



MapInfo Professional 12.0 Printing Guide

The purpose of this guide is to assist you in getting the best possible output from your MapInfo Professional software. We begin by covering the new print, import, and export features and continue with preferences and printing options available in MapInfo Professional. Then we give you some helpful tips and tricks and finally we help you trouble shoot issues you may be experiencing with your own use of MapInfo Professional.

We have updated this document with new features and new resolutions to existing issues.

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Printing in MapInfo Professional

Before you start printing your map or your graphs, you may want to create a new layout so you can arrange your graphs, maps, legends, titles, etc. for the best effect. Choose **Windows > New Layout Window** to put together a more effective presentation. We recommend that you use layout windows for printing because it ties directly to the printer driver.

To print a map, layout, or graph from MapInfo Professional:

1. When you have your map or layout the way you want it, choose **File > Print** to display the **Print** dialog box.
Note: When you print a layout, the **Options** button does not display. When you print a graph, the **Advanced** button does not display.
2. Select the printer or plotter you want to use for this workspace from the **Name** drop-down list. The properties that are available for this device are printer/plotter dependent. Please check your device manufacturer's manual for property details.

Setting How Map Contents Print

Note: Any selections you make in the **Properties** options will override the selections made in the preferences for the current print session.

3. Select the print range of your output and the number of copies you want in the appropriate fields.
4. To set further map print options, click the **Options** button to display the **Map Print Options** dialog box.

Note: You cannot select these options for a layout.

5. Make your selections and click **OK** to return to the **Print** dialog box.
 - **Map Size**—Select the size of the map in this group; the options are **Window Size**, **Fit to Page**, and **Custom**. As you make selections, the **Custom Scale**, **Custom Width** and **Custom Height** entries change.
 - **Window Size**—Click this button to print the map as it displays on your computer screen.
 - **Fit to Page**—Click this button to fit the map to the page size you selected in preferences.
 - **Custom**—Click this button to enter your own custom scale, width, and height entries in the fields provided.

Setting How Map Contents Print

In the **Map Print Options** dialog box, you have the option to determine the map contents that you want to print; the options are **Same as Window** and **Centered on Window**. (To go there select **File > Print** and click **Options** in the **Print** dialog box.)

- **Same as Window** – Click this button to print the map contents as it appears in the **Map** window, with the same proportions and content as you see.
- **Centered on Window** – Click this button to center as much of the current map that fits on the page. When you select this option, the image may print on more than one page depending upon fit. In general when you select this option, MapInfo Professional assumes you want to select the **Fit to Page** radio button and selects this for you.

Setting Advanced Print Options

In the **Advanced Printing Options** dialog box, you can refine your print settings. (To go there select **File > Print** and click **Advanced** in the **Print** dialog box.)

Note: You cannot select these options for a graph.

These options are the same as those you select in the **Output Settings Preferences** dialog box. Selecting options here overrides the setting you selected in the **Output Settings Preferences** dialog box for the current print session.

Output Method

There are three output methods.

- **Print Directly to Device** – Use this option to print your image file directly from MapInfo Professional. This is the default setting and is same printing from all versions before 6.0.
- **Print Using Enhanced Metafile (EMF)** – Use this option to generate an enhanced metafile of your MapInfo Professional image before sending it to the printer. This option takes advantage of current technology to shrink the spool size and print your file quicker without sacrificing quality.

- **Print Using Offscreen Bitmap (OSBM)** – Use this option to generate an offscreen bitmap of your MapInfo Professional image before sending it to the printer. This option depends on the type of translucent content in the map and enhanced rendering state of the window.

Print Border for Map Window

Select this check box to print a black border around the image you are printing. Clear this check box to print the image without a border. This check box is selected by default.

Internal Handling for Printing Transparent Vector Fills and Symbols

Special programming has been added to handle transparent fill patterns and bitmaps for vector images when you print. Select this check box to use this functionality or clear it to let the printer or plotter to manage this type of work. This check box is selected by default.

Scale Patterns

Select this check box to print non-transparent fill patterns that look like what you see on your screen. This check box is checked by default. Clear this check box to let the printer driver have exclusive control over rendering the pattern fills.

Use ROP Method to Display Transparent Raster

Select this check box to allow the internal ROP (Raster Overlay by Pixel) to manage the transparent pixels when printing raster images. Since the ROP Method is largely a display method, not all printers and plotters can use it. We recommend that you experiment with this setting until you get the results you want when printing raster images. This setting has no effect when printing vector layers. This check box is cleared by default.

Print Raster in True Color When Possible

Select this check box to print your 24-bit raster or grid file images in true color. Make sure your printer settings are greater than 256 colors. This check box is selected by default.

Dither Method

Click this drop-down list to convert a 24-bit image into 256 colors, using either Halftone or Error diffusion.

When you have completed these selections and returned to the **Print** dialog box, click **OK** to begin printing.

Recommendations for Effective Pattern Scaling

When you are printing, find out what type of printer driver you are using. Many PCL6 and some HPGL drivers handle fill pattern scaling and give you control over this feature. Turning off their scaling may be the difference between what you see in print and what you see on your monitor. We recommend that you try turning off your driver's scaling options and try ours first, because we have enhanced our method to better meet your Map and Layout window requirements. To turn our pattern scaling options on, select the **Scale Patterns** check box in the **Output Preferences** dialog box. Then try turning off our scaling and turn theirs back on to see which you like better. Tests show that our scaling produces color output that more closely matches your screen's display.

If you are printing to postscript drivers using LanguageLevel 2 or 3, we find that some of the Microsoft drivers do not support pattern scaling. As a result, our scaling method may not help you. Microsoft re-

commented that you reset the language level of the postscript driver to LanguageLevel 1 to remove this restriction. We did find some exceptions to this condition. On Windows 2000 some HP Laser Jet and Color Laser Jet postscript drivers using our scaling option printed correctly.

Printing the Map to a File

To print the current map to a file:

1. From the **File** menu, select **Print**.
The **Print** dialog box displays.
2. Select the **Print to File** check box.
3. Click **OK**.
The **Print to File** dialog box displays.
4. Type the name of the file you want to create in the field provided and click **OK**. Use the extension .PRN to help you identify the file as a print file.

Printing the Map to a Layered PDF File

PDFs are capable of holding multiple pages of information in the same space through the use of Optional Content Groups (OCG), which are more commonly known as layers. Layers in PDFs are very similar to MapInfo Professional map layers.

Each layer may hold any portion of the document's objects and layers may be made visible or invisible, showing or hiding their contained objects, in any combination. By selectively hiding layers, you reduce distractions to concentrate on particular areas or types of objects. Layers can be organized into groups and the visibility option can apply to all layers within a group as one step.

