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COLOR MONITOR SERVICE MANUAL

CHASSIS NO. : CL-64 MODEL: FLATRON L1730S (L1730SSFTM-AL**E) FLATRON L1930S (L1930SSFTM-AL**E)

() **Same model for Service

CAUTION

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



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SPECIFICATIONS

1. LCD CHARACTERISTICS

(L1730S))
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(=)	
Туре	: TFT XGA LCD Module
Size	: 358.5(H) x 296.5(V) x 17.0(D)
Pixel Pitch	: 0.264mm x 0.264mm
Color Depth	: 16.2M colors
Active Video Area	: 17.0inch (432.7mm) diagonal
Surface Treatment	: Anti-Glare, Hard Coating (3H)
Backlight Unit	: 4CCFL
Opraating Mode	: Transmissive mode, Normally white
Electrical Interface	: LVDS interface

(L1930S)

Туре	: TFT XGA LCD Module
Size	: 404.2(H) x 330.0(V) x 20.0(D)
Pixel Pitch	: 0.294mm x 0.294mm
Color Depth	: 16.7M colors
Active Video Area	: 19.0inch (481.84mm) diagonal
Surface Treatment	: Anti-Glare, Hard Coating (3H)
Backlight Unit	: 4CCFL
Opraating Mode	: Transmissive mode, Normally white
Electrical Interface	: LVDS interface

2. OPTICAL CHARACTERISTICS

2-1. Viewing Angle	by Contras	st Ratio	≥ 10	
(L1730Š)	-			
	700 4 00	Dialate	C00 min	7

Left : 60° min. 70° t	yp. Right: 6	60° min. 70° typ.
Top : 45° min. 60° t	yp. Bottom:	45° min. 60° typ.

(L1930S)

Left : -85° min. -88° typ. Right: +85° min. +88° typ. Top : +85° min. +88° typ. Bottom: -85° min. -88° typ.

2-2. Luminance

: 200(min.), 250(typ.) at Center point

2-3. Contrast Ratio :

(L1730S) 300(min.), 450(typ.) (L1930S) 300(min.), 500(typ.)

3. SIGNAL (Refer to the Timing Chart)

3-1. Sync Signal	
1) Type : Separate	Sync. (Horizontal & Vertical)
Input Voltage Level	: Low=0~0.8V, High=2.1~5.5V
Sync Polarity	: Positive or Negative
3-2. Video Input Signal	
1) Type	: R, G, B Analog
2) Voltage Level	: 0~0.7 V
Input Impedance	: 75 Ω

3-3. Operating Frequency	
Horizontal	: 30 ~ 83kHz
Vertical	: 56 ~ 75Hz

4. POWER SUPPLY

4-1. Power 100-240V~, 50/60Hz 0.6A

4-2. Power Consumption

MODE	H/V SYNC	VIDEO	POWER CONSUMPTION	LED COLOR
POWER ON (NORMAL)	ON/ON	ACTIVE	less than 43 W	GREEN
STAND-BY	OFF/ON	OFF	less than 2 W	AMBER
SUSPEND	ON/OFF	OFF	less than 2 W	AMBER
DPM OFF	OFF	OFF	less than 2 W	AMBER
POWER S/W OFF	-	-	less than 1 W	OFF

5. ENVIRONMENT

 5-1. Operating Temperature
 : 10°C~35°C (50°F~95°F)

 5-2. Operating Humidity
 : 10%~80%

 5-3. MTBF
 : 50,000 HRS (Min.)

 Lamp Life
 : 50,000 Hours (Min.) (L1730S)

 40,000 Hours (Min.) (L1930S)

6. DIMENSIONS (with TILT / with Base)

(L1730S)	
Width	: 398mm (15.67")
Depth	: 115mm (4.53")
Height	: 393mm (15.47")
(L1930S)	
Width	: 444.4mm (17.50'')
Depth	: 423.8mm (16.68")
Height	: 108.7mm (4.28")

7. WEIGHT (with TILT)

: 4.9kg (10.80 lbs)
: 6.5kg (14.33 lbs)
: 6.5kg (14.33 lbs)
: 8.8kg (19.40 lbs)

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 A 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.)

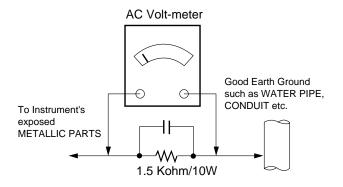
Please use only a plastic screwdriver to protect yourself from shock hazard during service operation.

A 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.
- 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.
- Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cottontipped 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.

- 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.

- 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 "antistatic" 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.

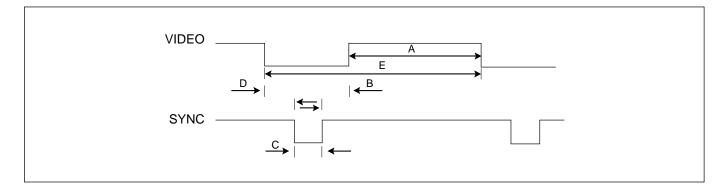
Remove at least 1/4 inch of copper, to ensure that a hazardous condition will not exist if the jumper wire opens.

- 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



<< Dot Clock (MHz), Horizontal Frequency (kHz), Vertical Frequency (Hz), Horizontal etc... (µs), Vertical etc... (ms) >>

