

veesus Arena4D

VPC Creator

User Guide

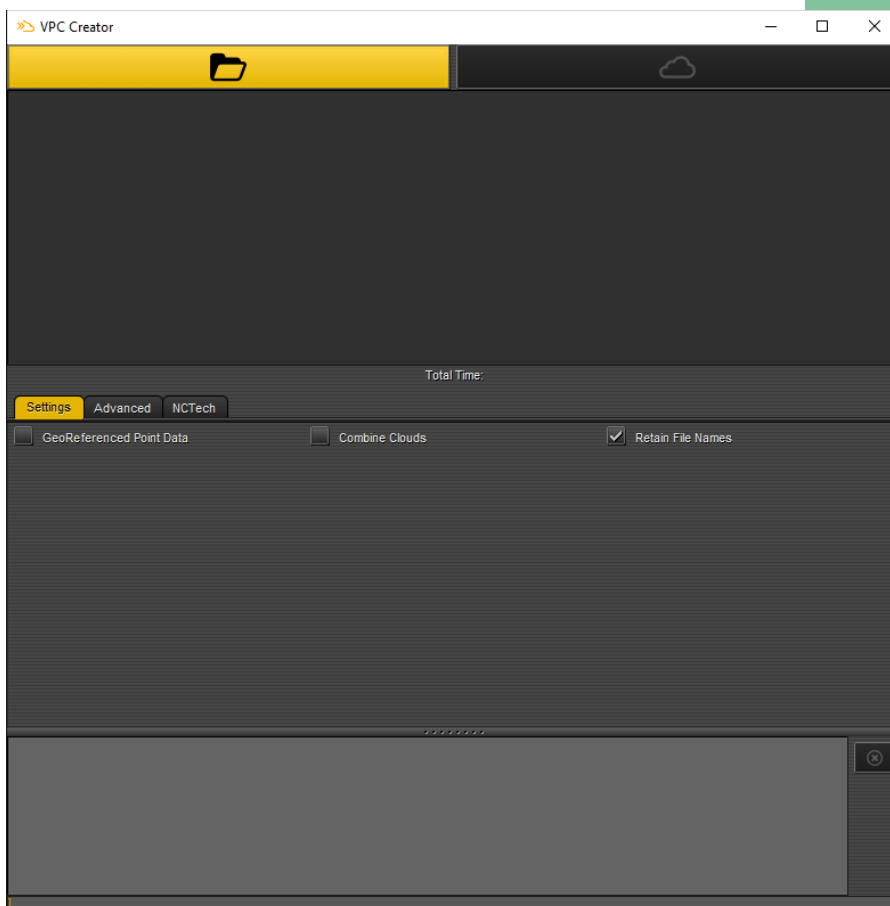


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1 Introduction

1.1 *About*

Welcome to the User Guide for the Veesus Ltd Arena4D VPC Creator.

Arena4D software requires point clouds to be in its own native **VPC** format. The VPC creator supports **LAS 1.0 ~1.2 (and LAZ)**, **ASCII (txt, xyz, pts)** text input files the new **e57** format, **Dot Product (dp)**, **Riegl (rds, rsp)** and **Faro (fls, fws, lsproj)** proprietary data files.

The creator intelligently analyses the input files to create the best performing output file(s). You only need to supply basic level information about the point cloud to start processing.

1.2 *Installation*

Whether you are installing on Windows, Mac OSX or Linux the process is straight forward. Arena4D ships with all dependencies and is a self contained application. No DLL's are installed in system folders and no registry entries are created.

Configuration files that are generated by Arena4D to tailor your installation and save your user preferences are stored within your default User area (e.g. C:\Users\Joe Bloggs\Arena4D).

1.2.1 *Windows*

Simply run the provided installation executable and follow the on screen prompts. The installer will create an uninstaller file and place an entry in the Windows Control Panel should you wish to delete Arena4D.

