



液晶显示器

底板: WDM1

型号: S19A300B

S19A300N

S20A300B

S20A300N

S22A300B

S23A300B

S24A300B

S24A300BL

维修手册

薄膜液晶显示器



S19A300B/ S19A300N/ S20A300B/ S20A300N/
S22A300B/ S23A300B/ S24A300B/
S24A300BL

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1. Precautions

1-1. Safety Precautions

Follow these safety, servicing and ESD precautions to prevent damage and to protect against potential hazards such as electrical shock.

1-1-1. Warnings

1. For continued safety, do not attempt to modify the circuit board.
2. Disconnect the AC power and DC power jack before servicing.

1-1-2. Servicing the LCD Monitor

1. When servicing the LCD Monitor, Disconnect the AC line cord from the AC outlet.
2. It is essential that service technicians have an accurate voltage meter available at all times. Check the calibration of this meter periodically.

1-1-3. Fire and Shock Hazard

Before returning the monitor to the user, perform the following safety checks:

1. Inspect each lead dress to make certain that the leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the monitor.
2. Inspect all protective devices such as nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor/capacitor networks, mechanical insulators, etc.
3. Leakage Current Hot Check (Figure 1-1):

WARNING : Do not use an isolation transformer during this test.

Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1410, 59.7).

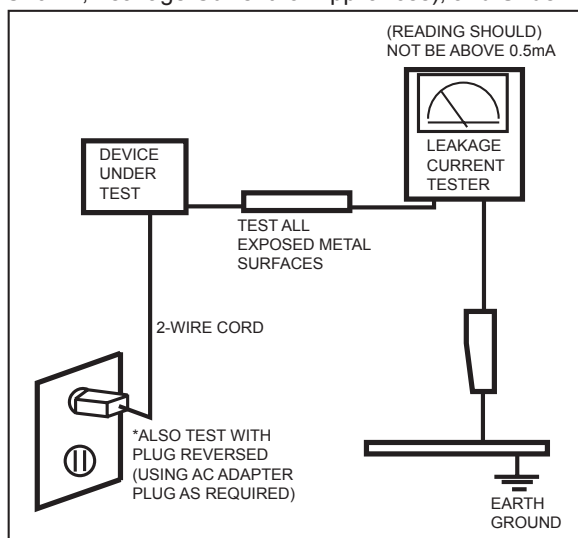



Figure 1-1. Leakage Current Test Circuit

4. With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

1-1-4. Product Safety Notices

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection. The protection they give may not be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by  on schematics and parts lists. A substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate.

1-2. Servicing Precautions

WARNING: An electrolytic capacitor installed with the wrong polarity might explode.

Caution: Before servicing units covered by this service manual, read and follow the Safety Precautions section of this manual.

Note: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions.

1-2-1 General Servicing Precautions

1. Always unplug the unit's AC power cord from the AC power source and disconnect the DC Power Jack before attempting to:
(a) remove or reinstall any component or assembly, (b) disconnect PCB plugs or connectors, (c) connect a test component in parallel with an electrolytic capacitor.
2. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
3. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the area around the serviced part has not been damaged.
4. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
5. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500 V) to the blades of the AC plug. The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
6. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

1-3. Static Electricity Precautions

Some semiconductor (solid state) devices can be easily damaged by static electricity. Such components are commonly called Electrostatically Sensitive Devices (ESD). Examples of typical ESD are integrated circuits and some field-effect transistors. The following techniques will reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. To avoid a shock hazard, be sure to remove the wrist strap before applying power to the monitor.
2. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of an electrostatic charge.
3. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESDs.
4. Use only a grounded-tip soldering iron to solder or desolder ESDs.
5. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESDs.
6. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
7. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
Caution: Be sure no power is applied to the chassis or circuit and observe all other safety precautions.
8. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting your foot from a carpeted floor can generate enough static electricity to damage an ESD.

1-4. Installation Precautions

1. For safety reasons, more than two people are required for carrying the product.
2. Keep the power cord away from any heat emitting devices, as a melted covering may cause fire or electric shock.
3. Do not place the product in areas with poor ventilation such as a bookshelf or closet. The increased internal temperature may cause fire.
4. Bend the external antenna cable when connecting it to the product. This is a measure to protect it from being exposed to moisture. Otherwise, it may cause a fire or electric shock.
5. Make sure to turn the power off and unplug the power cord from the outlet before repositioning the product. Also check the antenna cable or the external connectors if they are fully unplugged. Damage to the cord may cause fire or electric shock.
6. Keep the antenna far away from any high-voltage cables and install it firmly. Contact with the highvoltage cable or the antenna falling over may cause fire or electric shock.
7. When installing the product, leave enough space (10cm) between the product and the wall for ventilation purposes. A rise in temperature within the product may cause fire.

Memo

2. Product specifications

2-1. Feature & Specifications

■ S19A300B / S19A300N

Feature		
<div>▶ Panel Specifications: 250 cd/m², 5 ms, CR 1000:1, 170/160 (CR>10)</div> <div>▶ DPMS : <0.3W</div> <div>▶ Off-Timer function for reducing standby power usages</div> <div>▶ DVI with HDCP (S19A300N: Analog only)</div> <div>▶ Picture;a screen size desire</div> <div>▶ Supported Magic Bright3/Magic Eco/Magic Angle/Magic Return off timer/Image Size/Color Effect/Key Repeat Time</div>		
Specifications		
Item	Description	
Model	S19A300B	S19A300N
LCD Panel	TFT-LCD panel, RGB vertical stripe, normally white transmissive	
	18.5" Wide viewable 0.300(H) x 0.300(V)mm pixel pitch	
Scanning Frequency	Horizontal : 30kHz ~ 81kHz (Automatic) Vertical: 56Hz ~ 75Hz	
Display Colors	16.7 Million colors	
Maximum resolution	Horizontal: 1366 Pixels Vertical: 768 Pixels	
Input Signal	Analog / DVI digital with HDCP	Analog
Input Sync Signal	Seperate H/V sync, Composite H/V, Sync-on-Green Level: TTL level	
Maximum Pixel Clock rate	89Mhz	
Active Display (Horizontal/Vertical)	409.8 (H) x 230.4(V)	
AC power voltage & Frequency	AC 100V~130V, 60Hz & AC, 200V~240V 50Hz	
Power Consumption	MAX 21W / Typical 19W	
Dimensions Set (W x H x D)	445 X 273 X 53 mm (Without Stand) 445 X 348 X 177 mm (With Stand)	
Weight Set (After installation Stand)	2.3 kg	
Environmental Considerations	Operating Temperature: 10°C ~ 50°C Operating Humidity : 10% ~ 90% Storage Temperature: -20°C ~ 45°C Storage Humidity: 5% ~ 90%	
Note: Designs and specifications are subject to change without prior notice.		

■ S20A300B / S20A300N

Feature		
<div><div>▶ Panel Specifications: 250 cd/m², 5 ms, CR 1000:1, 170/160 (CR>10)</div><div>▶ DPMS : <0.3W</div><div>▶ Off-Timer function for reducing standby power usages</div><div>▶ DVI with HDCP (S20A300N: Analog only)</div><div>▶ Picture;a screen size desire</div><div>▶ Supported Magic Bright3/Magic Eco/Magic Angle/Magic Return off timer/Image Size/Color Effect/Key Repeat Time</div></div>		
Specifications		
Item	Description	
Model	S20A300B	S20A300N
LCD Panel	TFT-LCD panel, RGB vertical stripe, normally white transmissive	
	20" Wide viewable 0.27675(H) x 0.27675(V)mm pixel pitch	
Scanning Frequency	Horizontal : 30kHz ~ 81kHz (Automatic) Vertical: 56Hz ~ 75Hz	
Display Colors	16.7 Million colors	
Maximum resolution	Horizontal: 1600 Pixels Vertical: 900 Pixels	
Input Signal	Analog / DVI digital with HDCP	Analog
Input Sync Signal	Seperate H/V sync, Composite H/V, Sync-on-Green Level: TTL level	
Maximum Pixel Clock rate	150 Mhz	
Active Display (Horizontal/Vertical)	442.8(H) x 249.08(V)	
AC power voltage & Frequency	AC 100V~130V, 60Hz & AC, 200V~240V 50Hz	
Power Consumption	MAX 21W / Typical 19W	
Dimensions Set (W x H x D)	478 X 291 X 53 mm (Without Stand) 478 X 365 X 177 mm (With Stand)	
Weight Set (After installation Stand)	2.1 kg	
Environmental Considerations	Operating Temperature: 10°C ~ 50°C Operating Humidity : 10% ~ 90% Storage Temperature: -20°C ~ 45°C Storage Humidity: 5% ~ 90%	
Note: Designs and specifications are subject to change without prior notice.		