Mode	H/V Sort	Sync Polarity	Dot Clock	Frequency	Total Period (E)	Video Active Time (A)	Front Porch (C)	Sync Duration (D)	Back Porch (F)	Resolution
1	Н	+	25.175	31.469	800	640	16	96	48	640x350
"	V	—	23.175	70.8	449	350	37	2	60	70Hz
2	Н	-	28.321	31.468	900	720	18	108	54	720x400
2	V	+	20.521	70.09	449	400	12	2	35	70Hz
3	Н	-	25.175	31.469	800	640	16	96	48	640x480
3	V	-	25.175	59.94	525	480	10	2	33	60Hz
4	Н	-	31.5	37.5	840	640	16	64	120	640x480
4	V	_	51.5	75	500	480	1	3	16	75Hz
5	Н	+	40.0	37.879	1056	800	40	128	88	800x600
5	V	+	40.0	60.317	628	600	1	4	23	60Hz
c	н	+	49.5	46.875	1056	800	16	80	160	800x600
6	V	+		75.0	625	600	1	3	21	75Hz
7	н	+/-	57.283	49.725	1152	832	32	64	224	832x624
1	V	+/		74.55	667	624	1	3	39	75Hz
	н	-	05.0	48.363	1344	1024	24	136	160	1024x768
8	V	—	65.0	60.0	806	768	3	6	29	60Hz
•	Н	-	70 75	60.123	1312	1024	16	96	176	1024x768
9	V	-	78.75	75.029	800	768	1	3	28	75Hz
40	Н	+/-	100.0	68.681	1456	1152	32	128	144	1152x900
10	V	+/	100.0	75.062	915	870	3	3	39	75Hz
44	Н	+/-	00.070	61.805	1504	1152	18	134	200	1152x900
11	V	+/	92.978	65.96	937	900	2	4	31	65Hz
40	н	+	100.0	63.981	1688	1280	48	112	248	1280x1024
12	V	+	108.0	60.02	1066	1024	1	3	38	60Hz
40	н	+	405.0	79.976	1688	1280	16	144	248	1280x1024
13	V	+	135.0	75.035	1066	1024	1	3	38	75Hz

DISASSEMBLY

#4

#5

#6

#1



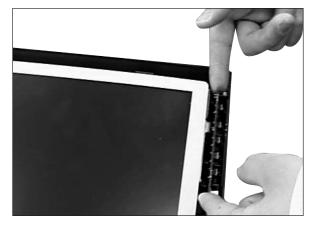
1. Put a soft cushion on the floor and lay the stand on its side so that the base is accessible.



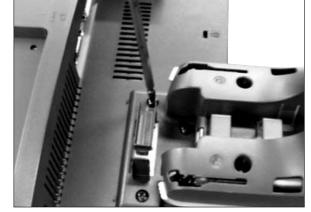
4. Cover the panel with your hand so that it is not scratched. Then, pull up the cabinet corner side.



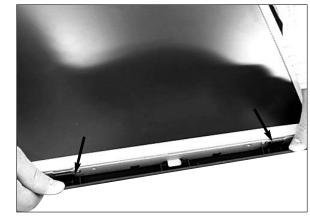
2. Hold the set while folding the latch and take out the stand base.



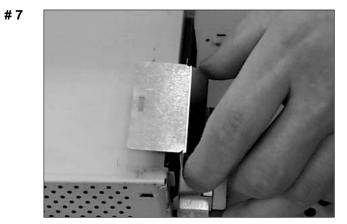
- 5-1. Disassemble the cabinet.
- 5-2. Hold the control PCB as shown in the figure and gently pull it out.



3-1. Push the cover upward and remove it.3-2. Unscrew the four screws.



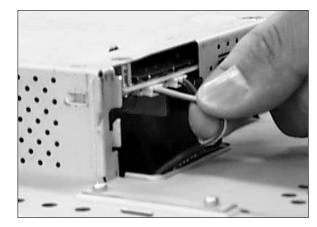
6. Push up the back cover as shown in the figure and pull out the chassis assembly so that the latch is untied.



7. Push the shield cap upward and disassemble it.

9

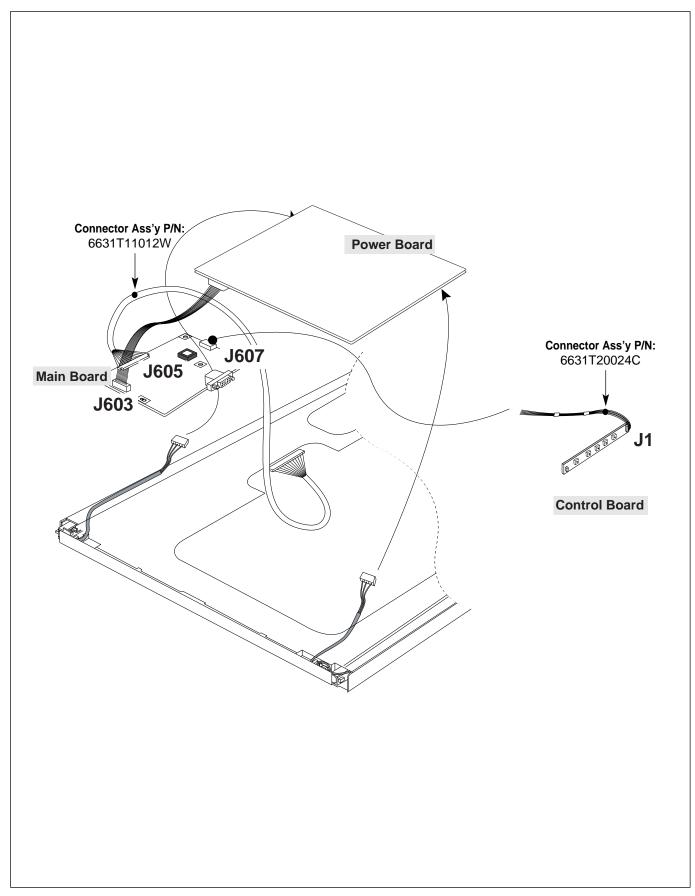
9. Pull out the link cable while pushing up the main frame.

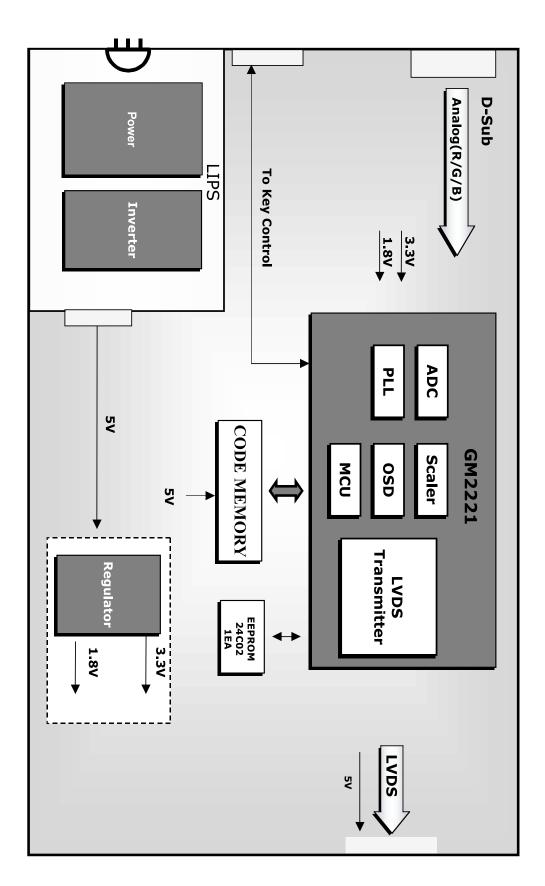


8. Pull out the cable.

8

WIRING DIAGRAM





DESCRIPTION OF BLOCK DIAGRAM(L1730S)

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, 5V is provided for LCD panel and micom.

