NEC

PART NO. 599910613

SERVICE MANUAL

COLOR MONITOR **LCD1501**

MODEL LCD1501-BK(B)

NEC-MITSUBISHI ELECTRIC VISUAL SYSTEMS CORPORATION

NOVEMBER 2002

200211
08R390B3

WARNING

The SERVICE PERSONNEL should have the appropriate technical training, knowledge and experience necessary to:

- Be familiar with specialized test equipment, and
- Be careful to follow all safety procedures to minimize danger to themselves and their coworkers.

To avoid electrical shocks, this equipment should be used with an appropriate power cord.

This equipment utilized a micro-gap power switch. Turn off the set by first pushing power switch. Next, remove the power cord from the AC outlet.

To prevent fire or shock hazards, do not expose this unit to rain or moisture.

This symbol warns the personnel that un-insulated voltage within the unit may have sufficient magnitude to cause electric shock.

This symbol alerts the personnel that important literature concerning the operation and maintenance of this unit has been included.
Therefore, it should be read carefully in order to avoid any problems.

PRODUCT SAFETY CAUTION

1. When parts replacement is required for servicing, always use the manufacturer's specified replacement.
2. When replacing the component, always be certain that all the components are put back in the place.
3. As for a connector, pick and extract housing with fingers properly since a disconnection and improper contacts may occur, when wires of the connector are led.
4. Use a proper screwdriver. If you use screwdriver that does not fit, you may damage the screws.

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Руководство пользователя

Kullanıcı Klavuzu

NEC

For the Customer to use in U.S.A. or Canada

Canadian Department of Communications Compliance Statement

DOC: This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

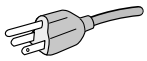
Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouiller du Canada.

C-UL: Bears the C-UL Mark and is in compliance with Canadian Safety Regulations according to CSA C22.2 No. 950.

Ce produit porte la marque 'C-UL' et se conforme aux règlements de sûrele Canadiens selon CAN/CSA C22.2 No. 950.

FCC Information

1. Use the attached specified cables with the LCD1501 colour monitor so as not to interfere with radio and television reception.
   (1) The power supply cord you use must have been approved by and comply with the safety standards of U.S.A., and meet the following condition.

Power supply cord	Non shield type, 3-conductor
Length	1.8 m
Plug shape	 U.S.A

   (2) Shielded video signal cable. Use of other cables and adapters may cause interference with radio and television reception.

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

   If necessary, the user should contact the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet, prepared by the Federal Communications Commission, helpful: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

TCO’99

Congratulations! You have just purchased a TCO’99 approved and labeled product! Your choice has provided you with a product developed for professional use. Your purchase has also contributed to reducing the burden on the environment and also to the further development of environmentally adapted electronics products.

Why do we have environmentally labelled computers?

In many countries, environmental labelling has become an established method for encouraging the adaptation of goods and services to the environment. The main problem, as far as computers and other electronics equipment are concerned, is that environmentally harmful substances are used both in the products and during the manufacturing. Since it has not been possible for the majority of electronics equipment to be recycled in a satisfactory way, most of these potentially damaging substances sooner or later enter Nature.

There are also other characteristics of a computer, such as energy consumption levels, that are important from the viewpoints of both the work (Internal) and natural (external) environments. Since all methods of conventional electricity generation have a negative effect on the environment (acidic and climate-influencing emissions, radioactive waste, etc.), it is vital to conserve energy. Electronics equipment in offices consume an enormous amount of energy since they are often left running continuously.

What does labelling involve?

This product meets the requirements for the TCO’99 scheme which provides for international and environmental labelling of personal computers. The labelling scheme was developed as a joint effort by the TCO (The Swedish Confederation of Professional Employees), Svenska Naturskyddsforeningen (The Swedish Society for Nature Conservation) and Statens Energimyndighet (The Swedish National Energy Administration).

The requirements cover a wide range of issues: environment, ergonomics, usability, emission of electrical and magnetic fields, energy consumption and electrical and fire safety.

The environmental demands concern restrictions on the presence and use of heavy metals, brominated and chlorinated flame retardants, CFCs (freons) and chlorinated solvents, among other things. The product must be prepared for recycling and the manufacturer is obliged to have an environmental plan which must be adhered to in each country where the company implements its operational policy. The energy requirements include a demand that the computer and/or display, after a certain period of inactivity, shall reduce its power consumption to a lower level in one or more stages. The length of time to reactivate the computer shall be reasonable for the user.

Labelled products must meet strict environmental demands, for example, in respect of the reduction of electric and magnetic fields, physical and visual ergonomics and good usability.

Environmental Requirements

Flame retardants

Flame retardants are present in printed circuit boards, cables, wires, casings and housings. In turn, they delay the spread of fire. Up to thirty percent of the plastic in a computer casing can consist of flame retardant substances. Most flame retardants contain bromine or chloride and these are related to another group of environmental toxins, PCBs, which are suspected to give rise to severe health effects, including reproductive damage in fisheating birds and mammals, due to the bioaccumulative* processes. Flame retardants have been found in human blood and researchers fear that disturbances in foetus development may occur.

TCO’99 demand requires that plastic components weighing more than 25 grams must not contain flame retardants with organically bound chlorine and bromine. Flame retardants are allowed in the printed circuit boards since no substitutes are available.

Lead**

Lead can be found in picture tubes, display screens, solders and capacitors. Lead damages the nervous system and in higher doses, causes lead poisoning.

TCO’99 requirement permits the inclusion of lead since no replacement has yet been developed.

Cadmium**

Cadmium is present in rechargeable batteries and in the colourgenerating layers of certain computer displays. Cadmium damages the nervous system and is toxic in high doses.

TCO’99 requirement states that batteries, the colourgenerating layers of display screens and the electrical or electronics components must not contain any cadmium.

Mercury**

Mercury is sometimes found in batteries, relays and switches, Mercury damages the nervous system and is toxic in high doses.

TCO’99 requirement states that batteries may not contain any Mercury. It also demands that no mercury is present in any of the electrical or electronics components associated with the display unit.

CFCs (freons)

CFCs (freons) are sometimes used for washing printed circuit boards. CFCs break down ozone and thereby damage the ozone layer in the stratosphere, causing increased reception on Earth of ultraviolet light with consequent increased risks of skin cancer (malignant melanoma).

The relevant TCO’99 requirement; Neither CFCs nor HCFCs may be used during the manufacturing and assembly of the product or its packaging.

*Bio-accumulative is defined as substances which accumulate within living organisms.

**Lead, Cadmium and Mercury are heavy metals which are Bio-accumulative.

To obtain complete information on the environmental criteria document, order from:

TCO Development Unit
SE-114 94 Stockholm
SWEDEN
FAX Number: +46 8 782 92 07
E-mail (Internet): development@tco.se

You may also obtain current information on TCO’99 approved and labelled products by visiting their website at:
http://www.tcodevelopment.com

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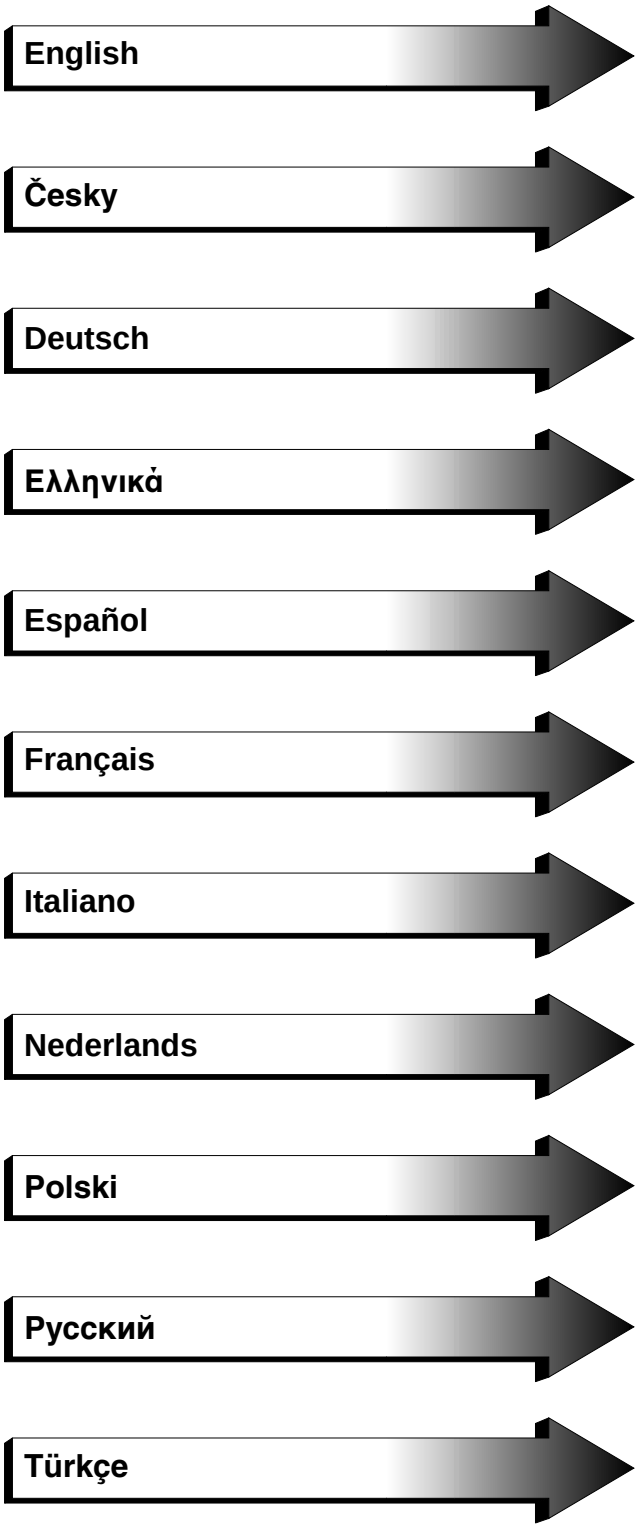
English
Česky
Deutsch
Ελληνικά
Español
Français
Italiano
Nederlands
Polski
Русский
Türkçe

WARNING

TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE. ALSO, DO NOT USE THIS UNIT'S POLARIZED PLUG WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLETS UNLESS THE PRONGS CAN BE FULLY INSERTED.

REFRAIN FROM OPENING THE CABINET AS THERE ARE HIGH VOLTAGE COMPONENTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

CAUTION

RISK OF ELECTRIC SHOCK • DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol warns user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any part inside this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

Caution:

When operating the LCD1501 with a 220-240V AC power source in Europe, use the power cord provided with the monitor.

In the UK, a BS approved power cord with a moulded plug has a Black (five Amps) fuse installed for use with this equipment. If a power cord is not supplied with this equipment please contact your supplier.

When operating the LCD1501 with a 220-240V AC power source in Australia, use the power cord provided with the monitor.

For all other cases, use a power cord that matches the AC voltage of the power outlet and has been approved by and complies with the safety standard of your particular country.

Declaration

Declaration of the Manufacturer

We hereby certify that the colour monitor LCD1501 (NL2501) is in compliance with

Council Directive 73/23/EEC:
– EN 60950

Council Directive 89/336/EEC:
– EN 55022
– EN 61000-3-2
– EN 61000-3-3
– EN 55024

and marked with

CE

NEC-Mitsubishi Electric Visual Systems, Corp.
MS Shibaura Bldg., 13-23,
Shibaura 4-chome,
Minato-Ku, Tokyo 108-0023, Japan

As an ENERGY STAR® Partner, NEC-Mitsubishi Electric Visual System Corp. has determined that this product meets the ENERGY STAR guidelines for energy efficiency. ENERGY STAR is a U.S. registred mark.
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Microsoft and Windows are registered trademarks of the Microsoft Corporation.
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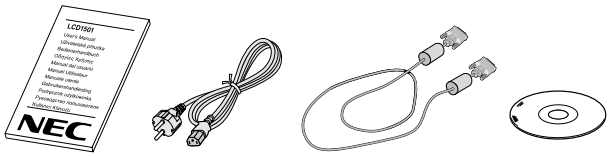
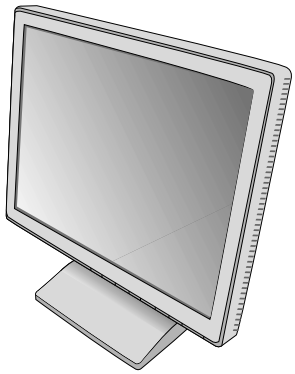
Contents

Your new NEC LCD monitor box* should contain the following:

- LCD1501 monitor with tilt base
- Power Cord
- Video Signal Cable
- User's Manual
- CD ROM (includes complete User's Manual in PDF format).
  To see the User's Manual, Acrobat Reader 4.0 must be installed on your PC.





* *Remember to save your original box and packing material to transport or ship the monitor.*

Quick Start

To attach the LCD monitor to your system, follow these instructions:

1. Turn off the power to your computer.
2. Remove cable cover.
3. **For PC:** Connect the 15-pin mini D-SUB of the appropriate signal cable to the connector for the display card in your system (**Figure A.1**). Tighten all screws.

   For Mac: Connect the LCD1501 Macintosh cable adapter to the computer (**Figure B.1**). Attach the 15-pin mini D-SUB end of the appropriate signal cable to the LCD1501 Macintosh cable adapter (**Figure B.1**). Tighten all screws.

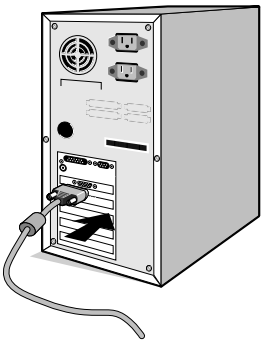


Figure A.1

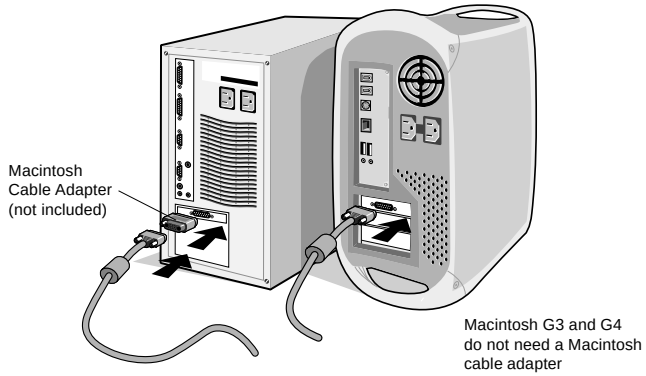


Figure B.1

4. Connect the 15-pin mini D-SUB of the video signal cable to the appropriate connector on the back of the monitor (**Figure C.1**).
5. Connect one end of the power cord to the LCD1501 monitor and the other end to the power outlet. Place the video signal cable and AC power cord under the cable cover (**Figure C.1**). Replace cable cover.

NOTE: Adjust the position of the cable under the cable cover to avoid damage for cable or monitor.

NOTE: Please refer to Caution section of this manual for proper selection of AC power cord.

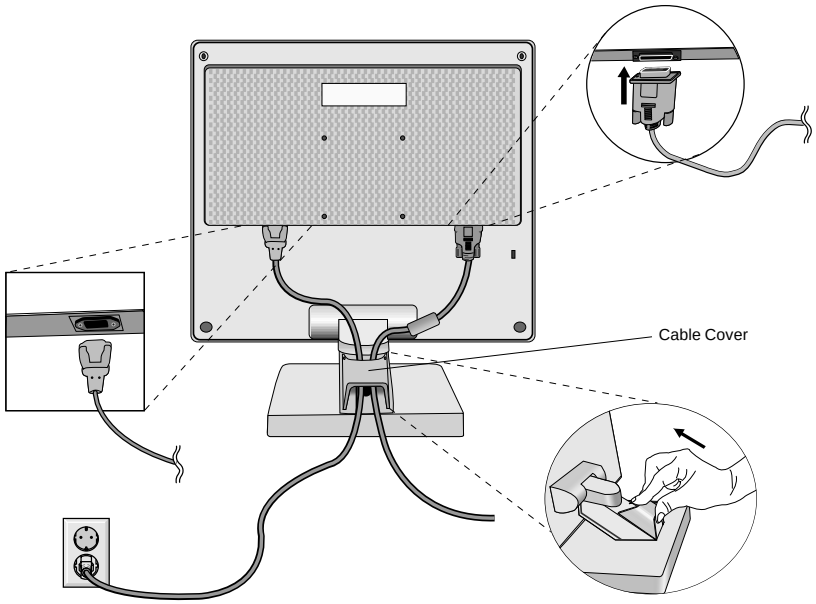


Figure C.1

6. The Vacation Switch on the right side of the monitor must be turned on (**Figure D.1**). Turn on the monitor with the Power Button and the computer.

NOTE: The Vacation Switch is a true on/off switch. If this switch is on the OFF position, the monitor cannot be turned on using the front button DO NOT switch on/off repeatedly.

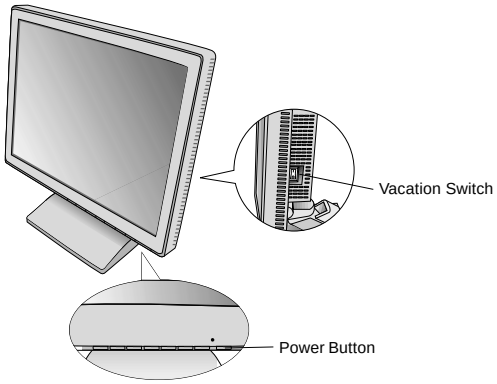


Figure D.1

7. No-touch auto adjust automatically adjusts the monitor to optimal settings upon initial setup for most timings. For further adjustments, use the following OSM controls:
   - Auto Adjust Contrast
   - Auto Adjust

Refer to the **Controls** section of this User's Manual for a full description of these OSM controls.

NOTE: If you have any problems, please refer to the **Troubleshooting** section of this User's Manual.

Tilt

Grasp both sides of the monitor screen with your hands and adjust the tilt as desired (**Figure TS.1**).

Remove Monitor Stand for Mounting

To prepare the monitor for alternate mounting purposes:

1. Disconnect all cables.
2. Place monitor face down on a non-abrasive surface (**Figure R.1**).
3. Remove the hinge cover (**Figure R.1**).
4. Remove the 4 screws connecting the monitor to the stand and lift off the stand assembly (**Figure R.2**) the monitor is now ready for mounting in an alternate manner.
5. Connect the AC cord and signal cable to the back of the monitor (**Figure R.3**).
6. Reverse this process to reattach stand.

NOTE: Use only VESA-compatible alternative mounting method.

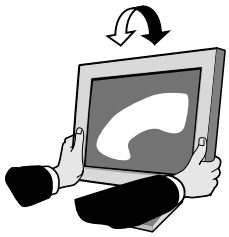


Figure TS.1

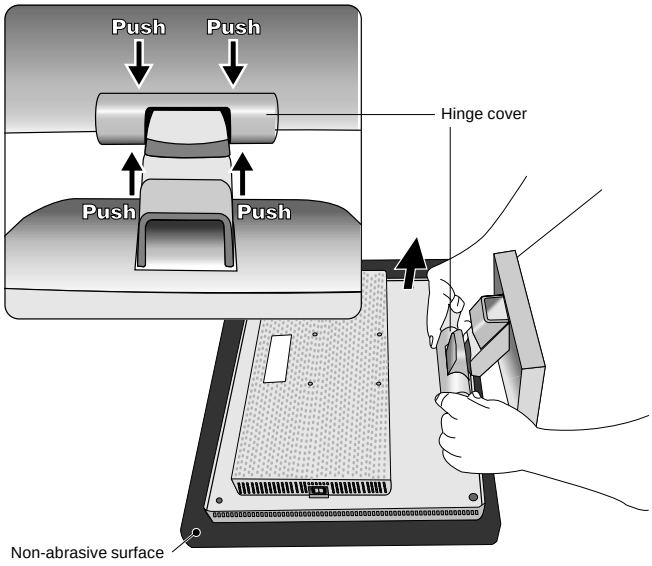


Figure R.1

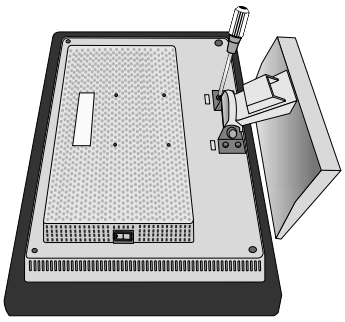


Figure R.2

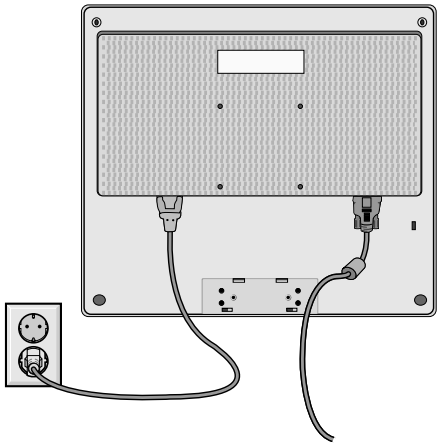
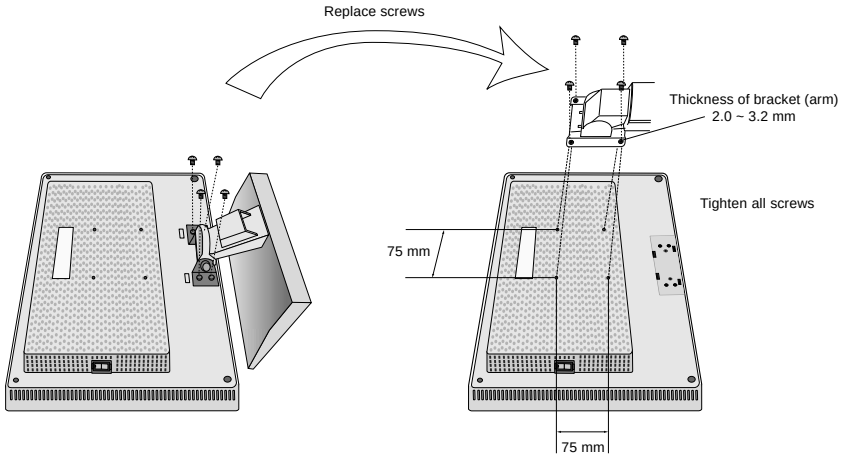
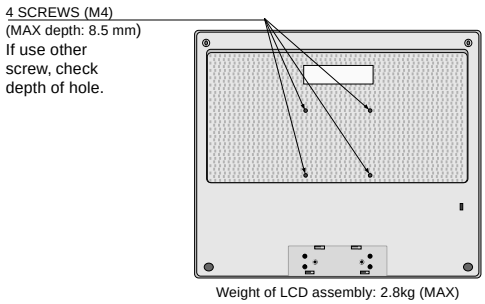


Figure R.3

7. This LCD monitor is designed for use with a flexible arm. Please use the attached screws (4pcs) when mounting. To meet the safety requirements the monitor must be mounted to an arm which guaranties the necessary stability under consideration of the weight of the monitor. The LCD monitor shall only be used with an approved arm (e.g. GS mark).



Specifications



Controls

OSM (On-Screen-Manager) Controls

The OSM controls on the front of the monitor function as follows:
To access OSM press any of the control buttons (**<**, **>**, **-**, **+**, **EXIT**).

Control	Menu
EXIT	Exits the OSM controls. Exits to the OSM main menu.
< / >	Moves the highlighted area left/right to select control menus. Moves the highlighted area up/down to select one of the controls.
-/+	Moves the bar left/right to increase or decrease the adjustment.
SELECT	Active Auto Adjust function. Enter the OSM controls. Enter the OSM sub menu.
RESET	Resets the highlighted control menu to the factory setting.

NOTE: When RESET is pressed in the main and sub-menu, a warning window will appear allowing you to cancel the RESET function by pressing the EXIT button.

