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(21) International Application Number: PCT/US99/14532 (22) International Filing Date: 24 June 1999 (24.06.99) (30) Priority Data: 09/127,502 31 July 1998 (31.07.98) US (71) Applicant (for all designated States except US): DIGIMARC CORPORATION [US/US]; Suite #500, One Centerpointe Drive, Lake Oswego, OR 97035 (US). (72) Inventor; and (75) Inventor/Applicant (for US only): RHOADS, Geoffrey, B. [US/US]; 304 S.W. Tualatin Loop, West Linn, OR 97068 (US). (74) Agent: CONWELL, William, Y.; Klarquist, Sparkman, Campbell, Leigh & Winston, LLP, One World Trade Center, Suite 1600, 121 SW Salmon Street, Portland, OR 97204 (US).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>Without international search report and to be republished upon receipt of that report.</i>
(54) Title: DIGITAL WATERMARKS AND METHODS FOR SECURITY DOCUMENTS (57) Abstract <p>Security documents (e.g. passports, currency, event tickets, and the like) are encoded to convey machine-readable multi-bit binary information (e.g. digital watermark), usually in a manner not alerting human viewers that such information is present. The documents can be provided with overt or subliminal calibration patterns. When a document incorporating such a pattern is scanned (e.g. by a photocopier), the pattern facilitates detection of the encoded information notwithstanding possible scaling or rotation of the scan data. The calibration pattern can serve as a carrier for the watermark information, or the watermark can be encoded independently. In one embodiment, the watermark and the calibration pattern are formed on the document by an intaglio process, with or without ink. A photocopier responsive to such markings can take predetermined action if reproduction of a security document is attempted. A passport processing station responsive to such markings can use the decoded binary data to access a database having information concerning the passport holder. Some such apparatuses detect both the watermark data and the presence of a visible structure characteristic of a security document (e.g., a printed seal of the document's issuer).</p>		