LP717
Service Manual

TABLE OF CONTENTS

WARNING 3

A. IMPORTANT SAFETY INSTRUCTION 3

B. SPECIFICATIONS 4

C. TIMING CHART 5

D. ADJUSTMENT PROCEDURE 7

E. TROUBLE SHOOTING HINTS 8

F. SPARE PARTS LIST 12

G. BLOCK DIAGRAM 21

H. EXPLODED DIAGRAM 22

I. SCHEMATIC DIAGRAM 23

J. PCB LAYOUT DIAGRAM 24

WARNING

To prevent from fire or shock hazard,do not expose monitor to any rain or any form of water.High voltage is inside the monitor so please do not remove the back cover of the cabinet if you are not a qualified monitor engineer.Contact the local dealer or the nearest **Proview** branch office if you need help.

A. IMPORTANT SAFETY INSTRUCTION

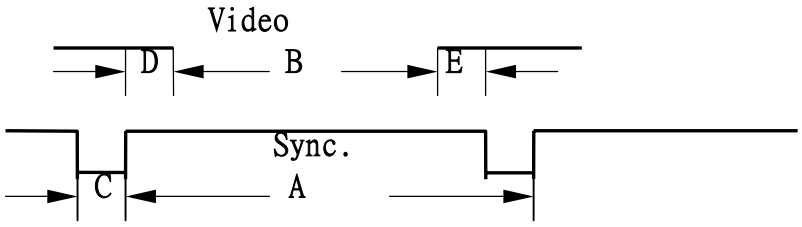
Prior to using this service manual,please ensure that you have carefully followed all the procedures outlined in the user's manual for this product.

1. Read all of these instructions.
2. Save these instructions.
3. Follow all warnings and instructions marked on the product.
4. Unplug this product from the wall outlet before cleaning.Do not use liquid cleaner or aerosol cleaner, use a damp cloth for cleaning.
5. Do not use this product near water.
6. Do not place this product on an unstable cart,stand or table.The product may fall,causing serious damage to the product.
7. Slots and openings in the cabinet and the back or bottom are provided for ventilation,to ensure reliable operation of the product and to protect it from overheating.Those openings must not be blocked or covered.The openings should never be blocked by placing the product on a bed,sofa, rug, or other similar surface.This product should not be placed in a built-in installation,since proper ventilation is provided.
8. This products should be operated with the type of power source indicated on the marked label. If you are not sure of the type of power is available, consult with your dealer or local power company.
9. This product is equipped with a 3-wire grounding type plug,a plug having a third (grounding) pin.This plug will only fit into a grounding-type power outlet.This is a safety feature.If you are unable to insert the plug into the outlet,contact your electrician to replace your obsolete outlet.Do not damage the purpose of the grounding-type plug.
10. Do not allow anything to rest on the power cord.Do not locate this product where persons will walk on the cord.
11. Never push any kinds of objects into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock.Never spill any kinds of liquid on the product.
12. Do not attempt to service this product yourself,as opening or removing covers may expose you to dangerous voltage points or other risk.Refer all servicing to service personnel.
13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions.
- **a.** When the power cord or plug is damaged or frayed.
- **b.** If liquid has been spilled into the product.
- **c.** If the product has been exposed to rain or water.
- **d.** If the product does not operate normally,when the operating instructions are followed.Adjust only those controls involved in the operating instructions ,since improper adjustment of other controls may result in damage and will often require extra work by a qualified technician to restore the product to normal operation.
- **e.** If the product has been dropped or the cabinet has been damaged.
- **f.** If the product exhibits a distinct change in performance,indicating a need for service.

B. SPECIFICATIONS

Panel General Specification	
Panel Model	Hannstar HSD170ME13-A
Screen Diagonal	17" TFT
Active Display Area	337.920mm (H) x 270.336mm (V)
Pixel Pitch	0.264(H) x 0.264(V) mm
Number of Colors	16.2M colors
View Angle Horizontal Vertical	 +/-70 degree -60/+70 degree Typical
Luminance of White	260cd/m²(Typical)
Contrast Ratio (Typical)	450:1
Maximum Resolution	1280 x 1024 @ 75Hz
Recommend Resolution	1280 x 1024 @ 75Hz
Synchronization Range Horizontal Vertical	 30 – 80 KHz 60– 75 Hz
Pixel Rate	135 MHz
User Control	5 Key Switch
OSD Function	Auto, Brightness, Contrast, H-position, V-position, H-size, Phase, Reset, Color selection (R, G, B, cool, warm), OSD , Language, Exit.
Power Source	90 – 264 Vac, 47-63 Hz
Power Consumption	48 W (max.)
Connection Type	15 Pin D-Sub Type;
Input Signal Video Sync.	 D-Sub: Analog R.G.B. , 0.7Vp-p / 75 Ohms TTL level,positive or negative polarity
Color Temperature	Cool / Warm / user mode
Dimension (WxHxD)	378.4x378.8x190 (mm)
Monitor Weight	3.8 kg
Base Operation Tilt	 -5 / + 15 degree
Power Saving ON STAND BY OFF	 < 48W < 3W < 3W
Signal Connector Pin Assignment D-SUB Pin No.	 1. Red Video 6. Red Ground 11. GND 2.Green Video 7. Green Ground 12. SDA For DDC2B 3.Blue Video 8. Blue Ground 13. H-sync. 4.GND 9. VCC +5V 14. V-sync-DDC1 5.Self Test 10. Sync. GND 15. SCL For DDC2B
Sound Output	No Audio

C . TIMING CHART



A: Period
B: Active
C: Sync Width
D: Back Porch
E: Front porch

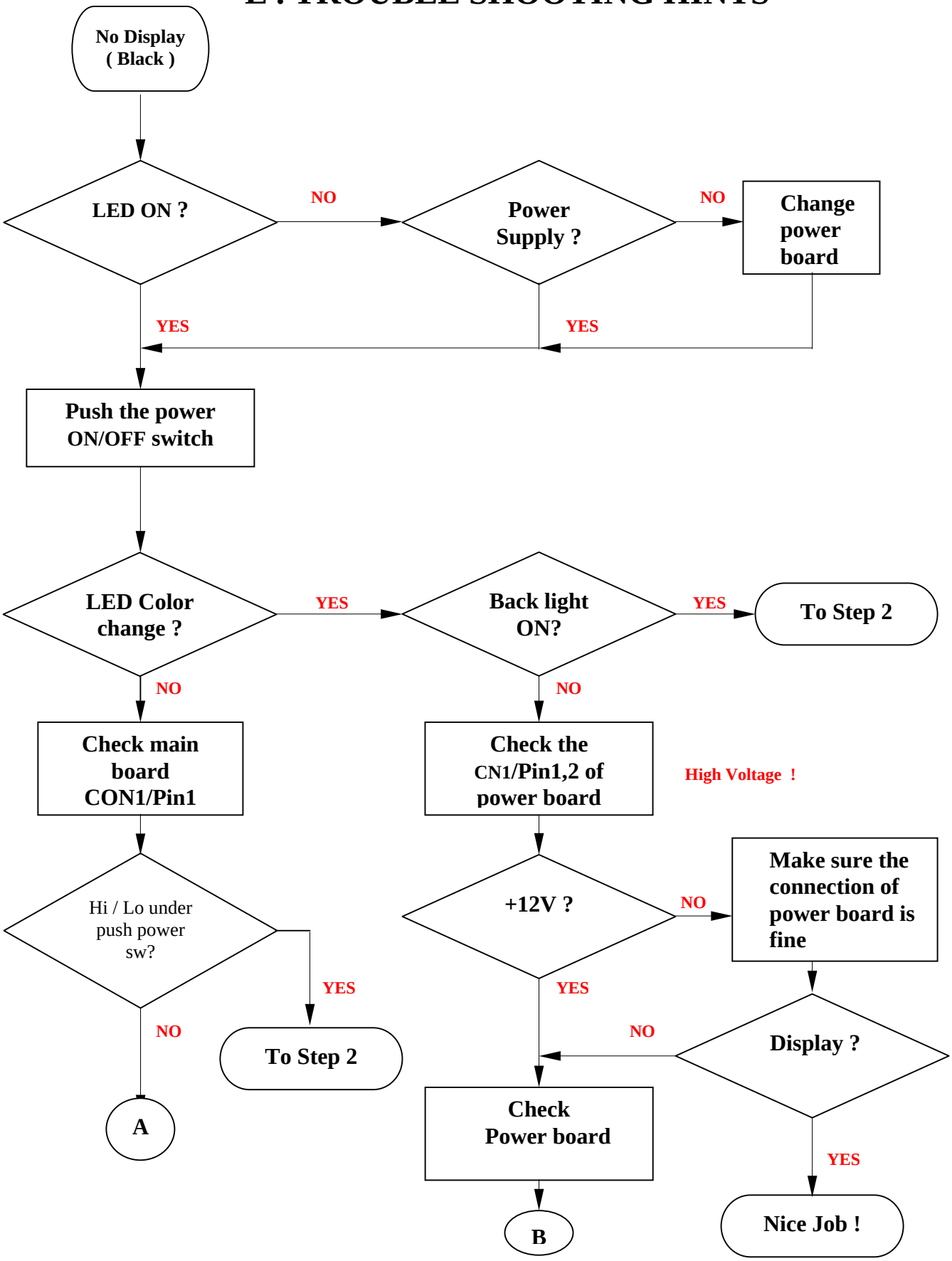
Preset Modes	VGA 640X350	VGA 640X400	VGA 640X480	VESA 640X480	VESA 640X480	VGA 720X400	VESA 800X600	VESA 800X600	VESA 800X600
Pixel Rate	25.175MHz	25.175MHz	25.175MHz	31.500MHz	31.500MHz	28.322MHz	36.000MHz	40.000MHz	50.000MHz
F.H	31.469KHz	31.469KHz	31.469KHz	37.861KHz	37.500KHz	31.469KHz	35.156KHz	37.879KHz	48.077KHz
A-period	31.778us	31.778us	31.778us	26.413us	26.667us	31.777us	28.444us	26.400us	20.800us
B-Active	25.422us	25.422us	25.422us	20.317us	20.317us	25.422us	22.222us	20.000us	16.000us
C-Syn	3.813us	3.813us	3.813us	1.270us	2.032us	3.813us	2.000us	3.200us	2.400us
D-Back Porch	1.907us	1.907us	1.589us	3.810us	3.810us	1.907us	3.556us	2.200us	1.280us
E-Front Porch	0.636us	0.636us	0.954us	1.016us	0.508us	0.635us	0.666us	1us	1.12us
F . V	70.087Hz	70.087Hz	59.941Hz	72.810Hz	75.000Hz	70.087Hz	56.250Hz	60.317Hz	72.188Hz
A-Period	14.268ms	14.268ms	16.683ms	13.734ms	13.333ms	14.268ms	17.778ms	16.579ms	13.853ms
B-Active	11.122ms	12.711ms	15.253ms	12.678ms	12.800ms	12.711ms	17.067ms	15.840ms	12.480ms
C-Syn	0.064ms	0.064ms	0.064ms	0.079ms	0.080ms	0.064ms	0.057ms	0.106ms	0.125ms
D-Back Porch	1.907ms	1.112ms	0.794ms	0.528ms	0.427ms	1.112ms	0.626ms	0.607ms	0.478ms
E-Front Porch	1.175ms	0.381ms	0.572ms	0.449ms	0.026ms	0.381ms	0.028ms	0.026ms	0.77ms
H/V SYNC	+ −	− +	− −	− −	− −	− +	+ +	+ +	+ +
Interlaced	NON	NON	NON	NON	NON	NON	NON	NON	NON

