Getting Started
MapMarker 5.4 Plus

for Windows

MapInfo

MapMarker 5.4 Plus
March 2000

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Welcome to *Getting Started* for MapMarker 5.4 Plus. Look here for the latest information to get you going with MapMarker geocoding software. With each release of MapMarker (six times a year for MapMarker Plus and twice yearly for MapMarker standard), *Getting Started* provides the most up-to-date information on installation, new features, enhancements, and other issues to help you get the most from this powerful geocoding and address standardization tool.

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MapMarker Documentation Set

The documentation set for MapMarker and MapMarker Plus provides both hard copy and online resources to help you make the most of this geocoding product. The set includes:

- *Getting Started*
- *MapMarker User's Guide and Programmer's Reference*
- *Online Help*
- *MapMarker Tutorial*

Getting Started Manual

Start with this guide to get going with MapMarker. This guide provides installation instructions for first time installs and upgrades and the latest information and issues about the product. This book is updated with each bimonthly release of MapMarker Plus and semi-annual release of MapMarker.

MapMarker User's Guide and Programmer's Reference

The *User's Guide and Programmer's Reference*, also referred to as the MapMarker Product Guide is a two-part manual designed to help you use MapMarker to the fullest and to develop custom geocoding applications that call MapMarker.

Online Help and *MapMarker Tutorial*

In addition to the hard copy manuals, MapMarker and MapMarker Plus include Online Help and a tutorial. Online Help is instantly available while you are running MapMarker. To access Help, start MapMarker and either choose the Help menu, press the F1 key or click the Help button for help about a dialog.

The tutorial is a fast and easy way to get familiar with MapMarker's power. Run the tutorial from the CD-ROM. It requires a web browser. Find it in the \tutorial directory.

Chapter 1: What's New

Overview

This chapter describes the new features and enhancements for MapMarker Plus. The following topics are covered:

- MapMarker Plus Address Dictionary
- Enhanced User Dictionary Creation

MapMarker Plus Address Dictionary

MapMarker Plus is MapInfo's premium geocoding solution that contains an enhanced Address Dictionary of house numbers, street names and ZIP+4 centroids for all addresses in the U.S. It also contains the shape path geometry that defines the street segments. It is used as a matching dictionary when geocoding your data records with MapMarker Plus software.

MapMarker Plus contains about 50 percent more street address ranges than TIGER 98, the basis for MapMarker's standard Address Dictionary. Geocoding with MapMarker Plus will result in additional matches and improved positional accuracy of those matches.

MapMarker Plus Address Dictionary covers the 50 U.S. states and the District of Columbia. It also includes Puerto Rico, Guam, and the Virgin Islands, however, the TIGER 98 and USPS ZIP+4 data for these territories have not been enhanced.

Data Source and Vintage

The Address Dictionary for MapMarker Plus 5.4 (dated March-April 2000) was produced from these data sources:

- U.S. Postal Service ZIP+4 database - January 2000 (for addresses and ZIP+4 information)
- GDT, Inc. ZIP+4 Centroids - January 2000
- GDT, Inc. DynaMap 2000 - January 2000 (for enhanced street geometry and addresses)

The MapMarker Plus Address Dictionary is refreshed six times a year to comply with USPS CASS address standardization requirements.

Data Purchase Options

MapMarker Plus offers several data options for creating the Address Dictionary that fits your needs. The purchase options are:

- Entire U.S. for nationwide geocoding
- Individual states for local, state or regional geocoding
- ZIP+4 centroids for U.S. non-street level geocoding
- Free evaluation version for previewing MapMarker's complete feature set (geocodes a maximum of 200 records)

If you choose the U.S. or state level, you will also receive the ZIP+4 centroid data set.

Choose the data you want during the data installation phase of the MapMarker Plus install. You will be required to call MapInfo Corporation for an access code to complete the install process. (You do not need to call when upgrading or choosing the evaluation version.)

More Place Data Added to Address Dictionary

Thousands of additional places, such as locations of public and private schools, cemeteries and major buildings, have been added to the Address Dictionary. This will result in higher hit rates when geocoding by place name in the address field. MapMarker Plus returns a result code of S4 to represent the place location. These matches also return the proper ZIP Code and the 5–digit state/county FIPS code portion of the Census Block ID. The source of the place data is GDT's DynaMap 2000 files.

File Sizes for MapMarker Plus Address Dictionary

The Plus Address Dictionary requires approximately 1 GB of disk storage space. These files are about 10 percent larger than the Address Dictionary for the standard MapMarker product. See the Appendix for file sizes by state.

Data Enhancements

The MapMarker Plus Address Dictionary is similar to the MapMarker Address Dictionary in that it contains TIGER street segments, USPS ZIP Codes, and GDT ZIP+4 centroids. This dictionary, however, has been significantly enhanced by Geographic Data Technology, Inc. (GDT) to correct and add information to these data sources. GDT enhanced U.S. Census Bureau TIGER files by including data from many sources, such as the USPS ZIP+4 files, state and local agencies and planning bureaus, and other proprietary sources. GDT's process of enhancing the data includes adding address ranges to unaddressed TIGER street segments, moving and changing line segments, correcting TIGER street names, adding street names to

unnamed street segments, and correcting 5-digit ZIP Codes that are associated with each street segment. The result is improved geocoding match rate and accuracy.

Examples of Value-Added MapMarker Plus Data

Adding Address Ranges

For TIGER street segments that do not have address ranges, GDT uses the address ranges in the USPS ZIP+4 files and places the correct address ranges on the correct side of the TIGER segment.

For example, the TIGER segment for Lilly Dr. contains ZIP Code 12180 on each side of the street, but no address ranges. The USPS file has two records for Lilly Dr.: address range 1–49, ZIP+4 12180–5567 and address range 2–48, 12180–5532. GDT takes this information, confirms it against other data sources, and assigns the address ranges to the correct side of the street.

Moving TIGER Line Segments

If GDT determines that a line segment in the TIGER data is incorrect, it moves the segment to the correct location. This is done after the correction is confirmed against other GDT sources of information. The result of these changes may cause a line segment to be placed in a new census block, ZIP Code or county boundary. So it is important to display MapMarker Plus–geocoded records against GDT–enhanced display products such as MapMarker Plus Streets, StreetPro Display or GDT 5–Digit ZIP Codes. The MapMarker Plus Streets product is included in MapMarker Plus.

Correcting TIGER Street Names

In the TIGER file for Albany County, NY, there are six consecutive street segments called Lake Ave. By researching the USPS and other sources of data, GDT knows that two segments should be called N Lake Av and the other four segments S Lake Av.

Adding Street Names to Unnamed Streets

The TIGER file contains 10 consecutive segments for W 80th St. One segment in the middle, however, is unnamed. GDT adds the name W 80th St. to the segment after verifying the correction with other data sources.

Adding Alternate Names to Street Segments

GDT has enhanced the TIGER street name files by adding alternate names to existing segments. Most often these are highways names. Be aware that problems can arise when geocoding a record with an alternate highway name. These highways names are often not considered by the USPS to be valid postal addresses. The alternate name can cause multiple segments to have the same address. This causes MapMarker Plus to return a multiple match when those addresses are geocoded.

Correcting and Adding 5-Digit ZIP Codes

Many TIGER segments have 5-digit ZIP Codes for the right and left-hand side of the street. These ZIP Codes may be correct, may reflect a ZIP Code that has been recently changed by the USPS, or it may contain a typographical error. GDT verifies these ZIP Codes, corrects them when necessary, and adds ZIP Codes to segments that do not already have one.

Enhanced User Dictionary Creation

MapMarker supports the creation and use of customized dictionaries as a replacement for or an addition to the MapMarker Plus Address Dictionary. You create a user dictionary from a MapInfo street table by specifying fields of address information that MapMarker converts into a dictionary format. For more information about user dictionaries, see pages 94–98 of the *MapMarker User's Guide.*

When creating a user dictionary in previous versions of MapMarker Plus, start addresses are always assumed to be lower than end addresses. With this version, MapMarker Plus now determines whether the address range is ascending or descending and correctly writes the information.

MapMarker determines the order of the address range based on a string comparison of the start and end addresses. This is referred to as a string compare. The string compare will produce the following results:

- if the end is greater than the start, the range is ascending
- if the start is greater than the end, the range is descending
- if the start is equal to the end, the range is ascending

✅ **Note:** Information may not appear correctly with addresses that contain "1/2". For example, if the start range is 12 1/2 and the end range is 14, a string compare will interpret 12 1/2 as being greater than 14.

Chapter 2: Installation

Overview

This chapter contains instructions for installing or upgrading MapMarker 5.4 Plus. Refer to this chapter for step-by-step instructions and other issues related to installation.

This chapter is organized as follows:

- System Requirements
- System Recommendations
- Installation Overview
- Installation Scenarios
- Full Installation
- Upgrading MapMarker from 5.x Plus to 5.4 Plus
- Upgrading MapMarker 4.x Plus to 5.4 Plus
- Client/Server Toolkit Installation
- Address Dictionary Refresh
- Installing MapMarker Server, OCX and the APIs
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- Removing MapMarker From Your System
- Installation Considerations
- Starting MapMarker
- MapMarker's Tutorial
- Creating Data Subsets
- Moving Data and Program Files

System Requirements

MapMarker is a 32-bit program for Windows 95/98 and NT 4.0 with SP 3 or 4. The minimum system requirements are a 486 CPU with 8 MB memory for Windows 95/98 or 16 MB for NT. The recommended minimum memory is 16 or 32 MB for Windows 95/98 and NT, respectively.