To print a **Map** window or a **Layout** window to a layered PDF:

1. From the **File** menu, select **Print**.
The **Print** dialog box displays.
2. From the **Name** drop-down list, select **MapInfo PDF Printer**. This PDF driver is installed with MapInfo Professional.
 - Optionally, click **Properties** to set any printing preferences.
3. Click **OK** to print to a layered PDF file.

Note: It may take some time to process a large map with many layers.

When saving a **Layout** window to a layered PDF, each frame (such as map frame and legend frame) becomes a layer in the PDF. You can also use a different PDF driver, not the MapInfo PDF Printer. Doing so creates a static PDF map without layer information, so you do not have the ability to turn on or off particular map layers.

Labels in a **Map** window save to a separate layer in the PDF with a name that includes the parent layer name. Adornments save as a separate Adornments layer in the PDF. Annotations in a layout save as a separate layer named Annotation in the PDF. An empty Cosmetic layer does not save to the PDF.

Restrictions when Printing to a Layered PDF

Embedded legends in Mapper windows that export to the PDF file do not toggle on or off in the PDF.

General Printing Tips and Tricks

Good first steps in troubleshooting a printing problem are to make sure you have downloaded and installed the latest patch for MapInfo Professional and are using the latest printer driver for your printer/operating system. Exceptions are noted in this document.

Seeing Black Boxes Instead of Symbols when Printing to PDF?

Turn on Enable Postscript Simulation. In the **Print** dialog box (after selecting **File > Print to PDF**), click the **Properties** button. In the **MapInfo PDF Printer Properties** dialog box, select the **Advanced Options** tab and then select the **Enable Postscript Simulation** check box.

Compress the Size of Raster Maps when Printing to PDF Tip

Use one of the image compression options with the MapInfo PDF Printer to select how to compress black and white or color images, or select to remove duplicate images, downsample high resolution images, and disable PNG/JPEG printing. On the **Print** dialog box (after selecting **File > Print to PDF**), click the **Properties** button. In the **MapInfo PDF Printer Properties** dialog box, select the **Image Compression** tab.

Save New Defaults and Save Time Printing to PDF

Don't select the same setting over and over again when printing to PDF. Save your setting once as the default setting. From the **Start** menu, select the **Control Panel** and then **Printers and Faxes**. In the **Printers and Faxes** screen, right-click **MapInfo PDF Printer** and select **Printing Preferences**. Make your favorite setting and click **OK** to apply it as a default when you print to PDF.

Embedding MapInfo Professional Graphics Tip

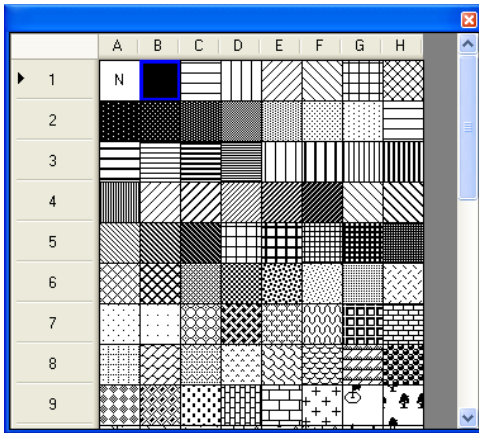
When you embed a MapInfo map or graph in another application (such as Word or PowerPoint), click outside the map/graph before you use the **Print** or **Print Preview** commands. This allows the container application to take over previewing or printing properly. This is particularly true if you have just made changes to the map or graph you are printing.

HP 755 Driver Suggestion

If you are having difficulties printing using this plotter model, try the plotter driver for the HP 650C (C2859B) instead. In many cases, if you are having difficulty with a printer or plotter model and a similar model exists, you can substitute the similar model's driver for the current one and get good results. For example, you can use the printer driver for the HP 8500 DN Color LaserJet with the HP8550 color LaserJet driver).

Need for Speed When Using Fill Patterns?

Note that fill patterns on the first row of the **Region Style** dialog box (see next figure) are Windows standard and tend to print faster. The other patterns are bitmaps MapInfo has created for your use. You might want to consider this when you are selecting fill patterns.



1 Use the fill patterns from this row for fast printing results.

Speed Still an Issue?

If you want to improve printer speed, and your printer has **Fast**, **Normal**, **Best** print quality options, we suggest you select **Fast**.

If your image is large and you are printing at a resolution of 600 DPI or greater, your image may exceed this limitation. To print the image, reduce the resolution of the printout or shrink the size of the image. See also [Printing Maps Larger than 1.6 Meters \(63 Inches\)](#) on page 10.

Translucent Raster Maps?

You cannot print a translucent raster map or grid on Windows 9X platforms or export them to EMF or WMF file formats. You need to use a non-metafile (such as .BMP or .TIF) format to export raster images on Windows 9X.

Old Driver Works, New Driver Doesn't

When in doubt, if an older driver worked and the new one does not, go back to the older driver. For instructions on reinstalling older versions of printer drivers, see [Hatch Patterns Printing as Black Polygons](#) on page 8.

Disk Space an Issue?

Make sure you have plenty of temporary disk space, particularly if you are using the Print using the Enhanced Metafile option. The system is trying to create a layered bitmap locally on disk.

Print Workspace Path with Map?

In some cases, you may want to print the path to a particular workspace with your output. Here is a quick way to do this:

1. Choose **Options > Show MapBasic Window** to display the **MapBasic** window.
2. Open the workspace you want to print. The path and workspace name display in the **MapBasic** window.

3. Use **Ctrl C** or **Edit > Copy** to copy the path and workspace name from the **MapBasic** window.
4. Choose **Window > New Layout Window** to create a new **Layout** window.
5. Make the new **Layout** window active and use **Ctrl V** or **Edit > Paste** to paste the path into the **Layout** window. The path may paste in the gray area of the **Layout** window and may be difficult to see.
6. Select and drag the path to the desired printable location.

Printing Globally? Spool Locally!

Try spooling print jobs locally rather than at the plotter. This allows the computer to rasterize your output rather than the printer, which can be more efficient.

1. To set up local print job spooling, choose **Start > Settings > Control Panel > Printers**.
2. Right-click the printer and choose **Properties** to display the printer's properties.
3. Click the **Advanced** tab to display the advanced property options.
4. Click the **Spool Print Documents** button and **Start printing after last page is spooled** button.

Note: If you do not have administrative rights to your computer, you may not be able to use the spooling option. Contact your IT department if you want to make this change to get their support.

5. Click **OK** to save your changes.

Resolutions to Known Printing Issues

There are many variables that affect printing and plotting with any application, and MapInfo Professional is no exception. MapInfo Professional does not provide its own printer drivers, it uses the existing ones installed under the current Windows operating system. This section addresses specific printer/plotter issues that have been uncovered by users and partners.