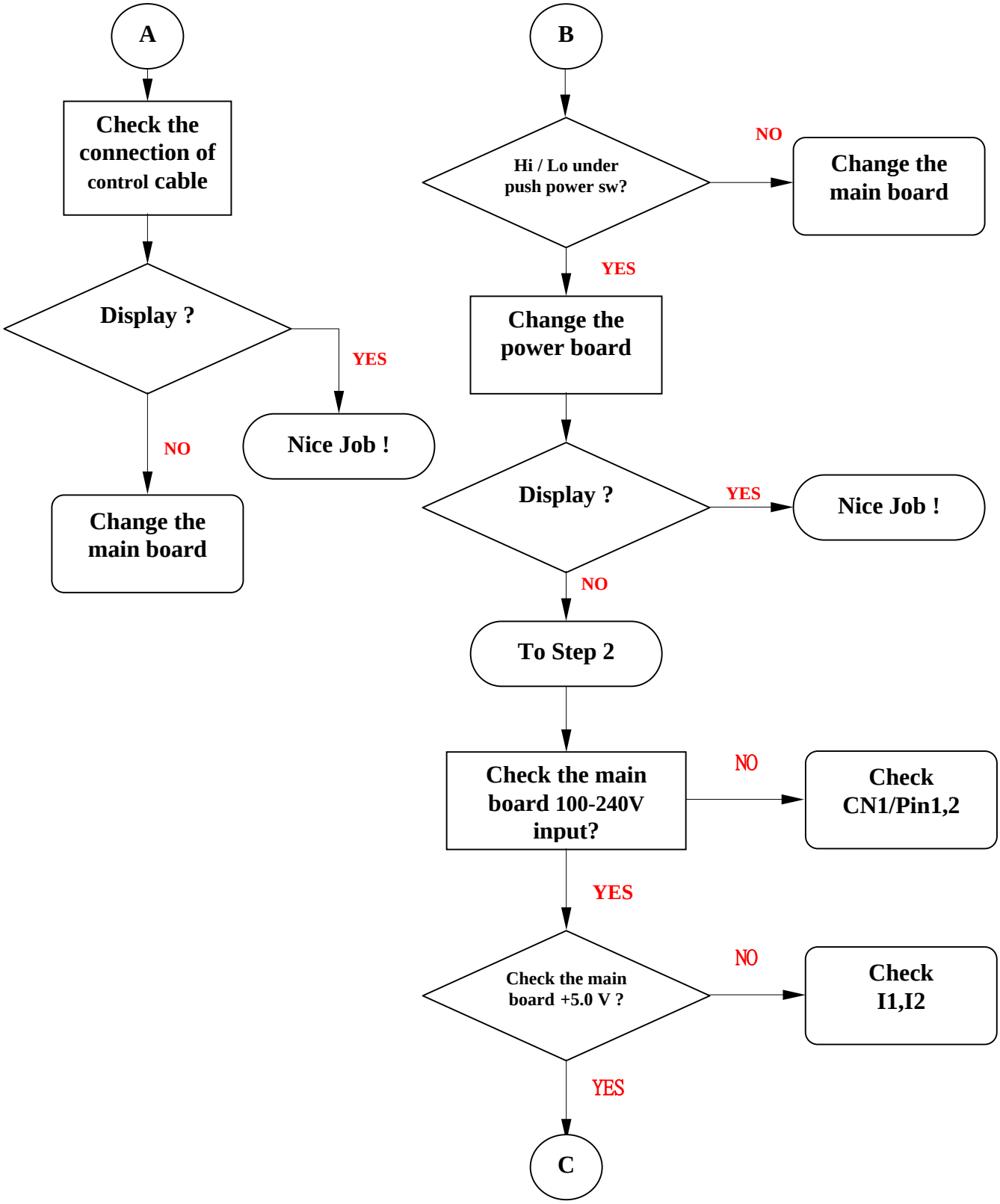
Preset Modes	VESA 800X600	VESA 1024X768	VESA 1024X768	VESA 1024X768	VESA 1280X1024	VESA 1280X1024			
Pixel Rate	49.500MHz	65.000MHz	75.000MHz	78.750MHz	108.00MHz	135.00MHz			
F.H	46.875KHz	48.363KHz	56.476KHz	60.023KHz	63.98KHz	79.976KHz			
A-period	21.333us	20.677us	17.707us	16.660us	15.630us	12.504us			
B-Active	16.162us	15.754us	13.653us	13.003us	11.852us	9.481us			
C-Syn	1.616us	2.092us	1.813us	1.219us	1.037us	1.067us			
D-Back Porch	3.232us	2.462us	1.920us	2.235us	2.296us	1.837us			
E-Front Porch	0.323us	0.369us	0.321us	0.203us	0.444us	0.119us			
F . V	75.000Hz	60.004Hz	70.069Hz	75.029Hz	60.020Hz	75.025Hz			
A-Period	13.333ms	16.666ms	14.272ms	13.328ms	16.661ms	13.329ms			
B-Active	12.800ms	15.880ms	13.599ms	12.795ms	16.005ms	12.804ms			
C-Syn	0.064ms	0.124ms	0.106ms	0.050ms	0.047ms	0.038ms			
D-Back Porch	0.448ms	0.600ms	0.513ms	0.466ms	0.594ms	0.475ms			
E-Front Porch	0.021ms	0.062ms	0.054ms	0.017ms	0.016ms	0.013ms			
H/V SYNC	+ +	− −	− −	+ +	+ +	+ +			
Interlaced	NON	NON	NON	NON	NON	NON			

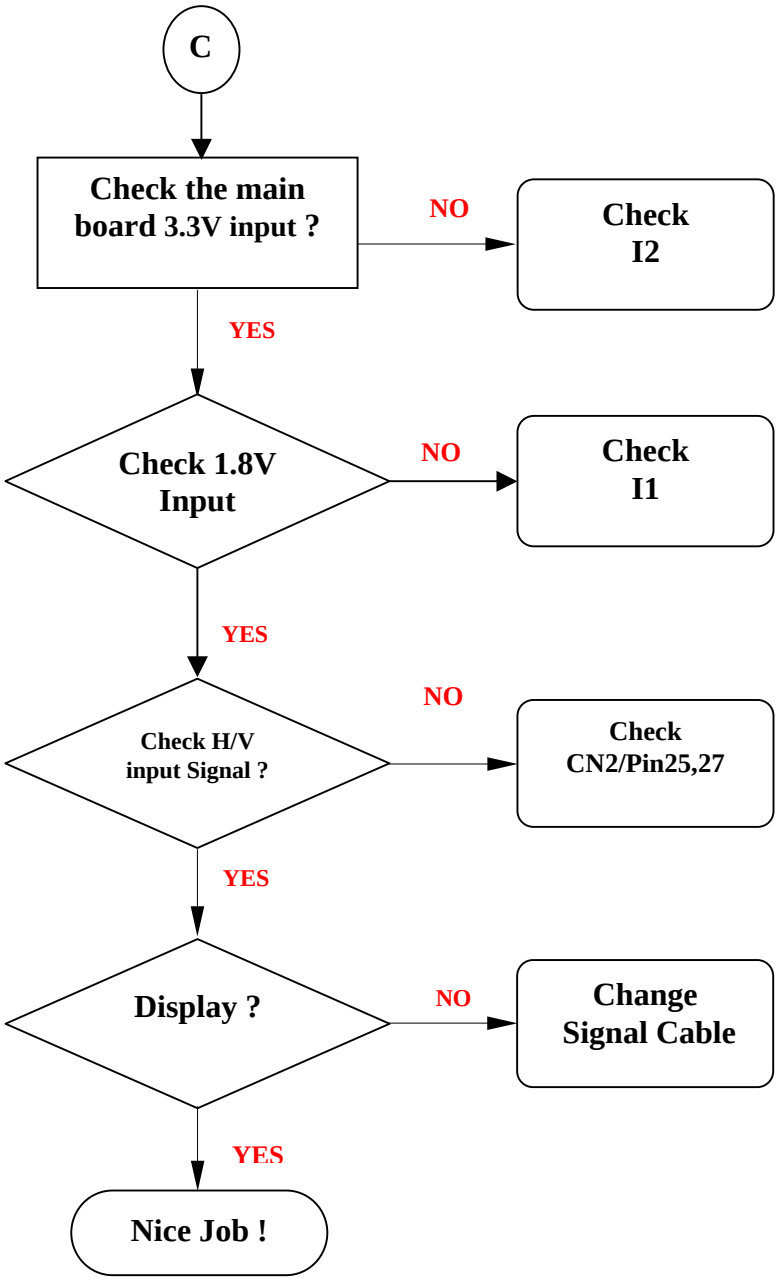
D. ADJUSTMENT PROCEDURE

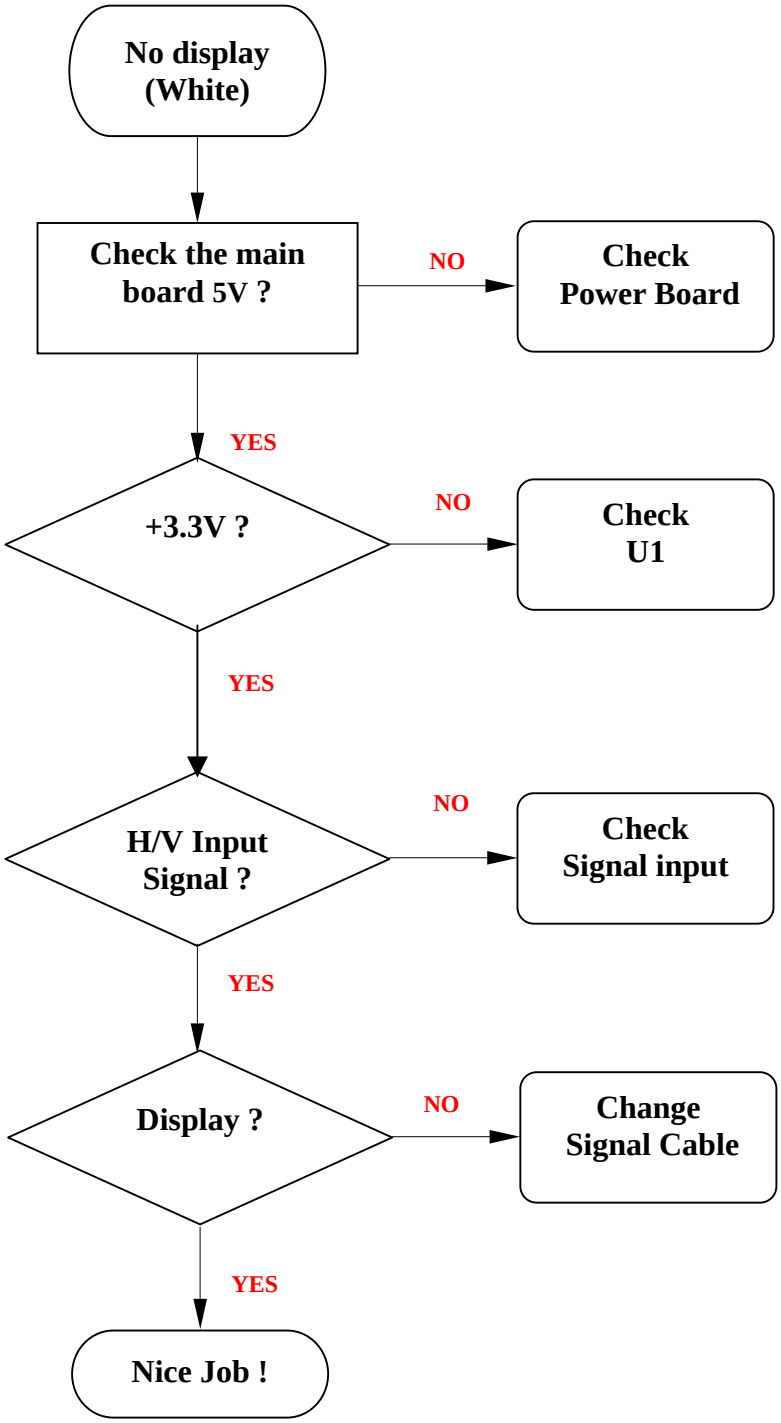
ITEM / Program Menu.		# Test Meter * Test Point @ Pattern	Operation	Check Value
A	**Power supply Check**	# Digital Voltmeter * CN2 @ Crosshatch Pattern (1280x1024, 60Hz)	**1.** Plug power cable into the LCD monitor directly. **2.** Make sure the voltage of the power plug (CN2) on the Power Board to the value shown at right.	220Vac ±0.2V
B	**Power Saving Check**	# Wattmeter # PC or Pattern generator @ Crosshatch Pattern (1280x1024, 60Hz)	**1.** Unplug the signal cable into the monitor. **2.** Turn the power switch of the monitor **ON**. **3.** Check monitor power indicator light up blue flashing every other second. **4.** Make sure the wattmeter value shown at right. **5.** OSD will be display "**NO SIGNAL**" Picture.	‹ 3W
C	**Into Factory mode**	# PC or Pattern generator @ Crosshatch Pattern (1280x1024, 60Hz)	**1.** Hold Down key,then turn the power switch of the monitor **OFF**. **2.** Hold **Up** key,then turn the power switch of the monitor **ON**. **3.** You can enter factory adjustment mode.	
D	**Auto mode Check**	# PC or Pattern generator @ Crosshatch Pattern (1280x1024, 60Hz)	**1.**Press and release the **Auto** key to adjust display mode to its utmost performance according to VGA setting.	
E	**White Balance Adjust**	# PC or Pattern generator @ White Pattern (1280x1024, 60Hz)	**1.** Move the OSD to the **COLOR** mode (AUTO COLOR). **2.** set color is **Cool** using the OSD,Check the value shown at right. **Y** = 200±20cd/m^2 **x** = 0.283±0.02 **y** = 0.297±0.02 **3.** set color is **Warm** using the OSD,Check the value shown at right. **Y** = 200±20cd/m^2 **x** = 0.313±0.02 **y** = 0.329±0.02	
F	**OSD Language Setting**	# PC or Pattern generator	**1.** Move the OSD to the **OSD setting** mode **2.** Move the OSD to the **LANGUAGE** mode. **3.** You can choose one of the language you need.	

E . TROUBLE SHOOTING HINTS




A
Check the connection of control cable
Display ?
YES
Nice Job !
NO
Change the main board
B
Hi / Lo under push power sw?
NO
Change the main board
YES
Change the power board
Display ?
YES
Nice Job !
NO
To Step 2
Check the main board 100-240V input?
NO
Check CN1/Pin1,2
YES
Check the main board +5.0 V ?
NO
Check I1,I2
YES
C


C
Check the main board 3.3V input ?
NO
Check I2
YES
Check 1.8V Input
NO
Check I1
YES
Check H/V input Signal ?
NO
Check CN2/Pin25,27
YES
Display ?
NO
Change Signal Cable
YES
Nice Job !


No display
(White)
Check the main
board 5V ?
NO
Check
Power Board
YES
+3.3V ?
NO
Check
U1
YES
H/V Input
Signal ?
NO
Check
Signal input
YES
Display ?
NO
Change
Signal Cable
YES
Nice Job !

