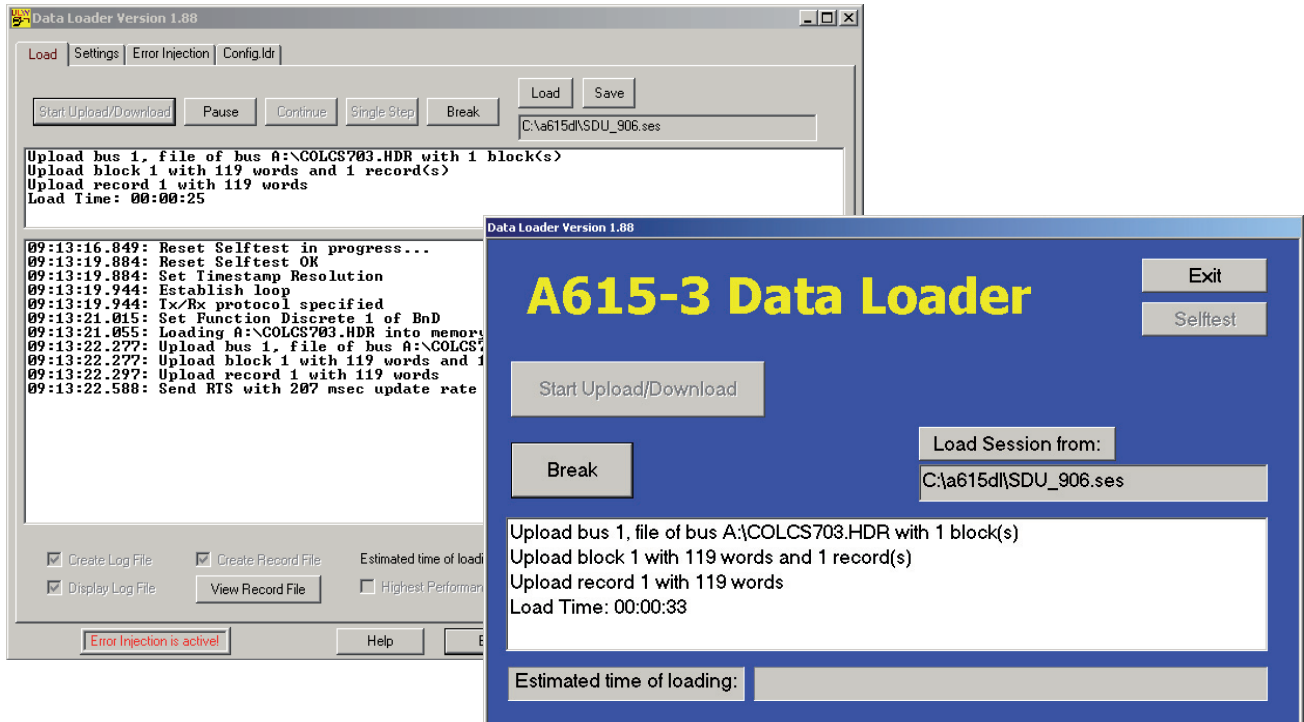


SpeedLoader™

ARINC 615-3/603 High Speed Data Loader



- Two GUI options: single-window GUI for easy loading and/or enhanced debugging GUI
- Single-step upload / download
- Error injection module
- Protocol log file with user-configurable content
- Free configuration of protocol timing parameters



mastering
realtime
complexity

SpeedLoader™

ARINC 615-3/603 High Speed Data Loader

General

The ARINC 615-3/603 Data Loader for Windows comprises all the functionality required to achieve either one of the following objectives:

- > Upload and download of operational programs and data to / from airborne computers
- > Development, implementation and validation of any ARINC 615-3/603 LRU protocol software through enhanced data loader functions, including free protocol timing configuration, error injection, data recording, and data analysis

Together with TechSAT's intelligent ARINC 429 USB, PCC (PCMCIA), and PCI interfaces, the SpeedLoader application software provides a very cost-effective solution for ARINC 615-3/603 LRU data-loading tasks, both for mobile and shop/laboratory-based purposes.

ARINC 615-3/603 Shop Loader Functionality

The loading function is executed primarily within the embedded general-purpose CPU of TechSAT's A429-USB, A429-PCC, or A429-PCI interface boards, ensuring that all handshaking and timing between loader and target LRU (or system) are maintained exclusive of any other application(s) running on the host PC.

This architecture also ensures that loading peculiarities encountered during loading can be accommodated quickly and easily through the analysis of the recorded data load sessions and the correction of anomalies. The SpeedLoader may be run in combination with multiple A429 interfaces, and other TechSAT simulation / test / analysis software on the host PC, thus creating a very powerful ARINC 429 support system. The SpeedLoader is in full compliance with the ARINC 615-3/603 specification. The software supports

- > both the automatic mode and the control mode for ARINC 615-3/603 data upload and download
- > all handshaking communication with the target LRU
- > all standard user information call-outs
- > an expanded set of status and diagnostic messages allowing the operator to keep close track of the loading process
- > online display of loading process messages - user can select the level of detail displayed
- > generation of text log file, which stores all loading process messages

Another Data Loader application (A615A NetLoader™) permitting data to be loaded over Ethernet is also available from TechSAT.

Protocol Analyzer & Validation Tool

Apart from its basic purpose as a data loading tool, the SpeedLoader application also serves as a Protocol Analyzer & Validation utility helping engineers to develop, implement, and debug ARINC 615-3/603 LRU protocol software. To this end, the following functions have been added:

- > **Single-step upload / download** - allows operator to send protocol commands or data records one at a time
- > **Recording and DataView utility** - based on the unique, built-in Rx/Tx wrap-around capability of TechSAT interface cards, the Data Loader is able to record the entire data exchange between LRU and loader. The recorded file can then be analyzed with TechSAT's ARINC 429 DataView utility - a comprehensive Windows-based analysis and diagnostic tool allowing for investigating inter-operational (handshaking) breakdowns, intermittent protocol irregularities, delicate timing conditions, etc.
- > **Protocol Timing Adjustment** - timeout tolerances, response times and gap times can be freely modified
- > **Error injection** module supporting data word omission, checksum manipulation, data word content substitution, and HDR command status field manipulation

Technical Data

SW Functions and Features

- Two GUI options: single-window GUI for easy loading and/or enhanced debugging GUI
- Automatic & controlled upload / download
- Single-step upload / download
- Controls to pause, restart, and terminate loading
- Creation of protocol log file with user-configurable content
- Operator display including: operation mode • loading duration and status • disk # / filename • current block / record • current protocol status (configurable) • initialization routine messages • command messages
- Creation of recording file storing all transferred ARINC 429 data words
- Error injection module supporting:
 - Data word omission - permanently or for a fixed number of times
 - Checksum manipulation - no checksum or wrong checksum during the entire transmission or for a fixed number of times
 - Data word content substitution - permanently or for a fixed number of times
 - HDR command status field manipulation
 - No error injection mode (default setting)
- Free configuration of protocol timing parameters, including
 - Loader response timeouts (additionally, the loader can be set to either react according to ARINC Report A615-3, i.e. stop the transmission in case of a timeout, or to continue with the transmission)
 - Waiting periods prior to transmission of loader commands
 - Transmit intervals for POL and RTS commands
- Comprehensive stand-alone DataView tool, including a sample LRU definition, used to analyze Data Loader recording files

Supported HW Platforms

- A429PCI PCI card
- A429USB USB device
- A429PCC PCMCIA card

Operating Systems

- Windows XP, VISTA
- Windows 2000 / NT
- Windows 98 / 95