Website:http://biz.LGservice.com

COLOR MONITOR
SERVICE MANUAL

CHASSIS NO. : CL-92

MODEL: FLATRON L2000C (L2000C-SFN.ALQP,A**LQP)**

FLATRON L2000C (L2000C-BFN.ALQP)**

( ) **Same model for Service

CAUTION

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

CONTENTS

SPECIFICATIONS

1. LCD CHARACTERISTICS

Type	: TFT Color LCD Module
Active Display Area	: 20.1inch
Pixel Pitch	: 0.255 (H) x 0.255 (V)
Size	: 432(H) x 331.5(V) x 25(D)
Color Depth	: 8-bit, 16,777,216 colors
Electrical Interface	: LVDS
Surface Treatment	: Anti-Glare, Hard Coating(3H)
Operating Mode	: Normally Black
Backlight Unit	: 6 CCFL (Cold Cathode Fluorescent Lamp)

2. OPTICAL CHARACTERISTICS

2-1. Viewing Angle by Contrast Ratio ≥ 10

Left : -88°(Typ) Right : +88°(Typ)
Top : +88°(Typ) Bottom : -88°(Typ)

2-2. Luminance : 250(min), 300(Typ)

2-3. Contrast Ratio : 400:1(Min), 700:1(Typ)

3. SIGNAL (Refer to the Timing Chart)

3-1. Sync Signal
- Type : Separate Sync, Composite, SOG, Digital

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	: 28 ~ 83kHz **(Analog)**
	: 28 ~ 83kHz **(Digital)**
Vertical	: 56 ~ 85Hz

4. MAX. RESOLUTION

Analog	: 1600 x 1200@60Hz
Digital	: 1600 x 1200@60Hz

5. POWER SUPPLY

5-1. Power Adaptor(Built-in Power)
Input : AC 100-240V~, 50/60Hz, 1.2A

5-2. Power Consumption

MODE	H/V SYNC	VIDEO	POWER CONSUMPTION	LED COLOR
POWER ON (NORMAL)	ON/ON	ACTIVE	less than 58 W	BLUE
STAND BY	OFF/ON	OFF	less than 1 W	AMBER
SUSPEND	ON/OFF	OFF	less than 1 W	AMBER
DPMS OFF	OFF/OFF	OFF	less than 1 W	AMBER
POWER S/W OFF	-	-	less than 1 W	OFF

6. ENVIRONMENT

6-1. Operating Temperature	: 10°C~35°C (50°F~95°F)
6-2. Relative Humidity	: 10%~80% (Non-condensing)
6-3. MTBF	: 50,000 HRS with 90% Confidence level
Lamp Life	: 45,000 Hours (Min)

7. DIMENSIONS (with TILT/SWIVEL)

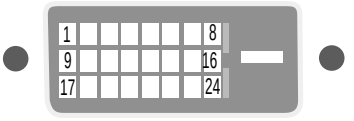
Width	: 446 mm (17.56")
Depth	: 242.6 mm (9.55")
Height	: 447.8 mm (17.63")

8. WEIGHT (with TILT/SWIVEL)

Net. Weight	: 7.6 kg (16.76 lbs)
Gross Weight	: 9.5 kg (20.95 lbs)

Signal Connector Pin Assignment

• DVI-D Connector (Digital)



Pin	Signal (DVI-D)
1	T. M. D. S. Data2-
2	T. M. D. S. Data2+
3	T. M. D. S. Data2/4 Shield
4	T. M. D. S. Data4-
5	T. M. D. S. Data4+
6	DDC Clock
7	DDC Data
8	Analog Vertical Sync.
9	T. M. D. S. Data1-
10	T. M. D. S. Data1+
11	T. M. D. S. Data1/3 Shield
12	T. M. D. S. Data3-
13	T. M. D. S. Data3+
14	+5V Power
15	Ground (return for +5V, H. Sync. and V. Sync.)

Pin	Signal (DVI-D)
16	Hot Plug Detect
17	T. M. D. S. Data0-
18	T. M. D. S. Data0+
19	T. M. D. S. Data0/5 Shield
20	T. M. D. S. Data5-
21	T. M. D. S. Data5+
22	T. M. D. S. Clock Shield
23	T. M. D. S. Clock+
24	T. M. D. S. Clock-

T. M. D. S. (Transition Minimized Differential Signaling)

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 softmaterial. (Cleaning with a dirty or rough cloth may damage the panel.)

⚠ CAUTION

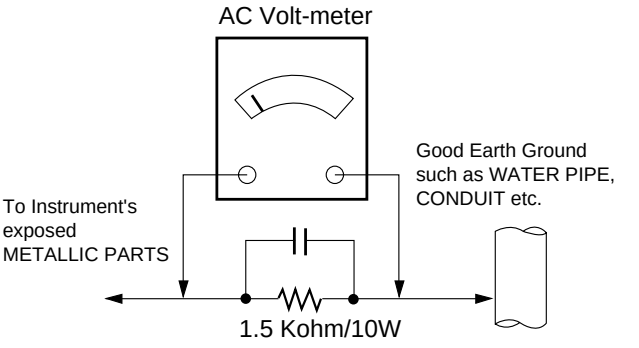
Please use only a plastic screwdriver to protect yourself from shock hazard during service operation.

⚠ 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.

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 in 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 or 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 mall 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).

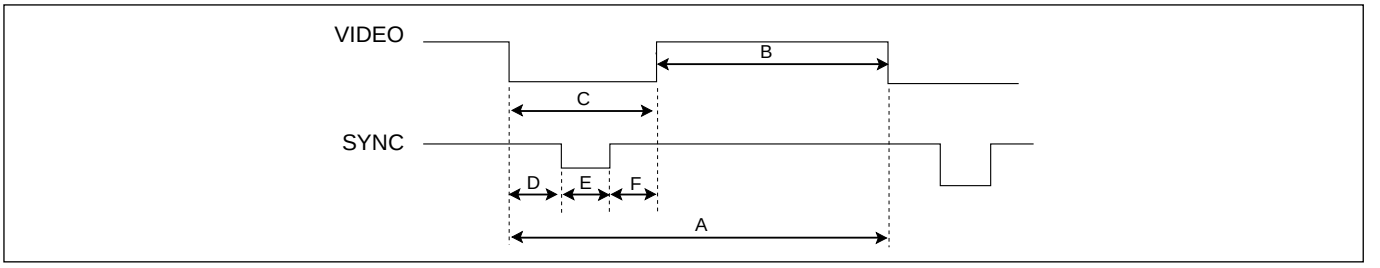
1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary).
2. carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.
3. Bend a small "U" in one end of a small gauge jumper wire 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



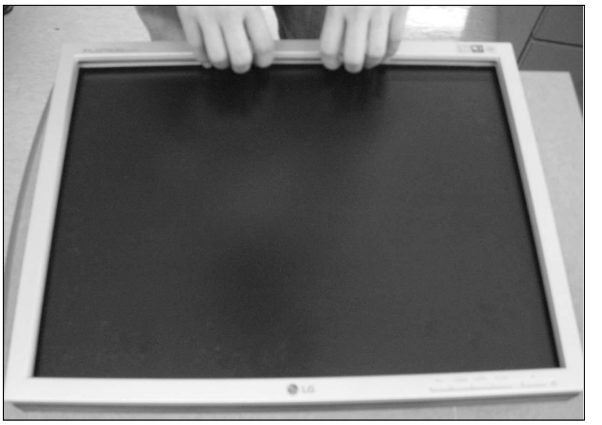
MODE	H / V	Sync Polarity	Dot Clock	Frequency	Total Period (E)	Display (A)	Front Porch (B)	Sync. (D)	Back Porch (F)	Resolution
1	H(Pixels)	+	25.175	31.47	800	640	16	96	48	640 x 350
	V(Lines)	-		70.09	449	350	38	2	60	
2	H(Pixels)	-	25.175	31.47	800	640	16	96	48	640 x 480
	V(Lines)	-		59.94	525	480	10	2	33	
3	H(Pixels)	-	31.5	37.5	840	640	16	64	120	640 x 480
	V(Lines)	-		75	500	480	1	3	16	
4	H(Pixels)	-	36.0	43.27	832	640	56	56	80	640 x 480
	V(Lines)	-		85.01	509	480	1	3	25	
5	H(Pixels)	-	28.324	31.47	900	720	18	108	54	720 x 400
	V(Lines)	+		70.08	449	400	13	2	34	
6	H(Pixels)	+	40.0	37.88	1056	800	40	128	88	800 x 600
	V(Lines)	+		60.32	628	600	1	4	23	
7	H(Pixels)	+	49.5	46.88	1056	800	16	80	160	800 x 600
	V(Lines)	+		75.0	625	600	1	3	21	
8	H(Pixels)	+	56.25	53.67	1048	800	32	64	152	800 x 600
	V(Lines)	+		85.06	631	600	1	3	27	
9	H(Pixels)	-	57.283	49.72	1152	832	32	64	224	832 x 624
	V(Lines)	-		74.55	667	624	1	3	39	
10	H(Pixels)	-	65.0	48.36	1344	1024	24	136	160	1024 x 768
	V(Lines)	-		60.0	806	768	3	6	29	
11	H(Pixels)	+	78.75	60.02	1312	1024	16	96	176	1024 x 768
	V(Lines)	+		75.03	800	768	1	3	28	
12	H(Pixels)	+	94.5	68.68	1376	1024	48	96	208	1024 x 768
	V(Lines)	+		85.0	808	768	1	3	36	
13	H(Pixels)	-	100.0	68.68	1456	1152	32	128	144	1152 x 870
	V(Lines)	-		75.06	915	870	3	3	39	
14	H(Pixels)	+/-	92.978	61.80	1504	1152	18	134	200	1152 x 900
	V(Lines)	+/-		65.96	937	900	2	4	31	
15	H(Pixels)	+	108.0	63.98	1688	1280	48	112	248	1280 x 1024
	V(Lines)	+		60.02	1066	1024	1	3	38	
16	H(Pixels)	+	135.0	79.98	1688	1280	16	144	248	1280 x 1024
	V(Lines)	+		75.02	1066	1024	1	3	38	
17	H(Pixels)	+	112.27	62.11	1808	1600	90	30	88	1600 x 1024
	V(Lines)	+		60.00	1040	1024	10	3	3	
18	H(Pixels)	+	162	75.0	2160	1600	64	192	304	1600 x 1200
	V(Lines)	+	(Analog Only)	60.00	1250	1200	1	3	46	
20	H(Pixels)	+	130.89	73.53	1780	1600	20	80	80	1600 x 1200
	V(Lines)	+	(Digital Only)	60	1225	1200	1	3	21	

DISASSEMBLY

 # 1

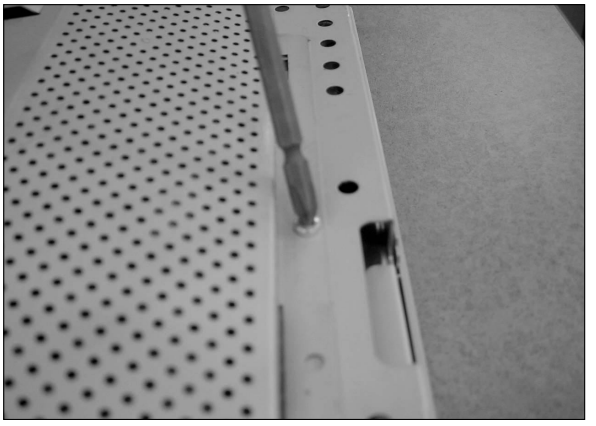
Remove the screws.