Platform Independent Issues

These issues occur regardless of operating system or hardware/software, except where specifically noted. Look for the issue you are working with below and refer to the resolution.

Printing a Layout Window to Multiple Pages

Printers/Plotters: HP Designjet Printers

MapInfo Professional Versions: 4.x and later

Issue: How do you print a **Layout** window to multiple pages?

Resolution: With the **Layout** window active, choose **Layout > Options** to display the **Layout Options** dialog box.

To make the layout page two pages wide and two pages tall, type **2** in the **Layout Size Width** and **Height** fields. Then click **OK**.

Handling the "Unable to Save Window Contents" Message

Printers/Plotters: HP Designjet 1055CM

MapInfo Professional Versions: 7.0+

Issue: This issue comes up whenever users try to print a **Layout** window at 60 in. x 36 in. or larger due to memory issues.

Resolution: In this circumstance, print directly to the device rather than create the Enhanced MetaFile (EMF). Additionally we recommend that you use the appropriate HPGL driver for your printer and operating system. All current HP printer drivers are available at their web site, <http://www.hp.com>.

Hatch Patterns Printing as Black Polygons

Printers/Plotters: HP Designjet Series Plotters

MapInfo Professional Versions: All

Issue: When you print maps with hatch patterns, some regions display as solid black.

Resolution: According to Hewlett Packard support, the new HP printer driver (4.63) handles non-Windows standard hatch patterns properly. We recommend that you download and install the new HP 4.63 driver to resolve this problem.

Platform-Specific Issues

These issues pertain to particular operating systems and/or hardware except where specifically noted. These issues are grouped by operating system.

Print output repeats itself every 2 to 4 cm using the HP 500, 800, 5000 Designjet plotter when printing Rasters

We have two suggestions to working around this problem. First, try spooling the printer locally either from the driver level or the printer level.

Note: You must have read/write rights to your printer and printer driver to resolve this issue.

To work around this problem, there is an advanced hidden setting that you can change within the properties of the driver. To prevent the printer from repeating itself every 2-4 cm. when printing rasters with vector overlays:

1. Locate the printer driver's properties in the **Control Panel**. To get to this setting, right-click the printer icon and choose **Properties**.
2. Click the **Advanced** tab. Select the following options:
 - Select the **Avoid out of memory** option.
 - If you are using the Windows 2000 or XP operating system, select a scaling factor of 100%.
3. From this dialog box, click the **Printing Defaults** button.
4. In this dialog box, select the **About** button. The About **<Driver Name>** dialog box displays.
5. Holding down the **F8** key on your keyboard, click the **OK** button. The **Special Options** dialog box displays:
6. Do one of the following and click **OK**:

- If printing from Windows 98, clear the **Enable RenderSmart** check box.
- If printing from Windows 2000 or XP, clear the **Enable SpoolSmart** check box.

CAUTION: When you modify settings in this driver option box, make sure to note the original settings in case you need to change them back. These were designed for HP Support Engineers and not for general public use.

You can save these settings as a Quick Set to ensure that they run every time you print raster files.

1. Choose **Start > Settings/Control Panel > Printers** .
2. Right-click the appropriate plotter driver icon and choose **Printing Preferences**.
3. Set the preferences the way you want them in the hidden menu.
4. In the **Quick Sets** box, type a name for the selected settings (for example, "Raster Print Settings") and click **Save**. All current driver settings (paper type, hidden menu settings, etc.) are saved under the Quick Set name. The printer driver remembers these settings and they can be used for future print jobs.

To print a raster map later with the same settings:

1. Choose **File > Print** to display the **Print** dialog box.
2. Choose the **Properties** button. The **Properties** dialog box displays.
3. Make sure the name you entered (as in "Raster Print Settings" in our example) displays in the **Quick Sets** drop-down list and click **OK**. The **Print** dialog box redisplay.
4. Click **OK** to print.

Note: If you do not need this special setting in Quick Sets, remember to change this setting back to the default machine setting.

Cannot Print with HP Designjet Printers (Driver 5.31 or 5.32).

When you attempt to use this driver one of these things happens:

- If you select the **Maximum Performance** option, you get memory error messages and the printer prints only part of the image.
- If you select the **Avoid out of memory** option, the computer shuts down unexpectedly and displays both an Out of Hard Disk Space message and an Out of Virtual Memory message.

The resolution of this issue is similar to **Platform-Specific Issues** on page 8. The dialog box is the same.

To resolve this issue:

1. Choose **FilePrint** to display the **Print** dialog box.
2. Click the **Advanced** button at the bottom of this dialog box. The **Advanced Printing Options** dialog box displays.
3. Select these options and click **OK**:
 - **Print directly to the printer**
 - **Internal Handling for Transparent Vector Fills and Symbols**
 - **Use ROP Method to Display Transparent Raster**
 - **Print Raster in True Color When Possible**

- **Select the Half Tone dither method.**
- 4. From the **Control Panel**, select **Printers** or **Printers and Faxes** and find the printer you want to print from.
- 5. Right-click the printer you want to print to and select the **Properties** option. The **Properties** dialog box displays.
- 6. Click the **About** button to display the About **<Printer Driver>** dialog box.
- 7. Holding down the **F8** key on your keyboard, click the **OK** button. The **Special Options** dialog box displays.
- 8. Do one of the following:
 - If printing from Windows 98, clear the **Enable RenderSmart** check box.
 - If printing from Windows 2000 or XP, clear the **Enable SpoolSmart** check box.

Printing Maps Larger than 1.6 Meters (63 Inches)

When you print a map that is larger than 1.6 meters or 63 inches in Normal or Best modes, often the image is incomplete. Only the first 1.6 m or 63" prints.

To resolve this issue, do one of the following:

- Click the **Advanced** button and in the **Print Quality** options, select a lower print resolution (from 600 to 300 DPI or from 300 to 150 DPI).
- Set the **Scale to fit** option to **100%** to divide the resolution rendering by 2.

When you use one of these alternatives you can print up to 3.2 meters (10.5 feet) at 300 DPI or up to 6.4 meters (21 feet) at 150 DPI.

Enhancements Added in Earlier Versions

MapInfo Professional 11.0

Saving Preferences for Georegistration Coordinate Units

You can select to store the bounds and coordinate systems of the map or layout view in your PDF file. This type of file is called a Georegistered PDF. You can save preferences to set the georegistration coordinate units to either **Use Map Units** or **Use Degrees**. For more information and instructions on how to do this, see *Saving Preferences for Georegistration Coordinate Units* in the *Help System*.

