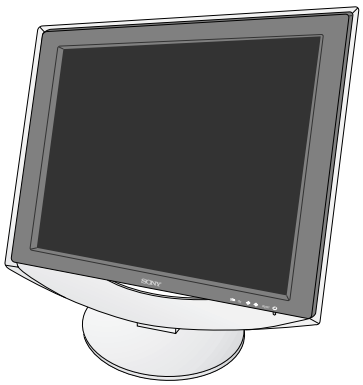
COLOR MONITOR
SERVICE MANUAL

CHASSIS NO. : CL-42
FACTORY MODEL: LHS74P, LHS74PM

MODEL: SDM-HS74, SDM-HS74P

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	: 17 inch(337.92(H) x 270.336(V))
Size	: 358.5(W) x 296.5(H) x 17.0(D)
Pixel Pitch	: 0.264 (Per one triad) x 0.264
Color Depth	: 16.2M Colors
Electrical Interface	: LVDS
Operating Mode	: Normally White
Backlight Unit	: 4-CCFL (Cold Cathode Fluorescent Lamp)

2. OPTICAL CHARACTERISTICS

2-1. Viewing Angle by Contrast Ratio ≥ 10

Left : -60° min., -70°(Typ) Right : +60° min., +70°(Typ)

Top :+60° min., +70°(Typ) Bottom : -60°min., -70°(Typ)

2-2. Luminance : 75(min), 80(Typ)

2-3. Contrast Ratio : 250(min), 450(Typ)

3. SIGNAL (Refer to the Timing Chart)

3-1. Sync Signal

• Type : Separate Sync

3-2. Video Input Signal

1) Type	: R, G, B Analog
2) Voltage Level	: 0~0.70 V($\pm$5%)
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	: 28 ~ 80kHz
Vertical	: 48 ~ 75Hz

4. Max. Resolution

Analog	: 1280 x 1024 / 75Hz
Digital	: 1280 x 1024 / 60Hz

5. POWER SUPPLY

5-1. Power : 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 45 W	GREEN
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:	5°C~35°C (41°F~95°F) (Ambient)
6-2. Relative Humidity	: 10%~80% (Non-condensing)
6-3. MTBF	: 50,000 Hours(Typ) 30,000 Hours(Min)

7. DIMENSIONS (with TILT/SWIVEL)

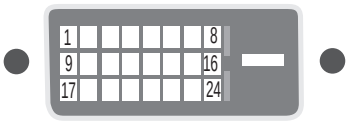
Width	: 367 mm (14.49")
Depth	: 215 mm (8.46")
Height	: 410 mm (16.14")

8. WEIGHT (with TILT/SWIVEL)

Net. Weight	: 5.7 kg (12.57 lbs)
Gross Weight	: 8.3 kg (18.30 lbs)

Signal Connector Pin Assignment

• DVI-D Connector



Pin	Signal (DVI-D)	Pin	Signal (DVI-D)
1	T. M. D. S. Data2-	16	Hot Plug Detect
2	T. M. D. S. Data2+	17	T. M. D. S. Data0-
3	T. M. D. S. Data2/4 Shield	18	T. M. D. S. Data0+
4	T. M. D. S. Data4-	19	T. M. D. S. Data0/5 Shield
5	T. M. D. S. Data4+	20	T. M. D. S. Data5-
6	DDC Clock	21	T. M. D. S. Data5+
7	DDC Data	22	T. M. D. S. Clock Shield
8	Analog Vertical Sync.	23	T. M. D. S. Clock+
9	T. M. D. S. Data1-	24	T. M. D. S. Clock-
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.)		

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 !

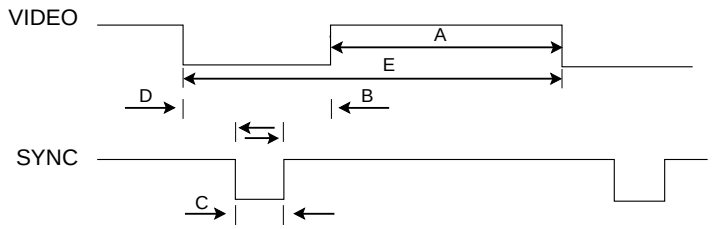
- If you want to replace with the new backlight (CCFL) or inverter circuit, must disconnect the AC adapter because high voltage appears at inverter circuit about 650Vrms.
- Handle with care wires or connectors of the inverter circuit. If the wires are pressed cause short and may burn or take fire.

TIMING CHART

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

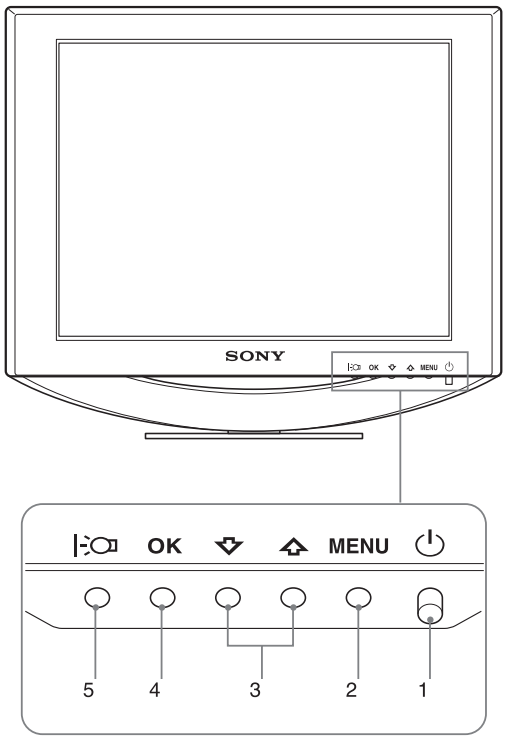
Mode	H/V Sort	Sync Polarity	Dot Clock	Frequency	Total Period (E)	Video Active Time (A)	Front Porch (C)	Sync Duration (D)	Back Porch (F)	Blanking time (B)	Resolution
1	H	–	28.350	31.500	900	720	18	108	54	180	**720x400**
	V	+		70.156Hz	449	400	12	3	34	49	**70Hz**
2	H	–	25.175	31.469	800	640	16	96	48	160	**640x480**
	V	–		59.940Hz	525	480	10	2	33	45	**60Hz**
3	H	–	30.240	35.00	864	640	64	64	96	224	**640x480**
	V	–		66.667Hz	525	480	3	3	39	45	**65Hz**
4	H	–	31.500	37.50	840	640	16	64	120	200	**640x480**
	V	–		75.0Hz	500	480	1	3	16	20	**75Hz**
5	H	–	31.505	35.162	896	720	34	40	102	176	**720x480**
	V	–		59.901Hz	587	480	12	2	93	107	**60Hz**
6	H	+-	36.000	35.156	1024	800	24	72	128	224	**800x600**
	V	+		56.250Hz	625	600	1	2	22	25	**56Hz**
7	H	+	40.000	37.879	1056	800	40	128	88	256	**800x600**
	V	+		60.317Hz	628	600	1	4	23	28	**60Hz**
8	H	+	50.000	48.077	1040	800	56	120	64	240	**800x600**
	V	+		72.188Hz	666	600	37	6	23	66	**72Hz**
9	H	+	49.500	46.875	1056	800	16	80	160	256	**800x600**
	V	+		75.0Hz	625	600	1	3	21	25	**75Hz**
10	H	–	57.285	49.727	1152	832	32	64	224	320	**832x624 (MAC16") 75Hz**
	V	–		74.553Hz	667	624	3	3	37	43	
11	H	–	65.000	48.363	1344	1024	24	136	160	320	**1024x768**
	V	–		60.004Hz	806	768	3	6	29	38	**60Hz**
12	H	–	75.000	56.476	1328	1024	24	136	144	304	**1024x768**
	V	–		70.069Hz	806	768	3	6	29	38	**70Hz**
13	H	+	78.750	60.023	1312	1024	16	96	176	288	**1024x768**
	V	+		75.029Hz	800	768	1	3	28	32	**75Hz**
14	H	–	80.000	60.241	1328	1024	32	96	176	304	**1024x768 (MAC19) 75Hz**
	V	–		74.927Hz	804	768	3	3	30	36	
15	H	+	108.000	67.500	1600	1152	64	128	256	448	**1152x864**
	V	+		75.000Hz	900	864	1	3	32	36	**75Hz**
16	H	–	100.000	68.681	1456	1152	32	128	144	304	**1152x870 (MAC21) 75Hz**
	V	–		75.062Hz	915	870	3	3	39	45	
17	H	–	92.940	61.795	1504	1152	30	128	194	352	**1152x900**
	V	–		65.950Hz	937	900	2	4	31	37	**66Hz**
18	H	–	105.590	71.732	1472	1152	16	96	208	320	**1152x900**
	V	–		76.068Hz	943	900	2	8	33	43	**75Hz**
19	H	+	46.200	31.216	1480	1170	37	129	144	310	**1170x584**
	V	+		50.026Hz	624	584	3	3	34	40	**50Hz**
20	H	+	108.000	60.000	1800	1280	96	112	312	520	**1280x960**
	V	+		60.000Hz	1000	960	1	3	36	40	**60Hz**
21	H	+	108.000	63.981	1688	1280	48	112	248	408	**1280x1024**
	V	+		60.020Hz	1066	1024	1	3	38	42	**60Hz**
22	H	+	135.000	79.976	1688	1280	16	144	248	408	**1280x1024**
	V	+		75.025Hz	1066	1024	1	3	38	42	**75Hz**

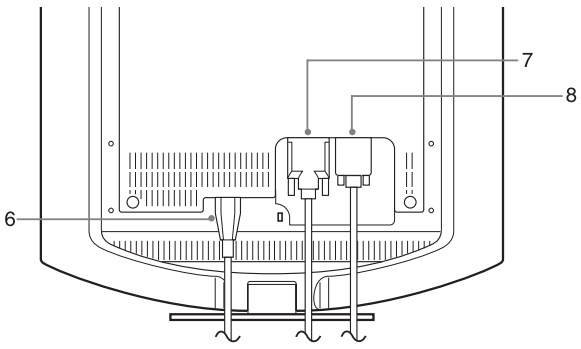
TIMING CHART



OPERATING INSTRUCTIONS

FRONT / REAR VIEW





1. ⏻ (Power) switch and indicator
To turn the display on or off, press the ⏻ (power) switch upward.
The power indicator lights up in green when the display is turned on, and lights up in orange when the monitor is in power saving mode.

