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FLIGHTLINE RELEASE NOTES

FlightLine v14.3 – May 28, 2018

The software included with this notice is a release of the ASCB FlightLine software, which allows viewing, recording, and playing back of ASCB on a Windows platform. ASCB versions A-D and Enhanced are all supported. An ICS DataTap-10 is required for viewing and recording of live ASCB data.

Revision History:

Version 14.3:

- Fixed a bug where the registry was always assumed to be 5MB when recording in circular recording mode. This was causing the wrong offset to be used when wrapping back to the start of the recording.
- Fixed a bug where channel 0 in the Channel Display Map could not be deleted.
- Fixed a bug where the Circular Recording Mode setting was not being saved between application launches if the TIS Legacy Recording Mode checkbox was checked as well.

Version 14.2:

- Fixed a bug where an error message was always displayed when selecting “Assign Contiguous Channels.” The message would appear regardless of any configuration options selected.

Version 14.1:

- Added copying of additional fields from the ASCB Configuration Database into the header of the Consume All ESCAPE Registry generated by FlightLine. The added fields are the ASCB Data Database version, Config Data Database version, and the ESCAPE Tool Database version. These fields are taken from the “dbProperties” table in the ASCB Configuration Database.

Version 14.0:

- Added the ability to decode and display ASCB Version A, B, and C data. Major Modification to allow reading of Honeywell style TIU ASCB-ABC CSV definition file for configuration. Numerous modules had to be modified and some added. This is a major revision hence the roll to 14.0
- Added the ability to decode ARINC-429 labels into engineering units when converting a recording taken on the DataTap-10 into a CSV file.

Version 13.5:

- Added the ability to handle 4MB or 5MB Consume ESCAPE Registry files in playback and recording. If a Consume ESCAPE Registry is specified in the ASCB Rx Configuration window that is larger than 4MB, a string of “ESCPE5MB” will be written to offset 8 of any recordings taken with FlightLine. This scheme provides backwards-compatibility for registries less than or equal to 4MB.

Version 13.4:

- Added the ability to show unoccupied channels as blank rows in the main display. This setting can be found under Tools->Administration->View Settings.

- Added an ASCB parameter search pop-up window which can be accessed by right-clicking on “ASCB-D/Enhanced ASCB” in the Parameter Tree and selecting “Search ...”. Once parameters have been found in the search window, they can be added to the main display by double-clicking on an individual parameter or by right-clicking on one or more shift-selected parameters and selecting “Add to Main Display”. Note that the initial search may take some time as the entire Parameter Tree must first be filled from the ASCB database.

Version 13.3:

- Added a new mode (Host Transmit Playback) allowing the entire ASCB bus to be reproduced from a previously recorded file set. The ASCB bus will have the exact timing and data as when the recording was taken. This is similar to the existing Tx Raw Playback mode, but in Host Transmit Playback mode the recording resides on the host computer rather than on the DataTap-10's media card. This prevents the need to copy the entire recording set to the media card, which can be time-consuming and require the use of a high-capacity card. This functionality can be accessed by clicking on the “ASCB Tx” button and selecting “Playback” mode. Note that no special configuration of the DataTap-10 is required as all associated settings will be controlled from FlightLine. The DataTap-10 requires the ASCB transmission option to be installed in order to correctly use this mode.
- Added a total parameter status errors field to the main display.
- Added a fast playback option to the ASCB Rx Configuration Window. This allows a recording to be played back as fast as possible, which is useful for quickly detecting parameter status errors as well as generating a CSV file.
- Added help icons to many of the forms to provide details of functionality.
- Added automatic filling in of minimum value, maximum value, and rate for enumeration parameters when importing a MAP file in the Parameter Transmit Windows. This previously only existed for integers, unsigned integers, floats, and status parameters.
- Reversed the order of most significant to least significant words when using split words in the ARINC-717 decoding.
- Added “smag” (signed magnitude) and “bcd” (binary coded decimal) types to the allowed ARINC-717 data types.