MapInfo Professional 10.5

New in this release are polygon mode printing, printing to an offscreen bitmap (OSBM), subdivide printing, and printing to a PDF file.

Polygon Mode Printing

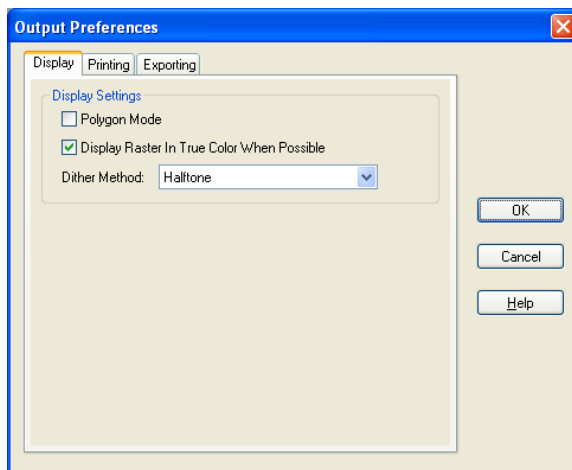
This release of MapInfo Professional introduces a new way of drawing complicated polygons, such as those containing holes or many nodes through a User Interface. This was due to an issue with printing

such objects using an Adobe PDF printer driver. It left visible seams and gaps in the image when the PDF was printed. These seams and gaps weren't visible on screen nor when printed using other printer drivers.

Printing with the new method means that large polygons are now rendered as-is not broken into smaller polygons, as the older method does. Additionally, the new method uses different calls that specifically support drawing polygons with holes. The older method manipulates the polygon with holes to draw as a single polygon, which caused seams and gaps to appear in the PDF.

Note: Because this issue does not affect all users of MapInfo Professional who print maps, we continue to provide the original polygon drawing method.

Polygon Mode may be set for each of three types of drawing: on-screen, printing, and exporting. Select the **Polygon Mode** check box from the **Options > Preferences > Output Settings** menu under the **Display** tab, **Printing** tab, and **Exporting** tab.



Note: The setting is independent to output method and is not saved on per window basis. This setting will not affect any other option's User Interface.

Printing to an Offscreen Bitmap (OSBM)

The **Print using Offscreen Bitmap (OSBM)** printing method renders a print job to offscreen bitmaps prior to sending it to the printer or plotter. It is used when printing maps and layouts containing translucency and/or anti-alias content, particularly for raster images. For details, see [Printing Maps with Translucency and Anti-Alias Smoothing](#) on page 22. When printing, select **File > Print** and click **Advanced** to display the **Advanced Printing Options** dialog box. Select the **Print using Offscreen Bitmap (OSBM)** check box.

This printing process generates an Offscreen bitmap of your MapInfo Professional image before sending it to the printer. Offscreen bitmap is invoked depending upon the type of translucent content in the map and enhanced rendering state of the window. However, setting OSBM from this window means that while printing Offscreen bitmaps (OSBM) will be selected regardless of the translucency and anti alias settings.

Setting Print to an Offscreen Bitmap as your Default

You can set this option as a default by selecting **Options>Preferences>Output** and then selecting **Print using Offscreen Bitmap (OSBM)** under the **Printing** tab. This preference sets the default for all new windows.

Subdivide Printing

In earlier versions of MapInfo Professional, there was an optional registry setting, called **SubdividePrinting**, to allow print jobs to be broken into multiple, smaller print requests. This was especially useful if printing large raster/ translucent maps to large paper sizes. Now that option has been added as a preference. The preference is initialized using the registry setting if it existed.


Click **Options > Preferences > Output Settings** under the **Printing** tab. There is a check box for **Subdivide Printing**. If selected, the print job is broken into multiple smaller print request. If unchecked, the print is done in a single request.

Printing to PDF

Professional lets you save a map to a layered PDF file. Since Acrobat 6.0, PDFs are capable of holding multiple pages of information in the same space through the use of Optional Content Groups (OCG), which are more commonly known as layers. Layers in PDFs are very similar to MapInfo Professional map layers.

Your PDF now displays layers in the same order as shown in the MapInfo Professional **Layer Control** window, and it displays translucency. The MapInfo PDF Printer supports GeoRegistration, which stores the bounds and coordinate systems of the map view in the PDF file. The PDF file also stores the attribute data of the records on the map.

New in this release when saving to a PDF file:

- **Print to PDF** – Select **File > Print to PDF** to save your map, browser, graph, or layout to a PDF file. This option is similar to Save As, and gives you the option to concatenate PDF files.
- **MapInfo PDF Printer tool** – The Main menu includes a new MapInfo PDF Printer  tool, which is the same as selecting **File > Print to PDF** to save your map, browser, graph, or layout to a PDF file.
- **Translucency** – You can create a layered PDF that includes translucent layers in MapInfo Professional 10.5.
- **PDF Preferences** – The MapInfo Professional **Print** dialog (select **File > Print**) now includes a **PDF** button that displays after selecting MapInfo PDF Printer from the Name list. This button launches the **PDF Preferences** dialog. From this dialog, you can make the following settings:

Layered PDF

Select to save layers for a map, as shown in the MapInfo Professional **Layer Control** window, to the PDF file. When saving a **Layout** window, each frame, such as map frame and legend frame, becomes a layer in the PDF.

Georegistered PDF

Select to store the bounds and coordinate systems of the map or layout view in the PDF file.

Add Attribute data to PDF

Select to store the attribute data of the records on the map in the PDF file.

Automatically open the PDF

Select to have the PDF file open after it is generated.

Selecting the Layered PDF option in the **PDF Preferences** dialog box enables the Direct to Device option, and disables using OSBM and EMF.

If you select the Print using EMF or Print using the Offscreen Bitmap (OSBM) output method and later on select the Layered PDF from the **PDF Preferences** dialog box, then the output method forcibly sets to Direct to Device. However, disabling the Layered PDF option resets the print output method back to your original selection, EMF/ OSBM.

- **Context Sensitive Help for the MapInfo PDF Printer** – This version of the MapInfo PDF Printer includes documentation in the form of a help system. To access this help system, select **File > Print** and click **Properties** in the **Print** dialog box. This opens the **MapInfo PDF Printer Properties** dialog box, which now includes a Help button on each tab.

MapInfo Professional 10.0

MapInfo Professional lets you save a map to a layered PDF file, see [Printing the Map to a Layered PDF File](#) on page 4.

MapInfo Professional 9.5.1

MapInfo Professional provides enhanced rendering capabilities in this release, including:

- translucency of vector objects (map features, labels, themes, text, and layout objects)
- smoothing (anti-aliasing) of text, vector and images
- new drawing selection method
- new export formats: EMF+ and EMF+Dual
- use of offscreen bitmaps to draw layouts
- printing improvements

Enhanced rendering is possible through Microsoft's GDI+, an operating system level capability that provides two-dimensional vector graphics, imaging, and typography handling. GDI+ improves on standard Windows Graphics Device Interface (GDI) by adding new features and optimizing existing features.