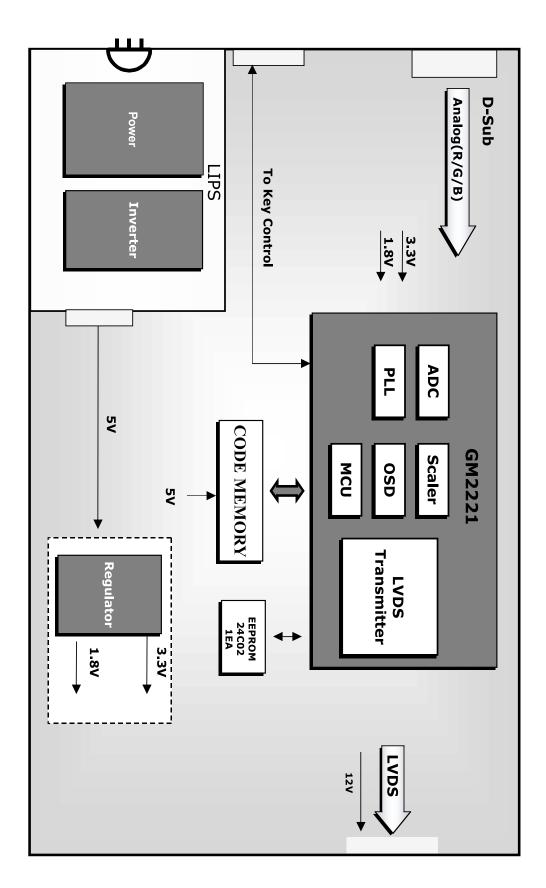
Also, 5V is converted 3.3V and 1.8V by regulator. Converted power is provided for IC in the main board.

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, 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.



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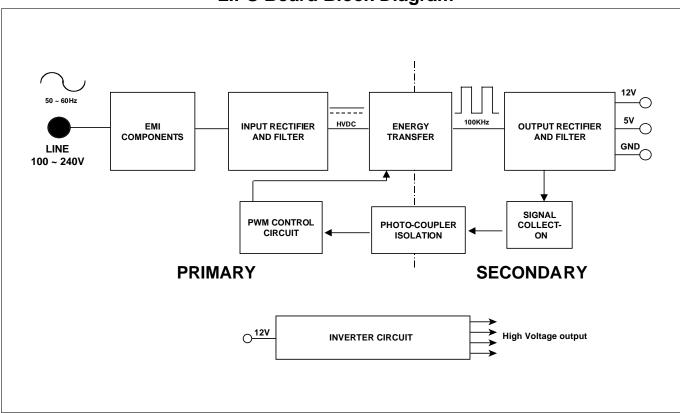
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LIPS Board Block Diagram

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 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.

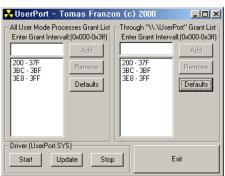
This part function is to collect the any change from the DC output and feed back to the primary through photo transistor

ADJUSTMENT

Windows EDID V1.0 User Manual

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

WinEl	DID	V. 1.	0 (0	CS)													×
Addr	00	01	02	03	04	05	06	07	08	09	0 A	0B	0C	0D	0E	0F	
0000																	
0010	01	0D 50	01 54	03 A5	6E 6B	24 80	1D 01	78 01	EA 01	09 01	20 01	<u></u> ▲2	57 81	4B 80	97 01	24	
0030	01	01	01	01	01	01	30	2A	00	98	51	00	2A	40	30	70	
0040	13	00 4C	67 31	1F 38	11 30	00	00 0 A	1E 00	00	00	00	FC	00	49 FE	42	4D 39	
0060	34	39	34	OA	00	00	00	00	00	00	00	00	00	00	00	FF	
0070	00	41	42	43	44	45	46	47	0A	20	20	20	20	20	00	E1	
	A0User Info																
Veek																	
Manui		ure	. :	1			9	eri	al	: A	BCD	EFG					
Year Manui		ure	. :	2	003									Upo	late	•	
	EDID File I/O Open Save																
Traiti	Initializing Finished																
Inter	initializing Finished																
	Read Write Close																
					Re	ead			W	rit	e			- C.	108	e	

- 2) Edit Week of Manufacture, Year of Manufacture, Serial Number
 - a) Input User Info Data
 - b) Click "Update" button
 - c) Click "Write" button

WinEl	DID	V. 1.	0 ((CS)													×
Addr	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	
0000	00	FF	FF	FF 03	FF	FF	FF	00	24	4D	16	25	01	01 4B	01 97	01	
0010	18	0D 50	01 54	A5	6E 6B	24 80	1D 01	01	EA 01	09 01	20 01	A2 01	57 81	4B 80	01	24 01	
0030	01	01	01	01	01	01	30	2A	00	98	51	00	2A	40	30	70	
0040	13 20	00 4C	67 31	1F 38	$\frac{11}{30}$	00 70	00 0 A	1E 00	00	00	00	FC 0.0	00	49 FE	42	4D 39	
0060	34	39	34	0A	00	00	00	00	00	00	00	00	00	00	00	FF	
0070	00	41	42	43	44	45	46	47	48	ΟÀ	20	20	20	20	00	E1	
AO	ĺ		Wit	nED	D								ן⊾				
Veek	User Info. Checksum value is not correct! Correct Value is 0XB9, Update now?											-					
Manufacture 周(Y) の山오(N) Vear of 国(Y) の山오(N) Manufacture Update																	
EDID File I/O Open Save																	
Initializing Finished																	
					Re	ead			Ţ,	rit	e			С	los	e	

SERVICE OSD 1)Turn off the power switch at the front side of display. 2)Wait for about 5 seconds and press MENU,POWER key. 3)Shows the service OSD menu. 4)The service OSD menu contains additional menus that the User OSD menu as described below. a) CLEAR ETI : To initialize using time. b) AUTO COLOR : W/B balance and Automatically sets the gain and offset value. c) AGING :Select Aging mode(on/off). d) PANEL : Select using panel. e) NVRAM INIT : EEPROM initialize(24C08). f) 9300 : Allows you to set the R/G/B.-9300K value manually. g) 6500 :Allows you to set the R/G/B.-6500K value manually.

