

Connection of ONU and two optical splitters



Article Overview

In a PON, an ONU can be connected through a two-stage optical splitter arrangement, where the OLT feeds the first splitter, which cascades to a second splitter before reaching the ONU.

Two-Stage Splitting Topology

In a two-stage optical splitting setup, the connection from the OLT to the ONU involves:

- **Feeder Fiber:** The optical signal from the OLT is transmitted via a feeder fiber to the first-stage splitter. This splitter is typically located at a central junction or intersection of the fiber network .
- **First-Stage Splitter:** This splitter divides the optical signal into multiple outputs, often with a split ratio like 1:8 or 1:16, depending on network design and coverage requirements .
- **Branch Fiber:** Each output from the first-stage splitter is connected via branch fibers to a second-stage splitter, usually located closer to the end-user, such as in a fiber distribution box (FDB), .
- **Second-Stage Splitter:** The second splitter further divides the signal, typically with a smaller split ratio like 1:4 or 1:8, to serve individual ONUs .
- **ONU Connection:** Each output of the second-stage splitter is connected to an ONU using a branch fiber. The ONU then provides service to the end-user via Ethernet or other interfaces

Article Content

Optical Splitters in PON Networks | FTTH Guide

Optical splitters are essential components in Passive Optical Network (PON) systems, enabling efficient fiber

Decoding OLT, ONU, ONT, and ODN in PON Network

Embarking on an exploration of the fascinating world of Passive Optical Networks (PON), we unravel the roles of OLT,

What Is an Optical Splitter?

Fiber optic splitter, also referred to as optical splitter, fiber splitter or beam splitter, is an integrated waveguide optical

Fundamentals of Optical Splitters » SENKO Advanced Components, Inc.

The Future of Optical Splitters As demand for high-speed internet and extensive data connectivity grows, the use of optical splitters

Deciphering the Passive Optical Splitter in PON Network

The passive optical splitter is essential for splitting a single Point-to-Multi-Point (P2MP) physical fiber network. By

Do You Know How to Place and Use the Optical Splitter?

In the realm of optical communication networks, the optical splitter serves a vital role in dividing and distributing optical signals

How to Connect OLT and ONU

Establish the connection between the OLT and ONU using fiber optic cables. Fiber optics transmit data using pulses

Decoding OLT, ONU, ONT, and ODN in PON Network

The OLT device is connected to the management switch and ONU, with a splitter positioned between the OLT and

How to Design Your FTTH Network Splitting Level and Ratio?

Key components such as the Optical Line Terminal (OLT), Optical Network Terminals (ONTs), and particularly optical

How Many ONUs Can an OLT PON Port Support?

In this article, we'll explain the concept of split ratio, the limits for EPON and GPON, and how to choose the right

Understanding FTTH Architecture

A splitter is used to divide the fiber for up to 128 subscribers, but the most common is 32 splits One Fiber Feeds Many (P2MP) Active

Fiber Splitters The Role And Application Guide

The working principle of fiber splitters is relatively simple, and the signal distribution is achieved through the principle

How to Connect a Splitter to Another Splitter: A Complete ...

Splitters are essential tools for distributing signals across multiple devices, whether in fiber optic networks, cable TV

Optical Splitters: Split Ratios, Splitting Architectures & PON Network ...

This guide focuses on two critical aspects of optical splitters that define FTTH performance: split ratios (how signals

FIBERONE: Fiber Optic Splitter Overview | 2026

How does a fiber optic splitter work? Fiber optic splitters are passive devices. This means that they don't generate power or require

Application of Optical Splitter in FTTH Network

Optical splitter is one of the most important passive components in optical fiber links and plays an important role in

Distributed and Concentrated Optical Splitting-BLOG-Grandway

Between the OLT and the ONU, the optical splitter is connected in series, and the structure is OLT- optical splitter 1- optical splitter 2

PON Network Components Overview: OLT, ONU, ONT, and ODN

Optical Distribution Network (ODN): Connectivity Between ONU & OLT ODN is also an indispensable part of the PON

Distributed and Concentrated Optical Splitting-BLOG-Grandway

And between the OLT and the ONU, all the optical splitters are distributed in parallel, and the structure is that the OLT leads out the

Level 1 and Level 2 Splitting in FTTH Networks-BLOG-Grandway

There are two different distribution methods of optical splitters in the FTTH network: centralized distribution and cascaded

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

Understand GPON Technology

The ODN is composed of passive optical components (POS), such as optical fibers, and one or more passive optical

Ultimate Guide to Optical Splitters for FTTH & GPON

Master optical splitter selection for FTTH & GPON networks. Compare PLC vs FBT, analyze insertion loss charts, and

Optical Splitters Demystified: The Silent Heroes Powering Your FTTH ...

An Optical Splitter, also known as a beam splitter, is a passive optical device that divides a single input optical signal

Introduction to Passive Optical Network Splitter Architectures

SPLITTERS A “splitter” is a power splitter. A splitter is not a filter like a wavelength division multiplexer (WDM). Typically, but not

Your Go-to Guide to Optical Splitter

The optical splitter is an optical power distribution device that splits one optical signal into multiple optical fiber signals

What are OLT, ONU, ONT and ODN in PON?

An optical distribution network (ODN) mainly has primary splitting and secondary splitting, or centralized splitting and

Introduction to Passive Optical Network Splitter Architectures

This involves having 2 or more splitter combinations to arrive at the target split ratio. A classic example is the use of a 1x4 and 1x8

Primary and secondary optical splitters in FTTH networks

Like coaxial cable transmission system, optical network system also needs to couple, branch and distribute optical

Passive optical network

Downstream traffic in active (top) vs. passive optical network A passive optical network consists of an

The Working Principle and Application Scenarios of Fiber Optic Splitters

Fiber optic splitters are essential passive devices in modern optical communication systems, enabling the division of a

How Does a Fiber Optic Splitter Work

Main Types of Fiber Optical Splitter According to the manufacturing technology of fiber optic splitters, there are mainly

Fiber-optic splitter

According to the principle, fiber optic splitters can be divided into Fused Biconical Taper (FBT) splitter and Planar Lightwave Circuit

H3C Passive Optical Splitter ONU

The splitter is one of the important components of the PON network. As an optical distribution network, it can connect OLT and ONU

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