PISTORM

LOGO DESIGN BY @EDU_ARANA

A 68000 CPU REPLACEMENT

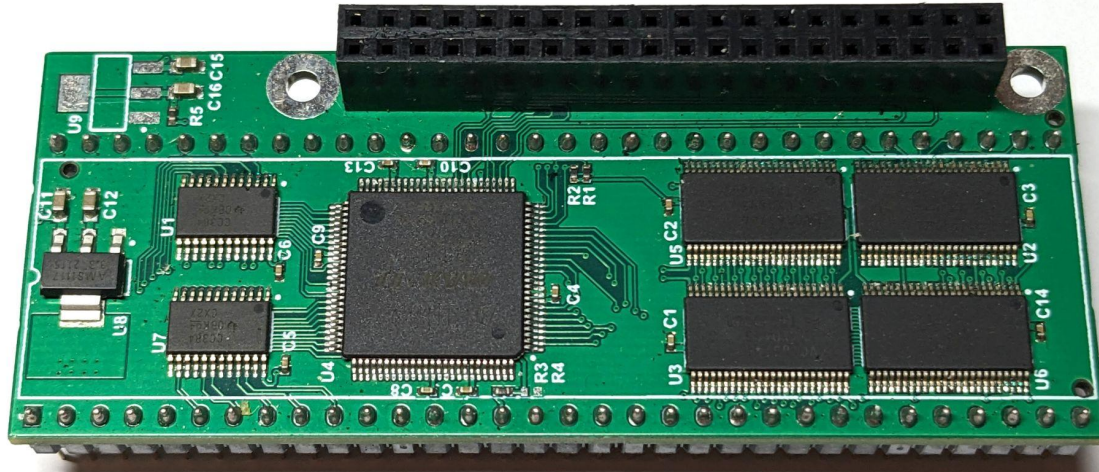Andrew (LinuxJedi) Hutchings

About Me

About PiStorm

- Project created by Claude Shwartz
- A fast budget accelerator for an Amiga
- It only emulates the CPU, the rest of the Amiga motherboard is used
- Adds drivers to talk to the Pi hardware (RTG and virtual SCSI)
- Everything is open source

The First PiStorm

- Released late 2020
- Fits in the 68000 CPU socket of an Amiga
- Rectangle chips do voltage translation and latching
- Square chip is a CPLD (programmable logic chip)

The First PiStorm

- Uses a Raspberry Pi 3A+
  - Also 3B+ with modification and Zero 2W
- Ran Musashi 68000 CPU emulator
- Interface software mostly by BNU (Bjorn)

The First PiStorm

How I Got Into PiStorm

- ● Hardware testing
- ● Joined the community in early 2021
- ● Started providing patches
- ● Helped build a community
   - ○ Over 7000 members on Discord, over 3000 on Facebook

Things I Have Done

- Bug fixes
- ROM identification and byte swap code
- Original PiStorm GUI and PiStorm drive
- Improved CPLD flash scripts
- Built a few hundred PiStorms
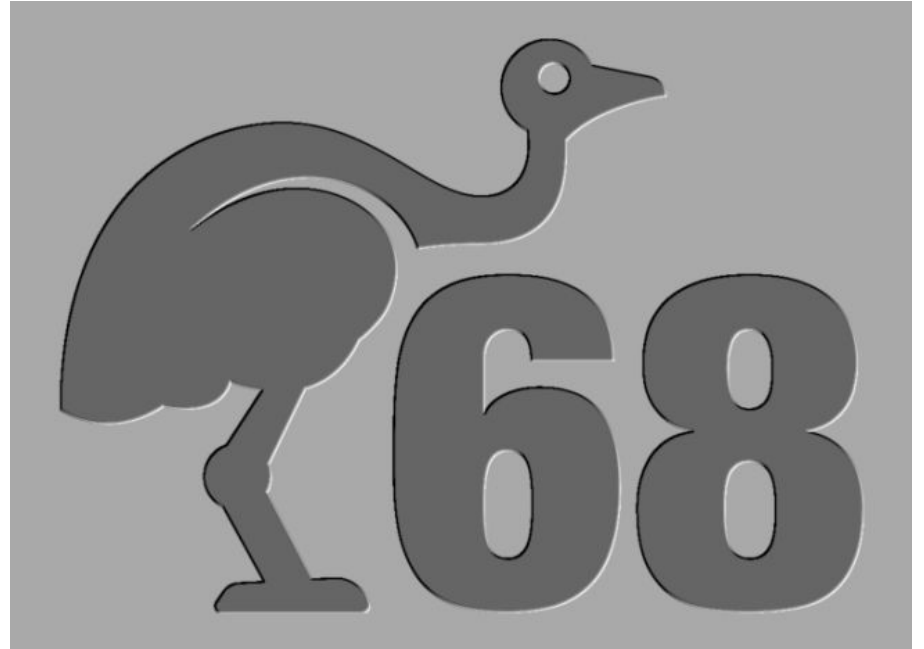- Given lots of support
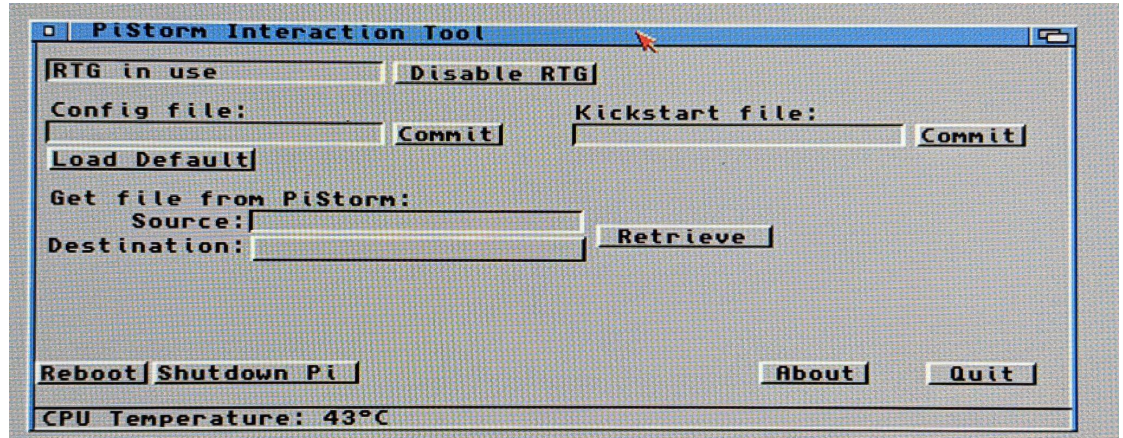
PiStorm 600 and 2K

