

Vortex86SX DOS SPI Flash Disk Tool

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There is an external SPI in Vortex86SX SoC and some of boards will use it to connect SPI flash memory. DM&P provide a DOS tool for external SPI flash memory and make it work as a disk in DOS. This document will show user how to setup and use SPI flash disk with our tool.

SPITool.exe Usage

Enable “BIOS -> Boot -> OnBoard Virtual Flash FDD” and use DOS SPI flash disk tool:

```
DM&P Vortex86SX SPI Flashdisk tool Ver.May 29 2008
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```

Functions:

```
FORMAT [/y]      -- Initial and format SPI Flashdisk to FAT mode.
ERASE [/y]       -- Erase SPI Flashdisk. (All data to 0xFFh)
READ file [/y]   -- Read disk image from SPI Flashdisk.
WRITE file [/y]  -- Write disk image to SPI Flashdisk.
PROTECT          -- Protected SPI Flashdisk, write disable.
UNPROTECT        -- Unprotected SPI Flashdisk, write enable.
```

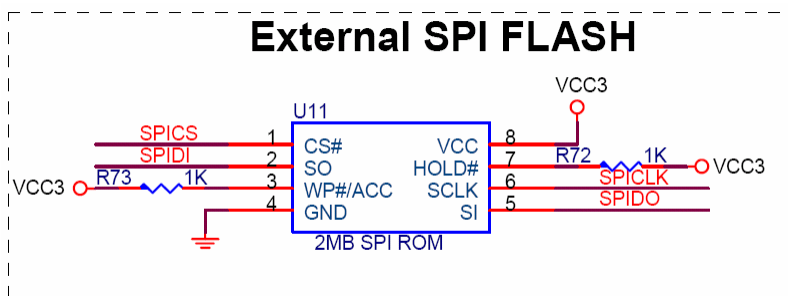
Options:

```
/y      -- always answer YES to prompt.
```

Some DOS format utility can not format SPI flash disk, user can use “SPITool format” to replace format utility. “Erase” parameter will clean flash memory to 0xff. “Format” parameter will call “erase” function before building FAT 12 file system. “Read” and “write” parameters are use to backup and restore SPI flash disk image.

Disk Protection

See the general circuit of external SPI flash memory connection:



If pin 3 (WP#) in above circuit is pulled high, SPITool can accept “protect” and “unprotect” parameters to set write protection of SPI flash disk. After you setup SPI flash disk and disable changing write protection mode of flash disk, please connect pin 3 to low.

Here is a tip for developers to use write protection function:

1. Remove resistor connected to pin 3 (WP#) as floating. It is R73 in example circuit.
2. Use SPITool to format flash disk and copy files onto it.
3. Make sure everything is fine and run “SPITool protect” to enable write protection function.
4. Reset hardware to make write protection work.

After those steps, SPI flash disk is in write protection mode. If developer wants to disable flash disk write protection, connect pin 3 (WP#) to high and run “SPITool unprotect” in DOS.