by touching any known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device which should be removed for potential shock reasons prior to applying power to the unit under testing conditions.
2. After removing the electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil to prevent electrostatic charge buildup or exposure to the assembly.
3. Only use a grounded-tip soldering iron to solder or unsolder ES devices.
4. Only use an anti-static type solder removal device. Some solder removal devices not classified as “anti-static” can generate enough electrical charges to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate enough electrical charges to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil, or comparable conductive material).
7. Immediately before removing the protective material from the leads of replacement ES devices, touch the protective material to the chassis or circuit assembly into which the device will be installed.

<p><b>CAUTION:</b> Be sure that no power is applied to the chassis or circuit, and observe all other safety precautions.</p>
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8. Minimize bodily movements when handling unpackaged replacement ES devices. (Otherwise harmful motion such as the brushing together clothes fabric or the lifting your foot from a carpeted floor can generate enough static electricity to damage ES devices).

## ◆ General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron with appropriate tip size and shape that will maintain tip temperature between a 550°F-660°F (288°C-316°C) range.
2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.
3. Keep the soldering iron tip clean.
4. Thoroughly clean the surface to be soldered. Use a small wire-bristle (0.5 inch or 1.25cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.
5. Use the following soldering technique:
  - a. Allow the soldering iron tip to reach normal temperature (550°F to 660°F or 288°C to 316°C)
  - b. Hold the soldering iron tip and solder strand against the component lead until the solder melts.
  - c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there until the solder flows onto and around both the component lead and the foil.
  - d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.

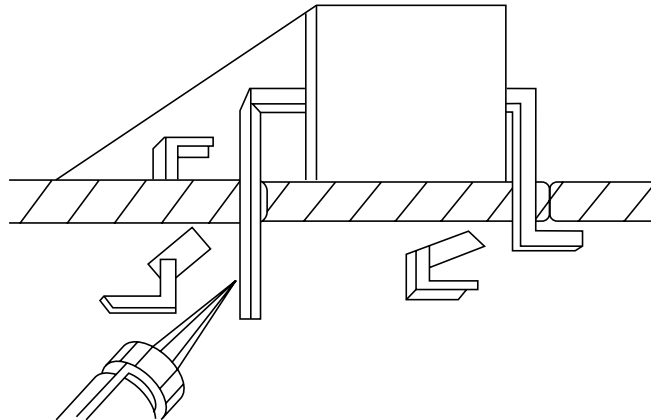


FIGURE 1. USE SOLDERING IRON TO PRY LEADS

## ◆ IC Removal/Replacement

Some utilized chassis circuit boards have slotted (oblong) holes through which the IC leads are inserted and then bent flat against the circuit foil. When holes are slotted, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 on the page under the title of general soldering guidelines.

### ◆ Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.
2. Draw away the melted solder with an anti-static suction-type solder removal device (or with desoldering braid before removing the IC).

### ◆ Replacement

1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to the area).

## ◆ “Small-Signal” Discrete Transistor Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend the ends of each of three leads remaining on the circuit board into a “U” shape.
3. Bend the replacement transistor leads into a “U” shape.
4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the “U” with long nose pliers to ensure metal-to-metal contact, then solder each connection.

## ◆ Power IC, Transistor or Devices Removal/Replacement

1. Heat and remove all solders from the device leads.
2. Remove the heatsink mounting screw (if applicable).
3. Carefully remove the device from the circuit board.
4. Insert new device in circuit board.
5. Solder each device lead and then clip off excess lead.
6. Replace heatsink.

## ◆ Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendicularly to the circuit board.
3. Observing diode polarity, wrap each lead out of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect the solder joints of the two “original” leads on the circuit board copper side. If they are not shiny, reheat them and apply additional solder if necessary.

## TECHNICAL INFORMATION

Panel Size		15.1-inch (38cm) diagonal
Pixel Pitch		0.3 x 0.3 mm
Synchronization	Horizontal	30 - 62 KHz
	Vertical	50 - 85 Hz
Plug and Play		DDC1/2B/CI
Power Saving		EPA, VESA DPMS, Nutek Compliant
Power Source		100-240 Vac, 50/60Hz (Free Voltage)
		DC12V, 3A
Power Consumption		21W(without adapter)/26W(with adapter)
Dimension-W x H x D(net/gross)		390 x 401.5 x 73.5mm /502 x 502 x 242mm
Weight(net/gross )		4.5/6.4 Kg
		9.9/14.1lbs
Tilt/Swivel Range	Tilt	5° forward, 30° backward
	Swivel	± 90° leftward, rightward
Operating Temperature		10 ~ 40°C /50 ~ 104°F



## GENERAL INFORMATION

This TFT LCD monitor automatically scans all horizontal frequencies from 30KHz to 62KHz, and all vertical frequencies from 50Hz to 85Hz. This TFT LCD monitor supports IBM PC, PC/XT, PC/AT, personal System/2 (PS/2), Apple Macintosh, and compatible users crisp text and vivid color graphics display when using the following graphics adapters : (VGA, Super VGA, VESA and XGA and Apple Macintosh Video Card). And so, this TFT LCD monitor has a maximum horizontal resolution of 1024 dots and a maximum vertical resolution of 768 lines for superior clarity of display.

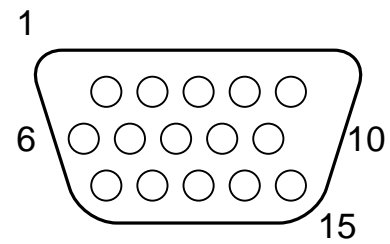
By accepting analog signal inputs which level is zero to 0.7 Volts. This TFT LCD monitor can display and 262, 144 colors depending on the graphics adapter and software being used. (available used to 8 bit panel is 16.7M colors)

### ◆ Abbreviations

ADJ	Adjustment
AFC	Automatic Frequency Control
CRT	Cathode Ray Tube
Def	Deflection
D.Y	Deflection Yoke
HVG	High Voltage Generator
H.SYNC	Horizontal Synchronization
OSC	Oscillator
P.S.U	Power Supply Unit
PWA	Printed Circuit Board Wiring Assembly
R.G.B	Red, Green, Blue
V.Sync	Vertical Synchronization

## PIN CONNECTOR

Pin	Signal
1	Red
2	Green
3	Blue
4	GND
5	GND
6	GND - Red
7	GND - Green
8	GND - Blue
9	+5Vdc
10	GND - H.Sync
11	GND - V.Sync
12	Bi-directional Data (SDA)
13	Horizontal Sync
14	Vertical Sync (VCLK)
15	Data Clock (SCL)



Arrangement of 15-pin D-sub connector

## CAUTIONS FOR ADJUSTMENT AND REPAIR

- Degaussing is always required when adjusting purity or convergence.
- The white balance adjustment has been done by a color analyzer in factory. The adjustment procedure, described in the service manual is made by a visual check.
- Allow 20 minutes warm-up time for the display before checking or adjusting only electrical specification or function.
- Reform the leadwire after any repair work.

### ◆ Caution For Servicing

- In case of servicing or replacing CRT, high voltage sometimes remains in the anode of the CRT. Completely discharge high voltage before servicing or replacing CRT to prevent a shock to the serviceman.

# OPERATION & ADJUSTMENT

## Control Panel



### AUTO



- The AUTO button launches the AUTO TRACKING function directly.

### EXIT



- The EXIT button turns the OSD (On-Screen Display) window off.
- This button moves from sub menu to top menu in the OSD window.

### MENU



- The MENU button turns the OSD window on.
- This button moves from top menu to sub menu in the OSD window.

### BRIGHTNESS



- The button moves cursor to the left or high window in the OSD window.
- This button decreases the value of any selected function.

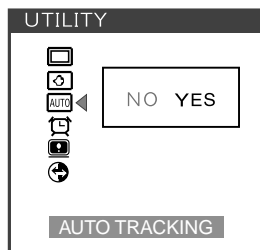
### BRIGHTNESS



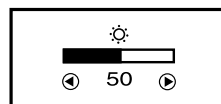
- The button moves cursor to the right or low window in the OSD window.
- This button increases the value of any selected function.