Version 13.2:

- Made minor enhancements and bug fixes to support ARINC-717 decoding.

Version 13.1:

- Added the TIS Configuration Verifier tool, which is based on the verifier from the old TIS Config Tool. The verifier can be accessed under Tools -> Open TIS Config Verifier and is used to compare a selected TIS configuration file against the current database.
- Added an error message if the FlightLine Command port could not be claimed when FlightLine is first opened. This message can be permanently suppressed under Tools -> Administration -> Misc Settings.
- Added the ability to use the FlightLine installation directory as the base directory for the standard FlightLine sub-directories (CONFIG, RUNLOGS, etc.). When FlightLine is first opened, it checks the installation directory for the lastSettings.log file. If it exists, FlightLine then creates the necessary sub-directories under the installation directory if they do not exist already. If the lastSettings.log file is not found in the installation directory, FlightLine instead uses the default location under C:\FLIGHTLINE.
- Added code to ignore any incoming FlightLine command messages while the start of a recording is in progress. Once the recording has started and the user has accepted any warning messages, command messages will then be accepted.

Version 12.10.3:

- Added the ability to include a comment when adding an event marker using a Command Message. The comment string must exist after the message trailer and can be up to 1024 bytes in length. All bytes after the trailer will be considered as part of the comment string until either the end of the message is reached or a null character is found. If no comment string exists, the legacy “No User Comment Added” will be used for the event marker comment.

Version 12.10.2:

- Removed a duplicate window for setting the Status Message parameters under Tools-> Administration. The duplicate window caused changes to these parameters to have no effect nor be saved into the last settings file.
- Added clearing of the parameter buffer between decoding of parameters. This ensures there are no trailing characters present if the next parameter is not a multiple of 4 bytes.
- Added the ability to save the current channel map in the old MAP format to support tools requiring the old format. This is done by selecting “File -> Save Mapping As and Generate CFG (Old MAP Format)”.

Version 12.10.1:

- Changed the data type comparison to be case-insensitive when converting a MAP file to a CFG file. In previous versions, the wrong parameter type can inadvertently be written to the CFG file in the rare case the data type string comparison fails due to case sensitivity.

Version 12.10:

- Added the ability to start and stop simultaneous recording of all 3 recordable data streams (ASCB, ARINC-429, and ARINC-717). Note that recording of all 3 streams is only possible on DataTap-10s containing software versions from January 2016 or later. If a DataTap-10 containing an earlier software version is connected, the old Recording Control window supporting only one data stream will pop up instead of the new Recording Control window.
- Added an option to the Playback Control window to play back over ASCB (aka Tx Raw Playback) rather than just over UDP (aka Rx Raw Playback). Note that the DataTap-10 must have the transmission hardware installed in order to play back over ASCB. When the transmission hardware is installed and this option is enabled, the entire bus will be played back and will mimic the exact timing and data of the full ASCB bus from when the recording was taken. Note that no timing NICs can be present on the bus when this option is used.
- Added the ability to search by channel or parameter name in the Parameter Transmit Forms as well as added a check box to hide any empty rows.
- Added a tool to convert a binary ARINC-429 recording from the DataTap-10 to a CSV file. Options exist to filter out one or all channels to be written to the CSV file. Because Excel only supports a limited number of rows, another option exists to break up the CSV file into segments of any size. Note that DataTap-10 software versions dated January 2016 or later record in a binary format supporting multiple channels, while earlier software versions record in CSV format and only allow one channel to be recorded.
- Added a Performance Monitor Form which can be accessed from the DataTap-10 page to allow monitoring of all current recordings as well as the performance of the parameter encode and decode engines. This can also be used to monitor any performance degradation of the recording media using the maximum buffer occupancy fields.
- Added an option when using the Format Media button on the DataTap-10 page to allow automatic retrieval and restoring of all configuration files (.cfg) during the formatting process. Note that this option is only available when the microSD card is selected as the recording media rather than the optional CompactFlash card since configuration files are not stored on CompactFlash.
- Added options under Tools->Administration->Misc Settings to create new items on the Windows Task Bar when the ASCB Parameter Transmit Form, Recording Monitor Form, and/or DataTap-10 Status and Control Form are first opened. This allows the FlightLine main window to be minimized without minimizing these windows. Note that FlightLine must be restarted for the changes to take effect for the Recording Monitor and DataTap-10 Status and Control Forms.

