

FV926AFW

Service Manual

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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.

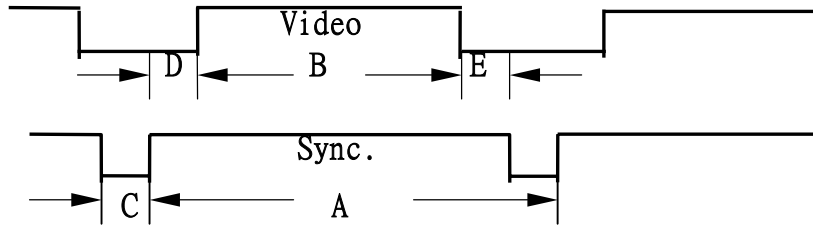
1. Read all of these instructions.
2. Save these instructions.
3. Follow all warnings and instructions marked on the product.
4. Unplug this product from the wall outlet before cleaning.Do not use liquid cleaner or aerosol cleaner, use a damp cloth for cleaning.
5. Do not use this product near water.
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	CMO M190A1-L01		
Screen Diagonal	19.05" TFT		
Active Display Area	410.4(H) x 256.5(V) mm		
Pixel Pitch	0.285(H) x 0.285(V) mm		
Number of Colors	16.2M colors		
View Angle			
Horizontal	+/-75 degree		
Vertical	-60/+70 degree Typical		
Luminance of White	300cd/m ² (Typical)		
Contrast Ratio (Typical)	500:1		
Maximum Resolution	1440 x 900 @ 70Hz		
Recommend Resolution	1440 x 900 @ 70Hz		
Synchronization Range			
Horizontal	31-81.3KHz		
Vertical	56-76Hz		
Pixel Rate	135 MHz		
User Control	5 Key Switch		
OSD Function	Contrast,brightness,image adjust(H-position,V-position,clock,phase), Audio(volume,mute),colour(6500K,7500K,9300K,custom colour), OSD setup(language,OSD H-position,V-position,OSD Timeout), Advance(Factory Recall),Information.		
Power Source	90 – 264 Vac 47-63 Hz		
Power Consumption	60 W (max.)		
Connection Type	Double 15 Pin D-Sub Type; DVI Type		
Input Signal			
Video	D-Sub: Analog R.G.B. , 0.7Vp-p / 75 Ohms Digital DVI-I		
Sync.	TTL level,positive or negative polarity		
Color Temperature	Cool / Warm /custom colour		
Dimension (WxHxD)	458.2 x 369.6 x 192(mm)		
Monitor Weight	6.0 kg		
Base Operation			
Tilt	-5 / + 25 degree		
Power Saving			
ON	< 60W		
STAND BY	< 2W		
OFF	< 2W		
Signal Connector Pin Assignment			
D-SUB Pin No.	1. Red Video 2.Green Video 3.Blue Video 4.GND 5.Self Test	6. Red Ground 7. Green Ground 8. Blue Ground 9. +5V from PC 10. Sync. GND	11. GND 12. SDA For DDC2B 13. H-sync. 14. V-sync-DDC1 15. SCL For DDC2B
DVI Pin No.	1.TMDS Data 2- 2.TMDS Data 2+ 3.TMDS Data 2/4 shield 4.NC 5.NC 6.DDC Clock 7.DDC Data 8.Analog Vertical Sync C1.analog red C4. analog Horizontal Sync	9. TMDS Data 1- 10.TMDS Data 1+ 11.TMDS Data 1/3 shield 12.NC 13.NC 14.+5V Power 15.GND 16.Hot Plug Detect C2.analog green	17. TMDS Data 0- 18. TMDS Data 0+ 19. TMDS Data 0/5 shield 20. NC 21. NC 22. Clock shield 23. Clock+ 24. Clock- C3.analog blue
Sound Output	2Wx2 8Ω Speaker		

C . TIMING CHART

The video signal timing is as following :



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

★ DVI MODE SUPPORT

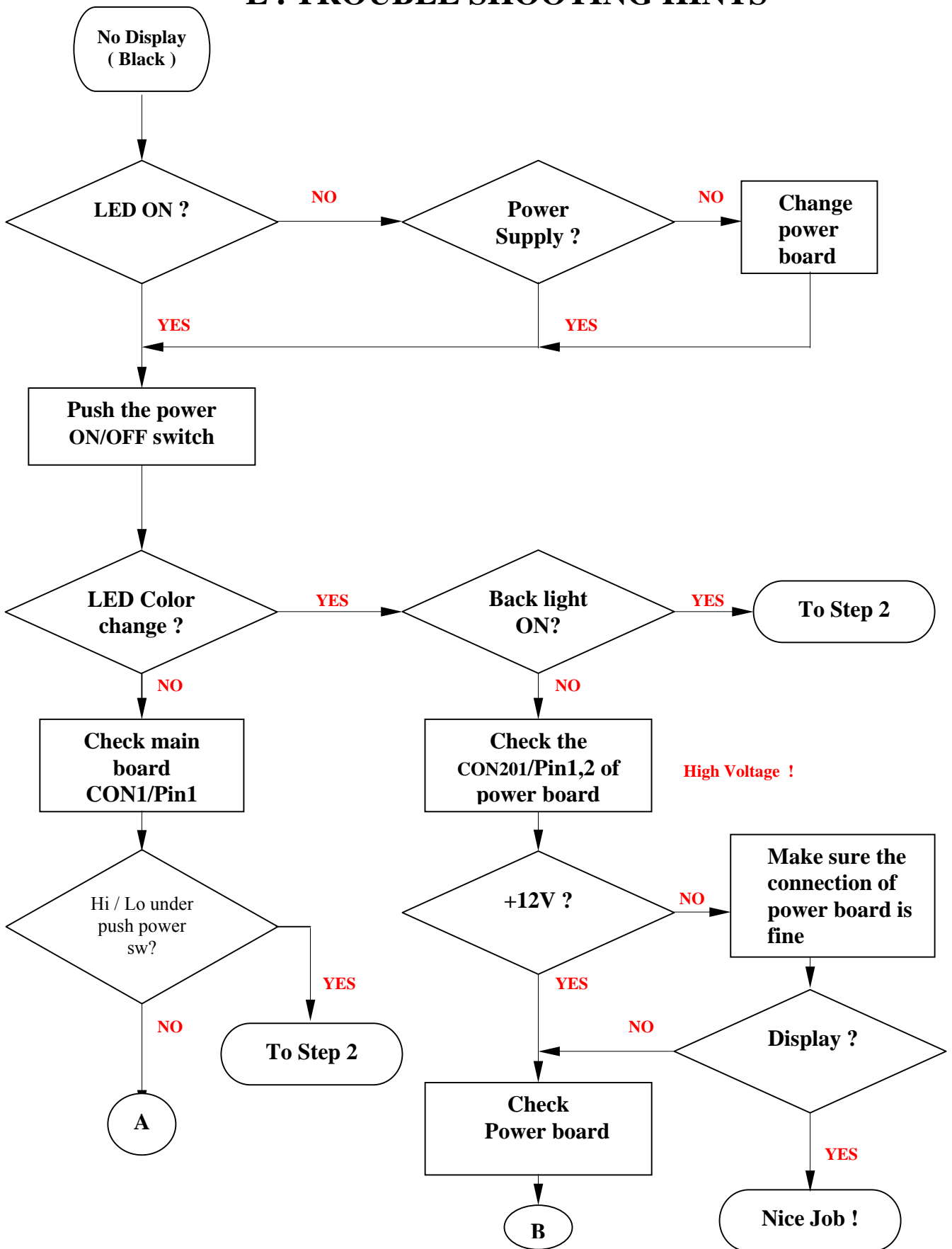
	★	★	★		★	★	★	★
Preset Modes	VGA 640X480	VESA 640X480	VESA 640X480	VGA 720X400	VESA 800X600	VESA 800X600	VESA 800X600	VESA 800X600
Dot Rate	25.175MHz	31.500MHz	31.500MHz	28.322MHz	36.000MHz	40.000MHz	50.000MHz	49.500MHz
F.H	31.469KHz	37.861KHz	37.500KHz	31.469KHz	35.156KHz	37.879KHz	48.077KHz	46.875KHz
A-period	31.778us	26.413us	26.667us	31.777us	28.444us	26.400us	20.800us	21.333us
B-Active	25.422us	20.317us	20.317us	25.422us	22.222us	20.000us	16.000us	16.162us
C-Sync. width	3.813us	1.270us	2.032us	3.813us	2.000us	3.200us	2.400us	1.616us
D-Back Porch	1.589us	3.810us	3.810us	1.907us	3.556us	2.200us	1.280us	3.232us
E-Front Porch	0.954us	1.016us	0.508us	0.635us	0.666us	1us	1.12us	0.323us
F.V	59.941Hz	72.810Hz	75.000Hz	70.087Hz	56.250Hz	60.317Hz	72.188Hz	75.000Hz
A-Period	16.683ms	13.734ms	13.333ms	14.268ms	17.778ms	16.579ms	13.853ms	13.333ms
B-Active	15.253ms	12.678ms	12.800ms	12.711ms	17.067ms	15.840ms	12.480ms	12.800ms
C-Sync. width	0.064ms	0.079ms	0.080ms	0.064ms	0.057ms	0.106ms	0.125ms	0.064ms
D-Back Porch	0.794ms	0.528ms	0.427ms	1.112ms	0.626ms	0.607ms	0.478ms	0.448ms
E-Front Porch	0.572ms	0.449ms	0.026ms	0.381ms	0.028ms	0.026ms	0.77ms	0.021ms
H/V SYNC	--	--	--	-- +	+ +	+ +	+ +	+ +
Interlaced	NON	NON	NON	NON	NON	NON	NON	NON

