

# Midwest Technologies



## RMS-Office User Guide

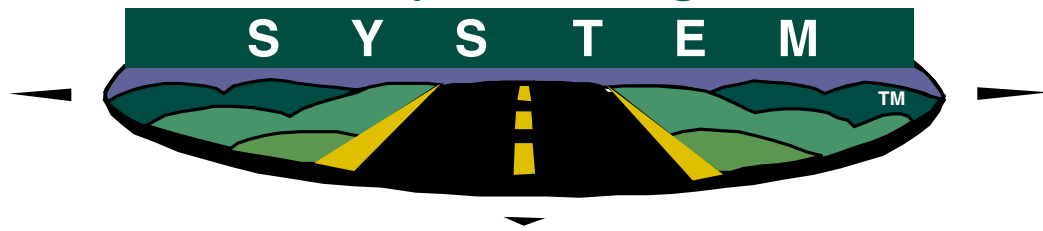
## Roadway Management

S Y S T E M





# Roadway Management



## **RMS-Office** **USER GUIDE**

**PN - 98-05065**  
**RO**





## RMS Office

Software Version 3.10

Chapter 1 - RMS Office Introduction .....	1-1
<b>RMS Office Introduction .....</b>	<b>1-2</b>
Additional RMS Features Include .....	1-2
<b>Starting RMS Office .....</b>	<b>1-3</b>
Profiles Menu Page .....	1-4
Tools Menu Page .....	1-5
<b>RMS Office System Menu Page.....</b>	<b>1-7</b>
System Setup-Main.....	1-8
Unit of Measure Menu Field.....	1-8
<b>RMS Folders.....</b>	<b>1-10</b>
The Bin Folder .....	1-10
The Base Maps Folder .....	1-10
The Names Database Folder .....	1-10
The Profiles Folder .....	1-10
The Data Folder .....	1-10
Chapter 2 - RMS Profiles.....	2-1
<b>About RMS Profiles.....</b>	<b>2-2</b>
<b>The Agency Profile.....</b>	<b>2-4</b>
Creating a New Agency Profile .....	2-5
<b>The Chemical Profile .....</b>	<b>2-7</b>
Creating a New Chemical Profile .....	2-8
<b>The Chemical Mixture Profile .....</b>	<b>2-10</b>
Creating a New Chemical Mixture Profile .....	2-11
The RMS Chemical Calculator.....	2-11
Krovar plus Oust Mixture Example.....	2-11
The Main Page .....	2-19
<b>The Personnel Profile .....</b>	<b>2-20</b>
Creating a New Personnel Profile.....	2-21
<b>The Vehicle Profile.....</b>	<b>2-23</b>
Creating a New Vehicle Profile .....	2-24
<b>The Spray Configuration Profile.....</b>	<b>2-28</b>
Creating a New Spray Configuration Profile.....	2-29
Chapter 3 - RMS Tools .....	3-1
<b>RMS Tools Introduction .....</b>	<b>3-2</b>
<b>Export .....</b>	<b>3-3</b>
Export Steps:.....	3-3
<b>Name Manager .....</b>	<b>3-5</b>
Name Database File Format .....	3-5

<b>Report Wizard.....</b>	<b>3-7</b>
Generating a Session Report with Report Wizard .....	3-8
Select Spray Session .....	3-8
Report Information .....	3-9
Spray Campaign.....	3-11
Spray Swath Map.....	3-13
Post Session Notes .....	3-14
Report Banner .....	3-15
Output Report .....	3-18
Opening a Finished Report in Other Applications.....	3-18
Sample Report 140999-01 .....	3-19
<b>Section Notes .....</b>	<b>3-29</b>
Chapter 4 - RMS Map Manager .....	4-1
<b>About RMS Map Manager 3.10 .....</b>	<b>4-2</b>
What's New in RMS Map Manager 3.10 .....	4-3
New Explorer File Tree in Map Manager.....	4-3
New Shp File Import and Export Functions .....	4-3
Drawing Tools .....	4-3
Text Tool.....	4-3
<b>RMS Data and Map Types.....</b>	<b>4-4</b>
Viewing Data .....	4-5
Base Maps.....	4-6
Object Information Query.....	4-7
<b>The RMS Map Manager Tool Bar .....</b>	<b>4-9</b>
The Text Tool .....	4-12
The File Menu.....	4-13
The Layers Menu .....	4-14
The View Menu .....	4-15
The File Tree Menu .....	4-17
The Edit Objects Menu .....	4-18
The Tools Menu.....	4-19
<b>Printing Maps in Map Manager.....</b>	<b>4-20</b>
<b>Shape File Conversion .....</b>	<b>4-22</b>
New Changes to the Shape file Conversion Process .....	4-22
Exporting RMS Data to Shape File Format.....	4-23
The Export to Shape Dialog.....	4-23
The Export to Shape Setup Dialog .....	4-25
The Export to Shape Template Dialog .....	4-28
Importing Shape Files to RMS Data Files .....	4-30
The Import from Shape Dialog.....	4-30
The Import Setup Dialog .....	4-32

**RMS Office**

*Software Version 3.10*

The Import Template Dialog .....	4-34
Convert Templates .....	4-36
Setting Up A Field Transfer Template .....	4-37
Configuring A Field Transfer .....	4-38

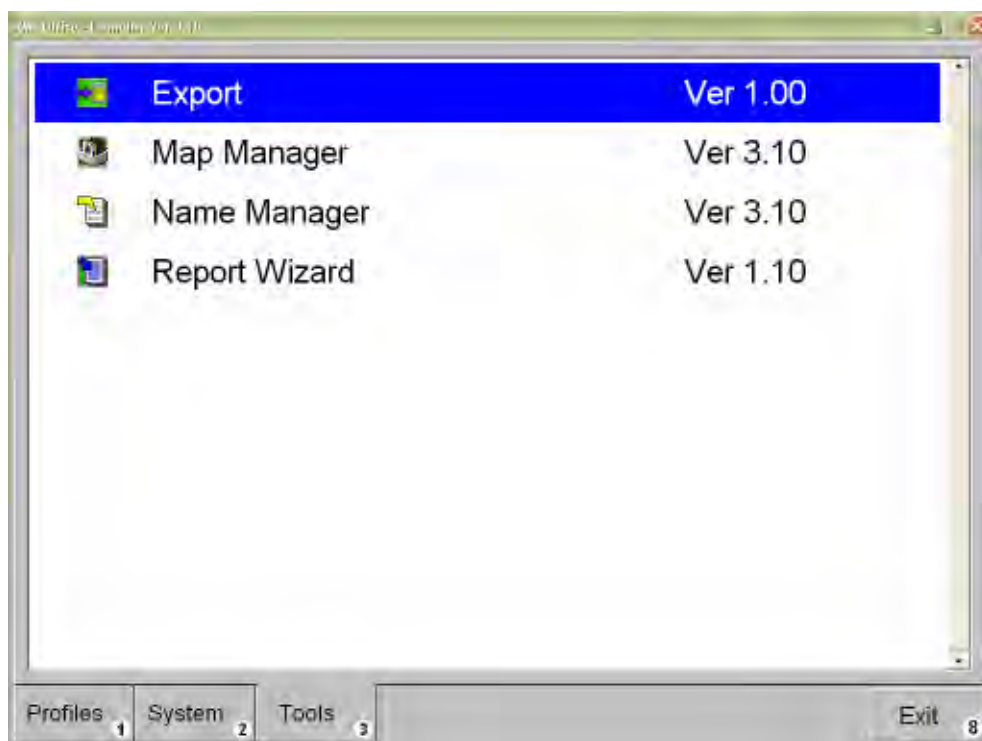


# Chapter 1 - RMS Office Introduction

*An overview of RMS-Office.*

RMS-Office Version 3.10

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# RMS Office Introduction

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Welcome to the Mid-Tech Roadway Management System (RMS) Office Suite. The Mid-Tech RMS Office product is a comprehensive software package designed specifically for the support of roadway spraying applications, using the Mid-Tech Legacy 6000 console. The Legacy 6000 console must be loaded with RMS Application Rate Management software.

With RMS Office, roadway applications are more effectively managed. RMS Office allows the building of specific profiles (small data bases) for company, personnel, contracting agencies, chemicals, and chemical mixes, as well as vehicle and spray configurations. The Export function allows this profile information to be transferred to the Legacy 6000 console via a PC card.

When installed on the Legacy 6000, profile information is combined with a GPS based map, created during the actual application process, to produce final roadway application data. The data from a completed roadway application session is then transferred back to RMS Office where Application reports are generated. Maps included with the reports show all spray activity, including boom and channel activity, for an entire roadway spraying session.

This User Guide is broken into the following components that make up the RMS Office Suite:

- Chapter 2: Profiles - Building small data bases for Personnel, Agencies, Vehicles, Chemicals, and Spray Configurations.
- Chapter 3: Tools - Several useful utilities. Report Generator allows the building of a final report for a spraying session.
- Chapter 4: Map Manager - A data viewing and management tool. Although part of Tools, Map Manager needs a chapter to itself.

## **Additional RMS Features Include**

### *Base Map Images*

You can now view Geo-Tif (DRG) image files in the background of most RMS real-time mapping applications, such as *RMS Mapper* and *RMS Record Spray Session*, as well as *RMS Map Manager*.

### *Names Database Manager*

This is a new utility application, found under the *RMS Launcher-Tools* menu. The Names Manager allows the construction of a list of commonly used attribute names. You can access any names database from any of the real-time mapping applications.

### *Export Application*

This utility allows the transfer of profiles from RMS-Office to a Legacy 6000 console. This helps keep the Legacy 6000 profiles up to date and in-sync with the office.

## Starting RMS Office

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To start RMS Office, double click on the RMS Office icon, located on the desktop of your computer (The installation process automatically puts the RMS Office icon on the desktop of your computer.)

RMS Office is divided into three menu pages: the Profiles menu, the System menu, and the Tools menu. You can access these menu pages using the menu tabs located at the bottom of the Launcher window. The number on each tab indicates the function key that you can press to access that page. Figure 1-1 shows RMS-Office Profiles.

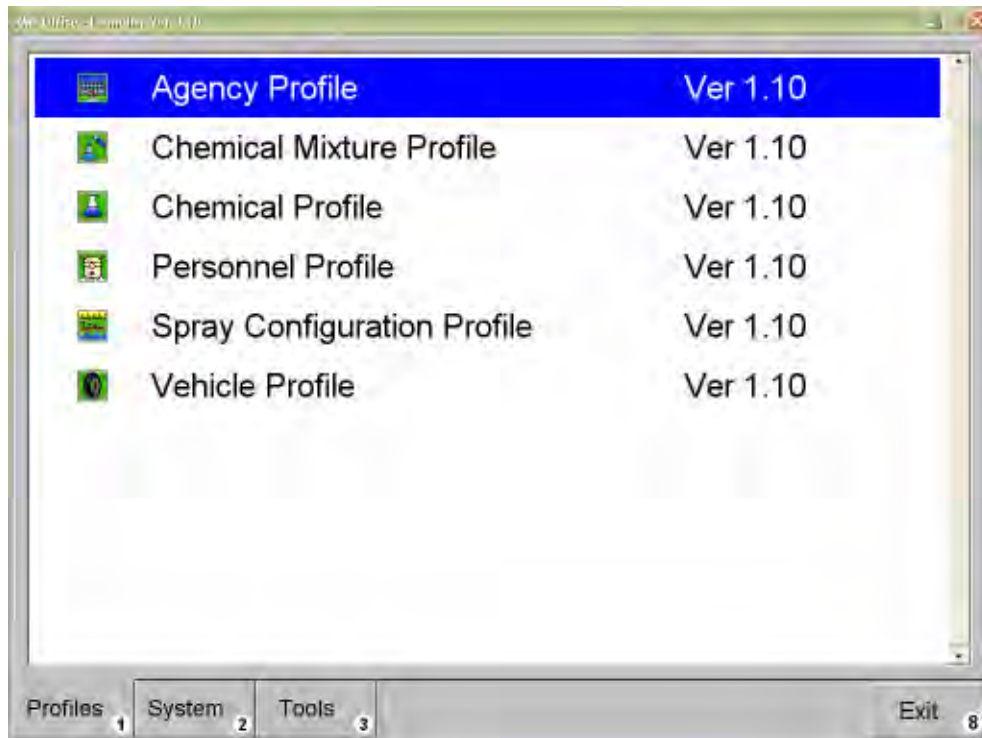
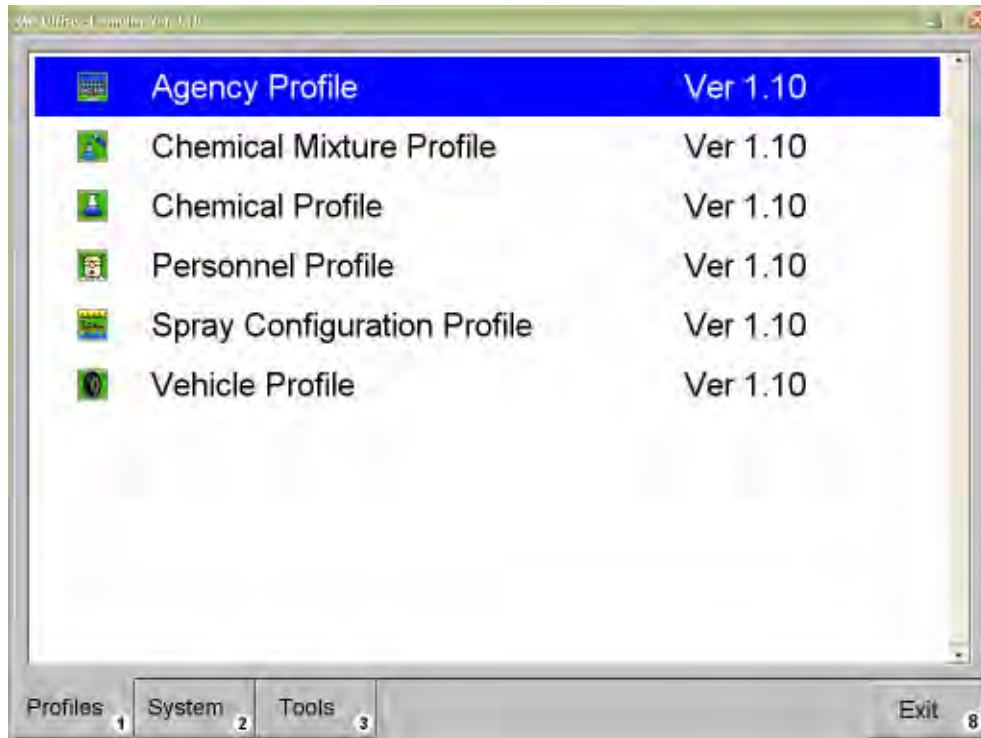


Figure 1-1: Mid-Tech RMS Program Launcher

## Profiles Menu Page

The Profiles Menu Page (Figure 1-2) contains the Agency, Personnel, Vehicle, Chemical, Chemical Mix, and Spray Configuration profiles. These profiles are small data bases that must be populated prior to running the *RMS Record Spray Session* application. For more information on Profiles, see Chapter 2 - RMS Profiles of this user guide.



**Figure 1-2: RMS Office Profiles Menu Page**

## RMS Office

Software Version 3.10

### Tools Menu Page

The Tools Menu Page (Figure 1-3) contains utility programs, such as Report Wizard, Export, Map Manager, and Name Manager database builder. This user's guide will cover each Tools program in more detail later (see Chapter 3 - RMS Tools of this user's guide).

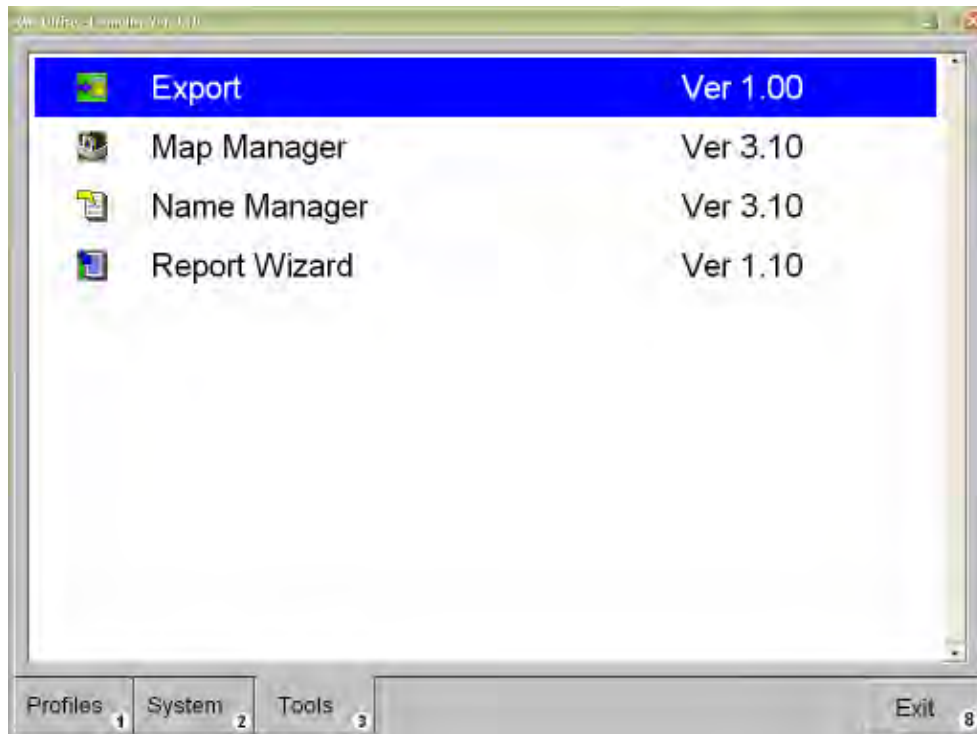


Figure 1-3: RMS Office Tools Menu

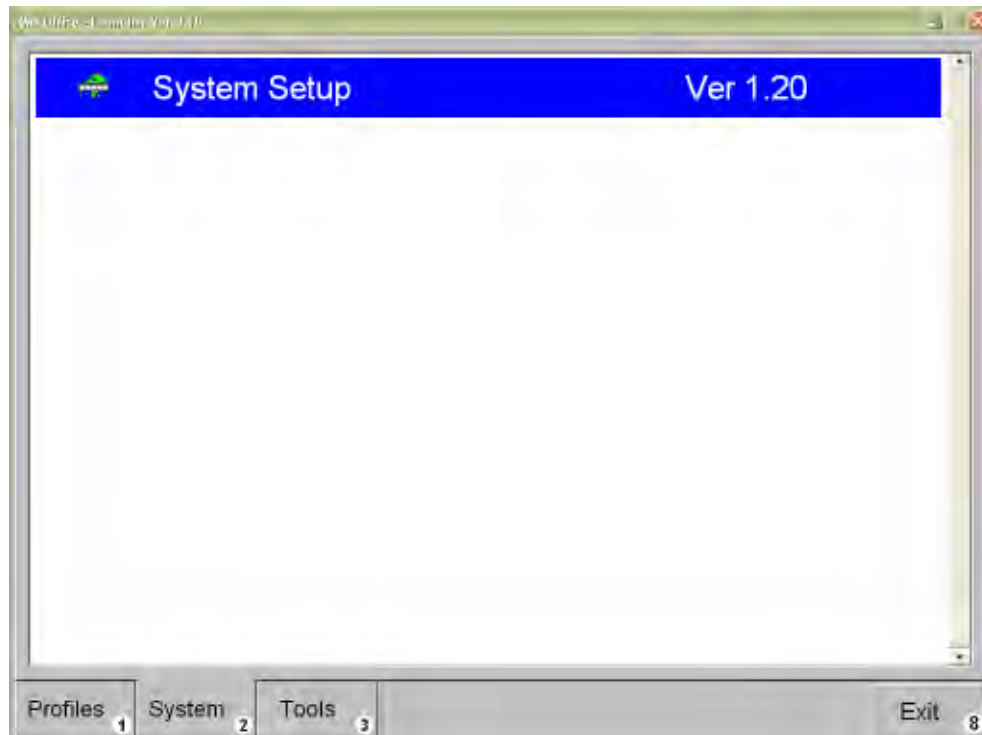
<b>Tool</b>	<b>Description</b>
<b>Export</b>	The Export tool allows Profiles to be transferred to a Legacy 6000. You cannot copy Profiles and Names files directly to a Legacy 6000 console. You must use the Export program.
<b>Map Manager</b>	This is a data editing, viewing, and printing application. This version of Map Manager now includes Layering and a full suite of drawing tools.
<b>Name Manager</b>	You can build Name databases for specific mapping themes, such as weed mapping and spray route campaigns. A names database specific to weed mapping, contains the names of the most commonly encountered weeds for your region. Instead of typing in the name of a weed each time it is mapped, the name can easily be selected from the existing weeds database. For more details, see Chapter 4 - RMS Map Manager.
<b>Report Wizard</b>	This application allows a detailed report to be generated from roadside applications. It incorporates the Profiles information, and any information entered by the operator during the actual roadside application.

**Table 1-1: RMS Office Tools Description**

## RMS Office System Menu Page

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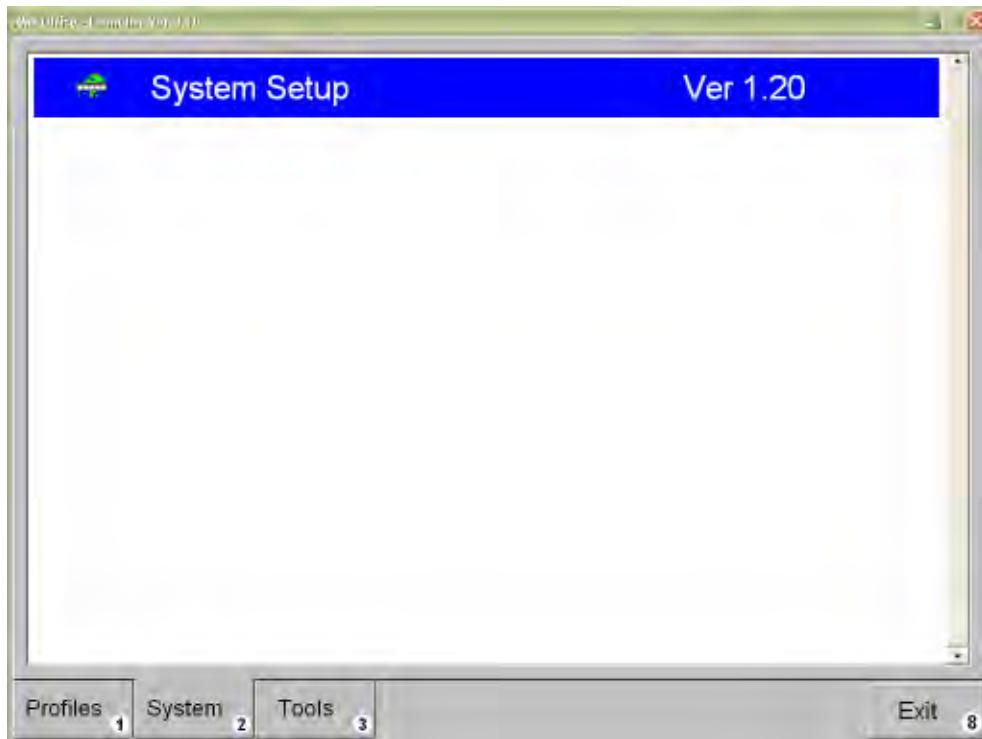
The System Menu Page (Figure 1-4) contains the System Setup application. The units of measure for the RMS-Office software are set here. To start System Setup, highlight System Setup in the System launcher page and press enter.



**Figure 1-4: RMS Office System Menu Page**

## System Setup-Main

You must run *System Setup* (Figure 1-5) the first time Mid-Tech RMS Office software is started. It should be necessary to run *System Setup* *once* unless changes are made to the system units. Switching from English units to Metric is an example of when you would run System Setup again.



**Figure 1-5: The System Setup Page**

### Unit of Measure Menu Field

This menu item allows the selection of the measurement unit that the mapping software displays. There are two choices: ENGLISH and METRIC. Selecting ENGLISH units displays all distances in feet and miles, areas in square feet and acres, vehicle speed in miles per hour, liquid volume in ounces and gallons, and weight in Pounds. Selecting METRIC units displays distances in meters and kilometers, areas in square meters and hectares, vehicle speed in Kilometers per hour, liquid volume in liters, and weight in Kilograms (see Table 1-2).

