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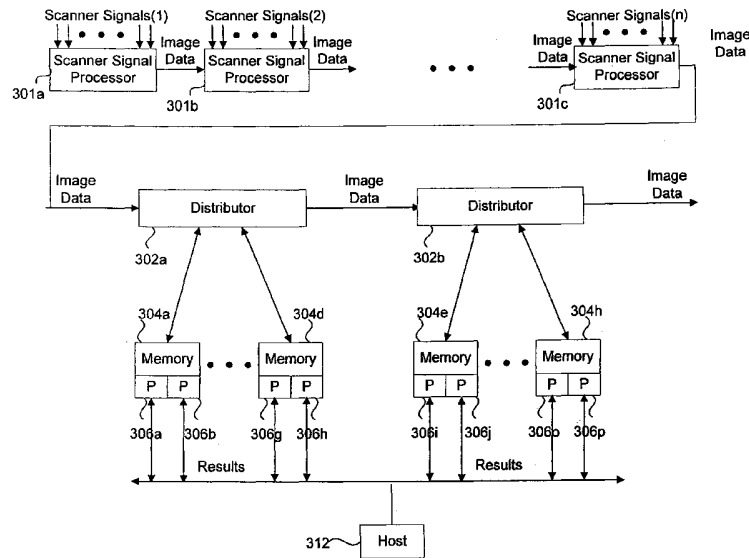
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(54) Title: HIGH THROUGHPUT IMAGE FOR PROCESSING INSPECTION IMAGES



(57) Abstract: Disclosed is an image processing system for analyzing images of a specimen to determine whether the specimen contains defects. The system includes a plurality of processors (202, 306) for receiving image data from a specimen and for analyzing one or more selected patch(es) of such image data to determine whether the specimen has a defect. The system also includes a plurality of buses (206, 450) for coupling the processors together, wherein the bus has the following specifications: a data rate of about 50 gigabits per second or more and an error rate less than about  $10^{-16}$ . In one implementation, the buses are low voltage differential signal type buses, and in another implementation, the buses are hyper transport type buses.

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**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US05/15206

<p>A. CLASSIFICATION OF SUBJECT MATTER                  IPC: <b>G06K 9/00</b>( 2006.01)</p> <p>USPC: 382/141                  According to International Patent Classification (IPC) or to both national classification and IPC</p>																				
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols)                  U.S. : 382/141-152,; 356/237.4, 237.5;</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)                  EAST</p>																				
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th>Category *</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>Y</td> <td>W/O 00/68884 A1 (GOLDBERG et al) 6 June 2000 (06.06.2000), pages 12-14 and 21-24, figure 1-4</td> <td>1-20</td> </tr> <tr> <td>Y</td> <td>US, 5,659,630 (FORSLUND) 19 August 1997 (19.08.1997), figure 6, col. 6-8</td> <td></td> </tr> </tbody> </table>			Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	Y	W/O 00/68884 A1 (GOLDBERG et al) 6 June 2000 (06.06.2000), pages 12-14 and 21-24, figure 1-4	1-20	Y	US, 5,659,630 (FORSLUND) 19 August 1997 (19.08.1997), figure 6, col. 6-8										
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<p><input type="checkbox"/> Further documents are listed in the continuation of Box C.      <input type="checkbox"/> See patent family annex.</p> <table border="1"> <thead> <tr> <th>Special categories of cited documents:</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T"</td> <td>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</td> </tr> <tr> <td>"E" earlier application or patent published on or after the international filing date</td> <td>"X"</td> <td>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</td> </tr> <tr> <td>"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)</td> <td>"Y"</td> <td>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</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&amp;"</td> <td>document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> <td></td> </tr> </tbody> </table>			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	"&"	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/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201		Authorized officer Matthew Bella <i>Matthew Bella</i> Telephone No. 703.306.0377																		