

Service Guide Specification

담당	관리자
PARK HYUN JIN 03.10.02	HONG EUN HEE 03.10.02

1. Model Description

MODEL	L1910SL	BRAND	LG	Part No.	3828TSL095E
SUFFIX	ALEUR	Product Name	L1910S		

2. Printing Specification

1. Trim Size (Format) : 215mm x 280 mm
2. Printing Colors

 - Cover : LG Color
 - Inside : Black
3. Stock (Paper)

 - Cover : Snow white 150 g/㎡
 - Inside : Snow white 100 g/㎡
4. Printing Method :
5. Bindery : Saddle stitch
6. Language : English
7. Number of pages : 31

3. Special Instructions

4. Changes

<div>8</div>				
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<div>6</div>				
<div>5</div>				
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<div>3</div>				
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REV. NO.	MM/DD/YY	SIGNATURE	CHANGE NO.	CHANGE CONTENTS

Pagination sheet

P/N0.3828TSL095E

Total pages : 31pages

Front Cover	Front cover Inside 2	English 3	English 4	English 5	English 	English 	English 28	English 29
	English 30	Rear Cover Inside 31	Rear Cover					



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

COLOR MONITOR SERVICE MANUAL

CHASSIS NO. : CL-42

MODEL: FLATRON L1910S (L1910SL-AGR, AL**R)**
() **Same model for Service

CAUTION

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



*To apply the **Mstar Chip**.

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SPECIFICATIONS

1. LCD CHARACTERISTICS

Type	: TFT Color LCD Module
Size	: 19inch(48cm)diagonal
Pixel Pitch	: 0.294(H) x 0.294(V)
Color Depth	: 8-bit, 16,777,216 colors
Electrical Interface	: LVDS
Surface Treatment	: Anti-Glare, Hard Coating(3H)
Operating Mode	: Normally Black
Backlight Unit	: 4-CCFL (Cold Cathode Fluorescent Lamp)

2. OPTICAL CHARACTERISTICS

2-1. Viewing Angle by Contrast Ratio ≥ 10

LPL Module

Left	: -85° min., -88°(Typ)
Right	: +85° min., +88°(Typ)
Top	: +85° min., +88°(Typ)
Bottom	: -85° min., -88°(Typ)

CMO Module

Left	: -80° min., -85°(Typ)
Right	: +80° min., +85°(Typ)
Top	: +80° min., +85°(Typ)
Bottom	: -80° min., -85°(Typ)

2-2. Luminance : 200(min), 250(Typ)

2-3. Contrast Ratio : 250(min), 400(Typ) **-LPL**
: 350(min), 500(Typ) **-CMO**

3. SIGNAL (Refer to the Timing Chart)

3-1. Sync Signal

- Type : Separate, Composite,
SOG (Sync On Green)

3-2. Video Input Signal

- 1) Type : R, G, B Analog
- 2) Voltage Level : 0~0.7 V
 - a) Color 0, 0 : 0 Vp-p
 - b) Color 7, 0 : 0.35 Vp-p
 - c) Color 15, 0 : 0.7 Vp-p
- 3) Input Impedance : 75 Ω

3-3. Operating Frequency

Horizontal(Analog)	: 30 ~ 83kHz
Vertical	: 56 ~ 75Hz

4. MAX. RESOLUTION

MAX	: 1280 x 1024@75Hz
Recommend	: 1280 x 1024@60Hz

5. POWER SUPPLY

5-1. Power Adaptor(Built-in Power)

Input : AC 100-240V~, 50/60Hz , 1.0A

5-2. 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 3 W	AMBER
SUSPEND	ON/OFF	OFF	less than 3 W	AMBER
DPM OFF	OFF/OFF	OFF	less than 3 W	AMBER
POWER S/W OFF	-	-	less than 3 W	OFF

6. ENVIRONMENT

6-1. Operating Temperature: 10°C~35°C (50°F~95°F)
(Ambient)

6-2. Relative Humidity : 10%~80%
(Non-condensing)

6-3. MTBF : 50,000 Hours
Lamp Life : 40,000 Hours(Typ) **-LPL**
: 50,000 Hours(Typ) **-CMO**

7. DIMENSIONS (with TILT/SWIVEL)

Width	: 413 mm (16.25")
Depth	: 223 mm (8.78")
Height	: 435mm (17.13")

8. WEIGHT (with TILT/SWIVEL)

Net. Weight	: 7.20kg (15.87 lbs)
Gross Weight	: 9.83kg (21.67 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 ⚠ 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.

⚠ 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.

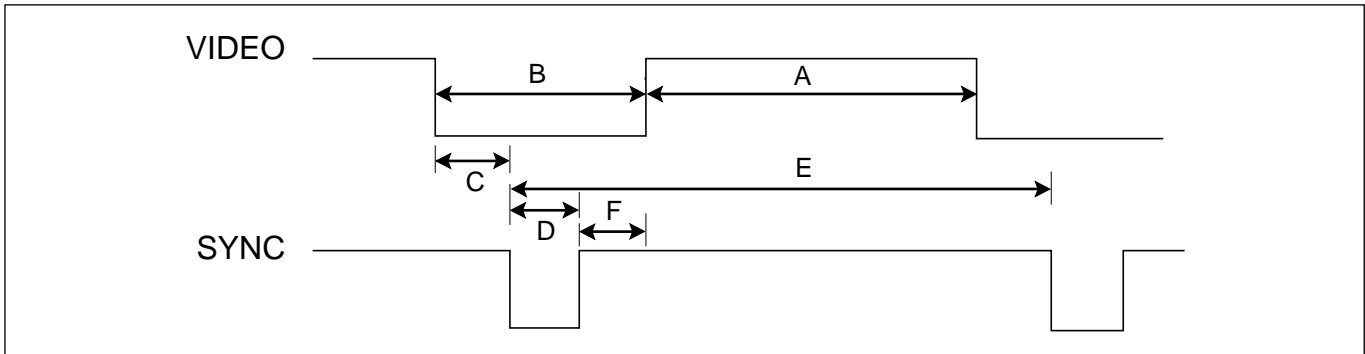
TAKE CARE DURING HANDLING THE LCD MODULE WITH BACKLIGHT UNIT.

- 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.

TIMING CHART

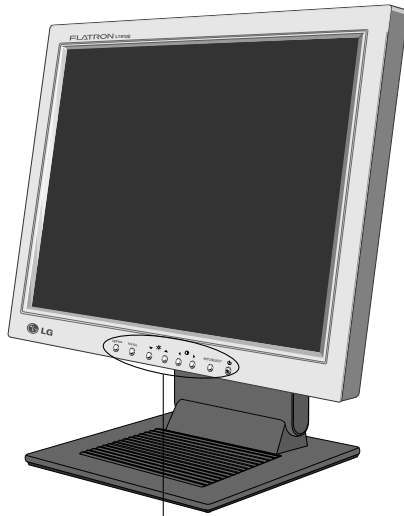


<< Dot Clock (MHz), Horizontal Frequency (kHz), Vertical Frequency (Hz), Horizontal etc... (μs), Vertical etc... (ms) >>

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	H	+	25.175	31.469	800	640	16	96	48	640x350 70Hz
	V	-		70.8	449	350	37	2	60	
2	H	-	28.321	31.468	900	720	18	108	54	720x400 70Hz
	V	+		70.09	449	400	12	2	35	
3	H	-	25.175	31.469	800	640	16	96	48	640x480 60Hz
	V	-		59.94	525	480	10	2	33	
4	H	-	31.5	37.5	840	640	16	64	120	640x480 75Hz
	V	-		75	500	480	1	3	16	
5	H	+	40.0	37.879	1056	800	40	128	88	800x600 60Hz
	V	+		60.317	628	600	1	4	23	
6	H	+	49.5	46.875	1056	800	16	80	160	800x600 75Hz
	V	+		75.0	625	600	1	3	21	
7	H	+/-	57.283	49.725	1152	832	32	64	224	832x624 75Hz
	V	+/-		74.55	667	624	1	3	39	
8	H	-	65.0	48.363	1344	1024	24	136	160	1024x768 60Hz
	V	-		60.0	806	768	3	6	29	
9	H	-	78.75	60.123	1312	1024	16	96	176	1024x768 75Hz
	V	-		75.029	800	768	1	3	28	
10	H	+/-	100.0	68.681	1456	1152	32	128	144	1152x900 75Hz
	V	+/-		75.062	915	870	3	3	39	
11	H	+/-	92.978	61.805	1504	1152	18	134	200	1152x900 65Hz
	V	+/-		65.96	937	900	2	4	31	
12	H	+	108.0	63.981	1688	1280	48	112	248	1280x1024 60Hz
	V	+		60.02	1066	1024	1	3	38	
13	H	+	135.0	79.976	1688	1280	16	144	248	1280x1024 75Hz
	V	+		75.035	1066	1024	1	3	38	

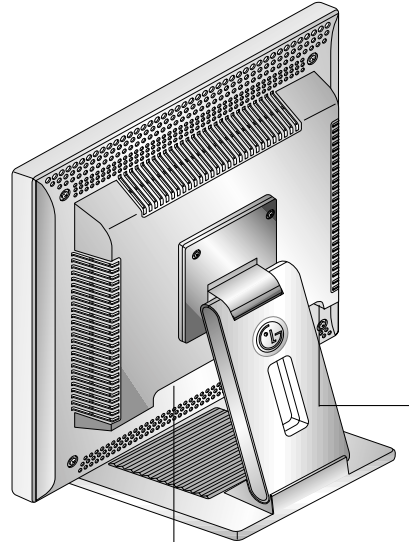
OPERATING INSTRUCTIONS

FRONT VIEW



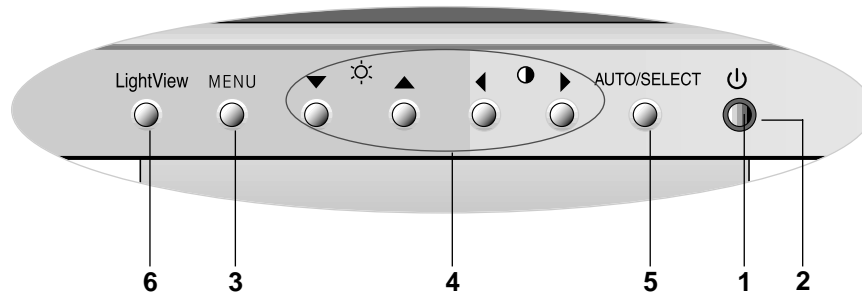
Front Control Panel

REAR VIEW



Power Connect

Front Control Panel



1. Power ON/OFF Button

Use this button to turn the monitor on or off.

2. Power Indicator

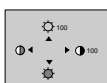
This indicator lights up green when the monitor operates normally. If the display is in DPM(Energy Saving)mode, this indicator color change to amber.

3. MENU Button

Use these button to enter or exit the On Screen Display.

4. ▼▲◀▶ Button

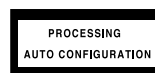
Use these buttons to choose or adjust items in the On Screen Display.



Bring up Contrast and Brightness adjustment.

5. AUTO/SELECT Button

Use this button to enter a selection in the On Screen Display.

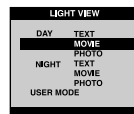


When adjusting your display settings, always press the **AUTO/SELECT** button before entering the On Screen Display(OSD). This will automatically adjust your display image to the ideal settings for the current screen resolution size (display mode).

The best display mode is **1280x1024/60Hz**.

6. LIGHTVIEW Button

Use this button to enter a selection in the on screen display.



This function optimizes the brightness, contrast or color value to the surrounding conditions and settings and enables you to enjoy the most suitable picture by adjusting the surroundings (DAY/NIGHT/USER MODE).

- TEXT: For viewing letters
- MOVIE: For viewing movies
- PHOTO: For viewing pictures or the photographs
- USER MODE: This function memorizes the manual adjustment -Brightness, Contrast and Color value on the On Screen Display.