F. SPARE PARTS LIST

Main Board/ Control Board

No.	Parts Number	Parts Description	Unit	Q'ty	Location
1	200-100-M713-S3	M/B PCBREV:S3	EA	1	
2	200-700-M713-S3	Control/B PCB REV:S3	EA	1	
3	281-031-39004	SMD 390ohm 0603 +-1%	EA	1	R40,
4	281-031-75R04	RES 75 1% 1/10W 0603 SMD.	EA	2	R32,R36,
5	281-031-75R04	RES 75 1% 1/10W 0603 SMD.	EA	1	R29,
6	281-035-0R04	RES 0ohm 5% 1/10W 0603 SMD.	EA	2	R38,R39,
7	281-035-0R04	RES 0ohm 5% 1/10W 0603 SMD.	EA	1	R3,
8	281-035-1004	RES 10ohm 5% 1/10W 0603 SMD.	EA	1	R41,
9	281-035-1014	RES 100ohm 5% 1/10W 0603 SMD	EA	2	R66,R67,
10	281-035-1024	RES 1K 5% 1/10W 0603 SMD.	EA	4	R5,R14,R69,R70,
11	281-035-1034	RES 10K 5% 1/10W 0603 SMD.	EA	10	R13,R21,R23,R42,R64,R65,R68,R72, R76,R78,
12	281-035-1044	RES 100K 5% 1/10W 0603 SMD.	EA	1	R6,
13	281-035-1824	RES 1.8K 5% 1/10W 0603 SMD.	EA	2	R17,R22,
14	281-035-2004	RES 20 5% 1/10W 0603 SMD.	EA	3	R28,R31,R35,
15	281-035-2224	RES 2.2K 5% 1/10W 0603 SMD.	EA	1	R24,
16	281-035-2724	RES 2.7K 5% 1/10W 0603 SMD.	EA	2	R19,R20,
17	281-035-3314	RES 330ohm 1/10W 0603 SMD.	EA	2	R62,R63,
18	281-035-3334	RES 33K 5% 1/10W 0603 SMD.	EA	1	R1,
19	281-035-4704	RES 47ohm 5% 1/10W 0603 SMD.	EA	9	R30,R34,R37,R43,R44,R45,R46,R26,R27,
20	281-035-4714	RES 470ohm 5% 1/10W 0603 SMD.	EA	1	R33,
21	281-035-4724	RES 4.7K 5% 1/10W 0603 SMD.	EA	2	R2,R47,
22	281-035-4724	RES 4.7K 5% 1/10W 0603 SMD.	EA	1	R16,
23	281-035-8224	RES 8.2K 5% 1/10W 0603 SMD.	EA	1	R74,
24	282-0R0-2454	RES-NET 0ohm 5% SMD 8P4R.	EA	4	RN3,RN4,RN5,RN16,
25	282-103-2454	RES-NET 10Kohm 5% SMD 8P4R.	EA	4	RN12,RN13,RN14,RN15,
26	282-220-2454	22X4 +-5% 1/10W SMD 8P4R	EA	2	RN10,RN11,
27	285-056-B160C	SMD VARISTOR SIZE 0603 5.6V 30PF	EA	4	D3,D4,D5,D6,
28	330-100-16253-W	EC 10uF 16V 105˚C TP MI 4*5	EA	7	TC7,TC9,TC8,TC10,TC11,TC12,TC14,
29	330-221-16203-W1	EC.220uF/16V 105˚C Φ6*11	EA	3	TC3,TC4,TC6,
30	330-470-16273-W	EC.H7mm105C47uF/16V	EA	2	TC1,TC2,
31	381-102-035054H	NPO 1000P/50V +-5% 0603 SMDFOR RoHS	EA	1	C23,
32	381-220-032554H	SMD CC 22pF 25V NPO 0603. FOR RoHS	EA	4	C49,C52,C66,C68,
33	385-104-032584H	Y5V 0.1u/25V +80%-20% 0603FOR RoHS	EA	37	C1,C2,C4,C6,C7,C11,C12,C13,C14,C15,C17 ,C18,C27,C28,C29,C32,C33,C34,C35,C36, C37,C38,C39,C40,C41,C42,C43,C44,C45, C46,C47,C48,C53,C54,C56,C59,C3,
34	385-104-032584H	Y5V 0.1u/25V +80%-20% 0603FOR RoHS	EA	2	C65,C64,
35	385-105-031684H	Y5V 1uF/16V +80-20% 0603. FOR RoHS	EA	1	C5,
36	385-473-032584H	Y5V 0.047u/25V +80%-20% 0603FOR RoHS	EA	6	C19,C21,C22,C25,C26,C31,

37	401-170-0201	TACT SWITCH	EA	5	S1,S2,S3,S4,S5,
38	481-LCC-0440	SOCKET 44PIN PLCC.	EA	1	U5,
39	483-302-2388	2.5P 254FH15 1S H8.50mm	EA	1	CN1,
40	506-0AI-18CE	AIC 1084CE 1.8V T0252 SMD.	EA	1	I3,
41	506-10E-8050IQ	MXIC MX10E8050IQC PLCC44	EA	1	
42	506-524-LC21-S	MEMORY IC 24LC21 SMD .ST	EA	1	U2,
43	506-5NM-24C16	24C16 SO8 MEMORY IC SMD.	EA	1	U4,
44	506-MST-TSU16AK	SMD MST TSU16AK LVDS+RSDS VGA ONLY	EA	1	U3,
45	506-RAS-1117-33	LDO AS1117L 3.3V SOT-223 1A	EA	1	I2,
46	518-02N-3904	TR NPN PMBS3904 40V 100mA	EA	5	Q1,Q2,Q7,Q4,Q6,
47	518-1CE-9435	MOSFET CE9435A S08.	EA	1	U1,
48	520-005-G317-F	LED 3D2P	EA	1	D1,
49	528-200-BAV99	DIODE BAV99 SOT-23.	EA	3	D7,D8,D9,
50	528-2BA-T54C	SMD DIODE BAT54C SOT23.	EA	1	D1,
51	528-R1N-4148	DIODE 1N4148 SOT-34 SMD.	EA	1	D10,
52	531-110-49US	11.0592MHZ HC 49US CRYSTAL.	EA	1	Y1,
53	531-143-49US-2	KTS QYSTAL 14.318MHZ. 20PF	EA	1	X1,
54	558-352-5000	SMD FUSE 1206 24V 5A.	EA	1	F1,
55	600-151-5200B	Power Cord BLACK 1.5M	EA	1	
56	610-151-15GM7-AF	Signal Cable 1.5M	EA	1	
57	630-008-1009	BASE 8P.180°	EA	1	C0N1,
58	630-008-C001	JST 1.5mm HEADER ZR	EA	1	C0N1,
59	630-013-1009	BASE 13PJWT A2001 PITCH 2.0D.	EA	1	CN2,
60	630-026-S2006	BASE 2.0 26P /JWTA2006	EA	1	JP1,
61	631-A30-JM713-A2	M713 17"19"LVDS CABLE 30P 15cm	EA	1	EMI,
62	631-C08-8M713	M713 8P2.0-1.5 290 +CORE	EA	1	
63	640-003-0005	Shrinking Tube 5mm Φ3mm	EA	1	
64	650-003-0081	CABLE TIE ALT-0.85S.	EA	1	
65	705-570-601H	HANNSTAR 17" HSD170ME13-A REV.2	EA	1	
66	780-103-3000A	BEAD FCM1608K-300T07	EA	3	FB4,FB5,FB6,
67	780-104-600E30	SMD BEAD 0805 60Ω/100MHz 3A	EA	9	FB1,FB3,FB7,FB8,FB9,FB10,FB11,FB12,L1
68	780-107-121J50	BEAD 120ohm 1206 5A Jantek	EA	1	L3,
69	860-ALZ-M713-FB	Li Chang POWER 3IN1 AI0088	EA	1	
70	899-01E-M713-S3	MSTAR TSU16AK LVDS PIGTALL REV:S3	EA	1	
71	899-400-M713-S3	KEY BOARD Green LED REV:S3	EA	1	

Power Board(AI-0088FB)

Customer' s Part No.:AI-0088FB 17"(860-ALZ-M713-FB)

ITEM	NAME	DESCRIPTION	MANUFACTURER	POSITION	Q'T	UNIT
1	JUMPER WIRE	0.75*7.5mm		JP1(A), JP2(A),	8.000	PCS
				JP3(A), JP7(A),		
				JP12(A), JP25(A),		
				JP26(A), JP27(A),		
2	JUMPER WIRE	0.6φ*12.5mm		JP4(A),	1.000	PCS
3	JUMPER WIRE	0.6*15mm		JP6(A), JP8(A),	4.000	PCS
				JP9(A), JP31(A),		
4	JUMPER WIRE	0.6*5mm		JP10(A), JP13(A),	15.00	PCS
				JP14(A), JP15(A),		
				JP16(A), JP17(A),		
				JP18(A), JP19(A),		
				JP20(A), JP21(A),		
				JP22(A), JP23(A),		
				JP24(A), JP28(A),		
				JP29(A),		
5	JUMPER WIRE	0.6φ*17.5		JP5(A),	1.000	PCS
6	JUMPER WIRE	0.6φ*10mm		JP32(A), JP33(A),	3.000	PCS
				JP34(A),		
7	JUMPER WIRE	0.6φ*20mm		JP11(A), JP30(A),	2.000	PCS
8	CABLE TIE	2.5*97		FOR CN2,	1.000	PCS
9	SOLDER STICK	SOLDER STICK63%			0.006	KG
10	CHIP-RESISTOR	1206 300KΩ 1%	YAGEO	R114(B),	1.000	PCS
10-1		1206 300KΩ 1%	TZAI YUAN			
10-2		1206 300KΩ 1%	COMPOSTAR			
11	CHIP-RESISTOR	1206 91KΩ 1%	YAGEO	R126(B),	1.000	PCS
11-1		1206 91KΩ 1%	TZAI YUAN			
11-2		1206 91KΩ 1%	COMPOSTAR			
12	CHIP-RESISTOR	0805 1.5KΩ 1%	YAGEO	R110(B), R111(B),	4.000	PCS
12-1		0805 1.5KΩ 1%	TZAI YUAN	R122(B), R123(B),		
12-2		0805 1.5KΩ 1%	COMPOSTAR			
13	CHIP-RESISTOR	0805 1.2KΩ 1%	YAGEO	R128(B),	1.000	PCS
13-1		0805 1.2KΩ 1%	TZAI YUAN			
13-2		0805 1.2KΩ 1%	COMPOSTAR			
14	CHIP-RESISTOR	0805 160KΩ 1%	YAGEO	R124(B),	1.000	PCS
14-1		0805 160KΩ 1%	COMPOSTAR			
15	CHIP-RESISTOR	0805 30KΩ 1%	YAGEO	R008(B),	1.000	PCS
15-1		0805 30KΩ 1%	TZAI YUAN			
15-2		0805 30KΩ 1%	COMPOSTAR			
16	CHIP-RESISTOR	0805 560KΩ 1%	YAGEO	R112(B),	1.000	PCS
16-1		0805 560KΩ 1%	TZAI YUAN			
16-2		0805 560KΩ 1%	COMPOSTAR			
17	CHIP-RESISTOR	1206 0Ω 5%	YAGEO	R045(B), JR105(B),	5.000	PCS

Customer' s Part No.:AI-0088FB 17"(860-ALZ-M713-FB)

ITEM	NAME	DESCRIPTION	MANUFACTURER	POSITION	Q'T	UNIT
17-1		1206 0Ω 5%	TZAI YUAN	JR002(B),JR004(B),		
17-2		1206 0Ω 5%	COMPOSTAR	JR005(B),		
18	CHIP-RESISTOR	1206 10Ω 5%	YAGEO	R013(B),	1.000	PCS
18-1		1206 10Ω 5%	TZAI YUAN			
18-2		1206 10Ω 5%	COMPOSTAR			
19	CHIP-RESISTOR	1206 1KΩ 5%	YAGEO	R016(B),	1.000	PCS
19-1		1206 1KΩ 5%	TZAI YUAN			
19-2		1206 1KΩ 5%	COMPOSTAR			
20	CHIP-RESISTOR	1206 100KΩ 5%	YAGEO	R018(B),R019(B),	4.000	PCS
20-1		1206 100KΩ 5%	TZAI YUAN	R020(B),R021(B),		
20-2		1206 100KΩ 5%	COMPOSTAR			
21	CHIP-RESISTOR	1206 180Ω 5%	YAGEO	R027(B),	1.000	PCS
21-1		1206 180Ω 5%	TZAI YUAN			
21-2		1206 180Ω 5%	COMPOSTAR			
22	CHIP-RESISTOR	1206 2KΩ 5%	YAGEO	R015(B),R034(B),	2.000	PCS
22-1		1206 2KΩ 5%	TZAI YUAN			
22-2		1206 2KΩ 5%	COMPOSTAR			
23	CHIP-RESISTOR	1206 22Ω 5%	YAGEO	R012(B),R024(B),	2.000	PCS
23-1		1206 22Ω 5%	TZAI YUAN			
23-2		1206 22Ω 5%	COMPOSTAR			
24	CHIP-RESISTOR	1206 27KΩ 5%	YAGEO	R044(B),R047(B),	2.000	PCS
24-1		1206 27KΩ 5%	TZAI YUAN			
24-2		1206 27KΩ 5%	COMPOSTAR			
25	CHIP-RESISTOR	1206 470Ω 5%	YAGEO	R136(B),R102(B),	2.000	PCS
26	CHIP-RESISTOR	1206 47KΩ 5%	YAGEO	R035(B),	1.000	PCS
26-1		1206 47KΩ 5%	TZAI YUAN			
27	CHIP-RESISTOR	1206 51Ω 5%	YAGEO	R014(B),	1.000	PCS
27-1		1206 51Ω 5%	TZAI YUAN			
27-2		1206 51Ω 5%	COMPOSTAR			
28	CHIP-RESISTOR	1206 510KΩ 5%	YAGEO	R001(B),R002(B),	3.000	PCS
28-1		1206 510KΩ 5%	TZAI YUAN	R003(B),		
28-2		1206 510KΩ 5%	COMPOSTAR			
29	CHIP-RESISTOR	1206 560Ω 5%	YAGEO	R028(B),	1.000	PCS
29-1		1206 560Ω 5%	TZAI YUAN			
29-2		1206 560Ω 5%	COMPOSTAR			
30	CHIP-RESISTOR	0805 0Ω 5%	YAGEO	R121(B),R127(B),	9.000	PCS
30-1		0805 0Ω 5%	TZAI YUAN	JR101(B),JR102(B),		
30-2		0805 0Ω 5%	COMPOSTAR	JR103(B),JR104(B),		
				JR106(B),JR001(B),		
				JR003(B),		
31	CHIP-RESISTOR	0805 100Ω 5%	YAGEO	R106(B),R109(B),	2.000	PCS
31-1		0805 100Ω 5%	TZAI YUAN			