Brightness/Contrast Controls

BRIGHTNESS
Adjusts the overall image and background screen brightness.

CONTRAST
Adjusts the image brightness in relation to the background.

AUTO ADJUST
Adjusts the image displayed for non-standard video inputs.

Auto Adjust
Automatically adjusts the Image Position, the H. Size and Fine setting.

Position Controls

LEFT/RIGHT
Controls Horizontal Image Position within the display area of the LCD.

DOWN/UP
Controls Vertical Image Position within the display area of the LCD.

H. SIZE
Adjusts the horizontal size by increasing or decreasing this setting.

Should the “AUTO Adjust function” do not give you a satisfactory picture setting, a further tuning can be performed using the “H.Size” function (dot clock). For this a Moiré test pattern could be used. This function may alter the width of the picture. Use Left/Right Menu to center the image on the screen. If the H.Size is wrongly calibrated, the result would look like on the left drawing. The image should be homogeneous.

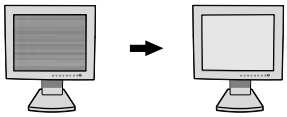
When H.SIZE value is wrong. When H.SIZE value is improved. When H.SIZE value is correct.

FINE

Improves focus, clarity and image stability by increasing or decreasing this setting.

Should the “Auto Adjust function” and the “H.Size” function do not give you a satisfactory picture setting, a fine tuning can be performed using the “Fine” function. It improves focus, clearity and image stability by increasing or decreasing this setting.

For this a Moiré test pattern could be used. If the Fine value is wrongly calibrated, the result would look like on the left drawing. The image should be homogeneous.



When FINE value is wrong. When FINE value is correct.

Colour Control Systems

Six colour presets select the desired colour setting. (NATIVE colour preset cannot be changed.)

NATIVE

Original colour presented by the LCD panel that is unadjustable.

Tools

LANGUAGE

OSM control menus are available in seven languages.

OSM POSITION

You can choose where you would like the OSM control image to appear on your screen. Selecting OSM Location allows you to manually adjust the position of the OSM control menu left, right, down or up.

OSM TURN OFF

The OSM control menu will stay on as long as it is use. In the OSM Turn Off submenu, you can select how long the monitor waits after the last touch of a button to shut off the OSM control menu. The preset choices are 10, 20, 30, 45, 60 and 120 seconds.

OSM LOCK OUT

This control completely locks out access to all OSM control functions. When attempting to activate OSM controls while in the Lock Out mode, a screen will appear indicating the OSM controls are locked out.
To activate the OSM Lock Out function, press SELECT, then “**+**” key and hold down simultaneously. To de-activate the OSM Lock Out, press SELECT, then “**+**” key and hold down simultaneously.

RESOLUTION NOTIFIER

This optimal resolution is 1024 x 768. If ON is selected, a message will appear on the screen after 30 seconds, notifying you that the resolution is not at 1024 x 768.

HOT KEY

You can adjust the brightness and contrast directly. When this function is set to ON, you can adjust the brightness with **<** or **>**, contrast with + or - key, while the OSM menu is off.

OFF TIMER

Monitor will automatically power-down when the end user has selected a pre-determined amount of time.

FACTORY PRESET

Selecting Factory Preset allows you to reset all OSM control settings back to the factory settings. The RESET button will need to be held down for several seconds to take effect. Individual settings can be reset by highlighting the control to be reset and pressing the RESET button.

❶ Information

DISPLAY MODE

Indicates the current display resolution and frequency setting of the monitor.

MONITOR INFO.

Indicates the model and serial numbers of your monitor.

OSM Warning

OSM Warning menus disappear with Exit button.

NO SIGNAL: This function gives a warning when there is no signal present. After power is turned on or when there is a change of input signal or video is inactive, the **No Signal** window will appear.

RESOLUTION NOTIFIER: This function gives a warning of use with optimized resolution. After power is turned on or when there is a change of input signal or the video signal doesn't have proper resolution, the **Resolution Notifier** window will open. This function can be disabled in the TOOL menu.

OUT OF RANGE: This function gives a recommendation of the optimized resolution and refresh rate. After the power is turned on or there is a change of input signal or the video signal doesn't have proper timing, the **Out Of Range** menu will appear.

Recommended use

Safety Precautions and Maintenance

FOR OPTIMUM PERFORMANCE, PLEASE NOTE THE FOLLOWING WHEN SETTING UP AND USING THE LCD COLOUR MONITOR:

- **DO NOT OPEN THE MONITOR.** There are no user serviceable parts inside and opening or removing covers may expose you to dangerous shock hazards or other risks. Refer all servicing to qualified service personnel.
- Do not spill any liquids into the cabinet or use your monitor near water.
- Do not insert objects of any kind into the cabinet slots, as they may touch dangerous voltage points, which can be harmful or fatal or may cause electric shock, fire or equipment failure.
- Do not place any heavy objects on the power cord. Damage to the cord may cause shock or fire.
- Do not place this product on a sloping or unstable cart, stand or table, as the monitor may fall, causing serious damage to the monitor.
- Do not place any objects onto the monitor and do not use the monitor outdoors.
- The inside of the flourescent tube located within the LCD monitor contains mercury. Please follow the bylaws or rules of your municipality to dispose of the tube properly.

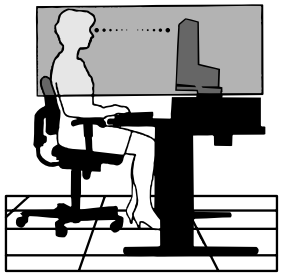
Immediately unplug your monitor from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the monitor.
- If the monitor has been exposed to rain or water.
- If the monitor has been dropped or the cabinet damaged.
- If the monitor does not operate normally by following operating instructions.
- Do not bend power cord.
- Do not use monitor in high temperatured, humid, dusty, or oily areas.
- Do not cover vent on monitor.
- If monitor is broken, do not come in contact with the liquid crystal.
- If glass is broken. Handle with care.

CAUTION

- Allow adequate ventilation around the monitor so that heat can properly dissipate. Do not block ventilated openings or place the monitor near a radiator or other heat sources. Do not put anything on top of monitor.
- The power cable connector is the primary means of detaching the system from the power supply. The monitor should be installed close to a power outlet which is easily accessible.
- Handle with care when transporting. Save packaging for transporting.

CORRECT PLACEMENT AND ADJUSTMENT OF THE MONITOR CAN REDUCE EYE, SHOULDER AND NECK FATIGUE. CHECK THE FOLLOWING WHEN YOU POSITION THE MONITOR:



- For optimum performance, allow 20 minutes for warm-up.
- Adjust the monitor height so that the top of the screen is at or slightly below eye level. Your eyes should look slightly downward when viewing the middle of the screen.
- Position your monitor no closer than 40 cm and no further away than 70 cm from your eyes. The optimal distance is 50 cm.
- Rest your eyes periodically by focusing on an object at least 6 m away. Blink often.
- Position the monitor at a 90° angle to windows and other light sources to minimize glare and reflections. Adjust the monitor tilt so that ceiling lights do not reflect on your screen.
- If reflected light makes it hard for you to see your screen, use an antiglare filter.
- Clean the LCD monitor surface with a lint-free, non-abrasive cloth. Avoid using any cleaning solution or glass cleaner!
- Adjust the monitor's brightness and contrast controls to enhance readability.
- Use a document holder placed close to the screen.
- Position whatever you are looking at most of the time (the screen or reference material) directly in front of you to minimize turning your head while you are typing.

- Avoid displaying fixed patterns on the monitor for long periods of time to avoid image persistence (after-image effects).
- Get regular eye checkups.

Ergonomics

To realize the maximum ergonomics benefits, we recommend the following:

- Use the preset Size and Position controls with standard signals.
- Use the preset Colour Setting.
- Use non-interlaced signals with a vertical refresh rate between 60-75 Hz.
- Do not use primary colour blue on a dark background, as it is difficult to see and may produce eye fatigue to insufficient contrast.

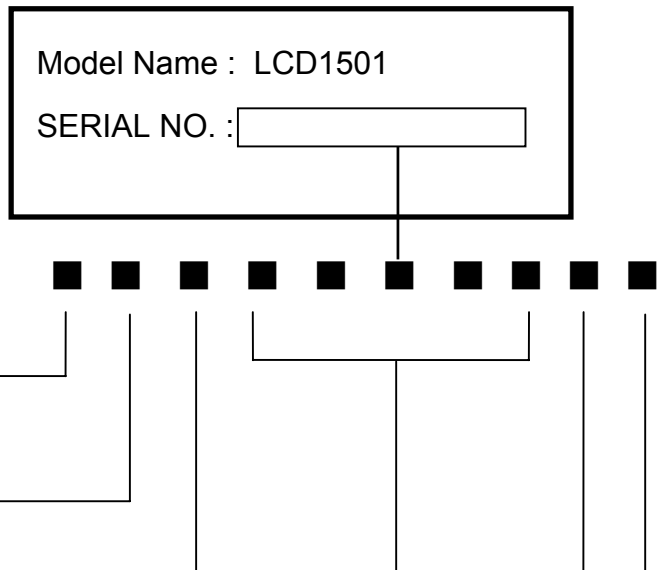
NEC

Printed on recycled paper

Serial Number Information

Refer to the serial number information shown below.

EX.) SERIAL NUMBER LABEL



Manufactured Year :
(Last digit)

Manufactured Month :

January to September	1 to	9
October		X
November		Y
December		Z

Classification code :

Discriminate by cabinet color

White : 0

Black : 1

Gray(Silver) : 2

Running number :

Notes : This running number doesn't reset at each month.

(Example)

Jan. : 00001, 00002, 00003, ….., 01234,
Feb. : 01235, 01236, 01237, ….., 99999, 00001,
Mar. : 00002, 00003, 00004, …..

Factory Code:

NPG China factory : Y

Control Code:

For A ver. (U.S.A.) : A

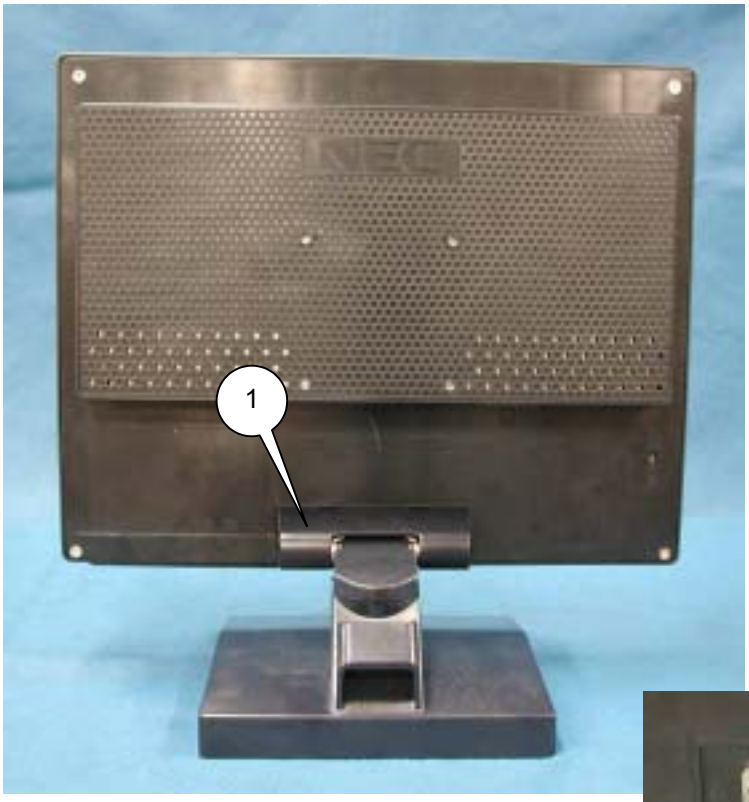
For B ver. (Europe and Asia and Pacific) : B

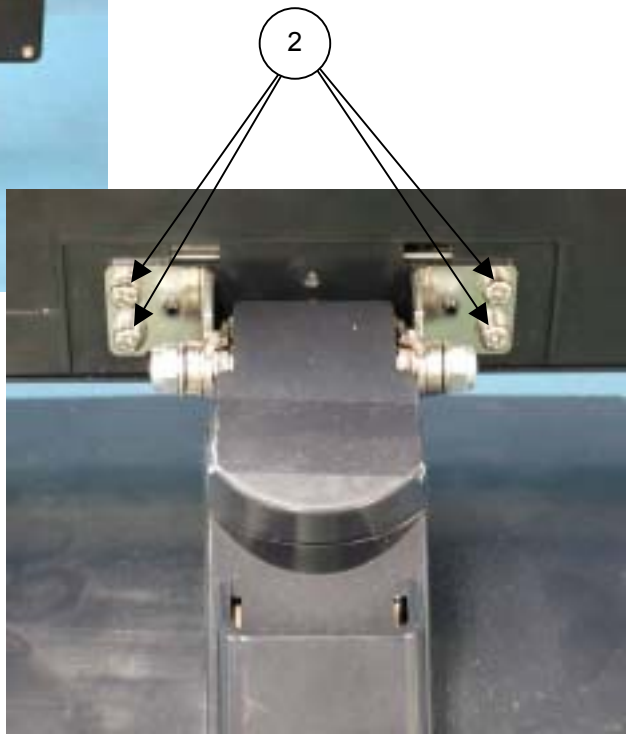
For J ver. (Japan) : J

DISASSEMBLY

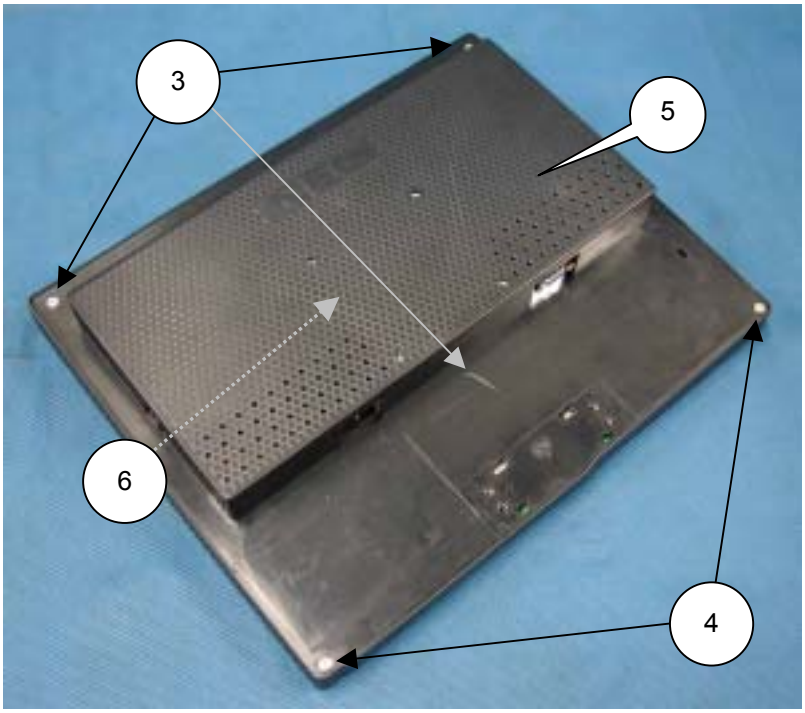
- Before you disassembly the set, turn off power and pull out the power plug.
- Use the proper screwdriver. If oversize or undersize is used, screws may be damaged.
- Assembly is the opposite process of disassembly.
- Note: If consignment the parts begins, the part number of NPG is used.

SYMBOL	Part No. for NPG	Part No. for NMV	DESCRIPTION
1	11001641	79PQ5103	COVER HINGE(R)
2	---	---	P4*12+SPW+WAS MC(NI)

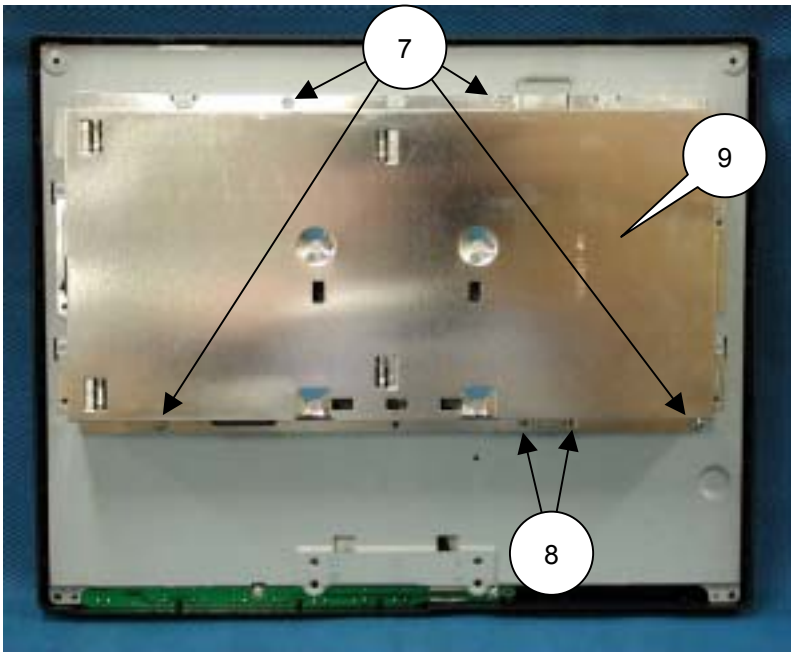




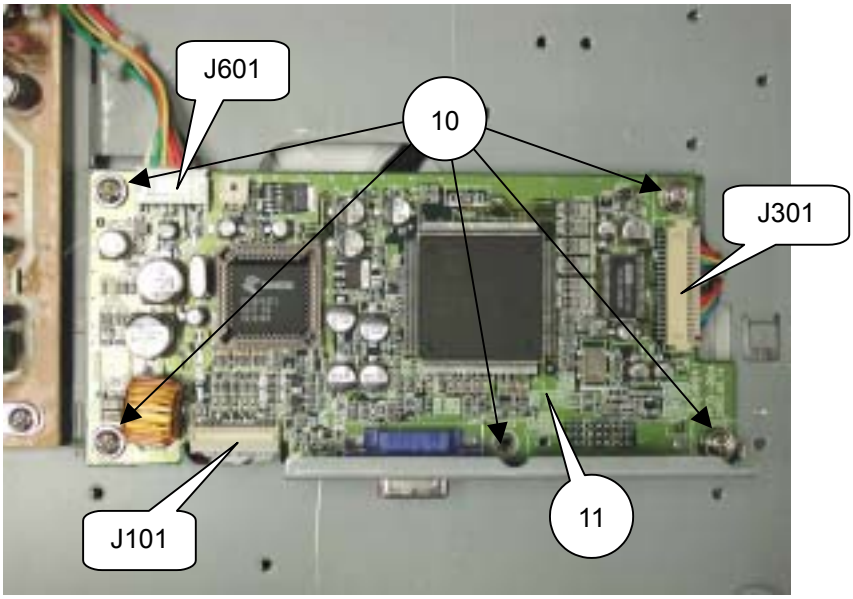
SYMBOL	Part No. for NPG	Part No. for NMV	DESCRIPTION
3	---	---	P3*8 ML(NI)
4	---	---	T3*16/W MC(NI)
5	10103231	79PQ5102	COVER REAR ASSY(LCD1501BK
6	12300511	79EN0526	VESA,BKT



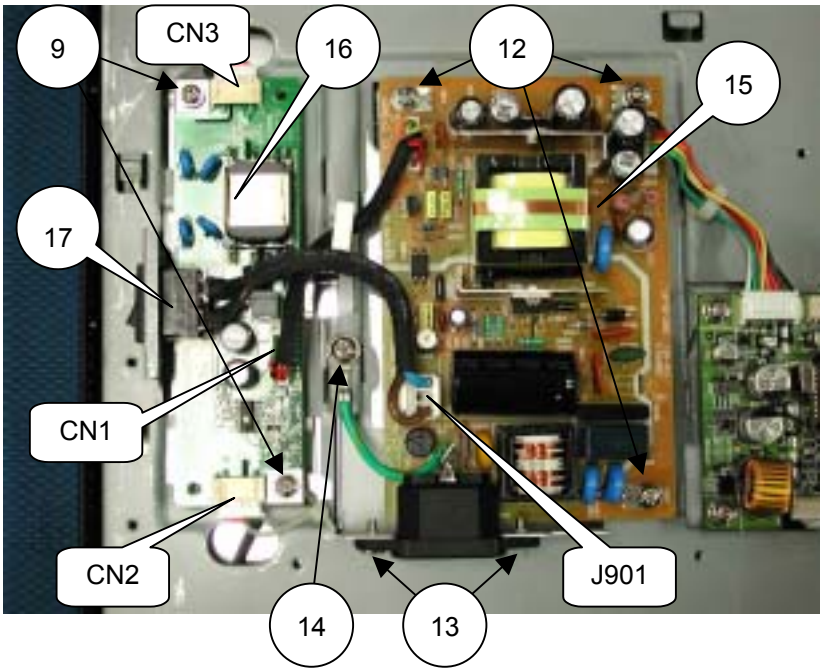
SYMBOL	Part No. for NPG	Part No. for NMV	DESCRIPTION
7	---	---	P3*6/W ML(NI)
8	---	---	4#-40T*40T*4.8HL*4.0*5-NL/W
9	---	---	SHIELD,COVER



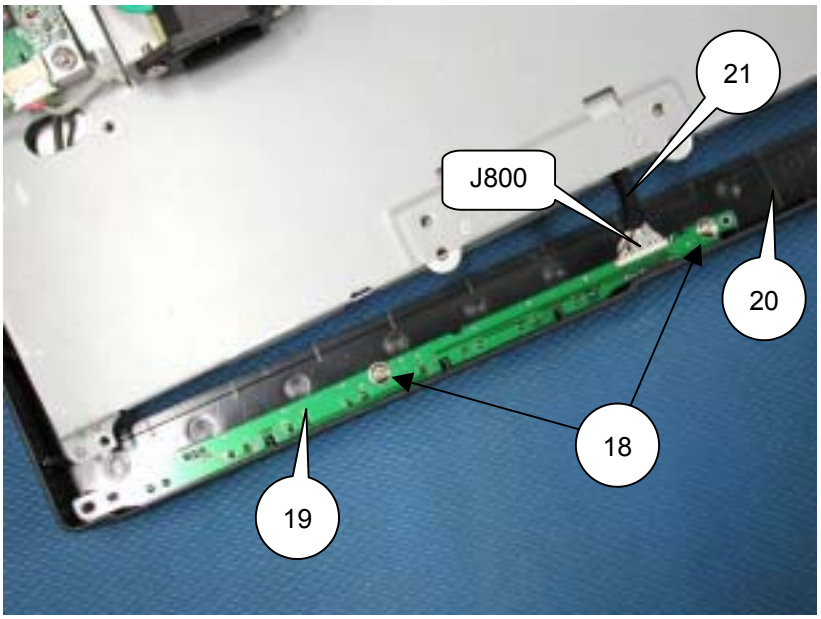
SYMBOL	Part No. for NPG	Part No. for NMV	DESCRIPTION
10	---	---	P3*8*8+SPW+WAS ML(NI)
11	AM0R31ML	79PQ5080	MAIN INSERT ASSY