Enhanced rendering in MapInfo Professional allows you to create translucent labels, themes, and layers, as well as apply anti-aliasing to smooth the jagged edges of text, labels, lines, curves, region borders and raster images. We also provide a new way of drawing selections and two new export formats as a result of using the new enhanced rendering support.

Enhanced rendering covers the following topics:

- [Enabling Enhanced Rendering](#) on page 14
- [Enabling Enhanced Rendering for New Windows](#) on page 14
- [Enhancing Selection Drawing Style](#) on page 15
- [Workspaces](#) on page 16
- [Translucency](#) on page 16
- [Anti-Aliasing](#) on page 19
- [EMF+ and EMF+Dual Export Formats](#) on page 20

- [Layout Drawing Improvements](#) on page 21
- [PrintOSBM Registry Setting](#) on page 21

Enabling Enhanced Rendering

To take advantage of enhanced rendering in MapInfo Professional, you must turn on the capability. If you do not turn on enhanced rendering, rendering is performed using the standard Windows Graphics Device Interface (GDI).

Enhanced rendering does not mean that translucency and anti-aliasing are automatically applied. Translucency and anti-alias settings must also be applied to generate the best looking maps. You will, however, automatically have the improved selection drawing style (see [Enhancing Selection Drawing Style](#) on page 15). Translucency and Anti-Aliasing are discussed under [Translucency](#) on page 16 and [Anti-Aliasing](#) on page 19, respectively.

Enhanced rendering is supported for **Map**, **Browser**, and **Layout** windows. Enhanced rendering is not available for other types of windows.

To enable enhanced rendering, set it in the **Options** dialog for the map (from the **Map** menu, select **Options**), **Browser** or **Layout** windows, or through a MapBasic statement. It is controlled on a per window basis.

Legends are drawn in the same mode as the associated **Map** window. So, if a map is in enhanced rendering mode, its legend is as well. There are no enhanced rendering options in the **Legend Options** dialog.

Like the **Map** and **Browser** windows, enhanced rendering for **Layout** windows is enabled in its **Options** dialog. This means that any annotations added to the layout, such as titles or watermarks will be drawn using enhanced rendering. If you add **Map** and **Browser** windows that already are enabled for enhanced rendering, enhanced rendering will be forced on for the **Layout** window. Enhanced rendering for the **Map** and **Browser** windows have no affect on the **Layout** window, and vice versa. For more information, see [Translucency](#) on page 16.

There is also a style preference to determine the initial enhanced rendering state for newly created windows. See [Enabling Enhanced Rendering for New Windows](#) on page 14.

Note: MapInfo Professional 9.5 opens a workspace with enhanced rendering, but ignores the enhanced rendering settings. Versions of MapInfo Professional prior to 9.5 cannot open a workspace with enhanced rendering. See [Workspaces](#) on page 16.

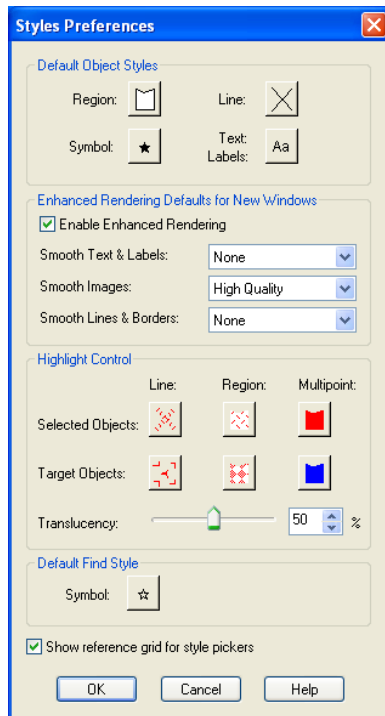
Enabling Enhanced Rendering for New Windows

MapInfo Professional provides a Style preference to determine the default state of enhanced rendering for newly created **Map**, **Browser** and **Layout** windows. Each window can be changed independently at a later time. This preference is disabled by default to maintain backwards compatibility with earlier versions of MapInfo Professional.

Note: These preferences control the state of new windows, not existing windows. This means if you are opening old workspaces, they will open with enhanced rendering disabled, regardless of how the Style preference is set.

To set enhanced rendering as a default style preference:

1. On the **Options** menu, point to **Preferences** and click **Styles** to display the **Styles Preferences** dialog box.
2. Select the **Enable Enhanced Rendering** check box and make your selections from the drop-down lists.

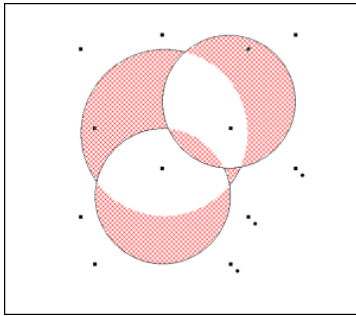


Enhancing Selection Drawing Style

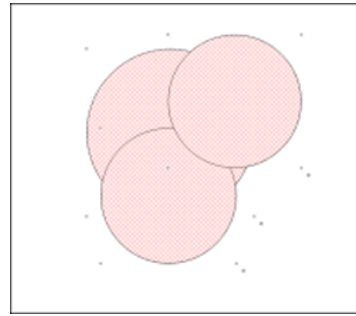
MapInfo Professional offers a selection drawing style that uses translucency through enhanced rendering. This requires that the window is enabled for enhanced rendering, see [Enabling Enhanced Rendering for New Windows](#) on page 14. This style method is useful when you need to select map objects, such as points or regions, where they overlap or appear to draw on top of one another when you zoom out.

To control the translucency setting for the selection style, go to the **Styles Preference** dialog. The slider is located in the **Highlight Control** group for that dialog.

If enhanced rendering is turned off, selections are drawn using an older selection method. This method, under certain situations, causes overlapping objects to appear unselected.



Enhanced Rendering Turned Off



Enhanced Rendering Turned On

Note: A particular selection style may not look ideal in either mode. You will have experiment with the settings.