<b>Unit Name</b>	<b>Description</b>
<b>English</b>	Selecting English sets Distance to Feet (F) and Miles (Mi), Area to Ft.-squared and Ac, Speed to Mile per Hour (m.p.h.), liquid volume to ounces (oz) and gallons (gal), and Weights to Pounds (lb).
<b>Metric</b>	Selecting Metric sets Distance to Meters (M) and Kilometers (Km), Area to Square Meters and Hectares (H), Speed to Km per Hour, liquid volume to litres, and Weights to Kilograms (Kg).

**Table 1-2: Unit of Measure Description**

# RMS Folders

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The following folders are in the RMS folder of the computer that RMS Office is installed on. The default location is the root directory of the hard drive unless reassigned during installation.

## The Bin Folder

The RMS bin folder contains all of RMS Office program executables. All files, located in this folder at the time of installation, must remain in this folder for the RMS Office applications to work properly. You can place shortcuts, to the application executables in this folder, on the desktop for easy access. For example, to place a shortcut to Map Manager on the desk top, look for the Map Manager executable in this folder.

## The Base Maps Folder

All of the base map images, to be displayed in the background of the mapping software applications, are stored in the Basemaps folder of the RMS folder. This version of RMS allows the displaying of a Digital Raster Graphics (DRG) image file, in the form of a Tagged Image File Format (TIF) also known as a Geo-Tif. This image data is useful as a backdrop onto which other real-time collected data, such as spray routes, no spray zones, and weed patch locations, can be overlaid.

## The Names Database Folder

A feature of RMS Office is the ability to construct names databases. You can access a names database from any of the RMS real-time mapping applications that require the input of an attribute name for a graphical object, such as a point. You can build Name databases for specific mapping themes, such as weed mapping and spray route campaigns. A names database, specific to weed mapping, would contain the names of the most commonly encountered weeds for the region. Instead of typing in the name of a weed each time it is mapped, you can easily select it from the existing weeds database. All names databases created are stored in the Names folder. For more information on the *Name Manager* application, see Chapter 3 of this User Guide.

## The Profiles Folder

All Profiles are stored here.

## The Data Folder

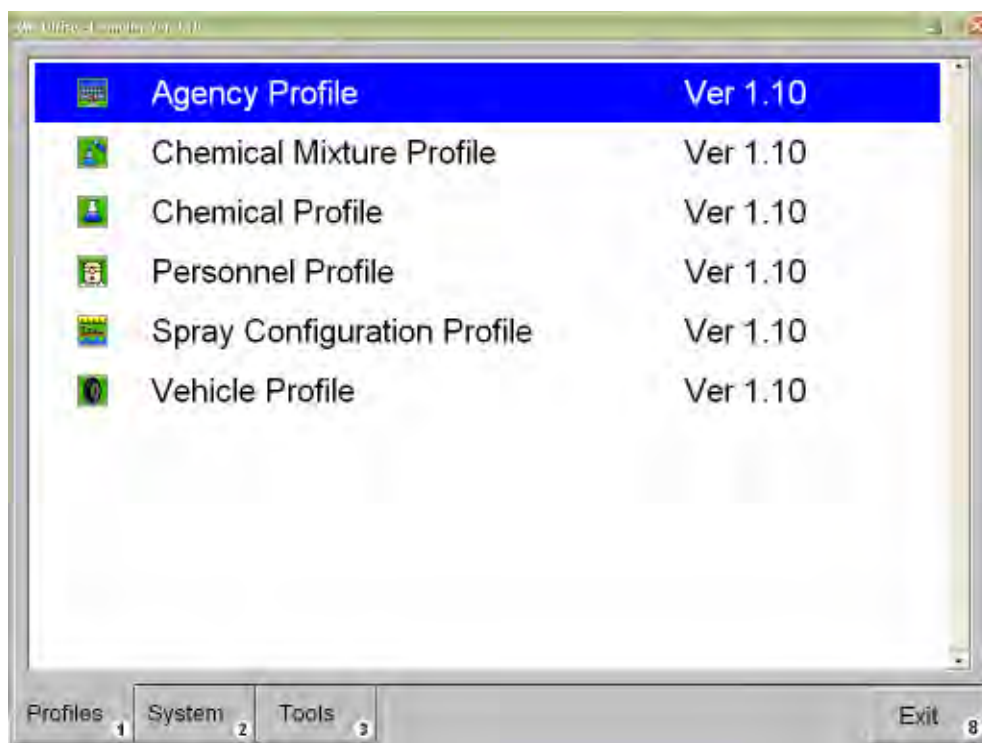
This is a suggested location for storing Roadside data. Our application allows other folder locations to be browsed.

# Chapter 2 - RMS Profiles

*Chemical, vehicle, and personnel management.*

RMS-Office Version 3.10

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# About RMS Profiles

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Profiles are small databases, created to store typical information pertaining to Chemicals, Personnel, Vehicles, and Agencies, used during a roadside application session. Use this profile information to generate spray application reports, when a spray session is completed. There are six different profiles needed to successfully start a roadside application session, using the Mid-Tech *RMS Application Rate Management (ARM)* software.



Create all profiles in RMS-Office and transfer them, via the PC card, to the Legacy 6000 console running RMS-EXT software. Transfer the profiles using the RMS-Office Export program (see Chapter 3 - RMS Tools).

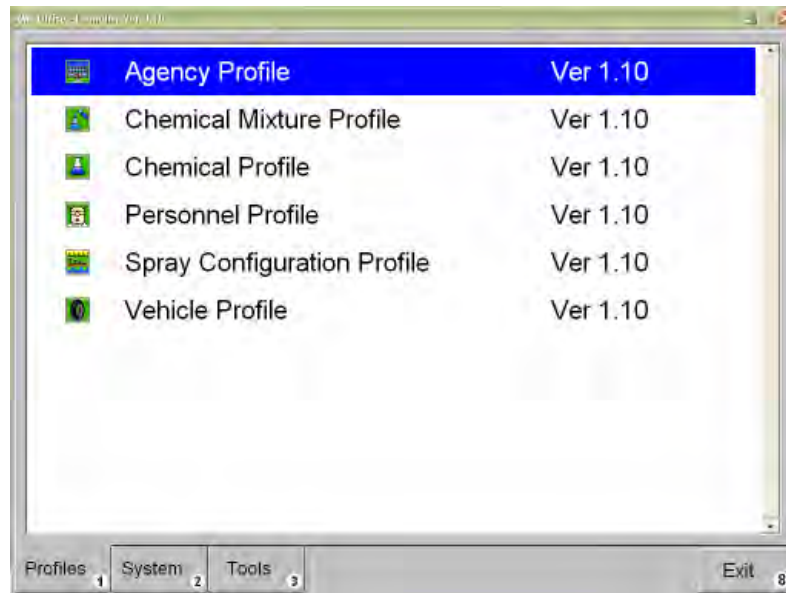
Access each of these profiles through the RMS Launcher Profiles page. Create, edit, and delete any profile. You only need to create a profile once. After that, select a specific profile required to build the spray session setup.

Profile	Description
<b>Agency</b>	contains information about the agency contracting the spraying services.
<b>Chemical</b>	contains a list of chemicals commonly used in a spraying application.
<b>Chemical Mixture</b>	contains a list of chemical tank mixes commonly used in a spraying application.
<b>Personnel</b>	contains information about vehicle drivers and operators.
<b>Spray Configuration</b>	allows the setup of boom, tank, and channel configurations for vehicles.
<b>Vehicle</b>	allows the configuring, of a particular vehicle, with specific spray configurations.

**Table 2-1: RMS Profiles**

## RMS Office

Software Version 3.10



**Figure 2-1: RMS Office Profile Menu Page**

# The Agency Profile



The Agency Profile contains information about the agency or organization that is contracting the services. To create or edit an Agency profile, select the Agency Profile located in the RMS Launcher Profiles page. The first page displayed is a list of agencies currently entered into the Agency Profile database (see Figure 2-2). If you have not entered any agencies the profile yet, this is empty. To create a new agency, press the New button. To edit an existing agency, select the desired agency from the list of agencies and press Enter, or double click on the agency name using the mouse. To delete an existing agency, highlight the desired agency name, and press the Delete Button.

When finished creating a new agency, press the OK button to save and add this new agency into the agency profile list. If you decide not to add the agency being created, simply press the Cancel button to return to the Agency Profile list.

To Exit the Agency Profile, press the Exit Button. The program returns to the RMS Launcher Profiles page.



All profiles are created in RMS-Office and then transferred, via the PC card, to the Legacy 6000 console running RMS-EXT software. Transfer Profiles using the RMS Office Export program (see Chapter 3 - RMS Tools).

Name	City	State (Prov)
Gallatin County	Belgrade	MT
USDI Bureau o...	Seattle	Washington
WDOT	Olympia	Washington

Agency **1**      New **6**    Delete **7**    Exit **8**

Figure 2-2: Agency Profiles

## Creating a New Agency Profile

There are three agency profile pages that make up a complete agency profile: the Main Page, the Contact Page, and the Admin Page. See Table 2-2 for more details about each page.

The Main Page (see Figure 2-3) contains the name and address information specific to the contracting agency. The Contact Page contains information about the contact person at the agency. Press the Contact Tab to access this page. The Admin Page contains the Active and Hidden selections.

The screenshot shows a dialog box titled "Agency Setup" with a close button in the top right corner. The dialog contains a list of input fields for agency information:

- Agency / Company ID .....:
- Agency / Company Name .....:
- Division .....:
- Street or Road .....:
- City .....:
- County / MD .....:
- State / Province .....:
- Country .....:
- Zip / Postal Code .....:

The "Agency / Company ID" field is highlighted in blue. At the bottom of the dialog, there are three tabs: "Main" (1), "Contact" (2), and "Admin" (3). To the right of the tabs are "OK" (7) and "Cancel" (8) buttons.

**Figure 2-3: The Main Agency Page**

Profile Field	Description
<b>The Main Page</b>	
<b>Agency ID</b>	A unique identification used to identify a specific agency.
<b>Agency Name</b>	The name of the agency
<b>Division</b>	The agency division
<b>Street</b>	The agency street address.
<b>City</b>	The city where the agency is located.
<b>County/MD</b>	The county where the agency is located.
<b>State/Province</b>	The state or province where the agency is located.
<b>Country</b>	The country where the agency is located.
<b>Zip / Postal Code</b>	The zip or postal code for the agency.
<b>Contact Page</b>	
<b>Contact Name</b>	The name of person at agency who can be contacted.
<b>Phone Number</b>	The phone number of the contact person
<b>Admin Page</b>	
<b>Record Status</b>	Setting a profile to Active makes that profile viewable and selectable when transferred to the Legacy 6000. Setting a profile to Hidden prevents it's being selectable or viewable to the operator, when it is transferred to a Legacy 6000. This allows a manager to limit the number of in-field selections an operator must make while in the field.

**Table 2-2: Agency Profile Description**

## The Chemical Profile

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The Chemical Profile is a database containing the name and manufacturer of all the chemicals used in a roadside spraying application. To access the Chemical Profile page, select the Chemical Profile located in the RMS Launcher Profiles page. The first page displayed is a list of chemicals currently entered into the Chemical Profile database (see Figure 2-4). If you have not entered any chemicals into the profile yet, this page is empty. To enter a new chemical, press the New button. To edit an existing chemical, select the desired chemical from the list of chemicals, and press Enter or double click on the chemical name, using the mouse. To delete an existing chemical, highlight the desired chemical name and press the Delete Button.

When finished entering a new chemical, press the OK button to save and add this new chemical into the Chemical Profile list. If you decide not to add the chemical, simply press the Cancel button to return to the Chemical Profile list.

To Exit the Chemical Profile, press the Exit Button. The program returns to the RMS Launcher Profiles page.



Create all profiles in RMS Office and transfer, via a PC card, to the Legacy 6000 console running RMS-EXT software. Transfer profiles using the RMS-Office Export program (see Chapter 3 - RMS Tools).

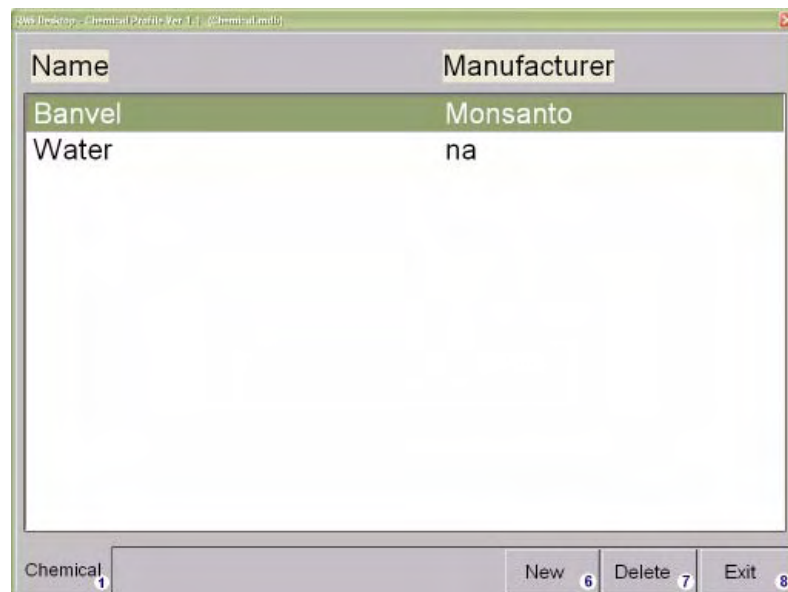


Figure 2-4: The Chemical Profiles Page

## Creating a New Chemical Profile

To enter a new chemical, press the New button, which brings up the main chemical editing page (see Figure 2-5). The Main page, denoted by the Main tab located at the bottom of the page, contains the following menu fields (see Table 2-3). The Admin page contains the Active and Hidden selections.

The screenshot shows a dialog box titled "Chemical Setup" with the following fields and values:

Chemical Name .....	Banvel
Manufacturer .....	Monsanto
EPA Reg # .....	08934
Com Code .....	6634
Type .....	liquid
Measurement Unit .....	quarts
Maximum Mix Ratio .....	
Displacement.....	

At the bottom of the dialog, there are two tabs: "Main" (labeled with a circled 1) and "Admin" (labeled with a circled 2). To the right of the tabs are "OK" (labeled with a circled 7) and "Cancel" (labeled with a circled 8) buttons.

Figure 2-5: The Main Chemical Editing Page

Profile Field	Description
<b>The Main Page</b>	
<b>Chemical Name</b>	The name of the chemical being entered into the Chemical profile.
<b>Manufacturer</b>	The name of the chemical manufacturer.
<b>EPA Reg#</b>	The chemical EPA registration number.
<b>Com Code</b>	The chemical commodity code.
<b>Type</b>	The type of chemical being entered. When entering this menu item, a pick dialog box appears, with a list of chemical types: Dry, Liquid or Dry Flowable.
<b>Measurement Unit</b>	The unit of measure associated with the chemical being entered. When this menu item is selected, a Unit of Measure dialog appears, containing a list of units to choose from.
<b>Maximum Mix Ratio</b>	The maximum concentration of dry material in a single gallon of liquid carrier. This menu field is active only if the chemical type is Dry or Dry Flowable.
<b>Displacement</b>	The amount of liquid displaced by a unit of dry material in a single gallon of carrier. This menu field is active only if the chemical type is Dry or Dry Flowable. A typical displacement unit would be liquid ounces.
<b>Admin Page</b>	
<b>Record Status</b>	Setting a profile to Active makes that profile viewable and selectable, when transferred to the Legacy 6000. Setting a profile to Hidden prevents it's being selected or viewed by the operator, when it is transferred to a Legacy 6000. This allows a manager to limit the number of in-field selections an operator must make while in the field.

**Table 2-3: Chemical Profile Description**

## The Chemical Mixture Profile



The Chemical Mixture Profile contains specific chemical tank mixtures created. Enter the Chemicals, used in this profile, into the Chemical Profile prior to creating a mixture profile. To access the Chemical Mixture Profile page, select the Chemical Mixture Profile, located in the RMS Launcher Profiles page. The first page displayed is a list of chemical mixes currently entered into the Chemical Mixture Profile database (see Figure 2-6). If you have not entered any chemical mixes into the profile yet, this page is empty. To enter a new mixture, press the New button. To edit an existing chemical mixture, select the desired mixture from the list of mixes, and press Enter or double click on the mixture name, using the mouse. To delete an existing mixture, highlight the desired mixture name and press the Delete Button.

When finished entering a new chemical mixture, press the OK button to save and add this new mix into the Chemical Mixture Profile list. If you decide not to add the mixture, simply press the Cancel button to return to the Chemical Mixture Profile list.

To Exit the Chemical Mixture Profile, press the Exit Button. The program returns to the RMS Launcher Profiles page.



Create all profiles in RMS Office and transfer them, via the PC card, to the Legacy 6000 console running RMS-EXT software. Transfer the Profiles using the RMS-Office Export program (see Chapter 3 - RMS Tools).

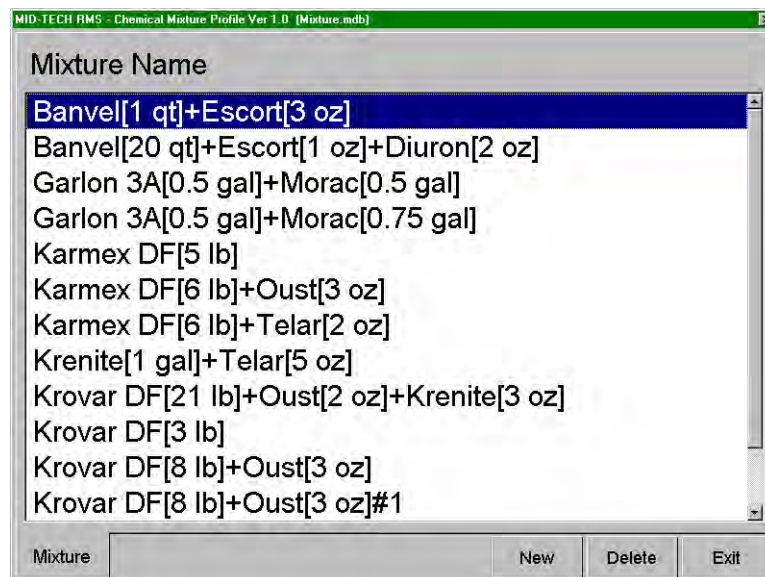


Figure 2-6: The Chemical Mixture Profile Page

## Creating a New Chemical Mixture Profile

To create a new chemical mixture, use the RMS Chemical Calculator. The Chemical Calculator is accessed through the Mixture Name menu field, located on the Chemical Mixture Main menu page (see The Main Page on page 2-19). It is best to understand the Chemical Calculator prior to reviewing any of the Chemical Mixture profile pages.

### The RMS Chemical Calculator

The RMS Chemical Calculator is a powerful chemical mix utility program, used to combine up to three chemicals, plus a carrier, into a single mixture. The chemicals in the mixture must appear in the Chemical Profile (see The Chemical Profile on page 2-7) prior to adding them into a mixture. The Chemical Calculator accesses the Chemical Profile for information, such as chemical type and unit, for each chemical added to the mixture. The Chemical Calculator requires an application rate for each chemical in the mixture, as well as the tank volume or amount of mixture to be made. When the chemicals are added to the mix, the Chemical Calculator determines the amount of each chemical and carrier required for the mixture tank volume.

#### Krovar plus Oust Mixture Example

To demonstrate the Chemical Calculator, consider a mixture of Krovar (Dry Flowable), mixed with Oust, with water as a carrier. The application rate for the Krovar is 8 Pounds/Acre and the application rate for the Oust is 3 Oz./Acre. Both chemicals have been entered into the Chemical Profile and therefore can be selected directly from the Chemical Calculator. The tank volume for the mixture is 50 Gallons.

##### *Starting Up the Chemical Calculator*

To enter the Chemical Calculator, select the Mixture Name menu field, located on the Main menu page. Press enter, or double click with the mouse on the Mixture Name menu field, to activate the Chemical Calculator dialog (see Figure 2-7).

##### *Entering Krovar DF as the First Chemical*

To enter Krovar as the first chemical, place the cursor in the Chemical 1 menu field and press enter. This activates the Select Chemical 1 dialog (see Figure 2-8). Move through the list of chemicals, select Krovar, and press enter. To move through the chemical list rapidly, type in the first letter of the chemical to be entered. This causes the program to jump down the chemical list to the first chemical name beginning with the letter entered. All of the chemicals listed in this dialog were entered using the Chemical Profile.

##### *Entering the Krovar Application Rate*

Select the chemical and enter the chemical application rate. Tab the cursor over to the Chemical 1 Application Rate menu field and press enter. This activates the Chemical 1 Rate dialog box (see Figure 2-9). In the example, the application rate for Krovar is 8 Pounds/Acre. Notice that the unit of pounds is already set in the Rate dialog box. The rate unit for Krovar is contained in the Chemical Profile and retrieved by the calculator. This eliminates the need to remember or look up the required rate unit for each chemical. Enter 8 Pounds/Acre in the dialog and press enter. Krovar is now entered as the first chemical in the mixture. Now enter the second chemical, Oust.

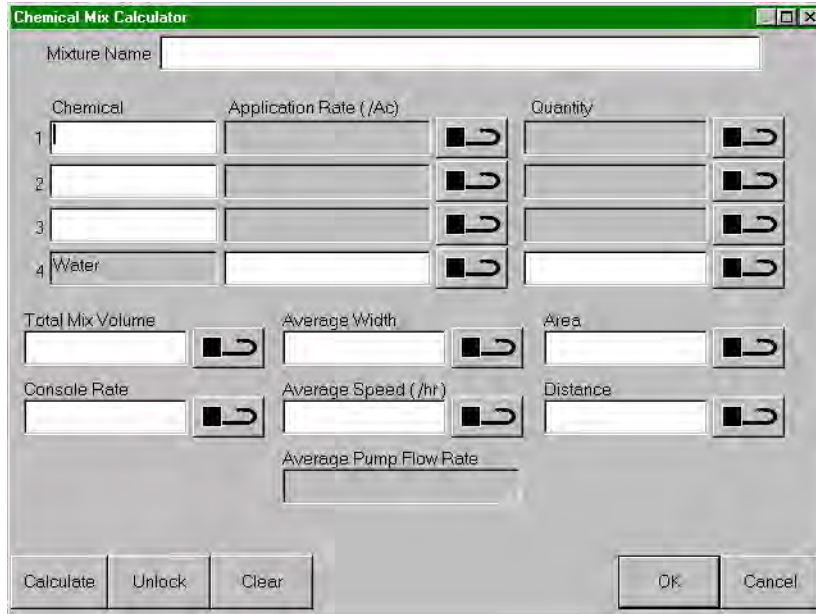


Figure 2-7: The Chemical Calculator Dialog



Figure 2-8: The Select Chemical 1 (Krovar DF) Dialog

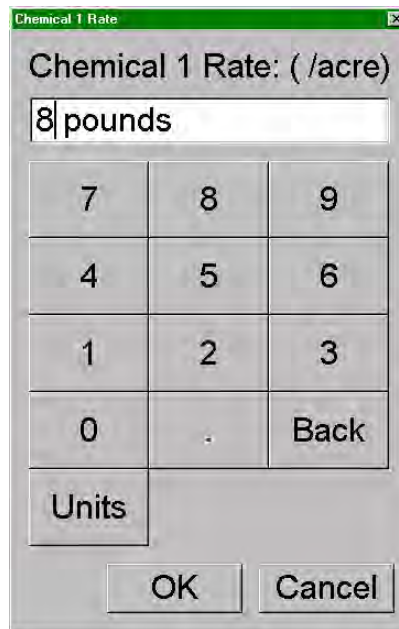
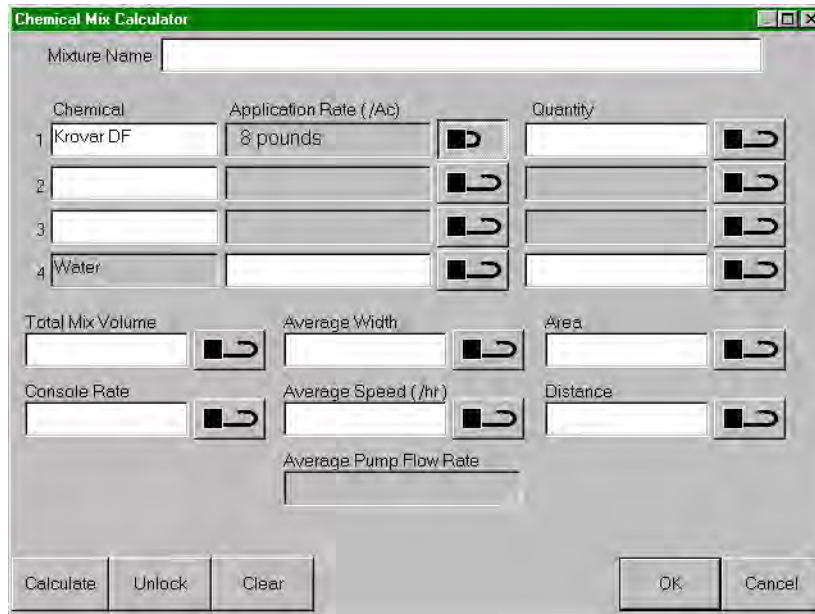


Figure 2-9: The Select Chemical Rate Dialog



**Figure 2-10: Krovar DF Entered into Calculator**

*Entering Oust as the Second Chemical*

To enter Oust as the second chemical, place the cursor in the Chemical 2 menu field and press enter. This activates the Select Chemical 2 dialog. Move through the list of chemicals, select Oust, and press enter. To move through the chemical list rapidly, type in the first letter of the desired chemical. The program jumps down the chemical list to the first chemical name beginning with the letter entered. All of the chemicals listed in this dialog are contained in the Chemical Profile.