System Recommendations

Storing Data on Your Hard Drive

To maximize MapMarker's performance, we recommend that the Address Dictionary data be stored on a hard drive. The data will reside in the data directory under the MapMarker program directory (default is c:\Program Files\mapinfo\mapmarkr\data).

If space is limited, you can create subsets of the most frequently accessed data and copy them to your hard drive. See Creating Data Subsets later in this chapter.

Using Data from CD-ROM

If you use the data directly from CD-ROM, we recommend you configure a disk cache to improve performance. Refer to your disk caching software documentation for instructions.

Performance Tuning

To get the most out of MapMarker's top geocoding performance, consider these tips for optimizing your system.

- Use the fastest processor available to you.
- Have enough memory so that the operating system can allocate some memory to your disk cache.
- Copy the Address Dictionary to your hard drive.
- Sort your table by ZIP Code.
- Choose exact match criteria for all (house number, street name, ZIP Code).
- Do not create points automatically.

Installation Overview

MapMarker Plus is a two- or three-phase installation process, depending on whether you are installing it on a standalone workstation or network server. In general, the software is installed first on the standalone machine or network, followed by the Address Dictionary. For a network install, a third phase to set up client machines is performed.

Start the install program by running **setup.exe** from CD#1. The MapMarker Installation Options screen directs you to each installation phase, explained below.

Software

Phase one installs the software either as a standalone geocoder or network server. Included in the software installation is the installation of MapMarker Server and the Geocoder Control (OCX). Install options when you select a Custom install include programming tools for developing geocoding applications and the MapMarker Online Help system. TheTypical installation installs most of these components automatically.

Address Dictionary

Phase two of the process installs the MapMarker Plus Address Dictionary. Choose from individual states of data, the entire U.S., ZIP+4 centroids, or an evaluation copy of the product. During installation you must call the MapMarker License Authorization Desk to obtain a data unlocking code. Call between 8 a.m. and 7 p.m. ET, Monday through Friday **during installation** to get the code. You do not need to call if you choose the free evaluation version or are upgrading from MapMarker 4.x Plus or MapMarker 5.x Plus.

The data installation places a license on your system that matches your purchase and entitles you to access the appropriate data. For a U.S. purchase the MapMarker Plus license is called natnplus.l30. Individual state licenses are identified by the state abbreviation + "plus" with the extension .l30 (e.g., caplus.l30 for California). If you purchase the ZIP+4 centroids for non–street matches, the license file is called ZIP4plus.l30. The evaluation license is called Evalplus.l30. The license file(s) will be located in the \data directory after installation.

For purchasers of the entire U.S. Address Dictionary, you can choose to install only a portion of the data set during the installation. Choose the option Install Entire U.S., but check only the states you want and clear those you don't. The natnplus.l30 license will be installed on your system. You can install other states at a later time using the Install Data Only option without calling for a new code.

Network Installation

The network installation is carried out by the system administrator who installs the software and Address Dictionary for MapMarker Plus on the network server machine. Once that is completed, an additional step to install MapMarker on client machines is performed by the sysadmin or end user.

Network Installation Diagram
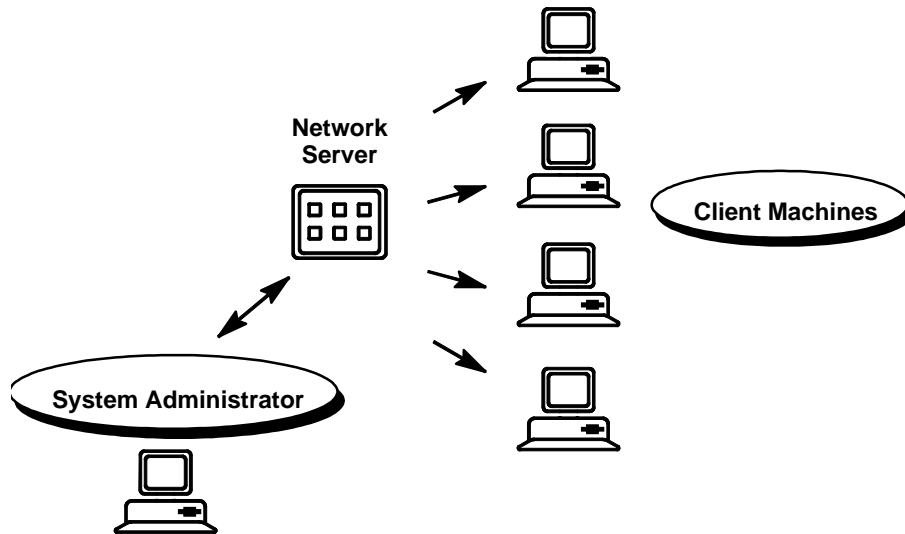
- For a first time installation, follow the instructions for Full Installation on page 13 to install the software, data and client. Be sure to choose Network Server at the Setup Type dialog.

- To upgrade a network installation from 4.x Plus, see the section Upgrading MapMarker on page 22 to upgrade the software, Address Dictionary and set up the client. If you keep version 4.x Plus on the network, you must upgrade in this order: software, client, Address Dictionary.

- To upgrade a network installation from 5.x Plus, see page 19. Upgrade in this order: software, client workstation, then Address Dictionary.

Installation Scenarios

Instructions for the following installation scenarios are provided in this chapter. Refer to the appropriate section for your situation.

Install Type	Who Should Perform?	See Page
Full installation on standalone workstation or network server	- New users of MapMarker Plus - Users who are upgrading from MapMarker 2.x, MapMarker 3.x, MapMarker 3.x Plus, MapMarker 4.x, or MapMarker 5.x.	13
Upgrade standalone workstation or network server from 5.x Plus	- Users who are upgrading from MapMarker 5.x Plus	19
Upgrade standalone workstation or network server from 4.x Plus	- Users who are upgrading from MapMarker 4.x Plus	22
Client/Server Toolkit	- Developers who wish to install the MapMarker Server and Client OCX only. **DO NOT** choose this install type if you are performing the full MapMarker Plus installation or are upgrading MapMarker Plus.	27
Address Dictionary Refresh	- Users who wish to refresh the current MapMarker 5.x Plus data set.	28

Full Installation

Follow the instructions in this section if you are:

• Installing MapMarker Plus for the first time
• Upgrading from MapMarker 2.x, MapMarker 3.x, MapMarker 3.x Plus, or MapMarker 4.x

The instructions below apply to both standalone and network installations. For a **standalone installation**, follow steps 1-23 to install the software and data.

For a **network installation**, follow steps 1-32 to install the software and data on the network and carry out a client installation. You may also perform a client installation on the server machine, but that is optional. **Only after running the client installation will you be able to run MapMarker Plus or MapMarker Server.**

Software Installation

To install MapMarker Plus software:

1. Place the MapMarker Plus CD #1 in your CD-ROM drive.
2. From the Windows 95/98 or NT 4.0 Start button, choose Run.
3. From the Run dialog, type d:setup in the Open command box, where d represents the CD-ROM drive letter. Click OK. The MapMarker CD Browser screen displays.
4. Click the **Install MapMarker** button. The MapMarker Install Options screen displays.
5. Click the **MapMarker 5.4 Plus** button. The installation loads.
6. At the Welcome dialog, click Next to proceed. Click Yes to accept the License Agreement.
7. At the User Information dialog, provide your name, organization and serial number. Click Next.

    The serial number is located on a sheet of stickers in the MapMarker Plus package.
8. At the Registration Confirmation dialog, clickYes to continue or No to correct the information.
9. At the Choose Destination dialog, accept the default location to install MapMarker Plus or browse to another location. Click Next.