2. MENU button
This button displays or closes the main menu.

3. ↑/↓ buttons
These buttons function as the ↑/↓ buttons when selecting the menu items and making adjustments.

4. OK button
This button selects the item or executes the settings in the menu.

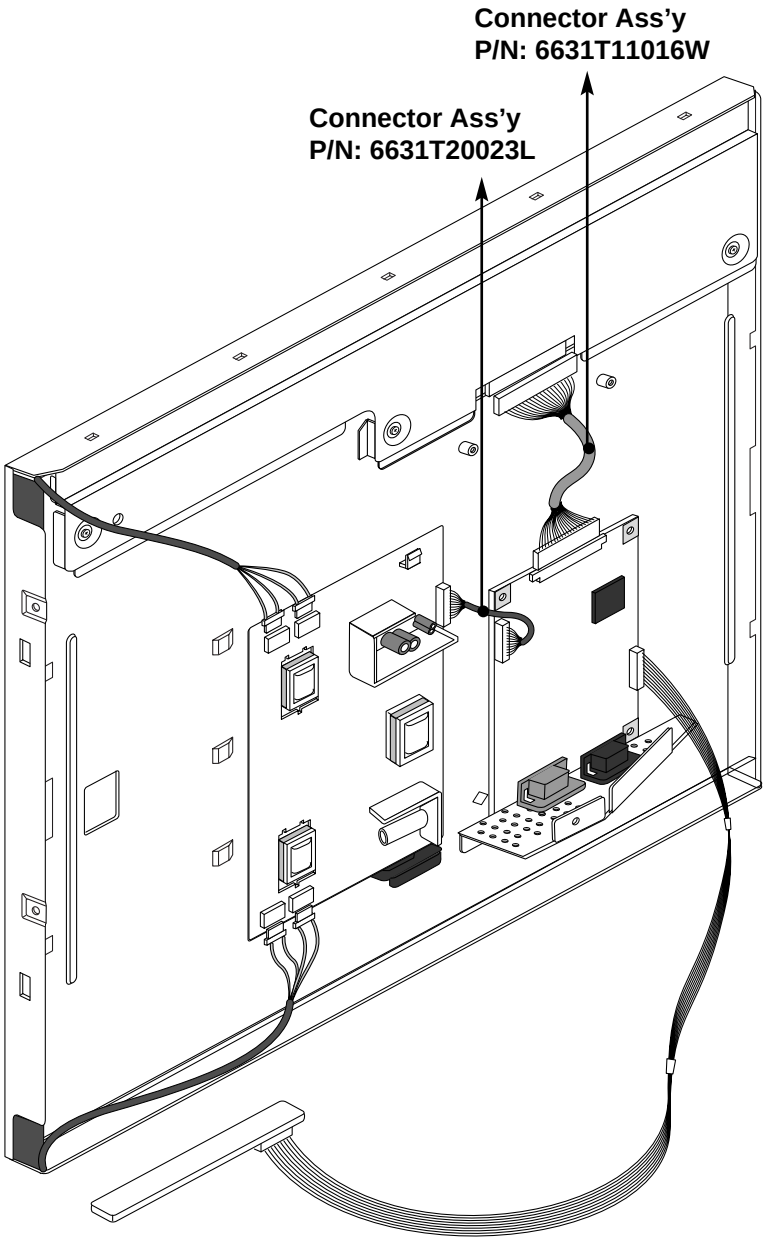
5. ☼ button
This button is used to change the brightness of the screen.

6. AC IN connector
Connect the power cord (supplied).

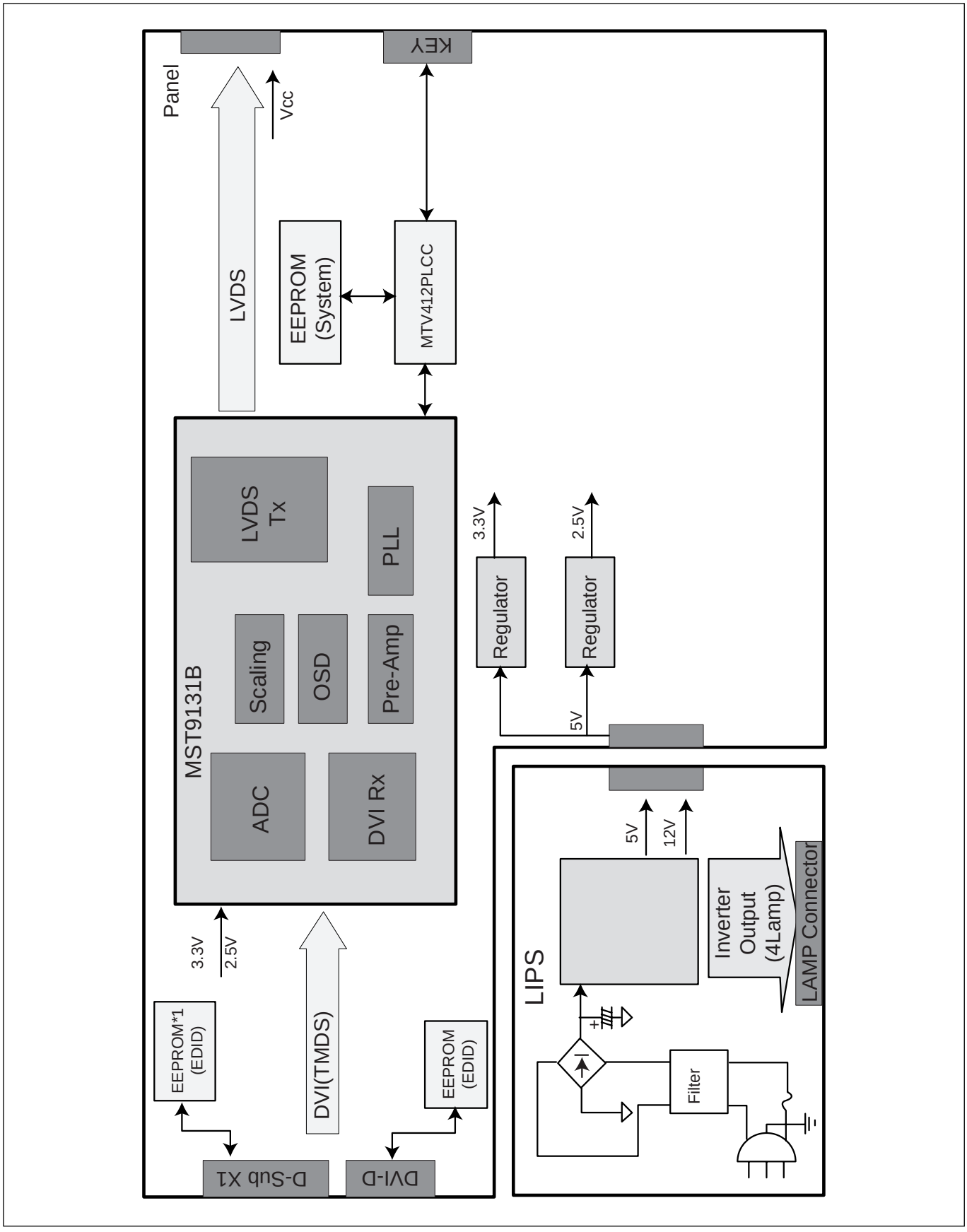
7. DVI-D input connector (digital RGB)
This connector inputs digital RGB video signals that comply with DVI Rev.1.0.

8. HD15 (RGB) input connector (analog RGB)
This connector inputs analog RGB video signals (0.7 Vp-p, positive) and SYNC signals. DDC (Display Data Channel) is a standard of VESA.

WIRING DIAGRAM



BLOCK DIAGRAM



DESCRIPTION OF BLOCK DIAGRAM

1. Video Controller Part & Display Data Transmitter 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, LVDS Tx, TMDS Rx, Reset IC.

The Scaler gets the video signals which were 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 'MST9131A' by MST.

This part transmit digital signal from the Scaler to the receiver of module.

2. Power Part

This part consists of the one 3.3V and one 2.5 regulators to convert power which is provided 5V by LIPS Board.

