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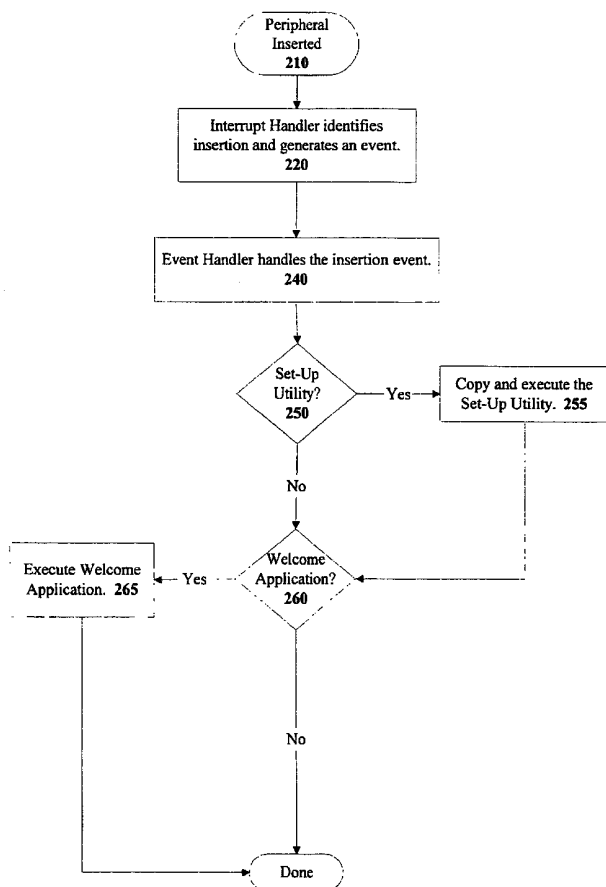
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[Continued on next page]

(54) Title: A MOBILE COMPUTER SYSTEM WITH A ROBUST EXPANSION CAPABILITY



(57) Abstract: A robust external interface for a computer system is disclosed. The robust external interface allows a user to insert or remove external peripherals to the external interface at any time such that the user does not need to carefully follow any scripted procedures. The external interface software detects insertions or removals and acts in an appropriate manner.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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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, IBM-TDB, WPI Data, PAJ, INSPEC, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 850 573 A (WADA YOSHIHIRO) 15 December 1998 (1998-12-15) the whole document ---	1-59
X	US 5 787 019 A (KATHAIL PRADEEP ET AL) 28 July 1998 (1998-07-28) the whole document ---	1-59
X	US 5 822 614 A (MILLER EDWARD A ET AL) 13 October 1998 (1998-10-13) the whole document ---	1-59
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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	*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 document but 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
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O document referring to an oral disclosure, use, exhibition or other means	*G* document member of the same patent family
P document published prior to the international filing date but later than the priority date claimed	

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Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040. Tx. 31 651 epo nl. Fax: (+31-70) 340-3016	Authorized officer Beltrán-Escavy, J
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/21915

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 5 319 751 A (GARNEY JOHN I) 7 June 1994 (1994-06-07) the whole document	1,24,42, 45,51,56 2-23, 25-41, 43,44, 46-50, 52-55, 57-59
X A	EP 0 899 655 A (CANON KK) 3 March 1999 (1999-03-03) the whole document	1,24,42, 45,51,56 2-23, 25-41, 43,44, 46-50, 52-55, 57-59
X	EP 0 907 126 A (HEWLETT PACKARD CO) 7 April 1999 (1999-04-07) the whole document	1,24,42, 45,51,56
X	EP 0 793 169 A (SUN MICROSYSTEMS INC) 3 September 1997 (1997-09-03) the whole document	1,24,42, 45,51,56
X	WO 99 35815 A (SCHOBER JOSEPH ;AMERICA ONLINE INC (US)) 15 July 1999 (1999-07-15) abstract page 1, line 1 -page 2, line 21 claims 1-25	1,24,42, 45,51,56
A	GB 2 203 869 A (APPLE COMPUTER) 26 October 1988 (1988-10-26) abstract page 1, line 1 -page 5, line 19 claims 1-17	1-56
X A	SHANLEY T: "PLUG AND PLAY SYSTEM ARCHITECTURE" PC SYSTEM ARCHITECTURE SERIES,US,READING, ADDISON WESLEY, 1995, pages 14-15,43-50, XP002042679 ISBN: 0-201-41013-3 the whole document	1,24,42, 45,51,56 2-23, 25-41, 43,44, 46-50, 52-55, 57-59
	--- -/--	