Customer' s Part No.:AI-0088FB 17"(860-ALZ-M713-FB)

ITEM	NAME	DESCRIPTION	MANUFACTURER	POSITION	Q'T	UNIT
31-2		0805 100Ω 5%	COMPOSTAR			
32	CHIP-RESISTOR	0805 1KΩ 5%	YAGEO	R105(B),R006(B),	3.000	PCS
32-1		0805 1KΩ 5%	TZAI YUAN	R007(B),		
32-2		0805 1KΩ 5%	COMPOSTAR			
33	CHIP-RESISTOR	0805 10KΩ 5%	YAGEO	R004(B),R005(B),	2.000	PCS
33-1		0805 10KΩ 5%	TZAI YUAN			
33-2		0805 10KΩ 5%	COMPOSTAR			
34	CHIP-RESISTOR	0805 100KΩ 5%	YAGEO	R107(B),R119(B),	2.000	PCS
34-1		0805 100KΩ 5%	TZAI YUAN			
34-2		0805 100KΩ 5%	COMPOSTAR			
35	CHIP-RESISTOR	0805 15KΩ 5%	YAGEO	R117(B),R129(B),	2.000	PCS
35-1		0805 15KΩ 5%	TZAI YUAN			
35-2		0805 15KΩ 5%	COMPOSTAR			
36	CHIP-RESISTOR	0805 150KΩ 5%	YAGEO	R130(B),	1.000	PCS
36-1		0805 150KΩ 5%	TZAI YUAN			
36-2		0805 150KΩ 5%	COMPOSTAR			
37	CHIP-RESISTOR	0805 1.5MΩ 5%	YAGEO	R116(B),	1.000	PCS
37-1		0805 1.5MΩ 5%	TZAI YUAN			
37-2		0805 1.5MΩ 5%	COMPOSTAR			
38	CHIP-RESISTOR	0805 2.2KΩ 5%	YAGEO	R101(B),R103(B),	2.000	PCS
38-1		0805 2.2KΩ 5%	TZAI YUAN			
38-2		0805 2.2KΩ 5%	COMPOSTAR			
39	CHIP-RESISTOR	0805 22KΩ 5%	YAGEO	R131(B),R132(B),	4.000	PCS
39-1		0805 22KΩ 5%	TZAI YUAN	R133(B),R134(B),		
39-2		0805 22KΩ 5%	COMPOSTAR			
40	CHIP-RESISTOR	0805 33KΩ 5%	YAGEO	R120(B),	1.000	PCS
40-1		0805 33KΩ 5%	TZAI YUAN			
40-2		0805 33KΩ 5%	COMPOSTAR			
41	CHIP-RESISTOR	0805 470KΩ 5%	YAGEO	R135(B),	1.000	PCS
41-1		0805 470KΩ 5%	TZAI YUAN			
41-2		0805 470KΩ 5%	COMPOSTAR			
42	CHIP-RESISTOR	0805 5.1KΩ 5%	YAGEO	R031(B),	1.000	PCS
42-1		0805 5.1KΩ 5%	TZAI YUAN			
42-2		0805 5.1KΩ 5%	COMPOSTAR			
43	CHIP-RESISTOR	0805 68KΩ 5%	YAGEO	R118(B),R125(B),	3.000	PCS
43-1		0805 68KΩ 5%	TZAI YUAN	R033(B),		
43-2		0805 68KΩ 5%	COMPOSTAR			
44	CHIP-RESISTOR	0805 75Ω 5%	YAGEO	R104(B),R108(B),	2.000	PCS
44-1		0805 75Ω 5%	TZAI YUAN			
45	CHIP-RESISTOR	0805 820Ω 5%	YAGEO	R032(B),R043(B),	2.000	PCS
45-1		0805 820Ω 5%	TZAI YUAN			
45-2		0805 820Ω 5%	COMPOSTAR			

Customer' s Part No.:AI-0088FB 17"(860-ALZ-M713-FB)

ITEM	NAME	DESCRIPTION	MANUFACTURER	POSITION	Q'T	UNIT
46	VARISTOR	TVR07471	THINKING	VAR1(A),	1.000	PCS
46-1		GNR07D417K	CERAMATE			
47	MOF-RESISTOR	1/2W 10Ω 5%	TZAI YUAN	R010(A),	1.000	PCS
48	E-CAP.	KM 100uF 450V 18*35	SAMXON	C001(A),	1.000	PCS
49	E-CAP.	LZR 150uF 25V 8*7	HER MEI	C101(A),C105(A),	2.000	PCS
49-1		GK 150uF 25V 8*7	SAMXON			
50	HIGH VOLTAGE CAP.	222PF 1KV	TDK	C002(A),	1.000	PCS
50-1		222PF 1KV	JYA-NAY			
51	HIGH VOLTAGE CAP.	CK45-B2H471KYP	TDK	C009(A),C010(A),	2.000	PCS
52	HIGH VOLTAGE CAP.	15PF 3KV	TDK	C106(A),C110(A),	4.000	PCS
52-1		15PF 3KV	UNIVERSE	C117(A),C121(A),		
53	HIGH VOLTAGE CAP.	15PF 6KV	TDK	C107(A),C118(A),	2.000	PCS
53-1		15PF 6KV	UNIVERSE			
54	X-CAPACITOR	0.22uF 300V 17*15.5*7.5	SHINY SPACE	CX001(A),CX002(A),	2.000	PCS
54-1		0.22uF 300V 17*15.5*7.5	CHENG TUNG			
55	CHIP-CAPACITOR	0805 0.01uF 50V X7R	HEC	C016(B),C108(B),	3.000	PCS
55-1		0805 0.01uF 50V X7R	YAGEO	C119(B),		
55-2		0805 0.01uF 50V X7R	TDK			
56	CHIP-CAPACITOR	0805 0.47uF 16V X7R	HEC	C005(B),C128(B),	3.000	PCS
56-1		0805 0.47uF 25V X7R	YAGEO	C115(B),		
56-2		0805 0.47uF 16V X7R	TDK			
57	CHIP-CAPACITOR	0805 1uF 10V X5R	HEC	C109(B),C124(B),	2.000	PCS
57-1		0805 1uF 16V X7R	YAGEO			
57-2		0805 1uF 10V X7R	TDK			
58	CHIP-CAPACITOR	1206 2.2uF 25V X7R	HEC	C102(B),C104(B),	2.000	PCS
58-1		1206 2.2uF 25V X7R	TDK			
59	CHIP-CAPACITOR	0805 820PF 25V NPO	HEC	C114(B),	1.000	PCS
59-1		0805 820PF 25V NPO	YAGEO			
59-2		0805 820PF 25V NPO	TDK			
60	CHIP-CAPACITOR	0805 100PF 50V NPO	HEC	C123(B),	1.000	PCS
60-1		0805 100PF 50V NPO	YAGEO			
60-2		0805 100PF 50V NPO	TDK			
61	CHIP-CAPACITOR	0805 0.001uF 50V NPO	HEC	C004(B),	1.000	PCS
61-1		0805 0.001uF 50V NPO	YAGEO			
61-2		0805 0.001uF 50V NPO	TDK			
62	CHIP-CAPACITOR	0805 0.1uF 50V X7R	HEC	C007(B),C008(B),	7.000	PCS
62-1		0805 0.1uF 50V X7R	YAGEO	C017(B),C103(B),		
62-2		0805 0.1uF 50V X7R	TDK	C111(B),C116(B),		
				C126(B),		
63	CHIP-CAPACITOR	0805 2200PF 50V X7R	HEC	C129(B),C125(B),	5.000	PCS
63-1		0805 2200PF 50V X7R	YAGEO	C130(B),C131(B),		
63-2		0805 2200PF 50V X7R	TDK	C132(B),		

Customer’ s Part No.:AI-0088FB 17"(860-ALZ-M713-FB)

ITEM	NAME	DESCRIPTION	MANUFACTURER	POSITION	Q'T	UNIT
64	CHIP-CAPACITOR	0805 0.022uF 50V X7R	HEC	C112(B),C113(B),	4.000	PCS
64-1		0805 0.022uF 50V X7R	YAGEO			
64-2		0805 0.022uF 50V X7R	TDK			
65	Y-CAP.	1000PF 250V Y2	TDK	CY001(A),CY002(A),	2.000	PCS
65-1		1000PF 250V Y2	JYA-NAY			
66	Y-CAP.	4700PF 250V Y1	TDK	CY004(A),	1.000	PCS
66-1		4700PF 250V Y1	JYA-NAY			
67	E-CAP.	GF 1000uF 25V 10*20 T5	SAMXON	C014(A),C013(A),	4.000	PCS
				C019(A),C027(A),		
68	E-CAP.	GF 220uF 25V 8*12 T5	SAMXON	C020(A),	1.000	PCS
69	E-CAP.	GF 47uF 25V 6.3*11 T5	SAMXON	C006(A),	1.00	PCS
70	E-CAP.	GF 470uF 25V 10*16 T5	SAMXON	C011(A),C012(A),	2.000	PCS
71	DIODE	CD4148WP	CPO	D002(B),D003(B),	7.000	PCS
71-1		LL4148	Telefunk	D101(B),D102(B),		
71-2		RLS4148TE-11	ROHM	D103(B),D107(B),		
				D114(B),		
72	DIODE	P6KE12A	LITEON	ZD002(A),	1.000	PCS
72-1		P6KE12A	GW			
73	DIODE	1N4007	LITEON	D001(A),D004(A),	2.000	PCS
74	DIODE	BAV99	PHILIPS	D104(B),D105(B),	8.000	PCS
74-1		BAV99	DII	D106(B),D108(B),		
74-2		BAV99	LITEON	D109(B),D110(B),		
				D111(B),D112(B),		
75	DIODE	BAW56	PHILIPS	D113(B),D115(B),	2.000	PCS
75-1		BAW56	Infineon			
75-2		BAW56	GS			
76	BRIDGE DIDOE	KBP206G	LITEON	BD001(A),	1.000	PCS
77	ZENER DIODE	RLZ6.2B 5.96～6.27V	ROHM	ZD003(B),	1.000	PCS
77-1		HZK6C 5.8～6.4V	RENESAS			
78	ZENER DIODE	RLZ8.2B 7.78～8.19V	ROHM	ZD101(B),ZD102(B),	3.000	PCS
78-1		HZK9A 7.7～8.53V	RENESAS	ZD103(B),		
79	ZENER DIODE	RLZ15B 13.89～14.62V	ROHM	ZD001(B),	1.000	PCS
79-1		HZK15 14.1～15.5V	RENESAS			
80	MOSFET	AO4606	AOS	U101(B),U102(B),	4.000	PCS
80-1		P2103NV	NIKO SEM	U104(B),U105(B),		
81	TRANSISTOR	PMBS3904	PHILIPS	Q103(B),Q003(B),	2.000	PCS
81-1		SST3904	ROHM			
81-2		KN3904S	KEC			
82	TRANSISTOR	PMBS3906	PHILIPS	Q002(B),	1.000	PCS
82-1		SST3906	ROHM			
82-2		KN3906S	KEC			
83	TRANSISTOR	KRA104S	KEC	Q101(B),	1.000	PCS

