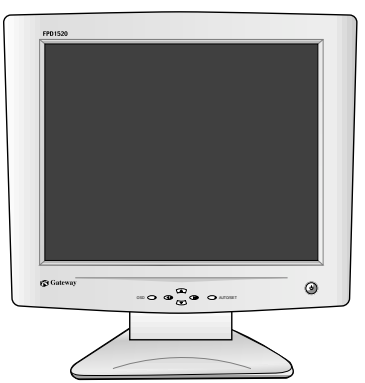
COLOR MONITOR
SERVICE MANUAL

CHASSIS NO. : CL-32
FACTORY MODEL: LG56BP, LG56BQ

MODEL: FPD1520

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



Same looking with New Chassis.

CONTENTS

SPECIFICATIONS(LG Philips Module)

1. LCD CHARACTERISTICS

Type	: TFT Color LCD Module
Size	: 352.0(H) x 263.5(V) x 14.0(T)
Pixel Pitch	: 0.300mm x 0.300mm
Color Depth	: 16,2M colors
Active Video Area	: 15.1inch (307.2mm x 230.4mm diagonal)
Surface Treatment	: Anti-Glare, Hard Coating (3H)
Backlight Unit	: Two-CCFL (Cold Cathode Fluorescent Lamp)

2. OPTICAL CHARACTERISTICS

2-1. Viewing Angle by Contrast Ratio ≥ 10

Left	: 60° min.
Right	: 60° min.
Top	: 45° min.
Bottom	: 45° min.

2-2. Luminance : 200(min.), 250(typ.) at Center point

2-3. Contrast Ratio :200(min.), 300(typ.)

3. SIGNAL (Refer to the Timing Chart)

3-1. Sync Signal

1) Type : Separate Sync. (Horizontal & Vertical)
2) Input Voltage Level : Low=0~0.8V, High=2.1~5.5V
3) Sync Polarity : Positive or Negative

3-2. Video Input Signal

1) Type : R, G, B Analog
2) Voltage Level : 0~0.714 V
a) Color 0, 0 : 0 Vp-p
b) Color 7, 0 : 0.467 Vp-p
c) Color 15, 0 : 0.714 Vp-p
3) Input Impedance : 75 Ω

3-3. Operating Frequency

Horizontal : 31 ~ 61kHz
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 35 W	GREEN
STAND-BY	OFF/ON	OFF	less than 5 W	AMBER
SUSPEND	ON/OFF	OFF	less than 5 W	AMBER
DPM OFF	OFF/OFF	OFF	less than 5 W	AMBER
POWER OFF	-	-	less than 5 W	OFF

5. ENVIRONMENT

5-1. Operating Temperature: 10°C~35°C (50°F~95°F) (Ambient)
5-2. Relative Humidity : 10%~80% (Non-condensing)
5-3. MTBF : 50,000 Hours (Min.)
Lamp Life : 40,000 Hours (min.)

6. DIMENSIONS (with TILT/SWIVEL)

Width	: 389mm (15.3")
Depth	: 205mm (8.1")
Height	: 392mm (15.4")

7. WEIGHT (with TILT/SWIVEL)

Net. Weight	: 4.8kg (10.80 lbs)
Gross Weight	: 6.3kg (13.88 lbs)

SPECIFICATIONS(HYUNDAI Hydis Module)

1. LCD CHARACTERISTICS

Type	: TFT Color LCD Module
Size	: 331.6(H) x 254.7(V) x 12.7(T)
Pixel Pitch	: 0.297mm x 0.297mm
Color Depth	: 8-bit color, 16,194,277 colors
Active Video Area	: 15.0inch (304.1mm x 228.1mm diagonal)
Surface Treatment	: Anti-Glare, Hard Coating (3H)
Backlight Unit	: 4-CCFL (Cold Cathode Fluorescent Lamp)

2. OPTICAL CHARACTERISTICS

2-1. Viewing Angle by Contrast Ratio ≥ 10

Left	: 60° min.
Right	: 60° min.
Top	: 35° min.
Bottom	: 50° min.

2-2. Luminance : 200(min.), 250(typ.) at Center point

2-3. Contrast Ratio : 250(min.),300(typ.)

3. SIGNAL (Refer to the Timing Chart)

3-1. Sync Signal

1) Type : Separate Sync. (Horizontal & Vertical)
2) Input Voltage Level : Low=0~0.8V, High=2.1~5.5V
3) Sync Polarity : Positive or Negative

3-2. Video Input Signal

1) Type : R, G, B Analog
2) Voltage Level : 0~0.714 V
a) Color 0, 0 : 0 Vp-p
b) Color 7, 0 : 0.467 Vp-p
c) Color 15, 0 : 0.714 Vp-p
3) Input Impedance : 75 Ω

3-3. Operating Frequency

Horizontal	: 31 ~ 61kHz
Vertical	: 56 ~ 75Hz

4. POWER SUPPLY

4-1. Power Adaptor
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 35 W	GREEN
STAND-BY	OFF/ON	OFF	less than 5 W	AMBER
SUSPEND	ON/OFF	OFF	less than 5 W	AMBER
DPM OFF	OFF/OFF	OFF	less than 5 W	AMBER
POWER OFF	-	-	less than 5 W	OFF

5. ENVIRONMENT

5-1. Operating Temperature: 10°C~35°C (50°F~95°F) (Ambient)
5-2. Relative Humidity : 10%~80% (Non-condensing)
5-3. MTBF : 50,000 Hours (Min.)
Lamp Life : 40,000 Hours (min.)

6. DIMENSIONS (with TILT/SWIVEL)

Width	: 389mm (15.3")
Depth	: 205mm (8.1")
Height	: 392mm (15.4")

7. WEIGHT (with TILT/SWIVEL)

Net. Weight	: 4.9kg (10.80 lbs)
Gross Weight	: 6.4kg (14.11 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.

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

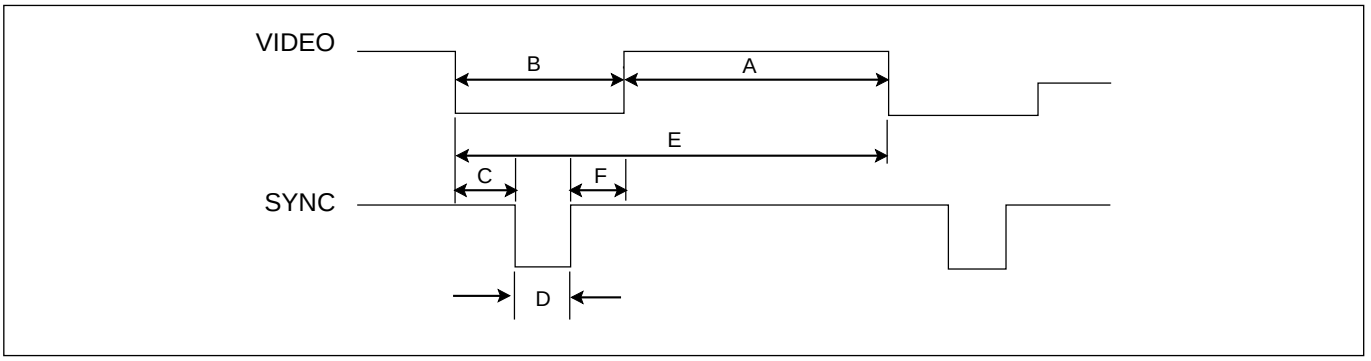
Please use only a plastic screwdriver to protect yourself from shock hazard during service operation.

⚠ 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.

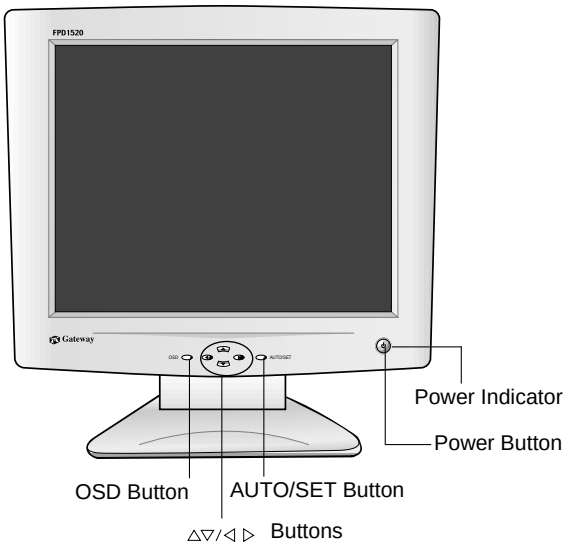
TIMING CHART



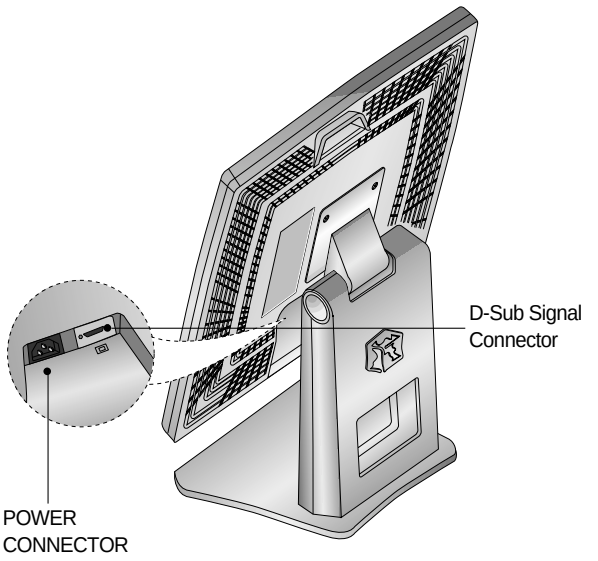
MODE	H / V	Sync Polarity	Dot Clock	Frequency	Total Period (E)	Video Active Time (A)	Blanking Time (B)	Sync Duration (D)	Back Porch (F)	Front Porch (C)	Resolution
1	H (Pixels)	+	25.175	31.468 KHz	800	640	160	96	48	16	640 x 350
	V (Lines)	–		70.0 Hz	449	350	99	2	60	37	
2	H (Pixels)	–	28.322	31.468 KHz	900	720	180	108	55	17	720 x 400 (TEXT)
	V (Lines)	+		70.0 Hz	449	400	49	2	34	13	
3	H (Pixels)	–	25.175	31.469 KHz	800	640	160	96	48	16	640 x 480
	V (Lines)	–		60.0 Hz	525	480	45	2	33	10	
4	H (Pixels)	–	30.24	35.0 KHz	864	640	224	64	96	64	640 x 480
	V (Lines)	–		66.67 Hz	525	480	45	3	39	3	
5	H (Pixels)	–	31.5	37.861 KHz	832	640	192	40	128	24	640 x 480
	V (Lines)	–		72.8 Hz	520	480	40	3	28	9	
6	H (Pixels)	–	31.5	37.50 KHz	840	640	200	64	120	16	640 x 480
	V (Lines)	–		75 Hz	500	480	20	3	16	1	
7	H (Pixels)	+	36.0	35.156KHz	1024	800	224	72	128	24	800 x 600
	V (Lines)	+		56.25 Hz	625	600	25	2	22	1	
8	H (Pixels)	+	40.0	37.879 KHz	1056	800	256	128	88	40	800 x 600
	V (Lines)	+		60.3 Hz	628	600	28	4	23	1	
9	H (Pixels)	+	50.0	48.077 KHz	1040	800	240	120	64	56	800 x 600
	V (Lines)	+		72.188 Hz	666	600	66	6	23	37	
10	H (Pixels)	+	49.5	46.875 KHz	1056	800	256	80	160	16	800 x 600
	V (Lines)	+		75.0 Hz	625	600	25	3	21	1	
11	H (Pixels)	–	57.2832	49.725 KHz	1152	832	320	64	224	32	832 x 624 (MAC)
	V (Lines)	–		74.55 Hz	667	624	43	3	39	1	
12	H (Pixels)	–	65	48.363 KHz	1344	1024	320	136	160	24	1024 x 768
	V (Lines)	–		60.0 Hz	806	768	38	6	29	3	
13	H (Pixels)	–	75	56.476 KHz	1328	1024	304	136	144	24	1024 x 768
	V (Lines)	–		70.0 Hz	806	768	38	6	29	3	
14	H (Pixels)	+	78.75	60.023 KHz	1312	1024	288	96	176	16	1024 x 768
	V (Lines)	+		75.0 Hz	800	768	32	3	28	1	

OPERATING INSTRUCTIONS

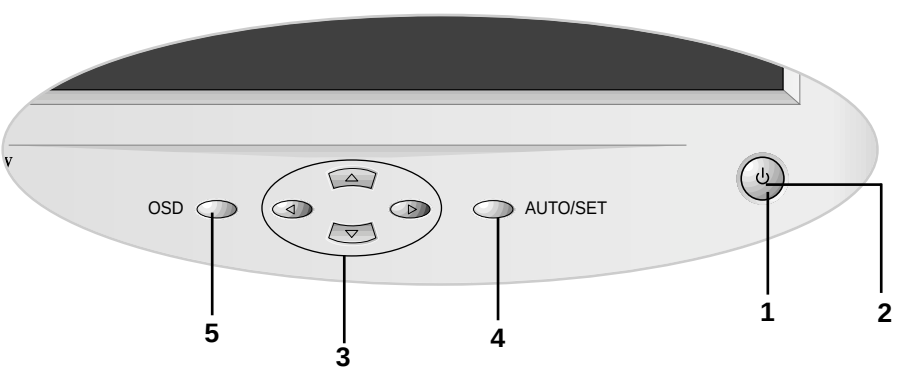
FRONT VIEW



REAR VIEW



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; in DPMS (Energy Saving) mode, - stand-by, suspend, or power off mode - its color changes to amber.

3. △▽/◁ ▷ Button

Use these buttons to choose or adjust items in the on screen display.

4. AUTO/SET Button

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

PROCESSING
AUTO CONFIGURATION

*** AUTO adjustment function**

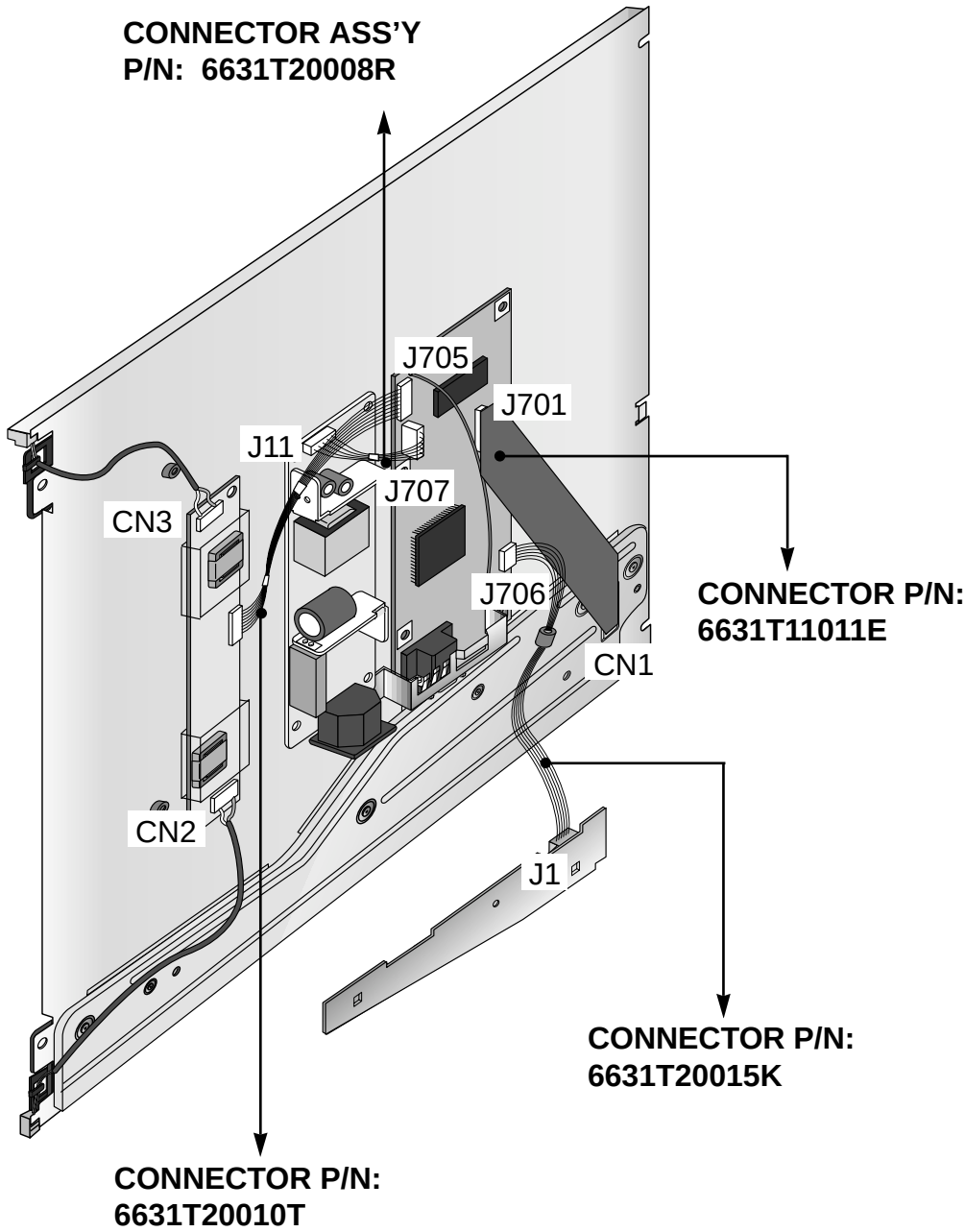
Touch the **AUTO/SET** button before using OSD menu. This button is for the automatic adjustment of the screen position, clock and phase.

