



- (51) **International Patent Classification:**
H04J 14/02 (2006.01) *H04B 10/25* (2013.01)
- (21) **International Application Number:**
PCT/US2014/015270
- (22) **International Filing Date:**
7 February 2014 (07.02.2014)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
13/793,206 11 March 2013 (11.03.2013) US
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- (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, BN, 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, IR, IS, JP, KE, KG, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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, KM, 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:**
22 January 2015

(54) **Title:** INCREASING THE CAPACITY OF A WDM-PON WITH WAVELENGTH REUSE

WDM-PON with Double Capacity

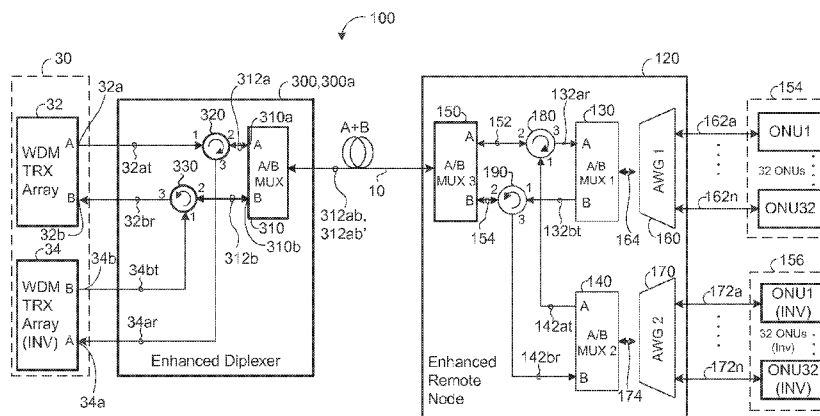


FIG. 3A

(57) **Abstract:** A method of processing optical signals in a passive optical network (100) includes receiving a first signal (32at) in a first optical spectrum (A) and receiving a second signal (32br) in a second optical spectrum (B) different from the first optical spectrum (A). The method also includes multiplexing the first and second signals (32at, 32br) into a first multiplexed signal (312ab) and outputting the first multiplexed signal (312ab). The method also includes receiving a second multiplexed signal (312ab') and demultiplexing the second multiplexed signal (312ab') into a third signal (32br) in the second optical spectrum (B) and a fourth signal (34ar) in the first optical spectrum (A). The method also includes outputting the third and fourth signals (32br, 34ar).

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2014/015270**A. CLASSIFICATION OF SUBJECT MATTER****H04J 14/02(2006.01)i, H04B 10/25(2013.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H04J 14/02; H04B 10/13; G02B 6/293; G02B 6/28; H04B 10/04; H04B 10/25

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & keywords: WDM-PON, transceiver, circulator, spectrum, and similar terms

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2008-0131125 A1 (BYOUNG WHI KIM et al.) 05 June 2008 See paragraphs 35-58; and figure 1.	1, 2, 4, 6, 9, 13, 22, 23 , 25 3, 5, 7, 8, 10-12 , 14-21, 24, 26-31
A	US 2012-0106965 A1 (CHANG HEE LEE et al.) 03 May 2012 See paragraphs 38-45; and figure 4.	1-31
A	WO 2009-078572 A1 (ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE) 25 June 2009 See paragraphs 25-39; and figure 1.	1-31
A	US 2006-0120664 A1 (HYUN JAE LEE et al.) 08 June 2006 See paragraphs 63-74; and figure 5.	1-31
A	US 2009-0052906 A1 (ERWAN PINCEMIN et al.) 26 February 2009 See paragraphs 84-94; and figures 4-6.	1-31



Further documents are listed in the continuation of Box C.



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"&" document member of the same patent family

Date of the actual completion of the international search

25 November 2014 (25.11.2014)

Date of mailing of the international search report

02 December 2014 (02.12.2014)

Name and mailing address of the ISA/KR

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2014/015270

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