



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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| <p>(21) International Application Number: PCT/SG98/00023</p> <p>(22) International Filing Date: 18 March 1998 (18.03.98)</p> <p>(71) Applicant (for all designated States except US): DATAMARK TECHNOLOGIES PTE LTD [SG/SG]; Suite 106, Innovation Centre, Block 1, 16 Nanyang Drive, Singapore 637722 (SG).</p> <p>(72) Inventor; and<br/>(75) Inventor/Applicant (for US only): HO, Anthony, Tung, Shuen [GB/SG]; Nanyang Technological University, School of Electrical &amp; Electronic Engineering, Block S2, Nanyang Avenue, Singapore 639 798 (SG).</p> <p>(74) Agents: HAQ, Murgiana et al.; Haq &amp; Namazie Partnership, Robinson Road Post Office, P.O. Box 765, Singapore 901 515 (SG).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>(81) Designated States: AU, CA, JP, SG, US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p>Published<br/>With international search report.</p> |                                                                                                                                |
| <p>(54) Title: METHOD AND APPARATUS FOR CAMOUFLAGING DATA</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                 |                                                                                                                                |
| <p>(57) Abstract</p> <p>A method and apparatus for encoding is disclosed. Primary data such as a work in which copyright subsists, is utilized in a steganographic process to encode secondary data, such as ownership or copyright information. The primary data contains a plurality of addressable first data elements and the secondary data contains a plurality of second data elements. The method includes searching for first data elements which match the contents of the second data elements. When a matching first data element is found a key element including the address of the matching first data element is generated. In one embodiment the method may be used for camouflaging a text message such as copyright information in primary data, such as audio, an image or video data. In another embodiment the method may be used to encrypt data for secure transmission of messages. Complementary decoding methods and apparatus are also disclosed.</p> <pre> graph TD     DS10[Data Samples (10)] --&gt; DE14[Data Encoding (14)]     ACS12[Alphanumeric Character String (12)] --&gt; DE14     DE14 --&gt; UKD18[Unique Key Data (18)]     DE14 --&gt; EDS16[Encoded Data Samples (16)]     UKD18 --&gt; DD20[Data Decoding (20)]     EDS16 --&gt; DD20     DD20 --&gt; EDS16A[Encoded Data Samples (16A)]     DD20 --&gt; ACS12A[Alphanumeric Character String (12A)]   </pre> |                                                                                                                                                                                                 |                                                                                                                                |