

That CAD Girl

Frequently Asked Questions

What can I do with point clouds in BricsCAD Pro V26?

*This post covers **BricsCAD Pro V26**. We'll update it when BricsCAD V27 comes out.*

As of October 8, 2026, the current release is BricsCAD V26.2.08 (September 15, 2026).

Short answer: a lot!

BricsCAD Pro doesn't just display a scan. You can crop it, color it, classify it, trace linework from it, build a TIN surface from it and check your work against it. Many of the surveyors and engineers I talk to don't realize all of that is in Pro.

We checked every command below against the BricsCAD V26 Help Center to make sure it works with a **Pro** license, not just BIM or Ultimate. The handful of point cloud tools that need a higher license are listed near the end.

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Getting point clouds into BricsCAD Pro

- **POINTCLOUDATTACH** – attaches a point cloud file (or a whole folder) to the current drawing. The drawing doesn't even have to be saved first. Supported files are .e57, .hspc, .las, .laz, .lgss, .pack, .pts, .ptx, .rcp, .rds, .rdbx, .rsp and .zfs. On a Mac, .lgss, .rdbx and .rsp files aren't supported.
- **ASCII point files** – you can also bring in an ASCII point cloud with almost any extension, a custom separator or a custom column layout. Choose *All files* in the file type list to find it.
- **Point Cloud Cache Manager** (POINTCLOUDREFERENCE) – BricsCAD preprocesses each scan in the background into a cache and lets you know when it's done. In the Cache Manager you can search your cached scans, see their metadata, edit the name, unit and GIS coordinate system and then attach with an insertion point, scale, rotation and coordinate system.
- **HSPC format** – HSPC (Hexagon Smart Point Cloud) is the default cache format, set by the POINTCLOUDHSPC system variable. It stores metadata for each point, which is what makes regions, scan-by-scan visibility, classes and geographic data possible.

So, the first time you attach a big scan, go get a cup of coffee. If you pick the same source file again later, BricsCAD finds the existing cache and inserts it without preprocessing it all over again.

Viewing, cropping and organizing

- **Point Cloud Manager panel** (POINTCLOUDMANAGERPANELOPEN) – a tree of your point clouds with their scans, regions and classes. Turn any of them on or off.
- **Render Settings** (POINTCLOUDRENDERSETTINGSOPEN) – a tab in the same panel for bubble size, Outline rendering and the POINTCLOUDPOINTMAX setting, which is now in millions (10 =

10,000,000 points).

- **POINTCLOUDCROP** – crops a cloud with a rectangular, polygonal or circular boundary and shows what’s inside or outside. **POINTCLOUDUNCROP** removes the crop.
- **POINTCLOUDCROPSOLID** – turns an extruded solid or polysolid into a crop solid so you can crop in 3D. You can edit it like any other solid.
- **POINTCLOUDREGION** – saves a selection of points as a region. Regions are stored next to the cache, so they’re available in any drawing you attach that scan to.
- **POINTCLOUDCOLORMAP** – colors the points by scan color, object color, elevation, intensity, normals or classification, with color schemes like Hydro, Earth and Spectrum. There’s also an X-Ray option for transparency.
- **POINTCLOUDLOAD** – unloads a scan temporarily to free up resources, loads it back or relocates the cache folder.
- **POINTCLOUD** – opens the Point Clouds category of the Drawing Explorer, where you can see each cloud’s size, references and paths.

The Bubble Viewer

If you’ve never stood “inside” a scan, try this one first.

Scans captured with a static scanner show up with green bubbles at each scan location. Run **POINTCLOUDBUBBLEVIEWER** or double-click a bubble to look around from that spot.

- Hold the middle mouse button to look in any direction and use the wheel to zoom.
- Press **Tab** to cycle between colors, normals and distances views.
- Press **Ctrl+A** to sync your drawing view to the Bubble Viewer.
- When a command asks you for a point, you can snap to point cloud points right in the Bubble Viewer.