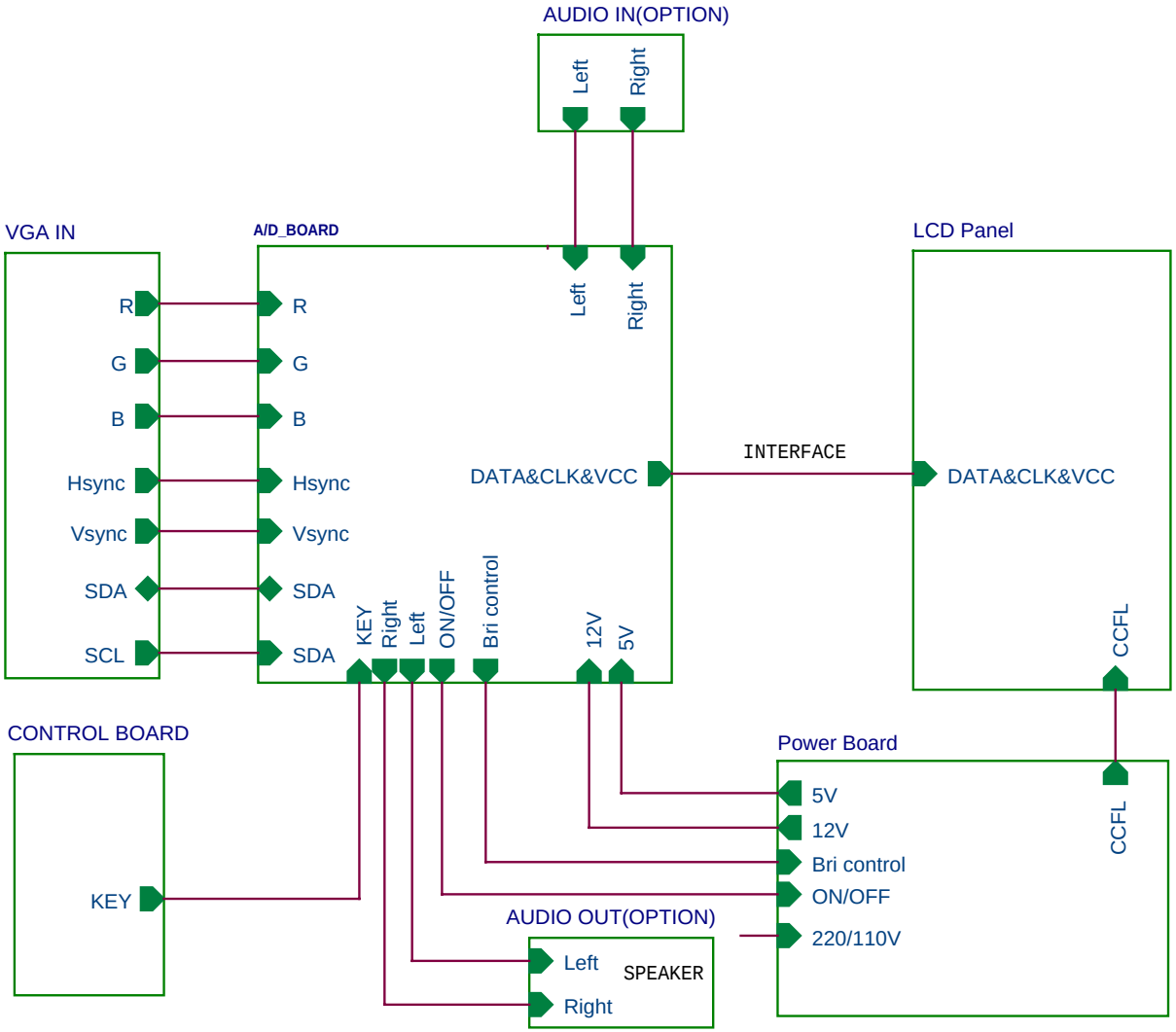
Customer' s Part No.:AI-0088FB 17"(860-ALZ-M713-FB)

ITEM	NAME	DESCRIPTION	MANUFACTURER	POSITION	Q'T	UNIT
83-1		DTA144EKA	ROHM			
84	TRANSISTOR	KRC104S	KEC	Q102(B),	1.000	PCS
84-1		DTC144EKA	ROHM			
85	PWM	NCP1203D60	ON	IC001(B),	1.000	PCS
86	PWM	BIT3193	BITEK	U103(B),	1.000	PCS
87	OPTO COUPLER	LTV817C	LITEON	U001(A),	1.000	PCS
87-1		H11A817C DIP	FAIRCHILD			
87-2		EL817(C)	EVERLIGHT			
88	R.E.G	KIA431A 1%	KEC	U002(A),	1.000	PCS
88-1		KA431AZTA 1%	FAIRCHILD			
89	BEAD CORE	A8H041040016	EROCORE	FOR D004,CY004(A),	4.000	PCS
90	CHOKE	CC-001636	LI TAI	NF001(A),	1.000	PCS
91	CHOKE	CC-000331	LI TAI	L001(A),L002(A),	2.000	PCS
92	LINE FILTER	LF-002500	LI TAI	NF002(A),	1.000	PCS
92-1		FT-0317	LIEN CHANG			
93	TRANSFORMER	PT-003184	LI TAI	T002(A),	1.000	PCS
93-1		AT-0339				
94	FUSE	MST3.15A 250V	CONQUER	F003(A),	1.000	PCS
95	FUSE	SR-5 3.15A 250V	SAVE	F001(A),	1.000	PCS
95-1		MRT 3.15A 250V	BEL			
**********						
96	THERMISTOR	SCK-055(MS)	THINKING	NTC1,	1.000	PCS
97	TUBE	15*18mm		FOR NTC1,	1.000	PCS
**********						
98	NKNP-RESISTOR	NKNP 2W 0.39Ω 5%	TZAI YUAN	R17(A),	1.000	PCS
99	TUBE	7*16mm		FOR R17,	1.000	PCS
**********						
100	DIODE	MBR10100CT	LITEON	D007(A),	1.000	PCS
101	DIODE	SBL1060CT	LITEON	D006(A),	1.000	PCS
102	R.E.G	KIA7812A	KEC	D008(A),	1.000	PCS
102-1		PJ7800	PROMAX-JOHNTON			
103	SILICON RUBBER	TO-220 0.3mm		FOR D007,D006,	2.000	PCS
104	BUSHING	TO-220 M3		FOR D007,D006,	2.000	PCS
105	SCREW	M3*8 WHITE		FOR D007,D006,D008,	3.000	PCS
106	HEAT SINK	94.2*18.8*4T		HEAT2(A),	1.000	PCS
106-1		94.2*18.8*4T				
106-2		94.2*18.8*4T				
**********						
107	MOSFET	2SK2645-01	FUJI	Q001(A),	1.000	PCS
108	SCREW	M3*6 WHITE		FOR HEAT1,	1.000	PCS
109	SCREW	M3*8 WHITE		FOR Q001,	1.000	PCS
110	HEAT SINK	101.3*18.8*4T*2		HEAT1(A),	1.000	PCS

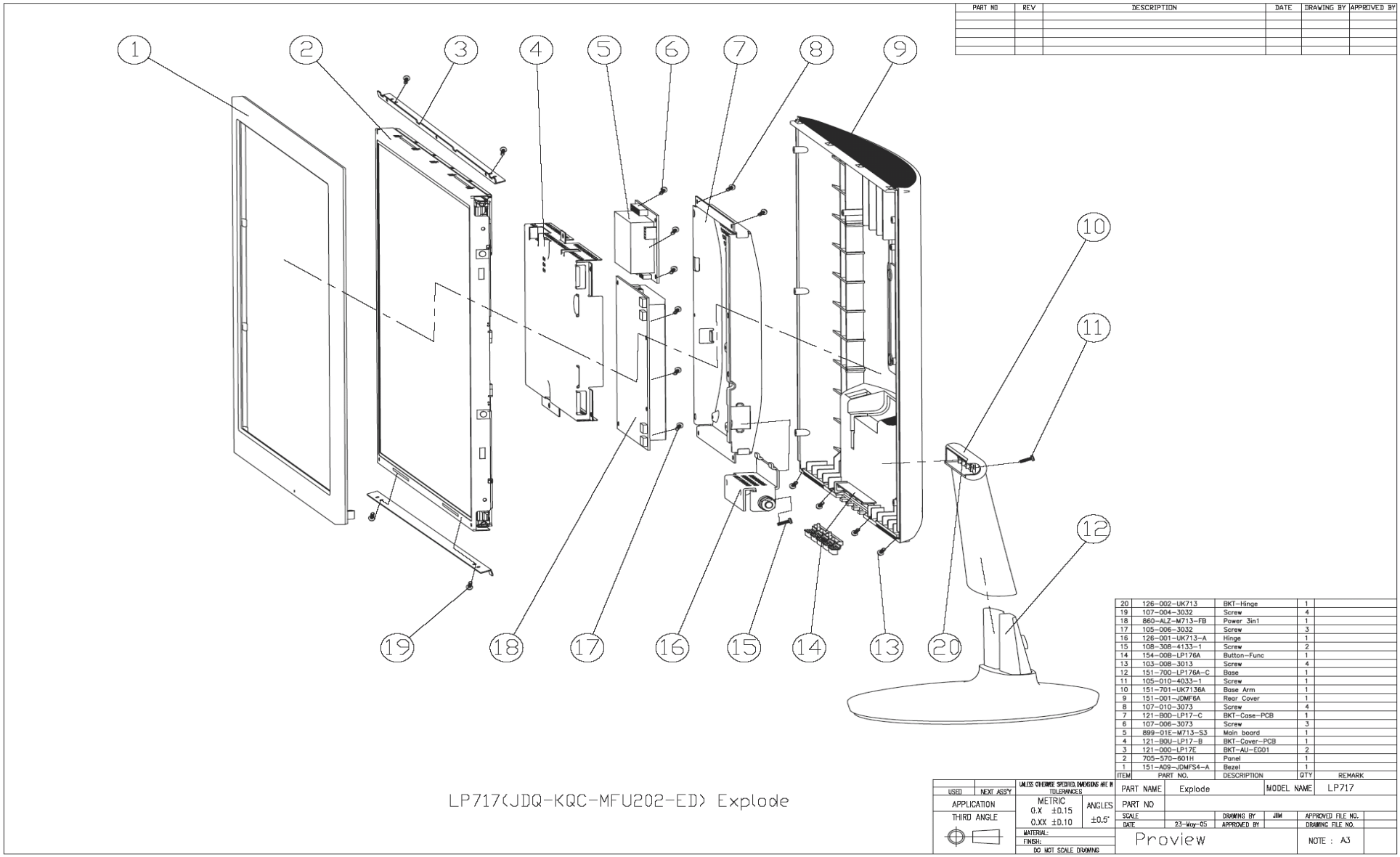
Customer' s Part No.:AI-0088FB 17"(860-ALZ-M713-FB)

ITEM	NAME	DESCRIPTION	MANUFACTURER	POSITION	Q'T	UNIT
110-1		101.3*18.8*4T*2				
110-2		101.3*18.8*4T*2				
111	HEAT SINK	55*18.8*0.5T		FOR HEAT1,	1.000	PCS
111-1		55*18.8*0.5T				
111-2		55*18.8*0.5T				
112	SILICON	AK100 1罐2KG			0.000	KG
113	PCB	AI-0088 REV:F FR-1	CHIAN YOU AND TAI HONG	FOR LIEN CHANG DONG GUAN	1.000	PCS
113-1		AI-0088 REV:F FR-1	SUZHOU GODA AND BRITE PLUS	FOR LIEN CHANG SUZHOU		
114	A/C SOCKET	M0601050	LANDWIN	CN2(A),	1.000	PCS
114-1		S-E05-05021	CHERNG WEEI			
115	CONNECTOR	CQ3502P0210T	LANDWIN	CN101(A),CN102(A),	4.000	PCS
115-1		LM403C_AS_A	UNICORN	CN103(A),CN104(A),		
116	CONNECTOR	7313P10011	LANDWIN	CN1(A),	1.000	PCS
116-1		254B2S05G116-3	UNICORN			
117	LABLE	QC OK LABLE		FOR T101,	1.000	PCS
118	LABLE	HI-POT OK LABLE		FOR T002,	1.000	PCS
119	GREEN GLUE	綠色螺絲固定劑			0.000	KG
120	GLUE	KE-40RTV 1支330ml	SHINETSU		0.005	PCS
120-1		ESW2044	CANADA			
121	TRANSFORMER	IT0316		T101(A),T102(A),	2.000	PCS

G. BLOCK DIAGRAM



H. EXPLODED DIAGRAM



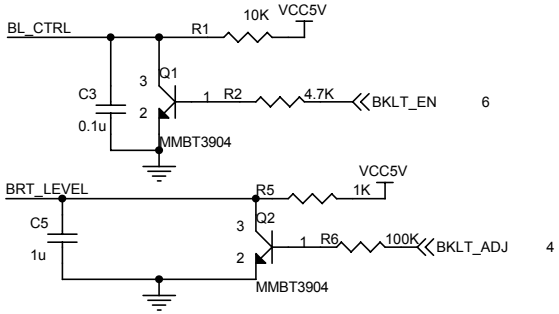
I. SCHEMATIC DIAGRAM

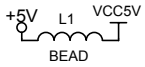
APPROVE BY	CHECK BY	PREPARE BY

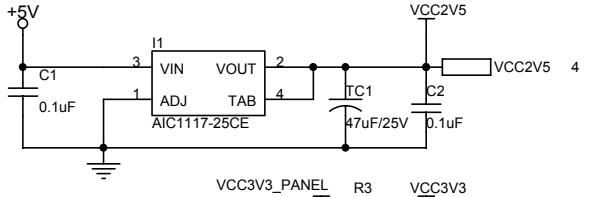
Title
MSTAR COSTDWON(PIGTAIL) LVDS&RSDS OUT

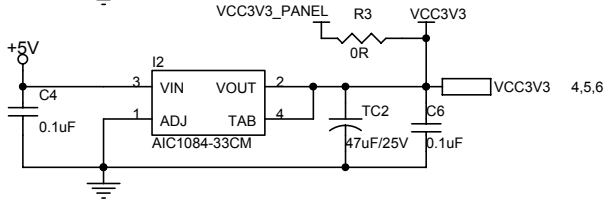
Size	Document Number	Rev
Custom	TOP LEVEL	S3
Date: 星期五, 六月 25, 2004	Sheet 1 of 7	

