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## ZIMAGE v4 Documentation

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### ZIMAGE v4

The ZIMAGE utility creates a backup file of the critical areas of your Winchester Hard Drives. It is intended to supplement a DOS backup utility like Norton IMAGE that saves the critical DOS information contained in the FAT and ROOT DIRECTORY for each of your logical drives.

ZIMAGE searches for all drives on your Z-217 controller card (both, if you have two installed). The critical information is saved in a filename that is passed on the command line. If no filename is given, the default filename, "ZIMAGE.DAT", is used on the default drive and directory.

#### Invoking ZIMAGE:

Usage: [d:\][pathname\]ZIMAGE [?][filespec]

Where:

[drive:] you may specify a drive containing the transient command file.

[pathname] you may specify a path to the directory containing the transient command file.

[filespec] you may specify a filename to save the data in. If not specified, the critical information will be saved in "ZIMAGE.DAT" on the default drive and directory. The optional filespec may include the full path;  
Drive:\Directory\FILENAME.EXT.

[?] - Prints a help message.

Upon invoking ZIMAGE, the following sign-on message is displayed:

```
ZIMAGE version 4.06
Type "ZIMAGE ?" for HELP
```

Then, after a few seconds, the following line is reported for each drive that exists:

```
Saving Information for Unit x Primary
Controller Card.
```

Where **x** is the unit drive number and Primary is replaced with Secondary, if that card exists.

If the filename already exists, it is renamed with a .BAK extension. However, if a filename already exists with a .BAK extension, the utility ends with the error:

```
Unable to RENAME requested file with BAK
extension!!!
```

**Note:** There appears to be two areas for improvement here. First, if the data file already exists, according to the source file, you should be asked if you wish to try restoring the drive. This was never asked during my runs. Second, the old .BAK file should be deleted just before renaming the original file, rather than forcing the user to delete it manually. I hope both will be corrected sometime in the future when time permits - SWV.

If you attempt to use ZIMAGE with the incorrect BIOS or DOS version, the following message is displayed:

```
DOS/BIOS version ERROR.
You must use BIOS version 4.06, and DOS
version 4.00.
```

The versions are displayed at boot time and with the VER command.

The format of the information is given in Table 1.

If an attempt is made to run ZIMAGE on a computer not a Z-100, the following message is displayed:

*ZIMAGE only runs on a Zenith Z-100 Machine!*

**Note:** The data file, e.g., ZIMAGE.DAT, will consume 40 sectors of data, using the format of Table 1. If the sector size is 512 bytes, the file will be 20,480 bytes in size.

**ZIMAGE.DAT Information Format:**

**ZIMAGE.DAT Messages:**

The critical information is saved in a filename that is passed on the command line or in "ZIMAGE.DAT" on the default drive and directory if none is given.

A list of errors and other messages that may be seen during operation are provided in Table 2.

**Table 1. ZIMAGE.DAT Format:**

|           |   |                                |                         |
|-----------|---|--------------------------------|-------------------------|
| Sector 1  | > | Physical Drive Characteristics | Unit 0, Primary Z-217   |
| Sector 2  | > | Super Block A Partition Table  | Unit 0, Primary Z-217   |
| Sector 3  | > | Super Block B Partition Table  | Unit 0, Primary Z-217   |
| Sector 4  | > | Bad Sector Table A             | Unit 0, Primary Z-217   |
| Sector 5  | > | Bad Sector Table B             | Unit 0, Primary Z-217   |
| Sec 6-10  | > | Same as Sectors 1-5            | Unit 1, Primary Z-217   |
| Sec 11-15 | > | " "                            | Unit 2, Primary Z-217   |
| Sec 16-20 | > | " "                            | Unit 3, Primary Z-217   |
| Sec 21-25 | > | " "                            | Unit 0, Secondary Z-217 |
| Sec 26-30 | > | " "                            | Unit 1, Secondary Z-217 |
| Sec 31-35 | > | " "                            | Unit 2, Secondary Z-217 |
| Sec 36-40 | > | " "                            | Unit 3, Secondary Z-217 |

**Note:** If you examine the ZIMAGE.DAT file, you will probably see some ASCII text stating "Fatal error - can not read superblock B," "Error - Partition not found," etc. These are not ZIMAGE error messages. ZIMAGE is merely reporting the messages that were placed on the disk by PREP during the low-level format, for use if there is a problem when running the hard drive.

**Table 2. ZIMAGE.DAT Messages:**

All ZIMAGE error and other messages are output to STDOUT:

```

Unable to communicate with the Z217 controller
Unable to RENAME requested file with BAK extension!!!
Unable to OPEN requested file with read/write access!!!
Unable to WRITE to requested file!!!
ERROR Reading Super Block A!!!
ERROR Reading Super Block B!!!
ERROR Reading Bad Sector Table A!!!
ERROR Reading Bad Sector Table B!!!
CRC ERROR Super Block A!!!
CRC ERROR Super Block B!!!
CRC ERROR Bad Sector Table A!!!
CRC ERROR Bad Sector Table B!!!
Renaming Previous file with BAK extension.
If the passed filename already exists, you may optionally attempt a Restore.
Filename appears to already exist. Attempt Restore?(Y or N)
Unable to ACCESS requested file!!!
Saving Information for Unit x Primary Controller Card.
Saving Information for Unit x Secondary Controller Card.

```

Additional ZIMAGE version 4.06 Error Messages:

```

Type "ZIMAGE ?" for HELP
DOS/BIOS version ERROR.
You must use BIOS version 4.06, and DOS version 4.00.
The versions are displayed at boot time and with the VER command.
ZIMAGE only runs on a Zenith Z-100 Machine!

```

**Room for Improvement:**

In addition to the two improvements I mentioned earlier, I suggested that future changes to this utility also look at reducing the data file size. Few persons will use all the drives this utility is capable of and if the drive configuration is ever changed, the old data file becomes useless in restoring a particular drive.

I suggest that separate files of five sectors each be used to save each drive's essential data separately.

The data files could then be named to identify each drive's data independent of the computer's drive configuration.

If you have any questions or comments, please email me at:

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Cheers,

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