



Website: <http://biz.LGservice.com>
E-mail: <http://www.LGService.com/techsup.html>

COLOR MONITOR SERVICE MANUAL

CHASSIS NO. :

MODEL: FLATRON L1718S

(L1718S-SNQ/L1718S-BNQ.Axx*EP)

xx* means sales region and Module (xxK : INNOLUX, xxB : CPT)

CAUTION

BEFORE SERVICING THE UNIT,
READ THE **SAFETY PRECAUTIONS** IN THIS MANUAL.



*To apply the **MSTAR Chip**.

CONTENTS

SPECIFICATIONS	2	SERVICE OSD	14
PRECAUTIONS	3	TROUBLESHOOTING GUIDE	15
TIMING CHART	7	WIRING DIAGRAM	22
DISASSEMBLY	8	EXPLODED VIEW	23
BLOCK DIAGRAM.....	10	REPLACEMENT PARTS LIST	24
DISCRIPTION OF BLOCK DIAGRAM	11	SCHEMATIC DIAGRAM.....	32
ADJUSTMENT	13		

SPECIFICATIONS

1. LCD CHARACTERISTICS

Type	: TFT Color LCD Module
Active Display Area	: 17 inch
Pixel Pitch	: 0.264 (H) x 0.264 (V)
Color Depth	: 16.2M colors
Size	: 358.5 (H) x 296.5 (V) x 17.5(D)
Electrical Interface	: LVDS
Surface Treatment	: Hard-coating(3H), Haze=25% Anti-Glare treatment
Operating Mode	: Normally White, Transmissive mode
Backlight Unit	: Top/Bottom edge side 4-CCFL (Cold Cathode Fluorescent Lamp)

2. OPTICAL CHARACTERISTICS

- 2-1. Viewing Angle by Contrast Ratio ≥ 10
 (a) For InnoLux MT170EN01 V.7 panel: Left
 75°(85°)/Right75°(85°);Top 75°(85°) /Bottom60°(70°)
 at type CR ≥ 10 (CR ≥ 5)
 (b) For CLAA170EA07QG panel: Left
 70°(85°)/Right70°(85°);Top 63°(85°)/Bottom67°(85°)
 at type CR ≥ 10 (CR ≥ 5)
 2-2. Luminance
 (a) For InnoLux MT170EN01 V.7 panel: 300cd/m² (Typ.)
 250cd/m² (Min.) (6500k); 200 cd/m² (Min.)(9300k)
 (b) For CLAA170EA07QG panel: 290cd/m² (Typ.)
 250cd/m² (Min.) (6500k);200 cd/m² (Min.)(9300k)
 2-3. Contrast Ratio
 (a) For InnoLux MT170EN01 V.7 panel: 500:1 minimum;
 700:1 Typical
 (b) For CLAA170EA07QG panel: 400:1 minimum; 500:1
 Typical

3. SIGNAL (Refer to the Timing Chart)

- 3-1. Sync Signal Type :
 Separate Sync, Composite, SOG (Sync On Green)
 3-2. Video Input Signal
 1) Type : R, G, B Analog
 2) Voltage Level : 0~0.71 V
 a) Color 0, 0 : 0 Vp-p
 b) Color 7, 0 : 0.467 Vp-p c)
 Color 15, 0 : 0.714 Vp-p
 3) Input Impedance : 75 Ω
 3-3. Operating Frequency
 Horizontal : 30 ~ 83kHz
 Vertical : **56 ~ 75Hz**

4. Max. Resolution

D-sub Analog : 1280 x 1024@75Hz

5. POWER SUPPLY

- 5-1. Power : AC 90~264V, 47.5~63Hz , <0.8A
 5-2. Power Consumption

MODE	H/V SYNC	VIDEO	POWER CONSUMPTION	LED COLOR
OWER ON (NORMAL)	ON/ON	ACTIVE	less than 35 W	GREEN
STAND-BY	OFF/ON	OFF	less than 1W	AMBER
SUSPEND	ON/OFF	OFF	less than 1W	AMBER
DPMS OFF	OFF/OFF	OFF	less than 1W	AMBER
POWER S/W Off			less than 1W	Off

6. ENVIRONMENT

- 6-1. Operating Temperature : 10°C~35°C (50°F~95°F)
 (Ambient)
 6-2. Relative Humidity : 10%~80%
 (Non-condensing)
 6-3. MTBF : 50,000 HRS with 90% Confidence
 Lamp Life : 50,000 Hours(Min)

7. DIMENSIONS (with Stand)


Width	: 308.4 mm
Length	: 376.7 mm
Height	: 126.1 mm

8. WEIGHT (with TILT/SWIVEL)

Net. Weight	: 3.7+/-0.3kg
Gross Weight	: 4.8+/-0.4 kg

PRECAUTION

WARNING FOR THE SAFETY-RELATED COMPONENT.

- There are some special components used in LCD monitor that are important for safety. **These parts are marked  on the schematic diagram and the replacement parts list.** It is essential that these critical parts should be replaced with the manufacturer's specified parts to prevent electric shock, fire or other hazard.
- Do not modify original design without obtaining written permission from manufacturer or you will void the original parts and labor guarantee.

TAKE CARE DURING HANDLING THE LCD MODULE WITH BACKLIGHT UNIT.

- Must mount the module using mounting holes arranged in four corners.
- Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.

- Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
- Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
- Make certain that treatment person's body are grounded through wrist band.
- Do not leave the module in high temperature and in areas of high humidity for a long time.
- The module not be exposed to the direct sunlight.
- Avoid contact with water as it may a short circuit within the module.
- If the surface of panel become dirty, please wipe it off with a soft material. (Cleaning with a dirty or rough cloth may damage the panel.)

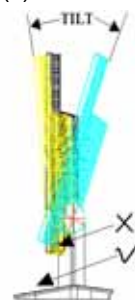
CAUTION

Please use only a plastic screwdriver to protect yourself from shock hazard during service operation.

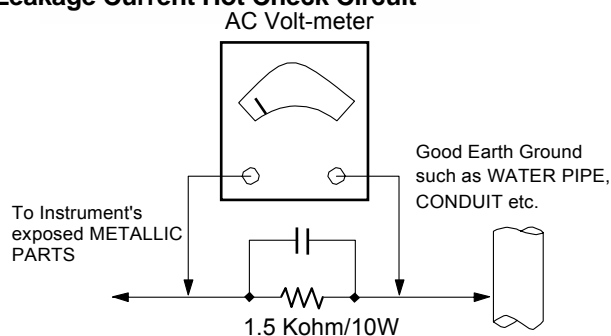
WARNING

BE CAREFUL ELECTRIC SHOCK !

- If you want to replace with the new backlight (CCFL) or inverter circuit, must disconnect the AC adapter because high voltage appears at inverter circuit about 650Vrms.
- Handle with care wires or connectors of the inverter circuit. If the wires are pressed cause short and may burn or take fire.
- Be careful while tilting and rotating the monitor to avoid pinching hand(s)



Leakage Current Hot Check Circuit



SERVICING PRECAUTIONS

CAUTION: Before servicing receivers covered by this service manual and its supplements and addenda, read and follow the **SAFETY PRECAUTIONS** on page 3 of this publication.

NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

General Servicing Precautions

1. Always unplug the receiver AC power cord from the AC power source before;
 - a. Removing or reinstalling any component, circuit board module or any other receiver assembly.
 - b. Disconnecting or reconnecting any receiver electrical plug or other electrical connection.
 - c. Connecting a test substitute in parallel with an electrolytic capacitor in the receiver.
CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.
 - 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 kine aquadag grounding system shield at the point where the picture tube socket ground lead is connected, and then (b) touch 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 spray chemicals on or near this receiver or any of its assemblies.
5. Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable non-abrasive applicator; 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength)
CAUTION: This is a flammable mixture.
Unless specified otherwise in this service manual, lubrication of contacts is not required.
6. Do not defeat any plug/socket B+ voltage interlocks with which receivers covered by this service manual might be equipped.
7. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
8. Always connect the test receiver ground lead to the receiver chassis ground before connecting the test receiver positive lead.
Always remove the test receiver ground lead last.

9. Use with this receiver only the test fixtures specified in this service manual.

CAUTION: Do not connect the test fixture ground strap to any heat sink in this receiver.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid-state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and 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 by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed to prevent potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient 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 a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range of 500°F to 600°F.
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 and well tinned.
4. Thoroughly clean the surfaces 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 unsoldering technique
 - a. Allow the soldering iron tip to reach normal temperature.
(500°F to 600°F)
 - b. Heat the component lead until the solder melts.
 - c. Quickly draw the melted solder with an anti-static, suction-type solder removal device or with solder braid.
CAUTION: Work quickly to avoid overheating the circuitboard printed foil.
6. Use the following soldering technique.
 - a. Allow the soldering iron tip to reach a normal temperature (500°F to 600°F)
 - b. First, hold the soldering iron tip and solder the 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 only until the solder flows onto and around both the component lead and the foil.
CAUTION: Work quickly to avoid overheating the circuit board printed foil.
 - d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.

IC Remove/Replacement

Some chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, 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 and 6 above.

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 solder 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 areas).

"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 into a "U" shape the end of each of three leads remaining on the circuit board.
3. Bend into a "U" shape the replacement transistor leads.
4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact then solder each connection.

Power Output, Transistor Device

Removal/Replacement

1. Heat and remove all solder from around the transistor leads.
2. Remove the heat sink mounting screw (if so equipped).
3. Carefully remove the transistor from the heat sink of the circuit board.
4. Insert new transistor in the circuit board.
5. Solder each transistor lead, and clip off excess lead.
6. Replace heat sink.

Diode Removal/Replacement

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

Fuse and Conventional Resistor

Removal/Replacement

1. Clip each fuse or resistor lead at top of the circuit board hollow stake.
2. Securely crimp the leads of replacement component around notch at stake top.
3. Solder the connections.

CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board to prevent excessive component temperatures.

Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board causing the foil to separate from or "lift-off" the board. The following guidelines and procedures should be followed whenever this condition is encountered.

At IC Connections

To repair a defective copper pattern at IC connections use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections).

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary).
2. Carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.
3. Bend a small "U" in one end of a small gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.
4. Route the jumper wire along the path of the out-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area and clip off any excess jumper wire.

At Other Connections

Use the following technique to repair the defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.

1. Remove the defective copper pattern with a sharp knife.

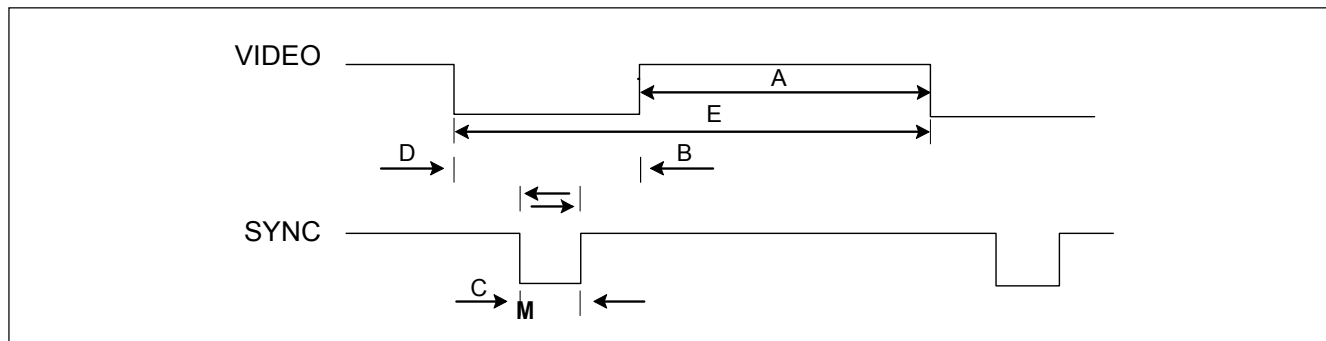
Remove at least 1/4 inch of copper, to ensure that a hazardous condition will not exist if the jumper wire opens.

