

Article Overview

Syrian OEM Optical Line Terminals (OLTs) using NRZ modulation are deployed in national FTTP networks to convert electrical signals to fiber optic signals and manage PON traffic efficiently.

Overview of OLTs in Syria

An Optical Line Terminal (OLT) is the service provider endpoint of a Passive Optical Network (PON). It converts electrical signals from the provider's equipment into fiber optic signals for distribution to multiple endpoints, such as Optical Network Units (ONUs) or Optical Network Terminals (ONTs), and coordinates multiplexing across the network . OLTs can support various PON standards, including GPON, EPON, XG-PON, and WDM, with each port capable of serving multiple ONUs through split ratios typically ranging from 1:32 to 1:64, and up to 1:128 for XGS-PON .

NRZ Modulation in OLTs

NRZ (Non-Return-to-Zero) is a line coding method used in optical transmission where the signal does not return to zero between bits. NRZ is widely used in OLTs for efficient, high-speed data transmission over fiber, particularly in GPON and EPON networks. It is simpler and more cost-effective than alternatives like RZ (Return-to-Zero), making it suitable for large-scale deployments in Syria's FTTP infrastructure .

Syrian Deployment Context

Syria's BARQ NET FTTP initiative aims to deploy fiber-to-the-premises across all 14 governorates, including Damascus, Aleppo, Homs, and Latakia . Local companies such as OSC provide OEM and integration services, including supply, installation, and operation of OLTs, GPON ports, and optical cables for universities, ISPs, and public infrastructure . These OLTs are typically installed at central offices or distribution points and connect to ONUs at customer premises, supporting broadband, leased lines, and enterprise networks.

Key Features of Syrian OEM OLTs

- o Line coding: NRZ for efficient optical transmission
- o PON support: GPON, EPON, XG-PON depending on deployment
- o Port capacity: Each port can serve 32-128 ONUs depending on split ratio
- o Deployment: Central offices, university campuses, and ISP distribution points
- o Local integration: Provided by Syrian OEMs like OSC, including installation, fusion splicing, and network management

Applications

Syrian OEM OLTs with NRZ modulation are used for:

- o FTTH/FTTB broadband services for residential and commercial users
- o Enterprise leased lines and high-speed connectivity
- o University and government networks linking multiple campuses via optical fiber
- o Wholesale access for ISPs under the VULA model in BARQ NET FTTP These OLTs form the backbone of Syria's passive optical network, enabling high-speed, scalable, and cost-effective fiber connectivity across urban and regional areas.

A NRZ properties (B) RZ properties 2.2 Data carrier medium :-This part consists of an fiber optical cable that

Our Optical Line Terminal is a critical component in the high-speed data transmission process, providing efficient and seamless

An optical line termination (OLT), also called an optical line terminal, is a device which serves as the service provider endpoint of a

Multichannel line-rate and prescaled clock recovery, NRZ-to-RZ/CSRZ conversion, 1:2 serial-to-parallel conversion,

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Hier sollte eine Beschreibung angezeigt werden, diese Seite lässt dies jedoch nicht zu.

In this example we demonstrate two most used modulation formats in optical communications - nonreturn-to-zero (NRZ) and return

Eye-Diagram-Based Evaluation of RZ and NRZ Modulation Methods in a 10-Gb/s Single-Channel and a 160-Gb/s

Because the transition between two codes does not return to zero in NRZ, it is not suited for high-speed transmission for protracted

The TDEC (Transmitter and Dispersion Eye Closure) measurement for NRZ waveforms is a measurement of the quality of an optical

This buyer's guide for optical line terminals provides technical background, comparison of major types, selection criteria, and an

When we analyzed a 16 channel, 40 Gb/s system using both RZ and NRZ modulation techniques, the results we

View results and find swiss optical line terminal nrz datasheets and circuit and application notes in pdf format.

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