- Modified the command sent to the DataTap-10 when using the Format Media button to use “full format” rather than just “format”, if supported by the connected DataTap-10. This only applies when microSD is selected as the recording media rather than CompactFlash. If the full format command is supported in the DataTap-10, it will result in erase commands being issued to the entire microSD card during the formatting process, increasing performance and extending the life of the card. This is always the recommended method of formatting the card when being used for recording, and is required if recording multiple data streams. Using the full format can add about 20 to 30 seconds to the total formatting time when using a Samsung PRO 64GB microSD card.

Version 12.9.1:

- Added a fix to work around an issue when starting FlightLine via Remote Desktop and then logging directly onto that computer. This scenario previously could cause issues with the Parameter Selection Tree which would prevent the ability to add new parameters and would also prevent FlightLine from closing properly.

Version 12.9:

- Added start/stop control for ARINC-717 recording on the DataTap-10.
- Added optional header row, units, data type, and parameter name fields to the CSV output. These options can be configured under Administration.
- Added an option to append the CSV filename with a timestamp to force the filename to be unique.
- Added support and automatic detection of DIANE-format raw datagrams received from the DataTap-10 and of DIANE-format recordings used for playback.
- Added a warning when using the ASCB Transmit Configuration window if the hardware transmit PDD is enabled in the selected DataTap-10. Typically they should not be used together.
- Added an option under Administration to set the CSV output rate to once per ASCB frame to eliminate duplicate lines in the CSV output. When this option is checked, FlightLine will wait for the ASCB frame number to change prior to writing a line to the CSV output. In the absence of an incrementing ASCB frame number, the output rate will be slightly slower than the ASCB frame rate. If this option is not checked, the output rate will be set to its legacy value of 10 milliseconds.
- Fixed issues in the processing of status datagrams and raw datagrams when multiple DataTap-10s are connected.

Version 12.8.1:

- Made a change to account for values listed in the EnumState table of the database being greater than 255 and causing a segmentation fault. Any values greater than 255 are now ignored by FlightLine since actual enumeration parameter values can never be greater than this value.

Version 12.8:

- Fixed an issue where the bottom of the main screen was being cut-off when the Windows text size is configured to medium or large.
- Added the ability to drag-and-drop ASCB and ARINC-717 functions, applications, groups, and individual parameters from the Parameter Selection Tree to the Channel Map Display. The new parameters will always be added to the end of the display.
- Added the ability to move the divider between the Parameter Selection Tree and the Channel Map Display for custom sizing of the sections.
- Added fields in the DataTap-10 Status and Control page to indicate the selected ASCB version and DataTap-10 transmission mode as well as the assigned NIC IDs. Note that the ASCB version and the transmission mode can only be changed through the DataTap-10's system configuration file.
- Added the creation of two files when starting FlightLine ASCB transmission: config_log_tx0.txt and config_log_tx1.txt. These files provide the lookup status of each parameter listed in the produce TIS configuration files and show whether a parameter is actually produced by the associated produce ESCAPE registry. The files are created in the same directory as the FlightLine executable and can be useful for debug.

Version 12.7.1:

- Fixed a bug which exists in all previous FlightLine versions where the last settings file was being read in as a text file rather than binary. This was causing characters to be inadvertently removed in rare cases, resulting in FlightLine locking up during initialization.
- Fixed a bug which has existed since FlightLine 12.4 where a new file was not being opened correctly once the file size limit was reached during recording. This is only an issue when not in Legacy TIS File Extension Mode.

