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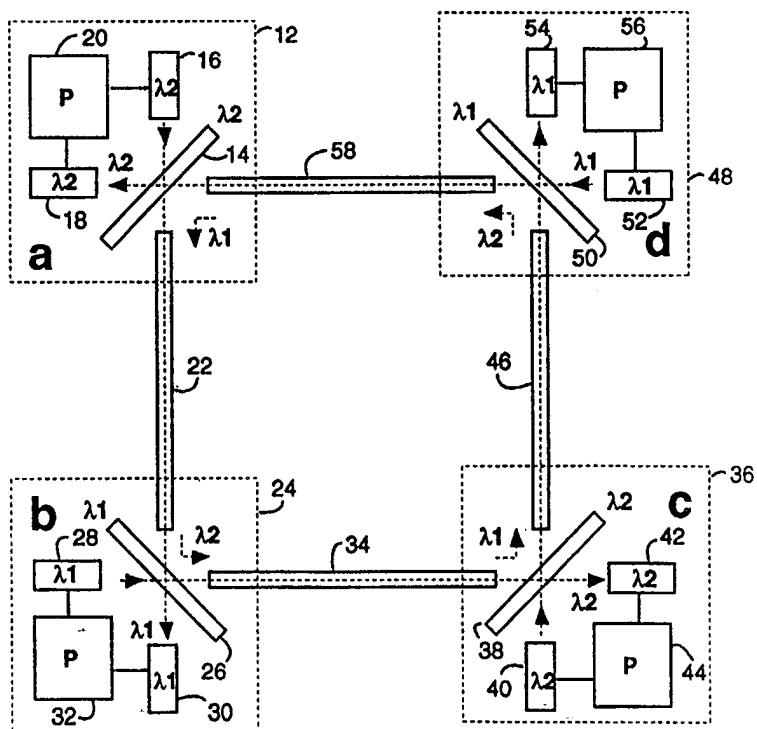
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(54) Title: MASSIVELY PARALLEL PROCESSOR NETWORKS WITH OPTICAL EXPRESS CHANNELS

## (57) Abstract

A single fiber optic cable carries both express and local traffics in a massively parallel processor network (10). Express channel traffic is placed on the fiber optic cable at a light frequency or a color different from the local channel traffic. A single fiber optic cable can be threaded through a three-dimensional matrix of nodes with the x,y,z directions encoded by the color of respective light carriers for both local and express channels. Frequency division multiple access is used to hierarchically separate the local and express channels for eliminating the bucket brigade latencies that would otherwise result if the express traffic had to hop between every local node (12, 24, 36, 48) to reach its destination

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US97/17297

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) :G02F 1/313, 1/1335; G02B 6/12, 21/22; G06F 7/64

US CL :Please See Extra Sheet.

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. : 395/200.61, 182.02, 182.08; 385/88, 24, 31, 33; 359/119, 118, 127, 123, 154; 370/395

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
none

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

APS USPAT Database

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,533,188 A (PALUMBO) 02 July 1996, col.5, lines 24-56.	1-8
X	US 5,550,818 A (BRACKETT ET AL.) 27 August 1996, col.3, lines 4-26.	1-7
X	US 5,475,518 (KARAKI) 12 December 1995, col.4, lines 5-47.	1-8

☐ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

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US CL :

395/200.61, 182.02, 182.08; 385/88, 24, 31, 33; 359/119, 118, 127, 123, 154; 370/395