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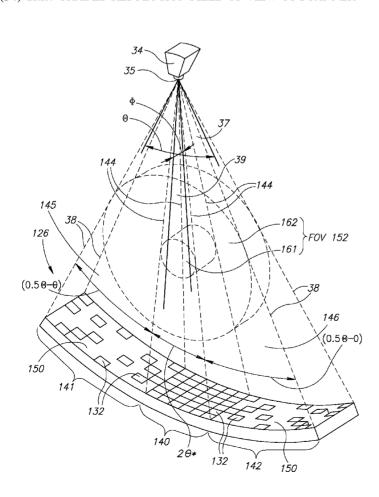
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[Continued on next page]

(54) Title: GRADED RESOLUTION FIELD OF VIEW CT SCANNER



(57) Abstract: A CT scanner comprising: a rotor rotatable about an axis of rotation: an X-ray source mounted to the rotor having a focal spot from which an X-ray beam emanates; an X-ray detector array comprising a plurality of X-ray detectors for detecting X-rays in the X-ray beam; wherein the detector array has at least one high resolution region in which detectors have a high packing density and at least one low resolution region in which detectors have a low packing density and are separated by X-ray insensitive regions substantially larger than insensitive regions resulting from septa between detectors that function to reduce detector cross talk.



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FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, 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

International application No
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A. CLASSIFICATION OF SUBJECT MATTER INV. A61B6/03 G01N2 G01N23/04 G01T1/20 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) A61B G01N G01T 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 C. DOCUMENTS CONSIDERED TO BE RELEVANT Category* Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. Α DE 195 24 858 A1 (SIEMENS AG [DE]) 1 9 January 1997 (1997-01-09) abstract; figure 1 page 1, line 30 - line 31 X WO 2004/023123 A (PHILIPS MEDICAL SYSTEMS 1-6.8TECHNO [IL]; MALAMUD GABRIEL [IL]) 18 March 2004 (2004-03-18) A abstract; figure 3A 7.9 page 1, line 10 - line 20 page 2, line 9 - line 10 page 5, line 4 - line 5 page 8, line 22 - line 34 US 5 105 087 A (JAGIELINSKI TOMASZ M [US]) Α 1,7,9 14 April 1992 (1992-04-14) abstract; figures 2,4,5 -/--X Further documents are listed in the continuation of Box C. χ See patent family annex. Special categories of cited documents: *T* later document published after the international filling date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the *A* document defining the general state of the art which is not considered to be of particular relevance invention "E" earlier document but published on or after the international "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to 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) 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 docu-ments, such combination being obvious to a person skilled "O" document referring to an oral disclosure, use, exhibition or other means document published prior to the international filing date but later than the priority date claimed in the art. "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 8 May 2007 23/05/2007 Name and mailing address of the ISA/ Authorized officer 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 Schwenke, Stephanie

INTERNATIONAL SEARCH REPORT

International application No
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Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Ą	US 2003/068005 A1 (YAMAZAKI MASAHIKO [JP]) 10 April 2003 (2003-04-10) abstract paragraph [0098]	1
A	DE 196 00 115 C1 (SIEMENS AG [DE]) 30 January 1997 (1997-01-30) abstract; figure 3 column 1, paragraph 17 - paragraph 19	1
Х	US 5 355 309 A (EBERHARD JEFFREY W [US] ET AL) 11 October 1994 (1994-10-11) abstract; figures 1-3 column 1, line 50 - line 55 column 2, line 12 - line 13 column 4, line 30 - line 37 column 4, line 67 - column 5, line 7 column 7, line 45 column 7, line 50 column 7, line 55 - line 56	10-15, 22-27
X	US 2005/105678 A1 (NAKASHIMA SHIGEYUKI [JP]) 19 May 2005 (2005-05-19) abstract; figure 1 paragraphs [0037], [0042]	10, 16-21, 23,24
X	US 2002/176530 A1 (OKUMURA MIWA [JP] ET AL) 28 November 2002 (2002-11-28) abstract; figure 16	10,16-18
Х	EP 0 856 748 A1 (GEN ELECTRIC [US]) 5 August 1998 (1998-08-05) abstract page 2, line 51 - page 3, line 3	10,23,24
A	DE 101 50 428 A1 (SIEMENS AG [DE]) 30 April 2003 (2003-04-30) abstract paragraph [0015]	22-24
Ρ,Χ	WO 2005/071392 A (PHILIPS INTELLECTUAL PROPERTY [DE]; KONINKL PHILIPS ELECTRONICS NV [NL) 4 August 2005 (2005-08-04) abstract; figure 3 page 1, line 21 - line 23 page 7, line 28 - line 30 page 9, line 25	10,11
X	US 3 973 128 A (LEMAY CHRISTOPHER ARCHIBALD GO) 3 August 1976 (1976-08-03) abstract; figure 5	10-15