OPERATING INSTRUCTIONS



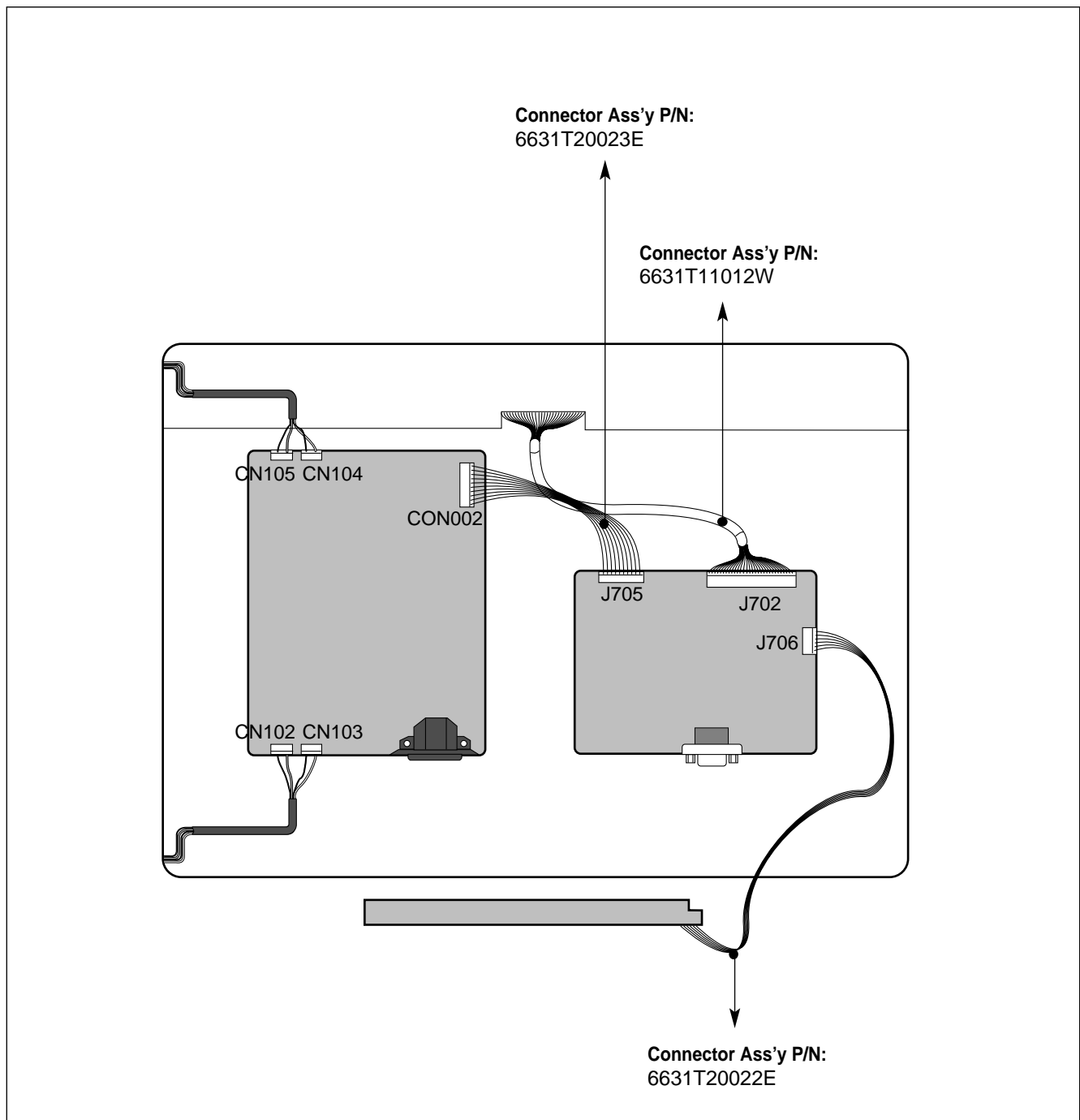
CONTROLS LOCKED/UNLOCKED

: MENU and ►

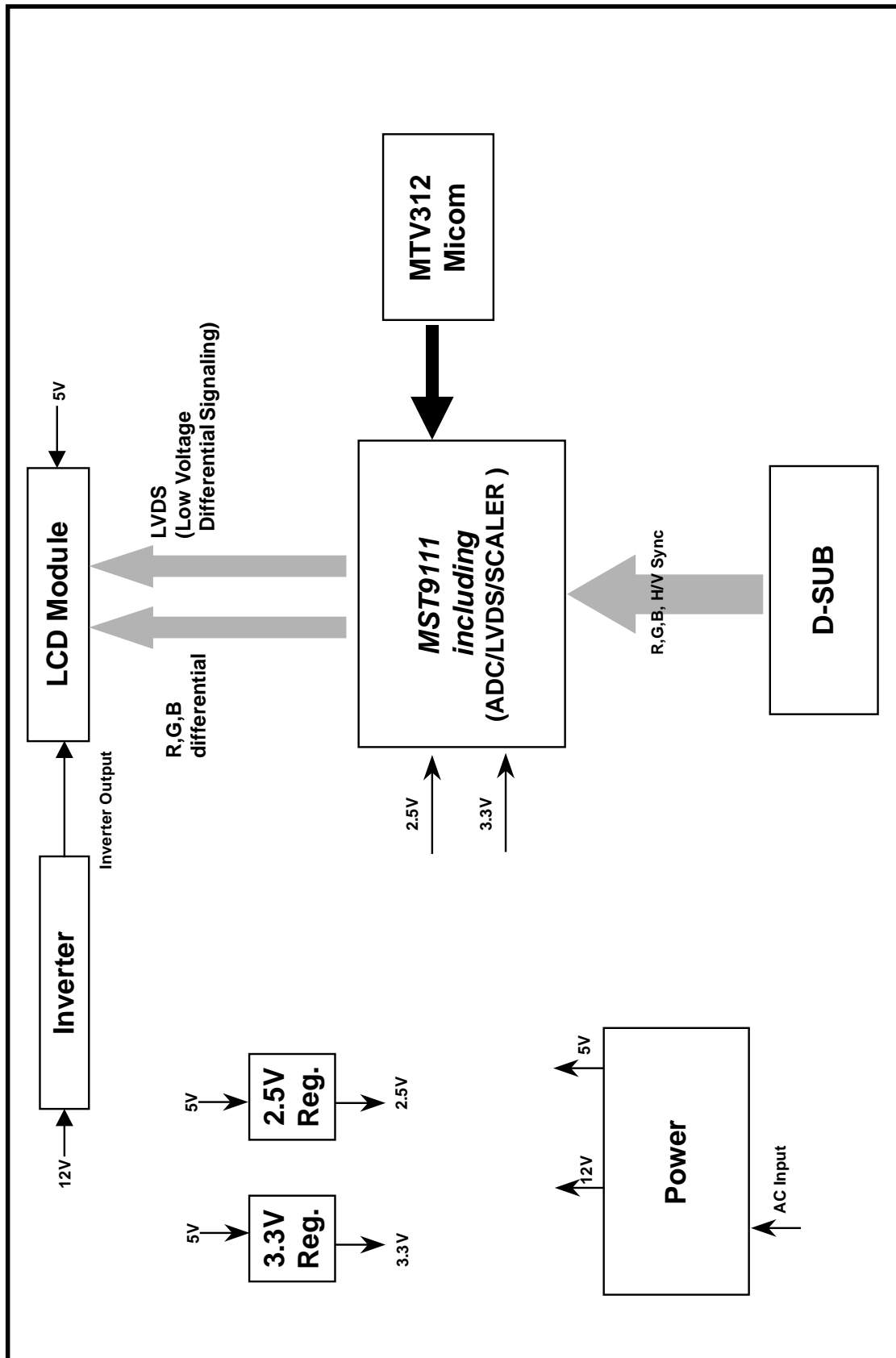
This function allows you to secure the current control settings, so that they cannot be inadvertently changed. Press and hold the MENU button and ► button for 3 seconds: the message “**CONTROLS LOCKED**” appears.

You can unlock the OSD controls at any time by pushing the MENU button and ► button for 3 seconds: the message “**CONTROLS UNLOCKED**” will appear.

WIRING DIAGRAM



BLOCK DIAGRAM



DESCRIPTION OF BLOCK DIAGRAM

1. Video Controller Part & Display Data Transmitter Part.(MST9111)

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. 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. Especially pre-amp / ADC / Video controller/ Transmitter are merged to one chip "MST9111" by MSTAR. This part transmit digital signal from the Scaler to the 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.

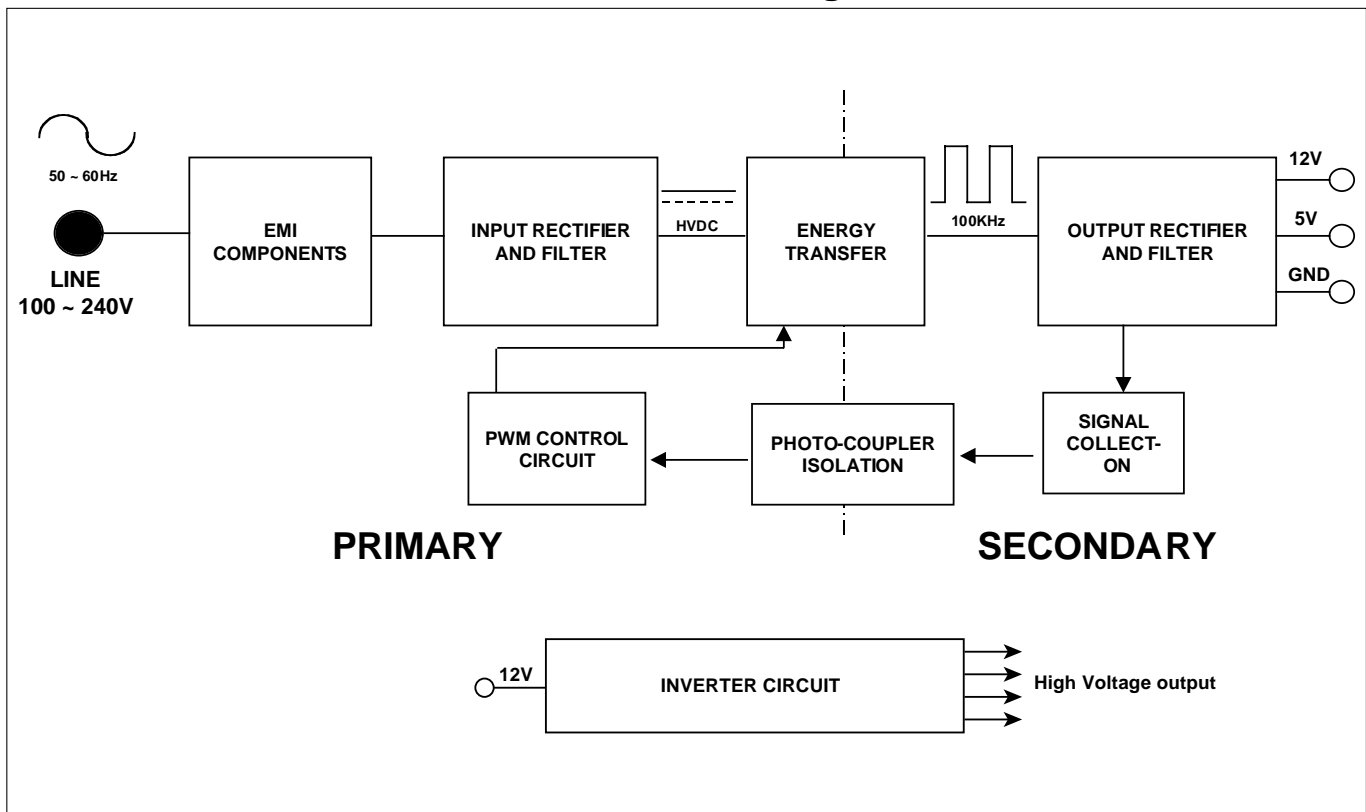
3. Power Part

This part consists of the one 3.3V and one 2.5 regulators to convert power which is provided 5V in LIPS Board. 5V is provided for LCD Panel. Also, 5V is converted 3.3V and 2.5V by regulator. Converted power is provided for IC in the main board.

4. Inverter

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

LIPS Board Block Diagram



Operation description_LIPS

1. EMI components.

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

2. Input rectifier and filter.

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

3. Energy Transfer.

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

4. Output rectifier and filter.

This part function is to make a pulse width modulation control and to provide the driver signal to power switch, to adjust the duty cycle during different AC input and output loading condition to achive the dc output stablize, 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.

