



US007661596B1

(12) **United States Patent**
Spitz et al.

(10) **Patent No.:** **US 7,661,596 B1**
(45) **Date of Patent:** **Feb. 16, 2010**

(54) **SYMBOLGY-BASED SELF-CONFIGURING VERIFIER**

(75) Inventors: **Glenn S. Spitz**, Boulder, CO (US);
George Wright, IV, New Canaan, CT (US)

(73) Assignee: **Webscan, Inc.**, Longmont, CO (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 177 days.

(21) Appl. No.: **11/833,975**

(22) Filed: **Aug. 4, 2007**

(51) **Int. Cl.**
G06K 7/10 (2006.01)

(52) **U.S. Cl.** **235/462.42**; 235/454; 235/462.01; 235/462.02; 235/462.09; 235/462.14; 235/462.24; 235/462.41; 235/462.45; 235/472.01; 235/472.03; 235/494

(58) **Field of Classification Search** 235/492.24, 235/455, 462.23, 462.37, 462.32, 454, 462.01, 235/462.06, 462.09, 462.14, 462.24, 462.41, 235/462.42, 462.45, 472.01, 472.02, 494
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 5,416,669 A 5/1995 Kato et al.
- 5,719,385 A 2/1998 Wike, Jr. et al.
- 5,744,790 A * 4/1998 Li 235/462.24

- 6,191,872 B1 2/2001 DeCaro et al.
- 6,216,953 B1 4/2001 Kumagai et al.
- 6,874,639 B2 4/2005 Lawandy
- 6,905,071 B2 6/2005 Schmidt et al.
- 7,001,038 B2 2/2006 Bock et al.
- 7,070,107 B2 4/2006 Tsikos et al.
- 7,219,843 B2 * 5/2007 Havens et al. 235/462.42
- 2002/0158133 A1 * 10/2002 Conzola et al. 235/462.45
- 2004/0173684 A1 9/2004 Wilz, Sr. et al.
- 2006/0097054 A1 5/2006 Biss et al.
- 2007/0176003 A1 * 8/2007 Brock 235/462.24

* cited by examiner

Primary Examiner—Thien M. Le

Assistant Examiner—Tuyen K Vo

(74) *Attorney, Agent, or Firm*—Island Patent; F. Scott Tierno

(57) **ABSTRACT**

A self-configuring verifier for performing standardized evaluation and verification of the print quality of a data carrying graphical symbol is structured with a plurality of illumination sources and at least one imaging device. The verifier is capable of automatically determining the symbology of the graphical symbol to be evaluated, and establish a pre-defined illumination pattern and possibly other settings, as required, to satisfy pre-defined evaluation standards. Once the illumination pattern is established and setup is complete, the verifier may fully evaluate and report on the quality of at least one data carrying graphical symbol imaged by the imaging device of the verifier. This abstract is provided to comply with rules requiring an abstract, and is submitted with the intention that it will not be used to interpret or limit the scope and meaning of the claims.

17 Claims, 7 Drawing Sheets

