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760664-0803

ConnexFormat

1A

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Revision History				
Rev	Date	Section	Change	Author
1A	24/01/2024	All	Created Release Notes	CB

1 Software

This section identifies the software to which these Release Notes apply:

Software Release	
Number	760664
Title	Connex Format
Version	V2.0
Repository	760664-diagnostics-translator (Bitbucket)
File Format	Visual Studio solutions in C#

1.1 Summary

The Connex stores all relevant information, such as diagnostics, battery and vehicle data, etc on the SD card. For compactness the data is stored in binary format, and diagnostics information in addition is compacted even more by storing ID numbers instead of diagnostics message. This tool is used to decode all data stored on the SD card, which includes:

1. Diagnostics data, stored in DIAG folder
2. Battery data, stored in BATT folder
3. Temperature data, stored in TEMP folder
4. Vehicle data, stored in RECORDS folder
5. Current readings data, stored in INA folder
6. Vehicle signature files, stored in WAVEFORM folder
7. Lidar files, stored in LIDAR folder
8. Magnetometer data, stored in MAG folder
9. Old Vehicle data, stored in VEH folder

In addition unsent vehicle queue data is stored in Connex flash and can be retrieved using this tool.

Decoding the diagnostics data requires a dictionary file debugdic.json, which is created with every new Connex build. The latest dictionary for firmware version 1.20.8 is included with this release.

Since Connex version 1.18 it has been possible to access the SD card as a USB Flash Drive – this release of Connex Link takes advantage of this feature to provide easier access to bulk file transfer and decoding.

1.2 Build

Microsoft Visual Studio is used to load the solution file Diagnostics_tranlator.sln. The code is built by selecting Build Solution from the Build menu.

Tool	Name	Version
Microsoft Visual Studio	Microsoft Visual Studio Community 2022	17.3.6
	NewtonSoftJson (installed in Visual Studio via Nuget)	13.0.3

1.3 Identification

The firmware is tagged in bitbucket.

2 Deployment

2.1 Target System

The executable runs on Windows systems.

2.2 Pre-requisites

None.

2.3 Installation

The application is now provided as a set of files which includes a "setup.exe" – running this program will install the ConnexFormat application on the PC.

2.4 Configuration

The application includes the ability to select the COM port on which the Connex can be communicated with.

The application includes ability to configure the Output Directory where the translated files are stored.

2.5 Verification

Tested with Connex 1.20.8.

3 Functionality

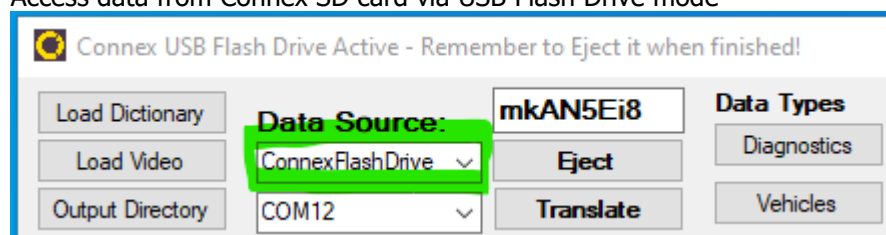
3.1 New Features Added

3.1.1 Renamed

Application renamed as "ConnexFormat"

3.1.2 Automatic Connex COM Port Detection

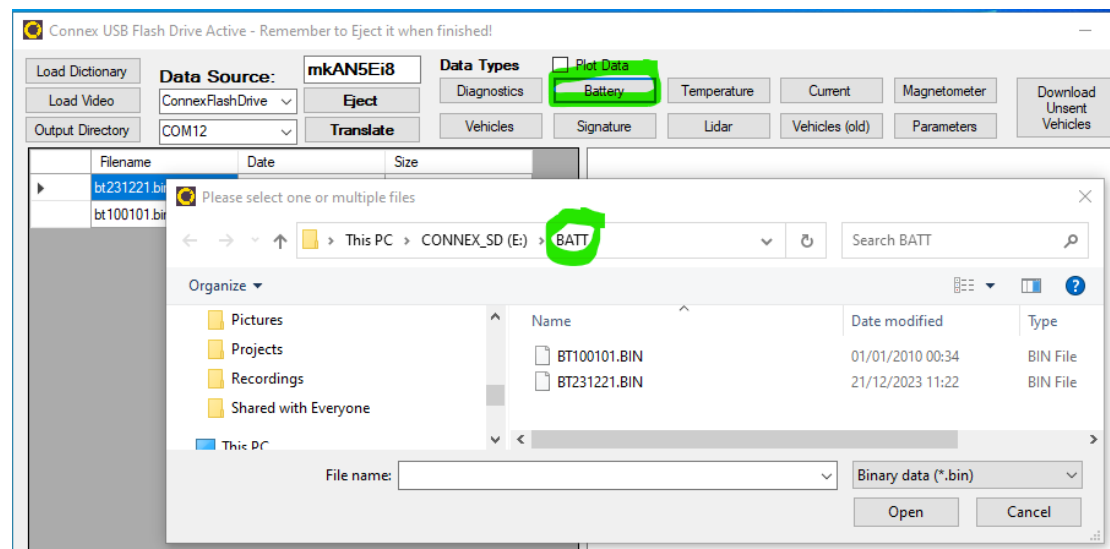
Access data from Connex SD card via USB Flash Drive mode