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 00/21915

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>LEVY-ABEGNOLI T: "PLUG AND PLAY: UNE PHILOSOPHIE DE CONCEPTION DES PC" ELECTRONIQUE,FR,CEP COMMUNICATION, PARIS, no. 37, 1 April 1994 (1994-04-01), pages 36-39, XP000443460 ISSN: 1157-1152 the whole document</p> <p style="text-align: center;">---</p>	1-59
A	<p>ANONYMOUS: "Automated System Initialization. March 1973." IBM TECHNICAL DISCLOSURE BULLETIN, vol. 15, no. 10, 1 March 1973 (1973-03-01), pages 3215-3216, XP002172065 New York, US the whole document</p> <p style="text-align: center;">---</p>	1-59
A	<p>BIESZCZAD A ET AL: "AGENT-BASED SCHEMES FOR PLUG-AND-PLAY NETWORK COMPONENTS" INTELLIGENT AGENTS FOR TELECOMMUNICATION APPLICATIONS. INTERNATIONAL WORKSHOP, July 1998 (1998-07), XP002932715 the whole document</p> <p style="text-align: center;">---</p>	1-59
A	<p>SOLOMON D A: "THE WINDOWS NT KERNEL ARCHITECTURE" COMPUTER,US,IEEE COMPUTER SOCIETY, LONG BEACH., CA, US, vol. 31, no. 10, October 1998 (1998-10), pages 40-47, XP000859745 ISSN: 0018-9162 page 45, right-hand column, paragraph 2 -page 46, right-hand column, paragraph 1</p> <p style="text-align: center;">---</p>	1,24,42, 45,51,56
A	<p>WICKELGREN I J: "THE FACTS ABOUT FIREWIRE" IEEE SPECTRUM,IEEE INC. NEW YORK,US, vol. 34, no. 4, 1 April 1997 (1997-04-01), pages 19-25, XP002051393 ISSN: 0018-9235 page 22, right-hand column, paragraph 2 -page 24, right-hand column, paragraph 1</p> <p style="text-align: center;">---</p>	1,24,42, 45,51,56
A	<p>HARBAUGH L: "INFORMATION WEEK LABS THE PLUG-AND-PLAY BUS" INFORMATIONWEEK,MANHASSET, NY,US, no. 723, 1 March 1999 (1999-03-01), pages 51-52,54,56,61, XP000984010 ISSN: 8750-6874 page 52, left-hand column, paragraph 2 - paragraph 5</p> <p style="text-align: center;">---</p> <p style="text-align: center;">-/--</p>	1,24,42, 45,51,56

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 00/21915

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>JIM ASPINWALL: "WIndows Advisor Column: The Ins and Outs of Plug and Play" COMPUTER USER, 'Online! 10 September 1996 (1996-09-10), pages 1-2, XP002172066 Retrieved from the Internet: <URL:http://www.computeruser.com/magazine/ national/1418/winal418.html> 'retrieved on 2001-07-13! page 1, paragraph 1 - paragraph 6 -----</p>	<p>1,24,42, 45,51,56</p>

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/21915

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5850573 A	15-12-1998	JP 4097495 A	30-03-1992
		JP 4097468 A	30-03-1992
		JP 4109368 A	10-04-1992
US 5787019 A	28-07-1998	NONE	
US 5822614 A	13-10-1998	WO 9745788 A	04-12-1997
US 5319751 A	07-06-1994	DE 4244266 A	01-07-1993
		GB 2262825 A, B	30-06-1993
		JP 5265919 A	15-10-1993
		US 5404494 A	04-04-1995
		US 5412798 A	02-05-1995
		US 6081850 A	27-06-2000
EP 0899655 A	03-03-1999	JP 11163895 A	18-06-1999
		CN 1211763 A	24-03-1999
EP 0907126 A	07-04-1999	JP 11143809 A	28-05-1999
		SG 70078 A	25-01-2000
EP 0793169 A	03-09-1997	US 5790890 A	04-08-1998
		JP 10049478 A	20-02-1998
WO 9935815 A	15-07-1999	AU 1937599 A	19-07-1999
		AU 1940199 A	19-07-1999
		AU 2028199 A	26-07-1999
		AU 2093099 A	19-07-1999
		EP 1040431 A	04-10-2000
		WO 9934305 A	08-07-1999
		WO 9934555 A	08-07-1999
		WO 9934306 A	08-07-1999
GB 2203869 A	26-10-1988	AU 611137 B	06-06-1991
		AU 1418588 A	20-10-1988
		BR 8801840 A	22-11-1988
		CA 1296806 A	03-03-1992
		DE 3812607 A	27-10-1988
		FR 2614122 A	21-10-1988
		HK 52992 A	24-07-1992
		JP 2587267 B	05-03-1997
		JP 63279340 A	16-11-1988
		SG 39292 G	22-05-1992