*Entering the Oust Application Rate*

After selecting the chemical, enter the chemical application rate. Tab the cursor to the Chemical 2 Application Rate menu field and press enter. This activates the Chemical 2 Rate dialog box (see Figure 2-11). In the example, the application rate for Oust is 3 Oz./Acre. Notice that the unit of Ounces is already set in the Rate dialog box. The rate unit for Oust is contained in the Chemical Profile and retrieved by the calculator. This eliminates the need to remember or look up the required rate unit for each chemical. Enter 3 Oz./Acre in the dialog and press enter. Oust is now entered as the second chemical in the mixture (see Figure 2-12).

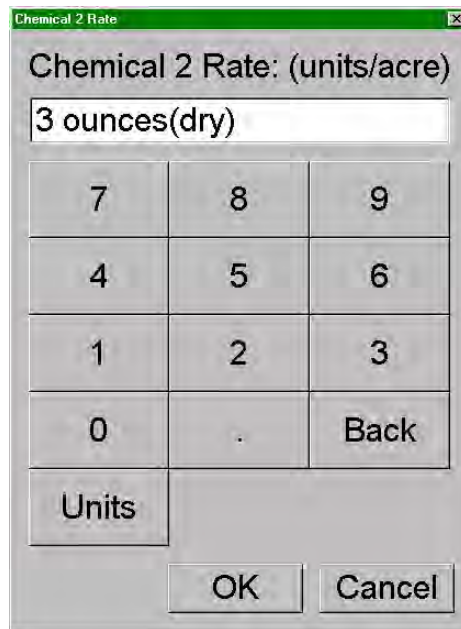


Figure 2-11: The Chemical Rate Dialog for Oust

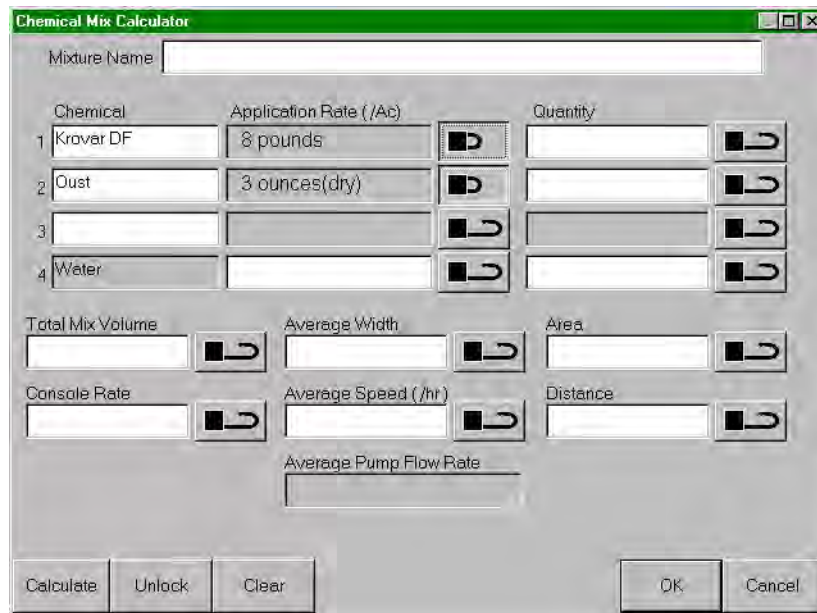


Figure 2-12: Oust Entered into the Chemical Calculator

*Entering the Total Mix Volume*

When both chemicals are entered into the calculator, enter the total mix volume. Place the cursor in the Total Volume menu field and press enter. This activates the Total Mix Volume dialog box (see Figure 2-13). In this example, the total mix volume entered is 50 gallons (see Figure 2-14).



**Figure 2-13: The Total Mix Volume Dialog**

Chemical	Application Rate (/Ac)	Quantity
1 Krovar DF	8 pounds	
2 Oust	3 ounces(dry)	
3		
4 Water		

Total Mix Volume: 50 gallons

Average Width: [empty]

Area: [empty]

Console Rate: [empty]

Average Speed (/hr): [empty]

Distance: [empty]

Average Pump Flow Rate: [empty]

Buttons: Calculate, Unlock, Clear, OK, Cancel

**Figure 2-14: Total Mix Volume Entered**

### *Calculating the Mixture*

Now that you have entered the two chemicals, the chemical application rates, and the total mix volume, the next step is to calculate the mixture. To calculate the mixture, press the Calculate button located at the lower left corner of the Chemical Calculator dialog. The Chemical Calculator calculates the following values:

- Mid-Tech Console Rate.
- Quantity of required material for chemical 1.
- Quantity of required material for chemical 2.
- Quantity of required carrier.
- Application rate of the carrier (calculated from the Maximum Mix Ratio entered for the Dry material in Chemical Profile).
- Area that this mixture can cover based on chemical application rates.

See Figure 2-15 for the calculated results of this example. When satisfied with the calculation, press the OK button to return to the Chemical Mixture Main menu page (see Figure 2-16). Notice that, on the Main page, all of the appropriate menu fields have been automatically filled in, including the mixture name.

If you know the average boom width and average speed of the vehicle during the application process, enter these values into the Chemical Calculator and calculate the total distance you can cover as well as the Average Pump Flow Rate.

The screenshot shows the 'Chemical Mix Calculator' window. It features a table for chemical inputs and several summary fields. The table lists four items: Krovar DF (8 pounds, 47.4 pounds quantity), Oust (3 ounces(dry), 1.11 pounds quantity), an empty row, and Water (8.19 gallons, 48.5 gallons quantity). Summary fields include Total Mix Volume (50 gallons), Average Width (empty), Area (5.92 acres), Console Rate (1080 ounces(L)), Average Speed (/hr) (empty), Distance (empty), and Average Pump Flow Rate (empty). Buttons for Calculate, Unlock, Clear, OK, and Cancel are at the bottom.

Chemical	Application Rate (/Ac)	Quantity
1 Krovar DF	8 pounds	47.4 pounds
2 Oust	3 ounces(dry)	1.11 pounds
3		
4 Water	8.19 gallons	48.5 gallons

Total Mix Volume: 50 gallons  
 Average Width: [empty]  
 Area: 5.92 acres  
 Console Rate: 1080 ounces(L)  
 Average Speed (/hr): [empty]  
 Distance: [empty]  
 Average Pump Flow Rate: [empty]

Figure 2-15: Mix Calculation Results

The screenshot shows the 'Mixture Setup' window. It displays the results of the calculation for two chemicals: Krovar DF and Oust. The mixture name is 'Krovar DF[8 lb]+Oust[3 oz]#1'. For Krovar DF, the concentration is 0.948 pounds/gallons and the target rate is 8 pounds/acres. For Oust, the concentration is 0.0222 pounds/gallons and the target rate is 3 ounces(dry)/acres. There are also fields for Chemical 3, which are currently empty. Buttons for Main, Admin, OK, and Cancel are at the bottom.

Mixture Name .....: Krovar DF[8 lb]+Oust[3 oz]#1  
 Chemical 1 .....: Krovar DF  
 Concentration .....: 0.948 pounds/gallons  
 Target Rate .....: 8 pounds/acres  
 Chemical 2 .....: Oust  
 Concentration .....: 0.0222 pounds/gallons  
 Target Rate .....: 3 ounces(dry)/acres  
 Chemical 3 .....: [empty]  
 Concentration .....: [empty]  
 Target Rate .....: [empty]

Figure 2-16: The Main Page after Mix Calculation

## The Main Page

Pressing the New button, to enter a new chemical mixture, brings up the main mixture editing page (see Figure 2-16). The Main page, denoted by the Main tab located at the bottom of the page, contains the following menu fields.

Profile Field	Description
<b>The Main Page</b>	
<b>Mixture Name</b>	The name of the mixture being created. When you enter this menu field, the RMS Chemical Calculator appears (see Figure 2-7). Filling in this menu field is optional. When you complete the calculation for a mixture, the system fills in the Mixture Name menu field automatically.
<b>Chemical #1</b>	The name of the first chemical in the mix.
<b>Concentration</b>	The concentration of chemical 1 used in the mixture. The Chemical Calculator fills in this menu field automatically.
<b>Target Rate</b>	The target rate entered into the Chemical Calculator for chemical 1. The Chemical Calculator fills in this menu field automatically.
<b>Chemical #2</b>	The name of the second chemical used in the mixture. The Chemical Calculator fills in this menu field automatically.
<b>Concentration</b>	The concentration of chemical 2 used in the mixture. The Chemical Calculator fills in this menu field automatically.
<b>Target Rate</b>	The target rate entered into the Chemical Calculator for chemical 2. The Chemical Calculator fills in this menu field automatically.
<b>Chemical #3</b>	The name of the third chemical used in the mixture. The Chemical Calculator fills in this menu field automatically.
<b>Concentration</b>	The concentration of chemical 3 used in the mixture. The Chemical Calculator fills in this menu field automatically.
<b>Target Rate</b>	The target rate entered into the Chemical Calculator for chemical 3. The Chemical Calculator fills in this menu field automatically.
<b>Admin Page</b>	
<b>Record Status</b>	Setting a profile to Active makes that profile viewable and selectable when transferred to the Legacy 6000. Setting a profile to Hidden prevents it's being selected or viewed by the operator, when it is transferred to a Legacy 6000. This allows a manager to limit the number of in-field selections an operator must make while in the field.

**Table 2-4: Chemical Mix Profile Description**

# The Personnel Profile



The Personnel Profile is a database containing a record of the employees associated with a spraying application. Typically a personnel profile is created for vehicle drivers and sprayer operators. To access the Personnel Profile page, select the Personnel Profile located in the RMS Launcher Profiles page. The first page displayed is a list of profiles, currently entered into the Personnel Profile database (see Figure 2-17). If you have not entered any profiles yet, this page is empty. To enter a new profile press the New button. To edit an existing profile, select the desired profile from the list of profiles, and press Enter, or double click on the profile name using the mouse. To delete an existing profile, highlight the desired profile name and press the Delete Button.

When finished entering a new profile, press the OK button to save and add this new profile into the Personnel Profile list. If you decide not to add the profile, simply press the Cancel button to return to the Personnel Profile list.

To Exit the Personnel Profile, press the Exit Button. This returns the program to the RMS Launcher Profiles page.



Create all profiles in RMS Office and transfer, via a PC card, to the Legacy 6000 console running RMS-EXT software. Transfer the profiles using the RMS-Office Export program (see Chapter 3 - RMS Tools).

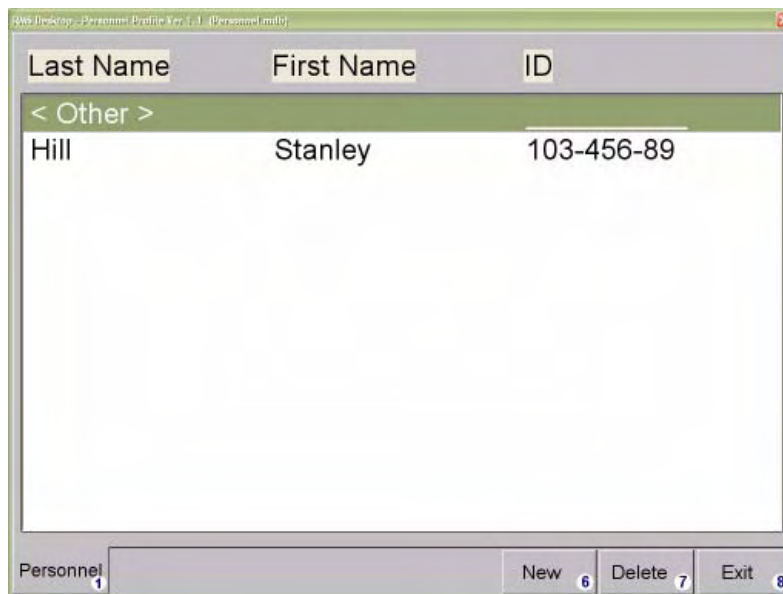


Figure 2-17: The Personnel Profile Page

## Creating a New Personnel Profile

Pressing the New button, to create a new Personnel Profile, brings up the Main Personnel Profile editing page (see Figure 2-18). The Admin page contains the Active and Hidden selections.

Table 2-5 contains a description of the Personnel profile fields. When all fields are filled in, press OK to save the profile.

The screenshot shows a dialog box titled "Personnel Setup" with a close button in the top right corner. The dialog contains several text input fields, each with a label followed by a dotted line and a colon. The fields and their values are: Last Name (Hill), First Name (Stanley), Employee ID (103-456-89), SSN (SIN) (034-78-9876), Pesticide Lic. # (WA-123), Expiration (02/2008), Driver's Lic. # (034-78-9876), Supervisor (Bob Roll), and Phone ((978) 345-2400). At the bottom of the dialog, there are two tabs: "Main" (with a small "1" next to it) and "Admin" (with a small "2" next to it). To the right of the tabs are two buttons: "OK" (with a small "7" next to it) and "Cancel" (with a small "8" next to it).

Figure 2-18: The Main Personnel Profile Page

Profile Field	Description
<b>The Main Page</b>	
<b>Last Name</b>	The last name of the employee.
<b>First Name</b>	The first name of the employee.
<b>Employee ID</b>	The employee's identification number.
<b>SSN (SIN)</b>	The employee's Social Security Number or Social Insurance Number.
<b>Pesticide Lic #</b>	The employee's pesticide license number.
<b>Expiration</b>	The pesticide license expiration date.
<b>Driver's Lic #</b>	The employee's drivers license number.
<b>Supervisor</b>	The employee's supervisor.
<b>Phone</b>	A telephone number where the supervisor or employee can be contacted.
<b>Admin Page</b>	
<b>Record Status</b>	Setting a profile to Active makes that profile viewable and selectable when transferred to the Legacy 6000. Setting a profile to Hidden prevents it's being selected or viewed by the operator, when it is transferred to a Legacy 6000. This allows a manager to limit the number of in-field selections an operator must make while in the field.

**Table 2-5: Personnel Profile Description**

## The Vehicle Profile



The Vehicle Profile contains information associated with the vehicle delivery system: spray controller, tank volumes, and tank to channel assignment. Create a profile for each vehicle used in a roadside spraying application. To access the Vehicle Profile page, select the Vehicle Profile located in the RMS Launcher Profiles page. The first page displayed is a list of profiles currently entered into the Vehicle database (see Figure 2-19). If you have not entered any profiles yet, this page is empty. To enter a new profile, press the New button. To edit an existing profile select the desired profile, from the list of profiles, and press Enter, or double click on the profile name using the mouse. To delete an existing profile, highlight the desired profile name and press the Delete Button.

When finished entering a new profile, press the OK button to save and add this new profile into the Vehicle list. If you decide not to add the profile, simply press the Cancel button to return to the Vehicle Profile list.

To Exit the Vehicle Profile, press the Exit Button. This returns the program to the RMS Launcher Profiles page.



Create all profiles in RMS-Office and transfer them, via a PC card, to the Legacy 6000 console running RMS-EXT software. Transfer profiles using the RMS-Office Export program (see Chapter 3 - RMS Tools).

ID	Controller
MT-6A6141	Mid-Tech TASC 6300
WA1265	Mid-Tech TASC 6300

Figure 2-19: The Vehicle Profile List

## Creating a New Vehicle Profile

Press the New button to create a new Vehicle Profile. This brings up the main profile editing page (see Figure 2-20). There are three additional page tabs: Tanks, Channels, and Admin. The menu items found on each of these menu pages must be filled in.

The Main page contains vehicle identification information. The tank unit and volumes are entered in the Tanks page. The Tank to Pump association is made in the Channels page. The Admin page contains the Active and Hidden selections. Table 2-6 contains a description of the Vehicle profile fields. When you complete all fields, press OK to save the profile.

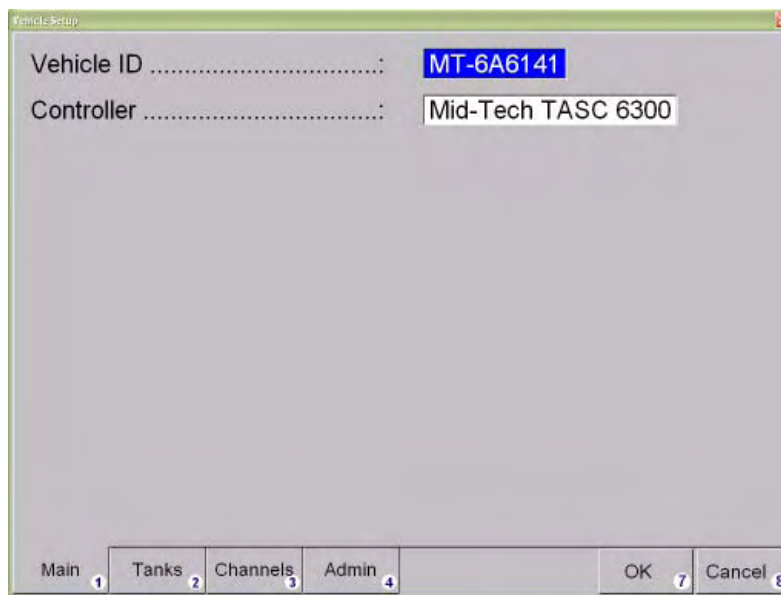


Figure 2-20: The Main Page

Profile Field	Description
<b>The Main Page</b>	
<b>Vehicle ID</b>	A unique identifier for the vehicle being entered.
<b>Controller</b>	Selecting this controller menu item brings up a Controller dialog box (see Figure 2-21). This dialog contains a list of Mid-Tech controller drivers that are compatible with the RMS software. Select the controller driver that matches the rate controller installed on the vehicle.
<b>The Tanks Page</b>	
<b>Volume Unit</b>	Enter the unit of volume used in this profile. Selecting this menu field activates a Volume Units dialog. Pick the volume unit used from this dialog.
<b>Carrier</b>	Enter the volume of the Carrier tank.
<b>Tank #1 - #8</b>	The menu fields for Tanks 1 through 8 are identical. Enter the volume for each tank installed on the vehicle. If the vehicle does not have 8 tanks, leave any non-existent tank menu fields blank.
<b>The Channels Page</b>	
<b>Carrier</b>	This is the pump associated with the carrier tank. Typically, select the carrier tank from the Carrier Assignment dialog.
<b>Pumps #1 - #9</b>	Selecting any of these Pump menu fields activates a Pump dialog box (see Figure 2-23). From the dialog box, select the desired tank for the pump. Pumps and tanks can be mixed and matched (e.g. Pump 2 can have Tank 3 assigned to it). Do not assign a tank to more than one pump.
<b>Admin Page</b>	
<b>Record Status</b>	Setting a profile to Active makes that profile viewable and selectable when transferred to the Legacy 6000. Setting a profile to Hidden prevents it's being selected or viewed by the operator, when it is transferred to a Legacy 6000. This allows a manager to limit the number of in-field selections an operator has to make while in the field.

**Table 2-6: Vehicle Profile Description**



Figure 2-21: The Rate Controller Dialog

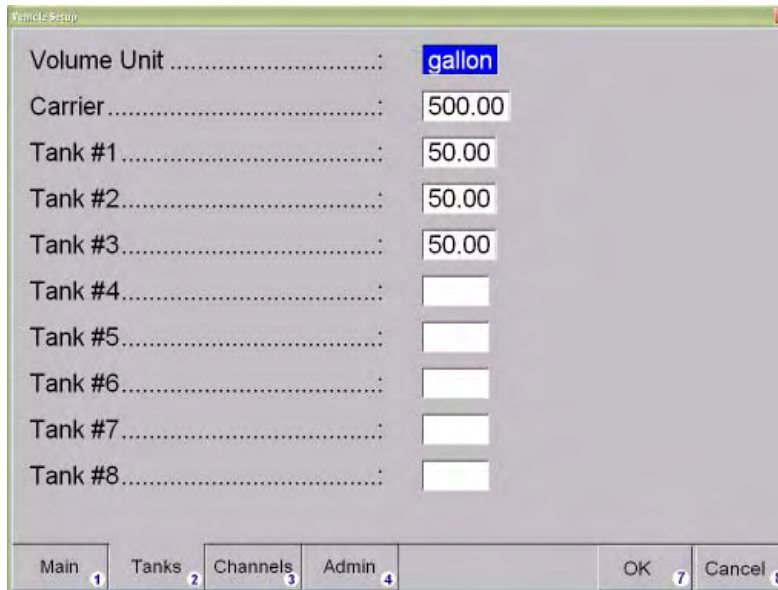


Figure 2-22: The Tanks Page

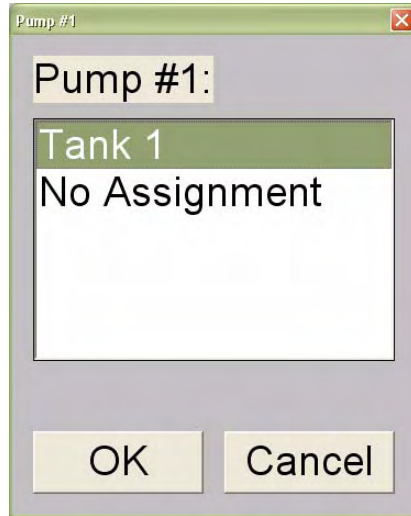


Figure 2-23: The Pump Dialog Box

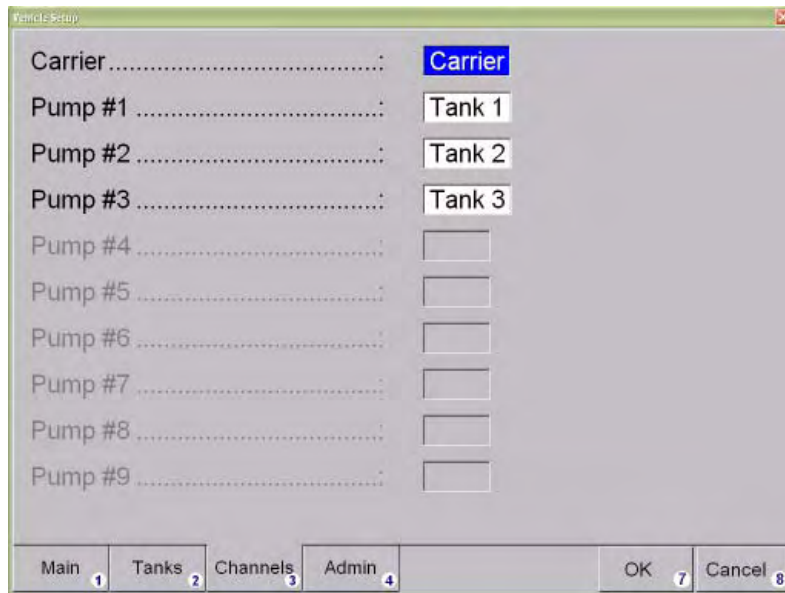


Figure 2-24: The Channels Page

# The Spray Configuration Profile



The Spray Configuration Profile allows the creation of different spray boom configurations for the fleet. When the actual spray application session is started, select the specific spray boom configuration for your vehicle.