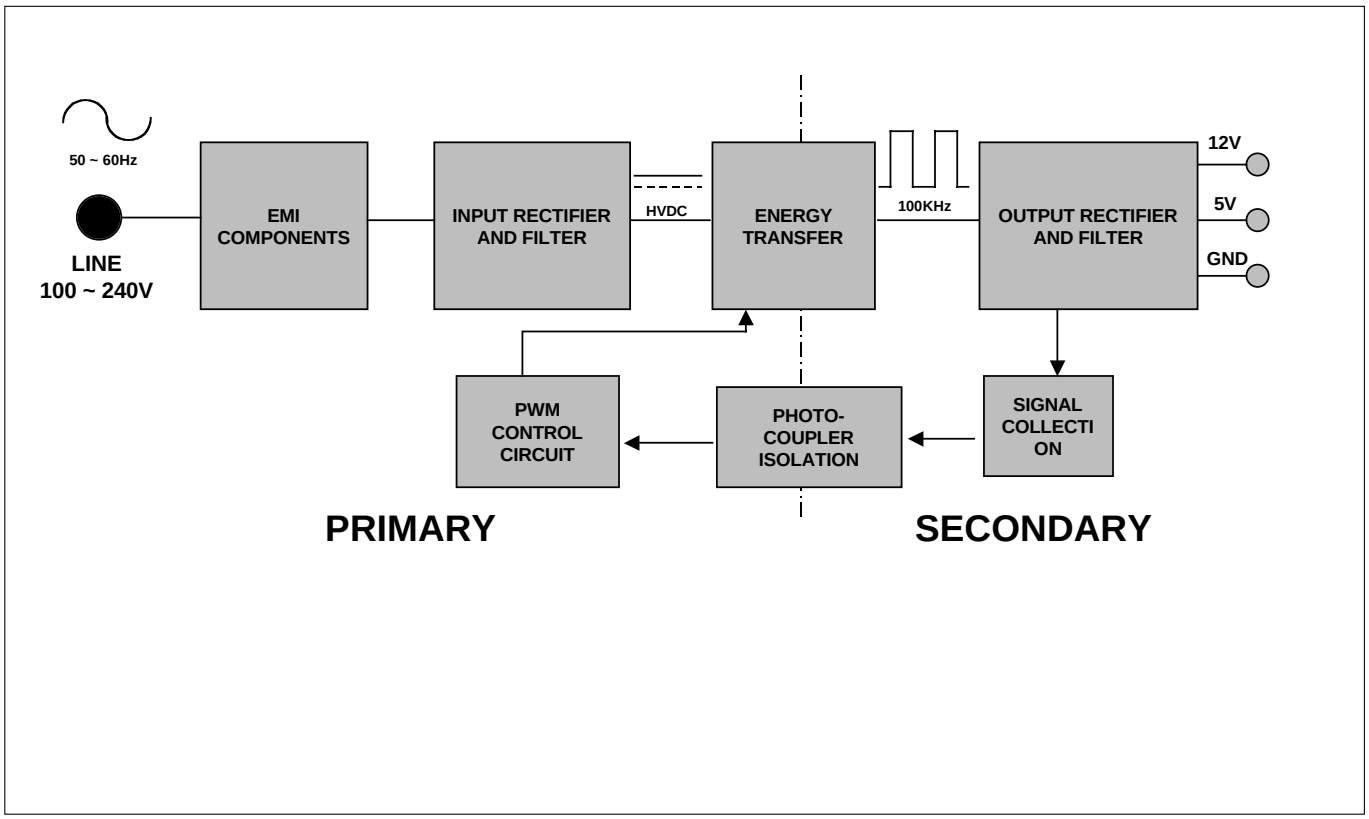
In particular, 5V is provided for LCD Panel. There is also 12V which is for Audio power.

Also, 5V is converted 3.3V and 2.5V by regulator. Converted power is provided for IC in the main board.

3. System Controller (Microprocessor) Circuit

1) Microprocessor (U501) distinguishes polarity and frequency by calculating horizontal and vertical sync input from signal source.
2) Microprocessor (U501) carries out power control by sending power-down trigger signal to each IC.
3) Microprocessor (U501) communicates with EEPROM (704), and MST9131A (U201) through IIC or 8 bit bus line. It is enable to control and communicate each devices.
4) Microprocessor (U501) let User adjust screen by OSD function.

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.

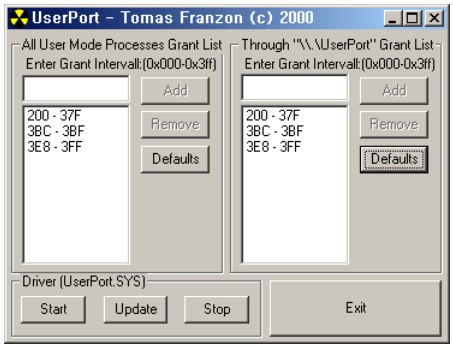
This part function is to collect the any change from the dc output and feed back to the primary through photo transistor.

ADJUSTMENT

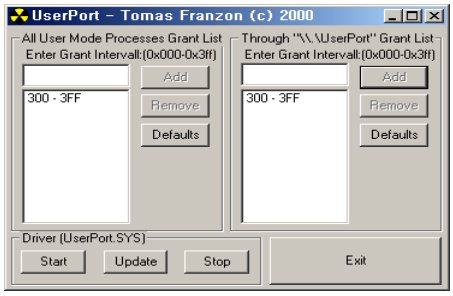
Windows EDID V1.0 User Manual

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

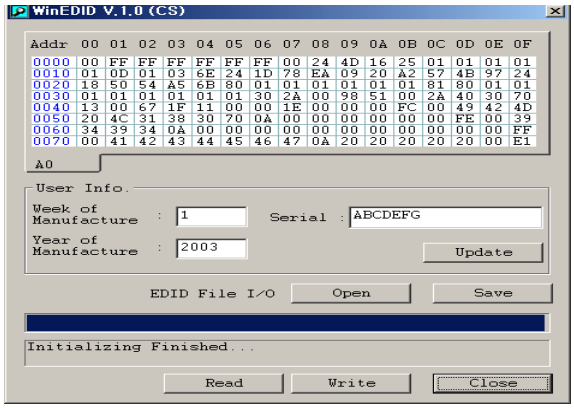


   c) Remove all default number
   d) Add 300-3FF

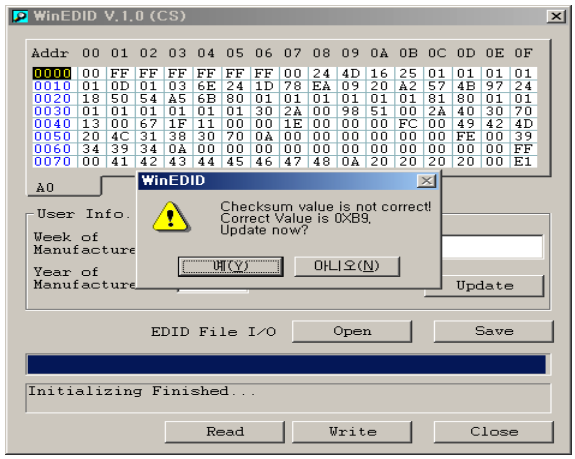


   e) Click Start button.
   f) Click Exit button.

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 button.

2) Press DOWN, POWER key.

3) Shows the service OSD menu. That menu is located in down side of main menu.

4) The service OSD menu contains additional menus as described below.

a) COLOR TEMP : Adjust R/G/B color values of contrast and brightness in 9300K, 6500K, user color mode.

b) INITIAL EEPROM : Initialize the EEPROM values(24C08).

c) CLEAR ETI : Initialize the used time of monitor.

d) AGING : Select aging mode.(On/Off)

e) WHITE BALANCE

AUTO : Allows you to set the R/G/B offset and gain value automatically.

MANUAL : Allows you to set the R/G/B offset and gain value manually.

f) DEFAULT TIMING : Select the resolution timing of the signal. Sub menus are 1152x864(VESA standard timing) and 1152x870(MAC computer timing).

g) MODULE : Select the LCD module attached to this monitor.

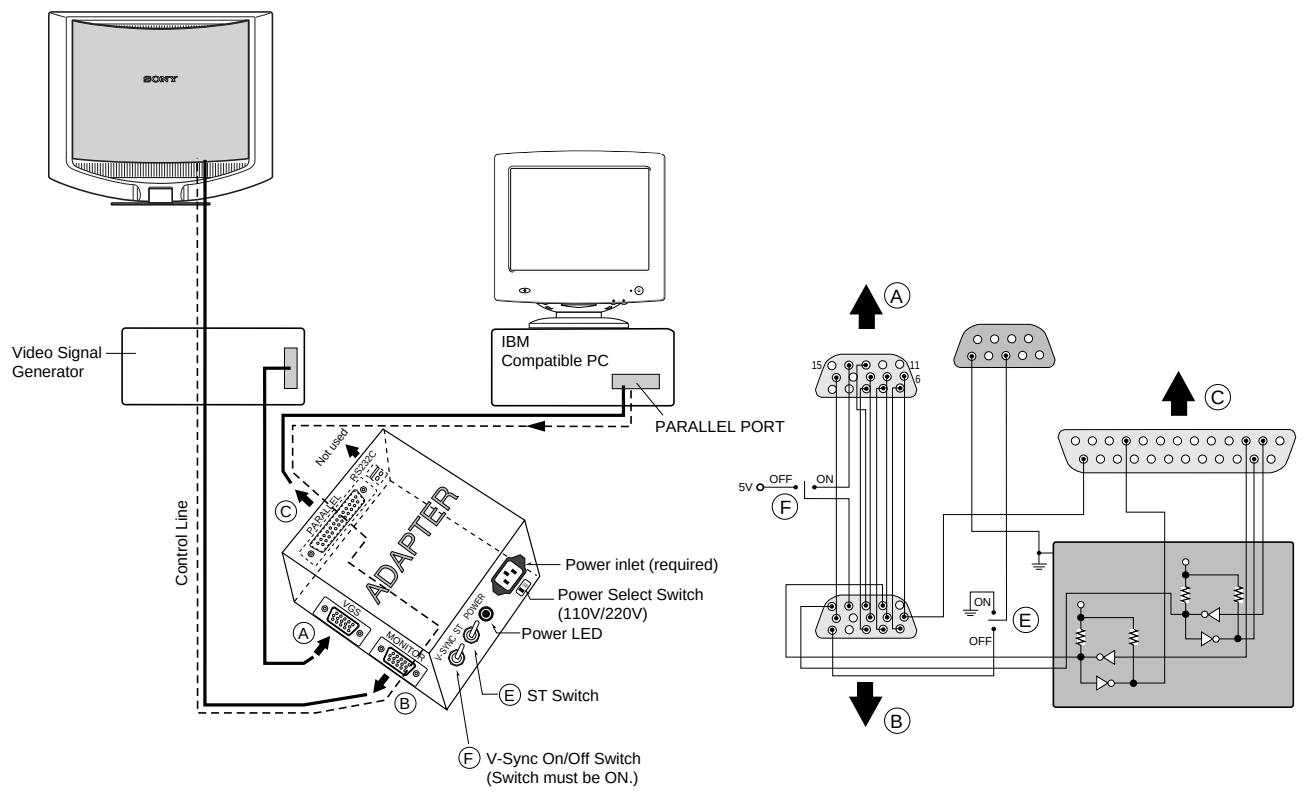
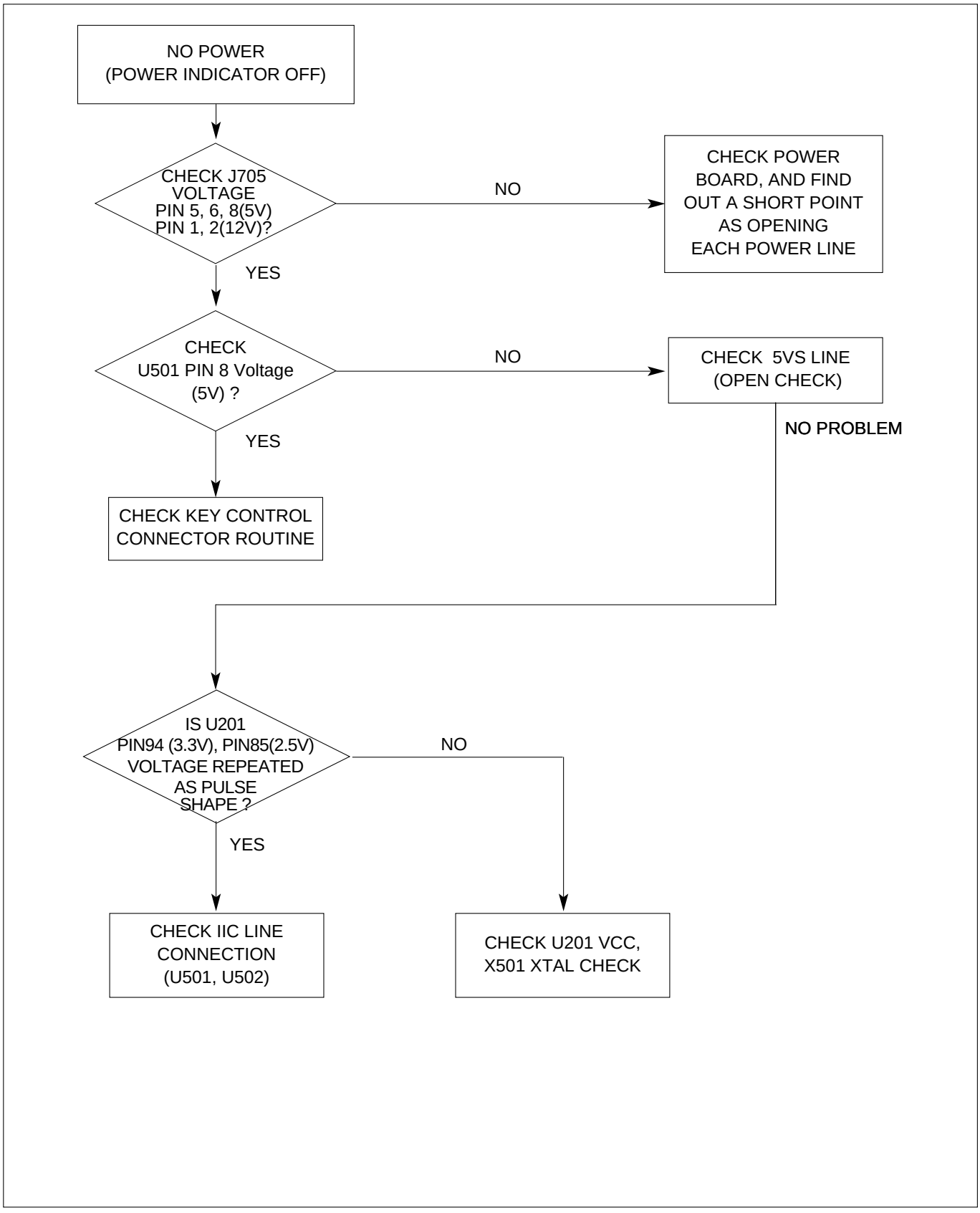