- Based on the original PiStorm
- PiStorm 600
  - Created by Lemaru
  - For Amiga 600
  - Sits on the CPU and disables it
- PiStorm 2K
  - Created by madgrizzle
  - For the Amiga 2000
  - Fits in the co-processor slot
  - Need to remove original CPU
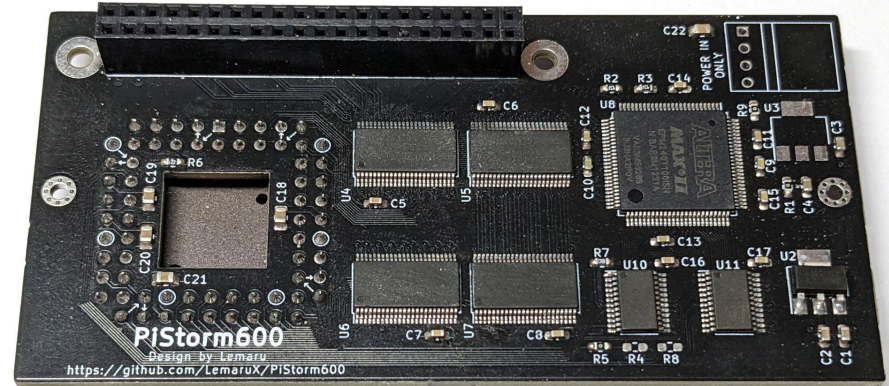
Emu68

- Bare-metal 68000 for the Pi
- Created by Michal Schulz
- Became an option for PiStorm in August 2021
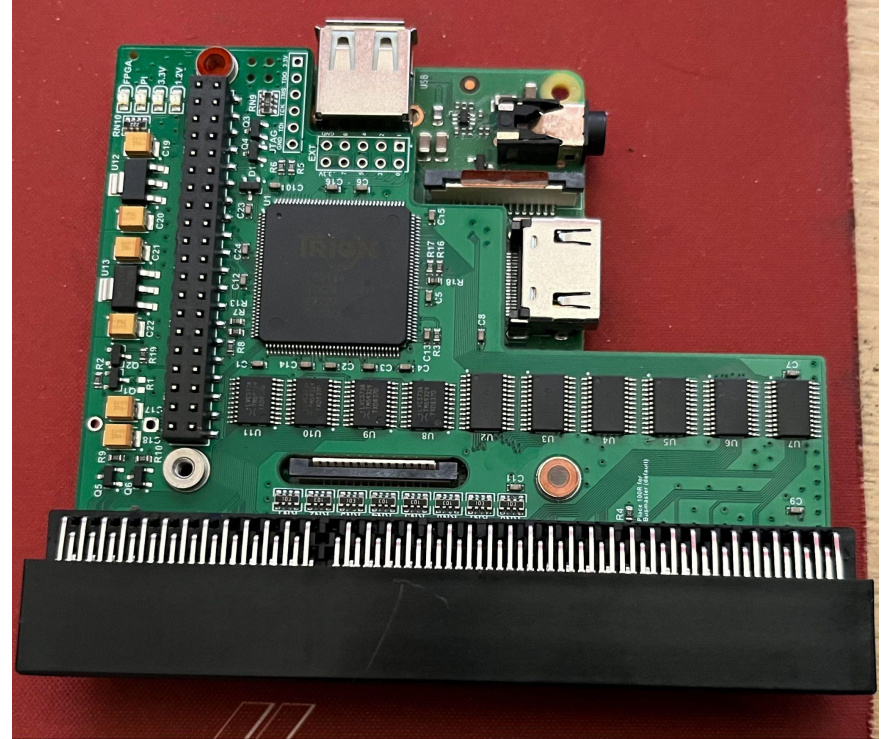- JIT based emulation

Emu68 - Performance

PiStorm32

- Designed to use a Pi CM4
- For the Amiga 1200
- New firmware from the ground-up
- Uses an FPGA
- Emu68 first class citizen
- Never released

PiStorm32-Lite

- Uses a Pi 3A+ / 3B+ / 4
  - CM4 adapter available
- No extra ports needed (hence "Lite")
- FPGA much easier to solder
- Released January 2023

PiStorm32-Lite

PiStorm32-Lite - In This Amiga

Demo Time

"The Amiga is not powerful enough to run DOOM."

- John Carmack 1994

Common FAQs

Can PiStorm increase "Chip RAM"?

Can it emulate a PowerPC accelerator for Amigas?

Can I use PiStorm in other 68000 based machines?

Future

- Other 68K machines (Atari and Apple)

- Amiga CD32 / 3000 / 4000 versions

- Amiga native video injection device

Sponsor PiStorm Development

Claude has a donate button on his PiStorm32-Lite GitHub page

Michal has a Patreon to sponsor the development of Emu68