1.2.2 *Mac OSX & Linux*

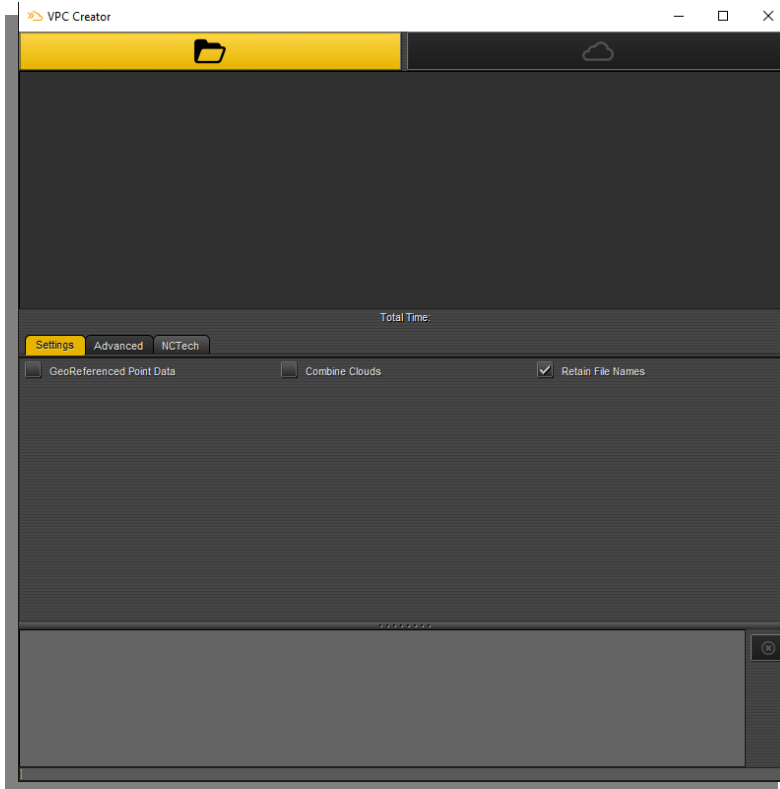
No installation is required. Simply double click the supplied application icon to launch the software.

1.3 *License*

Arena4D VPC Creator does not require a license.


2 User Interface

2.1 General



The Arena4D VPC Creator has a simple interface consisting of two buttons at the top: **Open file(s)** and **Process**, three tabs in the middle: **Settings**, **Advanced** and **NCTech**, and three tick boxes for **Georeferenced Point Data**, **Combine Clouds** and **Retain File Names**.

2.1.1 Opening File(s)

Using the File Open  button navigate to the correct directory containing the point cloud(s) to be imported. A list of available file types is displayed to help find the correct file. Select file(s) to be imported and **Open** button. Note: selection of more than one file is possible using the **Shift** key or **Ctrl** key.

2.1.1.1 Settings

The most important information is how your data has been captured, whether it is georeferenced or not. **GeoReferenced Point Data** you will be asked to supply the **EPSG** code for the coordinate system used.

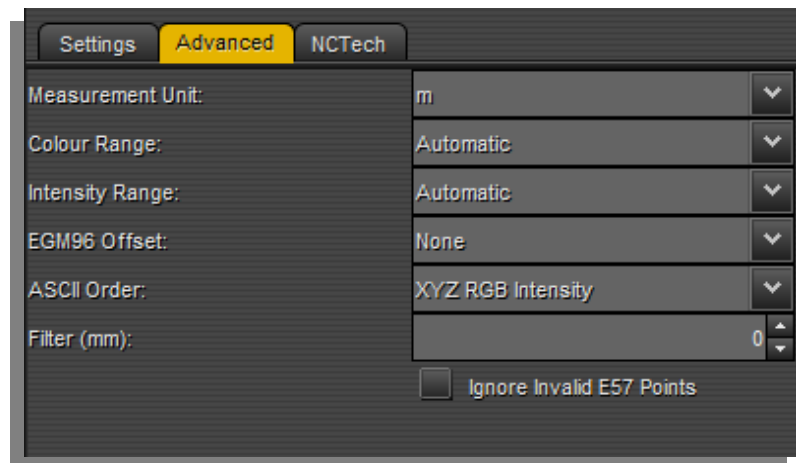
Combine Clouds. Combine all the point clouds within the selected files into one single point cloud.

Retain File Name(s). Create output file(s) with the same name as the input file(s).

2.1.1.2 Advanced Settings

Measurement Unit. Select between Meters, KM, Inch and Feet.

Colour/Intensity Range. The default setting of *Automatic* allows the software to intelligently analyse the raw data for the colour range of the data. It will scale the result to the closest common representation (8 bit, 16 bit, etc.). Setting this to *Absolute* will just use the minimum and maximum values found and



perform no conversion to common value ranges. Sometimes however data sets do get corrupted with invalid data. If your data set is corrupted, but you know what the colour range should be, then specify it here.

Adjust for EGM96 Geoid. Depending on how the point cloud data was generated, it may or may not have had its GPS height data corrected for the EGM96 Geoid. If your data appears too high or too low, use this to fix the height data.

ASCII Order. No ASCII text file is produced in the same format between different software packages. This option allows you to specify what order the colour information is supplied in the file.

Filter. It is common for point clouds to feature overlapping data, especially when made up from several static scans of the same area. Filtering allows you to remove repeated, or overly dense data from the point cloud. This will help make a smaller file with better performance, however it does take longer to process.

The filter operates in millimetres and allows you to specify how many millimetres you would like between adjacent points. Depending on the scan type, 1mm to 4mm is a good starting point. The default is 0mm which will apply no filtering.

Ignore Invalid E57 Points. Don't include invalid E57 data in the final file.