    The default location is c:\Program Files\MapInfo\MapMarker.
10. At the SetupType dialog, choose either Standalone Workstation or Network Server. Choose either a Custom or Typical installation.
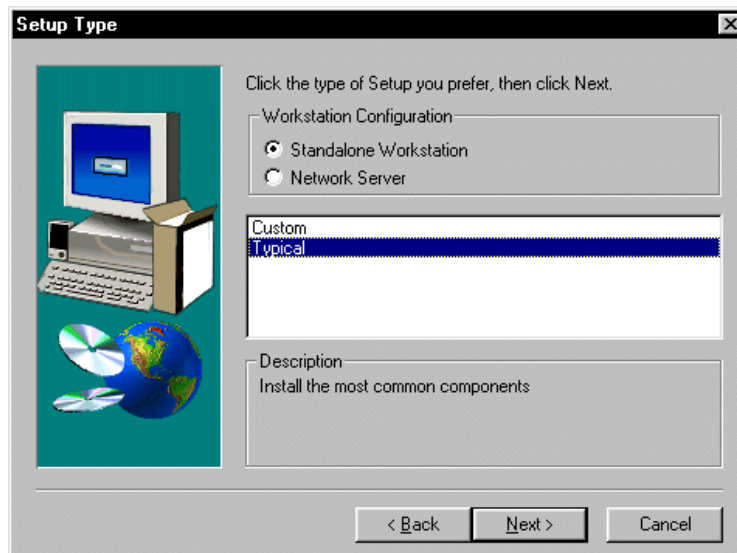
11. If you choose a Custom installation, the Select Components dialog displays. Check the components you want to install. (Typical installs all components automatically.) Click Next.
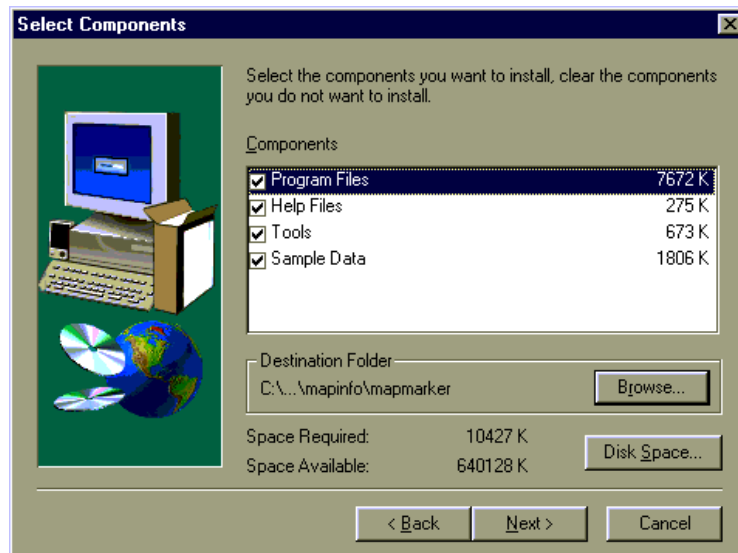
12. At the Select Program Folder dialog, accept the suggested program folder, choose another folder or create a new one by typing the name. Click Next. (This dialog does not display for a network installation.)

13. At the Start Copying Files dialog, review the selections listed. If you wish to make changes use the Back button to return to previous dialogs. Otherwise click Next. The installation procedure continues.

14. At the Setup Complete dialog, click Finish to leave the software installer and proceed to the Address Dictionary installer. You are returned to the MapMarker Install Options screen.

15. Carry out the Address Dictionary installation process, outlined below. The Address Dictionary installation is required.

Address Dictionary Installation

Follow the steps below to install the MapMarker Plus Address Dictionary. You will be prompted during this process to call MapInfo Corporation for an access code. The call–in hours are Monday through Friday, 8 a.m. to 7 p.m. ET.

You may install/purchase as much or little data as you need. Choose from the entire U.S., individual states, ZIP+4 centroids or an evaluation version of MapMarker. The evaluation version is a free version of MapMarker Plus that will geocode the first 200 records in a table. It does not require you to call in for an access code.

To install the MapMarker Plus Address Dictionary:

16. Re-start the install program, if necessary, by running setup.exe from the CD. Click on **Install MapMarker**. The Install Options screen displays. Click the **Address Dictionary** button. The Address Dictionary installer launches.

17. For a network installation, you are prompted to browse to the network location of the MapMarker Plus software. Click OK.

18. At the Welcome dialog, click Next.To accept the license agreement, clickYes.

19. At the SetupType dialog, select the location for the data (choose from Use data from CD or Copy to Disk). Highlight the type of data you wish to install/purchase (entire U.S., individual states, ZIP+4, evaluation license or data only). Click Next.
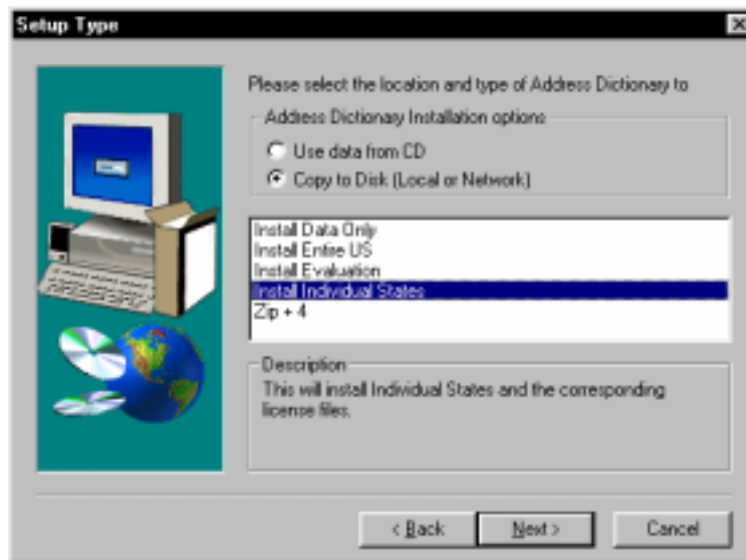
20. If you are purchasing individual states or ZIP+4 centroids or choosing the free evaluation version, the Select Data dialog displays. Check the states you want. Accept the default location or browse to a new location.
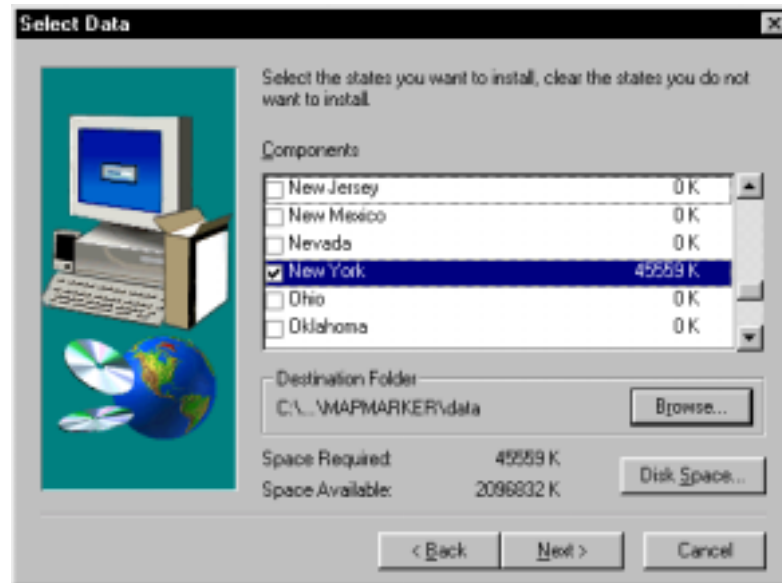
If you are purchasing the entire U.S. Address Dictionary and chose Copy to Disk in Step 19, the Select Data dialog displays. You may clear any states that you do not want installed at this time. You may install them at a later date using the Install Data Only option without having to call for a new code. Click Next.

The Select Data dialog will not display if you are purchasing the entire U.S. Address Dictionary and have selected Use Data from CD.

21. At the Enter Information dialog, call the MapMarker License Authorization Desk between 8 a.m. and 7 p.m., Monday through Friday, to obtain an unlocking code. Provide the representative with the customer key and data purchase (U.S., individual states, or ZIP+4) that are listed on the dialog. Enter the code that you will receive and click Next. The data installation proceeds to completion.

Once you have entered an unlocking code, do not go back through the installation to make any changes. You will need to call for a new code in that case.

The Enter Information dialog will not display if you selected the Evaluation or Install Data Only options.

22. Click Exit on the CD Browser screen to leave the install program.
23. Carry out the ODBC installation process, outlined below.

ODBC Installation

To install the MapMarker ODBC support:

24. Re-start the install program, if necessary, by running setup.exe from the CD. Click on **Install ODBC Support** button. The ODBC installer launches.

25. At the Welcome dialog, click Next to proceed. Click Yes to accept the License Agreement.

26. At the Select Program Folder dialog, accept the suggested program folder, choose another folder or create a new one by typing the name. Click Next. The MapInfo ODBC Driver Installer dialog displays.

27. Choose which ODBC drivers you want installed on your system from the list in the dialog. Click Next.
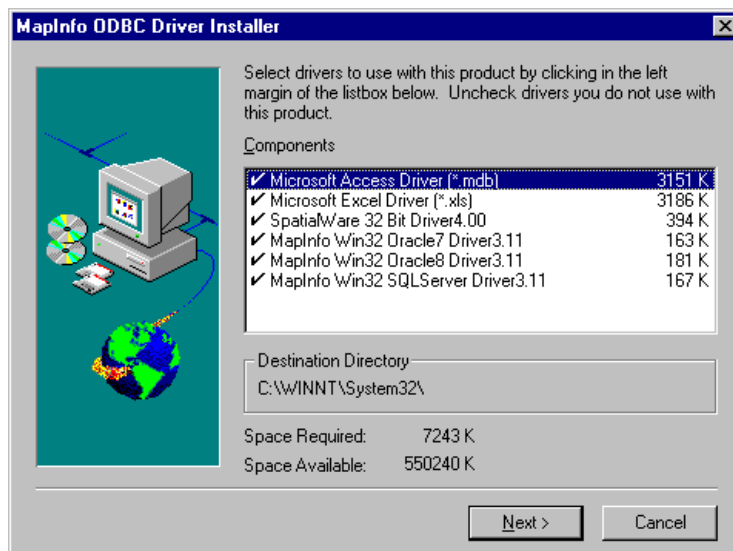
28. At the Setup Complete Dialog, Click Finish.To carry out a client installation for a network server installation, follow the steps below.

Client Installation

To set up a client workstation to access MapMarker Plus on a network server, follow the steps in this section. This client installation is required before you can run MapMarker from a network. Be sure the network software and Address Dictionary installations have been completed as described in the previous sections (steps 1-23).

