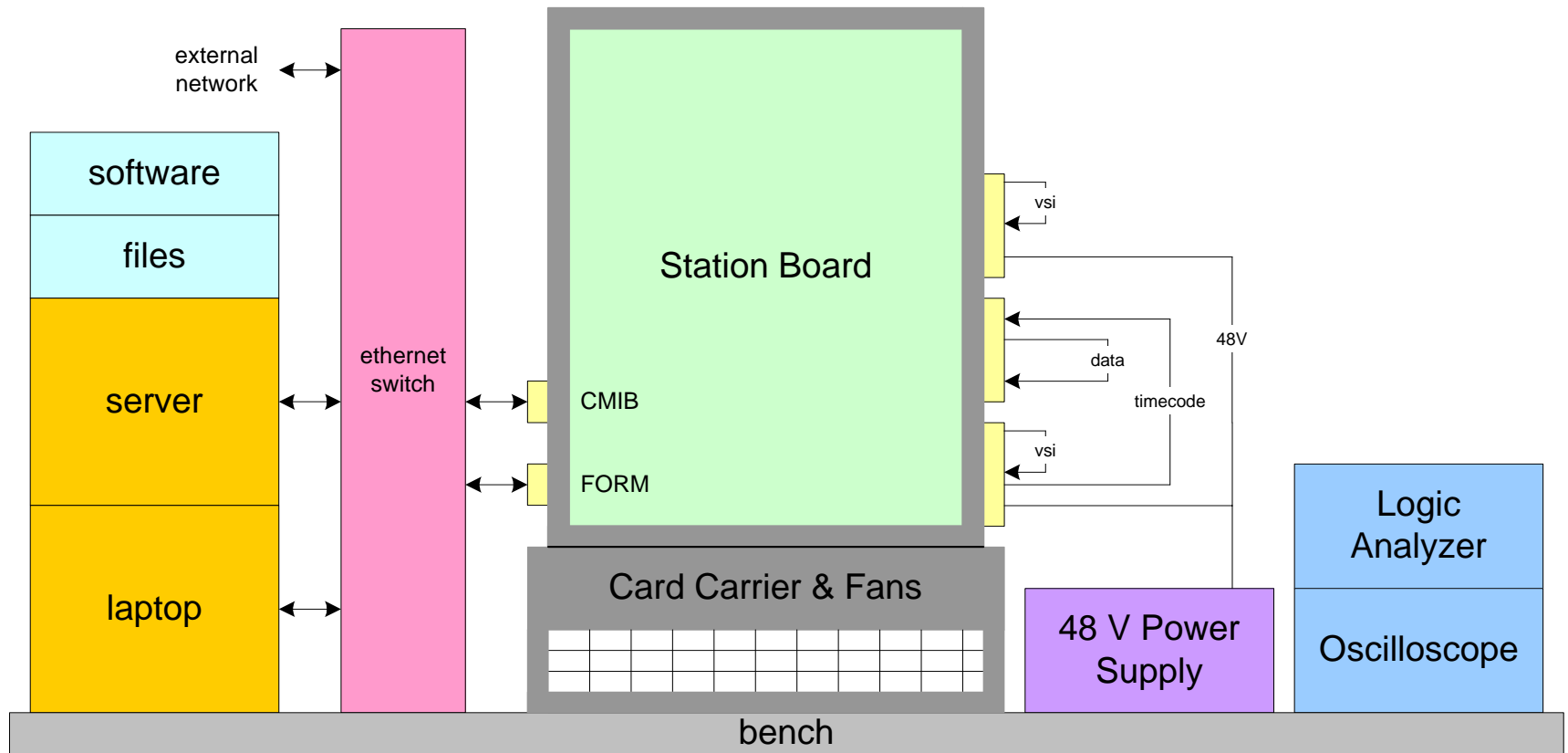
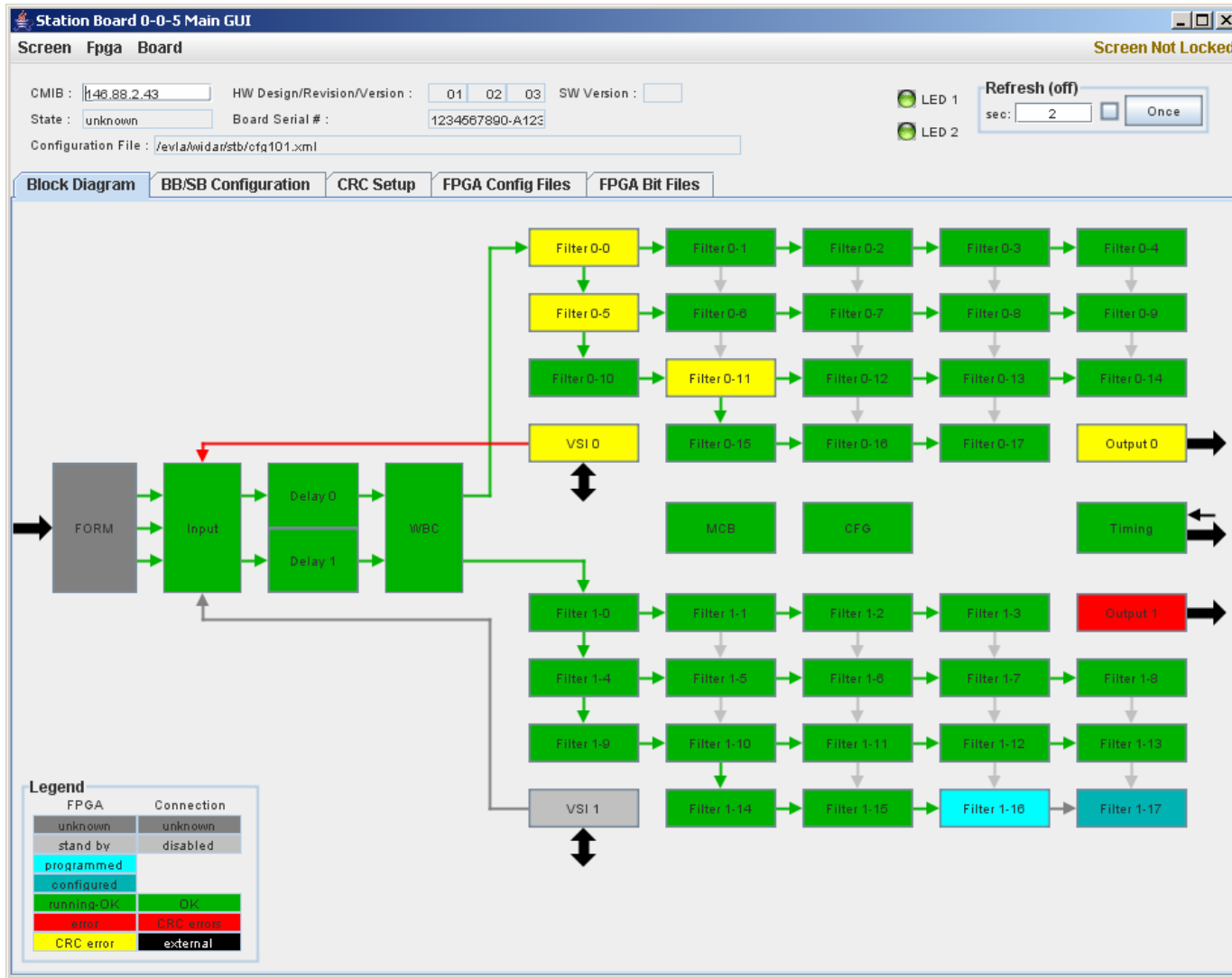
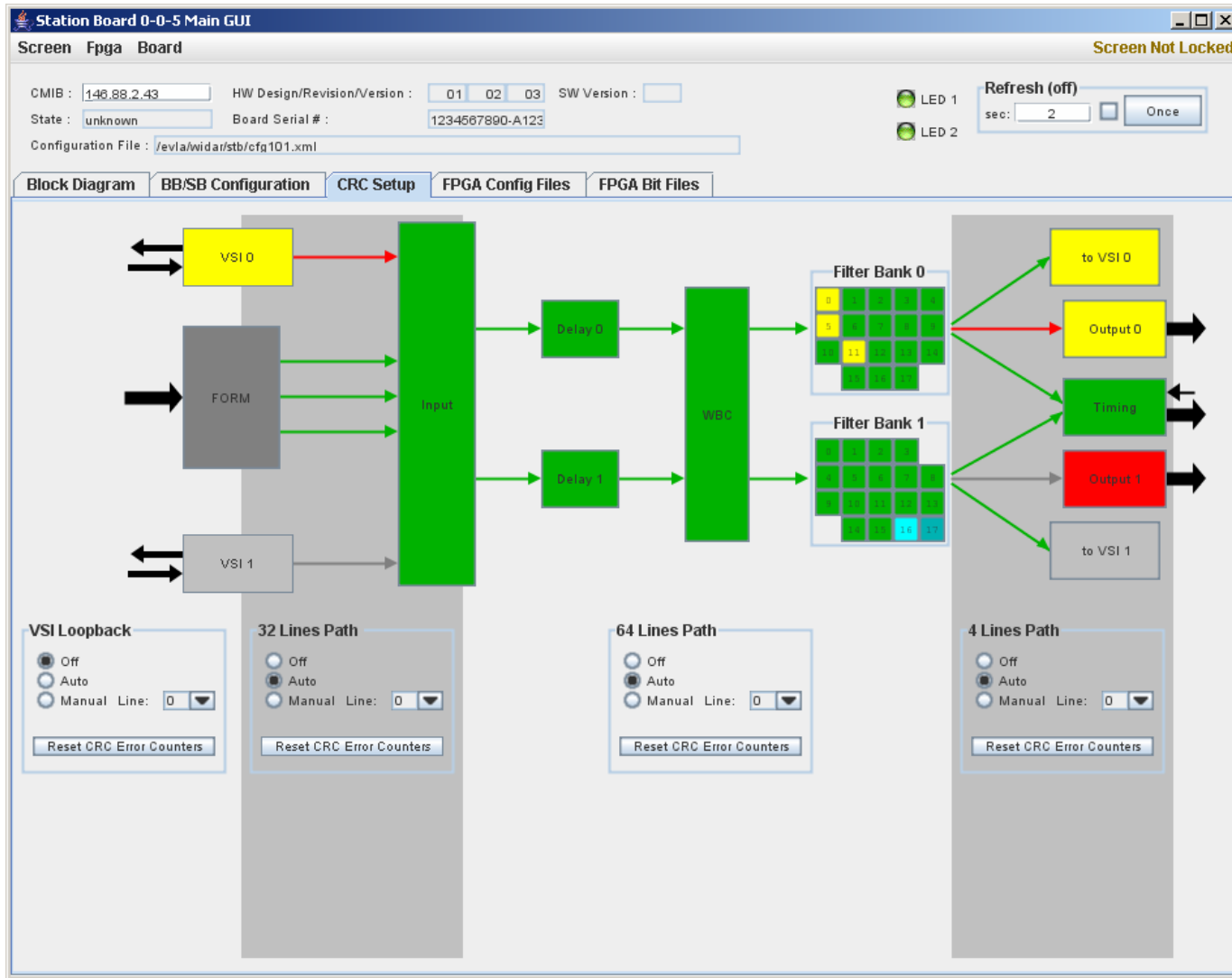


Station Board Testing

D. Fort







- Fiber Optic Receiver Module (FORM)
 - RAM based but same for each bit (or off) for CRC tests
- Input FPGA
 - RAM based
- Delay Module
 - Can hold 0.262144 seconds of data
 - Can be set to cycle at any length (probably set at 25 interrupts)
 - Software generated contents include
 - Receiver noise
 - Signal tones and noise with delay and phase rotation
 - Calibration tones
 - Delay models for use by CMIB
- TBD mini data generators in some FPGAs

- Delay Module
 - Measures its own delay
- Filter FPGA
 - Tone extractor
 - Other (power, state counts, clip counts, ...)
- Output FPGA
 - Data recorder (radar mode)
- TBD mini data recorders in some FPGAs

- During prototype testing use of logic analyzers, scopes, etc is OK but, during production, boards must be tested in an automatic, computer controlled test fixture.
- The test fixture used for testing failed boards found and replaced during normal operations could be the same as for the production phase.
- The test fixture should be able to test all board types but Station and Baseline board testing are essential.
- The automatic tests should be able to identify paths/chips that need attention/replacing. They may use special purpose FPGA designs.
- The test fixture will consist of a working system. A working board of the same type will be replaced with the board to be tested and a set of tests performed following a canned script.