

# Appendix D

## Exporting AGTEK Data

### Overview of Exportable File Types

AGTEK data can be exported in many different formats. Use the overview on these pages to identify an export format compatible with the intended use of the exported data. Export overview demonstrations are also provided in the following AGTEK training videos:

[www.agtek.com/trainingvideos/Earthwork4DGPSExport.asp](http://www.agtek.com/trainingvideos/Earthwork4DGPSExport.asp) (grade control export)

[www.agtek.com/trainingvideos/Earthwork4DNewFeatures1-2.asp](http://www.agtek.com/trainingvideos/Earthwork4DNewFeatures1-2.asp) (overview of 4D's new export menu, dialogs and data visibility settings).

**DWG / DXF (CAD) Files** This format is best when AGTEK data is to be used in a CAD system such as AutoCAD, MicroStation, Terramodel, etc. (page 250). DWG/DXF files can also be used to export elevation contours to Autodesk Revit BIM (page 251) and a 3D surface to SketchUp (page 253). Finally, DWG/DXF files can be used to export data for use with third-party grade control systems, including Leica (page 260), Topcon (page 261), and Trimble (page 264).

**AGT (Coordinate Text) Files** This **PNEZ format** is a good choice when exporting data to be used with AGTEK software, including subsets of Data Lines, entire surfaces, Stake Lists for field stakeout, Benchmark control points, or Job Files for AGTEK's legacy Graphic Grade and Graphic Survey programs (page 257).

**CSV (Coordinate Text) Files** The **PNEZ format** of this comma-delimited file is similar to that of the AGT file, but is a better choice when transferring data to third-party survey applications such as Topcon, Carlson, etc. (see **Stake List Points** on page 248, and the examples on pages 259 and 263). The **XYZ format** can be used to export contours and sloping data lines as 3D points compatible with Autodesk Revit BIM (page 252).

**iCON (Leica) Files** These specially-formatted DXF files are used with Leica grade control systems (page 260).

**LN3 / TN3 (Topcon) Files** These 2D (LN3) plan-view line work and 3D (TN3) TIN surface files are used with Topcon grade control systems (page 261).

**TTM (Trimble) Files** These 3D TIN surface files are used with Trimble grade control systems (page 264).

**XML Files** (4D only) These LandXML text files may contain site surface data (pages 260, 262) or highway alignments and cross-section data (page 263) and they can be used to transfer data to CAD, grade control and other third-party applications.

**KMZ (Google Earth) Files** (AGTEK 4D) These files are primarily used to upload geo-referenced AGTEK cut/fill maps/quantities/plan images to Google Earth (page 254) but they can also be used to transfer data to AGTEK's SmartPlan, SmartDirt and SmartGrade mobile apps as an alternative to the ADF option (next page). *[AGTEK 3D Notes: A less robust KMZ export function was included in the retired GradeModel 3D and PDF-Enabled SiteModel 3D products as documented in the AGTEK video at [www.agtek.com/trainingvideos/GradeModelKMZ.html](http://www.agtek.com/trainingvideos/GradeModelKMZ.html). No KMZ export function was included with the other retired 3D products but an indirect workaround is documented in the AGTEK video at [www.agtek.com/trainingvideos/Earthwork3DKMZ.html](http://www.agtek.com/trainingvideos/Earthwork3DKMZ.html).]*

## Appendix D Exporting AGTEK Data Overview of Exportable File Types (Cont.)

**LAS / TIF (Down-Sampled) Files** (Gradework 4D) Gradework 4D can import a raw (full-size) LAS/XYZ point cloud file and a full-resolution orthomosaic GeoTIFF file (files resulting from a UAV photogrammetric survey). Gradework 4D provides down-sampling options when importing the point cloud file (see video below) and the orthomosaic GeoTIFF is automatically converted to a lower-resolution background TIF. After the point cloud data is imported, down-sampled and transferred to a surface *Data Lines* layer, it can be exported by selecting **File > Export > Export Lidar/Drone (\*.las,\*.xyz)** from the menu. The lower-resolution background TIF is not exported but it can be found in the temporary image cache folder (the cache folder path is typically **C:\Users\*AGTEK\_User\_Name\AppData\Local\AGTEK***). Although Earthwork 4D can import the down-sampled files, it's actually easier to just open the Gradework ESW file that contains the already down-sampled data. This AGTEK video includes the import, down-sampling and transfer steps: [www.agtek.com/trainingvideos/Gradework4Dprogresstopo.asp](http://www.agtek.com/trainingvideos/Gradework4Dprogresstopo.asp).

**ADF (AGTEK) Mobile Files** (4D) These files can be used to export geo-referenced AGTEK data and high-resolution plan sheet images for AGTEK's SmartPlan, SmartDirt and SmartGrade mobile products. The following AGTEK training videos include examples of prepping, exporting and managing ADF files:

[www.agtek.com/trainingvideos/smartplangeo.asp](http://www.agtek.com/trainingvideos/smartplangeo.asp) (ADF/KMZ geo-referencing steps)

[www.agtek.com/trainingvideos/smartplanadf.asp](http://www.agtek.com/trainingvideos/smartplanadf.asp) (export plan sheets only)

[www.agtek.com/trainingvideos/Smartgradefileprep.asp](http://www.agtek.com/trainingvideos/Smartgradefileprep.asp)

[www.agtek.com/trainingvideos/AGTEKAccessSmartDirt.asp](http://www.agtek.com/trainingvideos/AGTEKAccessSmartDirt.asp) (AGTEK Access Client-old)

[www.agtek.com/trainingvideos/webaccess.asp](http://www.agtek.com/trainingvideos/webaccess.asp) (AGTEK Access web version-new)

**ESW (AGTEK) Files** Native AGTEK 3D ESW files were used by AGTEK's retired Graphic Grade 3D and SiteModel GPS field products (a compatible ESW file can be exported from AGTEK 4D by selecting **File > Export > AGTEK EW3D Compatible** from AGTEK 4D's main menu). The option is no longer available but the AGTEK training video at [www.agtek.com/trainingvideos/Earthwork4DExportGPS.asp](http://www.agtek.com/trainingvideos/Earthwork4DExportGPS.asp) covers ESW export from Earthwork 4D (pre-v1.20) for the retired GradePilot and Grade Super mobile products. An ESW file for the retired PlanPilot mobile product can be exported by selecting **File > PlanPilot Export** from Earthwork 3D's main menu. AGTEK's retired Graphic Grade Machine Control product used a special *Aligned ESW* file that was exported from AGTEK's Machine Control Setup program (per the Graphic Grade Machine Control user manual).

**ESZ (AGTEK) Files** ZIP export format for AGTEK ESW data file (select **File > Save As** from menu and select **AGTEK SiteWork Zip Files** for *Save as type*). AGTEK 4D (but not AGTEK 3D) offers the additional option of attaching any currently open background image to the exported ESZ file (4D users can choose *No Images*, *Current Image*, *Used Images*, or *All Images* for PDF/Image attachment). AGTEK 3D/4D programs can directly read and write ESZ files

**Other Files** Various other files can be exported from AGTEK for documentation purposes, including the volume report (**TXT/XLS** files), *Print Page* objects/layout (**EMF**, **AIP** and **PDF** files), and VRML 3D surfaces (**WRL** files). See the *Day 1 Seminar Handbook* (pages 194-197 and 249-251) for instructions on producing these additional files.