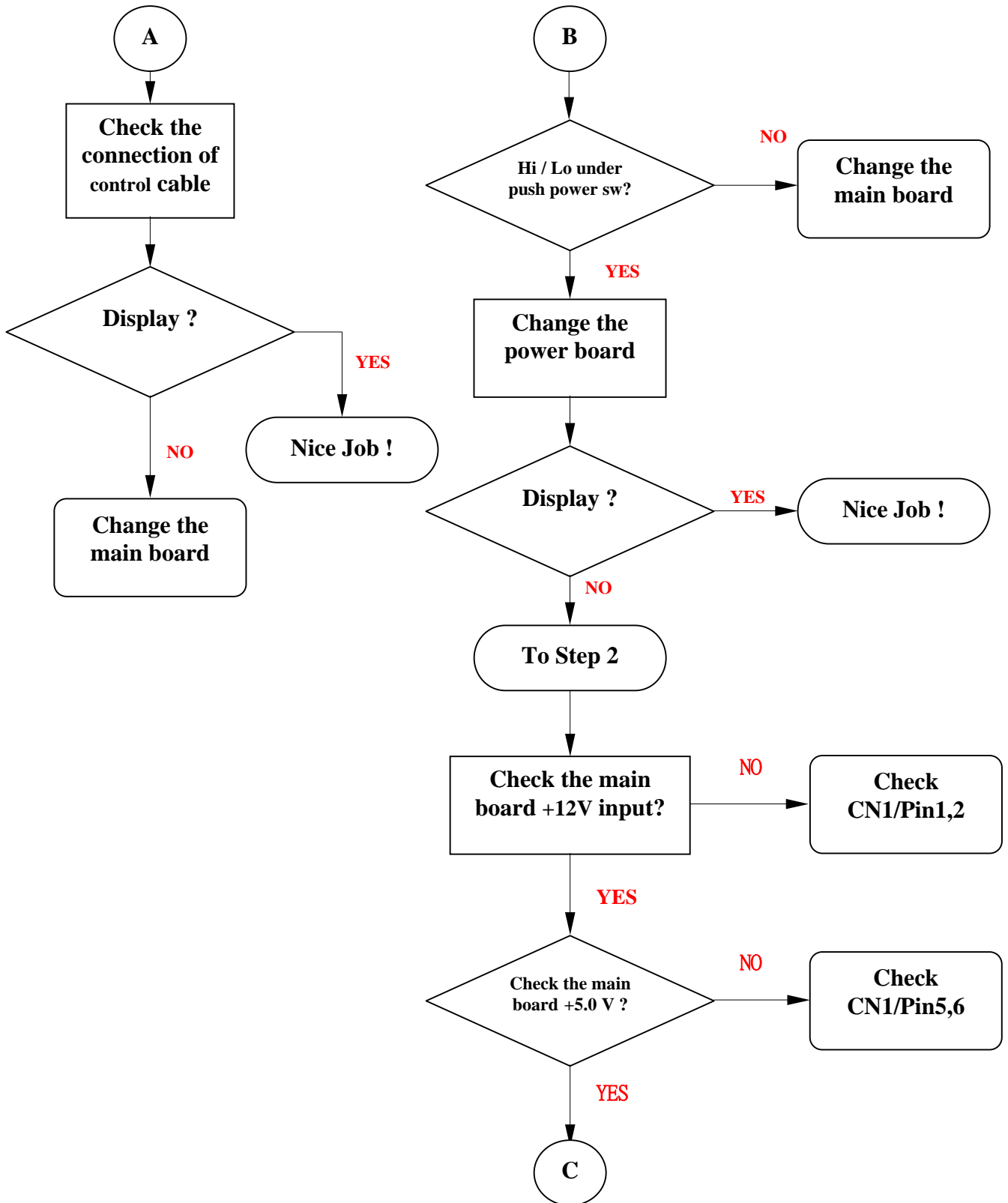
	★	★	★	★	★	★	★	★
Preset Modes	VESA 1024X768	VESA 1024X768	VESA 1024X768	VESA 1280X1024	VESA 1280X1024	VESA 1440X900	VESA 1440X900	VESA 1440X900
Dot Rate	65.000MHz	75.000MHz	78.750MHz	108.00MHz	135.00MHz	88.750MHz	106.50MHz	136.75MHz
F.H	48.363KHz	56.476KHz	60.023KHz	63.98KHz	79.976KHz	55.469KHz	55.935KHz	70.635KHz
A-period	20.677us	17.707us	16.660us	15.630us	12.504us	18.028us	17.878us	14.157us
B-Active	15.754us	13.653us	13.003us	11.852us	9.481us	16.225us	13.521us	10.530us
C-Sync. width	2.092us	1.813us	1.219us	1.037us	1.067us	0.361us	1.427us	1.112us
D-Back Porch	2.462us	1.920us	2.235us	2.296us	1.837us	0.901us	2.178us	1.814us
E-Front Porch	0.369us	0.321us	0.203us	0.444us	0.119us	0.541us	0.751us	0.702us
F.V	60.004Hz	70.069Hz	75.029Hz	60.020Hz	75.025Hz	59.901Hz	59.887Hz	74.984Hz
A-Period	16.666ms	14.272ms	13.328ms	16.661ms	13.329ms	16.694ms	16.698ms	13.336ms
B-Active	15.880ms	13.599ms	12.795ms	16.005ms	12.804ms	16.225ms	16.090ms	12.741ms
C-Sync. width	0.124ms	0.106ms	0.050ms	0.047ms	0.038ms	0.108ms	0.107ms	0.085ms
D-Back Porch	0.600ms	0.513ms	0.466ms	0.594ms	0.475ms	0.306ms	0.447ms	0.467ms
E-Front Porch	0.062ms	0.054ms	0.017ms	0.016ms	0.013ms	0.054ms	0.054ms	0.042ms
H/V SYNC	--	--	++	++	++	+-	-+	-+
Interlaced	NON	NON	NON	NON	NON	NON	NON	NON

