

EDBEX

EarthData Binary LIDAR Data Export Utility User Notes

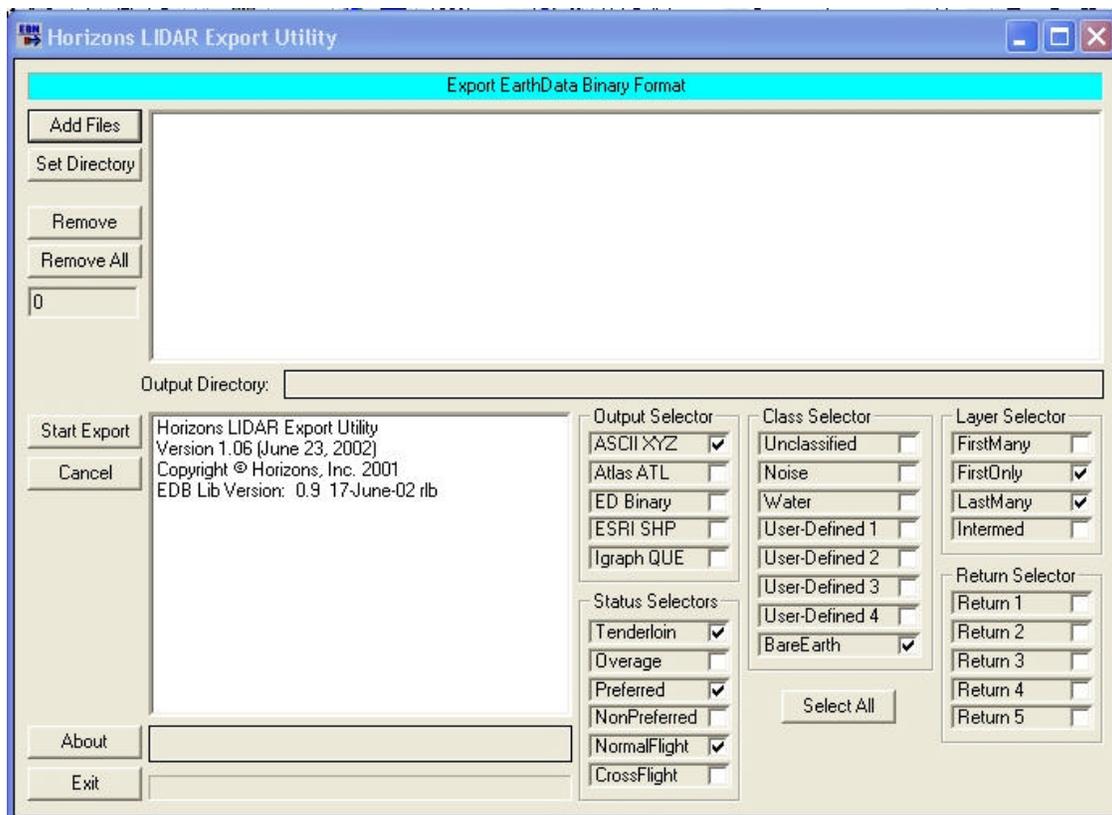
Public Distribution: Yes
Version: edbex106.doc
Version Date: 6/23/2002 8:17 PM
Author: Karen Schuckman

Description

EDBEX is intended for end users and recipients of EarthData EBN-formatted LIDAR data. This utility can be used for two purposes: 1) to extract subsets of the LIDAR points by attribute and 2) to write the LIDAR data into a variety of popular formats.

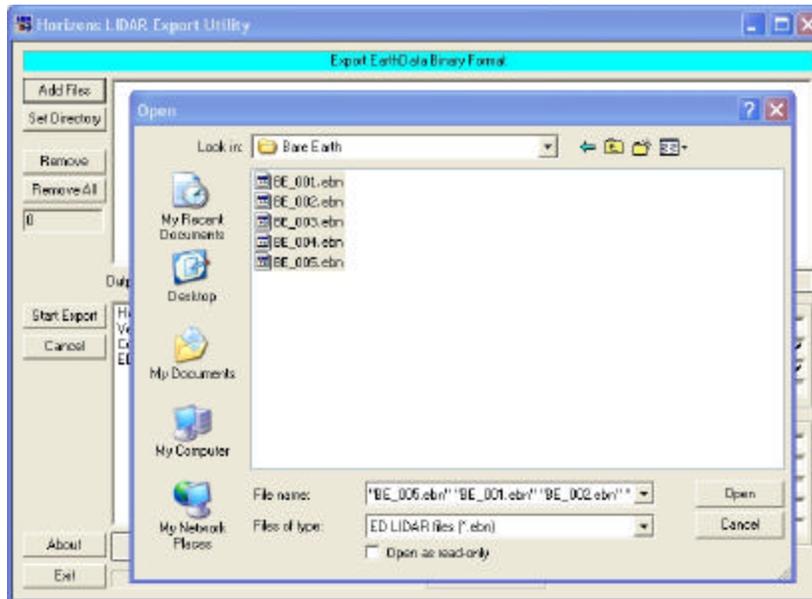
A description of the EBN format and the attribution of LIDAR points contained therein can be found in the EarthData Technologies Technical Note named "LIDAR Data EBN Distribution Format".