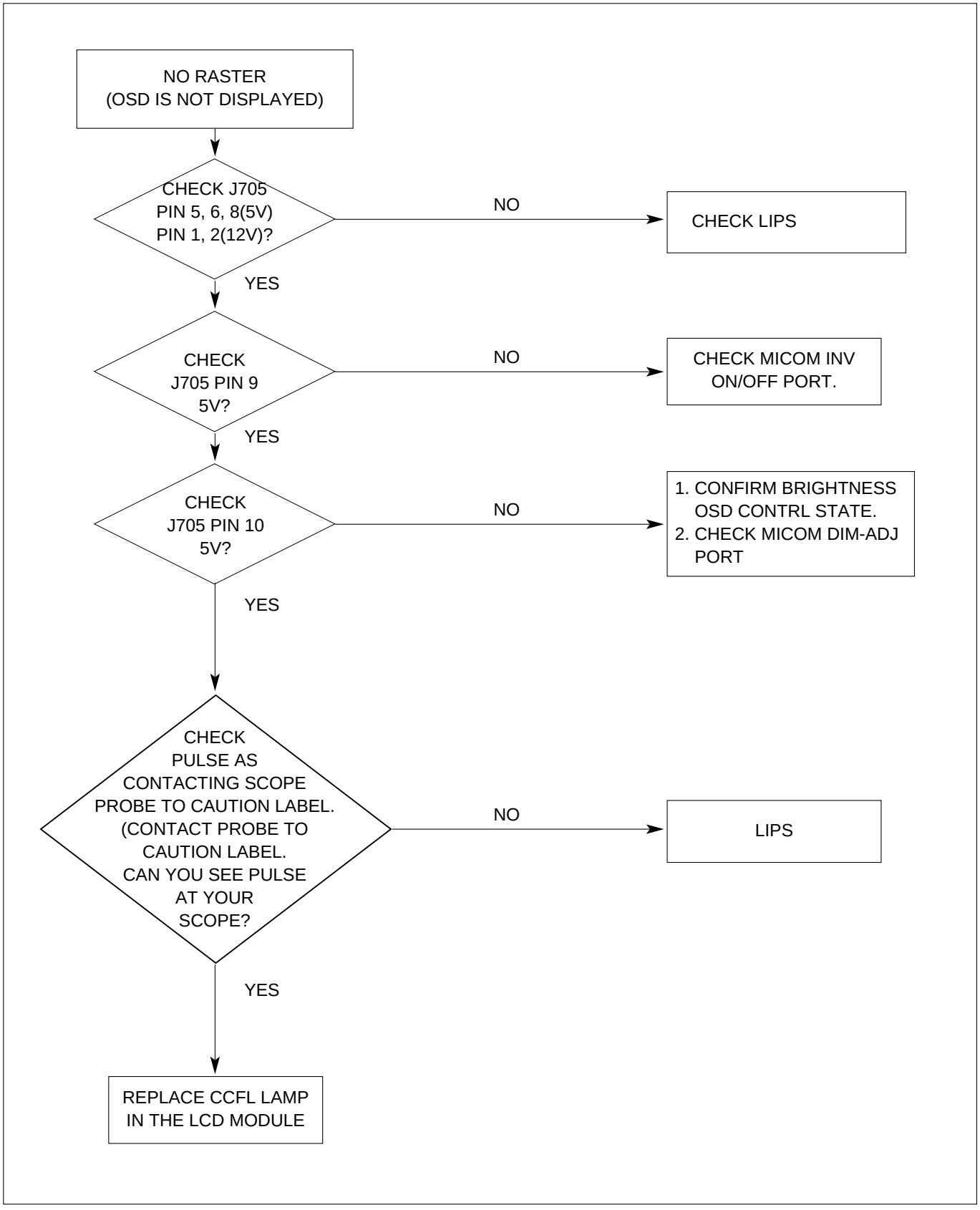
Figure 1. Cable Connection

TROUBLESHOOTING GUIDE

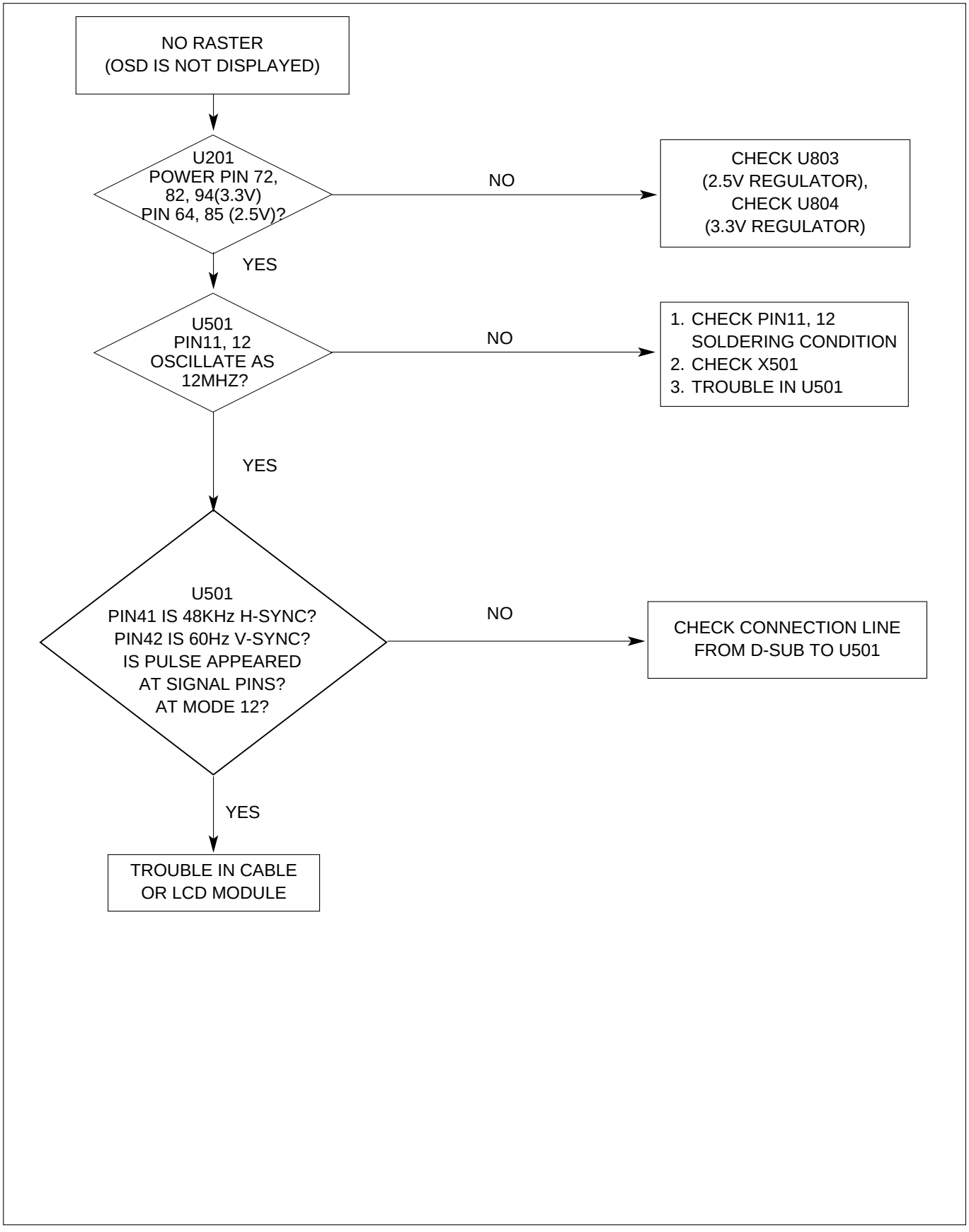
1. NO POWER



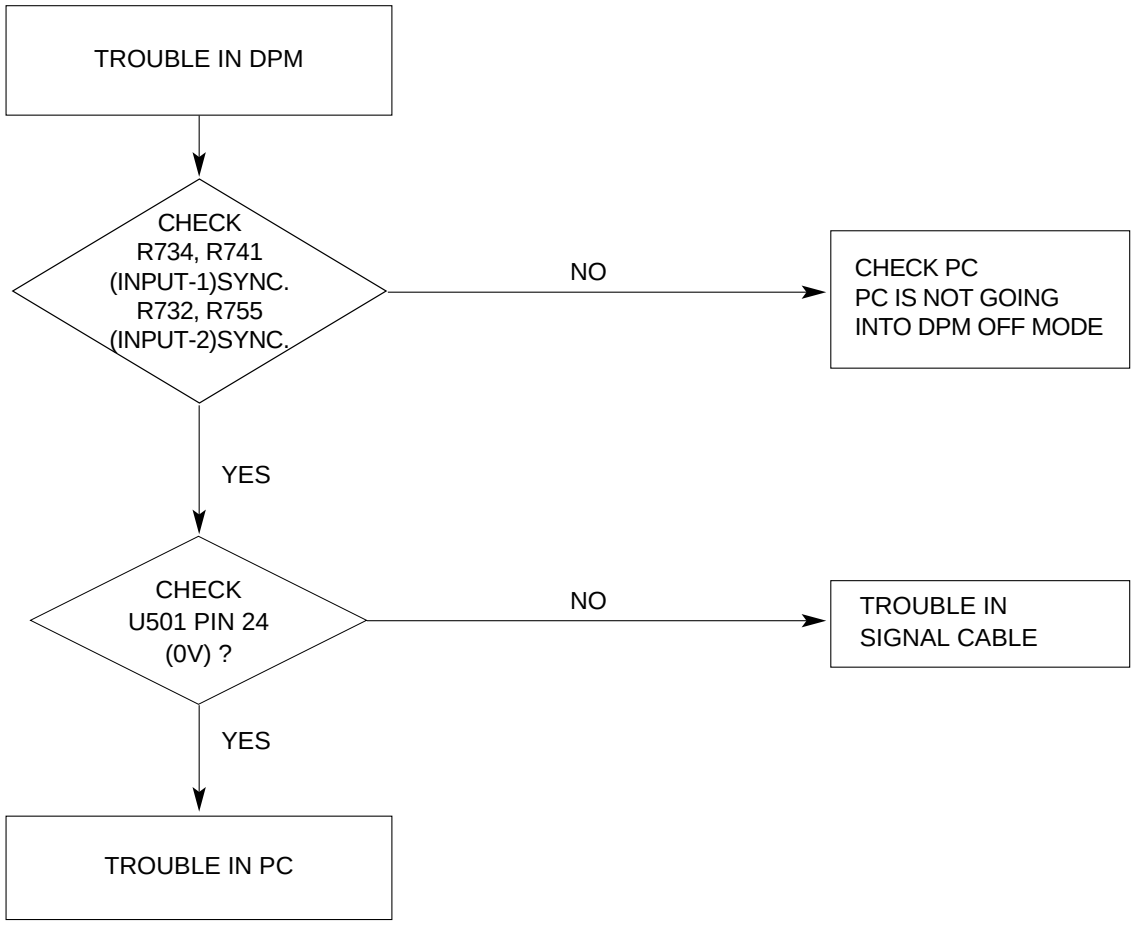
2. NO RASTER


NO RASTER
(OSD IS NOT DISPLAYED)
CHECK J705
PIN 5, 6, 8(5V)
PIN 1, 2(12V)?
NO
CHECK LIPS
YES
CHECK
J705 PIN 9
5V?
NO
CHECK MICOM INV
ON/OFF PORT.
YES