Some kinematic (mobile) scanners capture panoramic images along the way. Those show up as blue waypoints, which are for viewing only. LAS and PTS files don’t contain scanner information, so they don’t produce bubbles at all.

Drawing and modeling from a point cloud

- **Point Cloud Nearest Point snap** (PCNEAREST) – picks the point closest to you inside the snap aperture. It's bit 128 of the 3DOSMODE system variable, so make sure your 3D snaps aren't turned off.
- **POINTCLOUDALIGN** – rotates the cloud to line up with the X and Y axes based on its walls and other vertical surfaces, or creates a UCS aligned to it so ortho and polar tracking behave.
- **POINTCLOUDTRACE** – draws 2D polylines where each segment snaps to the best-fitting line through the points. It works best with a crop, a section view or Outline rendering turned on.
- **Section planes** (SECTIONPLANE) – live sections work on point clouds, too.
- **TIN surface from a point cloud** – the TIN command has a *create from point Cloud* option. You can let TIN Simplify thin the points by radius and elevation difference as it builds the surface.
- **POINTCLOUDDEVIATION** – colors the points by how closely they fit a planar entity, solid or TIN surface you select, using your own good-fit and bad-fit tolerances. Handy for checking a surface against the scan.

Classifying points

POINTCLOUDCLASSIFY assigns a class to every point using one of six models:

- **Outdoor** – terrain, vegetation, building, paved road and noise.
- **Roads** – 30 classes for scans from a car-mounted scanner, such as road surface, curbstone, guard rails and sign posts.
- **Construction** – 15 classes for construction sites, such as trenching, fencing and construction material.
- **indoorBasic, indoorSimplified and indoorFull** – 10, 20 or 40 classes for indoor scans.

Now, the fine print. The classifier runs on Windows only, needs a CUDA-compatible NVIDIA graphics card with the latest driver and only works on scans preprocessed in HSPC format. You also have to download the classifier libraries separately, copy them into the BricsCAD

installation folder and restart BricsCAD.

If your LAS or LAZ file already has classification data, the classes show up in the Point Cloud Manager panel and you can turn each class on or off.

Point clouds and geographic location

- **Geolocate property** – when the original scan has geographic information, it's kept in the HSPC cache and shows in the Properties panel under Misc. Turn *Geolocate* on to use it for the drawing's geographic location. This only works when the scan and the drawing use the same coordinate system.
- **POINTCLOUDGEOGRAPHICLOCATION** – for LAS and LAZ files, sets the drawing's geographic marker from the scan, moves the scan to match the drawing's geographic location or lines up two geolocated scans with each other.

Exporting point clouds

POINTCLOUDEXPORT saves the *visible* part of a point cloud to a PTS, HSPC or LAZ file. Bubbles are included when you export to HSPC. In other words... crop first, export second!

What's NOT in Pro?

These point cloud commands require BricsCAD BIM or Ultimate:

- **POINTCLOUDSCAN2BIM** and the rest of the Scan to BIM workflow
- **POINTCLOUDDETECTFLOORS** and **POINTCLOUDDETECTROOMS**
- **POINTCLOUDFITPLANAR**, **POINTCLOUDFITCYLINDER** and **POINTCLOUDFITROOMS**
- **POINTCLOUDPROFILESWEEP** and **POINTCLOUDPROJECTSECTION**
- **POINTCLOUDMODIFYCLASS** (adding points to a class by hand), **POINTCLOUDMODIFYBUILDING** and **POINTCLOUDMODIFYFLOOR**

And if you're on BricsCAD Lite, you can't attach point clouds at all. **POINTCLOUDATTACH** needs Pro. If you want to start working with scans, talk to an authorized BricsCAD dealer about moving up to Pro.

A quick hardware tip

Point clouds are hungry! BricsCAD recommends setting BricsCAD to High Performance in your Windows Graphics settings when you work with point clouds and large models. Check our BricsCAD system requirements FAQ for the recommended memory and graphics card.

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