

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
16 January 2003 (16.01.2003)

PCT

(10) International Publication Number
WO 03/005178 A3

(51) International Patent Classification⁷: **G06F 12/02**,
12/14

(21) International Application Number: PCT/JP02/06630

(22) International Filing Date: 1 July 2002 (01.07.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2001-204322 5 July 2001 (05.07.2001) JP

(71) Applicant: **MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.** [JP/JP]; 1006, Oazakadoma, Kadoma-shi, Osaka 571-8501 (JP).

(72) Inventors: **MATSUI, Shinichi**; Furuniru-Okamoto 302, 1-5-16, Nishi-Okamoto, Higashinada-ku, Kobe-shi, Hyogo 658-0073 (JP). **NOGUCHI, Naohiko**; Shuuwa-Okurayama Residence 601, 1323, Futoo-cho, Kohoku-ku, Yokohama, Kanagawa 222-0031 (JP). **SATO, Mitsuhiro**; 4-11-11, Miyanosato, Atsugi, Kanagawa 243-0216 (JP). **SHIMOJIMA, Takashi**; Matsushita-Denki Ota-Ryo 715,

2-20-5, Higashirokugo, Ota-ku, Tokyo 144-0046 (JP). **HASEGAWA, Kiichi**; 2-26-306, Wakabadai, Asahi-ku, Yokohama, Tokyo 241-0801 (JP). **NAKAMURA, Norio**; 4-5-23, Midorigaoka, Heguri-cho, Ikoma-gun, Nara 636-0941 (JP). **FUJIMURA, Kazuya**; 2-1-4, Hikari-gaoka, Ikoma, Nara 630-0141 (JP).

(74) Agent: **NAKAJIMA, Shiro**; 6F, Yodogawa 5-Bankan, 2-1, Toyosaki 3-chome, Kita-ku, Osaka-shi, Osaka 531-0072 (JP).

(81) Designated States (*national*): CN, IN, KR, MX, NO, SG, VN.

(84) Designated States (*regional*): European patent (DE, FR, GB).

Published:

— with international search report

(88) Date of publication of the international search report:
25 September 2003

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: RECORDING APPARATUS, MEDIUM, METHOD, AND RELATED COMPUTER PROGRAM

(57) Abstract: A recording apparatus for an SD memory card that has a plurality of EPUBxxx.KEY files recorded thereon, each file having a plurality of Key & Rule Entry areas, and an SD EPUB.MMG file being read from the recording medium prior to the writing of data. A bitmap in SD EPUB.MMG shows for each EPUBxxx.KEY file whether the EPUBxxx. KEY file has at least one Key & Rule Entry area not in use, or whether all the Key & Rule Entry areas are in use. Based on the bitmap in the read SD EPUB.MMG file, the recording apparatus opens EPUB#u.KEY having an unused Key & Rule Entry area and writes data into the unused Key & Rule Entry area in the file. If all the Key & Rule Entry areas in EPUB#u.KEY become in use as a result of the writing of the data, the recording apparatus updates the bitmap in SD EPUB.MMG.



WO 03/005178 A3