Great River Technology

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Advanced Video and Data Systems

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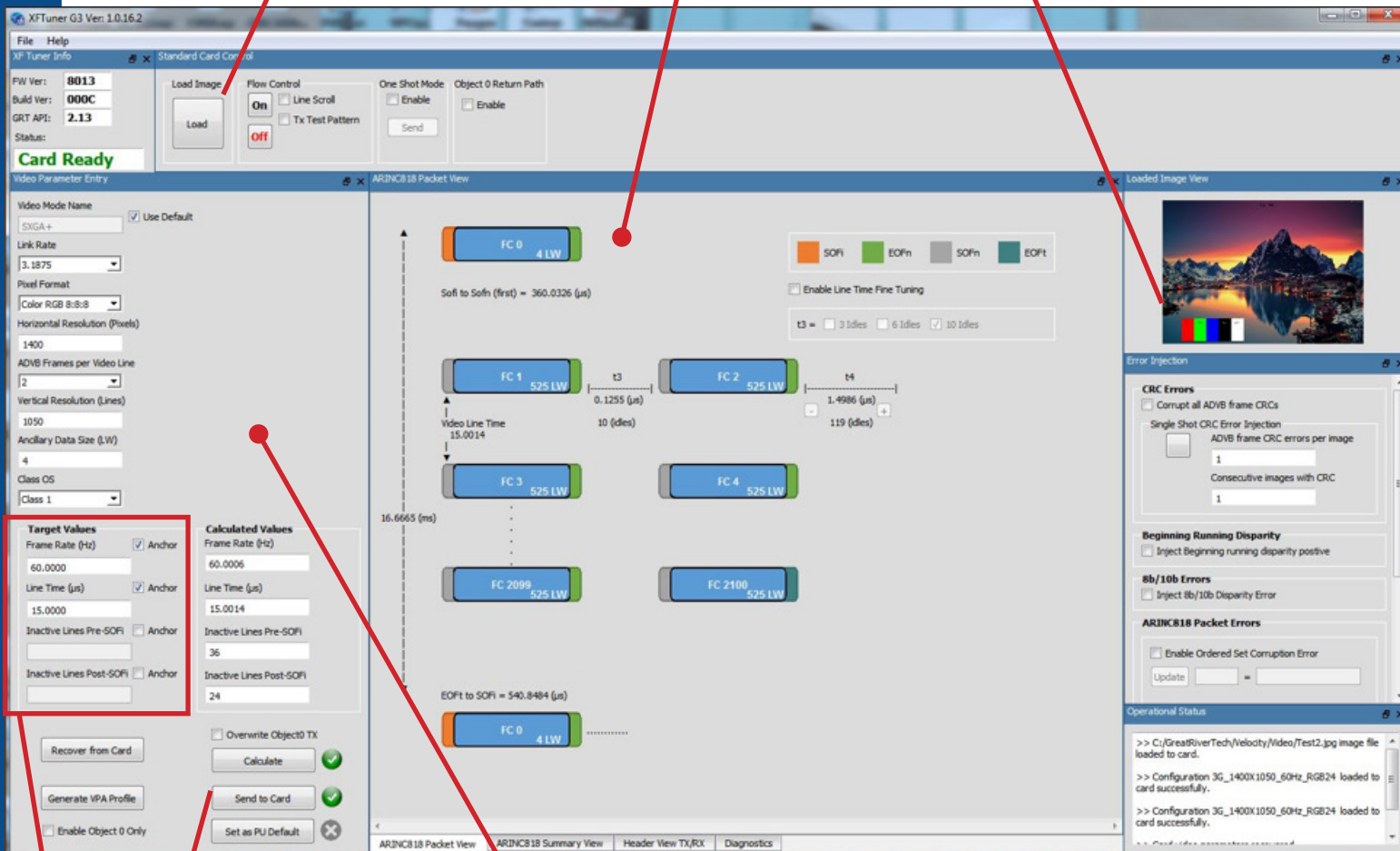
ARINC 818 XF Tuner Gen 3

for Europa systems

The ARINC 818 XF Tuner is a development and robustness testing tool that allows you to create any ARINC 818 video format and insert errors in the transmitted ARINC 818 stream—all by means of an intuitive software GUI allowing users to perform such functions as adjusting format characteristics/parameters. XF Tuner is a card and software application installed by Great River Tech in a Europa system. Use it to test ARINC 818 receivers in cockpit displays, flight recorders, or switches. Quickly test the robustness of nearly any ARINC 818 interface.

