open**calc**

OC¹

We love our laptops, phones and tablet computers.
They do so much, but that's the problem. Sometimes you just need the right tool for the job. OpenCalc is a purpose-built device for calculating. What's special about OpenCalc? Three things. First, it's a real calculator. Real buttons, real (and imaginary) math, real fast. Second, it's modern. It knows how to talk to computers (via USB, without special software), and it works more like a spreadsheet than a slide rule. Finally, it's open. That means you can customize OpenCalc for the way you use it. Customize buttons, write apps and functions, crack open the hardware and software and hack it as you see fit. And share what you've done with the world.

Open Hardware:
240x160 low-power mono LCD display
54 physical buttons, feel great, easy to press
Customizable layout, buttons built to order
454MHz ARM9 CPU
USB device port (for power and computer connection)
2 AA batteries (alkaline or N)
Internal speaker for key clicks and talking calculator
1GB flash on internal MicroSD card
Video Out Mirrors LCD Screen
64MB mobile DDR RAM
II/O Port - analog, digital, serial
Hacker Friendly—OSHW Compliant

Open Software:
Familiar Spreadsheet-like User Interface
Hundreds of functions, formulas and apps.
Algebraic or RPN entry
Easy programmability in Lua language
PC integration via file and clipboard transfer
Desktop PC Simulator Software
Regular Software Updates
Community Development
Linux OS, all Open Source licenses

Remember the first calculator you ever loved?

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Key Hardware Features

Hard Keys - 54 hard keys provide fast, accurate input and great tactile feedback while not smudging your display.

Power - The OC1 can be powered by 2 AA cells (alkaline or rechargeable) or via the built-in USB port. NiMH batteries can be charged via USB.

USB - The built-in USB port allows the OC1 to transfer data to and from the connected Mac, Linux or Windows computer as a flash drive or USB keyboard. The USB port also allows easy updates to the OC1 software through drag and drop.

Instrumentation Port - The built-in instrumentation/ expansion port provides high speed serial, digital and analog pins for external circuits. Data can be captured directly from these pins into a sheet for analysis or accessed via Lua scripting. Apps for analog or digital signal capture, logic analyzer and external.

Audio - A built-in speaker and headphone jack provide key click, talking calculator and audio playback and synthesis from Apps.

Video - Composite video out is available from the headphone jack and provides a mirror image of the built-in screen for projection in a lab or classroom setting.
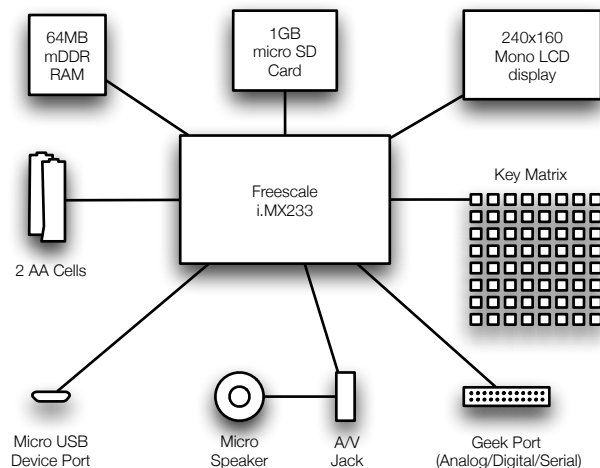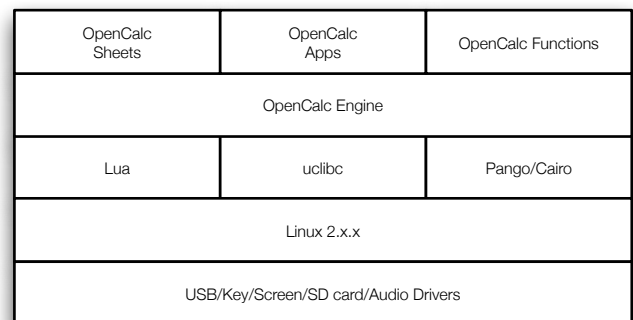
Key Software Features

Spreadsheet Interface - OpenCalc can be used interactively, like a classic desktop calculator, or you can lay out your numbers and equations in a two-dimensional spreadsheet. Sheets can be saved, edited or transferred to your computer or another OpenCalc.

Apps - OpenCalc Apps are programs that can provide complete user interfaces including graphics and interactive forms or simply extend the OpenCalc spreadsheet interface to walk users through specific calculations, both simple and complex.

Functions - Small and easy to create, functions can be used interactively or within spreadsheets to extend the calculating capabilities of OpenCalc.

Lua Scripting - Built-in Lua language support for quick programmability and fast execution via a JIT compiler. In fact, the bulk of the OpenCalc engine is written in Lua.

Linux OS - OpenCalc's lightweight, fast-booting Linux environment is totally open and extensible for your specific application projects and can be rebuilt from scratch on your Linux desktop.

Hardware Block Diagram

Software Block Diagram

Hard buttons turn me on.

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