Axis Coverage Shapes for Microsoft Visio
Installation and User Guide
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1 Introduction

Axis Coverage Shapes for Microsoft® Visio® provides interactive 2D CAD security camera models for use with Visio from Microsoft. The camera models can be placed into a floorplan inside Visio to visualize camera coverage and integrate surveillance system planning into your designs.

Important: This guide is based upon using Microsoft Visio Standard 2016 and assumes that you are familiar with Visio. For help on using Visio, we refer to Microsoft Visio documentation.

Important: All use of the Axis Coverage Shapes for Microsoft Visio is subject to Axis General Software License Terms as provided with the plugin.

2 Initial Setup

This guide is built around the usage of Microsoft Visio 2016. Menu options and procedures may be different in other versions of Visio.

2.1 Get the latest Visio Coverage Shapes

1. Start by downloading the latest Visio Coverage Shapes from Axis:

https://www.axis.com/tools/axis-coverage-shapes

2. Extract the files into the My Shapes-folder
2.2  Load Coverage Shapes into Visio

1. Open Microsoft Visio

2. If the “Shapes” Task Pane is not open or visible on the left side of the program, go to View >> Task Panes and select Shapes.

3. The shapes should be visible under More Shapes >> My Shapes, where you can select the required group/groups.

4. When requested select Trust all from publisher, or alternatively Enable Macros for each security notification. Macros are essential for the functionality and must be enabled for proper function.
5. You will now have the loaded families available directly in the Shapes area.
3 Using MS Visio
The following section holds useful information and tricks to help you use MS Visio and Axis Coverage Shapes more efficiently.

3.1 Useful tricks

3.1.1 Visio Templates
- If desired, create a Visio Template for the desired paper size.
  - Use the “Save As” command to ensure you are not accidentally making changes to the original template.

3.1.2 Visio Shortcuts
- **Shift** (mouse wheel roll)
  - Roll Up – Moves Drawing Left
  - Roll Down – Moves Drawing Right

- **CTRL** (mouse wheel roll)
  - Roll Up – Zooms into Drawing
  - Roll Down – Zooms out of Drawing

- **Mouse Wheel Roll**
  - Roll Up – Moves Drawing Up
  - Roll Down – Moves Drawing Down

- **Selected Image/Object + Shift Hold**
  - Allows you to move the image/object left, right, up, or down by pressing the corresponding arrow keys.

3.1.3 Creating additional pages in Visio
1. Click on the “Insert Page” tab on the bottom of the drawing area and name the page.

2. Go back to the initial drawing page and click **Ctrl + A** to select the entire drawing, followed by **Ctrl + C** to copy the entire drawing.

3. Go to the new page tab and type **Ctrl – V** to paste the original drawing onto the new page.
3.2 Starting a new project

3.2.1 Measuring
Visio provides measure tools to assist with scaling. The *Horizontal measure* and *Vertical measure* can be found under **More Shapes >> Visio Extras >> Drawing Tool Shapes**.

Once located, right-click *Horizontal measure* and *Vertical measure* and add them to your **Favorites** for future use.
### 3.2.2 Scaling

The next step is to determine the scale of floor plans.

When importing a JPG or PDF plan, it is recommended to use the Horizontal or Vertical measure tool in Visio to determine the scale (more details in section 3.3.2).

When importing an AutoCAD drawing, the scale can be pre-determined in the AutoCAD application (more details in the section 3.3.1).

Once the scale is determined, edit the parameters of the Visio file accordingly:

1. Select **Design** and click on the page setup arrow.

2. Select the **Drawing Scale** tab and enter the appropriate scale.

![Page Setup](image)

**NOTE:** If possible, edit the “Page Setup” parameters prior to inserting a drawing.

**NOTE:** When using the scaling techniques below, it is important to determine the scale for the desired paper size, then start with a new file, set the scale in “Page Setup” and then insert the plan. If there is a drastic change to the scale in the working plan, you may not be able to find the drawing after editing the parameters.
### 3.3 Inserting drawings

The work designing a system normally starts by importing a floorplan from another format into Visio, in which cameras are then placed. This document explains three of the more common imports.