 # 2



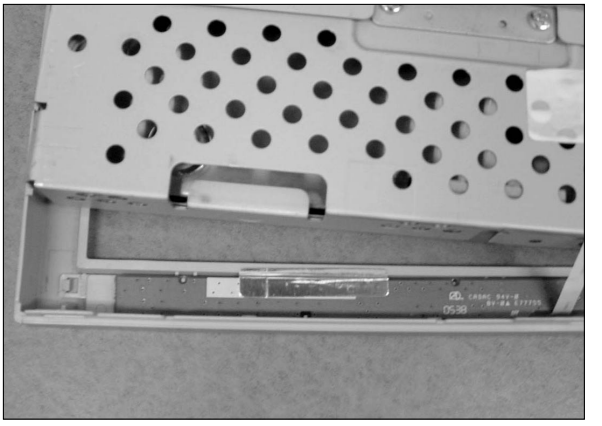
1. Pull the front cover upward.
2. Then, let the all latches are separated.
3. Put the front face down.
4. Disassemble back cover.

 # 3



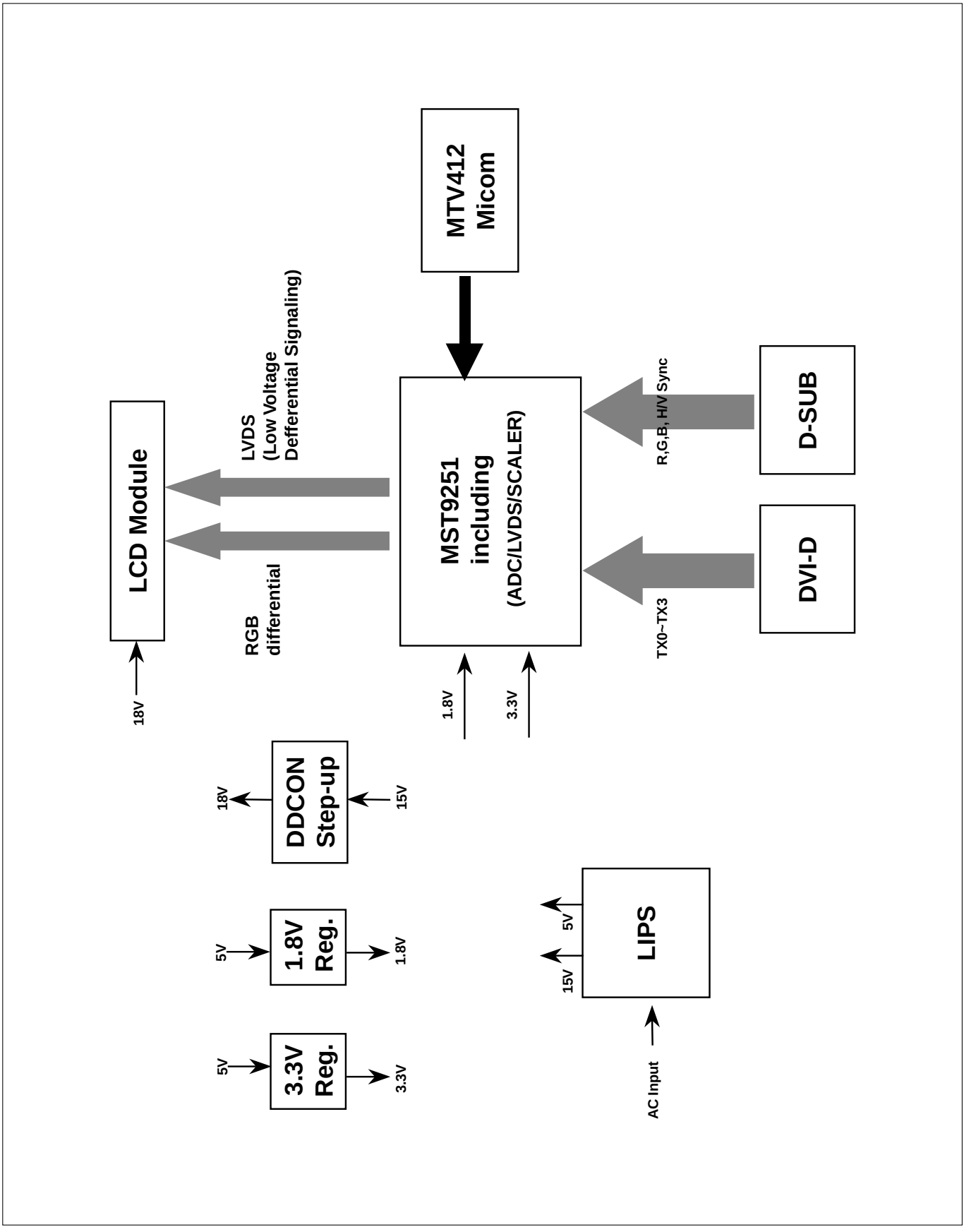
Remove the 7 screws from each up of metal frame.

 # 4



Remove Al-tape from control pcb fix.

BLOCK DIAGRAM



DESCRIPTION OF BLOCK DIAGRAM

1. Video Controller Part & Display Data Transmitter Part.(MST9251)

In case of analog input, 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.

In case of digital input, internal TMDS receiver decodes digital signal for scaler operation.

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

The range of the pixel clock is from 25MHz to 162MHz.

This part consists of the All-in-one Scaler with ADC, PLL, TMDS Receiver, Transmitter and scaler.

The scaler interpolates PC input resolution to 1600 x 1200 resolution signal and outputs 8-bit R, G, B signal to transmitter.

Transmitter codes digital signal from the Scaler and output coded data to receiver of module.

2. Micom Part

This Part consists of EEPROM IC which stores control data, Reset IC and the Micom.

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.

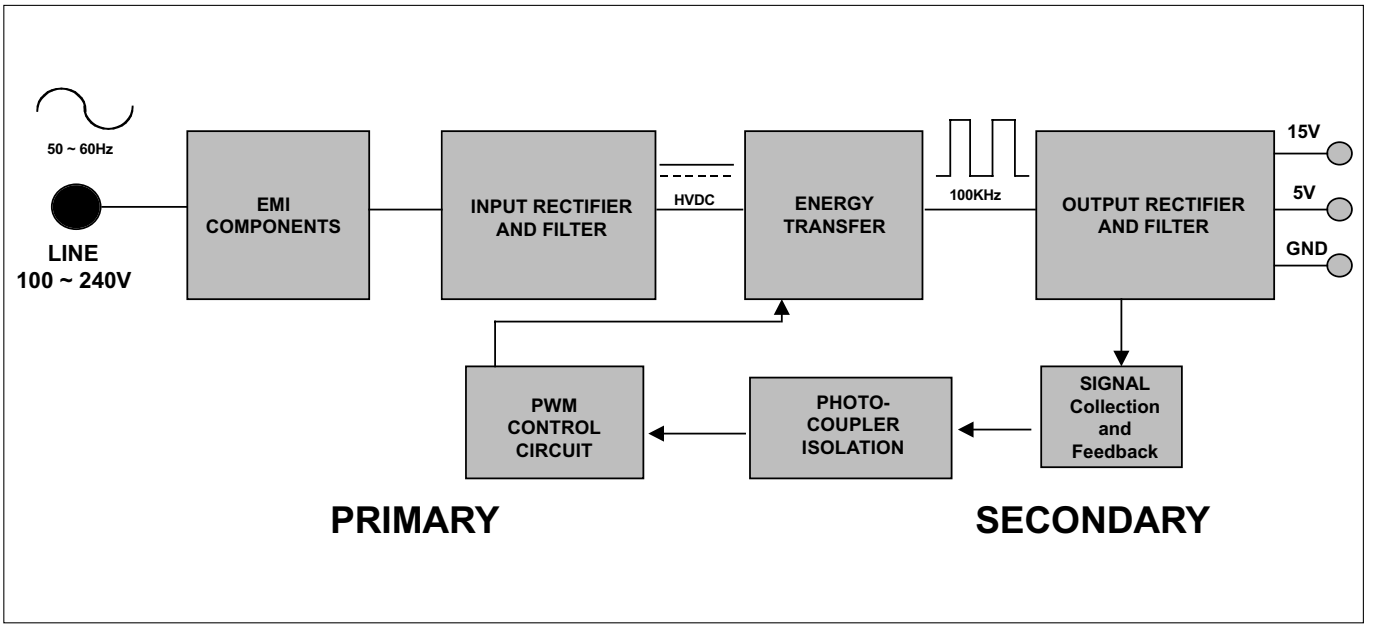
3. Power Part

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

In addition, step-up DC to DC converter boosts up 15V to 18V for supplying LCD module power.

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

LIPS Board Block Diagram



Operation description_Power

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 for 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 stabilized, 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.

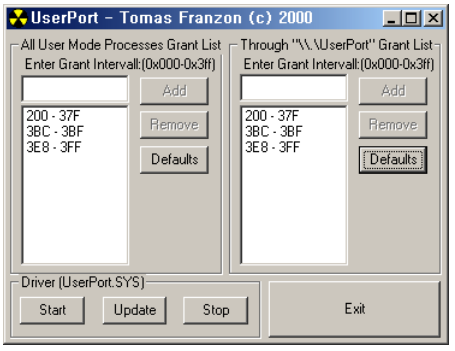
This part function is to collect the any change from the DC output and feed back to the primary through photo transistor.

