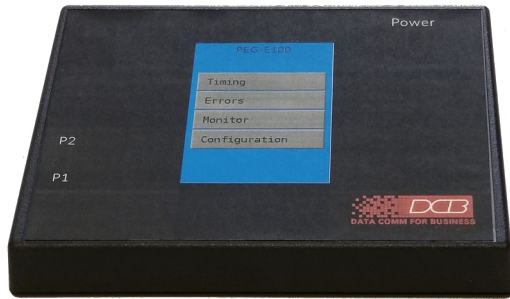




PNE Packet Ethernet Network Emulator



Packet Ethernet Network Emulator

FEATURES

- **Simulate Ethernet networks up to 100 Mbps**
- **Induce latency, jitter, rate limits, packet-per-second limits, drops, duplicates, mis-order, asymmetry**
- **Small bench top unit with color LCD touch screen**
- **Simplifies complex testing**
- **PNE saves hours, days, even months of time**
- **Bench test TDMoE, VOIP, or packet network devices**
- **Simulate field problems on the test bench**
- **Powerful, processes 60,000 packets per second**
- **Low Price - \$995**

DESCRIPTION

The PNE is an Packet Ethernet Network Emulator. It is an easy to use small bench top unit, a powerful simulation device, a tool to aid testing.

This tool allows you to simulate a real, imperfect network between equipment under test to determine how well it handles “real world” problems.

It is often the case that one spends a lot of time bench testing a product, system, or application only to have it fail when deployed into the real world. The bench-test environment is too perfect. The standard bench- test environment has very high bandwidth, low latency and virtually no jitter. In addition, it probably has no packet loss, no packet duplication, and no out-of-order delivery. The Packet Ethernet Network Emulator (PNE) installs as a bump-in-the-wire between the products under test and allows better real world type simulation of the application environment. PNE provides controlled duplication of errors that are found in live installations but are difficult to capture and/or duplicate.

PNE simulates the installation of circuits in a controlled environment. Out in the field in a working installation it can literally take days,

weeks or even months to discover and sort out problems. Using PNE, circuit path problems are evaluated quickly and easily, and best of all, virtually automatically.

Compare using PNE to either installing Pseudo Wire, VOIP, Radio over IP equipment without bench testing or using OAM (Operation Administration Management) devices. Both approaches, installing without testing or adding an OAM device, can take hours to configure, hours of testing to check performance, and then hours more evaluating results and fine tuning the equipment to fit the applications. Testing at high hardware and labor cost compared to using PNE.

PNE can eliminate time consuming trial and error testing with simple bench-top testing. PNE can eliminate hours on the phone with vendors and multiple attempts to fine tune settings. It will for itself in a single installation.

PNE has per port configuration for rate limits, latency, jitter, induced packet loss, induced packet duplication, induced out-of-order packet delivery, error generation, measuring traffic rates in real time.

Capabilities:

Maximum bridging of 60,000 packet-per-second, bi-directional.

Added packet latency from 0.1ms to 10 seconds

Added packet jitter from 0.1ms to 10 seconds

All settings may be applied asymmetrically.

Induced packet loss, duplication, out-of-order delivery

Errors generated automatically or on-demand

Errors may be targeted at a specific device and protocol.

Measures network traffic rates and targeted network traffic in real-time.

Performance Limits:

- Minimum packet jitter of 0.1ms

- Internal time resolution of 0.1ms

- Internal buffering for latency and jitter limited to 8000 packets

- Rate limited buffering limited to 104 packets.

SPECIFICATIONS



General

- LCD Touch Screen
- Two 10/100 MDI/MDIX Ethernet interfaces
- 6-16 VDC power input using the supplied external AC adapter
- LED to indicate charging and full charge conditions

Rear Panel:

- Power On/Off switch
- Two Ethernet ports, 10/100 Full Duplex, MDI/MDIX
- Coaxial barrel type connector for external AC adapter

Physical/Electrical

- Small bench top enclosure
- Power requirements: 6 VDC, AC adapter supplied with unit
- 6.88" L x 4.88" D x 2.4" H
- 1 pound with AC adapter

Configuration Per Port

- Simulated rate limits from 250K to 100 Mbps
- Packet latency of 0.1ms to 10 seconds
- Packet jitter of 0.1ms to 10 seconds
- All settings may be applied asymmetrically
- Induced packet loss, packet duplication
- Induced out-of-order packet delivery
- Generate errors automatically or on-demand
- Target errors at a specific device and protocol.
- Measuring work traffic rates in real-time.
- Measuring targeted network traffic in real-time.

Environmental

- Operational Temperature: 0 to +35 C
- Storage Temperature: -20 to +45 C
- Humidity: <95% Non-condensing

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