29. Run **setup.exe** from its location on the network (check with the System Administrator for that location). Setup.exe is found in the \client\disk1 folder under the MapMarker program directory.

30. At the Welcome dialog, click Next to proceed. Click Yes to accept the License Agreement.

31. At the User Information dialog, provide your name and organization.
32. At the Registration Confirmation dialog, click Next.
33. At the Select Program Folder, accept the suggested folder, choose another folder or create a new one by typing in the name. Click Next.
34. At the Enter Information dialog, confirm or correct the existing path to the Address Dictionary and add additional paths if appropriate. Separate each path by a semicolon. UNC paths are also accepted (e.g., \\Discovery\mapmarker\5\data).
35. At the Start Copying Files dialog, click Next. The installation procedure continues.
36. At the Setup Complete dialog, choose to launch the ReadMe file. Click Finish. You are returned to the MapMarker Install Options screen. Click Exit.

    The installer creates a MapMarker program icon on the client machine, places appropriate system files in the Windows system directory and updates the registry.

Upgrading from MapMarker 5.x Plus to MapMarker 5.4 Plus

Follow the instructions below to upgrade the software and refresh the Address Dictionary from MapMarker 5.x Plus to MapMarker 5.4 Plus. This procedure will preserve your existing Address Dictionary license files so you will not need to call MapInfo Corporation for an unlocking code.

Note: The Address Dictionary Refresh portion of this upgrade will replace your existing Address Dictionary with new data files. If you wish to preserve your original Address Dictionary, back it up to another location. To use the old Address Dictionary, you must first set the path to that location in the System Preferences > Dictionary dialog.

Important: If you are upgrading a network installation of MapMarker Plus, be sure to upgrade the network copy of the software, then carry out a client upgrade, followed by the Address Dictionary upgrade. You cannot run MapMarker 5.4 Plus from the network without first completing a client upgrade.

Upgrading a Standalone Workstation
1. Run **setup.exe** from the MapMarker 5.4 Plus CD #1. The CD Browser screen displays.
2. Click the **Upgrade MapMarker** button to view the installation options.
3. At the Upgrade Options screen, click the **MapMarker Upgrade** button. The software upgrade process begins. Follow the prompts and respond when necessary.
4. Return to the Upgrade Options screen and click the **Address Dictionary Refresh** button to update the Address Dictionary.

    Note: you can only refresh states of data for which you have a valid access license. See Purchasing Additional States of Data, below, if you wish to expand your Address Dictionary coverage.

5. If the Read Only File Detected dialog displays during the data refresh, check the box "Don't display this message again" and click Yes. The data refresh will continue.
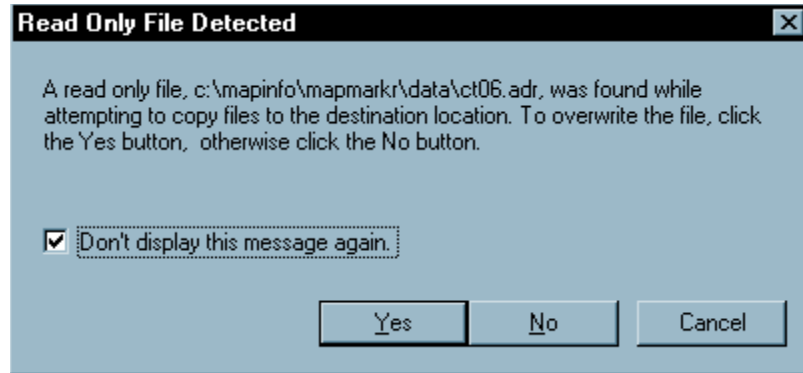
Warning: If you click No the current file will not be copied and your Address Dictionary will be out of sync.

6. At the Setup Complete dialog, click Finish. You are returned to the MapMarker Upgrade Options screen. Click Exit to leave the Install program.

Upgrading a Network Installation

1. On a machine where the MapMarker 5.x Plus client resides, insert the MapMarker 5.4 Plus CD #1 in the disk drive. Run **setup.exe.** The MapMarker CD Browser screen displays.
2. Click **Upgrade MapMarker** button to view the installation options.
3. At the Install Options screen, click the **MapMarker Upgrade** button. The installation program begins.

   The installer updates the files and adds a new setup.exe to the program folder from which clients may install MapMarker.
4. Click Exit to leave the Install program.
5. Uninstall the client (optional).
6. To upgrade the client, run setup.exe from the network directory where MapMarker Plus is located (\client\disk1). This will update the registry entries for the client and sync up the client with the network version. For complete instructions for the client install see the section *Client Installation.*
7. To update the Address Dictionary, restart the MapMarker Plus CD Browser and click **Upgrade MapMarker** button to view the installation options. The Upgrade Options screen displays.

8. On the Upgrade Uptions screen, click the **Address Dictionary Refresh** button. Follow the prompts and respond when necessary.

   Note: you can only refresh states of data for which you have a valid access license. See Purchasing Additional States of Data, below, if you wish to expand your Address Dictionary coverage.

   Read Only File Detected   ☒

   A read only file, c:\mapinfo\mapmarkr\data\ct06.adr, was found while
   attempting to copy files to the destination location. To overwrite the file, click
   the Yes button, otherwise click the No button.

   ☑ Don't display this message again.

                                         [Yes]   [No]   [Cancel]
   ---

9. If the above dialog displays during the data refresh, check the box "Don't display this message again" and click Yes. The data refresh will continue.

   Warning: If you click No the current file will not be copied and your Address Dictionary will be out of sync.
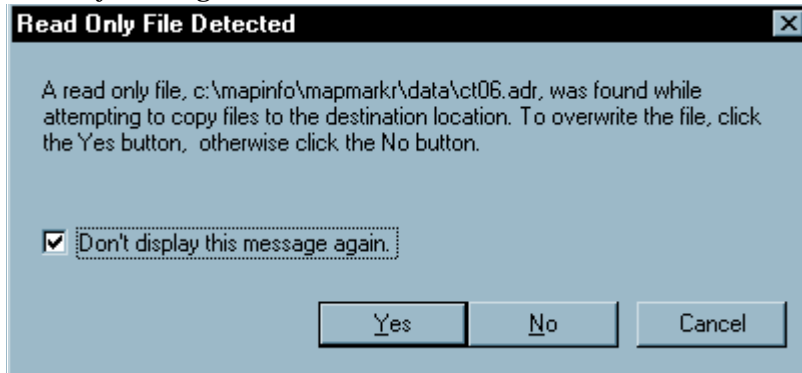
10. Click Finish to leave the Address Dictionary Refresh program. Click Exit to leave the Install program.

Upgrading MapMarker from 4.x Plus to 5.4 Plus

Follow the instructions in this section to upgrade from any version of MapMarker 4.x Plus to MapMarker 5.4 Plus. If you are upgrading from MapMarker 4.x or MapMarker 3.x page 13 to carry out a full installation. This procedure applies to upgrading a standalone workstation or a network server.

For a **standalone workstation** upgrade, follow the steps to upgrade the software and Address Dictionary.

For n**etwork upgrades**, follow the steps to upgrade the software, Address Dictionary and client machines. If you are keeping a previous copy of MapMarker Plus on the network, you must upgrade the product in this order: software first, then the client machines, and finally the Address Dictionary. This will ensure that the proper registry entries are updated. Be sure to see the section *Installation Considerations* for additional network installation information.

The MapMarker upgrade installer begins by backing up existing files and registry entries so you will not need to call MapInfo Corporation for an access code. Once the files are backed up, the installer will prompt you to uninstall the existing version of MapMarker using Add/Remove from Control Panel. This is optional, but recommended. If the installer is unable to back up your files, it will notify you to back up the files by hand. See the release notes on the product CD for instructions.

Software Upgrade

To upgrade from MapMarker 4.x Plus:

1. Run setup.exe from the MapMarker Plus 5.4 CD#1. The MapMarker CD Browser screen displays.
2. Click **Install MapMarker**. The MapMarker Install Options screen displays.
3. Click **MapMarker 5.4**. The installation loads.

   The installer will check your system for key files and registry entries and back them up before proceeding. It will prompt you to locate the MapMarker directory if it cannot find it.

   If the file backup fails, the installer will notify you to perform the backup by hand. See the release notes for instructions.

   Once the backup is complete, MapMarker will prompt you to leave the install program and uninstall MapMarker 4.x Plus. This is optional, but recommended. Use Add/Remove from Control Panel for this purpose.

   Remove the entries from the Add/Remove Programs in the following order:

   - MMXX_MapInfo OCX's (This will not remove other copies of MapX on your system)
   - MMXX_OLE DB Service Provider
   - MMXX_MapMarker XX

     where XX = version number such as MapMarker 5.0 Plus.

4. Run setup.exe again to proceed with the installation after uninstalling.
5. At the Welcome dialog, click Next to proceed. Click Yes to accept the License Agreement.
6. At the User Information dialog, provide your name and organization.
7. At the Registration Confirmation dialog, clickYes to continue or No to correct the information.
8. At the Choose Destination dialog, accept the default location to install MapMarker or browse to another location. The default location is c:\program files \mapinfo \mapmarker. Click Next. If you kept a 4.x Plus version on your machine be sure to change the directory location so the older MapMarker version will not be overwritten.
9. At the SetupType dialog, choose StandaloneWorkstation or Network Server. Choose from Custom or Typical installations.

