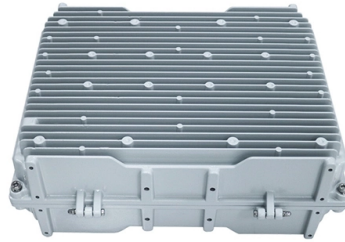


Principle of Optical Module Equalizer



Overview

The optical equalizer comprises: a plurality of taps, a beam combiner, and a control module, wherein the plurality of taps are connected in series; each tap may comprise at least two couplers and at least one phase shifter, the at least two couplers and the at least one phase. DSP-based equalizer systems have become ubiquitous in many diverse applications including voice, data, and video communications via various transmission media. Typical applications range from acoustic echo cancelers for full-duplex speakerphones to video deghosting systems for terrestrial. Feed-Forward Equalization (FFE) is one of the most critical technologies used in high-speed digital communication systems, especially in optical transceivers, SerDes interfaces, and backplane/high-speed copper links. As data rates exceed 10G, 25G, 50G, and move into 100G, 200G, and 400G PAM4. phase-shift-keying (DPSK) systems at 10 Gb/s. We use Monte Carlo simulation of the least-mean-square algorithm to estimate equalizer tap weights. Once stationary tap weights are obtained, we compute the bit-error ratio using an analytical method whose accuracy has been verified by simulation. We. As we know, “equalizer” refers to a device that equalizes the input signal over a specific range. Operating at the physical layer of the OSI model, optical modules are core devices in optical. Optical equalization of optical communications systems has been used since the 1990s; for example, adding dispersion-compensating modules (DCMs) that contain dispersion compensating fibers (DCFs), fiber Bragg gratings (FBGs) or Mach-Zehnder interferometers (MZIs) [3-5].

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