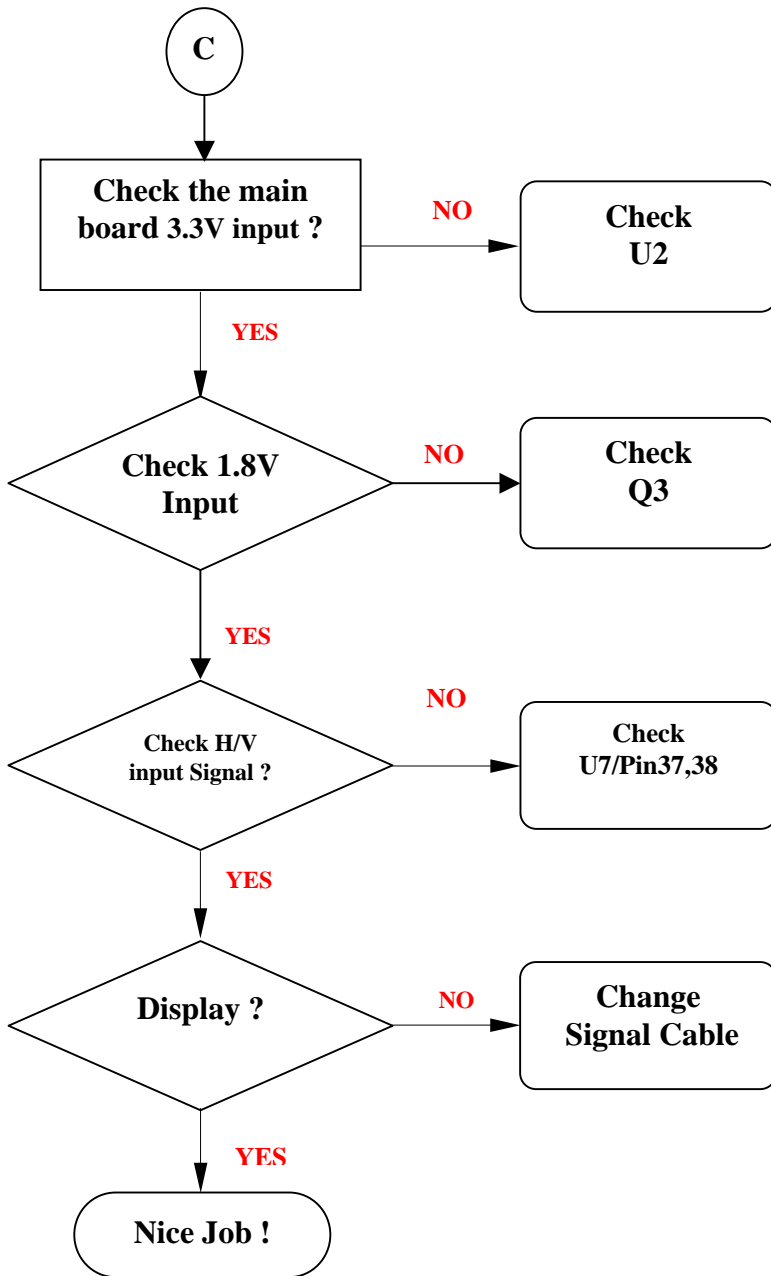
D. ADJUSTMENT PROCEDURE

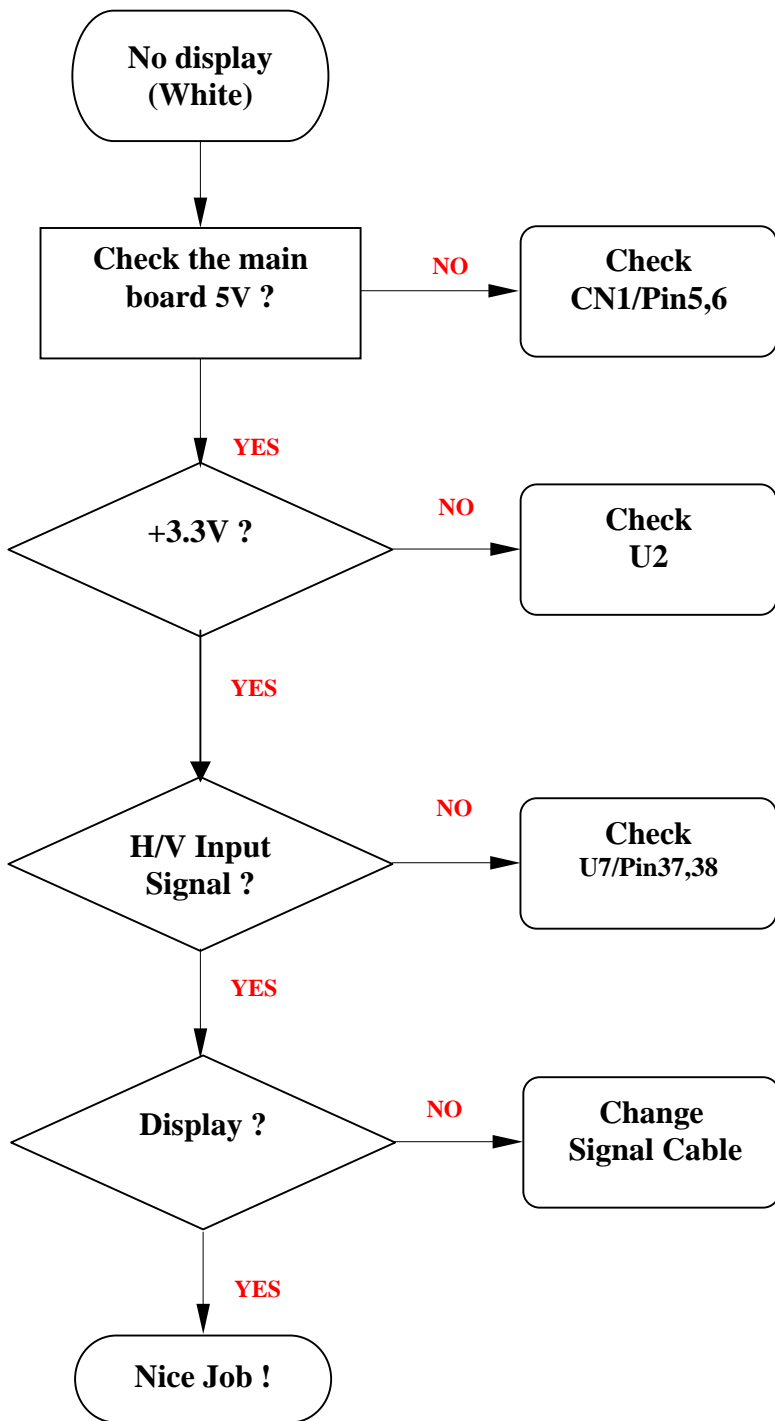
ITEM Program Menu.	# Test Meter * Test Point @ Pattern	Operation	Check Value
A	Power supply Check # Digital Voltmeter * CON101 @ Crosshatch Pattern (1280x1024, 60Hz)	<ol style="list-style-type: none"> 1. Plug power cable into the LCD monitor directly. 2. Make sure the voltage of the power plug (CON101) 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)	<ol style="list-style-type: none"> 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. 	< 2W
C	Into Factory mode # PC or Pattern generator @ Crosshatch Pattern (1280x1024, 60Hz)	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 1. Move the OSD to the COLOR mode (AUTO COLOR). 2. set color is Cool using the OSD, Check the value shown at right. $Y = 230 \pm 20 \text{cd/m}^2$ $x = 0.283 \pm 0.02$ $y = 0.297 \pm 0.02$ 3. set color is Warm using the OSD, Check the value shown at right. $Y = 230 \pm 20 \text{cd/m}^2$ $x = 0.313 \pm 0.02$ $y = 0.329 \pm 0.02$ 	
F	OSD Language Setting # PC or Pattern generator	<ol style="list-style-type: none"> 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

