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(72) Inventor: WOOD, Robert, B.; 6861 Peppertree Drive,
Niwot, CO 80503 (US).

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(74) Agent: BUENZOW, Jennifer, M.; Seagate Technology
LLC, 1280 Disc Drive, Shakopee, MN 55379 (US).

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(71) Applicant: SEAGATE TECHNOLOGY LLC [US/US];
920 Disk Drive, Scotts Valley, CA 95066 (US).

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(54) Title: METHOD AND APPARTUS FOR AUTOMATIC PHY CALIBRATION BASED ON NEGOCIATED LINK SPEED

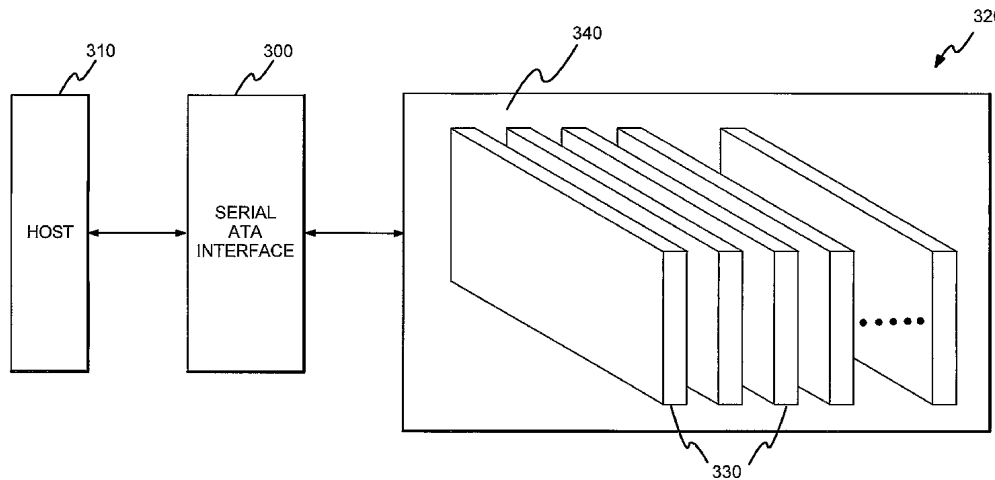


FIG. 3

(57) Abstract: A serial ATA interface (300) calibrates serially connected components of a computer system (320) linked by the interface to a negotiated data transmission speed. The interface negotiates the fastest data transmission speed supported by the serially connected components. Link parameters associated with the negotiated data transmission speed are cablirated and implemented in a Physical layer of the interface data before data is transmitted across the interface. The cablirated link parameters include signal settings for amplitude, pre-emphasis, equalization and timing. Default settings of the link parameters correspond to the slowest data transmissio speed supported by the serially connected components. The serially connected components are calibrated each time system power is initialized, the serially connected components can be a host computer (310) linked to a data storage device such as a backplane-base storage subsystem (320).

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/31090

A. CLASSIFICATION OF SUBJECT MATTER
 IPC: H04L 12/40(2006.01)

USPC: 709/203,220,227,232;370/85,85.5
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 U.S. : 709/203, 220, 227, 232; 370/85, 85.5

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 Microsoft Computer Dictionary


Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,272,341 B1 (THREADGILL et al) 07 August 2001, figs.3, 6, abstract, col.11 line 18 to col.12 line 58.	1-23
Y	US 5,299,193 A (SZCZEPANEK) 29 May 1994, fig.2, abstract, col.5 line 15 to col.12 line 58, col.7 lines 14-65.	1-23
A	US 6,173,423 B1 (AUTECHAUD et al), 09 January 2001, abstract, col.3 line 34 to col.4 line 58.	1-23

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:		
"A"	document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means	
"P"	document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer Khanh Dinh Telephone No. 571-272-1400 

Continuation of B. FIELDS SEARCHED Item 3:

East, IEEE, Google

search terms: network transmission, serial interface, calibration, data speed, settings, negotiation, links, SCSI, network layer