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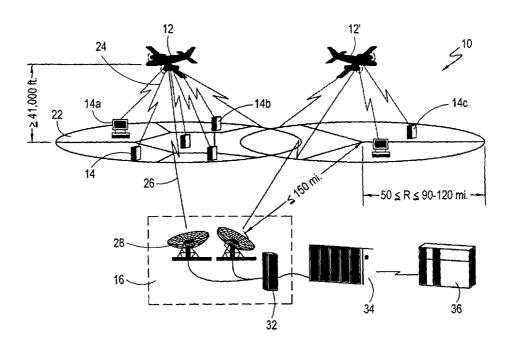
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(54) Title: A COMMUNICATIONS SYSTEM USING HIGH ALTITUDE RELAY PLATFORMS



(57) Abstract: A communications system includes a single stage, turbocharged, piston-powered aircraft that is positioned to fly in the lower stratosphere (41,000 ft.). A first link for the a subscriber on the ground, and a second link is established between the aircraft and a telecommunications base station. With the aircraft in position, communications between the subscriber and another party is then established over the first and second links, and through the base station.

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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.: 455/7,11.1, 12.1, 20, 25				
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) EAST				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category *	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.	
Y, P	US 6,507,739 B1 (GROSS et al) 14 January 2003 (14.01.2003), column 4, lines 1-65, column 6, lines 38-65, figure 2 and 3.			
Y	US 6,456,824 B1 (BUTTE et al) 24 September 2002 (24.09.2002), column 3, lines 1-63, figure 2C.		1-20	
Y	US 6,324,398 B1 (LANZEROTTI et al) 27 November 2001 (27.01.2001), column 2, lines 20-58.		1-20	
Y	US 6,285,878 B1 (LAI) 04 September 2001 (04.09.2001), column 2, lines 18-45.		2, 11, 18	
Y, P	P US 6,675,013 B1 (GROSS et al) 06 January 2004 (06.01.2004), column 5, lines 42-60 and figure 4.		8, 9, 16, 20	
A	US 2002/0128 9 45 A1 (CHANG et al) 12 September 2002 (12.09.2002), entire document.		1-20	
A, P US 6,804,515 B1 (MCCRAW et al) 12 October 2004 (12.10.2004), entire document.		1-20		
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