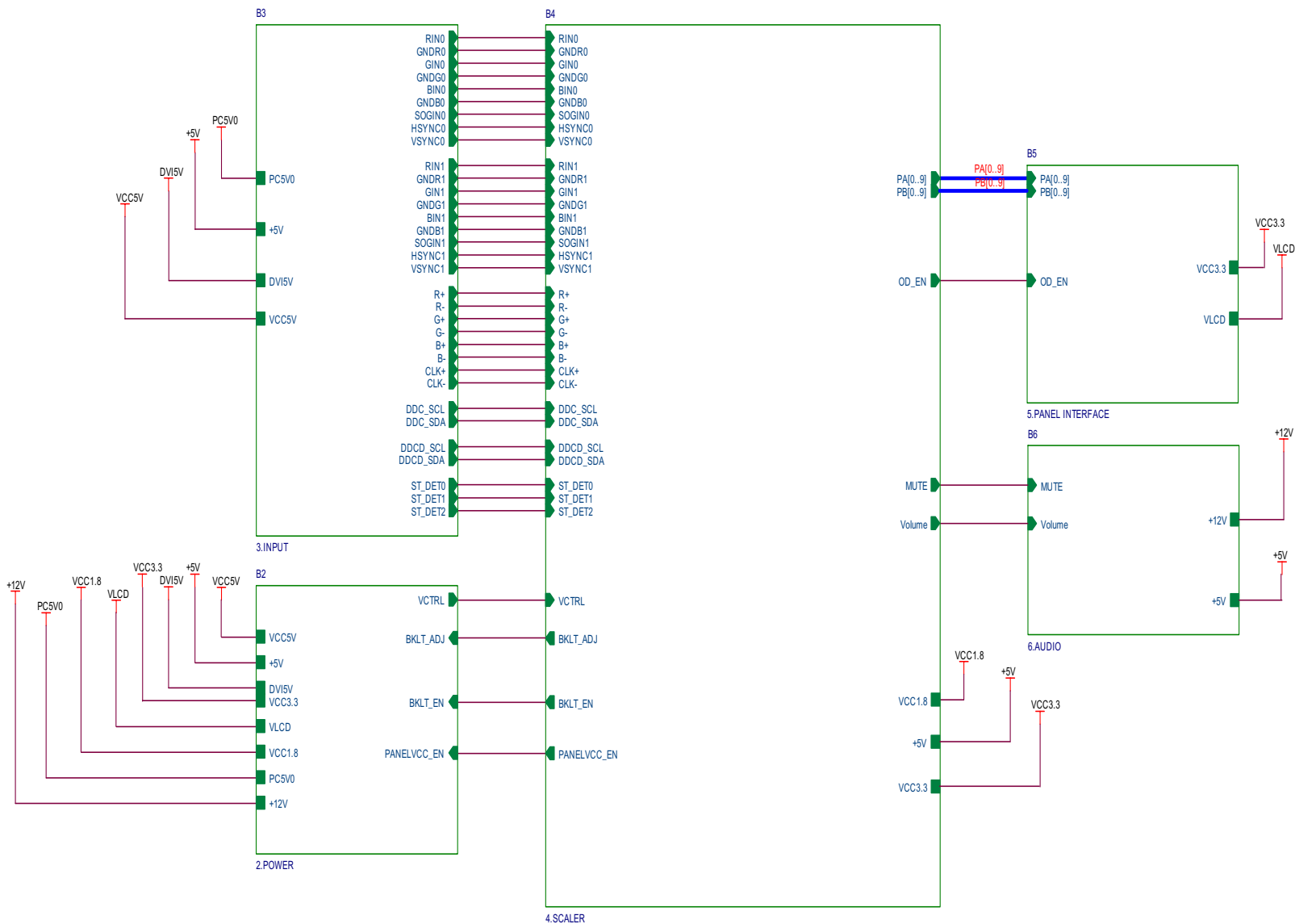






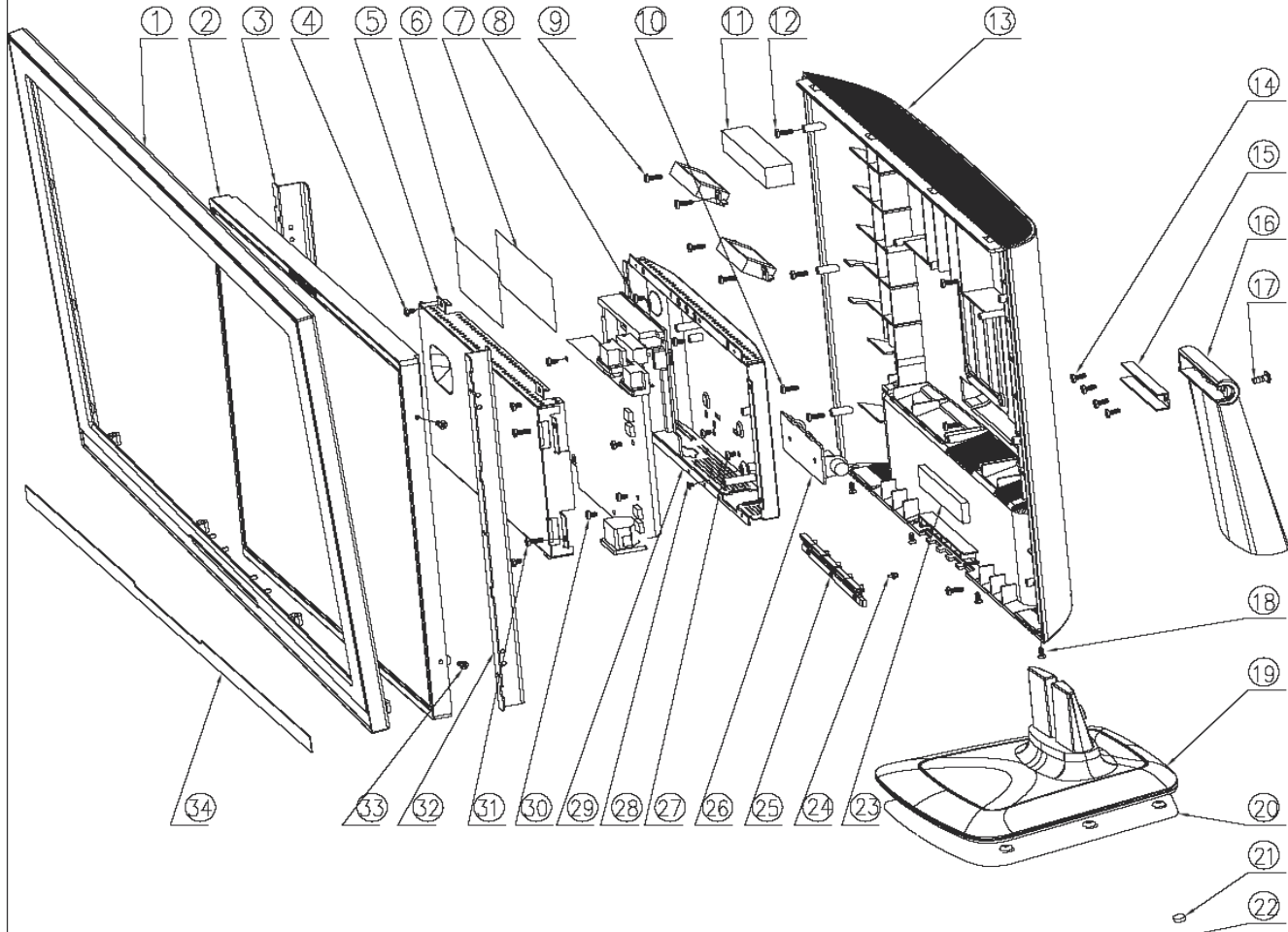


F. BLOCK DIAGRAM



G. EXPLODED DIAGRAM

PART NO.	REV	DESCRIPTION	DRAWING BY	DATE	APPROVED

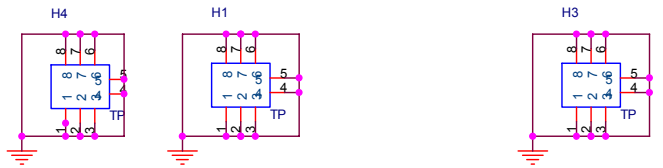
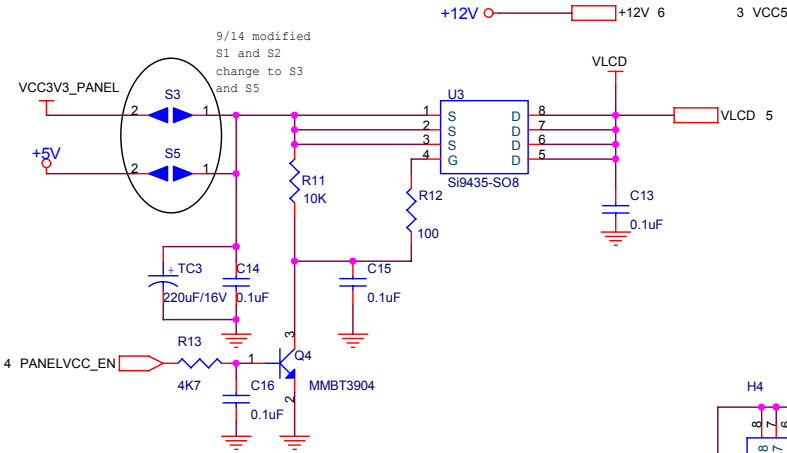
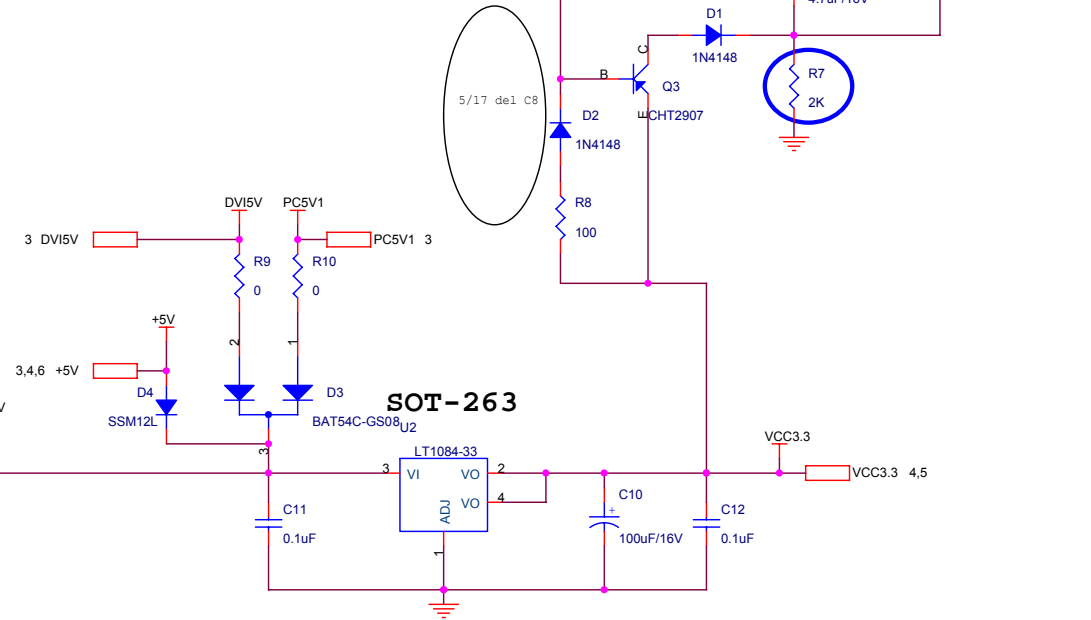
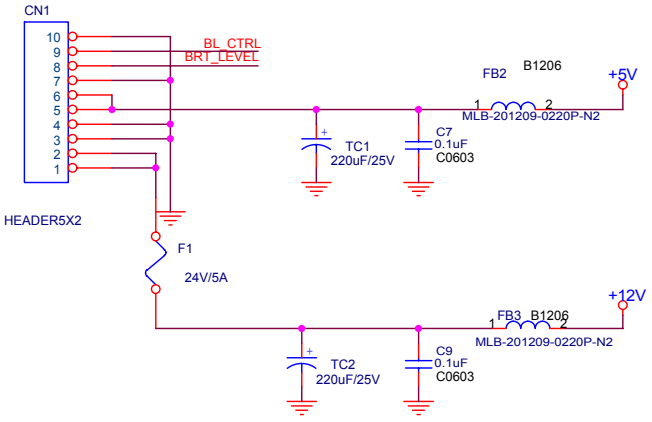
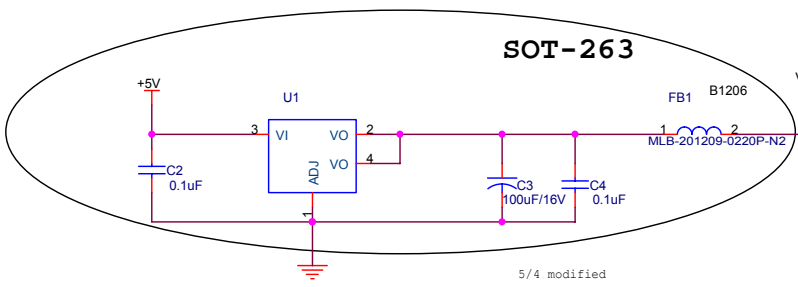
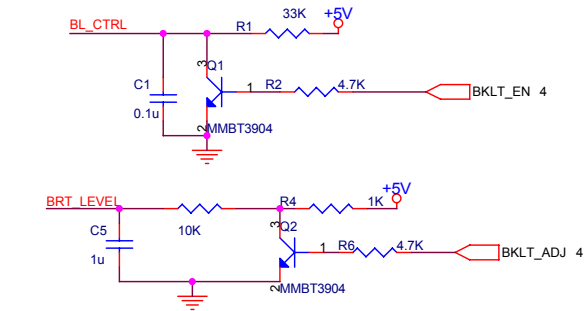