7. Inverter

The inverter converts from DC12V to AC 700V and operate back-light lamp of module.

ADJUSTMENT

All adjustment are thoroughly checked and corrected when the monitor leaves the factory, but sometimes several minor adjustment may be required.

Adjustment should be following procedure and after warming up for a minimum of 10 minutes.

- Alignment appliances and tools.
 - IBM compatible PC
 - Programmable Signal Generator.
(eg. VG-819 made by Astrodesign Co.)
 - E(E)PROM with each mode data saved.

1. Adjustment process for LCD MONITOR

- 1) Display half window pattern(or mixed white and black pattern)at Mode 8 (1024x768@60Hz).
- 2) Press the POWER and MENU key at the same time to light monitor, then go to adjustment mode.
- 3) Press the MENU s/w, next press UP button, you will see adjustment OSD menu.
- 4) Press the AUTO/SELECT to select the adjustment item first(use the same button to exit)next do the operation to the relative item.Ex) 17HYDIS is used at 17AU, press right button to select. Press the AUTO/SELECT then selected proper Module.
- 5) Press down button to move the place of ADC CAL. Press the AUTO/SELECT to select, right button is pressed for adjustment.
- 6) When adjustment is finished, press the POWER key twice to light monitor again. The adjustment ends.

2. Adjustment for EDID

- 1) Use this procedure only when there is some probelm on EDID data.
- 2) Connect the D-sub cable.
- 3) Select EDID → Write EDID[A0] command and Enter.

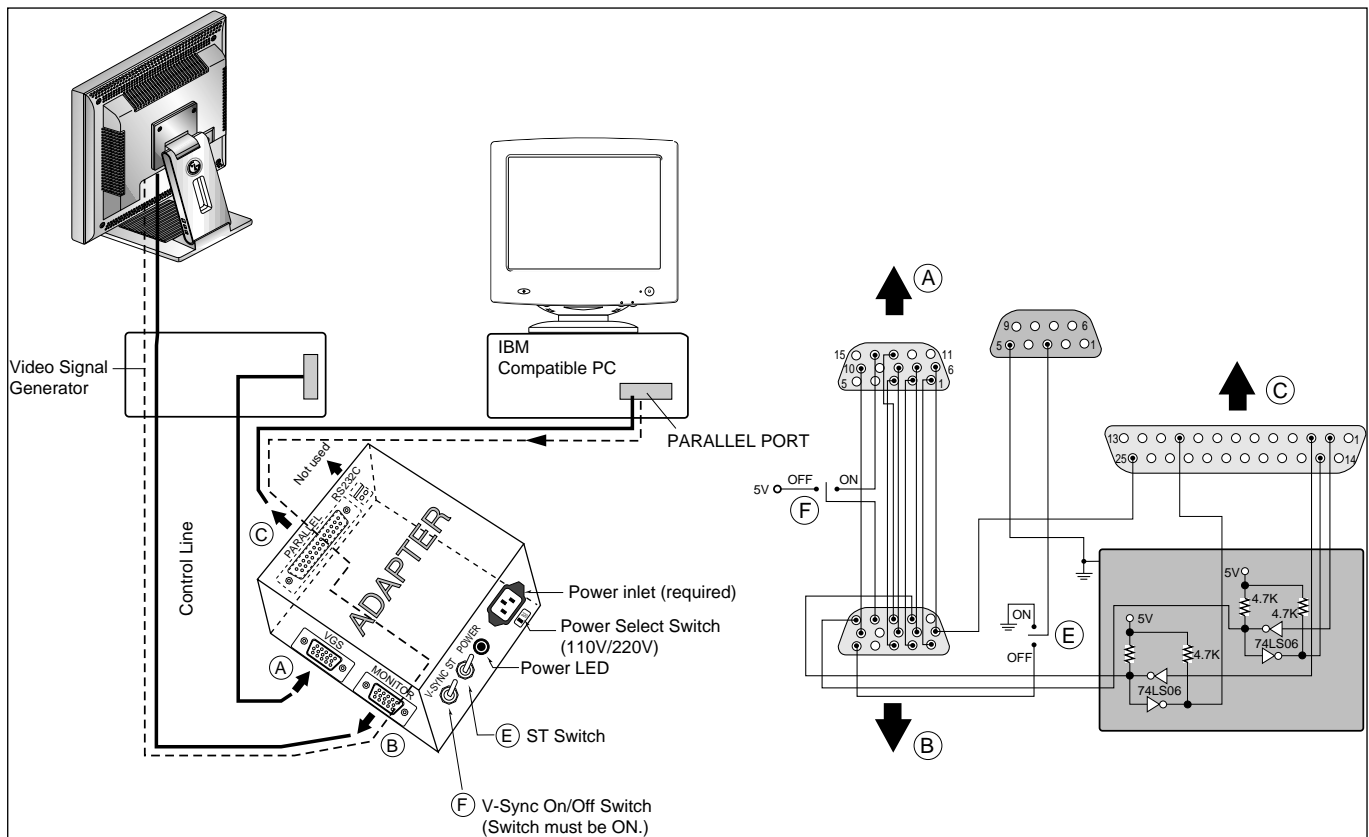
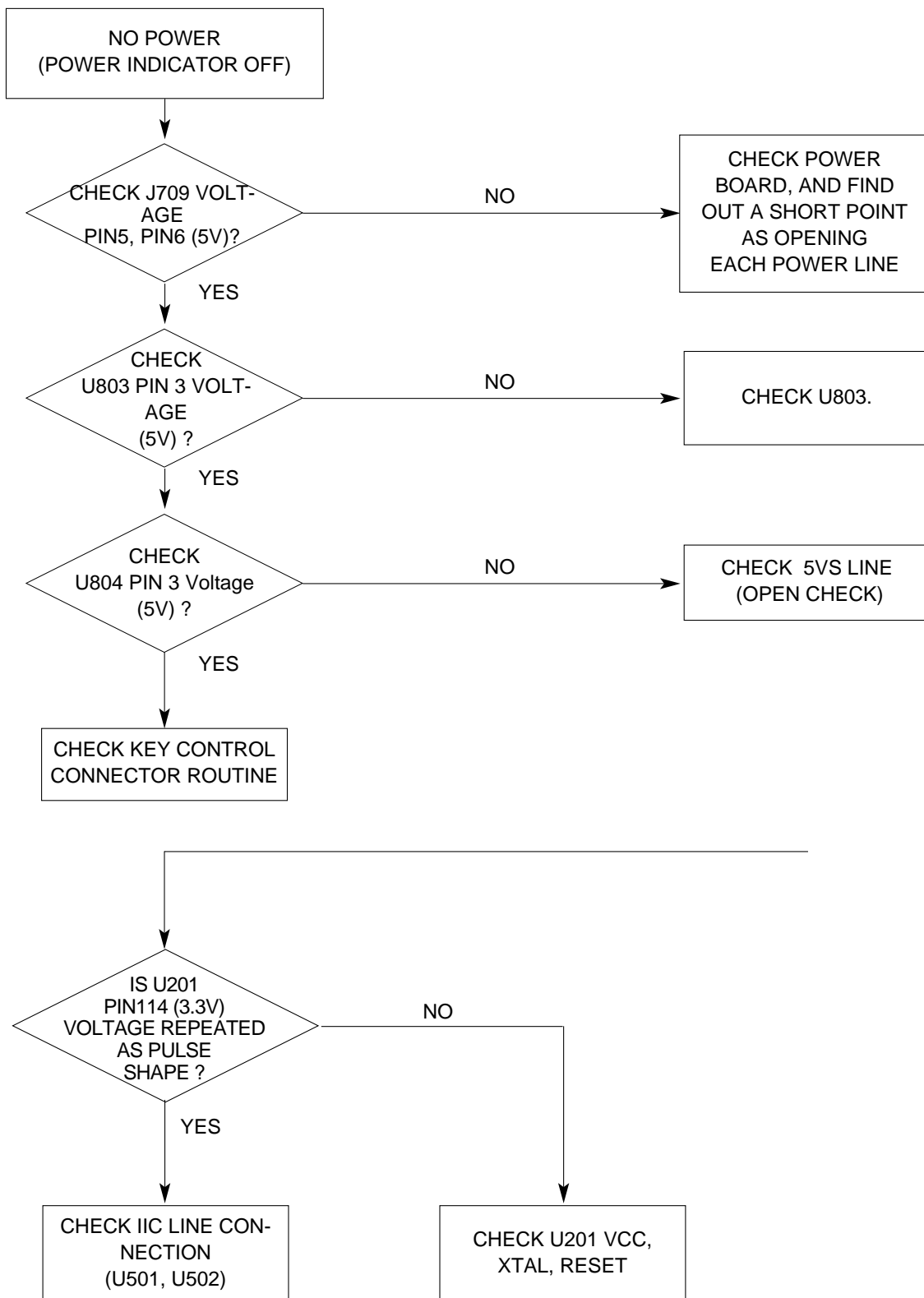