■ S22A300B / S23A300B



Feature		
<div>▶ Panel Specifications: 250 cd/m², 5 ms, CR 1000:1, 170/160 (CR>10)</div> <div>▶ DPMS : <0.3W</div> <div>▶ Off-Timer function for reducing standby power usages</div> <div>▶ DVI with HDCP (wide model)</div> <div>▶ Picture;a screen size desire</div> <div>▶ Supported Magic Bright3/Magic Eco/Magic Angle/Magic Return off timer/Image Size/Color Effect/Key Repeat Time</div>		
Specifications		
Item	Description	
Model	S22A300B	S23A300B
LCD Panel	TFT-LCD panel, RGB vertical stripe, normally white transmissive	
	21.5" Wide viewable 0.24825(H)x0.24825(V)mm pixel pitch	23" Wide viewable 0.2655(H)x0.2655(V)mm pixel pitch
Scanning Frequency	Horizontal : 30kHz ~ 81kHz (Automatic) Vertical: 56Hz ~ 75Hz	
Display Colors	16.7 Million colors	
Maximum resolution	Horizontal: 1920 Pixels Vertical: 1080 Pixels	
Input Signal	Analog / DVI digital with HDCP	
Input Sync Signal	Seperate H/V sync, Composite H/V, Sync-on-Green Level: TTL level	
Maximum Pixel Clock rate	164Mhz	
Active Display (Horizontal/Vertical)	476.64(H) x 268.11(V)	509.76(H) x 286.741(V)
AC power voltage & Frequency	AC 100V~130V, 60Hz & AC, 200V~240V 50Hz	
Power Consumption	MAX 23W / Typical21W	MAX 27W / Typical 25W
Dimensions Set (W x H x D)	512 X 311 X 53 mm (Without Stand) 512 X 385 X 197 mm (With Stand)	547 X 330 X 53 mm (Without Stand) 547 X 405 X 197 mm (With Stand)
Weight Set (After installation Stand)	3.0 kg	2.9 kg
Environmental Considerations	Operating Temperature: 10°C ~ 50°C Operating Humidity : 10% ~ 90% Storage Temperature: -20°C ~ 45°C Storage Humidity: 5% ~ 90%	
Note: Designs and specifications are subject to change without prior notice.		

■ S24A300BL / S24A300B

Feature		
<div>▶ Panel Specifications: 250 cd/m², 5 ms, CR 1000:1, 170/160 (CR>10)</div> <div>▶ DPMS : <0.3W</div> <div>▶ Off-Timer function for reducing standby power usages</div> <div>▶ DVI with HDCP (wide model)</div> <div>▶ Picture;a screen size desire</div> <div>▶ Supported Magic Bright3/Magic Eco/Magic Angle/Magic Return off timer/Image Size/Color Effect/Key Repeat Time</div>		
Specifications		
Item	Description	
Model	S24A300BL	S24A300B
LCD Panel	TFT-LCD panel, RGB vertical stripe, normally white transmissive	
	23.6" Wide viewable 0.2715(H)x0.2715(V)mm pixel pitch	24" Wide viewable 0.27675(H)x0.27675(V)mm pixel pitch
Scanning Frequency	Horizontal : 30kHz ~ 81kHz (Automatic) Vertical: 56Hz ~ 75Hz	
Display Colors	16.7 Million colors	
Maximum resolution	Horizontal: 1920 Pixels Vertical: 1080 Pixels	
Input Signal	Analog / DVI digital with HDCP	
Input Sync Signal	Seperate H/V sync, Composite H/V, Sync-on-Green Level: TTL level	
Maximum Pixel Clock rate	164Mhz	
Active Display (Horizontal/Vertical)	521.28(H) x 293.221(V)	531.36(H) x 298.891(V)
AC power voltage & Frequency	AC 100V~130V, 60Hz & AC, 200V~240V 50Hz	
Power Consumption	MAX 23W / Typical21W	MAX 30W / Typical 27W
Dimensions Set (W x H x D)	569 X 342 X 53 mm (Without Stand) 569 X 416 X 197 mm (With Stand)	569 X 342 X 53 mm (Without Stand) 569 X 416 X 197 mm (With Stand)
Weight Set (After installation Stand)	3.8 kg	3.5 kg
Environmental Considerations	Operating Temperature: 10°C ~ 50°C Operating Humidity : 10% ~ 90% Storage Temperature: -20°C ~ 45°C Storage Humidity: 5% ~ 90%	
Note: Designs and specifications are subject to change without prior notice.		

2-2. Spec Comparison to the Old Models



■ S19A300B / S19A300N

Model	[SA300] S19A300B / S19A300N	[CREAM] SN1933
Design		
Resolution	1366 X 768	1366 X 768
Input	S19A300B: Analog / DVI digital with HDCP S19A300N: Analog only	Analog only
Response Time	5ms(B to B)	5ms(B to B)
Viewing Angle	170/160(CR>10)	170/160(CR>10)
Brightness	250 cd/m ²	300 cd/m ²
Contrast	MEGA (DCR)	20000:1(DCR)
MagicBright	5 step	7 step
Feature	Magic Color Image Size Magic Bright3 Magic Tune (Premium) ECO Saving Magic Angle Key Repeat Time	Magic Color Color Effect Image Size Magic Bright2 Magic Tune (Premium)

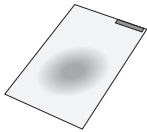
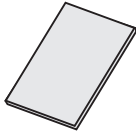
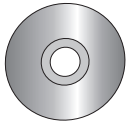

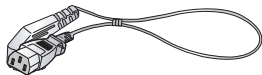

■ S20A300B / S20A300N

Model	[SA300] S20A300B / S20A300N	[CREAM] 2033SW / 2033SN
Design		
Resolution	1600 X 900	1600 X 900
Input	S20A300B: Analog / DVI digital with HDCP S20A300N: Analog only	Analog only
Response Time	5ms(B to B)	5ms(B to B)
Viewing Angle	170/160(CR>10)	170/160(CR>10)
Brightness	250 cd/m ²	300 cd/m ²
Contrast	MEGA (DCR)	20000:1(DCR)
MagicBright	5 step	7 step
Feature	Magic Color Image Size Magic Bright3 Magic Tune (Premium) ECO Saving Magic Angle Key Repeat Time	Magic Color Color Effect Image Size Magic Bright2 Magic Tune (Premium)

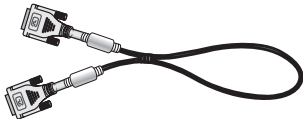
■ S22A300B / S23A300B / S24A300BL / S24A300B

Model	[SA300] S22A300B / S23A300B / S24A300BL / S24A300B	[CREAM] 2233NW / 2233BW / 2233GW
Design		
Resolution	1920 X 1080	1680 X 1050
Input	Analog / DVI digital with HDCP	Analog / DVI digital with HDCP (2233NW : Analog only)
Response Time	5ms(B to B)	5ms(B to B)
Viewing Angle	170/160(CR>10)	170/160(CR>10)
Brightness	250 cd/m ²	300 cd/m ²
Contrast	MEGA (DCR)	20000:1(DCR)
MagicBright	5 step	7 step
Feature	Magic Color Image Size Magic Bright3 Magic Tune (Premium) ECO Saving Magic Angle Key Repeat Time	Magic Color Color Effect Image Size Magic Bright2 Magic Tune (Premium)

2-3. Accessories

Product	Description	Code. No	Remark
	Quick Setup Guide	BN68-03248A	Samsung Electronics Service center
	Warranty Card (Not available in all locations)	BN68-00226R	
	User's Guide, Monitor Driver, Natural Color Pro Software	BN59-01127A	
	D-Sub(15 Pin) Cable	BN39-00244H	
	Power Cord	3903-000382	
	Cleaning Cloth	BN63-02368B	

2-4. Accessories (Sold separately)

Product	Description	Code. No	Remark
	DVI Cable	BN39-00246L	Samsung Electronics Service center

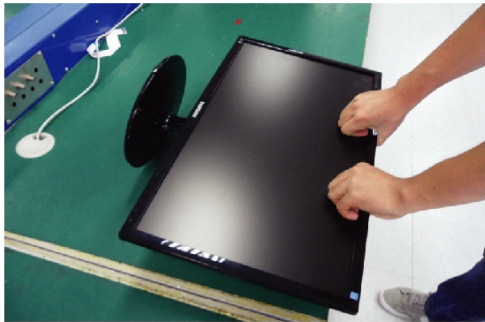

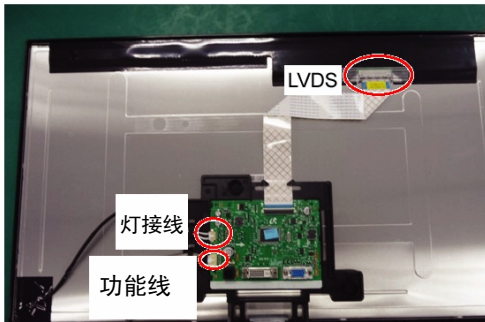

3.拆卸和重新组装

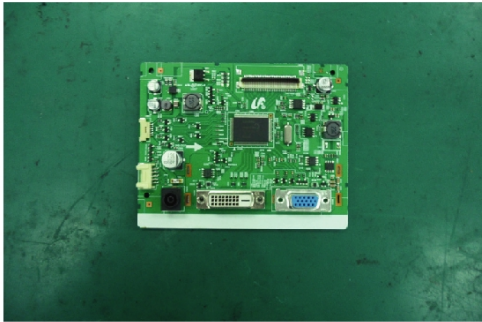
维修手册的这一章叙述本显示器的拆卸和重新组装步骤。

⚠ **警告：** 本显示器包含静电敏感器件。处理这些部件时应小心。

3-1. 拆卸

- ⚠ **小心：**
- 1.在进行拆卸前，请关闭显示器。
 - 2.在拆卸显示器时，请勿使用除提供的开启工具以外的其它金属工具。
 - 3.请按下述步骤小心拆卸本显示器。

