SEGA Game Gear LCD Replacement MOD REV2.0
Quick Guide PCB Revision 837-7996 / 837-7719-01 VA0 (2 ASIC)

ATTENTION ! Installing the LCD replacement is on your own risk! Your Game Gear could be damaged, if you are not able to do this modification!

Liability impossible!

Required materials:
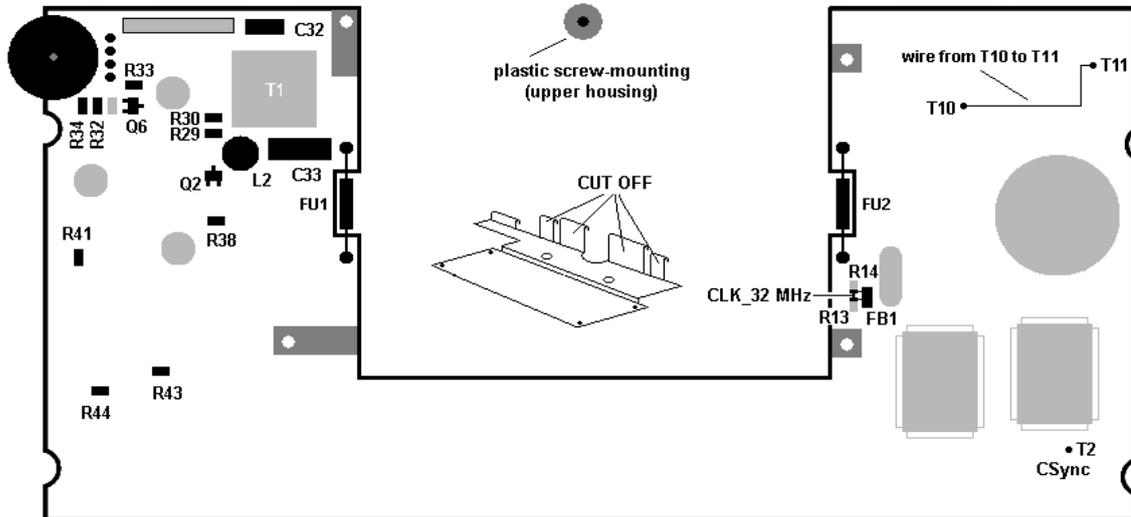**GG-kit, VGA connector with screws, 24 wires round about 15 cm (6 inches) length** (old IDE cable)

1. Step: Remove not needed Parts and 5 Volt check

CAUTION

electrical hazard

ATTENTION ! Make sure that all power is **off**. Disconnect **ALL** cables.
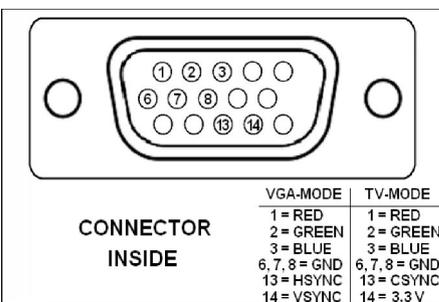1. Remove **R33, R34, R32, R30, R29, R41, R38, R44** and **R43** (9 resistors)
2. Remove **L2** coil
3. Remove **Q6** and **Q2** transistors; also remove **Q3** and **Q4** (see picture step 3)
4. Remove **C32** and **C33** capacitors
5. Remove **LCD**; peel off the ribbon / FPC **carefully** from the GG PCB like tape
6. Remove middle **plastic screw-mounting** of the upper housing with pliers
7. Remove **CFL Lamp** and fuses **FU1** and **FU2**
!!! Now check the 5 Volt with a voltmeter at **VCC / GND** of the Game Gear.
If the voltage exceeds 5.45 Volt, repair your GG ! Otherwise the GG mod
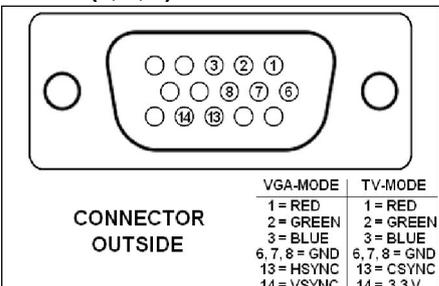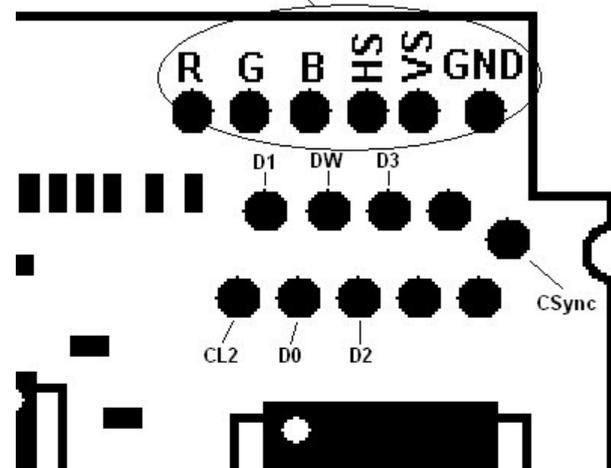will be **damaged** !!!

