Title: WIDEBAND, MULTI-CORE DISPERSION COMPENSATION FIBER

Abstract: Disclosed is a multiple core (10) optical waveguide fiber (3) having a negative total dispersion and a negative total dispersion slope tailored to compensate the total dispersion of a typical high performance transmission fiber over a selected wavelength range. Also disclosed is a method of making the multiple core optical waveguide fiber and a compensated link using the multiple core fiber. The simplicity of the refractive index profiles of the constituent cores provides ease of manufacture of the multiple core structure.
**INTERNATIONAL SEARCH REPORT**

**A. CLASSIFICATION OF SUBJECT MATTER**

**IPC(7)**: G02B 6/02, 6/22  
**US CL**: 385/126  
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.: 385/126, 125

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)  
NONE

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 5,822,488 A (Terasawa et al) 13 October 1998 (13.10.1998), see figures 1, 3, 13, and 14.</td>
<td>1, 2, 5</td>
</tr>
<tr>
<td>Y</td>
<td>US 5,459,804 A (Stowe) 17 October 1995 (17.10.1995), see figures 2 and 4.</td>
<td>7-10</td>
</tr>
<tr>
<td>A</td>
<td>US 6,154,594 A (Fiacco et al) 28 November 2000 (28.11.2000), see entire document.</td>
<td>1-10</td>
</tr>
<tr>
<td>A</td>
<td>US Re. 35,138 E (Weidman) 02 January 1996 (02.01.1996), see entire document.</td>
<td>1-10</td>
</tr>
</tbody>
</table>

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

- **T**  
  - 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
- **X**  
  - Document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- **Y**  
  - Document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- **&**  
  - Document member of the same patent family

**Date of the actual completion of the international search**  
10 June 2003 (10.06.2003)

**Date of mailing of the international search report**  
20 OCT 2003

**Name and mailing address of the ISA/US**  
Authorized officer  
John D. Lee  
Telephone No. (703) 308-4886  
Facsimile No. (703) 308-3230  
Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Form PCT/ISA/210 (second sheet) (July 1998)