

FAQ: Importing GIS Files into MobileMapper Office

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What GIS files can I import into MobileMapper Office?

MobileMapper Office supports importing GIS files in Autodesk's DXF, ESRI's SHP and MapInfo's MIF formats.

Exactly which file types does MobileMapper Office import?

1. When you select the DXF import option, the program imports the selected DXF file.
2. When you select the MIF import option, both MIF and MID files for the specified GIS file are imported into the MobileMapper job.
3. When you select the "SHP" option, MobileMapper Office imports into a MobileMapper job file (MMJ) all the information included in all the following files that comprise a shapefile: SHP, SHX, and DBF files. MobileMapper Office does not read the fourth type of file making up some shapefiles (with the PRJ extension) because these are written in a format that is proprietary to ESRI. If ESRI "opens" this file type to the public, as they have done with SHP, SHX and DBF files, Magellan will be able to support them with MobileMapper Office. Exporting PRJ files will save you from manually modifying some settings, such as the coordinate system and drawing attributes in your ESRI GIS software.

What are the basic steps I should follow to import jobs in GIS format?

1. Open a job in MobileMapper Office

Turning on MobileMapper Office automatically opens an empty, "untitled" job. As with Microsoft Office applications, you may name this job using the **File > Save As** function or you may open an existing job using the **File > Open** function. You may also open a MobileMapper job clicking on **File** and selecting one of the jobs listed at the bottom on the window that you have recently opened.

2. Click on File > Import

This will bring up a browsing window that will allow you to do 3 things:

- Select the "files of type"(select the extension of the files you want to import)
- Select the directory in which to search for files to import
- Select the name of the file you want to import by clicking on it

3. When you have selected the file you want to import, click on "open" in the lower right of the browsing window.

This action brings up a window displaying some information on the selected file and requiring some actions on your part. First, there is a box at the top of the window in which you **MUST** select the coordinate system of the file you are importing. The address of the file is also listed, including the file name. To the left of the file name is the symbol that will be used to display the file in MobileMapper Office. All the layers contained in the file are then listed.

4. Select the coordinate system of the file you wish to import

You must know what coordinate system was used for the GIS file you wish to import. If you are unsure of the coordinate system, you should ask someone in your mapping or GIS department what the coordinate system is. Many departments use only one coordinate system/datum for the majority of their files and so you may only have to ask this question once. The default coordinate system is “Geodetic” (latitude-longitude) and the default datum is WGS84. Many maps are in a grid coordinate system such as Universal Transverse Mercator (UTM) or US state plane coordinates. Many countries use their own grid systems. MobileMapper Office supports many of these systems.

Select the coordinate system by clicking on the small square button in the upper right of the **Import GIS Data** window that has three dots on it. This opens the **Select Coordinate System** window. Again click the button with the three dots and select the system you want to use. If you do not see it, click New. On the Coordinate System Wizard’s Welcome screen, select “Select a Pre-Defined System” and click Next. Then browse for the system you wish to use. If you do not see it, you should return to the Welcome screen, and select one of the options for creating a coordinate system. Once you select or create a system, it is listed on the Select Coordinate System dialog box.

If you select “Geodetic” as the **System Type**, click on the down arrow next to the **Geodetic Datum** box to select one of the supported datums. If you cannot find the datum you want, you can create a new one by selecting “NEW” at the top of the list of datums. Then click on the button with 3 periods that is to the right of the **Geodetic Datum** box. This will display a window where you can name your datum and enter the transformation parameters and ellipsoid from a list. If you cannot find the ellipsoid you wish to use, click on the button with three dots and enter the parameters for the desired ellipsoid: name, semi-major axis and inverse flattening parameter.

If you select “Grid” as the **System Type**, click on the down arrow next to the **Grid System** box to select one of the supported grids. If you cannot find the grid system you want, you can create a new one by selecting “NEW” at the top of the list of grids. Then click on the button with three dots that is to the right of the **Grid System** box. This will display a **Grid System Definition** window where you name the new grid, click on the button with three dots and fill in the **Zone Definition Dialog** box.

A Special Note on ESRI products and Lambert Conformal Conic Projections

MobileMapper Office supports three types of Lambert Conformal Conic projections. They are described as "Lambert_Conformal_Conic_1SP," "Lambert_Conformal_Conic_2SP" and "Lambert_Conformal_Conic_27." When you import a GIS file in a US state plane coordinate system into a MobileMapper job or background map, you must select one of these definitions of the Lambert Conformal Conic projection. Some ESRI products, e.g., ArcMap 8.0, generate PRJ files that list the projection for NAD83 state plane coordinate systems as "Lambert_Conformal_Conic." However, all state plane coordinate systems using the

NAD83 datum use the “Lambert_Conformal_Conic_2SP” projection. So when you import a shapefile in an NAD83 state plane system, you should first edit the PRJ file by changing “Lambert_Conformal_Conic” to “Lambert_Conformal_Conic_2SP.” After exporting a MobileMapper job file to shapefile format, you should check other PRJ files used by your GIS to see if you need to delete the “2SP” string from the projection definition.