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INTERNATIONAL SEARCH REPORT

Box II Ob	servations where certain claims were found unsearchable (Continuation of item 2 of first sheet)
This Internati	ional Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
	ms Nos.: ause they relate to subject matter not required to be searched by this Authority, namely:
bec	ims Nos.: ause they relate to parts of the International Application that do not comply with the prescribed requirements to such extent that no meaningful International Search can be carried out, specifically:
	ims Nos.: ause they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box III Ob	servations where unity of invention is lacking (Continuation of item 3 of first sheet)
This Internati	ional Searching Authority found multiple inventions in this international application, as follows:
se	e additional sheet
1. X As a	all required additional search fees were timely paid by the applicant, this International Search Report covers all rchable claims.
	all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment ny additional fee.
3. As cov	only some of the required additional search fees were timely paid by the applicant, this international Search Report ers only those claims for which fees were paid, specifically claims Nos.:
4. No resi	required additional search fees were timely paid by the applicant. Consequently, this International Search Report is tricted to the invention first mentioned in the claims; it is covered by claims Nos.:
Remark on I	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: 1-9

CT scanner, detectors separated by X-ray insensitive regions

2. claims: 10-27

CT scanner, detector size is function of distance from

altrie

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IB2006/051737

Patent document cited in search report	İ	Publication date		Patent family member(s)		Publication date
DE 19524858	A1	09-01-1997	NONE			
WO 2004023123	A	18-03-2004	AU CN EP JP	2002329029 1672039 1537407 2005537846	A A1	29-03-2004 21-09-2005 08-06-2005 15-12-2005
US 5105087	А	14-04-1992	DE DE EP JP WO	69124225 69124225 0515630 5504001 9209908	T2 A1 T	27-02-1997 31-07-1997 02-12-1992 24-06-1993 11-06-1992
US 2003068005	A1	10-04-2003	NONE			
DE 19600115	C1	30-01-1997	CN JP US	1153627 9192122 5737382	Α	09-07-1997 29-07-1997 07-04-1998
US 5355309	Α	11-10-1994	NONE			
US 2005105678	A1	19-05-2005	CN JP	1615800 2005143735		18-05-2005 09-06-2005
US 2002176530	A1	28-11-2002	JP	2002301056	Α	15-10-2002
EP 0856748	A1	05-08-1998	DE DE JP US	69712860 69712860 10260257 5822392	T2 A	04-07-2002 16-01-2003 29-09-1998 13-10-1998
DE 10150428	A1	30-04-2003	CN JP US	1442115 2003232856 2003081821	Α	17-09-2003 22-08-2003 01-05-2003
WO 2005071392	Α	04-08-2005	CN	1910447	A	07-02-2007
US 3973128	A	03-08-1976	CA DE FR GB HK JP JP JP MY NL SU	1048167 2439847 2240710 1478123 7978 55058444 1093859 54093389 56035455 13978 7411077 657731	A1 A1 A A C A B A	06-02-1979 03-04-1979 14-03-1979 29-06-1977 24-02-1978 01-05-1980 27-04-1979 17-08-1980 31-12-1978 20-02-1979