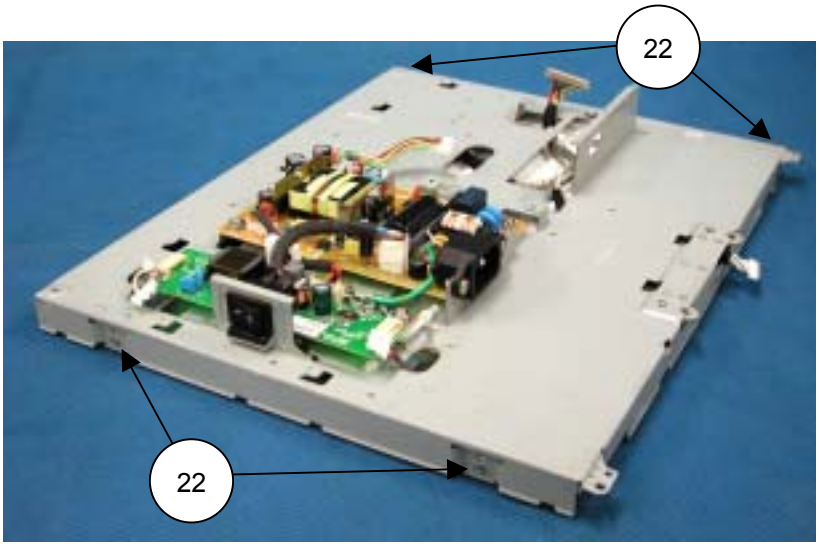
SYMBOL	Part No. for NPG	Part No. for NMV	DESCRIPTION
12	---	---	P3*8*8+SPW+GEAR ML(NI)
13	---	---	F3*8 ML(NI)
14	---	---	P4*6+SPW+WAS MC(NI)
15	AP0R31ML	79PQ5081	POWER INSERT ASSY
16	JM100021	79PQ5128	INVERTER BD. T301001.00
17	RC900051	79PQ5160	LEAD CONNECTOR ASSY-SW BLK



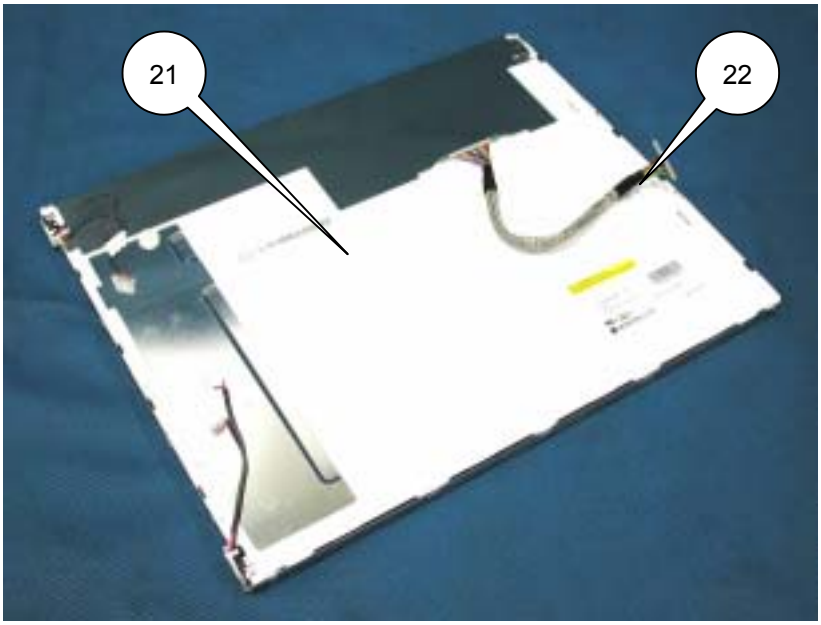
SYMBOL	Part No. for NPG	Part No. for NMV	DESCRIPTION
18	---	---	SCREW T3*10
19	AS0R31ML	79PQ5082	SW INSERT ASSY
20	10103201	79PQ5101	COVER FRONT ASSY(LCD1501B
21	RC200121	79PQ5162	WIRE 12P-12P L120



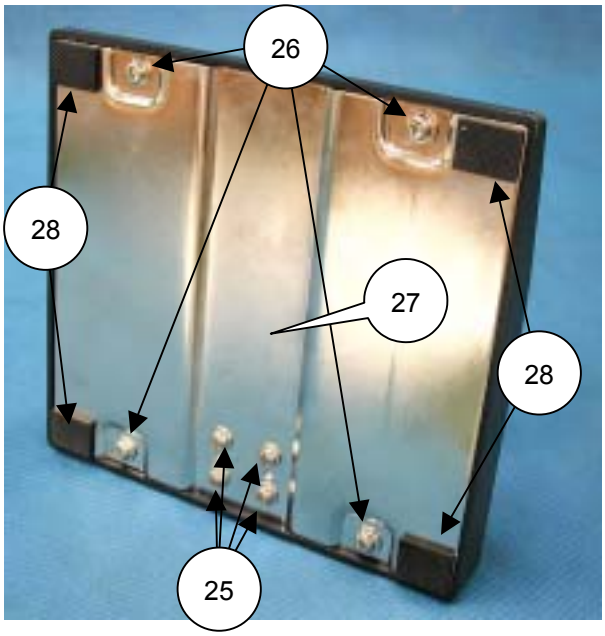
SYMBOL	Part No. for NPG	Part No. for NMV	DESCRIPTION
22	---	---	P2.5*4 MC(NI)

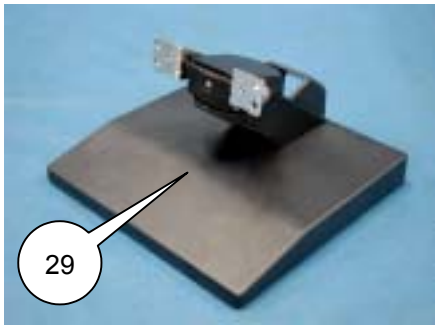


SYMBOL	Part No. for NPG	Part No. for NMV	DESCRIPTION
23	---	3A684033	LCD LM150X06-A3
24	RC200131	79PQ5163	WIRE 20P-20P L120

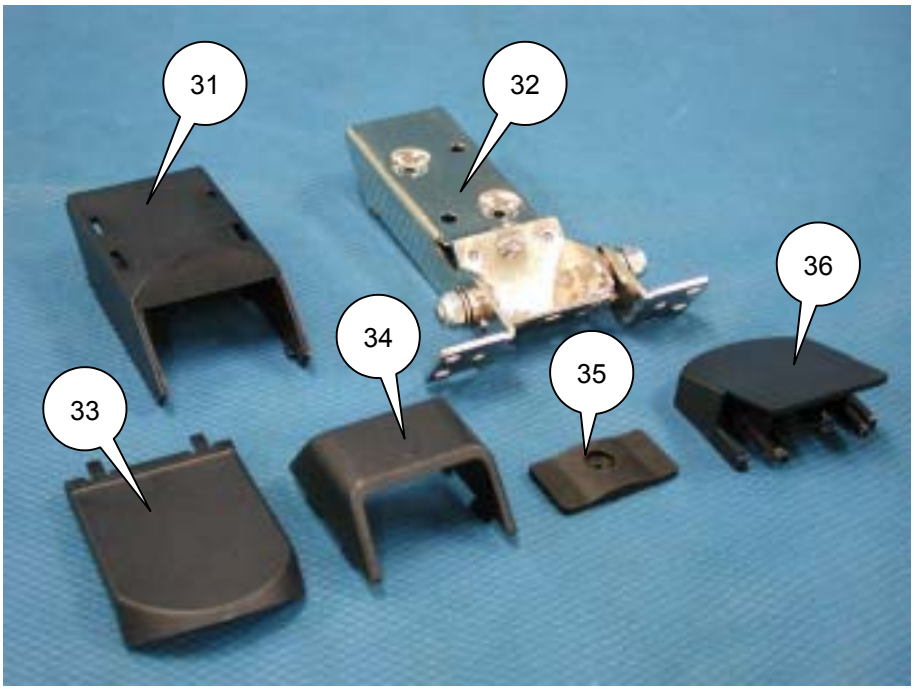


SYMBOL	Part No. for NPG	Part No. for NMV	DESCRIPTION
25	---	---	P4*8/W (NI)
26	---	---	T4*6 ML(NI)
27	12300841	79PQ5164	SHIELD BASE
28	17001241	79PQ5165	PAD FOOT
29	11001621	79PQ5158	TILE BASE
30	---	---	SCREW T3*10





SYMBOL	Part No. for NPG	Part No. for NMV	DESCRIPTION
31	11001661	79PQ5112	COVER STAND REAR(BK)
32	14900031	---	HINGE UNIT
33	11001651	79PQ5111	COVER STAND FRONT(BK)
34	11001671	79PQ5109	COVER CABLE(BK)
35	11301481	---	PAD,HINGE
36	11001631	79PQ5110	COVER HINGE(T)(BK)



ADJUSTMENT PROCEDURES

TABLE OF CONTENTS

1. Application

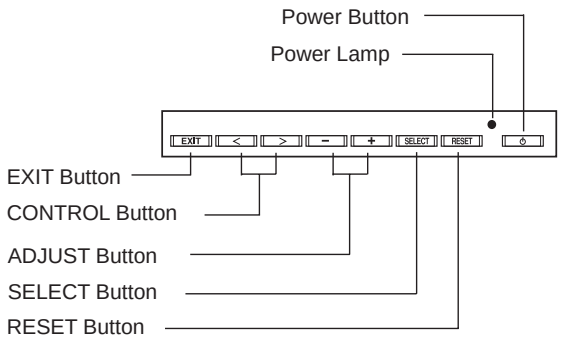
This adjustment specification shall be applied to the adjustment of the LCD1501 (Model No. NL2501).

2. Default setting

Item		Condition
Power Supply		AC100V~240V
Input Freq.		1024×768@75Hz
OSM SETTING	BRIGHTNESS	100%
	CONTRAST	50%
	Color Temp.	NATIVE
	OSM TRUN OFF	30 sec.
	OSM LOOK OUT	NO
	Resolution notifier	ON
	OFF TIMER	OFF
	OSD/OSM SETTING	OSM
	URL SETTING	WWW.NEC-MITSUBISHI.COM
	HOT KEY	ON
	LANGUAGE	ENGLISH

3. Basic operation

3.1 Front control panel layout



EXIT EXIT Button Exits the OSM controls. Exits to the OSM main menu.
< CONTROL Button > Moves the highlighted area left/right to select control menus. Moves the highlighted area up/down to select one of the controls.
– ADJUST Button + Moves the bar left/right to increase or decrease the adjustment.
SELECT SELECT Button Active Auto Adjust function. Enter the OSM controls. Enter the OSM sub menu.
RESET RESET Button Resets the highlighted control menu to the factory setting.

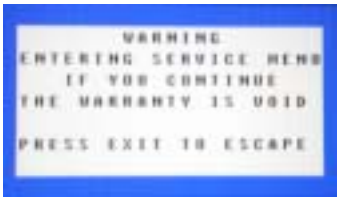
3.2 Special key operation

<Factory mode>

1) Open the information tab [MODE] of the OSM menu.

2) Simultaneously press the three keys of < (left), > (right), and RESET.

3) When a message of WARNING appears, press the SELECT button to enter the factory mode.



4) Press the EXIT button to close the factory mode.

<Aging mode>

1) Make the setting not to receive input signals.

2) Simultaneously press the three keys of (+), (-), and RESET.

3) Using the < (left) and > (right) buttons, it becomes possible to changeover the screen color (white ⇔ red ⇔ green ⇔ blue).

4) Using the (+) and (-) buttons, it becomes possible to change the brightness of each color.

5) To close the aging mode, receive any signal to turn off the power supply.

4. Adjustment

4.1 Measuring instruments, jigs, and tools

The measuring instruments, jigs, and tools required at the time of the adjustment of the unit to be adjusted shall be as specified below.

a. A signal generator that can generate an output of signal timing produced by the adjusted (*) VG-819 or specified in [4. Setting method for the VG-819.] In this case, however, this signal generator shall be capable of displaying all white and all black as a screen display pattern.

* The word “adjusted” shall mean that the amplitude of each signal R, G, B, which is output from the signal generator, is maintained at 0.7Vp-p ± 0.05V when a load of 75Ω is connected.

4.2 Power-supply voltage

INPUT : 100Vac ~ 240Vac

4.3 Closure of the power circuit

1) Connect the suitable cable of the VG-819 according to the setting mode.

2) Turn on the Power switch of the VG-819.

3) Connect the AC power cable to the unit being adjusted.

4) Turn on the Vacation switch of the unit being adjusted (seesaw switch located on the right side of the unit).

5) Turn on the Power switch of the unit being adjusted.

6) After the completion of signal discrimination, the LED is turned green.

4.4 Bias and gain control

1) Enter an input signal of 1024×768 (75Hz), in 32-gray gradation.

2) Enter the factory mode according to “3.2 Specific key operation.”

3) Press the SELECT button several times to display the [AUTO CONTRAST] adjust menu.

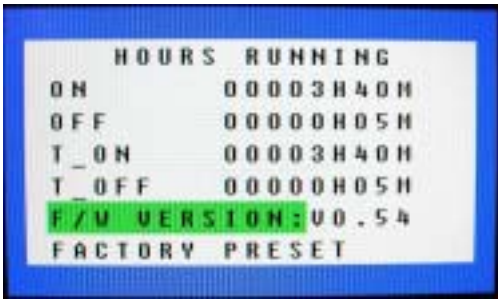
4) Pressing the < (left) and > (right) buttons, adjust the cursor to [AUTO CONTRAST]. When the (+) key or the (-) key is pressed, adjustment of the bias and the gain is carried out.

5) When adjustments have been finished, press the EXIT key to close the factory mode.

5. VG-819 setting values

Signal		VG-819				
Mode		1024×768 (75Hz)				
H	DOT CLOCK [MHz]	78.75				
	TOTAL [DOT]	1312				
	DISP [DOT]	1024				
	SYNC PULSE [DOT]	96				
	BACK [DOT]	176				
	HDstrat [DOT]	0				
	HDwidth [DOT]	0				
V	INTERLACE	NON				
	TOTAL [H]	800				
	DISP [H]	768				
	SYNC PULSE [H]	3				
	BACK PORCH [H]	28				
	EQPfp [H]	0				
	EQPbp [H]	0				
	SERRATION [H]	OFF				
	EDP [H]	OFF				
	VDs [H]	0				
	VBf [H]	0				
OUTPUT	OUTPUT MODE	ANALOG				
	NRZ/RZ	NRZ				
	CV					
	HS	POS				
	VS	POS				
	CS	NEG				
	HD	NEG				
	VD	NEG				
	RGB	POS				
	HT	POS				
	C	NEG				
	VIDEO	0.70V				
	Set-up	0.00V				
	Sync	0.30V				
PAT SEL		GRAY				
CHARA PATTERN	Format	1				
	Code	82				
	Font	16*16				
	Cell	16*16				
GRAY	Direction:0	L0:0 L1:17 L2:34 L3:51 L4:68 L5:85 L6:102 L7:127 L8:143 L9:159 LA:175 LB:191 LC:207 LD:223 LE:239 LF:255				

6. Explanations of the factory mode



ON: Accumulated time during the reception of input signals (LED: green)

OFF: Accumulated time in the power-saving mode (LED: amber)

* The above-mentioned accumulated time (hours running) is reset when FACTORY PRESET or the RESET + "<",">" keys is pushed during a display is executed.

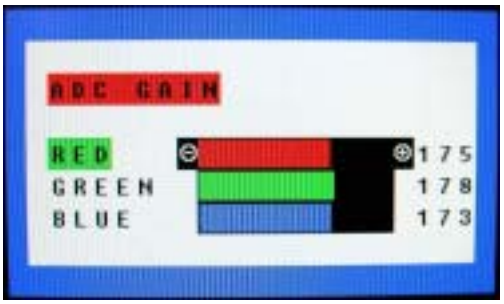
T_ON: Total accumulated time during the reception of input signals (LED: green)

T_OFF: Total accumulated time in the power-saving mode (LED: amber)

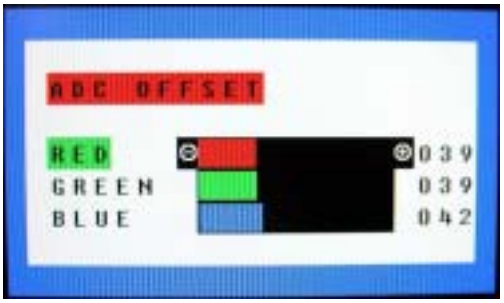
* The above-mentioned accumulated time (hours running) is not reset even when FACTORY PRESET is executed.

F/W VERSION: Firmware version

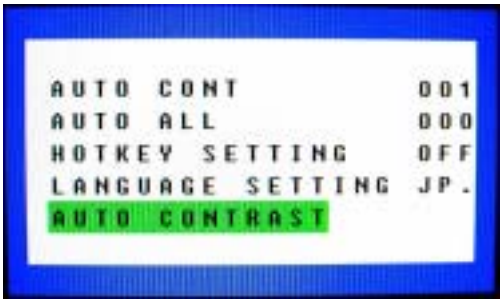
FACTORY PRESET: All data are reset to the initial values.



It is possible to adjust the gain values of R, G, B, respectively.



It is possible to adjust the offset values of R, G, B, respectively.



AUTO CONT: No. of auto-contrast control trials conducted by the user

AUTO ALL: No. of auto-adjustment trials conducted by the user

HOTKEY SETTING: Set at ON (Europe version) for shipment

Set at OFF (Japan version and North America version) for shipment

LANGUAGE SETTING: Set at EN. (Europe and North America version) for shipment

Set at JP. (Japan version)

AUTO CONTRAST: Auto-adjustments for the gain and the bias

It is possible to change the display of OSD adjusting values.

0: Adjusting value displayed in percentage: Setting for shipment

1: Adjusting value displayed in a numeral: (Debug)

The OSD/OSM display is changed over for the OSD menu.

0: OSM (Setting for shipment)

1: OSD

Display or no display of URL (Internet address)

0: Not displayed (for Japan)

1: Displayed (WWW.NECMITSUBISHI.COM): Setting for shipment (for North America and Europe version)

2: Displayed (WWW.NEC-MITSUBISHI.COM): Debug

This menu is not used.

It is possible to adjust the R, G, B values for each color temperature.

Inspection

TABLE OF CONTENTS

1. Electrical inspection

1.1 Electrical performance

Function switch check

1) Input 1024×768 (75Hz) pattern “Crosshatch”.

2) Image should appeared within 4sec after Switch ON.

3) LED lighting green.

4) It should not appear noise while Switch is turn ON or turn OFF.

5) OSM should be indicated by push [Exit] or [<] OR [>] or [-] or [+] button.

6) While [-] or [+] button is pushed, the value should change smooth and it should not be appeared noise.

7) Check the OSM off when push the [OSM OFF] switch EXIT.

1.2 Frequency change

1) Change the preset timing.

2) Check the picture and the time when freq. change (less 5 sec).

1.3 Performance check

1) Input 1024×768 (75Hz) pattern “RGB 256 GRAY SCAL” PATTERN.

2) Press [AUTO CONTRAST] switch.

3) Check the color gray scal smoth and not data lost.

1.4 Check power manage function

Mode	Horizontal	Vertical	Power Supply	Input Timing	Power consumption
Normal	On	On	240V	1024×768 (75Hz)	20W
Standby	Off	On	240V	1024×768 (75Hz)	2W
Suspend	On	Off	240V	1024×768 (75Hz)	2W
Off	Off	Off	240V	1024×768 (75Hz)	2W

2. Safety

2.1 Insulation resistance

The resistance of the insulation between the power terminal and the earth ground contact is more than 10M ohms while withstanding a voltage of 500Vdc.

2.2 Dielectric strength

There is no breakdown of the insulators or short circuits when applying an alternating potential of 1000Vac for a duration of 1(one) minute or 1500Vac for a duration of 2(two) second at 50Hz between the metallic chassis and the input power supply active and neutral terminals connected together.

2.3 Leakage current

The current conducted between each of the power supply's contacts is less than 1.5mA at 255Vac (60Hz) and 0.25mA at 100Vac (60Hz).

2.4 Ground continuity

The resistance between the groundside of the power cord and the accessible metal parts located in ground circuit shall not exceed 0.1 ohm at current load of 25mA.

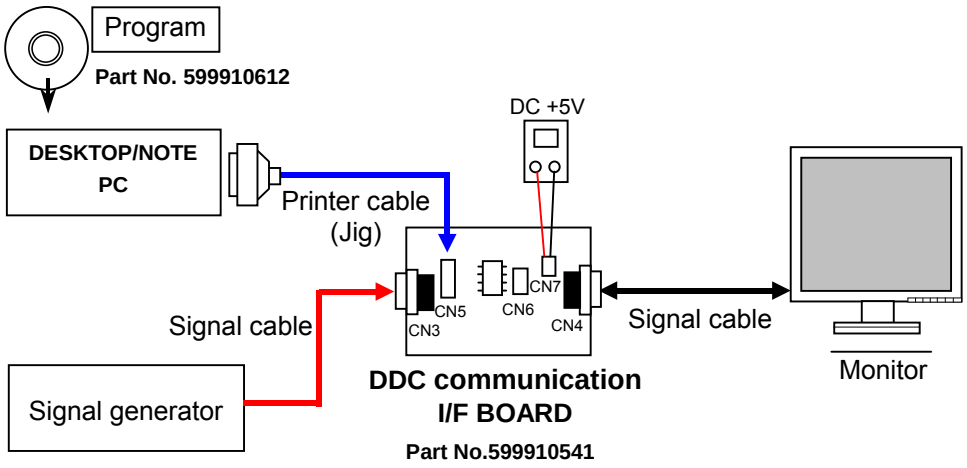
3. Preset timing sheet

No	Timing	Dot Clock (MHz)	Horizontal						Vertical						HS,VS
			Freq. (KHz)	Total	Active	Pulse	Back	Front	Freq. (Hz)	Total	Active	Pulse	Back	Front	
1	VGA 720×350 70Hz	28.322	31.469	900	720	108	54	18	70.087	449	350	2	60	37	P,N
2	PC98 640×400 56Hz	21.053	24.827	848	640	64	85	59	56.424	440	400	8	25	7	N,N
3	VGA 720×400 70Hz	28.322	31.47	900	720	108	54	18	70.087	449	400	2	35	12	N,P
4	VGA 640×480 60Hz	25.175	31.47	800	640	96	48	16	59.992	525	480	2	33	10	N,N
5	MAC 640×480 66Hz	30.24	34.97	864	640	64	96	64	66.61	525	480	3	39	3	N,N
6	VESA 640×480 72Hz	31.5	37.861	832	640	40	128	24	72.809	520	480	3	28	9	N,N
7	VESA 640×480 75Hz	31.5	37.5	840	640	64	120	16	75.00	500	480	3	16	1	N,N
8	VESA 800×600 56Hz	36	35.156	1024	800	72	128	24	56.25	625	600	2	22	1	P,P
9	VESA 800×600 60Hz	40	37.879	1056	800	128	88	40	60.317	628	600	4	23	1	P,P
10	VESA 800×600 75Hz	49.5	46.875	1056	800	80	160	16	75	625	600	3	21	1	P,P
11	VESA 800×600 72Hz	50	48.077	1040	800	120	64	56	72.188	666	600	6	23	37	P,P
12	MAC 832×624 75Hz	57.283	49.725	1152	832	64	224	32	74.55	667	624	3	39	1	N,N
13	VESA 1024×768 60Hz	65	48.363	1344	1024	136	160	24	60.004	806	768	6	29	3	N,N
14	SUN 1024×768 65Hz	70.49	53.7	1344	1024	136	160	24	65.57	806	768	6	29	3	N,N
15	VESA 1024×768 70Hz	75	56.476	1328	1024	136	144	24	70.069	806	768	6	29	3	N,N
16	VESA 1024×768 75Hz	78.75	60.023	1312	1024	96	176	16	75.029	800	768	3	28	1	P,P

4. Inspection of PLUG & PLAY communication and OSM "MONITOR INFORMATION" for model name/ serial number

4.1 System connection

This system should be connected as shown below.



DDC Communication I/F BOARD

4.2 Input signal

Horizontal synchronization frequency : Not specified.

Vertical synchronization frequency : Not specified.