CHECK
J705 PIN 10
5V?
NO
1. CONFIRM BRIGHTNESS
OSD CONTRL STATE.
2. CHECK MICOM DIM-ADJ
PORT
YES
CHECK
PULSE AS
CONTACTING SCOPE
PROBE TO CAUTION LABEL.
(CONTACT PROBE TO
CAUTION LABEL.
CAN YOU SEE PULSE
AT YOUR
SCOPE?
NO
LIPS
YES
REPLACE CCFL LAMP
IN THE LCD MODULE

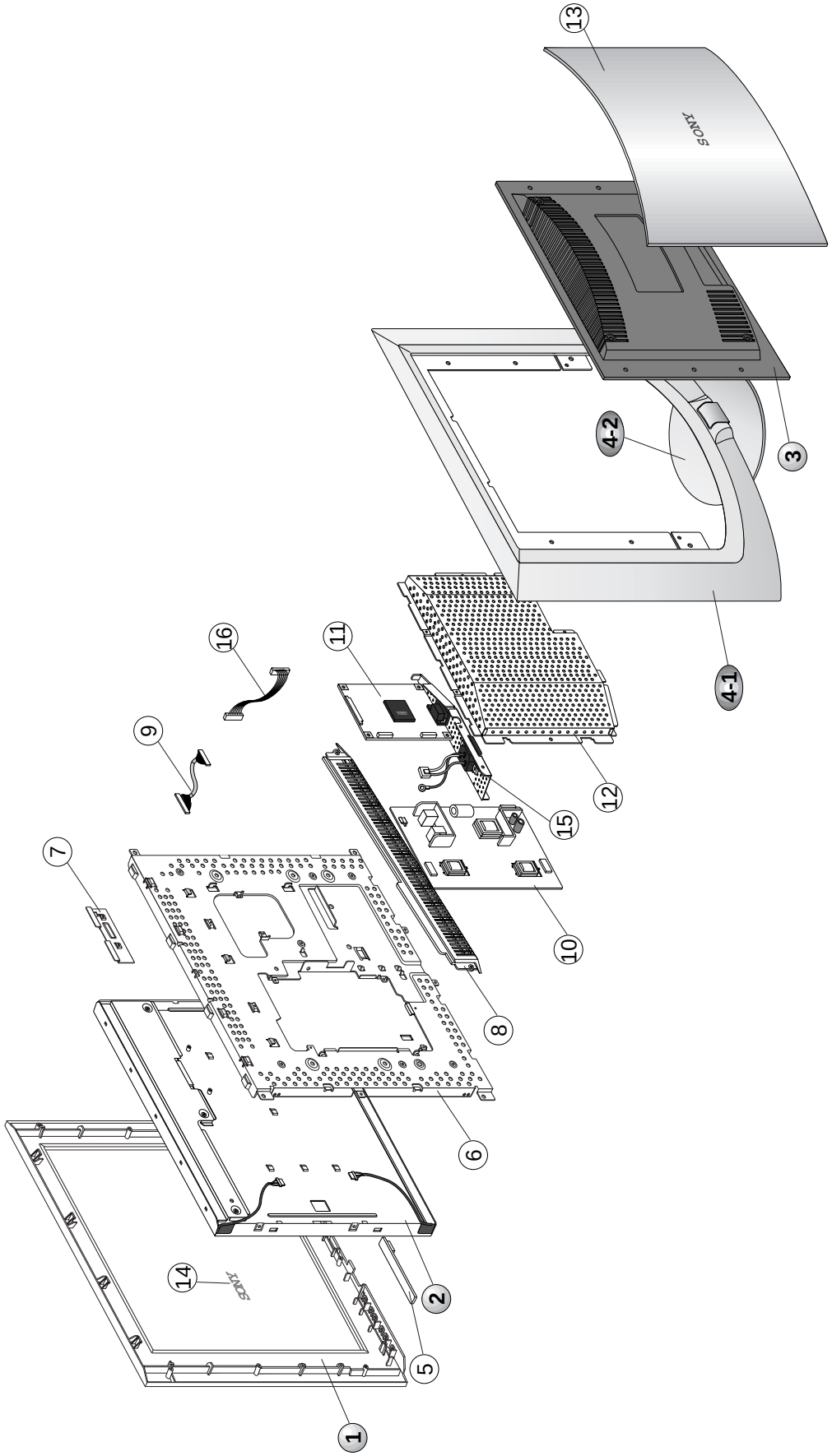
3. NO RASTER (OSD IS NOT DISPLAYED) – MST9131B