Note: Some signal from some graphics boards may not function properly. I**f the results are unsatisfactory**, adjust your monitor's Position, Clock and Phase manually.

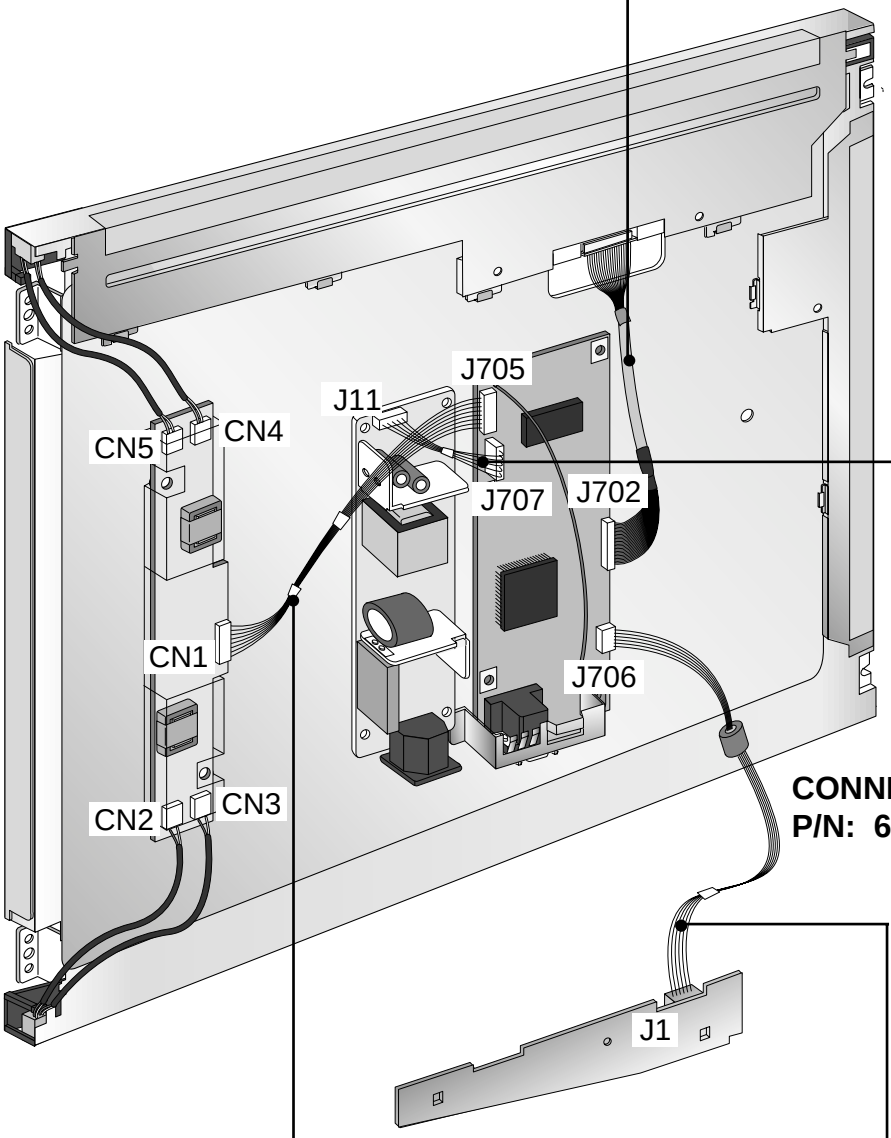
5. OSD Button

Use this button to enter or exit the on screen display.

WIRING DIAGRAM (LG Philips Module)

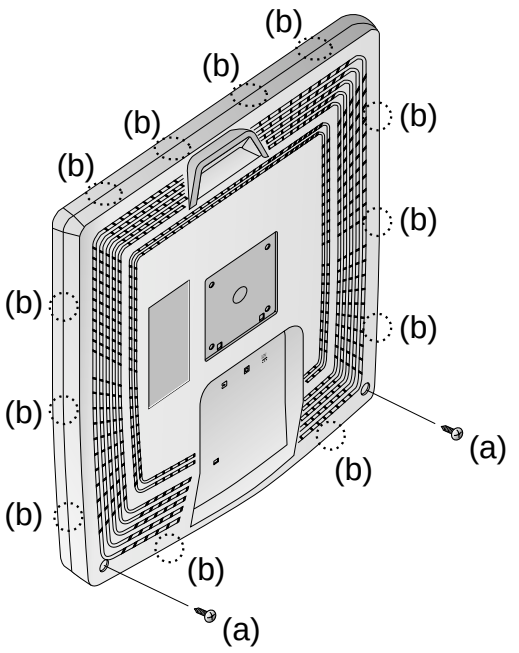


WIRING DIAGRAM (HYUNDAI Hydis Module)



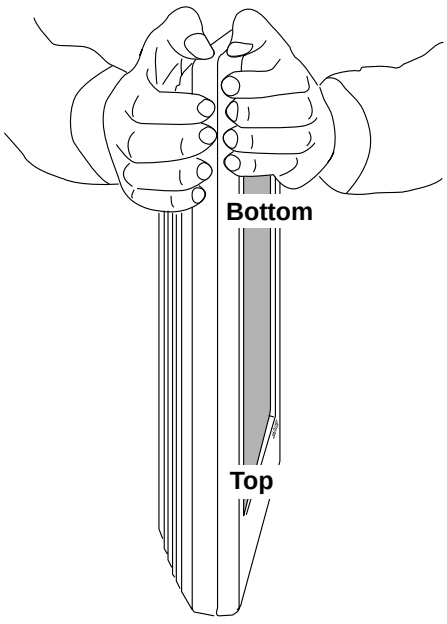
DISASSEMBLY

BACK COVER REMOVAL

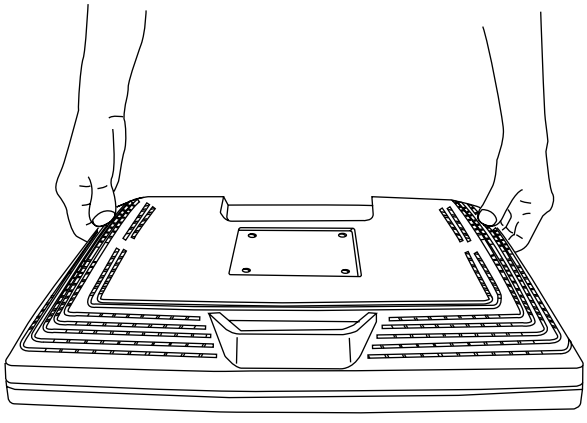


(b) Latch Point

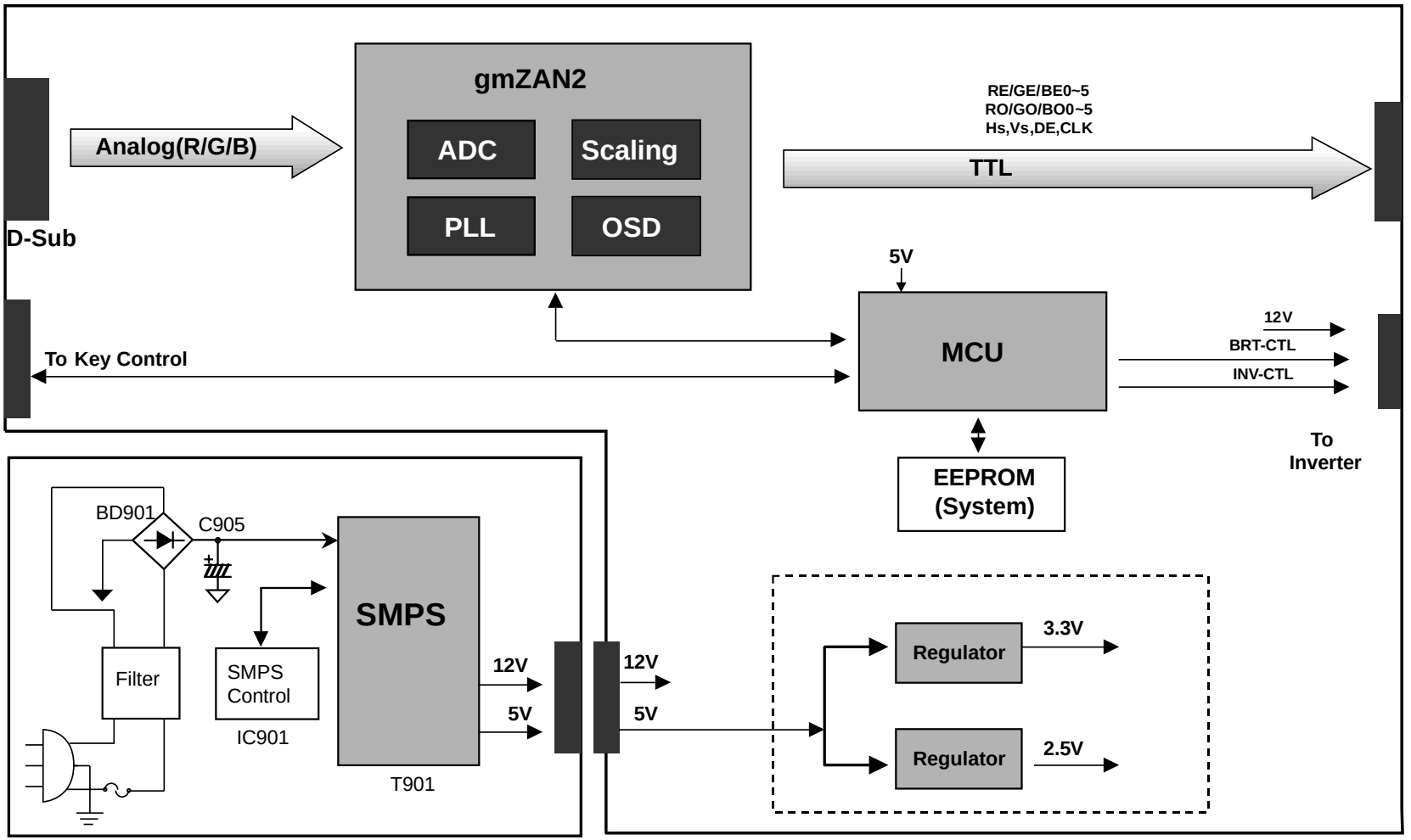
1) Remove two screws (a) from Back cover.



2) Set the Monitor as picture.
3) Release the bottom & side latch.

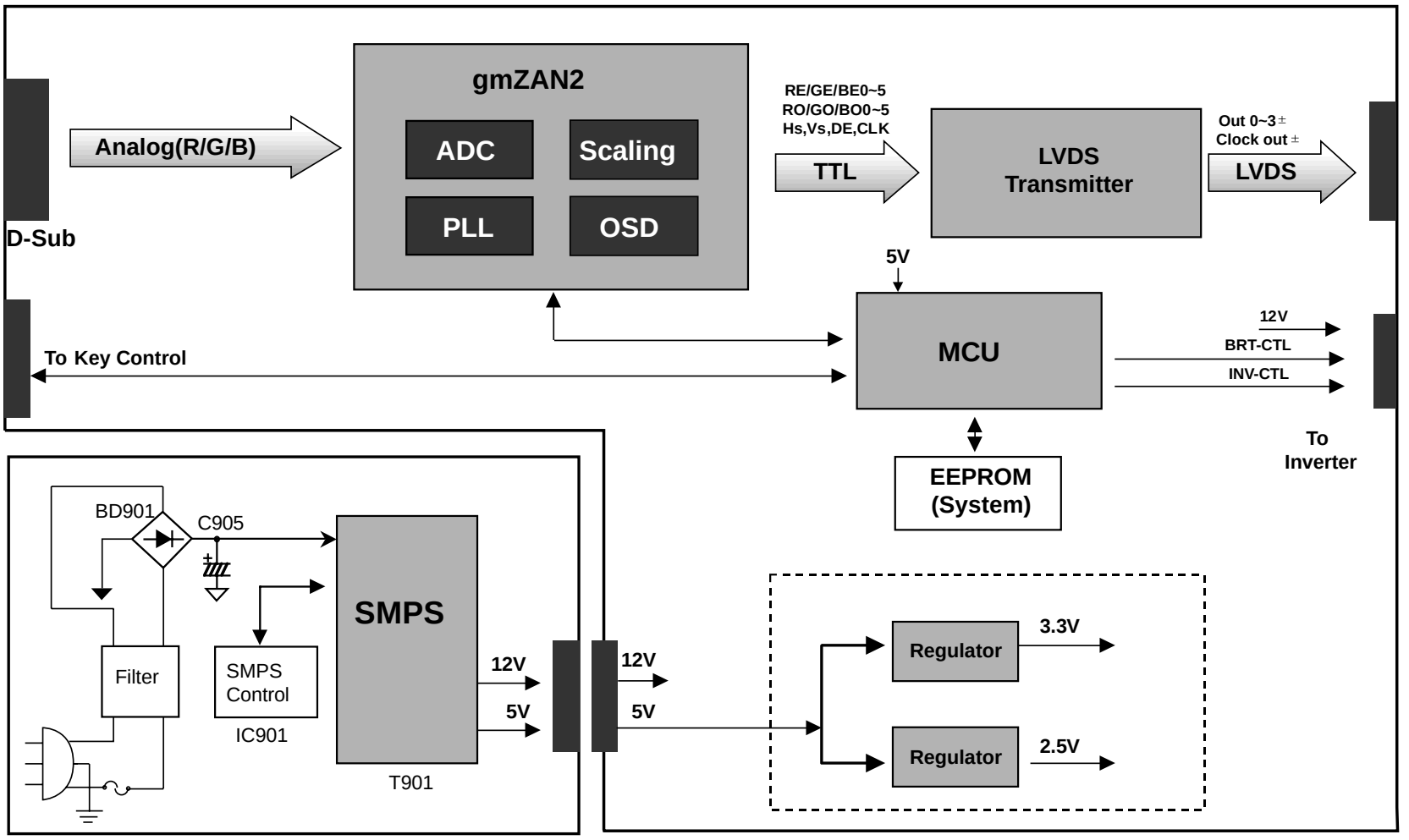


4) Set the Monitor face downward.
5) Remove the Back cover.



BLOCK DIAGRAM(LG Philips Module)

BLOCK DIAGRAM(Hyundai Hydis Module)



DESCRIPTION OF BLOCK DIAGRAM

1. Input signal switching part.

There is one input which is analog.
It comes from 15 pin D-Sub connector.

2. Pre-amp/ ADC / PLL / Video Controller.

This part amplifies the level of video signal 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 78.75MHz.
The Scaler gets the video signal converted analog to digital, interpolates input to1024 X 768 resolution signal and outputs 8-bit R, G, B signal to LCD module.
Especially pre-amp / ADC / Video controller are merged to one chip 'gmZAN2'by Genesis.