ADJUSTMENT

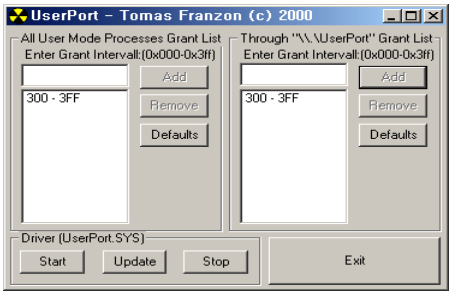
Windows EDID V1.0 User Manual

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

1. Port Setup
   a) Copy "UserPort.sys" file to
   "c:\WINNT\system32\drivers" folder
   b) Run Userport.exe

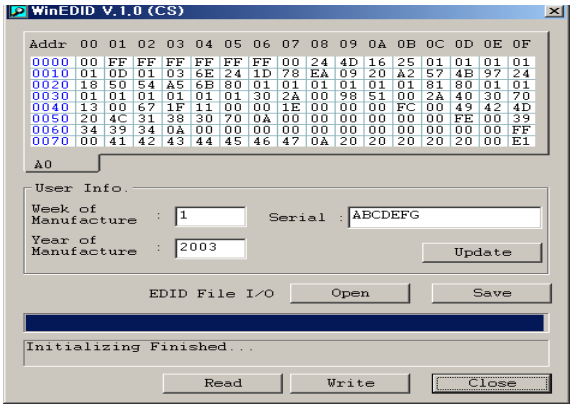


   c) Remove all default number
   d) Add 300-3FF

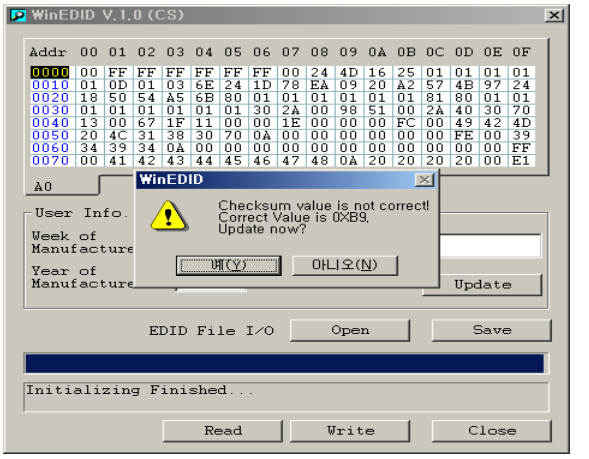


   e) Click Start button.
   f) Click Exit button.

2. EDID Read & Write
   1) Run WinEDID.exe



   2) Edit Week of Manufacture, Year of Manufacture, Serial Number
      a) Input User Info Data
      b) Click "Update" button
      c) 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.(24C16)
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 : To select applied module.

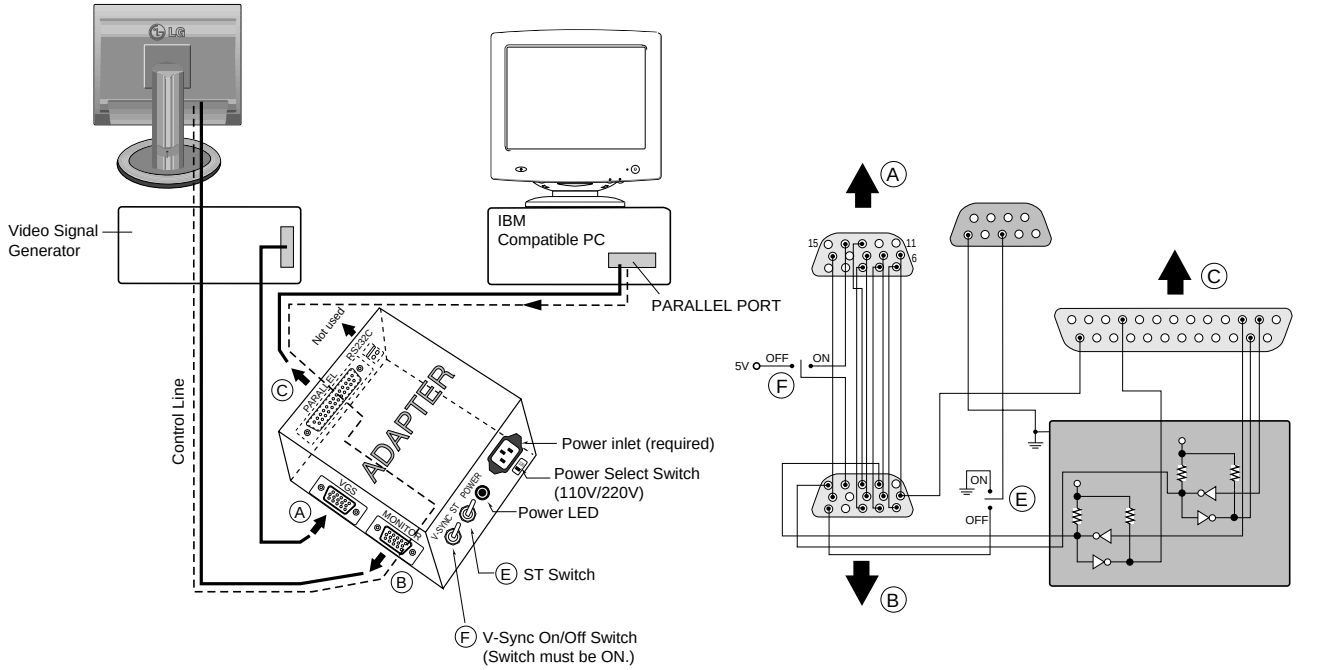
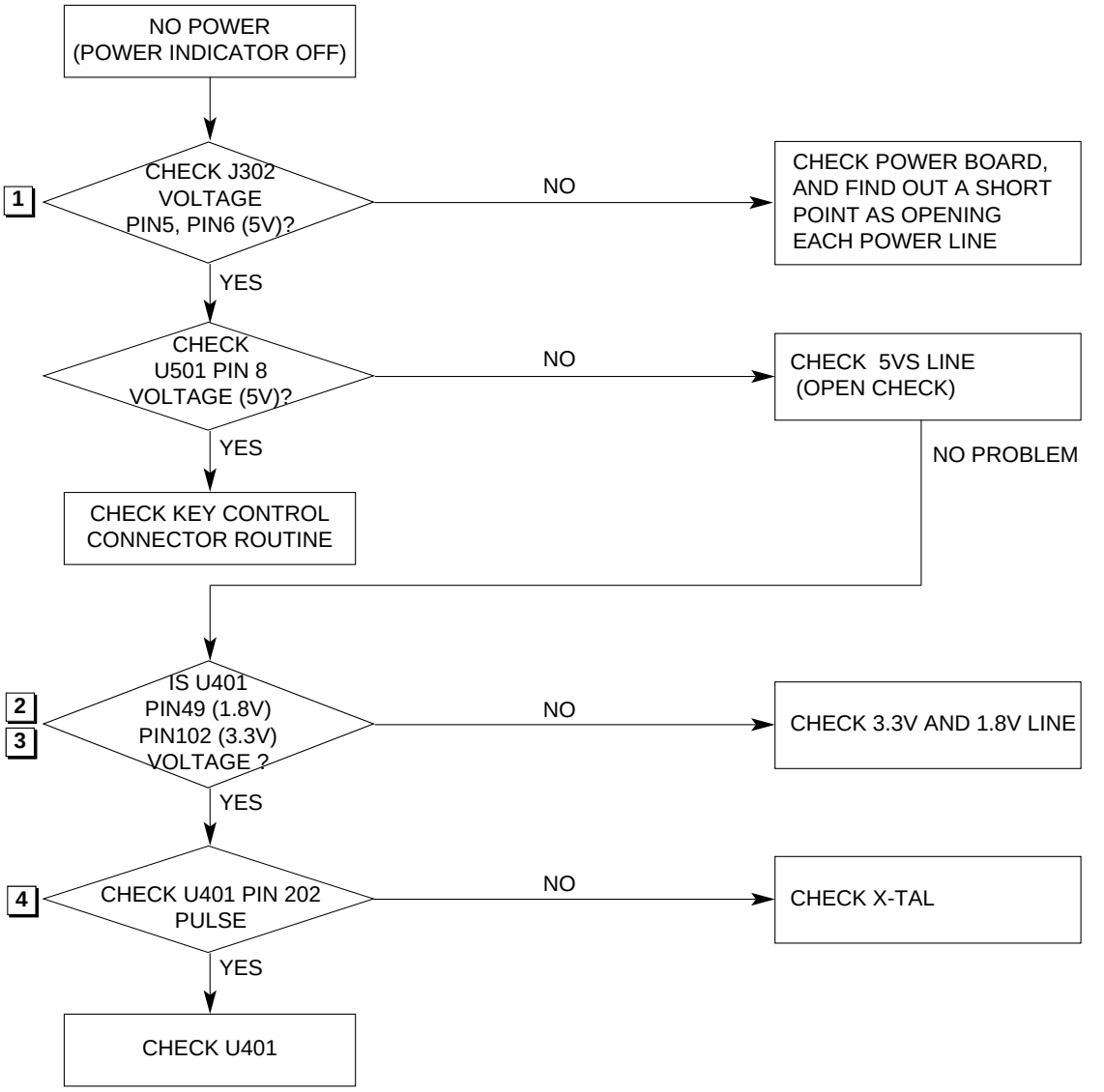