4. TROUBLE IN DPM



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

Ref. No.	Part No.	Description
1	3091TKL061K	CABINET ASSEMBLY, HS94 SONY 3090TKL061A ***BLUE - Europe, U.S.A/CANADA-SDM-HS74***
	3091TKL061L	CABINET ASSEMBLY, HS74 SONY 3090TKL061A ***BLACK*** - ***U.S.A/CANADA-SDM-HS74, SDM-HS74P***
	3091TKL061N	CABINET ASSEMBLY, HS74P SONY 3090TKL061A ***BLACK SPRAY - Europe, Japan - SDM-HS74P***
	3091TKL061M	CABINET ASSEMBLY, HS74P SONY 3090TKL061A ***SILVER SPRAY*** - ***Europe, Japan,U.S.A/CANADA-SDM-HS74P***
2	6304FCI005B	LCD(LIQUID CRYSTAL DISPLAY), M170E5-L05 ***CHIMEI TFT COLOR*** 300NITS 16MS TCO-03 TN SXGA ***- Europe-SDM-HS74***
	6304FAU012A	LCD(LIQUID CRYSTAL DISPLAY), M170EN05V5 ***AU TFT COLOR*** SXGA 250NIT GEN5***-Europe, U.S.A/CANADA-SDM-HS74***
	6304FAU010B	LCD(LIQUID CRYSTAL DISPLAY), M170EN06-V2(AR COATING), ***AU TFT COLOR*** LVDS SXGA 16MS - ***SDM-HS74P***
3	3809TKL085C	BACK COVER ASSEMBLY, HS74 3808TKL084A ***BLACK-SDM-HS74P, U.S.A/CANADA-SDM-HS74***
	3809TKL085B	BACK COVER ASSEMBLY, HS74 3808TKL084A DARK ***BLUE -SDM-HS74***
4-1	3043TKK109A	TILT SWIVEL ASSEMBLY, SONY_HS17 . . ***- SDM-HS74***
	3043TKK109C	TILT SWIVEL ASSEMBLY, SONY HS74P . .***- SDM-HS74P***
4-2	3043TKK115B	TILT SWIVEL ASSEMBLY, HS74 3550TKK304C _NT ***- SDM-HS74***
	3043TKK115C	TILT SWIVEL ASSEMBLY, HS74P 3550TKK304C .***- SDM-HS74P***
5	6871TST540B	PWB(PCB) ASSEMBLY,SUB, LHS74/94(P)M CONTROL TOTAL SONY CL-55
6	4951TKS165B	METAL ASSEMBLY, FRAME HS74 ***CMO***_L05 ***- SDM-HS74***
	4951TKS165A	METAL ASSEMBLY, FRAME HS74 ***AUO***_V5 ***- SDM-HS74***
	4951TKS165D	METAL ASSEMBLY, FRAME HS74 ***AUO*** EN06 V2 ***- SDM-HS74P***
7	4950TKK583A	METAL, FIX CONNECTOR ***CMO*** 17 OX73
	4950TKK487A	METAL, FIX CONNECTOR-***AU*** SIDE LS71K
8	3550TKK301B	COVER, LHS73K PIECE BACK DARK ***BLUE - SDM-HS74***
	3550TKK301G	COVER, LHS73K PIECE BACK ***BLACK - SDM-HS74(USA/CANADA), SDM-HS74P***
9	6631T11016W	CONNECTOR ASSEMBLY, 30P-30P H-H 200MM UL20276 AWG30 LOX73L/LOX93L
10	6871TPT285C	PWB(PCB) ASSEMBLY,POWER, HS74 ***CMO***, HS94 LPL/AUO POWER TOTAL POWERNET
	6871TPT285A	PWB(PCB) ASSEMBLY,POWER, HS74 ***AUO*** 2X4PIN POWER TOTAL POWERNET
11	3313TL7047B	MAIN TOTAL ASSEMBLY, LHS74M - AGRDR SONY CL-43 ***- SDM-HS74 , CMO***
	3313TL7047A	MAIN TOTAL ASSEMBLY, LHS74/94PM _ ***AUO*** SONY CL-42 ***- SDM-HS74***
	3313TL7047E	MAIN TOTAL ASSEMBLY, LHS74PM AURDR SONY CL-42 ***- SDM-HS74P, AUO***
12	4815TKK040A	SHIELD ASSEMBLY, REAR HS74
13	3550TKK302L	COVER, HS74 BACK DECO BLUE***- SDM-HS74***
	3550TKK302M	COVER, HS74 BACK DECO BLACK***- U.S.A/CANADA-SDM-HS74***
	- 3550TKK302P	COVER, HS74P BACK DECO BLACK SPRAY ***- Europe, Japan-SDM-HS74P***
	3550TKK302N	COVER, HS74P BACK DECO SILVER SPRAY***- Europe, Japan, U.S.A/CANADA-SDM-HS74P***
	3550TKK302Q	COVER, HS74P BACK DECO BLACK***- U.S.A/CANADA-SDM-HS74P***
14	3846TKK058B	MARK, PIECE BADGE(AL),SONY-HS73-***BK***(3-704-176-51)
	3846TKK062B	MARK, PIECE BADGE SONY NO6.0(AL) 4-095-995-21 ***GREY***
15	6620K00002G	SOCKET(CIRC),POWER, HUAJIE,SA-4S-008-2-AA(180MM),JST,17" SONY AC UNIVERSAL NOPIN BLACK
16	6631T20023L	CONNECTOR ASSEMBLY, 11P-11P H-H 160MM UL1061 AWG26 TWI LOS93L (JST HOUSING)

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

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		MAIN BOARD		
		CAPACITORS		
		C204	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C205	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C206	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		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
		C211	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C213	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C214	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C215	0CH3104K566	0.1UF 50V 10% X7R 2012 R/TP
		C216	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C217	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C218	0CH3104K566	0.1UF 50V 10% X7R 2012 R/TP
		C219	0CH3104K566	0.1UF 50V 10% X7R 2012 R/TP
		C220	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C221	0CH3104K566	0.1UF 50V 10% X7R 2012 R/TP
		C222	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C223	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C224	0CH3104K566	0.1UF 50V 10% X7R 2012 R/TP
		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	0CH3104K566	0.1UF 50V 10% X7R 2012 R/TP
		C231	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C232	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C233	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C240	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C251	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C500	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C501	0CZZTAT006A	RV2-16V100MU-R ELNA 16V 10UF
		C502	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C503	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C504	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		C505	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C506	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C512	0CC180CK41A	18PF 1608 50V 5% R/TP NP0
		C513	0CC100CK41A	10PF 1608 50V 5% R/TP NP0
		C516	0CH3104K566	0.1UF 50V 10% X7R 2012 R/TP
		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(Y5
		C709	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C710	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C711	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C712	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C713	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C714	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		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(Y5

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C733	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C734	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C735	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C737	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C738	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C739	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C740	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C745	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C746	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C747	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C760	0CZZTAT005B	RJ4-16V101MX ELNA 16V 100UF 2
		C761	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C762	0CK105CD56A	1UF 1608 10V 10% R/TP X7R
		C801	0CH3103K516	10000PF 50V 10% B(Y5P) 2012 R
		C802	0CH3104K566	0.1UF 50V 10% X7R 2012 R/TP
		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	0CZZTAT005B	RJ4-16V101MX ELNA 16V 100UF 2
		C818	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C819	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C820	0CZZTAT005B	RJ4-16V101MX ELNA 16V 100UF 2
		C821	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C822	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C823	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C828	0CH3104K566	0.1UF 50V 10% X7R 2012 R/TP
		C829	0CH3103K516	10000PF 50V 10% B(Y5P) 2012 R
		C831	0CZZTAT005B	RJ4-16V101MX ELNA 16V 100UF 2
		C832	0CZZTAT005B	RJ4-16V101MX ELNA 16V 100UF 2
		DIODEs		
		D701	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D702	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D706	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D707	0DS301109AA	MMBD301LT1 TP MOTOROLA SOT23
		D708	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D709	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D710	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D711	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D712	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D713	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D714	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D715	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D719	0DS301109AA	MMBD301LT1 TP MOTOROLA SOT23
		D720	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D721	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D722	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D723	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D724	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D725	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		D726	0DS301109AA	MMBD301LT1 TP MOTOROLA SOT23
		D727	0DS301109AA	MMBD301LT1 TP MOTOROLA SOT23

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		ZD501	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
		ZD502	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
		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
		ZD705	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
		ZD706	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
		ZD709	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
		ZD711	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
		ZD715	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
		ZD716	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
		ZD719	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
		ZD720	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
		ZD721	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
		ZD722	0DZ560009GB	BZT52C5V6S DIODES R/TP SOD323
	ICs			
		U201	0IPRPM3011C	"MST9131B-LF MSTAR 128P,LQFP T"
		U502	0IMMRSS040C	S524A60X51(SCT0) SAMSUNG ELEC
		U702	0IMMRSG036A	"M24C02-WMN6T SGS-THOMSON 8P,S"
		U703	0IMMRSG036A	"M24C02-WMN6T SGS-THOMSON 8P,S"
		U802	0TFVI80023A	VISHAY SI3865DV R/TP TSOP-6 8
		U803	0IPMGFA003E	FAN1086-1.5A FAIRCHILD SOT252
		U804	0IPMGK2001B	AIC1117A-33CYTR(BS33) AIC SOT
	COILs & CORES			
		L801	6210TCE001S	HU-1M2012-121 CERATECH 2012MM
		L802	6210TCE001S	HU-1M2012-121 CERATECH 2012MM
		L803	6210TCE001S	HU-1M2012-121 CERATECH 2012MM
	TRANSISTOR			
		Q502	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
		Q503	0IKE704200H	KIA7042AP TO-92 TP 4.2 VOLT.
		Q504	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
		Q505	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
		Q506	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
		Q701	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
		Q702	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
		Q703	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
		Q704	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
	RESISTORs			
		R201	0RJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R202	0RJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R203	0RJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R207	0RJ3900D677	390 OHM 1/10 W 5% 1608 R/TP
		R208	0RJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R209	0RJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R210	0RJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R220	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R240	0RJ3900D677	390 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
		R503	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R504	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R505	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R507	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R508	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R509	0RH4701D622	4.7K 1/10W 5 D.R/TP
		R510	0RH4701D622	4.7K 1/10W 5 D.R/TP
		R514	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R517	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R518	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R519	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R520	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R521	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R522	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R523	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R524	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R525	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R526	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R527	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	0RH4701D622	4.7K 1/10W 5 D.R/TP
		R541	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R544	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R545	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R551	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R570	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R571	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R572	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R573	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R574	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R575	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R576	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R577	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R582	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R584	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R585	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R586	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R587	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R588	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R589	0RJ1000D677	100 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	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R593	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R594	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R595	0RJ1000D677	100 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
		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	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R709	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R710	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R711	0RJ4701D677	4.7K 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
		R726	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R727	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R728	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP