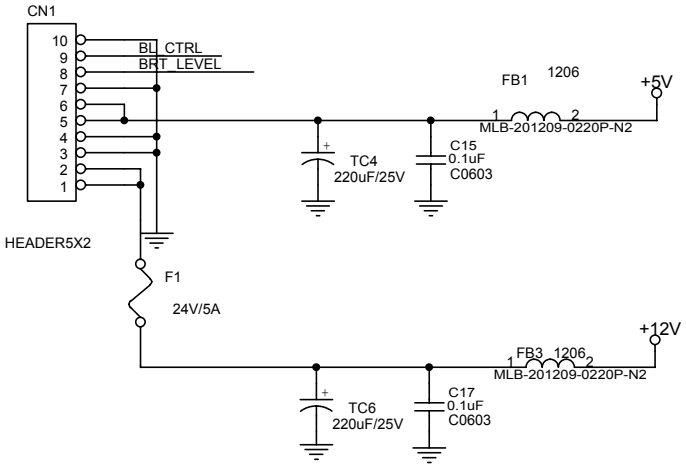
To Inverter

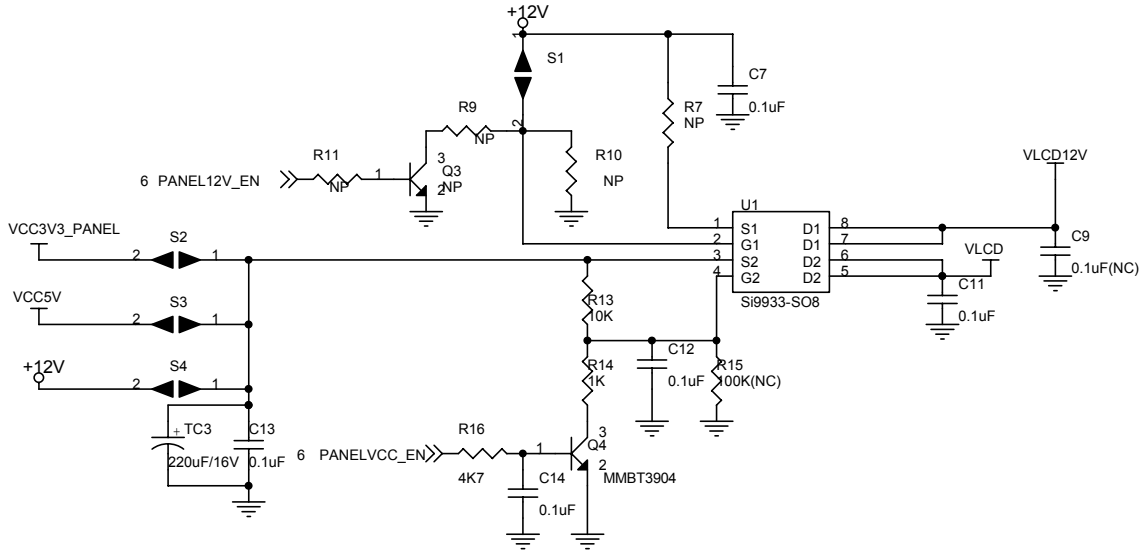


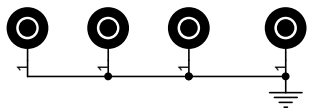










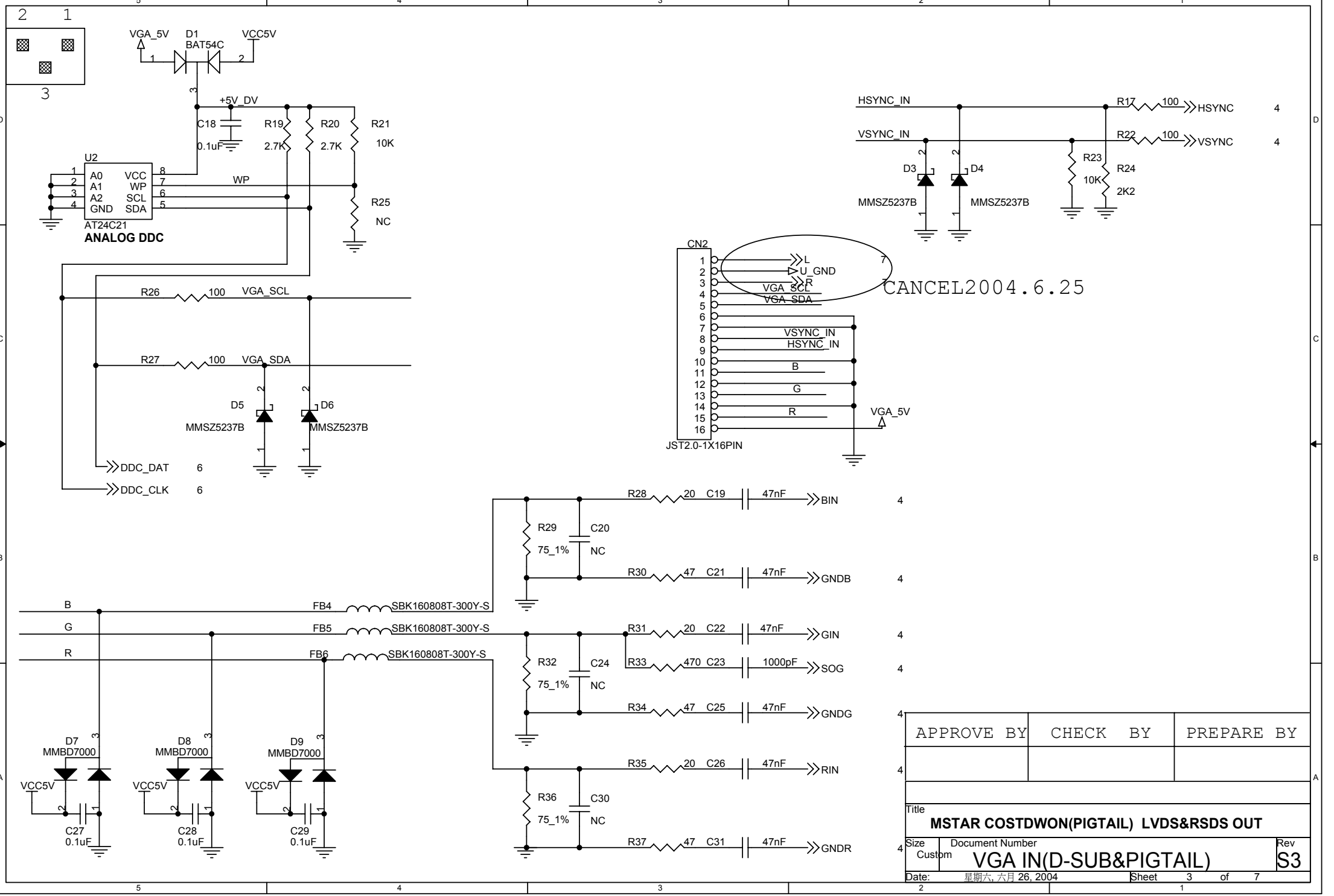


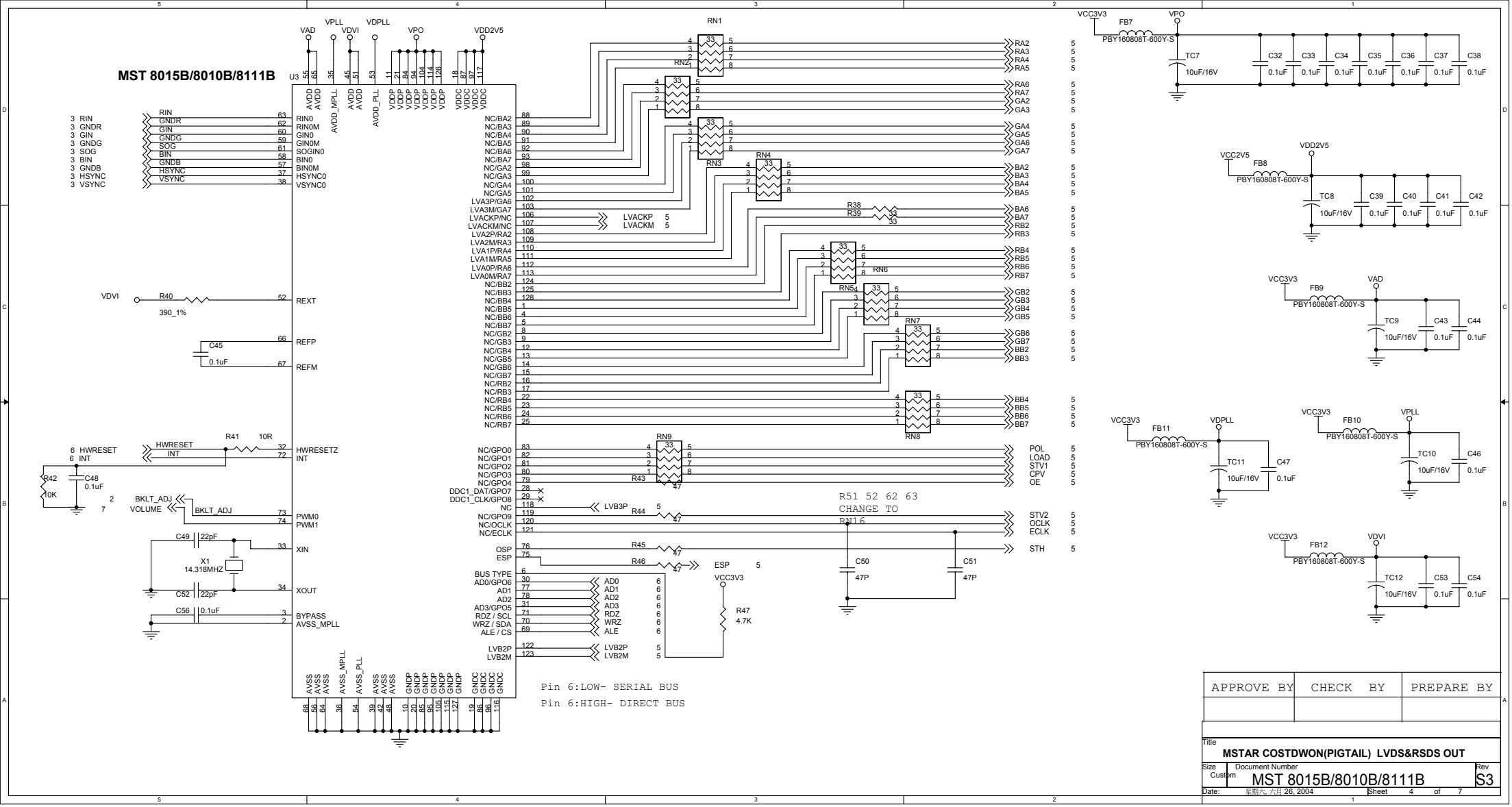
APPROVE BY	CHECK BY	PREPARE BY

Title: **MSTAR COSTDWON(PIGTAIL) LVDS&RSDS OUT**

Size	Document Number	Rev
Custom	POWER	S3

Date: 星期六, 六月 26, 2004 Sheet 2 of 7


VGA_5V
D1
BAT54C
VCC5V
+5V_DV
C18
0.1uF
R19
2.7K
R20
2.7K
R21
10K
U2
A0
A1
A2
GND
VCC
WP
SCL
SDA
AT24C21
ANALOG DDC
R25
NC
R26
100
VGA_SCL
R27
100
VGA_SDA
D5
D6
MMSZ5237B
MMSZ5237B
DDC_DAT
DDC_CLK
HSYNC_IN
VSYNC_IN
R17
100
HSYNC
R22
100
VSYNC
D3
D4
MMSZ5237B
MMSZ5237B
R23
10K
R24
2K2
CN2
L
U_GND
R
VGA_SCL
VGA_SDA
VSYNC_IN
HSYNC_IN
B
G
R
VGA_5V
JST2.0-1X16PIN
CANCEL2004.6.25
R28
20
C19
47nF
BIN
R29
75_1%
C20
NC
R30
47
C21
47nF
GNDB
B
G
R
FB4
FB5
FB6
SBK160808T-300Y-S
R31
20
C22
47nF
GIN
R33
470
C23
1000pF
SOG
R32
75_1%
C24
NC
R34
47
C25
47nF
GNDG
R35
20
C26
47nF
RIN
R36
75_1%
C30
NC
R37
47
C31
47nF
GNDR
D7
MMBD7000
D8
MMBD7000
D9
MMBD7000
VCC5V
VCC5V
VCC5V
C27
0.1uF
C28
0.1uF
C29
0.1uF
APPROVE BY
CHECK BY
PREPARE BY
Title
MSTAR COSTDWON(PIGTAIL) LVDS&RSDS OUT
Size
Custom
Document Number
VGA IN(D-SUB&PIGTAIL)
Rev
S3
Date:
星期六, 六月 26, 2004
Sheet 3 of 7