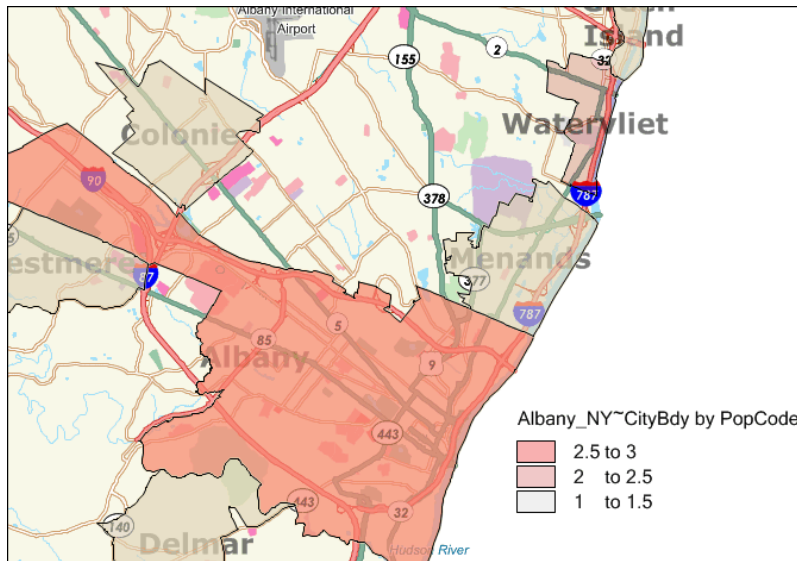
Workspaces

If you open a workspace that does not have enhanced rendering enabled and you wish to use the translucency and anti-aliasing features, you must enable it on a per window basis using the **Options** dialog for the **Map**, **Browser** or **Layout** window.

Note: Workspaces with enhanced rendering enabled can only be opened in MapInfo Professional 9.5 or later. Enhanced rendering must be disabled to open a workspace in an earlier version of MapInfo Professional.

Translucency

One key capability of enhanced rendering is the ability to apply translucency to a map layer so that the layer underneath is partially visible. This feature can be a very powerful analytical tool. For example, translucency on a ranged theme provides two levels of information in a single view—the distribution of data that matches some criteria, and the view below the ranged theme that offers a reference map to that data.



MapInfo Professional supports translucency for a wide variety of layer types, including vector objects, labels, themes, raster and grid images, and annotations (cosmetic layer and graphic objects added to layouts).

Translucent Layers

Translucency is controlled on a per layer basis. Each layer has its own translucency setting. Translucency for map layers and themes is set in Layer Control using a slider control on the **Display Options** dialog. Translucency for labels is set in the **Label Options** dialog. All objects in the same layer are drawn at the same translucency level. Labels, themes and map objects in the same layer have independent translucency settings. You can have multiple translucent layers in a **Map** window, each with its own translucency value.

In order to use translucency in a **Map** or **Layout** window, you must enable enhanced rendering in the appropriate window's **Options** dialog. Enhanced rendering can also be set as a Style preference for new windows you create.

Keep in mind, when translucency is on (value > 0 percent), enhanced rendering is automatically enabled. However, the reverse is not true. If translucency is turned off (value = 0 percent), enhanced rendering will not be turned off. You can turn it off manually, if desired, by clearing the **Enable Enhanced Rendering** check box in the **Options** dialog.

Note: There is a shortcut to enabling enhanced rendering if you are already in the **Display Options** or **Label Options** dialogs. You can enable it by setting a translucency value of greater than 0. This saves you from returning to the **Map** or **Layout window Options** dialog to enable it.

Translucency is also available for the Cosmetic Layer. Set translucency for the Cosmetic Layer just like you would for another layer type, in Layer Control's **Display Options** dialog. The translucency setting will be applied to the entire Cosmetic Layer.

Translucency for Layout Windows

Layout windows provide two levels of enhanced rendering:

- Annotation-level enhanced rendering for graphic objects, such as titles or watermarks.
- Window-level enhanced rendering for the Maps, Legends and Browsers.

To set enhanced rendering for layout annotations for an already created layout, go to **Layout > Options** and select the **Enable Enhanced Rendering** check box. You can also set smoothing settings here as well. If you have yet to create the Layout, you can enable enhanced rendering as a preference for newly created windows (**Options > Preferences > Styles**).

To set enhanced rendering for **Map** and **Browser** windows that you wish to display in a **Layout** window, go to the appropriate window options dialog (Map or Browser) and check the **Enable Enhanced Rendering** check box. Adding these windows to the layout and enhanced rendering will continue for these windows. To disable enhanced rendering for these frames, return to the appropriate **Options** dialog and clear the check box.

Embedding a **Map** or **Browser** window with enhanced rendering on in a **Layout** window will also force enhanced rendering on for the layout. This can be seen in the **Options** dialog (**Layout > Options**) when the **Enhanced Rendering** check box is selected, but the control is disabled, preventing you from turning it off.

Adjusting Translucency in a Layout

Translucency for annotations in a layout is controlled by a translucency slider in the **Options** dialog for **Layout** windows.

To adjust the translucency of annotations in a **Layout** window go to **Layout > Options** and change the value on the translucent slider. All annotations in the **Layout** window will be treated with the same translucency setting. Annotations are objects you can add to a layout by using, for example, the **Add Symbol**, **Line**, **Polyline**, or **Text** toolbar options.

To adjust the translucency for Map windows in a layout, you must return to its **Map** window and access the **Options** dialog to reach the translucency slider.

Note: Translucency for annotation objects does not affect the translucency of maps in layout frames. The contents of frames are drawn using that window's translucency settings. They are not drawn using the **Layout** window translucency setting. The translucency slider on the **Layout Options** dialog does not control the translucency of the maps.

Translucent Raster and Grid Images

Translucency for raster and grid images has been available in MapInfo Professional prior to this release. The new aspect of image translucency is the added support through enhanced rendering. These images can be drawn translucently with or without enhanced rendering enabled.

The advantage of using enhanced rendering is seen when a translucent raster or grid image is printed. Enhanced rendering enabled forces MapInfo Professional to print to offscreen bitmaps, which typically yields better looking results than if printed without enhanced rendering.

For raster images, there is no change to how you set translucency through the user interface or via MapBasic commands. Set the translucency in the **Adjust Image Styles** dialog (**Layer Control > Display Options > Style Override > Adjust Image Styles**).

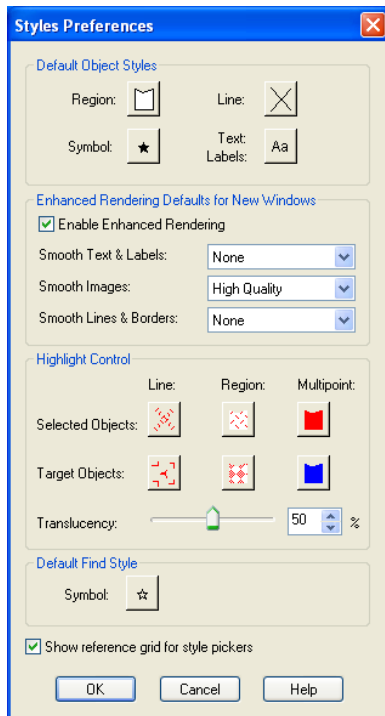
Raster display options can also be controlled on a per table basis so that the image will open using those particular settings by default. These are found under **Table > Raster > Adjust Image Styles** .

