

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

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
14 June 2001 (14.06.2001)

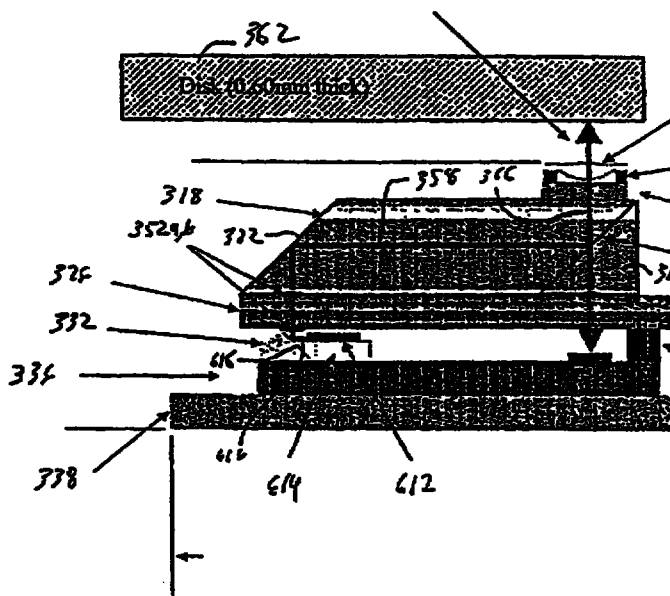
PCT

(10) International Publication Number
WO 01/43126 A2

- (51) International Patent Classification⁷: G11B 7/12
- (21) International Application Number: PCT/US00/33014
- (22) International Filing Date: 5 December 2000 (05.12.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
09/457,104 7 December 1999 (07.12.1999) US
09/540,657 31 March 2000 (31.03.2000) US
- (71) Applicant: DATAPLAY, INC. [US/US]; 6200 Lookout Road, Boulder, CO 80301 (US).
- (72) Inventors: REDMOND, Ian; 2065 Floral Drive, Boulder, CO 80304 (US). BELL, Bernard; 9920 Phillips Road, Lafayette, CO 80026 (US). BLANKENBECKLER, David, L.; 2141 Ridgeview Way, Longmont, CO 80501 (US). BRAITBERG, Michael, F.; 440 Broken Fence Road, Boulder, CO 80302 (US). FREEMAN, Robert, D.; 4747 Anne Place, Erie, CO 80516 (US).
- (74) Agents: STEUBER, David, E. et al.; Skjerven Morrill MacPherson LLP, 25 Metro Drive, Suite 700, San Jose, CA 95110 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, 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, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, 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, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:
— Without international search report and to be republished upon receipt of that report.

[Continued on next page]

(54) Title: LOW PROFILE OPTICAL HEAD



(57) Abstract: An optical head of a type useable in a optical disk reader/writer is provided. The optical head has a low profile, e.g., in a vertical direction parallel to the disk spin axis, such as less than about 5mm preferably less than about 3mm. Substantially all components of the optical system, including a laser source, objective lens, intervening optics and photo detector are provided in the optical head and mounted in a fixed position with respect to one another. Substantially all optical components of the optical head are moved as a unit, e.g., during tracking and/or focusing. Preferably, the optical head is fabricated using wafer scale and/or stacking technologies, e.g., stacking substantially planar components to achieve the final optical head configuration.

WO 01/43126 A2



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.