Exploded view

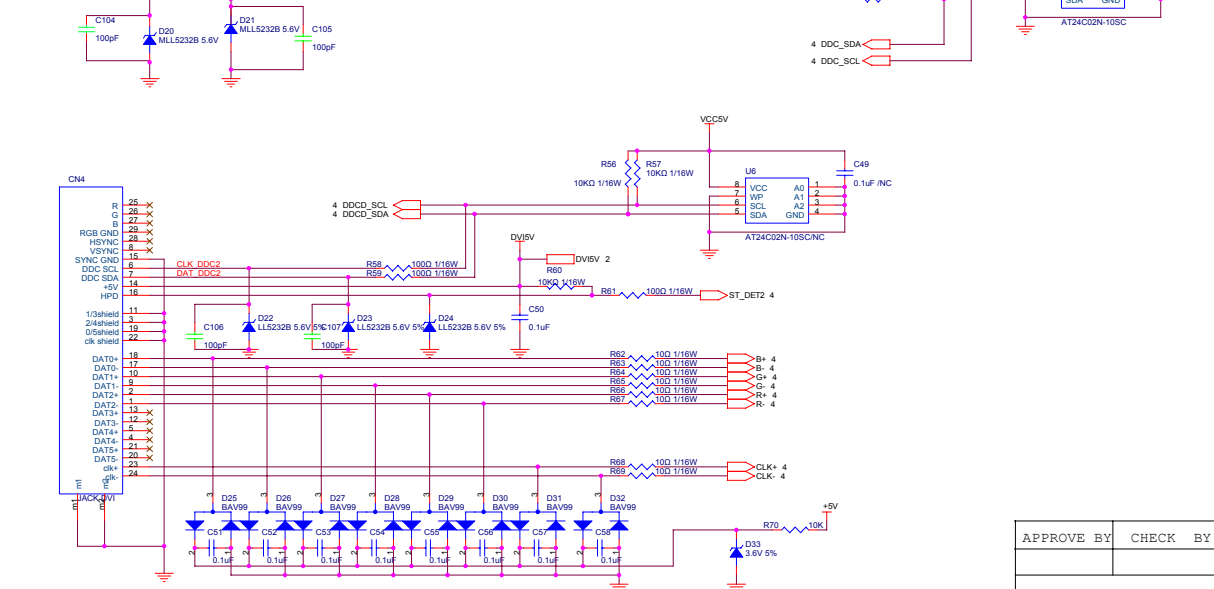
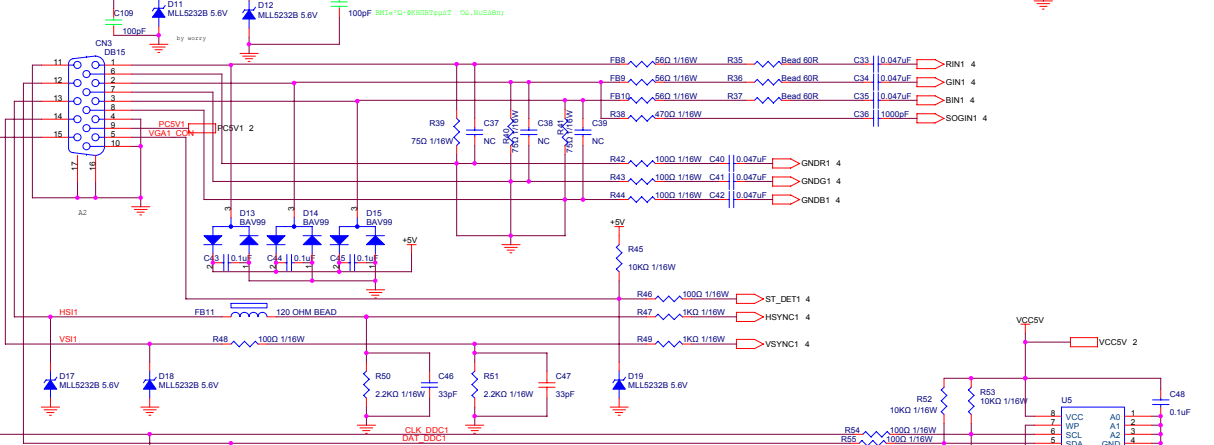
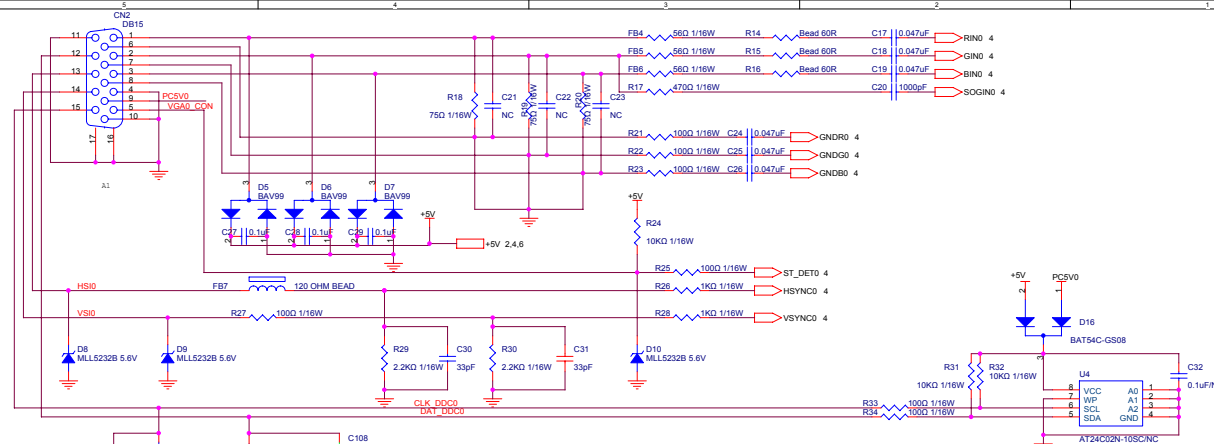
34	154-M02-FV19W66H	FV926AFW Decorative Plate	0.5mm PVC	1	
33	107-005-3032H	Screw		4	
32	121-00R-LP917AFWH	LP917AFW BKT-RIGHT	1.0SECC	1	
31	107-010-3073H	Screw		8	
30	107-005-3032H	Screw		5	
29	123-B0D-LP917AFWH	LP717AFW BKT-Case	0.8SECC	1	
28	108-305-4133H	Screw		2	
27	105-006-4033-1H	Screw		2	
26	126-000-LP917AFWH	LP917AFW Hinge	430SUS 1.6	1	4.5*24.5* 2.8kgf
25	154-00B-FV19WU4H	FV926AFW Function Key	ABS HB	1	
24	154-00L-LP17	LP717 Power LED lens	PC	1	0.5g
23	155-002-LP917AFWH	LP917 EVA2(120*15*5.7 HB60)	EVA	1	
22	100-004-3073H	Screw		8	
21	155-001-UK513	BLACK RUBBER	RUBBER	8	
20	123-001-KH19H	KH19 TCO Shield	0.3	1	
19	151-702-KH19U4H	UK913 KH19 Base	ABS HB	1	
18	103-010-3013H	Screw		4	
17	105-010-4033-1H	Screw		1	
16	151-701-UK913U4H	UK913 BASE ARM	ABS HB	1	
15	126-003-UK913FH	UK913 M-PLATE	1.0 SECC	1	
14	107-006-3073H	Screw		4	
13	151-001-FV19W66H	FV926AFW Rear-Cover	ABS HB	1	
12	107-010-3073	Screw		6	
11	155-001-LP917AFWH	LP917 EVA1(85*20*18.5 HB38)	EVA	1	
10	107-006-3073	Screw		1	
9	107-008-3073	Screw		4	
8	107-005-3082H	Screw		2	
7	154-W0D-8090H	Mylar 2	0.3 PET	1	
6	154-W0D-DA9B50GH	Mylar 1	0.3 PET	1	
5	123-B0U-LP917AFWH	LP717AFW BKT-Cover	0.6 SECC	1	
4	107-005-3082H	screw		3	
3	121-00L-LP917AFW	LP917AFW BKT-LEFT	1.0 SECC	1	
2	705-59D-958CH	台湾 CMO M190A1-L01(2.0)	Assembly	1	
1	151-A00-FV19W66H	FV926AFW Bezel	ABS HB	1	136G

ITEM	PART NO.	DESCRIPTION	Material	QTY.	REMARK
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS					
USED IN NEXT ASSY		PART NAME FV926AFW_ASSEMBLY			
APPLICATION	METRIC XX ±0.15	ANGLES ±0.5°	PART NO	JDQ-JXK-PC3765-EXD	
THIRD ANGLE PROJECTION	XX ±0.10	±0.5°	SCALE	0.25 DRAWING BY Jn.lentuan	
MATERIAL FINISH		ASSEMBLY	DATE	Jan 29, 2008 APPROVED FILE NO	
DRAWING		PROVIEW ELECTRONICS CO., LTD.	FORMAT	A2	
DOI NOT SCALE			REV.	A	

