

Miscellaneous Problems with SCSI cards, disks and tape drives

We are currently investigating a number of problems with SCSI interface cards, hard disks and tape drives. This bulletin reports our current findings. In addition, this bulletin describes some features and restrictions in \$TAPE that resellers should be aware of.

1. ADAPTEC AHA-1540CF AND AHA-1542CF SCSI HOST ADAPTER CARDS

Although the Adaptec AHA-1540B, AHA-1542B, AHA-1540C and AHA-1542C cards function correctly with System Manager the more recent AHA-1540CF and AHA-1542CF cards do not work unless the BIOS is disabled. This problem is currently under investigation. Note that the AHA-1540B and AHA-1542B cards continue to be available from our Hardware Sales department.

2. PROBLEMS WITH LARGE SCSI DISKS

A problem was found with the SCSI hard disk controller when used with disks larger than 2Gb (with format P259Z: the limit is 1Gb for format P246Z). The problem causes the computers to crash during the loading of the +J5CA09 component. Two zaps are available, Z.j53001 and Z.5BR090, which fix the problem by truncating the effective size of the disk to 2Gb. Zap Z.j53001 is applied to the run-time controller; zap Z.5BR090 is applied to the bootstrap code. Note that System Manager V8.1 will include a disk-partitioning scheme to handle SCSI disks larger than 2Gb.

3. PROBLEMS WITH NEW VERSIONS OF THE EXABYTE FIRMWARE

Exabyte have recently upgraded the firmware on the Exabyte EXB-8200 8mm video tape drive. The new firmware is incompatible with earlier versions and prohibits the use of \$TAPE on new versions of the Exabyte drives. If \$TAPE is run on an Exabyte drive that includes the new firmware the following fatal error message is displayed:

* DEVICE RETURNED ZERO BLOCK SIZE ON INITIALISATION

The above error occurs because the firmware returns a tape block-size of 0, instead of the expected value of 1Kb.

A new version of the \$TAPE Exabyte controller, %J5CT03 (dated 17/12/93), has been produced which overcomes the shortcomings in the new version of the Exabyte firmware.

4. 1GB SUB VOLUME LIMIT IN \$TAPE

The \$TAPE SCSI controllers are limited to 65535 tape controller buffers. The default "tape controller buffer size" is 16Kb which limits the size of each individual \$TAPE "tape record" to $65535 * 16Kb = 1Gb$. Each subvolume must fit within a "tape record" hence the maximum sub volume size that can be saved using \$TAPE with 16Kb buffers is 1Gb. This size can be increased (to almost 2Gb) by increasing the "tape controller buffer size", for example, by using a 24Kb "tape controller buffer size" the maximum subvolume size that can be saved is $65535 * 24Kb = 1.5Gb$. The restriction of 65535 tape buffers will be lifted in a future version of \$TAPE.

5. PROBLEMS WITH 32KB TRACKS

As explained in section C.4 of the Global Tape Utility manual, the tape controller buffer size defaults to the track size of the hard disk. For format P259Z, which must be used with SCSI disks larger than 1Gb (see Global Technical Bulletin GT576), the track size is set to 32Kb. This value causes \$TAPE V7.0A to suffer an overflow (PGM CHK-11 at 7A98 on save operations or PGM CHK-11 at 7C3C on restore operations). Therefore, if \$TAPE is used with a format P259Z hard disk, "the tape controller buffer size" must be set to a value less than 32Kb – we recommend a value of 16Kb. The "tape controller buffer size" is amended by terminating the baseline reply of "A" in the \$TAPE "Change options" menu entry with <CTRL A> instead of the normal <CR>:

Key Amend, Customise, <ESC> to exit: A<CTRL A>

6. RESTORING 99 FILES/DIRECTORY TAPES ON A 250 FILES/DIRECTORY DISK

If an attempt is made to restore a sub volume that was saved from a hard disk configured with 99 files per directory to a hard-disk configured with 250 files per directory, the following error message will be displayed:

Incompatible directory size, key <CR> to continue:

If <CR> is keyed, \$TAPE will ignore the sub-volume and attempt to restore the next sub-volume in the restore list. If the reply to the above prompt is <CTRL A>, \$TAPE will restore the mismatched directory and rebuild the 250 file directory provided the chosen destination unit is not protected. This facility is only available with \$TAPE V7.0A and only when the files/directory on the tape is 99 and the files/directory on the disk is 250.