3. Power Part.

This circuit is working of 90~260VAC(50/60Hz). The operation procedure isas follows:
1) AC Input voltage is rectified and smoothed by the bridge diodes(BD901) and the capacitor(C905).
2) The Rectified voltage(DC) is applied to the primary coil of the transformer(T901)
3) The control IC(IC901) generates switching pulse to turn on and turn off the primary coil of the transformer(T901)
4) Depending on turn ratio of the transformer, the secondary voltages appear at the secondary coils of the transformer(T901)
5) These secondary voltages(12V,5V) are rectified by each diodes(D903,D906) and operates other circuit.(Inverter,Scaler...etc)

4. 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.

5. 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.
- Alignment Adapter and Software.

1. Adjustment for Factory Preset Mode

1) Run alignment program for FPD1520 on the IBM compatible PC.
2) Select EEPROM All Init. command and Enter.
3) Display cross hatch pattern at Mode 1.
4) Select COMMAND PRESET START command.
5) Select EDID WRITE command and Enter.

2. Adjustment for White Balance

1) Display color 0,0 pattern at Mode 13.
2) Set External Bright to MAX position and Contrast to MAX Position.
3) Select PRESET START → BIAS CAL command and Enter.
4) No attempt to manually adjust, BIAS data is automatically adjusted and saved to the EEPROM.
5) Display color 15,0 pattern at Mode 13.
6) Select DRIVE CAL command and Enter.
7) Color 1 (9300K) and Color 2 (6500K) are automatically adjusted and saved to the EEPROM.
8) Select PRESET EXIT command and Enter.

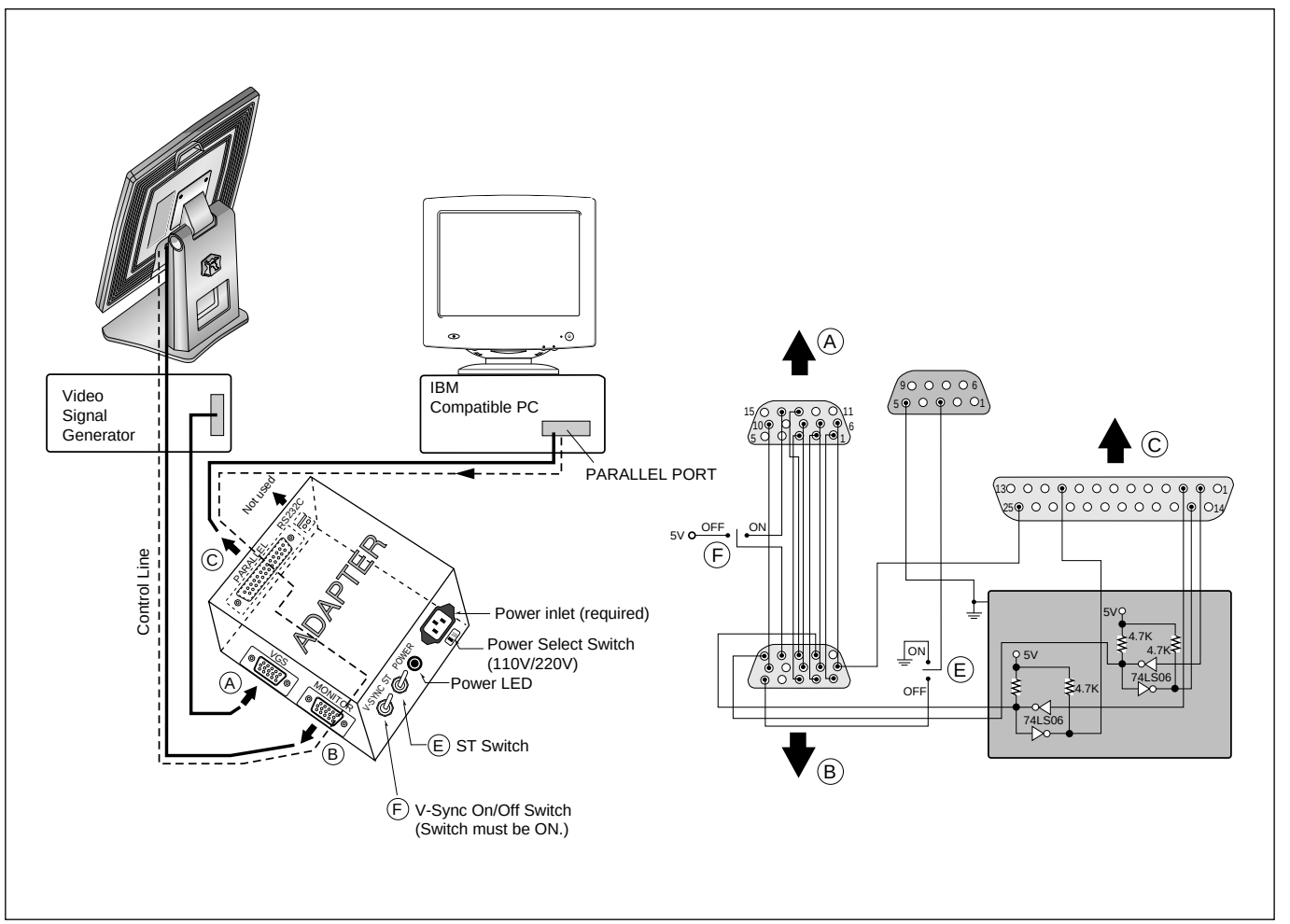
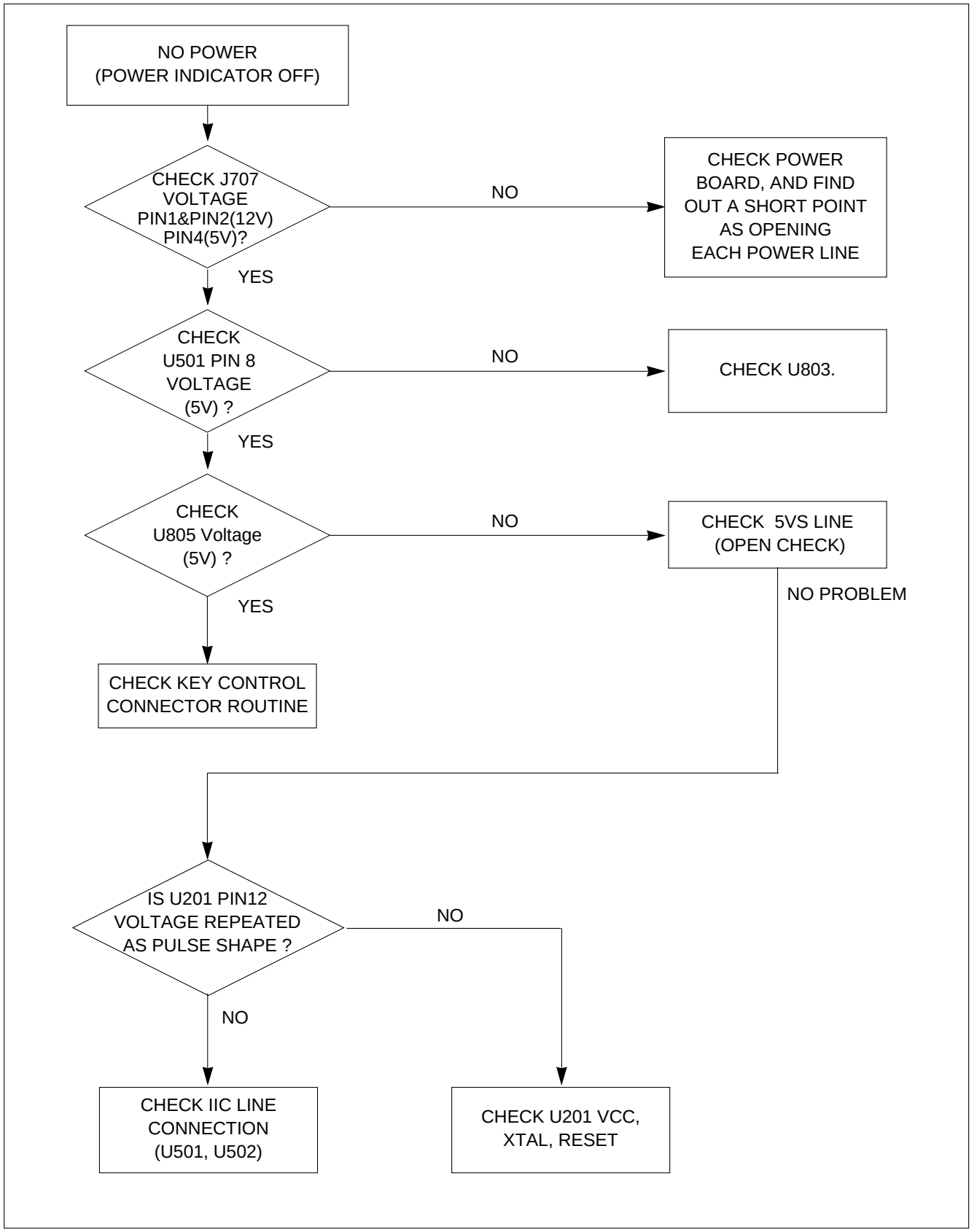


