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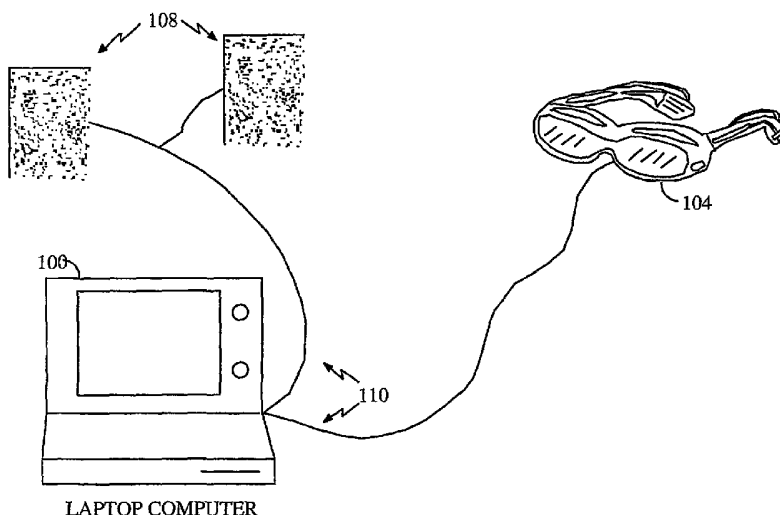
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FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
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[Continued on next page]

(54) Title: GENERATING AND IMPLEMENTING A SIGNAL PROTOCOL AND INTERFACE FOR HIGHER DATA RATES



(57) Abstract: A data Interface for transferring digital data between a host (100) and a client (104,108) over a communication path (110) using packet structures linked together to form a communication protocol for communicating a pre-selected set of digital control and presentation data. The signal protocol is used by link controllers configured to generate, transmit, and receive packets forming the communications protocol, and to form digital data into one or more types of data packets, with at least one residing in the host device (100) and being coupled to the client (104,108) through the communications path (110). The interface provides a cost-effective, low power, bi-directional, high-speed data transfer mechanism over a short-range "serial" type data link, which lends itself to implementation with miniature connectors and thin flexible cables which are especially useful in connecting display elements such as wearable micro-displays (104) to portable computers (100) and wireless communication devices (102).

**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)*

- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*

Published:

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/017579

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04L29/06 H04L12/64 G06F3/14

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)

IPC 7 H04J H04L G06F

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

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 03/023587 A (QUALCOMM INC) 20 March 2003 (2003-03-20)	1-48
X	paragraph '0237! - paragraph '0242!; figure 49	49-58
X	paragraph '0207! - paragraph '0210!; figures 38,39	59-65
X	paragraph '0251! - paragraph '0265!; figures 50,51	66
Y	----- -/--	68-70

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

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)

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

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

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

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.

Z document member of the same patent family

Date of the actual completion of the international search

14 January 2005

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/017579

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	"Transmission and Multiplexing (TM); High bit rate Digital Subscriber Line (HDSL) transmission system on metallic local lines; HDSL core specification and applications for 2 048 kbit/s based access digital sections; ETR 152" ETSI STANDARDS, EUROPEAN TELECOMMUNICATIONS STANDARDS INSTITUTE, SOPHIA-ANTIPO, FR, vol. TM-3;TM-6, no. Third Edition, December 1996 (1996-12), XP014011258 ISSN: 0000-0001 page 59 figure 15	49,50,57
X	----- US 5 862 160 A (IRVIN DAVID R ET AL) 19 January 1999 (1999-01-19) column 3, line 38 - column 7, line 53	67
Y	-----	68-70

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2004/017579

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-48

Claims 1-48 are directed to transferring high rate digital presentation data between a host device and a client device. This is done by using a communication protocol. However claims 1-48 present no special technical features in the sense of Rule 13.2 PCT, since they are not novel over the disclosure of the closest prior art document D1.

2. claims: 26 and 59-65

Claims 26 and 59-65 are directed to faster link wake up procedure. This is done by using current clock rate, instead of falling back to the minimum 1 Mbps clock rate, as disclosed in D1 (special technical features disclosed in claim 59).

3. claim: 26 and 66

Claims 26 and 66 are directed to improving the reliability of the reverse link between the host and the client. This is done by sampling the data line on both rising and falling edges during the reverse timing packet (special technical features of claim 66 over the disclosure of D1).

4. claims: 49-58

Claims 49-58 are directed to synchronization in an electronic system. This is done by using a state machine having at least one Acquiring synchronization state and at least two In-Sync synchronization states.

5. claims: 67-70

Claims 67-70 are directed to transferring error codes in a communication system. This is done by overwriting CRC value of a packet in case of detecting an error.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/017579

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 03023587	A	20-03-2003	US 2003033417 A1	13-02-2003
			CA 2459941 A1	20-03-2003
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			JP 2001507893 T	12-06-2001
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