Pin 6:LOW- SERIAL BUS

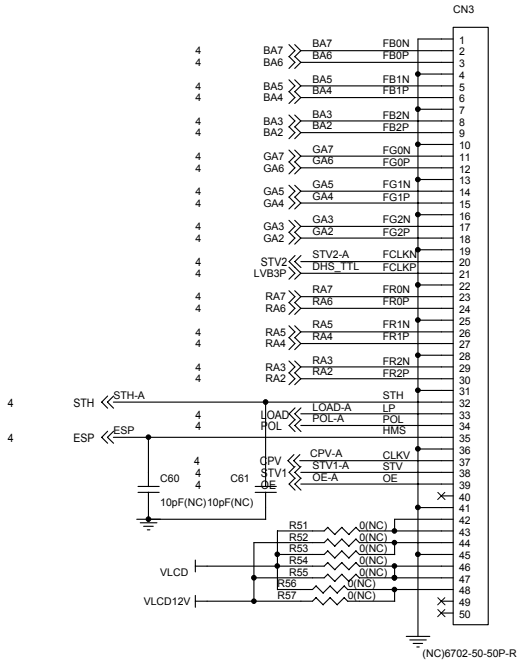
Pin 6:HIGH- DIRECT BUS

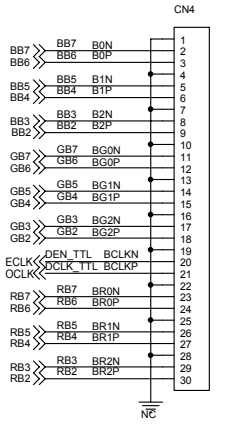
APPROVE BY	CHECK BY	PREPARE BY

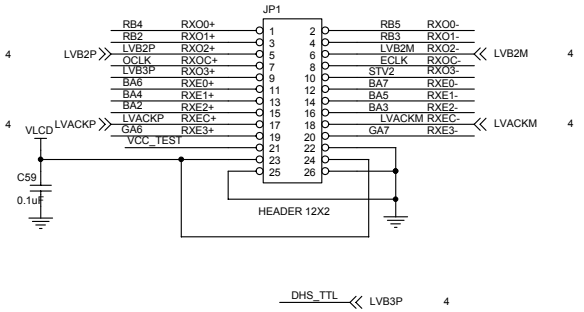
Title: **MSTAR COSTDWON(PIGTAIL) LVDS&RSDS OUT**

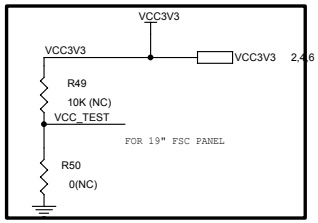
Size	Document Number	Rev
Custom	MST 8015B/8010B/8111B	S3

Date: 星期六, 六月 26, 2004 Sheet 4 of 7







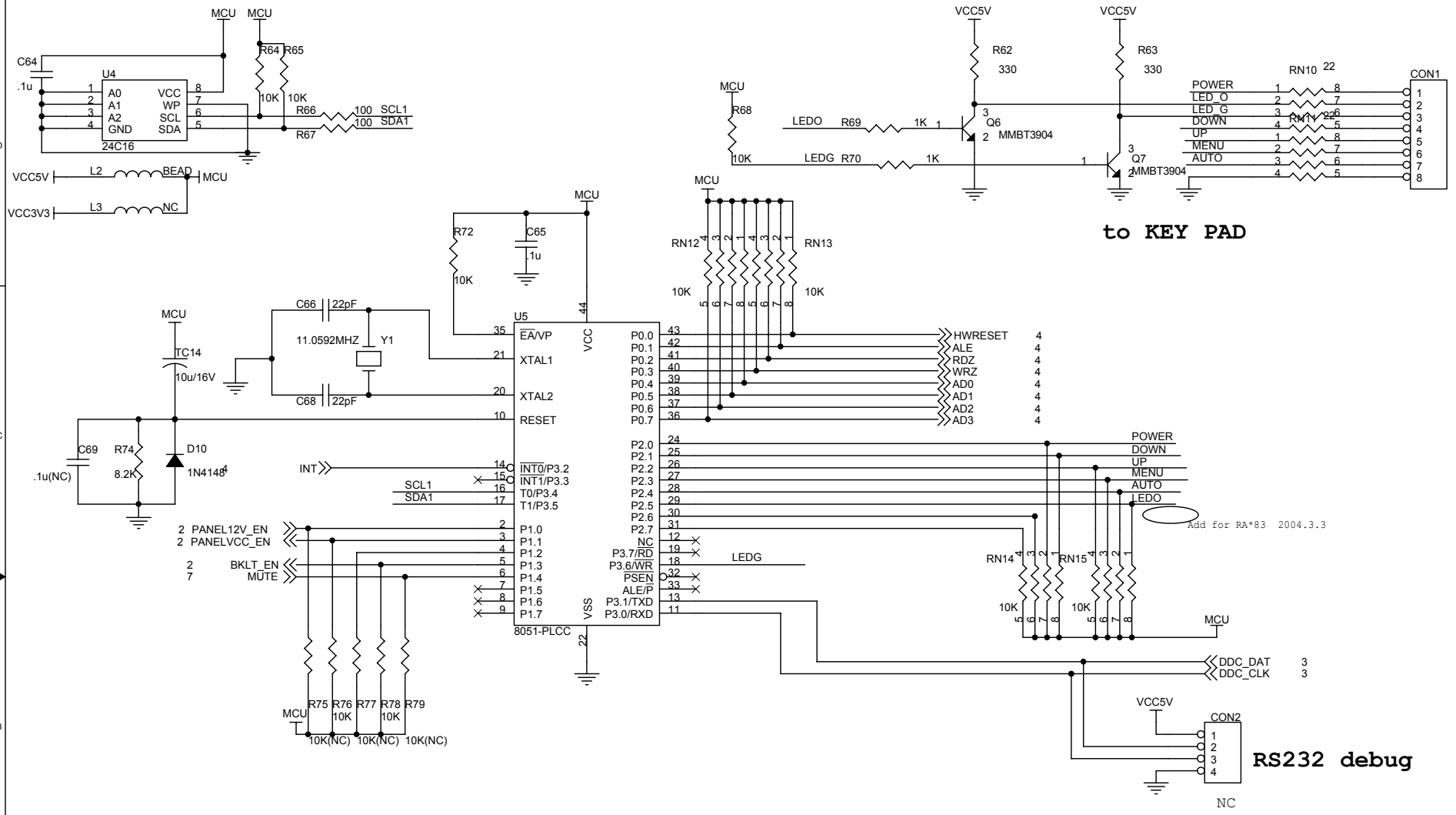


APPROVE BY	CHECK BY	PREPARE BY

Title
MSTAR COSTDWON(PIGTAIL) LVDS&RSDS OUT

Size	Document Number	Rev
Custom	AUXN05&HSDX84&LVDS OUT	S3

Date: 星期六, 六月 26, 2004 Sheet 5 of 7

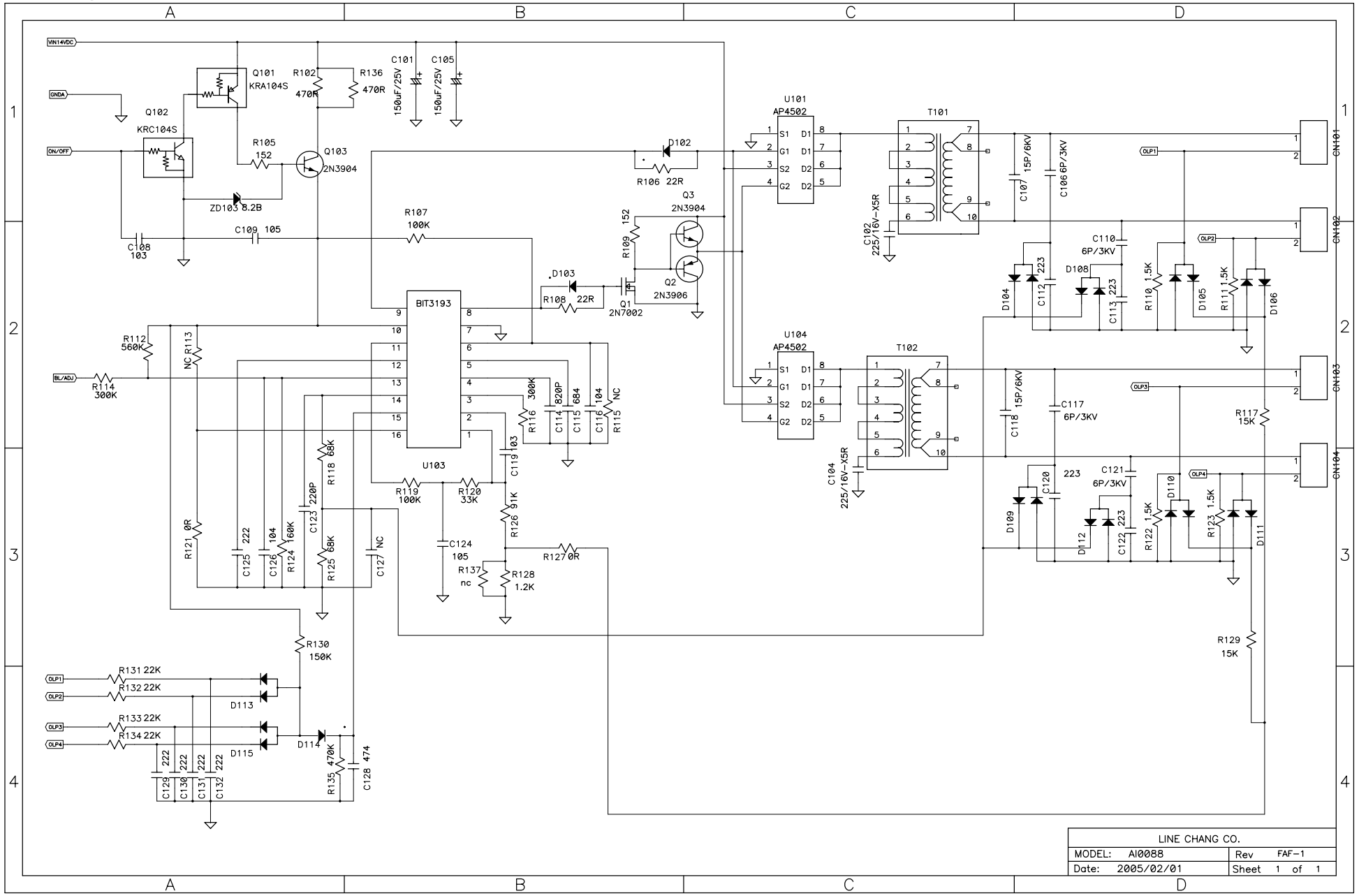


APPROVE BY	CHECK BY	PREPARE BY

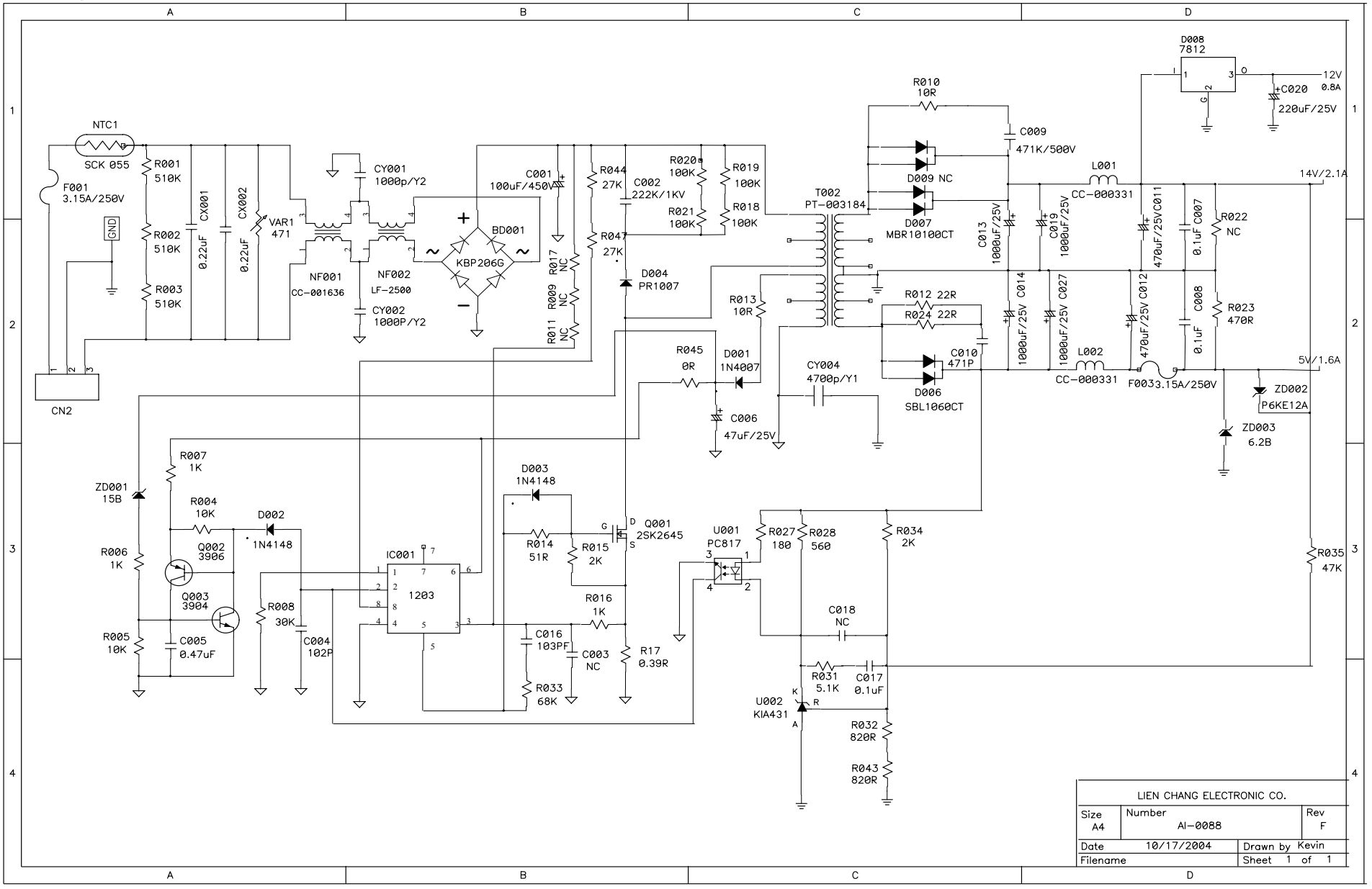
Title
MSTAR COSTDWON(PIGTAIL) LVDS&RSDS OUT