说明	图片	螺钉
1.①翻转显示器并将手插入到显示器顶部中央位置，按照如图箭头所示方向拆卸前盖。 ②如图所示，分离前盖侧部到指示线位置。		
2.再次翻转显示屏拆卸后盖。 * 对于同类型号，主印刷电路板仅有一个D-SUB插孔无DVI插孔。		
3.拆卸 LVDS、灯接线和功能线后拆卸护板盖。 * 对于同类型号，主印刷电路板仅有一个D-SUB插孔无DVI插孔。		
4.拆卸 LED 屏板。		

说明	图片说明	螺钉
<p>5.从护板盖上将主印刷电路板卸下。</p> <p>* 对于同类型号，主印刷电路板仅有一个D-SUB插孔无DVI插孔。</p>		

4 故障排除

4-1. 故障排除

1. 在进行维修前，按如下方式设置定制模式：

S24A300BL / S24A300B / S23A300B / S22A300B

- 分辨率：1920×1080
- 水平频率：67 kHz
- 垂直频率：60 Hz

S20A300B / S20A300N

- 分辨率：1600×900
- 水平频率：60 kHz
- 垂直频率：60 Hz


S19A300B / S19A300N

- 分辨率：1366×768
- 水平频率：47.7 kHz
- 垂直频率：60 Hz

2. 如果没有图像出现，确保正确连接了电源线。

3. 检查以下电路：

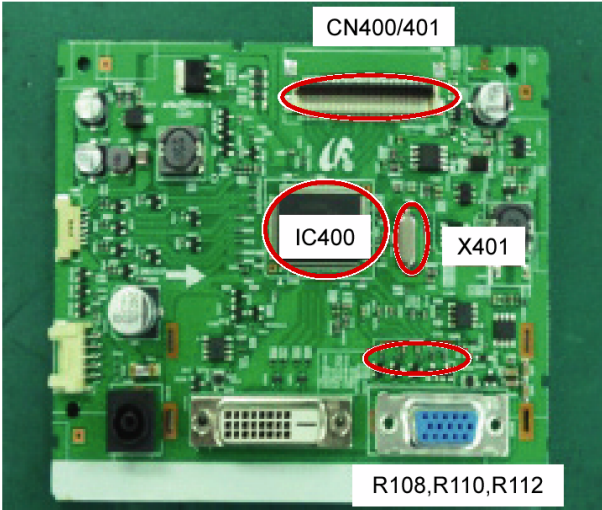
- 没有光栅出现：功能印刷电路板组件、主印刷电路板组件
- 5V 形成，但没有画面：主印刷电路板组件

4. 按下菜单键并按住“（确认/来源）”键五（5）秒，显示器会自动进入工厂复位。

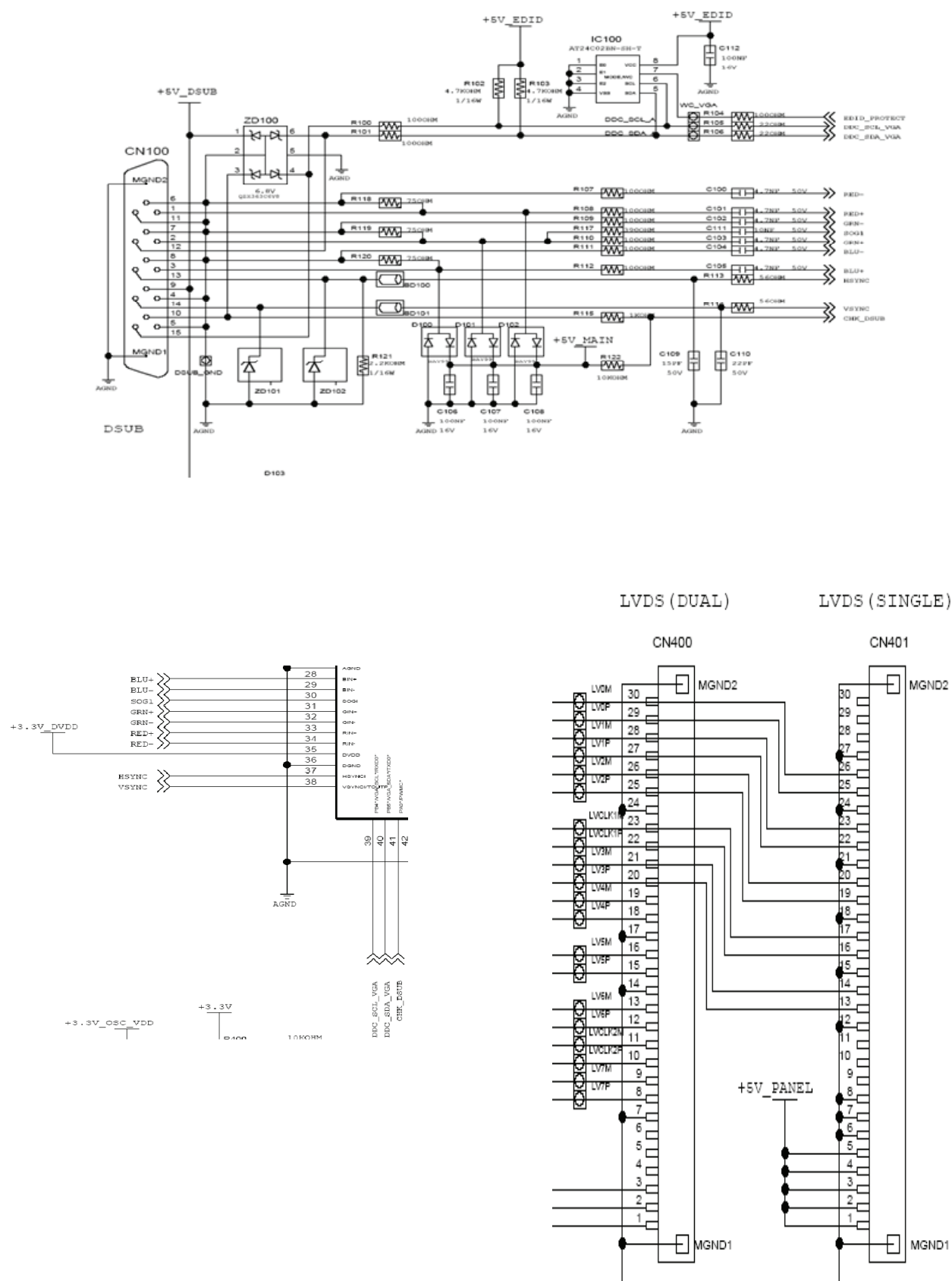
4-2 未开通电源时

征兆	-连接电源后打开电源按钮时，显示器前部的 LED 指示灯不运行。
主要检查点	-检查 Q802 保险丝和 Q802 输出功率。 -检查 CN801 和显示器内部主板的连接情况。 -检查主板电源部分，同时检查其它输出终端是否有任何输出异常。
诊断	<div></div> <p>* 对于同类型号，主印刷电路板仅有一个 D-SUB 插孔无 DVI 插孔。</p> <div><div>是</div><div>检查功能组件的连接状况</div><div>是</div><div>CN600 管脚 5、6 电压为 0V 时管脚 2 所测电压是否为 DC12V?</div><div>是</div><div>CN602 管脚 3、4 电压为 0V 时管脚 5、6 所测电压是否为 DC5V?</div><div>否</div><div>更换 CN600</div><div>是</div><div>IC601 管脚 1 电压为 DC5V 时管脚 2 所测电压是否为 DC3.3V?</div><div>否</div><div>检查 IC601 上的相关电路</div><div>是</div><div>IC602 管脚 3 电压为 DC5V 时管脚 2 所测电压是否为 DC1.8V?</div><div>否</div><div>检查 IC602 上的相关电路</div></div>
注意	在主板工作之前确保电源断开。