#### 3.3.1 AutoCAD

For the purposes of this document, it is assumed that the scale of the AutoCAD drawing is known (for the size of the template). Below is an example:

The “Preview” button verifies scale and floor plan orientation:
1. In Visio, select **Insert >> CAD Drawing.**

![Insert CAD Drawing](image1)

**NOTE:** If there are issues with the import, try saving the AutoCAD file as R14/LT98/LT97-drawing.

2. The **CAD Drawing Properties**-box should automatically launch. Set the CAD drawing scale parameters and make certain the **Lock size and position** and **Lock against deletion** boxes are checked to protect the drawing positioning on the page.

![CAD Drawing Properties](image2)

3. The CAD Drawing Properties can be also found by right-clicking plan and go to **CAD Drawing Object** and select **Properties.**

![CAD Drawing Properties](image3)

**NOTE:** Before adding cameras, double-check the scale of the plan!
3.3.2 **Adobe PDF**

PDF files are not ideal because they are not vector files. The image quality can also degrade once inserted into Visio. If you choose to convert your PDF files into .dwg or .jpg files, there are software programs online that could improve the result.

3. To directly import a PDF file, in Visio, select **Insert >> Object >> Adobe Acrobat Document**.

![Image of Visio interface showing Insert Object dialog]

4. Select the desired file and press **Open**.

**NOTE:** To position the drawing on a single page, move image to the first page and change the size stretching any of the four corners. **It is important to use one of the four corners so the drawing preserves scale.**

5. With the plan highlighted, go to **Home >> Arrange >> Group** and select the **Ungroup** option.

![Image of Visio interface showing Home and Arrange menus]
6. If you need to rotate the image, go to Home >> Arrange >> Position and click desired direction.

7. Select the Horizontal or Vertical measure from your favourites and drag to a location with a known measurement. A typical single-door opening is 800 mm, so this is a good choice.

8. Drag the left and right ends of the rule to the associated left and right of the door frame to get the current measurement. In this example a storage door provides a scale of 6mm = 800mm, or in other terms a scale of 1:133.

9. Now close (Don’t Save) the file and reopen a new default page to change the scale accordingly.

10. Select Design and click on the page setup arrow.
11. Select the **Drawing Scale**-tab, type in the scale you just measured, click **Apply** and then **OK**.

![Drawing Scale dialog box](image)

12. Once the scale is set, insert the PDF again using the instructions above
   a. Select **Insert >> Object >> Adobe Acrobat Document**.
   b. Select the desired file and press **Open**.
   c. With the plan highlighted, go to **Home >> Arrange >> Group** and select the **Ungroup** option.

**NOTE:** Remember that it is important to stretch using one of the four corners so the drawing preserves scale.

**NOTE:** Before adding cameras, double-check the scale of the plan.

13. Once the plan is positioned properly on the page, go to **Home >> Editing >> Assign to Layer** and create a new layer for the plan.

![Assign to Layer dialog box](image)
14. To lock the plan in place, go to Home >> Editing >> Layers >> Layer Properties, select the newly-created Layer and check the “Lock” box.

15. Create another layer, name this with a suitable name, such as Security camera, and assign this as Active layer.
3.3.3 Google Earth Pro

Using Google Earth Pro, locate the aerial view of the desired location. When zooming in to capture the exact area, use Alt + R to rotate the image back to top view.

1. Once the desired view is set, select the **Save Image** button:

2. Under **Map Options**, uncheck the **Title and Description** and **Legend** boxes:

3. Go to the **Resolution** options and select the highest resolution possible for the image:

4. Select “Save Image”:
5. In Visio, select **Insert >> Pictures**: 

![Visio Insert Pictures](image)

**Note:** To position the drawing on a single page, move image to the first page and change the size by stretching the image using any of the four corners. It is important to use one of the four corners so the drawing preserves scale.

6. Select the Horizontal measure tool and measure the length of the scale provided in the Google Earth picture.

![Google Earth Scale Measurement](image)

7. Drag the left and right ends of the ruler to the associated left and right hashes of the provided scale to get the current measurement, this is your scale. In this example the measured length of 400m is equal to 109,1mm, therefore the scale is 0.1090809:400 = 1 : 3.667.

8. Now close (Don’t Save) the file, reopen and select **Design >> Page Setup**.
9. Set the correct scale as per your measurement.

![Page Setup](image)

10. Verifying that the scale is accurate:

![Verifying Scale Accuracy](image)

11. Once the plan is positioned properly on the page, go to **Home >> Editing >> Assign to Layer** and create a new layer for the plan.

