USER'S MANUAL

Piccolo SD64 / Multifix

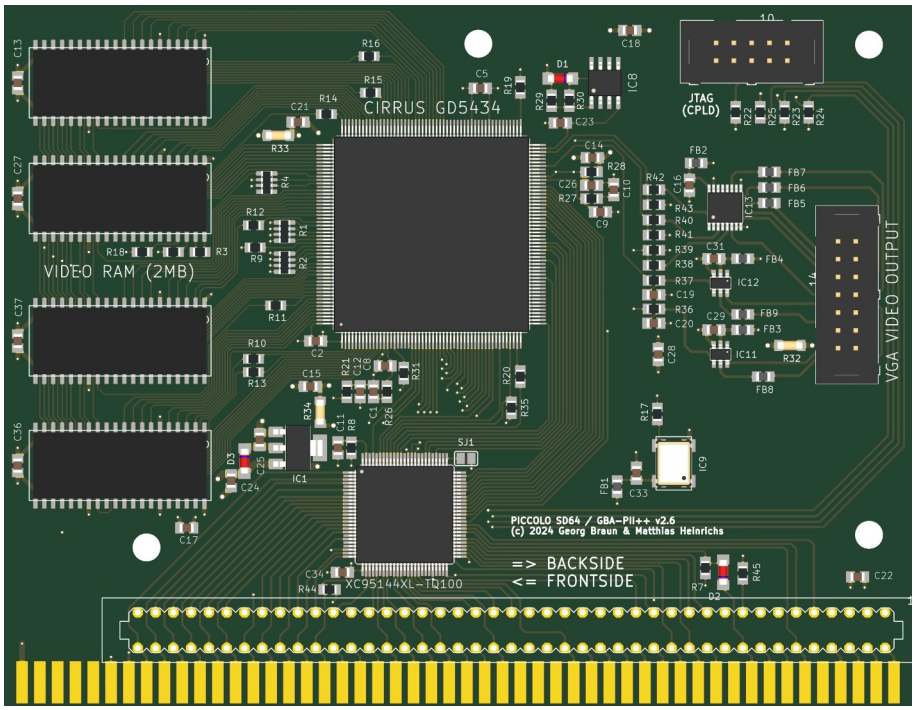
RTG Graphics Card and Flicker Fixer for Amiga 2000, 3000 and 4000

The Piccolo SD64 (GBA-PII++) is a Picasso96 compatible graphics card for a Zorro slot. The Multifix OCS/ECS/AGA is a scan doubler and flicker fixer for the video slot. Both boards can be used on their own or connected with a ribbon cable; one monitor then shows both the RTG screen modes and the native Amiga modes.

1 FEATURES

* **Piccolo SD64:** Cirrus GD5434 graphics chip with 2 MB video RAM, Picasso96 driver, built-in automatic monitor switch between RTG and Amiga picture
* **Multifix:** doubles the line frequency from about 15.6 kHz to 31.5 kHz for VGA monitors and removes the interlace flicker; LoRes and HiRes, each with and without interlace, sync on green, loop-through of the Piccolo SD64 RTG picture

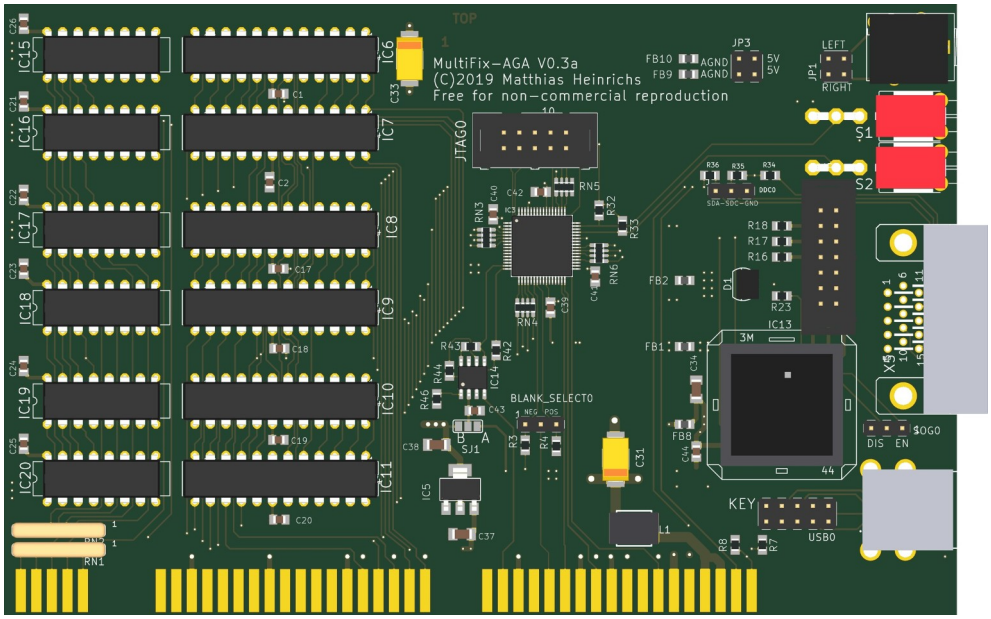
2 PICCOLO SD64



Component side of the Piccolo SD64

Connector	Function
VGA VIDEO OUTPUT	14-pin video output: to the Multifix (JP2) or to the VGA slot bracket (SV1)
JTAG (CPLD)	For programming the CPLD logic chip only