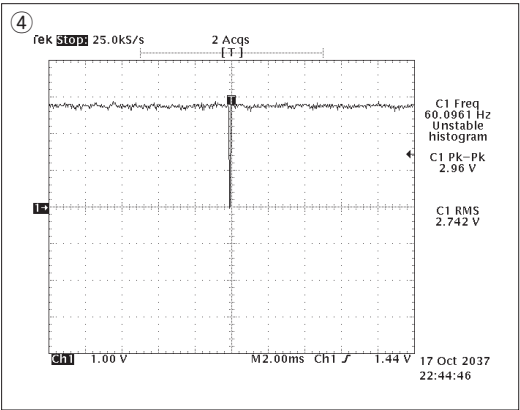
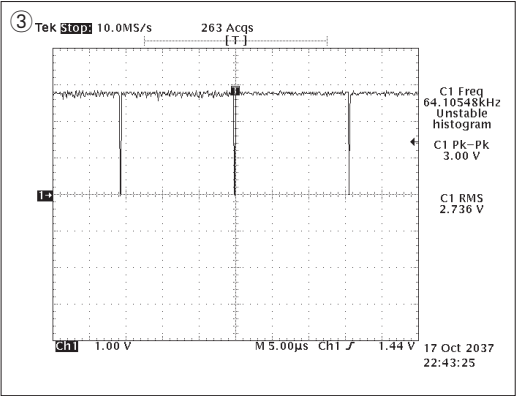
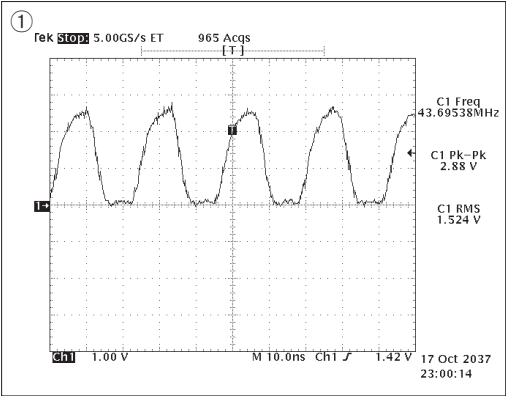
4-3. 当显示器黑屏时（模拟）

征兆	-尽管 LED 电源打开，但连接 VGA 接线时，屏幕仍为黑屏。
主要检查点	-检查 D-SUB 接线的连接情况。 -检查 LVDS 接线是否正确连接到面板上。 -检查面板灯连接器是否正确连接到了主板上。
诊断	<div></div> <p>* 对于同类型号，主印刷电路板仅有一个 D-SUB 插孔无 DVI 插孔。</p> <div><div>检查信号接线及其连接</div><div>是</div><div>①检查 X401 震荡是否正常？</div><div>否</div><div>检查并更换与 X401 相关的电路。</div><div>是</div><div>②在 R108、R110、和 R112 上是否出现了 RGB 输入？</div><div>否</div><div>检查 R108、R110、和 R112 输入终端</div><div>是</div><div>检查 IC400 的管脚 37、38 上是否出现了水平同步③和竖直同步④的波形？</div><div>否</div><div>检查 IC400 的相关电路</div><div>是</div><div>CN400 的管脚 8 到管脚 30 是否出现了输出信号？</div><div>否</div><div>检查 CN400 的相关电路</div><div>是</div><div>在 CN400 的管脚 1、2、3 上的电压是否为 DC5V？</div><div>否</div><div>检查 +5V_板信号和 BL_EN 信号</div><div>是</div><div>检查并更换屏板</div></div>
注意	在主板工作之前确保电源断开。

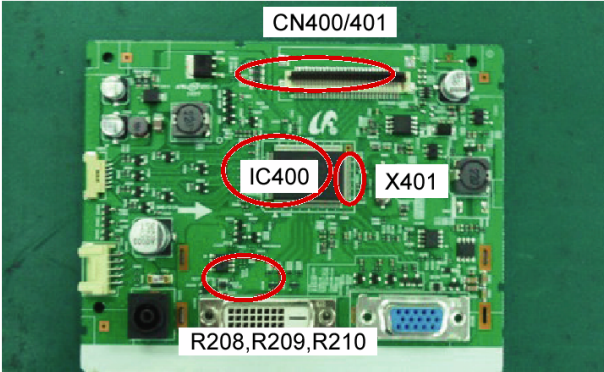
4-3-1. 出现黑屏时的电路图（模拟）



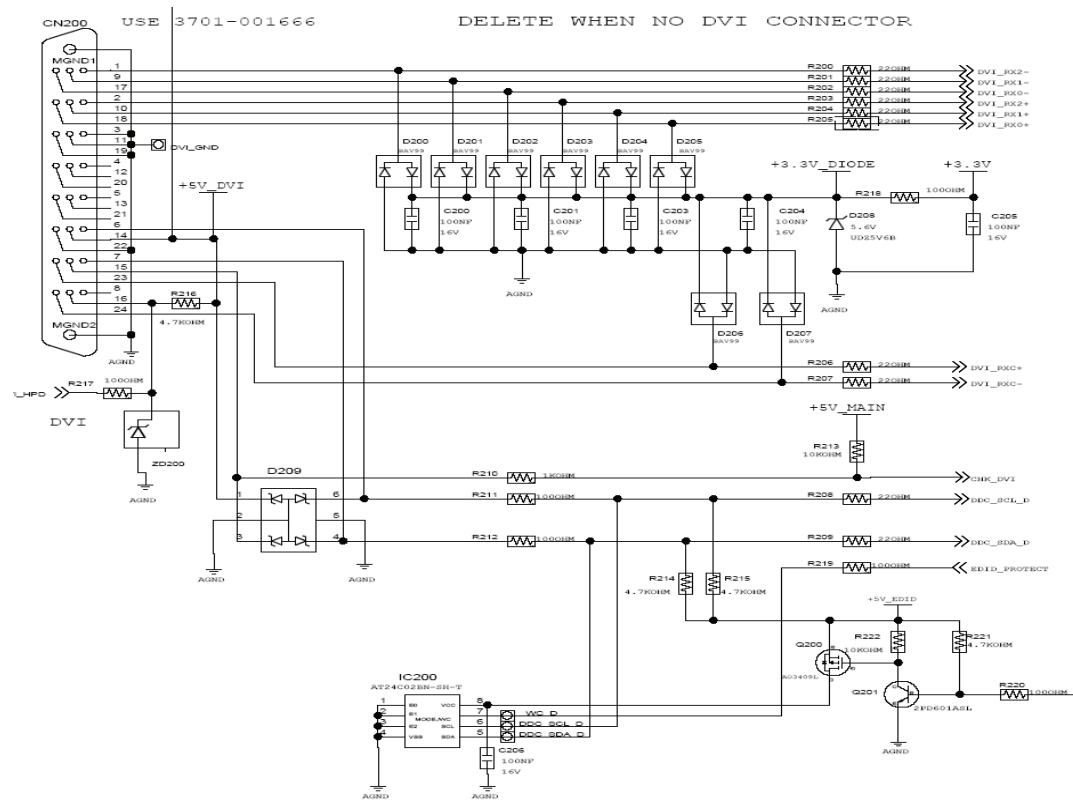
4-3-2.无显示时的波形图（模拟）



4-4. 当显示器黑屏时（数字）

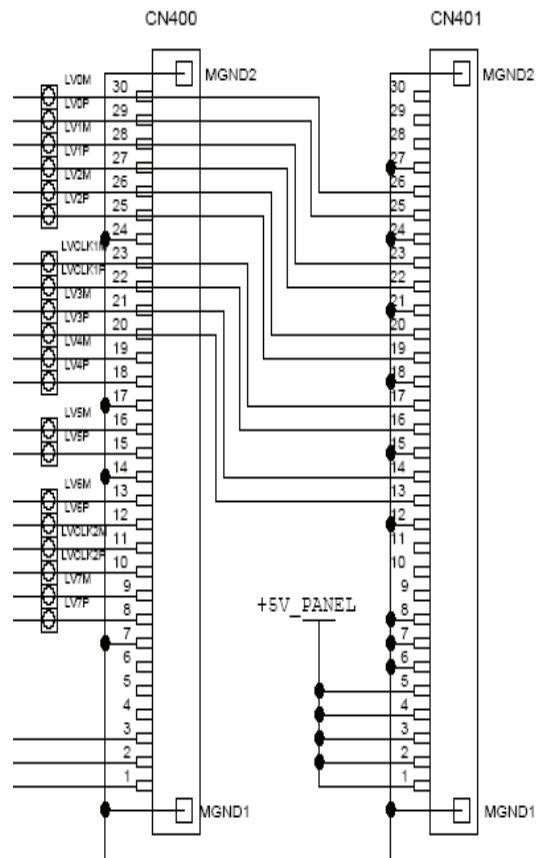
征兆	-尽管 LED 电源打开，但连接 DVI 接线时，屏幕仍为黑屏。
主要检查点	-检查 DVI 接线的连接情况。 -检查 LVDS 接线是否正确连接到面板上。 -检查面板灯连接器是否正确连接到了主板上。
诊断	<div></div> <p>* 对于同类型号，主印刷电路板仅有一个 D-SUB 插孔无 DVI 插孔。</p> <div><div>检查信号接线及其连接</div><div>↓ 是</div><div>①检查 X401 震荡是否正常?</div><div>否 → 检查并更换与 X401 相关的电路。</div><div>是 ↓</div><div>②在 R208、R209、和 R210 上是否出现了 RGB 输入?</div><div>否 → 检查 R208、R209、和 R210 输入终端</div><div>是 ↓</div><div>CN400 的管脚 8 到管脚 30 是否出现了输出信号?</div><div>否 → 检查 CN400 的相关电路</div><div>是 ↓</div><div>在 CN400 的管脚 1、2、3 上的电压是否为 DC5V?</div><div>否 → 检查屏板 EN 信号和 BL_EN 信号</div><div>是 ↓</div><div>检查并更换屏板</div></div>
注意	在主板工作之前确保电源断开。