4.3 Program

Service tool Ver. 3.14 (Parameter ver. 2.0-S2) (Part No. 599910612)

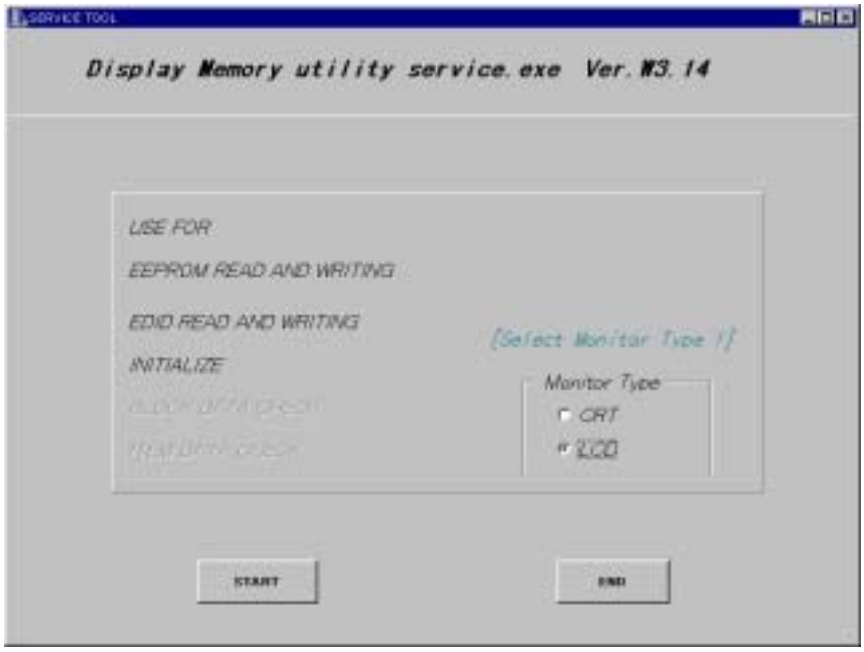
4.4 Operation

1) Connect the EDID data writing unit with jigs, etc.

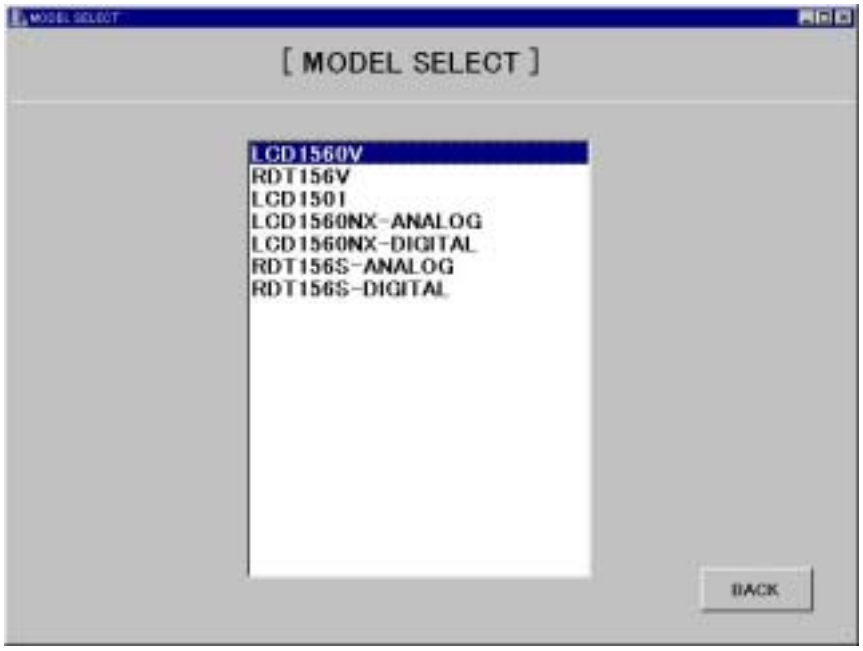
2) Copy all the files of the service tool Ver. 3.14 (Parameter ver. 2.0-S2) in a proper directory.

3) Start [Service2.EXE] of the service tool Ver. 3.14.

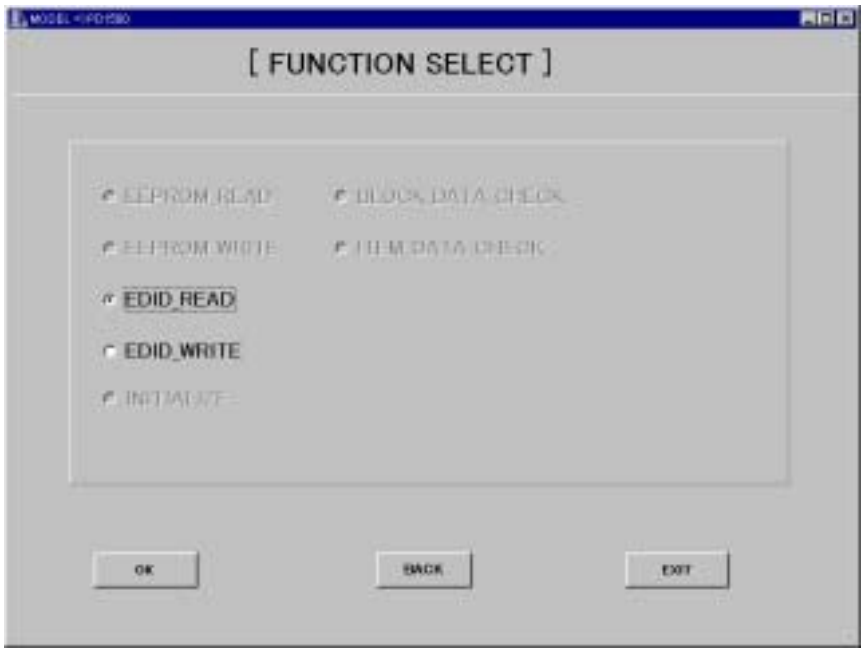
4) When the screen as shown below appears, give a check to [LCD] of [Monitor Type] and press the [START] button.



5) When the screen as shown below appears, adjust the cursor to [LCD1501] and make a double click.

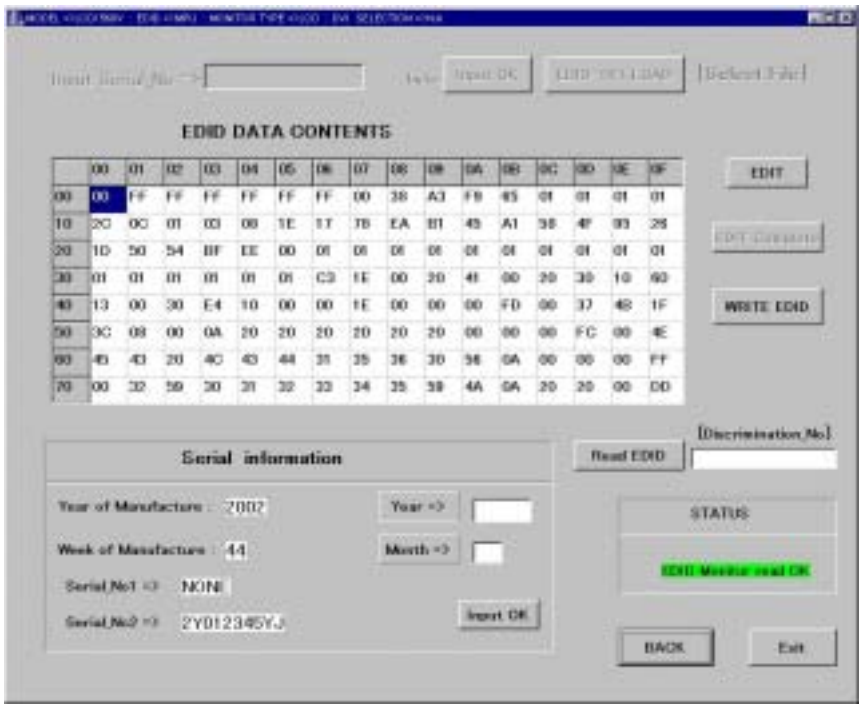


6) When the screen as shown below appears, give a check to [EDID_READ] and press the [OK] button.



7) When the screen as shown below appears, confirm that the correct data are displayed in the columns of EDID DATA CONTENTS and Serial information.

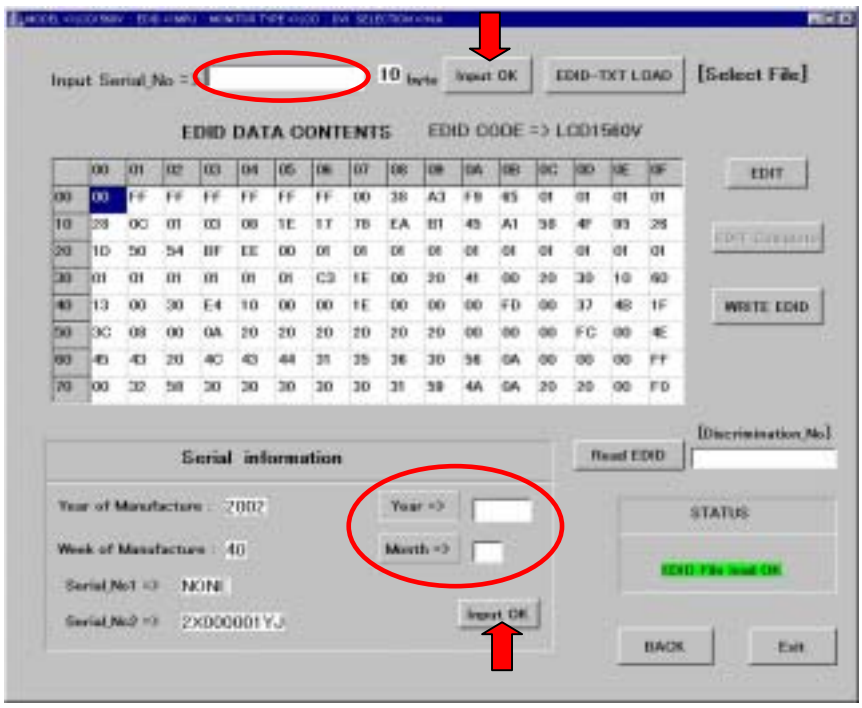
If all the displayed data are [FF] or the like, or if the serial number is different from that of the corresponding unit, then EDID data writing should be carried out.



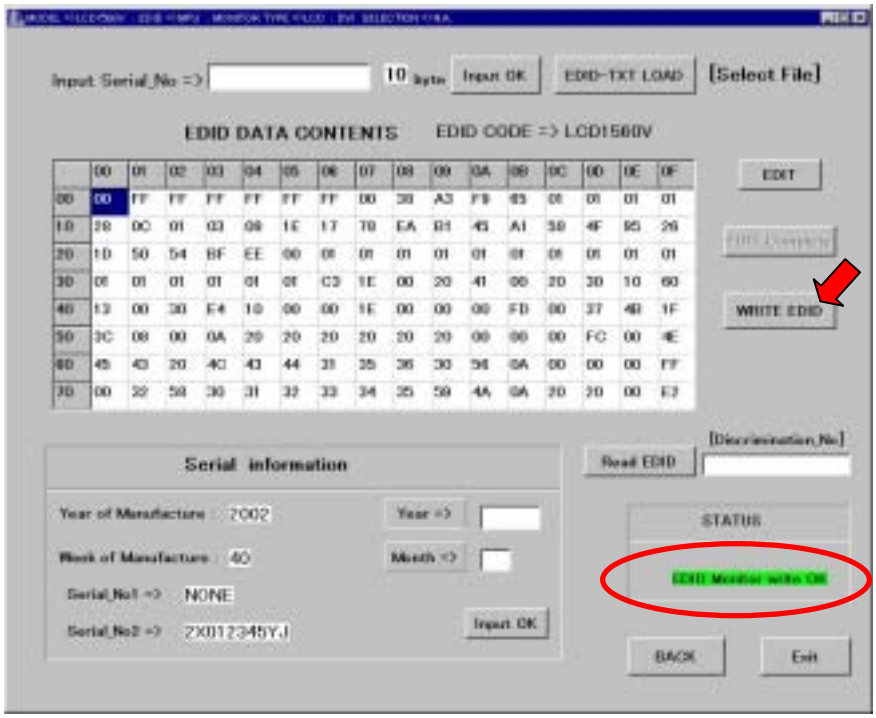
8) When a screen of Item 6 is displayed by pressing the [BACK] button, give a check to [EDID_WRITE] and press the [OK] button.

9) When the screen as shown below appears, examine the serial number of the unit, enter an input in the column of [Input Serial No.] through the keyboard, and press the [Input OK] button.

Enter an input in the column of [.Year=>] in manufactured year(A.D. four digits) and [Month=>] in manufactured month through the keyboard, and press the [Input OK] button.



10) When the [WRITE EDID] button is pressed, writing of the EDID data only is carried out. Upon the completion of correct writing, a display of [EDID Monitor Write OK] is presented in the column of [STATUS].



11) Let the Power switch of the writing unit be turned OFF/ON, and examine the SERIAL NUMBER column of the OSD [MONITOR INFO.] to see that its contents have been changed to the updated serial number.

12) Upon the normal completion of EDID data writing, press the [Exit] button to close the program.

4.5 EDID data file

EDID date: LCD1501.edi

	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**A**	**B**	**C**	**D**	**E**	**F**
00	00	FF	FF	FF	FF	FF	FF	00	38	A3	FB	65	01	01	01	01
10	0C	0C	01	03	08	1E	17	78	EA	B1	45	A1	58	4F	95	26
20	1D	50	54	BF	EE	00	01	01	01	01	01	01	01	01	01	01
30	01	01	01	01	01	01	C3	1E	00	20	41	00	20	30	10	60
40	13	00	30	E4	10	00	00	1E	00	00	00	FD	00	37	4B	1F
50	3C	08	00	0A	20	20	20	20	20	20	00	00	00	FC	00	4E
60	45	43	20	4C	43	44	31	35	30	31	0A	20	00	00	00	FF
70	00	32	33	30	30	30	30	31	59	58	30	0A	20	20	00	75

Note 1: address 10h	Week of manufacture = Month of manufacture × 4
Note 2: address 11h	Year of manufacture - 1990
Note 3: address 71h ~ 7Dh	Serial Number (ASCII coded)
	If less than 13 char, terminate with 0Ah and fill the rests with 20h.
Note 4: address 7Fh	Checksum
	The sum of entire 128 byte shall be equal to 00h.

5. External inspection on the LCD module

5.1 Inspection condition

1) Ambient temperature is approximately 20~25°C.

2) Ambient humidity is approximately 65 ±.

3) Ambient illuminant is from 300 to 700lux.

4) Viewing distance is approximately 35cm.

5) Viewing angle : right and left 30°, top and bottom 20° ~ 0°.

5.2 Standards for display conditions

Standard for errors (defects)

Item			Standard		Remarks
Joined defects	(1)	Continuous 2 bright dots	R+G, 2 continued horizontally	≤ 2 pairs	Note 1
	(2)	Continuous 2 black dots		≤ 2 pairs	Note 2
	(3)	Continuous 3 or more bright dots	Both the same color and different colors are counted.	≤ 0 pair	Note 3
	(4)	Continuous 3 or more black dots		≤ 0 pair	
Dot defect	(5)	Dot defects other than (1) and (2)	R.G.B (Black dot + Bright dot)	≤ 4	Note 4
Defective proximity	(6)	Adjacent to same-color bright-dot defect	Distance between defects ≤ 6.5mm	Each color ≤ 2 pairs	Note 5
	(7)	Approach of adjacent defects of (6)	Distance of approach ≤ 15mm	≤ 0 pair	Note 6
	(8)	Defect cluster	A set of 2 or more dot defects in an area of 5×5 pixels [(5) in consideration]	≤ 2 clusters	Note 7
			Approach of adjacent defects of (1) in an area of 5×5 pixels	≤ 0 pair	Note 8
			Approach of adjacent defects of (2) in an area of 5×5 pixels		
Total No. of defects	Total No. of bright dots (R.G.B) + black dots (R.G.B)			≤ 4	-
	Total No. of bright points in G			≤ 4	-
Note 9. Every dot herein means sub-pixel (each Red, Green or Blue color)					
Note 10. Bright & Dark Dots are larger than one third of sub-pixel. (Dots smaller than one third of sub-pixel are not counted as a defect dots.)					
Note 11. Do not use the [ND] filter in counting a bright dot.					

:Bright dot :Black dot

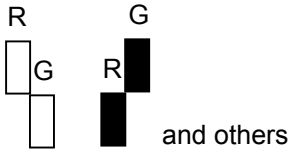
Note 1: R + G, 2 dots continued horizontally

Counted as an NG

Not counted as NG

Combination of bright and black dots

Combination other than 2-horizontal combination

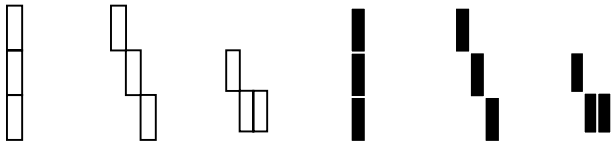


and others

Note 2: (1) + (2) ≤ 3 pairs

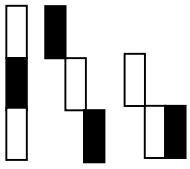
Note 3: 3-defect combination

Combination patterns to be counted as NG / Combination of all bright or all black dots



and others

Not counted as NG / Combination of bright and black dots

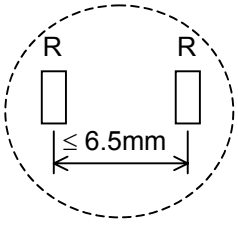


and others

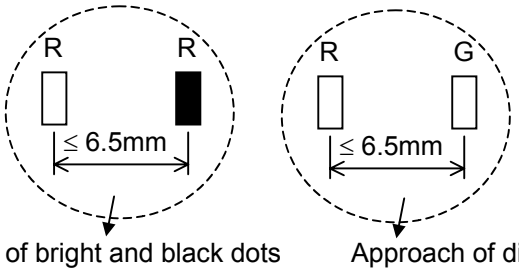
Note 4: The dots for composing 2-horizontal combinations of R + G shall be excluded from counting.

Note 5: Adjacent to same-color bright-dot defect

Counted as NG



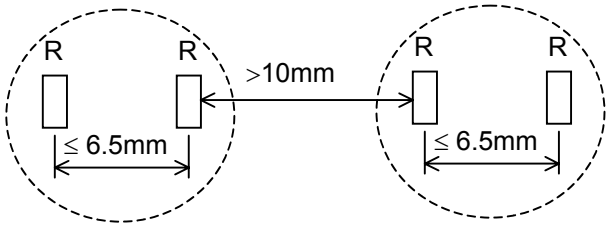
Not counted as NG



Approach of bright and black dots

Approach of different colors

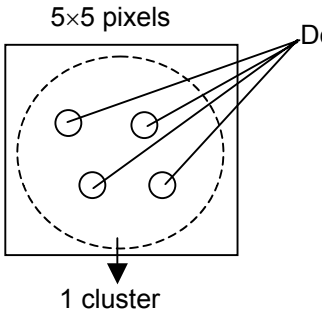
Note 6: Approach of adjacent defects



The distance between adjacent defects shall be longer than 10mm.

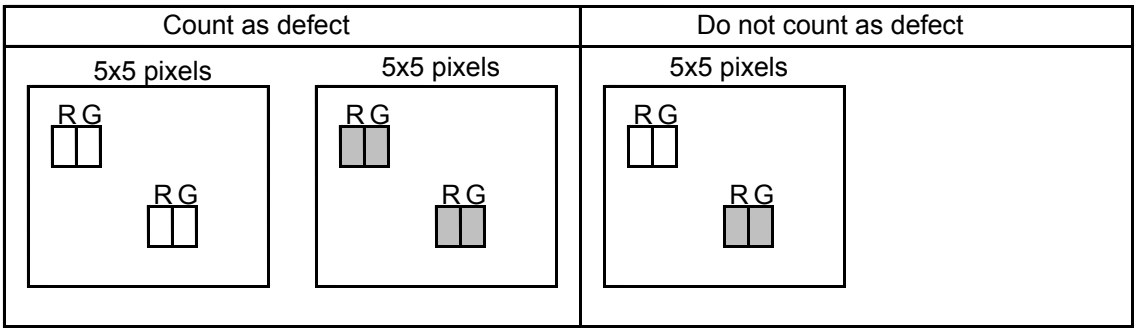
Note 7: A set of 2 or more dot defects in an area of 5×5 pixels

If there are two or more dot defects [(5)] in an area of 5×5 pixels, such a set of dot defects shall be counted as one cluster.



There shall be no more than 3 clusters throughout the screen area.

Note 8. Two or more pixels or sub-pixels with more than one fault of 1) or 2) within 5x5 pixels

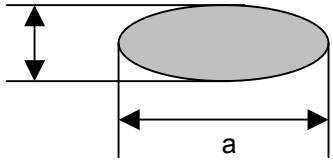


5.3 The inspection standard of appearance

5.3.1 Polarizer defects

Items		Criteria
Scratch	Linear	$0.05 \le W \le 0.2$, $5.0 \le L \le 10.0$, $N \le 4$
Dent	Circuar	$0.2 \le D \le 0.5$, $N \le 6$

NOTE: D: Average Diameter D=(a+b)/2
W: Width, L: Length, N: Quantity
Linear: a>2b, Circular: a<2b
Unit: mm



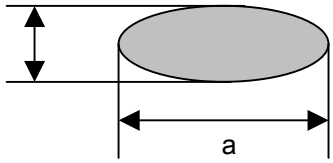
a. Extraneous substances that can be wiped out like Finger Print, Particles are not considered as a defect.

b. Defects which is on the Black Matrix (outside of Active Area) are not considered as a defect.

5.3.2 Foreign material

Items		Criteria
Foreign Material	Linear	$0.05 \le W \le 0.1$, $0.3 \le L \le 4.0$, $N \le 4$
	Circuar	$0.2 \le D \le 0.5$, $N \le 6$

NOTE: D: Average Diameter D=(a+b)/2
W: Width, L: Length, N: Quantity
Linear: a>2b, Circular: a<2b
Unit: mm



5.3.3 Line defect

All kinds of line defects such as vertical, horizontal or cross are not allowed.

5.3.4 Bezel appearance

Scratches, minor bents, stains, particles on the Bezel frame are not considered as a defect.