- h) OFFSET : Allows you to set the R/G/B.-Offset value manually.(Analog Only)
- i) GAIN : Allows you to set the R/G/B.-Gain value manually.(Analog Only)

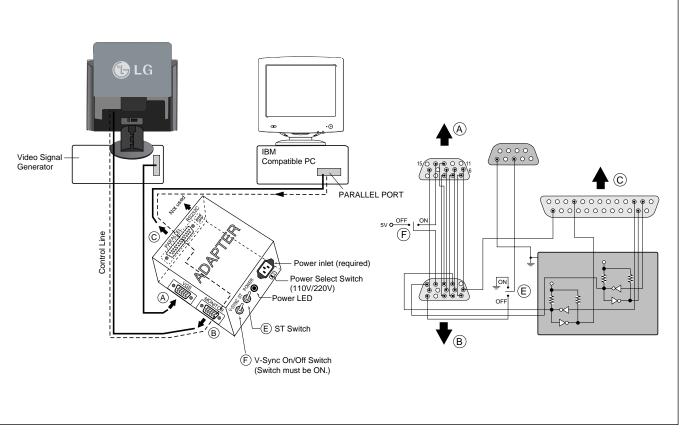
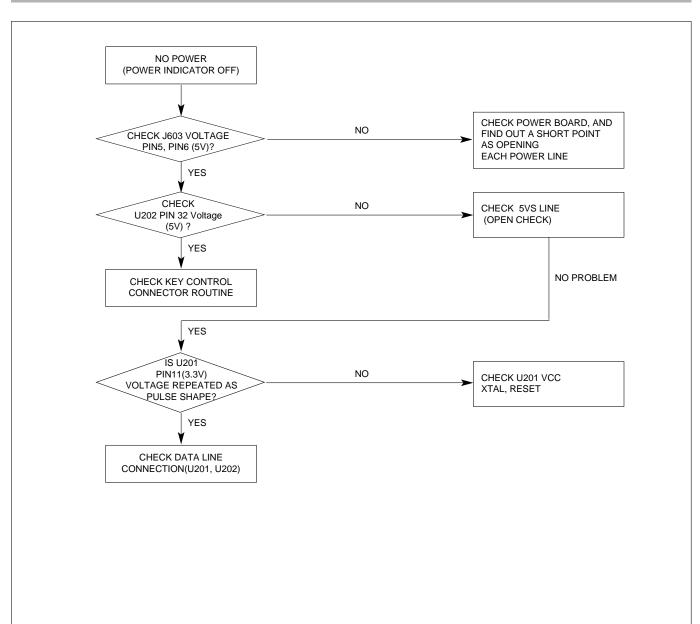