## Hot Key

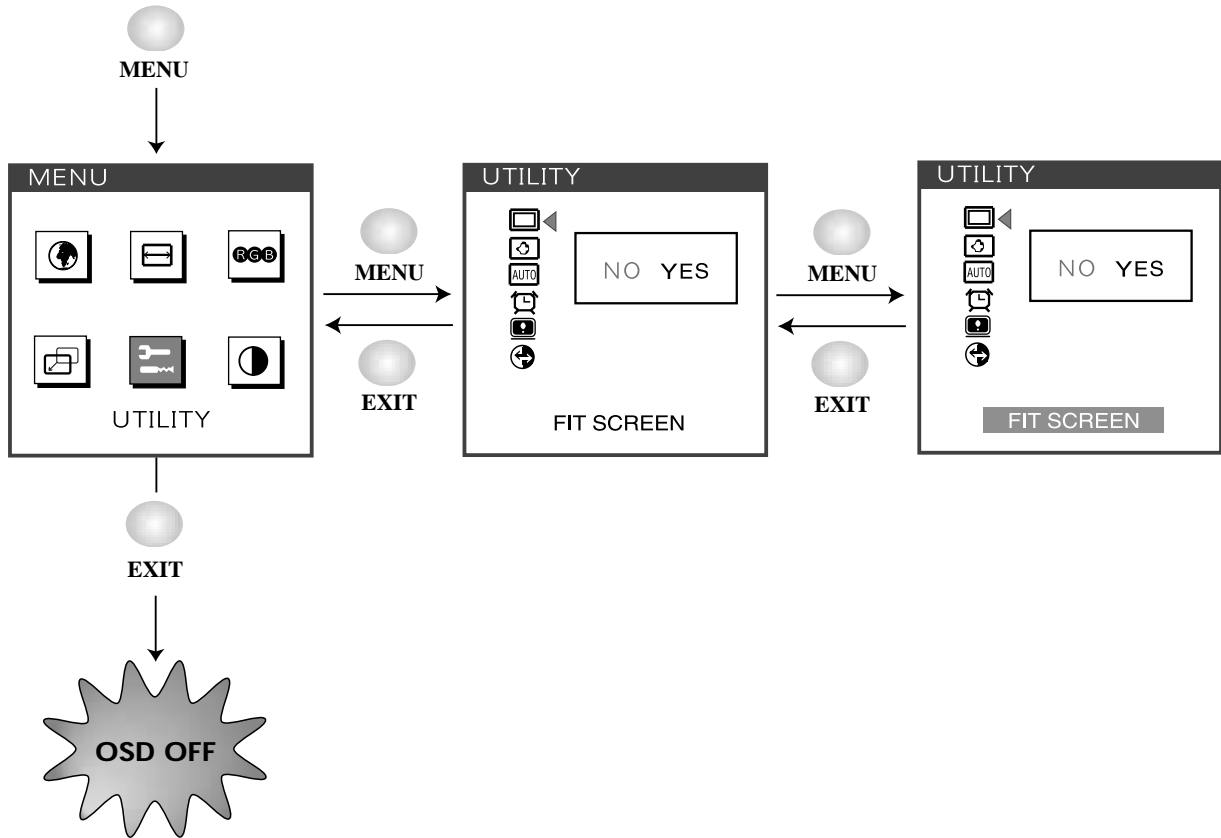
### AUTO



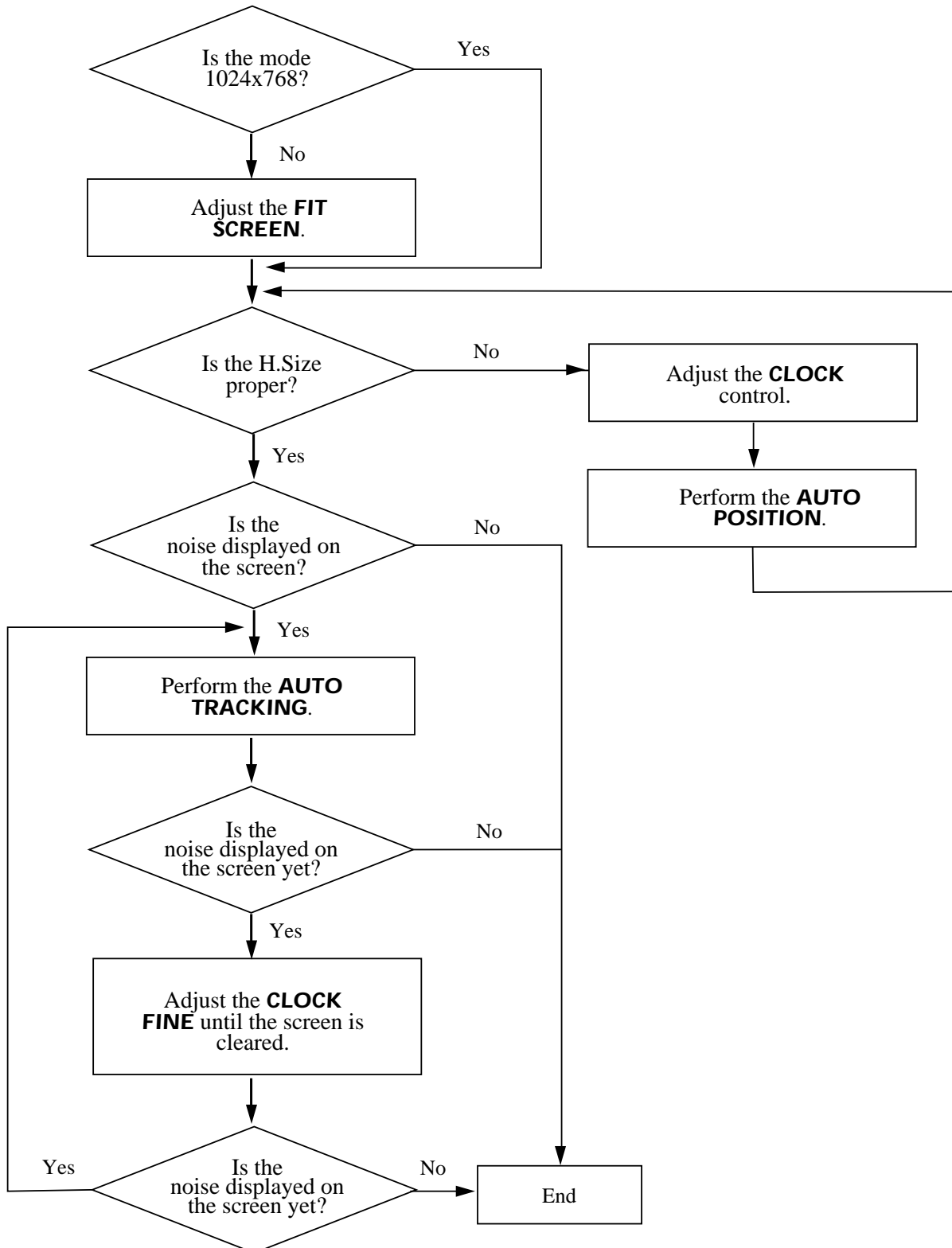
### BRIGHTNESS



















## Key Process



## Adjustment Procedure



## OSD Functions

ICON	CONTROL	FUNCTIONS
	<b>LANGUAGE</b>	Select language for OSD (5 languages).
	<b>CLOCK</b>	Adjust the width (horizontal size) of the screen image.
	<b>CLOCK FINE</b>	Sharpen the focus by aligning the illuminated pixels and adjust until the screen image looks focused, crisp and sharp. Adjusting the <b>CLOCK FINE</b> after the <b>CLOCK</b> adjustment will produce a clear screen.
	<b>COLOR TEMP</b>	Choose different preset color temperatures or set your own customized color parameters.
	<b>RED CONTROL</b>	Adjust the red color.
	<b>GREEN CONTROL</b>	Adjust the green color.
	<b>BLUE CONTROL</b>	Adjust the blue color.
	<b>H. CENTER &amp; V. CENTER</b>	Adjust the position of the display horizontally(left or right) and vertically (up or down).
	<b>FIT SCREEN</b>	Make characters of displayed text easier to read (only for resolutions lower than 1024x768).
	<b>SMART SCALING</b>	Adjust the display image quality (if the screen proceed to scaling up).
	<b>AUTO TRACKING</b>	Adjust the horizontal & vertical picture image quality and size.
	<b>OSD TIME OUT</b>	Adjust the display OSD Menu.
	<b>STATUS</b>	Display horizontal & vertical frequency and polarity.
	<b>RECALL</b>	Reset the screen to the Factory Preset Display Settings.
	<b>AUTO POSITION</b>	Choose automatically the proper horizontal position and vertical position & size of the screen image.
	<b>CONTRAST</b>	Adjust the contrast of image, the difference between light and dark areas on the screen.

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## Self Diagnosis

When the monitor doesn't display, if you press any key, Self Diagnosis screen is displayed. Self Diagnosis function checks if the status of the monitor is No Signal or Out of range.



No Signal screen is displayed when the D-Sub signal connector is not connected or the status of the monitor is on DPMS mode.



Out of Range screen is displayed when the applied frequency is under or over normal range.

- Normal range  
(Non-interlaced mode only)  
H : 30 - 62 KHz (1024 dot Max)  
V : 50 - 85 Hz (768 dot Max)

# ALIGNMENT PROCEDURE

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## Standard Check point

1. Power source : 100 - 240Vac, 50/60Hz.
2. Aging : Take at least 20 minutes warm-up time.
3. Signal
  - Video input : Analog 0.7Vpp 75Ω terminal positive polarity
  - Synchronizing : acceptable negative or positive at TTL level
  - Resolution
    - Horizontal : 1024 max.
    - Vertical : 768 max.
  - Frequency
    - Horizontal : 30KHz - 62KHz
    - Vertical : 50Hz - 85Hz (available only non interlace mode)

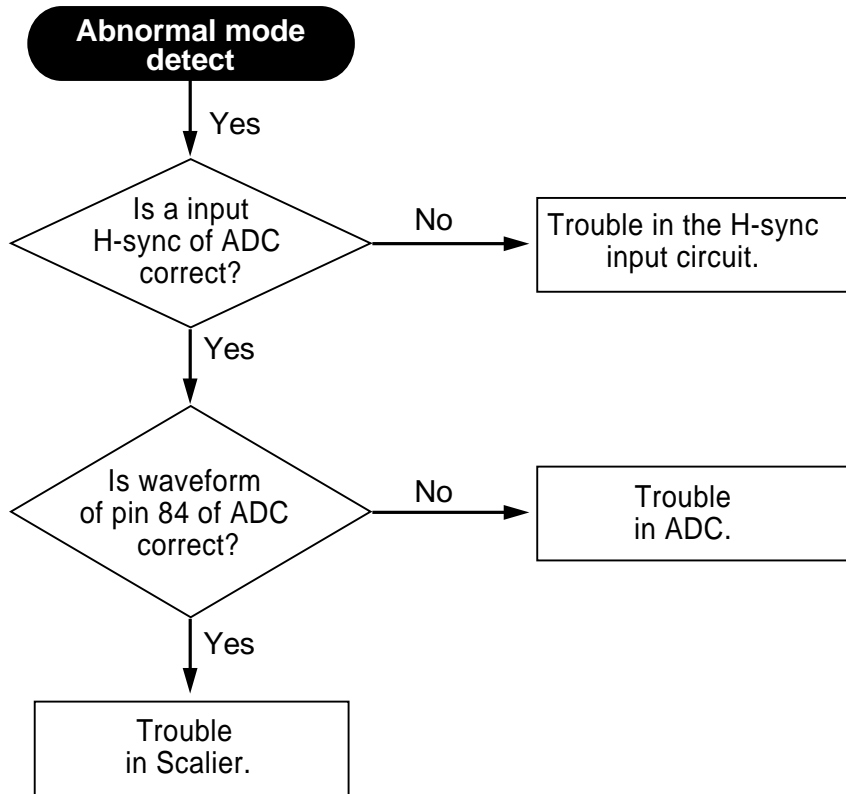
## Adjustment

1. Smart scaling set to 69%.
  2. Contrast set to 100%
  3. Brightness set to 50%
  4. Switching to factory alignment mode
    - Press power key with Auto key at the power off status.
  5. Video level adjustment
    - Receive stair pattern of 16 step (doesn't care any mode).
    - Readjust coarse R, G, B in TDA8752 menu before saturaton point.
  6. Set up the tracking
    - See the user's manual at page 8th.
  7. Switching to user's mode
    - If turn-off and turn-on then switched to user's mode.
- \* All of adjusted data stores by fade out of OSD.