Figure 1. Cable Connection

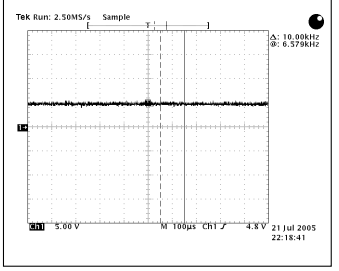
TROUBLESHOOTING GUIDE

1. NO POWER

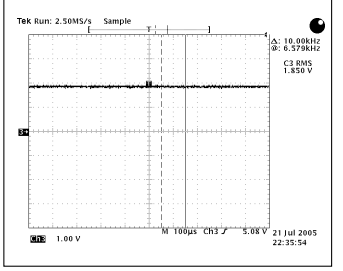


Waveforms

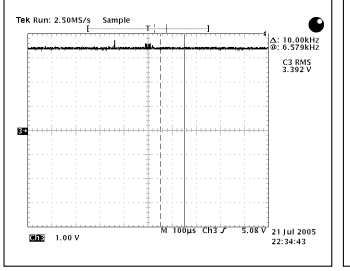
1 J302-#5,6



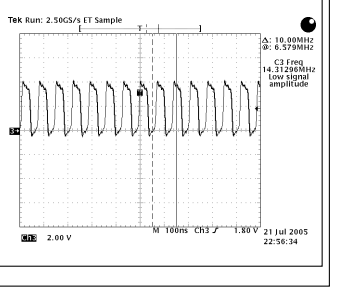
2 U401-#49



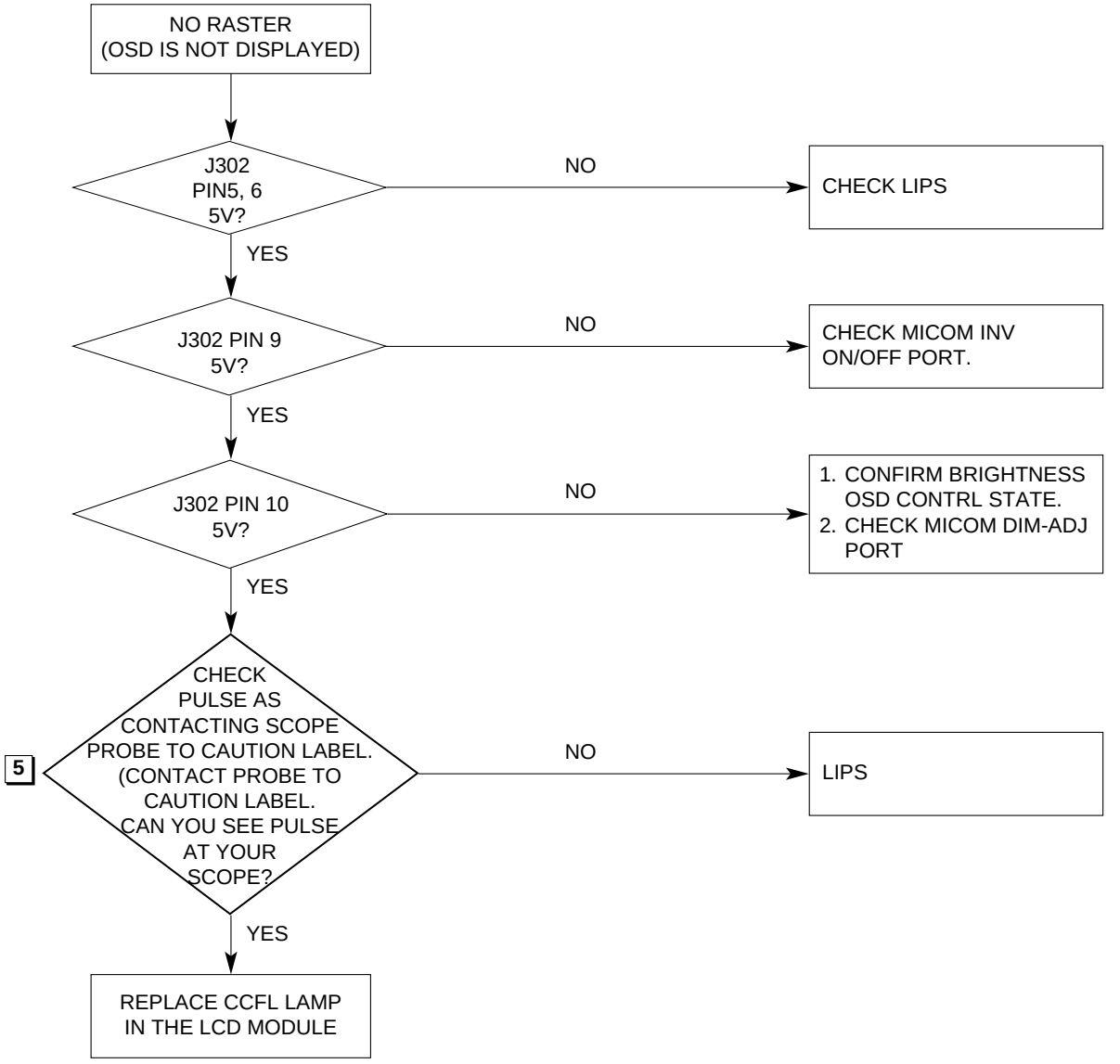
3 U401-#102



4 U401-#202, 203

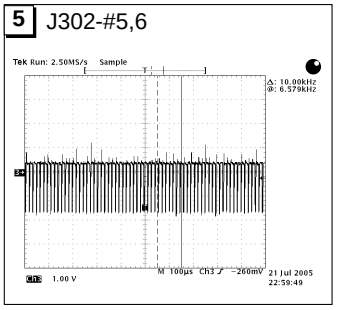


2. NO RASTER (OSD IS NOT DISPLAYED) – LIPS

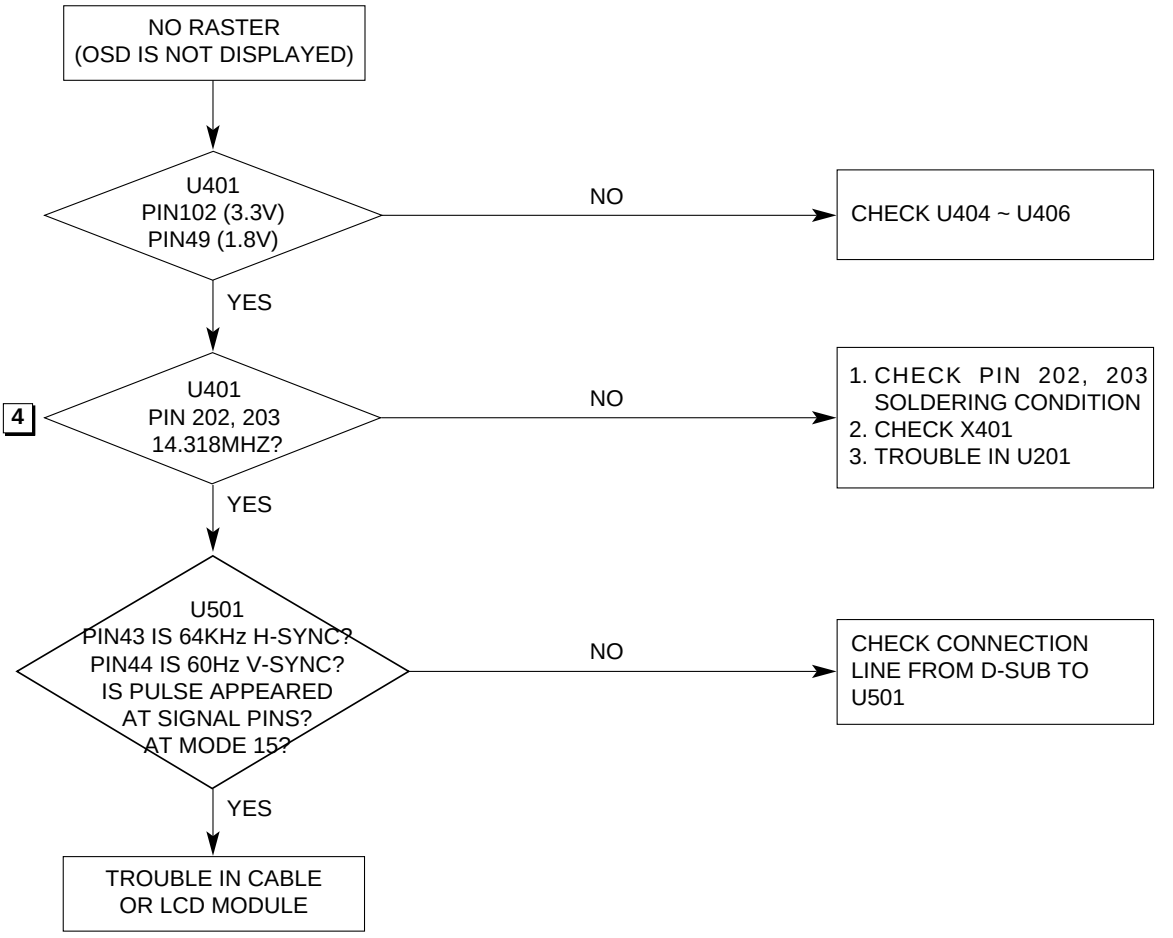


Waveforms

5 J302-#5,6

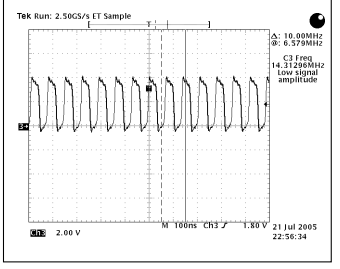


3. NO RASTER (OSD IS NOT DISPLAYED) - MAIN

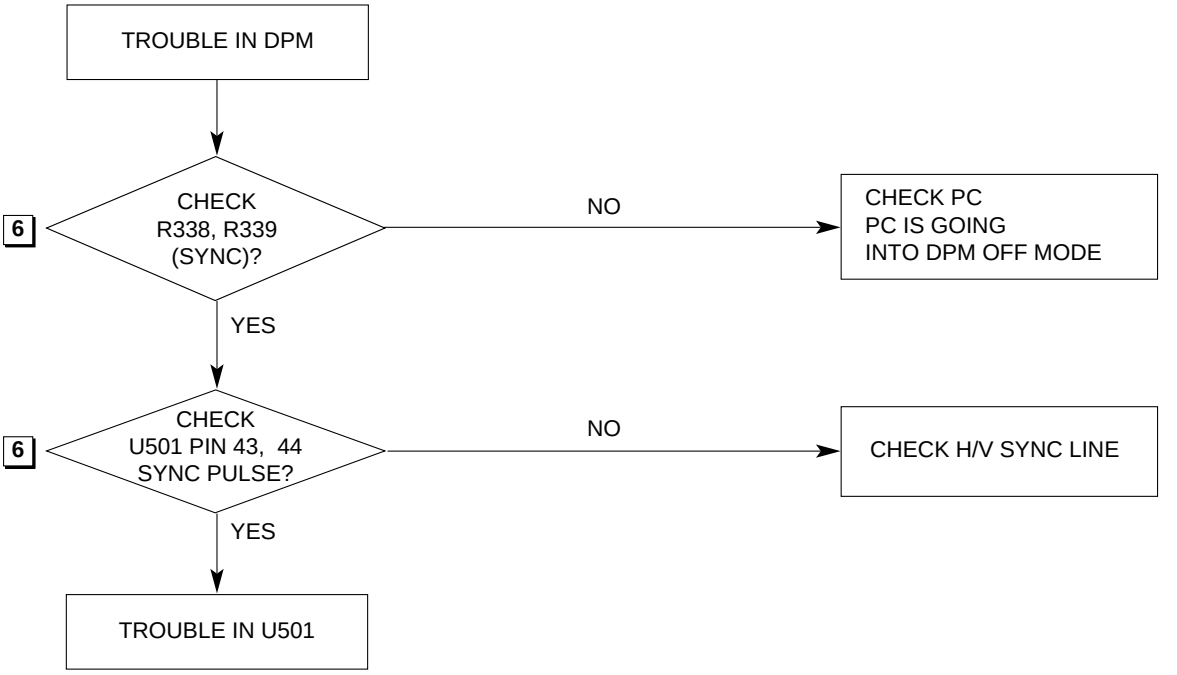


Waveforms

4 U401-#202, 203

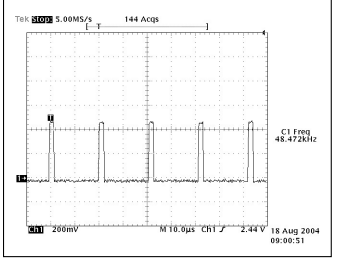


4. TROUBLE IN DPM

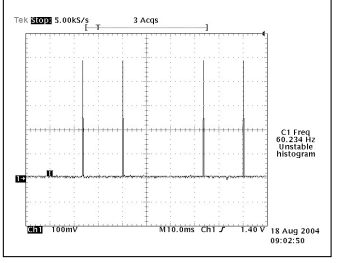


Waveforms

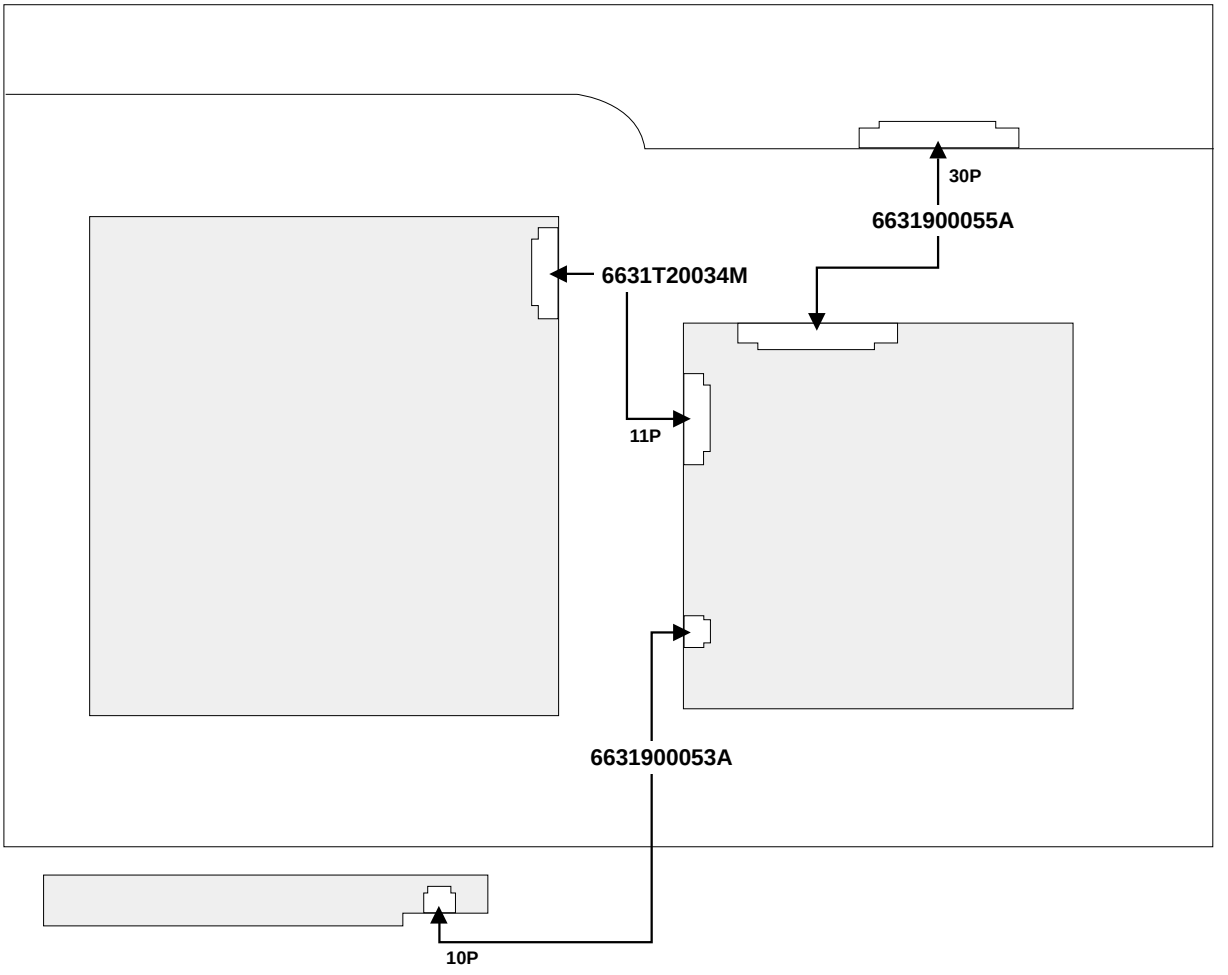
6 U501-#43 H-SYNC



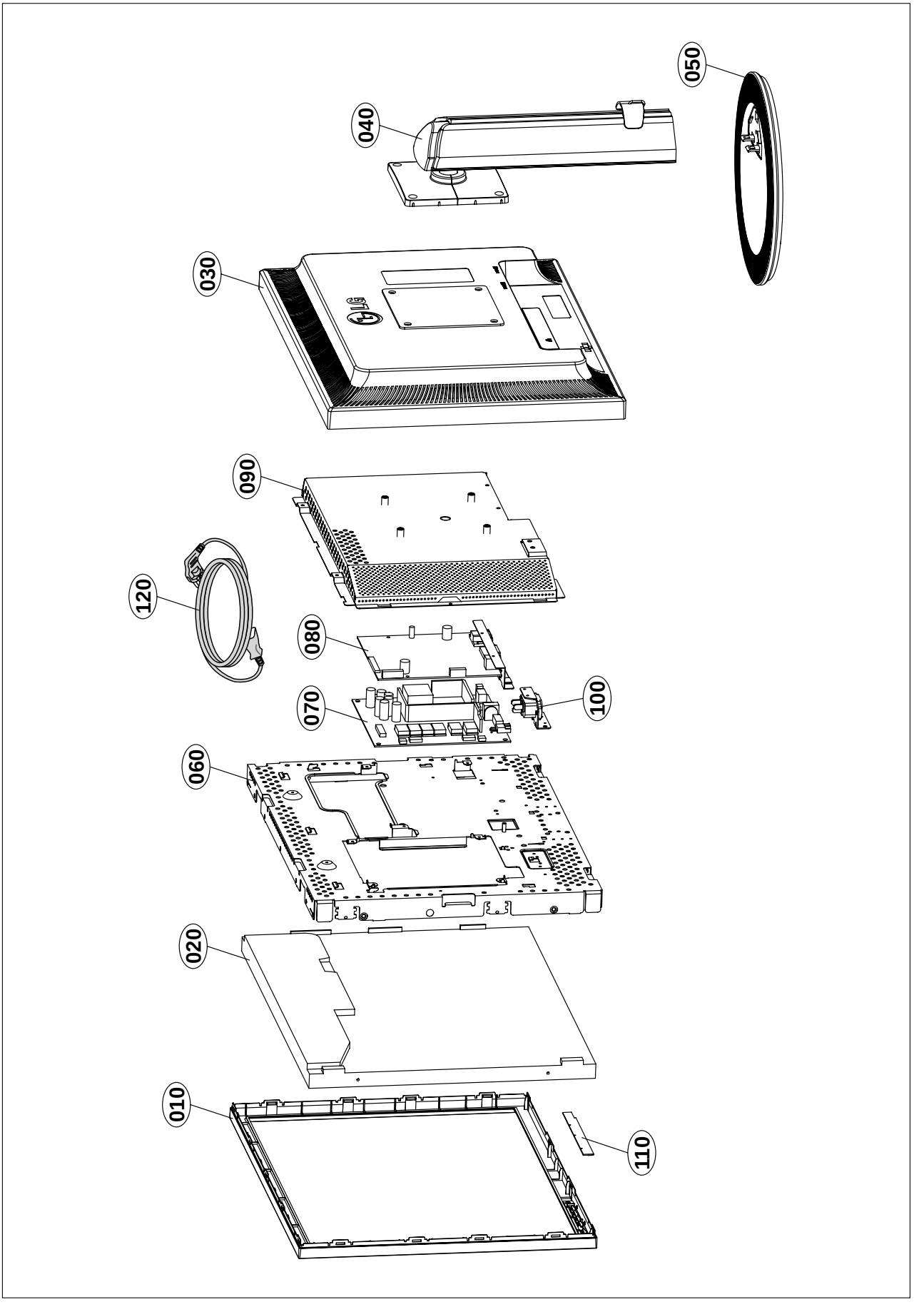
6 U501-#44 V-SYNC



WIRING DIAGRAM



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

*** Note:** Safety mark ⚠

Ref. No.		Part No.	Description
010	⚠	30919D0019F	Cover Assembly, L2000C BRAND 30909L0008A **SILVER**. LIFE IS GOOD-**For Australia**
		30919D0019A	Cover Assembly, L2000C BRAND 30909L0008A .**SILVER**-**For Japan,Israel,U.K,Singapore**
		30919D0019C	Cover Assembly, L2000C BRAND 30909L0008A L2000C BRAND 30909L0008A . **SILVER**. A-**C/SKD**
		30919D0019E	Cover Assembly, L2000C BRAND 30909L0008A 30909L0008A . **BLACK**(ABS)
		30919D0019G	Cover Assembly, L2000C BRAND 30909L0008A **BLACK**. NT DOMESTIC **C/SKD** F-ENGINE+EPA-**For China**
		30919D0019D	Cover Assembly, L2000C BRAND 30909L0008A 30909L0008A . **BLACK**(ABS). **C/SKD-For Europe,U.K**
020	⚠	6304FLP325A	LCD,Module-TFT, LM201U05-SLA1 DRIVER 20.1INCH 1600X1200 300CD COLOR - - - - LG PHILIPS LCD
030	⚠	3809900120A	Cover Assembly, L2000C NON .
		3809900120C	Cover Assembly, L2000C NON L2000C RAVE BK A-**C/SKD**
040	⚠	3043TKK190P	Base Assembly, L2000C . STAND BODY RAVEN BLACK
		3043TKK190S	Base Assembly, L2000C . L2000C STAND BODY RAVEN BLACK P-**C/SKD**
050	⚠	3043TKK191F	Base Assembly, L1732H/L1932H , STAND BASE RAVEN BLACK
		3043TKK191G	Base Assembly, L1732P/L1932P , STAND BASE RAVEN BLACK-**C/SKD**
060		4951TKS207H	Plate Assembly, FRAME L2000C MAIN FRAME(NO SUPPORT)
		4951TKS207J	Plate Assembly, FRAME L2000C MAIN FRAME(NO SUPPORT) H-**C/SKD**
070	⚠	6871TPT319A	PCB Assembly,Power, POWER T.T ETC 6-LAMP TV/MNT/MFT BRAND -
080		33139L2006A	Main Total Assembly, L2000C BRAND CL-93
090		4951TKS220E	Plate Assembly, REAR L2000C (VESA PEMNUT)
		4951TKS220F	Plate Assembly, REAR L2000C (VESA PEMNUT) E-**C/SKD**
100		6620K00003H	Drawing,Assembly, SA-4S-008-3-AA-LF AC SOCKET UL1617 AWG22-UL1015 AWG18 SA-4S-008-3-AA-LF
110		68719ST823A	PCB Assembly,Sub, SUB T.T CL92 L2000C-SFN ALRDQP -
120		6410TSW003A	Power Cord, LP-23A+SAG18N<B10A&LS-13_1.87M_BLK LP-23A LS-13 1.87M - 250V 7.5A GFC-3R 3X0.75MM2 BLACK SAA N-**For Australia**
		6410TJW005A	Power Cord, PSE,LP-54 & VTF18OXC70A & LS-13J_1.87M_BLK LP-54 LS-13J 1.87M - 125V 7A VCTF 3X0.75MM2 BLACK PSE N-**For Japan**
		EAD30470701	Power Cord, LP-42 LS-60 1.87M NONE 250V 10A H05VV-F 0.75MMX3C BLACK SII N LONGWELL-**For Israel**
		6410TBW004A	Power Cord, LP-61L+GFC18N+<B90A+LS-60_1.87M_BLK LP-61L LS-60 1.87M NONE 250V 10A H05VV-F 3X0.75MM2 BLACK BSI N LONGWELL ELECTRONICS (SUZHOU)-**For U.K,Singapore**
		6410TEW010A	Power Cord, CEE,LP-34A&H05VV-FX3C,LS-60_1.87M_BLK LP-34A LS-60 1.87M - 250V 16A H05VV-F 3X0.75MM2 BLACK VDE SEMKO N LONGWELL COMPANY-**For Europe**
		6410TPW003A	Power Cord, LP-33 & GFC18N<B90A+LS-60_1.87M_BLK LP-33 LS-60 1.87M - 250V 16A H05VV-F 3X0.75MM2 BLACK PCT N-**For Russia**
		6410TUW008A	Power Cord, UL_CSA,LP-31 & SVT 18X3C, LS-13_1.87M_BLK LP-31 LS-13 1.87M - 125V 10A SVT 3XAWG18 BLACK UL CSA N-**For U.S.A**
		6410TCW007A	Power Cord, CCC,LSG-31&RVA18N<F10A&LS-70_1.87M_BLK LSG-31 LS-70 1.87M - 250V 10A RVV 3X0.75MM2 BLACK CCC N-**For China**

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

DATE: 2006. 10. 31.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		MAIN BOARD		
		CAPACITORS		
		C106	0CK224CF56A	0603B224K160CT 220nF 10% 16V
		C108	0CK224CF56A	0603B224K160CT 220nF 10% 16V
		C109	0CK224CF56A	0603B224K160CT 220nF 10% 16V
		C110	0CK224CF56A	0603B224K160CT 220nF 10% 16V
		C203	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C204	0CE476EH638	KMG5.0TP25VB47M 47uF 20% 25V
		C205	0CK105CD56A	C1608X7R1A105KT 1uF 10% 10V
		C206	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20% 1
		C207	0CK105CD56A	C1608X7R1A105KT 1uF 10% 10V
		C209	0CK475FH67A	C3225X5R1E475MT 4.7uF 20% 25
		C210	0CK105CD56A	C1608X7R1A105KT 1uF 10% 10V
		C302	0CK105CD56A	C1608X7R1A105KT 1uF 10% 10V
		C303	0CK105CD56A	C1608X7R1A105KT 1uF 10% 10V
		C306	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C308	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C310	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C313	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C314	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C319	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C321	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C322	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C323	0CC680CK41A	C1608C0G1H680JT 68pF 5% 50V
		C324	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50V
		C326	0CC680CK41A	C1608C0G1H680JT 68pF 5% 50V
		C330	0CE477EF638	KMG5.0TP16VB470M 470uF 20% 1
		C331	0CE477EH638	KMG5.0TP25VB470M 470uF 20% 2
		C337	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C343	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50V
		C344	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50V
		C349	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C350	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C351	0CK105CD56A	C1608X7R1A105KT 1uF 10% 10V
		C352	0CK105CD56A	C1608X7R1A105KT 1uF 10% 10V
		C360	0CK105CD56A	C1608X7R1A105KT 1uF 10% 10V
		C401	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C402	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C403	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C404	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C405	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C406	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C407	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C408	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C409	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C410	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C411	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C412	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C414	0CC330CK41A	C1608C0G1H330JT 33pF 5% 50V