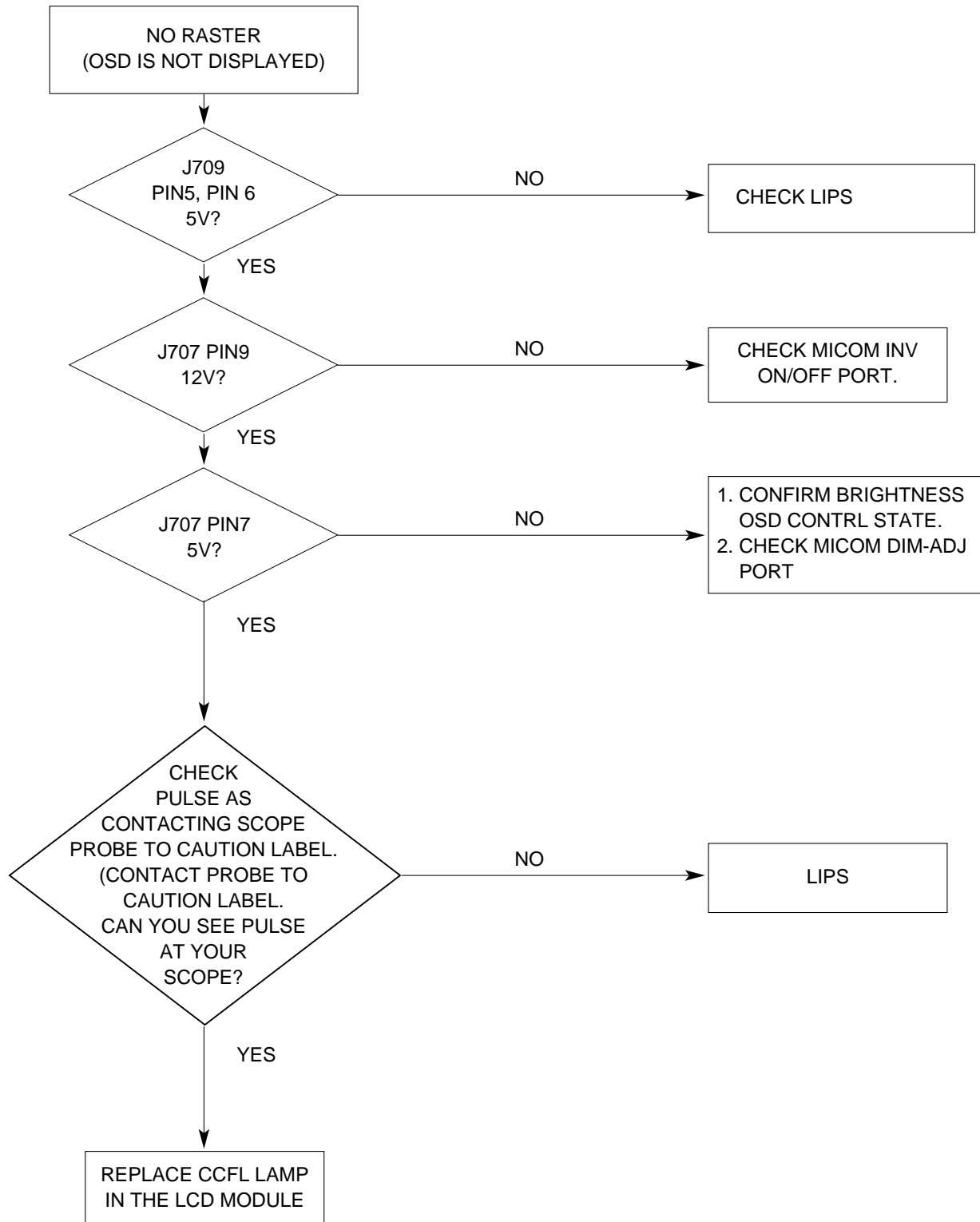
Figure 1. Cable Connection

TROUBLESHOOTING GUIDE

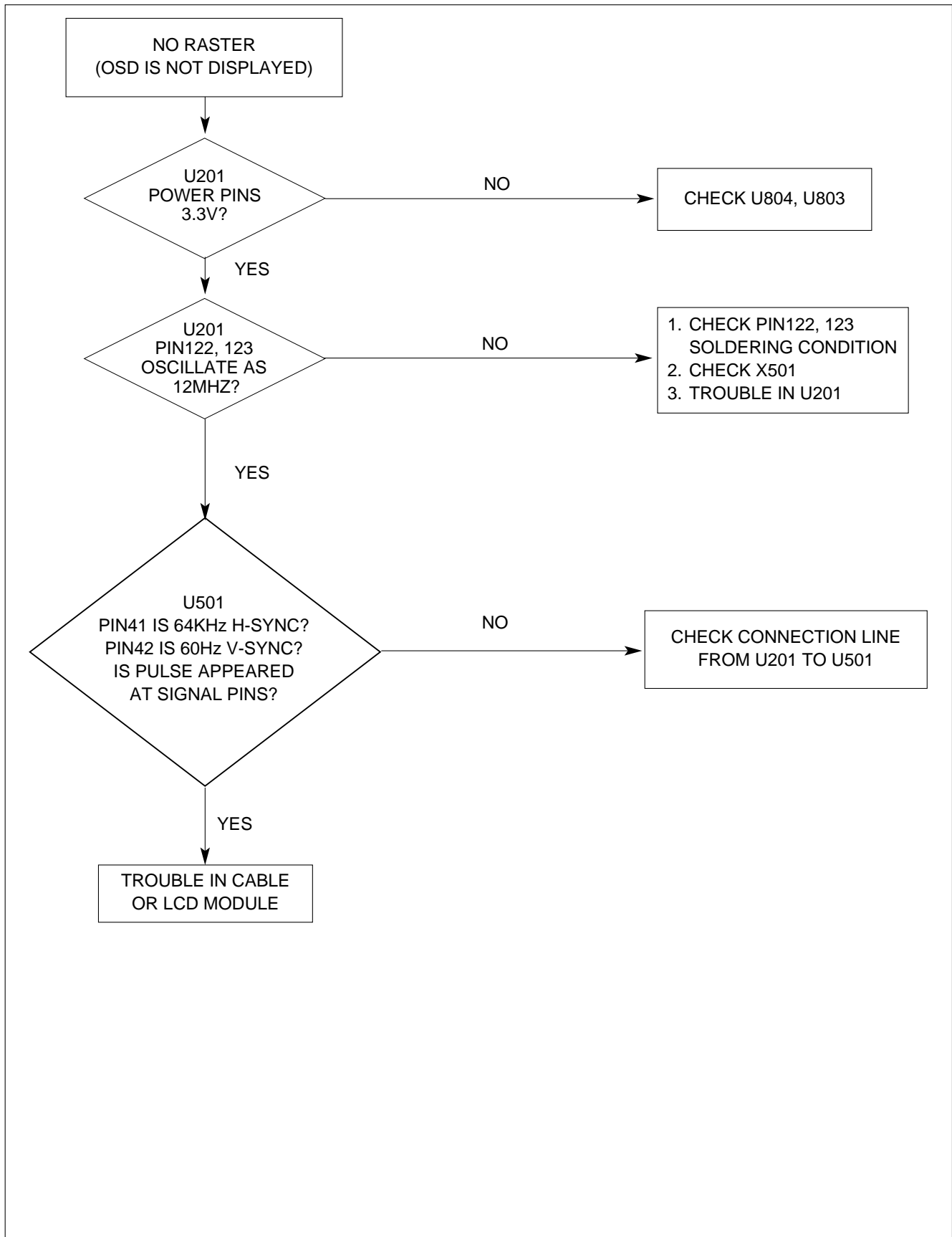
1. NO POWER



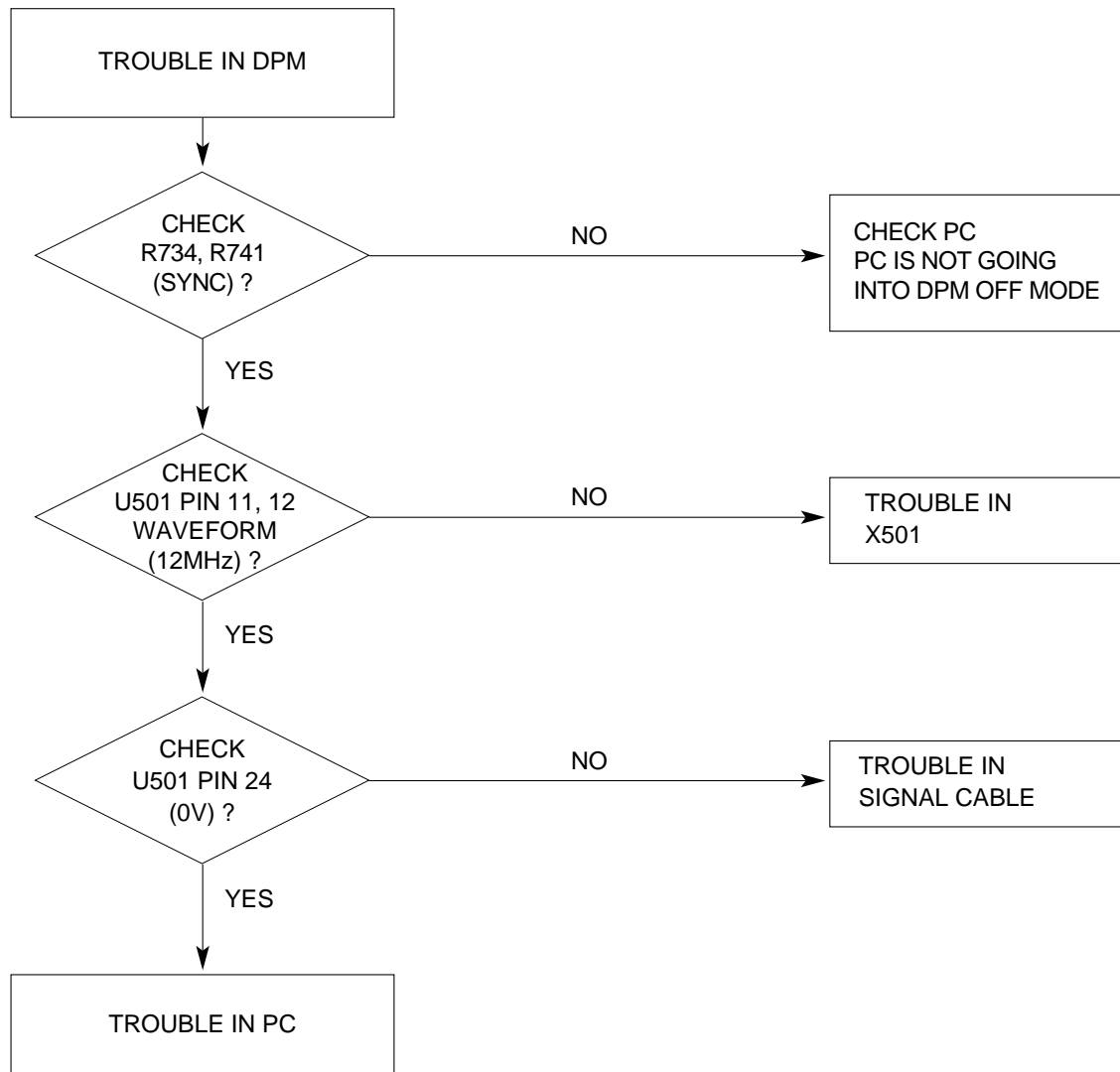
2. NO RASTER (OSD IS NOT DISPLAYED) – LIPS



