



PCM-VDX CMOS Customization Procedure

1 Introduction

1.1 Many of our customers require the ability to customize the BIOS with different CMOS settings than the factory defaults. This document describes how this is accomplished on the PCM-VDX-1-256 and PCM-VDX-2-512 Single Board Computers (SBC).

1.2 The utilities provided are designed to be run using either MS-DOS or ROM-DOS. They have been tested on MS-DOS version 6.22 and ROM-DOS Version 7.1.

1.3 WinSystems, Inc. does not provide support for the modification of these utilities. Customer application specific queries can be sent to: support@winsystems.com and bug reports may be sent to: linux_drivers@winsystems.com.

2 Installation and Usage

2.1 All required files are provided in the archive file, vdx_cmos_util.zip. Two executables are provided, SPIFLASH.EXE and CMOSFILE.EXE. They can be executed individually or by using the provided batch files. The supported options for each program are detailed in sections 3 and 4

2.2 By using the provided batch files, it is very simple to configure the SBC BIOS to the desired settings and save it to two separate configuration files. These two files can then be used to duplicate the desired configuration on additional devices.

2.3 To save the CMOS configuration execute the following on the command line.

```
cmossave <file name>
```

Do not use an extension on the selected file name since the batch file will append the desired extensions, which are preconfigured as SPI and CMF. The extensions can be changed by editing the batch file.

2.4 To restore the CMOS configuration execute the following on the command line.

```
cmosrstr <file name>
```

The program will not work properly unless there are two configuration files with the same name as the selected file name in the same directory. After execution this batch file will automatically reset the device, which can be avoided by removing the -r option.

3 SPIFLASH Program

3.1 The SPIFLASH program reads and writes to the internal Flash area used to store BIOS Settings in the processor. The supported options for the program are as follows.

SPIFLASH 1.47 (Aug 5 2011) (C) Copyright 2011 DMP Electronics Inc.

Options:

- u file : Update BIOS mode, keep MAC/ISO data area.
- uadlink file : Update ADLINK BIOS mode, keep MAC addr.
- md5 file : Make MD5 checksum file from BIOS file.
- wdisk file : Write internal SPI disk image from file.
- rdisk file : Read internal SPI disk image into file.
- ufdd file : Update flash disk driver.
- ukbd file : Update keyboard driver.
- kbdver : Display keyboard driver date version.
- checkkbdver : Check keyboard driver date version, date format is YYYY/MM/DD.
- fixbadmtbfh : Fix bad MTBF high counter.
- rcmos : Read customer CMOS data into file.
- wcmos : Write customer CMOS data from file.
- rmac : Read and display MAC address from internal flash ROM.
- wmac file : Write MAC address to internal flash ROM, read from file.
MAC address in file will be increased.
- wiso file : Write ISO info.
- riso : Read ISO info.
- wserial file : Write CPU serial number to internal flash ROM from file.
CPU serial number in file will be increased.
- wchecksum : Write ISO checksum.
- rchecksum : Read ISO checksum.

4 CMOSFILE Program

4.1 The CMOSFILE program reads and writes to the battery backed CMOS area in the real time clock. The supported options for the program are as follows.

DM&P CMOS RAM Backup/Restore Tool v1.14. (Oct 19 2011 16:00:37)

Usage : CMOSFILE [-sl-l-v] filename [-r] [-t] [-q]

- s: Save CMOS data to file
- l: Load file data to CMOS
- v: Verify file data and CMOS
- r: Reboot system if CMOS is updated
- t: List supported CMOS interface
- q: Quiet mode