The application attempts to identify the correct USB COM Port to talk to the Connex automatically, otherwise the COM port must be selected according to which is in use for the USB connection to the Connex.

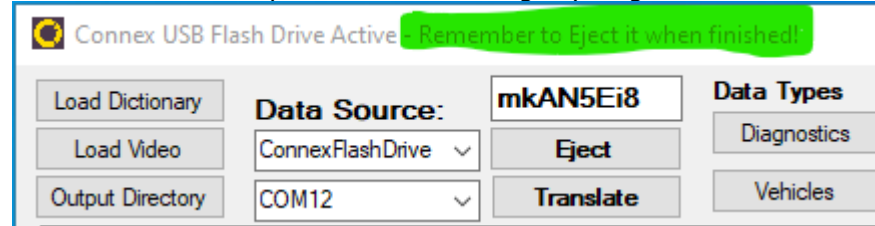
3.1.3 Automatic Connex USB Flash Drive Detection

The application attempts to identify the drive which is the USB Flash Drive of the Connex SD card by its friendly name "CONNEX_SD". This enables the application to go straight to the directory containing the files of the type selected when any of the file type buttons are clicked.

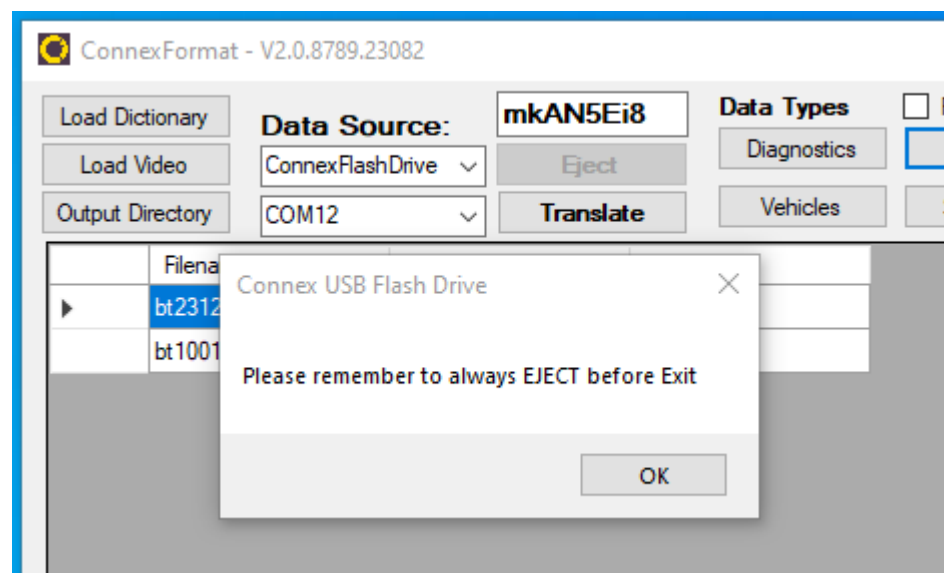


3.1.4 Eject

The user is encouraged to Eject the Connex USB Flash drive through the new “Eject” button when they have finished accessing files from it. This is important as leaving a Connex in USB Flash Drive Mode will prevent it from writing anything new to the SD card.



If the user tries to exit the application while still in ConnexFlashDrive mode they get a warning to encourage them to remember:



3.2 *Old Features Retired*

3.3 *Fixed Issues*

3.4 *Known Issues*

None.

End of Document