There is just one screen in the user interface of EDBEX. Using checkboxes, the user can select the desired output format as well as the specific subset of LIDAR points to be exported to output file. Using the buttons on the left, the user can select the input files and direct the output files to a specific directory.



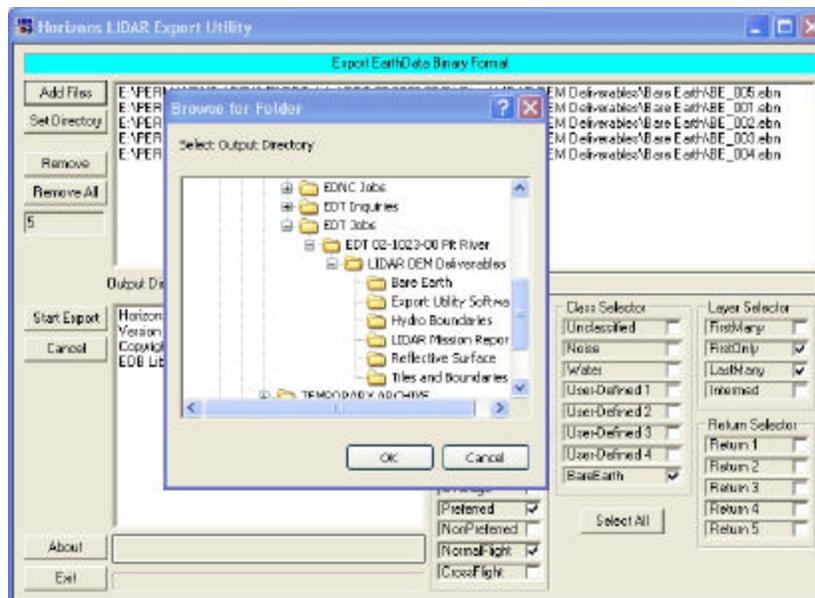
- Add Files

When **Add Files** is pressed, a standard Windows file selector dialog box appears. Multiple files can be chosen by holding down the Shift or Control keys, according to standard Windows protocols.



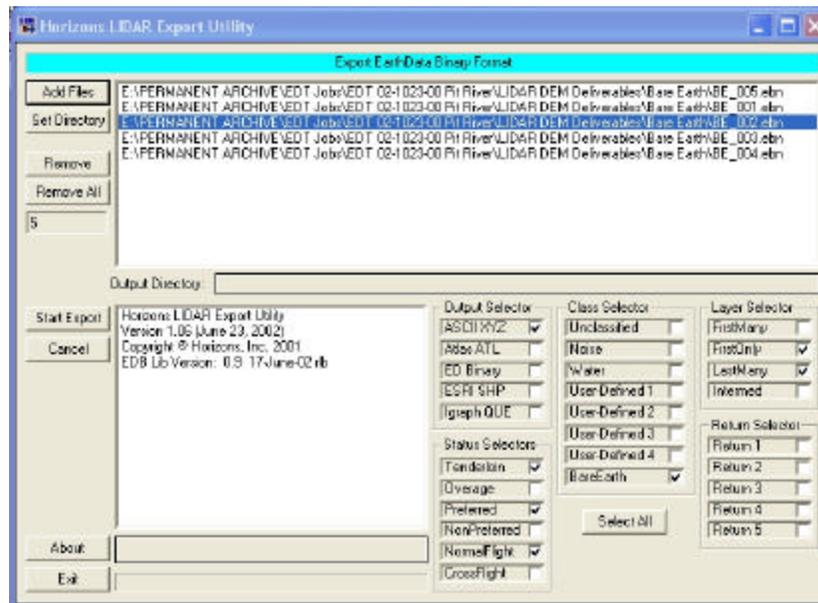
- Set Directory

The user can browse to an existing target directory for the output files. Output file names will be created automatically by the program, using the input file prefix and a standard suffix for the selected output type.





- Remove



The user can delete a file from the list to be exported, by simply selecting the file name in the list and clicking the **Remove** button. Multiple files cannot be selected. Files can only be removed one at a time.

- **Remove All**

Remove All deletes the entire list of files to be exported with a single mouse click.

- **Start Export**

Press the **Start Export** button to begin a sequence of export batch processes.

- **Cancel**

Press the **Cancel** button to stop the sequence of export batch processes.

- **About**

A dialog box containing program version information appears when the **About** button is pressed

- **Exit**

Exit closes the EDBEX interface and exits the program.