10. If you choose a Custom installation, at the Select Components dialog, check the components you want to install. (Typical installs all components automatically.) Click Next.
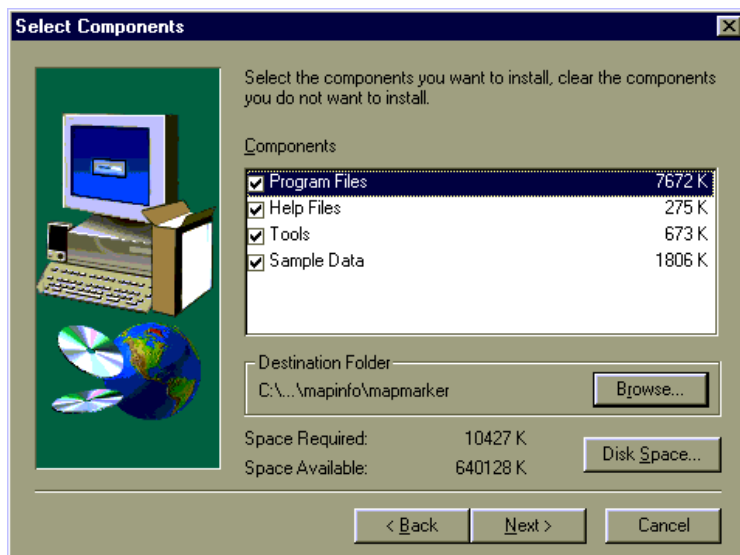
11. At the Select Program Folder, accept the default location, choose another folder or create a new one by typing in the name. If Click Next. If you kept a 4.x Plus version on your machine be sure to change the Program Folder so the older MapMarker version will not be overwritten. (This dialog will not display during a network installation.)
12. At the Start Copying Files dialog, click Next. The installation procedure continues.
13. At the Setup Complete dialog, choose to launch the ReadMe file. Click Finish. You are returned to the MapMarker Install Options screen.
14. Carry out the Address Dictionary installation process, outlined below. The Address Dictionary installation is required.

    Important: For a network installation, if you have kept a copy of MapMarker 4.x Plus on the network, skip to step 20 to perform a client upgrade before returning to step 15 to upgrade the Address Dictionary.

Address Dictionary Upgrade

Follow these steps to upgrade the Address Dictionary. You will not be required to call for a new data access code. You may only upgrade data for which you have a valid license. You cannot add additional states to your Address Dictionary unless you have the nation.l30 or natnplus.l30 license for the entire U.S. Look in your \mapmarkr\data directory for existing license files. State license files are identified by the state abbreviation plus the extension .l30. The ZIP+4 license for geocoding to ZIP+4 centroids is called ZIP4.l30.

15. Re-start the Install program, if necessary, by running setup.exe from CD#1 and clicking on **Install MapMarker**. At the Install Options screen click the **Address Dictionary** button. The Address Dictionary installer launches.

16. At the Welcome dialog, click Next. To accept the license agreement, click Yes.

17. At the Setup Type dialog, select the location for the data (Use data from CD or Copy to Disk) and it is very important to select **Install Data Only** option so you won't need to call the MapMarker unlocking desk. Click Next.
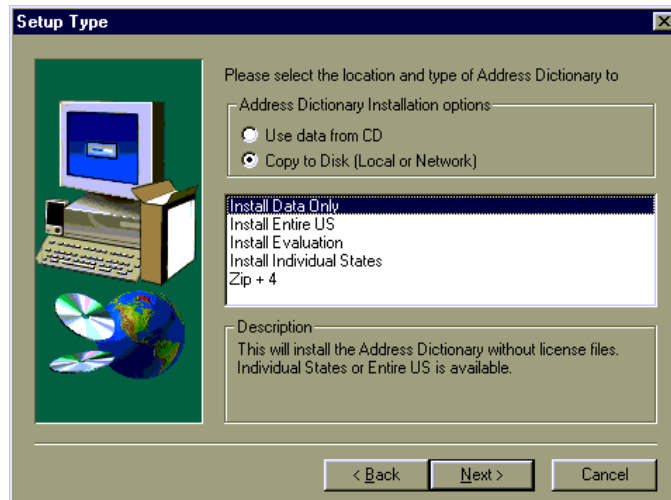
18. If you are upgrading individual states of data, the Select Data dialog displays. Check the states you have licenses for and accept the default location or browse to a new location.

If you are upgrading the entire U.S. Address Dictionary select all states that you want installed at this time. Click Next. The data upgrade continues to completion.

19. Click Exit to leave the install program.

Client Upgrade

This client installation is required before you can run MapMarker from a network. Be sure the network software and Address Dictionary upgrade has been completed. We recommend that

you uninstall your previous version of the MapMarker client before beginning this phase of the installation.

20. Run **setup.exe** from its location on the network. Check with your system administrator for its location. Setup.exe is found in the \client\disk1 folder under the MapMarker program directory.

21. At the Welcome dialog, click Next to proceed. Click Yes to accept the License Agreement.

22. At the User Information dialog, provide your name and organization.

23. At the Registration Confirmation dialog, click Next.

24. At the Select Program Folder, accept the suggested folder, choose another folder or create a new one by typing in the name. If a previous version of MapMarker remains on the network, be sure to specify a different folder name to prevent the loss of the previous client program folder. Click Next.

25. At the Enter Information dialog, confirm or correct the existing path to the Address Dictionary and add additional paths if appropriate. Separate each path by a semicolon. UNC paths are also accepted (e.g., \\Discovery\mapmarker\5\data).

26. At the Start Copying Files dialog, click Next. The installation procedure continues.

27. At the Setup Complete dialog, choose to launch the ReadMe file. Click Finish. You are returned to the MapMarker Install Options screen. Click Exit to leave the Install program.

    The installer creates a MapMarker program icon on the client machine, places appropriate system files in the Windows system directory and updates the registry.

28. If you are performing a network upgrade of MapMarker Plus, the system administrator should return to step 16 to upgrade the Address Dictionary.

ODBC Upgrade

To update the MapMarker ODBC support:

29. Re-start the install program, if necessary, by running setup.exe from the CD. Click on **Update ODBC** button. The ODBC installer launches.

30. At the Welcome dialog, click Next to proceed. Click Yes to accept the License Agreement.

31. At the Select Program Folder dialog, accept the suggested program folder, choose another folder or create a new one by typing the name. Click Next. The MapInfo ODBC Driver Installer dialog displays.

32. Choose which ODBC drivers you want installed on your system from the list in the dialog. Click Next.

33. At the Setup Complete Dialog, Click Finish.

Client/Server Toolkit Installation

This installation option for developers places the MapMarker Server, the Client OCX and supporting files on your system. It can be installed on a standalone workstation or network server. For internet/intranet usage from a network, be sure to install directly on the server, not on a client machine.

Important: DO NOT choose this installation scenario if you perform a full installation of MapMarker Plus or upgrade to MapMarker Plus, as described in the previous sections. This is not an add-on installation procedure. The Client/Server toolkit should not be installed on the same machine/network. Choose this procedure when you only want to install the mm_serve.exe and mapmarkr.ocx.

To install the Toolkit:

1. Run **setup.exe** from the MapMarker Plus CD #1. The CD Browser screen displays.
2. Click the **Install MapMarker** button. The Install Options screen displays.
3. Click the **MapMarker 5.4 Plus Client/Server Toolkit** button. The installation loads.
4. At the Welcome dialog, click Next to proceed. Click Yes to accept the License Agreement.
5. At the User Information dialog, provide your name, organization and serial number. Click Next.

   The serial number is located on a sheet of stickers in the MapMarker Plus package.
6. At the Registration Confirmation dialog, clickYes to continue or No to correct the information.
7. At the Choose Destination dialog, accept the default location to install MapMarker or browse to another location. Click Next.
8. For Windows 95/98 systems, at the Select Program Folder, accept the suggested program folder, choose another folder or create a new one by typing in the name. Click Next.
9. At the Start Copying Files dialog, review the selections listed. If you wish to make changes use the Back button to return to previous dialogs. Otherwise click Next. The installation procedure continues.
10. At the conclusion of the software installation, return to the Install Options screen and click the **Address Dictionary** button to install the Address Dictionary.
11. Follow steps 16–23 beginning on page 16 to complete the Address Dictionary installation.

Address Dictionary Refresh

Use this option only after you have upgraded your software to MapMarker 5.4 Plus or have moved the current 5.4 Plus Address Dictionary to another location. This procedure will only refresh data for which you have a valid access license.

To refresh your 5.4 Plus Address Dictionary:

1. From the CD Browser Install Options screen click the **Install MapMarker** button. The Install Options screen displays.
2. Click the **Address Dictionary** button and follow the prompts.

Installing MapMarker Server, OCX and the APIs

The MapMarker Server, OCX and APIs are installed at the time you perform a full installation or upgrade MapMarker's client software and data. If you wish to install only the Server, OCX and APIs, you can choose instead to install the MapMarker Client/Server Toolkit, accessible from the Install menu on the MapMarker CD Browser. For more information on these components, see the sections below and Chapter 9, Client/Server Geocoding in the MapMarker Product Guide.