		C415	0CC330CK41A	C1608C0G1H330JT 33pF 5% 50V
		C416	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C417	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C418	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C419	0CK104CK56A	0603B104K500CT 100nF 10% 50V

DATE: 2006. 10. 31.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C420	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C423	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C424	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C431	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C433	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C434	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20% 1
		C435	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C436	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C437	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C438	0CE227EF638	KMG5.0TP16VB220M 220uF 20% 1
		C439	0CE227EF638	KMG5.0TP16VB220M 220uF 20% 1
		C446	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C450	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C451	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C452	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C453	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C456	0CK473CK56A	C1608X7R1H473KT 47nF 10% 50V
		C457	0CK473CK56A	C1608X7R1H473KT 47nF 10% 50V
		C458	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V C
		C459	0CK473CK56A	C1608X7R1H473KT 47nF 10% 50V
		C460	0CK473CK56A	C1608X7R1H473KT 47nF 10% 50V
		C461	0CK473CK56A	C1608X7R1H473KT 47nF 10% 50V
		C462	0CK473CK56A	C1608X7R1H473KT 47nF 10% 50V
		C464	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C470	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C471	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C472	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C473	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C474	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C475	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C476	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C477	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C478	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C479	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C480	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C481	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C485	0CC080CK11A	C1608C0G1H080DT 8pF 0.5PF 50
		C486	0CC080CK11A	C1608C0G1H080DT 8pF 0.5PF 50
		C487	0CC080CK11A	C1608C0G1H080DT 8pF 0.5PF 50
		C490	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C500	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C501	0CH8106F691	MVK4.0TP16VC10M 10uF 20% 16V
		C502	0CC100CK41A	C1608C0G1H100JT 10pF 5% 50V
		C503	0CC100CK41A	C1608C0G1H100JT 10pF 5% 50V
		C505	0CC680CK41A	C1608C0G1H680JT 68pF 5% 50V
		C506	0CC680CK41A	C1608C0G1H680JT 68pF 5% 50V
		C512	0CC180CK41A	C1608C0G1H180JT 18pF 5% 50V
		C513	0CC100CK41A	C1608C0G1H100JT 10pF 5% 50V
		C516	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		DIODEs		
		D201	0DRSG00028A	STPS340U 840MV 40V 3A - - -
		D301	0DSIH00018A	ENKMC2837-T112 1.2V 85V 300M

DATE: 2006. 10. 31.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		D302	0DSIH00018A	ENKMC2837-T112 1.2V 85V 300M
		D303	0DSIH00018A	ENKMC2837-T112 1.2V 85V 300M
		D304	0DSIH00028A	MC2838-T112-1 1.2V 75V 300MA
		D316	0DSIH00028A	MC2838-T112-1 1.2V 75V 300MA
		U110	0DRCE00018A	PACDN004SR 950MV - 13V - 225
		U111	0DRCE00018A	PACDN004SR 950MV - 13V - 225
		U112	0DRCE00018A	PACDN004SR 950MV - 13V - 225
		U113	0DRCE00018A	PACDN004SR 950MV - 13V - 225
		ZD301	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2
		ZD302	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2
		ZD303	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2
		ZD304	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2
		ZD305	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2
		ZD306	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2
		ZD307	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2
		ZD310	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2
		ZD311	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2
		ZD312	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2
		ZD315	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2
		ZD316	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2
		ZD317	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2
		ZD318	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2
	ICs			
		Q503	0IKE704200H	KIA7042AP -0.3TO15V 4.2V 400
		U201	0IPMGKE041A	KIA78R12F 13TO29V 12V 8W DPA
		U203	0ILNRNS016B	LM2733YMF 2.7TO14V - - SOT23
		U303	0IMMR00014A	M24C02-RMN6TP 2KBIT 256X8BIT
		U304	0IMMR00014A	M24C02-RMN6TP 2KBIT 256X8BIT
		U401	0IPRP00575A	"MST9251A-165 3VTO3.6V,2.2VTO"
		U402	0IMMR00080A	HY57V161610ETP-6 16MBIT 512K
		U403	0IMMR00080A	HY57V161610ETP-6 16MBIT 512K
		U404	0IPMGSG016A	LD1086D2T18TR 3.4TO30V 1.8V
		U405	0IPMGKE011A	KIA78D33F 4TO10V 3.3V 1.3W D
		U406	0IPRPSG025A	LD1086D2M33 4.9TO30V 3.3V -
		U501	0IZZ9H0065A	0IMCRMJ010A MYSON PLCC 44PIN
		U502	0IMMRSG036B	M24C16-WMN6TP 16KBIT 2KX8BIT
	FILTERs & INDUCTORs			
		L402	6200J00005E	HH-1M2012-601JT 600OHM 2X1.2
		L403	6200J00005E	HH-1M2012-601JT 600OHM 2X1.2
		L405	6200J00005E	HH-1M2012-601JT 600OHM 2X1.2
		L406	6200J00005E	HH-1M2012-601JT 600OHM 2X1.2
		L409	6200J00005E	HH-1M2012-601JT 600OHM 2X1.2
		L201	6140TBZ048B	SLF10145T-100M2R5 10UH 20% -
	TRANSISTOR			
		Q301	0TRIH80001A	RT1C3904-T112 NPN 6V 60V 40V
		Q302	0TRIH80001A	RT1C3904-T112 NPN 6V 60V 40V
		Q303	0TRIH80001A	RT1C3904-T112 NPN 6V 60V 40V
		Q304	0TRIH80001A	RT1C3904-T112 NPN 6V 60V 40V
		Q401	0TRIH80001A	RT1C3904-T112 NPN 6V 60V 40V
		Q502	0TRIH80001A	RT1C3904-T112 NPN 6V 60V 40V
		Q505	0TRIH80001A	RT1C3904-T112 NPN 6V 60V 40V
		Q506	0TRIH80001A	RT1C3904-T112 NPN 6V 60V 40V
	RESISTORs			
		R208	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R209	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R210	0RJ5102D677	MCR03EZPJ513 51KOHM 5% 1/10W
		R211	0RJ1803D677	MCR03EZPJ184 180KOHM 5% 1/10
		R212	0RJ1302D677	MCR03EZPJ133 13KOHM 5% 1/10W
		R213	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R309	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R311	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R312	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R313	0RJ0562D677	MCR03EZPJ560 56OHM 5% 1/10W
		R314	0RJ0472D677	MCR03EZPJ470 47OHM 5% 1/10W
		R315	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10W
