

HYBRID WIRELESS OPTICAL AND RADIO FREQUENCY COMMUNICATION LINK

Abstract

A hybrid wireless optical and radio frequency (RF) communication link utilizes parallel free-space optical and RF paths for transmitting data and control and status information. The optical link provides the primary path for the data, and the RF link provides a concurrent or backup path for the network data, as well as a reliable and primary path for the control and status information. When atmospheric conditions degrade the optical link to the point at which optical data transmission fails, the hybrid communication link switches to the RF link to maintain availability of data communications. The switch may occur automatically, based on an assessment of the quality of the optical signal communicated through the optical path.

Fig. 1