3. NO RASTER (OSD IS NOT DISPLAYED) – MST9111

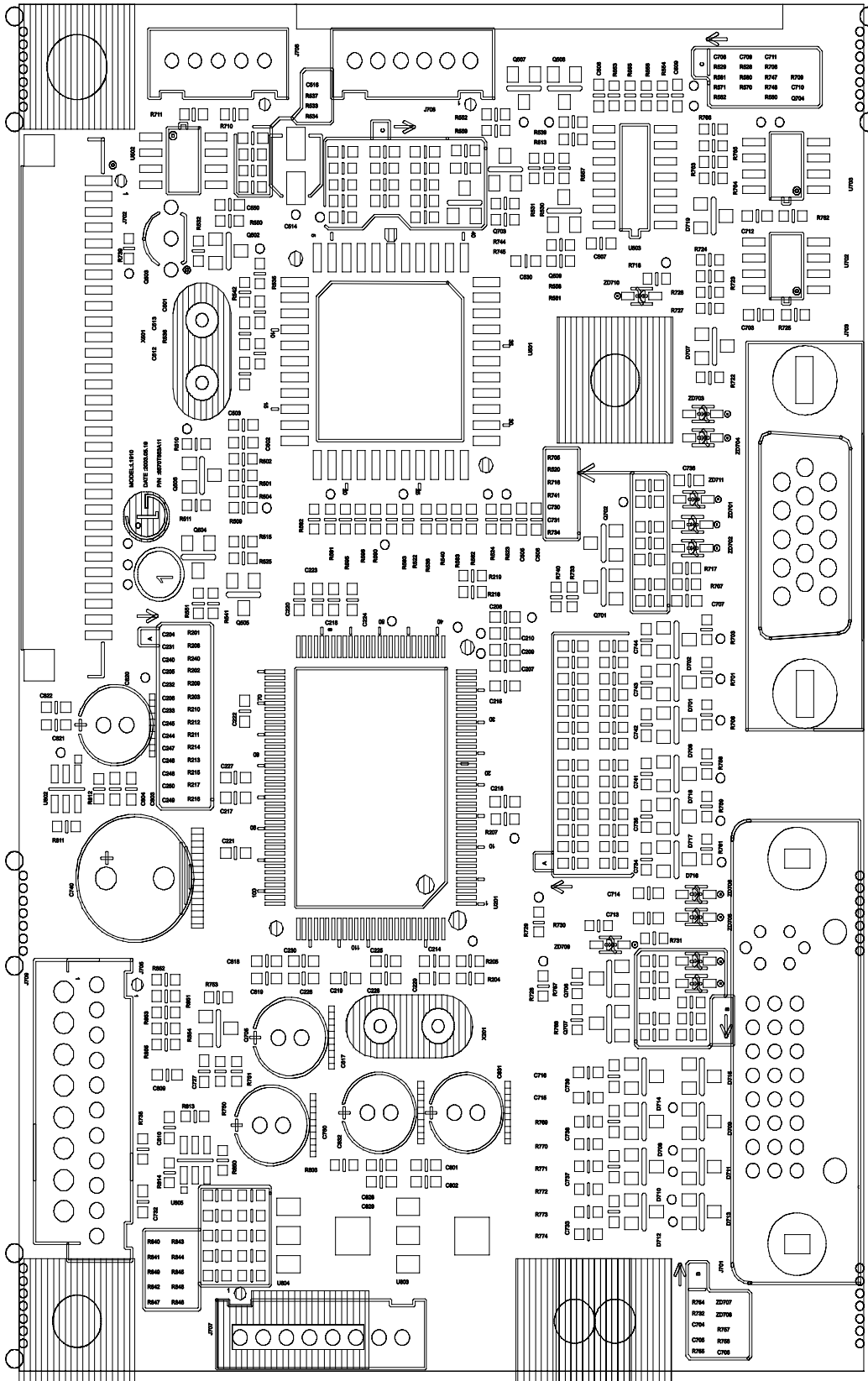


4. TROUBLE IN DPM

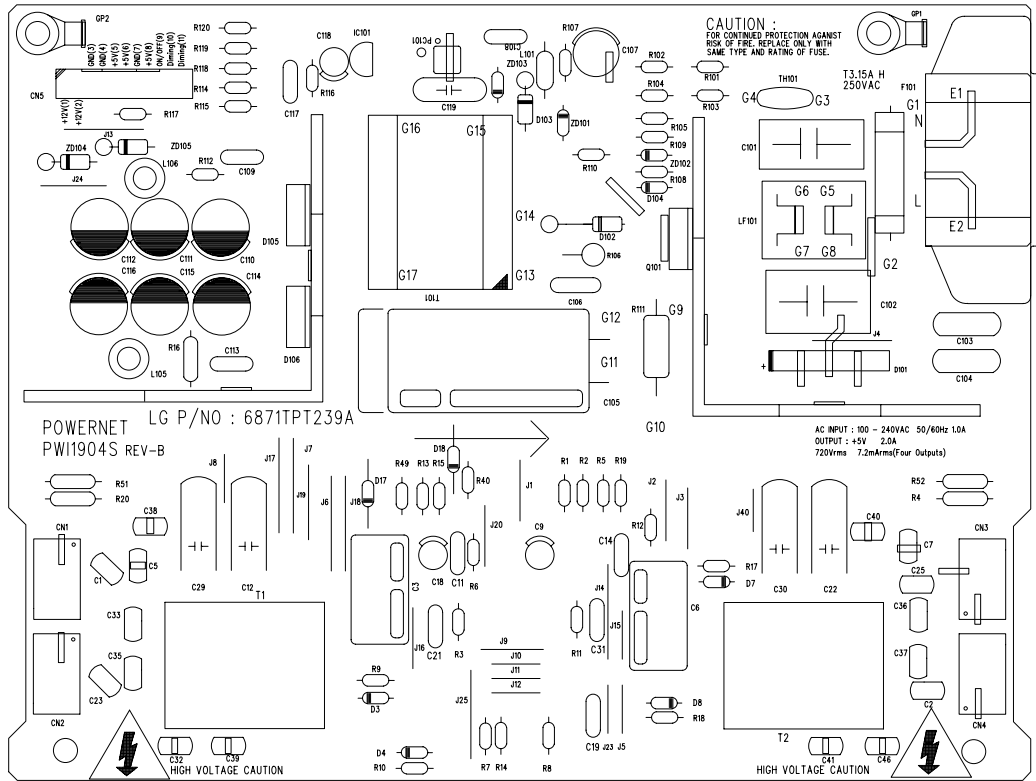


PRINTED CIRCUIT BOARD

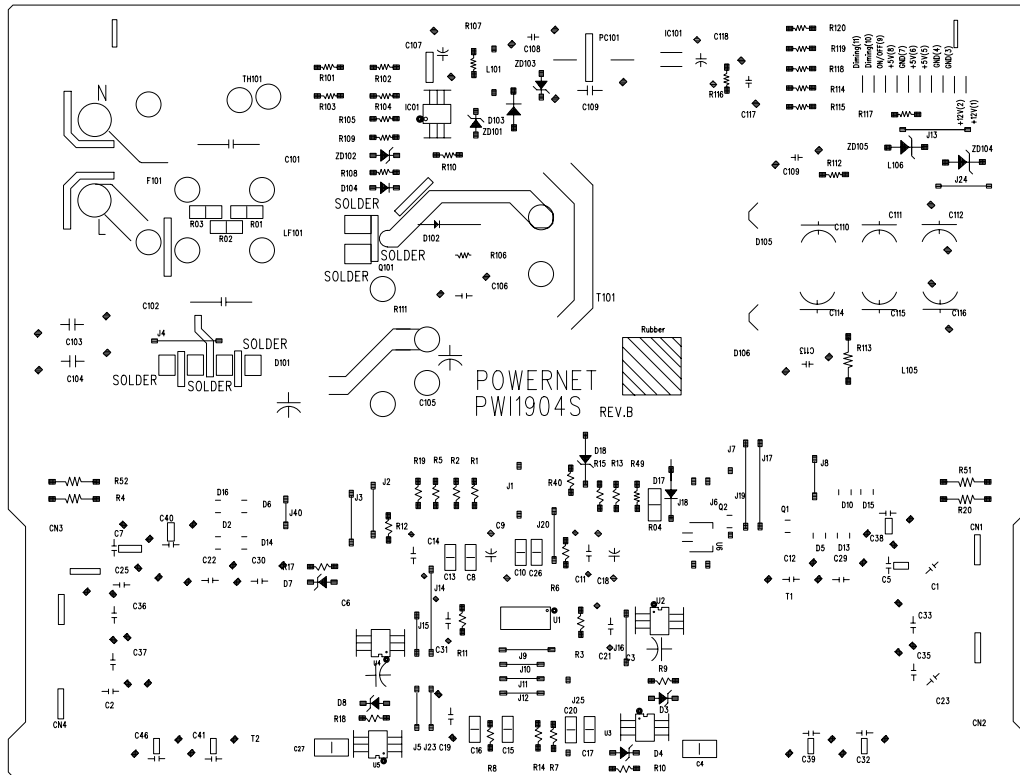
1. MAIN BOARD (Component Side)



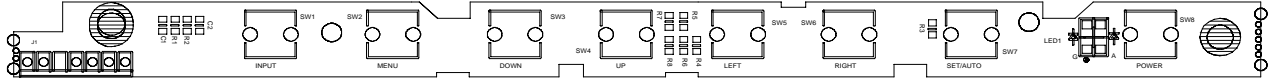
2. POWER BOARD (Component Side)



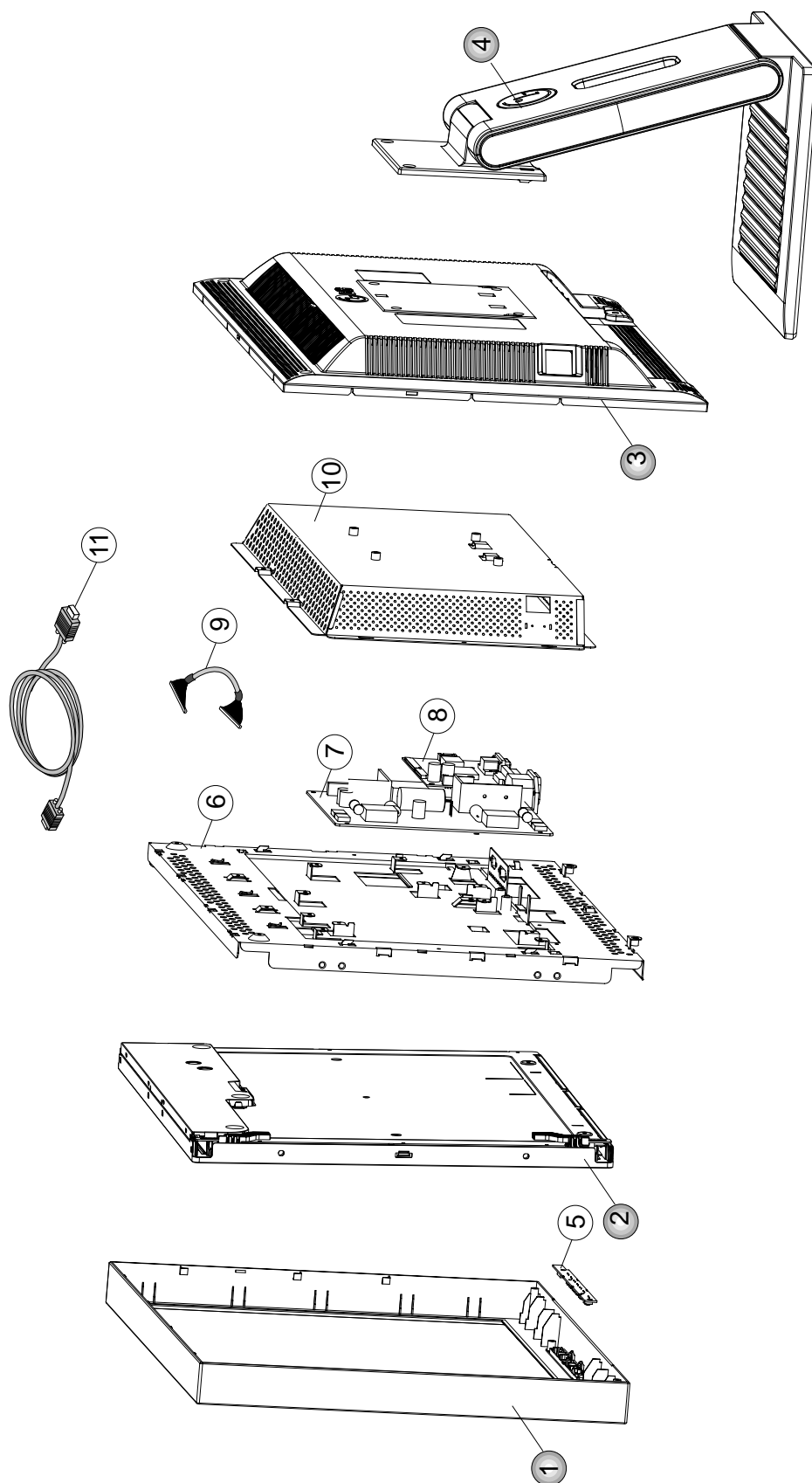
3. POWER BOARD (Solder Side)



4. CONTROL BOARD



EXPLODED VIEW




EXPLODED VIEW PARTS LIST

Ref. No.	Part No.	Description
1	3091TKL072J	CABINET ASSEMBLY, L1910S BRAND L067 HF350U SILVER(D-SUB ONLY)
2	6304FLP075A	LCD(LIQUID CRYSTAL DISPLAY), LM190E01-C4 LG PHILIPS TFT COLOR 4LAMP 250NIT
	or 6304FLP099A	LCD(LIQUID CRYSTAL DISPLAY), LM190E01-C4K2 LG PHILIPS TFT COLOR
	6304FCI008A	LCD(LIQUID CRYSTAL DISPLAY) M190E2-L01 CHIMEI TFT COLOR LVDS 8BIT
3	3809TKL051D	BACK COVER ASSEMBLY, L1910S L053 HF350U 87074(D-SUB ONLY)
4	3043TKK091E	TILT SWIVEL ASSEMBLY, LM805L -HIPS NO USB
5	6871TST415A	PWB(PCB) ASSEMBLY, SUB, L1910 L1810 CONTROL TOTAL BRAND CONTROL
6	4951TKS126C	METAL ASSEMBLY, FRAME MAIN L1910S(D-SUB ONLY)
7	6871TPT245B	PWB(PCB) ASSEMBLY, POWER, AI-0020A POWER TOTAL LIEN CHANG 19" BRAND(L1910) LIPS FOR LPL
	6871TPT245C	PWB(PCB) ASSEMBLY, POWER, L1910 POWER TOTAL LIEN CHANG LIPS FOR L1910 CMO
8	3313TL9012A	MAIN TOTAL ASSEMBLY, L1910SL LPL BRAND CL-42
	3313TL9014A	MAIN TOTAL ASSEMBLY, L1910SL CMO 10 LANGUAGE BRAND CL_42
9	6631T11012W	CONNECTOR ASSEMBLY, 30P H-H 200MM UL20276 LG708G
10	4951TKS118D	METAL ASSEMBLY, REAR SHIELD L1910B,P,S
11	6850TD9004D	CABLE, D-SUB, UL20276-9C(5.8MM) DT 1500MM GRAY(85964) LB500L DM
	or 6850TD9004A	CABLE, D-SUB, UL20276-9C(5.8MM) DT 1870MM GRAY(85964) LB500K DM