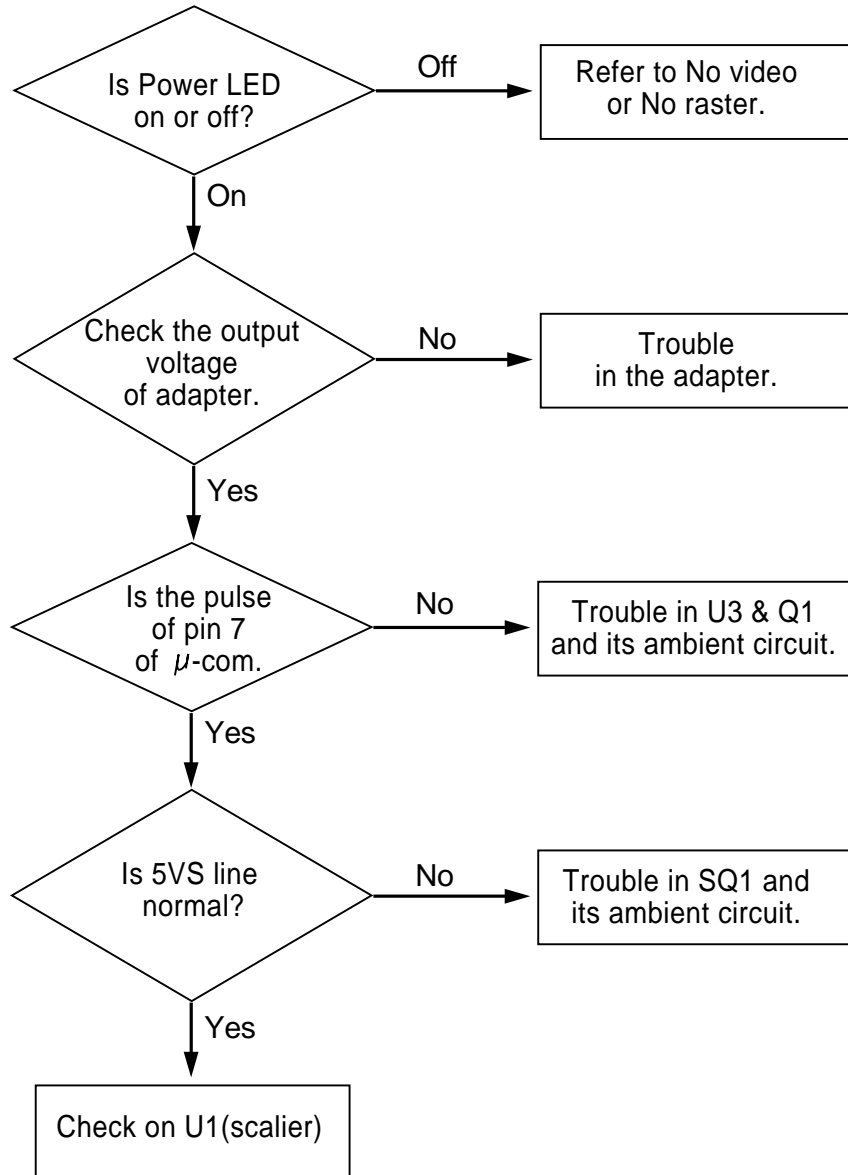


# TROUBLESHOOTING HINTS

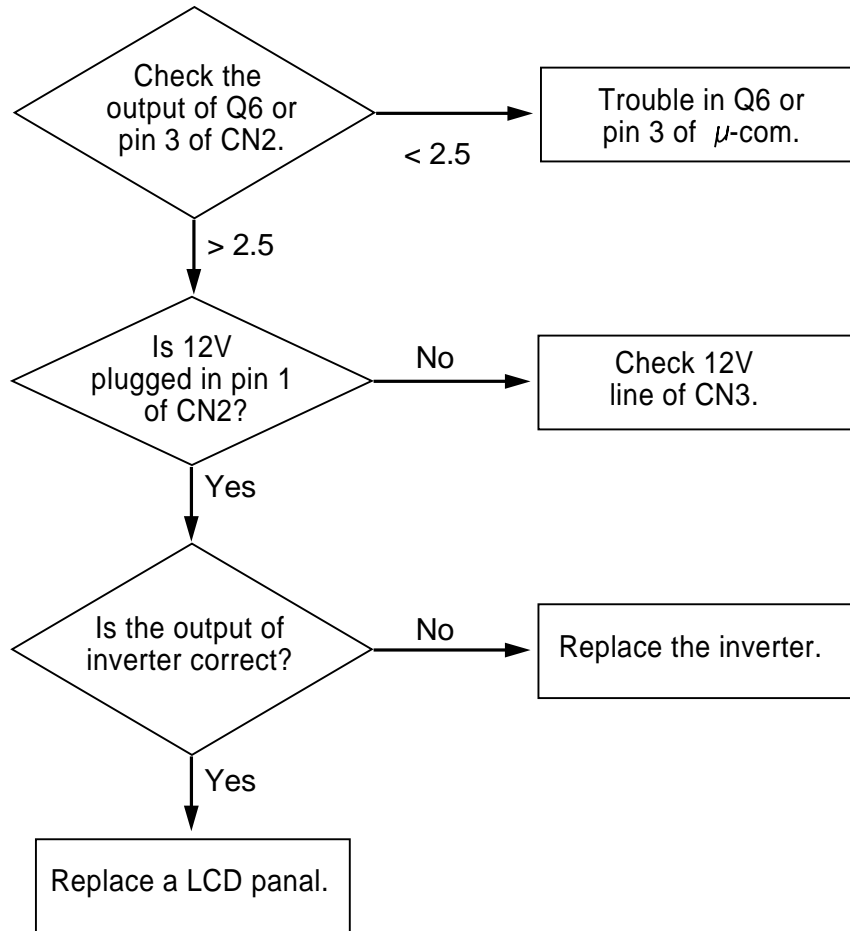
## 1. Abnormal mode detect



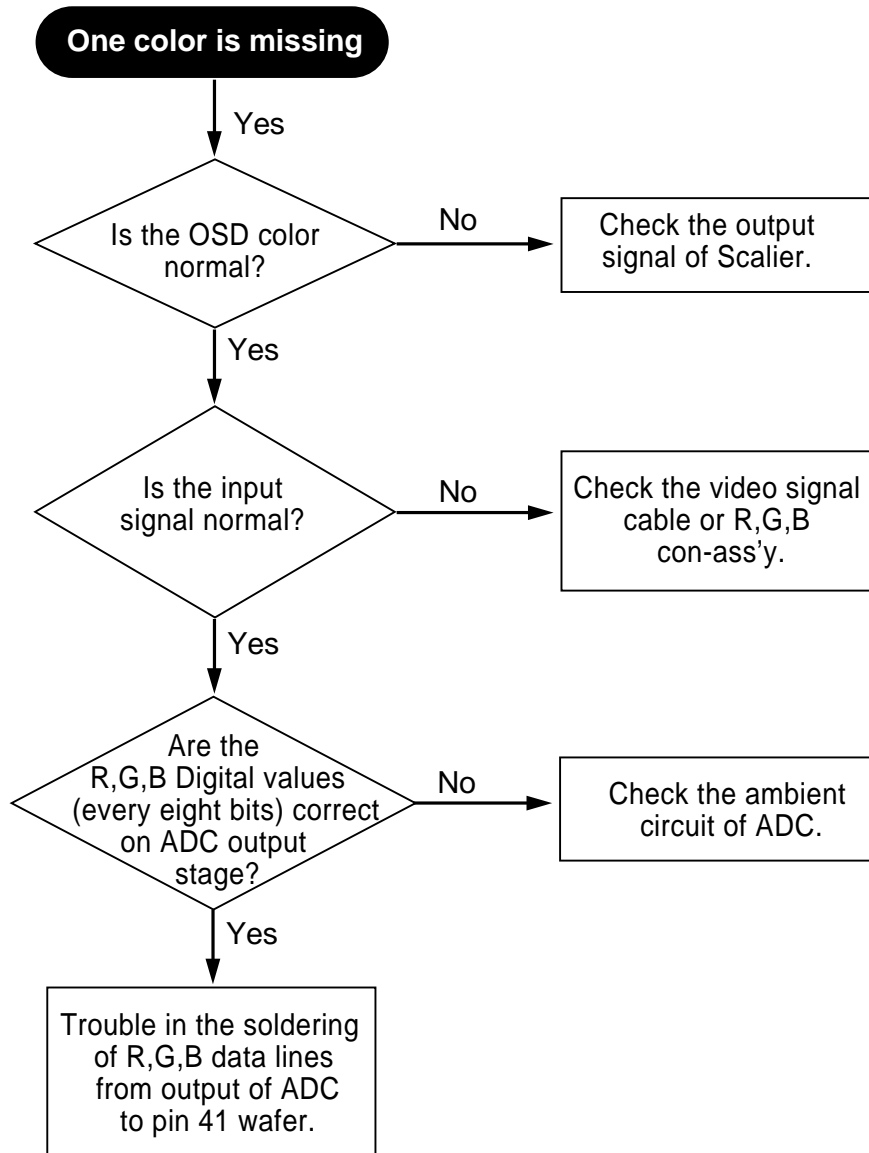
## 2. Trouble in Power on



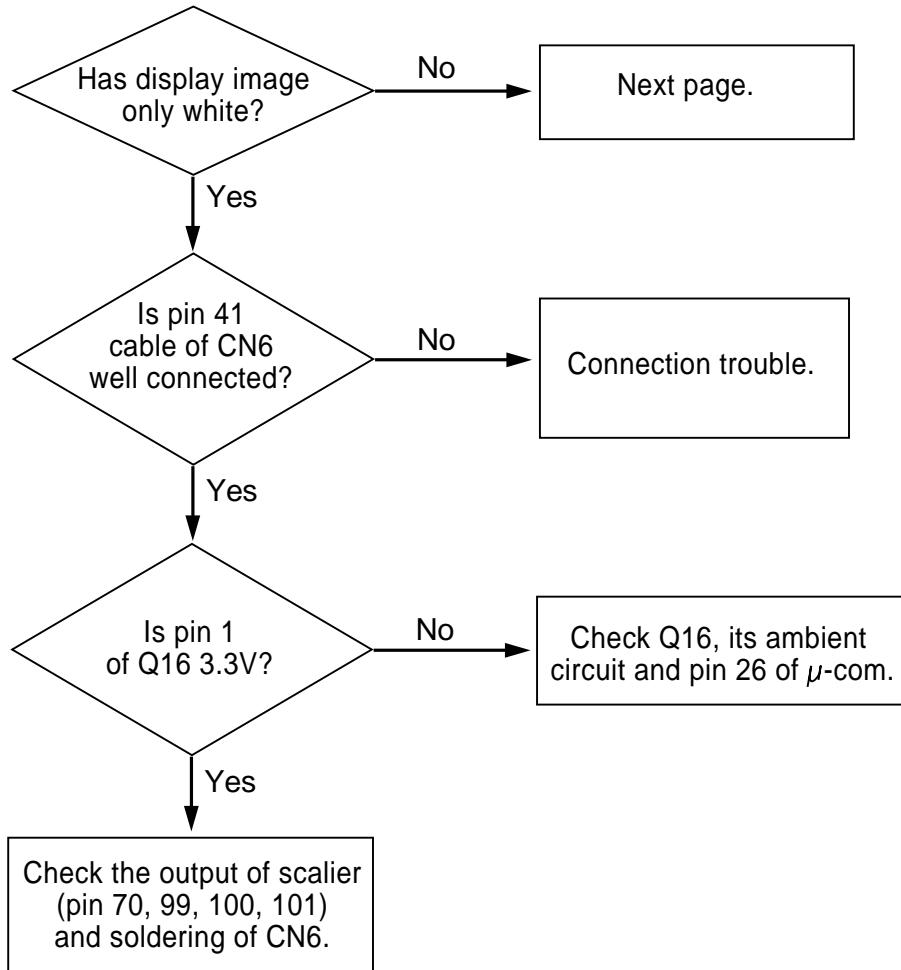
