



ARINC 818 VPA

GRAVity Series Video and Protocol Analyzer

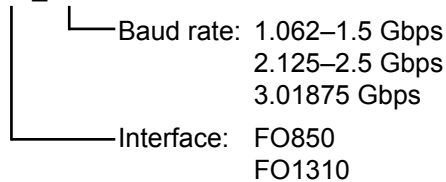
Great River's Video and Protocol Analyzer is a powerful tool for the development of ARINC 818 systems. Use it to accurately and efficiently verify compliance with ARINC 818 standards. In short, the VPA reduces your development time.



How to buy

Create your part number by selecting an interface and baud rate:

GRT_VPA818_XXX_XXX



Example: GRT_VPA818_FO1310_2.125

To order, visit our [Distributors](#) page:

(<http://www.greatrivertech.com/resources.html>).

If no distributor is listed for your region or country, order directly from [Great River](#).

The VPA identifies link and protocol errors quickly, analyzes video stream timing in detail, and validates FC and container headers.

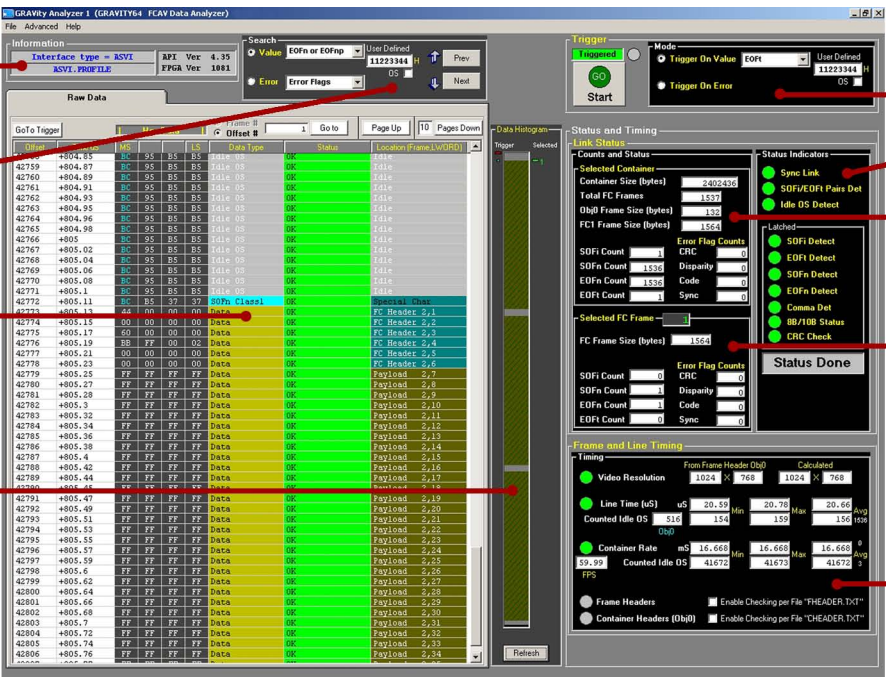
It includes both hardware and software. A custom GRAV64 PVI card captures ARINC 818 data. The analyzer software then displays decoded data.

Capabilities

- Operates under Windows 2000, XP, and 7
- Captures 32 megabytes of data
- Configured for 1.062, 2.125, or 3.1875 Gbps
- Compatible with any video format on ARINC 818
- Accommodates custom resolutions and frequencies

Specifications

Processor	Intel Atom™ D510, 1.66GHz
Memory	DDR2 667MHz, 2GB SODIMM
Graphics	Gen3.5+ GFX Core; supports up to 2048 x 1536 @ 60Hz
Ethernet	LAN 1, LAN 2, 10/100/1000 Mbps GigaLAN Controller
IO interface	4 x RS232, 5 x USB, USB 2.0, 1 x PS/2, 25-pin D-sub for digital IO
Storage	Internal solid state HDD SATA 2.5, 80GB
Storage expansion	Internal CompactFlash socket for type I/II CompactFlash disk
Expansion slot	2 PCI Slot, and 1 PCIe x 1 Slot
Software OS	Win XP, 2000, Vista, or 7; 32-bit
Power requirement	65W (2.5A @ 24V); shipped with switching adapter for 100–250Vac @ 50–60Hz
Form factor	Aluminum housing 13.7 x 18.9 x 22.1 cm (5.4 x 7.5 x 8.7"), 4.2kg (9.3 lbs)
Operating temp.	0–55°C (32–122°F)



