

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
21 October 2004 (21.10.2004)

PCT

(10) International Publication Number
WO 2004/089740 A1

(51) International Patent Classification⁷: **B63H 5/02**, 5/125

(21) International Application Number:

PCT/FI2004/000225

(22) International Filing Date: 13 April 2004 (13.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
20030556 11 April 2003 (11.04.2003) FI

(71) Applicant (for all designated States except US): **ABB OY**
[FI/FI]; Strömbergintie 1, FI-00380 Helsinki (FI).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KORHONEN, Vesa** [FI/FI]; Joupintie 2 D 26, FI-02760 Espoo (FI). **PAKASTE, Risto** [FI/FI]; Pikipolku 8 C, FI-00670 Helsinki (FI). **RUOHONEN, Antti** [FI/FI]; Niemenmäentie 6 A 10, FI-00350 Helsinki (FI). **SULLSTRÖM, Petri** [FI/FI]; Överbyntie 206, FI-02400 Kirkkonummi (FI). **VIROLAINEN, Panu** [FI/FI]; Iirislahdenportti 10 B, FI-02230 Espoo (FI). **ÄMMÄLÄ, Petteri** [FI/FI]; Segelhofstrasse 36e, CH-5405 Baden-Dättwil (CH). **LEHTI, Matti** [FI/FI]; Alajuoksu 5, FI-02920 Espoo (FI).

(74) Agent: **KORPELAINEN, Seppo**; ABB Oy, Legal Affairs/Patents, P.O. Box 210, FI-00381 Helsinki (FI).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, 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, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

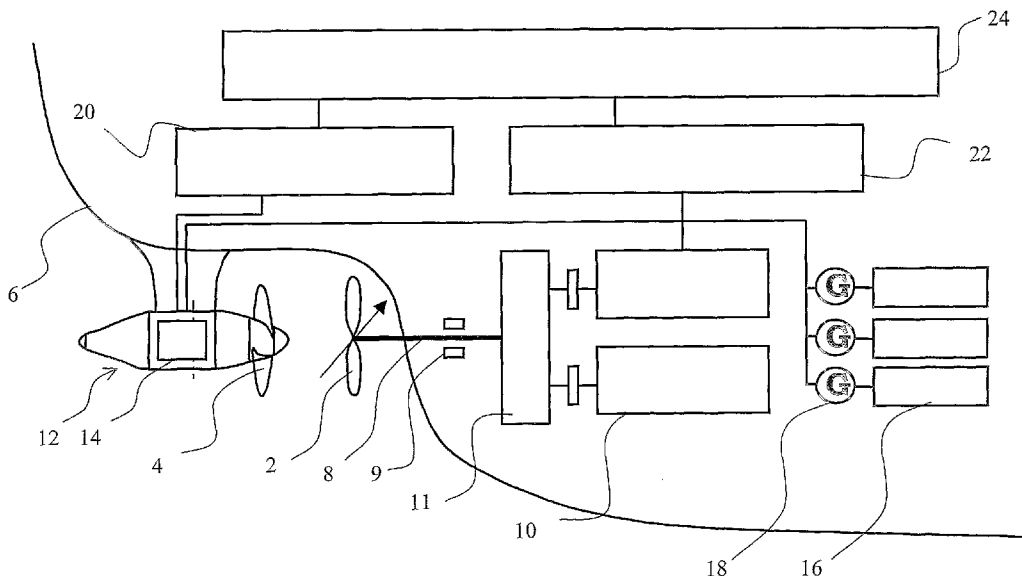
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: METHOD AND APPARATUS TO CONTROL A SHIP



(57) Abstract: The invention relates to a method and an apparatus to control a propulsion drive. The propulsion drive comprises at least one first propeller drive, which rotates the first propeller and by which the propulsion power and/or rotating speed of the first propeller, and a second propeller drive, by which the second propeller is rotated and controlled. According to the invention the propulsion drive is controlled by a single control command, whereby it is generated from the control command a first control signal, by which the first propeller drive is controlled, and a second signal, by which the second propeller drive is controlled.

WO 2004/089740 A1



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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.