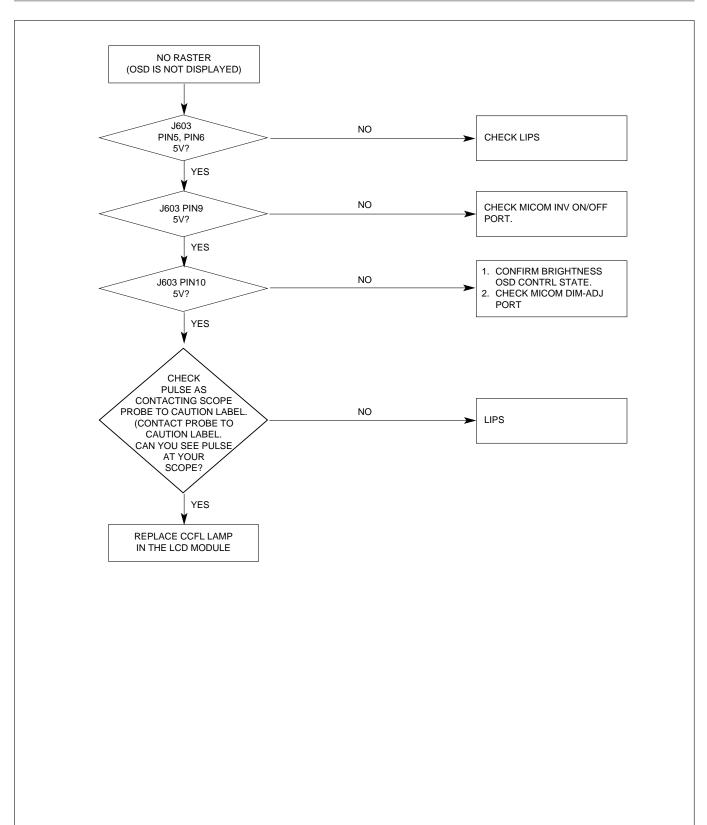
Figure 1. Cable Connection

TROUBLESHOOTING GUIDE

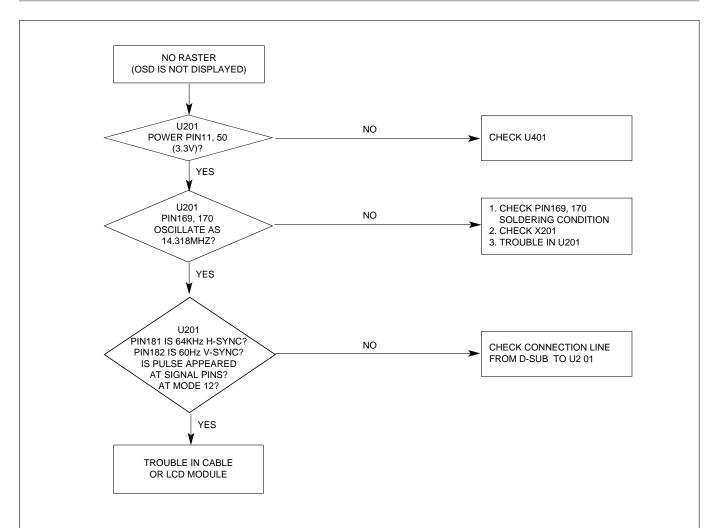
1. NO POWER



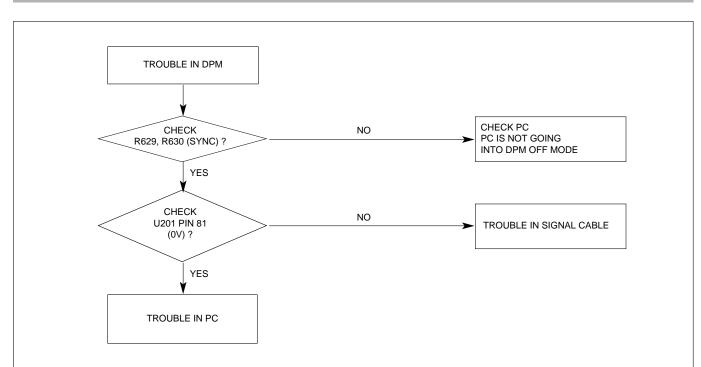
2. NO RASTER (OSD IS NOT DISPLAYED) - LIPS



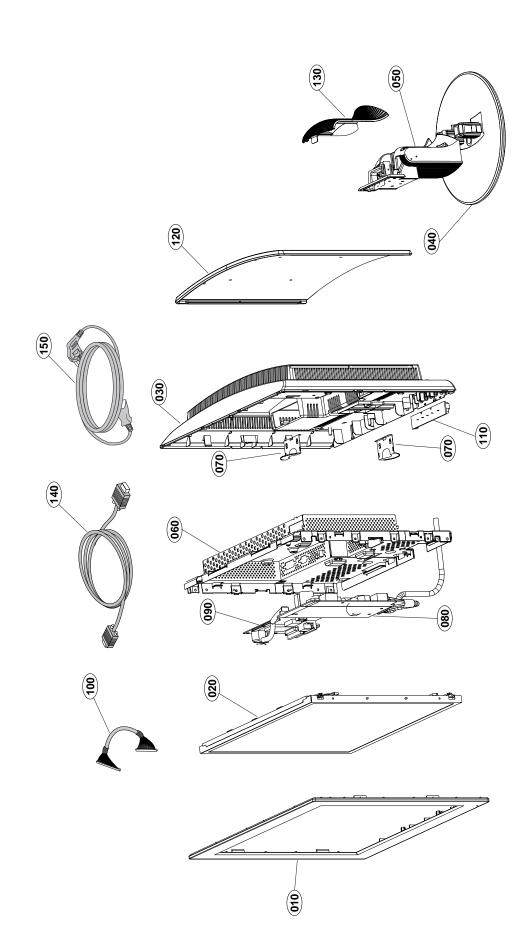
3. NO RASTER (OSD IS NOT DISPLAYED) – MST9011B