![Assign to Layer](image)

12. To lock the plan in place, go to **Home >> Editing >> Layers**, select the newly-created Layer and check the **Lock** box.

![Lock Layer](image)
3.4 Adding Cameras

As Axis do regular updates to the Coverage Shapes, always start by downloading the latest version: https://www.axis.com/tools/axis-coverage-shapes.

1. Select More Shapes >> My Shapes in the left column and select the desired families.

   ![Image of software interface showing shapes]

   **Note:** If the layout includes the Camera schedule or generic cameras, be sure to select the Fixed box Cameras as these options are included in this section.

   You cannot select multiple product groups the first-time shapes are loaded. To add the other groups, access the same menu and select all desired product groups.

   To insert a camera on the floor plan, simply find the desired camera and drag-and-drop to the desired location on the drawing.

   The camera symbol has three handles that can be used to manipulate the FoV:
To change the parameters of the camera, right-click on the camera for the menu:

In the **Edit Shape Data** option, most attributes can be edited:

To edit the displayed text, go to **Home >> Tools >> Text** and do you change. Select the **Text** button again once the edits are complete.

Move the camera into position and set the Field-of-View using the handles (yellow squares). The provided data fields will change as the FoV is repositioned.
### 3.5 Duplicating cameras

To copy an existing camera for placement in other locations of the drawing, simply right-click on the desired camera and use the Copy and Paste commands. Then edit the names and other fields accordingly.

![Duplicating cameras](image)

### 3.6 Creating a camera schedule

After the product placements are complete, drag the **Axis Product Listing** stencil into the drawing to create a camera schedule from the positioned products.

![Creating a camera schedule](image)

**Note:** The data contained in the list can be edited and/or updated (as cameras are added or removed) by right-clicking the text box.
4 Exporting product information
This section will explain how to export data from Coverage Shapes to other applications, including AXIS Site Designer.

4.1 Exporting a camera schedule to MS Excel

1. To export products into other applications, such as Excel, right-click on a camera and select Export all Cameras.

2. Mark the selected separator, recommended is Comma, and click Copy to Clipboard. This command provides a comma-delimited file that can be pasted into a spreadsheet.

3. Using Excel as an example, right-click in A1 and select Paste.

Note: Before exporting any data, the Visio drawing must be saved.
4. Then select all populated cells in the column and go to **Data >> Text to Columns**.

![Excel screenshot](image1.png)

5. Go through the conversion process, using the correct delimiter.

![Excel screenshot](image2.png)

6. The conversion is done and you should now have a proper table of products inside Excel.

![Excel screenshot](image3.png)
4.2 Exporting to AXIS Site Designer

Axis Coverage Shape also provide direct export of products in the drawing into AXIS Site Designer. To learn more about this tool, please visit [https://www.axis.com/tools/axis-site-designer/overview](https://www.axis.com/tools/axis-site-designer/overview).

**Note:** before exporting any data, the Visio drawing must be saved.

1. Right-click on a camera and select *Export all Cameras*.

2. Select *Export to Axis Site Designer*.

3. Open AXIS Site Designer and select *Import project*. 
5 Additional information and support

5.1 Additional information
If you need additional help on how to work with Microsoft® Visio®, we recommend different user communities and resources on the web.

Microsoft offer a Youtube-channel related to Visio 2016 on https://www.youtube.com/user/msftvisio.

You can also find a lot of value in the below Youtube playlist for Visio 2010.
https://www.youtube.com/watch?v=kcDamcoYZw8&list=PLTtpIW6mJ7fWSlvHScqHckaA4T0HhaWU-

On a more professional level LinkedIn Learning (former Lynda.com) offers video-based education at a reasonable cost, currently around USD 30/month, access the Visio related part on

5.2 Support
If you believe you have encountered an error or incorrect functionality inside Axis Coverage Shapes, please contact your local contact person at Axis or send an e-mail to team-cadtools@axis.com.

We will do our best to give you the help you need and ensure that the user experience of Axis Coverage Shapes reaches the expected results.

Note: Our ability to support Visio is fully focused on the functionality of Axis Coverage Shapes and the features around it. Our support is limited when it comes to questions not concerning the Axis plugin.