Version 12.7:

- Added the ability to start playback from a specific IRIG time in the ASCB Rx Configuration window. The first IRIG time in the recording will automatically be extracted when a new playback file is selected. Alternatively, the “Extract” button can be pressed to manually extract the first time. The “Strict Parse” checkbox indicates the method for parsing the recording for IRIG times. Right-click on the checkbox for detailed information. If the IRIG time is locked at the start of recording, this box can be left unchecked.
- Added a slider bar on the main page which appears during playback. The slider tracks the current position within the recording and allows seeking to any point within the recording by moving the slider with the mouse. The IRIG time, ASCB frame number, and a “Go” button will appear next to the slider when moved with the mouse. Once the slider has been selected, the arrows keys and page-up/page-down keys can be used to adjust by 1 second or 1 minute, respectively.
- Added the ability to right-click and add an entire function, application, or group when selecting ASCB parameters from the selection tree.
- Added an option under the File menu to append an XLS import query to the channel map. The only XLS import option which previously existed cleared the channel map prior to the import.
- Added a Circular Recording Mode option under the Options menu in the ASCB Rx Configuration window. In this mode, recording will restart at the beginning of the file (after the ESCAPE registry header) once the specified file size limit has been reached.
- Added passive mode FTP support when supported by the DataTap-10. This prevents potential firewall issues which can occur when performing FTP transfers in active mode.
- Added the ability to automatically fetch a list of all valid recordings from the DataTap-10 when the drop-down list is selected in the DataTap-10 Playback Control window. This feature is only available when used with recent versions of the DataTap-10 and will otherwise require a DataTap-10 software update.
- Added the ability to import a MAP file into the Parameter Transmit windows. Importing a MAP file allows the “Min Value” and “Max Value” fields (when applicable) to be populated, which does not occur when importing a CFG file. In addition, each “Change Per Second” field will be populated with a value calculated by subtracting the min value from the max value and dividing by 60, meaning it will take one minute to go from the min value to the max value and vice versa.
- Fixed incorrect data types being assigned when importing a CFG file into the Parameter Transmit windows.
- Added a clear button to the Parameter Transmit windows to allow clearing of all parameters.
- Changed the method of determining whether a parameter is produced or not for the FlightLine-based ASCB transmission to match the method of the DataTap-10. The previous method failed in certain cases. The new method creates a table of all transmitted parameter groups at initialization time.
- When adding new parameters, the channel map will now automatically scroll to the location of the new parameter.
- Added Update Saved Set and Delete Saved Set options to the DataTap-10 Update Form.
- Fixed a bug in the Consume All registry generation code to account for frames where no data is consumed.
- Added an option under Administration->View Settings for the default display format (binary, decimal, or hexadecimal) for integers and unsigned integers when they are added via the selection tree or an XLS import. Note that once parameters have been added to the channel map, the display format for those parameters can only be changed via the Inspector window.

Version 12.6:

- Per customer request, added a column to the CSV output for the IRIG time in standard format.
- Fixed a bug by increasing the size of the ASCB recording structure. More data was being copied to the structure than its actual size due to support of the full-sized frames. This caused corruption of data outside of the dedicated structure.

Version 12.5:

- Fixed the multiple parameter delete when multi-word parameters are present.
- Per a customer request, changed the format of the XLS import to match that of when a parameter is selected directly from the tree.
- Increased the maximum number of parameters to 16K.

Version 12.4:

- Completed the parameter transmit windows, which mimic "siugen" and allow changing of parameter values to be transmitted onto the ASCB bus.
- Added a UDP command and status interface to FlightLine.
- Added a variable font size to the DataTap-10 playback file display in order to fit longer filenames, such as when it is configured in TISNATIVE filename mode.

