

Introduction to Orbitor Versions (I,II,III)



What is MAP's Orbitor ?

Orbitor-(I) is a standalone Free Viewer that can be downloaded and used by anyone to quickly walk-through Building Service Models produced by CADmep⁺ or Constructicad. Architecture and structures can also be imported into the Model and viewed.

Orbitor-(II) and Orbitor-(III) provide cost options that allow Users to verify service integrity, detect Collisions and repair errors.

Why Was The Orbitor Series Developed ?

The accurate Modelling of Services in CAD can now lead to more automatic processing through the rich data contained in the individual Objects which make up the Building Model :-

Analysis : Pressure Drops, Pump sizing, Energy and Material utilization.

Procurement, Costing, Progress Tracking, Manufacturing and eventually FM.

[BIM]

The transition from 2D paper drawings to fully Modelled Buildings has introduced interesting challenges to Drawing Office Managers.

The quick growth in the Factory Pre-Fabrication of multiple building services has added further perturbations that upset traditional thinking and profession/trade boundaries.

It is now vitally important that services are fully checked by the draftsmen before passing down the construction chain.

A new breed of **Viewers** that are either stand-alone or an integral part of the latest CAD Software can expedite this task efficiently.

Draftsmen and the wider world are being won over by these Visualization Tools.

The Objects included in a drawing may originate from different sources.

For example : The Architecture from REVIT, the Steel work from TEKLA or AutoCAD's own objects, the Building Services from CADmep⁺.

Each Object in the large integrated Model, (I-Beam , Valve, Internal Wall, staircase, etc.) Essentially comprises 2 parts :

- Spatially accurate Graphics
- Attribute Data.

Both are essential when interrogating Models made up from multiple objects.

Unfortunately at this moment in time only the Software that writes the Application knows all the DETAILS about their own objects.

Hope in time IFC's will allow more efficient transfer of the data between applications.

Orbitor (I)

Orbitor (I) free viewer which can display service model drawing files produced from CADmep+, CADduct, CADmech, Constructicad, TEKLA Structures or any software that supports IFC-XML in presentation Mode. The Models can be viewed in Rendered Isometric. Rotate views as required or Fly/Walk through for actual reality effects.

Orbitor (II)

Orbitor (II) is not a cross platform solution and can only import Files that originate in AutoCAD or Constructicad. CADmep+ Objects exported from the AutoCAD DWG contain both Graphics and Data. None CAD-Duct Objects that are exported from the DWG will only contain Graphics. Later Limited data will be included for these Objects, Layer, Colour, Key Dimensions, Zones, etc

On the positive side Orbitor knows everything about CADmep+ Objects and can therefore interrogate and analyse any selections set up by the User.

The Check command can identify the following common discrepancies:

- Pipes or Fittings overlap.
- Connectors do not mate correctly.
- Duplicated Objects.
- Branch Pipes that are larger than the main run.
- In-Line Fittings do not break the pipe and as a result are not attached in the run.
- Objects do not join up because one or more have been inadvertently moved in elevation.
- Objects from a different service have been copied and pasted into the current service run.
- Collisions between objects in the same service.
- Collisions across multiple services.
- Collisions with items in the service and the structure.

Any anomalies found, are placed in time stamped Files that allows further fast identification, Tracking and if using, Orbitor (III) for repairing purposes.

Orbitor (III)

Orbitor (III) has the same functionality as Orbitor (II) but with extra functionality that allows Users to repair any discrepancies which may be present within the services models; then export any changes back into the original source drawing with a full audit trail.