4. TROUBLE IN DPM







EXPLODED VIEW PARTS LIST

Ref. No.	Part No.	Description
	3091TKL098Q	CABINET ASSEMBLY, L1730SSFTM BRAND , ANALOG+F-ENG(ALEUG) - L1730S
	3091TKL098Y	CABINET ASSEMBLY, L1730SSFTM BRAND , F-ENGINE, LIFES GOOD - Australia L1730S
	3091TKL098R	CABINET ASSEMBLY, L1730SSFTM BRAND, US,PC+ABS- U.S.A/CANADA L1730S
010	3091TKL098U	CABINET ASSEMBLY, L1730SSFTM BRAND , "Q"-CKD - Indonesia L1730S
	3091TKL108Y	CABINET ASSEMBLY,L1930 BRAND 094 ("S", F-ENG) SILVER- L1930S
	3091TKL108Z	CABINET ASSEMBLY, L1930 BRAND L094 ("S"+F-ENG, SILVER)-LIFE IS GOOD - Australia L1930S
	6304FLP086A	LCD(LIQUID CRYSTAL DISPLAY), LM170E01-A5K6 LG PHILPS TFT COLOR LVDS SXGA OKI GATE D-IC -L1730S
	or 6304FLP110A	LCD(LIQUID CRYSTAL DISPLAY), LM170E01-A5N5 LG PHILPS TFT COLOR LPL NJ,250NITS,SXGA,LVDS-L1730S
020	or 6304FLP106A	LCD(LIQUID CRYSTAL DISPLAY), LM170E01-A5KM LG PHILPS TFT COLOR (LOS73L),SXGA,LVDS,PEM-NUT-L1730S
	6304FLP134A	LCD(LIQUID CRYSTAL DISPLAY), LM190E02-A4 LG PHILPS TFT COLOR SLIM,20T,SXGA,LVDS-L1930S
	3809TKL068A	BACK COVER ASSEMBLY, L1730 3808TKL073 (ANALOG)_D/GRAY- L1730S
•	3809TKL068F	BACK COVER ASSEMBLY, L1730SSFTM , US, PC+ABS(ALUSG) - U.S.A/CANADA L1730S
030	3809TKL068C	BACK COVER ASSEMBLY,L1730 3808TKL073 "A"-CKD(KLIDGD) - Indonesia L1730S
	3809TKL078A	BACK COVER ASSEMBLY, L1930 TKL078A (ANALOG)_D/GRAY- L1930S
	3043TKK147A	TILT SWIVEL ASSEMBLY, L1730 STAND BASE_"S"TYPE- L1730S
040	3043TKK147C	TILT SWIVEL ASSEMBLY, L1730 "A"-CKD- Indonesia L1730S
-	3043TKK147B	TILT SWIVEL ASSEMBLY, L1930 STAND BASE_"S"TYPE- L1930S
	3043TKK145E	TILT SWIVEL ASSEMBLY, L1730 "S"TYPE_SPRAY - L1730S
050	3043TKK145L	TILT SWIVEL ASSEMBLY, L1730 "E"-CKD- Indonesia L1730S
	3043TKK145F	TILT SWIVEL ASSEMBLY, L1930 "S"TYPE_SPRAY- L1930S
	4951TKS137A	METAL ASSEMBLY, FRAME L1730_LPL, HYDIS_ANALOG- L1730S
060	4951TKS137J	METAL ASSEMBLY, FRAME "A"-CKD- Indonesia L1730S
	4951TKS145B	METAL ASSEMBLY, FRAME L1930SM_LPL_ANALOG- L1930S
	4814TKK235A	SHIELD, INVERTER CAP-TOP (L1715) - L1730S
-	4814TKK235B	SHIELD, INVERTER CAP-BOTTOM (L1715)- L1730S
070	4814TKK235C	SHIELD, INVERTER CAP L1715(TOP)-CKD- Indonesia L1730S
	4814TKK235D	SHIELD, INVERTER CAP L1715(BOT)-CKD - Indonesia L1730S
-	4814TKK268A	SHIELD, INVERTER CAP [L1930] - L1930S
	6871TPT271Y	PWB(PCB) ASSEMBLY, POWER M-CHASSIS 1719 POWER TOTAL LIEN CHANG SOCKET, 2PIN, CY101/2 1000PF 450V- L1730S
080	or 6871TPT271P	PWB(PCB) ASSEMBLY, POWER, M-CHASSIS 1719 POWER TOTAL LIEN CHANG SOCKET, 2PIN, CY101/2 1000PF- L1730S
	6871TPT271W	PWB(PCB) ASSEMBLY, POWER M-CHASSIS 19LPL SOCKET. 2PIN, 78R12, 450V POWER TOTAL LIEN CHANG - L1930S
	3313TL7053A	MAIN TOTAL ASSEMBLY, L1730SSFTM(ALRDG) BRAND CL-64 (F-ENGINE)- L1730S
090	3313TL7053B	MAIN TOTAL ASSEMBLY, L1730SSFTM(KLAUGD) BRAND CL-64 (F ENGINE)- Indonesia L1730S
	3313TL9045A	MAIN TOTAL ASSEMBLY, L1930SSFTM(F ENGINE) ALRDG BRAND CL-64- L1930S
100	6631T11012W	CONNECTOR ASSEMBLY, 30P H-H 200MM UL20276 LG708G
	6871TST541A	PWB(PCB) ASSEMBLY, SUB, L1730BM CONTROL TOTAL BRAND CONTROL
110	6871TST541D	PWB(PCB) ASSEMBLY, SUB, L1530BM CONTROL TOTAL BRAND DI CL-61- Indonesia L1730S
	3550TKK448E	COVER, L1730S BACK DOOR_"S" TYPE_SILVER- L1730S
-	3550TKK448H	COVER, L1730 BACK DOOR, ABS(BK,9930)- U.S.A/CANADA L1730S
120	3550TKK448F	COVER, L1730S BACK DOOR_"E"-CKD- Indonesia L1730S
	3550TKK512B	COVER, L1930 BACK DOOR ("S"-TYPE)-SILVER-L1930S
	3550TKK452B	COVER, LXX30 STAND REAR (350U)_SILVER
130	3550TKK452D	COVER, LXX30 STAND REAR COVER "B"-CKD- Indonesia L1730S
140	6850TD9007C	CABLE,D-SUB, UL20276-9C(5.8MM) DT L1800MM, CORE POS400MM BLACK(9930) L1730 DM
	6410TEW003A	POWER CORD SP023+IS14 I-SHENG VDE/SEMKO 1870MM WALL BLACK
	6410TSW001B	POWER CORD SP502B+IS14 I-SHENG SAA 1870MM WALL BLACK- Australia
150	6410TJW001D	POWER CORD SP18C+IS014 I-SHENG JIS 1870MM WALL BLACK- Japan
	6410TBW001B	POWER CORD SP60+IS14 I-SHENG BSI 1870MM WALL BLACK - Singa[pre, United Kingdom
-	174-206M	POWER CORD SP305+IS14 I-SHENG UL/CSA 1870MM WALL BLACK- U.S.A/CANADA, Taiwan

REPLACEMENT PARTS LIST

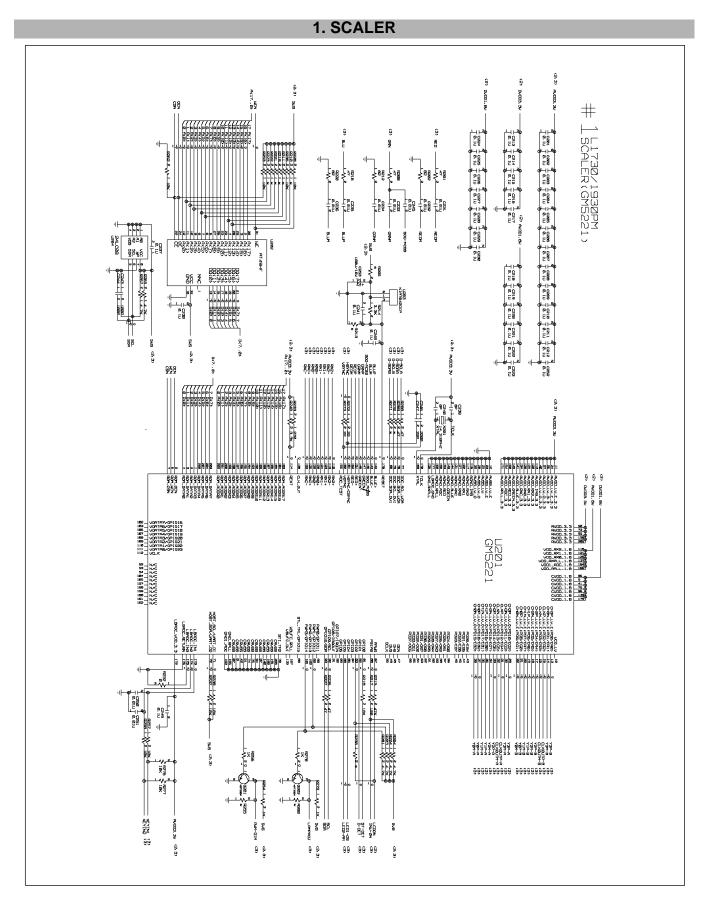
CAUTION: BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE SAFETY PRECAUTIONS IN THIS MANUAL. * NOTE : S SAFETY Mark A AL ALTERNATIVE PARTS