For grid images, the translucency slider is an option in the **Grid Appearance** dialog. This dialog is reachable from the **Styles** button in the Create Thematic Map Step 3 of 3 or the Modify Thematic Map dialogs.

Anti-Aliasing

One aspect of enhanced rendering is the ability to employ an anti-aliasing process that removes the jagged edges of text, labels, images, and vector lines and borders. Enabling enhanced rendering does not automatically enable anti-aliasing (smoothing options are set to None by default). You must set it in Style Preferences for the default state of newly created windows, or in the Options dialogs for individual Map, Browser and Layout windows.

To open the **Style Preferences** dialog, on the **Options** menu, point to **Preferences** and click **Styles**.



To remove the appearance of jagged characters in horizontal and rotated labels and on custom text objects in the window, select the **Enable Enhanced Rendering** check box and choose **Anti-Alias** from the **Smooth Text & Labels** drop-down list. Smoothed text and labels look better on your map, but because these objects require more rendering, it may take longer to display your map.

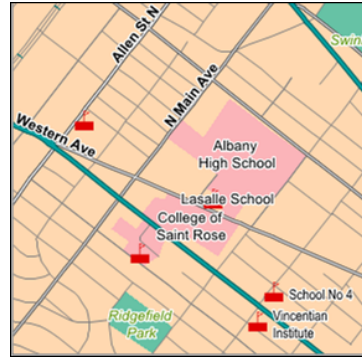
If you wish to smooth raster and grid images in your window, you can set the quality of the resolution. Low Quality indicates there will be some image smoothing, but not at the expense of rendering performance. High Quality means that you want the highest amount of smoothing MapInfo Professional can provide. This will cause your map to draw more slowly than the Low Quality option.

The third anti-alias setting applies to lines and borders. The following illustration shows the before and after affects of anti-aliasing applied to the roads and labels in the **Map** window.

Enhanced Rendering Off



Enhanced Rendering On, with smoothing options

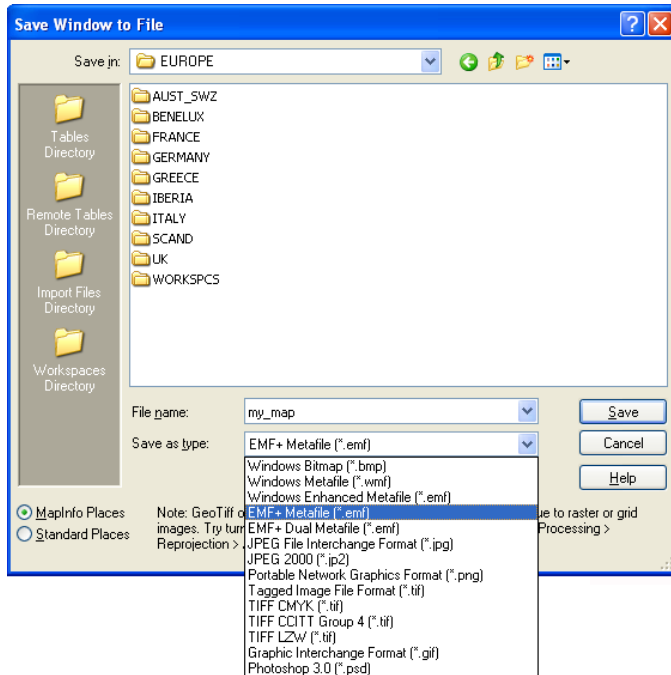


EMF+ and EMF+Dual Export Formats

In order to take full advantage of enhanced rendering, MapInfo Professional provides EMF+ and EMF+Dual image export formats. These are enhanced metafile vector image formats that support Windows GDI+ (Graphics Device Interface). Use these to save translucent maps instead of exporting to the older metafile formats, such as EMF and WMF. Older formats do not support translucency very well, which display images using translucency with a dithered, or speckled, appearance.

Choose EMF+ if you expect to bring your maps into an application that supports EMF+, such as Microsoft Office 2007. Choose EMF+Dual (a combination of EMF and EMF+) if your maps may be used in applications that may or may not support EMF+, such as Microsoft's Office 2003 and Office 2007.

Note: EMF+Dual format will produce a larger file than EMF+. But it provides better compatibility with older application that do not support EMF+.



Layout Drawing Improvements

Beginning with this release, MapInfo Professional now prepares a layout for display by rasterizing the contents to an offscreen bitmap, and displaying the entire layout once the bitmap is drawn. You will no longer see a partial display of the **Layout** window. The drawing is done offscreen and is presented to you when it is completely drawn.

This behavior applies to layout displays with or without enhanced rendering enabled.

PrintOSBM Registry Setting

This registry setting controls a new printing method that renders a print job to offscreen bitmaps prior to sending it to the printer or plotter. This is used when printing maps and layouts containing translucency and/or anti-alias content.

For instructions to set PrintOSBM, see [Anti-Aliasing](#) on page 19.

MapInfo Professional 9.5

PolygonMode

This release of MapInfo Professional introduces a new way of drawing complicated polygons, such as those containing holes or many nodes. This was due to an issue with printing such objects using an Adobe PDF printer driver. It left visible seams and gaps in the image when the PDF was printed. These seams and gaps were not visible on screen nor when printed using other printer drivers.

Printing with the new method means that large polygons are now rendered as-is not broken into smaller polygons, as the older method does. Additionally, the new method uses different calls that specifically

support drawing polygons with holes. The older method manipulates the polygon with holes to draw as a single polygon. This is what caused seams and gaps to appear in the PDF

Because this issue does not affect all users of MapInfo Professional who print maps, we continue to provide the original polygon drawing method. You can control which method to use by changing the registry setting `PolygonMode=1` (default, renders using the new method), to `PolygonMode=0` for the old method. This setting is located in the system registry under `HKEY_LOCAL_MACHINE\SOFTWARE\MapInfo\MapInfo\Common`.

PrintOSBM

This registry setting controls a new printing method that renders a print job to offscreen bitmaps prior to sending it to the printer or plotter. This is used when printing maps and layouts containing translucency and/or anti-alias content. For details, see [Printing Maps with Translucency and Anti-Alias Smoothing](#).

