

(51) International Patent Classification:
H03K 9/00 (2006.01)(21) International Application Number:
PCT/IB2013/001970(22) International Filing Date:
14 June 2013 (14.06.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

61/662,085	20 June 2012 (20.06.2012)	US
61/726,099	14 November 2012 (14.11.2012)	US
61/729,774	26 November 2012 (26.11.2012)	US
61/747,132	28 December 2012 (28.12.2012)	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, BN, 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, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, 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.

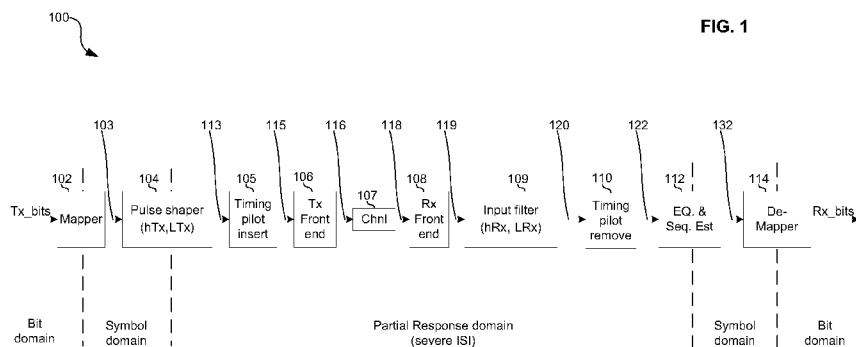
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE,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

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:
22 May 2014

(54) Title: HIGHLY-SPECTRALLY-EFFICIENT RECEIVER



(57) Abstract: A receiver may be operable to receive a QAM-based, inter- symbol correlated (ISC) signal at a signal-to-noise ratio of between 29 dB and 31dB and process the QAM- based, ISC signal to output estimated symbols at a symbol error rate of between 2×10^{-1} and 1×10^{-3} . The QAM-based, ISC signal may be a partial response signal generated by passing a first signal through a partial response pulse shaping filter. The partial response pulse shaping filter may provide greater capacity than a capacity achieved by passing the first signal through a root-raised-cosine-based pulse shaping filter. The receiver may comprises an input filter, and the processing of the QAM-based, ISC signal may comprises filtering the QAM-based, ISC signal via a filter configured to achieve a de- sired total partial response in combination with the partial response pulse shaping filter.

INTERNATIONAL SEARCH REPORT

PCT/IB 13/01970

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - H03K 9/00 (2014.01)

USPC - 375/316

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)

USPC: 375/316

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 375/316, 324, 325, 353 (keyword limited - see terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PatBase; GOOGLE; GoogleScholar; GooglePatents

Search Terms: receiver, symbol, channel, rate, signal, noise, distortion, quadrature, QAM, filter, pulse, shaping, FCC, ETSI, feedback, map, correlate

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2010/0220825 A1 (Dubuc et al.) 02 September 2010 (02.09.2010), entire document, especially; abstract, para. [0005], [0008], [0027], [0054], [0064], [0066], [0097], [0138]-[0140], [0145]	1 - 20
Y	US 2007/0110191 A1 (Kim et al.) 17 May 2007 (17.05.2007), entire document, especially; abstract, para. [0079]	1 - 20
A	US 2011/0310823 A1 (Nam et al.) 22 December 2011 (22.12.2011), entire document	1 - 20
A	US 6,532,256 B2 (Miller) 11 March 2003 (11.03.2003), entire document	1 - 20

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

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"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

"&" document member of the same patent family

Date of the actual completion of the international search

19 February 2014 (19.02.2014)

Date of mailing of the international search report

27 MAR 2014

Name and mailing address of the ISA/US

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P.O. Box 1450, Alexandria, Virginia 22313-1450

Facsimile No. 571-273-3201

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