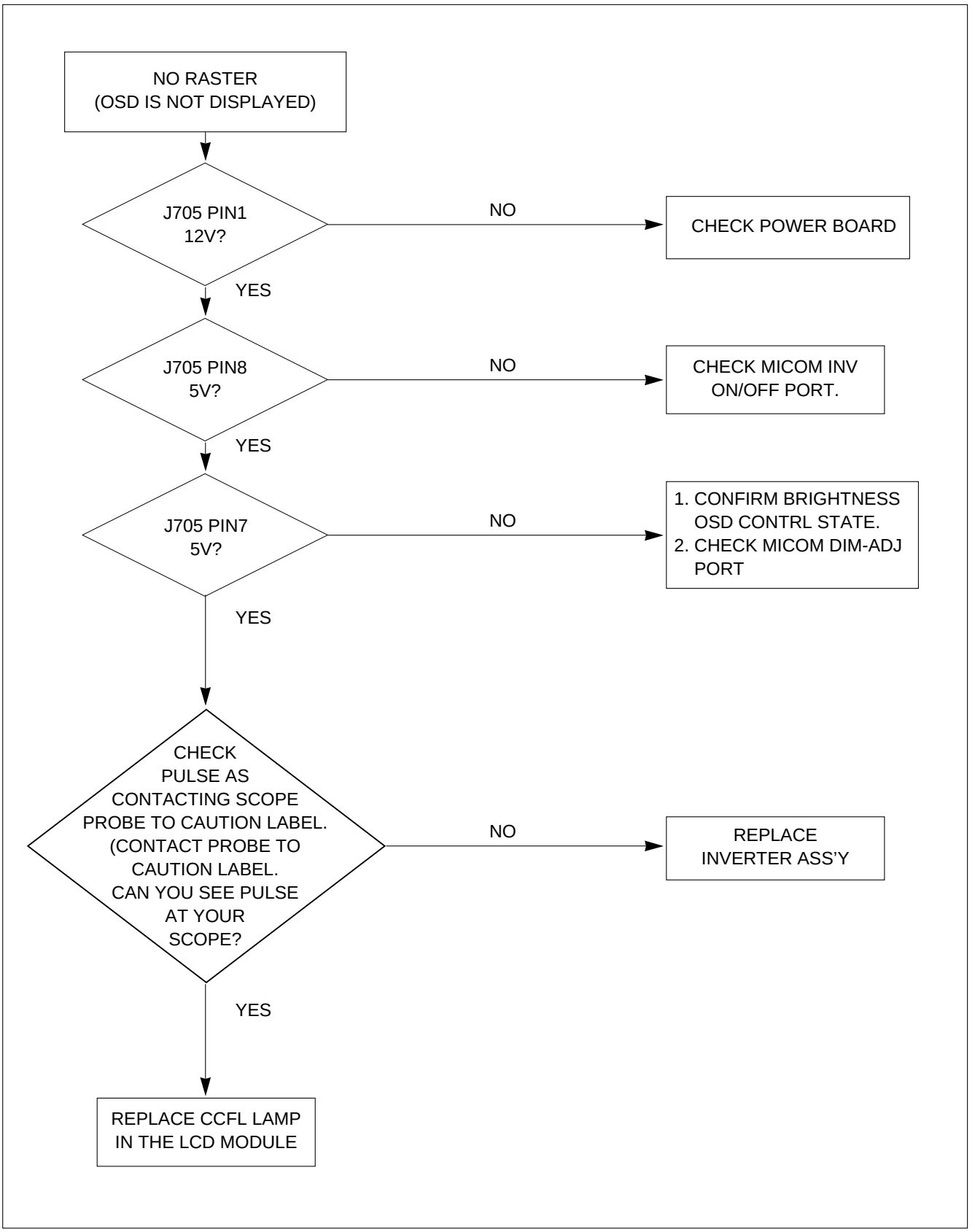
Figure 1. Cable Connection

TROUBLESHOOTING GUIDE

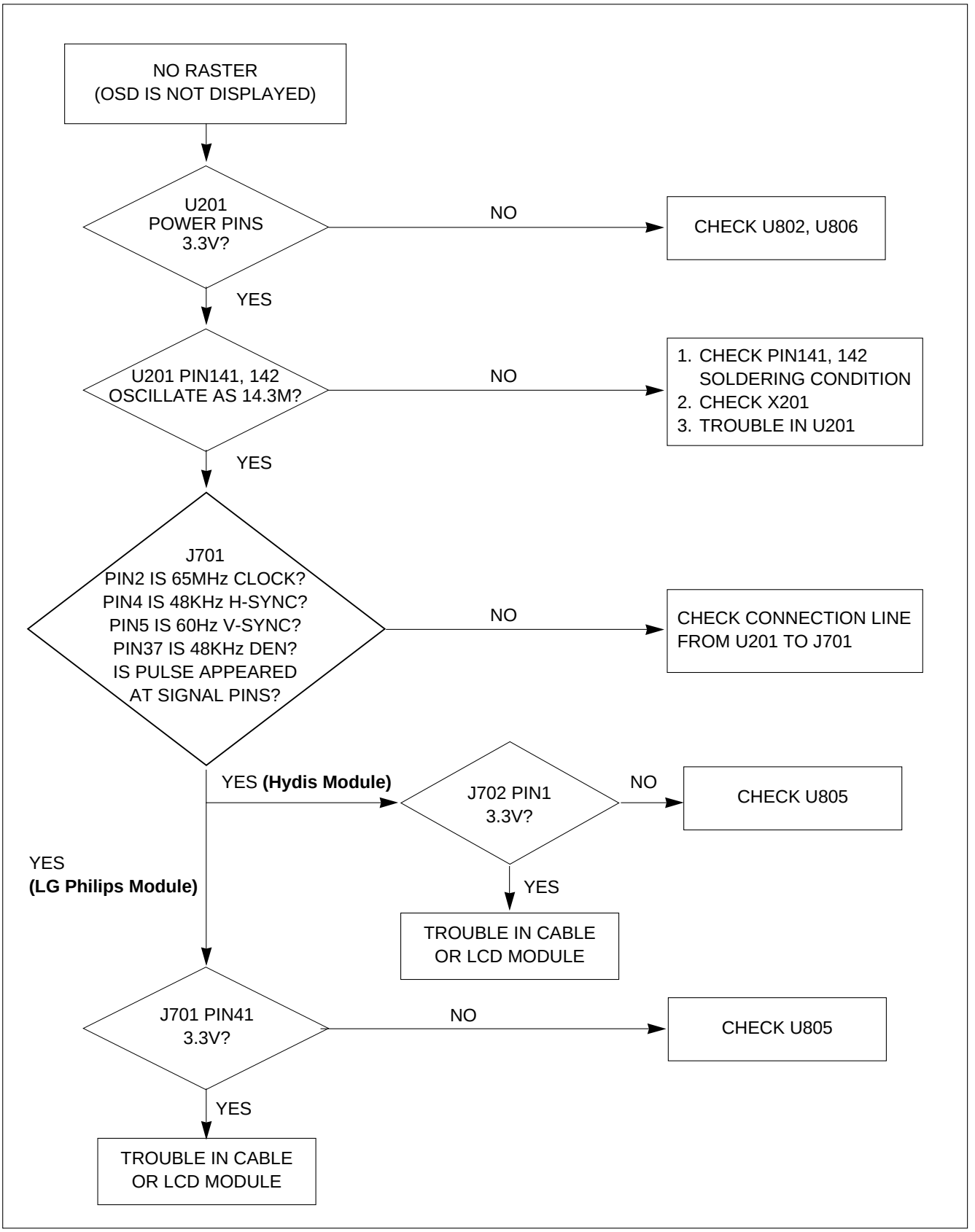
1. NO POWER



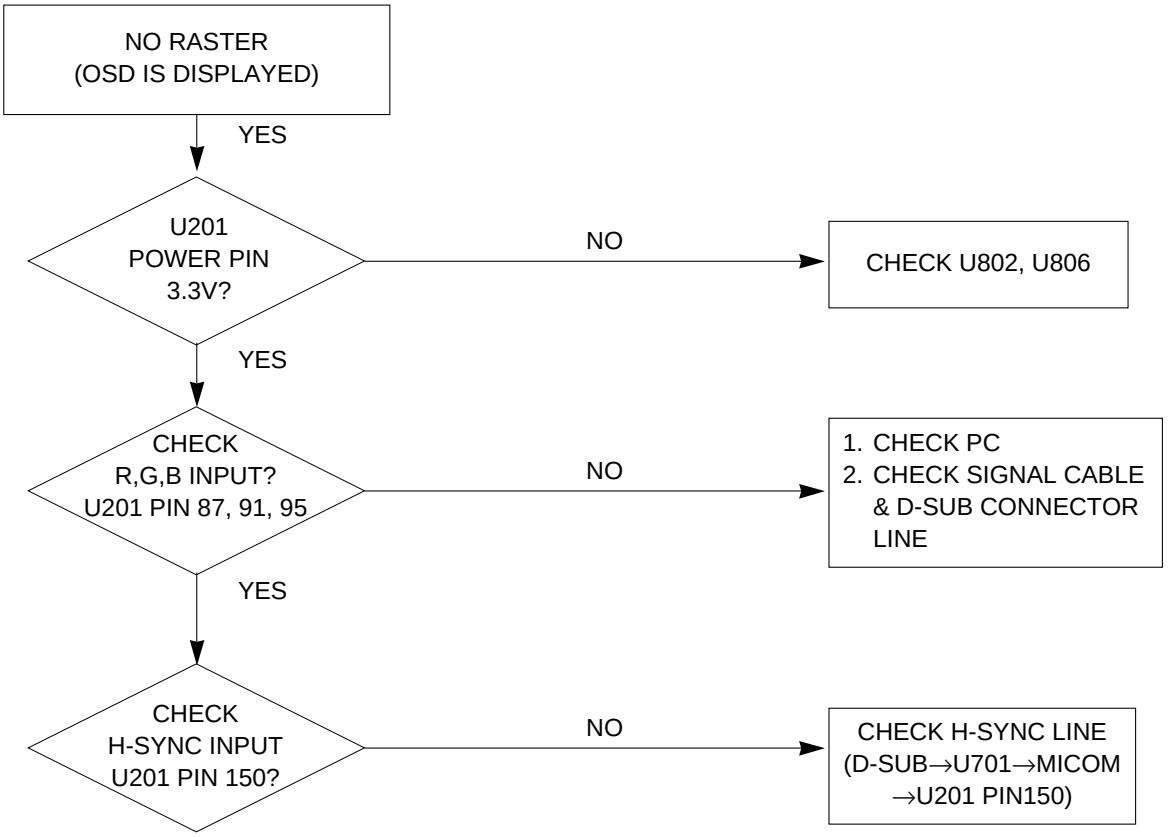
2. NO RASTER (OSD IS NOT DISPLAYED) – INVERTER



3. NO RASTER (OSD IS NOT DISPLAYED) – gmZAN2

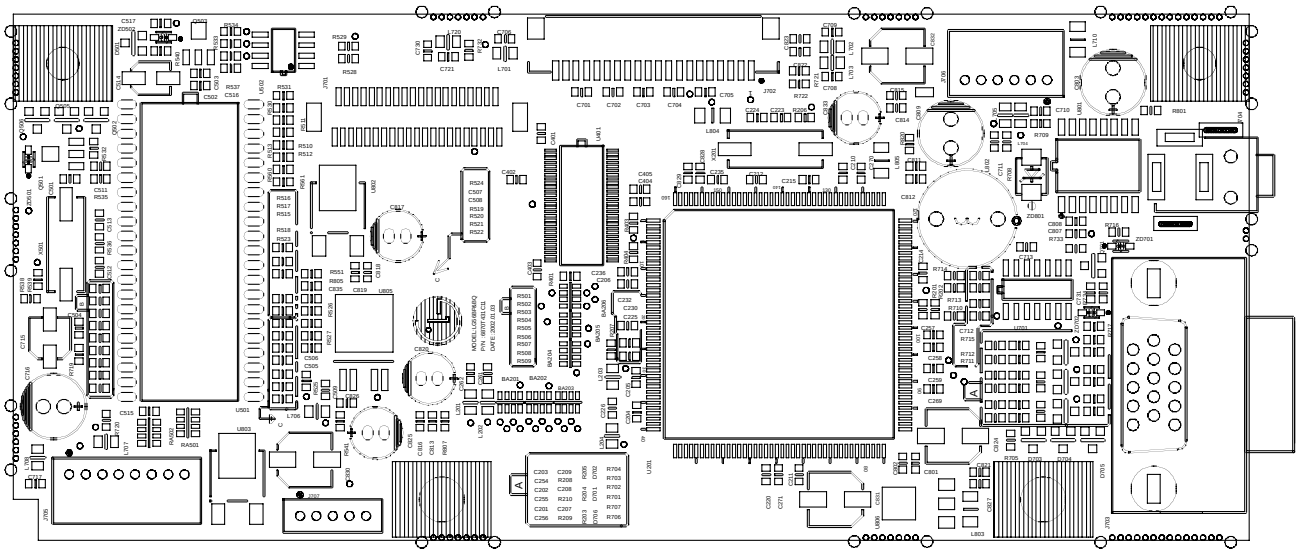


4. NO RASTER (OSD IS DISPLAYED) – gmZAN2

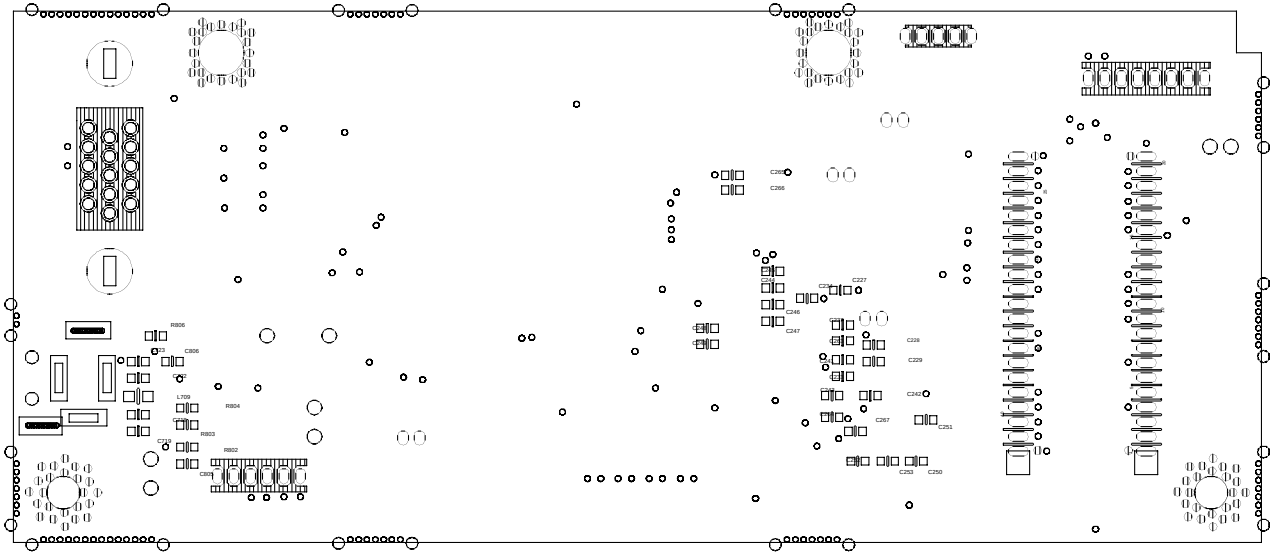


PRINTED CIRCUIT BOARD

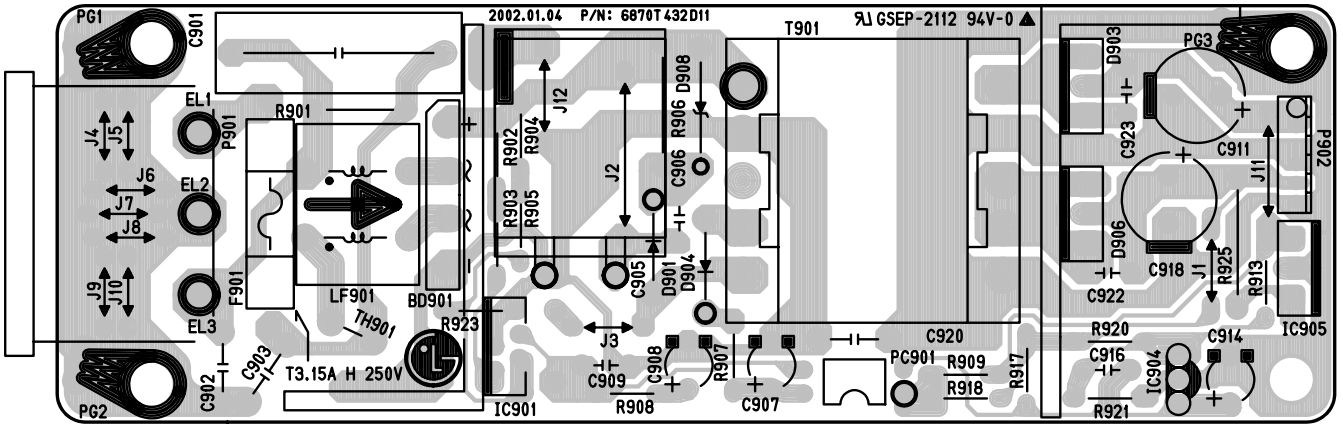
1. MAIN BOARD (Component Side)



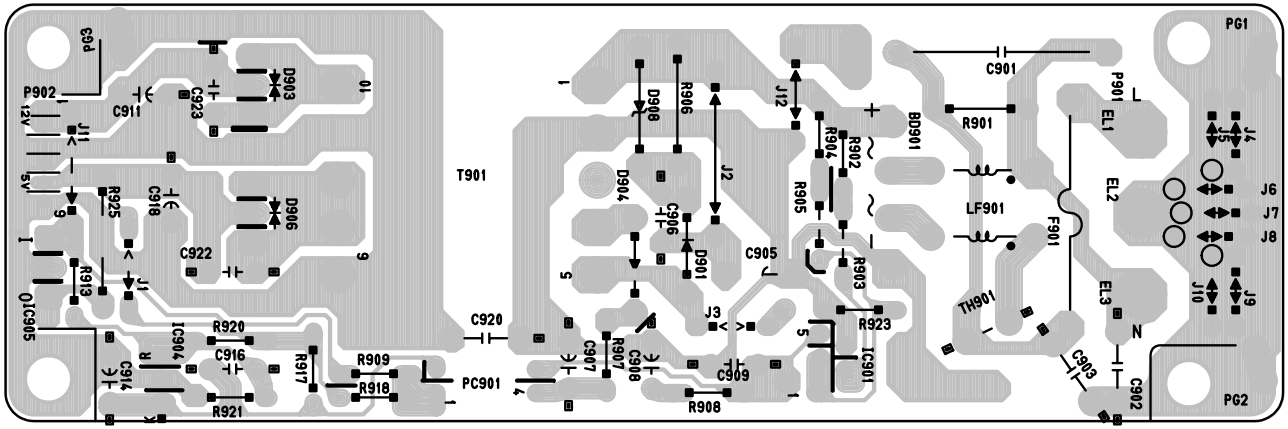
2. MAIN BOARD (Solder Side)



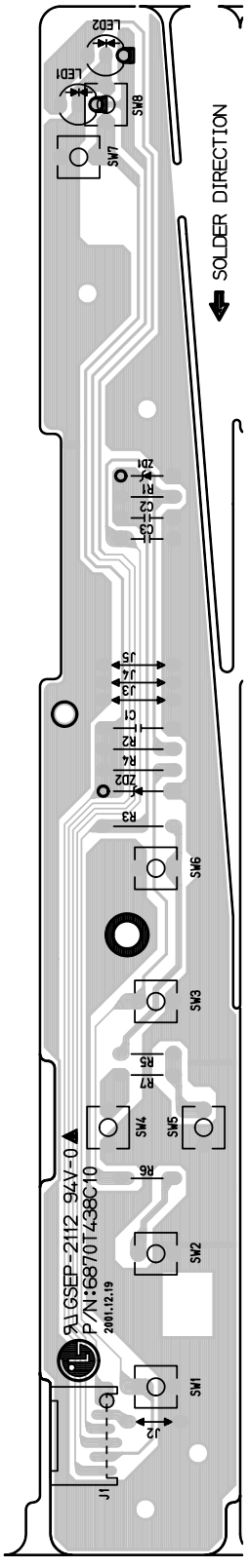
3. POWER BOARD (Component Side)



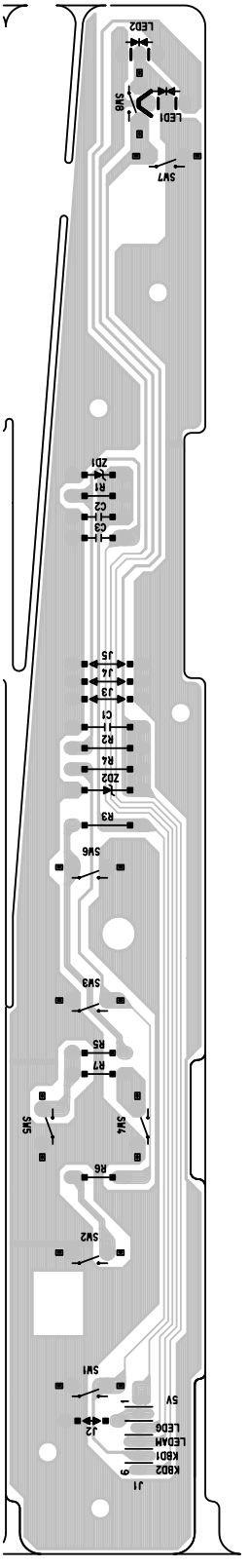
4. POWER BOARD (Solder Side)