4-4-1. 出现黑屏时的电路图（数字）

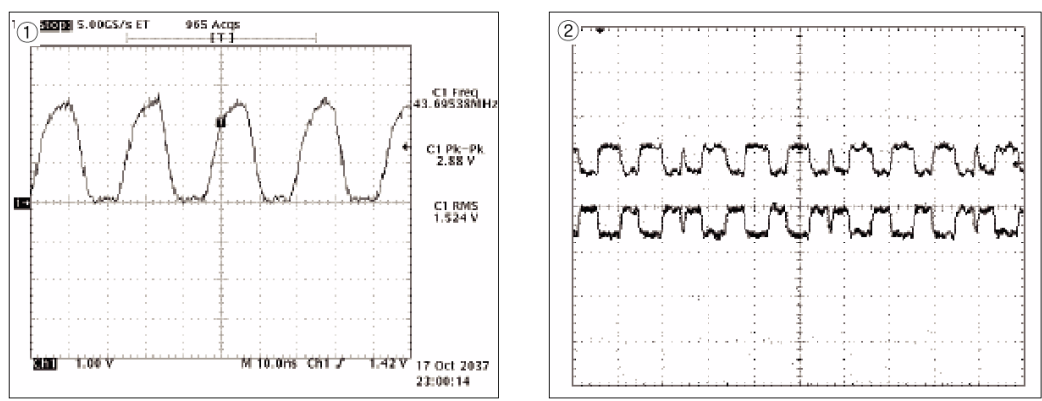


LVDS (DUAL)



LVDS (SINGLE)



4-4-2.无显示时的波形图（数字）



4-5 故障示例及校正措施

故障图片	征兆和校正措施	备注
	<p>征兆：无法识别DVI信号。</p> <p>原因：由于DVI DDC未被输入到显示器中，电脑无法识别模式信息时会发生此故障。</p> <p>校正措施：将DVI DDC输入到显示器中。</p>	*请参阅关于DVI DDC输入信息的培训手册。
	<p>征兆：打开显示器时，无论是否有信号，连续显示全白图案。</p> <p>原因：由于LVDS接线发生故障或错误连接，在仅供应灯电源并且未向面板输入视频信号时会发生此故障。</p> <p>校正措施：更换或重新正确连接LVDS接线，以能够将视频信号输入到面板中。</p>	*全白图案是TN面板的一个特点，可在未输入视频信号时显示。
	<p>征兆：在连接DVD时，屏幕有噪音发出。</p> <p>原因：HDCP键不能被插入。</p> <p>校正措施：启用HDCP键。</p>	

4-6. 调节

4-6-1. 维修调节条件

1. 维修调节前的注意事项

- 1) 检查维修调节的设备是否操作正常。
- 2) 为了安全在足够大的空间处拆卸显示器。
- 3) 在拆卸前准备一块软垫。

2. 进入维修模式

进入：[菜单] → [亮度 0] → [对比度 0] → [按下回车键五（5）秒。]

退出：[关闭电源] → [开启电源]

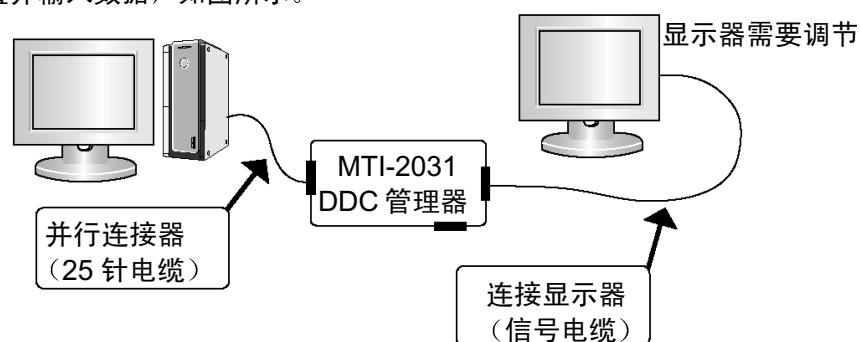
3. 更换板后的基本维修项目

- 1) 检查 PC 颜色调节状态。
- 2) DDC 输入（模拟和数字输入）
- 3) 检查此型号是否有合适的 MCU 代码输入。
- 4) 进入维修模式后硬关机并进行复位。

4. DDC EDIT 数据输入

- 1) 在 AD 板代码更新时使用。
- 2) 通过三星电子质量控制部门下载适于该机型的 WinDDC 程序、DDC 输入程序、十六进制和 DDC 文件。

安装以下装置并输入数据，如图所示。



4-6-2.维修功能规格

■检查代码版本

1. 进入 SVC 模式后检查 MCU 代码版本和检验和。
2. 进入 SVC 模式
 - 调节亮度和对比度值为 0。
 - 按下回车键五（5）秒
 - SVC 功能在 OSD 上显示。
 - 如要退出 SVC 功能，关闭电源。
3. 安全模式
 - 当输入信号比产品所支持的频率信号要高时，安全模式会给用户一些时间（1 分钟）更改显卡的设置为建议采用的模式设置。

Service Function			
Monitor	On Time :	0 Hr	
Panel	Ch. No. :	0	板面信息
	On Time :	0 Hr	
	Cycle :	12	
Auto Auto	:	On	选择自动选项
Pixelshift	:	Off	选择像素切换选项
Country	:	English	国家
HotPlug Time	:	9	选择 HotPlug
Scaler-MCU	:	Novatek NT68650	定标器销售
Version	:	m-A324B0GDA-0800.2	Micom 版本
Checksum	:	43E0	Micom 检验和

■维修模式（移动）

1. 按下+按钮可移动到其它选项。

Service Function		
Monitor	On Time :	0 Hr
Panel	Ch. No. :	0
	On Time :	0 Hr
	Cycle :	12
Auto Auto	:	On
Pixelshift	:	Off
Country	:	English
HotPlug Time	:	9
Scaler-MCU	:	Novatek N
Version	:	m-A324B0GDA-08
Checksum	:	43E0

Service Function		
Monitor	On Time :	0 Hr
Panel	Ch. No. :	0
	On Time :	0 Hr
	Cycle :	12
Auto Auto	:	On
PixeShift	:	Off
Country	:	English
HotPlug Time	:	9
Scaler-MCU	:	Novatek NT68650
Version	:	m-A324B0GDA-0800.2
Checksum	:	43E0