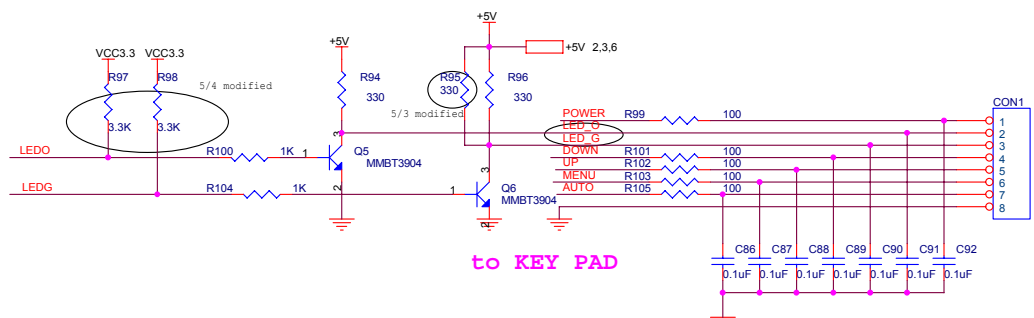
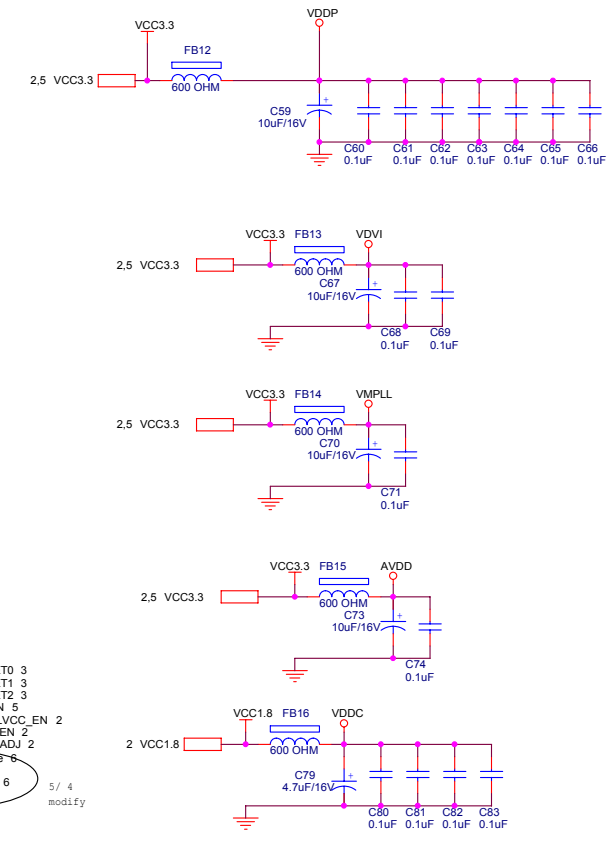
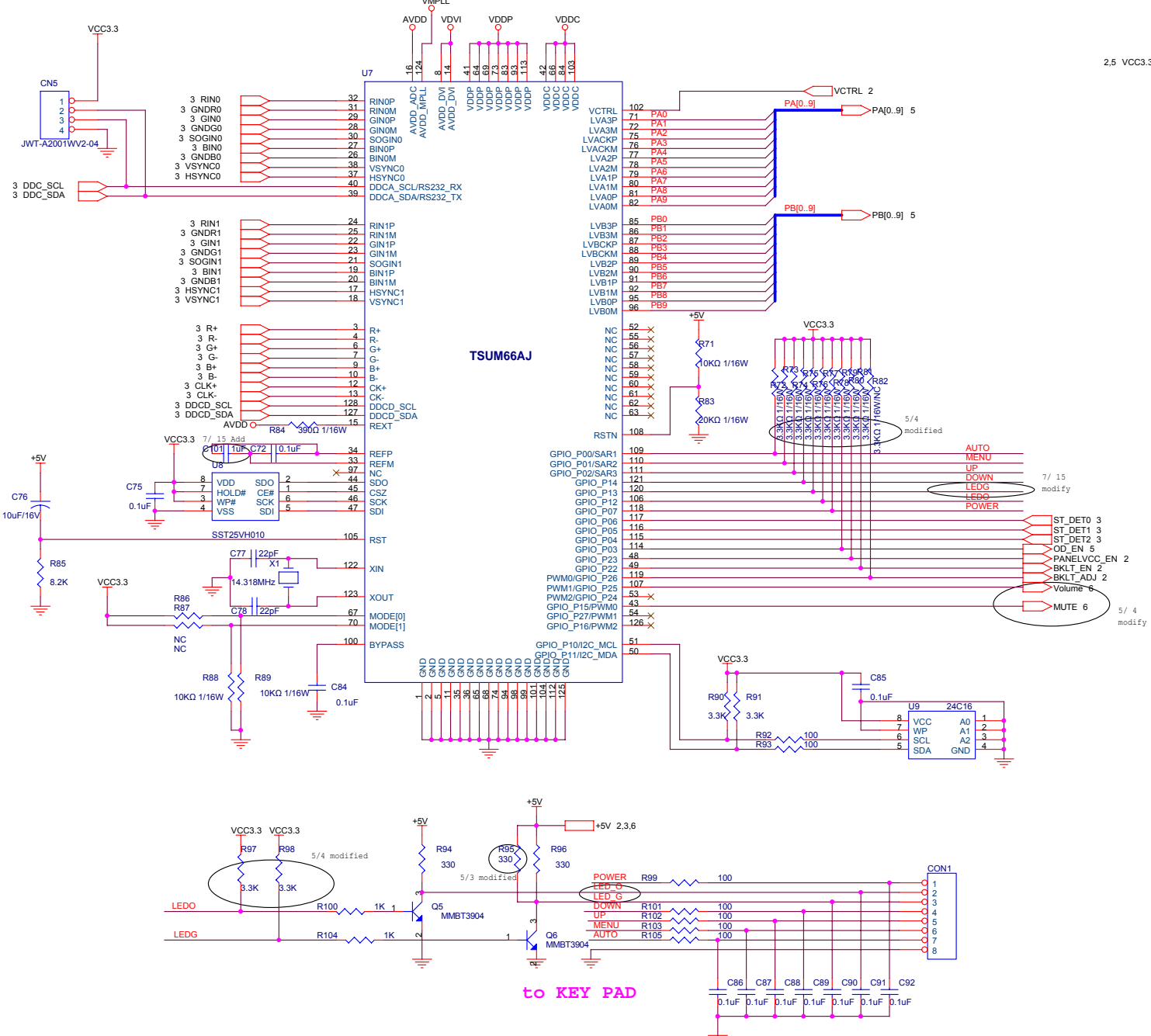
H. SCHEMATIC DIAGRAM



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Date:	Tuesday, February 21, 2006	Sheet 2 of 6

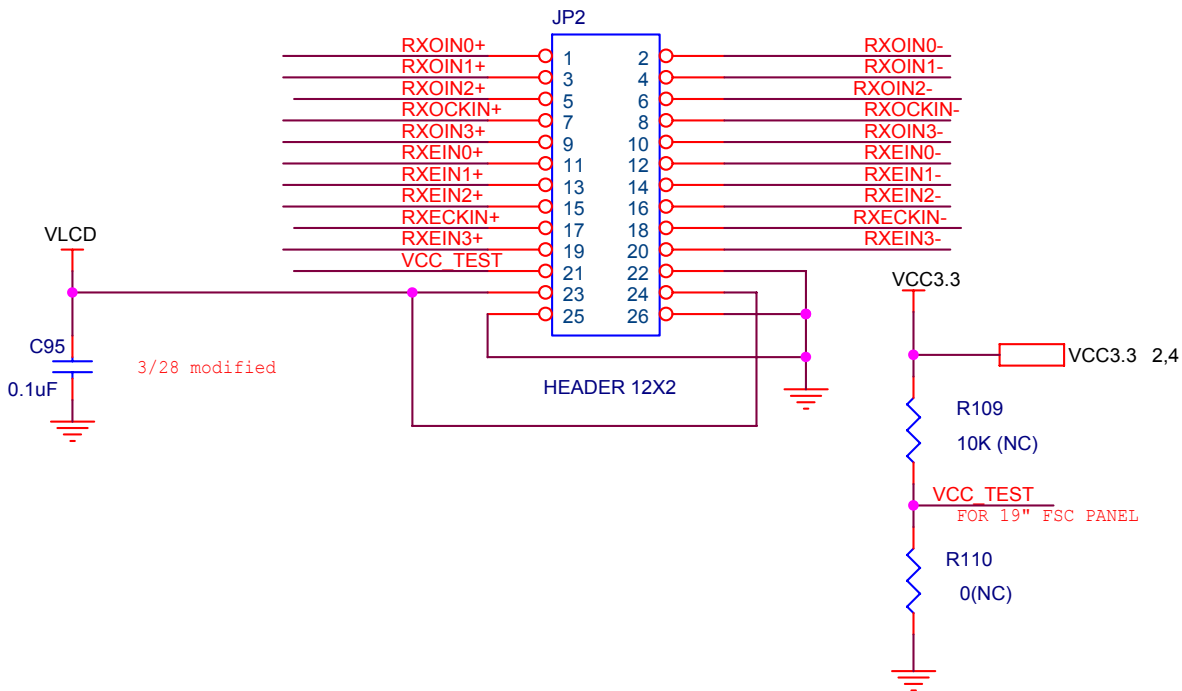
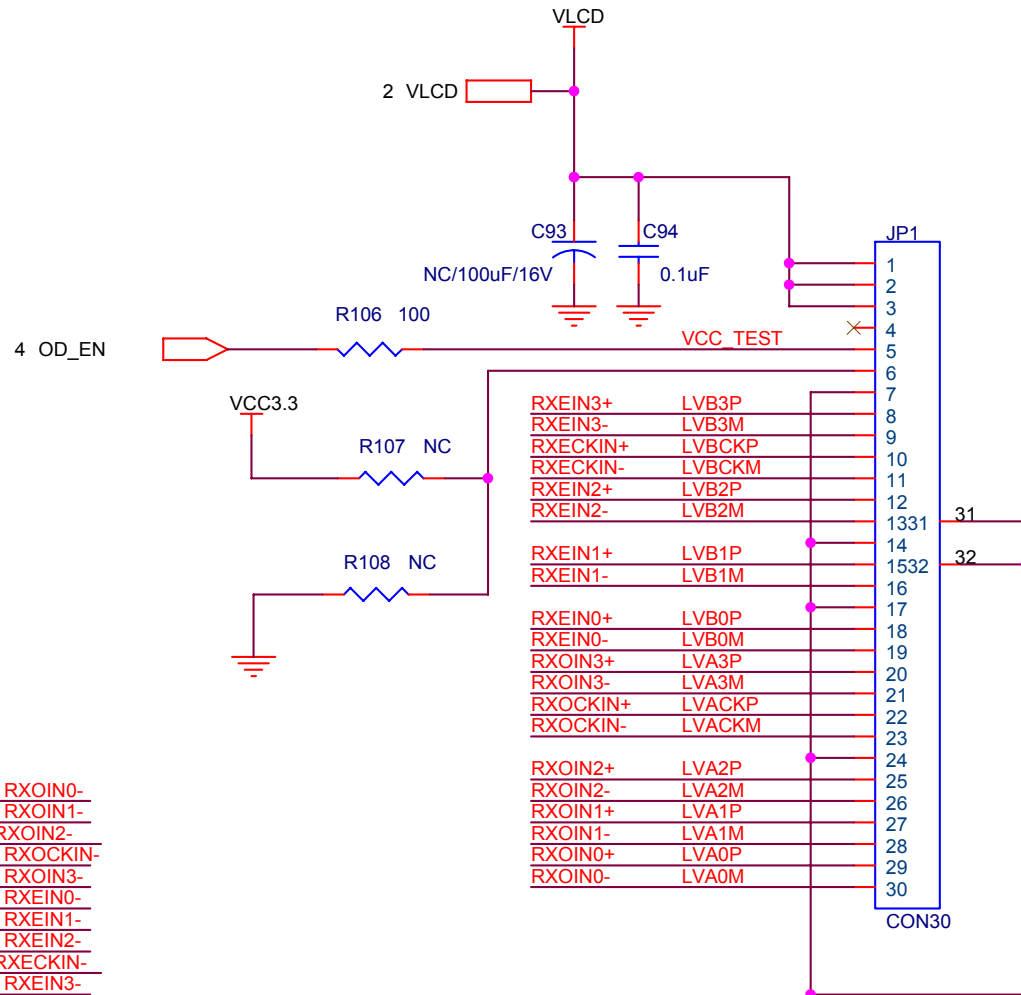
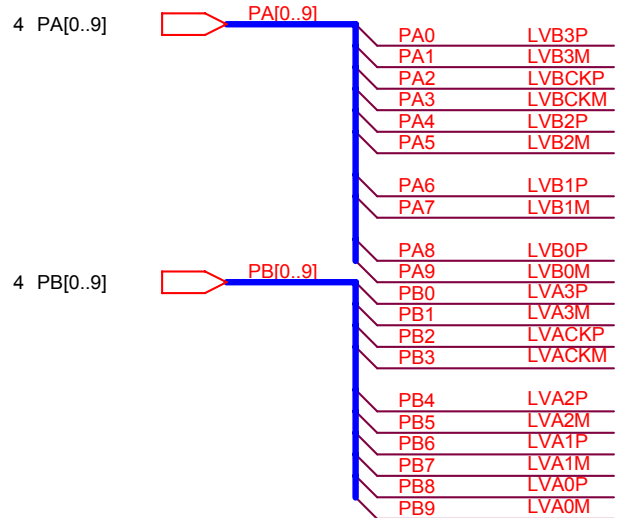