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: 2003. 9. 19.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
MAIN BOARD				
CAPACITORS				
		C204	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C205	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C206	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C207	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C208	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C209	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C210	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C214	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C215	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C216	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C217	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C218	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C219	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C220	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C221	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C222	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C223	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C224	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C225	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C226	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C227	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C230	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C231	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C232	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C233	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C240	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C501	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C502	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C503	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C505	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C506	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C507	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C508	0CC101CK41A	100PF 1608 50V 5% R/TP NP0 -CMO
		C509	0CC101CK41A	100PF 1608 50V 5% R/TP NP0 -CMO
		C512	0CC180CK41A	18PF 1608 50V 5% R/TP NP0
		C513	0CC030CK01A	3PF 1608 50V 0.25 PF R/TP NP0
		C514	0CH8106F611	10UF 16V M 85STD(CYL) R/TP
		C516	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C530	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5P)
		C703	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C707	0CC680CK41A	68PF 1608 50V 5% R/TP NP0
		C708	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5P)
		C709	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5P)
		C710	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5P)
		C711	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5P)
		C727	0CK105CD56A	1UF 1608 10V 10% R/TP X7R
		C730	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C731	0CC680CK41A	68PF 1608 50V 5% R/TP NP0
		C732	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5P)
		C736	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C740	0CE477EH618	470UF KMG 25V M FL TP 5
		C742	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R

DATE: 2003. 9. 19.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C743	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C744	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C760	0CE107EF610	"100UF KMG,RD 16V 20% FL BULK"
		C801	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5P)
		C802	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C803	0CK105CD56A	1UF 1608 10V 10% R/TP X7R
		C804	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C809	0CK105CD56A	1UF 1608 10V 10% R/TP X7R
		C810	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C817	0CE107EF610	"100UF KMG,RD 16V 20% FL BULK"
		C818	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C819	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5P)
		C820	0CE107EF610	"100UF KMG,RD 16V 20% FL BULK"
		C821	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5P)
		C822	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C828	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C829	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5P)
		C831	0CE107EF610	"100UF KMG,RD 16V 20% FL BULK"
		C832	0CE107EF610	"100UF KMG,RD 16V 20% FL BULK"
DIODEs				
		D701	0DS226009AA	KDS226 TP KEC SOT-23 80V 300M
		D702	0DS226009AA	KDS226 TP KEC SOT-23 80V 300M
		D706	0DS226009AA	KDS226 TP KEC SOT-23 80V 300M
		D707	0DD184009AA	KDS184 TP KEC - 85V - - - 300M
		ZD701	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
		ZD702	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
		ZD703	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
		ZD704	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
		ZD711	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
ICs				
		U201	0IPRPM3004A	MST9111 ANALOG MSTAR 128 LQFP
		U501	0IZZTSZ277C	MYSON 44P PLCC ST OTP L1910 -LPL
		U501	0IZZTSZ277A	MYSON 44P PLCC ST OTP L1910 -CMO
		U502	0ISG240860B	M24C08W6 SGS-THOMSON 8SOP R/TP
		U702	0ICS240213A	CAT24WC02J-TE13 8P SOP TP 2K I
		U802	0TFVI80036A	SI3861DV VISHAY R/TP TSOP-6 4.
		U803	0IPMGNS001D	LM1117MPX-2.5 NATIONAL SEMICON
		U804	0IPMGNS001E	LM1117MPX-3.3 NATIONAL SEMICON
		U805	0TFVI80036A	SI3861DV VISHAY R/TP TSOP-6 4.
TRANSISTOR				
		Q502	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP S
		Q503	0IKE704200H	KIA7042AP TO-92 TP 4.2 VOLT.
		Q504	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP S
		Q505	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP S
		Q506	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP S
		Q701	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP S
		Q702	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP S
		Q703	0TR390609FA	KST3906-MTF TP SAMSUNG SOT23

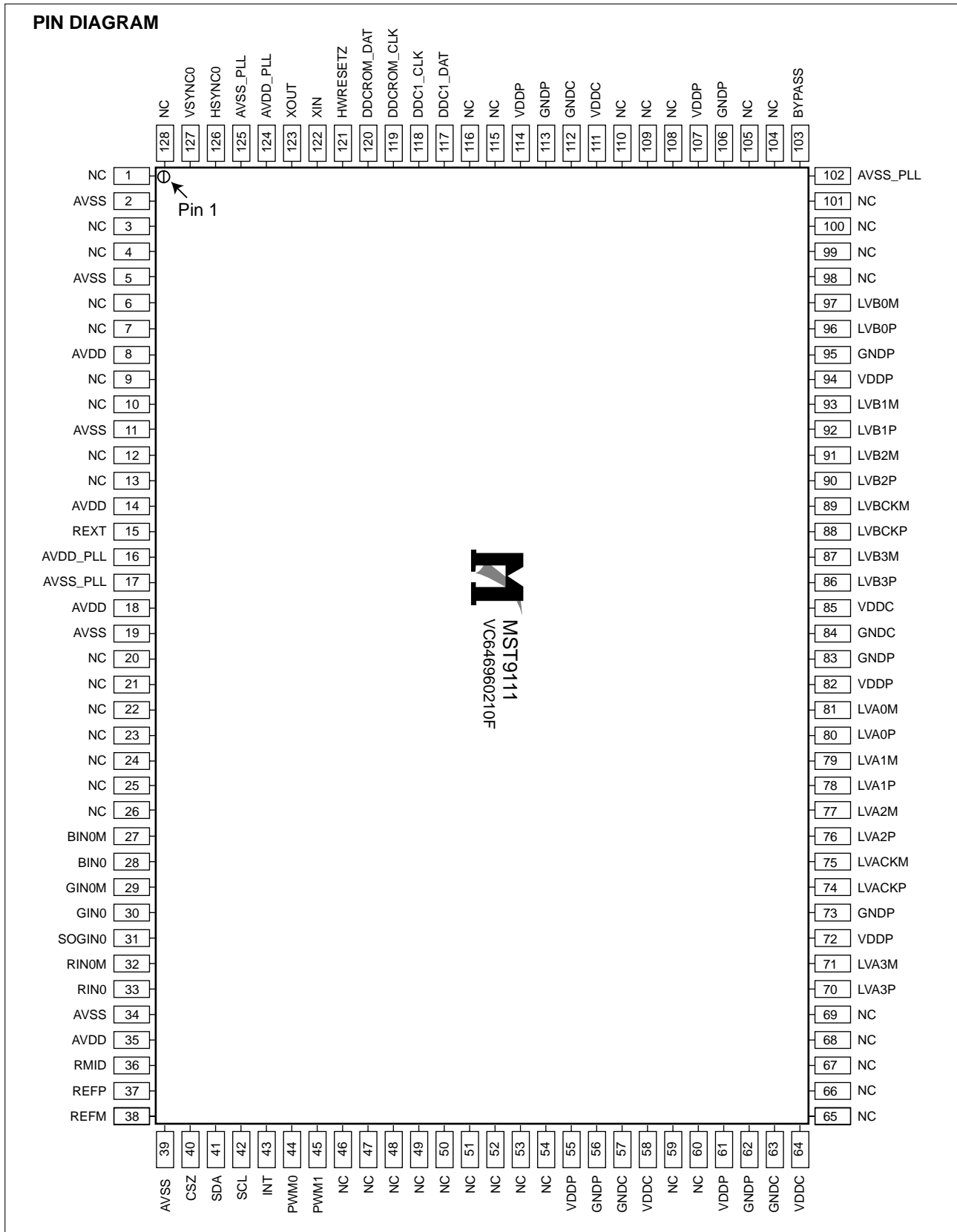
DATE: 2003. 9. 19.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		Q704	0TR390609FA	KST3906-MTF TP SAMSUNG SOT23
		Q705	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP S
RESISTORs				
		R201	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R202	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R203	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R205	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R207	0RJ3900D677	390 OHM 1/10 W 5% 1608 R/TP
		R208	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R209	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R210	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R240	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R501	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R502	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R504	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R509	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R510	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R511	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R513	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R515	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R520	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R522	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R523	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R524	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R525	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R528	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R529	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R530	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R531	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R532	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R533	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R534	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R535	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R537	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R538	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R539	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R540	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R541	0RJ4702D677	47000 OHM 1/10 W 5% 1608 R/TP
		R542	0RJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R551	0RJ4702D677	47000 OHM 1/10 W 5% 1608 R/TP
		R553	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP -CMO
		R554	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP -CMO
		R555	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP -CMO
		R556	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP -CMO
		R557	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP -CMO
		R558	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP -CMO
		R560	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R561	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R562	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R571	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R581	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R582	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R590	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R591	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R592	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R593	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R595	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R596	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R701	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R703	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R705	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R706	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R707	0RJ0682D677	68 OHM 1/10 W 5% 1608 R/TP
		R708	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R709	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R716	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R717	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R722	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R723	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R724	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R725	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R726	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R727	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R733	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R734	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R740	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R741	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R744	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R745	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R747	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R748	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R750	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R751	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R753	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R803	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R811	0RJ2202D677	22K OHM 1/10 W 5% 1608 R/TP
		R812	0RJ5600D677	560 OHM 1/10 W 5% 1608 R/TP
		R813	0RJ2202D677	22K OHM 1/10 W 5% 1608 R/TP
		R814	0RJ5600D677	560 OHM 1/10 W 5% 1608 R/TP
		R840	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R841	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R842	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R843	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R844	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R845	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R846	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R847	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R848	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R849	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R851	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP -LPL
		R852	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP -LPL
		R853	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP -LPL
		R854	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP -CMO
		R855	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP -CMO
OTHERs				
		X501	6212AA2004A	HC-49U TXC 12.0MHZ +/- 30 PPM
CONTROL BOARD				
		LED1	0DLLT0208AA	LITEON LTST-C155KGJSKT R/TP GR
		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	0RJ8200D677	820 OHM 1/10 W 5% 1608 R/TP
		R4	0RJ8200D677	820 OHM 1/10 W 5% 1608 R/TP
		R5	0RJ1501D677	1.5K OHM 1/10 W 5% 1608 R/TP
		R6	0RJ1501D677	1.5K OHM 1/10 W 5% 1608 R/TP
		R7	0RJ2201D677	2200 OHM 1/10 W 5% 1608 R/TP
		R8	0RJ2201D677	2200 OHM 1/10 W 5% 1608 R/TP
		SW1	140-058E	SKHV10910B LGEC NON 12V 20A HO
		SW2	140-058E	SKHV10910B LGEC NON 12V 20A HO

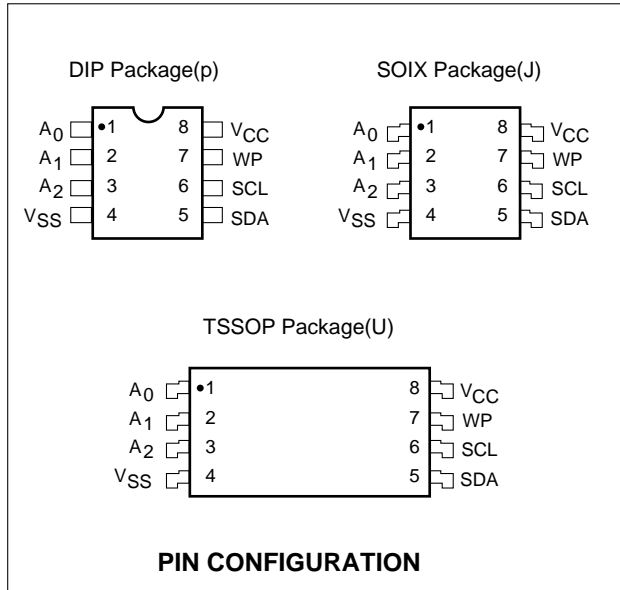
DATE: 2003. 9. 19.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		SW3	140-058E	SKHV10910B LGEC NON 12V 20A HO
		SW4	140-058E	SKHV10910B LGEC NON 12V 20A HO
		SW5	140-058E	SKHV10910B LGEC NON 12V 20A HO
		SW6	140-058E	SKHV10910B LGEC NON 12V 20A HO
		SW7	140-058E	SKHV10910B LGEC NON 12V 20A HO
		SW8	140-058E	SKHV10910B LGEC NON 12V 20A HO