Installing MapMarker Server Manually

If you need to install MapMarker as a Window NT Service manually:

At the DOS prompt, run `mm_serve -install.`

Mm_serve.exe can be found in the MapMarker program directory.

Registering the OCX Manually

If you need to register the OCX manually:

Type at the DOS prompt `regsvr32 mapmarkr.ocx`

Regsvr32.exe and Mapmarkr.ocx are found in \Program Files\Common Files\ MapInfo Shared\ Common dlls\ on the target machine.

Installing the MapMarker APIs

The files needed to use the MapMarker Application Program Interfaces (API) are installed when you choose the Tools option in the Select Components dialog during the software installation. The APIs include:

- OLE Automation API for developing OCX controls
- RPC API for creating C client applications that call MapMarker Server
- MapMarker Geoengine API for creating standalone geocoding applications in C
- Data Dictionary API for creating customized address dictionaries from MapInfo tables.

You will find header files and sample code in the geoeng subdirectory of the MapMarker program directory following installation. For more on these APIs, see Part II of the MapMarker Product guide.

Purchasing Additional States of Data

You may need to expand your Address Dictionary after a time to include states for which you do not have a valid access license. This applies when you do not have the natnplus.l30 or nation.l30 licenses that gives you access to the entire U.S. dictionary. You can purchase additional states by running the setup.exe program from the MapMarker Plus CD and choosing the Address Dictionary button and following the prompts. See the section *Address Dictionary Installation* on page 16.

Removing MapMarker From Your System

MapMarker installs a program that you can use to remove MapMarker from your system when necessary. From Control Panel remove MapMarker by using Add/Remove Programs. MapMarker's uninstall program will remove the MapMarker program directories, groups and icons and any MapMarker files that were placed in Windows\System directory. It deletes the registry entries pertaining to MapMarker.

Remove the entries from the Add/Remove Programs in the following order:

1. MMXX_MapInfo OCX's (This will not remove other copies of MapX on your system)
2. MMXX_MapMarker Address Dictionary (not included in a client install)
3. MMXX_OLE DB Service Provider
4. MMXX_MapMarker XX

    where XX = version number such as MapMarker 5.0 Plus.

Installation Considerations

Network Installation Considerations

MapMarker's installation program, **setup.exe**, is used by the system administrator to install MapMarker as a shared access geocoder. Once the network install of software and data is completed, the client runs **setup.exe** from \mapmarkr\client\disk1 to set up the client machine to access the shared program.

Note: It is important that both the software and data are installed on the network before performing the client installation. We recommend that previous MapMarker client versions be uninstalled before installing a new MapMarker client. If you are upgrading MapMarker and wish to keep a previous version of 4.x Plus on the network, perform the upgrade in this order: install the software, upgrade the client, then upgrade the Address Dictionary.

The installation for MapMarker creates a file called MM_setup.ini in the program directory. This file contains important information for the system administrator, including the product serial number and path(s) to the access licenses and Address Dictionary.

You can choose to install all the data on a network directory (recommended) or access the data from a shared CD-ROM drive.

Users of MapX 3.0

MapMarker 5.x uses MapX as its engine for candidate visualization and attribution. The MapMarker installer installs a 3.5 version of MapX on your system. If you have an existing version of MapX on your system the installer will not overwrite it.

If you uninstall MapMarker, it will leave the original MapX on your system. If, however, you uninstall your copy of MapX, it will also uninstall the MapMarker version of MapX. To reinstall the MapX portion of MapMarker run **setup.exe mapx** from the \MIOCX directory that is located under the MapMarker program directory.

If your existing 3.x version of MapX is earlier than 3.5, the installer will upgrade it to 3.52.

Multiple Versions of MapMarker

You may have more than one version of MapMarker on your system at a time. For example, you can install MapMarker 5.0 Plus on your system, but continue to geocode your tables with the 4.x Plus version. MapMarker 5.0 Plus will be listed in the registry under its own version key under HKEY_LOCAL_MACHINE\Software\MapInfo\MapMarker\5.0\.

If the two versions of MapMarker are the standard version and the Plus version, be sure to keep them in separate directories. Also, to view the geocoded points over a street network, be sure to use MapMarker Streets, StreetInfo or StreetPro Display for MapMarker geocoded points and use MapMarker Plus Streets or StreetPro Enhanced for points generated by MapMarker Plus. If you view the points over the wrong street data, the positional accuracy will be compromised.

Windows Registry
The Registry values for MapMarker 5.4 Plus are located under HKEY_LOCAL_MACHINE \SOFTWARE\MapInfo\MapMarker\5.0 after installation.

For users of the MapMarker APIs, the DatabasePath is listed under HKEY_LOCAL_MACHINE\Software\MapInfo\MapMarker\5.0\System\.

For Developers of MapMarker 4.x Applications
MapMarker 5.4 Plus provides .dll's for versions 4 and 5 to assist users with custom applications. To use your 4.x applications in MapMarker 5.x Plus, be sure that both .dlls are present (mm32v4.dll and mm32v5.dll).

ODBC Installation
In order to access remote databases for geocoding with MapMarker Plus, you must install the ODBC component for MapMarker 5.x Plus. This version of MapMarker Plus uses the ODBC Manager 3.5.

For new installations, select Install ODBC Support from the New Installation section of the MapMarker Installation Options. The MapMarker ODBC Manager will run. You will be prompted to select the database drivers you want installed.

For upgrades, select Update ODBC from the Upgrade MapMarker section of the MapMarker Installation Options. The MapMarker ODBC Manager will run. You will be prompted to choose which database drivers you want upgraded.

Supported Remote Databases
MapMarker 5.4 Plus supports the following databases:

- Microsoft Access, Microsoft SQL Server 7.0, Oracle 7, Oracle 8, Excel, SpatialWare 4.0 for Oracle on NT and Solaris.

Remote Database Drivers

The current drivers for Access and Excel are Microsoft version 3.51.171300. The SQL Server and Oracle drivers are MapInfo version 3.11.0000. The SpatialWare 4.0 for Oracle driver is 4.00.0300. The version of the ODBC Administrator that ships with MapMarker 5.4 Plus is 3.510.3002.13.

The drivers for the supported databases are listed on the ODBC Driver Installer dialog. During the installation or upgrade, MapMarker prompts you to choose the drivers you wish to install. Choose as many drivers as you need.
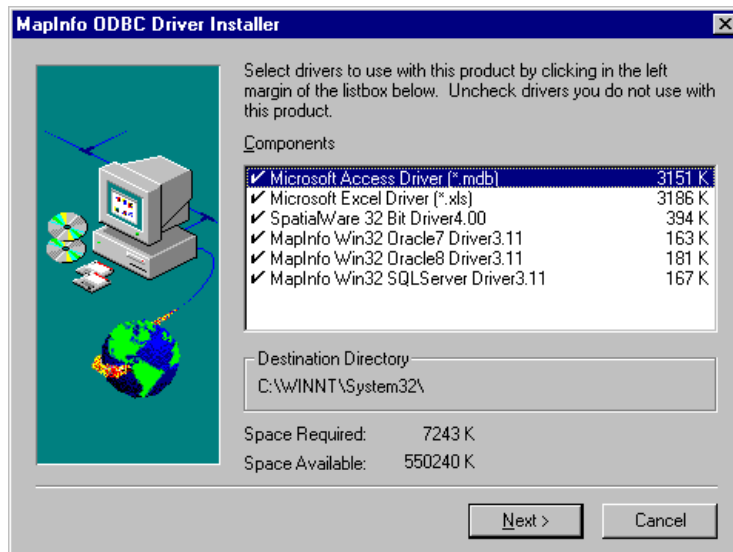
### Required Files for Using the MapMarker Geocoder Control (OCX)

The MapMarker Geocoder Control is installed on your system when you install or upgrade MapMarker Plus or the Client/Server Toolkit. The required files for using the control are Mapmarkr.ocx, Mm_serve.exe, and mm32v5.dll.

For a list of required files for using and developing with MapMarker, see Appendix F in the MapMarker Product Guide.

Starting MapMarker
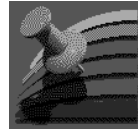
To start MapMarker:

- In Windows 95/98 or NT 4.0, choose MapMarker from the Start menu or Shortcut menu.

MapMarker's Tutorial

Take a few minutes to learn MapMarker the fun way by using our online tutorial. To run it, you will need a web browser, and to take full advantage of its features, the browser should be Netscape v. 3 or higher or Internet Explorer v. 3.0 or higher.

To run the tutorial directly from the MapMarker CD:

5. Run setup.exe from the CD. The MapMarker CD Browser displays. Click on the **MapMarker Tutorial** button. The program launches. Follow the instructions.
   or
6. From the \tutorial subdirectory, double–click on Mapm01.htm. Your browser will automatically start the tutorial.

To run the tutorial from your hard disk or network drive:

7. Copy \tutorial to the appropriate location.
8. From the \tutorial directory, double–click on Mapm01.htm.

Creating Data Subsets

MapMarker's performance increases if it accesses the data directly from your hard drive. However, you may not want the installer to copy the entire U.S. Address Dictionary (approximately 900 MB) to the hard drive. To save disk space, create a subset of the Address Dictionary that you routinely access and copy it from the CD–ROM. This section describes the process.