### 3. No Raster



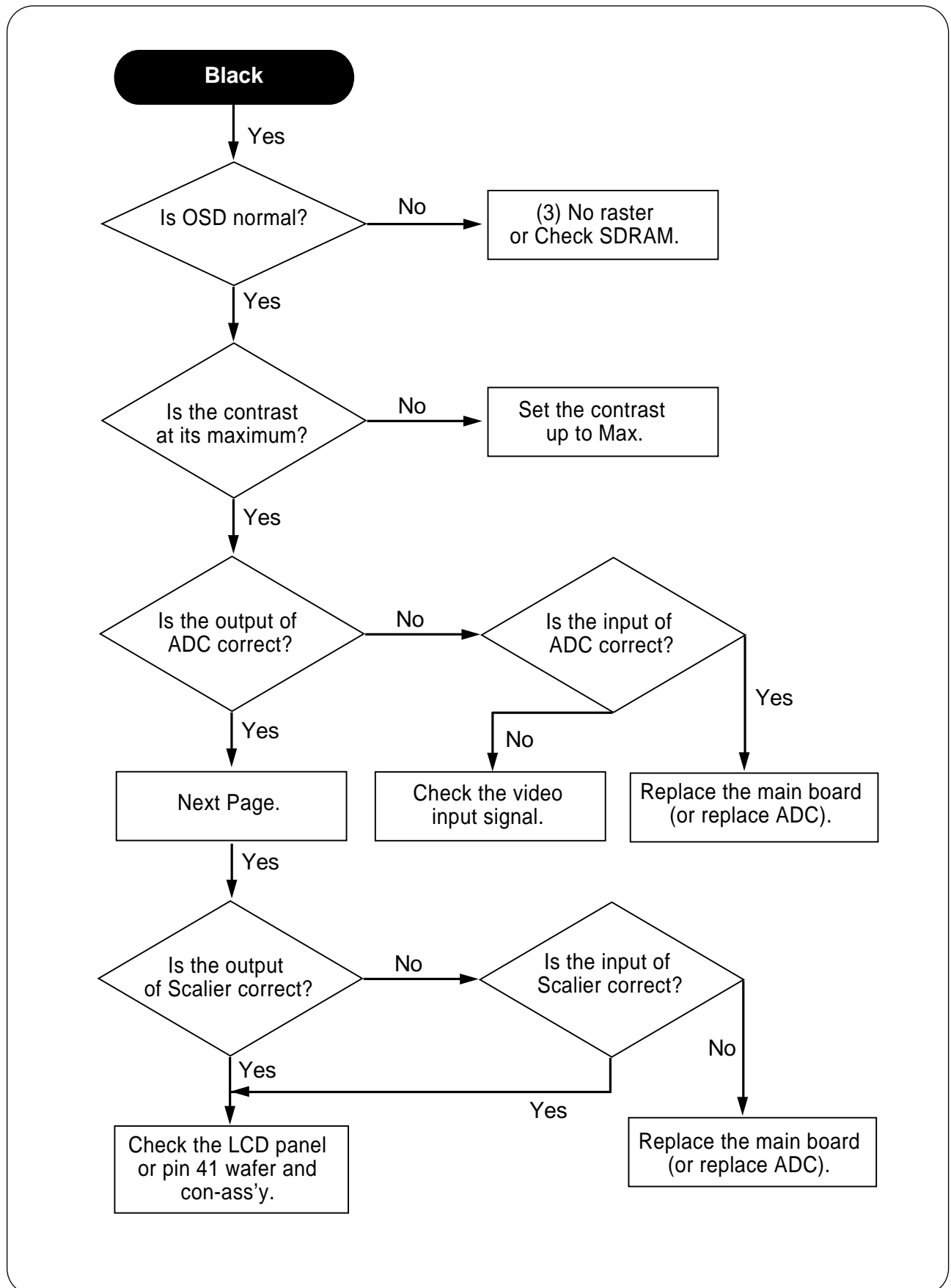
#### 4. One color is missing



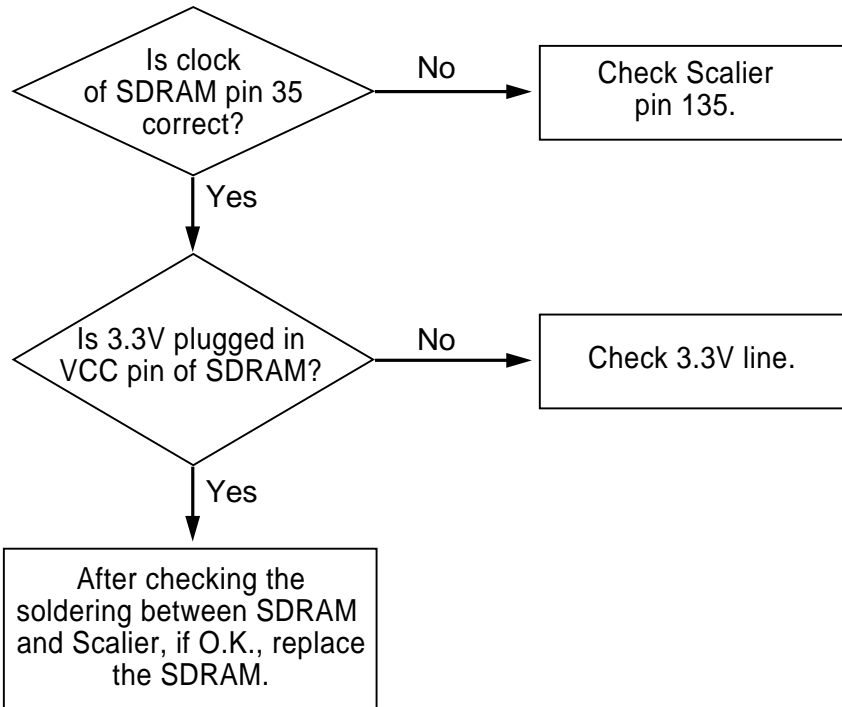
## 5. No Video



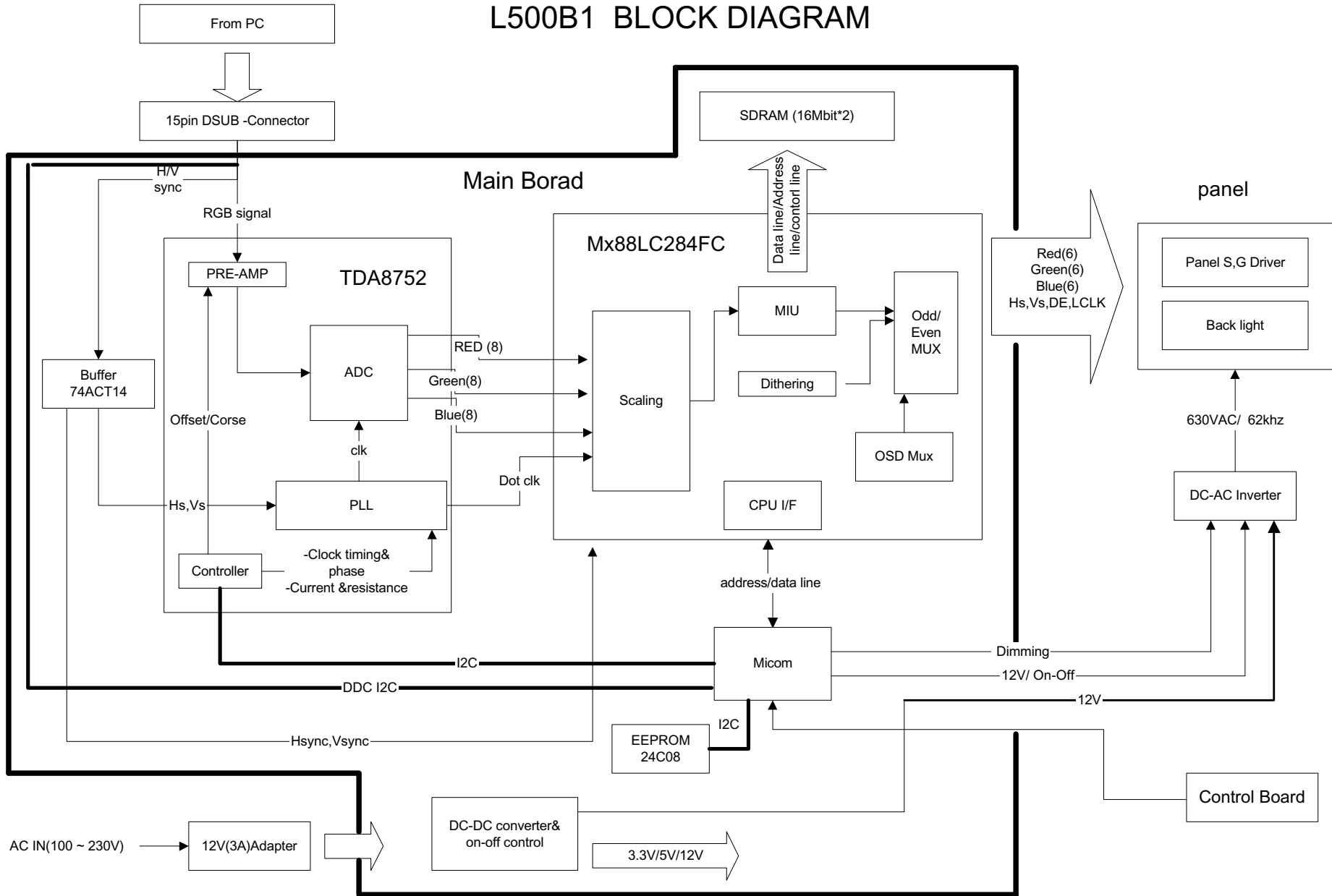
## 5-1. No Video



## 6. Broke graph



# L500B1 BLOCK DIAGRAM

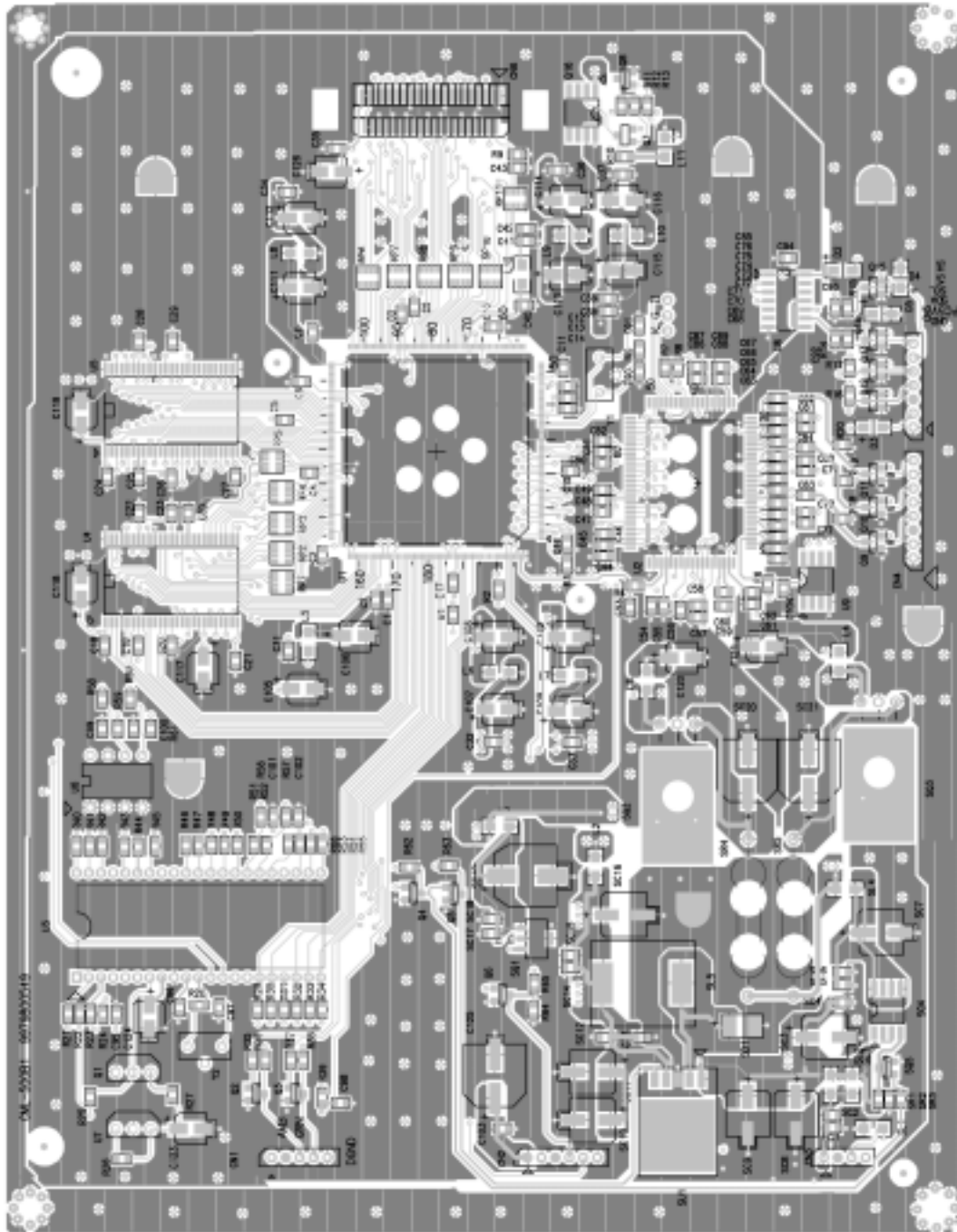


