



Ethernet Inline Protocol Analyzer

Feature Highlights

- ◆ First and only 100M, 1G, 2.5G, 5G, 10G Ethernet capable packet capture & protocol analyzer
- ◆ Automotive Ethernet (100BASE-T1 / 1000BASE-T1)
- ◆ **NEW:** Media conversion between BASE-T1 and BASE-T Ethernet
- ◆ **NEW:** Latency Monitoring! (measure 1-way latency of live network application packets)
- ◆ **NEW:** IEEE 802.1Qbu & IEEE 802.3br Support! Capture, troubleshoot, validate Frame preemption for TSN applications
- ◆ Streaming Capture! (realtime capture view)
- ◆ 100% line rate L1, L2+ capture
- ◆ Industry's largest capture buffers
- ◆ Live user-filtered statistics
- ◆ Customizable capture and display filters and triggers
- ◆ Intuitive browser-based interface and complete programmable RESTful API
- ◆ Nanosecond precision timestamps
- ◆ Hundreds of protocol decodes
- ◆ Full transparency with non-retimed pass-through mode

Overview

Aukua Systems MGA2510 Ethernet Protocol Analyzer is a stand-alone system providing validation, debug analysis and visibility capabilities for R&D, Test and Support engineers building Ethernet based IT, storage networking and communications systems.

The Aukua Protocol Analyzer delivers true 100% line rate, low latency, inline L1 bit capture, L2+ packet capture and protocol analysis. Data rates from 10Mbps to 10Gbps Ethernet, including the new 2.5Gbps and 5Gbps Ethernet rates (IEEE 802.3bz) and Automotive Ethernet (IEEE 802.3bp/bw) are supported. And with the industry's largest capture buffers as well as nanosecond timestamp accuracy, unmatched visibility into Layer 1 thru Layer 7 bidirectional protocol communications is provided.

Advanced packet capture features enable users to control when and how packets are captured. Quickly capture hard to find issues with user customizable capture filters and the ability to trigger captures on specific incoming events and packet content. And ensure that issues are fully captured by controlling how much of the capture buffer is dedicated to pre-trigger and post-trigger packets. Users can further leverage the large buffers by using the packet filtering and slicing features.

The capture trace viewer provides complete binary, hex and protocol decode views. Searching and display filters enable users to quickly locate packets of interest even within the largest trace files. Understanding the timing of events is possible with a rich set of timestamp viewing options such as absolute and interpacket arrival time.

Other important features include real-time statistics, alarms and a full API allowing complete automation capability, further enhancing productivity and integration with other development and testing tools.

Our hyperfocus on building a truly intuitive user-experience ensures that the Analyzer is useful every time; even for the occasional user. First time users are productively testing within the first 10 minutes, even without training or assistance! This is in part thanks to a single, simple user interface that is served up from the Analyzer system without any software installations required. No complex initial chassis configuration or setup is required.

First and Only Analyzer to support 10GBASE-T as well as the new 2.5G and 5G IEEE 802.3bz Ethernet rates!



User Control

- HTML browser-based GUI (no install required)
- Automation: RESTful Web Services API supporting wide variety of programming languages, including Tcl, Java, Perl, Python and C/C++
- 1GbE RJ45 Management port
- USB 3.0 port

Test Interfaces

- RJ45: 100M, 1G, 2.5G, 5G, 10G (100BASE-TX, 1000BASE-T, 2.5GBASE-T*, 5GBASE-T*, 10GBASE-T) (*Both IEEE 802.3bz & NBASE-T variants supported!)
- Automotive Ethernet: 100BASE-T1, 1000BASE-T1
- SFP+: 10M, 100M, 1G, 2.5G, 5G, 10G, USXGMII (100BASE-FX, 1000/2500/5000BASE-X, 2500/5000/10GBASE-R, USXGMII, 10BASE-T with SFP transceiver)

Capture (L1 bit or L2+ packet)

- 32GB capture buffer (128GB future option)
- 1 nanosecond precision timestamp
- Save L2+ packet trace to .pcapng
- L1 bit captures include Eth frames + inter-frame gap (IFG) data

Capture Filters

- Layer 2 - Layer 7 protocol filters
- Custom protocol filters
- Packet metadata filters (e.g., packet length)
- Logic operators: AND, OR
- Comparison operators: =, ≠, <, >, <=, >=
- Packet slicing feature further leverages capture buffer

Capture Triggers

- Trigger on packet contents, errors and timeout conditions
- Multi-state triggers for uncovering hard-to-find problems
- Control pre and post trigger capture buffer allocation

Clock Reference Input

- Frequency: 10MHz SMA
- Phase: 1PPS SMA
- Time of Day (ToD): NTP

Environmental

- Operating Temperature: 0°C ~ 40°C (32°F ~ 104°F)
- Operating Humidity: 10% - 90% (non-condensing)
- Input Power: 100-240 VAC, 50-60Hz; 2.6A Max



External Input / Output Triggers

- Enables control with other external test equipment
- Two 50Ω TTL SMA connectors

Protocol Decodes

- Binary, Hex and protocol decode views
- 100s of protocols including Ethernet MAC, IPv4, IPv6, TCP, UDP, PTP, MPLS, VLAN, iSCSI, FCoE, PFC and many more
- Event timing analysis: absolute, relative, delta timestamps
- Display filters (L2 - L7) and packet searching capabilities

Other Advanced Analyzer Capabilities

- Latency Monitoring (1-way latency of all application packets!)
- Streaming Capture for live monitoring (local or remote location)
- Unique support for capturing IEEE 802.3br preemption frames!

Impairment Jamming

- Link failure / flapping, Packet Loss, Ethernet FCS errors, more ...

System

- Enclosure: 1RU, fits 19" rack system
- Dimensions: 1.7"H(43mm) x 17.2"W(437mm) x 9.8"D(249mm)
- System weight: 11.3lbs / 5.12kg
- Regulatory Compliance: CE, FCC, VCCI, RoHS

Other Features

- Real-time statistics and graphs (bandwidth, alarms, errors, etc.)
- Stats Logging
- Auto negotiation status logging / visibility
- Support for Wireshark or any .pcap capable trace viewer
- Layer 1 pass-through transparency: Pause/PFC, errored frames
- Energy Efficient Ethernet (EEE) support
- Optional licenses for powerful Traffic Generator and Network Impairment Emulator modes available!



Simple yet powerful browser-based user interface means there is no software to install. Users are productive in less than 10 minutes out-of-the-box!

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