



*Net.Hunter is a hardware-based capture device capable to monitor every single packet transmitted in full duplex GbE links. Complaint packets with a trigger condition, or any of the 15 programmable filters, can be either saved at wirespeed in local hard-disk either taped to a 1000BASE-T LAN.*

Datasheet

# ALBEDO Net.Hunter

Net.Hunter is a FPGA based capturing hand-held device, that connected in pass-through mode, is able to identify and capture traffic at wire-speed without disturbing the traffic at all. Compliant packets with any criteria described on a programmable trigger or one of the 15 filters can be save in local disk at -full wirespeed- or taped to a LAN.

## 1. PORTS AND INTERFACES

- RJ-45 port for electrical connection 10/100/1000BASE-T for mirror ports.
- Optical and electrical SFPs ports operating at up to 1 Gb/s for line ports.
- SFP interfaces support: 10BASE-T, 100BASE-TX, 1000BASE-T, 100BASE-FX, 1000BASE-SX, 1000BASE-LX, 1000BASE-ZX.

## 2. OPERATION MODES

- Tap & filter: Traffic is forwarded between line ports, traffic is selectively copied to the mirror ports or stored the internal high speed storage device.
- Filter: Traffic is filtered and forwarded to the corresponding mirror port or stored in high speed internal storage device

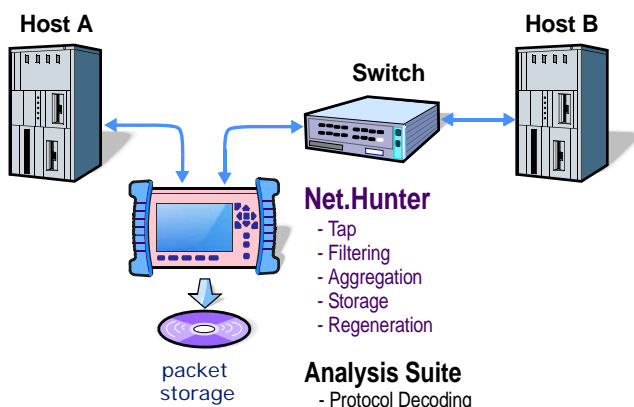


Figure 1. Net.Hunter: stream to disk device

## 3. FORMATS AND PROTOCOLS

- Ethernet frame: IEEE 802.3, IEEE 802.1Q, IEEE 802.1ad.
- IP packet: IPv4 (IETF RFC 791), IPv6 (IETF RFC 2460).
- Jumbo frames: up to 10 kB MTU (Maximum Transmission Unit).
- Throughput between measurement ports: 1 Gb/s or 1,500,000 frames/s in each direction.
- PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at) pass-through

## 4. AUTO-NEGOTIATION

- Auto-negotiation and forced bit rate modes supported by mirror and line ports.
- Negotiation of bit rate. Allow 10 Mb/s, allow 100 Mb/s, allow 1000 Mb/s.

## 5. CONFIGURATION

- Configurable MTU size from 1518 bytes to 1000 bytes.
- Enable / disable traffic aggregation of both transmission directions to a single mirror port.

## 6. RESULTS

- Auto-negotiation results including current bit rate, duplex mode, Ethernet interface.
- SFP presence, interface, vendor, and part number.
- Separate traffic statistics for each port.
- Separate statistics for transmit and receive directions.
- Frame counts: Ethernet, and IEEE 802.1Q (VLAN), control frames.
- Frame counts: unicast, multicast and broadcast.
- Error analysis: FCS errors, undersized frames, oversized frames, fragments, jabbers.
- Frame size counts: 64, 65-127, 128-255, 256-511, 512-1023, and 1024-1518 bytes.
- Byte counts: Port A (Tx / Rx) and Port B (Tx / Rx).
- Traffic counters follow RFC 2819.

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## 7. FILTERS

- Up to 16 fully configurable and independent filters for each test port.
- User-configurable filters defined by field contents on Ethernet, IP, UDP and TCP headers.

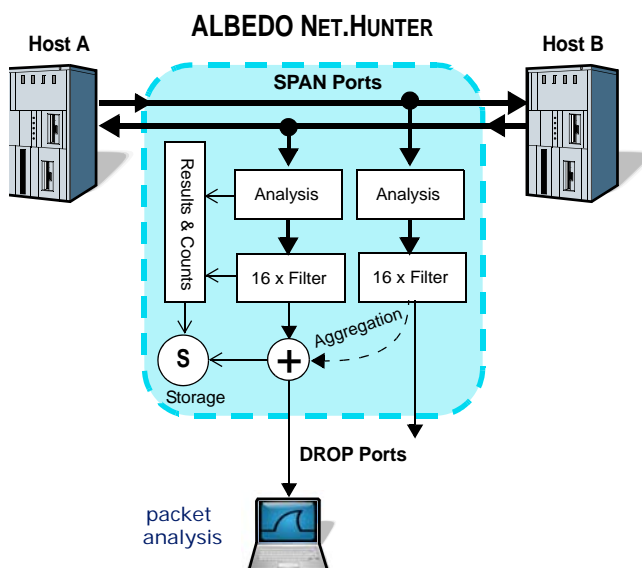


Figure 2. Logical block diagram.

### 7.1 Generic Filters

- Agnostic filters defined by 16-bit masks and user defined off-set.
- Pattern filter (one per port) to match alphanumeric words or expressions
- Length filters to match frames by their length

### 7.2 Ethernet Filters

- MAC address: source, destination.
- MAC address group: subset of addresses filtered by a mask.
- Ethertype field with selection mask.
- VID (Net.Shark) or C-VID and S-VID (Net.Hunter)
- VLAN priority or C-VLAN priority and S-VLAN priority.
- S-VLAN DEI.

### 7.3 IPv4 Filters

- Selection by IPv4 source or destination address (or both at the same time). It is possible to select address sets by using masks.
- Selection by protocol encapsulated in the IP packet (TCP, UDP, Telnet, FTP, etc.).
- Selection by DSCP value.

### 7.4 IPv6 Filters

- Selection by IPv6 source or destination address (or both at the same time). It is possible to select address sets by using masks.
- Selection by IPv6 flow label.
- Selection based on the next header field value.

- Selection by DSCP value.

### 7.5 TCP / UDP Filters

- Selection by TCP / UDP port. Either as a single value or a ranges

### 7.6 Statistics

- Frame counters for each configured filter.

## 8. CAPTURE

- Wirespeed traffic capture to internal SSD with capacity of 60 or 120 GB (Net.Hunter).
- Capture format is PCAP or PCAP Next Generation.
- Hardware time stamping of captured data. Timestamp error smaller than  $\pm 20$  ns.
- Export filters: Based on date / time or previous capture filter settings.
- Phase synchronization of capture timestamps through NTP.

## 9. USER INTERFACE

- Direct configuration and management in graphical mode using the keyboard and display of the instrument.
- Remote access for configuration and management in graphical mode from remote IP site through the Ethernet interface of the control panel.

## 10. GENERAL

- Operation time with batteries: 3.5 hours (minimum, two battery packs).



- Configuration and report storage and export through attached USB port.
- 4.3" TFT colour screen (480 x 272 pixels).
- Dimensions: 223 mm x 144 mm x 65 mm.
- Weight: 1.0 kg (with rubber boot, one battery pack).

