DBI3cli

DBI3 Log Download and KML Converter

Overview

This application, written in Python, runs on Windows 10, Linux, and should run on MacOS.

With the DBI3 plugged into a USB port, the application can download and/or delete LOG files located on the DBI3. When downloaded to the PC the files are stored in a subdirectory based on the DBI3 serial number (e.g. SN12345) to keep files straight if you download from more than one DBI3. While downloading, the files can be immediately converted to KML format, for display by Google Earth.

When the DBI3 is not plugged into a USB port, this application can use the previously downloaded LOG files and convert them to KML. It has the ability to *tweak* the KML output of the individual LOG files.

Configuration

Many options can be set for the application and will be persisted in a config file ({HOME}/.DBI3config where {HOME} is the users home directory as defined by the OS). The most important configuration is the path to store DBI3 Log and KML files. The first time the application starts it will offer to use {HOME}/Documents/DBI3logs and {HOME}/Documents/DBI3Logs/kml as the paths.

The USB Comm port (OS specific) can also be configured, but if it is left unset the application will attempt to automatically find the DBI3 each time it starts by matching the expected USB registration id (USB VID/PID).

There are other configuration options that affect the defaults used when converting a Log to KML. In the KML menu, it is also possible to define conversion defaults for an individual Log, overriding the applicaion defaults.

Application config options:

log_path – Directory path to store DBI3 Log files. The files will be an a serial number specific subdirectory under this path.

kml_path – Directory path to store DBI3 KML output files

com_port – USB comm port (name is an OS specific format, config edit will attempt to help)

filter_age_limit – Filter the Log/KML list display to files that are less than filter_age_limit days old.

filter_new – Filter the Log/KML list display to files that are new (newer any any Log/KML currently on the PC)

filter_invalid – Filter the Log list display to files that are valid for KML conversion (i.e. it has GPS data records)

altitudemode – Google Earth altitude mode for track display. *clampToGround* draws the track on the surface. *absolute* assumes the Log record altitude an will display the track above (or below!) ground. *relativeToGround* assumes the recorded altitude is above ground level (e.g. zero the altimeter at take off)

extend_to_ground – When the track is displayed above ground, this will draw vertical lines to the ground to show where the track actually went.

kml_use_metric – The additional DBI3 log data (temperatures, speed, …) can be included as additional data in the KML file, This controls english vs. metric value conversion for the additional data.

kml_fields – Controls the actual additional data fields that will be included in the KML. Consists of a comma separated list of the following:

ALL	– Selects all of the following fields
ROC	– Rate of Climb
TOPT	– Top Temperature
AMBT	– Ambient Temperature
DIFF	– Computed difference from ambient to top temperature
SOG	– Speed over Ground
COG	– Course over Ground
BATM	– DBI3 Battery voltage
BRDT	– DBI3 internal board temperatures

verbose – Turns on verbose DEBUG output during execution for development work.

KML edit (*tweak*) options:

trim_start_time - Ignore DBI3 data until YYYYMMDDhhmmss (trim the beginning of the Log)

trim_end_time - Ignore DBI3 data after YYYYMMDDhhmmss (trim the end of the Log)

altitude_offset - floating point offset to the DBI3 reported altitude (adjust for incorrect altimeter setting)

altitudemode - See Application config options.

extend_to_ground - See Application config options.

kml_use_metric - See Application config options.

kml_fields - Google Earth extra data fields, available (ALL,)

Modes of Operation

The application has three modes of operation:

- When started without command line options it will present interactive menus to prompt for command and control operations.
- When started with *–sync* it will attempt to automatically connect to the DBI3, download all new files (new means newer than any currently in the Log path), and convert to KML.
- When started with *–file FILE* it will convert the single Log *FILE* into KML, in the same directory as *FILE*.

Menu Tree

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Main – prompt (DBI3)
  config – edit application config settings
  filter – set list display filter options
  Logs – prompt (DBI3:Logs:SN12345)
    list – display the current DBI3 Log list and selection status
    select – select lines from the list for later download/conversion
    convert – download and convert the selected log files
    download – download the selected log files
    delete – delete the selected log files on the DBI3
  KML – prompt (DBI3:KML:SN12345)
    list – display the current Log list and selection status
    edit N – edit the tweak settings for the given list line
    select – select lines from the list for later operation
    convert – convert all currently selected list items to KML
    refresh – refresh the current list
```

Main has the options to set and alter configuration and listing filters.

Logs has the options to download, convert, and delete LOG files on the DBI3.

KML has the options to tweak conversion options and convert Log files to KML.