

**10.2** A transponder with a bandwidth of 400 MHz uses polarization diversity. If the bandwidth allocated to transmit a single telephone channel is 4 kHz, how many telephone channels can be carried by the transponder?

**Solution:** Number of telephone channels =  $\frac{2 \times 400 \text{ MHz}}{4 \text{ kHz}} = \frac{2 \times 4 \times 10^8}{4 \times 10^3} = 2 \times 10^5$  channels.

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