

Perytons Network Visibility



Peryton-D - Multi-Antenna 802.15.4/ZigBee/6LoWPAN Protocol Analyzer

The Peryton-D is a fully-featured, single-channel 802-15.4/ZigBee/6LoWPAN network and protocol analysis tool that captures data from any channel within the 2.4GHz ISM band.

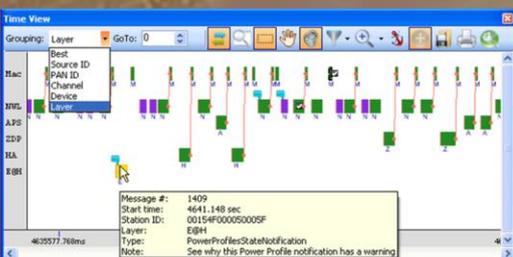
This analyzer model provides superior reliability through the unique use of antenna diversity techniques – reducing the number of packets lost due to RF indoor multipath propagation conditions or interference from up to 15% to less than 0.1%.

With the Peryton-D, the user gets a quick and complete picture of the RF environment and activity of the network or networks.

During actual data capture the tool auto-discovers and displays the network structure, members, connections and routes, easily identifies erroneous or problematic messages, inspects message contents down to the bit level and allows easily sharing of scenarios of interest with colleagues, vendors, or customers using integrated built-in options.

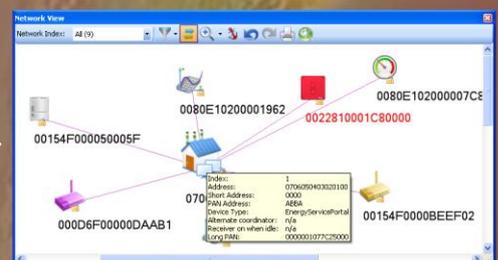
Top Level Views

The **Time View** window provides a unique two dimensional view of the received messages using time as the x-y plot horizontal axis. This view provides easy understanding of time related processes. In a beacon network environment, it shows messages' transmission-times relative to the beacon gridline, thus verifying correct message timing. Messages can be sorted along the vertical axis by different parameters and user-defined text notes can be attached to messages. Specific messages (based on the parameter selected e.g. channel, Protocol Layer, etc.), can be temporarily hidden from view for easy analysis in a heavy-traffic environment.



The **Network View** window auto-discovers the network topology and elements and displays them during real-time data capture. Each device is drawn according to its type (e.g. coordinator, router, FFD, Switch) with hints showing all known information about it. Links between devices and routes are clearly displayed. Devices can be also drawn over a map or floor plan. Messages sent to/from a device or over a specific connection can be easily found with a single mouse click and user-defined notes can be attached to selected devices.

The **Devices View** window shows the auto-discovered devices in a table format and provides known information about them. The table can be sorted by any of its columns and relevant fields can be edited by the user for convenience of use (e.g. Device Name, etc.). Devices information can be saved to a file for further analysis by external tools (e.g. Excel), or for use as "known data" when analyzing data in future opportunities.



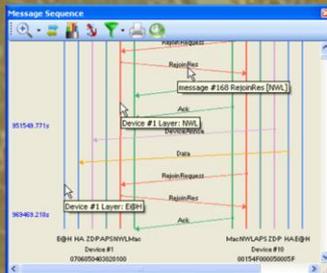
Down To The Bit Level

The Message View window allows diving down to the message fields' bit level. Fields' content is shown numerically and textually, with text and tool-tips showing the field name, description and meaning of the current value. Data is displayed in an intuitive structure allowing expanding or collapsing of sub fields when in graphical mode and the addition of fields of choice to table columns when in tabular mode. Information concluded by the analyzer as well as data deciphered from encrypted fields are clearly marked. These features greatly facilitate quick understanding, and eliminate the need to refer to the protocol or standard off-line documentation.

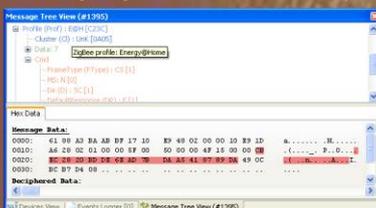


The Message Sequence View window shows the interaction between two and up to 8 devices in a single screen.

Like in the other windows, content of the Message Sequence View is synchronized and clicking on any line in it will also make it recognizable in the Time, Message and Network View sections.



The Message Tree View window shows the message fields in a hierarchical XML-like structure, with field description, value, meaning and user notes, allowing expanding fields and sub fields. It includes hexadecimal and ASCII presentation of the captured data where the bytes carrying the current selected fields are highlighted. For encrypted messages, the clear data is also shown in a relevant section. For binary fields, the bits inside the captured byte/word are highlighted in the "binary" data section.

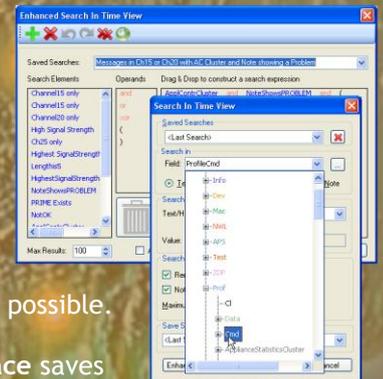


Enhanced Toolbox

The Featured Toolbox provides even deeper analysis possibilities of captured data, including statistics charts, message compare initiating analysis or traffic-generation form a command line and data exporting options for further analysis with external tools such as Excel and Wireshark.

Basic and Enhanced Search filtering allows searching a value in all or part of the messages properties. Search can be performed over all messages, on a pre-selected messages' group or on the messages resulting from a previous search session (i.e. search 'nesting').

Both basic and enhanced filtering criteria allow searching for a value within a specific field, or group of fields, text, hint, and note or field existence. Logical combinations of basic defined filter are also possible.



Packing to a Workspace saves the full analyzer state including current view in each window, bookmarks, selected messages with their exact expanded fields, message zoom status and more. Saved workspaces can be easily shared with colleagues for further inspection.

Data Capture and RF Activity

The capture and RF features provide a picture of the existing RF activity and channel noise measurements.

Passive and active scans are used to help locating 802.15.4/ZigBee/6LoWPAN networks and devices and assist choosing the channel to analyze. Using the ProtocolanalyzerPlayer built-in feature, a capture session can be triggered from a command line (this option is especially useful for scheduling analysis sessions of unattended networks).