BLOCK DIAGRAM



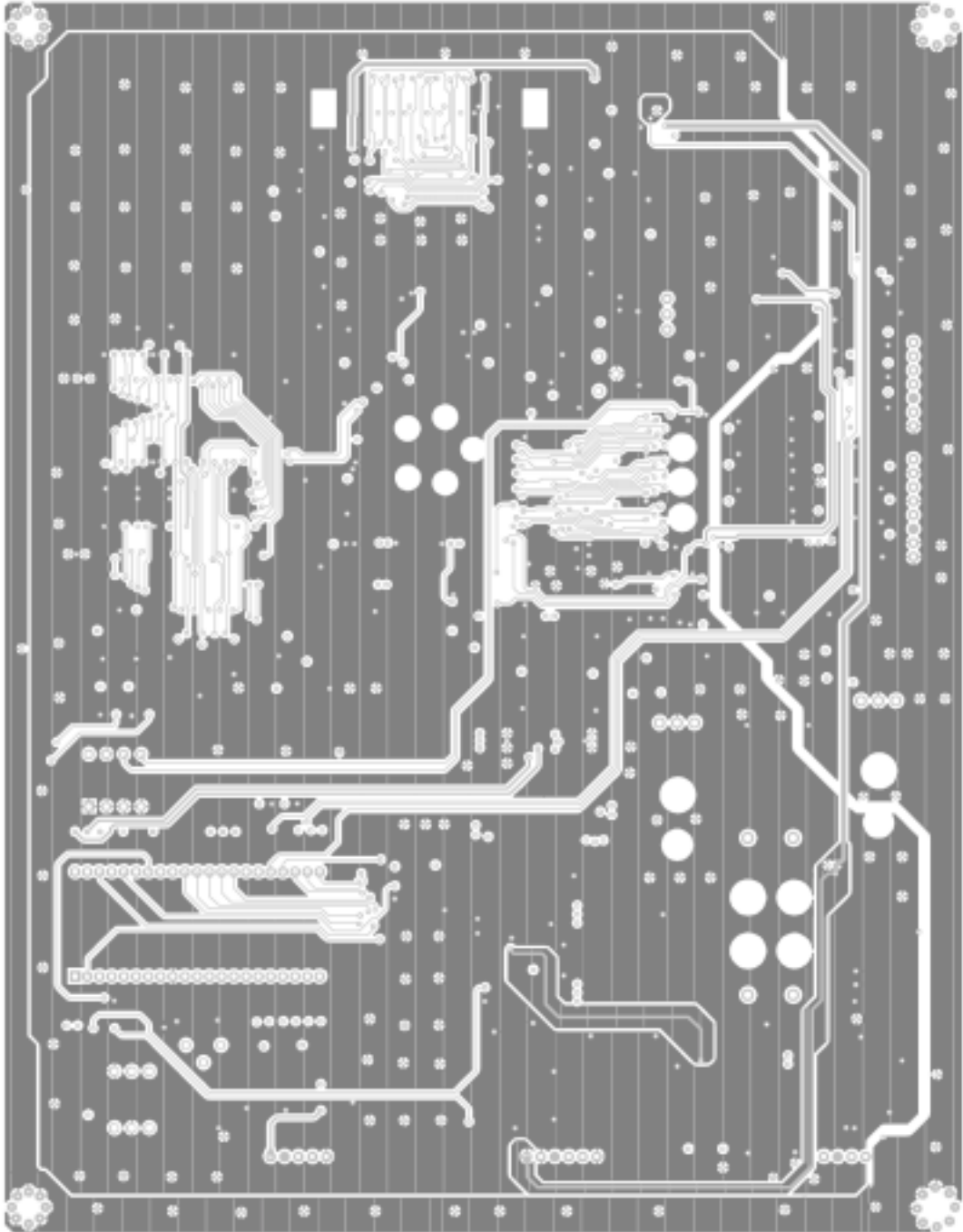
# PCB LAYOUT

## Main PCB Component Side



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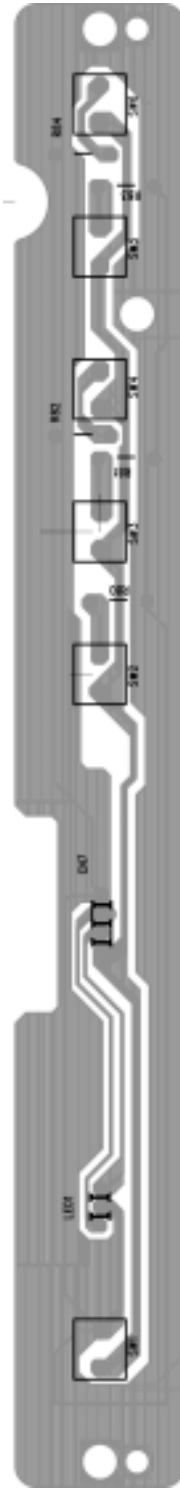
## Main PCB Solder Side