PIN CONFIGURATION

MST9111 DUAL MSTAR 128P



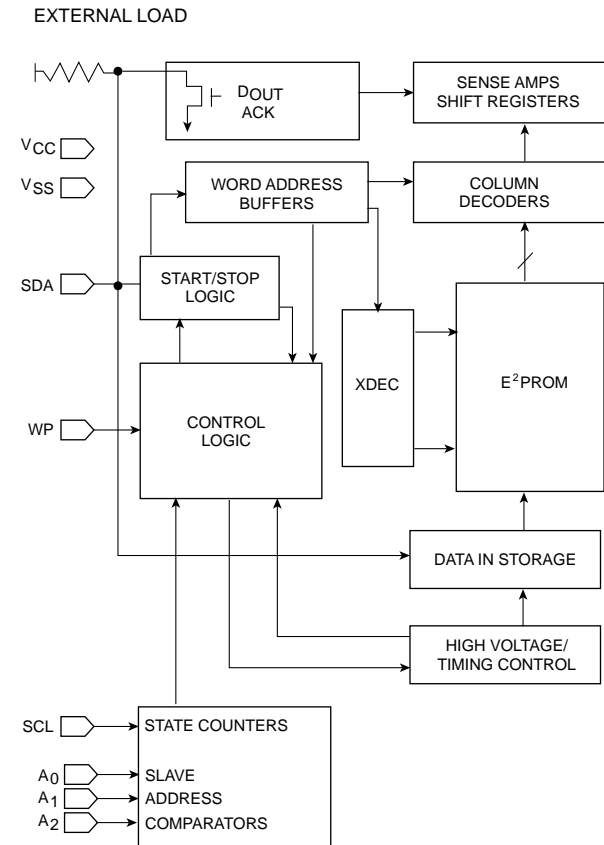
CAT24WC08J-TE13 8P



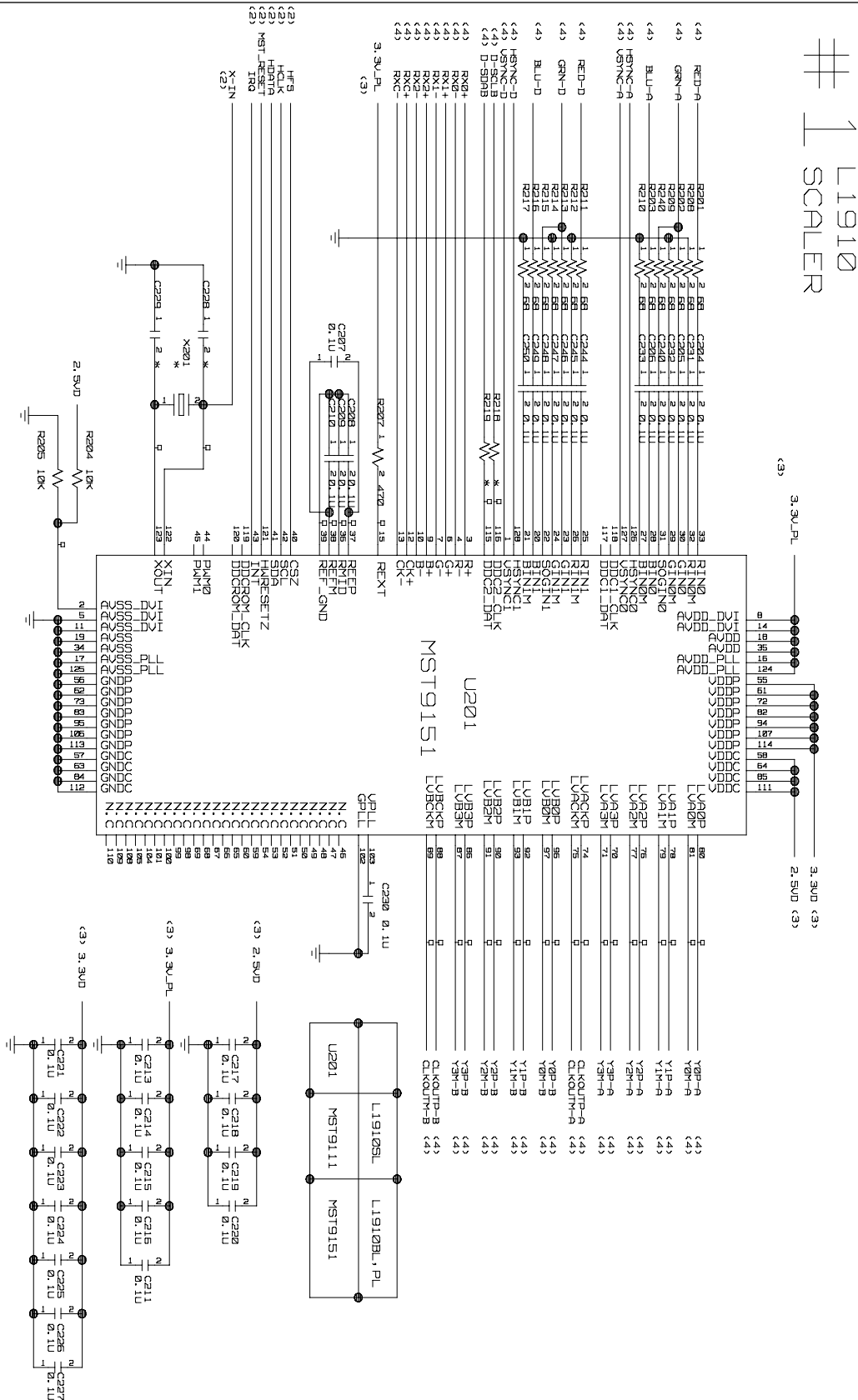
PIN FUNCTION

Pin Name	Function
A0, A1, A2	Device Address Inputs
SDA	Serial Data/Address
SCL	Serial Clock
WP	Write Protect
Vcc	+1.8V to + 6.0V power Supply
Vss	Ground