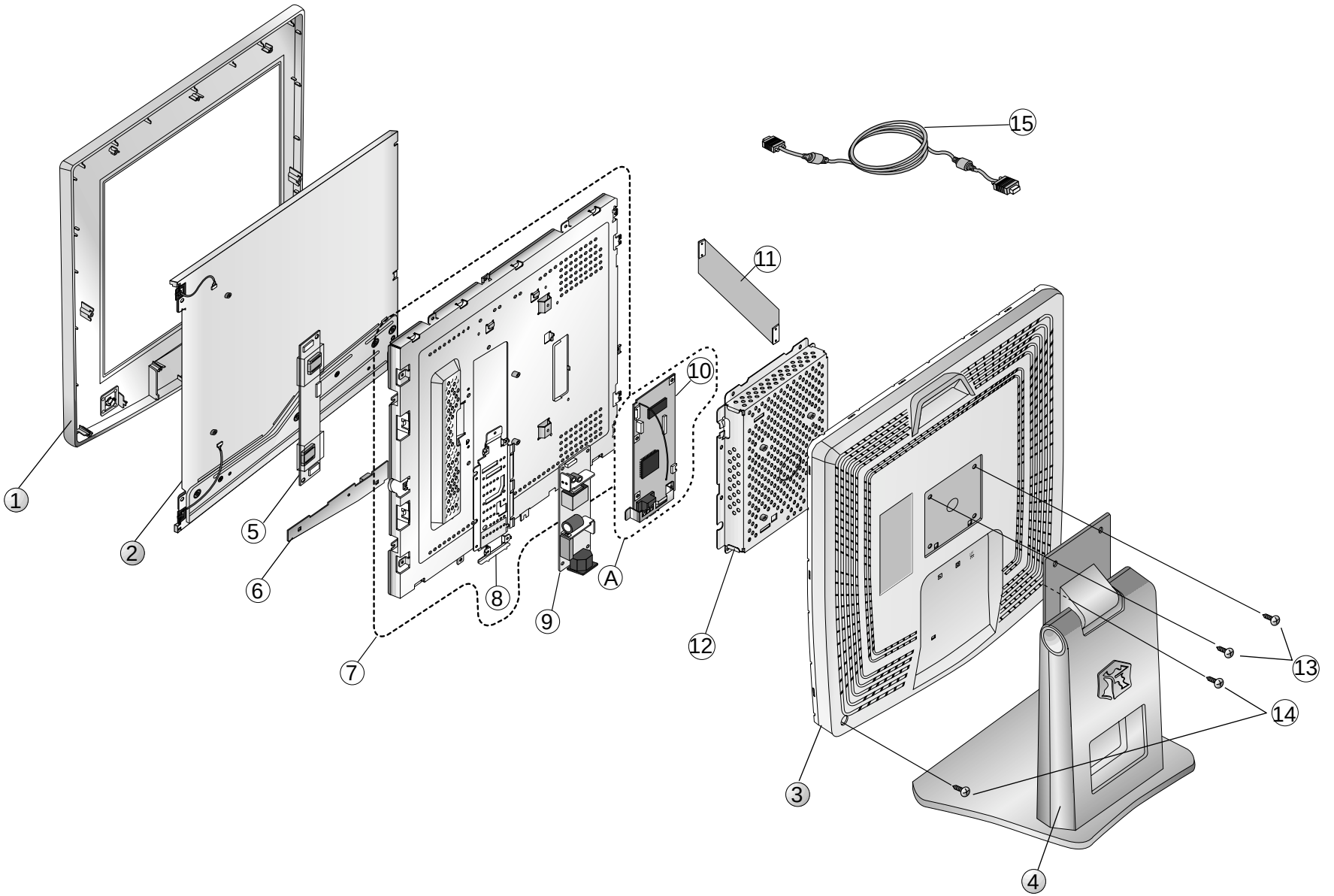
5. CONTROL BOARD (Component Side)



6. CONTROL BOARD (Solder Side)



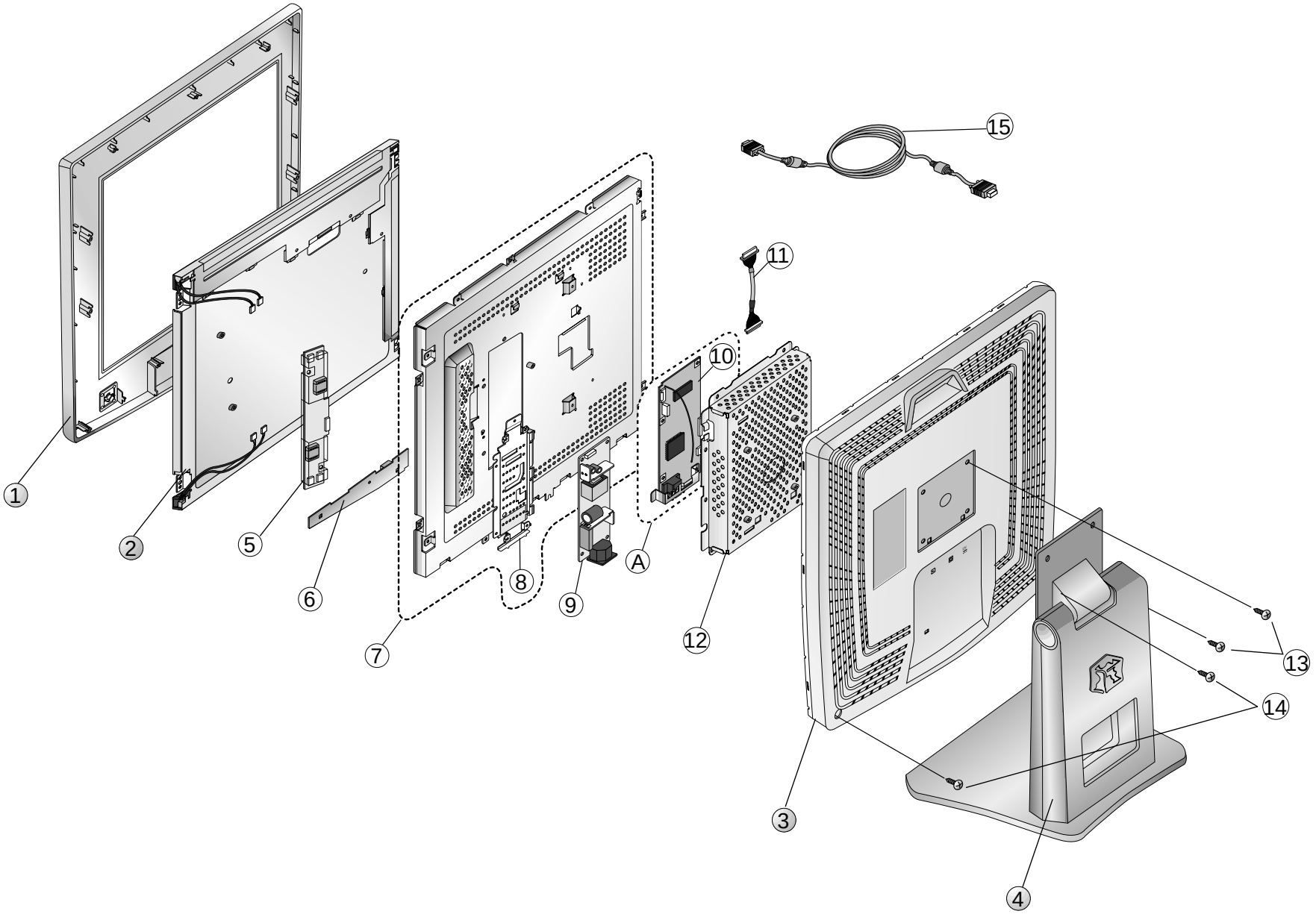
EXPLODED VIEW(LG Philps Module)



EXPLODED VIEW PARTS LIST(LG Philips Module)

Ref. No.	Part No.	Description
1	3091TKL024C	CABINET ASSEMBLY, LG56AL G/WAY >PC+ABS< 12446B, ANALOG VER.
2	6304FLP001A	LCD(LIQUID CRYSTAL DISPLAY), LM151X05-B3 LG PHILPS TFT COLOR 15.1
3	3809TKL017C	BACK COVER ASSEMBLY, LG56BP/BQ . POWER BUILT IN("B"-CORE)
4	3043TKK078A	TILT SWIVEL ASSY, LG56AH >PC+ABS< 12446B
5	6633TZA003H	INVERTER ASSEMBLY, SAMSUNG LG1510 LG56AH
	or 6632Z-1507C	INVERTER ASSEMBLY, NMC1507 15.1 12V
6	6871TST245C	PWB(PCB) ASSEMBLY, SUB, LG56BP/BQ CONTROL TOTAL G/WAY
7	4951TKS074F	METAL ASSEMBLY, FRAME MAIN,LG56BP(ADAPTER)
8	4951TKK085A	METAL ASSEMBLY, SHIELD POWER PCB
9	6871TPT223A	PWB(PCB) ASSEMBLY,POWER LG56BP/Q POWER TOTAL G/WAY CL-32
10	6871TMT287A	PWB(PCB) ASSEMBLY,MAIN, LG56BP XAGC G/WAY CL-32 TOTAL
11	6631T11011E	CONNECTOR ASSEMBLY, 41P H-H 178MM FPC F219-014B CAREER LG56AH
12	4951TKK084A	METAL ASSEMBLY, REAR ASSY (LG56BP)
13	332-105F	SCREW, PVS+4*10(MSWR/FZMW)
14	332-068T	SCREW, PPB+3*10 (MSWR/FZMW1)
15	6866TD9001Q	CABLE,D-SUB, UL 2990-9C(7.5) DT 1870MM COOL GRAY 3C CG992E DM
	or 6866TD9001L	CABLE,D-SUB, UL 2990-9C(7.5) DT 1870MM COOL GRAY 3C LB680A DM
A	3313TL5039A	MAIN TOTAL ASSEMBLY, LG56BP G/WAY CL-32

EXPLODED VIEW(HYUNDAI Hydis Module)



EXPLODED VIEW PARTS LIST(HYUNDAI Hydis Module)

Ref. No.	Part No.	Description
1	3091TKL036A	CABINET ASSEMBLY, LG56AM G/WAY >PC+ABS< 12446B, ANALOG VER.
2	6304FHD001C	LCD, HT15X13-200(A) HYUNDAI 15.0 INCH XGA(1024 X 768) TFT COLOR LVDS
3	3809TKL017C	BACK COVER ASSEMBLY, LG56BP/BQ . POWER BUILT IN("B"-CORE)
4	3043TKK078D	TILT SWIVEL ASSEMBLY, "LG56AM >PC+ABS< 12446B,VESA PLATE PAINTING"
5	6633TZA003K	INVERTER ASSEMBLY, SAMSUNG LG1509-1 4 LAMP,LG56AM
	or 6633TZA009A	INVERTER ASSEMBLY, LG-PHILIPS NMC 1509-02 4 LAMP, LG56AM
6	6871TST245C	PWB(PCB) ASSEMBLY, SUB, LG56BP/BQ CONTROL TOTAL G/WAY
7	4951TKS079C	METAL ASSEMBLY, FRAME MAIN,LG56BQ(ADAPTER)
8	4951TKK085A	METAL ASSEMBLY, SHIELD POWER PCB
9	6871TPT223A	PWB(PCB) ASSEMBLY,POWER LG56BP/Q POWER TOTAL G/WAY CL-32
10	6871TMT287B	PWB(PCB) ASSEMBLY,MAIN, LG56BQ XAGC G/WAY CL-32 TOTAL
11	6631T11012U	CONNECTOR ASSEMBLY, 20P H-H 100MM UL20276 LG56BQ
12	4951TKK084B	METAL ASSEMBLY, REAR LG56BQ
13	332-105F	SCREW, PVS+4*10(MSWR/FZMW)
14	332-068T	SCREW, PPB+3*10 (MSWR/FZMW1)
15	6866TD9001Q	CABLE,D-SUB, UL 2990-9C(7.5) DT 1870MM COOL GRAY 3C CG992E DM
	or 6866TD9001L	CABLE,D-SUB, UL 2990-9C(7.5) DT 1870MM COOL GRAY 3C LB680A DM
A	3313TL5039B	MAIN TOTAL ASSEMBLY, LG56BQ G/WAY CL-32

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

MODEL: FPD1520(LG Philips Module) DATE: 2002. 01. 17.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		MAIN BOARD		
		CAPACITORS		
		C201	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C202	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C203	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C204	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C205	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C206	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C207	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C208	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C209	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C210	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C211	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C212	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C214	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C215	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C220	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C223	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		C224	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		C225	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		C226	0CC680CK41A	68PF 1608 50V 5% R/TP NP0
		C232	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C235	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C236	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C254	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C255	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C256	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C257	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C258	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C259	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C261	0CC680CK41A	68PF 1608 50V 5% R/TP NP0
		C262	0CC680CK41A	68PF 1608 50V 5% R/TP NP0
		C269	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C270	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C271	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C501	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C502	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C503	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C504	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		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 X7
		C508	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C509	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C512	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C513	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C514	0CH8106F611	10UF 16V M 85STD(CYL) R/TP
		C515	0CC680CK41A	68PF 1608 50V 5% R/TP NP0
		C516	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C712	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C713	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C715	0CH8106J611	10UF 35V M 85STD(CYL) R/TP
		C716	0CE107CH610	"100UF SHL,SD 25V 20% BULK"
		C717	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C721	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C730	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C731	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C801	0CC102CK41A	1000PF 1608 50V 5% R/TP NP
		C802	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C813	0CC102CK41A	1000PF 1608 50V 5% R/TP NP
		C814	0CC102CK41A	1000PF 1608 50V 5% R/TP NP
		C815	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C816	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C817	0CE107CF610	"100UF SHL,SD 16V 20% BULK"
		C818	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C819	0CC102CK41A	1000PF 1608 50V 5% R/TP NP
		C820	0CE107CF610	"100UF SHL,SD 16V 20% BULK"
		C821	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C822	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C823	0CC102CK41A	1000PF 1608 50V 5% R/TP NP
		C824	0CH8107F611	100UF 16V M 85STD(CYL) R/T
		C825	0CE107CF610	"100UF SHL,SD 16V 20% BULK"
		C826	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C827	0CC102CK41A	1000PF 1608 50V 5% R/TP NP
		C828	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C829	0CC102CK41A	1000PF 1608 50V 5% R/TP NP
		C830	0CH8107F611	100UF 16V M 85STD(CYL) R/T
		C831	0CH8107F611	100UF 16V M 85STD(CYL) R/T
		C832	0CH8107F611	100UF 16V M 85STD(CYL) R/T
		C833	0CE107CF610	"100UF SHL,SD 16V 20% BULK"
		C835	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		DIODEs		
		D701	0DS226009AA	KDS226 TP KEC SOT-23 80V
		D702	0DS226009AA	KDS226 TP KEC SOT-23 80V
		D703	0DS226009AA	KDS226 TP KEC SOT-23 80V
		D704	0DS226009AA	KDS226 TP KEC SOT-23 80V
		D705	0DS226009AA	KDS226 TP KEC SOT-23 80V
		D706	0DS226009AA	KDS226 TP KEC SOT-23 80V
		ZD501	0DZ910009FE	UDZS 9.1B TP ROHM - - 9.1V
		ZD701	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD32
		ZD702	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD32
		ICs		
		U201	0IPRPGA002A	GMZAN2-160P GENESIS MICROC
		U4	0IZZTSZ168B	MYSON 42PIN BK OTP LG56BQ
		U502	0ICS240813B	"CAT24WC08J-TE13 8P,SOIC R/"
		U701	0IMO741420B	"MC74HCT14ADR2 14P,SOIC TP"
		U802	0IRH033200A	BA033FP-E2 MOLD-3 TP REGUL
		U803	0ISS780500H	"KA78M05-R 3P,D-PAK TP 5V 0"
		U805	0IRH033000A	BA033SFP P/MOLD-5 TP REGUL
		U806	0IPMGON007A	NCP1117ST25T3 ON SEMI SOT2
		COILs & COREs		
		L201	6210TCE001P	HB-1S2012-121JT CERATECH 2