Control PCB Component Side

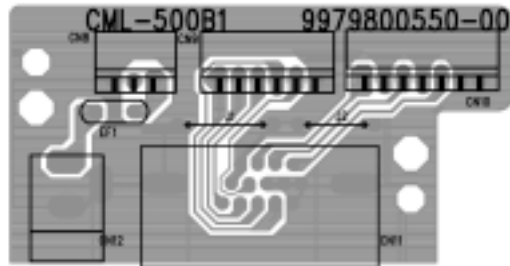


Control PCB Solder Side

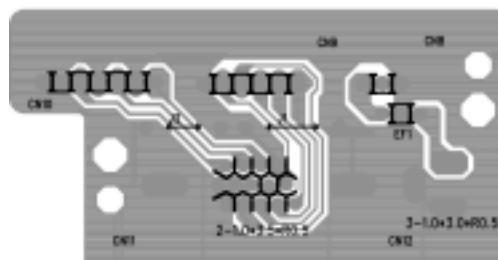


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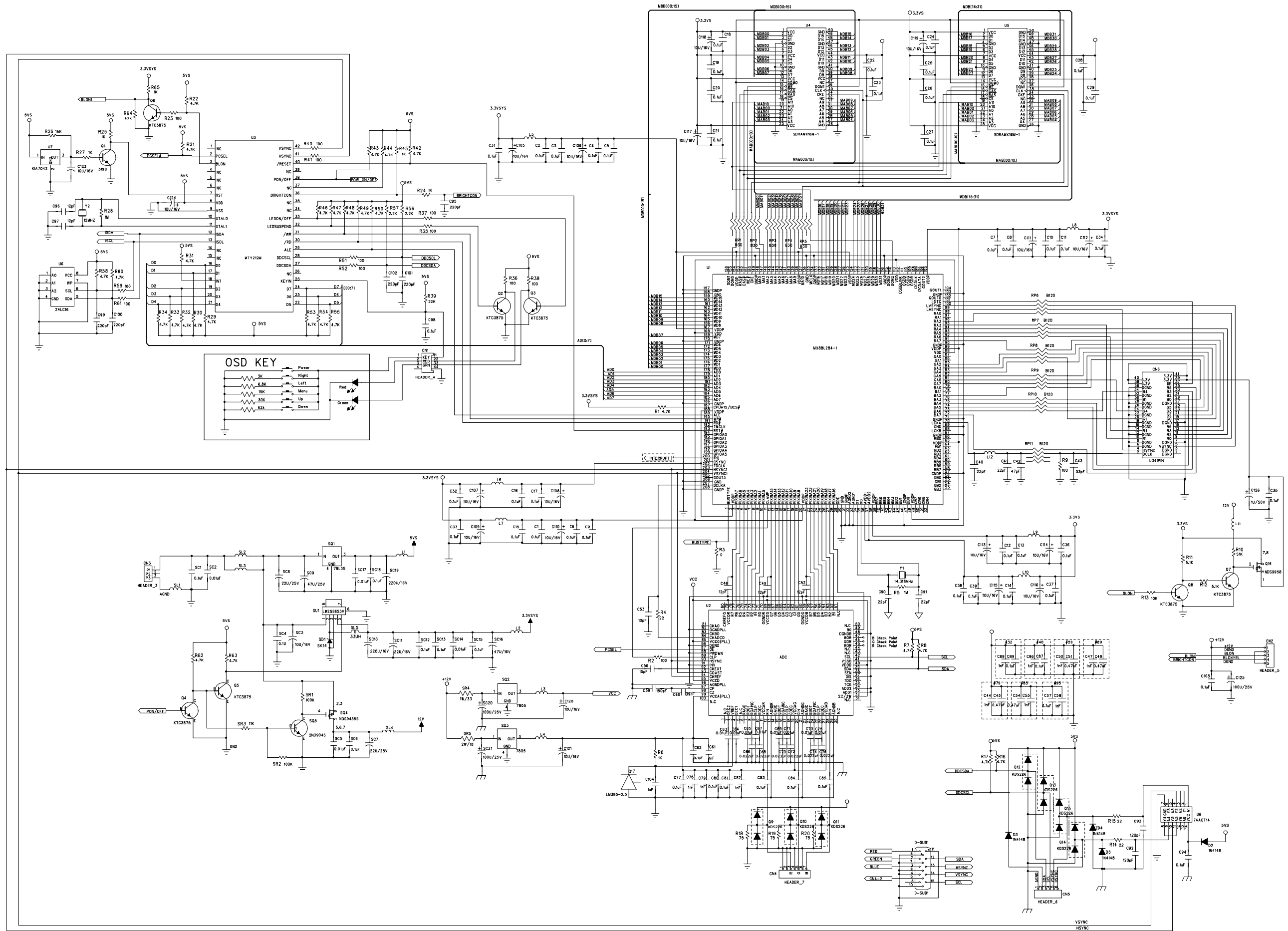
## D-sub PCB Component Side



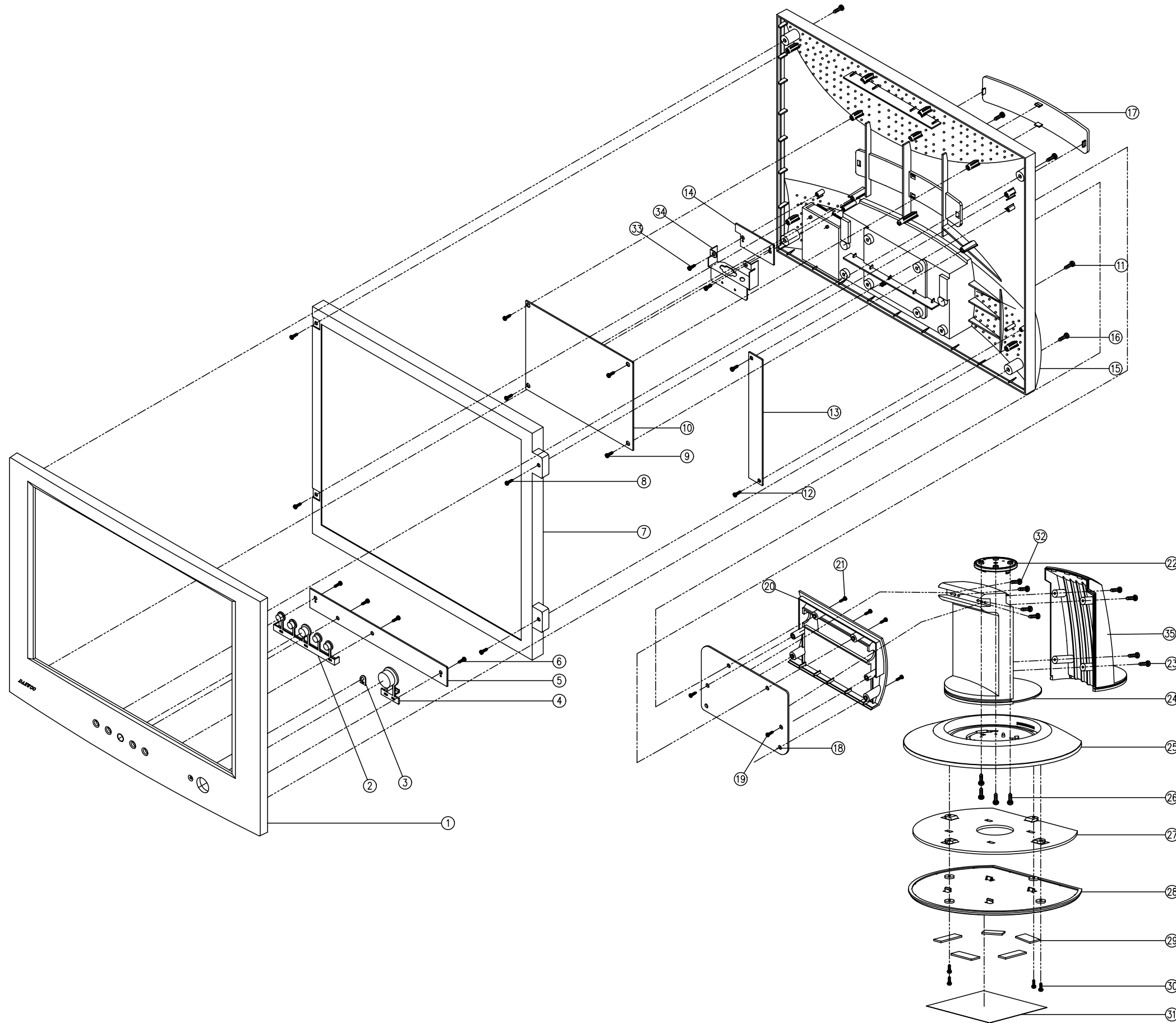
## D-sub PCB Solder Side



# SCHEMATIC DIAGRAM



# EXPLODED VIEW & MECHANICAL PARTS LIST



NO	PART CODE	PART NAME	QTY	DESCRIPTION	REMARK
35	9972923200	STAND REAR	1	HB-ABS GY-275A(94-HB)	
34	9977245700	SHIELD CONNECTOR	1	EGI 0.8T	BKT REAR+REAR
33	7178301011	SCREW TAPTITE	2	TT2 WAS 3x10 MFZN	
32	7063401211	SCREW MACHINE	4	M/S BIN 4*12 MFZN SW	HINGE+ST/FRONT
31	9975424800	LABEL RATING	1	PE	
30	7173401411	SCREW TAPTITE	4	TT2 BIN 4x14 MFZN	ST/TOP+ST/BOTTOM
29	9972712800	FOOT	5	RUBBER	
28	9972923400	STAND BOTTOM	1	HB-ABS GY-275A(94-HB)	
27	9973724700	SUPPORTER STAND	1	EGI 3.0T	
26	7173401411	SCREW TAPTITE	4	TT2 BIN 4x14 MFZN	ST/TOP+FRIC/ PAD
25	9972923300	STAND TOP	1	HB-ABS GY-275A(94-HB)	
24	9972923100	STAND FRONT	1	HB-ABS GY-275A(94-HB)	
23	7173401411	SCREW TAPTITE	4	TT2 BIN 4x14 MFZN	ST/FRO+ST/REAR
22	9972923500	FRICTION PAD	1	PC+ABS GY-275A	
21	7063421011	SCREW MACHINE	4	M/S BIN 4*12 MFZN SW	STAND AS+REAR
20	9972214300	COVER MOUNT	1	HB-ABS GY-275A(94-HB)	
19	7173401411	SCREW TAPTITE	2	TT2 BIN 4x14 MFZN	CO/MOUNT+HINGE
18	9973922500	BKT HINGE ASS'Y	1	SUS 1.5T	
17	9975111400	DECO PANEL	1	HB-ABS GY-275A(94-HB)	
16	7173401411	SCREW TAPTITE	4	TT2 BIN 4x14 MFZN	FRONT+REAR
15	9972116400	COVER REAR	1	FR-ABS GY-275A	
14		SUB PCB	1		
13		INVERTER PCB	1		
12	7178301011	SCREW TAPTITE	2	TT2 WAS 3x10 MFZN	
11	7173401411	SCREW TAPTITE	1	TT2 BIN 4x14 MFZN	
10		MAIN PCB	1		
9	7178301011	SCREW TAPTITE	4	TT2 WAS 3x10 MFZN	
8	7178301011	SCREW TAPTITE	4	TT2 WAS 3x10 MFZN	
7		LCD PANEL	1		
6	7178301011	SCREW TAPTITE	4	TT2 WAS 3x10 MFZN	
5		CONTROL PCB	1		
4	9974822500	BUTTON POWER	1	HB-ABS GY-275A(94-HB)	
3	9977918300	LENS LED	1	ACRYL	
2	9974822500	BUTTON POWER	1	HB-ABS GY-275A(94-HB)	
1	9972019800	COVER FRONT	1	FR-ABS GY-275A	