		R317	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10W
		R319	0RJ3300D677	MCR03EZPJ331 330OHM 5% 1/10W
		R320	0RJ3300D677	MCR03EZPJ331 330OHM 5% 1/10W
		R322	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10W
		R323	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10W
		R326	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R327	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R329	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R331	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R333	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R334	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R335	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R336	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R337	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R338	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R339	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R340	0RJ0682D677	MCR03EZPJ680 68OHM 5% 1/10W
		R341	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R342	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R343	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R344	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R345	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R346	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R347	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R353	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R354	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R355	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R356	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R357	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R358	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R362	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R363	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R364	0RJ4700D677	MCR03EZPJ471 470OHM 5% 1/10W
		R365	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R366	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R367	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R368	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R372	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R373	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R379	0RJ0472D677	MCR03EZPJ470 47OHM 5% 1/10W
		R380	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R383	0RJ0472D677	MCR03EZPJ470 47OHM 5% 1/10W
		R384	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R385	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R386	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10W
		R387	0RJ2001D677	MCR03EZPJ202 2KOHM 5% 1/10W
		R388	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R401	0RJ3900D677	MCR03EZPJ391 390OHM 5% 1/10W
		R402	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R403	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R404	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R405	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R406	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R407	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R415	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R416	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R417	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R418	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R419	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R420	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R422	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R423	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R426	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R427	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R430	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R431	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R440	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R442	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R443	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R444	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R445	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R446	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R447	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R448	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R449	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R453	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R455	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R457	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R464	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R501	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R502	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R503	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R504	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R505	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R507	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R508	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R509	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R510	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R511	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R514	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10W
		R517	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R519	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R520	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R521	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R522	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R523	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R524	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R525	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R526	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R527	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R532	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/10
		R533	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R534	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R535	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/10
		R537	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R541	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R544	0RJ4700D677	MCR03EZPJ471 470OHM 5% 1/10W
		R545	0RJ4700D677	MCR03EZPJ471 470OHM 5% 1/10W
		R570	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R571	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R572	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R573	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R574	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10

