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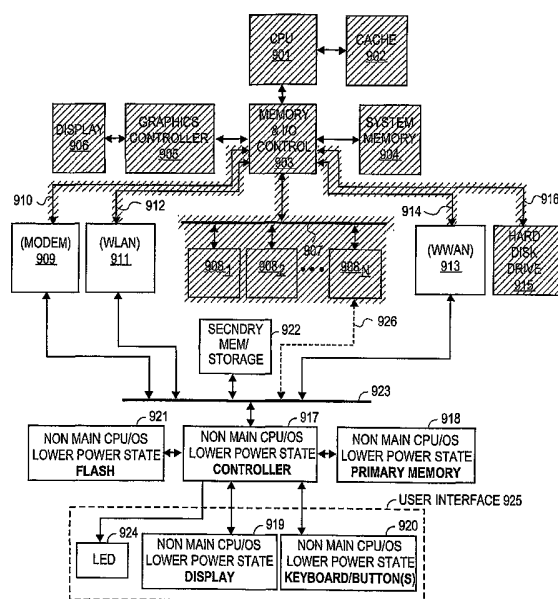
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[Continued on next page]

(54) Title: NON MAIN CPU/OS BASED OPERATIONAL ENVIRONMENT



(57) Abstract: A computing system is described that includes an I/O unit interface that is deactivated while said computing system operates within a non main CPU/OS based operational state. The computing system also includes a controller that operates functional tasks while the computing system is within the non main CPU/OS based operational state. The computing system also includes an I/O unit that is coupled to both the I/O unit interface and the controller.



GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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# INTERNATIONAL SEARCH REPORT

PCT/US2004/000726

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 G06F1/32

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 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, PAJ, IBM-TDB

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/129288 A1 (LOH WENG WAH ET AL) 12 September 2002 (2002-09-12)	1-6, 13-43, 45-53, 62, 70-79, 87-94
Y	paragraph '0001! - paragraph '0005! paragraph '0010! - paragraph '0017!	7-12, 44, 54-61
A	paragraph '0020! - paragraph '0022!; figures 1,3 ----- -/--	63, 64, 66-68

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

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

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- \*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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- \* & \* document member of the same patent family

Date of the actual completion of the international search

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 945 778 A (O2 MICRO INTERNATIONAL LIMITED) 29 September 1999 (1999-09-29)	1-6,8,9, 11-13, 25,26, 63-69
A	paragraph '0002! - paragraph '0015!	37,40, 41,48, 51,53, 55,58, 60-62, 78,81, 82,93, 96,97
	paragraph '0019! - paragraph '0022! paragraph '0025! - paragraph '0044! paragraph '0052! - paragraph '0056! paragraph '0060! - paragraph '0063!; figures 1,2,4,6	
Y	US 6 502 003 B1 (JACOBS ET AL) 31 December 2002 (2002-12-31)	8,9,11, 12,44, 55-58, 60,61
A	column 1, line 24 - column 2, line 39 column 6, line 41 - column 9, line 63; figures 4-8	63,65-67
Y	US 5 959 833 A (YOUENS JOHN E) 28 September 1999 (1999-09-28) column 2, line 45 - line 50 column 3, line 43 - column 4, line 7; figure 2	7,10,54, 59
X	EP 1 221 645 A (HEWLETT PACKARD CO) 10 July 2002 (2002-07-10)	78-80, 93-95
A	paragraph '0003! - paragraph '0005! paragraph '0008! - paragraph '0022!; figures 1,2	1,2,5,6, 8,9,11, 12,27, 37,38, 40,41, 48,49, 52,53, 55,58, 60,61, 63,64, 66,67
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PCT/US2004/000726

## 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 2002/178390 A1 (LEE HOWARD HONG-DOUGH) 28 November 2002 (2002-11-28) paragraph '0001! - paragraph '0005!	63-68  1,2,5,6, 27,28, 36,37, 48,49, 52,53, 78,93
A	paragraph '0022! - paragraph '0040!; figures 2-4 ----- US 6 289 464 B1 (WECKER ET AL) 11 September 2001 (2001-09-11)  column 1, line 24 - column 3, line 7 column 3, line 44 - column 8, line 67; figures 1-6 -----	  1,2,5,6, 48,49, 52,53, 63,64, 70-73, 76,87-90
X	US 2002/173344 A1 (CUPPS BRYAN T ET AL) 21 November 2002 (2002-11-21)  paragraph '0024! - paragraph '0050! paragraph '0054! - paragraph '0062!; figures 3,5; table 1 -----	63-68, 70-77, 87-92
X	WO 01/61442 A (O2 MICRO, INC) 23 August 2001 (2001-08-23)  page 1, line 4 - line 7 page 2, line 28 - page 3, line 22 page 4, line 20 - page 9, line 2; figures 1-4 -----	78,79, 81-84, 93,94, 96,97
X	US 2002/085835 A1 (ZHANG TIM L ET AL) 4 July 2002 (2002-07-04)  paragraph '0017! - paragraph '0026! paragraph '0028! - paragraph '0029!; figures 1-4B,6 -----	78,79, 81-84, 93,94, 96,97

# INTERNATIONAL SEARCH REPORT

PCT/US2004/000726

## 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.:  
  
1-84, 87-97
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: 1-62

Computing system with I/O unit coupled to controller which operates functional tasks when system in non main cpu/os based operational state.

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2. claims: 63-69

Machine readable medium with instructions causing a controller operational while main cpu is sleeping to implement an operating system.

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3. claims: 70-77,87-92

Method obtaining data object wirelessly from a server while main cpu is sleeping and machine readable medium with corresponding instructions.

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4. claims: 78-84,93-97

Method retrieving encoded music from a data storage resource active while main cpu is sleeping and machine readable medium with corresponding instructions.

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5. claims: 85,86

Method blinking an LED, the blinking controlled by a controller active while computing system operates within a non main cpu/os based lower power state.

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