2. Trace along the copper pattern from both sides of the pattern break and locate the nearest component that is directly connected to the affected copper pattern.
3. Connect insulated 20-gauge jumper wire from the lead of the nearest component on one side of the pattern break to the lead of the nearest component on the other side.

Carefully crimp and solder the connections.

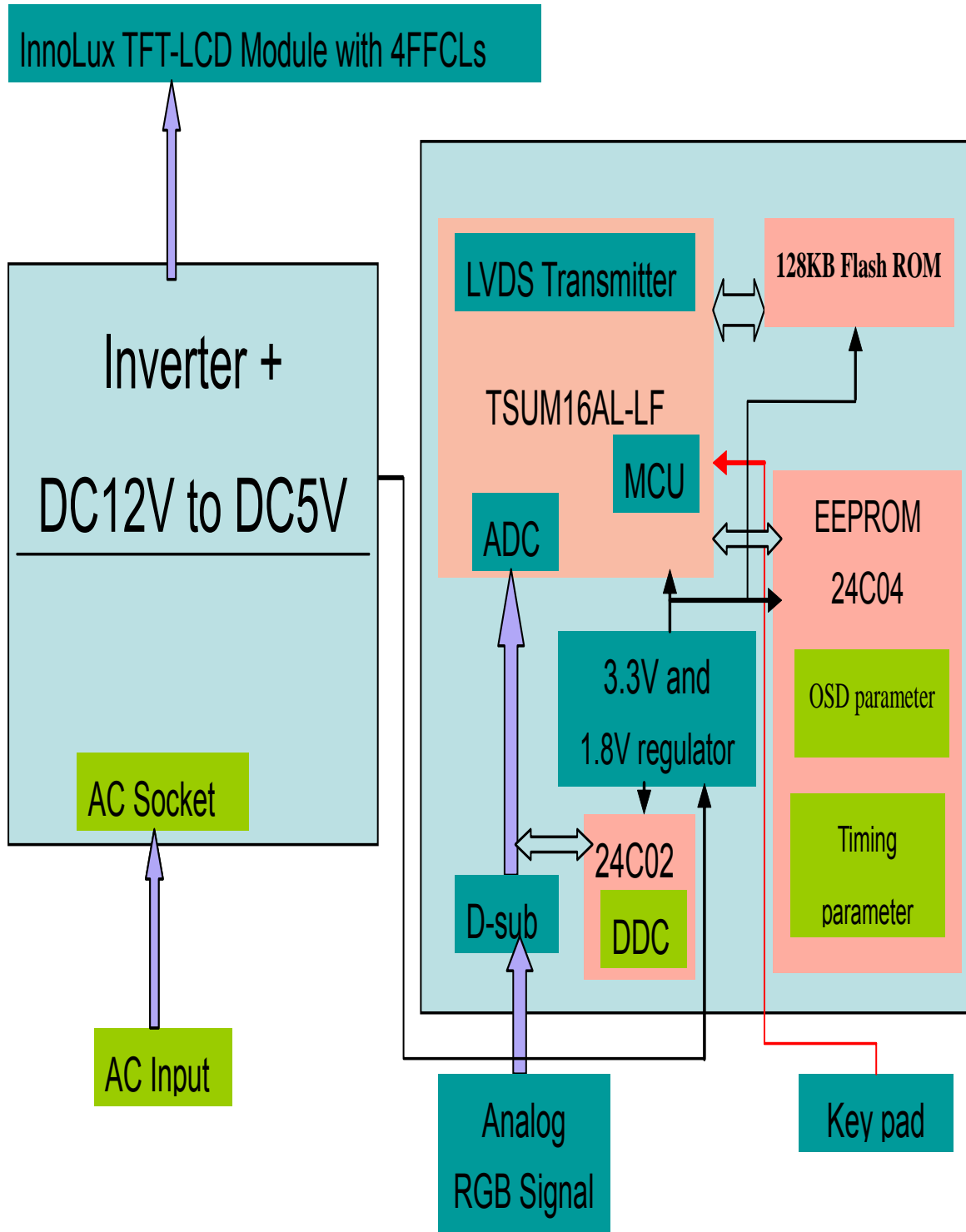
CAUTION: Be sure the insulated jumper wire is dressed so the it does not touch components or sharp edges.

TIMING CHART



	distinguishment	Polarity	DOT CLOCK [MHz]	Frequency [kHz]/ [Hz]	Total period (E)	Display (A)	Front Porch (D)	Sync. (C)	Back Porch (B)	Resolution
1	H(Pixels)	+	25.175	31.469	800	640	16	96	48	640 x 350
	V(Lines)	-		70.08	449	350	37	2	60	
2	H(Pixels)	-	28.321	31.468	900	720	18	108	54	720 X 400
	V(Lines)	+		70.09	449	400	12	2	35	
3	H(Pixels)	-	25.175	31.469	800	640	16	96	48	640 x 480
	V(Lines)	-		59.94	525	480	10	2	33	
4	H(Pixels)	-	31.5	37.5	840	640	16	64	120	640 x 480
	V(Lines)	-		75	500	480	1	3	16	
5	H(Pixels)	+	40.0	37.879	1056	800	40	128	88	800 x 600
	V(Lines)	+		60.317	628	600	1	4	23	
6	H(Pixels)	+	49.5	46.875	1056	800	16	80	160	800 x 600
	V(Lines)	+		75.0	625	600	1	3	21	
7	H(Pixels)	+/-	57.283	49.725	1152	832	32	64	224	832 x 624
	V(Lines)	+/-		74.55	667	624	1	3	39	
8	H(Pixels)	-	65.0	48.363	1344	1024	24	136	160	1024 x 768
	V(Lines)	-		60.0	806	768	3	6	29	
9	H(Pixels)	-	78.75	60.123	1312	1024	16	96	176	1024 x 768
	V(Lines)	-		75.029	800	768	1	3	28	
10	H(Pixels)	+/-	100.0	68.681	1456	1152	32	128	144	1152 x 870
	V(Lines)	+/-		75.062	915	870	3	3	39	
11	H(Pixels)	+/-	92.978	61.805	1504	1152	18	134	200	1152 x 900
	V(Lines)	+/-		65.96	937	900	2	4	31	
12	H(Pixels)	+	108.0	63.981	1688	1280	48	112	248	1280 x 1024
	V(Lines)	+		60.02	1066	1024	1	3	38	
13	H(Pixels)	+	135.0	79.976	1688	1280	16	144	248	1280 x 1024
	V(Lines)	+		75.035	1066	1024	1	3	38	

BLOCK DIAGRAM



DESCRIPTION OF BLOCK DIAGRAM

1. Video Controller Part.

This part amplifies the level of video signal for the digital conversion and converts from the analog video signal to the digital video signal using a pixel clock.

The pixel clock for each mode is generated by the PLL.

The range of the pixel clock is from 25MHz to 135MHz.

This part consists of the Scaler, ADC convertor and LVDS transmitter.

The Scaler gets the video signal converted analog to digital, interpolates input to 1280 X 1024 resolution signal and outputs 8-bit R, G, B signal to transmitter.

2. Power Part.

This part consists of the one 3.3V, and one 1.8V regulators to convert power which is provided 5V in Power board.

12V is provided for inverter, 12V is provided for LCD panel and 5V for micom.

Also, 5V is converted 3.3V and 1.8V by regulator. Converted power is provided for IC in the main board.

The inverter converts from DC12V to AC 700Vrms and operates back-light lamps of module.

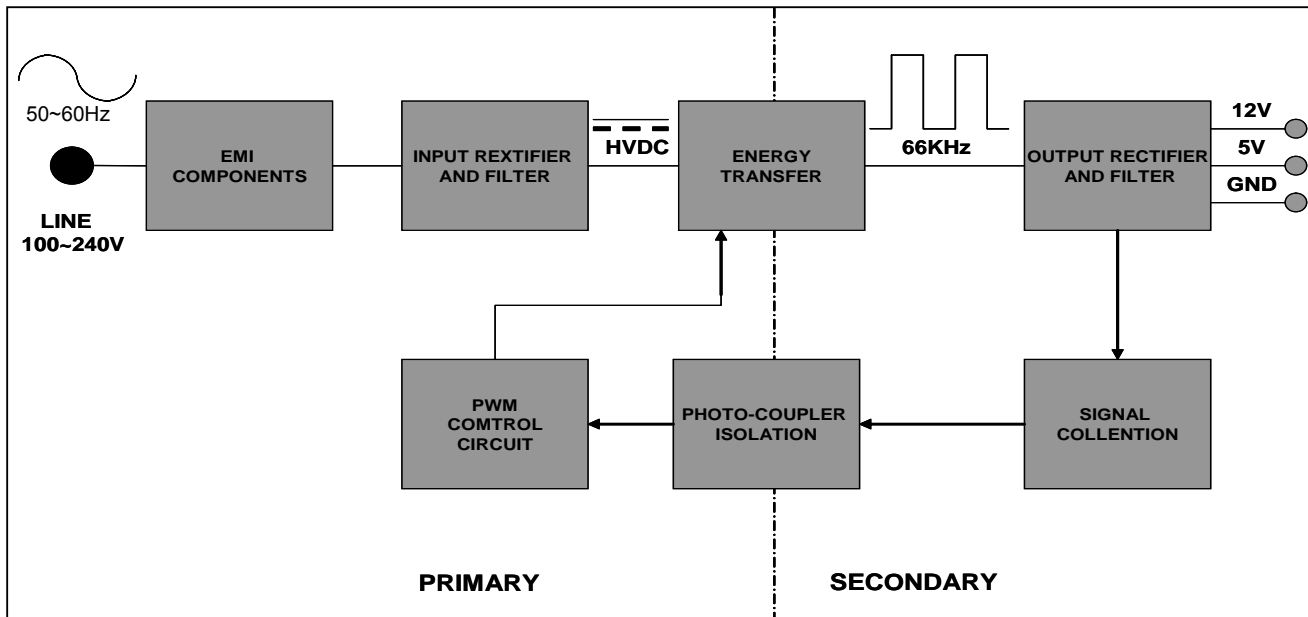
3. MICOM Part.

This part is include video controller part. And this part consists of EEPROM IC which stores control data, and the Micom which imbedded in scaler IC.

The Micom distinguishes polarity and frequency of the H/V sync are supplied from signal cable.

The controlled data of each modes is stored in EEPROM.

LIPS Board Block Diagram



Operation description_LIPS

1. EMI components.

This part contains of EMI components to comply with global marketing EMI standards like FCC, VCCI CISPR, the circuit included a line-filter, across line capacitor and of course the primary protection fuse.

2. Input rectifier and filter.

This part function is for transfer the input AC voltage to a DC voltage through a bridge rectifier and a bulk capacitor.

3. Energy Transfer.

This part function is transfer the primary energy to secondary through a power transformer.

4. Output rectifier and filter.

This part function is to make a pulse width modulation control and to provide the driver signal to power switch, to adjust the duty cycle during different AC input and output loading condition to achieve the dc output stabilize, and also the over power protection is also monitor by this part.

5. Photo-Coupler isolation.

This part function is to feed back the dc output changing status through a photo transistor to primary controller to achieve the stabilized dc output voltage.

6. Signal collection.

This part function is to collect the any change from the dc output and feed back to the primary through photo transistor.

ADJUSTMENT

Windows EDID V1.0 User Manual

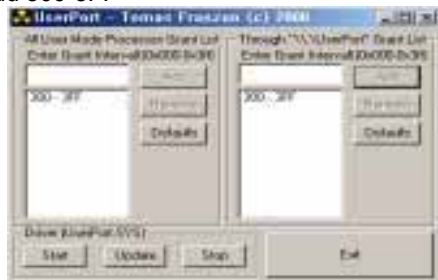
Operating System: MS Windows 98, 2000, XP
 Port Setup: Windows 98 => Don't need setup
 Windows 2000, XP => Need to Port Setup.
 This program is available to LCD Monitor only.