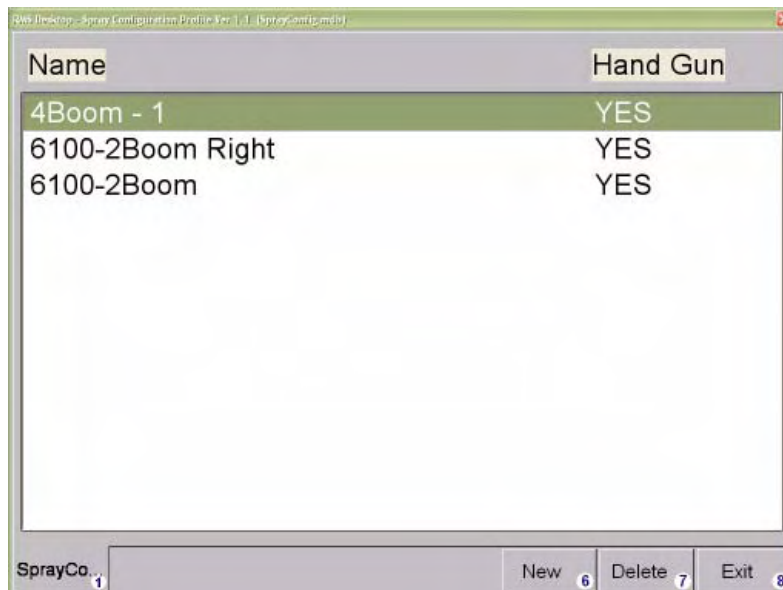
To access the Spray Configuration Profile page, select the Spray Configuration Profile, located in the RMS Launcher Profiles page. The first page is a list of profiles currently entered into the Spray Configuration database (see Figure 2-25). If you have not entered any profiles yet, this page is empty. To enter a new profile, press the New button. To edit an existing profile select the desired profile, and press Enter or double click on the profile name using the mouse. To delete an existing profile, highlight the desired profile name and press the Delete Button.

When finished entering a new profile, press the OK button to save and add this new profile into the Spray Configuration list. If you decide not to add the profile to the profile database, simply press the Cancel button to return to the Spray Configuration Profile list.

To Exit the Spray Configuration Profile, press the Exit Button. This returns the program to the RMS Launcher Profiles page.



Create all profiles in RMS-Office and transfer it, via the PC card, to the Legacy 6000 console running RMS-EXT software. Transfer profiles using the RMS-Office Export program (see Chapter 3 - RMS Tools).



Name	Hand Gun
4Boom - 1	YES
6100-2Boom Right	YES
6100-2Boom	YES

The screenshot shows a window titled "RMS Desktop - Spray Configuration Profile Ver. 1.1 (SprayConfig.mdb)". The window contains a table with two columns: "Name" and "Hand Gun". The table has three rows of data. Below the table, there are three buttons: "New", "Delete", and "Exit". The "New" button has a small "6" next to it, "Delete" has a "7", and "Exit" has an "8". The window also shows "SprayCo." in the bottom left corner.

Figure 2-25: The Spray Configuration Profile Page

## Creating a New Spray Configuration Profile

Press the New button to create a new Spray Configuration Profile. This brings up the main profile editing page (see Figure 2-26). Notice that there are three additional page tabs; 3 - 6, 7 - 10 and Admin. The Admin page contains the Active and Hidden selections.

It is not necessary to fill in menu items found on each of these menu pages (see Table 2-7).

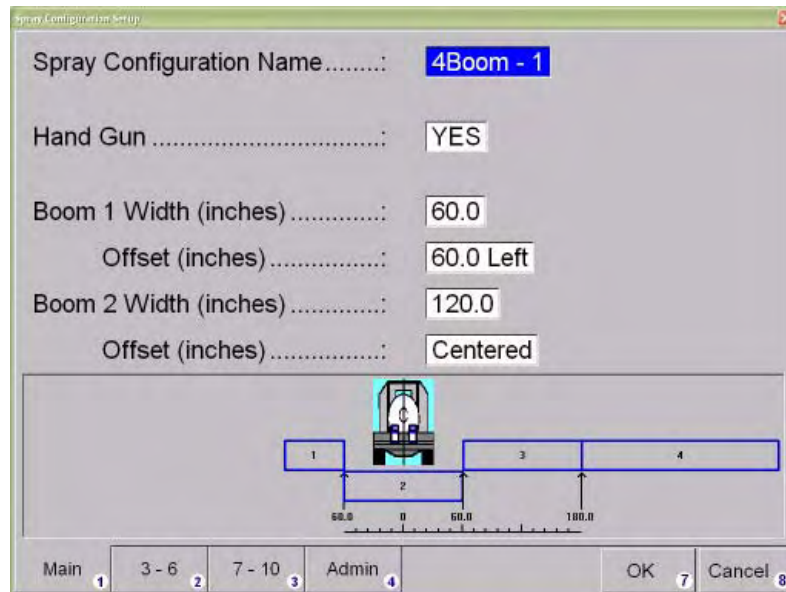


Figure 2-26: Spray Config Main Page

Profile Field	Description
<b>The Main Page</b>	
<b>Spray Config Name</b>	Enter the name of the new spray configuration. Try to use a name that best describes the configuration.
<b>Hand Gun</b>	Selecting this menu field activates the Hand Gun dialog box. If using a hand gun, select Yes. If not using a hand gun, select No.
<b>Boom 1 Width</b>	Selecting this menu field activates the Boom Width dialog. Enter the width of Boom 1 in inches. When entered, the boom section is drawn in the vehicle diagram located at the bottom of the page.
<b>Offset</b>	Selecting this menu field activates the Boom Offset dialog. Enter the offset distance, from the center line of the vehicle to the closest point in the boom you are programming. Select which direction (Left or Right) from center line of the vehicle to place the boom. If the boom is to be centered on the vehicles center line, select CENTER for the offset direction. Always use the vehicle graphic at the bottom of the page to ensure that the created the boom section is in the proper location.
<b>Boom 2 Width</b>	See Boom Width description above.
<b>Offset</b>	See Offset description above.
<b>The 3-6 Page</b>	
<b>Boom 3 - 6 Width</b>	See Boom width description above.
<b>Offsets 3 - 6</b>	See Offset description above.
<b>The 7 - 10 Page</b>	
<b>Booms 7 - 10</b>	See Boom width description above.
<b>Offsets 7 - 10</b>	See Offset description above.
<b>Admin Page</b>	
<b>Record Status</b>	Setting a profile to Active makes that profile viewable and selectable when transferred to the Legacy 6000. Setting a profile to Hidden prevents it's being selected or viewed by the operator, when it is transferred to a Legacy 6000. This allows a manager to limit the number of in-field selections an operator has to make while in the field.

**Table 2-7: Spray Config Profile Description**



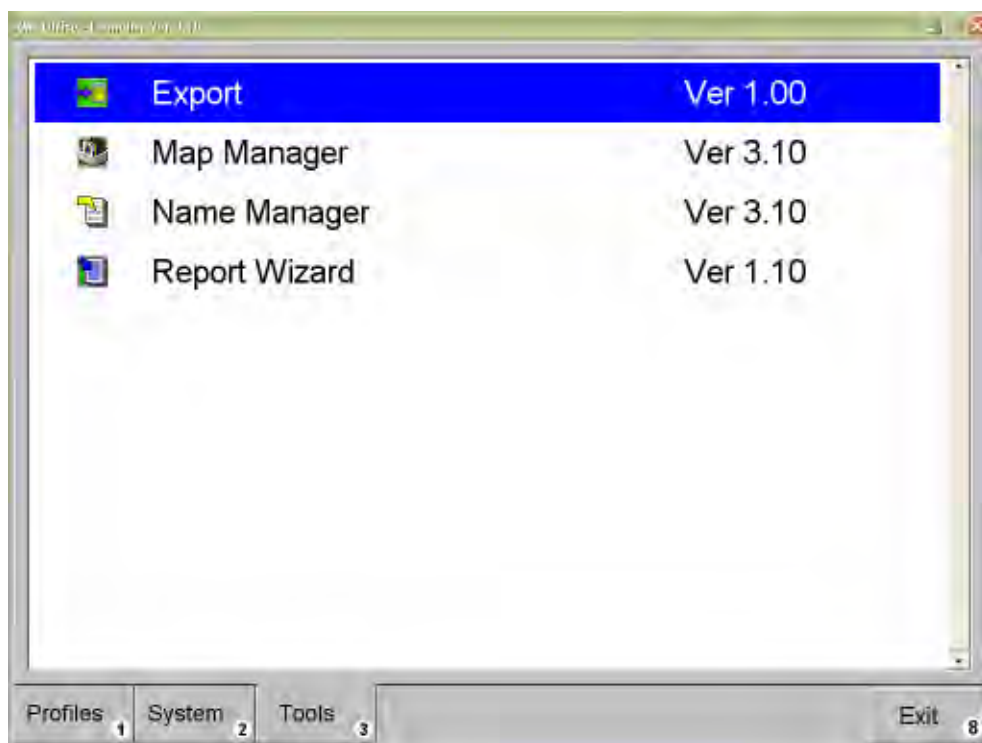
RMS does not proceed with the spraying unless the boom widths, programmed into the selected Spray Configuration, are the same as those programmed into the TASC rate controller.

# Chapter 3 - RMS Tools

*Tools and utilities to help make your life easier.*

RMS-Office Version 3.10

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# RMS Tools Introduction

This chapter covers several utility applications that can make your life a little bit easier. Currently RMS - Tools consists of four applications: *Export*, *Map Manager*, *Name Manager*, and *Report Wizard*. All Tools are accessed from the RMS Office Tools Menu (see Figure 3-1).

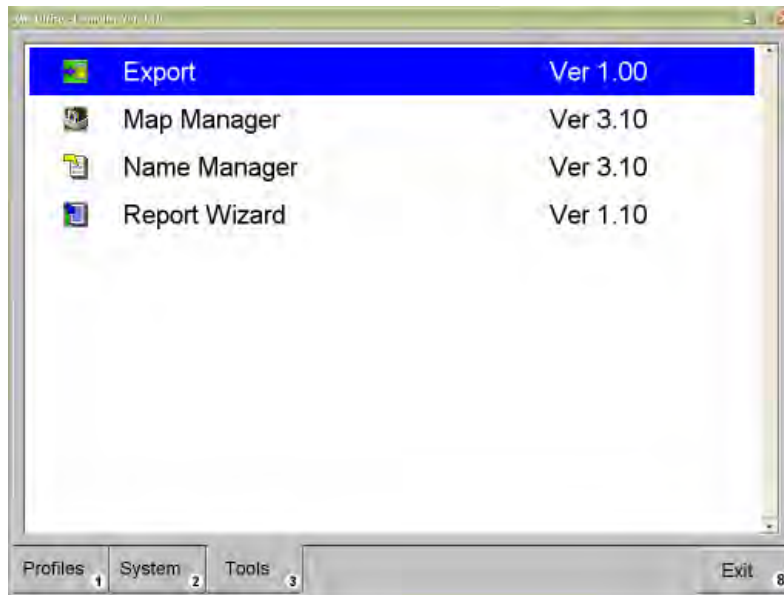


Figure 3-1: RMS Tools Launcher

Tool	Description
<b>Export</b>	The Export tool allows the transfer of Profiles and Names files to a Legacy 6000 console.
<b>Map Manager</b>	The Map Manager Tool is covered in Chapter 4 of this User's Guide.
<b>Name Manager</b>	Name Manager allows you to build attribute databases, used for naming objects during the real-time mapping process.
<b>Report Wizard</b>	The Report Wizard Tool allows you to generate a detailed report of a roadside spray application or session.

Table 3-1: RMS Tools Description

## Export

---



Use the Export tool (Figure 3-2) to transfer Profiles and Name files between RMS Office and a Legacy 6000. As your Profile information changes over time, you must keep your Legacy 6000 up to date. Information on Profiles are found in Chapter 2 of this User's Guide. For more information on Names files, see Name Manager on page 3-5.



You cannot directly copy the Profiles and Names files directly to the PC card. You must use the Export tool to compress and reformat them, to run in the Windows CE environment. You can directly copy RMS data files such as (.RCD), (.GMF), (.EVP) and (.TIF) between RMS Office (your PC) and a Legacy 6000 console.

### Export Steps:

- When you have finished making changes to any Profiles or Names files, insert a PC card into your PC card drive and run the Export tool.
- Select the PC card drive by using the Browse button, (Figure 3-3).
- Select the profiles that you want to export to the PC card, by clicking in the select box to the left of the Profile name.
- Select the Names files that you want to export to the PC card, by clicking in the select box to the left of the Name Files name.
- Press the Export button to begin file transfer to the PC card. An IMPORT folder is created on the PC card. Profiles and Names files are exported to sub folders of the IMPORT folder. Do not move or modify these files on the PC card.
- Safely remove the PC card from the drive.
- Insert the PC card into the Legacy 6000 that you want to update. Turn the console on.
- The Legacy 6000 will detect new Profile and Names files on the PC card and ask if you would like to import these new files. Use the Arrow keys to make the appropriate selection.
- The import process performs a file comparison with all modified files. Files are updated with new information and not over-written. The import process moves files from the PC card to the console flash memory. You cannot directly copy these files to the appropriate location. The import process must be used.

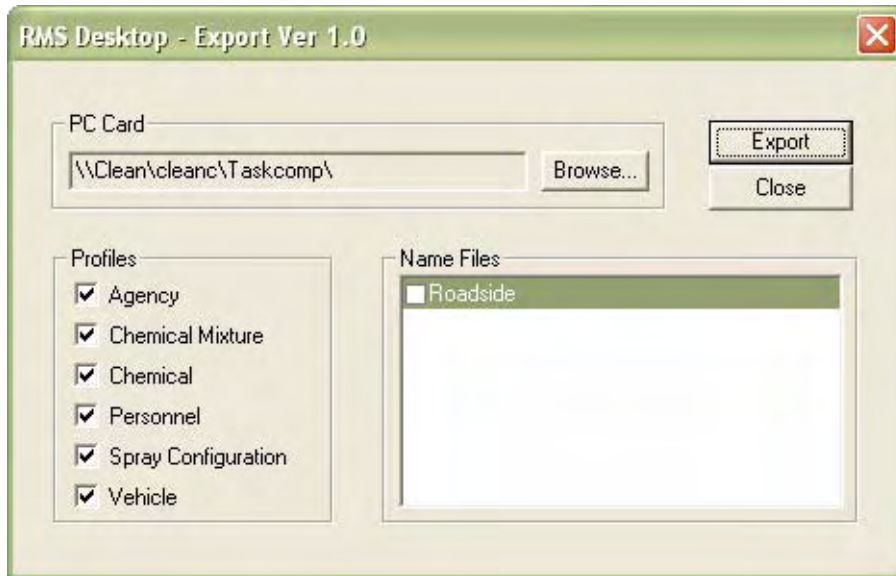


Figure 3-2: The Export Dialog



Figure 3-3: The Browse Dialog

# Name Manager

---



The *Name Manager* application (Figure 3-4) allows you to construct a database of commonly used attribute names. These databases can be accessed from any of the *Mid-Tech RMS* real-time applications, such as *RMS - Mapper*, *RMS - EXT*, or *RMS - CAN*. Using a names database helps you to efficiently store, select, and name mapping objects, while out in the field. Database file names can be named for a specific task or theme, such as Road Signs. Figure 3-4 shows the Name Manager, with the Weeds database highlighted. The attribute names, contained in the Weeds database, are commonly used during potential spray route weed mapping campaigns with *RMS - Mapper*. Utility inventory is another mapping task that requires unique names and naming schemes. These names and schemes are stored in a names database. Roadside mapping or route scouting could have several associated name databases.



You must use the Export tool to export Names files to the Legacy 6000 console (see Export on page 3-3).

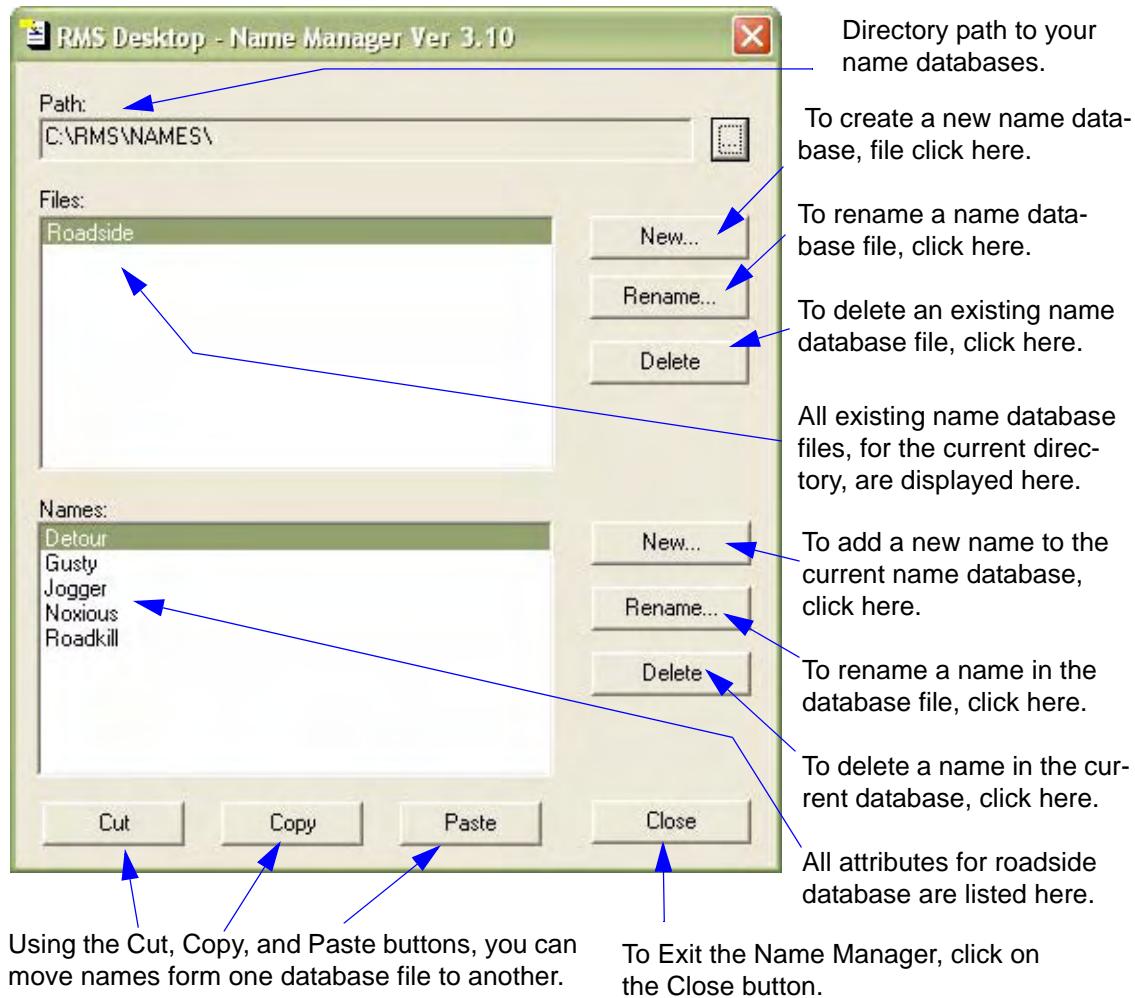
To start *Name Manager*, select “Name Manager” in the RMS Program Launcher Tools Menu (Figure 3-1).

## Name Database File Format

Name database files are ASCII text files, (.TXT). You can create these files in several different editors, spread sheets, and word processors. A single column of names, typed into an Excel spread sheet, can be copied to the Windows clipboard and pasted into any names database file. This makes it easy to move existing attribute information into the names database file format. You may find it easier to simply type name attributes, one name per line, into a word processor or editor, and save that file as a text file with the extension (.TXT).

All name databases, that you want to export to a Legacy 6000 console, must be kept in the C:\RMS\NAMES directory. Do not store name databases in any other folder. The program automatically alphabetizes names entered into a database. The following few lines represent a typical names database, used in roadside mapping tasks.

```
Channel 1
Channel 2
Channel 3
Intersection
Mailbox.
Mile Marker
Mustard
No Spray
Spray On
Spray Off
Thistle
```



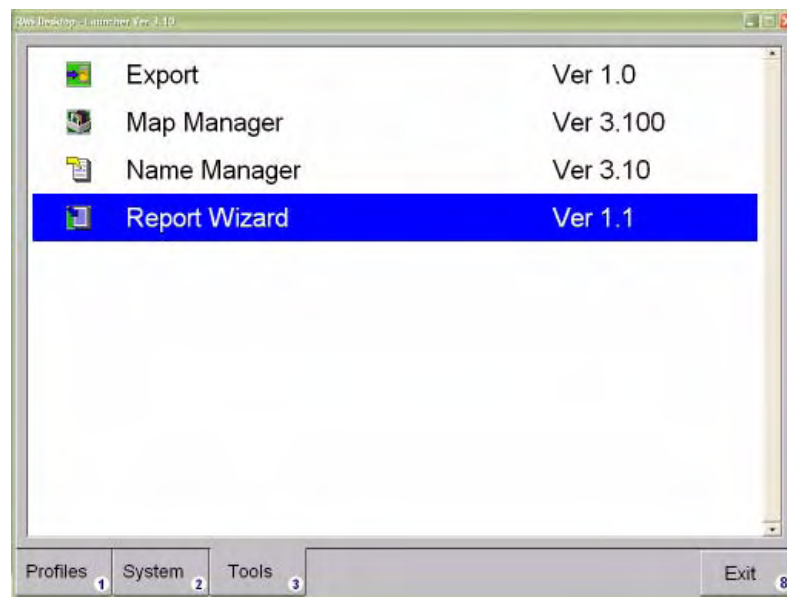
**Figure 3-4: The Names Database Dialog**

# Report Wizard

---



*Report Wizard* compiles all information, map data, and profiles, associated with a spraying session, into an organized spray session report. This final report can contain all profiles associated with the spray session, as well as any maps created during the spray session. You can customize the final report by adding different map views, and also by adding your company logo and address to the front page of the report. To start *Report Wizard*, select "Report Wizard" from the RMS Program Launcher Tools Menu (Figure 3-5).



**Figure 3-5: RMS - Report Wizard**

## Generating a Session Report with Report Wizard

Generating a final spray session report is easy using Report Wizard. You must have a completed spray session, with all associated data, prior to generating a final report. Your data is collected and stored on the PC card, under the Job Id folder name for that session. You can either transfer the session folders from the PC card to your office computer, or you can generate reports directly from the PC card, while it is inserted into the PC card slot, on your office computer. It is recommended that you copy the job folders from the PC card to a folder on your Office computer. This provides a backup for your data, as well as freeing up space on the PC card. The **C:\RMS\data** folder is the recommended location for your job folders, on the office PC.

When you have started Report Wizard from the RMS Program Launcher, the first Report Wizard dialog appears (Figure 3-6).

### Select Spray Session

The first step is to select the spray session you want to generate a report for. Figure 3-6 shows the Report Wizard Session dialog. First browse to the location of your Job or session folders. Data can also reside on the PC card. Next select the existing spray session from the list, in the pull down menu field. Spray Session 140999-01 is used as the example spray session that we want to generate a report for. This session is highlighted in Figure 3-6. With the desired session selected, press the “next” button in the lower right corner.