3 MULTIFIX OCS/ECS/AGA

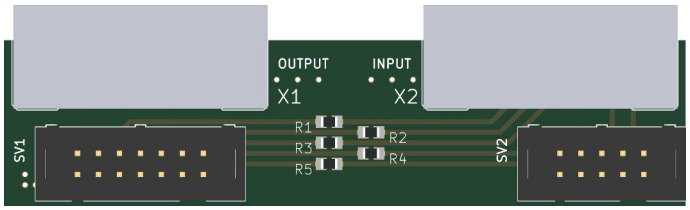


Component side of the Multifix

Part	Function
X5	VGA socket for the monitor
JP2 (14-pin)	RTG input: ribbon cable from the Piccolo SD64 or seven jumpers (operation without Piccolo)
S1	Bypass: passes the Amiga picture through unchanged, for multisync monitors with 15 kHz
S2	True black: for TFT monitors that show black as dark grey; the Workbench becomes rather dark
SOG	Sync on green: DIS = off, EN = on
DDC	SDA, SCL, GND connector for an I²C controller to read the monitor data
JTAG	For programming the CPLD logic chip only

4 VGA SLOT BRACKET

Without the Multifix, the Piccolo SD64 comes with a slot bracket with two VGA sockets:



Board of the VGA slot bracket

Part	Function
X1 OUTPUT	Monitor
X2 INPUT	Video output of a scan doubler or flicker fixer (Amiga picture)
SV1	Ribbon cable to the Piccolo SD64 (VGA VIDEO OUTPUT)

5 INSTALLATION

CAUTION: Electrostatic discharge can damage the boards and the Amiga. Grounding is required before touching the components. Install and remove the boards only with the Amiga switched off and disconnected from mains power. Insert the boards only in the correct direction, otherwise the hardware will be destroyed.

5.1 Multifix on its own

On JP2 behind the VGA socket, all seven contact pairs (R, G, B, H, V and twice GND) are bridged with jumpers. A Multifix bought on its own comes set up like this; no further configuration is needed.

5.2 Piccolo SD64 on its own

Connect the monitor to X1 (OUTPUT) of the slot bracket and the output of a scan doubler or flicker fixer to X2 (INPUT). The Piccolo SD64 switches automatically between the RTG picture and the Amiga picture.

5.3 Piccolo SD64 and Multifix

Remove the jumpers from JP2 of the Multifix and connect JP2 to VGA VIDEO OUTPUT of the Piccolo SD64 with the ribbon cable supplied, pin 1 to pin 1. The monitor is connected to X5 of the Multifix; the Piccolo SD64 switches automatically between the RTG picture and the Amiga picture.

5.4 Slots

Amiga	Multifix (video slot)	Piccolo SD64
A2000	Video slot on the far right	Free Zorro II slot
A3000	Video slot on the left, uppermost slot	Free Zorro III slot, preferably in the same row
A4000	Video slot on the left, lowermost slot	Free Zorro III slot, preferably in the same row

6 SOFTWARE FOR THE PICCOLO SD64

The installers require MUI 3.8 (Aminet: util/libs/mui38usr). Then insert disk 1 and unpack Picasso96 in the Shell:

```
COPY DF0:lha.run RAM:
COPY DF0:Picasso96.lha RAM:
CD RAM:
lha.run
COPY lha_68k C:
lha x Picasso96.lha
DELETE Picasso96.lha
```

Start the Picasso96 installer in the RAM disk and select **Piccolo SD64** as the card. Then insert disk 2 and start its installer, which copies further drivers. Alternatively, copy the contents of the Devs and Libs folders to the corresponding folders by hand. Then reboot the Amiga.

6.1 Setting up Screen Modes

1) Start Picasso96Mode in Prefs and select the **GBA-PII++** card in the «Attach setting to» menu.
2) Delete resolutions that the card or the monitor does not support in the requester that follows.
3) Set up the required resolutions and test them on the monitor, save and reboot.
4) Select the screen mode as usual with ScreenMode in Prefs.

7 TROUBLESHOOTING

Symptom	Remedy
No picture from the Multifix	The monitor must support 31 kHz. Check the positions of S1 and S2.
A2000: displaced, doubled picture	Set jumper J300 on the mainboard to 1-2 (TICK signal from the power supply). An ATX power supply needs a circuit that generates the TICK signal.
Picture errors	Check that the Denise socket and chip are seated firmly and clean them. Clean the video slot, e.g. with contact cleaner or a 1.4 mm thick piece of cardboard pushed in and pulled out several times.
Workbench too dark	Switch S2 (true black) off.

8 CREDITS

Piccolo SD64 / GBA-PII++: Georg Braun and Matthias Heinrichs, based on the PicassoII++. Multifix: Matthias Heinrichs. Picasso96 is owned by Individual Computers.