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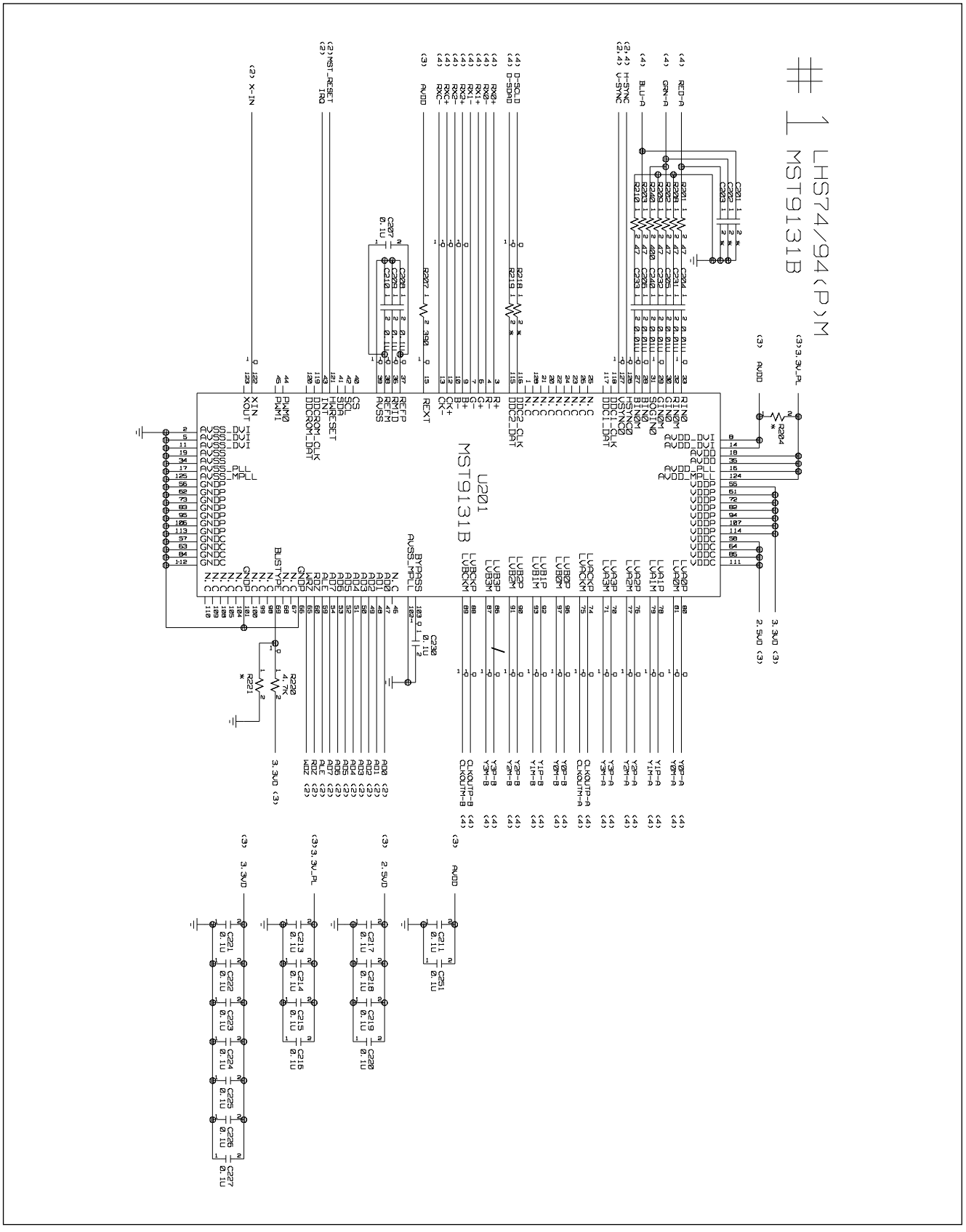
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R729	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R730	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R731	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R733	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R734	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R740	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R741	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R742	0RJ0000D677	"0 OHM 1/10 W 5% 1608 R/TP"***- SDM-HS74, CMO***
		R744	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R745	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R747	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R748	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R749	0RJ1000D677	100 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
		R752	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R763	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R764	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R765	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R766	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R772	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R773	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R774	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R775	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R776	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R777	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R783	0RH0472D622	47 1/10W 5 D.R/TP
		R784	0RH0472D622	47 1/10W 5 D.R/TP
		R785	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R811	0RJ2202D677	22K OHM 1/10 W 5% 1608 R/TP
		R812	0RJ2001D677	2K 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
		R815	0RH0000D622	0 1/10W P-TYPE TAPPING
		R816	0RH0000D622	0 1/10W P-TYPE TAPPING
		R841	0RH0472D622	47 1/10W 5 D.R/TP
		R842	0RH0472D622	47 1/10W 5 D.R/TP
		R843	0RH0472D622	47 1/10W 5 D.R/TP
		R844	0RH0472D622	47 1/10W 5 D.R/TP
		R845	0RH0472D622	47 1/10W 5 D.R/TP
		R847	0RH0472D622	47 1/10W 5 D.R/TP
		R848	0RH0472D622	47 1/10W 5 D.R/TP
		R849	0RH0472D622	47 1/10W 5 D.R/TP
		R850	0RH0472D622	47 1/10W 5 D.R/TP
		R851	0RH0472D622	47 1/10W 5 D.R/TP
		R852	0RH0332D622	33 1/10W 5 D.R/TP
		R853	0RH0332D622	33 1/10W 5 D.R/TP
		R854	0RH0332D622	33 1/10W 5 D.R/TP
		R855	0RH0332D622	33 1/10W 5 D.R/TP
		R856	0RH0332D622	33 1/10W 5 D.R/TP
		R859	0RH0332D622	33 1/10W 5 D.R/TP
		R860	0RH0332D622	33 1/10W 5 D.R/TP
		R861	0RH0332D622	33 1/10W 5 D.R/TP
		R862	0RH0332D622	33 1/10W 5 D.R/TP
		R863	0RH0332D622	33 1/10W 5 D.R/TP
	OTHERs			
		X501	6212AA2004A	HC-49U TXC 12.0MHZ +/- 30 PPM
	CONTROL BOARD			
		LED1	0DLLT0220AA	LITEON LTL-14CDKPI BK GREEN/Y
		R3	0RD1501Q609	1.50K 1/4W(3 5% TA52

DATE: 2004. 06. 02.

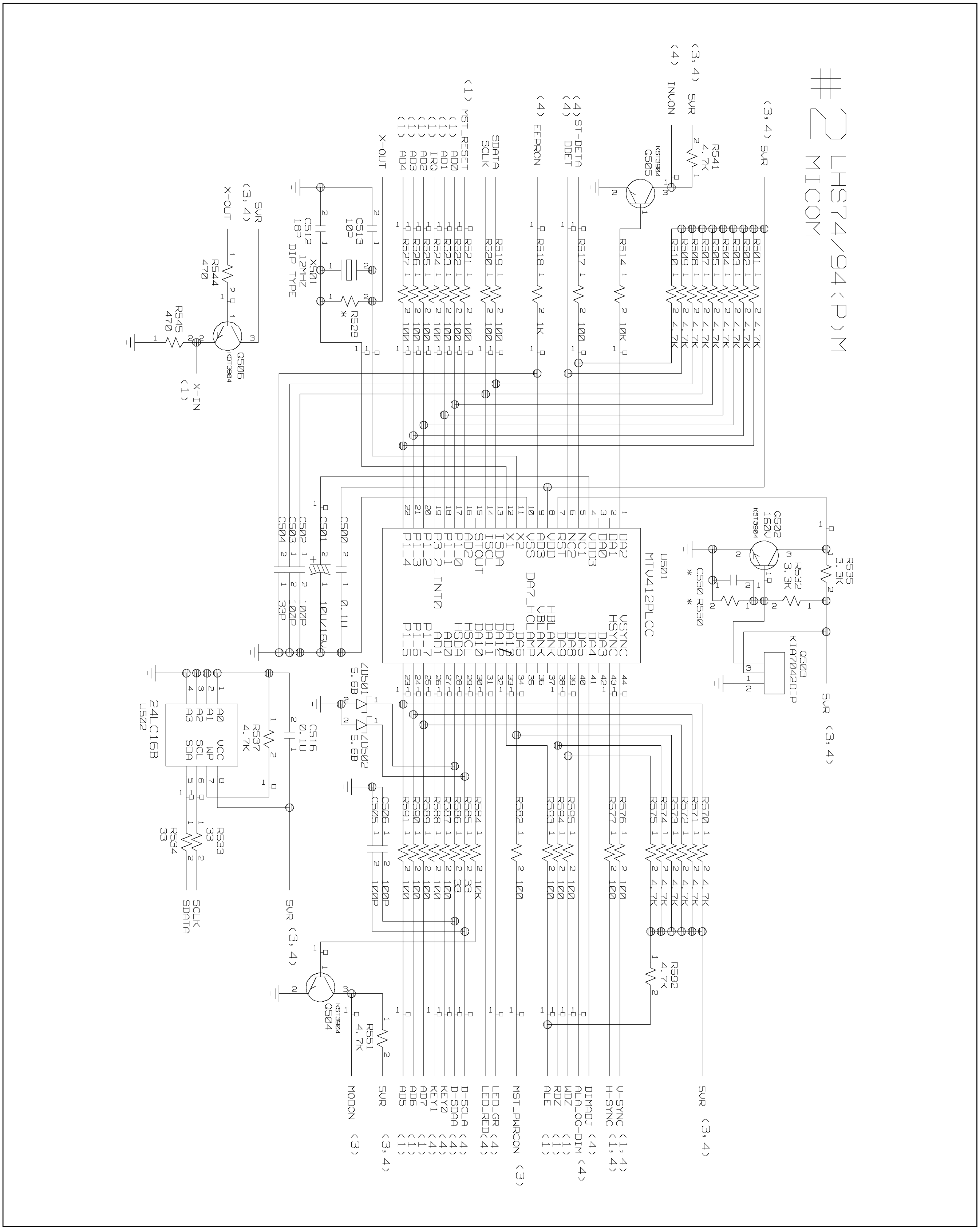
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R4	0RD1501Q609	1.50K 1/4W(3 5% TA52
		R5	0RD3301Q609	3.30K 1/4W(3 5% TA52
		R6	0RD3301Q609	3.30K 1/4W(3 5% TA52
		SW1	140-058E	SKHV10910B LGEC NON 12V 20A H
		SW2	140-058E	SKHV10910B LGEC NON 12V 20A H
		SW3	140-058E	SKHV10910B LGEC NON 12V 20A H
		SW4	140-058E	SKHV10910B LGEC NON 12V 20A H
		SW6	140-058E	SKHV10910B LGEC NON 12V 20A H
		SW7	140-058E	SKHV10910B LGEC NON 12V 20A H
		ZD1	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500M
		ZD2	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500M
		ZD3	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500M
		ZD4	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500M