# INFORMATION OF PART DESCRIPTION

## Important Safety Notice

Components identified with the International Symbol have special characteristics important for safety. When replacing any components, use only manufacturer's specified parts.

## Abbreviation of Description

### RESISTOR Description

Tolerance	
F	± 1%
J	± 5%
K	± 10%
M	± 20%
G	± 2%

#### Example:

Fig & Index	Part No	Description
R101	Resistors	
	RD-4Z820J	Carbon : 82 <u>J</u>
R30	HRFS472JBA	Chip 4.7K OHM <u>J</u>

### CAPACITOR Description

Tolerance	
C	± 0.25pF
D	± 0.5%
F	± 1pF
J	± 5%
K	± 10%
P	± 100% ~ 0%
Z	± 80% ~ -

#### Example:

Fig & Index	Part No	Description
C28	Capacitors	
	HCFK104ZBA	Chip Cera 50V Z
	HCBK393KBA	Chip Cera 50V K
C44	HCQK102JBA	Chip Cera 50V J

# ELECTRICAL PARTS LIST

The components identified by mark  $\triangle$  have special characteristics important for safety and x-ray radiation. These should be replaced only with the types specified in the parts list.

LOC	PART-CODE	PART-NAME	PART-DESC	LOC	PART-CODE	PART-NAME	PART-DESC
00030	9970800035	CABLE SIGNAL AS	15P+15P/DDC=1.5M(GY275A)	C28	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
00040	W1112B831-	CORD POWER	CML-100 1.8M BK(AME)	C29	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
01000	9979800550	PCB CONTROL	T=1.6*246*122	C3	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
$\triangle$ AD1	9979720013	ADAPTER POWER	LSE9802B1240(DC12V/3.3A)	C31	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C1	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C32	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C10	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C33	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C100	HCQK221JBA	C CHIP CERA	50V CH 220PF J 1608	C34	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C101	HCQK221JBA	C CHIP CERA	50V CH 220PF J 1608	C35	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C102	HCQK221JBA	C CHIP CERA	50V CH 220PF J 1608	C36	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C103	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C37	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C104	HCFD105ZBA	C CHIP CERA	Y5V 10V 1MF Z 1608	C38	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C106	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2	C39	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C108	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2	C4	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C11	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C40	HCQK220JBA	C CHIP CERA	50V CH 22PF J 1608
C110	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2	C41	HCQK220JBA	C CHIP CERA	50V CH 22PF J 1608
C111	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2	C42	HCQK470JBA	C CHIP CERA	50V CH 47PF J 1608
C113	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2	C43	HCQK330JBA	C CHIP CERA	50V CH 33PF J 1608
C114	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2	C44	HCQK102JBA	C CHIP CERA	50V CH 1000PF J 1608
C115	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2	C45	HCF474ZBA	C CHIP CERA	Y5V 16V 0.47MF Z 1608
C116	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2	C46	HCQK120JBA	C CHIP CERA	50V CH 12PF J 1608
C117	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2	C47	HCQK102JBA	C CHIP CERA	50V CH 1000PF J 1608
C118	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2	C48	HCF474ZBA	C CHIP CERA	Y5V 16V 0.47MF Z 1608
C119	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2	C49	HCQK120JBA	C CHIP CERA	50V CH 12PF J 1608
C12	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C5	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C120	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2	C50	HCQK102JBA	C CHIP CERA	50V CH 1000PF J 1608
C121	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2	C51	HCF474ZBA	C CHIP CERA	Y5V 16V 0.47MF Z 1608
C123	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2	C52	HCQK120JBA	C CHIP CERA	50V CH 12PF J 1608
C124	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2	C54	HCF474ZBA	C CHIP CERA	Y5V 16V 0.47MF Z 1608
C125	HCENH101MD	C CHIP ELECTRO	MV 25V 100MF D8.0XH6.3	C55	HCQK102JBA	C CHIP CERA	50V CH 1000PF J 1608
C126	HCEK109MC	C CHIP ELECTRO	MV 50V 1MF D4.0XH5.2	C56	HCQK150JBA	C CHIP CERA	50V CH 15PF J 1608
C13	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C57	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C14	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C58	HCQK102JBA	C CHIP CERA	50V CH 1000PF J 1608
C15	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C59	HCQK151JBA	C CHIP CERA	50V CH 150PF J 1608
C16	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C6	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C17	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C60	HCBK393KBA	C CHIP CERA	50V X7R 0.039MF K 1608
C18	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C61	HCQK102JBA	C CHIP CERA	50V CH 1000PF J 1608
C19	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C62	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C2	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C63	HCBK103KBA	C CHIP CERA	50V X7R 0.01MF K 1608
C20	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C64	HCBK103KBA	C CHIP CERA	50V X7R 0.01MF K 1608
C21	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C65	HCBK103KBA	C CHIP CERA	50V X7R 0.01MF K 1608
C22	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C66	HCBK223KBA	C CHIP CERA	50V X7R 0.022MF K 1608
C23	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C67	HCBK103KBA	C CHIP CERA	50V X7R 0.01MF K 1608
C24	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C68	HCBK223KBA	C CHIP CERA	50V X7R 0.022MF K 1608
C25	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C69	HCBK103KBA	C CHIP CERA	50V X7R 0.01MF K 1608
C26	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C7	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C27	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608	C70	HCBK223KBA	C CHIP CERA	50V X7R 0.022MF K 1608



LOC	PART-CODE	PART-NAME	PART-DESC
C71	HCBK103KBA	C CHIP CERA	50V X7R 0.01MF K 1608
C72	HCBK223KBA	C CHIP CERA	50V X7R 0.022MF K 1608
C73	HCBK103KBA	C CHIP CERA	50V X7R 0.01MF K 1608
C74	HCBK223KBA	C CHIP CERA	50V X7R 0.022MF K 1608
C75	HCBK103KBA	C CHIP CERA	50V X7R 0.01MF K 1608
C76	HCBK223KBA	C CHIP CERA	50V X7R 0.022MF K 1608
C77	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C78	HCQK102JBA	C CHIP CERA	50V CH 1000PF J 1608
C79	HCQK102JBA	C CHIP CERA	50V CH 1000PF J 1608
C8	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C80	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C81	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C82	HCQK102JBA	C CHIP CERA	50V CH 1000PF J 1608
C83	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C84	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C85	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C86	HCQK102JBA	C CHIP CERA	50V CH 1000PF J 1608
C87	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C88	HCQK102JBA	C CHIP CERA	50V CH 1000PF J 1608
C89	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C9	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C90	HCQK220JBA	C CHIP CERA	50V CH 22PF J 1608
C91	HCQK220JBA	C CHIP CERA	50V CH 22PF J 1608
C92	HCQK121JBA	C CHIP CERA	50V CH 120PF J 1608
C93	HCQK121JBA	C CHIP CERA	50V CH 120PF J 1608
C94	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C95	HCQK221JBA	C CHIP CERA	50V CH 220PF J 1608
C96	HCQK120JBA	C CHIP CERA	50V CH 12PF J 1608
C97	HCQK120JBA	C CHIP CERA	50V CH 12PF J 1608
C98	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
C99	HCQK221JBA	C CHIP CERA	50V CH 220PF J 1608
CN10	9979220022	CONN WAFER	SMAW250-07 (ANGLE)
CN11	9979200209	D-SUB 15P ANGLE	15P DDC BLUE W/IN SCREW
CN12	9979100010	JACK DC	POWER JACK 6.5PIE 14.5*9
CN1A	9970740044	CONN AS	SMH250-04+YBNH200-05=270
CN2A	9970750035	CONN AS	5264-05+YBNH200+1007=110
CN3A	9970730072	CONN AS	SMH250+YBNH200+1354=250
CN4A	9970760045	CONN AS	SMH250+YBNH200+2464=120
CN5A	9970770030	CONN AS	SMH250+YBNH200+1354=180
CN6	9979220080	CONN WAFER	DF9B-41P-1V(22)
CN7	9979220019	CONN WAFER	SMAW250-04 (ANGLE)
CN8	9979220018	CONN WAFER	SMAW250-03 (ANGLE)
CN9	9979220021	CONN WAFER	SMAW250-06 (ANGLE)
D2	DRLS4148--	DIODE CHIP	RLS4148
D3	DRLS4148--	DIODE CHIP	RLS4148
D4	DRLS4148--	DIODE CHIP	RLS4148
D5	DRLS4148--	DIODE CHIP	RLS4148
EF1	5PF1BH471M	FILTER LC	CFI-06-B-1H-471M
INV1	DBA11502--	LCD INVERTER	BAI-1502

