Shared medium

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In [telecommunication](https://en.wikipedia.org/wiki/Telecommunication), a **shared medium** is a [medium](https://en.wikipedia.org/wiki/Transmission_medium) or [channel](https://en.wikipedia.org/wiki/Channel_(communications)) of [information transfer](https://en.wikipedia.org/wiki/Information_transfer) that serves more than one user at the same time.[[1]](https://en.wikipedia.org/wiki/Shared_medium#cite_note-pcmag-1)

Most channels only function correctly when one user is transmitting, so a [channel access method](https://en.wikipedia.org/wiki/Channel_access_method) is always in effect.

In [circuit switching](https://en.wikipedia.org/wiki/Circuit_switching), each user typically gets a fixed share of the channel capacity. A [multiplexing](https://en.wikipedia.org/wiki/Multiplexing) scheme divides up the [capacity](https://en.wikipedia.org/wiki/Channel_capacity) of the medium. Common multiplexing schemes include [time-division multiplexing](https://en.wikipedia.org/wiki/Time-division_multiplexing) and [frequency-division multiplexing](https://en.wikipedia.org/wiki/Frequency-division_multiplexing). Channel access methods for circuit switching include [time-division multiple access](https://en.wikipedia.org/wiki/Time-division_multiple_access), [frequency-division multiple access](https://en.wikipedia.org/wiki/Frequency-division_multiple_access), etc.

In [packet switching](https://en.wikipedia.org/wiki/Packet_switching), the sharing is more dynamic — each user takes up little or none of the capacity when idle, and can utilize the entire capacity if transmitting while all other users are idle. Channel access methods for packet switching include [carrier sense multiple access](https://en.wikipedia.org/wiki/Carrier_sense_multiple_access), [token passing](https://en.wikipedia.org/wiki/Token_passing), etc.

References[[edit](https://en.wikipedia.org/w/index.php?title=Shared_medium&action=edit&section=1)]

* 1. [**^**](https://en.wikipedia.org/wiki/Shared_medium#cite_ref-pcmag_1-0) [*"Shared media LAN"*](https://www.pcmag.com/encyclopedia/term/51243/shared-media-lan)*. PC Mag. Retrieved 24 August 2014.*

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