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		L202	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L203	6210TCE001R	HB-1S2012-400JT CERATECH 2
		L204	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L702	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L703	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L704	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L705	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L706	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L707	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L708	6210TCE001S	HU-1M2012-121 CERATECH 201
		L710	6210TCE001G	HH-1M3216-501 CERATEC 3216
		L720	6210TCE001S	HU-1M2012-121 CERATECH 201
		L803	6210TCE001G	HH-1M3216-501 CERATEC 3216
		L804	6210TCE001G	HH-1M3216-501 CERATEC 3216
		L805	6210TCE001G	HH-1M3216-501 CERATEC 3216
	TRANSISTOR			
		Q501	0IKE704200J	KIA7042AF SOT-89 TP 4.2V V
		Q502	0TR390409AE	FAIRCHILD KST3904(LGEMTF)
		Q505	0TR162309CA	KSC1623 TP SAMSUNG SOT23
		Q506	0TR162309CA	KSC1623 TP SAMSUNG SOT23
		Q701	0TR390409AE	FAIRCHILD KST3904(LGEMTF)
	RESISTORs			
		R201	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R202	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R203	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R204	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R205	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R206	0RJ2701D677	2.7K OHM 1/10 W 5% 1608 R/
		R207	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R208	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R209	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R210	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R501	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R502	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R503	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R504	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R505	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/T
		R506	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R507	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/T
		R508	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/T
		R509	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R510	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R511	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R512	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R513	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/
		R515	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R516	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R517	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R518	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R519	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R520	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R521	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R522	0RJ1500D677	150 OHM 1/10 W 5% 1608 R/T
		R523	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R524	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R525	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R526	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R527	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R528	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R529	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R530	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R531	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R532	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/
		R533	0RJ1500D677	150 OHM 1/10 W 5% 1608 R/T
		R534	0RJ1500D677	150 OHM 1/10 W 5% 1608 R/T
		R535	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/
		R536	0RJ1004D677	1000000 OHM 1/10 W 5% 1608
		R537	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R538	0RJ2202D677	22K OHM 1/10 W 5% 1608 R/T
		R539	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/T
		R541	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R551	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R560	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R701	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R702	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R703	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R704	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R705	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/T
		R706	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R707	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R708	0RJ2000D677	200 OHM 1/10 W 5% 1608 R/T
		R709	0RJ2000D677	200 OHM 1/10 W 5% 1608 R/T
		R711	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R712	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R713	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R714	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R715	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R716	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R717	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R719	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/T
		R721	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R733	0RJ1501D677	1.5K OHM 1/10 W 5% 1608 R/
		R734	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R805	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/T
		R807	0RJ1003D677	100K OHM 1/10 W 5% 1608 R/
		RA501	0RHZTCZ001A	100 OHM 1/16 W 5% 3215 R/T
		RA502	0RHZTCZ001A	100 OHM 1/16 W 5% 3215 R/T
	OTHERs			
		X201	6202TST001A	“SX-1 SUNNY ,SMS, 14.31818M”
		X501	6202TST003D	HC-49/SM5H KONY CHIP 12 MH
	POWER BOARD			
		C901	0CBZTBU002D	0.33UF D 275V K M/PP NI FM
		C902	0CKZTBU003D	SC SAMWHA 250V 1000PF M BU
		C903	0CKZTBU003D	SC SAMWHA 250V 1000PF M BU
		C905	0CZZTAB004B	KMG SYE / SWE 400V 68UF 20
		C906	0CK10201515	1000P 1KV K B TS
		C907	0CE105EK638	1UF KMG 50V M FM5 TP 5
		C908	0CE476EH638	47UF KMG 25V M FM5 TP 5
		C909	181-288B	MKT 100V 104JTR PHS26104
		C911	0CE108EF630	1000UF KMG 16V M FM5 BULK
		C914	0CE335EK638	3.3UF KMG 50V M FM5 TP 5
		C916	181-288L	MKT 100V 823JTR PHS26823
		C918	0CE108EF630	1000UF KMG 16V M FM5 BULK
		C920	0CKZTBU003C	SC E 472M 14.0BW7 250V BK7
		C922	0CK10201515	1000P 1KV K B TS
		C923	0CK10201515	1000P 1KV K B TS

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		BD901	0DD260000BE	D2SB60 SHINDENKEN
		D901	0DD400709CB	UF4007 TP G.I DO204AL 100
		D903	0DRGS00281A	MBRF10H100CT GENERAL SEMIC
		D904	0DR400409AB	UF4004 TP G.I DO204AL 400V
		D906	0DR206000AA	MBRF2060CT BK G.I ITO220 6
		D908	0DZ620009AG	P6KE200 TP G.I D015 5W 200
		IC901	0IPMGPF004A	TOP246F POWER INTEGRATION
		IC904	0ISS431000A	KA431AZ (LM431AZ)
		R901	0RD6803A609	680K OHM 1/2 W (7.0) 5% TA
		R902	0RD1004Q609	1M OHM 1/4 W (3.4) 5% TA52
		R903	0RD1004Q609	1M OHM 1/4 W (3.4) 5% TA52
		R904	0RD4704Q609	4.7M OHM 1/4 W (3.4) 5% TA
		R905	0RD4704Q609	4.7M OHM 1/4 W (3.4) 5% TA
		R906	0RX4702J609	47K OHM 1 W 5% TA52
		R907	0RD0471Q609	4.70 1/4W(3 5% TA52
		R908	0RD0681Q609	6.8 OHM 1/4 W (3.4) 5% TA5
		R909	0RD1001Q609	1K 1/4W(3 5% TA52
		R913	0RN1302F409	13K 1/6W 1% TA52
		R917	0RD1201Q609	1.20K 1/4W(3 5% TA52
		R918	0RD1000Q609	100 1/4W(3 5% TA52
		R920	0RN1302F409	13K 1/6W 1% TA52
		R921	0RN2701F409	2.70K 1/6W 1% TA52
		R923	0RD1202Q609	12K 1/4W(3 5% TA52
		T901	6170TMZ133A	EER3016 1200 UH V-10PIN LG
		TH901	6322A00002B	SCK-102L THINKING 10OHM 20
		F901	0FZZTTH001E	TIME LAG HBC 2153.15MXE(LE
		LF901	6200TZZ001B	"- 0 BK L/FILTER, 9MH,LG56B"
		P901	6620TKB002C	"BCP031S-A,BAE EUN AC UNIVE"
		P902	6631T20008R	5P H-B 80MM UL1061 AWG 26
		PC901	0ILI817000E	LTV-817M B 4P BK PHOTO COU

CONTROL BOARD

		C1	0CN1040K949	0.1M 50V Z F TA52
		C2	0CN1040K949	0.1M 50V Z F TA52
		C3	0CN1040K949	0.1M 50V Z F TA52
		ZD1	0DZ560009CE	MTZJ5.6B TP ROHM-K DO34 5
		ZD2	0DZ560009CE	MTZJ5.6B TP ROHM-K DO34 5
		LED1	0DL305029BA	LTL-305DJ-0C2 TP LITEON GR
		R1	0RD4701Q509	4.7K OHM 1/4 W (3.4) 2% TA
		R2	0RD4701Q509	4.7K OHM 1/4 W (3.4) 2% TA
		R3	0RD1501Q509	1.5K OHM 1/4 W (3.4) 2% TA
		R4	0RD1501Q509	1.5K OHM 1/4 W (3.4) 2% TA
		R5	0RD3301Q509	3.3K OHM 1/4 W (3.4) 2% TA
		R6	0RD3301Q509	3.3K OHM 1/4 W (3.4) 2% TA
		R7	0RD9101Q609	9.10K 1/4W(3 5% TA52
		SW1	140-058D	SKHV10911A LGEC NON 12 20
		SW2	140-058D	SKHV10911A LGEC NON 12 20
		SW3	140-058D	SKHV10911A LGEC NON 12 20
		SW4	140-058D	SKHV10911A LGEC NON 12 20
		SW5	140-058D	SKHV10911A LGEC NON 12 20
		SW6	140-058D	SKHV10911A LGEC NON 12 20
		SW7	140-058E	SKHV10910B LGEC NON 12V 20

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		
		C201	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C202	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C203	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C204	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C205	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C206	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C207	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C208	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C209	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C210	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C211	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C212	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C214	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C215	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C220	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C223	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		C224	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		C225	0CC100CK41A	10PF 1608 50V 5% R/TP NP0
		C226	0CC680CK41A	68PF 1608 50V 5% R/TP NP0
		C230	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		C232	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C235	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C236	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C254	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C255	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C256	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C257	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C258	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C259	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C261	0CC680CK41A	68PF 1608 50V 5% R/TP NP0
		C262	0CC680CK41A	68PF 1608 50V 5% R/TP NP0
		C269	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C270	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C271	0CK103CK51A	0.01UF 1608 50V 10% R/TP B
		C401	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C402	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C403	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C404	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C405	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C501	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C502	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C503	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C504	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		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 X7
		C508	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C509	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C512	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C513	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C514	0CH8106F611	10UF 16V M 85STD(CYL) R/TP
		C515	0CC680CK41A	68PF 1608 50V 5% R/TP NP0

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C516	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C706	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C712	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C713	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C715	0CH8106J611	10UF 35V M 85STD(CYL) R/TP
		C716	0CE107CH610	100UF SHL,SD 25V 20% BULK
		C717	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C731	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C801	0CC102CK41A	1000PF 1608 50V 5% R/TP NP
		C802	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C813	0CC102CK41A	1000PF 1608 50V 5% R/TP NP
		C814	0CC102CK41A	1000PF 1608 50V 5% R/TP NP
		C815	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C816	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C817	0CE107CF610	100UF SHL,SD 16V 20% BULK
		C818	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C819	0CC102CK41A	1000PF 1608 50V 5% R/TP NP
		C820	0CE107CF610	100UF SHL,SD 16V 20% BULK
		C821	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C822	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C823	0CC102CK41A	1000PF 1608 50V 5% R/TP NP
		C824	0CH8107F611	100UF 16V M 85STD(CYL) R/T
		C825	0CE107CF610	100UF SHL,SD 16V 20% BULK
		C826	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C827	0CC102CK41A	1000PF 1608 50V 5% R/TP NP
		C828	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		C829	0CC102CK41A	1000PF 1608 50V 5% R/TP NP
		C830	0CH8107F611	100UF 16V M 85STD(CYL) R/T
		C831	0CH8107F611	100UF 16V M 85STD(CYL) R/T
		C832	0CH8107F611	100UF 16V M 85STD(CYL) R/T
		C833	0CE107CF610	100UF SHL,SD 16V 20% BULK
		C835	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7
		DIODEs		
		D701	0DS226009AA	KDS226 TP KEC SOT-23 80V
		D702	0DS226009AA	KDS226 TP KEC SOT-23 80V
		D703	0DS226009AA	KDS226 TP KEC SOT-23 80V
		D704	0DS226009AA	KDS226 TP KEC SOT-23 80V
		D705	0DS226009AA	KDS226 TP KEC SOT-23 80V
		D706	0DS226009AA	KDS226 TP KEC SOT-23 80V
		ZD501	0DZ910009FE	UDZS 9.1B TP ROHM - - 9.1V
		ZD701	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD32
		ZD702	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD32
		ICs		
		U201	0IPRPGA002A	GMZAN2-160P GENESIS MICROC
		U4	0IZZTSZ168B	MYSON 42PIN BK OTP LG56BQ
		U401	0ITH638300B	THC63LVDM83R THINE 56P,TSS
		U502	0ICS240813B	CAT24WC08J-TE13 8P,SOIC R/
		U701	0IMO741420B	MC74HCT14ADR2 14P,SOIC TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		U802	0IRH033200A	BA033FP-E2 MOLD-3 TP REGUL
		U803	0ISS780500H	KA78M05-R 3P,D-PAK TP 5V 0
		U805	0IRH033000A	BA033SFP P/MOLD-5 TP REGUL
		U806	0IPMGON007A	NCP1117ST25T3 ON SEMI SOT2
		COILs & COREs		
		L201	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L202	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L203	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L204	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L701	6210TCE001S	HU-1M2012-121 CERATECH 201
		L702	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L703	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L704	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L705	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L706	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L707	6210TCE001P	HB-1S2012-121JT CERATECH 2
		L708	6210TCE001S	HU-1M2012-121 CERATECH 201
		L710	6210TCE001G	HH-1M3216-501 CERATEC 3216
		L803	6210TCE001G	HH-1M3216-501 CERATEC 3216
		L804	6210TCE001G	HH-1M3216-501 CERATEC 3216
		L805	6210TCE001G	HH-1M3216-501 CERATEC 3216
		TRANSISTOR		
		Q501	0IKE704200J	KIA7042AF SOT-89 TP 4.2V V
		Q502	0TR390409AE	FAIRCHILD KST3904(LGEMTF)
		Q505	0TR162309CA	KSC1623 TP SAMSUNG SOT23
		Q506	0TR162309CA	KSC1623 TP SAMSUNG SOT23
		Q701	0TR390409AE	FAIRCHILD KST3904(LGEMTF)
		RESISTORs		
		R201	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R202	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R203	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R204	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R205	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R206	0RJ2701D677	2.7K OHM 1/10 W 5% 1608 R/
		R207	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R208	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R209	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R210	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R401	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/T
		R403	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R404	0RJ5601D477	5.6K OHM 1/10 W 1% 1608 R/
		R501	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R502	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R503	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R504	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R505	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/T
		R506	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R507	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/T
		R508	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/T
		R509	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R510	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R511	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R512	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R513	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/
		R515	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R516	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R517	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R518	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R519	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R520	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R521	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R522	0RJ1500D677	150 OHM 1/10 W 5% 1608 R/T
		R523	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R524	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R525	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R526	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R527	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R528	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R529	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R530	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R531	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R532	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/
		R533	0RJ1500D677	150 OHM 1/10 W 5% 1608 R/T
		R534	0RJ1500D677	150 OHM 1/10 W 5% 1608 R/T
		R535	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/
		R536	0RJ1004D677	1000000 OHM 1/10 W 5% 1608
		R537	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R538	0RJ2202D677	22K OHM 1/10 W 5% 1608 R/T
		R539	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/T
		R541	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R551	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R561	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R701	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R702	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R703	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R704	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R705	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/T
		R706	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R707	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R708	0RJ2000D677	200 OHM 1/10 W 5% 1608 R/T
		R709	0RJ2000D677	200 OHM 1/10 W 5% 1608 R/T
		R711	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R712	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R713	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R714	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/T
		R715	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R716	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R717	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R719	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/T
		R721	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R733	0RJ1501D677	1.5K OHM 1/10 W 5% 1608 R/
		R734	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/
		R805	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/T
		R807	0RJ1003D677	100K OHM 1/10 W 5% 1608 R/
		RA501	0RHZTCZ001A	100 OHM 1/16 W 5% 3215 R/T
		RA502	0RHZTCZ001A	100 OHM 1/16 W 5% 3215 R/T
		OTHERs		
		X201	6202TST001A	SX-1 SUNNY ,SMS, 14.31818M
		X501	6202TST003D	HC-49/SM5H KONY CHIP 12 MH
		POWER BOARD		
		C901	0CBZTBU002D	0.33UF D 275V K M/PP NI FM
		C902	0CKZTBU003D	SC SAMWHA 250V 1000PF M BU
		C903	0CKZTBU003D	SC SAMWHA 250V 1000PF M BU

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C905	0CZZTAB004B	KMG SYE / SWE 400V 68UF 20
		C906	0CK10201515	1000P 1KV K B TS
		C907	0CE105EK638	1UF KMG 50V M FM5 TP 5
		C908	0CE476EH638	47UF KMG 25V M FM5 TP 5
		C909	181-288B	MKT 100V 104JTR PHS26104
		C911	0CE108EF630	1000UF KMG 16V M FM5 BULK
		C914	0CE335EK638	3.3UF KMG 50V M FM5 TP 5
		C916	181-288L	MKT 100V 823JTR PHS26823
		C918	0CE108EF630	1000UF KMG 16V M FM5 BULK
		C920	0CKZTBU003C	SC E 472M 14.0BW7 250V BK7
		C922	0CK10201515	1000P 1KV K B TS
		C923	0CK10201515	1000P 1KV K B TS
		D901	0DD400709CB	UF4007 TP G.I DO204AL 100
		D904	0DR400409AB	UF4004 TP G.I DO204AL 400V
		D903	0DRGS00281A	MBRF10H100CT GENERAL SEMIC
		D906	0DR206000AA	MBRF2060CT BK G.I ITO220 6
		D908	0DZ620009AG	P6KE200 TP G.I D015 5W 200
		BD901	0DD260000BE	D2SB60 SHINDENKEN
		IC901	0IPMGPF004A	TOP246F POWER INTEGRATION
		IC904	0ISS431000A	KA431AZ (LM431AZ)
		R901	0RD6803A609	680K OHM 1/2 W (7.0) 5% TA
		R902	0RD1004Q609	1M OHM 1/4 W (3.4) 5% TA52
		R903	0RD1004Q609	1M OHM 1/4 W (3.4) 5% TA52
		R904	0RD4704Q609	4.7M OHM 1/4 W (3.4) 5% TA
		R905	0RD4704Q609	4.7M OHM 1/4 W (3.4) 5% TA
		R906	0RX4702J609	47K OHM 1 W 5% TA52
		R907	0RD0471Q609	4.70 1/4W(3 5% TA52
		R908	0RD0681Q609	6.8 OHM 1/4 W (3.4) 5% TA5
		R909	0RD1001Q609	1K 1/4W(3 5% TA52
		R913	0RN1302F409	13K 1/6W 1% TA52
		R917	0RD1201Q609	1.20K 1/4W(3 5% TA52
		R918	0RD1000Q609	100 1/4W(3 5% TA52
		R920	0RN1302F409	13K 1/6W 1% TA52
		R921	0RN2701F409	2.70K 1/6W 1% TA52
		R923	0RD1202Q609	12K 1/4W(3 5% TA52
		T901	6170TMZ133A	EER3016 1200 UH V-10PIN LG
		TH901	6322A00002B	SCK-102L THINKING 10OHM 20
		F901	0FZZTTH001E	TIME LAG HBC 2153.15MXE(LE
		LF901	6200TZZ001B	- 0 BK L/FILTER, 9MH,LG56B
		P901	6620TKB002C	BCP031S-A,BAE EUN AC UNIVE
		P902	6631T20008R	5P H-B 80MM UL1061 AWG 26
		PC901	0ILI817000E	LTV-817M B 4P BK PHOTO COU
CONTROL BOARD				
		C1	0CN1040K949	0.1M 50V Z F TA52
		C2	0CN1040K949	0.1M 50V Z F TA52
		C3	0CN1040K949	0.1M 50V Z F TA52
		ZD1	0DZ560009CE	MTZJ5.6B TP ROHM-K DO34 5
		ZD2	0DZ560009CE	MTZJ5.6B TP ROHM-K DO34 5
		LED1	0DL305029BA	LTL-305DJ-0C2 TP LITEON GR
		R1	0RD4701Q509	4.7K OHM 1/4 W (3.4) 2% TA
		R2	0RD4701Q509	4.7K OHM 1/4 W (3.4) 2% TA
		R3	0RD1501Q509	1.5K OHM 1/4 W (3.4) 2% TA
		R4	0RD1501Q509	1.5K OHM 1/4 W (3.4) 2% TA
		R5	0RD3301Q509	3.3K OHM 1/4 W (3.4) 2% TA
		R6	0RD3301Q509	3.3K OHM 1/4 W (3.4) 2% TA
		R7	0RD9101Q609	9.10K 1/4W(3 5% TA52
		SW1	140-058D	SKHV10911A LGEC NON 12 20
		SW2	140-058D	SKHV10911A LGEC NON 12 20
		SW3	140-058D	SKHV10911A LGEC NON 12 20
		SW4	140-058D	SKHV10911A LGEC NON 12 20