LOC	PART-CODE	PART-NAME	PART-DESC
L1	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
L10	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
L11	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
L12	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
L2	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
L3	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
L4	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
L5	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
L6	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
L7	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
L8	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
L9	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
LCD	DLM151X2C2	LCD	LM151X2-C2TH
LED1	DSD50GYW--	LED	SD50GYW(GREEN/AMBER)
OUTA	9970741001	CONN AS	DF-9-41S*2+1571#32=220
PCB1	9979800549	PCB MAIN	T=1.6*180*140
Q1	TZTC3198Y-	TR	KTC3198Y-(1815Y) (AUTO)
Q10	DKDS226RTK	DIODE CHIP	KDS226(RTK)
Q11	DKDS226RTK	DIODE CHIP	KDS226(RTK)
Q12	DKDS226RTK	DIODE CHIP	KDS226(RTK)
Q13	DKDS226RTK	DIODE CHIP	KDS226(RTK)
Q14	DKDS226RTK	DIODE CHIP	KDS226(RTK)
Q15	DKDS226RTK	DIODE CHIP	KDS226(RTK)
Q16	TNDS9958--	FET CHIP	NDS9958
Q2	TKTC3875SY	TR CHIP	KTC3875SY(RTK)
Q3	TKTC3875SY	TR CHIP	KTC3875SY(RTK)
Q4	TKTC3875SY	TR CHIP	KTC3875SY(RTK)
Q5	TKTC3875SY	TR CHIP	KTC3875SY(RTK)
Q6	TKTC3875SY	TR CHIP	KTC3875SY(RTK)
Q7	TKTC3875SY	TR CHIP	KTC3875SY(RTK)
Q9	DKDS226RTK	DIODE CHIP	KDS226(RTK)
R1	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R10	HRFS153JBA	R CHIP	1/16 51K OHM J 1608
R12	HRFS512JBA	R CHIP	1/16 5.1K OHM J 1608
R14	HRFS220JBA	R CHIP	1/16W 22 OHM J 1608
R15	HRFS220JBA	R CHIP	1/16W 22 OHM J 1608
R16	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R17	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R18	HRFS750JBA	R CHIP	1/16W 75 OHM J 1608
R19	HRFS750JBA	R CHIP	1/16W 75 OHM J 1608
R2	HRFS101JBA	R CHIP	1/16 100 OHM J 1608
R20	HRFS750JBA	R CHIP	1/16W 75 OHM J 1608
R21	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R22	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R23	HRFS101JBA	R CHIP	1/16 100 OHM J 1608
R24	HRFS102JBA	R CHIP	1/16 1K OHM J 1608
R25	HRFS102JBA	R CHIP	1/16 1K OHM J 1608
R26	HRFS153JBA	R CHIP	1/16 15K OHM J 1608
R27	HRFS102JBA	R CHIP	1/16 1K OHM J 1608

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LOC	PART-CODE	PART-NAME	PART-DESC
R28	HRFS105JBA	R CHIP	1/16 1M OHM J 1608
R29	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R3	HRFS000JBA	R CHIP	1/16 0 OHM J 1608
R30	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R31	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R32	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R33	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R34	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R35	HRFS101JBA	R CHIP	1/16 100 OHM J 1608
R36	HRFS221JBA	R CHIP	1/16 220 OHM J 1608
R37	HRFS101JBA	R CHIP	1/16 100 OHM J 1608
R38	HRFS221JBA	R CHIP	1/16 220 OHM J 1608
R39	HRFS223JBA	R CHIP	1/16 22K OHM J 1608
R40	HRFS101JBA	R CHIP	1/16 100 OHM J 1608
R41	HRFS101JBA	R CHIP	1/16 100 OHM J 1608
R42	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R43	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R44	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R45	HRFS102JBA	R CHIP	1/16 1K OHM J 1608
R46	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R47	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R48	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R49	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R5	HRFS105JBA	R CHIP	1/16 1M OHM J 1608
R50	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R51	HRFS101JBA	R CHIP	1/16 100 OHM J 1608
R52	HRFS101JBA	R CHIP	1/16 100 OHM J 1608
R53	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R54	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R55	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R56	HRFS222JBA	R CHIP	1/16 2.2K OHM J 1608
R57	HRFS222JBA	R CHIP	1/16 2.2K OHM J 1608
R58	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R59	HRFS101JBA	R CHIP	1/16 100 OHM J 1608
R6	HRFS102JBA	R CHIP	1/16 1K OHM J 1608
R60	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R61	HRFS101JBA	R CHIP	1/16 100 OHM J 1608
R62	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R63	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R64	HRFS473JBA	R CHIP	1/16 47K OHM J 1608
R65	HRFS102JBA	R CHIP	1/16 1K OHM J 1608
R66	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R7	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R8	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608
R80	RD-AZ302J-	R CARBON FILM	1/6 3K OHM J
R81	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J
R82	RD-AZ153J-	R CARBON FILM	1/6 15K OHM J
R83	RD-AZ303J-	R CARBON FILM	1/6 30K OHM J
R84	RD-AZ623J-	R CARBON FILM	1/6 62K OHM J

LOC	PART-CODE	PART-NAME	PART-DESC
R9	HRFS101JBA	R CHIP	1/16 100 OHM J 1608
RP1	HFFH4H300E	COIL CHIP BEAD	HB-4H3216-300JT
RP10	HFFH4M121E	COIL CHIP BEAD	HB-4M3216-121JT
RP11	HFFH4M121E	COIL CHIP BEAD	HB-4M3216-121JT
RP2	HFFH4H300E	COIL CHIP BEAD	HB-4H3216-300JT
RP3	HFFH4H300E	COIL CHIP BEAD	HB-4H3216-300JT
RP4	HFFH4H300E	COIL CHIP BEAD	HB-4H3216-300JT
RP5	HFFH4H300E	COIL CHIP BEAD	HB-4H3216-300JT
RP6	HFFH4M121E	COIL CHIP BEAD	HB-4M3216-121JT
RP7	HFFH4M121E	COIL CHIP BEAD	HB-4M3216-121JT
RP8	HFFH4M121E	COIL CHIP BEAD	HB-4M3216-121JT
RP9	HFFH4M121E	COIL CHIP BEAD	HB-4M3216-121JT
SC1	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
SC10	HCEMF470MD	C CHIP ELECTRO	MV 16V 47MF D6.3XH5.2
SC11	HCEMH220MD	C CHIP ELECTRO	MV 25V 22MF D6.3XH5.2
SC12	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
SC13	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
SC14	HCBK103KBA	C CHIP CERA	50V X7R 0.01MF K 1608
SC15	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
SC16	HCEMF470MD	C CHIP ELECTRO	MV 16V 47MF D6.3XH5.2
SC17	HCBK103KBA	C CHIP CERA	50V X7R 0.01MF K 1608
SC18	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
SC19	HCEPF221ME	C CHIP ELECTRO	MV 16V 220MF D8.0XH1.0
SC2	HCBK103KBA	C CHIP CERA	50V X7R 0.01MF K 1608
SC20	HCENH101MD	C CHIP ELECTRO	MV 25V 100MF D8.0XH6.3
SC21	HCENH101MD	C CHIP ELECTRO	MV 25V 100MF D8.0XH6.3
SC3	HCEKF100MC	C CHIP ELECTRO	MV 16V 10MF D4.0XH5.2
SC4	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
SC5	HCBK103KBA	C CHIP CERA	50V X7R 0.01MF K 1608
SC6	HCFK104ZBA	C CHIP CERA	50V Y5V 0.1MF Z 1608
SC7	HCEMH220MD	C CHIP ELECTRO	MV 25V 22MF D6.3XH5.2
SC8	HCEMH220MD	C CHIP ELECTRO	MV 25V 22MF D6.3XH5.2
SC9	HCEEH470MD	C CHIP ELECTRO	MV 25V 47MF D6.3XH5.7
SD1	DSK14-----	DIODE SCHOTTKY	SK14
SL1	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
SL2	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
SL3	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
SL4	HFFTB2601B	COIL CHIP BEAD	TB321611Z260
SL5	HLC330M00E	L CHIP COIL	33UH M (BA330)
SQ1	1K1A78L05F	IC REGULATOR CHIP	KIA78L05F(RTF)
SQ2	1K1A7805P1	IC REGULATOR	KIA7805API
SQ3	1K1A7805P1	IC REGULATOR	KIA7805API
SQ4	TNDS9435A-	FET CHIP	NDS9435A
SQ5	T2N3904SRT	TR CHIP	2N3904S(RTK)
SR1	HRFS104JBA	R CHIP	1/16 100K OHM J 1608
SR2	HRFS104JBA	R CHIP	1/16 100K OHM J 1608
SR3	HRFS113JBA	R CHIP	1/16 11K OHM J 1608
SR4	RS01Z330J-	R M-OXIDE FILM	1W 33 OHM J (TAPPING)
SR5	RS02Z180J-	R M-OXIDE FILM	2W 18 OHM J (TAPPING)

LOC	PART-CODE	PART-NAME	PART-DESC
SU1	1LM2596S33	IC SD REGULATOR	LM2596S3.3
SW1	5S50101Z10	SW TACT	KPT-1115AM
SW2	5S50101Z10	SW TACT	KPT-1115AM
SW3	5S50101Z10	SW TACT	KPT-1115AM
SW4	5S50101Z10	SW TACT	KPT-1115AM
SW5	5S50101Z10	SW TACT	KPT-1115AM
SW6	5S50101Z10	SW TACT	KPT-1115AM
U1	1MX88L284F	IC LCD CONTROLLER	MX88L284
U2	1TDA8752BH	IC ADC	TDA8752BH
U3	1MTV212M--	IC MICOM	MTV212MS64U

LOC	PART-CODE	PART-NAME	PART-DESC
U3A	9979300501	SOCKET IC	SDIF-42T(1.778)
U4	1EM636165T	IC SDRAM	EM636165TS-8
U5	1EM636165T	IC SDRAM	EM636165TS-8
U6	124C08----	IC EEPROM	24C08
U7	1KA7542---	IC VOTAGE DETECTOR	KA7542
U8	1TC74ACT14	IC	TC74ACT14FN
U9	1LM385M25-	IC VOLTAGE REFERENCE	LM385M25
Y1	5XJ14R318F	CRYSTAL QUARTZ	HC-49/S 14.31818MHZ 50PPM
Y2	5XJ12R000E	CRYSTAL QUARTZ	HC-49/S 12.00000MHZ 30PPM

# **DAEWOO**

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