1. Port Setup

- Copy "UserPort.sys" file to
 "c:\WINNT\system32\drivers" folder
- Run Userport.exe



- Remove all default number
- Add 300-3FF



- Click Start button.
- Click Exit button.

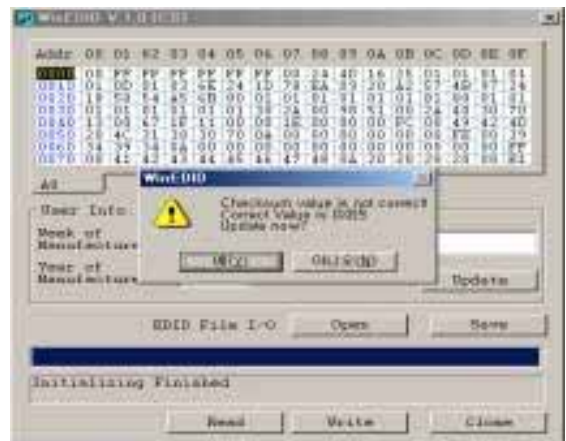
2. EDID Read & Write

- Run WinEDID.exe



- Edit Week of Manufacture, Year of Manufacture, Serial Number

- Input User Info Data
- Click "Update" button
- Click "Write" button



SERVICE OSD

- 1) Turn off the power switch at the front side of the display.
- 2) Wait for about 5 seconds and press MENU, POWER switch with 1 second interval.
- 3) The SVC OSD menu contains additional menus that the User OSD menu as described below.
 - a) Auto Color : W/B balance and Automatically sets the gain and offset value.
 - b) NVRAM INIT : EEPROM initialize.(24C04)
 - c) CLEAR ETI : To initialize using time.
 - d) AGING : Select Aging mode(on/off).
 - e) R/G/B-9300K : Allows you to set the R/G/B-9300K value manually.
 - f) R/G/B-6500K : Allows you to set the R/G/B-6500K value manually.
 - g) R/G/B-Offset : Allows you to set the R/G/B-Offset value manually.(Analog Only)
 - h) R/G/B-Gain : Allows you to set the R/G/B-Gain value manually.(Analog Only)
 - i) MODULE : Show Current module Type
 - j) RS232: Enable/Disable Debug Mode(on/off)

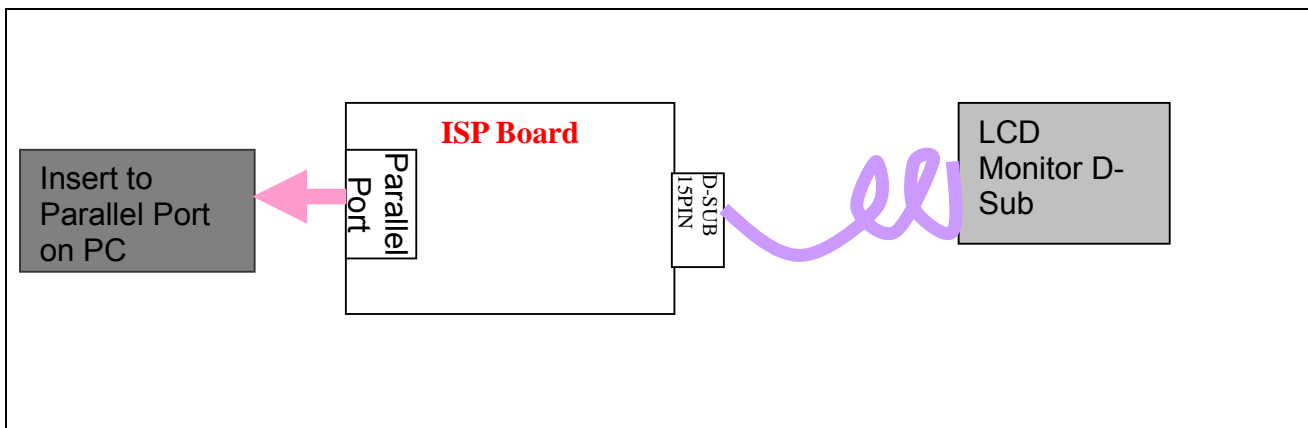
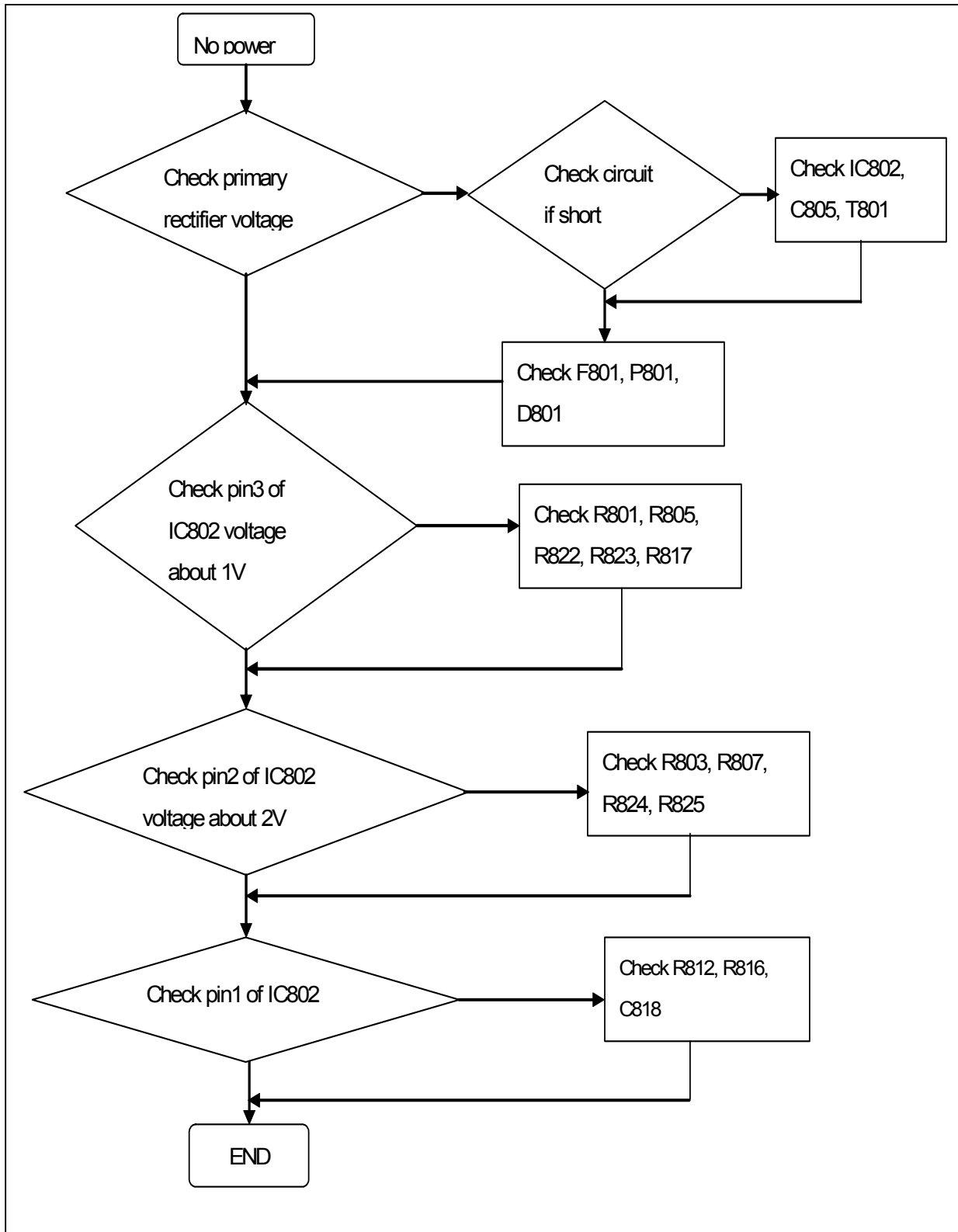


