

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
18 January 2001 (18.01.2001)

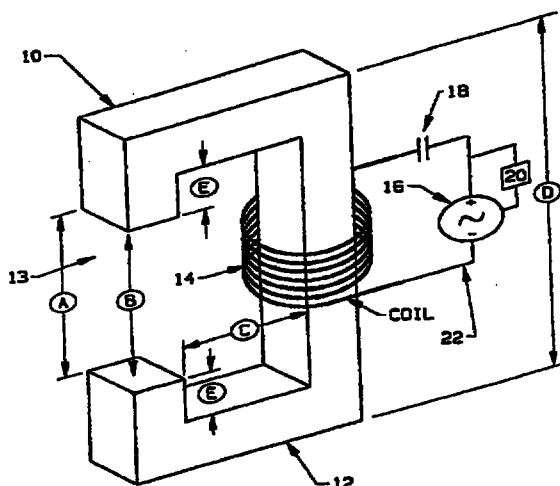
PCT

(10) International Publication Number
WO 01/04655 A1

- (51) International Patent Classification⁷: **G01R 33/00** (74) Agents: JOHNSON, Grant, A. et al.; Dorsey & Whitney LLP, Pillsbury Center South, 220 South Sixth Street, Minneapolis, MN 55402-1498 (US).
- (21) International Application Number: **PCT/US00/19286**
- (22) International Filing Date: **14 July 2000 (14.07.2000)** (81) Designated States (*national*): AE, AG, 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, ZW.
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:
60/143,713 **14 July 1999 (14.07.1999)** **US** (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), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (*for all designated States except US*): PEM-STAR, INC. [US/US]; 3535 Technology Drive, Rochester, MN 55901 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): GANDER, Gary, A. [US/US]; P.O. Box 552, Elgin, MN 55932 (US). Published: — *With international search report.*

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR TESTING MAGNETIC HEAD ELEMENTS



(57) Abstract: The present invention includes a method and apparatus that will permit the identification of damaged magnetic head elements. One aspect of this invention includes an electromagnetic structure (10) having a core (12), a plurality of electrical windings (14), and an air gap (13) adapted to receive a head stack assembly. The coils may be connected to a power source (16) and series resonant driver (22). Some embodiments of the present invention may further comprise a controller (20) operably connected to the series resonant driver and adapted to compensate for a variation in a magnetic field strength across the air gap. Another aspect of the present invention involves a method of testing a magnetic head element. One embodiment of this method includes the steps of measuring the head's output in response to an externally applied magnetic field, Fourier transforming the output signal, and using the resulting power levels to calculate a value indicative of a distortion in the head's output.



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.