2.按下-号按钮，更改设置到开或关。

Service Function

Monitor On Time : 0 Hr

Panel Ch. No. : 0

On Time : 0 Hr

Cycle : 12

Auto Auto : On

PixeShift : On

Country : English

HotPlug Time : 9

Scaler-MCU : Novatek N

Version : m-A324B0GDA-08

Checksum : 43E0

Service Function

Monitor On Time : 0 Hr

Panel Ch. No. : 0

On Time : 0 Hr

Cycle : 12

Auto Auto : On

PixeShift : Off

Country : English

HotPlug Time : 9

Scaler-MCU : Novatek NT68650

Version : m-A324B0GDA-0800.2

Checksum : 43E0

■在更换面板时

更换面板后，选择面板项目并按下菜单按钮五（5）秒。

板面 Ch.No 将会增加 1，且时间信息会更改到 0。

Service Function

Monitor On Time : 0 Hr

Panel Ch. No. : 0

On Time : 0 Hr

Cycle : 12

Auto Auto : On

Pixelshift : Off

Country : English

HotPlug Time : 9

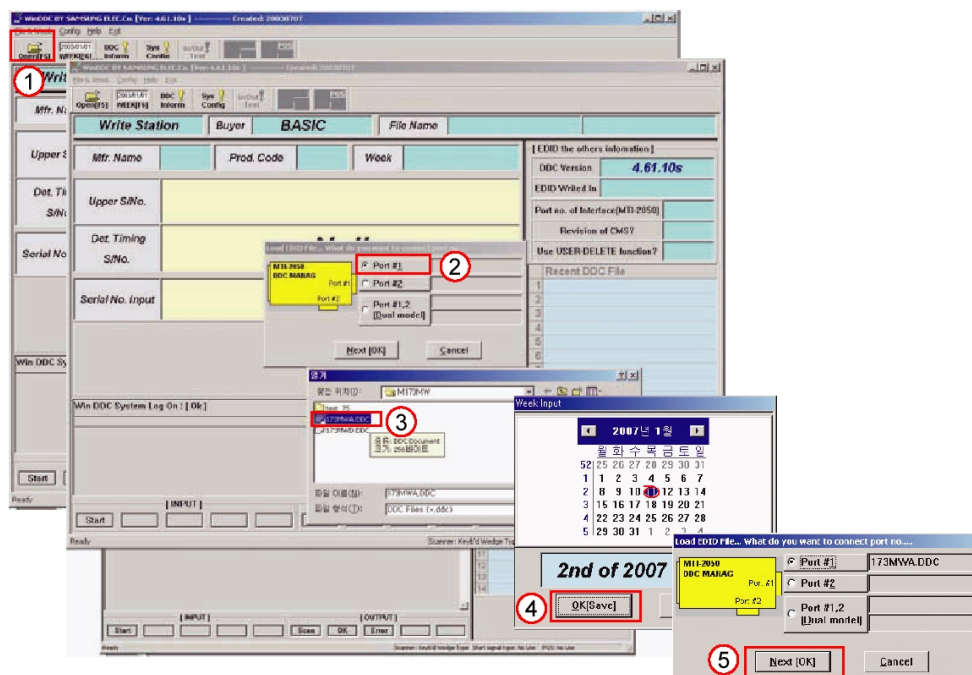
Scaler-MCU : Novatek NT68650

Version : m-A324B0GDA-0800.2

Checksum : 43E0

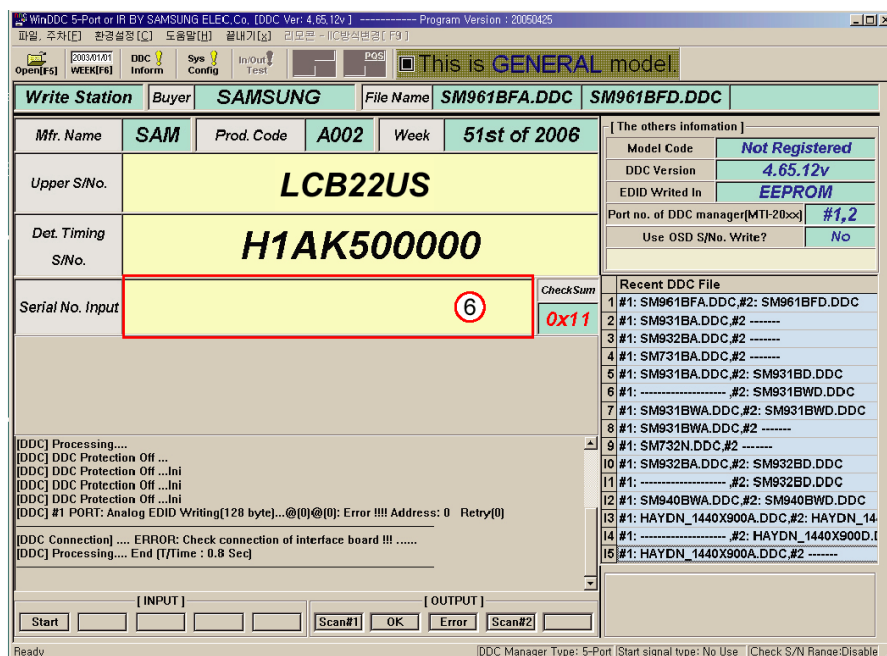
这个数字增加 1

■输入 DDC 数据



使用 DDC 管理器 MTI-2050 版本或更新。

- 1) 点击打开[F5]图标。
- 2) 选择一个端口。
- 3) 打开一个 DDC 文件。
- 4) 选择一个日期并点击确认[保存]按钮。
- 5) 点击下一步[确定]按钮。



- 6) 输入系列编号并按下确认键。

※输入模拟数据后，再输入数字数据，重复此过程 2 到 5 次。

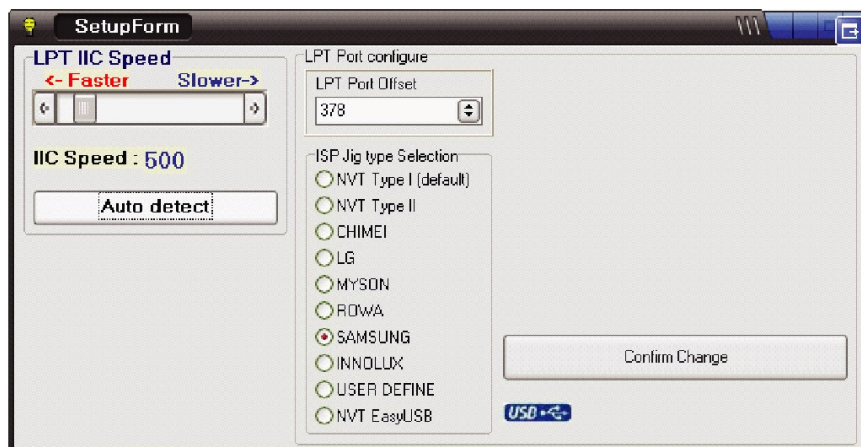
■输入 MCU 数据

1) 打开“Easywriter”后检查如下选项

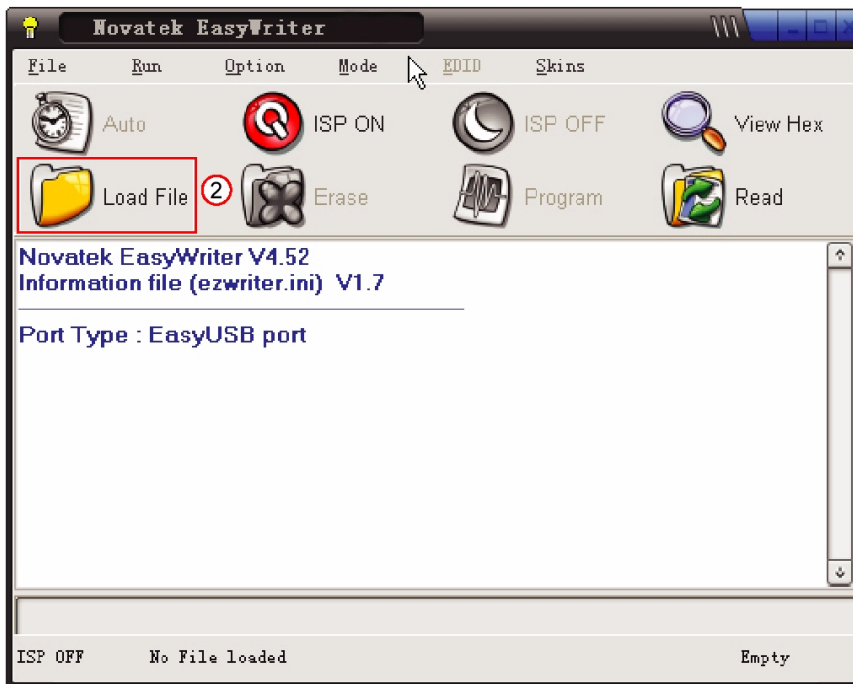
-选项：设置 ISP 工具



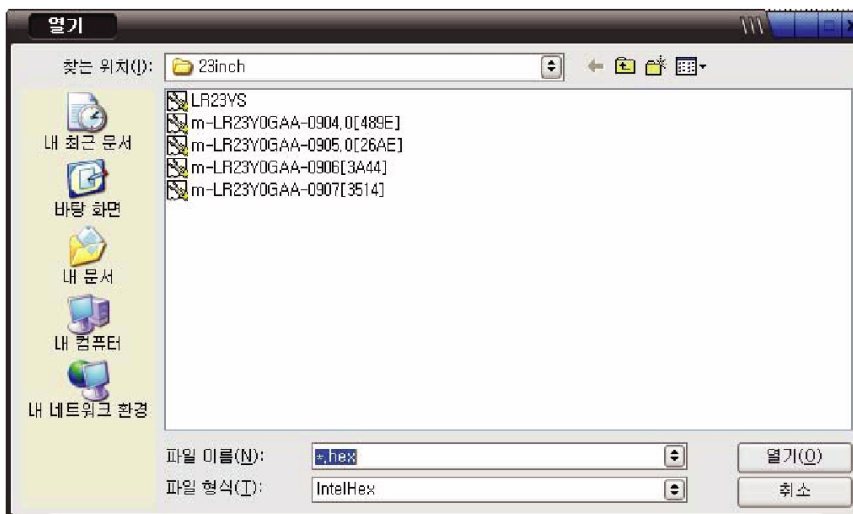
- LPT端口偏移：378
- ISP工具类别选择：SAMSUNG
- 自动检测
- 确认更改