5. (Optional) Select an attribute to display as a label on the map screen

If you want to select a particular attribute of a layer to display as a label on MobileMapper Office’s map screen, right click on the desired attribute and click on “Set as Feature Name.” The attribute name will be displayed in bold face and there will be a key icon next to it. If the layer displays highways and one of the attributes is “Route Number,” if you set this attribute as the feature name, all the highways in the file will be labeled with their route number.

6. (Optional) Import attribute values as menu-style attribute values

Attributes contained in ESRI .dbf and MapInfo .mid files are often imported into MobileMapper job files as text strings. If there are a small number of possible values, it might make it easier to update this file in the field if you import these values as options on a menu list. You do this by right clicking on an attribute and select the “Menu” option. All the text strings previously recorded as attributes in the imported file will be written as menu items in the resultant MobileMapper feature library. When you upload this file into the MobileMapper receiver, you will be able to select an attribute from this list – which is faster than using the receiver’s “soft” keypad to type out a comment or description.

7. (Optional) Select the map symbol or drawing attribute to display on the map screen

The name of the layer appears at the top of the attribute list. Next to it is the symbol (point features) or drawing attributes (line and area features) that will be used to display the layer on the MobileMapper map screen. To change this symbol or drawing attribute, double-click on the name and make your selection. Remember to choose a color for line and area features that will allow you to see these features on the map display.

8. Click the Import button

When you have selected the proper coordinate system and the map symbols you want to display, click on the **Import** button at the bottom of the **Import GIS Data** window.

What is the most common cause of problems when importing GIS files into MobileMapper jobs?

When you import GIS files, you have to identify the coordinate system and datum used to display the GIS file. When importing a shapefile that includes a PRJ file, MobileMapper

Office will automatically read the PRJ file and automatically set the proper coordinate system. If you are importing shapefiles without a PRJ file, DXF files or MIF files, you can determine what system was used, by displaying the file in your GIS or by asking the GIS manager. You typically have to ask this question only once because most GIS files in a project are in the same coordinate system. Some organizations use the same coordinate system for *all* of their files. For more information on importing and exporting files with MobileMapper Office, read the FAQs on the subjects.

How do I import multiple GIS files that are in different coordinate systems?

You should first determine the coordinate system of each GIS. Set MobileMapper Office's coordinate system to that of the first file and import it. Then set MobileMapper Office to the second GIS file's coordinate system and import the second file, etc.

To set the coordinate system in MobileMapper Office, click on Options>Select Coordinate System, scroll down to "New" on the Select Coordinate System dialog box. On the Coordinate System Wizard's Welcome screen, select "Select a Pre-Defined System" and click Next. Then browse for the system you wish to use. If you do not see it, you should return to the Welcome screen, and select one of the options for creating a coordinate system. Once you select or create a system, it is listed on the Select Coordinate System dialog box.

When I import SHP files, I notice that there are other files with the same name as the SHP file but with different file extensions. What are these?

ESRI's shapefiles can comprise four different types of files: SHP, SHX, DBF and PRJ files. Files with the SHP extension contain information on feature geometry and geographic position. SHX files link feature geometries and positions with feature and attribute information that is contained in DBF files. PRJ files contain some additional information such as the coordinate system and datum being used and drawing attributes such as fonts, map symbols, etc. There is a separate FAQ on importing file that provides more information on this subject.

When I import MIF files, I notice that there another file with the same name as the MIF file but with an MID file extension. What is this?

MapInfo files comprise two different types of files: MIF and MID files. Files with the MIF extension contain information on feature geometry and geographic position. MID files contain the feature and attribute information. There is a separate FAQ on importing file that provides more information on this subject.

Can I import features of different geometries in a single MIF file into MobileMapper Office?

Yes. However, you may wish to convert such a MIF file into shapefile format. This will separate the various themes into separate files. You may then import only those themes you want into MobileMapper Office.

Is it possible to select an attribute of a feature to be displayed on the map screen? For example I have loaded a shapefile with roads and I want to display the name of the road rather than its route number.

To display a particular attribute type for a layer imported into a MobileMapper job or background map, you should right click on the attribute you wish to display and click "Set as Feature Label." It is important that you do this as you are importing data. Once the data is imported into a job, MobileMapper Office automatically creates a feature library and you cannot edit a job feature library except as a standalone library to be used with other jobs..

I tried to import a feature library into another one and got an error message saying "Import Failed." What does this mean and how can I avoid it?

When using the Feature Library Editor's Import function, if you select a file containing more than 20 characters (excluding dot and extension symbols) in the name, the software will truncate all characters beyond the 20th. If the first 20 characters in two imported files are identical, the software displays a message saying the file already exists and generates "Import Failed" error. You should rename the second file so that its first 20 characters are not identical to any previously imported file.