Printing Maps with Translucency and Anti-Alias Smoothing

MapInfo Professional provides a new printing method for maps and layouts containing translucent content and anti-alias settings. This method renders the map or layout "behind the scenes" to an offscreen bitmap prior to sending it to your printer or plotter. The use of offscreen bitmaps is invoked depending on the type of translucent content in the map and the enhanced rendering state of the window, as follows:

- Invoked when your map or layout contains translucent vectors (such as map layers, themes, or labels) and enhanced rendering has been enabled.
- Invoked if your map contains images with either High or Low Quality smoothing enabled.
- Invoked for translucent raster and grid images provided enhanced rendering is enabled.

You cannot control this print method through the **Print** dialog, as you can with Direct to Device or Print to EMF. This is a registry setting called `PrintOSBM`, located under `HKEY_LOCAL_MACHINE\SOFTWARE\MapInfo\MapInfo\Common`. The values are `dword:00000000` (auto) and `dword:00000001` (forced on). Auto, the default, means that printing will use offscreen bitmaps only for the translucency and anti-alias conditions listed above. Forced on means printing will use offscreen bitmaps regardless of the translucency and anti-alias settings.

For translucent raster and grid images, you can also print using EMF when enhanced rendering is not enabled.

Note: Direct printing to a printer or plotter does not support translucency.

Enabling the PrintOSBM Option Using Registration Files

To edit the registry, you will need Administrator privileges. If you do not have the required privileges, then ask your System Administrator to assist you.

To enable the PrintOSBM option using registration files in the Knowledge Base document:

1. Go to the MapInfo Knowledge Base entry **MapInfo Professional > Registry Settings > Enabling Enabling the PrintOSBM** option: <http://testdrive.mapinfo.com/TechSupp/MI-Prod.nsf/2fa3e3416d06d61d85257125006b2533/b769a029109299ab8525754c00591ec9?OpenDocument>

Note: If you do not have Internet access, see [Enabling the PrintOSBM Option Manually](#) on page 23 for instructions.

2. Save the `Print_OSBM_ON.reg` and `Print_OSBM_auto.reg` files locally. Use Windows Explorer to navigate to the registration files.

Note: We recommend you create a permanent directory in case you need to remove the registration option later.

3. Double-click the **Print_OSBM_ON.reg** icon to add the new key to the registry. This option takes effect the next time you open MapInfo Professional.

Disabling the PrintOSBM Option Using Registration Files

If you try this option and you want to remove this functionality, you can disable the registry entry by following these instructions.

Note: We assume that you have downloaded the registry files by following the instructions in [Enabling the PrintOSBM Option Using Registration Files](#) on page 22.

To disable the PrintOSBM option using the downloaded registration file:

1. Go to the directory that contains the registration (.reg) files you downloaded earlier.
2. To remove the PrintOSBM option, double-click the **Print_OSBM_auto.reg** icon. The registry entry is updated with the new value. This option takes effect the next time you open MapInfo Professional.

Enabling the PrintOSBM Option Manually

If you do not have access to the Internet, or you want to add this option manually, follow these instructions. Before modifying the registry, make a backup:

1. Choose **Start > Run** and type the command `regedit`. Click **OK** to display the **Registry Editor** window.
2. In the `HKEY_LOCAL_MACHINE` entry, navigate to **Software > MapInfo > MapInfo > Common**.
3. Highlight the `Common` folder and then select **File > Export**.
4. In the **Export Registry File** dialog, specify a location and file name to backup to and then click **Save**.

To enable the PrintOSBM Print option by entering the registration key manually:

1. From the **Edit** menu, select **New > DWORD Value**. A new entry displays in the list.
2. Right-click the entry and select **Rename**. Rename the new entry **PrintOSBM** and press **Enter**.
3. Double-click the new entry to display the **Edit DWORD Value** dialog box.
4. To enable the PrintOSBM option, type **1** in the **Value** data field and click **OK**. This forces printing to use off-screen bitmaps regardless of the translucency and anti-alias settings.

To disable this option, return to this dialog box, type **0** in the Value data field and click **OK**. This causes printing to use off-screen bitmaps only for the translucency and anti-alias conditions.

This option takes effect the next time you open MapInfo Professional.

Note: You can also remove this regedit entry entirely to remove this option.

EMF+ and EMF+Dual Export Formats

In order to take full advantage of enhanced rendering, MapInfo Professional provides two new image export formats: EMF+ and EMF+Dual. These are enhanced metafile vector image formats that support GDI+. Use these to save translucent maps instead of exporting to the older metafile formats (EMF and WMF). Older formats do not support translucency very well, which display images using translucency with a dithered, or speckled, appearance.

Choose **EMF+** if you expect to bring your maps into an application that supports EMF+, such as Microsoft Office 2007. Choose **EMF+Dual** (a combination of EMF and EMF+) if your maps may be used in applications that may or may not support EMF+, such as Microsoft's Office 2003 and Office 2007.

Note: EMF+Dual format will produce a larger file than EMF+. But it provides better compatibility with older application that do not support EMF+.

Note: If you are printing a map/layout that contains a translucent image, you must select **Print Using Enhancement Metafile (EMF)**. The **Print Directly to Device** option does not support translucent images.

MapInfo Professional Printing Guide Available in Help

Over the years, users have told us that the MapInfo Professional *Printing Guide* helps them print large or complex maps or layouts. You can now access the MapInfo Professional Printing Guide, which contains printing tips and tricks from our Quality Assurance department, in the Help System.

To access the Printing Guide in the Help System, choose **Help > MapInfo Professional Help Topics > Productivity Aids > MapInfo Professional 9.5 Printing Guide** .

MapInfo Professional 9.0

Printing Large and Complex Output

If you have seen the *Cannot Print* error message when printing, you may be trying to print one or more of the following:

- Large format (large page size) maps or layouts containing raster or grid layers that may be translucent or transparent

In this case, many times the maps or layouts did not print at all, or if they did print, the translucent or transparent layers did not print properly.

- Maps made up of multiple pages that contain borders

In this case multiple page maps with a border around the entire map would print with borders around each page instead.

- Maps that contained labels that span more than one page

In this case, the labels would not print at all or would not print properly.

Largely, these issues were caused by the demand these print requests placed on the system resources in your computer.

To resolve these issues we now offer an option that breaks down a print request into smaller blocks, which reduces the demand on your system's resources. Each block is sent individually to the printer driver. This change may allow you to print large and complex images that you could not print in the past. We call this feature Subdivide Print. We limit the size of each block to 8192 x 8192 pixels.

Caveat

During testing we discovered that many printer drivers handled this new option properly. However we found that the output of some printer drivers resulted in gaps that display at the block boundaries. Therefore we did not enable this option by default. Since these gaps may affect the quality of your final output, we are giving you the ability to enable this option if or when you need it. At this time, we do not have a workaround to remove these gaps.

Note: If you have both a postscript and a non-postscript version of your printer driver, we recommend you try both to see which version gives you better results.