TROUBLESHOOTING

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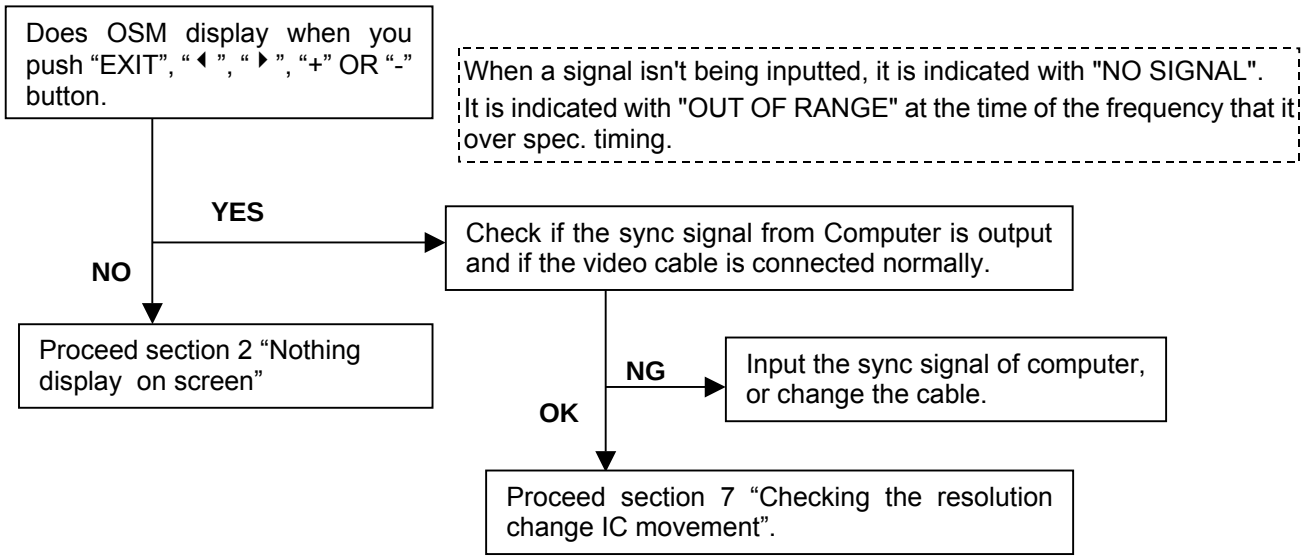
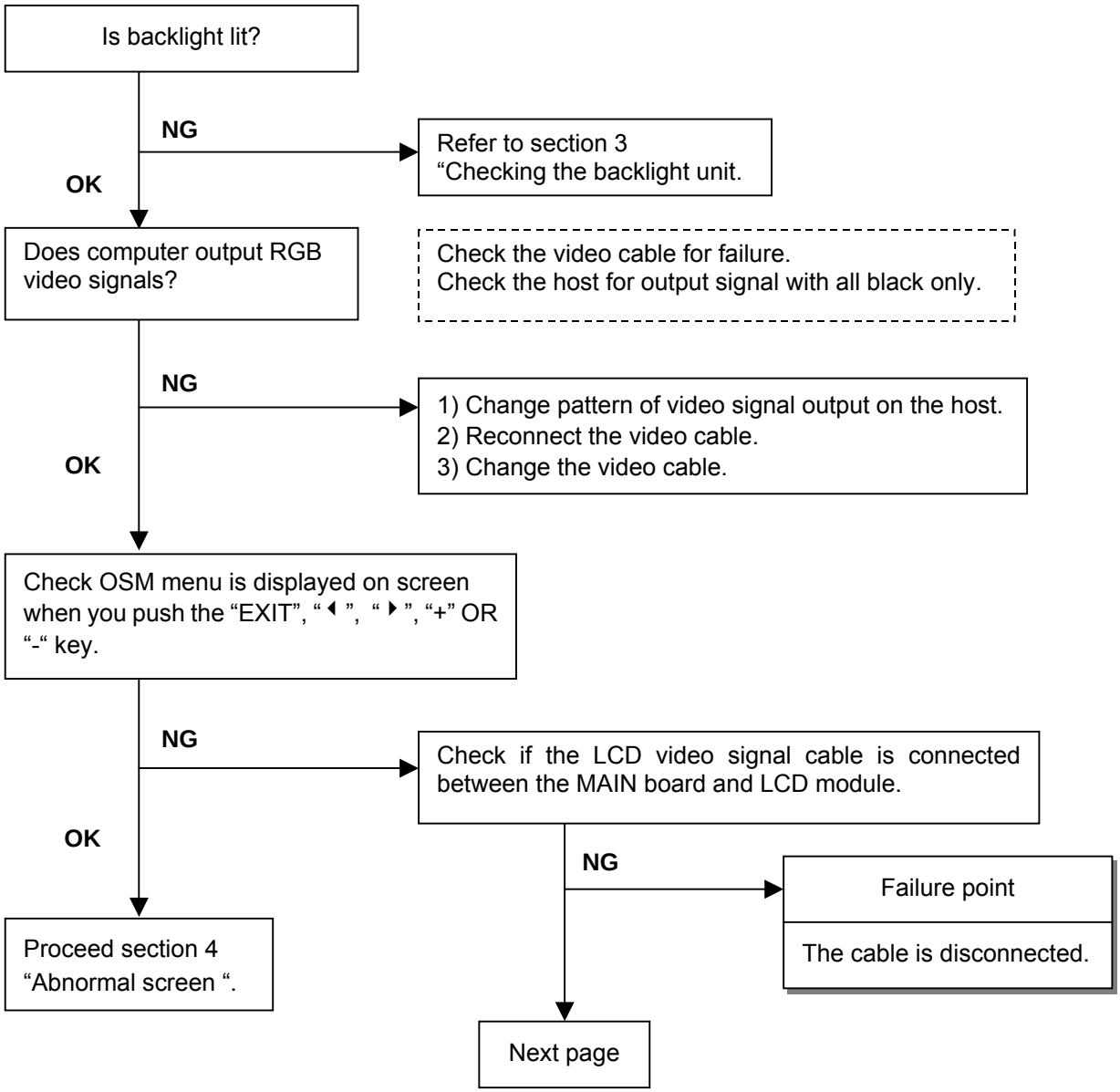
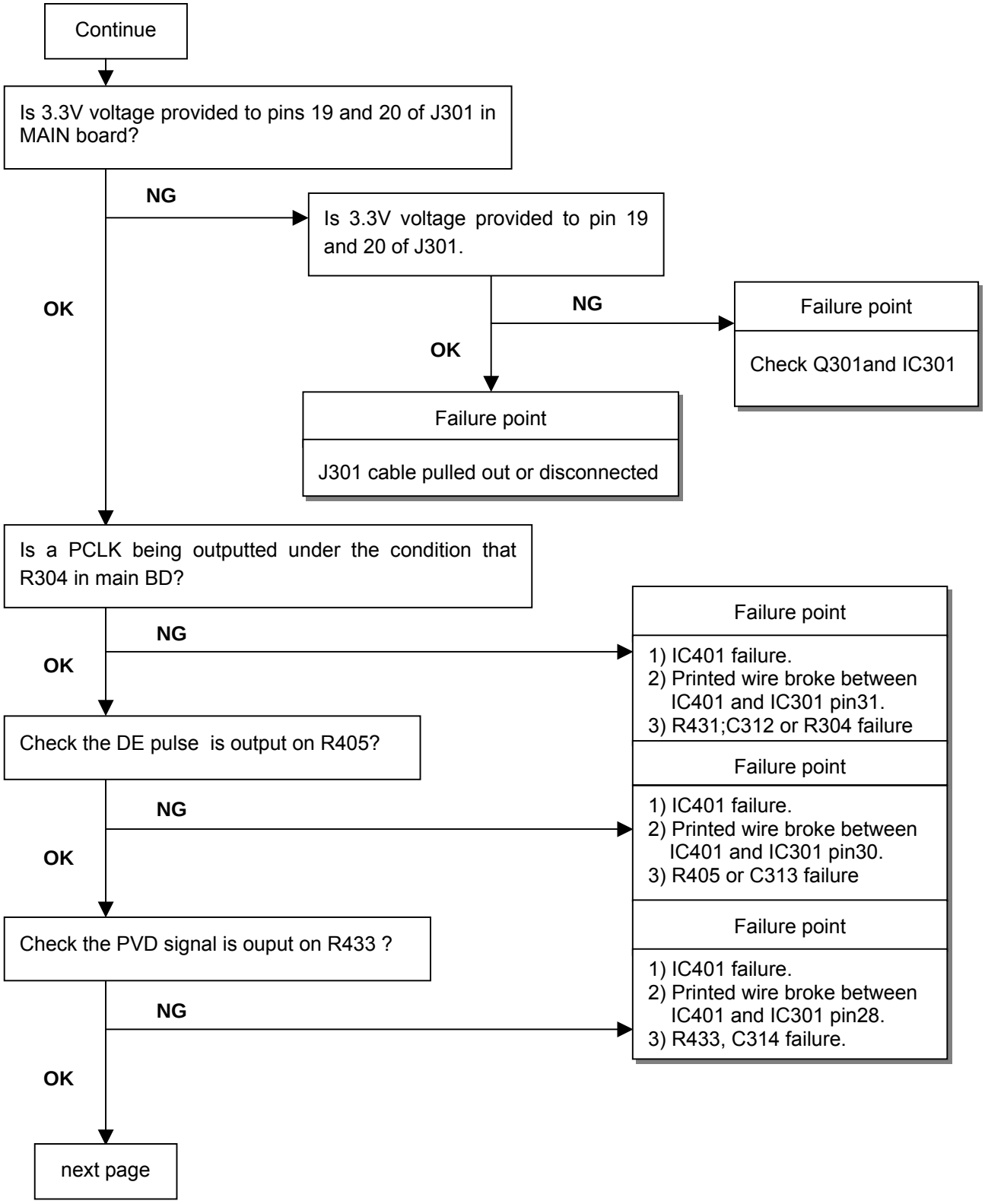
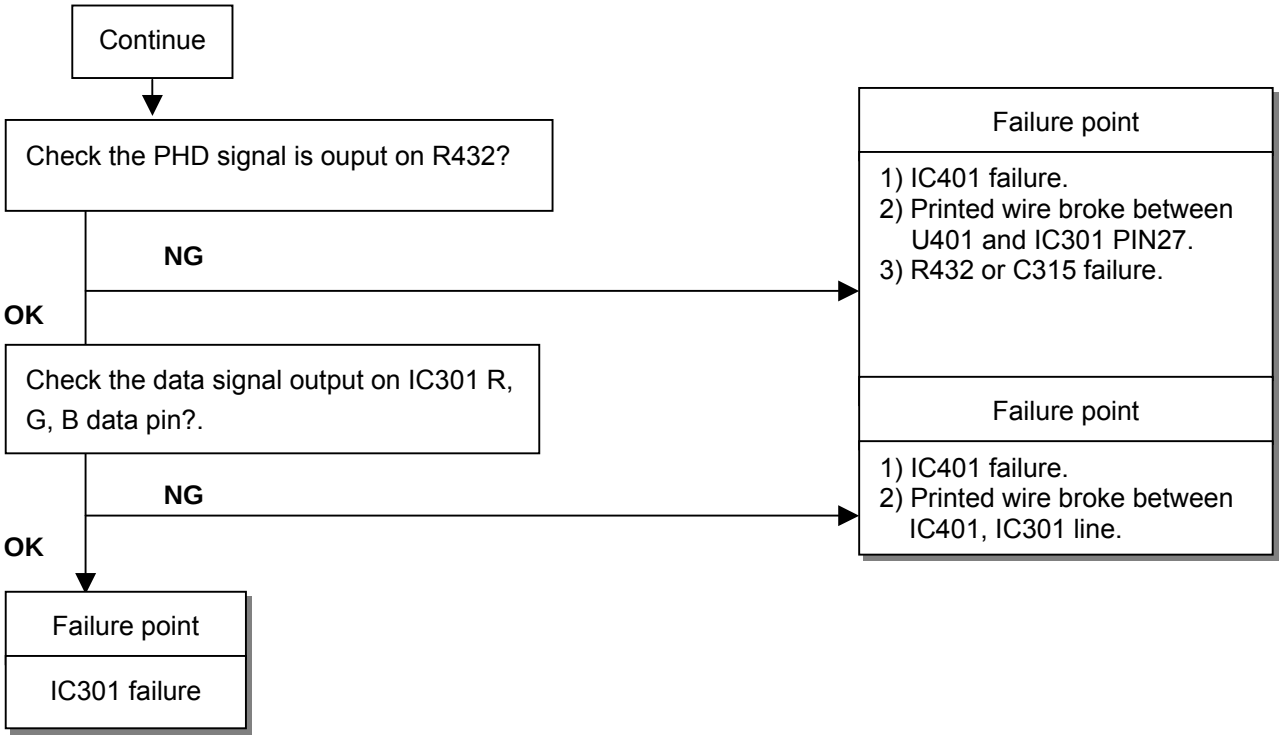
1. No display of screen (Screen is black, color of LED is amber)



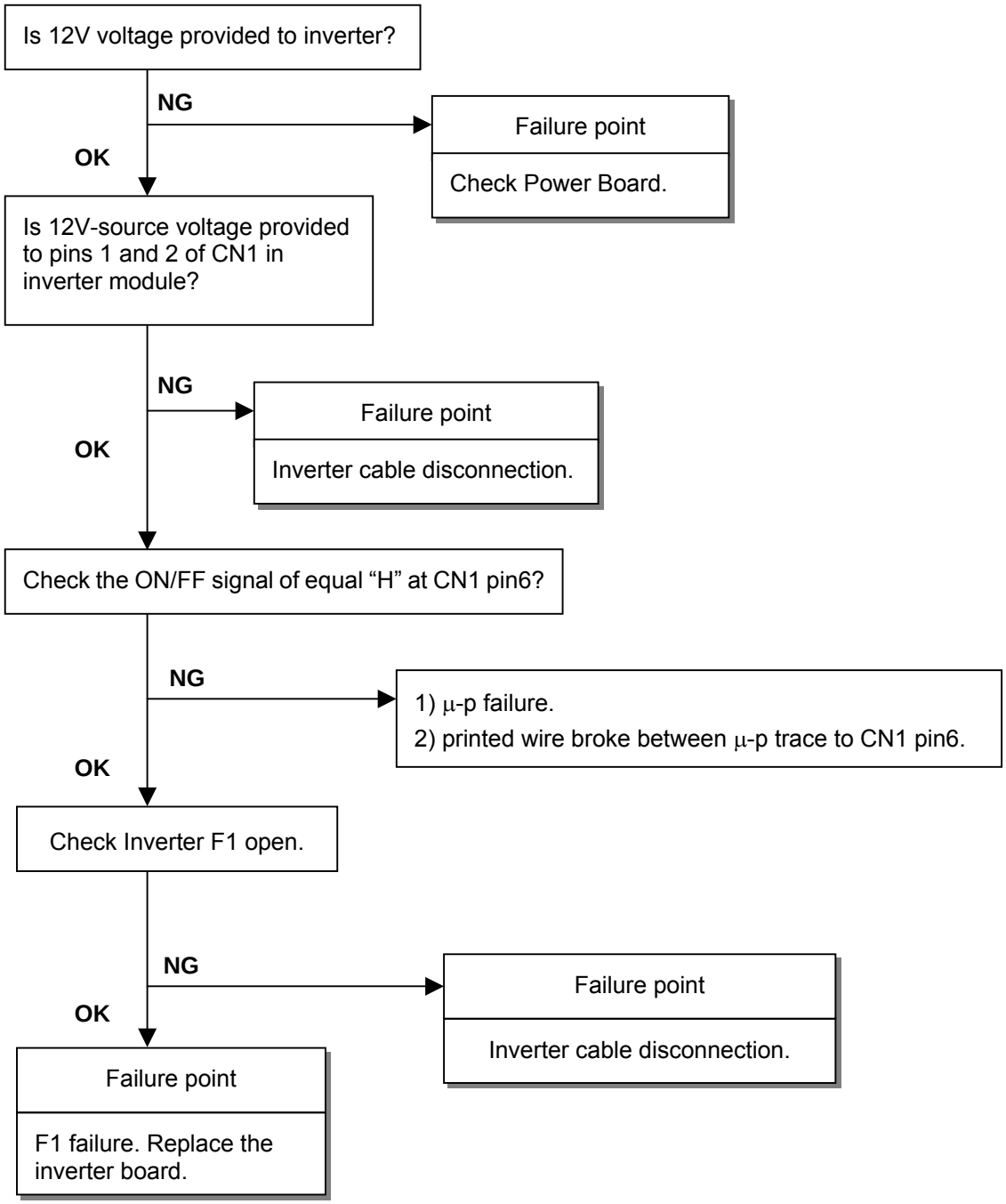
2. Nothing displays on screen (Screen is black, color of LED is green)



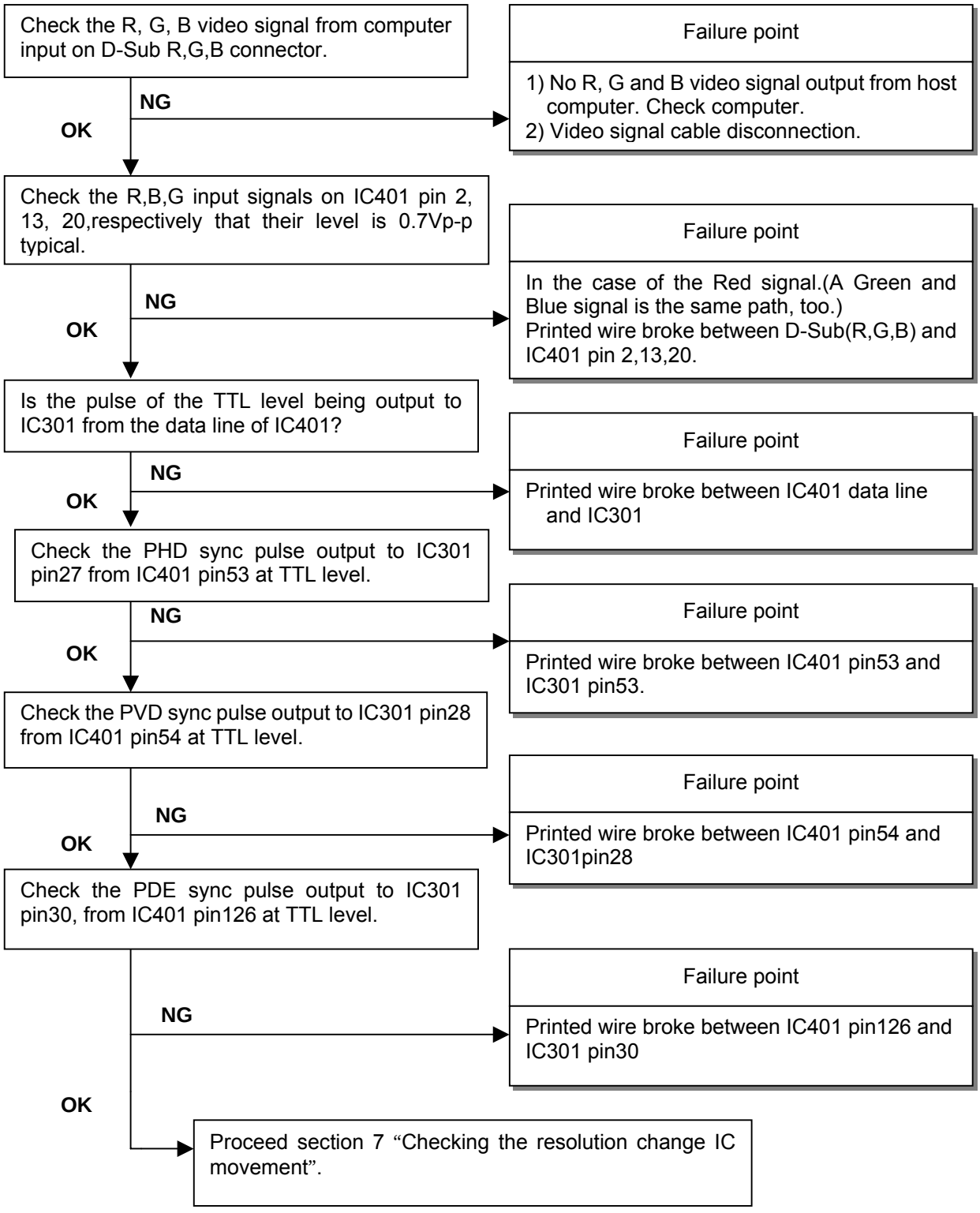

Continue
Is 3.3V voltage provided to pins 19 and 20 of J301 in MAIN board?
NG
Is 3.3V voltage provided to pin 19 and 20 of J301.
OK
NG
Failure point
Check Q301and IC301
OK
Failure point
J301 cable pulled out or disconnected
Is a PCLK being outputted under the condition that R304 in main BD?
NG
Failure point
1) IC401 failure.
2) Printed wire broke between IC401 and IC301 pin31.
3) R431;C312 or R304 failure
OK
Check the DE pulse is output on R405?
NG
Failure point
1) IC401 failure.
2) Printed wire broke between IC401 and IC301 pin30.
3) R405 or C313 failure
OK
Check the PVD signal is ouput on R433 ?
NG
Failure point
1) IC401 failure.
2) Printed wire broke between IC401 and IC301 pin28.
3) R433, C314 failure.
OK
next page


Continue
Check the PHD signal is ouput on R432?
NG
OK
Failure point
1) IC401 failure.
2) Printed wire broke between U401 and IC301 PIN27.
3) R432 or C315 failure.
Check the data signal output on IC301 R, G, B data pin?.
NG
OK
Failure point
1) IC401 failure.
2) Printed wire broke between IC401, IC301 line.
Failure point
IC301 failure