SCHEMATIC DIAGRAM

1. MST9131B

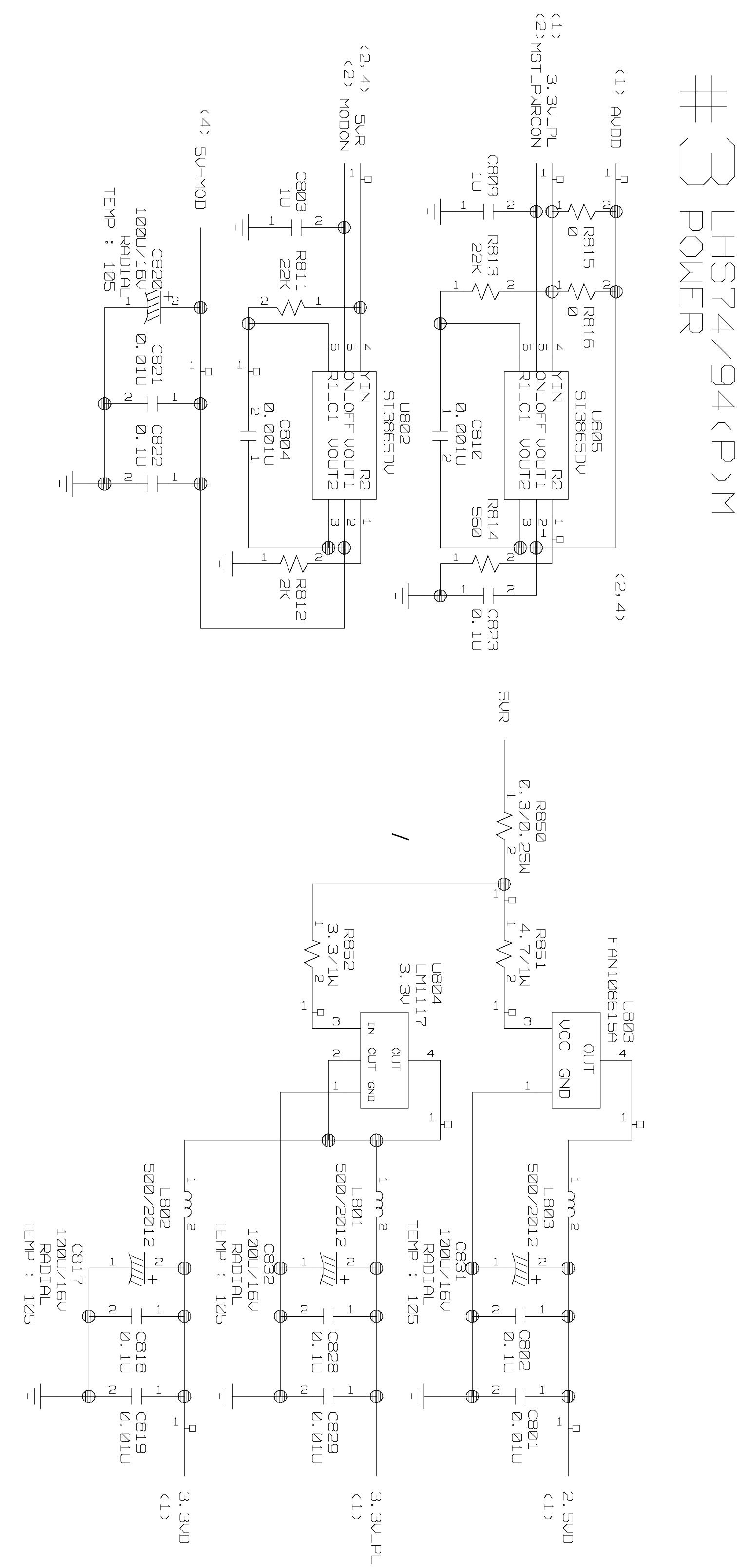


2. MICOM

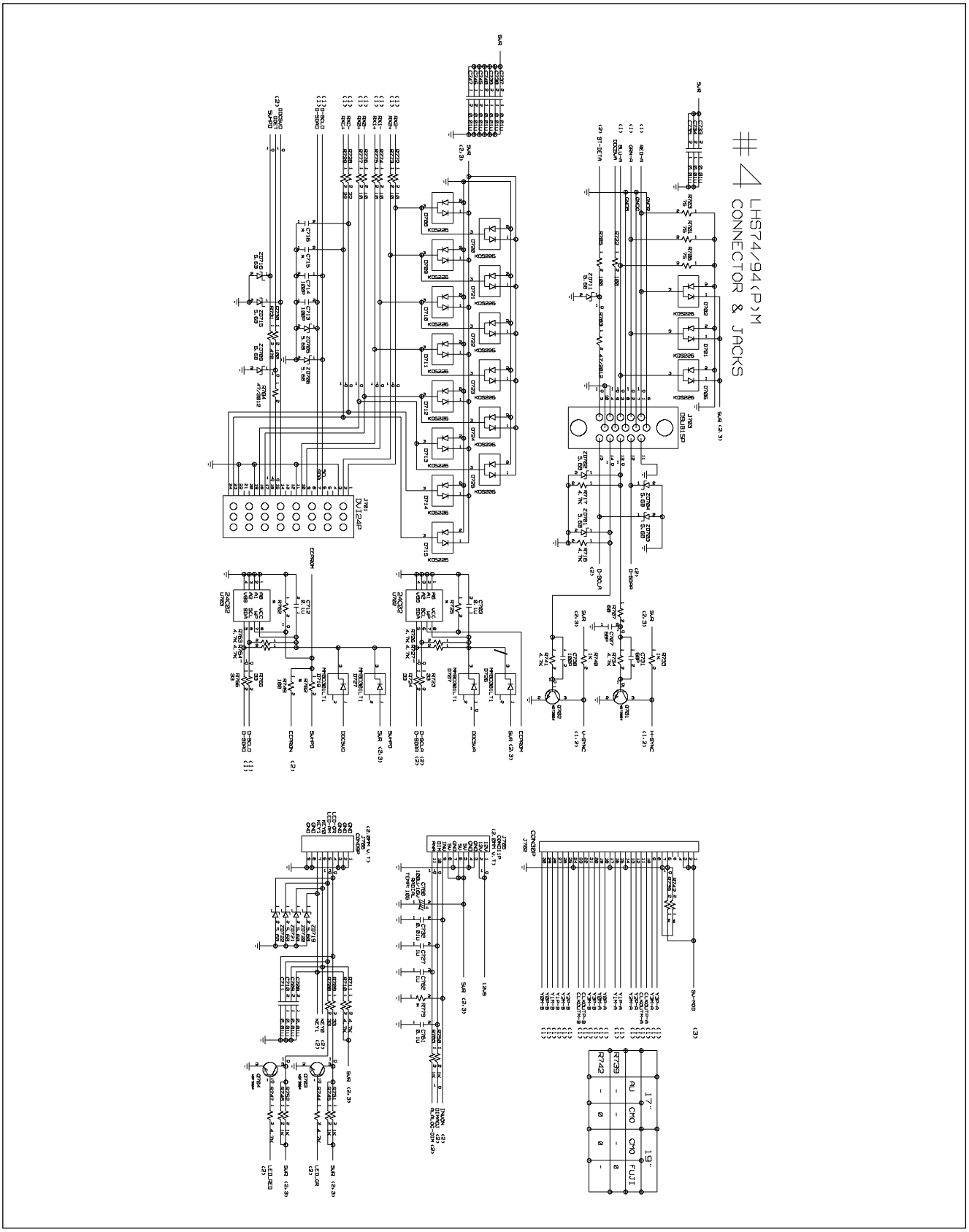


#2 LHS74/94(P)M
MICOM
U501
MTV412PLCC
U502
24LC16B
X501
12MHZ
DIP TYPE
Q503
KIA7042DIP
(3,4) 5VR
(4) INVON
(4) EEPRON
(4) ST-DETA
(4) DDET
SDATA
SCLK
(1) MST_RESET
X-OUT
X-IN (1)
V-SYNC (1,4)
H-SYNC (1,4)
DIMADJ (4)
ALALOG-DIM (4)
WDZ (1)
RDZ (1)
ALE (1)
MST_PWRCON (3)
LED_GR (4)
LED_RED(4)
D-SCLA (4)
D-SDAA (4)
KEY0 (4)
KEY1 (4)
AD7 (1)
AD6 (1)
AD5 (1)
5VR (3,4)
MODON (3)

3. POWER


#3 LHS74/94(P)M
POWER
(1) AVDD
(1) 3.3V_PL
(2)MST_PWRCON
(2,4) 5VR
(2) MODON
(4) 5V-MOD
U805
SI3865DV
U802
SI3865DV
R815
R816
R813
22K
R814
560
R811
22K
R812
2K
C809
1U
C803
1U
C810
0.001U
C804
0.001U
C823
0.1U
C820
100U/16V
RADIAL
TEMP : 105
C821
0.01U
C822
0.1U
(2,4)
5VR
R850
0.3/0.25W
R851
4.7/1W
R852
3.3/1W
U803
FAN1086I5A
U804
LM1117
3.3V
L803
500/2012
L801
500/2012
L802
500/2012
C831
C832
C817
100U/16V
RADIAL
TEMP : 105
C802
0.1U
C828
0.1U
C818
0.1U
C801
0.01U
C829
0.01U
C819
0.01U
2.5VD
(1)
3.3V_PL
(1)
3.3VD
(1)

4. CONNECTOR & JACKS



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