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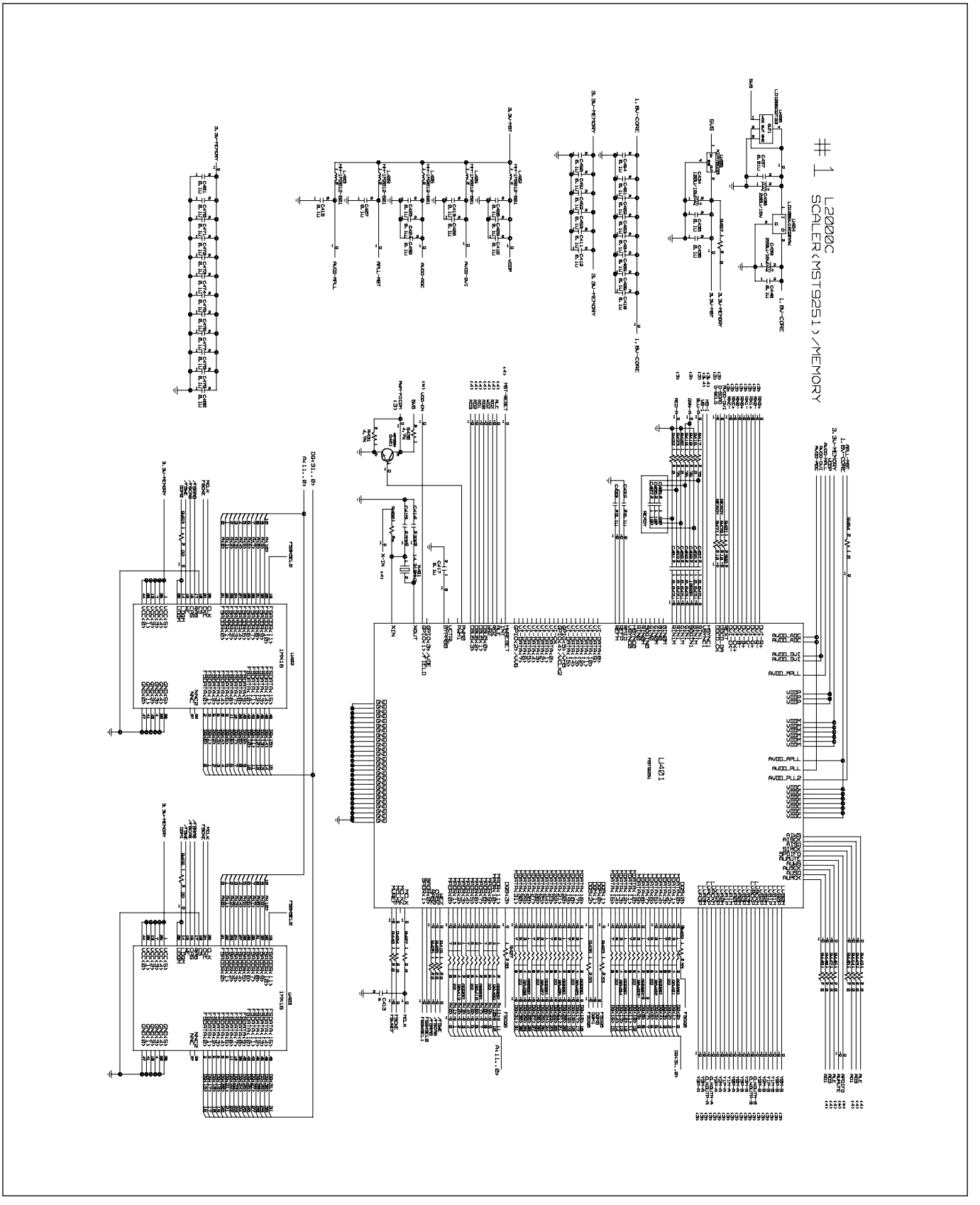
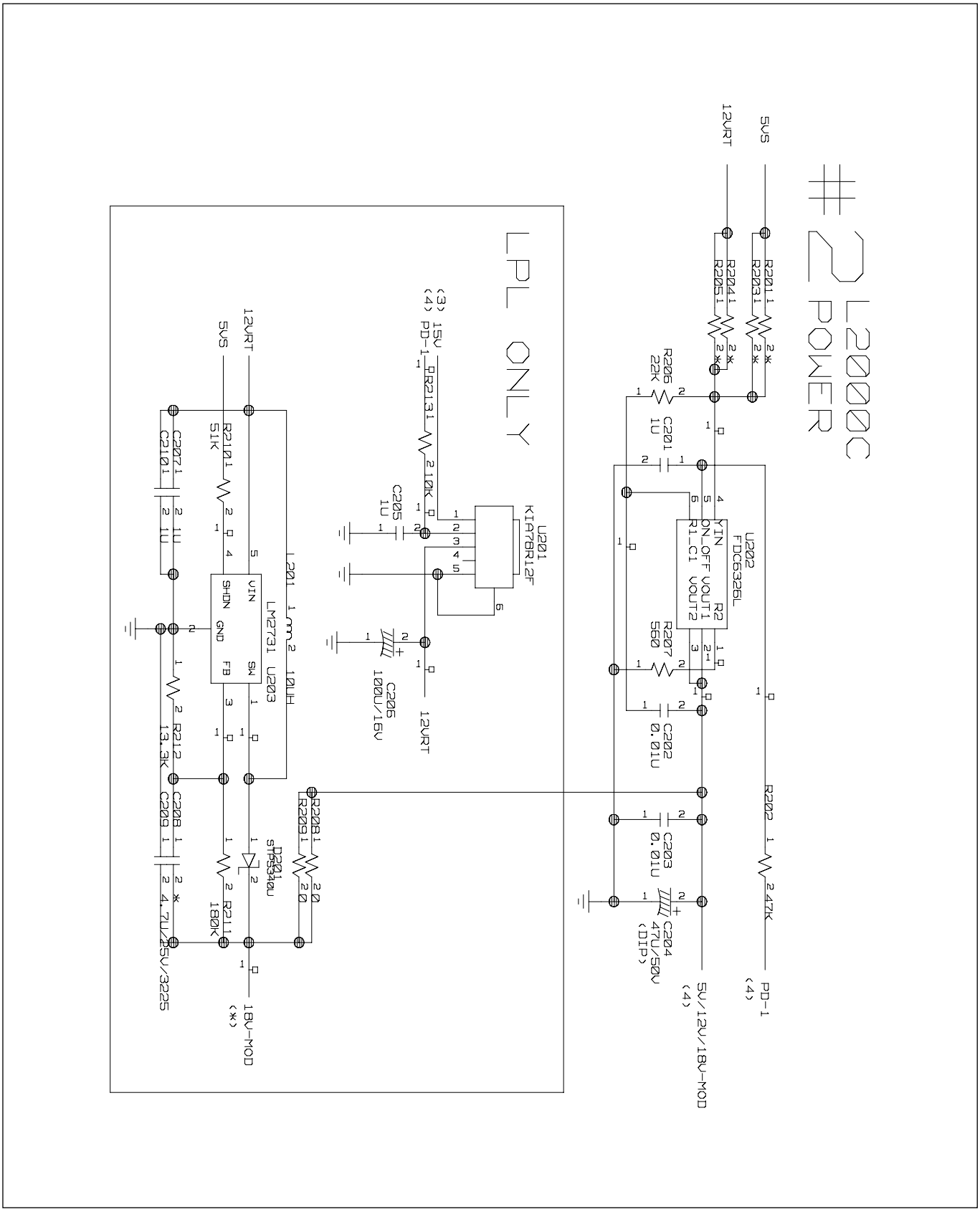
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R575	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R576	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R577	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R578	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R579	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R580	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10W
		R581	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10W
		R582	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R585	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R586	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R587	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R588	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R589	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R590	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R591	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R592	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R593	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R594	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R595	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R596	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10W
		R597	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		RA401	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		RA402	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		RA403	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		RA404	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		RA405	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		RA406	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		RA407	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		RA408	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		RA409	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		RA410	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		RA412	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		OTHERs		
		X401	6202TST001A	SX-1 14.31818MHZ 30PPM 14.31
		X501	6212AA2004A	HC-49/U 12MHZ 30PPM 12MHZ 30
		CONTROL BOARD		
		C101	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		C102	0CK104CK56A	0603B104K500CT 100nF 10% 50V
		D101	0DLBE0048AA	BL-HKBB533B-TRB SUPER YELLOW
		J101	6630VA01710	FH12-10S-0.5SH 10P 0.50MM FF
		R101	0RJ2700D677	MCR03EZPJ271 270OHM 5% 1/10W
		R102	0RJ2700D677	MCR03EZPJ271 270OHM 5% 1/10W
		R103	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R104	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/10
		R105	0RJ8200D677	MCR03EZPJ821 820OHM 5% 1/10W
		R106	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W 1
		R107	0RJ1501D677	MCR03EZPJ152 1.5KOHM 5% 1/10
		R108	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/10
		SW101	6600R00004C	JTP1127WEM 1C1P 15VDC 0.05A
		SW102	6600R00004C	JTP1127WEM 1C1P 15VDC 0.05A
		SW103	6600R00004C	JTP1127WEM 1C1P 15VDC 0.05A
		SW104	6600R00004C	JTP1127WEM 1C1P 15VDC 0.05A
		SW105	6600R00004C	JTP1127WEM 1C1P 15VDC 0.05A
		ZD101	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2
		ZD102	0DZKE00138A	KDZ5.6V 5.6V 5.3TO6V 40OHM 2