Version 12.3:

- Added the current playback or recording file to the main display.
- Added auto-detection of the frames being received by the DataTap-10 and set the size to record based on this. The DataTap-10 has always sent the larger frames, but to maintain compatibility with previous FlightLine versions which recorded only the smaller frames, older DataTap-10s which do not have the "eASCB " field result in the smaller frame size being recorded.
- Added auto-detection of the frame size being read from a file by looking at the "eASCB " field in the first frame as well as in the second frame.

Version 12.2:

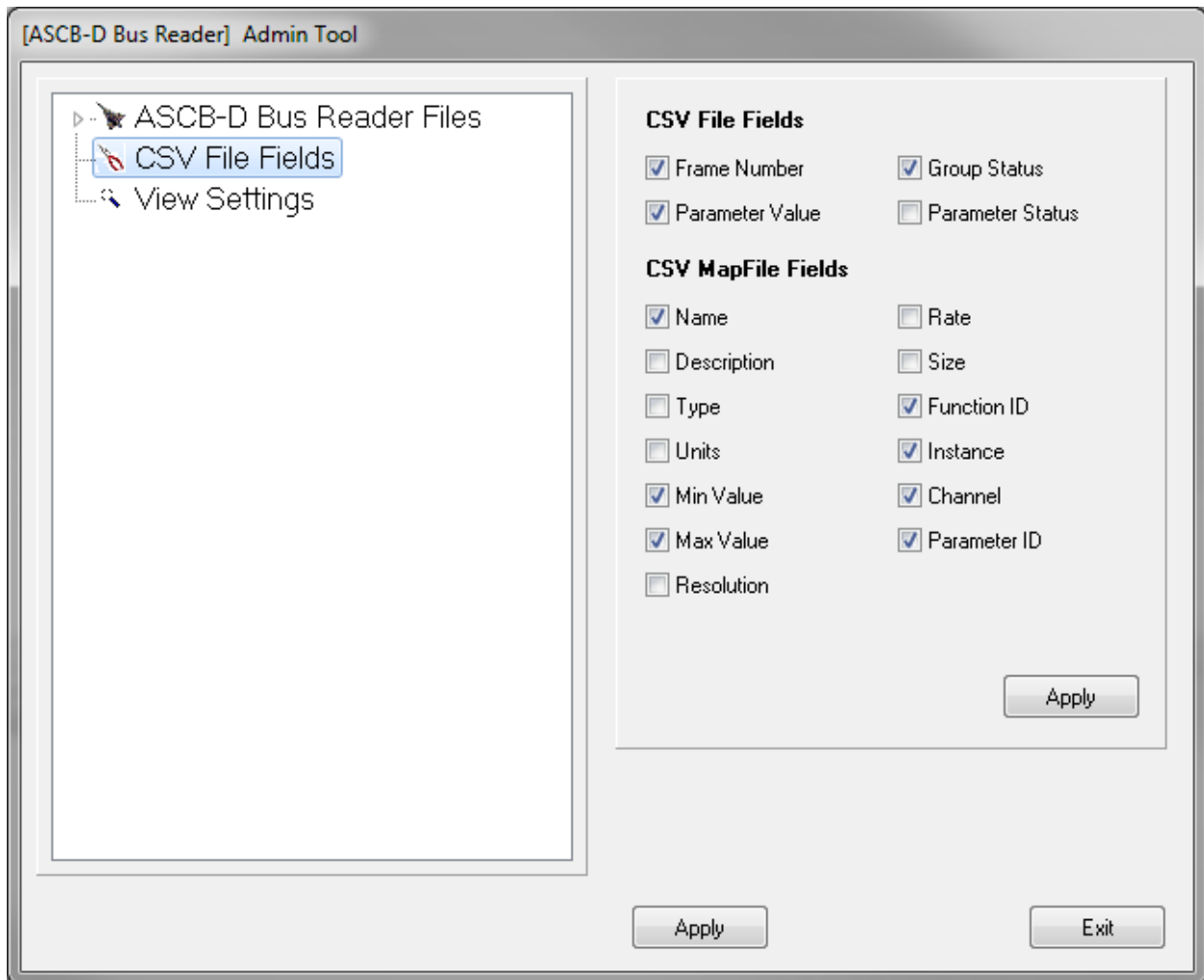
- Added a "recorded" indication to the IRIG locked labels when the DataTap-10 is in playback mode.
- Added error messages based on the feature mask received from the DataTap-10 to indicate if a specific playback mode is supported when selected.