Important: You must unlock a license for your data purchase during installation before you can use that data in MapMarker. Follow the installation steps earlier in this chapter to install the Address Dictionary and obtain the license access code. Choose the option Use Data from CD. After installation copy the state files you need to create a subset of the Address Dictionary.

MapMarker's U.S. Address Dictionary is organized by 2–digit ZIP Codes and includes state centroid and configuration files. For example, a complete data set for the 95xxx ZIP Code area in California contains:

State Centroid file	caz9.cen
2–digit ZIP Code file	ca95.adr
2–digit ZIP Code file	ca95.adx
Configuration files	usafin.*
	zipmastr.*
	geousa.*
	cityfin.jdx
	cityline.*
	cityurb.cdb
	cityunz.*
	cityunz4.*
	finctrd.idx
	file.tbl
	sinames.*
	*.las
	*.los

The configuration files will already be installed on your system in the location you specified at installation. You must copy the state centroid file and the appropriate .adr/.adx pair(s) to the same directory.

To create a data subset:

1. Copy the following files from the CD-ROM to your hard drive where the MapMarker configuration files are located. The default location is \mapmarkr\data.

   XXz9.cen

   XXnn.adr

   XXnn.adx

   where XX is the state abbreviation and nn equals the 2-digit ZIP Code files.

   The 2-digit ZIP Code .adr/.adx pairs vary from about 2 MB to 52 MB, while the state centroid files vary from 100 KB (Vermont) to about 8 MB (California).

2. Once you have moved the files, set the path in MapMarker to point to your data directory. To do this, start MapMarker and go to Options > System Preferences > Dictionary and specify the path in the Address Dictionary box by typing it in or browsing to the location.

The Address Dictionary path can contain multiple directories separated by semicolons. MapMarker will always search your data path in the order given. For example:

   c:\mapinfo\mapmarkr\data\calif;d:\data

You may wish to include the path for the data CD-ROM as well so that MapMarker can match to addresses outside the subset when necessary.

Moving Data and Program Files

If you change the location of any data files, be sure to update the path in Options > System Preferences to reflect the new location. If you change the location of the program files, set the working directory for MapMarker to the new location.

For a list of program files included in the MapMarker product, see Appendix D in the MapMarker Product Guide.

Chapter 3: MapMarker 5.4 Plus

Overview

This chapter provides information about MapMarker 5.4 Plus. For the newest features and an introduction to MapMarker Plus, see Chapter 1, What's New.

- MapMarker Plus is CASS Certified for 1999–2000
- SpatialWare 4.0 Support
- Intersection Match Enhancements
- MapMarker Server Flags
- Match Status for Non-Matches

MapMarker Plus is CASS Certified for 1999-2000

MapMarker Plus continues to meet the standards set by the U.S. Postal Service for CASS-mode geocoding and address standardization. In fact, MapMarker Plus meets the CASS standards for the next two years. CASS is the U.S. Postal Service's certification program for standardizing addresses to meet USPS requirements for bulk mailing discounts.

MapMarker Plus CASS geocoding matches to the enhanced data in the Plus Address Dictionary using strict matching conditions, as required by the U.S. Postal Service (USPS). Geocoding in CASS mode means that MapMarker Plus attempts to geocode records to the exact house number, street name and ZIP Code, to yield the most accurate matches possible. At the conclusion of a CASS-mode geocoding pass, you may print out a CASS Report (Form 3553) for submission to the USPS for mailing discounts.

CASS certification requires that MapMarker Plus uses an up-to-date matching dictionary. For this reason, the Address Dictionary in MapMarker Plus is updated bimonthly. Once the time frame for the Address Dictionary expires, you must install the next release of the Address Dictionary to continue geocoding in CASS mode. You can, however, continue to geocode with the expired Address Dictionary for general purpose geocoding.To view the currency of your installed Address Dictionary, see the MapMarker About Box.

See the What's New chapter for the latest data information.

SpatialWare 4.0 Support

This release of MapMarker Plus has added support for geocoding tables using SpatialWare 4.0 on Oracle for Windows NT and Solaris. With MapMarker, records stored in an Oracle database can be geocoded and the resulting spatial object can be stored in a special SW_GEOMETRY column which allows advanced querying of the spatial data type.

Other supported remote databases include Oracle7 and Oracle8, Microsoft Access, Microsoft SQL Server 7.0 and Microsoft Excel.

Remote Database Drivers

The current drivers for Access and Excel are Microsoft version 3.51.171300. The SQL Server and Oracle drivers are MapInfo version 3.11.0000. The SpatialWare 4.0 for Oracle driver is 4.00.0300. The version of the ODBC Administrator that ships with this release of MapMarker Plus is 3.510.3002.13.

Intersection Match Enhancements

You can now view intersection match candidates in a Map window via the Interactive or Quick Find dialogs, just like other street or ZIP Code match candidates. Use this to determine if the candidate is the best match by viewing it in context with the surrounding streets.

Successful street intersection matches return the city, state and ZIP Code of the matching intersection. In the case where the streets lie in different a city, state or ZIP Code, MapMarker returns the information for the first street listed. The following format is used:

HN Street1 [U] +HN Street2 [U]

where HN = House Number and [U] = information came from a user dictionary. If the [U] is not listed, the match came from the MapMarker Address Dictionary.

To geocode to street intersections, the street names must be listed in the same input field and joined by a "&&," for example, Main St&&Washington Av. Check the box labeled Match to Street Intersections located in the Match Restrictions tab of the Geocode dialog.

Because of the increased processing time required for intersection matching, we recommend that you geocode your table without intersection matching for the first pass. Then, with intersection matching turned on, geocode the unmatched records during the second pass.

MapMarker Server Flags

You have two new options for controlling the behavior of MapMarker Server. These options are set as startup parameters for an NT Service or specified at the command line at runtime.

The first option allows you to geocode using a custom user dictionary exclusively, instead of geocoding against the purchased MapMarker Plus Address Dictionary.

The second option tells MapMarker Server to geocode to ZIP Code centroids, instead of to street level. This is a fast method of geocoding when you do not need the more precise street address match, such as in nationwide geocoding.

Choose either option. You cannot set both for the same session. See Chapter 9, Client/Server Geocoding, in the MapMarker Product Guide for instructions on setting these options.

Match Status for Non-Matches

Of interest to developers of geocoding applications, MapMarker Plus supports a new match status for non-matches containing a unique ZIP Code. Unique ZIP Codes are a class of ZIP Codes defined by the U.S. Postal Service. This match status is only returned during CASS mode geocoding and when the following conditions are met:

- When the input ZIP Code is defined as unique
- The city/state matches the input ZIP Code (as defined by the USPS)
- No match to the street address can be found.

The new match status is UNIQUE_ZIP_NO_MATCH. The table below lists all match statuses.

Match Status	Description
SINGLE_MATCH	Single close match
MULTIPLE_MATCHES	Multiple possible matches
NO_MATCHES	Candidate(s) found
UNIQUE_ZIP_NO_MATCH	No match to record containing unique ZIP Code (CASS mode only)
NO_CANDIDATES	No candidates found
POSSIBLE_INTERSECTION	Possible intersection
NO_INTERSECTION_MATCH	Intersection was not found
SINGLE_INTERSECT_MATCH	Single intersection match
MULTIPLE_INTERSECT_MATCH	Multiple possible intersection matches
GEO_ENG_BAD_INPUT_ADDRESS	Bad Input Address

API Calls that Return UNIQUE_ZIP_NO_MATCH

UNIQUE_ZIP_NO_MATCH may be returned for non–matched records containing unique ZIP Codes when the following calls are made:

From the OLE Automation or RPC Server APIs

GeocodeAddress
GeocodeAddressWithSerial
GeocodeAddressLastLine

The match status parameter is called status.

From the MapMarker GeoEngine API

GeoEngMatchAddress
GeoEngMatchFormattedAddress

The match status parameter is called MATCH_STATUS.

Appendix A: Plus Address Dictionary File Sizes

The following table shows the approximate file size by state for the MapMarker Plus Address Dictionary. The file size for each state is the total of the .adr/adx pairs of 2-digit ZIP Code files and the centroid file (.cen). The file naming convention is as follows:

- ***ssxxplus.adr***, & ***ssxxplus.adx*** where *ss* equals the state abbrevaiation and *xx* is the 2-digit ZIP Code (e.g., ny01plus.adr, ny01plus.adx)

- ***ssZ9.cen*** where *ss* equals the state abbreviation (e.g., nyz9.cen)

The CD number column represents the location of the state data on the product CDs. In some cases, a state is contained in its entirety on both CD.

To create subsets of the Address Dictionary on your hard drive, see the section Creating Data Subsets in Chapter 2 of this *Getting Started* guide.

