



Figure 17.1 Common two-way spectrum plans.

The independence of upstream and downstream bandwidth in optical links has led to designs in which the upstream signals from each of several coaxial distribution legs emanating from a fiber node are frequency translated to nonoverlapping bands and combined before feeding the upstream optical transmitter. Known as *block conversion*, this is discussed in Chapter 16 and illustrated in Figure 16.3. The major benefit is increased average upstream RF bandwidth per customer, because signals can use the same upstream frequencies on different legs simultaneously without mutual interference.

It is common in residential system planning to divide the available downstream bandwidth among common signals, those directed to large groups of customers and those directed to individual customers. For example, it is efficient to distribute the most popular television channels systemwide, whereas local

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