3. Checking the back light unit

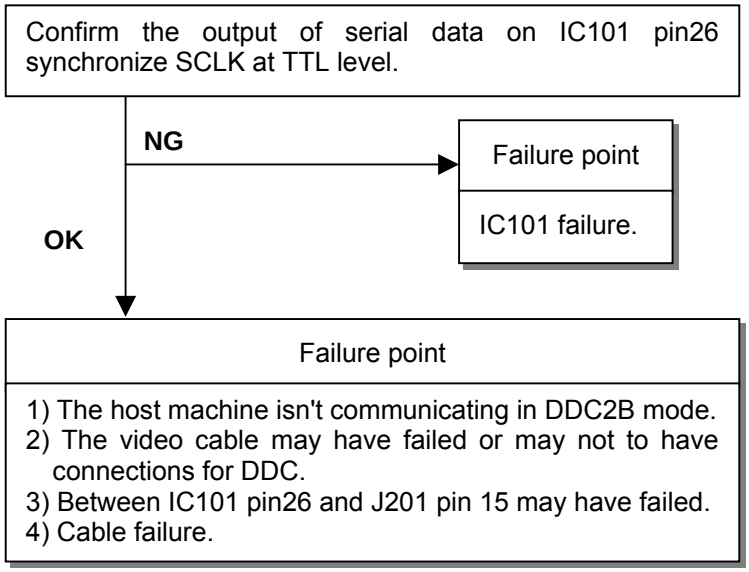


4. Abnormal screen



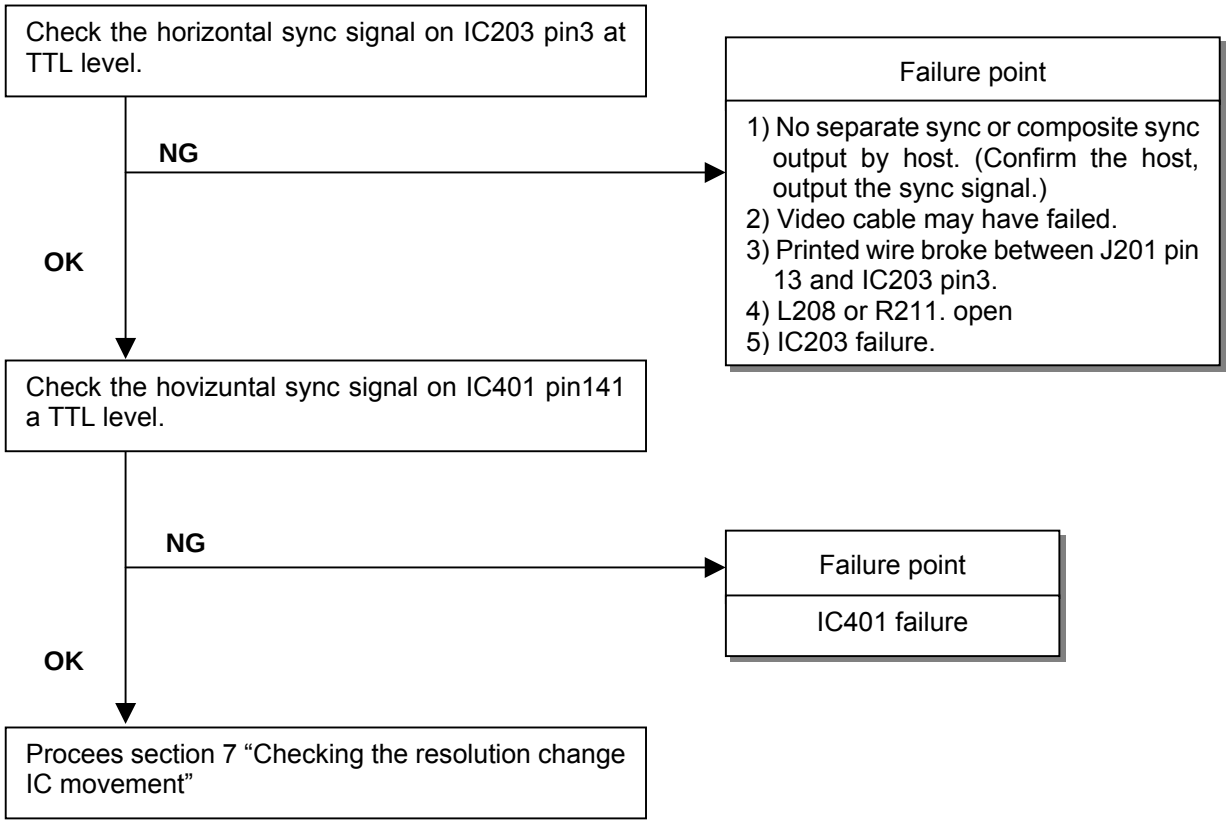
5. Abnormal plug and play operation

Abnormal DDC2B

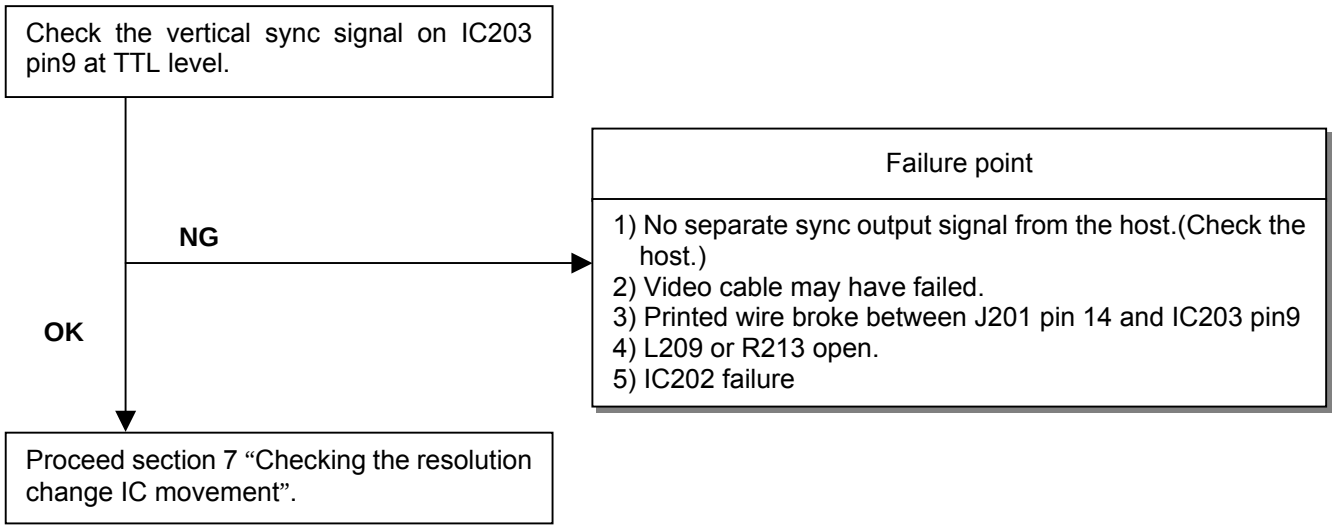


6. Checking the interface circuit of sync signal

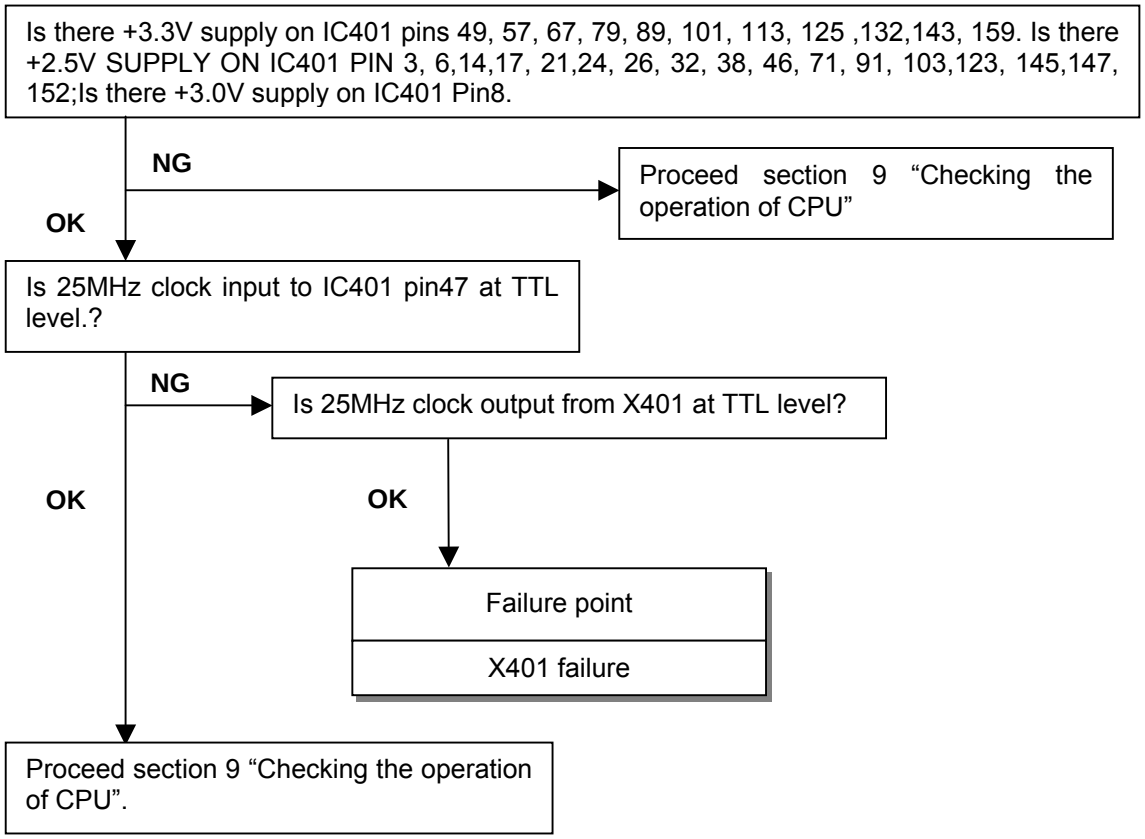
6.1 Checking the control circuit of horizontal sync pulse



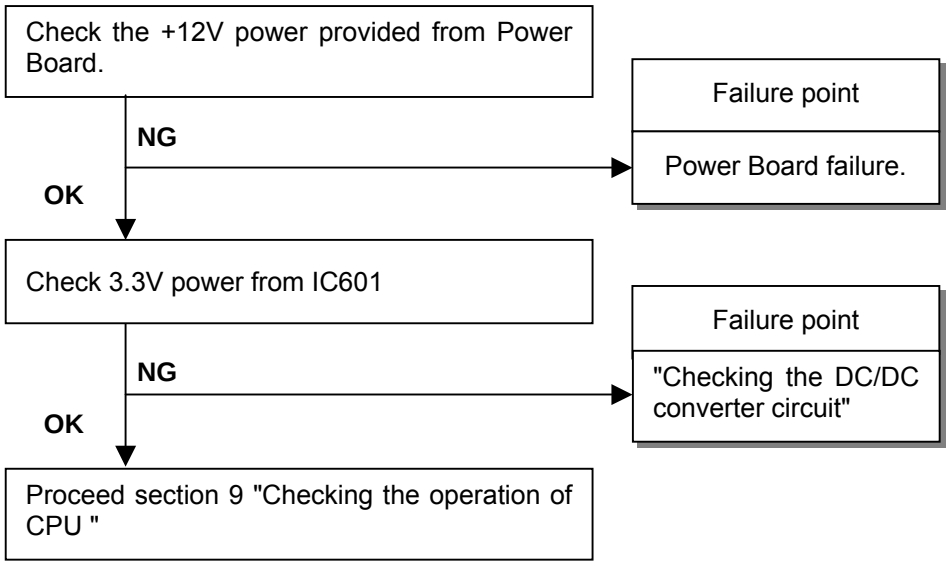
6.2 Checking the control circuit of vertical sync pulse



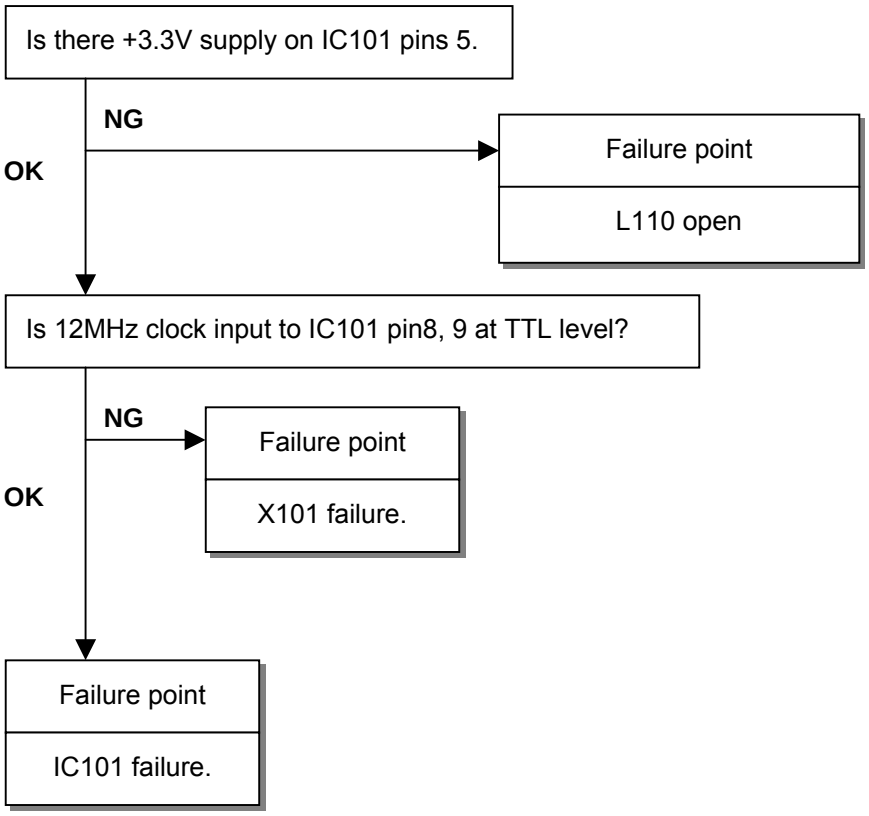
7. Checking the resolution change IC movement



8. No power on


Check the +12V power provided from Power Board.
NG
Failure point
Power Board failure.
OK
Check 3.3V power from IC601
NG
Failure point
"Checking the DC/DC converter circuit"
OK
Proceed section 9 "Checking the operation of CPU "

9. Checking the operation of CPU



CIRCUIT DESCRIPTION

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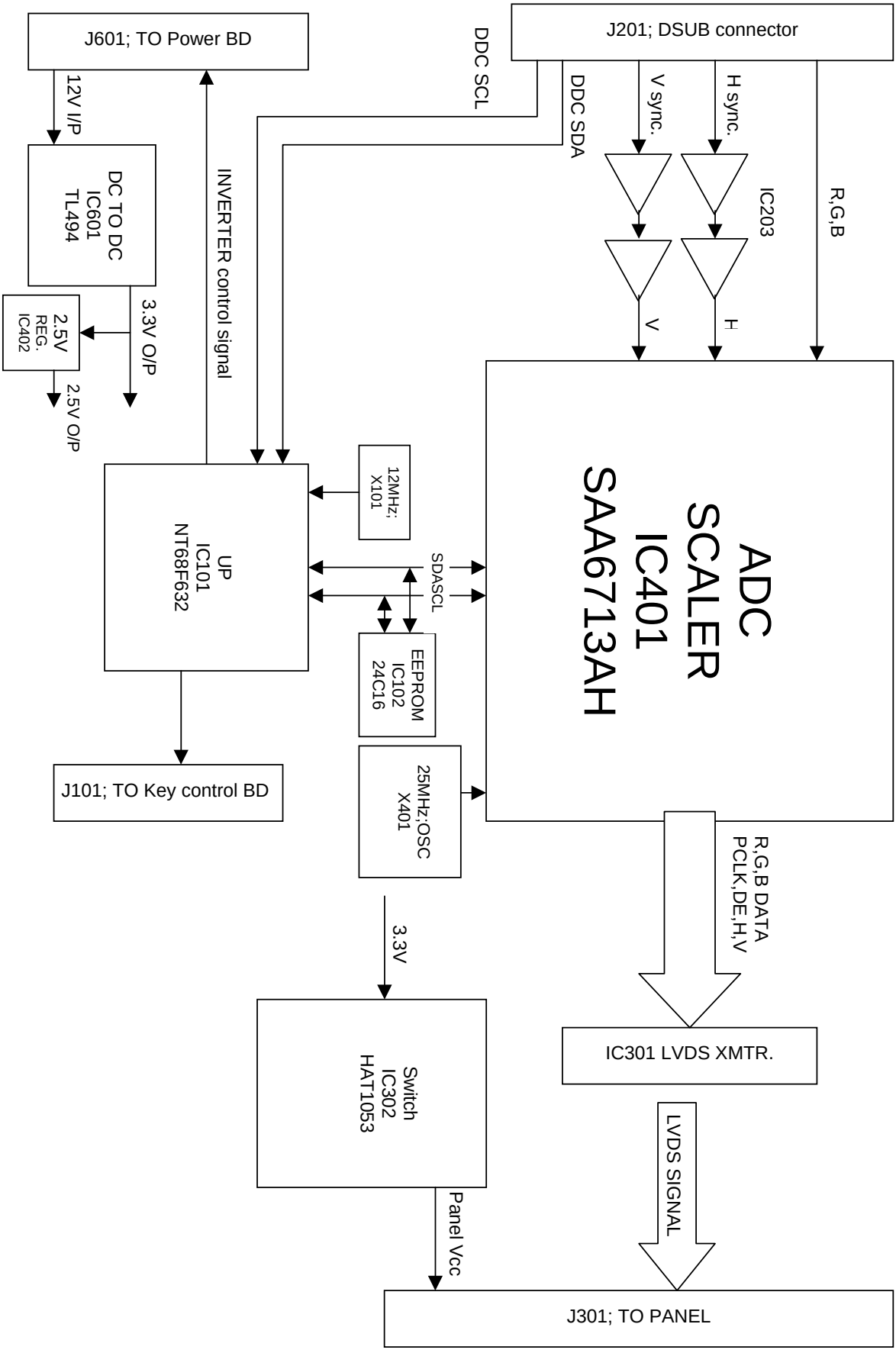
1. Block diagram



2. Power circuit

2.1 Power input

12V DC input from power Board through J601 to interface.

2.2 DC to DC circuit

IC610 is used generate the system power. It have built in 1 channel PWM controller to provide voltage output.

The output (3.3V) is provide panel Vcc and 2.5V regulator input.

and provide the Scaler and MCU power.

2.3 Panel Vcc control

Panel power control used Q301 and IC301 from IC101 (pin35) PANELVCC_CTL.

While the PANELVCC_CTL stay at High level ;the panel voltage is 3.3V.

While the PANELVCC_CTL stay at Low level ;the panel voltage is 0V.

3. Microprocessor control circuit

3.1 Clock circuit

The X101 is crystal ;it generates an 12MHz output for microprocessor.

3.2 I^2C buses

IC101 (pin 12) SDA Serial data

IC101 (pin 13) SCL Serial clock

This is I^2C serial communication bus and is used for READ or WRITE data communication of IC101 and IC401.

3.3 General-purpose port

3.3.1 Key scan status

IC101 pin16 is for “POWER”

IC101 pin17 is for OSD “RESET” adjust

IC101 pin18 is for OSD “SELECT” adjust

IC101 pin19 is for OSD “+” adjust

IC101 pin20 is for OSD “-” adjust

IC101 pin21 is for OSD “ ▸ ” adjust

IC101 pin22 is for OSD “ ◂ ” adjust

IC101 pin23 is for OSD “EXIT” adjust

3.3.2 Scaler control

IC101 pin15 (I/O) for scaler interrupt signal.

IC101 pin14 output scaler reset signal.

3.3.3 LED control

IC101 pin 2 control Q103 for Green LED lit.

IC101 pin 3 control Q102 for RED LED lit.

3.3.4 Data memory

The display control data are held by the EEPROM (IC102) ;These display control data are accessed through the I^2C bus of the MCU.

4. Scaler

The scaler IC (IC401) is controlled by MCU through the I^2C bus.

IC401 embeded the ADC provide with the analog interface input.

X401 output 25MHz fed to IC401.

IC203 schmitt trigger for sync.waveform processor. And fed to IC401 for mode detect.

REPLACEMENT PARTS LIST

The components specified for Model LCD1501

SYMBOL	Part No for NPG	Part No for NMV	DESCRIPTION
*** ICS ***			
IC101	EHA10341	79PQ5134	IC PLCC NT68F632 MCU 8BIT
IC102	EHA10391	79PQ5137	IC SMD M24C16-WMN6 EEPROM
IC203	EHA50011	79EN0560	IC MOS 74LVC14
IC301	EHA10381	79PQ5136	IC SMD THC63LVDM83R LVDS
IC401	EHA10061	79PQ5013	IC SMD SAA6713AH SCALER
IC402	EHA10311	79PQ5132	IC SMD MIC39100-2.5BS REG
IC601	EHA10331	79PQ5133	IC SMD TL494 SO16 PWM CTL
IC604	EHA10351	79PQ5135	IC SMD PQ05DZ51 SC-63 REG
IC901	EH170021	79PQ5012	IC TOP245Y HYBRID POWER
IC902	EH190021	79EN0553	IC PHOTO COUPLE PC123Y
IC921	EH190011	79EN0552	IC KIA431A-AT
*** TRANSISTORS ***			
IC302	EQ500117	79EN0587	FET CHIP HAT1053M
IC602	EQ500217	79EN0588	FET CHIP SI3457DV
Q101	EN000211	79EN0576	TR CHIP NPN DTC114EUA
Q102	EP000313	79EN0583	TR CHIP 2SA1037AK-T146R
Q103	EP000313	79EN0583	TR CHIP 2SA1037AK-T146R
Q203	EP000313	79EN0583	TR CHIP 2SA1037AK-T146R
Q301	EN000211	79EN0576	TR CHIP NPN DTC114EUA
Q401	EN000211	79EN0576	TR CHIP NPN DTC114EUA
Q402	EN000211	79EN0576	TR CHIP NPN DTC114EUA
Q403	EQ500411	79PQ5076	FET SMD P SI230IDS-TI
Q601	EN000413	79EN0578	TR CHIP 2SC2412K-T146R
Q602	EP000313	79EN0583	TR CHIP 2SA1037AK-T146R
Q603	EN000413	79EN0578	TR CHIP 2SC2412K-T146R
*** DIODES ***			
BD901	EJ000110	79EN0568	DIODE D2SB60A
D201	EX500216	79EN0594	DIODE CHIP DAN217 T146
D202	EX500216	79EN0594	DIODE CHIP DAN217 T146
D203	EX500216	79EN0594	DIODE CHIP DAN217 T146
D204	EX700216	79EN0596	DIODE RB495D
D205	EYD40562	79EN0598	ZD CHIP UDZS5.6B TE-17
D206	EYD40562	79EN0598	ZD CHIP UDZS5.6B TE-17
D207	EYD40562	79EN0598	ZD CHIP UDZS5.6B TE-17
D208	EYD40562	79EN0598	ZD CHIP UDZS5.6B TE-17
D209	EYD40562	79EN0598	ZD CHIP UDZS5.6B TE-17
D210	EYA30400	79PQ5139	ZD SMD HZK4A 1/2W
D211	EX700115	79EN0595	DIODE CHIP CRS01 C
D401	EYE40301	79PQ5028	ZD Z02W 3.0V

SYMBOL	Part No for NPG	Part No for NMV	DESCRIPTION
D601	EX500114	79EN0592	DIODE/T CHIP 1SS355TE-17
D602	EX700411	79PQ5027	DIODE SSM24
D603	EYD40562	79EN0598	ZD CHIP UDZS5.6B TE-17
D605	EX700411	79PQ5027	DIODE SSM24
D803	EL200110	79EN0573	DIODE LED SML19460C
D901	EJ300115	79EN0570	DIODE SF13
D902	EJ100041	79PQ5021	DI BYV26E 1A 1KV
D921	EJ100030	79PQ5020	DI FCQ10A06 10A 60V
PD901	EJ100061	79PQ5022	DI P6KE200A

*** TRANSFORMERS ***

T901	HE100061	79PQ5061	TRANS POWER 49A-1041

*** RELAYS & SWITCHES ***

SW800	JC300111	79EN0691	SW-TACT SKQNAED010
SW801	JC300111	79EN0691	SW-TACT SKQNAED010
SW802	JC300111	79EN0691	SW-TACT SKQNAED010
SW803	JC300111	79EN0691	SW-TACT SKQNAED010
SW804	JC300111	79EN0691	SW-TACT SKQNAED010
SW805	JC300111	79EN0691	SW-TACT SKQNAED010
SW806	JC300111	79EN0691	SW-TACT SKQNAED010
SW807	JC300111	79EN0691	SW-TACT SKQNAED010

*** PWB ASSYS ***

INBD	JM100021	79PQ5128	INVERTER BD. T301001.00
MANA	AM0R31ML	79PQ5080	MAIN INSERT ASSY
PWRNA	AP0R31ML	79PQ5081	POWER INSERT ASSY
SWNA	AS0R31ML	79PQ5082	SW INSERT ASSY

*** COILS & FILTERS ***

B901	HC011012	79EN0672	FERRITE WBRID-237555-H7S
B902	HC011012	79EN0672	FERRITE WBRID-237555-H7S
L101	HM011011	79EN0677	FERRITE BLM18AG121SN1
L102	HM011011	79EN0677	FERRITE BLM18AG121SN1
L103	HM011011	79EN0677	FERRITE BLM18AG121SN1
L104	HM011011	79EN0677	FERRITE BLM18AG121SN1
L105	HM011011	79EN0677	FERRITE BLM18AG121SN1
L106	HM011011	79EN0677	FERRITE BLM18AG121SN1
L107	HM011011	79EN0677	FERRITE BLM18AG121SN1
L108	HM011011	79EN0677	FERRITE BLM18AG121SN1
L109	HM011011	79EN0677	FERRITE BLM18AG121SN1
L110	HM011011	79EN0677	FERRITE BLM18AG121SN1
L111	HM011011	79EN0677	FERRITE BLM18AG121SN1
L112	HM011691	79EN0682	FERRITE BK1608HS102-T
L113	HM011691	79EN0682	FERRITE BK1608HS102-T
L201	HM011102	79EN0678	FERRITE CHIP BLM21B750SPT
L202	HM011102	79EN0678	FERRITE CHIP BLM21B750SPT
L203	HM011102	79EN0678	FERRITE CHIP BLM21B750SPT