Load image to card

Intuitive view of critical timing parameters & video frame structure
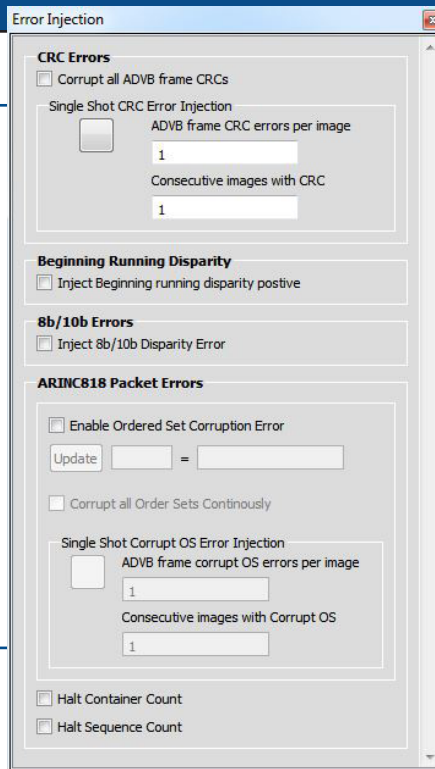
View thumbnail of image to be transmitted

Install protocol to card

Adjust and calculate protocol in real time

Anchor parameters to prioritize line, frame, or vertical blanking timing

Error Injection

CRC Errors
☐ Corrupt all ADVB frame CRCs

Single Shot CRC Error Injection
ADVB frame CRC errors per image
`1`
Consecutive images with CRC
`1`

Beginning Running Disparity
☐ Inject Beginning running disparity positve

8b/10b Errors
☐ Inject 8b/10b Disparity Error

ARINC818 Packet Errors

☐ Enable Ordered Set Corruption Error
Update [ ] = [ ]

☐ Corrupt all Order Sets Continously

Single Shot Corrupt OS Error Injection
ADVB frame corrupt OS errors per image
`1`
Consecutive images with Corrupt OS
`1`

☐ Halt Container Count
☐ Halt Sequence Count

Error injection for robustness & validation testing

ARINC 818 XF Tuner facilitates injection of errors into the ARINC 818 stream:

- Packet CRC errors to all ADVB frames
- Packet CRC errors to selected frames
- Ordered Set corruption errors
- Ordered Set beginning running disparity errors
- Halt sequence & container counts

Applications

Use XF Tuner for

- Interface Control Document (ICD; ARINC 818 video format) creation
- Display/Receiver development
- Robustness & Qualification testing

Operation/features

The graphical view shows all the critical timing parameters of the transmitted ARINC 818, such as line-rate and frame-rate limits. Protocol adjustments can be made in real-time to establish various operational limits of the ARINC 818 system.

Parameter anchoring allows the user to prioritize key timing parameters: frame rate, line time, or vertical blanking. This provides the flexibility to obtain precise timing for ARINC 818 video format development and robustness testing.

XF Tuner transmits any .bmp, .png, or .jpg test image and will size the image to match your protocol settings.

Use it to set link rates to 1.0625, 2.125, 3.1875, 4.25, 5.0, 6.375, 8.5, or 10.0 Gb/s.

XF Tuner supports multiple pixel packing formats: Mono 8, RGB 24, RGB 5:6:5, and Mono 16-bit.

ARINC 818 Obj 0 loading, data-only transmission

Use XF Tuner to set the size of ARINC 818 Ancillary Data and to load data into the card for transmission. This tool also allows data-only transmission (without video payload) using either a continuous or one-shot method.

Tuner card configuration

Once you have finalized an ARINC 818 protocol—in effect, designed your ICD—XF Tuner software loads the configuration onto the XF Tuner card. The configured card is compatible with GRT's Velocity Plus application software. Velocity Plus is a feature-rich application that includes a broad range of transmit and receive capabilities.

Creation of protocol libraries

Once protocol (ARINC 818 video format) timing has been established, it can also be filed for later use. Formats are saved as .sprof text files. A library of .sprof files can be created and easily reloaded as needed. Having previously saved protocol variations greatly reduces time required for qualification testing.

Learn more about Europa systems and recorders at www.greatrivertech.com/europa

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