Size	Document Number	Rev
Custom	MCU(SYNC MOS&MYSON 512)	S3

Date: 星期六, 六月 26, 2004 Sheet 6 of 7



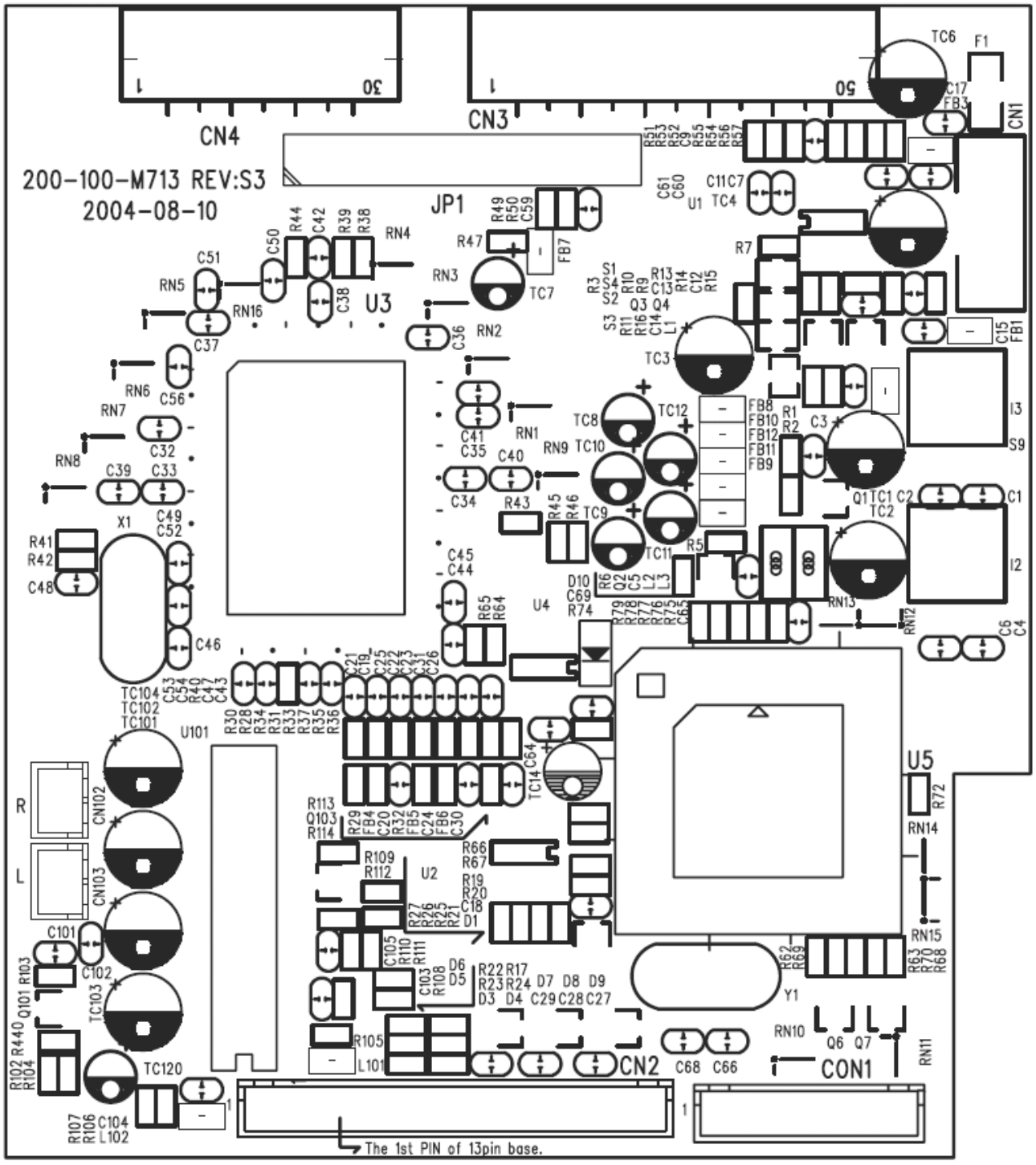
＊Copy-right LIEN CHANG Electronic Enterprise Co., Ltd.
No copy & disclosure is Allowed. All Right Reserved by LIEN CHANG.



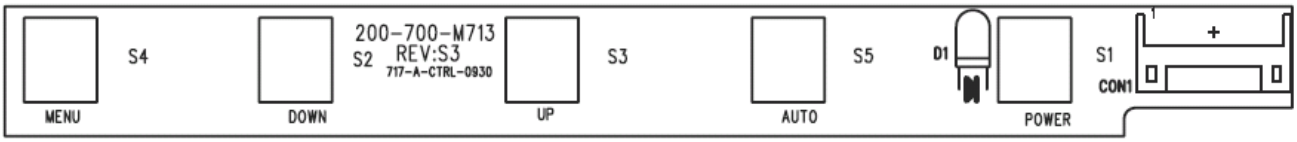
＊Copy-right LIEN CHANG Electronic Enterprise Co., Ltd.
No copy & disclosure is Allowed. All Right Reserved by LIEN CHANG.

J. PCB LAYOUT DIAGRAM

Main Board

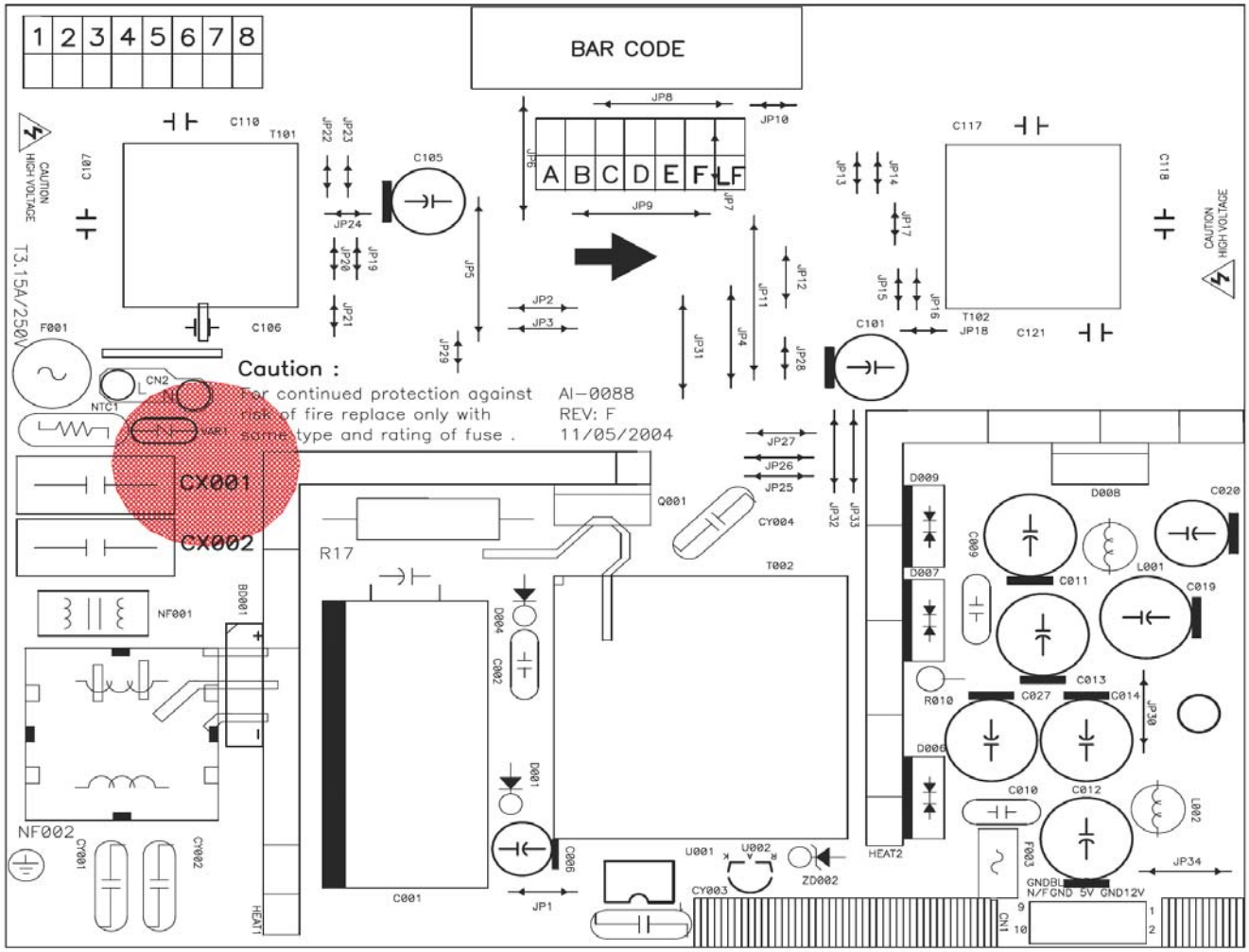


Control Board

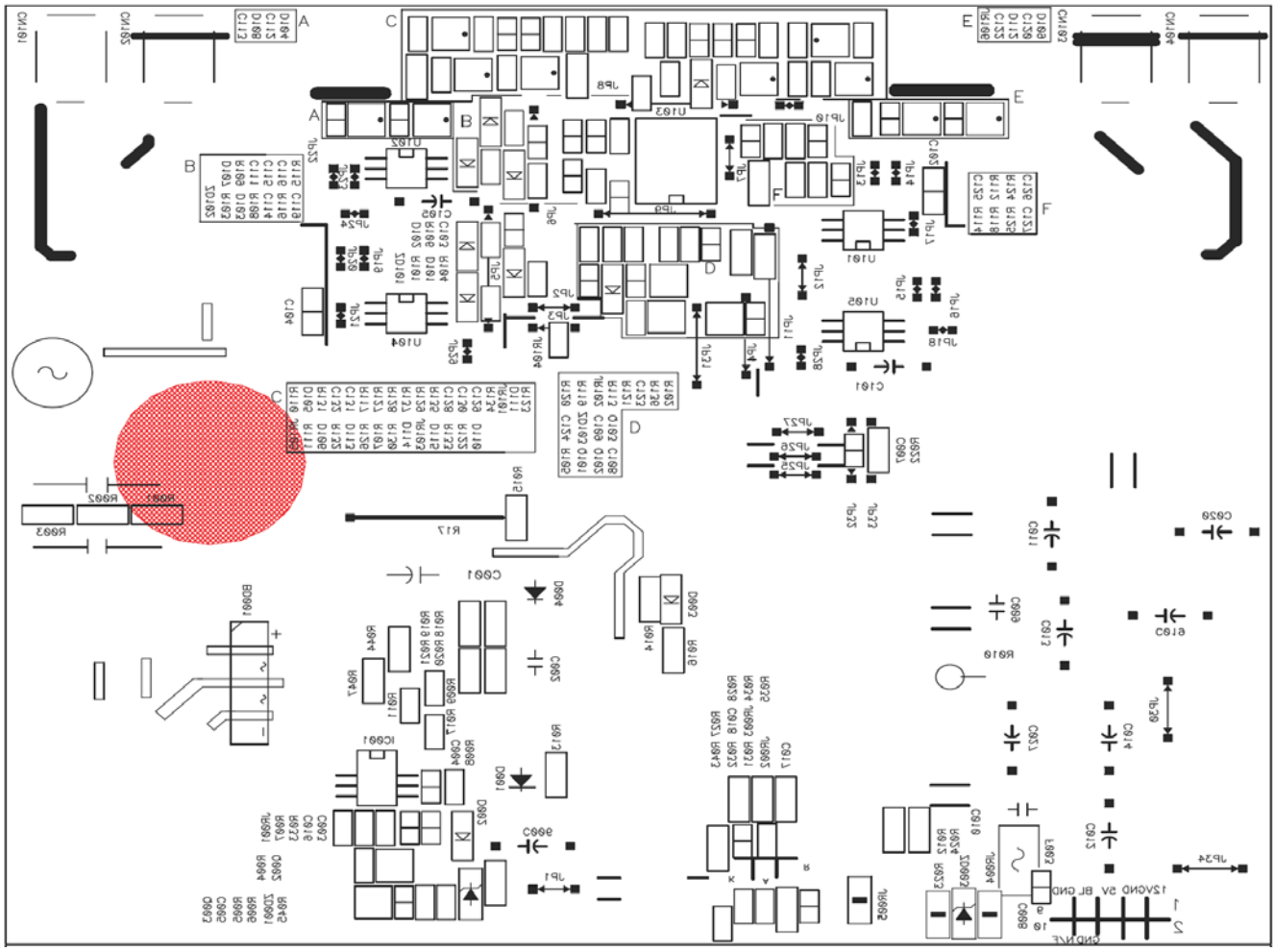


Power Board

Top layer



Bottom layer



MEMO