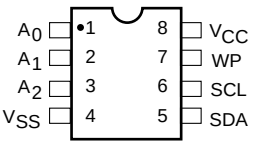
MODEL: FPD1520(Hydis Module) DATE: 2002. 01. 17.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		SW5	140-058D	SKHV10911A LGEC NON 12 20
		SW6	140-058D	SKHV10911A LGEC NON 12 20
		SW7	140-058E	SKHV10910B LGEC NON 12V 20

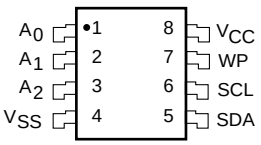
PIN CONFIGURATION

CAT24WC08J-TE13 8P

DIP Package(p)



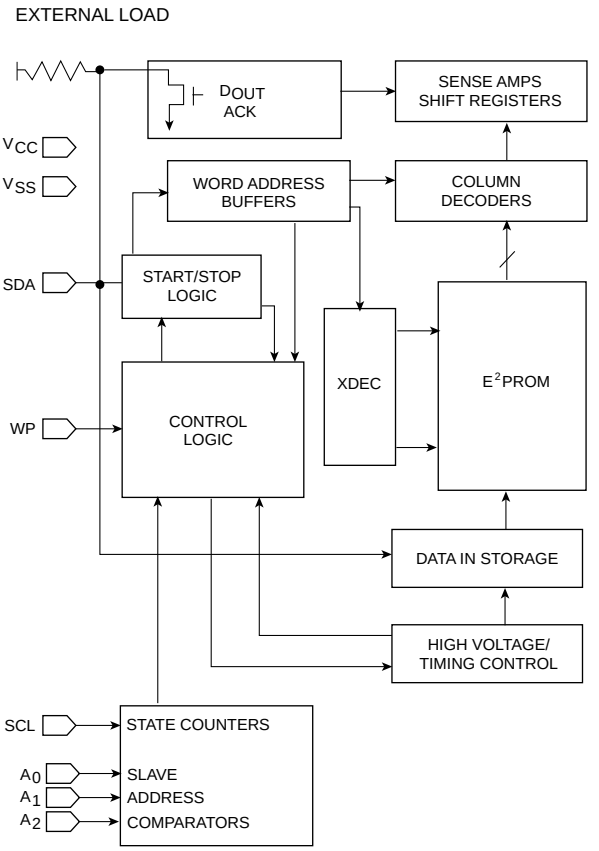
SOIX Package(J)



TSSOP Package(U)

PIN CONFIGURATION

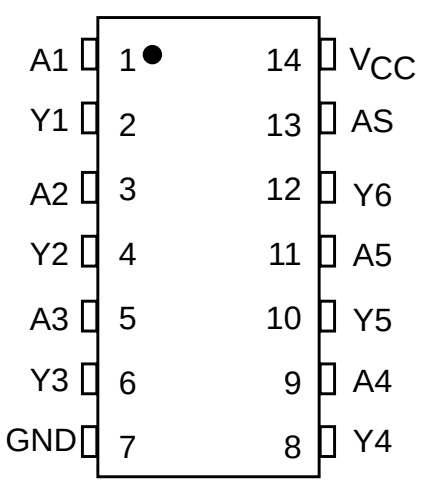
BLOCK DIAGRAM



PIN FUNCTION

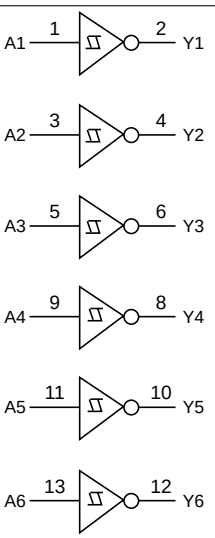
Pin Name	Function
A0, A1, A2	Device Adress Inputs
SDA	Serial Data/Address
SCL	Serial Clock
WP	Write Protect
Vcc	+1.8V to + 6.0V power Supply
Vss	Ground