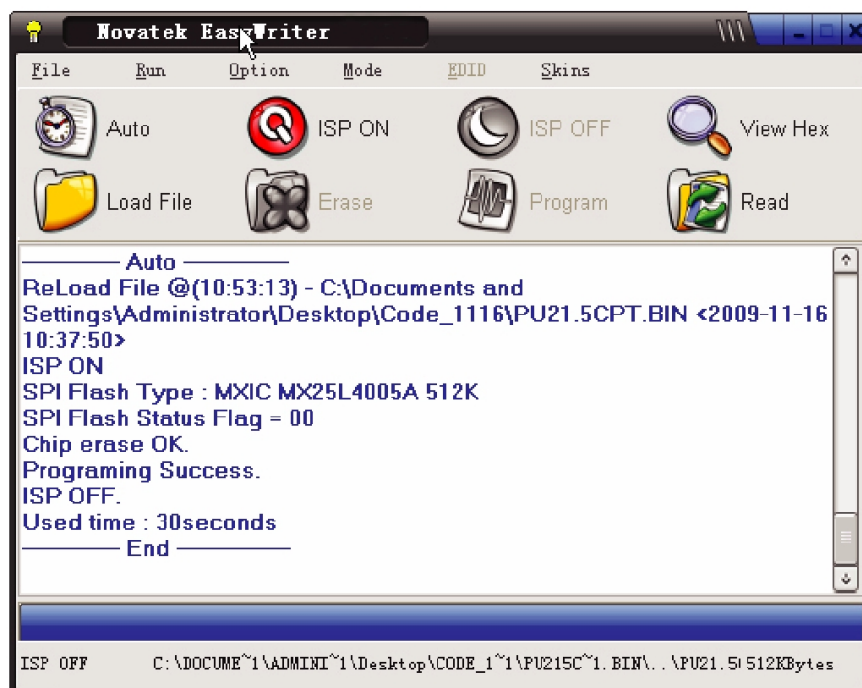
2) 点击载入文件按钮。



3) 选择 MCU 代码文件，并点击打开[O]按钮。

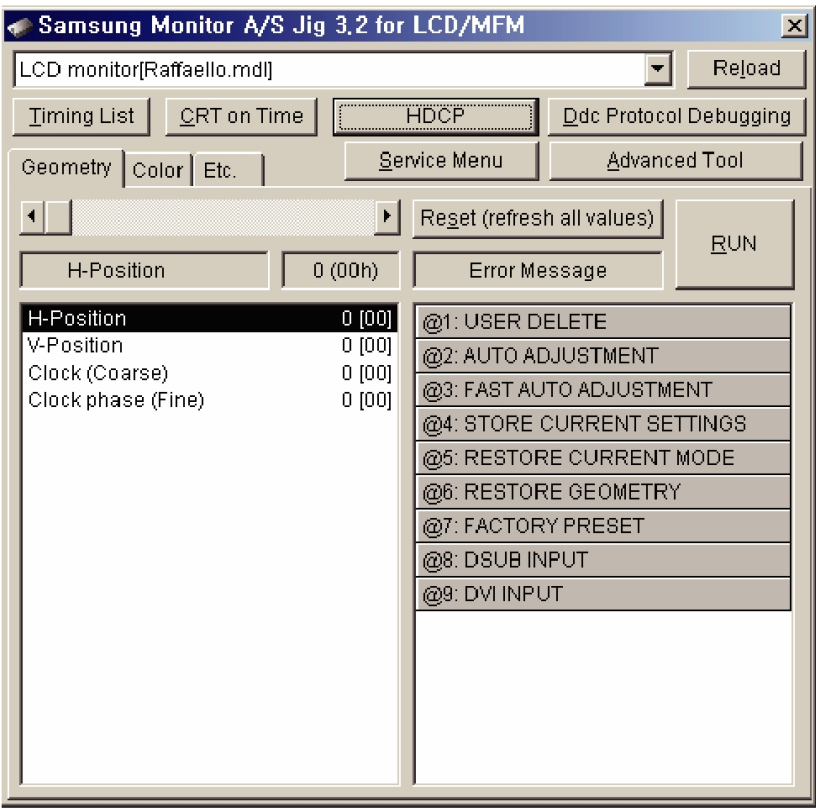


4) 点击自动按钮。

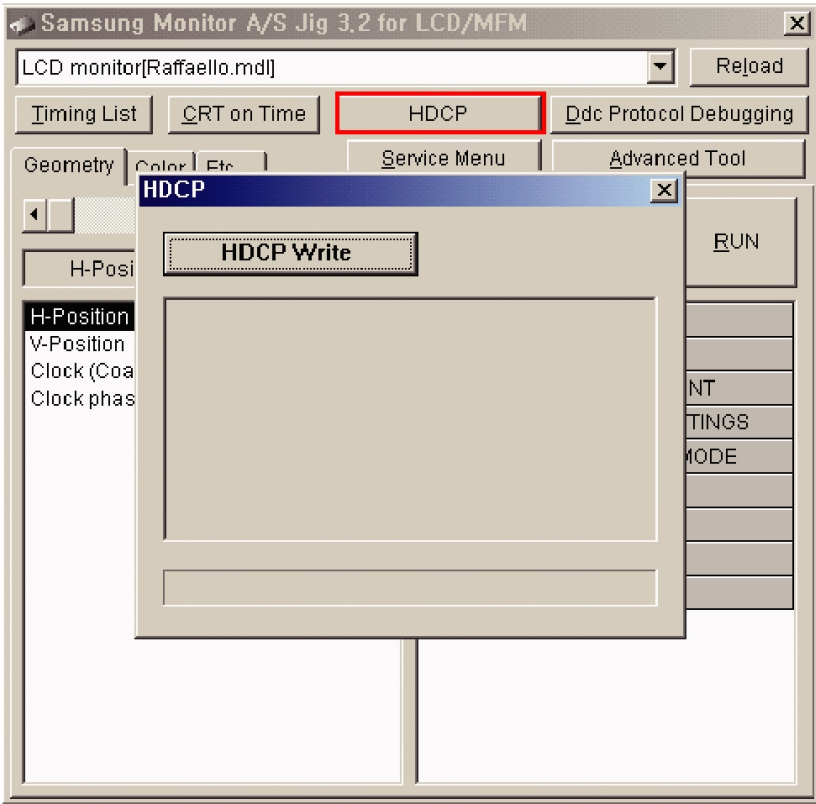


5) 当进程和校验完成后，硬关机并再次启动。

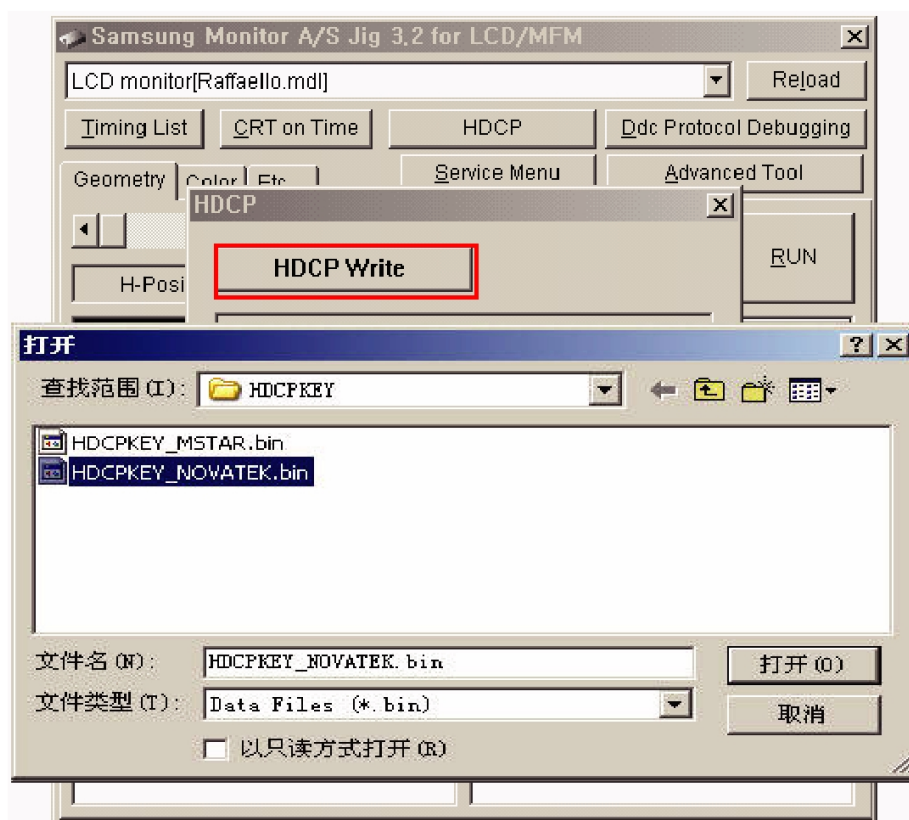
■输入代码（HDCP）



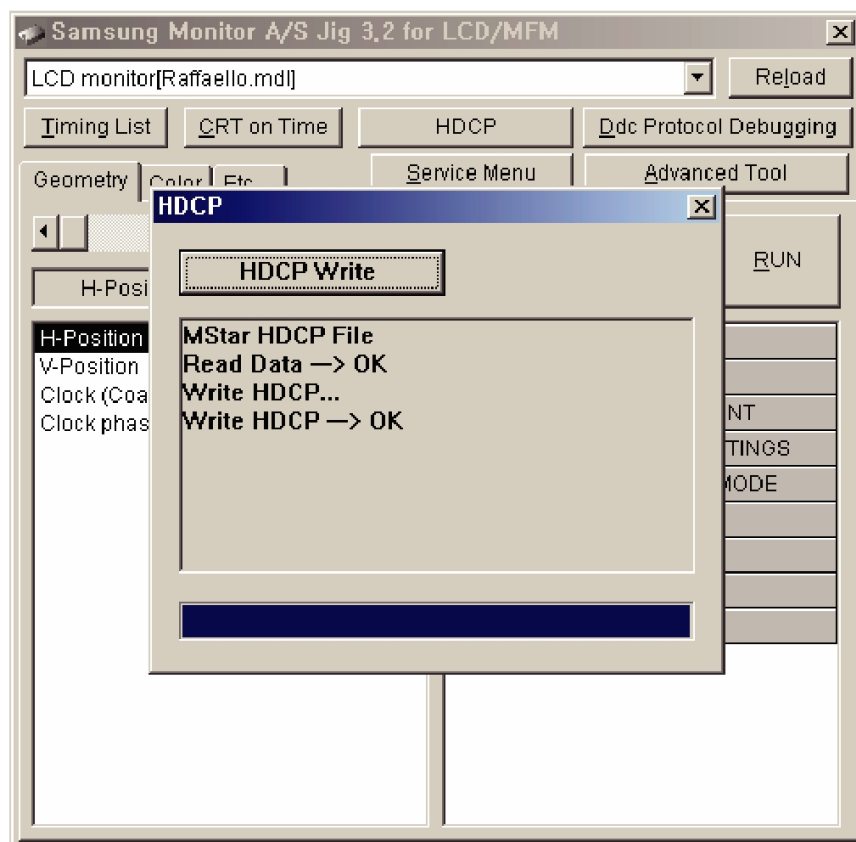
1.运行 service.exe 文件。



2.点击 HDCP 按钮。



3. 点击 HDCP 写入按钮并选择 MStar_HDCP 按键。

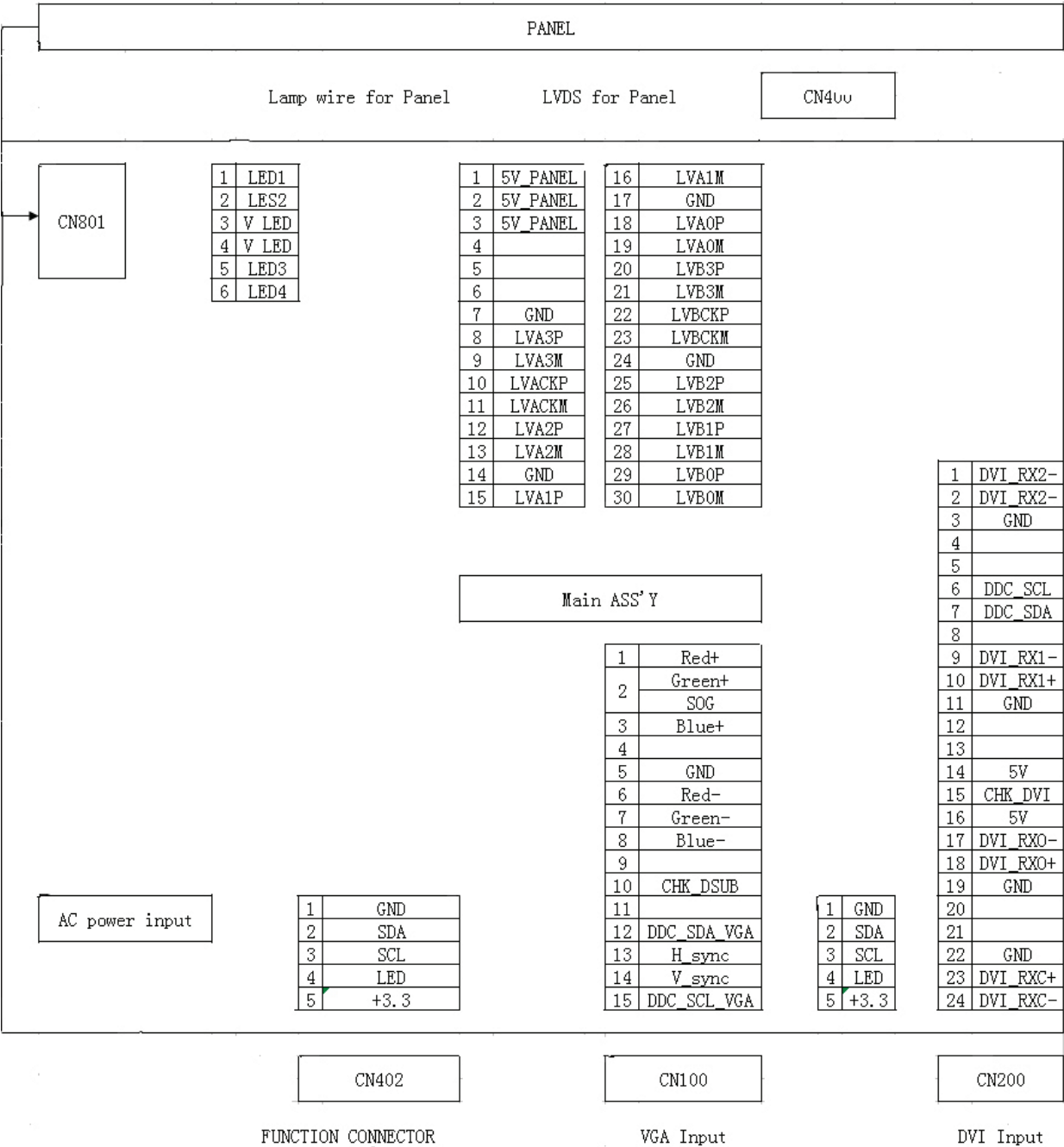


4. 输入 HDCP 键完成。