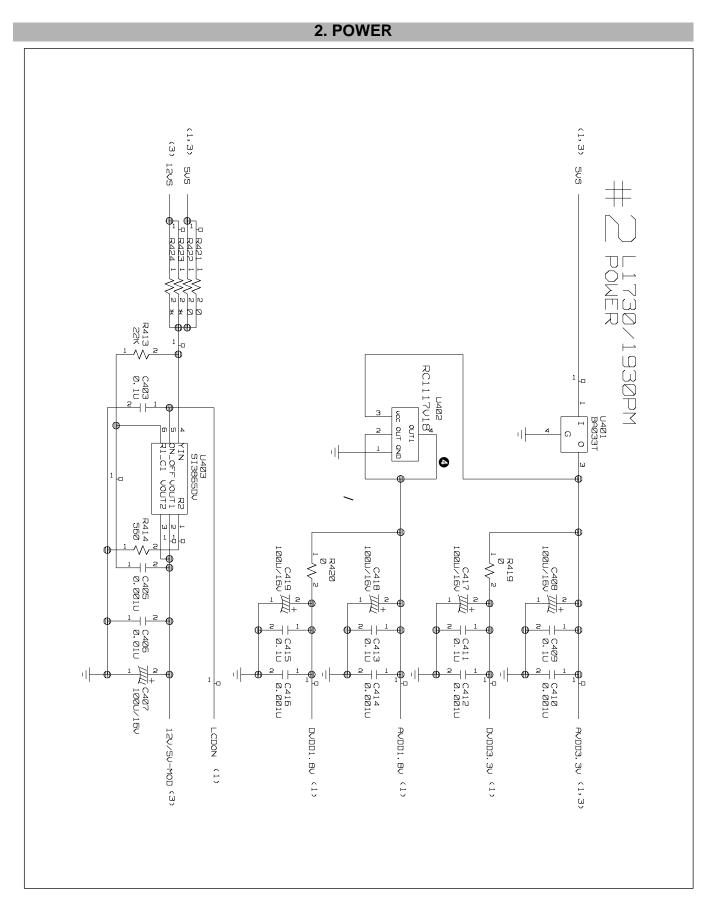
		DATE: 2004. 6. 08.					DATE: 2004. 6. 08
S *AL LO	C. NO. PART NO.	DESCRIPTION / SPECIFICATION	*S	*AL L	.OC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
MAIN	BOARD						
CAP	ACITORS				C403	0CK105CD56A	1UF 1608 10V 10% R/TP X7R
				1 1	C405	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
C2	201 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C406	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
C2	202 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C407	0CE107EF610	"100UF KMG,RD 16V 20% FL BULK"
C2	203 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C408	0CE107EF610	"100UF KMG,RD 16V 20% FL BULK"
C2	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C409	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
C2	205 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C410	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
C2	206 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C411	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
C2	207 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C412	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
C2	208 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C413	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
C2	009 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C414	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
C2	210 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C415	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
C2	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C416	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
C2	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C417	0CE107EF610	"100UF KMG,RD 16V 20% FL BULK"
C2	213 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C418	0CE107EF610	"100UF KMG,RD 16V 20% FL BULK"
	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C419	0CE107EF610	"100UF KMG,RD 16V 20% FL BULK"
	215 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R		1 1	C603	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
	216 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C604	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
	217 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C605	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
	218 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R		1 1	C606	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
	219 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R		1 1	C615	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
	220 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C630	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
	221 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R		1 1	C631	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
	222 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R		1 1	C632	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
	223 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			C641	0CE107EF610	"100UF KMG,RD 16V 20% FL BULK"
	224 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R		1 1	C642	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
	225 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R		1 1	C643	0CK105CD56A	1UF 1608 10V 10% R/TP X7R
	226 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R		1 1	C644	0CK105CD56A	1UF 1608 10V 10% R/TP X7R
	227 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R		1 1	C645	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
	228 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R		1 1	C646	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
	229 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R		1 1	C647	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
	230 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R		1 1	C648	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
	231 0CK104CK50A	0.01UF 1608 50V 10% R/TP B(Y5			0040	UCKIUSCIUSIA	0.0101 1008 50V 10/8101F B(15
	232 0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5			ODEs		
	233 0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5			ODLJ		
	234 0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5			D601	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
				1 1	D601		KDS226 TP KEC SOT-23 80V 300
		0.01UF 1608 50V 10% R/TP B(Y5		1 1		0DS226009AA	
	236 0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5		1 1	D603	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
	237 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R		1 1	D604	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
	238 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			D621	0DS301109AA	MMBD301LT1 TP MOTOROLA SOT23
	239 0CC080CK11A	8PF 1608 50V 0.5 PF R/TP NP0			D622	0DS301109AA	MMBD301LT1 TP MOTOROLA SOT23
	240 0CC080CK11A	8PF 1608 50V 0.5 PF R/TP NP0			ZD601	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
	241 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R		1 1	ZD602	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
	243 0CC101CK41A	100PF 1608 50V 5% R/TP NP0		1 1	ZD603	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
	244 0CC101CK41A	100PF 1608 50V 5% R/TP NP0		1 1	ZD604	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
	245 0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5			ZD605	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
	246 0CC221CK41A	220PF 1608 50V 5% R/TP NP0					
	247 0CC220CK41A	22PF 1608 50V 5% R/TP NP0		ICs	S		
	248 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R					
C2	249 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			U201	0IPRPGN015B	GM2221-FLATRON F ENGIN GENESI
C2	250 0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5			U202	0IMMRAL039A	"AT49F002AN-55JI ATMEL 32P,PLC"
C2	251 0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5			U202	0IZZTSZ498A	ATMEL 32P PLCC ST OTP L1730SS - L1730
C2	252 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R			U202	0IZZTSZ510A	"ATMEL 32P PLCC ST OTP L1930SS"-L1930
1 1	253 0CE107EF610	"100UF KMG,RD 16V 20% FL BULK"			U203	0IKE704200H	KIA7042AP TO-92 TP 4.2 VOLT.