MC74HCT14ADR2 14P



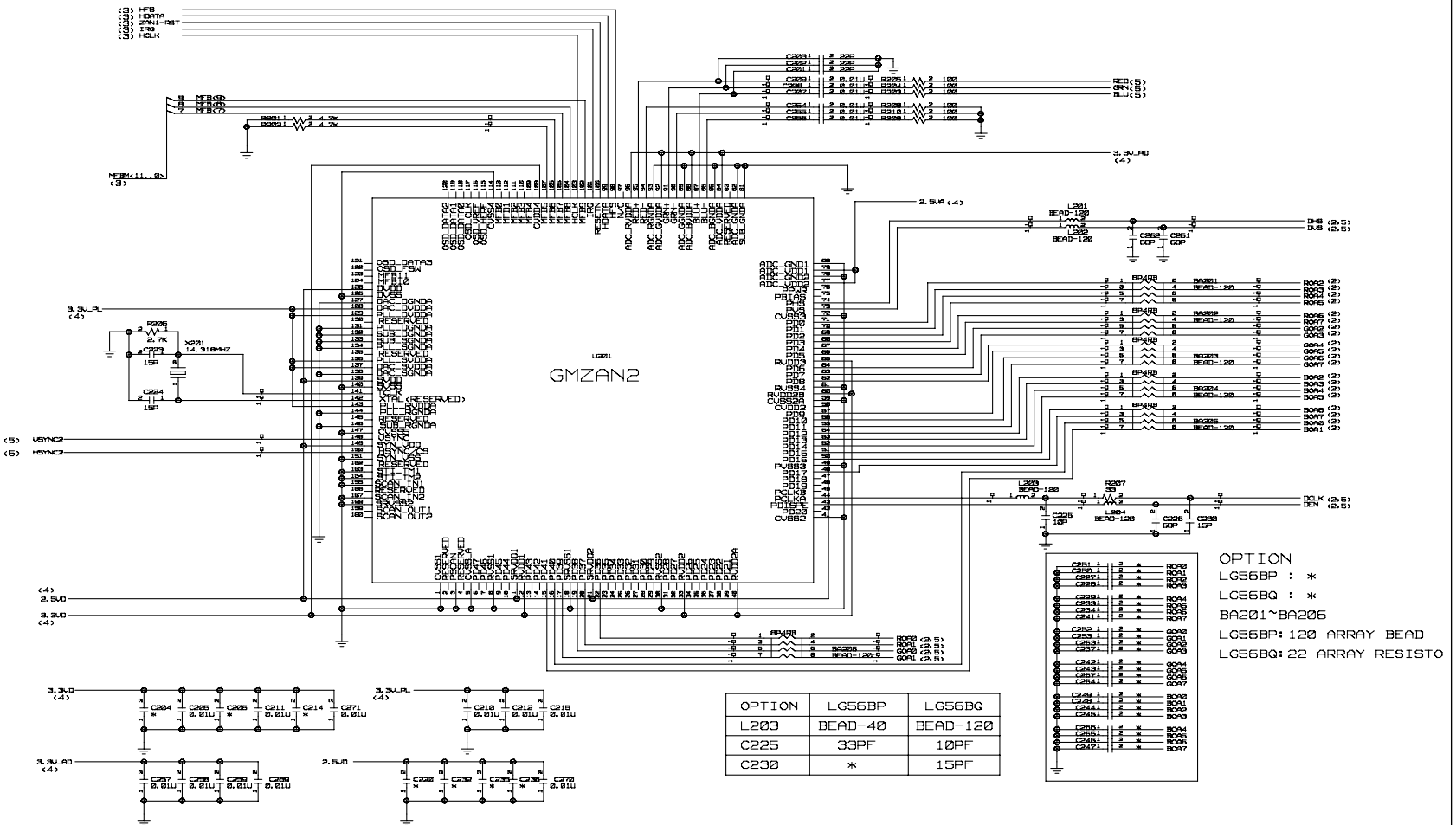
PIN CONFIGURATION

BLOCK DIAGRAM



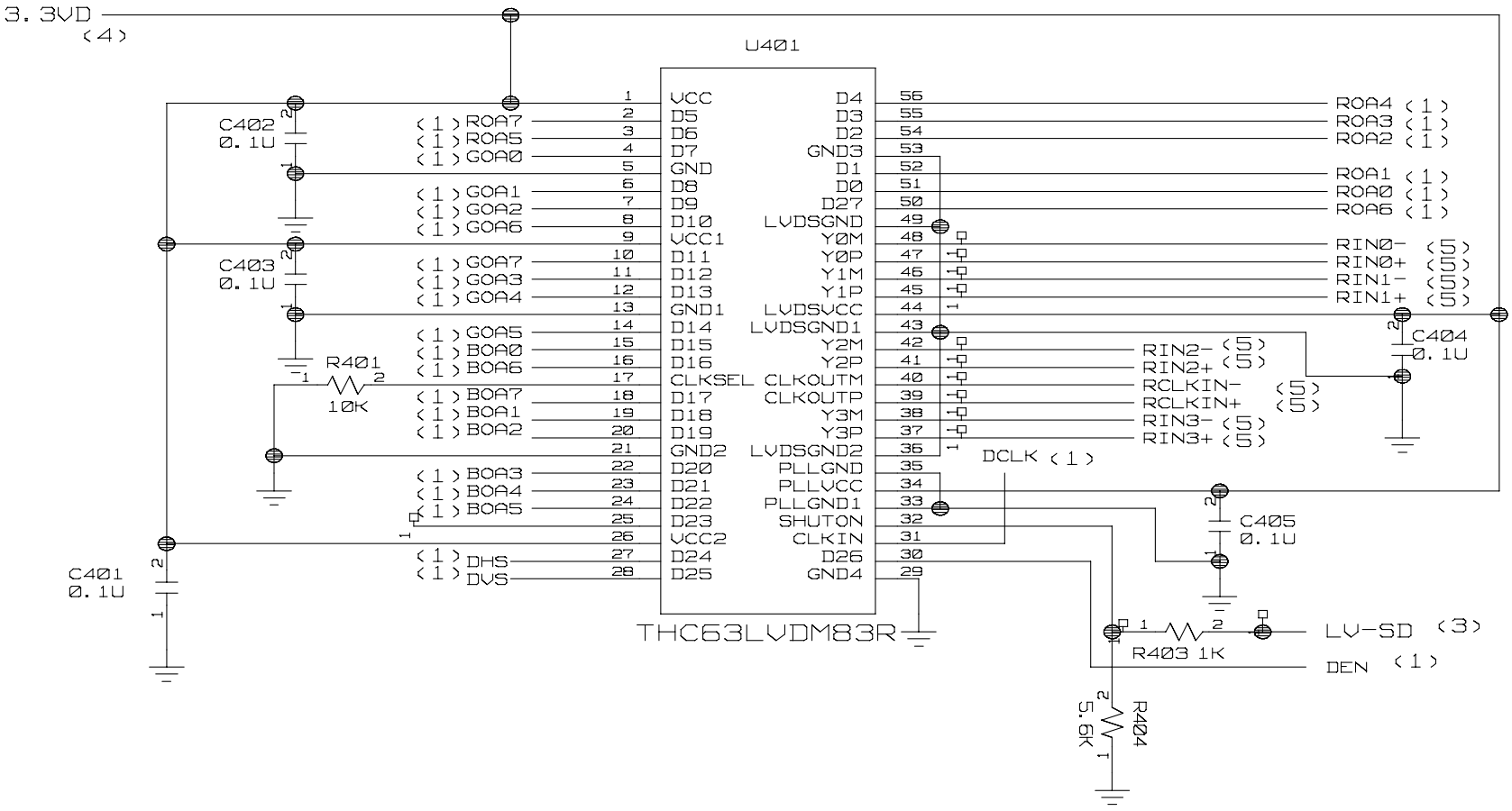
PIN 14=V_{CC}
PIN 7=GND

1 GATEWAY LG56BP&LG56BQ
GMZAN2

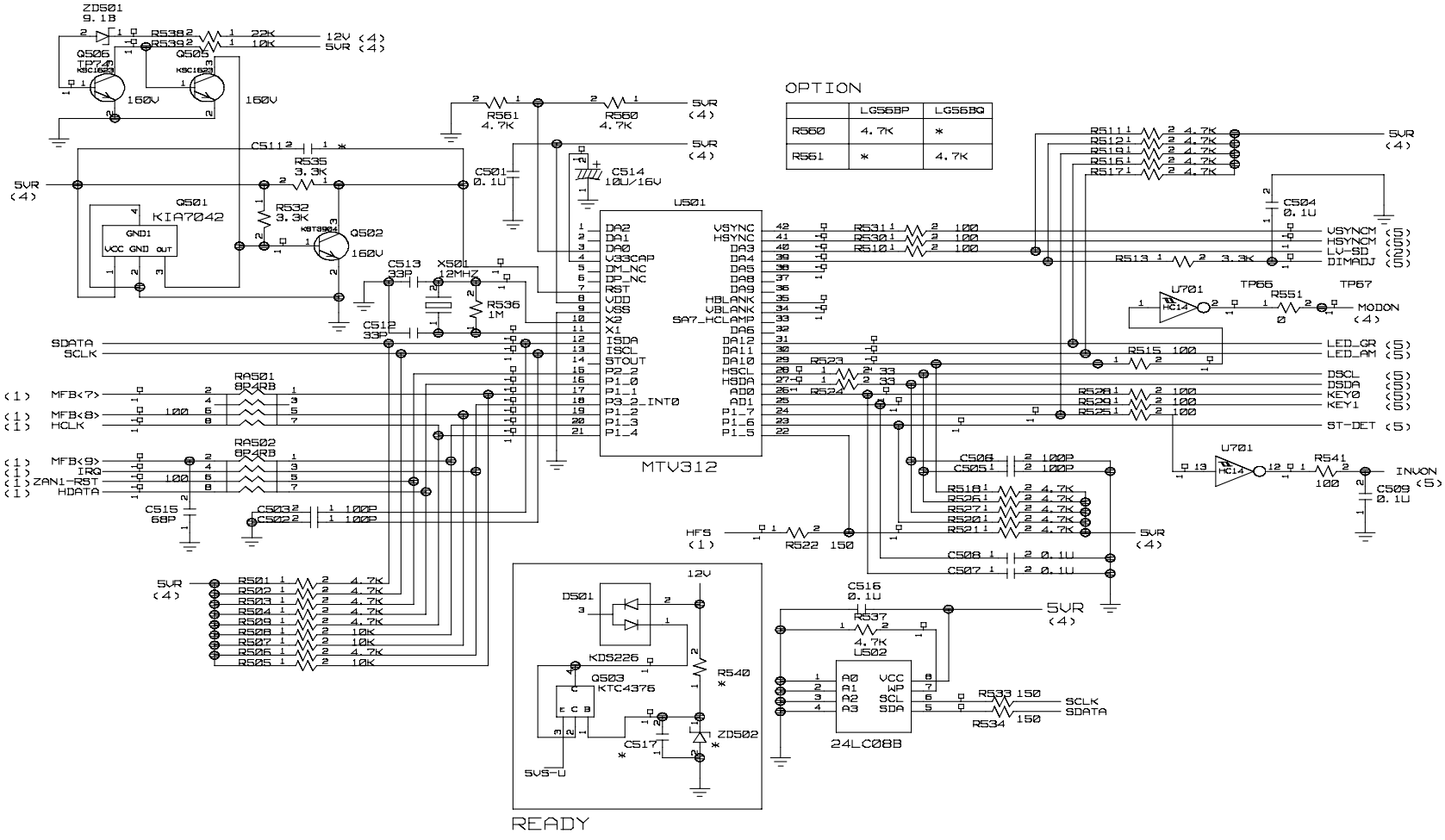


OPTION	LG56BP	LG56BQ
L203	BEAD-40	BEAD-120
C225	33PF	10PF
C230	*	15PF

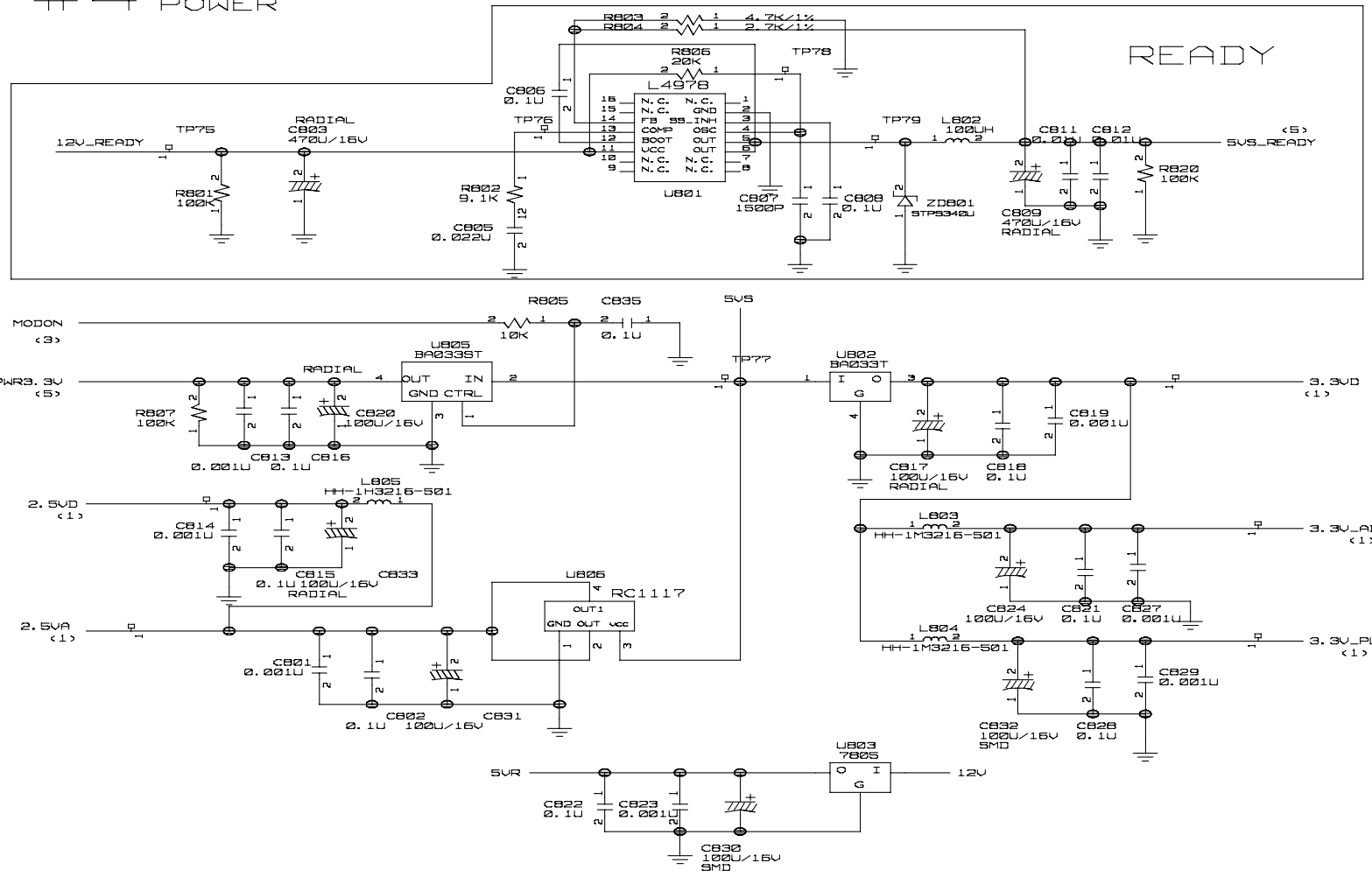
#2 GATEWAY LG56BQ LVDS

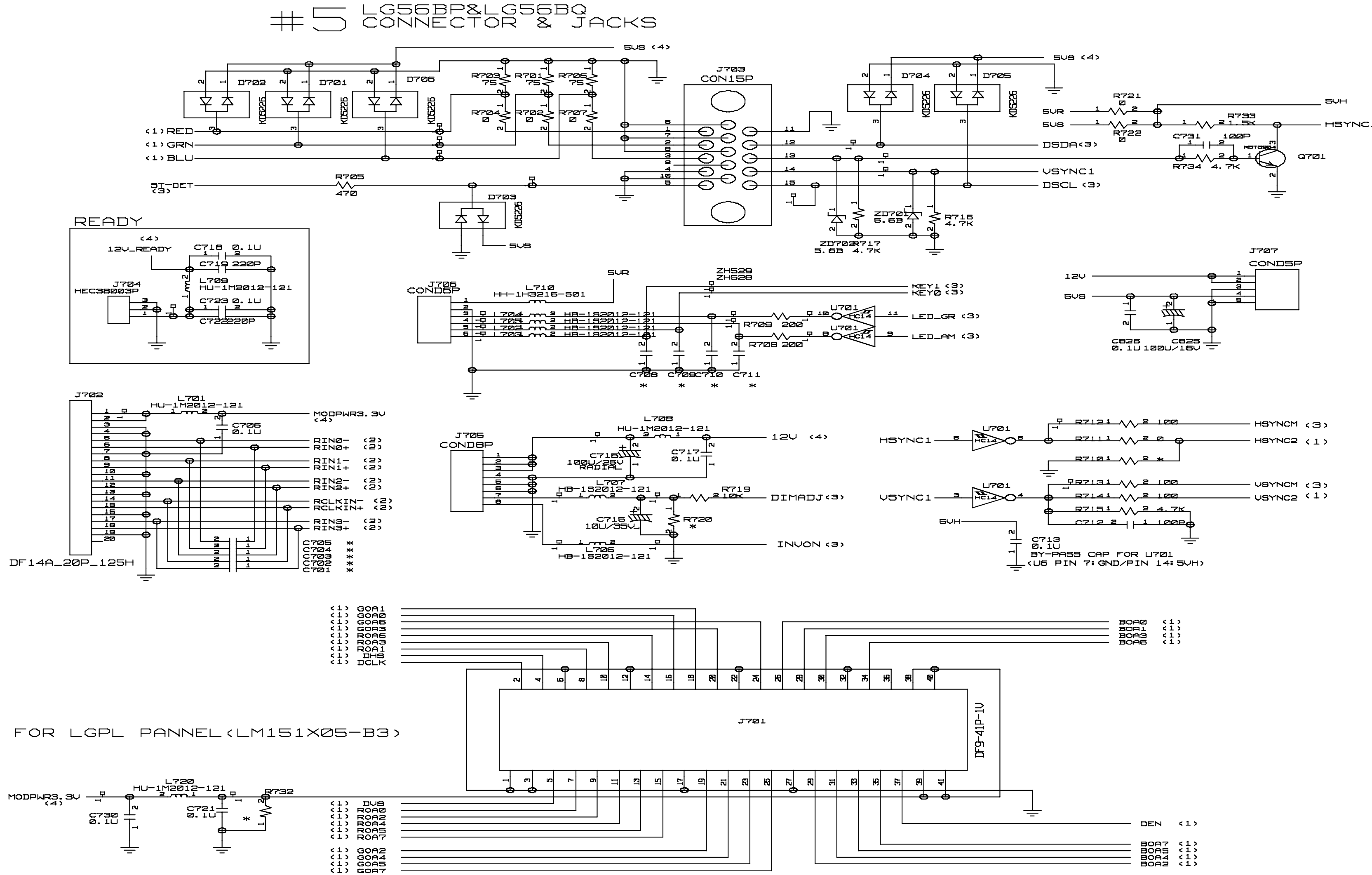


#3 GATEWAY LG56BP&LG56BQ MICOM



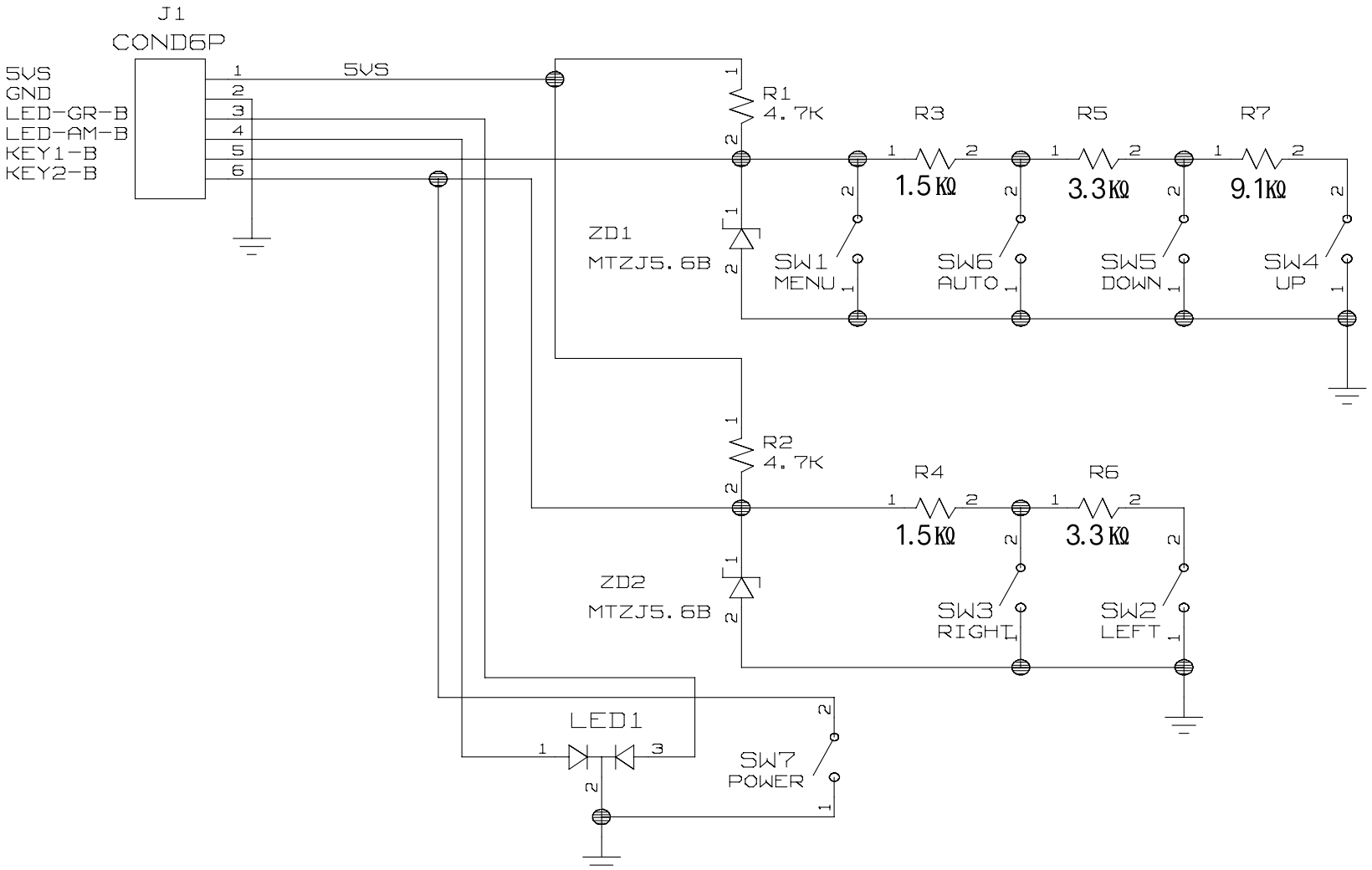
#4 GATEWAY LG56BP&LG56BQ POWER




#5 LG56BP&LG56BQ
CONNECTOR & JACKS
5VS (4)
J703
CON15P
D702
D701
D706
D704
D705
D703
KDS226
R703 75
R701 75
R706 75
R704 0
R702 0
R707 0
(1) RED
(1) GRN
(1) BLU
ST-DET (3)
R705 470
DSDA(3)
VSYNC1
DSCL (3)
5VR
5VS
5VH
HSYNC1
R721 0
R722 0
R733 1.5K
C731 100P
R734 4.7K
Q701
ZD701 5.6B
ZD702
R717 4.7K
R716 4.7K
READY
(4) 12V_READY
C718 0.1U
C719 220P
L709 HU-1M2012-121
J704 HEC3800SP
C723 0.1U
C722 220P
J706 COND6P
L710 HH-1H3216-501
ZH529
ZH528
KEY1 (3)
KEY0 (3)
U701
R709 200
R708 200
LED_GR (3)
LED_AM (3)
C708
C709
C710
C711
J707
COND5P
12V
C826 0.1U
C825 100U/16V
J702
L701 HU-1M2012-121
MODPWR3.3V (4)
C706 0.1U
RIN0- (2)
RIN0+ (2)
RIN1- (2)
RIN1+ (2)
RIN2- (2)
RIN2+ (2)
RCLKIN- (2)
RCLKIN+ (2)
RIN3- (2)
RIN3+ (2)
C705
C704
C703
C702
C701
DF14A_20P_125H
J705
COND8P
L708 HU-1M2012-121
12V (4)
C716 100U/25V RADIAL
C717 0.1U
L707 HB-1S2012-121
R719 10K
DIMADJ(3)
C715 10U/35V
R720
L706 HB-1S2012-121
INVON (3)
R712 100
R711 0
R710
HSYNCM (3)
HSYNC2 (1)
R713 100
R714 100
R715 4.7K
C712 100P
VSYNCM (3)
VSYNC2 (1)
C713 0.1U
BY-PASS CAP FOR U701
(U6 PIN 7:GND/PIN 14:5VH)
(1) GOA1
(1) GOA0
(1) GOA5
(1) GOA3
(1) ROA6
(1) ROA3
(1) ROA1
(1) DHS
(1) DCLK
BOA0 (1)
BOA1 (1)
BOA3 (1)
BOA6 (1)
J701
DF9-41P-1V
FOR LGPL PANNEL(LM151X05-B3)
L720 HU-1M2012-121
C730 0.1U
C721 0.1U
R732
(1) DVS
(1) ROA0
(1) ROA2
(1) ROA4
(1) ROA5
(1) ROA7
(1) GOA2
(1) GOA4
(1) GOA6
(1) GOA7
DEN (1)
BOA7 (1)
BOA5 (1)
BOA4 (1)
BOA2 (1)

CONTROL/POWER

LG56BP/LG56BQ(GATEWAY)
2002.01.03



Internal Power Circuit (FPD1520) 2002.01.04