adaptec

X3T9.2 Proposal

TO: John Lohmeyer, Chairman of X3T9.2 SCSI Committee

FROM: Al Wilhelm   **DATE:**   May 2, 1991

SUBJECT: Request for new SCSI Peripheral Device Type "Floptical."

On behalf of the Floptical committee, I would like to request that the SCSI Committee formally assign a new SCSI Peripheral Device Type for Floptical devices and add the Floptical Device Model and associated command set into the SCSI-3 specification.

In reference to the latest SCSI-2 specification (X3T9.2/86-109 rev 10c) please modify table 7-17 to add the following entry:

Code	Description
0F	Floptical device.

Floptical device types would return the code 0F in byte 0, bits 0 to 4 of the INQUIRY Data Format as described in Table 7-15. Floptical drives would also set the RMB bit 7 of byte 1.

No existing SCSI Peripheral Device Type is adequate for Floptical devices.

The Floptical Committee has voted to treat a Floptical device as a floppy drive that supports multiple fixed floppy formats. Floptical is a new, different technology and addresses a different market than DASD. In addition, the current SCSI Peripheral Device Type of 00 for Direct Access Device (e.g. Magnetic Disk) is inadequate for Floptical for two main reasons: **Interchange** and **user interface**.

Interchange:

While disk devices may or may not be removable, they are partitionable hard disk storage devices. A partition made by one Manufacturers SCSI Host Adapter may not be readable by another. In addition to providing for:

A)   Interchangeability of standard 720 k and 1.44 M byte 3-1/2" floppy diskette formats between standard 3-1/2" floppy drives and new Floptical drives.

a main intent of the Floptical Committee is to provide for:

B)   Interchangeability of new higher capacity "Floptical diskette formats" among Floptical drives of various manufacturers, regardless of the SCSI Host Adapter to which the drive is attached.

User Interface:

It would not serve the user's needs to have the same Floptical drive report itself as drive A: (for example) when it has a standard 720 k or 1.44 M byte diskette installed, but report itself as a different drive letter (such as D:) if a Floptical diskette is installed. The same drive should always be the same drive letter to the user regardless of the media type installed.

We feel that the industry would best be served by creating a new device type. This would provide a safe easy method to satisfy the two objectives of Interchange and User Interface while preventing the inadvertent generation of incompatible media that would result from using the same device type as Removable Hard Disks.

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A Floptical device is inherently different from a removable hard disk in two significant ways:
1) It can support more than one media type. It supports both of the industry standard low and high density floppy diskettes, and the new 20.8 MByte high capacity diskettes.
2) It mixes a magnetic head for the 720k and 1.44M formats with a much narrower head which uses optical servos for precision head/track positioning for the Floptical diskettes.

Floptical Formats:

A SCSI Host Adapter card that supports this new Floptical device type will initially support three defined formats:

Floptical Formats	Capacity	Cylinders	Heads	Sectors	Bytes/sector	Number of Blocks
First Format:	720 K byte	80	2	9	512	1440
Second Format:	1.44 Mbyte	80	2	18	512	2880
Third Format:	20.8 Mbyte	251	6	27	512	40662

The first two formats are identical to the two most common 3-1/2" floppy formats used on PCs. The third format is the first of new floptical formats being proposed as future Floptical diskette format standards. Higher capacity floptical formats will follow.

With the interests of the SCSI Industry in mind:

The committee feels that defining this new peripheral device type is in the historical interests of ANSI standards committees in that it provides standardization, makes the format and interface definition open and available to the public, and promotes future growth of the SCSI industry.

Floptical Device Model and Command Set:

With the acceptance of this initial proposal, I will submit the proposed modifications to the working copy of the SCSI-3 specification to incorporate the changes and additions for this new Device Type. I plan to distribute it at the next working group meeting in July.

On behalf of the Floptical Committee, thank you for considering the possibilities of this new and exciting SCSI Peripheral Device Type and making a place for it in SCSI-3.

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