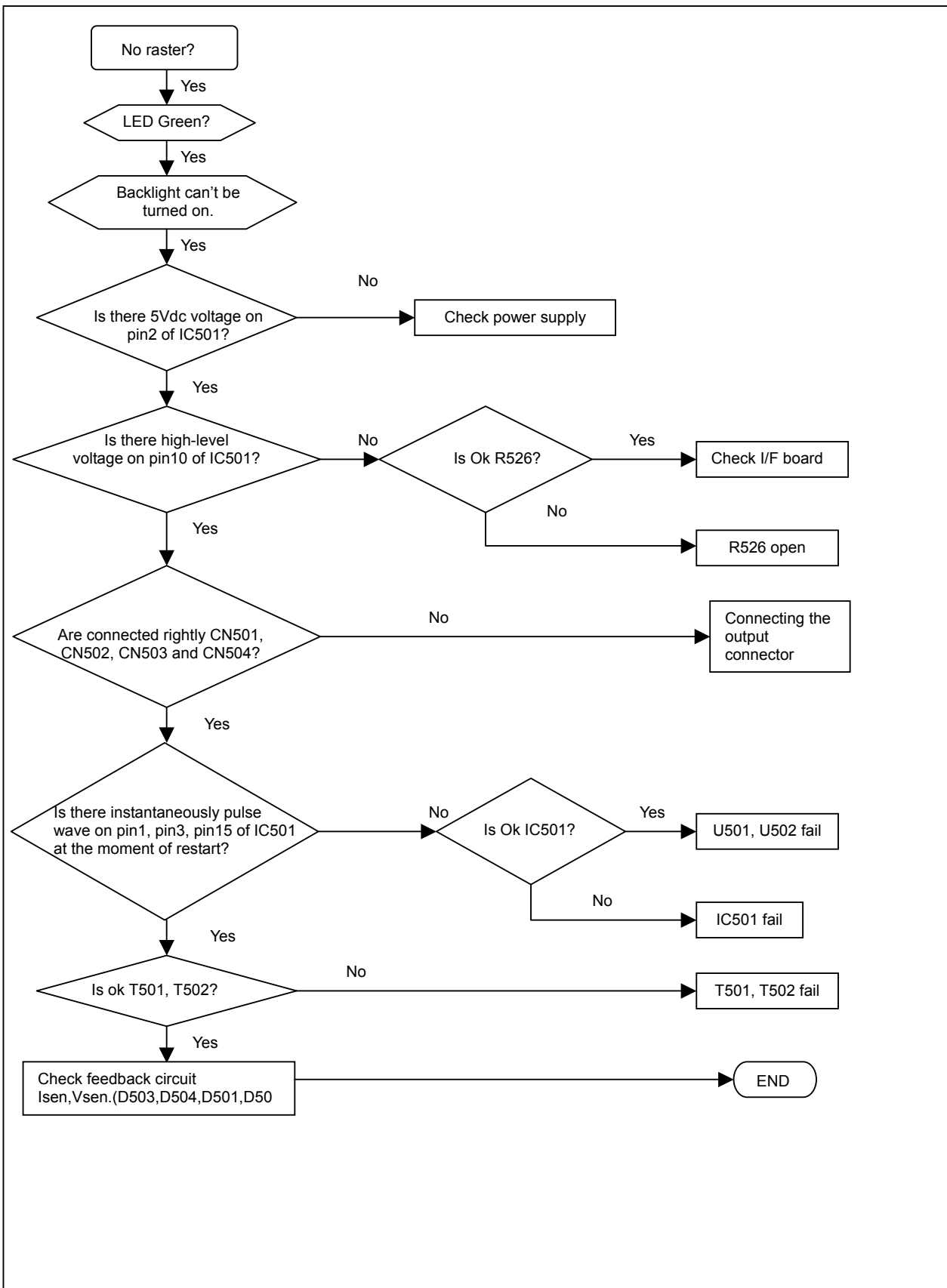
Figure 1.Cable Connection For ISP

TROUBLESHOOTING GUIDE

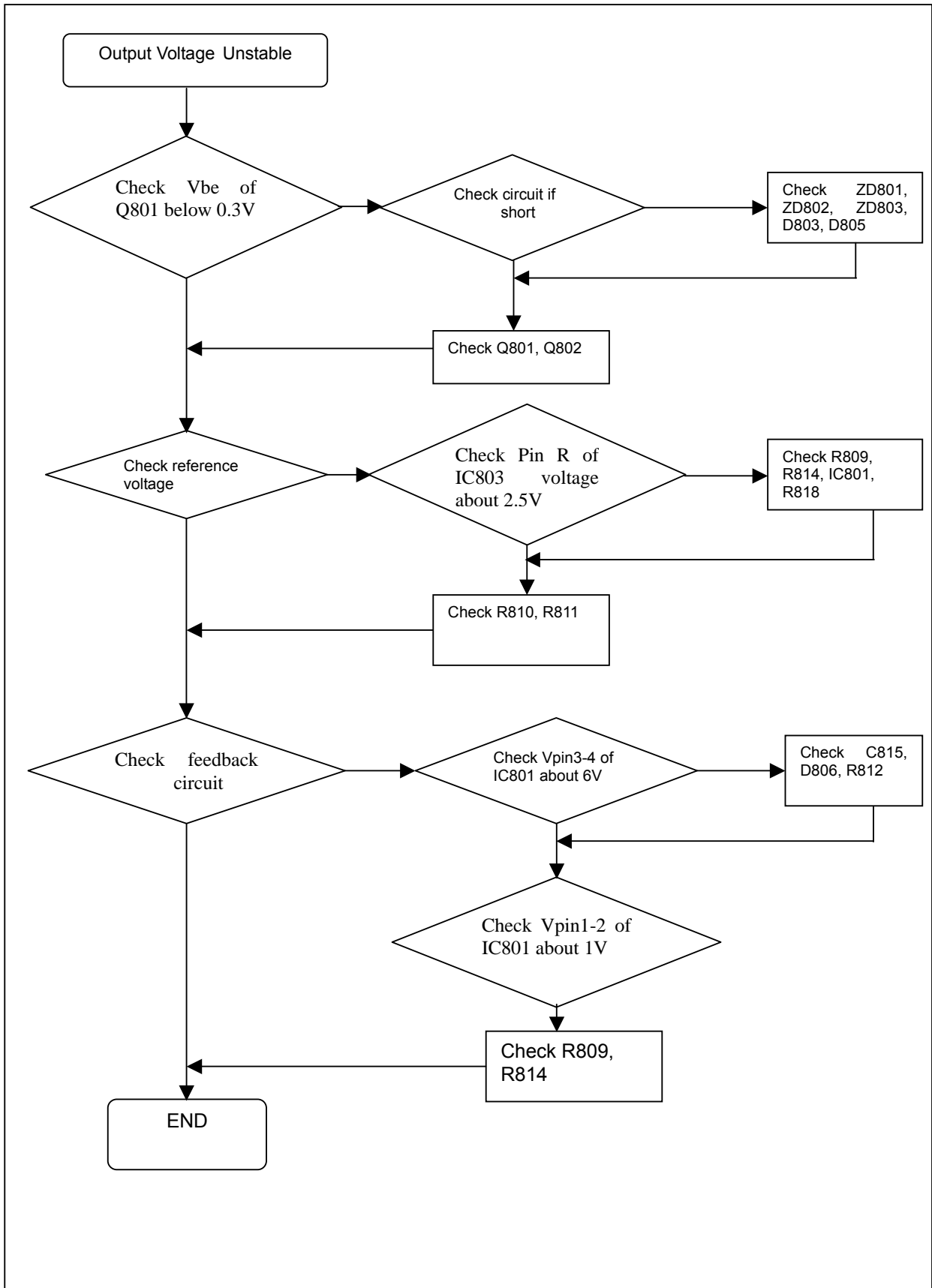
1. No Power & Power LED Off



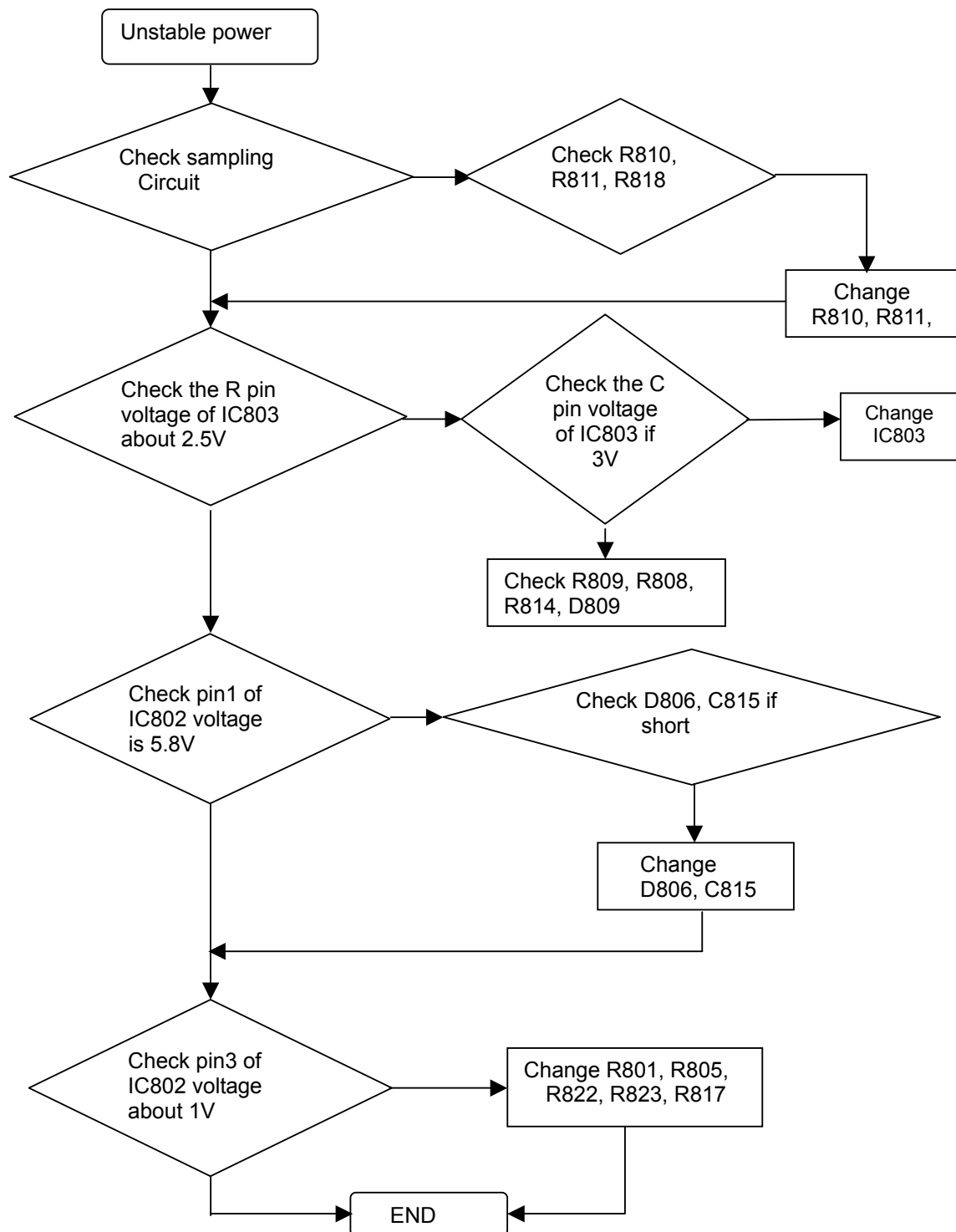
2. Backlight can't be turned on



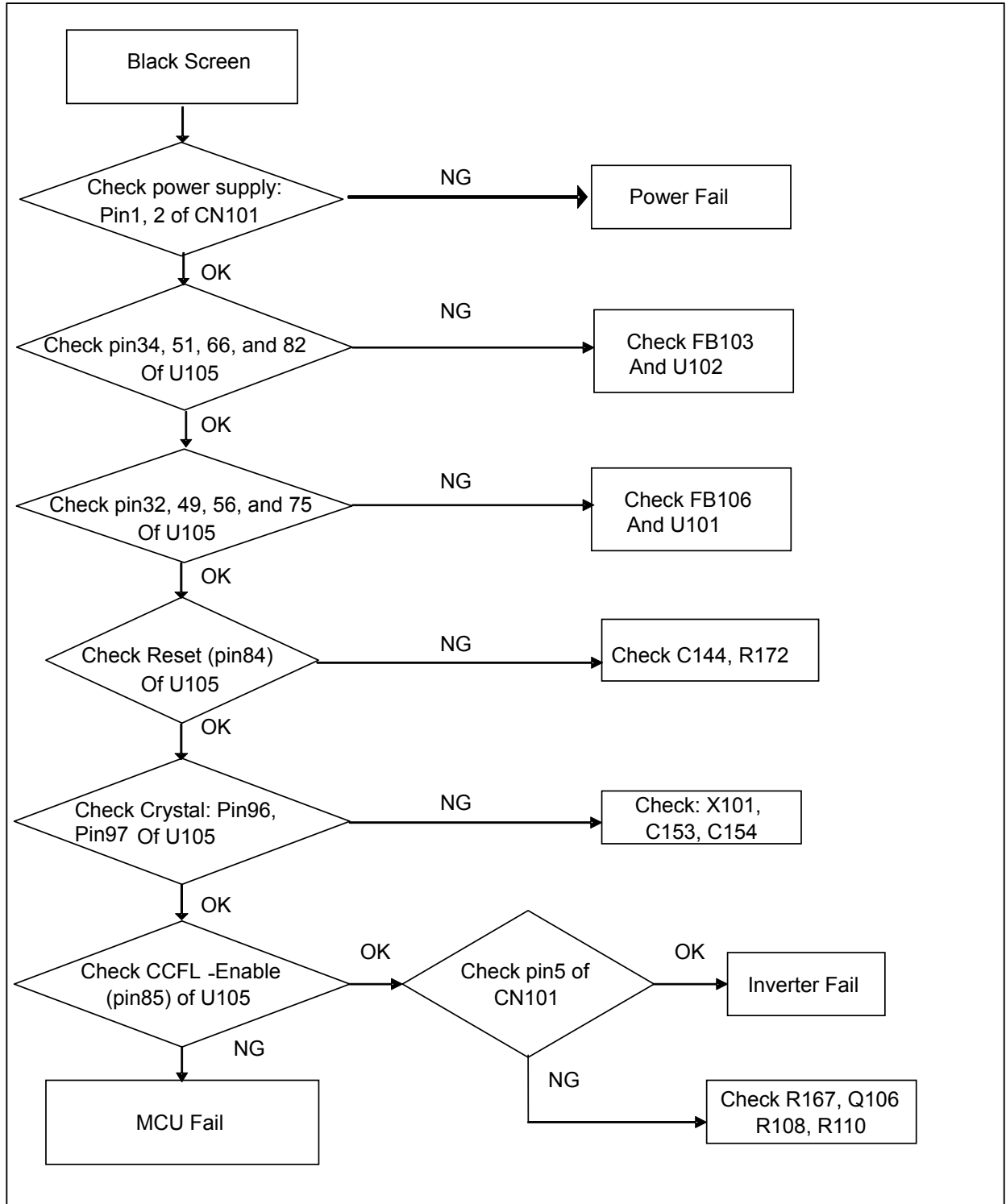
3. DC output voltage is unstable



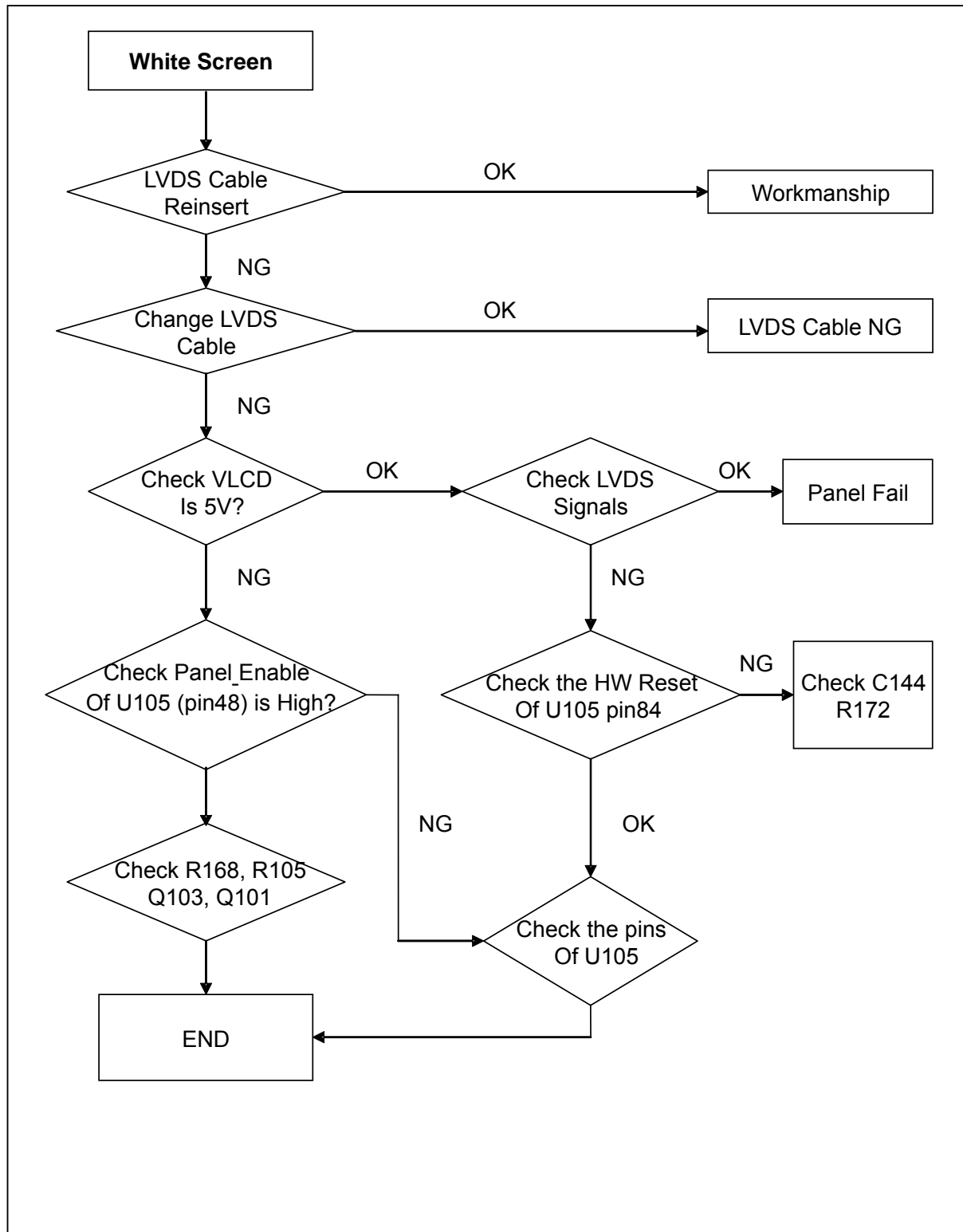
4. Output power is unstable



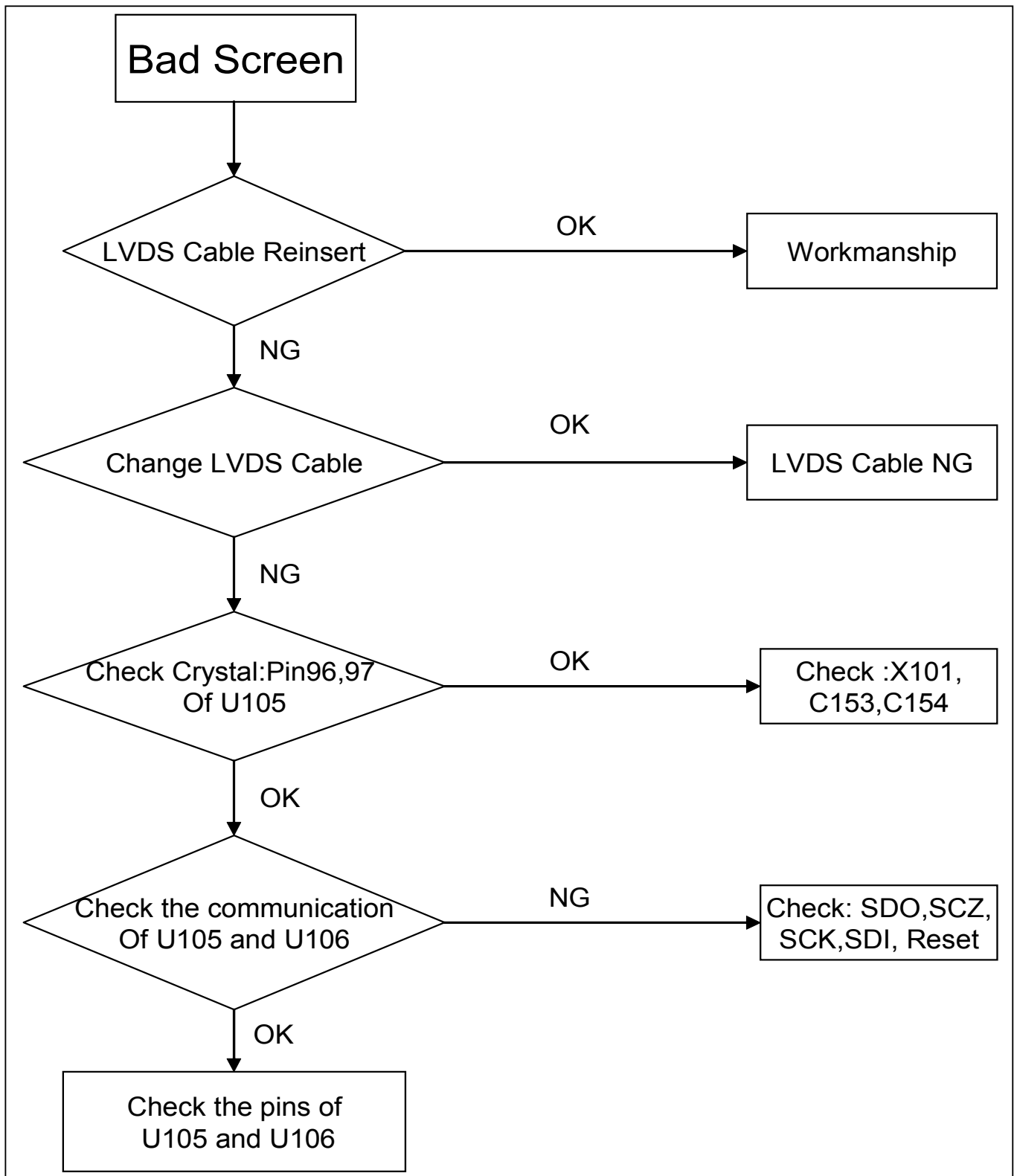
5.Black Screen and backlight turn on



6.White Screen



7. BAD SCREEN



EXPLODED VIEW PARTS LIST

INL

Ref.No.	LGE Part No.	INL Part No.	Description
10	MCK30281901	501010205300R	BEZEL,FRONT, LE1730
	MCK30284501	501010205310R	BEZEL,FRONT(Silver), LE1730
20	EBU30459201	631102071430R	LCD PANEL 17" MT170EN01-V7(INL)
30	EBU30458301	790621300600R	PCBA,IF BOARD, LE1730-6E0
40	AGU30210301	701000001300R	ASSY,CHASSIS(INL), LE1730
50	ACQ30210201	714050005200R	BACK COVER,ASSEMBLY,LE1730
60	MFB30282101	501120103100R	LENS, LE1730
70	EBU30459001	790621400600R	PCBA,PWR&INV./B, LE1730-6E0
80	AGU30210601	502060002000R	HINGE,ASSEMBLY,LE1730
90	MCK30283101	501260202000R	STAND,NECK, LE1730
100	ACQ30211201	714020005200R	BASE,ASSEMBLY,LE1730
