



- (51) International Patent Classification:
G11C 16/34 (2006.01)
- (21) International Application Number:
PCT/US2012/045510
- (22) International Filing Date:
5 July 2012 (05.07.2012)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
13/191,836 27 July 2011 (27.07.2011) US
- (71) Applicant (for all designated States except US): **MICRON TECHNOLOGY, INC.** [US/US]; 8000 South Federal Way, MS 525, Boise, Idaho 83716 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **HENDRICKSON, Nicholas** [US/US]; 4039 Cuyamaca Circle, Rancho Cordova, California 95742 (US).
- (74) Agent: **LEFFERT, Thomas W.**; Leffert Jay & Polglaze, P.O. Box 2230, Minneapolis, Minnesota 55402-0230 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,

CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

- (88) Date of publication of the international search report:
21 March 2013

(54) Title: DETERMINING AND TRANSFERRING DATA FROM A MEMORY ARRAY

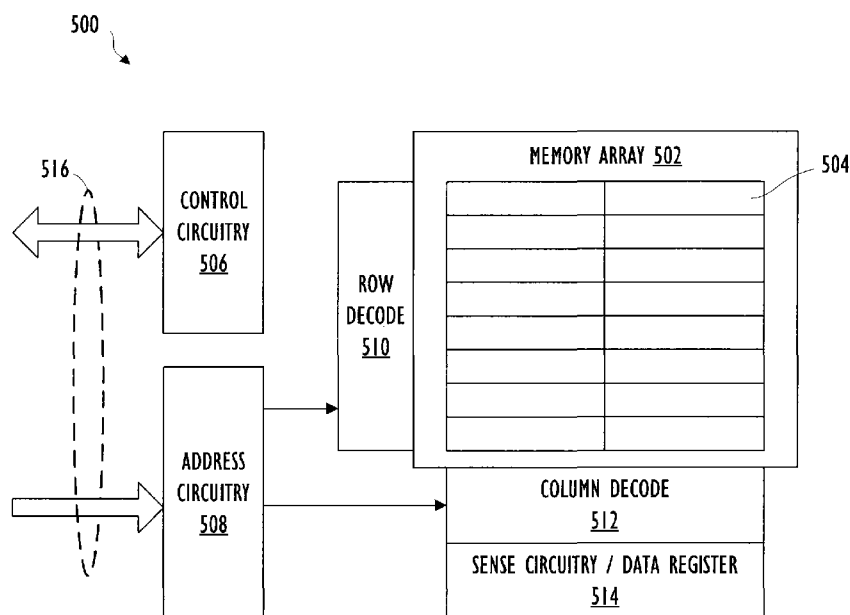


FIG. 5

(57) Abstract: Apparatus and methods of operating memory devices are disclosed. In one such method, a first portion of the data states of memory cells are determined and transferred from a memory device while continuing to determine remaining portions of data states of the same memory cells. In at least one method, a data state of a memory cell is determined during a first sense phase and is transferred while the memory cell experiences additional sense phases to determine additional portions of the data state of the memory cell.