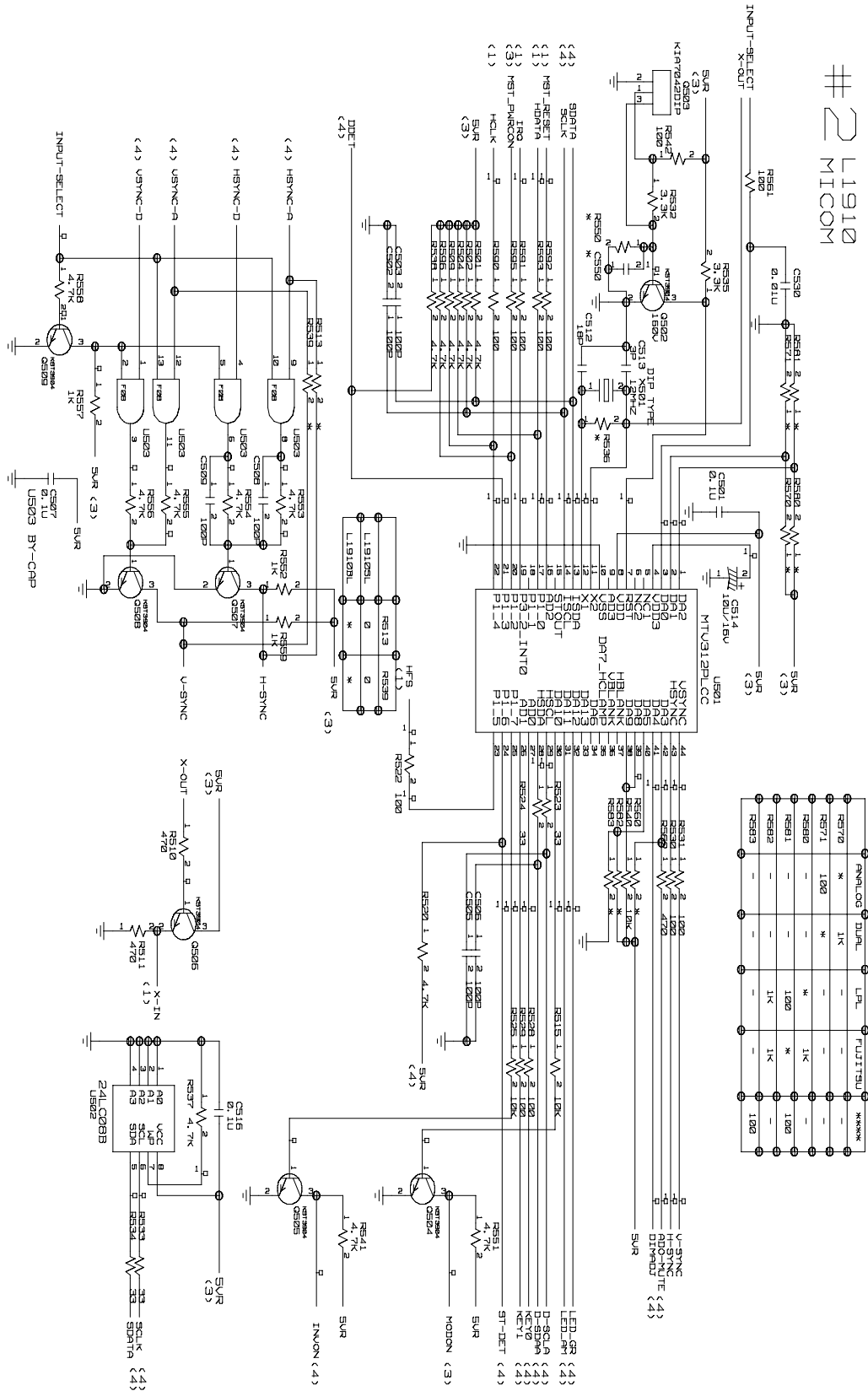
BLOCK DIAGRAM



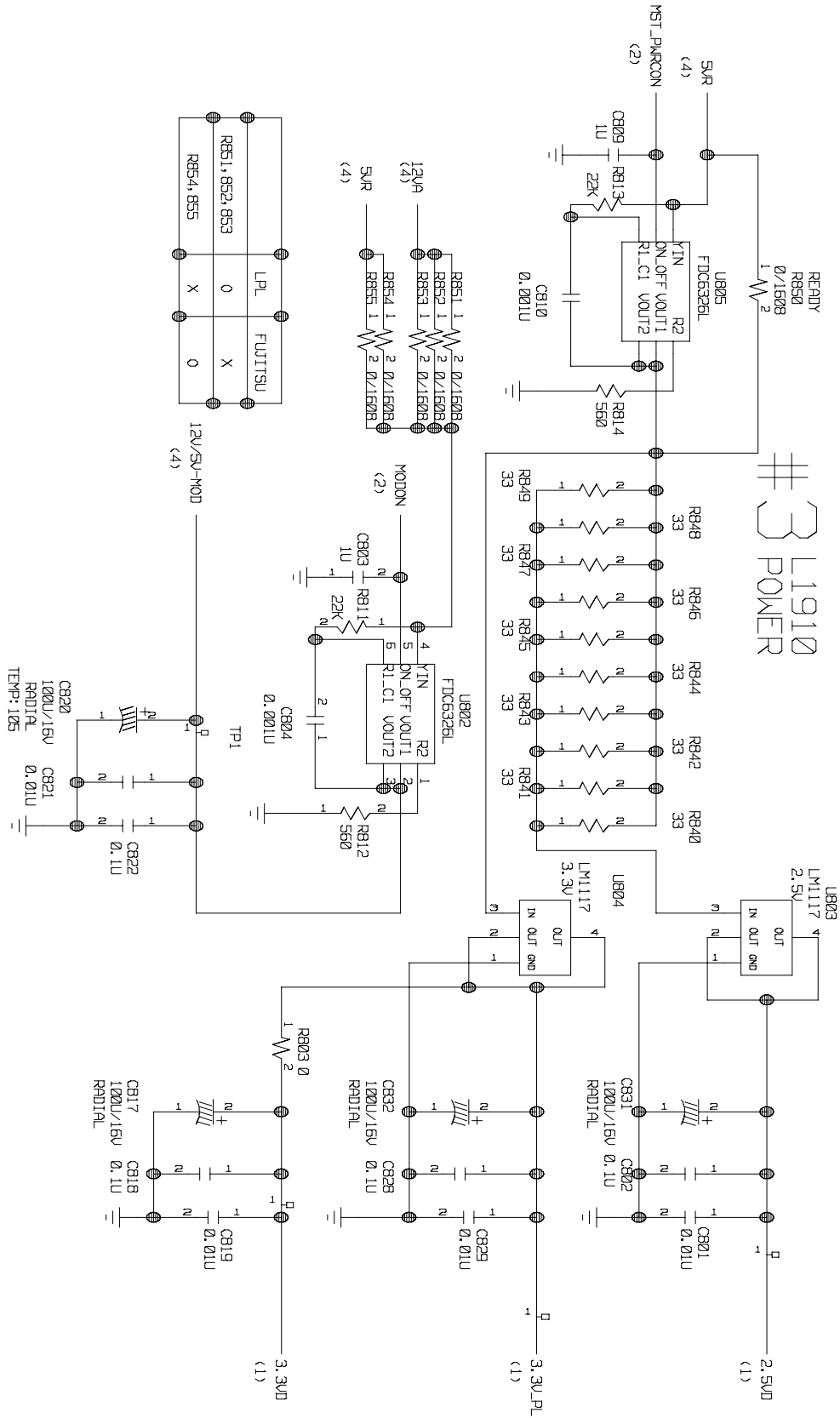
1. SCALER



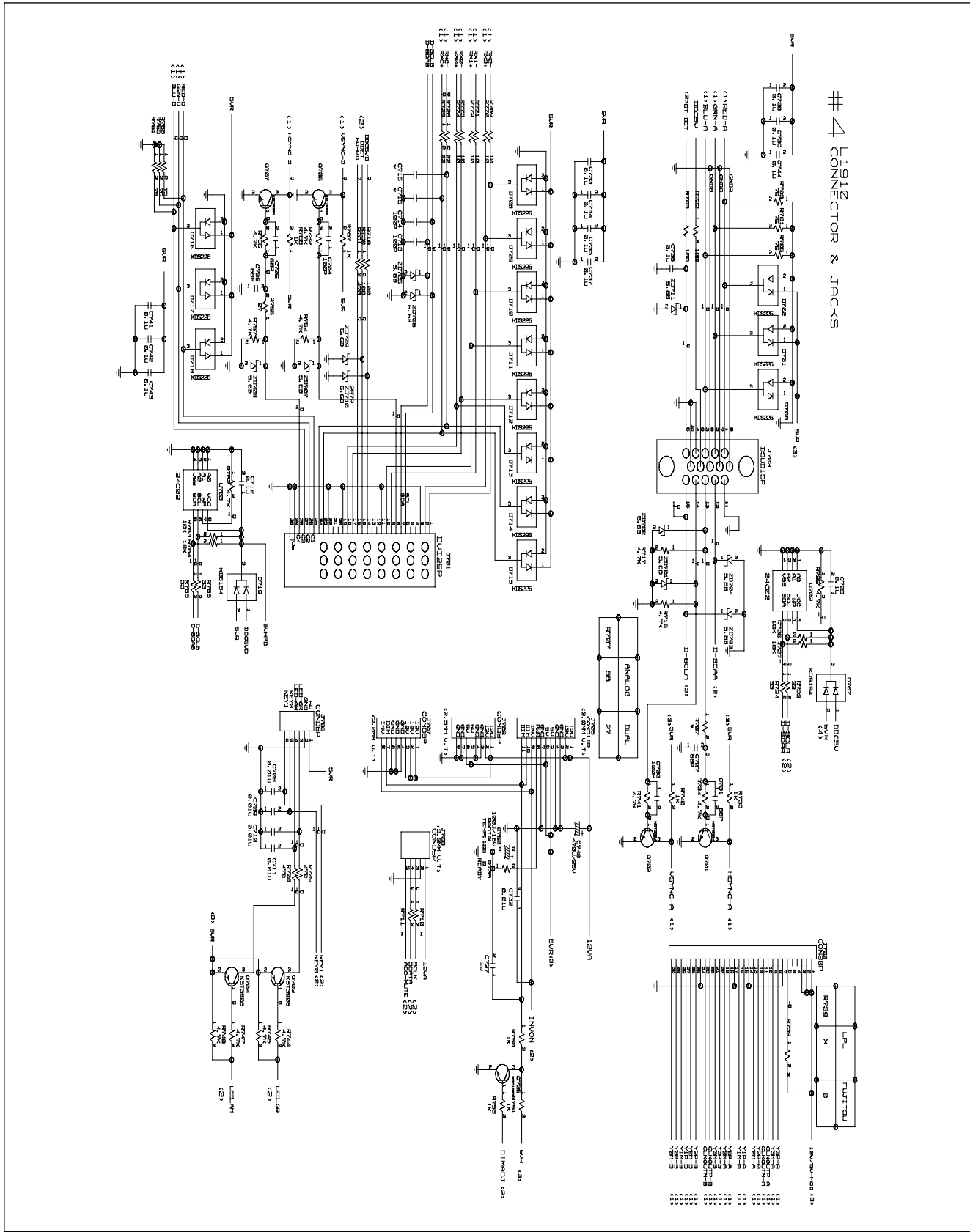
2. MICOM



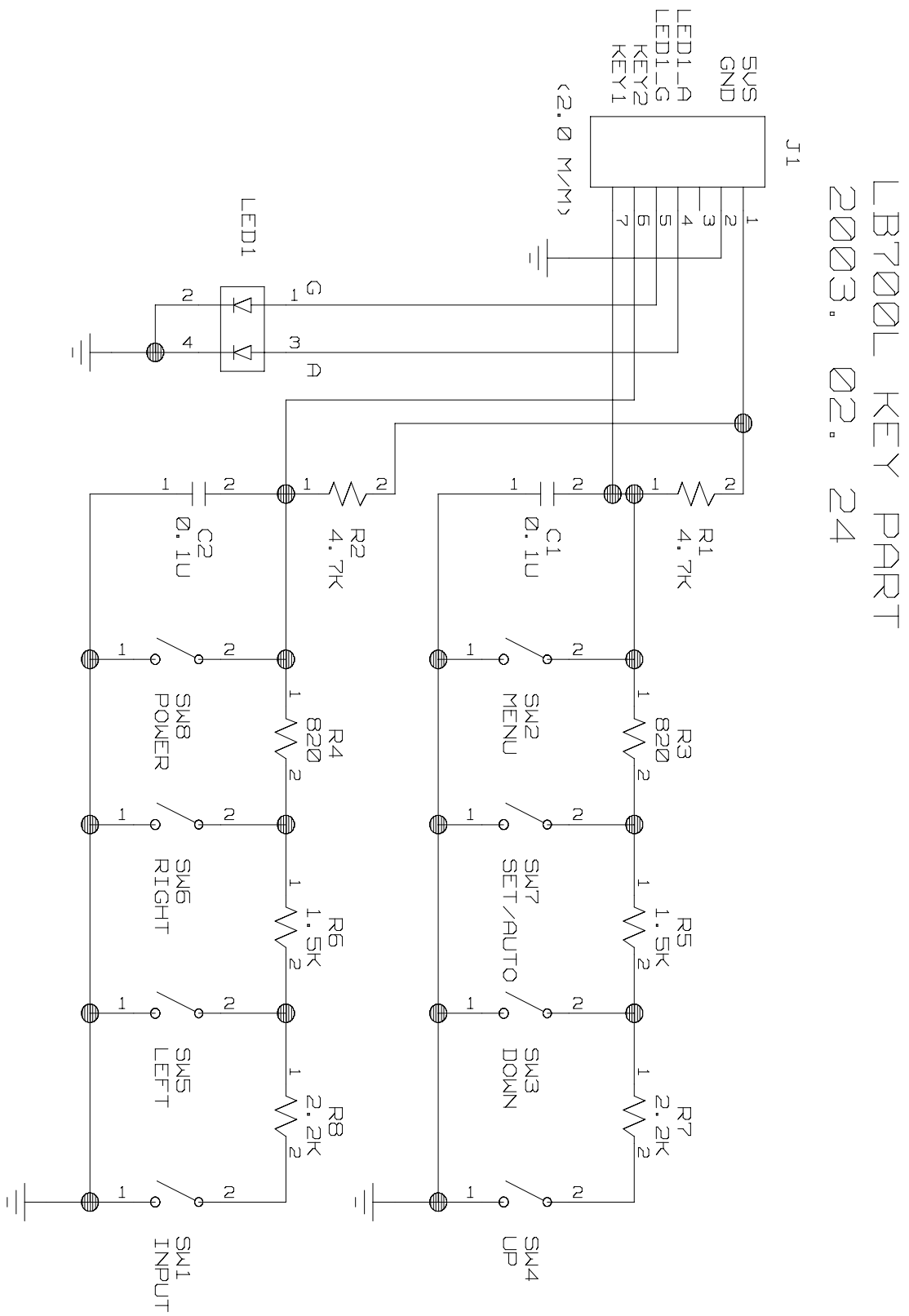
3. POWER



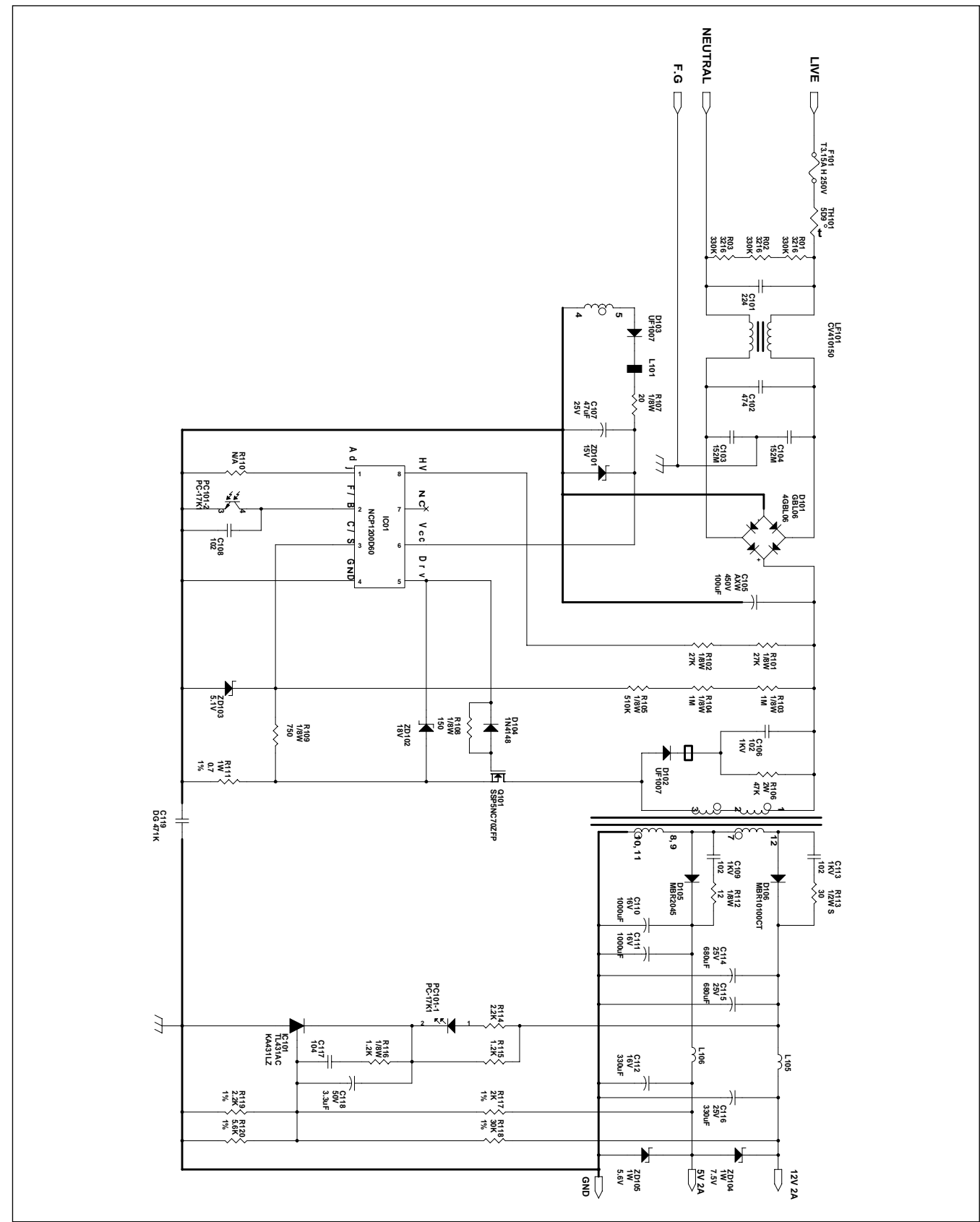
4. CONNECTOR/JACKS



5. KEY PART



6. LIPS



7. LIPS

[illegible]

*B/CONT' : 0-4.5Vmax



P/NO : 3828TSL095E

Oct. 2003
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