

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
18 November 2010 (18.11.2010)

(10) International Publication Number
WO 2010/132246 A3

(51) International Patent Classification:
H03B 5/36 (2006.01)

(21) International Application Number:
PCT/US2010/033675

(22) International Filing Date:
5 May 2010 (05.05.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/177,870 13 May 2009 (13.05.2009) US
12/474,528 29 May 2009 (29.05.2009) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,

KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

- with international search report (Art. 21(3))
- 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))

(88) Date of publication of the international search report:
24 February 2011

(54) Title: SYSTEM AND METHOD FOR EFFICIENTLY GENERATING AN OSCILLATING SIGNAL

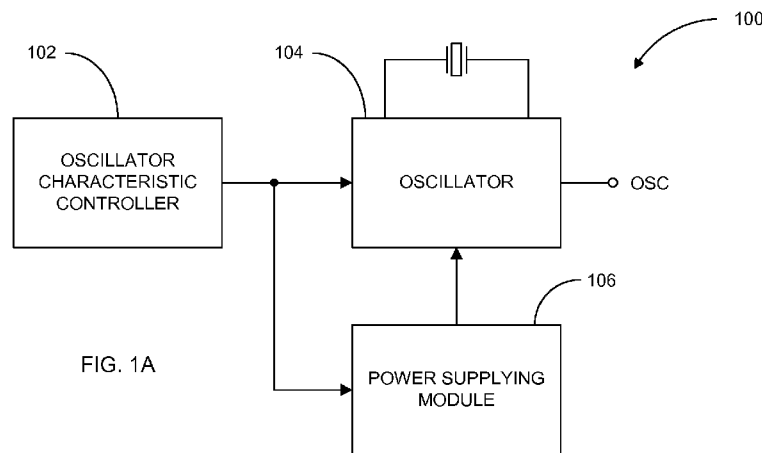


FIG. 1A

(57) Abstract: An apparatus for generating an oscillating signal including an oscillator configured to generate the oscillating signal, a controller configured to generate a control signal that controls a characteristic (e.g., amplitude or frequency) of the oscillating signal, and a power supply configured to supply power to the oscillator as a function of the control signal. The power supply may be configured to supply power to the oscillator as a function of the amplitude or frequency of the oscillating signal to improve power efficiency.

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2010/033675

A. CLASSIFICATION OF SUBJECT MATTER
INV. H03B5/36
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)
H03B

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.
X	JP 2001 313527 A (TOSHIBA CORP) 9 November 2001 (2001-11-09) * abstract; figures 1-10	1, 2, 4, 9, 12, 13, 15, 20, 23, 24, 26, 31, 34
X	US 2004/169564 A1 (MURAMATSU YOSHINORI [JP]) 2 September 2004 (2004-09-02) paragraphs [0003] - [0031]; figure 1 ----- -/--	1, 2, 4, 9, 12, 13, 15, 20, 23, 24, 26, 31, 34

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
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- *I* 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
- *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
- *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.
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Date of the actual completion of the international search

13 December 2010

Date of mailing of the international search report

21/12/2010

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2010/033675

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007/222525 A1 (SHIMIZU YUTAKA [JP]) 27 September 2007 (2007-09-27) paragraphs [0012], [0031], [0038] - [0081]	1,2,4,9, 12,13, 15,20, 23,24, 26,31,34
X	US 5 175 884 A (SUAREZ JOSE I [US]) 29 December 1992 (1992-12-29) column 3, lines 5-41; figures 1-6	1,2,4,9, 12,13, 15,20, 23,24, 26,31,34
X	EP 0 709 965 A1 (AT & T CORP [US]) 1 May 1996 (1996-05-01) column 2, line 19 - column 5, line 55; figures 1,2	1,3,12, 14,23,25
X	US 2004/212444 A1 (PENG YUNG-CHOW [TW]) 28 October 2004 (2004-10-28) paragraphs [0028], [0029]; figures 4,5 * abstract	1,3,12, 14,23,25
X	US 6 194 973 B1 (WILLIAMSON THOMAS A [US]) 27 February 2001 (2001-02-27) column 6, line 24 - column 7, line 56; figures 1,2,9,10 * abstract column 1, lines 44-55 claim 9; figures 1,2,9,10 column 6, line 25 - column 7, line 56	1,5-7, 11,12, 16-18, 22,23, 27-29,33
X	US 6 798 301 B1 (BALAN VISHNU [US] ET AL) 28 September 2004 (2004-09-28) column 4, line 9 - column 6, line 57; figures 3,4 * abstract	1,5-7, 11,12, 16-18, 22,23, 27-29,33
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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2010/033675

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/104670 A1 (NAVIASKY ERIC H [US] ET AL) 19 May 2005 (2005-05-19) * abstract; figure 1B -----	1, 5-7, 12, 16-18, 23, 27-29
X	US 7 348 861 B1 (WU I-CHANG [US] ET AL) 25 March 2008 (2008-03-25) column 2, line 40 - column 3, line 53; figures 1-3 column 4, lines 15-45 -----	1, 8, 12, 19, 23, 30
X	US 6 172 576 B1 (ENDO TAKASHI [JP] ET AL) 9 January 2001 (2001-01-09) column 7, lines 54-59; figure 2 column 16, line 63 - column 17, line 22 -----	1, 8, 12, 19, 23, 30
X	US 5 097 228 A (MCJUNKIN BARTON L [US]) 17 March 1992 (1992-03-17) column 2, line 53 - column 5, line 50; figures 1-4 -----	1, 10, 12, 21, 23, 32
X	US 2008/297265 A1 (TARNG MIN MING [US] ET AL) 4 December 2008 (2008-12-04) paragraphs [0026], [0039], [0150]; figures 1A, 3J, 4R, 4S, 14A, 15A-15M -----	1, 10, 12, 21, 23, 32

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2010/033675

Box No. 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 No. 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 fees, this Authority did not invite payment of additional fees.
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.:

1-34
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 and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- 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, 2, 4, 9, 12, 13, 15, 20, 23, 24, 26, 31, 34

oscillator including the control of a combination of frequency and power supply

2. claims: 3, 14, 25

oscillator with detection of the oscillation

3. claims: 5-7, 11, 16-18, 22, 27-29, 33

oscillator with control of the supply power with respect to the amplitude of the oscillation signal.

4. claims: 8, 19, 30

oscillator with defined starting conditions for a capacitance.

5. claims: 10, 21, 32

oscillator with temperature compensation.

6. claim: 35

headset

7. claim: 36

watch

8. claim: 37

sensing device

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2010/033675

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