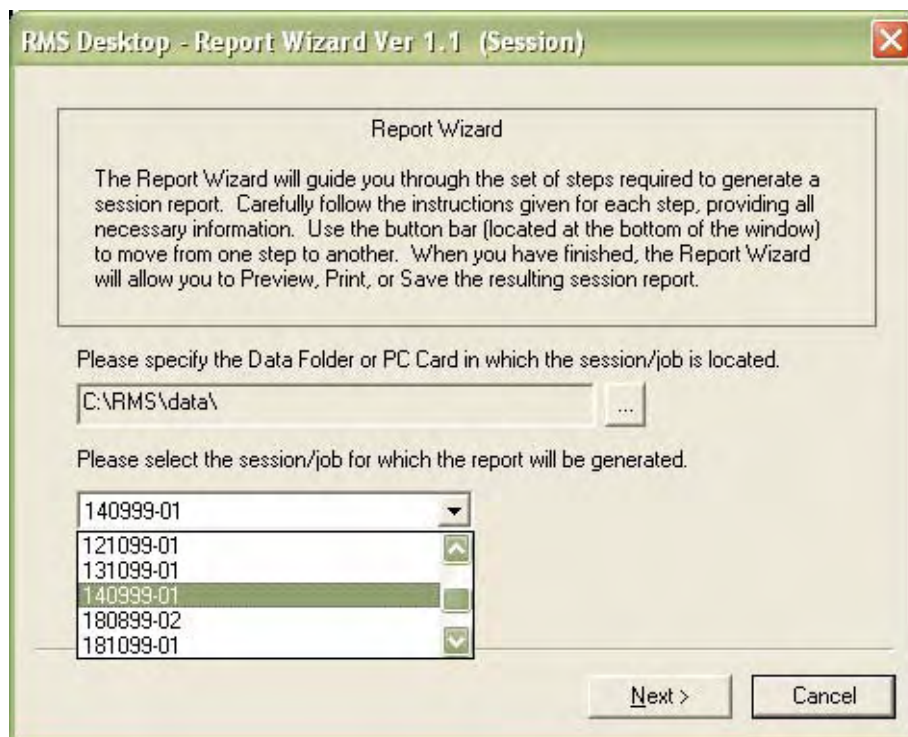


Figure 3-6: Report Wizard Session Dialog

## Report Information

The report information dialog allows you to customize your final spray session report. With this dialog, you can select the session profile information to include in the report. You can also select the units to present the report in. In the 140999-01 example, we are selecting the full report option. The full report option includes all profiles associated with the 140999-01 spray session. If you select the custom option, small check boxes appear next to each item, listed in the report information scroll menu (see Figure 3-8). To select or de-select information, simply click in the check box next to the associated menu item. Figure 3-8 shows the Agency/Company information de-selected.

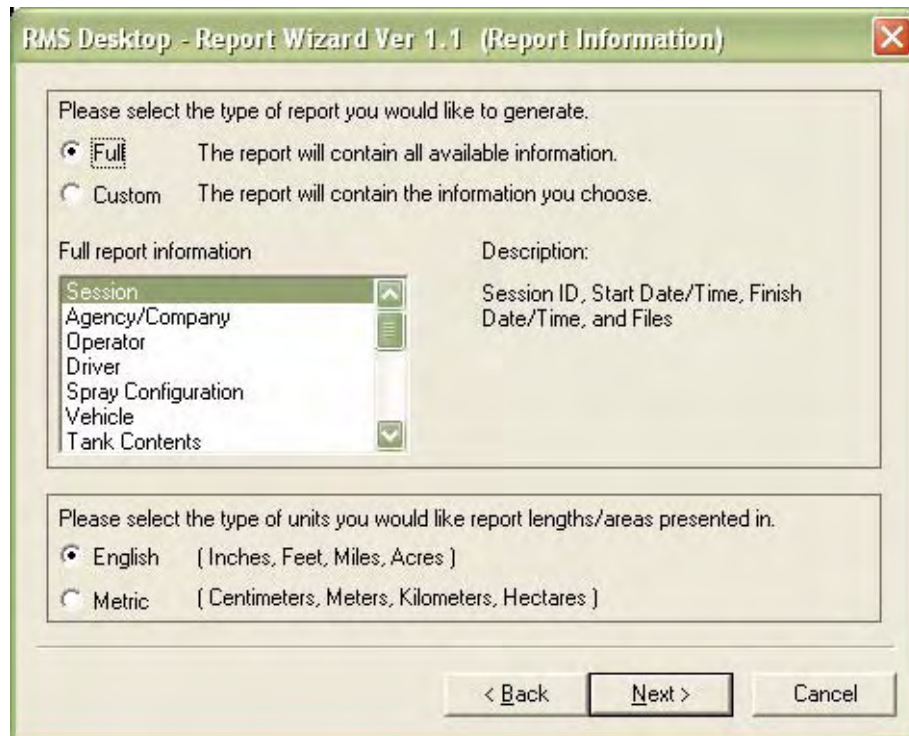
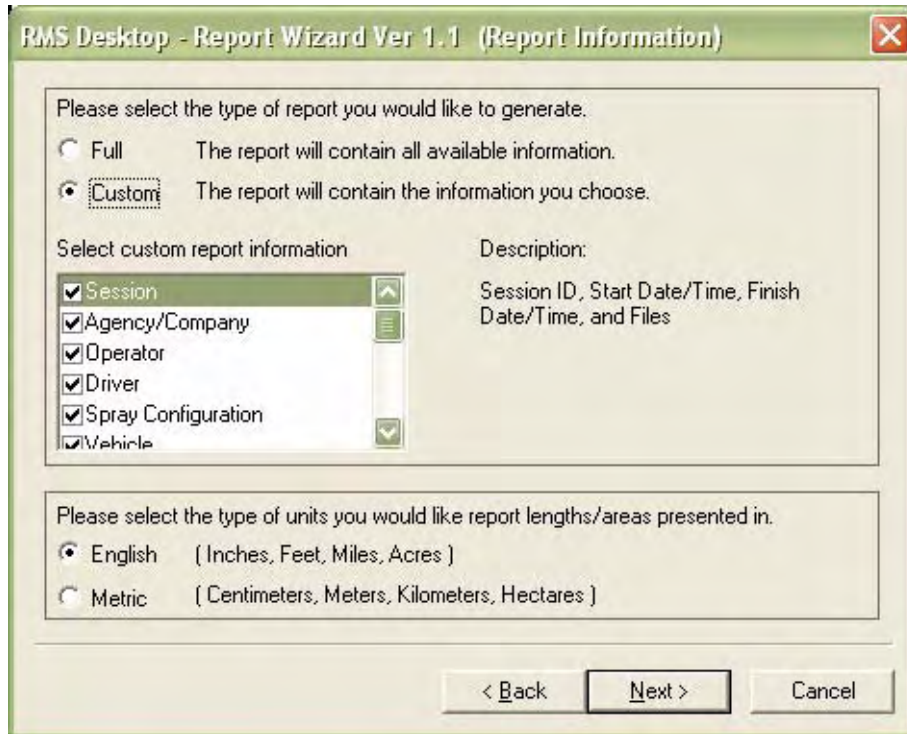


Figure 3-7: Report Wizard - Report Information Dialog

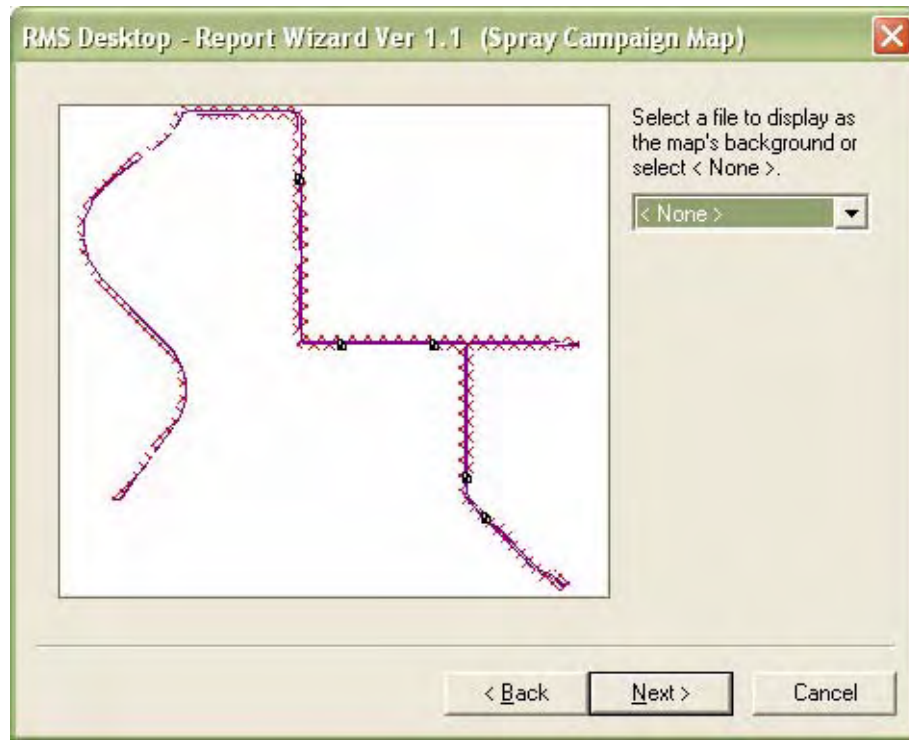


**Figure 3-8: Customizing Report Information**

When you have selected the proper choices in the Report Information dialog, press the “next” button, to continue to the next Report Wizard dialog. A status box appears after you press the “next” button. Report Wizard is loading the various session and profile information that you selected in the Report Generation dialog. This may take a few seconds and you can see, in the status box, which profile and session information is being loaded.

## Spray Campaign

The Report Wizard Spray Campaign dialog displays the session (.EVP) map (see Figure 3-9). You also have the option to display a background map, if one is available. In our example session 140999-01, there is a background map used during the spray session. Figure 3-10 shows the background map selection and completed Spray Campaign dialog, with background map displayed. When you complete the Spray Campaign dialog options, press the “next” button to move to the next Report Wizard dialog.



**Figure 3-9: Report Wizard Spray Campaign Map**

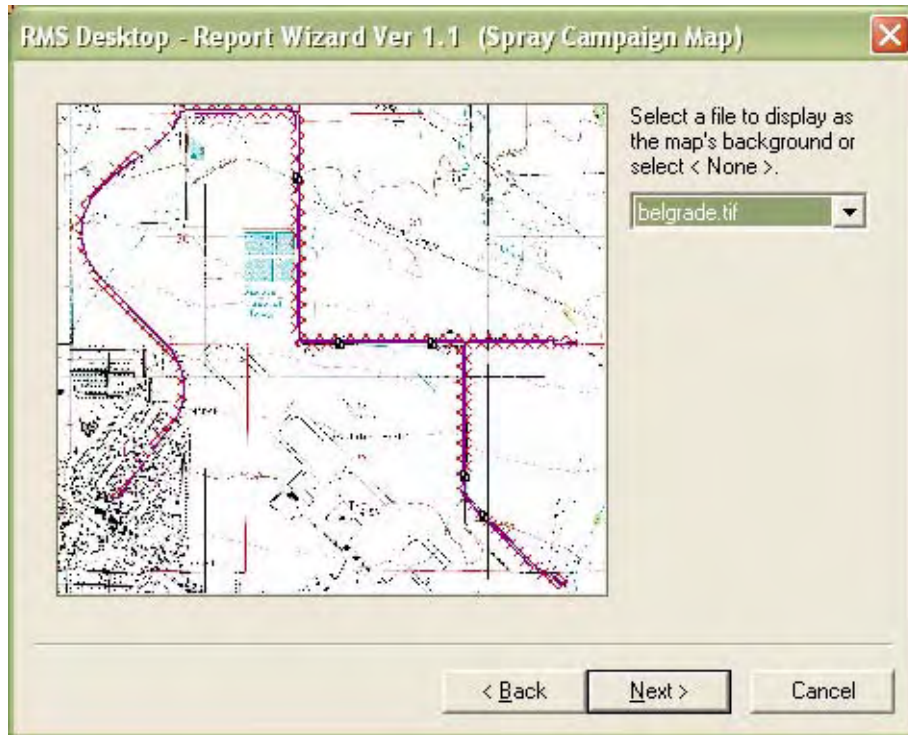


Figure 3-10: Viewing the Background Map

## Spray Swath Map

The Spray Swath Map dialog allows you to select and de-select the various spray swath map data, that was collected during your spray session. The spray swath data is contained in the RMS (.RCD) file type. There should be a (.RCD) file, and therefore a spray swath map, for each product or mixture, including carrier, applied during a spray session. In our example of spray session 140999-01, there were two products, RoundUp and Karmex, and one mixture, Krovar + Oust, applied (see Figure 3-11). There is an additional selection; the session map. This is the event map (.EVP) created during the spray session. A separate map is created, in the report, for each spray swath map you select in this dialog. To view a spray swath map, prior to selecting or de-selecting, simply highlight the map name with the mouse. The map that appears to the left is the one that you highlighted. In Figure 3-11, the session map name is highlighted and the map, to the left, is the session map. In our example, we are selecting all maps available to us: Session, Water, Roundup, Krovar+Oust, and Karmex. This results in five maps in the final report.

You can also select the grid coordinate units, for the back ground grid. The current two choices are Latitude and Longitude or UTM.

With the desired spray swath maps selected, press the “next” button, to move to the next Report Wizard dialog.

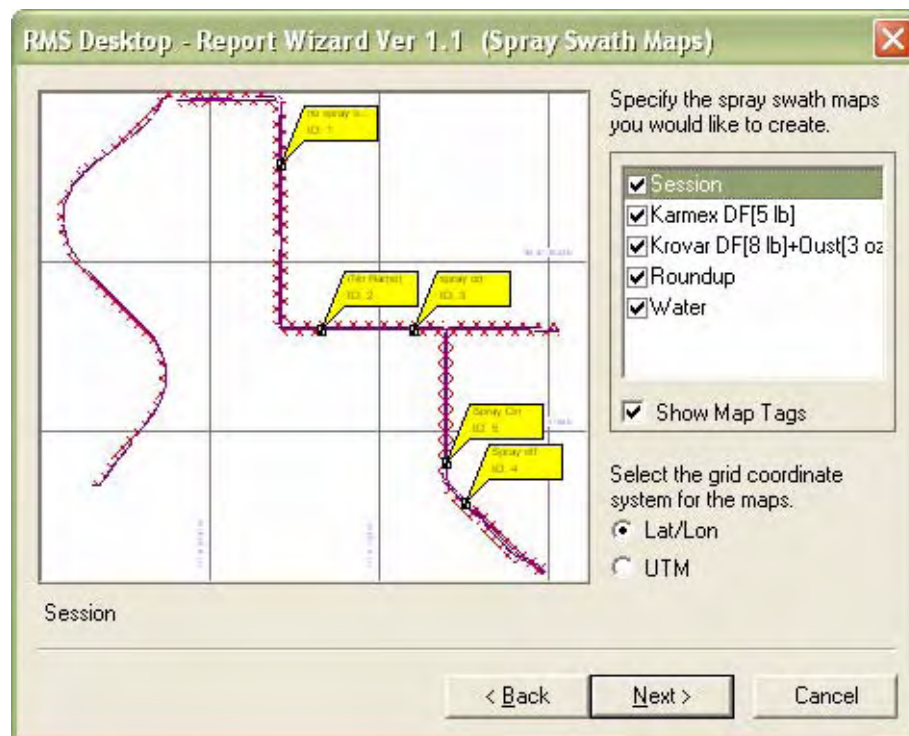
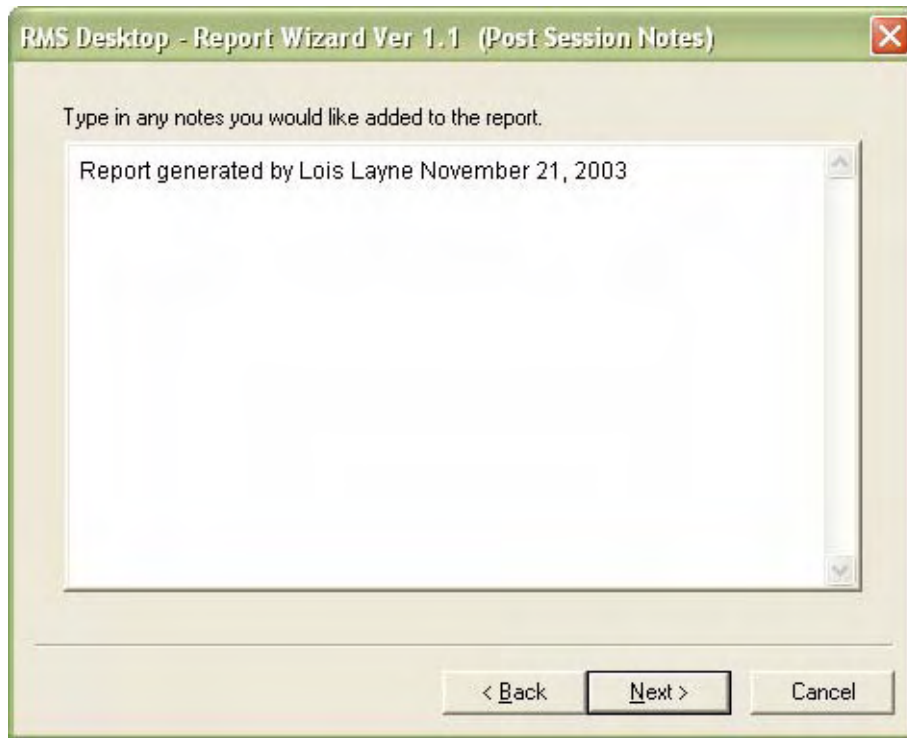


Figure 3-11: Report Wizard Spray Swath Maps

## Post Session Notes

The Post Session Notes dialog allows you to enter any notes that you want appended to end of the report. This is a free form edit box, so you can type any information that you want included in the final report. In our example, Figure 3-12, the contracting spraying company requires that the person who generates the final report enter their name in the post session notes.

Once you complete this dialog, press the "next" button to move to the next Report Wizard dialog.

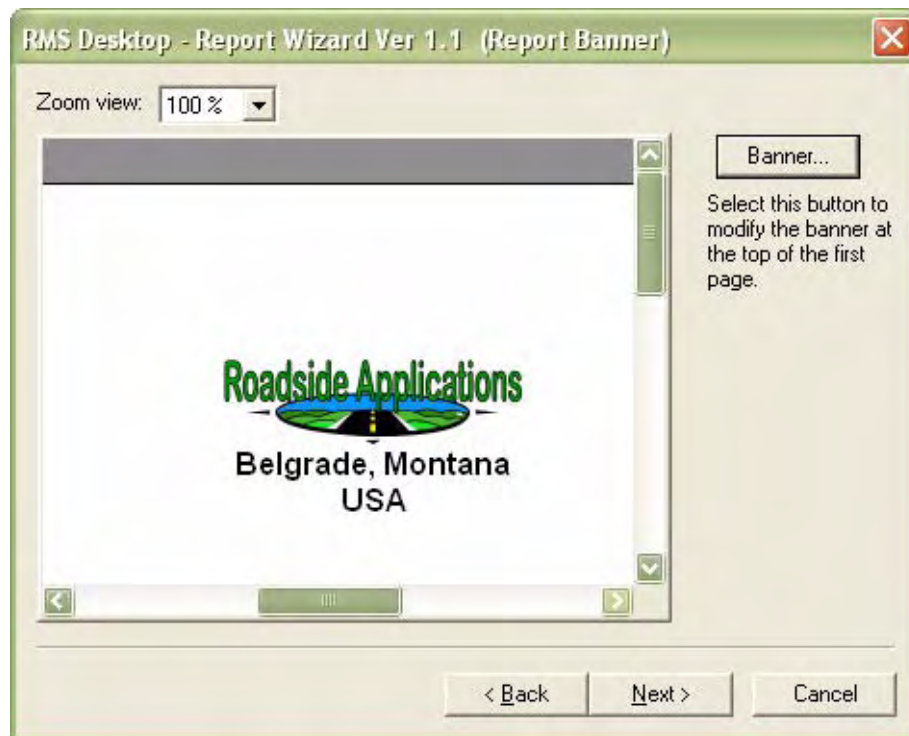


**Figure 3-12: Report Wizard Post Session Notes Dialog**

## Report Banner

The report Banner dialog allows you to add any information, such as your company logo and address, to the first page of the final report. In our example we have added the company logo and address (see Figure 3-13). If you have your company logo in a Bitmap file format (.BMP), you can insert that image into the banner. See "Customizing your Report Banner" below.

When the Report Banner dialog is complete, press the "next" button to move to the next Report Wizard dialog.



**Figure 3-13: Report Wizard Report Banner Dialog**

### *Customizing your Report Banner*

To customize your report banner, press the "banner" button in the upper right corner (see Figure 3-13). This pops up a word processor, like Edit Banner window (see Figure 3-14). This figure shows an empty Edit Banner window. This edit window has many features similar to a word processor. To add text, just start typing. To insert a logo, place your cursor at the desired logo location, click on the "Insert" pull down menu and select picture. This pops up a Windows explorer browse dialog (see Figure 3-15). Move to the folder that contains your logo in bitmap form (.BMP). Select the desired bitmap file and press the open button in the browser dialog box. Your logo should now appear at the cursor position in the Banner Edit window. In our example, we selected the bitmap file Roadside Spraying Services.bmp (Figure 3-15), and can now view it in the Banner Edit window (Figure 3-16).

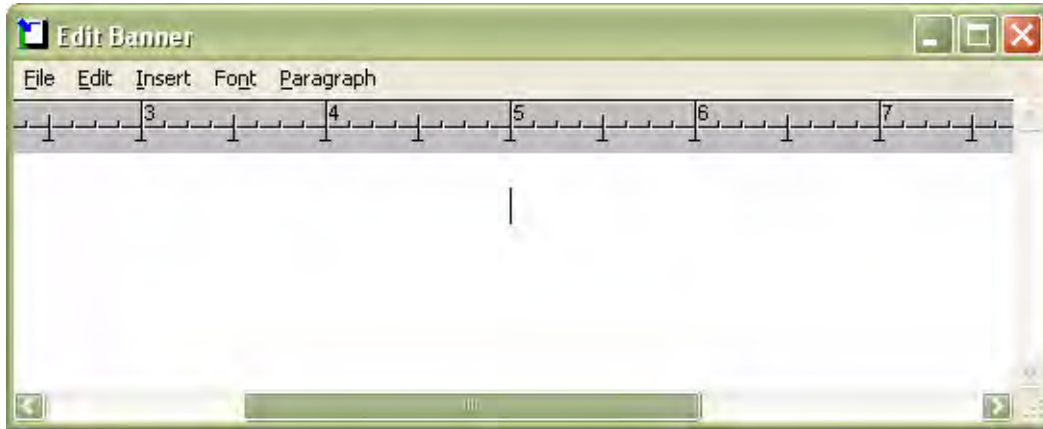


Figure 3-14: Edit Banner Window

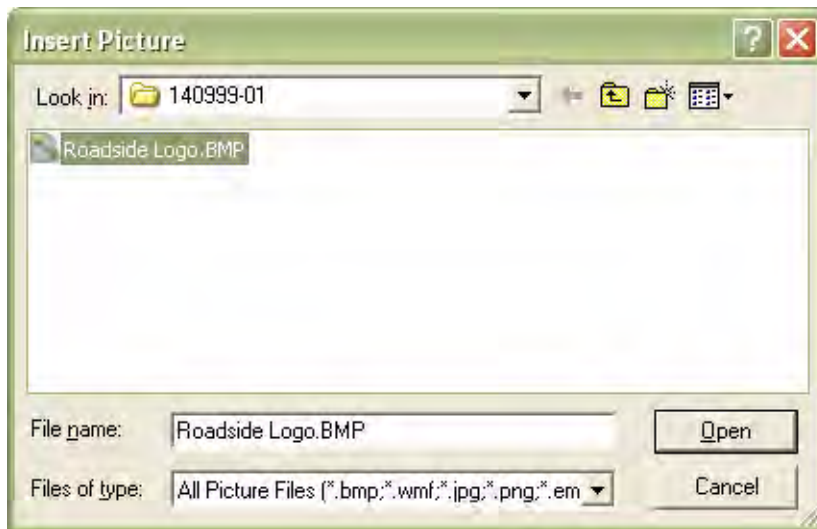


Figure 3-15: Selecting Company Logo Bitmap



**Figure 3-16: Edit Banner Window with Company Logo**

When the logo is located where you want it, in the Edit Banner window, you can type in any additional text, such as company name and address. Use the Paragraph menu, located in the Edit Banner window menu bar to, Left, Right, or Center justify your logo and text. In our example (Figure 3-17), we added the company name and address and Center justified the logo and text.



**Figure 3-17: Customized Report Banner**

When you have the logo and text for your customized banner, save it to a file using the File menu item *Copy to File*. Selecting this menu item brings up a prompt asking for a file name for your customized logo. If you want your custom banner to be the default banner for all of your reports, select the Save Banner menu item from the File pull down menu. To return to the Report Wizard Report Banner dialog, select Exit from the File pull down menu.