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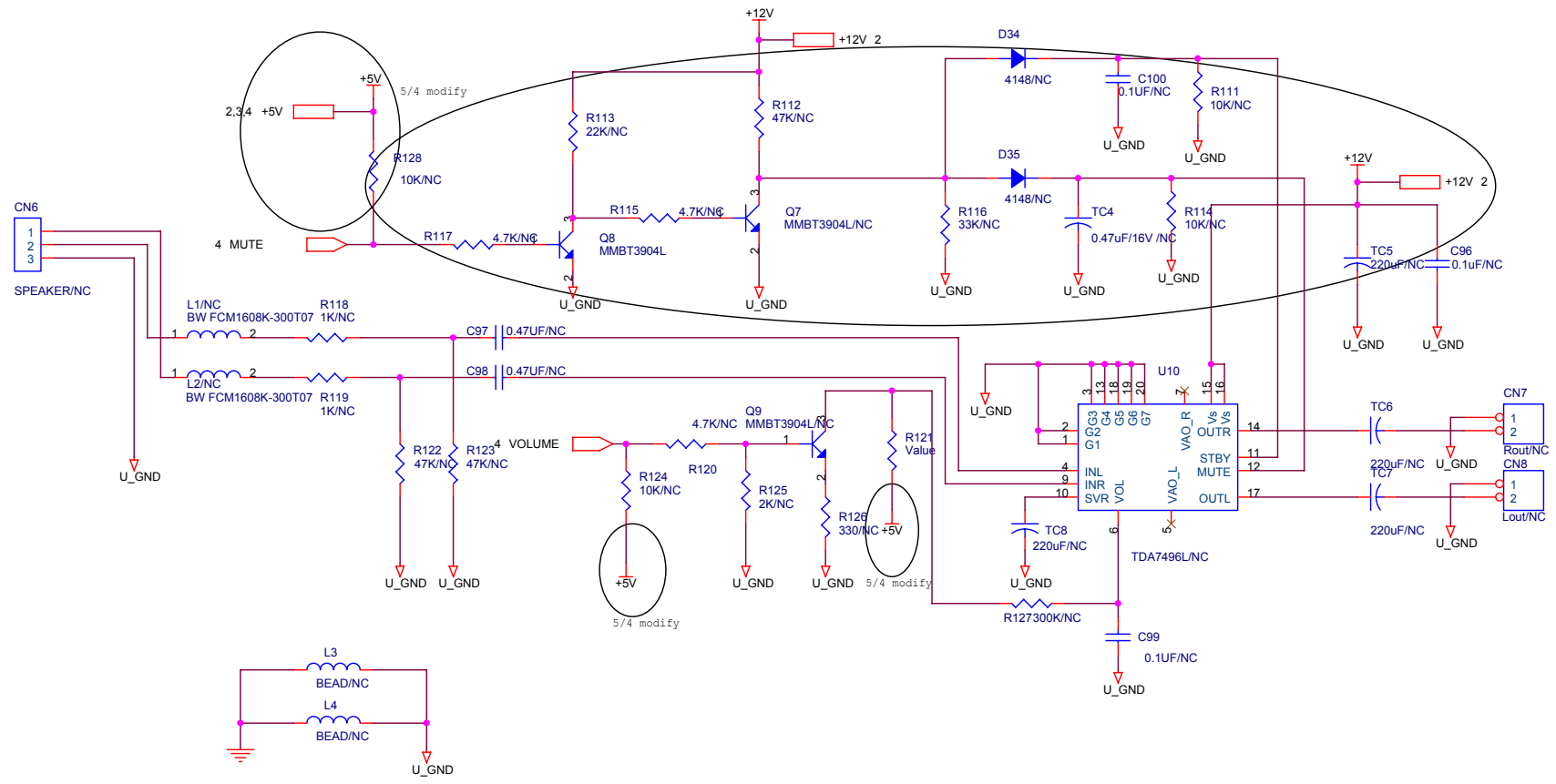


