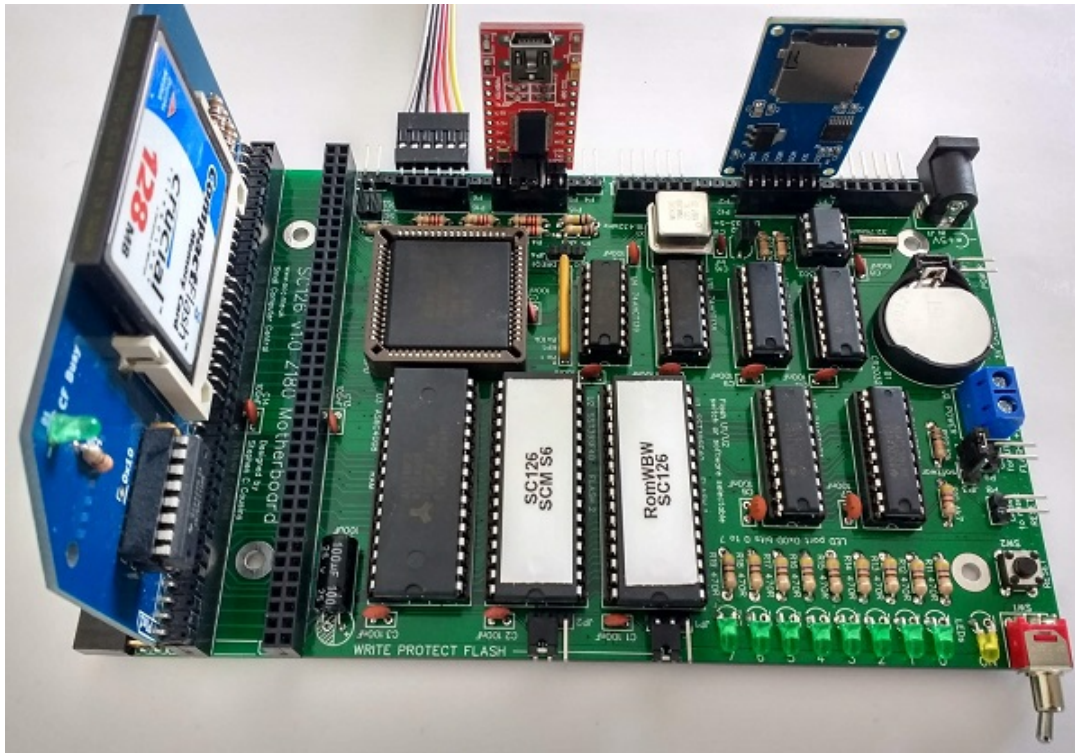


Small Computer Central

SC126, v1.0, Description

SC126 (<https://smallcomputercentral.wordpress.com/sc126-z180-motherboard-rc2014/>) is a Z180 motherboard and single board computer with expansion sockets compatible with most modules designed for RC2014.



SC126 Z180 motherboard, with Compact Flash, SD card, and FTDI serial

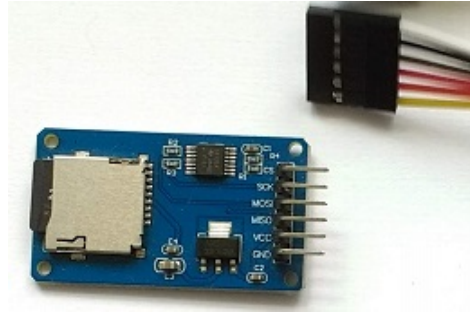
SC126 is my solution to Richard Deane's design challenge (<https://groups.google.com/forum/#!topic/rc2014-z80/NJTjoM0hDGk>).

Hardware features

- 1 x Z180 processor (33 MHz rated) clocked at 18.432 MHz, with the possibility of software selectable overclocking to 36.864 MHz.
- 1 x 512k byte RAM.
- 2 x 512k byte Flash (ROM), each with its own write enable / write protect jumper. Only one of these is mapped into memory at a time, with selection by jumper, external switch or by software.
- 2 x Serial ports, asynchronous, 5 volt, with software selectable baud rates.
- 2 x SPI ports, primarily for SD card mass storage.
- 1 x Real time clock with battery backup (DS1302).
- 1 x Power On indicator (yellow LED).

- 8 x General purpose software controlled indicators (green LEDs).
- 1 x Bit-bang I2C bus port (master only).
- 1 x Voltage supervisor and reset device (DS1233).
- 5 volt power in by 2.1 mm barrel socket, screw terminal, or pin header.
- 1 x Power ON/OFF toggle switch.
- 1 x Push button reset switch with pin header for external reset switch.
- 2 x BP80 backplane sockets (vertical), compatible with most modules designed for RC2014.
- 1 x BP80 backplane socket (horizontal), which can accept a modular backplane or a module.
- Printed circuit board size 160 mm x 102 mm.

Micro SD Card adapter (shown right) allows connection to the motherboard via Dupont style cable. Alternatively, a female header can be fitted to the motherboard to allow direct connection of the adapter.



Micro SD card adapter

Software support

- Small Computer Monitor (<https://smallcomputercentral.wordpress.com/small-computer-monitor/>), configuration S6 (<https://smallcomputercentral.wordpress.com/firmware/firmware-scm-s6/>). This does not offer any support for SD cards, I2C bus, or real time clock.
- RomWBW (<https://smallcomputercentral.wordpress.com/firmware-romwbw/>), configuration RCZ180_sc126 (https://smallcomputercentral.wordpress.com/firmware/firmware-romwbw-rcz180_sc126/). This configuration supports an SD card for mass storage and the real time clock, but not the I2C bus.

RomWBW is the primary OS for SC126, offering CP/M, SD card, real time clock, and CF card support (via RC2014 compatible module).

Given the availability of RomWBW, the Small Computer Monitor may not need extending to offer any additional hardware support. Yet to be decided.