State	File Size (MB)	CD
Alabama	23.4	1 & 2
Alaska	2.9	2
Arizona	15.0	2
Arkansas	16.6	1 & 2
California	73.2	2
Colorado	16.6	2
Connecticut	10.1	1
Delaware	2.7	1
Florida	55.6	1
Georgia	33.0	1
Hawaii	3.2	2
Idaho	7.4	2
Illinois	41.6	1 & 2
Indiana	27.3	1 & 2
Iowa	15.1	2
Kansas	13.1	2
Kentucky	18.9	1
Louisiana	17.0	2
Maine	5.2	1
Maryland & District of Columbia	15.2	1
Massachusetts	17.3	1

State	File Size (MB)	CD
Michigan	33.7	1 & 2
Minnesota	19.4	2
Mississippi	14.1	1 & 2
Missouri	26.9	1 & 2
Montana	5.8	2
Nebraska	7.5	2
Nevada	5.6	2
New Hampshire	4.9	1
New Jersey	21.6	1
New Mexico	8.1	2
New York	47.3	1
North Carolina	37.0	1
North Dakota	5.0	2
Ohio	41.2	1
Oklahoma	15.5	2
Oregon	17.3	2
Pennsylvania	39.9	1
Puerto Rico	3.2	1
Rhode Island	3.0	1
South Carolina	20.1	1
South Dakota	5.7	2
Tennessee	25.8	1
Texas	65.3	2
Utah	8.8	2
Vermont	4.2	1
Virginia	25.4	1
Washington	21.6	2
West Virginia	10.5	1
Wisconsin	29.6	2
Wyoming	4.3	2
all states	1008.7	

Appendix B: Glossary of GeoEngine API Terms

The terms below define the structures and their members for the MapMarker GeoEngine API. In the case of a member, the structure name is listed in parentheses. The API is discussed in Chapter 12 of the MapMarker Product Guide.

ADDRESS

Structure that contains the fields that make up an address (for input and output).

BROWSED_PLACE

Structure that contains the place name returned from a browse place request via the GeoEngBrowsePlace function.

BROWSED_STREET

Structure that contains the street name returned from a browse request via the GeoEngBrowseStreet function.

CANDIDATE_ADDRESS

Structure that groups all information associated with a potential match to a geocode request.

carrierRoute, carrRoute

Output: USPS address element that describes a given mail delivery or collection route within a 5–digit ZIP Code. There are five possible Carrier Route codes: Bnnn = P.O. Box (where n equals a number); Hnnn = Highway Contract; Rnnn = Rural Route; Cnnn = City Delivery; Gnnn = General Delivery. (CANDIDATE_ADDRESS, HOUSE_RANGE).

censusBlockID

Output: Unique U.S. Census Bureau identifier that defines the smallest geographic area for census reporting. The 15-digit alphanumeric code is interpreted as follows:
SSCCCTTTTTTGBB(B)
Where S = State FIPS code (Federal Information Processing Standard) (2 characters)
C = County FIPS code (3 characters)
T = Census Tract (6 characters)

G = Census Block Group (1 character)
B = Census Block (typically 2 characters. The third character means the block was split from another block).

The completeness of the returned CensusBlockID depends on the result. S5 results return the full 15-digit code to represent the census block; S2, S3 and Z3 return the block group, S1 returns the census tract. (CANDIDATE_ADDRESS).

checkDigit

Output: Part of the delivery point barcode on U.S. mail pieces, along with the Delivery Point Code. This output address component is required when geocoding in CASS mode. (CANDIDATE_ADDRESS).

CNTY_NAME_FIPS_REC

Structure that contains a 5-digit Federal Information Processing Standard (FIPS) code representing the state and county and the county name that matches.

deliveryPoint

Output: A two-digit code that, together with Check Digit, is used to form the delivery point barcode on mail pieces. This output component is required when geocoding in CASS mode. (CANDIDATE_ADDRESS).

distUnit

Output: Unit of measurement that describes the offset distance the point lies from the street. (GEO_ENG_CFG_PARMS)

DOUBLE_POINT

Structure that contains the candidate point.

fromHouse

The lowest house number found on that segment. (HOUSE_RANGE)

fromUnit

The lowest unit value for an address range. (HOUSE_RANGE)

GEO_ENG_CFG_PARMS

Structure that defines the engine configuration settings, such as relaxHouseNumber, useCassMode, or matchIntersections.

HOUSE_RANGE

Structure that contains the information on a set of house ranges found along a segment. A segment can have multiple house ranges and usually does because odd & even ranges are separate.

housePrefix

Character that precedes the house number in a street address. (PARSED_ADDRESS)

houseNumber

Number of the street address location. (PARSED_ADDRESS)

houseSeparator

Character that serves to separate a house prefix from house number. (PARSED_ADDRESS)

houseCoord

No longer used. (PARSED_ADDRESS)

houseSuffix

Trailing alphabetic and numeric portion of the house number (PARSED_ADDRESS)

lacs

Output: A single-character code that indicates the record can be converted from a rural route address to a city-style address. This conversion process requires a separate USPS product, known as the Locatable Address Conversion Service. Note that the engine only returns the flag if the address can be converted. It does not convert rural addresses nor does it output the matching address in city-style address format. This output address component is required if the table is being geocoded for CASS certification. (CANDIDATE_ADDRESS, HOUSE_RANGE).

LAST_LINE

Structure that is used when the input field contains the city, state and postal code information in one field instead of separate fields.

lastLine

Input: Parameter containing city, state and postal information in same field. (CANDIDATE_ADDRESS).

linearInset

Distance the point lies from a street corner. This prevents the first house on two cross streets from displaying on top of one another. (GEO_ENG_CFG_PARMS)

matchIntersections

An engine setting for geocoding street intersections. (GEO_ENG_CFG_PARMS)

PARSED_ADDRESS

>Structure that contains a street name divided into its parts. A street name can have up to eight parts:house number, prefix direction, prefix type, street name, postfix type, postfix direction, unit type, and unit value. GeoEngMatchAddress returns this and GeoEngMatchFormattedAddress takes this as an argument. When it's an output, it indicates what the engine thought the different parts of the address were.

perpendicularSetback

>Distance from the center line of the street in a perpendicular direction. This allows points to display on the left and right sides of the street. (GEO_ENG_CFG_PARMS)

placeName

>Names of places, such as office buildings, locally known locations, businesses. (HOUSE_RANGE)

postalAddOnCode

>Additional postal code identifier. In the U.S. it is a 4-digit addition to the 5-digit ZIP Code. (ADDRESS, HOUSE_RANGE, LAST_LINE)

postalCode

>Unique identifier for postal mailing zones. In the U.S., it's a 5– or 9–digit ZIP Code. (ADDRESS, HOUSE_RANGE, LAST_LINE)

postType, postDir

>Describes the type and directional that follows a street name, e.g., Orange St. SW, the postType is St, postDir is SW. (PARSED_ADDRESS)

preType, preDir

>Describes the type and directional that follows a street name, such as NAve of the Americas, where N is the preDir, Ave is the preType. (PARSED_ADDRESS)

primaryStreet

>Primary name for a street that has an alias (another name). This is most common along roads that are parts of highways. For example, Central Ave has an alias of State Rt 5. In that case Central Ave is the primary name. You will only get back a filled-in primaryStreet if you use the alias name. (CANDIDATE_ADDRESS).

relaxDistance

Input: When set toTrue, the engine will search beyond the input city and ZIP Code. (GEO_ENG_CFG_PARMS)

relaxFinance

Input: A flag for the engine to search an expanded area up to the distance of the relaxDistance setting. This area equals all the finance areas to search based on the input city and ZIP Code plus a boxed area around those finance areas of a size equal to the distance set in relaxDistance. (GEO_ENG_CFG_PARMS)

relaxFinanceInState

Input: Limits the engine to searching the expanded area set to input state. (GEO_ENG_CFG_PARMS)

relaxHouseNumber

Input: If set toTrue, the engine will not require an exact match on house number. (GEO_ENG_CFG_PARMS)

relaxName

Input: If set toTrue, the engine will not require an exact match on street name. (GEO_ENG_CFG_PARMS)

relaxPostalCode

Input: If set toTrue, the engine twill not require an exact match on postal code. (GEO_ENG_CFG_PARMS)

tabbedAddress

Output: Street name portion of the address separated by tabs. The street address can contain up to eight parts: house number, prefix direction, prefix type, street name, postfix type, postfix direction, unit type, and unit value. For an intersection, this is the two streets joined by an & and surrounded by tabs. (CANDIDATE_ADDRESS).

toHouse

The highest address found on the segment. (HOUSE_RANGE)

toUnit

The highest unit value for a segment. (HOUSE_RANGE)

UD_INFO

Structure that contains the field information used in creating a user dictionary. This defines the fields in the table and what they contain, as well as other information such as starting and ending rows.

unitType

Describes types of units that can be found in multi–unit building, such as ”ofc” (office), ”flr” (floor), ”apt”, ”ste” (suite). (PARSED_ADDRESS)

unitValue

Numerals that represent a unit, such as in a multi–unit building. (PARSED_ADDRESS)

urbanization

Denotes an area, sector, or development within a geographic area, particularly Puerto Rican urban areas. It is an important part of the addressing format that describes the location of a given street. This is a required field when geocoding in CASS mode, even if your table does not contain Puerto Rican addresses. (ADDRESS)

useCassMode

Input: If set toTrue, the engine geocodes using strict CASS matching requirements, including exact match on house number, street name, postal code. When this flag is set, relaxHouse, relaxStreet, relaxPostalCode, relaxFinance, and relaxDistance flags are ignored. Default multiple match handling (accept first on multiple match, or pick street or postal code over the other) is also ignored. CASS (Coding Accuracy Support System) is a certification program of the U.S. Postal Service for bulk mailing discounts. (GEO_ENG_CFG_PARMS)