The screenshot shows the GRAVITY Analyzer 1 interface with several key features highlighted by red callout lines:

- Profile:** Points to the 'Profile' section at the top left, showing interface type (RSVL), RPT Ver (4.35), and FPR Ver (1081).
- Search:** Points to the search bar at the top, which includes options for V, Value, EOFn or EOFp, and Error.
- Color coded raw data:** Points to the main data table, which displays hex data, data type, status, and location for each frame.
- Data histogram:** Points to the vertical histogram on the right side of the data table, showing frame timing.
- Trigger:** Points to the 'Trigger' control at the top right, including a 'Start' button and 'Trigger On Value' or 'Error' options.
- Link status:** Points to the 'Link Status' section on the right, showing indicators for Sync Link, SOFI/EOFI Pairs Det, and Idle OS Detect.
- Container:** Points to the 'Container' section on the right, showing details for the selected container, including size and error flag counts.
- ADVB frame:** Points to the 'ADVB frame' section on the right, showing details for the selected frame, including size and error flag counts.
- Frame and line timing:** Points to the 'Frame and Line Timing' section at the bottom right, showing video resolution and timing statistics.

Key features of the VPA interface.

Features in detail

Trigger: Trigger on user-defined data or key sets, such as SOFI, SOFn, EOFn, and EOFt; trigger immediately without waiting for a trigger character; or trigger only when a link error is detected.

Raw Data: View data in four-byte hex lines: Offset, Time, Hex Data, Data Type, Status, and ADVB Frames Location. Each line is encoded to indicate its type (special control ordered set or data). The status field indicates if the data is okay or associated with an error. Each line of data is time stamped relative to the trigger, and the time stamp zero point is easily reset.

Data Search: Easily search captured data by selecting a predefined ordered set, such as SOFI, and entering a user-defined string. Or search for an error. View a specific ADVB frame number within a container or a particular offset number within the entire data trace.

Data Histogram: View all data captured while highlighting idle characters between video frames. Analyze a particular ADVB frame and video container.

Profile: Load an ARINC 818 profile into the analyzer, which configures error ranges and sets parameters. Configure the profile for naming specific fields within the container header and ancillary data.

Link Status: Assess the link health before data capture. View reports by "SOFI and EOFt detect," "8B/10B codes detect," and other parameters.

Container Details and ADVB Frame Details: Once data is captured, select a container and an individual ADVB frame for analysis. A container, typically one video frame, displays in the green area in the histogram between two gray lines (idle ordered sets). The selected container lists container size, number of ADVB frames, size of the first ADVB frame, and size of the second ADVB frame (which typically contains the first pixel data). A count of framing characters in the container appears, as well as a count of the error flags. For individual ADVB frame data, the ADVB frame number within the container appears in blue both in the histogram and in the ADVB frame status area. The size in bytes of the ADVB frame is shown, as well as the count of framing characters, and a count of error flags.

Video Resolution and Video Frame and Line Timing: View crucial video data: resolution (calculated and extracted from the header video minimum, maximum, and average line timing in microseconds) and idle counts between lines. Monitor the minimum, maximum, and average video frame and the number of idles between video frames.

ADVB and Container Header Decoding: Decode ADVB frame headers, container headers, and ancillary data. Easily modify standard profiles.

Automatic Error Checking: Use the protocol profile for automatic checks of line timing, video frame timing, video resolution, number of bytes per ADVB frame, and a host of other parameters.