SCHEMATIC DIAGRAM

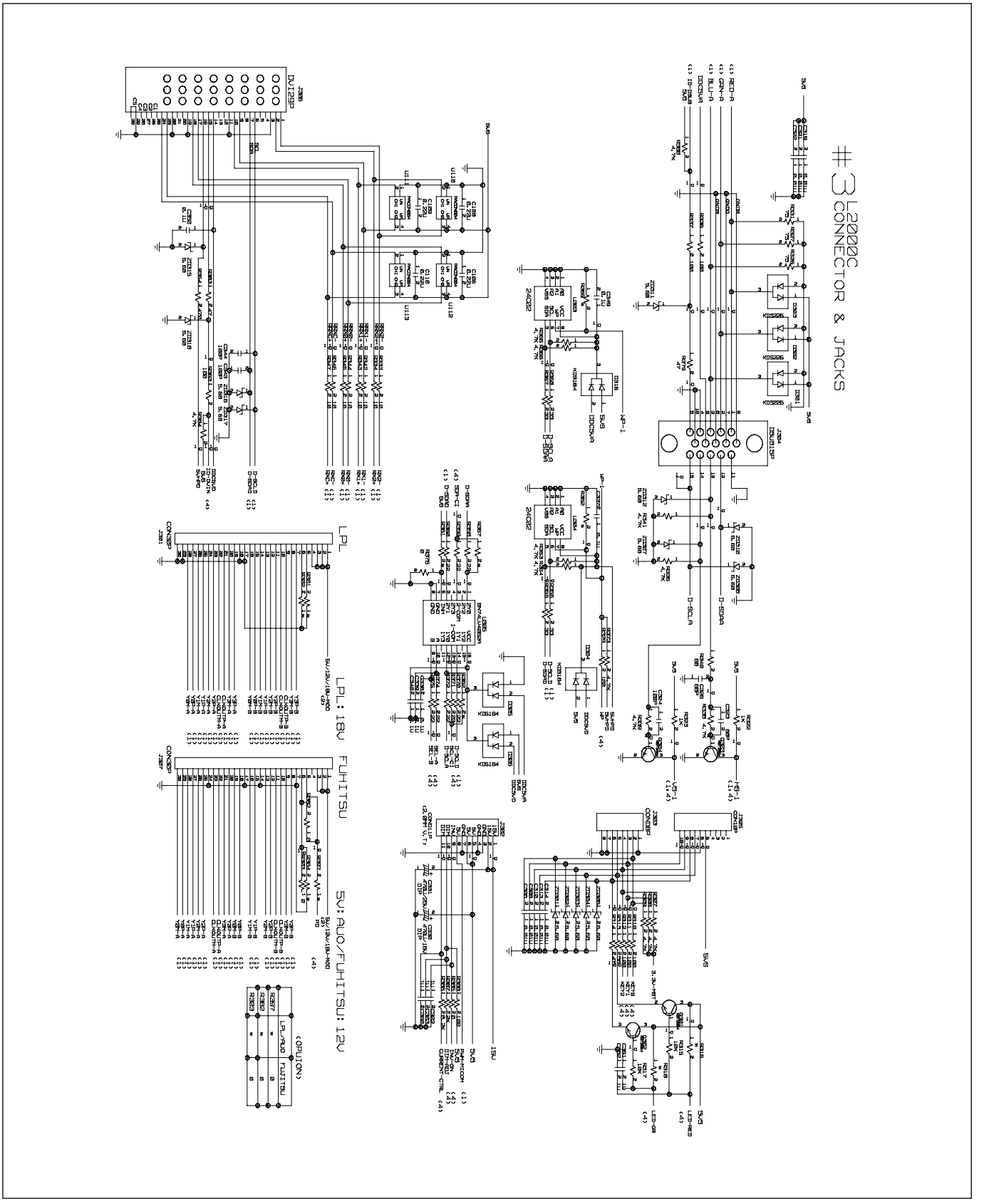
1. SCALER (MST9251) / MEMORY



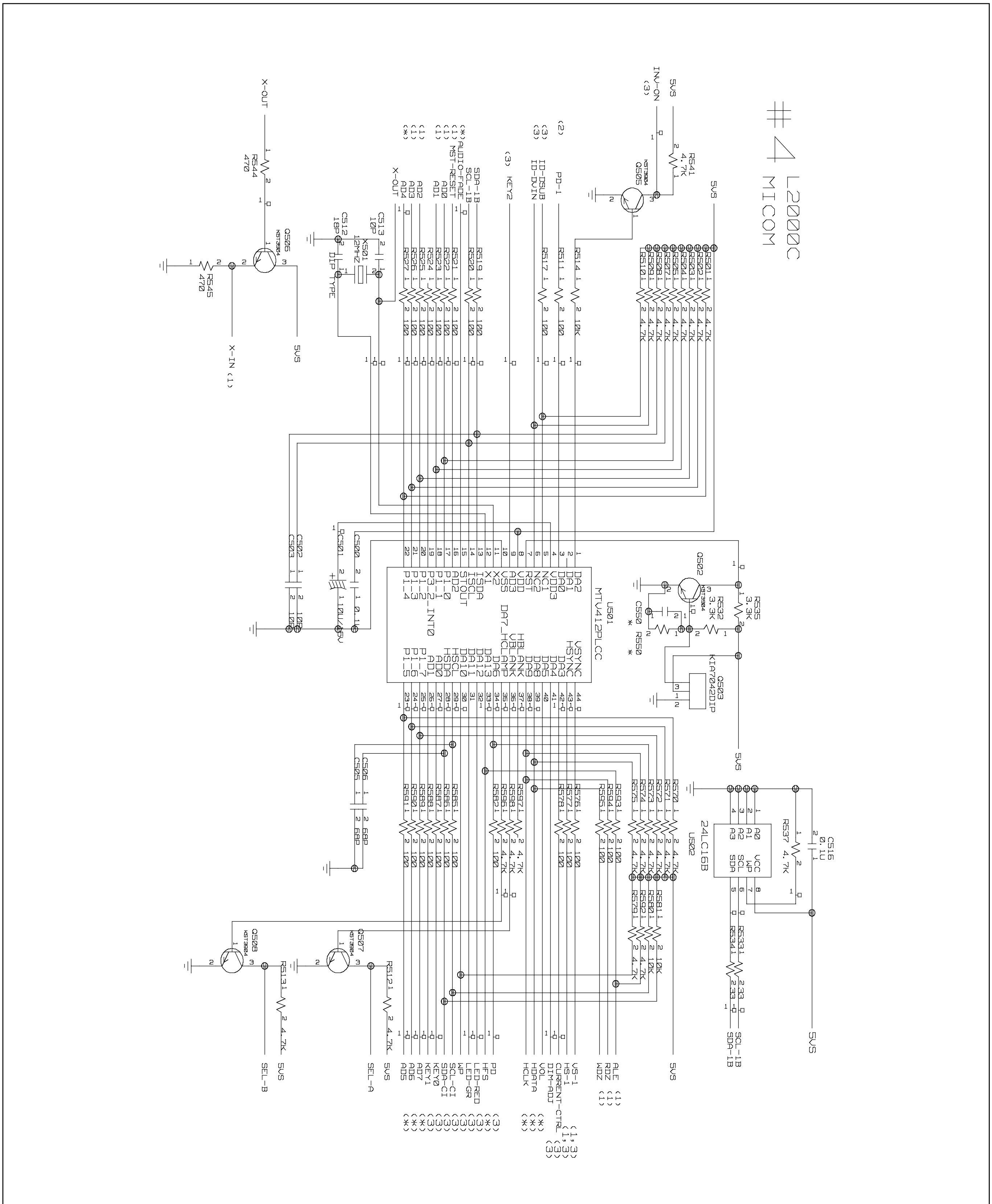
2. POWER


#2 L2000C POWER
5VS
12VRT
R201 2K
R203 2K
R204 2K
R205 2K
R206 22K
C201 1U
U202 FDC6325L
VIN
ON_OFF
R1_C1
VOUT1
VOUT2
R2
R207 560
C202 0.01U
C203 0.01U
C204 47U/50V (DIP)
R202 2.47K
PD-1 (4)
5V/12V/18V-MOD (4)
LPL ONLY
(3) (4) 15V PD-1
R213 10K
C205 1U
U201 KIA78R12F
C206 100U/16V
12VRT
L201 10UH
LM2731 U203
VIN
SHDN
GND
FB
SW
R210 51K
C207 C210 1U
R212 13.3K
C208 C209 1
R208 R209 20
D201 SS34U
R211 180K
C211 4.7U/25V/3225
18V-MOD (*)

3. CONNECTOR & JACKS



4. MICOM



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