110	ACQ30211001	714010005200R	STAND,ASSEMBLY,LE1730
120	MCK30282901	501020207300R	COVER,HINGE,LE1730
130	EBU30458901	430303000410R	HRN LVDS,FFC 30P 281MM ROHS
140	EBU30459301	453010100210R	CABLE,D-SUB,15P MALE 1850MM BLACK/BLUE,R

CPT

Ref.No.		INL Part No.	Description
10	MCK30281901	501010205300R	BEZEL,FRONT, LE1730
	MCK30284501	501010205310R	BEZEL,FRONT(Silver), LE1730
20	EBU30460301	631102072020R	LCD PANEL 17" CLAA170EA07QG(CPT)
30	EBU30460201	790621300000R	PCBA,IF BOARD, LE1730-0E0
40	AGU30211601	701000001310R	ASSY,CHASSIS(CPT), LE1730
50	ACQ30210201	714050005200R	BACK COVER,ASSEMBLY,LE1730
60	MFB30282101	501120103100R	LENS, LE1730
70	EBU30459001	790621400600R	PCBA,PWR&INV./B, LE1730-6E0
80	AGU30210601	502060002000R	HINGE,ASSEMBLY,LE1730
90	MCK30283101	501260202000R	STAND,NECK, LE1730
100	ACQ30211201	714020005200R	BASE,ASSEMBLY,LE1730
110	ACQ30211001	714010005200R	STAND,ASSEMBLY,LE1730
120	MCK30282901	501020207300R	COVER,HINGE,LE1730
130	EBU30458901	430303000410R	HRN LVDS,FFC 30P 281MM ROHS
140	EBU30459301	453010100210R	CABLE,D-SUB,15P MALE 1850MM BLACK/BLUE,R

REPLACEMENT PARTS LIST

CAUTION: BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE **SAFETY PRECAUTIONS** IN THIS MANUAL.