Version 12.1:

- Added the ability to generate a "Consume All" registry with a button in the ASCB configuration window. The registry is generated using the selected database and configuration.
- Added a button to the DataTap-10 window to allow selection and updating of all required DataTap-10 files as well as to perform software updates. File sets can be saved and retrieved for later use. A reset will automatically be issued to the DataTap-10 to initiate the programming sequence.
- Added the ability to control recording of ASCB and ARINC-429 data to the selected DataTap-10 media type (microSD or CompactFlash) using a button on the DataTap-10 window. Also added recording status and media card information. A software and/or firmware update may be required if this information is not shown.
- Added buttons to perform retrieval of the system configuration file from the DataTap-10 microSD card and to perform reformatting of the selected media.
- Added the FlightLine-based ASCB transmission functionality. Added the ability to automatically extract the host NIC ID field from either produce ESCAPE registry. Also added the ability to dynamically change the NIC IDs of the DataTap-10 to initiate transmission. Note that these values are volatile in the DataTap-10 and will be lost after a power cycle. Setting the NIC ID values in the system configuration allows the values to persist between power cycles.
- Added the ARINC-717 decode functionality.

Version 11.8:

- Added Analog Input support. Analog inputs of the DataTap-10 may be selected and added to the display with scaling, limits, and units. An Analog Inspector was also added.
- Both ASCB Frame count and IRIG time (in microseconds) are now in the first TWO columns of the output CSV file when the Frame Number box is checked (See Below) in the admin tools under CSV file fields selection pane.
- Fixed a problem that prevents a CSV definition file from being created when map files are loaded or changed.



Version 11.7:

- Fixed a bug to allow ARINC-429 parameters to be able to be selected and viewed in the channel display without having to start ASCB processing first. This worked in 11.1 and was broken in 11.2.
- Removed the "Halted" mode indication referring to the ASCB processing to avoid confusion for ARINC-429 use only. This is now left blank until ASCB processing is started.
- Legacy TIS mode must now be enabled in the ASCB Configuration page in order to play back non-.01 file segments. This indicates to FlightLine that the file header is not present rather than trying to auto-detect this.
- Changed the key type to current user for FlightLine accesses to the Windows registry to avoid the need for administrator privileges.

Version 11.6:

- Added an option which is enabled by default to save and restore the FlightLine window size and whether it is maximized between application launches. The initial window size is set to 1280x600 to allow for smaller resolution displays. The save and restore option can be disabled through Tools->Administration->View Settings. When disabled, FlightLine will use the last settings saved.
- Changed the default extension to All Files (*) when selecting playback files in the ASCB Configuration window.
- Added a field to specify the CSV output filename in the ASCB Configuration window.
- Added an auto-detect feature to allow recorded file segments not containing a file header to be played back as long as an ESCAPE registry is specified. These segments typically contain an extension other than .01, such as .02, .03, etc. as recorded by an ICS TIS.

Version 11.5:

- Added the IRIG time to the main display. The display will represent the IRIG time pulled from the recording file during playback mode and from the DataTap-10 during live mode. When using a DataTap-10 with firmware version 0x10301201 or later, the display will also indicate whether the IRIG time is locked or unlocked during live mode.
- Significantly reduced the time for loading a MAP file from the ASCB Configuration page.

Installation Instructions:

- Download the FlightLine executable from the ICS website (www.icsaero.com) and copy into the desired directory. The executable can then be launched from this directory.