

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
30 March 2006 (30.03.2006)

PCT

(10) International Publication Number
WO 2006/033676 A3

(51) International Patent Classification:

G01R 23/00 (2006.01) H04K 1/02 (2006.01)

(21) International Application Number:

PCT/US2005/016627

(22) International Filing Date: 12 May 2005 (12.05.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

10/845,941 14 May 2004 (14.05.2004) US

(71) Applicant (for all designated States except US): **BAE SYSTEMS INFORMATION AND ELECTRONIC SYSTEMS INTEGRATION INC.** [US/US]; 65 Spit Brook Road, NHQ01-719, Nashua, NH 03060 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **HUGGETT, James, M.** [US/US]; 261 Rte. 13, Brookline, NH 03033 (US).

(74) Agent: **LONG, Daniel, J.**; Bae Systems Information and Electronic, Systems Integration Inc., 65 Spit Brook Road, NHQ01-719, Nashua, NH 03060 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, 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, IS, IT, LT, LU, 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).

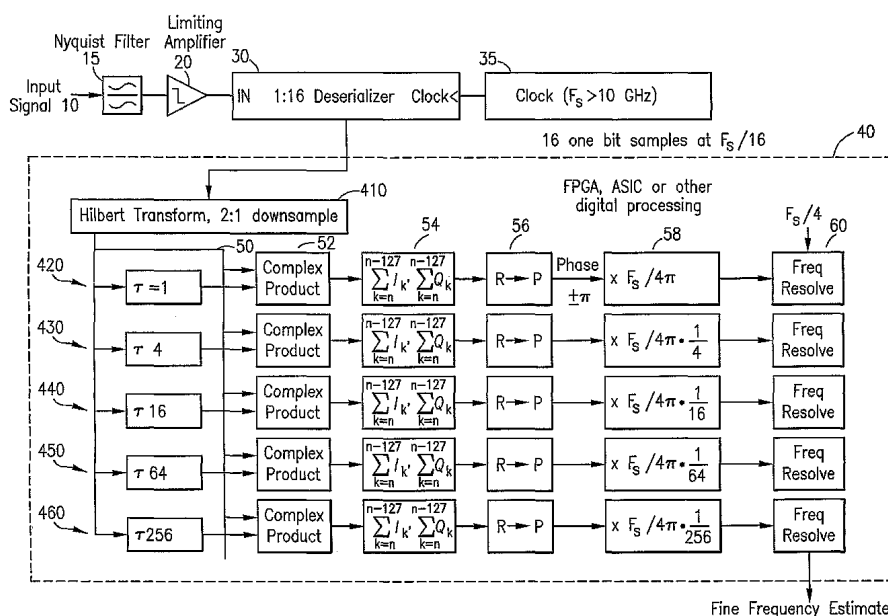
Published:

— with international search report

(88) Date of publication of the international search report:

2 April 2009

(54) Title: DIGITAL BROADBAND FREQUENCY MEASUREMENT



(57) Abstract: The present invention relates to a device and method that digitally replicates the analog processing that is normally associated with an instantaneous frequency measurement device. Specifically, the present relates to a digital frequency measurement device comprising: a filter, where the filter receives an input RF signal and transmits an output signal centered around a desired frequency; a limiting amplifier downstream of the filter, where the amplifier receives and amplifies the output signal; a deserializer downstream of the amplifier that continuously samples the output signal from the limiting amplifier; and a digital frequency measurement processor (DFM), where the DIM receives data at a rate of 1/16 of the deserializer sample rate. The DIM transforms the data into multiples stages that are combined in order to produce an estimate of the input signal, where the DIM is implemented through a digital processing device.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/16627

A. CLASSIFICATION OF SUBJECT MATTER

IPC: **G01R 23/00**(2006.01);**H04K 1/02**(2006.01)

USPC: 702/75;375/297

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)

U.S. : 702/75; 375/297

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 practicable, search terms used)

Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/0036650 A1 (BISHOP et al.) 17 February 2005, see figs. 1-2.	1-3, 9-11, 16
A	Johansson et al., Digital Hilbert Transformers Composed of Identical Allpass Subfilters, 1998 IEEE, Pgs. V-437 to V-440.	1-16

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

☐ See patent family annex.

* Special categories of cited documents:

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"Y"

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document member of the same patent family

Date of the actual completion of the international search

11 June 2008 (11.06.2008)

Date of mailing of the international search report

30 JUN 2008

Name and mailing address of the ISA/US

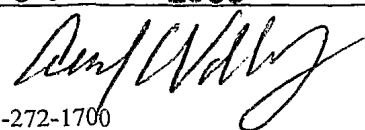
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TOM DUNN

Telephone No. 571-272-1700



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US05/16627

Continuation of B. FIELDS SEARCHED Item 3:

US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB: digital, frequency, transform, filter, amplifying, hilbert, deserializer