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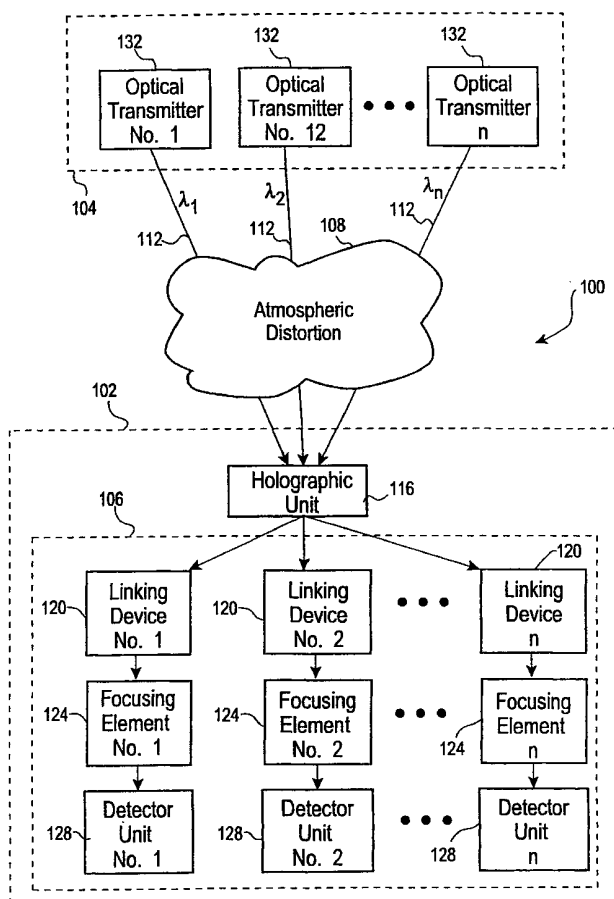
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(54) Title: RECEIVING MULTIPLE WAVELENGTHS AT HIGH TRANSMISSION RATES



(57) Abstract: An apparatus for receiving data through the atmosphere at rates greater than 1 gigabit/sec. is provided (Figure 1). The apparatus includes a holographic unit (reference numeral 116 in Figure 1) and a detector assembly (reference numeral 106 in Figure 1). The holographic unit receives light having different wavelengths representative of data at different frequencies. The holographic unit focuses the light on the detector assembly, preferably, a plurality of pick-off mirrors spaced from each other (reference numeral 120 in Figure 1). Each pick-off mirror collects light at a predetermined wavelength. Each pick-off mirror directs the light at its associated wavelength to a very fast, high refractive index focusing lens (reference numeral 124 in Figure 1). The detector assembly also includes a plurality of detector units (reference numeral 128 in Figure 1). Each detector unit is in contact with one of the lenses. The detector units are able to receive tightly focused light having the transmitted data for subsequent processing.

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC(7) : H04B 10/00, 10/10, 10/148
 US CL : 359/159, 193, 161, 127
 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. : 359/159, 193, 161, 127

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,872,621A (WILKERSON et al) 16 February 1999 (16.02.1999), Figures 2, 3, and 6	1-19
Y	US 5,726,786 A (HEFLINGER) 10 March 1998 (10.03.1998), abstract and Figure 4	1-19
Y	US 4,214,807 A (GFELLER et al) 29 July 1980 (29.07.1980), Figure 2	1-19
Y	US 5,206,499 A (MANTRAVADI et al) 27 April 1993 (27.04.1993), Figures 1-3	1-19
Y	US 5,227,859A (LEIB et al) 13 July 1993 (13.07.1993), Figures 9 and 11	1-19
Y	US 3,923,400 A (HARDY) 02 December 1975 (02.12.1975), Figures 1, 2 and 9	1-19
Y	US 5,685,505 A (MECKLER) 11 November 1997 (11.11.1997), abstract	1-19

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See patent family annex.

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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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