* NOTE : **S** SAFETY Mark 
AL ALTERNATIVE PARTS

IF BOARD

ITEM	P/N	Description	Usage	Location
	790621300600R	PCBA,IF BOARD, LE1730-6E0		
10	790621320600R	PCBA,IF BOARD,OTHRs,LE1730-6E0	1	
20	790621340600R	PCBA,IF BOARD,SMD, LE1730-6E0	1	
30	629030006500R	PROGRAM, LE1730-6E0	1	
40	511130002202R	SOLDER PASTE,Sn95.5%Ag3.9%Cu0.6%	0	
40	511130002201R	SOLDER PASTE,Sn96.5%Ag3.0%Cu0.5%	0	
40	511130002200R	SOLDER PASTE,Sn96.5-Ag3.0-Cu0.5 ROHS	0.43714	
50	511130001200R	SOLDER BAR,Sn96.5/Ag3.0/Cu0.5/Ni0.06/Ge0	0.96571	
60	511130000300R	SOLDER WIRE,Sn96.5/Ag3.0/Cu0.5/Ni0.06/Ge	0.0667	
70	511140000701R	FLUX Grade 0.812±0.010	3.45	
ITEM	P/N	Description	Usage	Location
	790621320600R	PCBA,IF BOARD,OTHRs,LE1730-6E0		
10	420431000260R	CAP EC 10uF 25V M,105 ST 5x11 RoHS	2	C111,C144,
20	420431010461R	CAP EC 100uF 16V M,105 ST 5x11(SK) RoH	2	C101,C102,
30	420432200460R	CAP EC 22uF 16V M,105 ST, 5x11,RoHS	5	C130,C133,C142,C145,C105,
40	420432210460R	CAP EC 220uF 16V M,105 ST 6.3x11 RoHS	1	C108,
50	430631060020R	WAFER 2.0mm 6P 180°,RoHS	1	CN101,
60	430631080130R	WAFER 2x4P 2.0mm,200PHD-2*4ST RoHS	1	CN105,
70	432008010370R	XTAL 14.31818MHz 16pF HC-49US 30PPM,DIP,85 ,RoHS	1	X101,
80	440819015030R	CON,D-SUB,FEM.15P RA W/O SCREW DZ11AA1-H	1	CN103,
ITEM	P/N	Description	Usage	Location
	790621340600R	PCBA,IF BOARD,SMD, LE1730-6E0		
10	410500045140R	XSTR MMBT3904LT1G NPN 200MA 40V SOT23(ON	0	
10	410500045130R	XSTR MMBT3904 NPN SOT-23(INFIN EON)RoHS	0	
10	410500045210R	XSTR PMBT3904 NPN 200MA,40V SOT23(PHILIP	2	Q103,Q106,
20	410500046180R	XSTR MMBT3906LT1G PNP 200mA 40V SOT23(ON	0	
20	410500046130R	XSTR MMBT3906 PNP SOT-23(INFIN EON)RoHS	0	
20	410500046210R	XSTR PMBT3906 PNP 200MA,40V SOT23(PHILIP	2	Q102,Q105,
30	410500044270R	XSTR AO3401L P-CH(ALPHA-OMEGA) SOT23 RoH	0	
30	410500068290R	XSTR AP2305GN P-CH SOT23(APEC) RoHS	1	Q101,
40	410500050130R	XSTR SN7002N N-CH SOT-23(INFINEON),RoHS	0	
40	410500050210R	XSTR 2N7002,N-CH FET SOT-23 (PHILIPS)RoH	1	Q107,
50	411020026020R	DIO BAV99-LF 350mW 70V SOT-23 (FEC)RoHS	0	
50	411020026390R	DIO BAV99,SOT-23(INFINEON)RoHS	0	
50	411020026210R	DIO BAV99 350mW 70V SOT-23(PHI RoHS	4	TVS101,TVS102,TVS103,TVS104,
60	411020047020R	DIO BAV70-LF 70V SOT23 (FEC) RoHS	0	
60	411020047210R	DIO BAV70 85V SOT23 (PHILIPS) RoHS	1	D103,
70	411101156950R	ZENER BZV55-C5V6 SOD80C(PHILIP S) RoHS	0	

70	411150356950R	ZENER 5.6V MTZS05-5.6-G,SOD-12 3(MMC)RoH	0	
70	411100656951R	ZENER 5.6V ZMM5232B-LF DO213AA (FRONTIER	5	ZD101,ZD105,ZD106,ZD107,ZD108,
80	412000479990R	IC CAT24C04WI-TE13 SOIC-8(CATALYST)RoHS	0	
80	412000279280R	IC M24C04-WMN6TP4K SOP8 (ST) RoHS	0	
80	412000279480R	IC AT24C04N-10SU-2.7 SOP8 4K(A TMEL)RoHS	1	U108,
90	412000330020R	IC LD1117AL-1.8V-A SOT223(UTC) RoHS	0	
90	412000330830R	IC AS1117L-1.8/TR-LF,SOT223(A1 SEMI)RoHS	1	U102,
100	412000372020R	IC LD1117AL-3.3V-A SOT-223(UTC RoHS	0	
100	412000372830R	IC AS1117L-3.3TR-LF,SOT223(A1S EMI)RoHS	1	U101,
110	412000480990R	IC CAT24C02WI-TE13 SOIC-8(CATALYST)RoHS	0	
110	412000480280R	IC M24C02-RMN6TP SO8(ST)RoHS	0	
110	412000435480R	IC AT24C02BN-10SU-1.8 SOIC8 2K (ATMEL)Ro	1	U103,
120	412000436190R	IC TSUM16AL-LF PQFP100(MSTAR)R oHS	1	U105,
130	412000486310R	IC PM25LV010A-100SCE SOIC8(PMC)RoHS	0	
130	412000373190R	IC SST25VF010A-33-4C-SAE,SOIC- 8(SST)RoH	1	U106,
140	414916000050R	RES SMD (0603) 0 J,RT RoHS	4	R190,R170,R171,R103,
150	414916010050R	RES SMD (0603) 10 J,RT RoHS	2	R186,R187,
160	414916010150R	RES SMD (0603) 100 J,RT RoHS REV:A	17	R130,R129,R114,R117,R120,R124,R125,R127,R131,R132,R101,R162,R163,R167,R168,R178,R179,
170	414916010250R	RES SMD (0603) 1K J,RT RoHS REV:A	5	R157,R158,R159,R160,R161,
180	414916010350R	RES SMD (0603) 10K J,RT RoHS	4	R106,R172,R180,R181,
190	414916010450R	RES SMD (0603) 100K J,RT REV:A RoHS	1	R102,
200	414916020350R	RES SMD (0603) 20K J,RT RoHS REV:A	1	R105,
210	414916022250R	RES SMD (0603) 2.2K J,RT RoHS	2	R136,R137,
220	414916047150R	RES SMD (0603) 470 J,RT RoHS REV:A	1	R121,
230	414916047250R	RES SMD (0603) 4.7K J,RT RoHS	15	R108,R110,R122,R149,R150,R154,R155,R173,R174,R166,R182,R183,R184,R185,R109,
240	414916390010R	RES SMD (0603) 390 F,RT RoHS	1	R169,
250	414916750910R	RES SMD (0603) 75 F,RT RoHS REV:A	3	R133,R134,R135,
260	415751035080R	RP(0612)10K x4 1/16W J 8P4R RoHS	1	RP102,
270	419301010560R	C SMD(0603) NPO 100PF/50V J RoHS	7	C158,C159,C160,C161,C162,C163,C164,
280	419302200560R	C SMD(0603) NPO 22PF/50V J RoHS	2	C153,C154,
290	419302210560R	C SMD(0603) NPO 220PF/50V J RoHS	1	C126,
300	419303300560R	C SMD(0603) NPO 33PF/50V J RoHS	1	C125,
310	419311040060R	C SMD(0603) X7R 0.1uF/50V K RoHS	23	C103,C104,C106,C107,C109,C129,C156,C131,C132,C134,C135,C136,C137,C139,C141,C143,C147,C148,C149,C150,C151,C152,C166,
320	419311054070R	C SMD(0805) X7R 1uF/16V K RoHS REV:A	1	C140,
330	419314730060R	C SMD (0603) X7R 0.047uF 50V,K RoHS	7	C112,C113,C114,C115,C116,C117,C118,
340	432002312111R	BEAD CORE SMD(0805)120 300mA RoHS	1	FB101,
350	432002360012R	BEAD CORE SMD(0805)60 800mA GBK201209T	4	FB102,FB103,FB105,FB106,

360	444099030030R	CON, SMD 1.0mm 30PIN RoHS AL2309-A0G1Z	1	CN104,
370	506140005700R	LABEL,BARCODE,BLANK,33x7mm, ROHS,FOR PCB	1	
380	490621300100R	PCB,INTERFACE, LE1730-XE0	1	
390	414916022150R	RES SMD (0603) 220 J,RT RoHS REV:A	1	R107,
400	414916560910R	RES SMD (0603) 56 F,RT RoHS REV:A	3	R113,R116,R119,
410	432002360140R	BEAD CORE SMD(0603)60 600mA, GBK160808	3	FB107,FB108,FB109,

PI BOARD

ITEM	P/N	Description	Usage	Location
	790621400600R	PCBA,PWR&INV./B, LE1730-6E0		
10	412140001390R	IC EL817M-B(EVERLIGHT)RoHS	0	
10	412140002380R	IC LTV817M-PR VDE (LITE-ON) P=10mm RoHS	1	IC801,
20	411050006041R	DIO BRDG KBL06M 600V/4A(MOSPEC RoHS	0	
20	411050007010R	DIO BRDG KBL405G 600V/4A(TSC) RoHS	0	
20	411050005020R	DIO BRDG BL4-06-BF52-LF 600V/4A(FRONTIER	1	D801,
30	416194743011R	CAP MEX 0.47uF 275V K X2,F15 RoHS	1	C804,
40	416202224610R	CAP MEY 2200pF 400V M Y,F10mm RoHS	1	C820,
50	416202224610R	CAP MEY 2200pF 400V M Y,F10mm RoHS	2	C801,C806,
60	420421020102R	CAP EC 1000uF/10V M,105 N-F 10x16(L-ES	2	C812,C809,
70	420421020211R	CAP SD 1000uF 25V M,105 F 13x20 RoHS	1	C808,
80	420431014582R	CAP SEK 100uF/450V M,105 CF,18x35,RoHS	1	C805,
90	416204724610R	CAP MEY 4700pF 400V M Y,F10mm RoHS	1	C824,
100	425000010530R	COIL CHK 5uH 7.8X10 CHK-053 0 181085R0L	2	L802,L803,
110	426000050070R	CHOKE L-FILTER 12mH LIN-007 ET-20,RoHS	1	L801,
120	426000090470R	XFMR 750u@1K,+ -8%,3m,113m,SPW- 047,DIP-1	1	T801,
130	432009400701R	NTC 5 4A 10 P=5mm, F RoHS	1	RT801,
140	430613125210R	FUSE SLOW 2.5A/250V,U/C/V,AT,3.6x10,RoHS	1	F801,
150	440149000220R	SKT AC 10A/250V U/C/V,G/Y=45mm TU-301-SP	1	P801,
160	430300600120R	HRN ASS'Y 6P 110mm UL1007#24,RoHS	1	CN801,
180	418247233020R	CAP CD X7R 4700pF 1KV K,W/O FO RMING,RoH	1	C803,
190	430637020020R	WFR. 2P P=3.5mm 90°4100-D02 RoHS	4	CN501,CN502,CN503,CN 504,
200	426000090670R	XFMR SW,105uH EEL19M DIP SPW-067,RoHS	2	T501,T502,
210	418105058010R	CAP CD SL 5pF 3KV K,F7.5 RoHS	2	C525,C527,
220	418110058510R	CAP CD SL 10pF 3KV J,F7.5 RoHS CC45SL3FD	2	C524,C526,
230	410050062330R	XSTR AF4971NN N-CH PDIP8(ANACH IP)RoHS	0	
230	410500071290R	XSTR AP9971GD,N-CH,PDIP-8(APEC RoHS	2	U501,U502,
240	735100007400R	ASSY,H/S,UFF80-005CT/UFF80-015CT,LE1730	1	
250	735100005100R	ASSY,H/S TOP245Y, LE1704/05 ROHS	1	
260	790621440600R	PCBA,PWR&INV./B,SMD,LE1730-6E0	1	
270	502040604500R	SHIELD,EMI, LE1915 ROHS	1	H501,
280	511130001200R	SOLDER BAR,Sn96.5/Ag3.0/Cu0.5/Ni0.06/Ge0	4.4965	
290	511130000300R	SOLDER WIRE,Sn96.5/Ag3.0/Cu0.5/Ni0.06/Ge	0.897	
300	511110000101R	HOT-MELT ADHESIVES (#526)	4.37115	
310	511140000701R	FLUX Grade 0.812±0.010	3.7375	
ITEM	P/N	Description	Usage	Location
	735100005100R	ASSY,H/S TOP245Y, LE1704/05 ROHS		
10	412000342270R	IC TOP245YN,TO-220-7C,RoHS (POWER INTEGR	1	IC802,
20	507200003700R	HEATSINK,46x20x10mm LE1704/05	1	