## Output Report

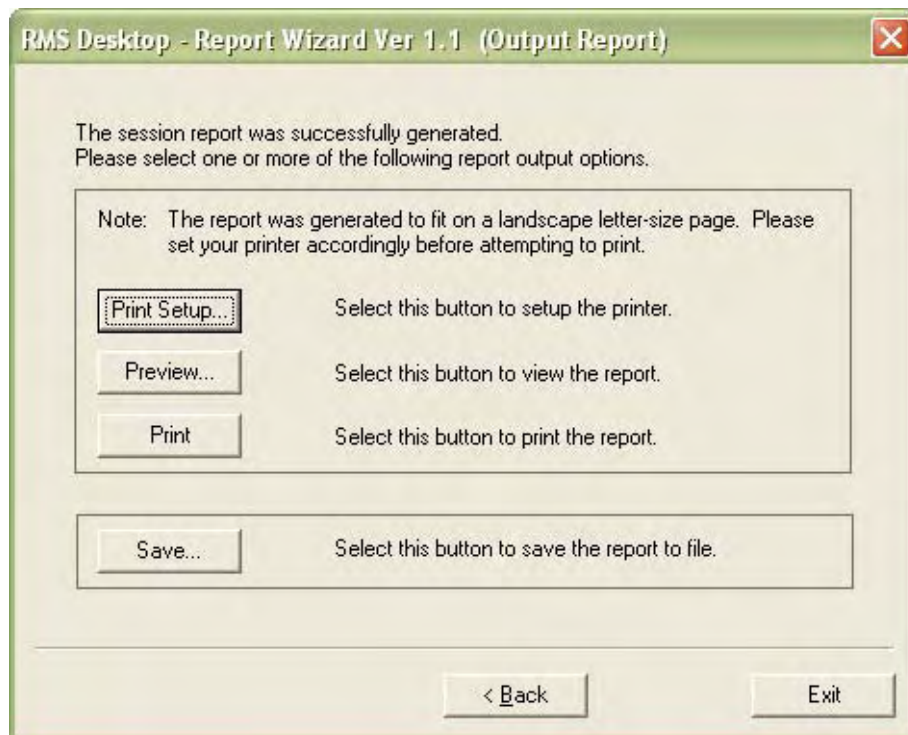
After completing the Report Banner dialog, the final Report Wizard dialog is the Output Report dialog. From this dialog, you can preview, print, or save the report (Figure 3-18). Previewing the report is always a good idea, before printing or saving the report.

### *Printing the Report*

To print the report, press the Print button in the Output Report dialog. This prints the report to an attached printer. Report Wizard only prints reports in Landscape orientation on 8-1/2 by 11 in. paper. Do not try to print your report in any other paper orientation.

### *Saving the Report*

To save the report, press the “save” button. A Windows Explorer dialog appears. Using this dialog, name the report and select the folder to store the report in. You can only save the report in rich text (.RTF) format.



**Figure 3-18: Output Report Dialog**

## Opening a Finished Report in Other Applications

Because the Report Wizard saves your reports in (.RTF) format, you can open and edit your report in several word processors (Microsoft Word, WordPad, NotePad, Adobe PageMaker, WordPerfect, Corel, and more) on the market. You may find this a more convenient way to edit or add to your finished report.

## **Sample Report 140999-01**

The following nine pages are final report generated for spray session 140999-01. The first three pages contain all of the profile information associated with the spray session (see Figure 3-19 through Figure 3-21).

Page four is the Spray Campaign map (see Figure 3-22). This map, generated as the event record (.EVP) during the actual spraying process shows the entire spray route traveled during the spray session 140999-01.

Pages five through nine are the individual Spray Swath maps, starting with the entire Session Swath map (see Figure 3-23 through Figure 3-27). There is a Spray Swath map for each product or mixture plus carrier, applied during the spray session.



Session ID	Start	Finish	Spray Files	Map Files	Base Map Files
140999-01	9/13/1999 7:24 AM	11/7/1999 2:43 PM	140999-01.evp 140999-01.Water.rcd 140999-01_Roundup.rcd 140999-01_Krovar DF[8 6]+Ous[3 oz].rcd 140999-01_Karmax DF[5 lb].rcd	EASTBEL1.GMF	bolgrade.WF

Agency/Company	Name	ID	Division	County/MD	Address	Contact
9/13/1999 7:24 AM	Montana DOT	MT-DOT-6P	Weed Control	Gallatin	14 North 7th St Bozeman, MT USA 59723	Warren Pearce 406 389 7512

Operator	Name	Employee ID	SSN(SIN)	Drivers Lic.	Pesticide Lic.	Supervisor
9/13/1999 7:24 AM	HG, Stanley	103-456-89	034-57-0978	034-57-0978	WA-123 Exp: 01/02	Mark Prince (978) 342-6700

Driver	Name	Employee ID	SSN(SIN)	Driver's Lic.	Pesticide Lic.	Supervisor
9/13/1999 7:24 AM	Wyre, Guy	96708132	093-23-4554	093-23-4554	99-145 Exp: 02-00	Warren Pearce (406) 978-3462

Figure 3-19: Report 140999-01 Page 1

Spray Configuration						
Start	Name	Hand Gun	Boom #	Width (inches)	Offset (inches)	
9/13/1999 7:24 AM	3c3r3r3r	YES	1	36.0	Centered	
			2	36.0	18.0 Right	
			3	36.0	54.0 Right	
			4	36.0	90.0 Right	

Vehicle					
Start	ID	Controller	Tank	Volume	Pump
9/13/1999 7:24 AM	6P-25346	Mid-Tech TASC 6500	Carrier	500.00 gallon	Carrier
			1	50.00 gallon	1
			2	50.00 gallon	3
			3	5.00 gallon	2

Tank Contents		
Start	Tank	Contents
9/13/1999 7:24 AM	Carrier	Water
	1	Roundup
	2	Krovar DF18 lb]+Oust[3 oz]
	3	Karmex DF[5 lb]

Applied Chemical Mixtures			
Mix	Chemical	Concentration	Target Rate
Krovar DF18 lb]+Oust[3 oz]	Krovar DF	0.958 pounds/gallons	8 pounds/aces
	Oust	0.358 ounces(dry)/gallons	3 ounces(dry)/aces
Karmex DF[5 lb]	Karmex DF	0.5 pounds/gallons	5 pounds/aces

Applied Chemicals							
Name	Manufacturer	EPA Reg #	Com Code	Type	Unit	Max Mix Ratio	Displacement
Water	Mom	000	1	liquid	gallons		
Roundup	Monsanto	8833	038748	liquid	quarts		
Krovar DF	Monsanto	292	9993	dry fovable	pounds	1 pounds/gallons	4 ounces(US fl)/bounds

Figure 3-20: Report 140999-01 Page 2

Oust	Monterra	94584	8344	dry	ounces(dry) pounds	1 pounds/gallons .75 pounds/gallons	5 ounces(US fl)/pounds 6 ounces(US fl)/pounds
Karmex DF	Monsanto	393	9484	dry flowable			

Application	Chemical	Volume	Acres	Miles
Mix	Water	192.50 gallons	13.74	9.45
None	Roundup	39.30 quarts	13.74	9.45
None	Krovar DF	0.72 pounds	13.74	9.45
Krovar DF(8 lb)+Oust(3 oz)	Oust	0.27 ounces(dry)	13.74	9.45
Krovar DF(8 lb)+Oust(3 oz)	Karmex DF	4.83 pounds	13.74	9.45

Weather	Condition	Temperature	Humidity	Wind	Max Wind Gusts
Start					
None					

Session Notes	ID	Latitude	Longitude	Elevation	Text
9/13/1999 1:43 PM	1	45.79804270 N	111.15953160 W	4419.62 ft	no spray sign
9/13/1999 1:47 PM	2	45.78743180 N	111.15569170 W	4446.42 ft	None
9/13/1999 1:49 PM	3	45.78743400 N	111.14731070 W	4443.47 ft	spray on
9/13/1999 2:02 PM	4	45.77846580 N	111.14257320 W	4473.29 ft	Spray off
9/13/1999 2:03 PM	5	45.77897260 N	111.14434330 W	4465.98 ft	Spray On

Application Report generated by Sophia Roberts 09-21-99

Figure 3-21: Report 140999-01 Page 3



Figure 3-22: Report 140999-01 Page 4



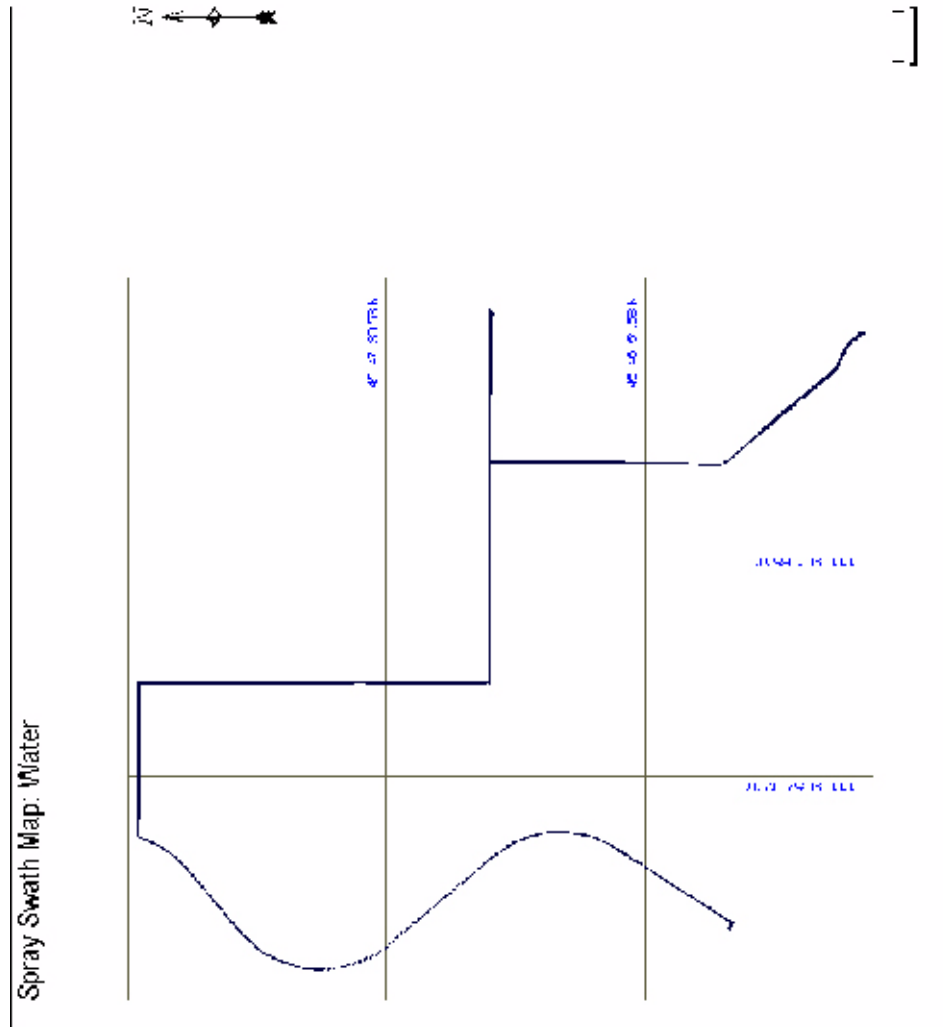


Figure 3-24: Report 140999-01 Page 6

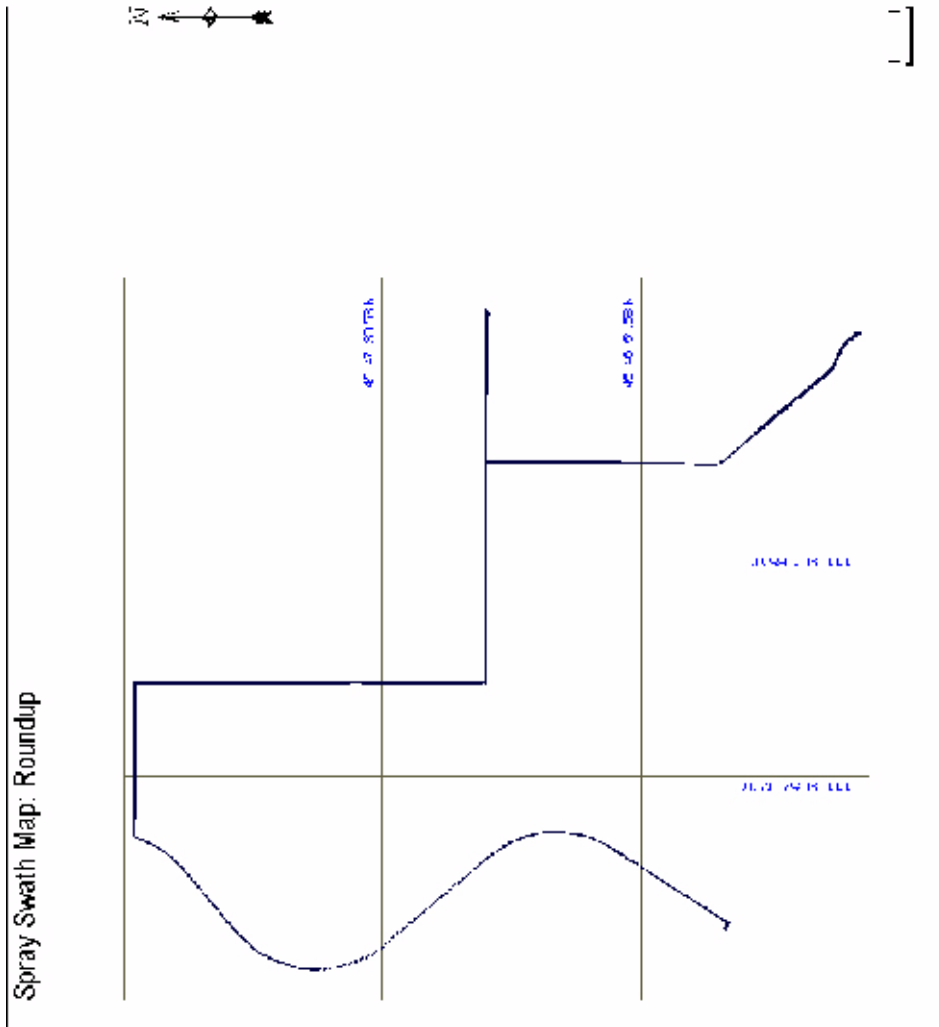


Figure 3-25: Report 140999-01 Page 7



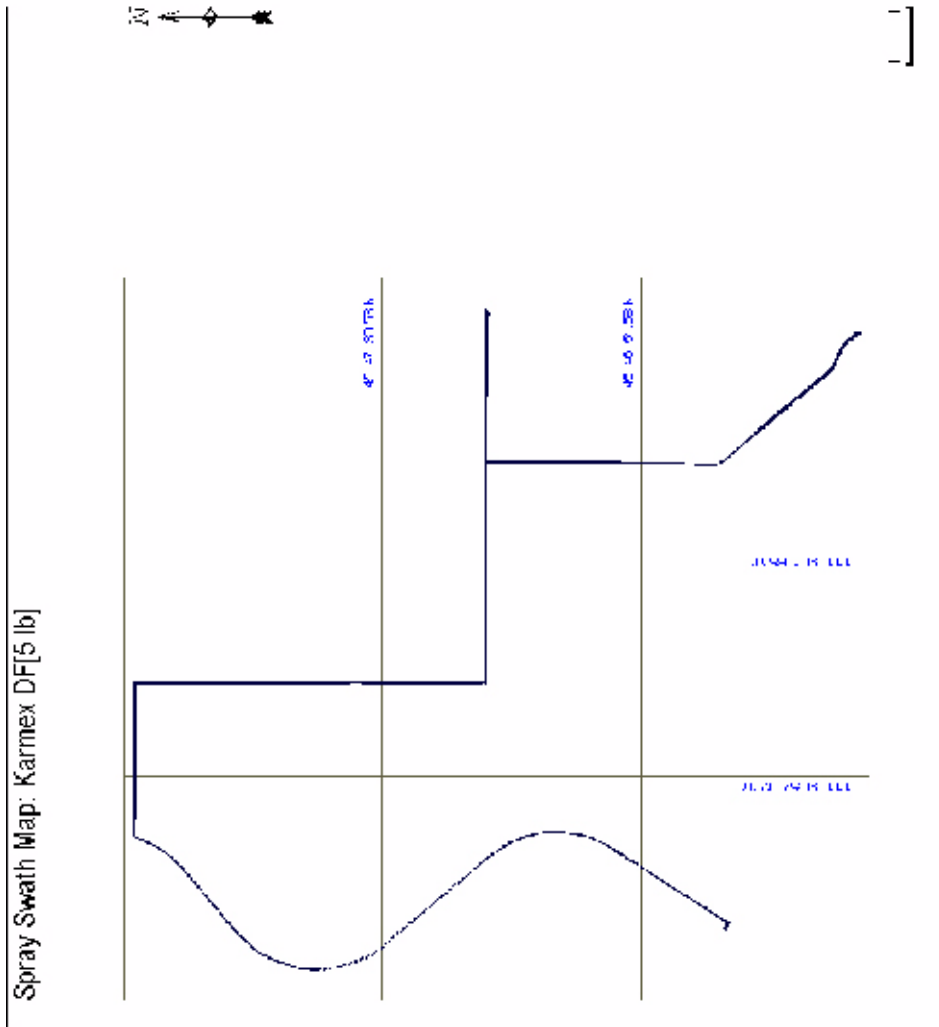


Figure 3-27: Report 140999-01 Page 9

# Section Notes

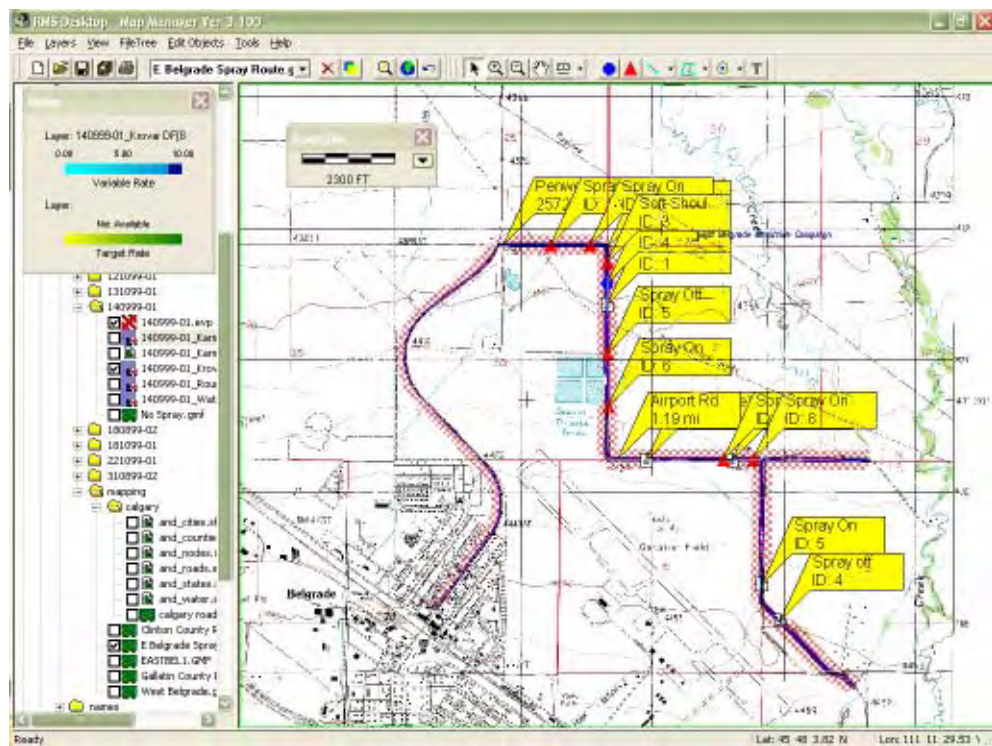
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# Chapter 4 - RMS Map Manager

*Roadside data viewing, editing and management tool.*  
RMS-Office Version 3.10

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## About RMS Map Manager 3.10

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RMS *Map Manager* 3.10 is a data file viewing, editing, and management tool. *Map Manager* allows the viewing of all roadside application data collected using a Legacy 6000 and RMS software. You can also convert RMS data to the ESRI (.SHP) file format, using *Map Manager*. To start *Map Manager*, select “Map Manager” from the RMS Office Tools Menu (Figure 4-1).

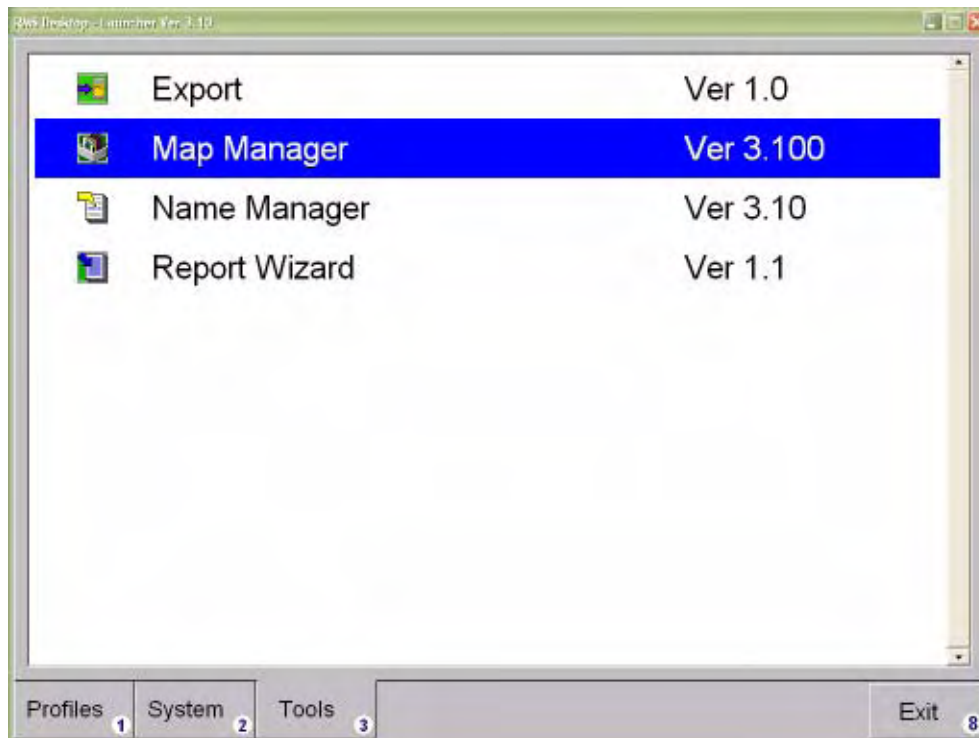


Figure 4-1: Starting Map Manager from RMS Office

## **What's New in RMS Map Manager 3.10**

We have added several new features to version 3.10 to help view, edit, analyze, and manage RMS data better.

### **New Explorer File Tree in Map Manager**

The *Map Manager* view now has a fully loaded, explorer style, file tree. This eliminates the old root directory method used in previous versions. The file tree allows for full file control, including new file, delete, copy, cut, paste, and rename.

Files or folders can be dragged to a different location in the file tree. If the item is dragged to a different drive, a copy of the item is made; if the same drive, the item is moved. Drag files to the view window to open them in a text editor.

Valid layer types now have check boxes. Checking the box opens the layer. Un-checking a box removes the layer from the map-view.

### **New Shp File Import and Export Functions**

Greatly improved from previous versions of *Map Manager*, the new File Convert routine allows batch processing of shape file imports and exports. RMS objects can be in separate shp files or multiple object types can be stored in a single (.SHP) file.

### **Drawing Tools**

RMS Map manager now has point, polyline, and polygon drawing tools. You can now add drawing objects to (.GMF) files. Drawing tools also include a Circle tool. All drawing objects have full edit capabilities.

### **Text Tool**

A new text tool allows you to add text to any (.GMF). Creating a new (.GMF) layer over a roadside (.EVP) or (.RCD) file, allows for post session annotation.

# RMS Data and Map Types

---

The following data files can be viewed in *Map Manager*:

Data Type	Description
<b>GMF</b>	General Mapping File.
<b>RCD</b>	Record file containing vehicle trajectory and application rates.
<b>EVP</b>	Event file
<b>SHP</b>	ESRI shape file
<b>ARM</b>	Prescription map file ( <b>not implemented yet</b> ).