2. Step: VGA connector (if needed)

Now solder the other side of the wires to the GG mod.

CONNECTOR INSIDE

	VGA-MODE	TV-MODE
1 =	RED	RED
2 =	GREEN	GREEN
3 =	BLUE	BLUE
6, 7, 8 =	GND	GND
13 =	HSYNC	CSYNC
14 =	VSYNC	3,3 V

Connect the pins 6, 7 and 8 together.
Solder 6 wires to the pins 1, 2, 3, 13,
14 and (6, 7, 8) to the VGA connector.

CONNECTOR OUTSIDE

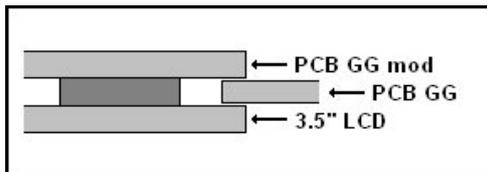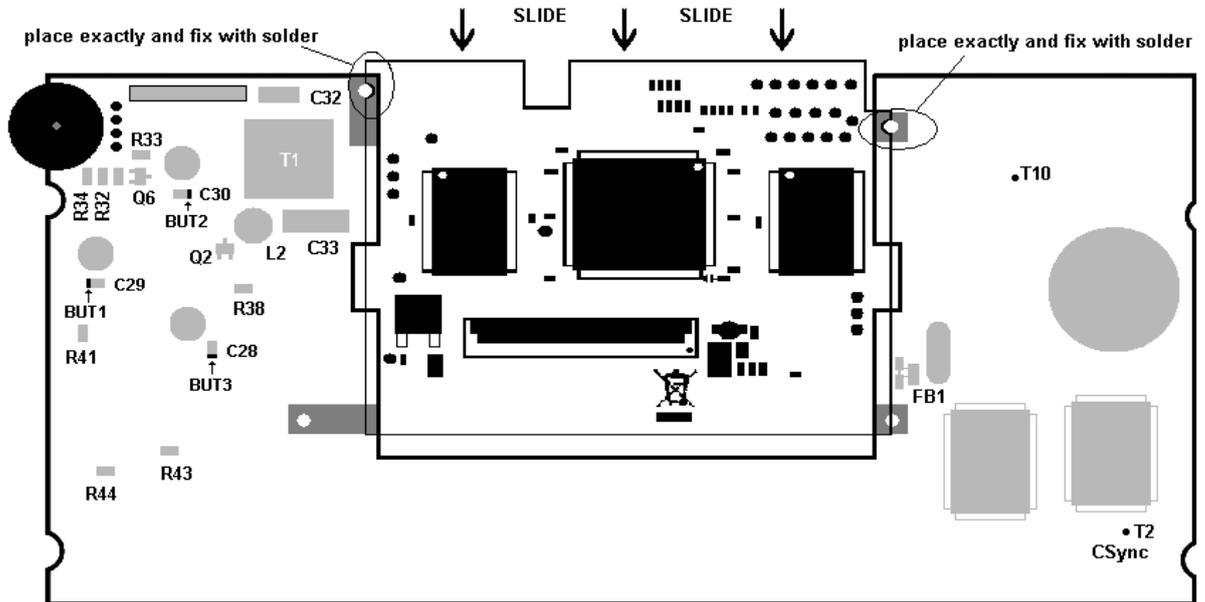|	VGA-MODE	TV-MODE
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!!! ATTENTION !!!
Don't damage the ribbon / FPC of the LCD !
You may disconnect the FPC, but don't forget
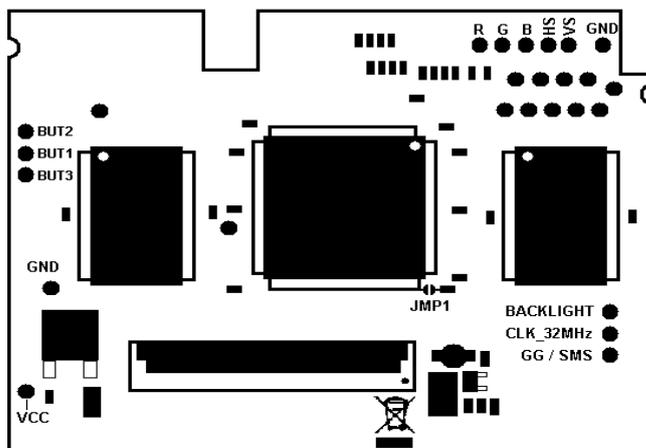connecting it <u>correct</u> after soldering**.**

!! Use hot glue for the internal screws of VGA connector. Otherwise the screws may cause short circuit !!

