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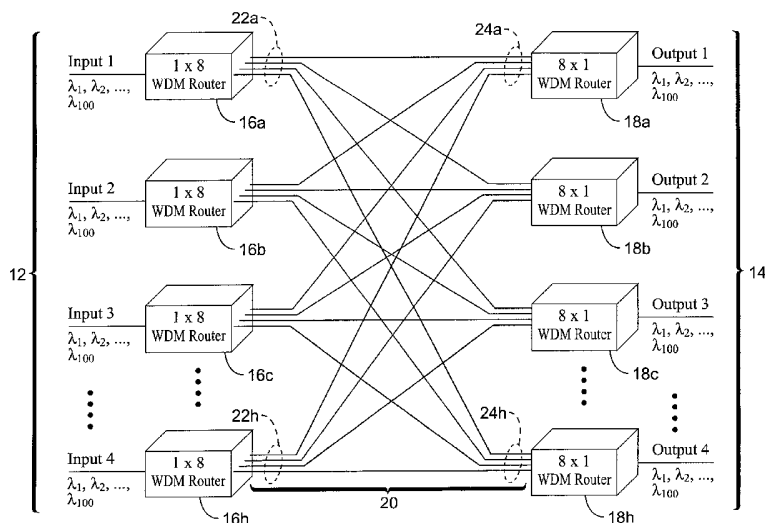
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- (74) Agent: O'BANION, John, P.; O'Banion & Ritchey LLP, Suite 1550, 400 Capitol Mall, Sacramento, CA 95814 (US).
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- (71) Applicant (for all designated States except US): THE REGENTS OF THE UNIVERSITY OF CALIFORNIA [US/US]; 1111 Franklin Street, 12th floor, Oakland, CA 95607-5200 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): WU, Ming-Chiang [US/US]; 16044 Anoka Drive, Pacific Palisades, CA 90272 (US).

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(54) Title: COMPACT WAVELENGTH-SELECTIVE OPTICAL CROSSCONNECT



(57) Abstract: A system and method of optically routing wavelength channels from within a plurality of optical inputs to any of a plurality of optical outputs. An optical wavelength-selective cross connect (WSXC) switch is described with a first stage of wavelength division multiplexing (WDM) routers (#16) which support an optical input and a plurality of optical outputs, which are interconnected to a second stage of WDM routers (#18) having a plurality of optical inputs and an optical output. The wavelength channel is routed in two stages from one of the input stage routers to an output stage router for output. It should be appreciated that the WSXC switch of the invention can be utilized for passing optical signals in either direction. In a preferred implementation integrated circuit router chips are stacked into cubes to form the routers stages which are cross coupled using a twisted butt joint to form a WSXC switch.

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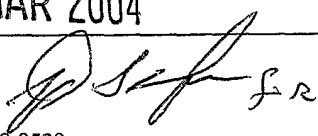
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INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER		
IPC(7) : G02B 6/35, 6/28, 6/12; H04J 14/00		
US CL : 385/14,16,17,24		
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) U.S. : Please See Continuation Sheet		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please See Continuation Sheet		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X --- P,Y	US 2002/0197000 (Marom) 26 December 2002 (26.12.2002), fig. 4	1,2,7,8,10,11,16,18- 20,22,23,31- 33,35,36,41-43,47 ----- 3-6,9,12-15,17,21,24- 30,34,37-40,44-46,48
X	EP 457974 (Alferness et al), 27 November 1991 (27.11.91), figs. 5,7	49-53
X	US 6,192,172 B1 (Fatehi et al) 20 February 2001 (20.02.2001), fig. 3	1,2,7,18-20,22,31- 33,35,36,41-43,47,48
A	6,496,289 B1 (Kuroyanagi et al) 17 December 2002 (17.12.2002), see figures	1-48
A	US 5,671,304 (Duguay) 23 September 1997 (23.09.1997), fig. 3	1-53
A	JP 08-298499 (Toba et al) 12 November 1996 (12.11.1996), see figures	1-48
A	US 2003/0012482 (Levine et al) 16 January 2003 (16.01.2003), fig. 4	49-53
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
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"A"	document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"O"	document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
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C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2000-111963 (Okayama) 21 April 2000 (21.04.2000), see figures	49-53

INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 1:

US 385/16,17,24,14,15
US 398/45,48,49
IPC G02B 6/35, 26/08, 6/28
IPC H04J 14/00

Continuation of B. FIELDS SEARCHED Item 3:

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search terms: switch\$5 multiplex\$5 demultiplex\$5 rout\$5 wavelength