



- | | |
|--|---|
| (51) International Patent Classification:
<i>G07F 7/10</i> (2006.01) <i>G06Q 20/00</i> (2006.01) | (74) Agent: ALBIHNS.ZACCO AB; P.O Box 5581, Valhallavägen 117, S-114 85 Stockholm (SE). |
| (21) International Application Number:
PCT/EP2011/061672 | (81) Designated States (<i>unless otherwise indicated, for every kind of national protection available</i>): 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. |
| (22) International Filing Date:
8 July 2011 (08.07.2011) | |
| (25) Filing Language:
English | |
| (26) Publication Language:
English | |
| (30) Priority Data:
61/362,912 9 July 2010 (09.07.2010) US
PCT/EP2010/066186
26 October 2010 (26.10.2010) EP | (84) Designated States (<i>unless otherwise indicated, for every kind of regional protection available</i>): 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, RS, SE, SI, SK, |
| (71) Applicant (<i>for all designated States except US</i>):
IZETTL HARDWARE AB [SE/SE]; Östermalmsgatan 33, S-100 40 Stockholm (SE). | |
| (72) Inventor; and | |
| (75) Inventor/Applicant (<i>for US only</i>): NILSSON, Magnus [SE/SE]; Framnäsvägen 8B, S-182 63 Djursholm (SE). | |

[Continued on next page]

- (54) Title:** STAND-ALONE SECURE PIN ENTRY DEVICE FOR ENABLING EMV CARD TRANSACTIONS WITH SEPARATE CARD READER

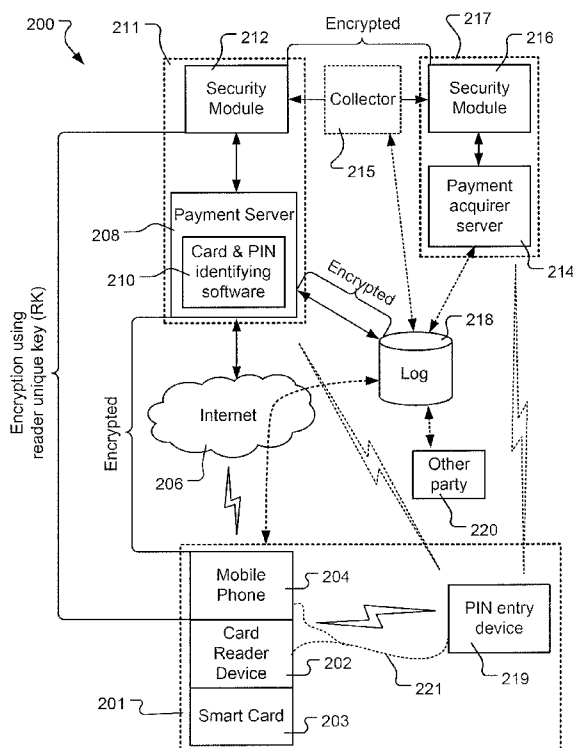


Fig. 2

- (57) Abstract:** A method of conducting secure electronic payments to a payment acquirer using a credit card payment unit, comprising of a smart card, a portable card reader device, a mobile phone, a stand-alone PIN entry device and a payment server. The method is based on eliminating the insecure keyboard in a mobile phone used for entering personal identification information, and instead use a separate secure PIN entry device which fulfils the EMV Level specification. Since all sensitive payment information, communicated to the payment server from the card reader and the PIN entry device, is encrypted using unique encryption keys an insecure mobile phone may be used for relaying the communication between the card reader device and the PIN entry device to and from the payment server.

WO 2012/004395 A1



SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, **Published:**
GW, ML, MR, NE, SN, TD, TG).

— *with international search report (Art. 21(3))*