3. Step: Slide the GG mod onto the GG PCB and solder data lines

place exactly and fix with solder SLIDE SLIDE place exactly and fix with solder

First solder 1 wire to **VCC** of the GG mod and 1 wire to **GND** of the GG mod and leave the other ends. Now slide the GG mod onto the Game Gear PCB and solder the 2 wires **VCC** and **GND** of the GG mod to the Game Gear PCB. **Don't confuse them !!!** Solder 1 wire from **T10** to **T11** on the Game Gear Board.

Now solder 1 wire from **CLK_32MHz** of the GG mod to **FB1** on the Game Gear PCB. Then solder 1 wire from **GG / SMS** of the GG mod to **PIN 42** of the Game Gear cartslot. Solder **PIN1** of the thumbwheel to
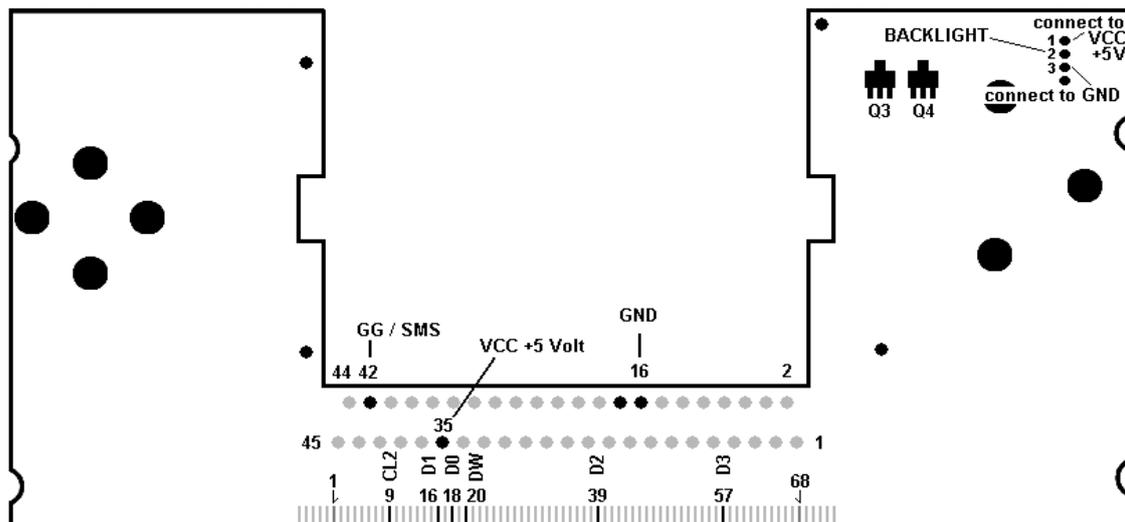
VCC on the GG board. Then solder **PIN3** of the thumbwheel to **GND** on the GG board.
!!! If you DON'T want to install the VGA connector, you can leave the BACKLIGHT wire! Otherwise solder 1 wire from **BACKLIGHT** of the GG mod to **PIN2** of the thumbwheel and 1 wire from **CSync** of the GG mod to **T2** of the GG PCB. Solder 3 wires from **BUT1, BUT2** and **BUT3** of the GG mod to **BUT1**, **BUT2** and **BUT3** of the Game Gear board.

Last step is to solder 6 wires from the old LCD ribbon **CL2 (PIN9), D1 (PIN16), D0 (PIN18), DW (PIN20), D2 (PIN39) and D3 (PIN57)** to **CL2, D1, D0, DW, D2 and D3** of the GG mod. **!!! At last check all connections again !!!**

You can switch scanlines, retro-style and scaling **ON / OFF** by pressing the buttons **START, FIRE1** and **FIRE2** together and hold. *Default: scanlines on VGA => ON; retro-style on 3.5" LCD => OFF* Switch VGA / internal 3.5" LCD by **backlight knob. TV-mode** is active, when 3.5" LCD is **ON!**

If you made everything correct, you'll love it!