30	509112306100R	SCREW,P,CROSS,T.T-3*6,Zn	1	
ITEM	P/N	Description	Usage	Location
	735100007400R	ASSY,H/S,UFF80-005CT/UFF80-015CT,LE1730		
10	411090024040R	SCHTKY SRF1040CM 40V/10A ITO22 OAB(MOSPE	0	
10	411090025040R	SCHTKY SRF1045CM 45V/10A ITO22 OAB(MOSPE	0	
10	411090015020R	SCHTKY SRF5-04CT-LF ITO-220AB (FEC) RoHS	1	D805,
20	411030058040R	DIO URF1020 200V/10A ITO220(MO SPEC)RoHS	0	
20	411020065020R	DIO UFF80-015CT-LF 150V/8A, ITO-220AC(FR	1	D803,
30	507200003800R	HEATSINK,56x20x110mm LE1904/05	1	
40	509112306100R	SCREW,P,CROSS,T.T-3*6,Zn	2	
ITEM	P/N	Description	Usage	Location
	790621440600R	PCBA,PWR&INV./B,SMD,LE1730-6E0		
10	410500045130R	XSTR MMBT3904 NPN SOT-23(INFIN EON)RoHS	0	
10	410500045140R	XSTR MMBT3904LT1G NPN 200MA 40V SOT23(ON	0	
10	410500045210R	XSTR PMBT3904 NPN 200MA,40V SOT23(PHILIP	1	Q801,
20	411100956920R	ZENER 5.6V MMSZ5232A SOD123(PE C)RoHS	0	
20	411131556920R	ZENER 5.6V 0.5W DDZ5V6B-F,SOD1 23(DIODES	0	
20	411150356950R	ZENER 5.6V MTZS05-5.6-G,SOD-12 3(MMC)RoH	1	ZD803,
30	411100975920R	ZENER 7.5V MMSZ5236A SOD123(PE C)RoHS	0	
30	411131575952R	ZENER 7.5V 0.5W DDZ7V5C-F,SOD1 23(DIODES	0	
30	411150375950R	ZENER 7.5V MTZS05-7.5-G, SOD-123(MMC)RoH	1	ZD801,
40	411150315050R	ZENER 15V MTZS05-15-G,SOD-123 (MMC) RoHS	0	
40	411131515052R	ZENER 15V 0.5W DDZ15-F,SOD123(DIODES)RoH	0	
40	411100915020R	ZENER 15V MMSZ5245A SOD123(PEC RoHS	1	ZD804,
50	414904100010R	RES SMD (1206) 100 F,RT RoHS	1	R809,
60	414908010350R	RES SMD (0805) 10K J,RT RoHS REV:A	3	R808,R819,R827,
70	414908024550R	RES SMD (0805) 2.4M J,RT RoHS	4	R801,R805,R822,R823,
80	414908010250R	RES SMD (0805) 1K J,RT RoHS REV:A	3	R813,R814,R815,
90	414908047450R	RES SMD (0805) 470K J,RT RoHS	1	R825,
100	414916000050R	RES SMD (0603) 0 J,RT RoHS	2	R510,R511,
110	414908051450R	RES SMD (0805) 510K J,RT RoHS	3	R803,R807,R824,
120	414908330110R	RES SMD (0805) 3.3K F,RT RoHS REV:A	5	R818,R502,R504,R517,R520,
130	414908068950R	RES SMD (0805) 6.8 J RT RoHS	1	R816,
140	414908430210R	RES SMD (0805) 43K F,RT,RoHS	1	R811,
150	414908820110R	RES SMD (0805) 8.2K F,RT RoHS	1	R817,
160	414904010050R	RES SMD (1206) 10 J,RT RoHS	2	R802,R806,
170	414908020150R	RES SMD (0805) 200 J,RT RoHS	1	R829,
180	414908510110R	RES SMD (0805) 5.1K F,RT RoHS	1	R810,
190	414916390210R	RES SMD (0603) 39K F,RT RoHS	1	R522,
200	414908100310R	RES SMD (0805) 100K F,RT,RoHS	2	R518,R519,
210	414916010450R	RES SMD (0603) 100K J,RT REV:A RoHS	1	R514,
220	414916330410R	RES SMD (0603) 3.3M F RT RoHS	1	R527,
240	414916010350R	RES SMD (0603) 10K J,RT RoHS	2	R512,R526,
250	414916604310R	RES SMD (0603) 604K F,RT RoHS	1	R538,
260	414916010550R	RES SMD (0603) 1M J,RT RoHS REV:A	3	R513,R529,R530,
270	414916330210R	RES SMD (0603) 33K F,RT RoHS	1	R523,
290	414916220210R	RES SMD (0603) 22K F,RT RoHS	1	R524,
300	414908220210R	RES SMD (0805) 22K F,RT,RoHS	2	R515,R516,

310	419342253670R	C SMD(0805) Y5V 2.2uF/25V Z RoHS	2	C507,C511,
320	419311040060R	C SMD(0603) X7R 0.1uF/50V K RoHS	1	C821,
330	419316830060R	C SMD (0603) X7R 0.068uF 50V,K RoHS	1	C510,
340	419316810070R	C SMD(0805) X7R 680PF/50V K,RoHS	2	C523,C530,
350	419304710560R	C SMD(0603) NPO 470PF/50V,J,RoHS	1	C529,
360	419311020060R	C SMD(0603) X7R 1000PF/50V K RoHS	1	C504,
370	419314720060R	C SMD(0603) X7R 4700PF/50V K RoHS	1	C506,
380	419312220060R	C SMD(0603) X7R 2200PF/50V K RoHS	4	C501,C502,C513,C514,
390	419311030060R	C SMD(0603) X7R 0.01uF/50V K RoHS	1	C505,
400	411020046090R	DIO 1N4148W 75V/0.15A(PEC)RoHS SOD-123	0	
400	411023004021R	DIO SN4148-LF 75V/0.15A SMD 1206 (FEC)Ro	1	D506,
410	411020026390R	DIO BAV99,SOT-23(INFINEON)RoHS	0	
410	411020026020R	DIO BAV99-LF 350mW 70V SOT-23 (FEC)RoHS	0	
410	411020026210R	DIO BAV99 350mW 70V SOT-23(PHI RoHS	2	D501,D502,
420	411020047020R	DIO BAV70-LF 70V SOT23 (FEC) RoHS	0	
420	411020047210R	DIO BAV70 85V SOT23 (PHILIPS) RoHS	2	D503,D504,
430	411020068090R	DIO BAW56 75V SOT-23(PANJIT)RoHS	0	
430	411020068020R	DIO BAW56 70V SOT-23(FRONTIER)RoHS	0	
430	411020068210R	DIO BAW56 85V SOT-23(PHILIPS)RoHS	1	D505,
440	412000455630R	IC OZ9938GN SOIC16(O2 MICRO)RoHS	1	IC501,
450	419313330060R	C SMD(0603) X7R 0.033uF/50V K ROHS	2	C516,C512,
460	790621410600R	PCBA,PWR&INV./B,AI,LE1730-6E0	1	
470	414916200010R	RES SMD (0603) 200 F,RT RoHS	1	R509,
480	414916100210R	RES SMD (0603) 10K F,RT RoHS	1	R534,
500	419312230060R	C SMD(0603) X7R 0.022uF/50V K RoHS	1	C508,
510	506140005700R	LABEL,BARCODE,BLANK,33x7mm, ROHS,FOR PCB	1	
520	411150391950R	ZENER 9.1V MTZS05-9.1-G SOD-123 (MITSUBI	0	
520	411131591952R	ZENER 9.1V 0.5W DDZ9V1C-F,SOD1 23(DIODES	0	
520	411100991920R	ZENER 9.1V MMSZ5239A SOD123(PE C)RoHS	1	ZD805,
ITEM	P/N	Description	Usage	Location
	790621410600R	PCBA,PWR&INV./B,AI,LE1730-6E0		
10	790621450600R	PCBA,PWR&INV./B,AI/A, LE1730-6E0	1	
20	790621460600R	PCBA,PWR&INV./B,AI/R, LE1730-6E0	1	
ITEM	P/N	Description	Usage	Location
	790621450600R	PCBA,PWR&INV./B,AI/A, LE1730-6E0		
10	415130680540R	RES CF 1/2W 68 J,AT RoHS REV:A	1	R804,
20	415340101540R	RES MOF 1W 100 J,AT MINI RoHS	1	R828,
30	411030003040R	DIO FR103 200V/1A DO-41(MOSPEC RoHS	0	
30	411020052020R	DIO A02-LF 200V/1A R1(FEC)RoHS	1	D806,
40	411020048090R	DIO 1N4148-35 75V/0.15A,DO35(P EC)RoHS	0	
40	411022003020R	DIO 1N4148-LF 75V/0.15A AT (FEC)RoHS	0	
40	411022003210R	DIO 1N4148 75V/0.2A AT (PHIL) RoHS	1	D809,
50	411032006020R	DIO FR10-10-LF 1000V/1A AT(FRO NTIER)RoH	0	
50	411020055330R	DIO MUR1100ERL AXIAL LEAD(ON) RoHS	1	D804,
60	411020050010R	DIO P6KE150A,DO-15AT,(TSC)RoHS	0	
60	411020050020R	DIO P6KE150A-LF AT(FRONTIER) RoHS	0	
60	411020050090R	DIO P6KE150A,DO-15,AT(PANJIT)RoHS	1	ZD802,
70	432002200160R	BEAD CORE BF30TA-3.5x9x0.8 AT	1	B801,

80	415030105540R	RES CF 1/2W 1M J,AT MINI RoHS	2	R820,R821,
90	414030330540R	RES FSM 1/2W 33 J,AT MINI,RoHS	4	R506,R508,R532,R533,
100	414870305540R	RES MG HV 1/2Ws 3M 3KV J,AT RoHS	2	R501,R503,
110	430405000000R	JMPR ROLL/KG D=0.6mm,AT,RoHS 7.5MM	364	J502,J507,J510,J516,J804,J805,J809,
120	430405000000R	JMPR ROLL/KG D=0.6mm,AT,RoHS 10MM	312	J503,J505,J514,J801,J803,J808,
130	430405000000R	JMPR ROLL/KG D=0.6mm,AT,RoHS 12.5MM	208	J508,J513,J515,J810,
140	430405000000R	JMPR ROLL/KG D=0.6mm,AT,RoHS 15MM	208	J501,J512,J802,J511,
150	430405000000R	JMPR ROLL/KG D=0.6mm,AT,RoHS 17.5MM	104	J506,J509,
160	700000000100R	ASSY,PCB&RIVENT,LE1730	1	
170	415020330540R	RES CF 1/4W 33 J,AT MINI RoHS	1	R521,
180	414020689540R	RES FSM 1/4W 6.8 J AT MINI,RoHS	1	R812,
ITEM	P/N	Description	Usage	Location
	790621460600R	PCBA,PWR&INV./B,AI/R, LE1730-6E0		
10	418147038530R	CAP CD NPO 47pF 1KV J,VT RoHS	1	C813,
20	418210227030R	CAP CD X7R 1000pF 500V K VT RoHS	2	C802,C811,
30	419111040030R	CAP MTL X7R 0.1uF 50V K,VT, RoHS	2	C817,C822,
40	420264700230R	CAP SH 47uF 25V M,125 ,VT, 6.3x11,RoHS	4	C814,C815,C818,C819,
50	410072013150R	XSTR UTC2SC1815L-GR NPN TO92 (UTC)RoHS	0	
50	410072013370R	XSTR 2SC1815-GR (T2SPF.T) VT (TOSHIBA)Ro	0	
50	410072013210R	XSTR 2PC1815GR*I VT (PHILIPS) RoHS REV:	1	Q802,
60	412022002240R	IC KA431AZ 1%,VT (FAIRCHILD) RoHS	0	
60	412022002300R	IC AP431VL TO-92 1% VT (ATC) RoHS	0	
60	412022002830R	IC AS431 TO-92 VT(A1SEMI)RoHS	0	
60	412022002840R	IC TL431ACLPG TO-92 1%,VT(ON)RoHS	1	IC803,
70	416231041530R	CAP MEB 0.1uF 100V J,(RSB),VT RSBEC3100D	1	C816,
80	420424710260R	CAP SD 470uF/25V M 105 ST 10x16,RoHS	1	C810,
90	420421510330R	CAP SD 150uF 35V M,105 VT 8x12 RoHS	2	C509,C522,
ITEM	P/N	Description	Usage	Location
	700000000100R	ASSY,PCB&RIVENT,LE1730		
10	490621400100R	PCB,PWR&INV./B, LE1730-XE0	1	
20	512006000500R	RIVET, 3.0x 1.6x3.0mm	6	M3,M4,M5,M6,M7,M8,
30	512006000600R	RIVET, 4.1x 2.2x3.0mm	2	M1,M2,

