

What to do if there aren't enough ports on the optical splitter



Article Overview

If your optical splitter lacks enough ports, you can cascade additional splitters, use higher split-ratio splitters, or deploy multiple splitters to expand network capacity.

Options to Expand Splitter Capacity

- 1. Cascade Splitters** You can connect a second splitter to one of the output ports of the first splitter. For example, a 1×8 splitter feeding into a 1×4 splitter effectively creates a 1×32 configuration. This allows you to serve more ONTs without adding extra OLT ports, though each additional split introduces some optical loss, so careful planning is needed to maintain signal quality.
- 2. Use Higher Split-Ratio Splitters** Replace your current splitter with a higher split-ratio model, such as moving from a 1×8 to a 1×16 or 1×32 PLC splitter. PLC splitters are preferred for large splits because they provide uniform power distribution and are more reliable for serving multiple endpoints.
- 3. Deploy Multiple Splitters in Parallel** If cascading or higher split ratios are not feasible, you can install additional splitters in parallel, each connected to a separate OLT port. This approach increases the number of users served while keeping insertion loss manageable.
- 4. Consider Splitter Type and Placement** PLC splitters are ideal for large-scale deployments due to their compact size and uniform output, while FBT splitters are better for small splits or test environments. Proper placement in ABS or LGX enclosures ensures protection and scalability.
- 5. Monitor Signal Loss** Each additional split or higher split ratio increases insertion loss. Use an optical power meter or OTDR to measure signal strength at each output port and ensure it remains within acceptable limits for your PON system ...

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Say goodbye to the frustration of running out of HDMI ports and discover the effective strategies to optimize your

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Optical splitters are vital in FTTH PON systems, distributing a single signal efficiently. Key parameters, Split Ratio and

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Fiber Broadband Association Technology Committee February 2025 The choice of splitter architecture for a passive optical network

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OLT Port Inefficiency: If a Stage 2 splitter has unused ports (e.g., only 4 of 8 ports are used), the corresponding

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Split Ratios and Splitting Level of Optical Splitters

At the same time, higher split ratio splitters reduce bandwidth per ONU (optical network unit). And there will be

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