to KEY PAD

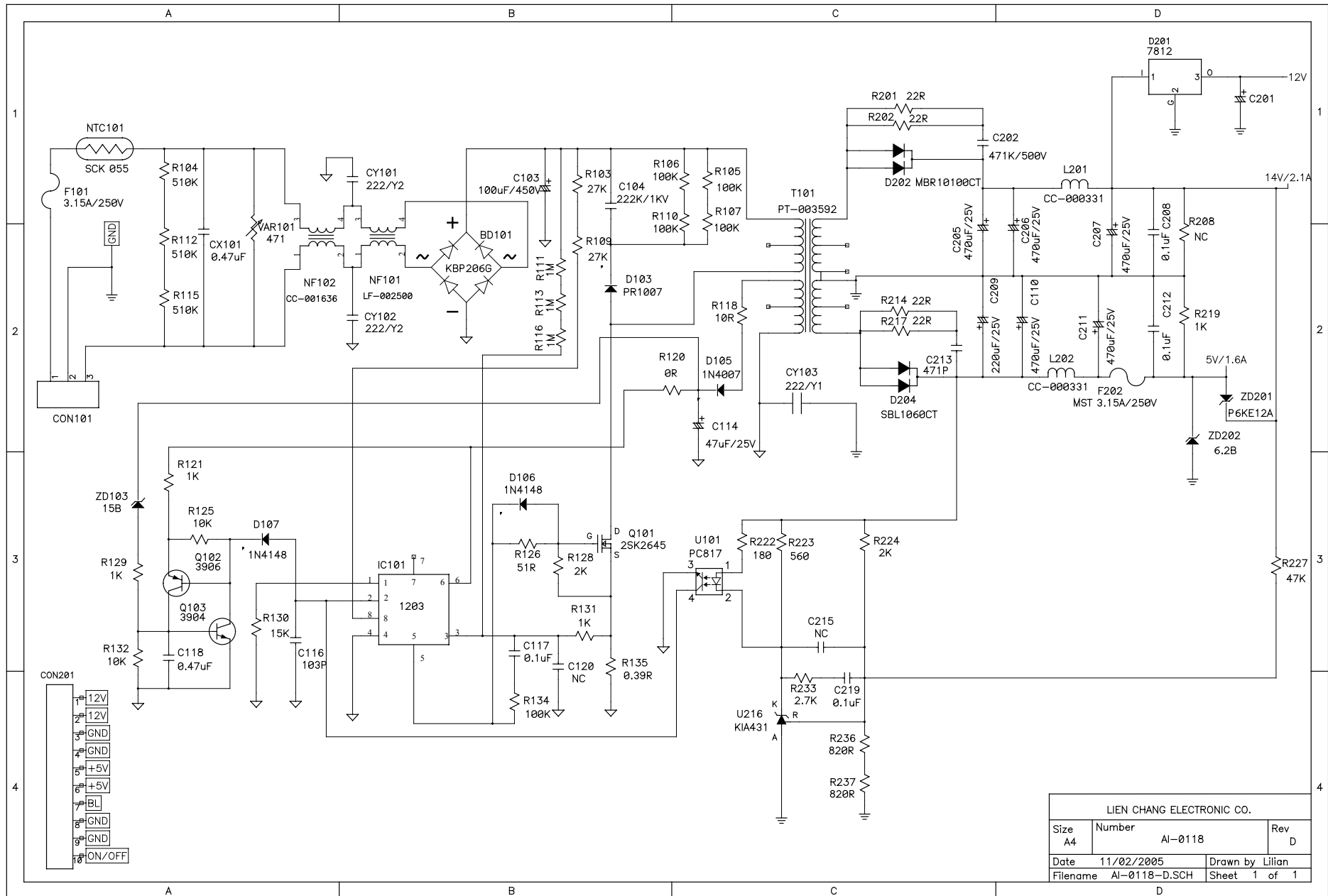
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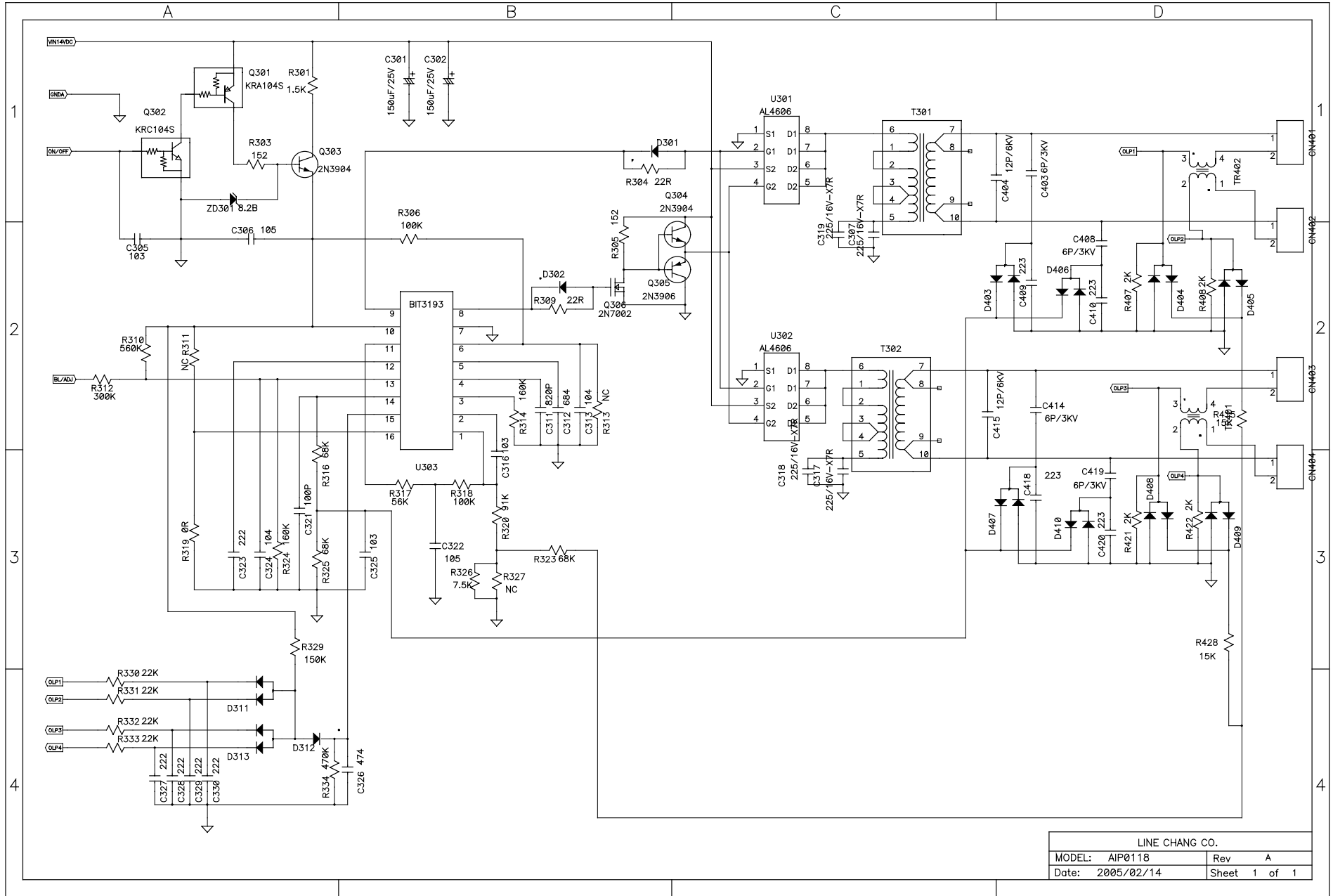


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Size A	Document Number PANEL INTERFACE	Rev B
Date: Tuesday, February 21, 2006	Sheet 5 of 6	



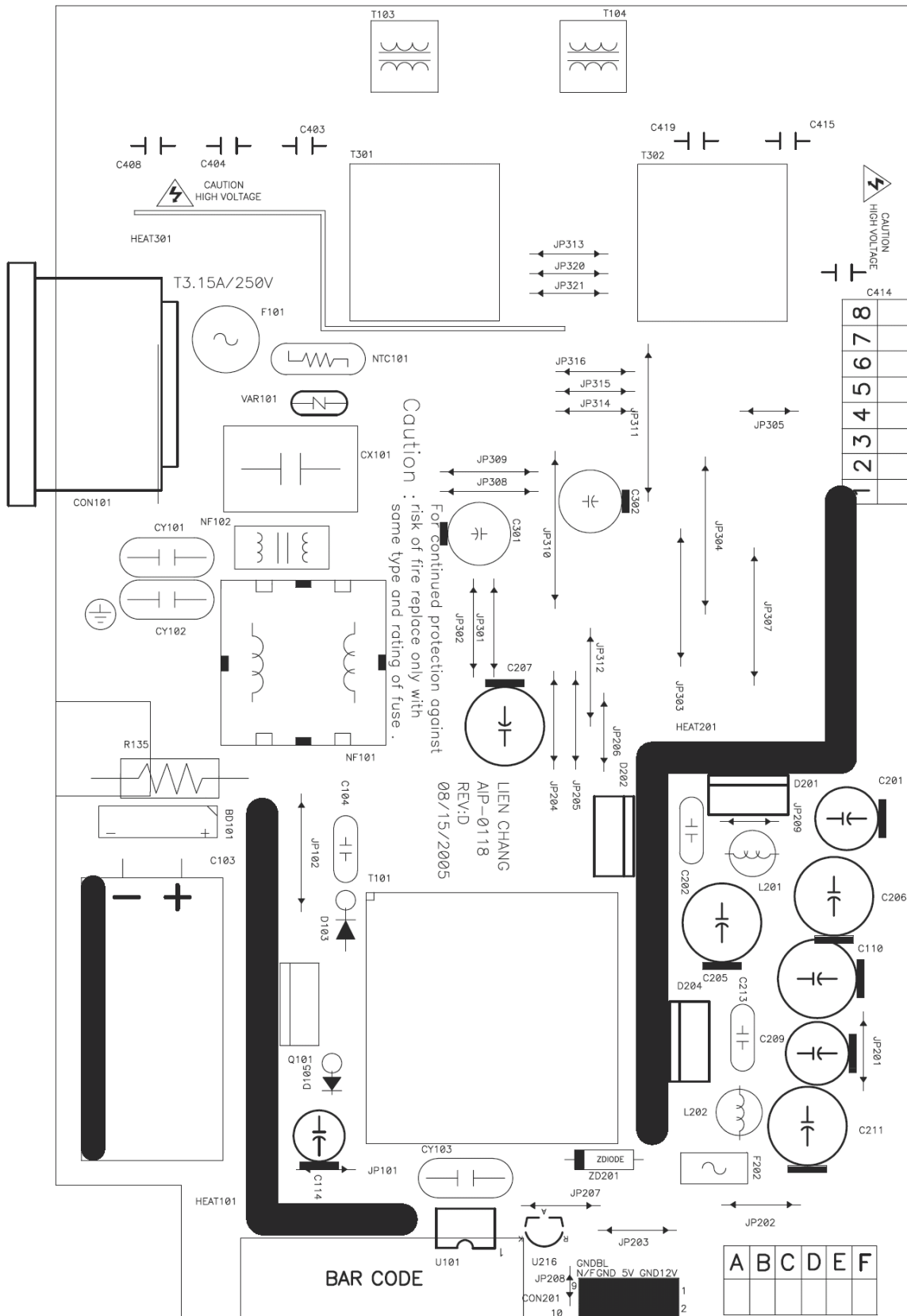
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Size	Document Number	Rev
B	Audio	B
Date:	Tuesday, February 21, 2006	Sheet 6 of 6



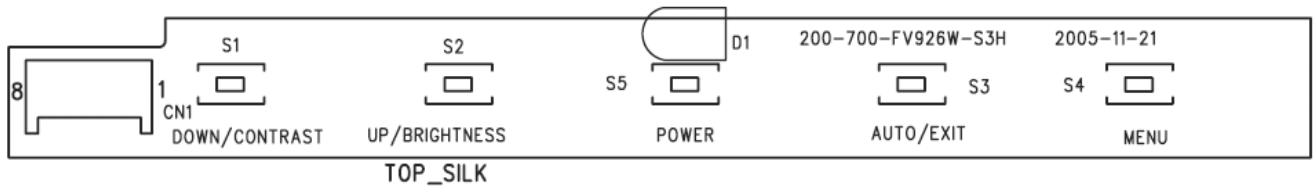


Power+Inverter Board

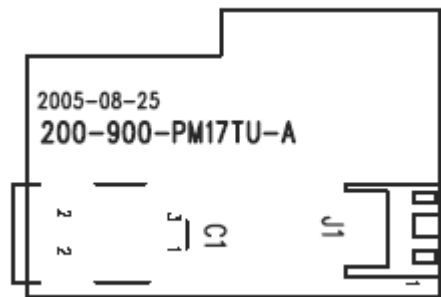
Top layer



Control Board



Earphone Board



MEMO