**Table 4-1: RMS Data Type Description**

## Viewing Data

The current version of *Map Manager* can view any combination of RMS file types, as well as zoom, pan, and print. Figure 4-2 shows a roadside trajectory in the form of a (.EVP) file, and a spray campaign map in the form of a (.GMF) file, in a single *Map Manager* view. The left side of the *Map Manager* window is the directory and file tree, and the right side is the data viewing window. Data files are loaded into the view window by double clicking on the file in the directory and file tree. You can view files from different spray sessions within the same view window. Each map file, loaded into the view page, is considered a single layer.

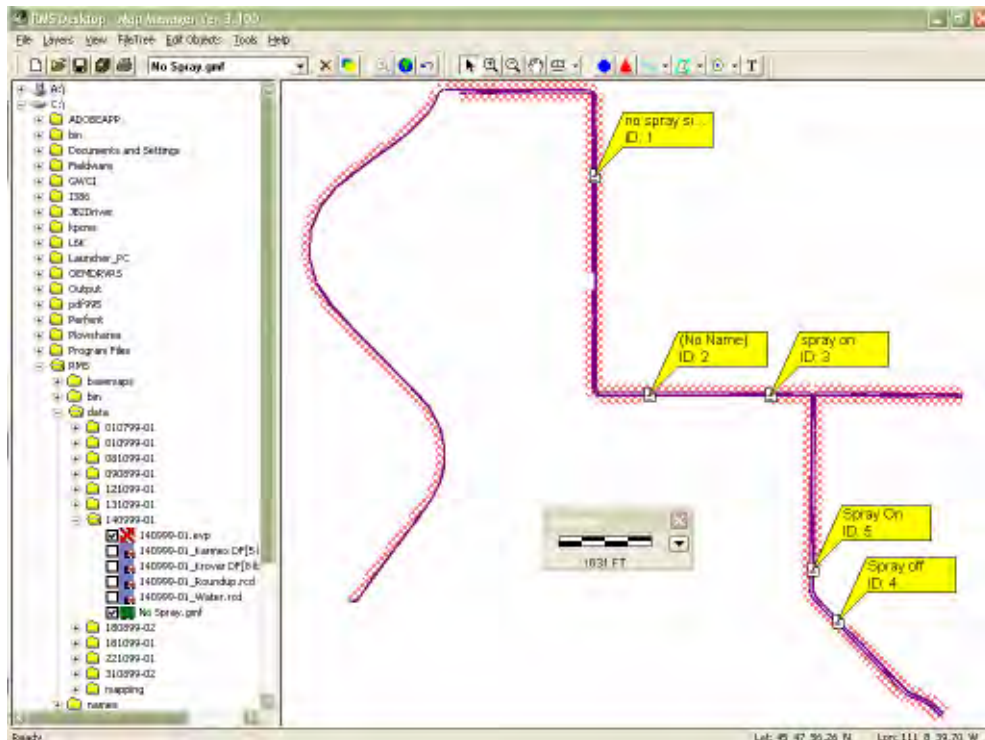


Figure 4-2: Map Manager

## Base Maps

Background base maps, such as USGS topography maps, can be viewed in Geo-Tif formats. Base maps are typically stored in the C:/RMS/basemaps folder. Figure 4-3 shows a base map behind the (.EVP) and (.GMF) files shown in Figure 4-2.

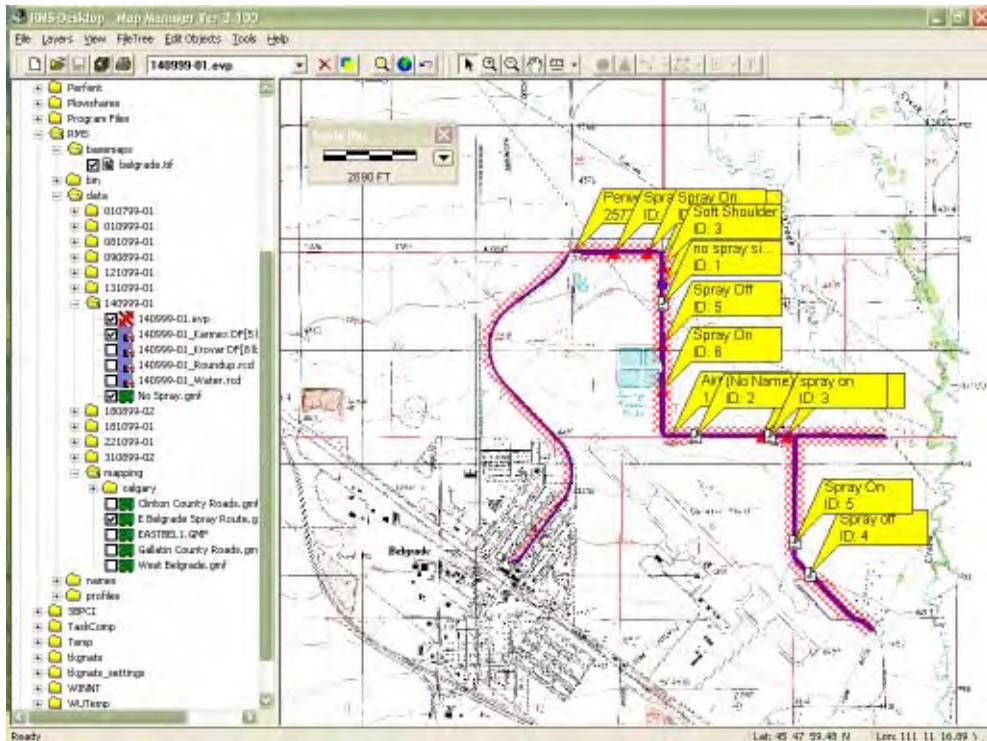


Figure 4-3: Viewing Base Maps

## Object Information Query

It is now possible to query any type of data that appears in Map Manager. Using the pointer tool, click on the area of the view that contains the desired information. The area selected changes to a fluorescent green color, and an Object information dialog box appears on the left side of the Map Manager window. The object information dialog box displays a variety of information about the object selected, such as position and name. Figure 4-4 shows an information query on an Event (.EVP) map hazard, named Spray Off. Figure 4-5 shows a close up of the Object Information dialog box for the Spray Off note query. If multiple objects are stacked on top of each other, view information, for each object selected, by clicking on the arrow in the Objects Found dialog and selecting the object number of the information desired.

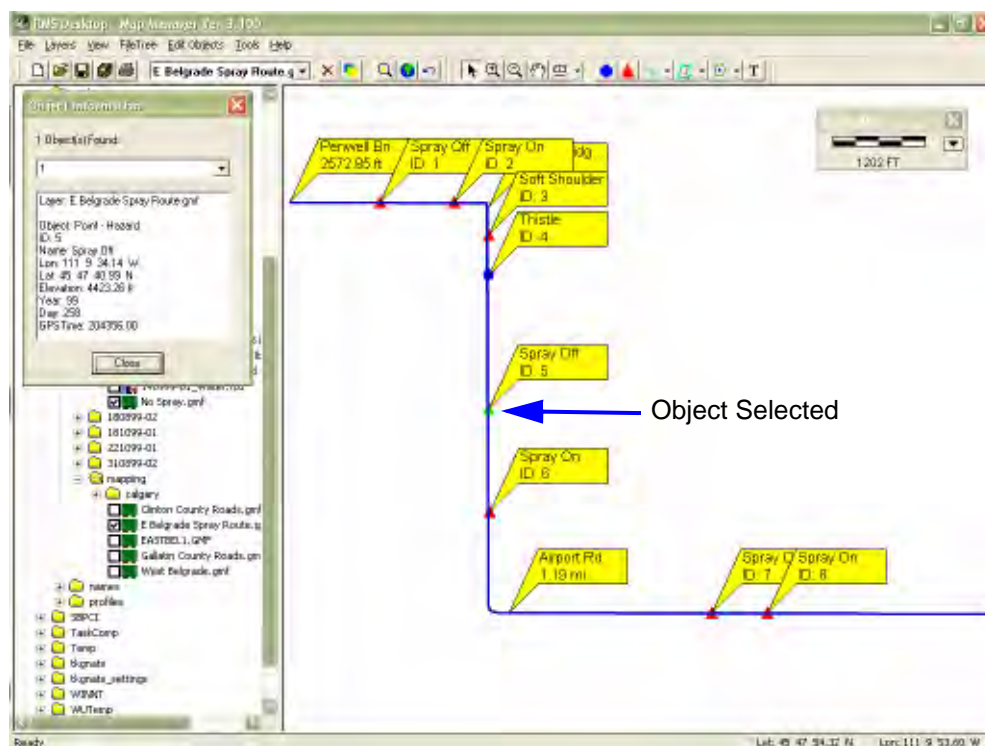


Figure 4-4: Object Information Query Feature

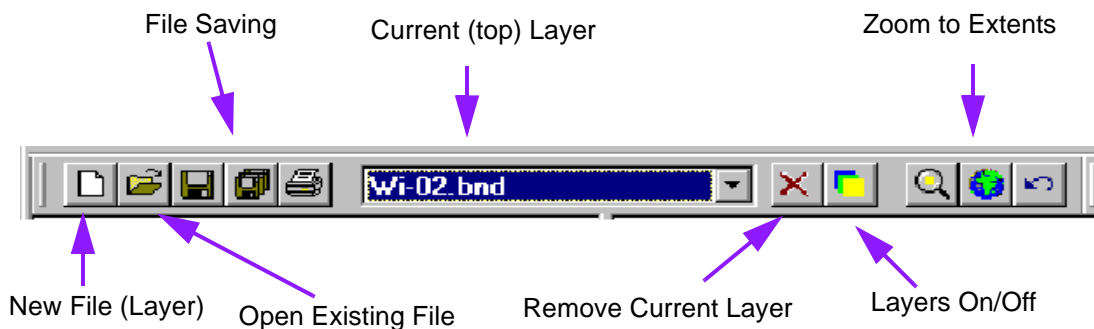


Figure 4-5: Object Information Dialog






# The RMS Map Manager Tool Bar

The tool bar allows the manipulation of how you view the data in the window. Drawing tools are accessed from the Tool bar, as well as zoom, pan, and measure. You can add, remove, and unload layers from the view. The current or active layer is the layer that sits on top of all other layers. To remove or unload a layer, make it the current layer and click on the remove current layer button. Only the current layer can be removed.














All Map Manager Tool Bar buttons are described in Table 4-2.









**Figure 4-6: The Map Manager Tool Bar**

Button	Description
	New File (Layer) - creates a new file (layer) and places it at the current (top) layer in the map view. A prompt asks for the new file name.
	Open Existing File (Layer) - An Open File dialog allows the selection of an existing file (Layer), in the top layer of the map view.
	Save File (Layer) - save the current (top) layer in the map view.
	Save All - save all files (layers) displayed in the map view.
	Print - prints the current map view, with all visible layers.

**Table 4-2: Map Manager Tool Bar Button Descriptions**

Button	Description
	Remove Layer - press to remove (not delete) current (top) layer from the view. This does not delete the file.
	Layers On/Off - press to bring up the layers On/Off dialog box. Turn layers on and off from this dialog box.
	Zoom to Current Layer - zooms to the data extents of the current (top) layer.
	Zoom to Extent - zooms to the data extents of all visible layers.
	Undo Zoom - returns to the previous zoom state.
	Selection Arrow - activates the selection arrow (pointer).
	Zoom In - enlarges (magnifies) the map view. There are two modes: drag box, and point and click.
	Zoom Out - increase area displayed in the map view. There are two modes: drag box, and point and click.
	Pan - select this button, place the hand in the map view, and hold down left mouse button. Moving the hand with left mouse button depressed moves the contents of the map view in a panning fashion.
	Point Object - select this button and left click in the map view to place a point object in the view. Highlight this object and right click with mouse to edit the object properties.
	Hazard Object - select this button and left click in the map view to place a hazard object in the view. In real time applications, the user is notified when approaching a hazard. Highlight this object, and right click with the mouse, to edit the object properties.
	Polyline Object - select and draw a polyline in the map view. Double click the left mouse button to stop drawing. This object has two modes: Mark and Stream. Highlight this object, and right click with the mouse, to edit the object properties.
	Polygon Object - select and draw a polygon object in the map view. Double click the left mouse button to close and stop drawing the polygon. This Object has two modes: Mark and Stream. Highlight this object, and right click with the mouse, to edit the object properties.

**Table 4-2: Map Manager Tool Bar Button Descriptions**

Button	Description
	<p>Circle Tool (Drag Option) - select this, to draw a circle by pressing and holding down the left mouse button. Drag the mouse with left button depressed to create the desired radius. Release the left mouse button to create circle object. Select and hold down the left mouse button on the circle tool ,and two other circle drawing options (Radius and 3-Point) appear in the drop down tool.</p>
	<p>Circle Tool (Radius Option) - select, and click the left mouse button at center location of desired circle in the map view. A small Radius dialog box appears. Enter the desired circle radius and click OK.</p>
	<p>Circle Tool (3-Point Option) - select, and click left mouse button on three different locations that the circle perimeter is to intersect. When you select the third point, the circle is drawn.</p>
	<p>Text Tool - select this to add text to the maps. See The Text Tool on page 4-12.</p>
	<p>Guideline Tool - select this to build a guideline file in Map Manager. A - B lines can be constructed, either by clicking on the start and end points of the line with the mouse, or by entering the coordinates of the start and end points. A (.GLN) file must be the top layer.</p>
	<p>Measuring Tool - select this to measure the distance between two points. There are two modes: mark and stream. Mark mode returns the distance between end points (straight lines only), and stream mode returns the length of line distance (curved lines).</p>

**Table 4-2: Map Manager Tool Bar Button Descriptions**

## The Text Tool

**T** The Text Tool allows you to add text to any RMS (.GMF) generated map. To add text, select the Text Tool from the Tools menu bar. Left click the mouse, at the location in the map, where you want to place the text. The Text Tool dialog appears (Figure 4-7). Type the desired text into the Text Tool dialog window. The Text Tool dialog allows the editing of the text object properties, such as change font, size, and color. When the desired text is entered, press the apply button to view the text in the map view.

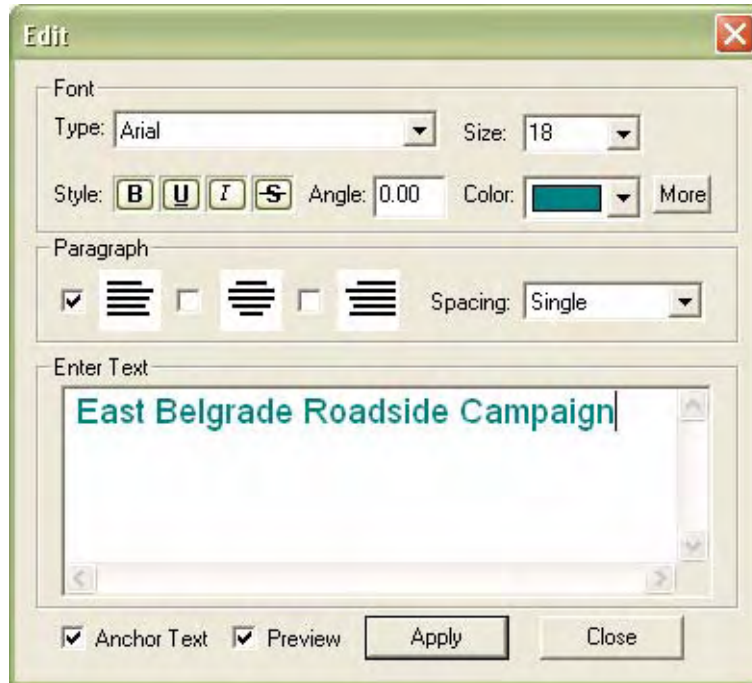


Figure 4-7: The Text Tool Dialog

## The File Menu

Almost all tool button functionality can be duplicated in the drop down menus. The File Menu allows various file related actions, such as, edit, save, delete, print, convert, and exit *Map Manager*, be performed (Table 4-3).

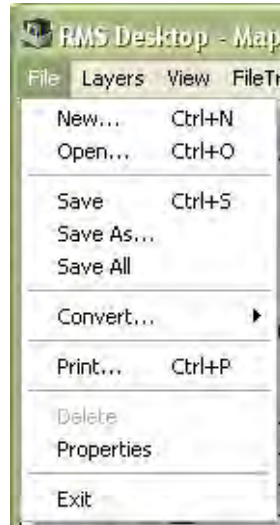


Figure 4-8: The File Menu

Menu Item	File Menu Item Description
<b>New</b>	New File (Layer) - Creates a new file (layer) and places it at the current (top) layer in the map view. A prompt asks for the new file name.
<b>Open</b>	Open Existing File (Layer) - An Open File dialog allows the selection of an existing file (Layer), which appears as the top layer in the map view.
<b>Save</b>	Save File (Layer) - Saves the current (top) layer in the map view.
<b>Save As</b>	Saves current (top) layer file with a different file name. A Save As dialog box prompts for the new file name.
<b>Save All</b>	Save All - Saves all files (layers) displayed in the map view.
<b>Convert</b>	Starts the convert application which allows the conversion of <i>RMS</i> data files to ESRI shape files, and vise-versa.
<b>Print</b>	Prints the current map view, with all visible layers.
<b>Delete</b>	Deletes a highlighted file in the file tree.
<b>Properties</b>	Displays the file properties for a highlighted file in the file tree.
<b>Exit</b>	Exits the Map Manager Program

Table 4-3: Map Manager File Menu Item Descriptions

## The Layers Menu

The Layers Menu allows the manipulation and querying of information, associated with a map layer in the map view window (Table 4-4).

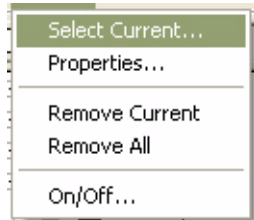


Figure 4-9: The Layers Menu

Menu Item	Layer Menu Item Description
<b>Select Current</b>	Allows the selection of the current (Top) layer. You can also accomplish this from the Tools menu bar (see Table 4-2).
<b>Properties</b>	Activates the Layers Properties dialog box.
<b>Remove Current</b>	Removes the current layer. You can also accomplish this from the Tools menu bar (see Table 4-2).
<b>Remove All</b>	Removes all layers from the map view.
<b>On/Off</b>	Activates the Layers On/Off dialog box. You can also accomplish this from the Tools menu bar (see Table 4-2).

Table 4-4: The Layer Menu Item Descriptions

## The View Menu

The View menu sets up the *Map Manager* window (Table 4-5).

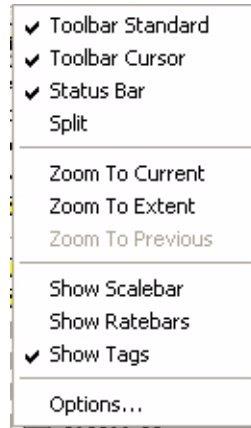


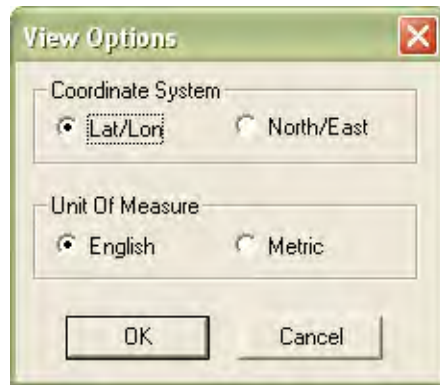
Figure 4-10: The View Menu

Menu Item	View Menu Item Description
<b>Tool Bar</b>	Adds or removes the Tool bar in the Map Manager window.
<b>Status Bar</b>	Adds or removes the Status bar at the bottom of the Map Manager window, and displays the current action, as well as the real world coordinate position of the pointer.
<b>Split</b>	Activates the split screen function, allowing the resizing of the map view and file tree.
<b>Zoom to Current</b>	Zooms to the current layers data extents. You can also accomplish this from the Tools menu bar (see Table 4-2).
<b>Zoom to Extent</b>	Zooms to the data extents of all visible layers. You can also accomplish this from the Tools menu bar (see Table 4-2).
<b>Zoom Previous</b>	Returns to the previous zoom state. You can also accomplish this from the Tools menu bar (see Table 4-2).
<b>Show Tags</b>	Displays a small yellow tag next to each object in the map view. The tag contains information about the object.
<b>Show Scale Bar</b>	A map scale dialog appears in the map view (Figure 4-12).
<b>Show Rates Bar</b>	Selecting this, when viewing a (.RCD) file, causes a rates scale dialog to appear in the map view (Figure 4-12).

Table 4-5: The View Menu Item Descriptions

Menu Item	View Menu Item Description
<b>Options</b>	Brings up the Options dialog, allowing you to change the system units and coordinate system (see Figure 4-11).
<b>Show All Files</b>	Allows the file tree to display all file types. When de-selected, the file tree only shows RMS file types.

**Table 4-5: The View Menu Item Descriptions**



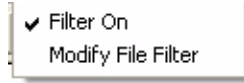
**Figure 4-11: The View Options Dialog**



**Figure 4-12: The Scale and Rates Bars**

## The File Tree Menu

This drop down menu allows you to control which file types are viewed in the file tree (Table 4-7).



**Figure 4-13: The File Tree Menu**

Menu Item	Edit Menu Item Descriptions
Filter On	The file tree displays only the files selected in the File Filter.
Modify File Filter	Allows the selection of the files viewed when the filter is On.

**Table 4-6: File Tree Menu Item Descriptions**

## The Edit Objects Menu

This drop down menu covers most graphical object editing functions such as cut, copy, and paste (Table 4-7). You can also access many of the edit menu items by selecting an object in the map view and pressing the right mouse button.

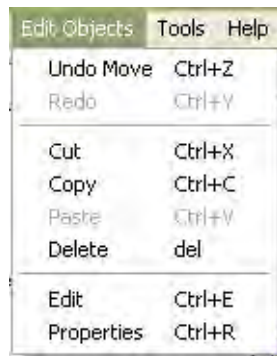
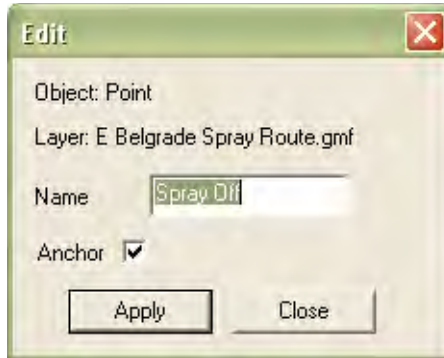


Figure 4-14: The Edit Objects Menu

Menu Item	Edit Menu Item Descriptions
Undo Delete	Undeletes a previously deleted object.
Redo	Undoes a redo.
Cut	Cuts a highlighted object from the view.
Copy	Makes a copy of a highlighted object. To place the copy in the view, use paste.
Paste	Pastes a copy of an object that has previously been copied or cut.
Delete	Deletes a highlighted object.
Edit	Activates the Edit dialog box, which allows you to modify object attributes, such as object names. Figure 4-15 shows an edit dialog box for a point object.
Properties	Displays the Object Information dialog (see Figure 4-5).

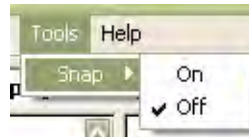
Table 4-7: Edit Menu Item Descriptions



**Figure 4-15: The Edit Box for a Boundary Polygon Object**

## The Tools Menu

Currently the Tools menu has only one tool; Snap. The snap tool has two modes On or Off. When set to On, the snap tool snaps any mouse click in the map view to the nearest object. A good use of the snap tool is to find the distance between two points.



**Figure 4-16: The Tools Menu**

# Printing Maps in Map Manager

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Version 3.10 of RMS Map Manager brings improved printing capabilities. Pressing the print button in the button bar, or selecting print from the file menu, brings up the Print Settings dialog (Figure 4-17). You can control the look and layout of the printed map from this dialog. Some of the Print Setting features are listed in Table 4-8

Setting	Description
<b>Portrait</b>	Displays the map in portrait mode.
<b>Landscape</b>	Displays the map in landscape mode.
<b>Show Preview</b>	Displays a preview of the printed map in the Map Manager Map View. This is recommended.
<b>Legend Text</b>	Add a Map title and additional text to the printed map. To add text, start typing in the Legend text window.
<b>Logo</b>	Include a company logo in the printed map. To add a logo, press the browse button and select the logo image file.
<b>Scale Bar</b>	Include a distance scale bar in the printed map.
<b>Rate Bar</b>	Include a Rates legend in the printed map. The map view must contain an (.RCD) file.
<b>Target Bar</b>	Include a distance Application Target Rate legend in the printed map. The map view must contain an (.ARM) file.

