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Adaptec SCSI Hard Disk 1 Gb Size Restriction

This bulletin describes a potentially serious restriction in the IBM PC Adaptec hard disk controller that prevents it from functioning correctly with SCSI disks larger than 1 Gb. This problem only affects the ADAPTEC controller on System Manager (BOS) implementations.

ANY ATTEMPTS TO USE THIS VERSION OF THE CONTROLLER WITH A DISK LARGER THAN 1 GB (FORMATTED CAPACITY) WILL RESULT IN SEVERE DATA CORRUPTION, POSSIBLY RESULTING IN THE LOSS OF THE DOMAIN DIRECTORY, IF AN ATTEMPT IS MAKE TO WRITE BEYOND THE 1 GB LIMIT.

The current version of the Adaptec hard disk controller (component +J5CA09 dated 01/02/90 in library +.J5HP) uses the SCSI class-0 READ and WRITE commands both of which include a 21-bit Logical Block Address field in the command control block. The size of a Logical Block is 512 bytes hence the restriction of 1 Gb.

Revised versions of +J5CA09 (in library +.J5HP), #.5500 and A.VTYPE are now available, on request, to overcome the 1 Gb disk size restriction. The new controller and Volume Type Action File will be included in Autozap run 7022. To utilise the new version:

1)   Copy the revised +.J5HP to BACRES, deleting the existing version.

2)   Copy the revised #.5500 to BACRES renaming it to #.55nn (where 55*nn* is the configuration code) deleting the old version.

3)   Copy the revised A.VTYPE to your Global Configurator program unit, deleting the existing version.

4)   Use Global Configurator to modify the configuration file on the BACRES diskette. Change the format of the disk included in the ADAPTEC controller section from P246Z to P259Z.

5)   If the configuration file includes a SCSI tape drive, replace the ADAPTEC controller by AHA-TAPE. Modify the Drive SCSI id to agree with your hardware setting but leave the Tape Buffer Length set to 16384. The AHA-TAPE controller is required in order to ensure the correct operation of $TAPE with those disk formats that include a **logical** track size that is greater than 32767. The logical track size of the P259Z format hard disk is 32768!

If System Manager has already been installed on the large disk it will be necessary to:

*   Backup the existing data to tape (using $TAPE);

*   Modify the configuration file on BACRES, as described above, and re-install System Manager and $TAPE;

*   Restore the data from tape.

Note that data saved, using $TAPE, from disk format P246Z can be restored to disk format P259Z.

The new Adaptec controller increases the System Manager (BOS) hard disk size limit to 2 Gb.

During 1993 we plan to implement a disk partitioning scheme that will increase the disk capacity limit beyond 2 Gb.