

OPTICAL COMMUNICATIONS NETWORKS

ABSTRACT

An optical communications network comprising a plurality of passive optical networks (PONs) connected in a
5 ring in PON address order, in which communication channels between terminals are wavelength multiplexed. Each optical link between adjacent PONs includes a tunable wavelength filter, and a common wavelength allocation database is arranged dynamically to select wavelengths for a connection
10 and to provide corresponding control signals to the appropriate filters such that the allocated wavelengths for a connection can pass over only the transmission path between the terminals. Thus the same wavelengths can be re-used for another connection whose transmission path does not overlap
15 with any existing transmission path involving those wavelengths.

Figure 2.