备忘录

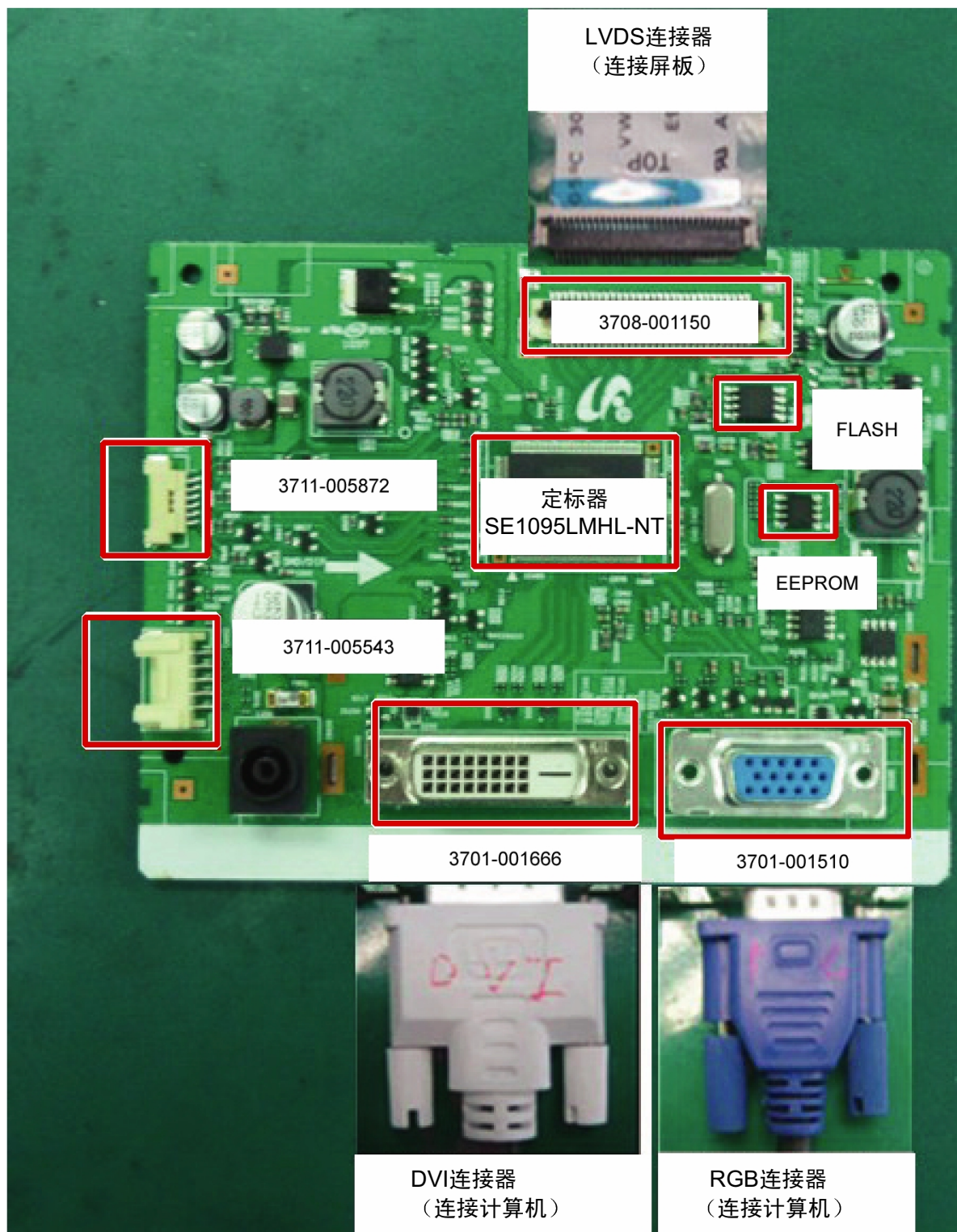
5. 接线图

5-1. 接线图



5-2. 板子连接-主板

*对于同类型号，主板仅有一个D-SUB插口无DVI插口。



5-3.连接器功能

连接器	功能
CN101↔CN600	从电源板至主板提供 5V 电压并从电源板至转换器传输 PWM 输出电压。 *当发生故障时：可能发生无电量和黑屏故障。
CN1 ~ CN4 In	由转换器至屏板灯所产生的传输电流为(110mA ~ 112mA) *当发生故障时：可能发生黑屏。
CN102	传输至电源板的输入电源电压为90到263V *当发生故障时：可能无电量通过。
CN101	连接功能板 *当发生故障时：可能发生 LED 屏幕和功能失效故障。
CN102	VGA 信号输入终端 *当发生故障时：可能发生 RGB 输出故障。
CN400	从主板至屏板传输 LVDS 信号。 *当发生故障时：可能发生黑屏及无电量故障。

备忘录