SYMBOL	Part No for NPG	Part No for NMV	DESCRIPTION
L204	HM011011	79EN0677	FERRITE BLM18AG121SN1
L206	HM011011	79EN0677	FERRITE BLM18AG121SN1
L208	HM011532	79EN0680	FERRITE CHIP BK2125HS431
L209	HM011532	79EN0680	FERRITE CHIP BK2125HS431
L211	HM011011	79EN0677	FERRITE BLM18AG121SN1
L301	HM011011	79EN0677	FERRITE BLM18AG121SN1
L302	HM011011	79EN0677	FERRITE BLM18AG121SN1
L303	HM011011	79EN0677	FERRITE BLM18AG121SN1
L304	HM011191	79EN0679	FERRITE BLM18PG121SN1D
L401	HM011011	79EN0677	FERRITE BLM18AG121SN1
L402	HM011011	79EN0677	FERRITE BLM18AG121SN1
L403	HM011011	79EN0677	FERRITE BLM18AG121SN1
L404	HM011011	79EN0677	FERRITE BLM18AG121SN1
L405	HM011011	79EN0677	FERRITE BLM18AG121SN1
L407	HM011011	79EN0677	FERRITE BLM18AG121SN1
L408	HM011011	79EN0677	FERRITE BLM18AG121SN1
L409	HM011191	79EN0679	FERRITE BLM18PG121SN1D
L410	HM011011	79EN0677	FERRITE BLM18AG121SN1
L411	HM011011	79EN0677	FERRITE BLM18AG121SN1
L412	HM011011	79EN0677	FERRITE BLM18AG121SN1
L413	HM011011	79EN0677	FERRITE BLM18AG121SN1
L601	HA200051	79PQ5059	L CHOKE 33UH
L602	HM011191	79EN0679	FERRITE BLM18PG121SN1D
L603	HM011191	79EN0679	FERRITE BLM18PG121SN1D
L604	HM011191	79EN0679	FERRITE BLM18PG121SN1D
L901	HA100101	79PQ5058	LINE FILT 30.5MH HFZ20H03
L932	HA200071	79PQ5060	L CHOKE 33UH 2A 49A-2003
L933	HA200071	79PQ5060	L CHOKE 33UH 2A 49A-2003

*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***

CAVGD	RE010081	79PQ5083	CABLE VIDEO GR DSUB-DSUB
CON12	RC200121	79PQ5162	WIRE 12P-12P L120
CON20	RC200131	79PQ5163	WIRE 20P-20P L120
CONSW	RC900051	79PQ5160	LEAD CONNCTOR ASSY-SW BLK
F601	JA490012	79PQ5155	FUSE SMD 61TD 1A
F901	JA270016	79EN0689	FUSE MRT 3.15AH 250V
LCD	-----	3A684033	LCD LM150X06-A3
P901	JD030011	79PQ5156	SOCKET AC 7002(PCB-1)
PWCR	RG030051	79PQ5084	PW CORD EU 2M BLK WANSHIN
RV901	FD300018	79EN0610	VARISTOR ENE471D-10A
TH901	FD200011	79EN0609	THERMISTOR SCK103
X101	EM100041	79PQ5138	X'TAL 49U/S 12MHZ
X401	EM2K0021	79PQ5024	OSC SMD FN2500002 25M 50P

*** APPEARANCE PARTS ***

CVCA	11001671	79PQ5109	COVER CABLE(BK)
CVFA	10103201	79PQ5101	COVER FRONT ASSY(LCD1501B
CVHNR	11001641	79PQ5103	COVER HINGE(R)

SYMBOL	Part No for NPG	Part No for NMV	DESCRIPTION
CVHNT	11001631	79PQ5110	COVER HINGE(T)(BK)
CVRA	10103231	79PQ5102	COVER REAR ASSY(LCD1501BK
CVSTF	11001651	79PQ5111	COVER STAND FRONT(BK)
CVSTR	11001661	79PQ5112	COVER STAND REAR(BK)
FOOT	17001241	79PQ5165	PAD FOOT
SBASE	12300841	79PQ5164	SHIELD BASE
TLBAS	11001621	79PQ5158	TILT BASE
VEBK	12300511	79EN0526	VESA,BKT

*** PRINTED & PACKING MATERIALS ***

BAG	13700321	79PQ5130	PE BAG (750*450MM)
CARTON	13202231	79PQ5105	CARTON(LCD1501)
CASH	15800181	79PQ5131	CAUTION SHEET
CD	19700181	79PQ5108	CD FOR LCD1501
EPSH	13700341	79PQ5127	EPE SHEET
HALCD	13201621	79EN0730	HANDLE
IDLA	15001931	79PQ5104	RATING LABEL(LCD1501)
LABEL	15900251	79PQ2790	NAVISET CARTON BOX FLYER
MANUAL	15501471	79PQ5106	OWNERS MANUAL(LCD1501)
PEBAG	13700251	79PQ5129	PE BAG (340*225)
PLL	13401011	79PQ5126	POLYLON(B/L)
PLR	13401001	79PQ5125	POLYLON(B/R)
PLT	13400991	79PQ5124	POLYLON(T)
SAFL	15900055	79PQ2203	SALES OFFICE LIST
SESH	15800201	79PQ5107	SETUP SHEET FOR LCD1501

*** RESISTORS ***

L205	FM010000	79EN0175	R SMD 1/10W(T) 5% 0
L207	FM010000	79EN0175	R SMD 1/10W(T) 5% 0
R106	FM010101	79EN0615	R CHIP 1/10W(T) 5% 100
R107	FM010101	79EN0615	R CHIP 1/10W(T) 5% 100
R108	FM010101	79EN0615	R CHIP 1/10W(T) 5% 100
R111	FP222223	79PQ5147	R NETWORK 1/10W(T)5% 2.2K
R114	FP222223	79PQ5147	R NETWORK 1/10W(T)5% 2.2K
R115	FP222223	79PQ5147	R NETWORK 1/10W(T)5% 2.2K
R117	FM100472	79PQ1899	CHIP 1/8W(T) 5% 4.7K
R118	FM100472	79PQ1899	CHIP 1/8W(T) 5% 4.7K
R119	FM510221	79PQ5046	R SMD METAL 1/3W 220H J
R120	FM100472	79PQ1899	CHIP 1/8W(T) 5% 4.7K
R121	FM100472	79PQ1899	CHIP 1/8W(T) 5% 4.7K
R122	FM510221	79PQ5046	R SMD METAL 1/3W 220H J
R123	FM010222	79EN0617	R CHIP 1/10W(T) 5% 2.2K
R124	FM010103	79EN0178	R SMD 1/10W(T) 5% 10K
R125	FM010000	79EN0175	R SMD 1/10W(T) 5% 0
R126	FM010222	79EN0617	R CHIP 1/10W(T) 5% 2.2K
R127	FM010222	79EN0617	R CHIP 1/10W(T) 5% 2.2K
R128	FM010222	79EN0617	R CHIP 1/10W(T) 5% 2.2K
R202	FM100330	79PQ5043	R SMD METAL 1/8W 33H J

SYMBOL	Part No for NPG	Part No for NMV	DESCRIPTION
R206	FM010473	79PQ5039	CHIP 1/10W(T) 5% 47K
R207	FM010473	79PQ5039	CHIP 1/10W(T) 5% 47K
R209	FM010000	79EN0175	R SMD 1/10W(T) 5% 0
R210	FM010000	79EN0175	R SMD 1/10W(T) 5% 0
R211	FM100101	79PQ1891	CHIP 1/8W(T) 5% 100H
R212	FM010101	79EN0615	R CHIP 1/10W(T) 5% 100
R213	FM100101	79PQ1891	CHIP 1/8W(T) 5% 100H
R214	FM010101	79EN0615	R CHIP 1/10W(T) 5% 100
R215	FM100222	79EN0226	R SMD 1/8W(T) 5% 2.2K
R216	FM100222	79EN0226	R SMD 1/8W(T) 5% 2.2K
R226	FP225103	79PQ5149	R NETWORK 1/10W(T) 5% 51H
R229	FM010222	79EN0617	R CHIP 1/10W(T) 5% 2.2K
R230	FM010222	79EN0617	R CHIP 1/10W(T) 5% 2.2K
R231	FM010103	79EN0178	R SMD 1/10W(T) 5% 10K
R302	FM010103	79EN0178	R SMD 1/10W(T) 5% 10K
R303	FM100103	79PQ1893	CHIP 1/8W(T) 5% 10K
R304	FM010000	79EN0175	R SMD 1/10W(T) 5% 0
R401	FM010472	79EN0185	R SMD 1/10W(T) 5% 4.7K
R402	FM010471	79PQ5038	CHIP 1/10W(T) 5% 470H
R403	FM010103	79EN0178	R SMD 1/10W(T) 5% 10K
R404	FM010103	79EN0178	R SMD 1/10W(T) 5% 10K
R405	FM010470	79EN0623	R CHIP 1/10W(T) 5% 47
R406	FM100510	79PQ5044	CHIP 1/8W(T) 5% 51H
R408	FM100000	79PQ1890	CHIP 1/8W(T) 5% 0 H
R409	FP224703	79PQ5148	R NETWORK 1/10W(T) 5% 47H
R410	FM100390	79EN0231	R SMD 1/8W(T) 5% 39
R411	FM100390	79EN0231	R SMD 1/8W(T) 5% 39
R412	FM100270	79EN0228	R SMD 1/8W(T) 5% 27
R413	FP224703	79PQ5148	R NETWORK 1/10W(T) 5% 47H
R414	FM100000	79PQ1890	CHIP 1/8W(T) 5% 0 H
R415	FM100123	79EN0223	R SMD 1/8W(T) 5% 12K
R416	FP224703	79PQ5148	R NETWORK 1/10W(T) 5% 47H
R417	FM100000	79PQ1890	CHIP 1/8W(T) 5% 0 H
R418	FM100390	79EN0231	R SMD 1/8W(T) 5% 39
R419	FM100390	79EN0231	R SMD 1/8W(T) 5% 39
R420	FP224703	79PQ5148	R NETWORK 1/10W(T) 5% 47H
R421	FM100270	79EN0228	R SMD 1/8W(T) 5% 27
R422	FM100390	79EN0231	R SMD 1/8W(T) 5% 39
R423	FM100390	79EN0231	R SMD 1/8W(T) 5% 39
R424	FM100270	79EN0228	R SMD 1/8W(T) 5% 27
R425	FP224703	79PQ5148	R NETWORK 1/10W(T) 5% 47H
R426	FP224703	79PQ5148	R NETWORK 1/10W(T) 5% 47H
R428	FM010472	79EN0185	R SMD 1/10W(T) 5% 4.7K
R429	FM010472	79EN0185	R SMD 1/10W(T) 5% 4.7K
R430	FM010151	79PQ5036	CHIP 1/10W(T) 5% 150H
R431	FM010470	79EN0623	R CHIP 1/10W(T) 5% 47
R432	FM010470	79EN0623	R CHIP 1/10W(T) 5% 47
R433	FM010470	79EN0623	R CHIP 1/10W(T) 5% 47

SYMBOL	Part No for NPG	Part No for NMV	DESCRIPTION
R434	FM100330	79PQ5043	R SMD METAL 1/8W 33H J
R435	FM010472	79EN0185	R SMD 1/10W(T) 5% 4.7K
R445	FM010472	79EN0185	R SMD 1/10W(T) 5% 4.7K
R601	FM010472	79EN0185	R SMD 1/10W(T) 5% 4.7K
R602	FM010102	79EN0180	R SMD 1/10W(T) 5% 1K
R603	FM100000	79PQ1890	CHIP 1/8W(T) 5% 0 H
R604	FM100000	79PQ1890	CHIP 1/8W(T) 5% 0 H
R605	FN011001	79EN0159	R SMD 1/10W(T) 1% 1K
R606	FM010511	79PQ5145	CHIP 1/10W(T) 5% 510H
R607	FM100100	79EN0222	R SMD 1/8W(T) 5% 10
R608	FM010362	79PQ5144	CHIP 1/10W(T) 5% 3.6K
R609	FM010124	79PQ5143	CHIP 1/10W(T) 5% 120K
R610	FM010105	79EN0616	R CHIP 1/10W(T) 5% 1M
R611	FM010103	79EN0178	R SMD 1/10W(T) 5% 10K
R613	FM010512	79PQ5146	CHIP 1/10W(T) 5% 5.1K
R615	FM010103	79EN0178	R SMD 1/10W(T) 5% 10K
R616	FM010103	79EN0178	R SMD 1/10W(T) 5% 10K
R617	FM010102	79EN0180	R SMD 1/10W(T) 5% 1K
R625	FM010221	79EN0181	R SMD 1/10W(T) 5% 220
R626	FM010221	79EN0181	R SMD 1/10W(T) 5% 220
R627	FM010472	79EN0185	R SMD 1/10W(T) 5% 4.7K
R628	FN012201	79EN0160	R SMD 1/10W(T) 1% 2.2K
R901	FK004091	79EN0614	R METAL 1/2W(T) 5% 470K
R902	FK005141	79PQ5141	R M-GLAZE 1/4W 1.0M J(T)
R903	FK005141	79PQ5141	R M-GLAZE 1/4W 1.0M J(T)
R905	FK005191	79PQ5142	R M-GLAZE 1/4W 2.7M J(T)
R906	FK005191	79PQ5142	R M-GLAZE 1/4W 2.7M J(T)
R907	FB279091	79PQ5035	METAL 1/4W/M(T) 1% 9.09K
R908	FA270689	79PQ5030	CARBON 1/4W/M(T) 5% 6.8H
R921	FA360471	79PQ5032	CARBON 1/2W/M(T) 5% 470H
R922	FA270102	79PQ1828	CARBON 1/4W/M(T) 5% 1K
R924	FB271852	79PQ5033	METAL 1/4W/M(T) 1% 18.5K
R925	FB274871	79PQ5034	METAL 1/4W/M(T) 1% 4.87K
R926	FB273302	79PQ1870	METAL 1/4W/M(T) 1% 33K
R931	FB570120	79PQ5140	R MOF 2W 12H J M B
R932	FB570120	79PQ5140	R MOF 2W 12H J M B

*** CAPACITORS ***

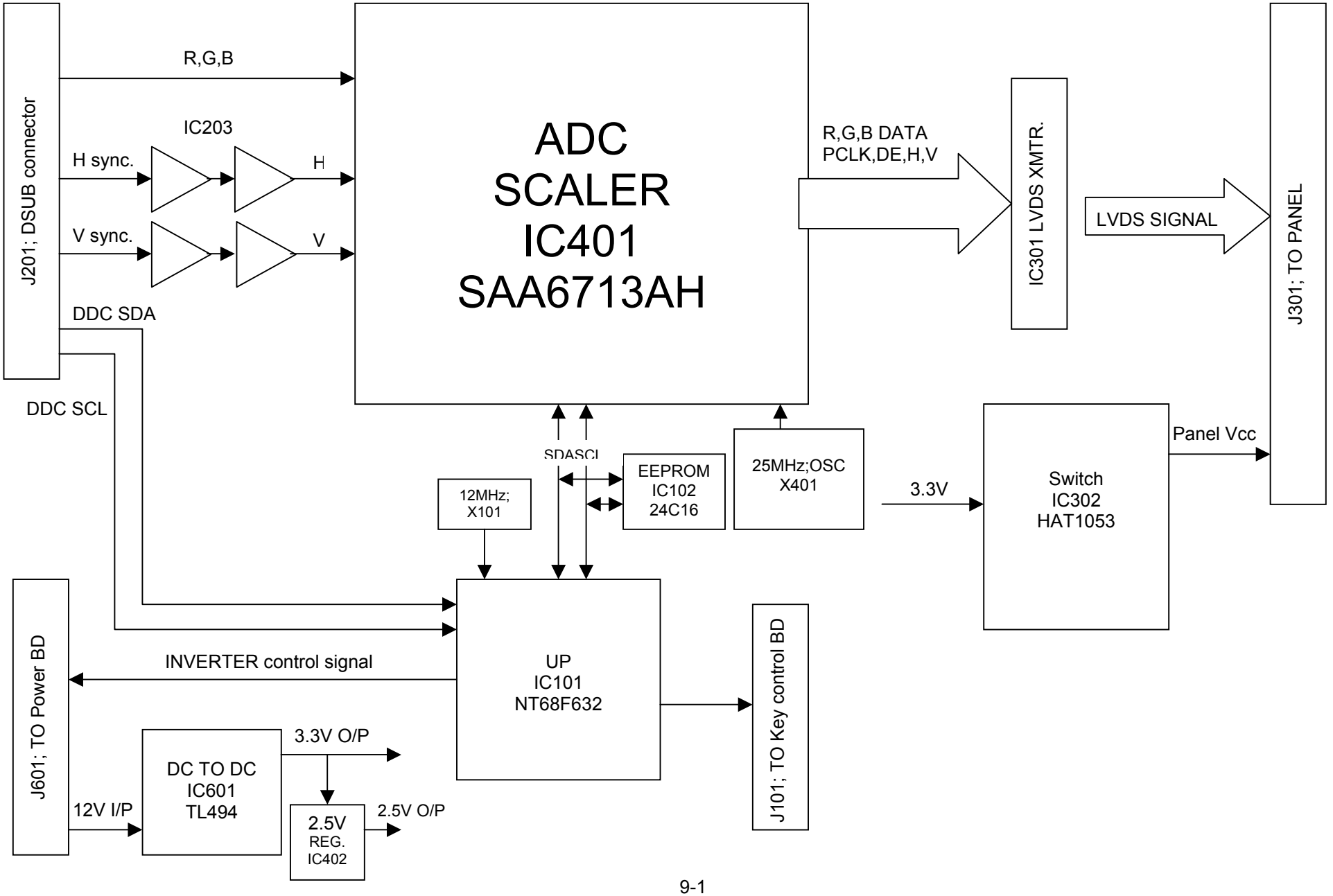
C101	GN310629	79PQ5054	C SMD ELE85 16V 10U M
C102	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C103	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C104	GN310629	79PQ5054	C SMD ELE85 16V 10U M
C105	GM422052	79EN0509	C SMD NPO/T 22P/50V J
C106	GM422052	79EN0509	C SMD NPO/T 22P/50V J
C107	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C108	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C109	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C112	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K

SYMBOL	Part No for NPG	Part No for NMV	DESCRIPTION
C113	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C114	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C115	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C116	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C117	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C118	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C123	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C124	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C125	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C205	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C206	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C207	GM447052	79EN0660	C CERA NPO/T 47P/50V J
C208	GM447052	79EN0660	C CERA NPO/T 47P/50V J
C301	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C302	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C303	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C304	GN310629	79PQ5054	C SMD ELE85 16V 10U M
C305	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C306	GN310629	79PQ5054	C SMD ELE85 16V 10U M
C307	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C308	GN310629	79PQ5054	C SMD ELE85 16V 10U M
C309	GN310729	79PQ5055	C SMD ELE85 16V 100U M
C310	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C311	GN310629	79PQ5054	C SMD ELE85 16V 10U M
C312	GM422052	79EN0509	C SMD NPO/T 22P/50V J
C313	GM41005D	79EN0659	C CERA NPO/T 10P/50V D
C314	GM41005D	79EN0659	C CERA NPO/T 10P/50V D
C315	GM41005D	79EN0659	C CERA NPO/T 10P/50V D
C401	GN347629	79PQ5056	C SMD ELE85 16V 47U M
C402	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C403	GM41051K	79PQ5150	C SMD CER B 1U/10V 0603
C404	GN347629	79PQ5056	C SMD ELE85 16V 47U M
C405	GM447152	79EN0514	C SMD NPO/T 470P/50V J
C406	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C407	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C408	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C409	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C410	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C411	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C412	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C413	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C414	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C415	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C416	GN347629	79PQ5056	C SMD ELE85 16V 47U M
C417	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C418	GM410232	79EN0501	C SMD NPO/T 1000P/25V J
C419	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C420	GM433333	79PQ5153	C CERA X7R/T 0.033U/16V K

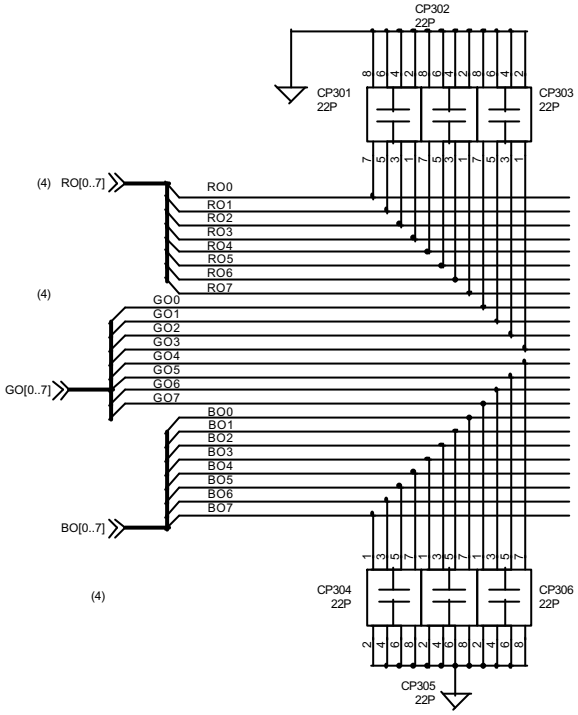
SYMBOL	Part No for NPG	Part No for NMV	DESCRIPTION
C421	GM433333	79PQ5153	C CERA X7R/T 0.033U/16V K
C422	GM422333	79PQ5152	C CERA X7R/T 0.022U/16V K
C423	GM433333	79PQ5153	C CERA X7R/T 0.033U/16V K
C424	GM433333	79PQ5153	C CERA X7R/T 0.033U/16V K
C425	GM433333	79PQ5153	C CERA X7R/T 0.033U/16V K
C426	GM433333	79PQ5153	C CERA X7R/T 0.033U/16V K
C427	GN347629	79PQ5056	C SMD ELE85 16V 47U M
C429	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C430	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C431	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C432	GN347629	79PQ5056	C SMD ELE85 16V 47U M
C433	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C434	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C435	GN347629	79PQ5056	C SMD ELE85 16V 47U M
C436	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C437	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C438	GM410232	79EN0501	C SMD NPO/T 1000P/25V J
C439	GN347629	79PQ5056	C SMD ELE85 16V 47U M
C440	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C441	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C442	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C443	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C444	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C445	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C446	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C447	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C448	GM415052	79PQ5151	C CERA NPO/T 15P/50V J
C449	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C450	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C451	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C452	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C453	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C454	GM410423	79EN0504	C SMD X7R/T 0.1U/16V K
C600	GM41051K	79PQ5150	C SMD CER B 1U/10V 0603
C601	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C602	GNM47738	79EN0664	C ELE 105C 470U/25V M
C603	GM422333	79PQ5152	C CERA X7R/T 0.022U/16V K
C606	GM410232	79EN0501	C SMD NPO/T 1000P/25V J
C607	GM410232	79EN0501	C SMD NPO/T 1000P/25V J
C608	GM41051K	79PQ5150	C SMD CER B 1U/10V 0603
C613	GN310729	79PQ5055	C SMD ELE85 16V 100U M
C614	GNM47738	79EN0664	C ELE 105C 470U/25V M
C615	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C616	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C618	GM410232	79EN0501	C SMD NPO/T 1000P/25V J
C619	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C620	GN310629	79PQ5054	C SMD ELE85 16V 10U M
C621	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K

