



Shenzhen Cultraview Digital Technology CO., LTD

MAINTENANCE MANUAL

MODEL : CVB42001

VERSION: V1.0

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CONTENT

一、	Revision History (版本展演) :	3
二、	GENERAL DISCRIPTION(机型介绍).....	4
三、	MAINTENANCE PREPARATION WORK (维修准备工作)	4
四、	CVB42001 common problems and quick repair steps(CVB42001 常见问题及速修步骤)	5
五、	The led indicator is green and then the display turns black.(开机指示灯为绿灯后黑屏;).....	7
六、	After normal startup adjustment screen flash(正常开机后调光屏闪).....	7
七、	after normal startup,the screen too bright or too dark(正常开机时后屏过亮或过暗).....	7
八、	Schematic Diagram (原理图)	8

一、 **Revision History (版本展演) :**

Version	Description	Page	Author	Checked	Date
V1.0	First Release	All	WG.Wang		July. 10, 2013

二、 GENERAL DISCRPTION(机型介绍)

The CVB42001 is a 80 Watts 1 Dual Outputs, full range switching power supply and a DC to DC inverter that for a LED panel.

All products including samples delivered will meet all the requirements as outlined in the document. The basic requirements of the design features are listed below:

- Output Voltages: +12V; (输出电压: +12V)
- Build in DC-DC LED Driver (内置 LED 背光源驱动)
- Short circuit protection / over current protection/ over voltage protection (内置短路/过流/过压保护电路)
- High efficiency - to reduce temperature rise, The efficiency is greater than 80%. (工作效率高, 温升高, 其效率大于 80%)
- Green Mode function for LED panel to support "Blue Angel" Norm. The power consumption will less than 0.25 Watts at input 230Vac @No load (输入电压 230V 时空载功耗小于 0.25W)

三、 MAINTENANCE PREPARATION WORK (维修准备工作)

When maintenance CVB42001, we need to prepare a simple protection test socket. picture 1. Its role is to prevent switch tube breakdown caused by the circuit fire and fast judgment fault range

(在维修 CVB42001 时, 我们需准备一带保护的简易测试插座, 如图 1 所示。其作用是防止开关管击穿引起的电路起火和快速判断故障范围。)

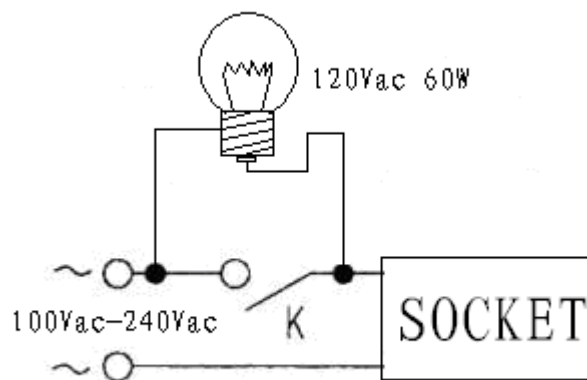
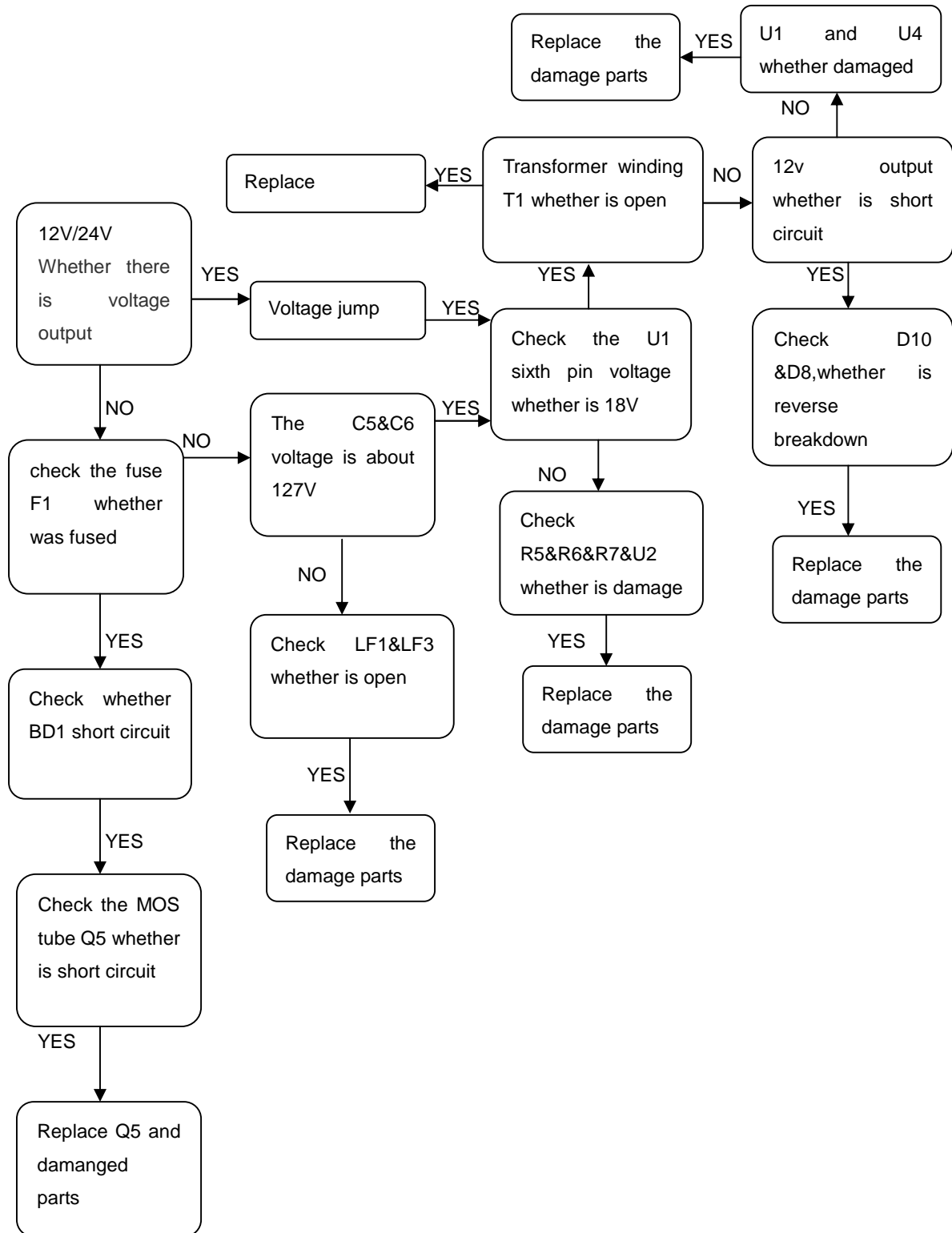