- **Output Selector**

The following output formats are supported by EDBEX:

- ASCII XYZ – a simple ASCII file containing only the x, y, x coordinates of the LIDAR points. No attribution information is retained.
- Atlas ATL - this export format is used by KLT ATLAS software.
- ED Binary – the EarthData binary format. EDBEX can be used as a filtering utility to extract subsets of points from an EBN or E-EBN file without changing the format. If the input files are EBN, the output files will be EBN. If the input files are E-EBN, the output files are E-EBN. EDBEX cannot be used to convert EBN to E-EBN or vice-versa.
- ESRI SHP – a point SHP file suitable for use in ArcView. The DBF file associated with the point SHP file contains class, layer and return number attributes, with values assigned as follows:

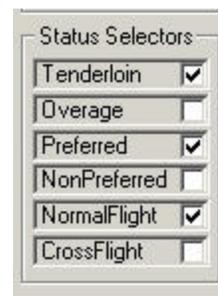


| Class | DBF Value |
|----------------|-----------|
| Unclassified | 0 |
| Noise | 1 |
| Water | 2 |
| User-Defined 1 | 3 |
| User-Defined 2 | 4 |
| User-Defined 3 | 5 |
| User-Defined 4 | 6 |
| Bare Earth | 7 |
| Layer | DBF Value |
| First of Many | 0 |
| First and Only | 1 |
| Intermediate | 2 |
| Last of Many | 3 |
| Return Number | DBF Value |
| Return 1 | 1 |
| Return 2 | 2 |
| Return 3 | 3 |
| Return 4 | 4 |
| Return 5 | 5 |

- Intergraph QUE – This export format is used by Intergraph software.

- **Status Selector**

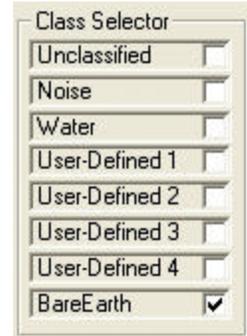
The status selections relate to the location of a particular LIDAR point within a flight line. This attribute is used primarily when trimming overlapping flight lines to create a seamless coverage over the project area. It is also used to identify points that were collected in a cross-flight line as opposed to a normal project flight line. Cross flight lines are usually not included in the final project DEM.



Preferred and NonPreferred status has not yet been implemented in the EarthData LIDAR process. Preferred is the default.

- **Class Selector**

Raw LIDAR points are classified during filtering and edit processes. Eight feature classes are supported by the EBN-format. Four of the eight classes are standard for every project. Refer to individual project specifications for definitions of the four User-Defined classes.



Class Selector

| | |
|----------------|-------------------------------------|
| Unclassified | <input type="checkbox"/> |
| Noise | <input type="checkbox"/> |
| Water | <input type="checkbox"/> |
| User-Defined 1 | <input type="checkbox"/> |
| User-Defined 2 | <input type="checkbox"/> |
| User-Defined 3 | <input type="checkbox"/> |
| User-Defined 4 | <input type="checkbox"/> |
| BareEarth | <input checked="" type="checkbox"/> |

- **Return Selector**

The EarthData AeroScan LIDAR unit is capable of recording up to five returns per transmitted pulse. LIDAR points can be extracted from the EBN file by their return number. Return numbers and layers (as defined below) refer to the same inherent characteristics of the LIDAR data in the EBN file. If the return selector is used for extraction, no boxes in the layer selector should be checked. Likewise, if the layer selector is used for extraction, no boxes in the return selector should be checked.



Return Selector

| | |
|----------|-------------------------------------|
| Return 1 | <input checked="" type="checkbox"/> |
| Return 2 | <input checked="" type="checkbox"/> |
| Return 3 | <input checked="" type="checkbox"/> |
| Return 4 | <input checked="" type="checkbox"/> |
| Return 5 | <input checked="" type="checkbox"/> |

- **Layer Selector**

Layer refers to the relationship of a particular LIDAR return to other possible returns from a single transmitted pulse.

- FirstMany – the first return of multiple returns
- FirstOnly – the first and only return (no multiple returns)
- LastMany – the last return of multiple returns
- Intermed – when there are at least three returns for a single transmitted pulse, an intermediate return is any other return that is neither the first nor the last.



Layer Selector

| | |
|-----------|-------------------------------------|
| FirstMany | <input checked="" type="checkbox"/> |
| FirstOnly | <input checked="" type="checkbox"/> |
| LastMany | <input checked="" type="checkbox"/> |
| Intermed | <input checked="" type="checkbox"/> |

Return numbers and layers (as defined below) refer to the same inherent characteristics of the LIDAR data in the EBN file. If the return selector is used for extraction, no boxes in the layer selector should be checked. Likewise, if the layer selector is used for extraction, no boxes in the return selector should be checked.

- **Select All**

The **Select All** button ensures that all LIDAR points in the original EBN file will be exported, regardless of their attribution. Attribution will be maintained in the output format, if the format supports it.



Select All