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12/199,020 27 August 2008 (27.08.2008) US(71) Applicant (for all designated States except US): **GENERAL ELECTRIC COMPANY** [US/US]; 1 River Road, Schenectady, NY 12345 (US).

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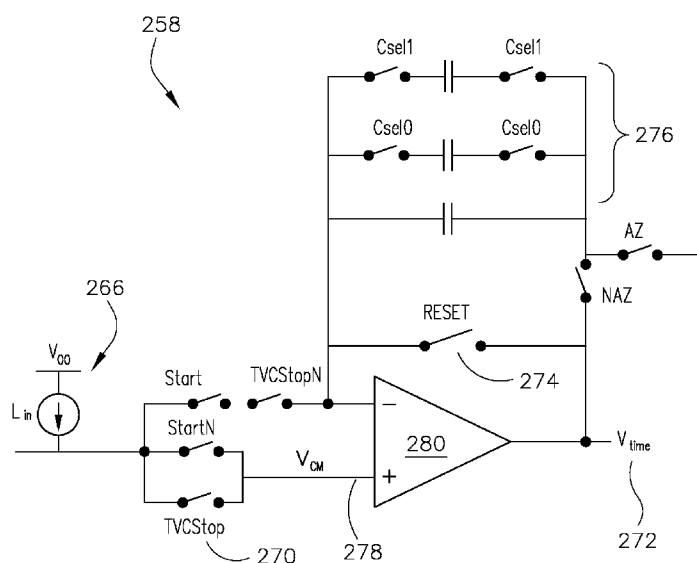
Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR TIME-TO-VOLTAGE CONVERSION WITH LOCK-OUT LOGIC

FIG. 10



(57) Abstract: An event time stamping system comprising a current source (266), an integrator comprising an input and an output (276), and configured to output a voltage proportional to the length of time the current source is coupled to the input, and one or more switches configured to couple the current source to the input of the integrator upon receipt of an event signal and configured to de-couple the current source from the input of the integrator upon receipt of a control trigger. The system further comprises a lock-out signal generator configured to generate a lock-out signal, and a controller coupled to the one or more switches, wherein the controller is configured to generate the control trigger based on the lock-out signal to ensure a minimum integration time.



- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))* — *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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ADD.

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)
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, WPI Data, 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 2004/056202 A1 (RAO NARESH KESAVAN [US]) 25 March 2004 (2004-03-25)	1-5
Y	page 3, paragraph 33 - paragraph 38; figures page 4, paragraph 44 ----- -/--	6,7,9

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

☒ See patent family annex.

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International application No

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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.
Y	TUMER T O ET AL: "Preliminary results obtained from a novel CdZnTe pad detector and readout ASIC developed for an automatic baggage inspection system" NUCLEAR SCIENCE SYMPOSIUM CONFERENCE RECORD, 2000 IEEE LYON, FRANCE 15-20 OCT. 2000, PISCATAWAY, NJ, USA, IEEE, US, vol. 1, 15 October 2000 (2000-10-15), pages 4/36-4/41, XP010556435 ISBN: 978-0-7803-6503-2 abstract; figures pages 4-37, paragraph III - pages 4-39, paragraph IV	7,9
Y	MATTESON J L ET AL: "CZT Detectors Read Out with the RENA-2 ASIC" NUCLEAR SCIENCE SYMPOSIUM CONFERENCE RECORD, 2005 IEEE WYNDHAM EL CONQUISTADOR RESORT, PUERTO RICO OCTOBER 23 - 29, 2005, PISCATAWAY, NJ, USA, IEEE LNKD-DOI:10.1109/NSSMIC.2005.1596238, vol. 1, 23 October 2005 (2005-10-23), pages 211-215, XP010895574 ISBN: 978-0-7803-9221-2 abstract; figures page 213, paragraph III	7,9
Y	DE 10 2005 020503 A1 (SIEMENS AG [DE]) 9 November 2006 (2006-11-09) page 3, paragraph 22 - page 4, paragraph 24	6

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2004056202 A1	25-03-2004	JP 2004117356 A	15-04-2004
DE 102005020503 A1	09-11-2006	NONE	