图 1.

四、 CVB42001 common problems and quick repair steps(CVB42001 常见问题及速修步骤)

DC voltage output part of troubleshooting flowchart(直流电压输出部分故障排除流程图)



- When power is on, the lights will flicker once and then go out gradually. It indicates the power is normal from input to Rectifier filter. The problem must lie behind, or otherwise power fuse or Input filter inductor is open circuit.
(通电瞬间, 灯泡闪亮一下后, 逐渐熄灭, 则电源从输入至整流滤波均正常, 故障应在后面电路。否则电源保险或输入滤波电感开路。)
- Measure C5 or C6 and see if there is voltage. If the measurement is around 127V, it means the rectifier filter circuit is normal.
(检测 C5 或 C6 两端是否有电压。若有 127V 左右的电压则整流滤波电路正常。)
- Measure The switch tube driver circuit and see if there is a voltage ranging from a few volts to no more than 20 volts. If no, measure pin6 of U1, and check if there is a voltage, and if there is a Pulse voltage on diver circuit.
(若 C5, C6 电压正常, 则检测开关管驱动电路是否有几伏至十几伏电压, 若无则检测启动 U1 的 6 脚是否有电压和驱动电路是否有脉冲电压。)
- If there is a voltage on driver circuit, and Q5 is normal, then the Secondary winding module or the feedback circuit has a problem.
(若驱动有电压, Q5 正常, 则次级绕组有故障或反馈电路有故障。)
- If the light is on constantly, then Q5 is broken down or BD1 are broken down (shorted).
(若灯泡常亮, 则 Q5 击穿 (短路) 或整流桥 BD1 击穿 (短路)。)
- If the light is going on and off Periodically, then the load must be short, please check the load.
(若灯泡周期性亮灭, 则负载有短路故障, 可着重重新检测负载。)
- If Q5 is broken down after changing a new one, then measure pin2 and pin3 of Q5, and check the Peak voltage cancellation circuit and also load, to see if there is an open circuit problem.
(若更换 Q5 击穿, 则检测 Q5 的 PIN2 与 PIN3 之间峰值电压消除电路及负载是否有开路故障。)
- After the steps above and measure the load voltage is normal, then please close the switch K, and test the output again. If it's still normal, then the power switch is ok.
(经过上述维修步骤并检测负载电压基本正常后, 即可闭合开关 K, 再次检测时若输出正常, 则说明开关电源已修复。)

五、 The led indicator is green and then the display turns black.(开机指示灯为绿灯后黑屏;)

- measure con6 and see if contacts good with mainboard (检测 CON6 是否与主板接触良好;)
- measure con2/con3 and see if contacts good with backlight switch(检测 CON2/CON3 是否与背光插头是否接触良好;)
- measure L101 and see if have damage or pin missing solder(检测 L101 是否有损坏或 PIN 空焊;)
- measure R104 or R125 and see if missing solder(检测 R104 或 R125 空焊)
- measure Q103 or Q104 and see if broken down(shorted) (检测 Q103 或 Q104 击穿 (短路))

六、 After normal startup adjustment screen flash(正常开机后调光屏闪)

- Measure con6 and see if contacts good with mainboard (检测 CON6 是否与主板接触良好;)
- Measure C107 and see if damage or missing solder 检测 C107 是否损坏或空焊;
- Measure R107 is normal or not.normal for 680K 检测 R107 的阻值是否正常, 正常为 680K;

七、 After normal startup,the screen too bright or too dark(正常开机时后屏过亮或过暗)

- measure R120&R121&R122&R123&R129&R134 and see if damage or missing solder(检测 R120,R121,R122,R123,R129,R134 是否损坏或空焊;)
- measure D101 and see if damage(检测 D101 是否损坏)

八、 Schematic Diagram（原理图）



CVB42001原理图.pdf