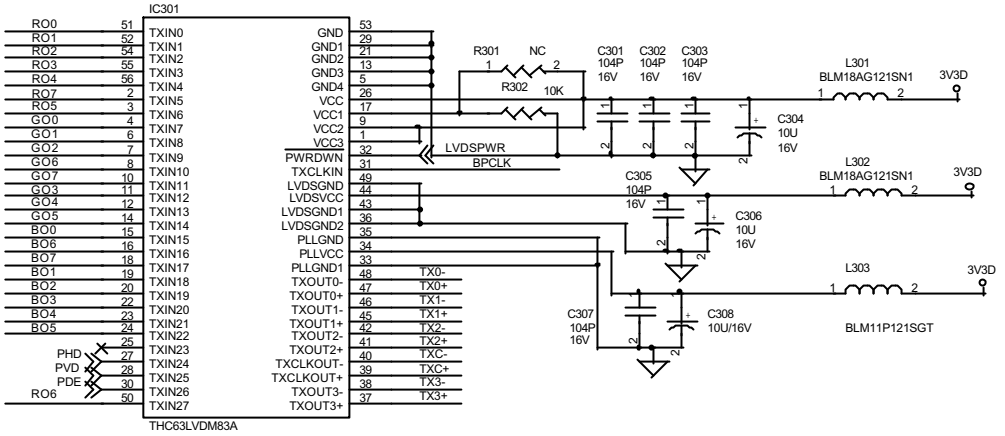
SYMBOL	Part No for NPG	Part No for NMV	DESCRIPTION
C622	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C623	GM410353	79EN0503	C SMD X7R/T 0.01U/50V K
C902	GJ033417	79PQ5051	C SAFETY-X 0.33U/275V M
C903	GJC10285	79EN0655	C SAFETY Y/D 1000P/250V M
C904	GJC10285	79EN0655	C SAFETY Y/D 1000P/250V M
C905	GAY00010	79PQ5049	C ELE105 100U 400V M HITA
C906	GB7103H3	79PQ1746	CERAMIC Y5P(B)/T0.01U/1KV
C907	GA310555	79PQ0196	ELECT 85°C/T 1U/50V M
C908	GF210452	79PQ0752	MEF CAP BOX 0.1U/50V J
C909	GA347655	79PQ1267	C,ELEC 47UF 50V M
C910	GJC22285	79EN0656	C SAFETY Y/D 2200P/250V M
C911	GB7103H3	79PQ1746	CERAMIC Y5P(B)/T0.01U/1KV
C912	GB210458	79PQ0228	CERAMIC Y5V/T 0.1U/50V Z
C921	GAM68737	79EN0644	C ELE 105C/T 680U/25V M
C922	GAM68737	79EN0644	C ELE 105C/T 680U/25V M
C923	GF233252	79PQ5050	MEF CAP BOX 0.0033U/50V J
C924	GF210452	79PQ0752	MEF CAP BOX 0.1U/50V J
C932	GAM22737	79EN0642	C ELE 105C/T 220U/25V M
C933	GAM22737	79EN0642	C ELE 105C/T 220U/25V M
C935	GB210458	79PQ0228	CERAMIC Y5V/T 0.1U/50V Z
C936	GB210458	79PQ0228	CERAMIC Y5V/T 0.1U/50V Z
C937	GB210458	79PQ0228	CERAMIC Y5V/T 0.1U/50V Z
CP301	GXY00011	79PQ5154	C SMD NETWORK NPO 22P 50V
CP302	GXY00011	79PQ5154	C SMD NETWORK NPO 22P 50V
CP303	GXY00011	79PQ5154	C SMD NETWORK NPO 22P 50V
CP304	GXY00011	79PQ5154	C SMD NETWORK NPO 22P 50V
CP305	GXY00011	79PQ5154	C SMD NETWORK NPO 22P 50V
CP306	GXY00011	79PQ5154	C SMD NETWORK NPO 22P 50V

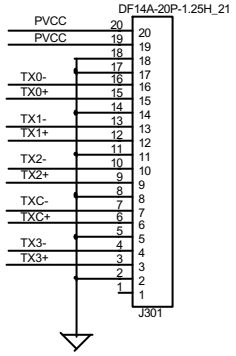
BLOCK DIAGRAM INTERFACE BOARD

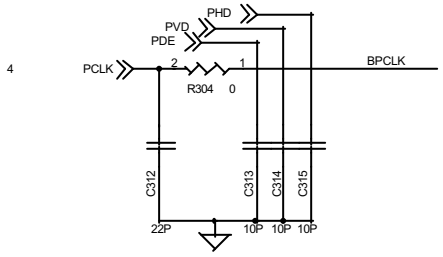


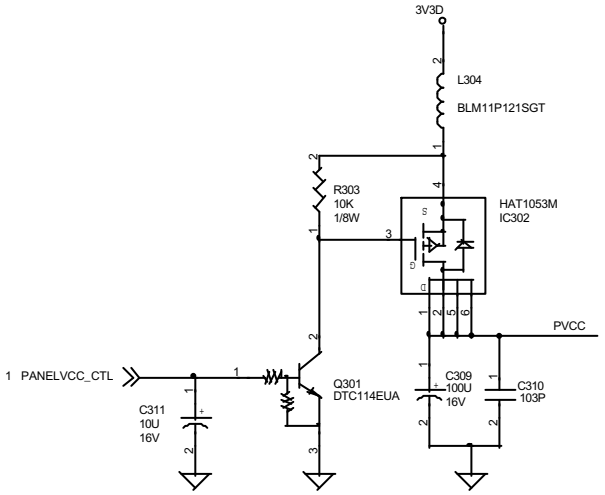
SCHEMATIC DIAGRAM MAIN BOARD (LVDS) (1/5)



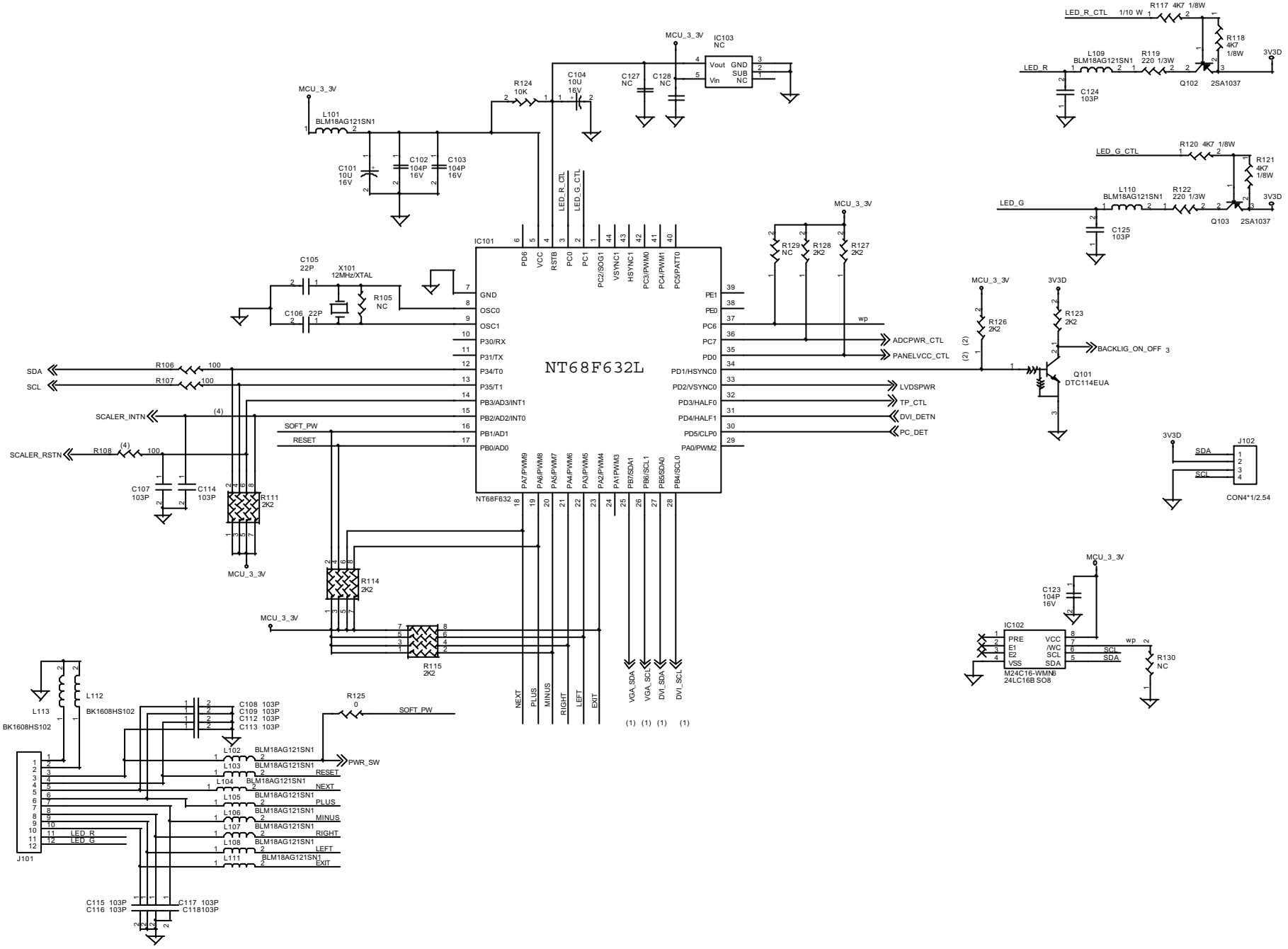




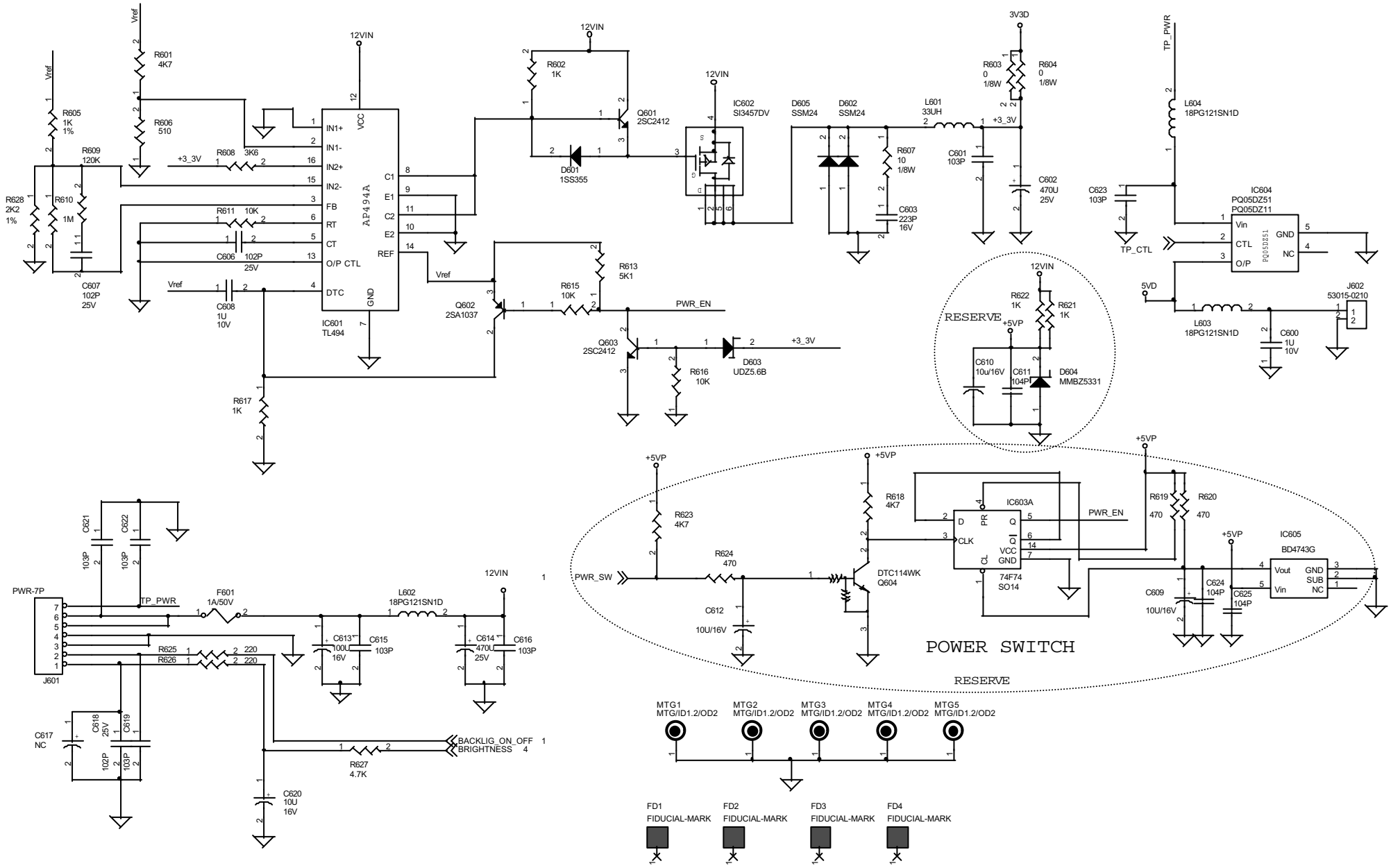




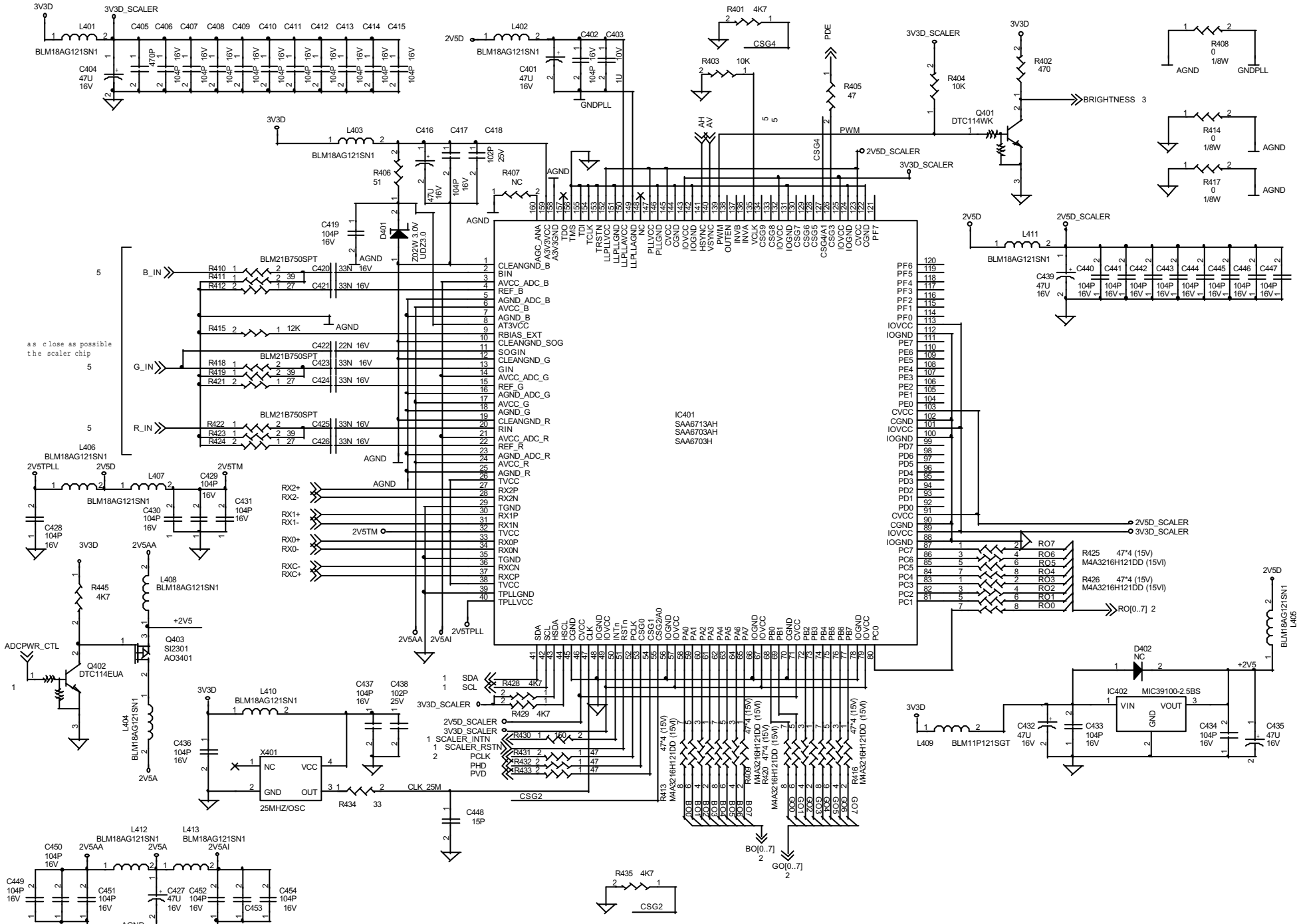
SCHEMATIC DIAGRAM MAIN BOARD (MCU) (2/5)



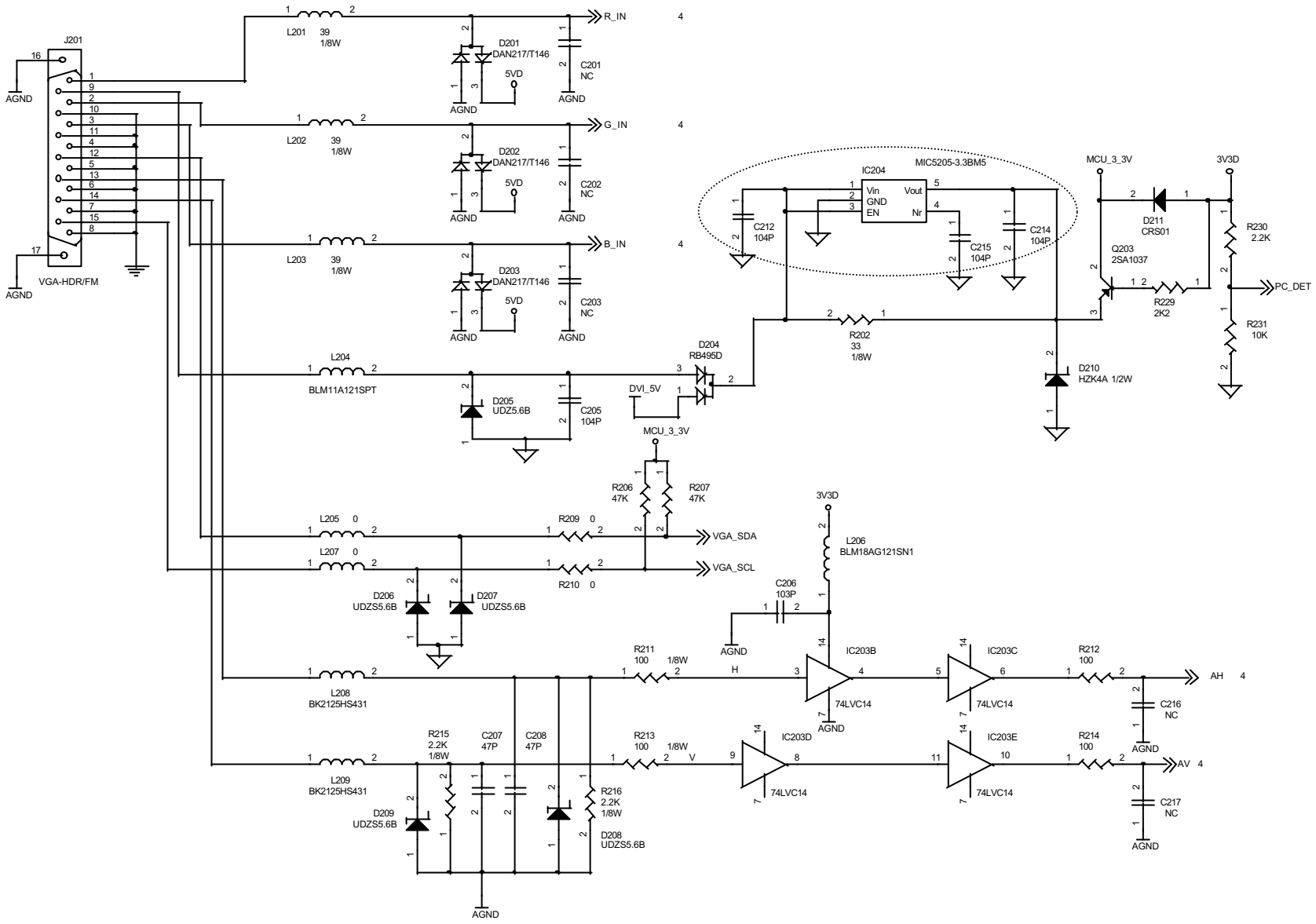
SCHEMATIC DIAGRAM MAIN BOARD (POWER) (3/5)



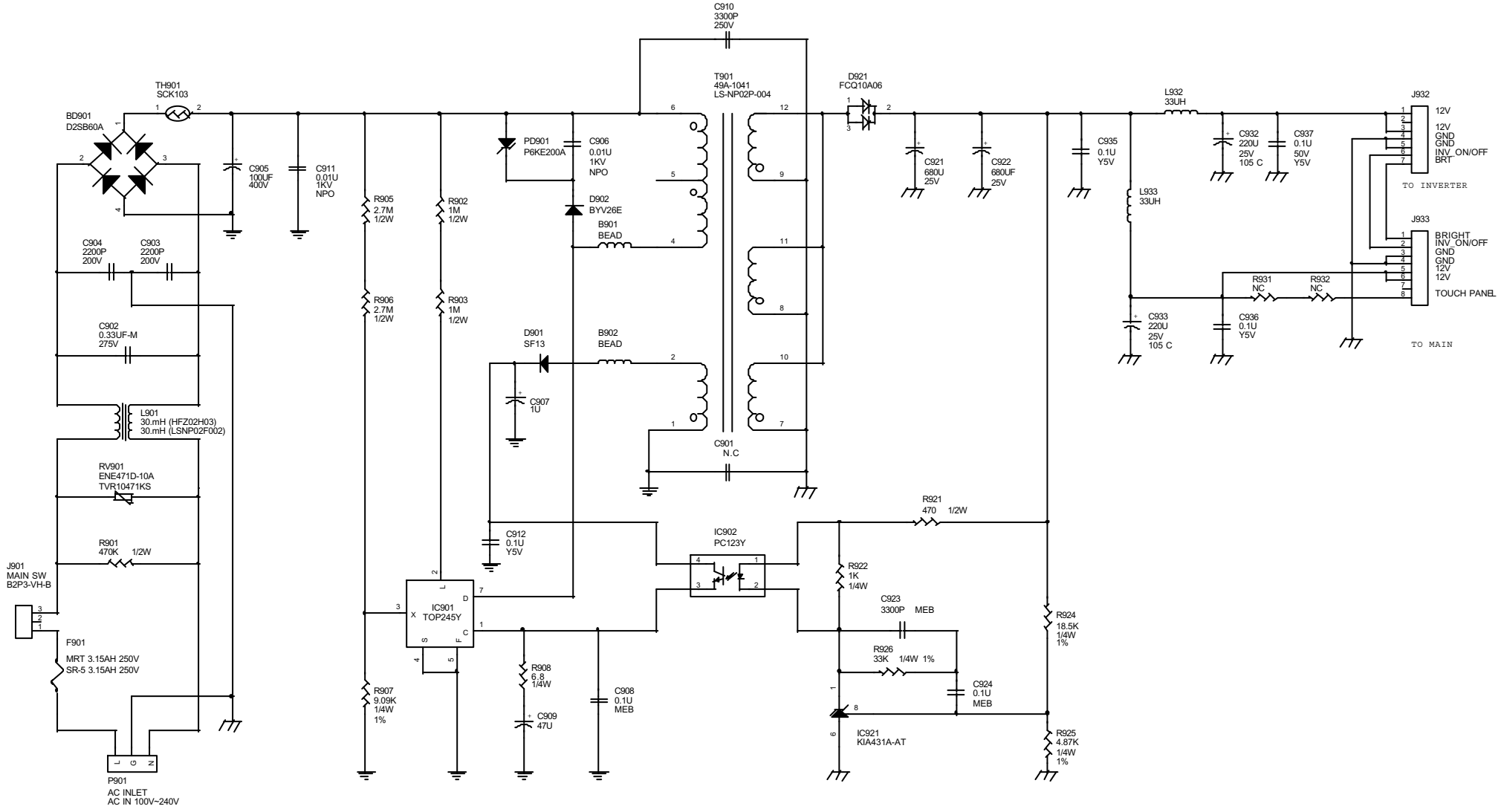
SCHEMATIC DIAGRAM MAIN BOARD (SCALER) (4/5)



SCHEMATIC DIAGRAM MAIN BOARD (VGA) (5/5)



SCHEMATIC DIAGRAM POWER BOARD (1/1)



SCHEMATIC DIAGRAM □
INVERTER BOARD (1/1)