KEYPAD

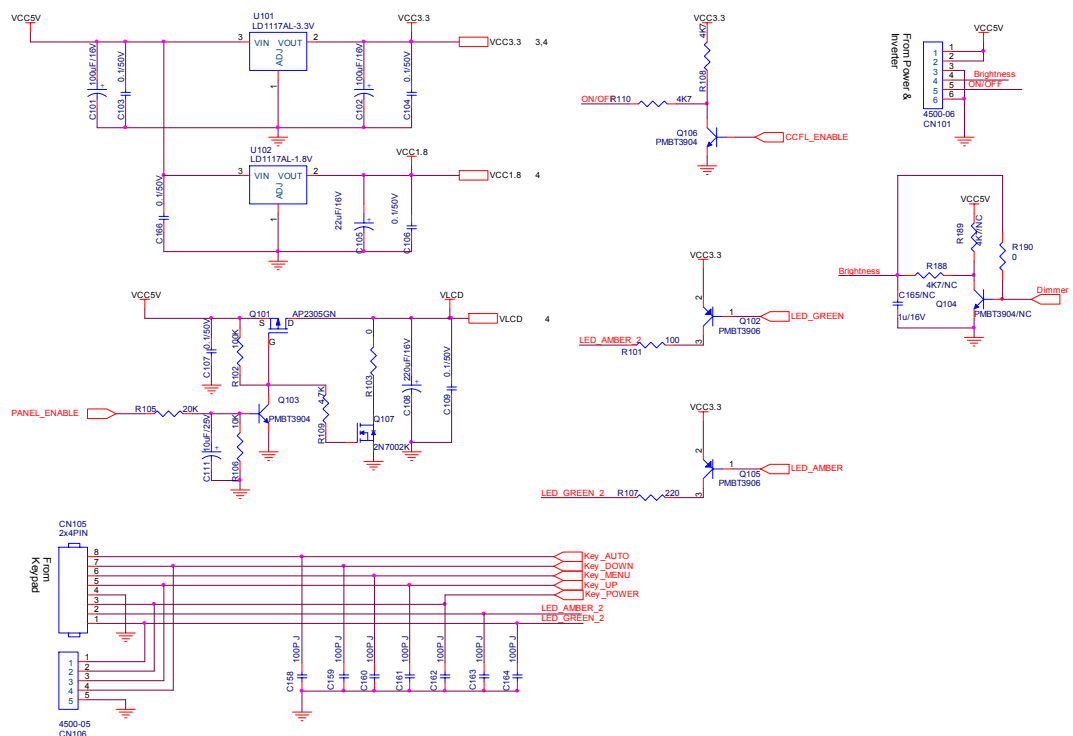
ITEM	P/N	Description	Usage	Location
	790621500000R	PCBA,KEYPAD BOARD, LE1730		
10	430300300050R	HRN ASS'Y 3P 130mm UL1007#28,RoHS	1	CN102,
20	430638080020R	WFR. 8P 1.5mm R/A S8B-ZR RoHS JST	1	CN101,
30	430602980120R	SW TACT 160gf 1P,H=4.3mm,DIP SFKHHAL2420	5	SW101,SW102,SW103,S W104,SW105,
40	490621500100R	PCB,KEY PAD, LE1730	1	
50	511130001200R	SOLDER BAR,Sn96.5/Ag3.0/Cu0.5/Ni0.06/Ge0	0.48254	
60	511130000300R	SOLDER WIRE,Sn96.5/Ag3.0/Cu0.5/Ni0.06/Ge	0.0345	
70	511140000701R	FLUX Grade 0.812±0.010	1.53295	

LED BOARD

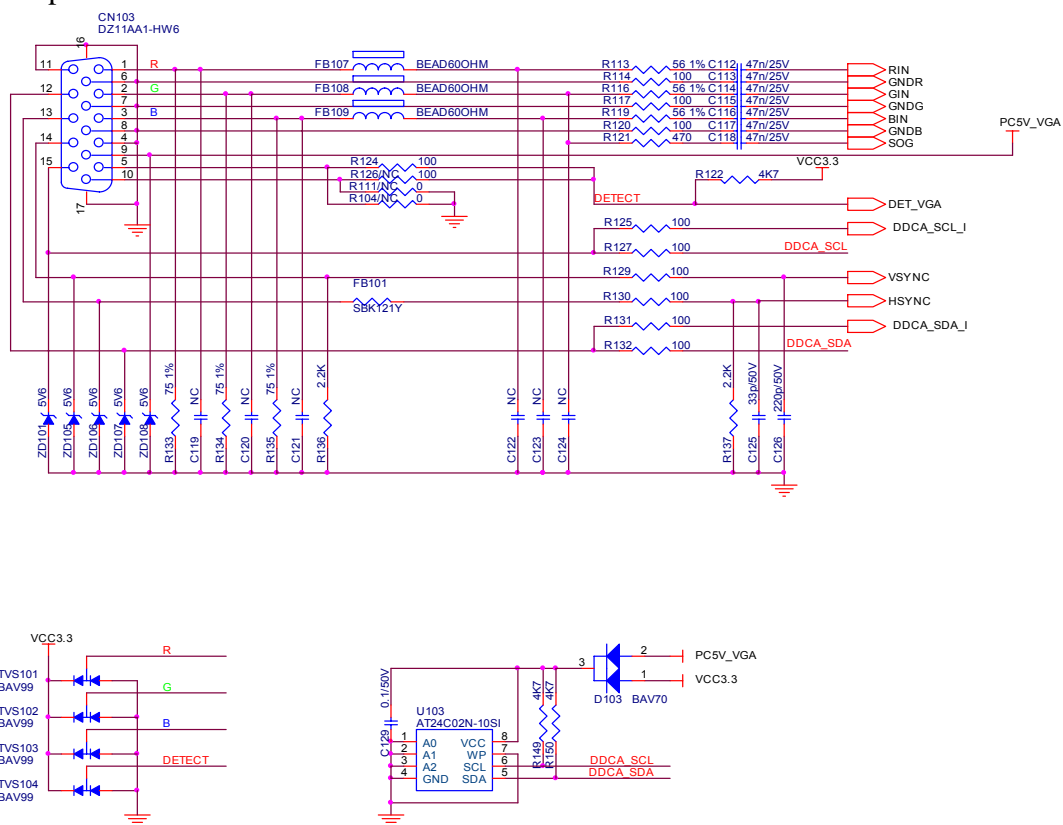
ITEM	P/N	Description	Usage	Location
	790620500000R	PCBA,LED BOARD, LE1730		
10	411070064450R	LED O/G 3x5mm 4209UYOSYGW/S530-A3/S195/	0	
10	411070061450R	LED O/G 3x5mm L-115WSEKCGKW-8.25LSF5.5/	1	LED101,
20	430631030030R	WFR 2.0mm 3P 180° ,RoHS	1	CN103,
30	490620500000R	PCB,LED BOARD, LE1730	1	
40	511130001200R	SOLDER BAR,Sn96.5/Ag3.0/Cu0.5/Ni0.06/Ge0	0.18354	
50	511130000300R	SOLDER WIRE,Sn96.5/Ag3.0/Cu0.5/Ni0.06/Ge	0.01101	
60	511140000701R	FLUX Grade 0.812±0.010	0.92	

SCHEMATIC DIAGRAM

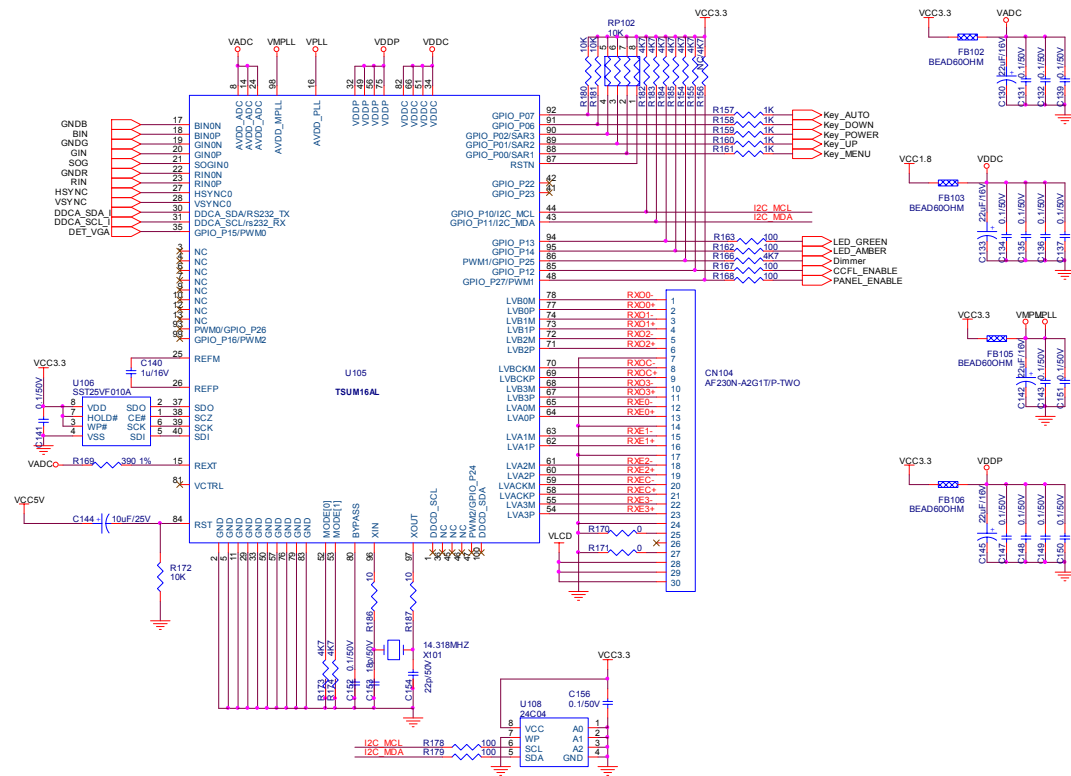
1. DC to DC



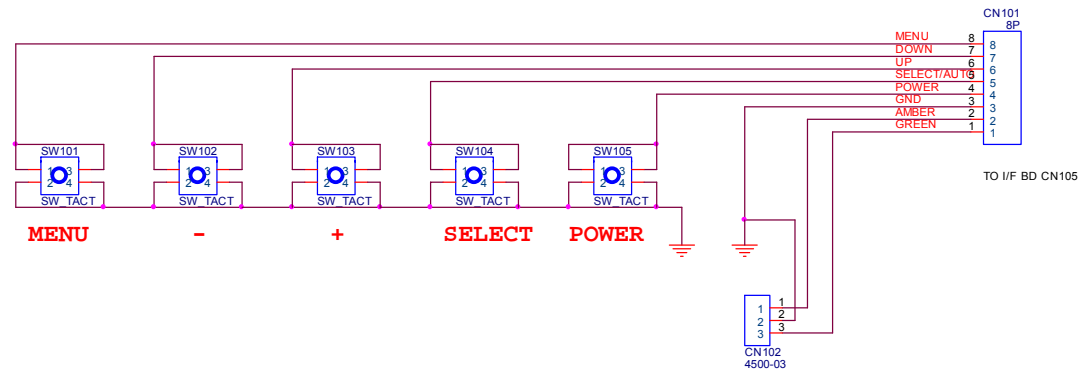
2. Input



3. Scaler_TSUM16AL



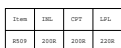
4. Key



5. LED



6. Inverter



7. Power