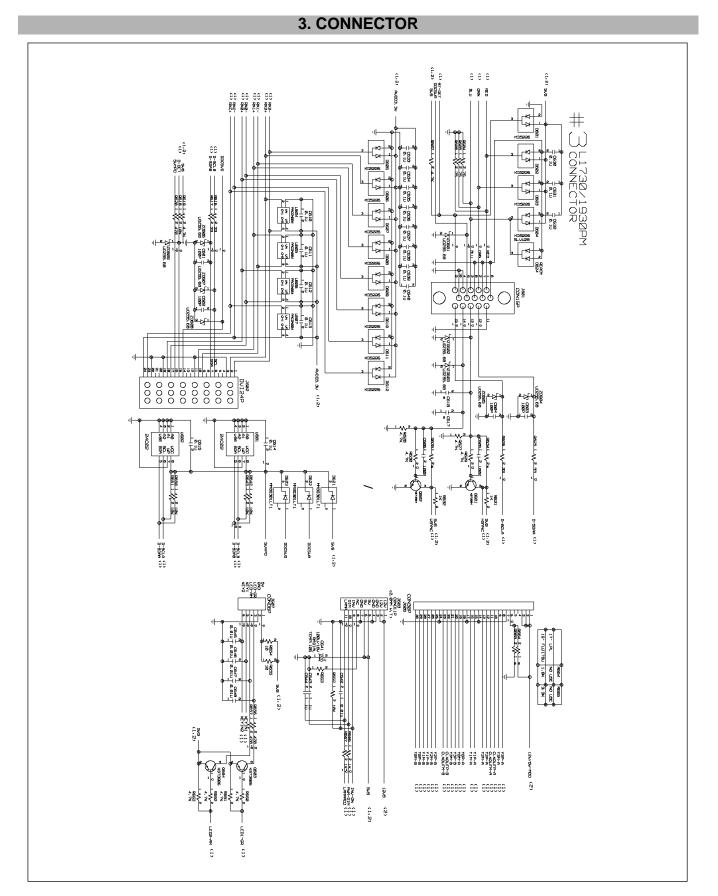
				DATE: 2004. 6. 08.
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		U204	0ISG240860B	M24C08W6 SGS-THOMSON 8SOP R/T
		U401	0IPMGKE011A	KIA78D33F KEC DPAK R/TP 3.3V
		U402	0IPMGSG019A	LD1117S18TR STM SOT223 R/TP 1
		U403	0TFVI80023A	VISHAY SI3865DV R/TP TSOP-6 8 - L1730S
		U403	0TFVI80036A	"SI3861DV VISHAY R/TP TSOP-6 4" - L1930S
		U602	0IMMRSG036A	"M24C02-WMN6T SGS-THOMSON 8P,S"
	Т	RANSIST	OR	
		Q201	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
		Q202	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
		Q601	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
		Q602	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
		Q603	0TR390609FA	KST3906-MTF TP SAMSUNG SOT23
		Q604	0TR390609FA	KST3906-MTF TP SAMSUNG SOT23
	R	ESISTOF	s	
		R201	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R202	0RJ0822D677	82 OHM 1/10 W 5% 1608 R/TP
		R203	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R204	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R205	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R208	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R212	0RJ0822D677	82 OHM 1/10 W 5% 1608 R/TP
		R214	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R215	0RJ4702D677	47000 OHM 1/10 W 5% 1608 R/TP
		R216	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R217	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R218	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R220	0RJ0822D677	82 OHM 1/10 W 5% 1608 R/TP
		R224	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R226	0RJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R227	0RJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R228	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R232	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R233	0RJ2700D677	270 OHM 1/10 W 5% 1608 R/TP
		R236	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R237	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R238	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R240	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP 10K OHM 1/10 W 5% 1608 R/TP
		R253 R254	0RJ1002D677 0RJ1001D677	10K OHM 1/10 W 5% 1608 R/TP 1K OHM 1/10 W 5% 1608 R/TP
		R254 R256	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R250 R257	0RJ1001D677 0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R257 R258	0RJ1002D677 0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R262	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R265	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R267	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R268	0RJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R269	0RJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R272	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R273	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R276	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R277	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R278	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R279	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R281	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R413	0RJ2202D677	22K OHM 1/10 W 5% 1608 R/TP
		R414	0RJ5600D677	560 OHM 1/10 W 5% 1608 R/TP
		R419	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R420	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP

*S	*AL	LOC. NO.	PART NO.	DATE: 2004. 6. 08. DESCRIPTION / SPECIFICATION
		R421	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP - L1730S
		R422	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP - <i>L1730S</i>
		R423	0RJ0000D677	"0 OHM 1/10 W 5% 1608 R/TP" - <i>L1930S</i>
		R424	0RJ0000D677	"0 OHM 1/10 W 5% 1608 R/TP" - <i>L1930S</i>
		R604	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R605 R606	0RJ0752D677 0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP 75 OHM 1/10 W 5% 1608 R/TP
		R607	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R625	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R626	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R627	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R628	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R629	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R630	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R631	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R632	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R650 R651	0RJ1002D677 0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP 10K OHM 1/10 W 5% 1608 R/TP
		R652	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R654	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R655	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R656	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R657	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R660	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R661	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R662	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R663	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R666 R667	0RJ1001D677 0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP 1K OHM 1/10 W 5% 1608 R/TP
		1007	01010010011	
	0	THERs		
		X201	6212AA2004F	HC-49U TXC 14.318 MHZ +/- 30
		74201		
	С	ONTROL	BOARD	
		C1 C2	0CK104CK56A 0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R 0.1UF 1608 50V 10% R/TP X7R
		LED1	0DLLT0340AA	LITEON LTL-14CDJNHBP1 BK GREE
		Q1	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
		Q2	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
		R1	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R2	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R3	0RJ2001D677	2K OHM 1/10 W 5% 1608 R/TP
		R4	0RJ2001D677	2K OHM 1/10 W 5% 1608 R/TP
		R5	0RJ5101D677	5.1K OHM 1/10 W 5% 1608 R/TP
		R7	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R8 SW2	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP SKHV10910B LGEC NON 12V 20A H
		SW2 SW3	140-058E 140-058E	SKHV10910B LGEC NON 12V 20A H SKHV10910B LGEC NON 12V 20A H
		SWS SW6	140-058E	SKHV10910B LGEC NON 12V 20A H
		SW7	140-058E	SKHV10910B LGEC NON 12V 20A H
		SW8	140-058E	SKHV10910B LGEC NON 12V 20A H

SCHEMATIC DIAGRAM







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