**Table 4-8: Print Setting Descriptions**



Figure 4-17: The Print Settings Dialog

# Shape File Conversion

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Map Manager contains a file option named Convert, which provides a means of transferring data between RMS data files and ESRI Shape files. Convert was designed to be both flexible and simple. It allows beginning users to perform conversions in several simple steps, while offering advanced users full control over the data transfer process. The following example illustrates the steps required to convert a file. A later example shows how Convert can be used to perform custom data transfers.

The conversion process is broken into two processes: exporting RMS data files to shape files and importing shape files to RMS data files.

Shape files must be in NAD83 or WGS84 Lat/Long coordinates. No other projections or datums are supported. ESRI shape files consist of (.shp), (.shx), and (.dbf) files, all sharing the same file name.

## New Changes to the Shape file Conversion Process

- Batch file and Folder processing.
- Create custom templates.
- Automatically generate an Import template when performing an Export.
- Automatically generate an Export template when performing an Import.
- Select chemical names as an exportable polyline record field. You must create a template to suite the particular needs of the conversion. Use these templates when exporting all files into a single file.
- Improved error messages
- Select chemical names as a Handgun polyline field.
- Export a new TYPENAME field from all objects. The field names the type of RMS object exported. For example, when exporting a point to shape, the TYPENAME field contains Point. This new field is useful when merging Points, Arcs, and Polygons or performing "All Files into 1 file" conversions. The default templates shipped with the product include this field.
- Spray Swaths (Record polylines) includes new UNITS field. This is a string describing the units that the ACTUAL and TARGET rate fields are measured in. The default templates shipped with the product include this field.
- Export Weather points and Handgun polylines.

## Exporting RMS Data to Shape File Format

This process allows the exporting of any RMS data file type to a shape file(s). Export files one at a time or batch export multiple files or folders. The export process comes with several export templates, which you can edit to best fit individual needs. You can also create new export templates.

### The Export to Shape Dialog

Use the Export to Shape dialog to select the file(s) that you want to convert, as well as to start the conversion process. Review this dialog prior to converting a file. Table 4-9 describes the various features of the Export to Shape dialog box.

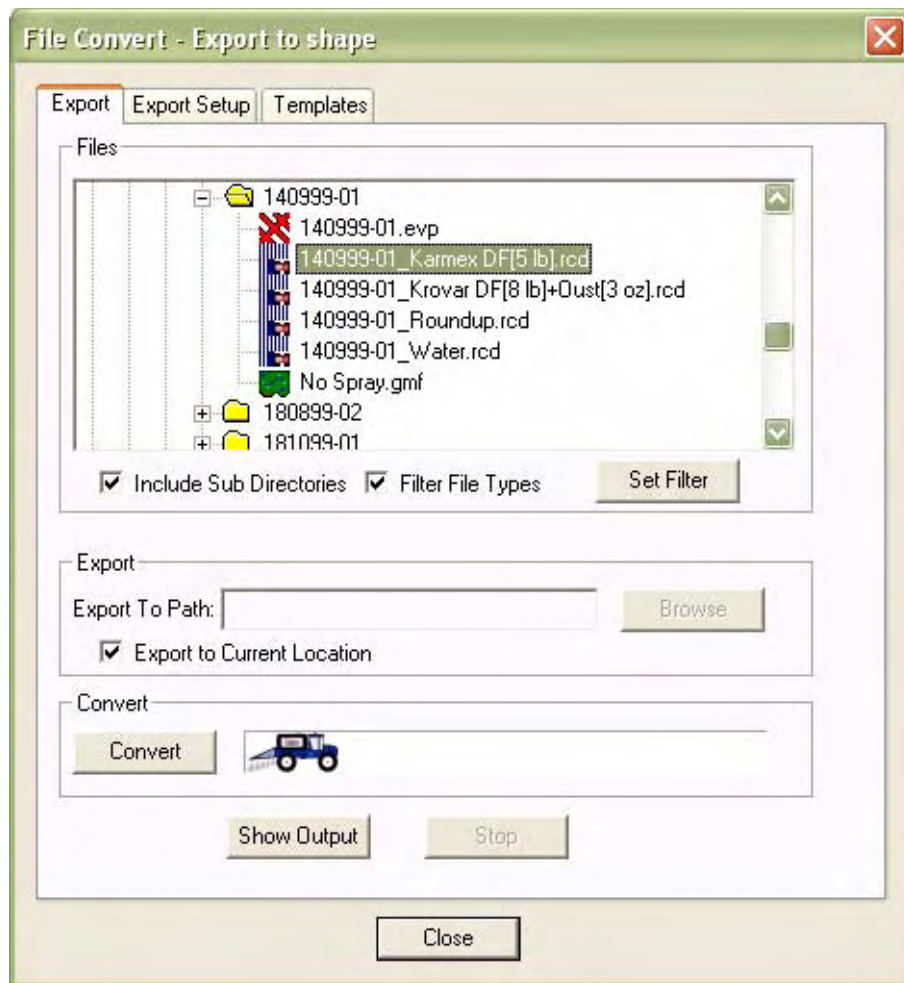


Figure 4-18: The Export Dialog

Function	Descriptions
<b>Export Tree</b>	Select the files that you want to export from the Tree view. Tree supports multiple selections. Select multiple files with standard explorer style ctrl/left click and shift/left click.
<b>Include Sub-directories Check Box</b>	When checked, the program exports all files selected and all files found in sub-directories. The program drills down into any sub-directories within selected directories, and keeps drilling down until it finds no more sub-directories. When unchecked, the program exports all selected files, along with all files in selected folders.
<b>File Filter Type Check Box</b>	When checked, only filter type files and directories appear (see set filter). When unchecked, all files and directories appear.
<b>Set Filter</b>	Select the file types to appear.
<b>Export to Path</b>	Type in the export path for the shape files. The Export to Current Location check box cannot be checked if an export path is typed in.
<b>Browse</b>	Browse for an export location.
<b>Export to Current Location Check Box</b>	Check to store all exported files in the same location as the original file. This is not valid for "All Files Into 1 File" exporting when files from multiple directories are selected. Perform an "All Files into 1 File" export for a single job using this check box. Uncheck to send all of the exported files to the location specified in the export path edit control.
<b>Convert</b>	Starts the conversion process.
<b>Show Output</b>	Shows or hides the output dialog. The shape file conversion progress is displayed in the dialog window.
<b>Stop</b>	Pauses the export process. A prompt asks whether to continue or abort the export process.

**Table 4-9: Export to Shape Dialog Description**

## The Export to Shape Setup Dialog

In the Setup dialog (Figure 4-19), you can control and set various parameters involved in the export process. This dialog should be reviewed prior to exporting any files. The main function of the Export Setup dialog is to define which RMS objects are exported, and to describe how these objects are transferred/combined to create one or more shapefiles.

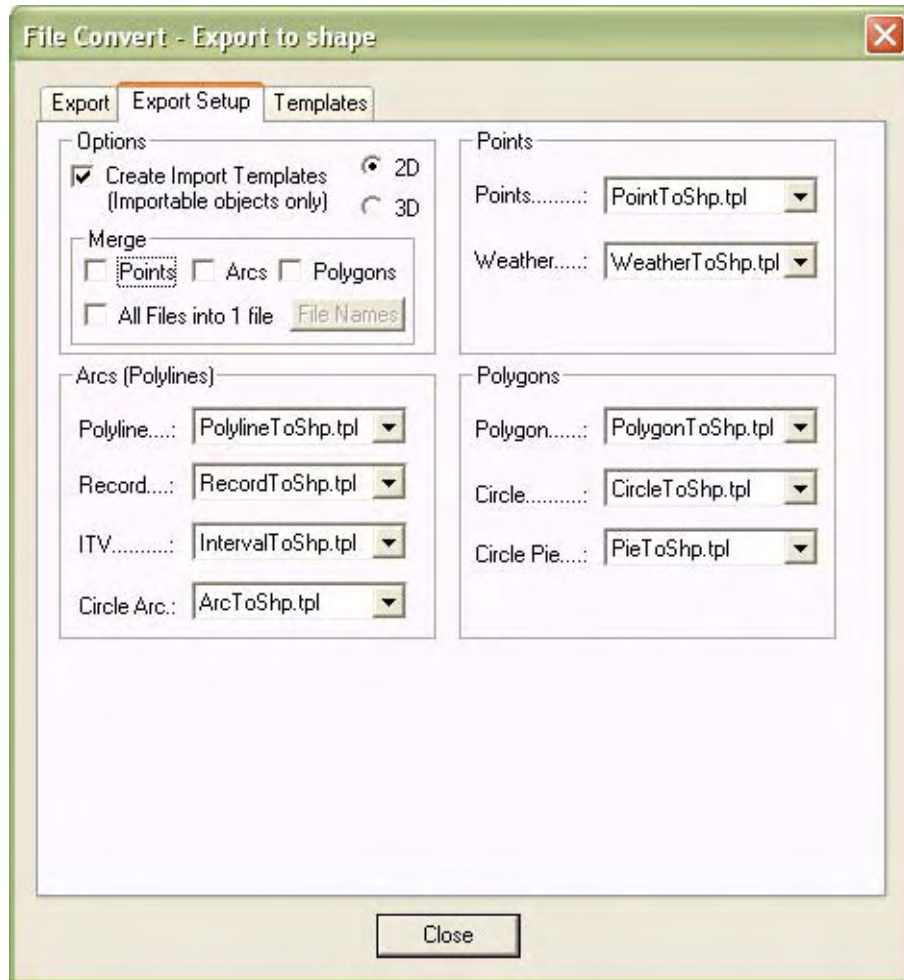


Figure 4-19: The Export to Shape Setup Dialog

Function	Descriptions
<b>2D Radio Button</b>	When checked, the program loads all available 2D templates into the template combo box. The templates are located in the bin\ template folder.
<b>3D Radio Button</b>	When checked, the program loads all available 3D templates into the template combo box. The templates are located in the bin\ template folder.
<b>Create Import Templates</b>	When checked, the program automatically generates an import template for any ARC-Polyline, Points-Points, and Polygon-Polygon objects exported. This template is a reverse image of the export template used for the object. The new template name begins with the word "Import", followed by the name of the export template. For example, if you use the PointToShp.tpl to export points, the import template is named Import[PointToShp].tpl.
<b>Merge Points</b>	When checked, the program merges all point types, in a given file, into a single shape point file. When unchecked, the program exports different point types, in a given file, to their own point shape file.
<b>Merge Arcs</b>	When checked, the program merges all arc types, in a given file, into a single shape arc file. When unchecked, the program merges different arc types, in a given file, to their own arc shape file.
<b>Merge Polygons</b>	When checked, the program merges all polygon types, in a given file, into a single shape polygon file. When unchecked, the program merges different polygon types, in a given file, to their own polygon shape file.
<b>All Files Into 1</b>	When checked, the program merges all exported point shape files into a single point shape file, all arc files into a single arc shape file, and all polygon files into a single polygon shape file.
<b>File Names</b>	This button allows you to select final point, arc, and polygon shape file names for "All Files Into 1" File exporting.
<b>Template Combo Boxes</b>	Displays all available templates, found in the bin/template folder, that match the 2-D or 3-D radio selection. Selecting < Off >, in any of the combo boxes, prevents the program from exporting the given type of object to a shapefile.
<b>ARC-Polyline</b>	Defines how to convert any polyline in the shape export.
<b>ARC-Record</b>	Defines how to represent a swath from a Record (.RCD) in a shape file.
<b>ARC-ITV</b>	Defines how to represent an interval in the record file in a shape file. Hand gun is now included here.
<b>ARC-Circle Arc</b>	Defines how to convert a circle arc in the shape export.
<b>ARC-Handgun</b>	Defines how to convert a handgun object in the shape file export.
<b>Points-Points</b>	Defines how to convert any point in the shape export.
<b>Points-Weather</b>	Defines how to convert any weather point in the shape export.

**Table 4-10: Export to Shape Setup Dialog Descriptions**

Function	Descriptions
<b>Polygon-Polygon</b>	Defines how to convert any polygon in the shape export.
<b>Polygon-Circle</b>	Defines how to convert any polygon-circle in the shape export.
<b>Polygon-Circle Pie</b>	Defines how to convert any polygon-circle pie in the shape export.

**Table 4-10: Export to Shape Setup Dialog Descriptions**

## The Export to Shape Template Dialog

An export template is essentially a set of instructions for transferring the selected object type to a Shapefile. The Template Dialog provides a list of available templates for the selected conversion, and allows us to manage the templates using the New, Delete, and Edit buttons

The export template dialog is used when you want to edit an existing template or create a completely new template. If creating a new template, you must select the new template name in the appropriate template combo box, located in the Export Setup dialog. See “Convert Templates” on page 4-36 for more information on creating templates.

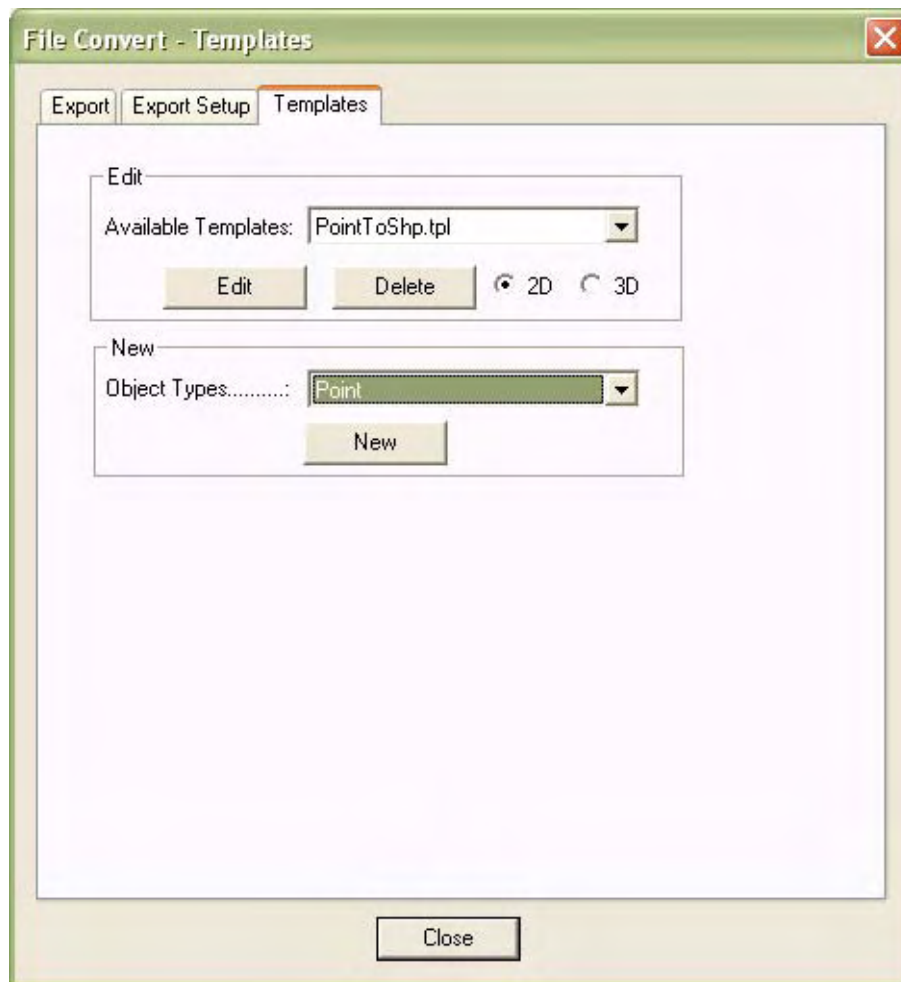


Figure 4-20: The Export to Shape Template Dialog

Function	Descriptions
<b>Available Templates</b>	Lists all available templates, found in the bin/template directory, that match the 2D or 3D radio selection.
<b>2D Radio Button</b>	When checked, the program loads all available 2D templates into the template combo box. The templates are located in the bin\ template folder.
<b>3D Radio Button</b>	When checked, the program loads all available 3D templates into the template combo box. The templates are located in the bin\ template folder.
<b>Edit Button</b>	Allows you to edit the current template selection.
<b>Delete Button</b>	Allows you to delete the current template selection.
<b>Object Types</b>	Lists all available object types that you can create export templates for.
<b>New Button</b>	Allows you to create a new template for the current object selection.

**Table 4-11: Export to Shape Template Dialog Descriptions**

## Importing Shape Files to RMS Data Files

The second conversion process is importing a shape file into an RMS data file. For example, there are many background files such as roadways that are in the shape format. You can import these files into a RMS GMF file, and view it in the background of any RMS real-time application, such as Mapper.

### The Import from Shape Dialog

Use the Import from Shape dialog to select the files or folders that you want to convert from the shapefile format to an RMS data file. Review the Import Setup dialog prior to running the Import process. Table 4-12 describes the Import from Shape dialog features.

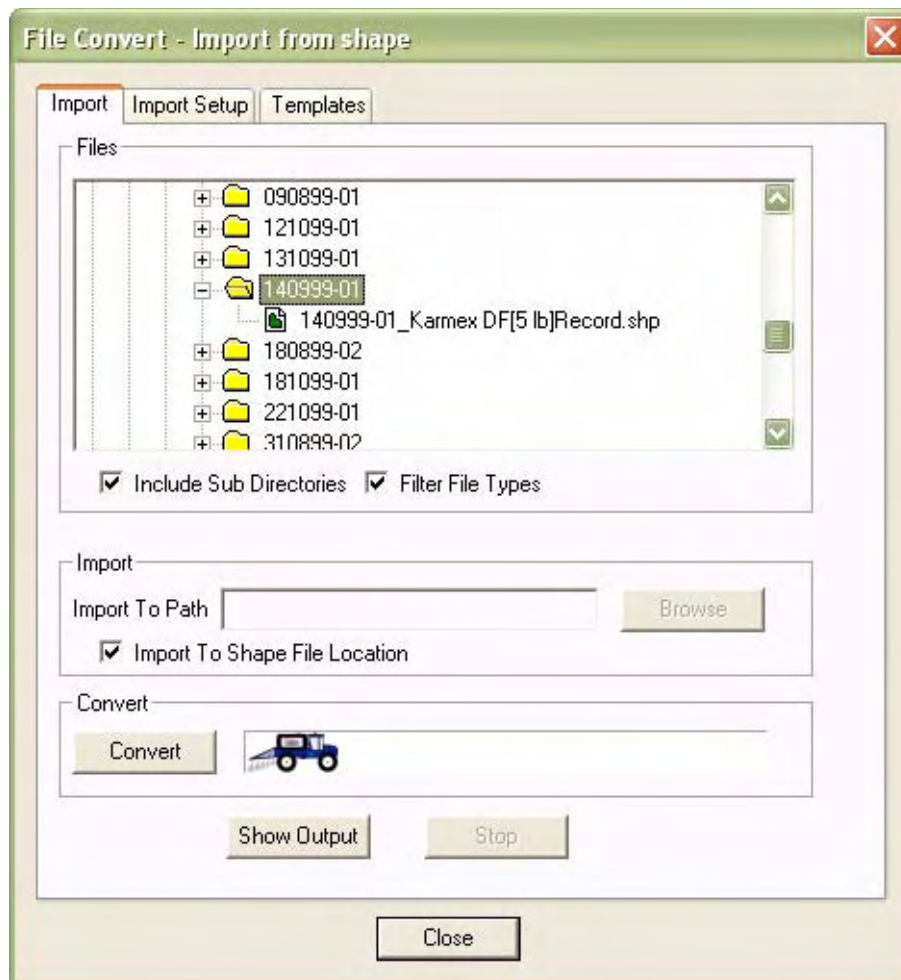


Figure 4-21: The Import Dialog

Function	Descriptions
<b>Import Tree</b>	Select files to import. Tree supports multiple selections. Make multiple selections with standard explorer style ctrl/left click and shift/left click.
<b>Include Sub-directories Check Box</b>	When checked, the program imports all files selected and all files found in sub-directories. The program drills down into any directories within the selected directories, and keeps drilling down until no more sub-directories are found. When unchecked the program imports all files selected, along with all files found in selected folders.
<b>File Filter Type Check Box</b>	When checked, only shape files and directories appear (see set filter). When unchecked, all files and directories appear.
<b>Import to Path</b>	Type in the path to import the shape files to. The Import to Current Location check box cannot be checked if you type in an export path.
<b>Browse</b>	Browse for an import location.
<b>Import to Current Location Check Box</b>	When checked, all imported files are stored in the same location as the original file used for exporting. If unchecked, the imported files are sent to the location specified in the import path edit control.
<b>Convert</b>	Starts the conversion process.
<b>Show Output</b>	Shows or hides the output dialog. The shape file conversion progress id appears in the dialog window.
<b>Stop</b>	Pauses the import process. You are asked to continue or abort the import process.

**Table 4-12: Import Dialog Description**

## The Import Setup Dialog

The Import Setup dialog is where you define what import templates are used for the import process. You also select the type of RMS data file, to import data into, in this dialog as well. Table 4-13 describes the Import Setup dialog features.

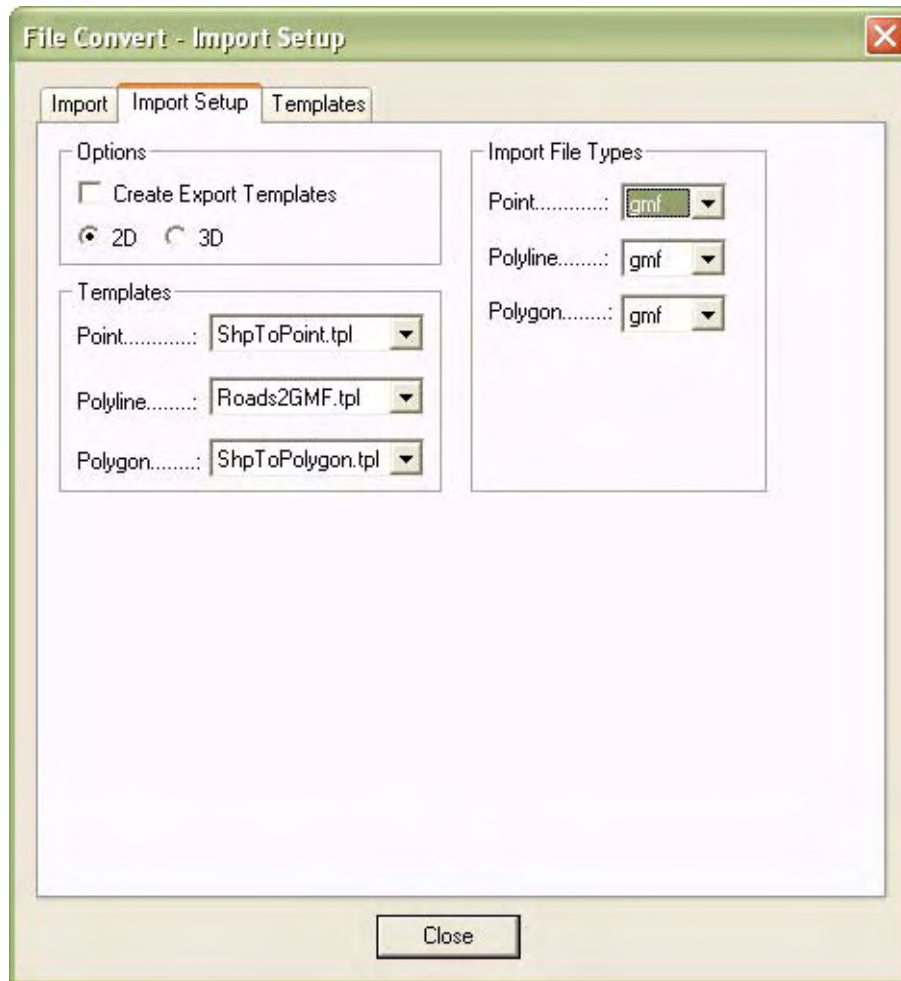


Figure 4-22: The Import Setup Dialog

Function	Descriptions
<b>Create Export Templates</b>	When checked, the program automatically generates an export template for any Point, Polyline, or Polygon objects imported. This template is a reverse image of the import template used for the object. The new template name begins with the word "Export", followed by the name of the import template. For example, if you use ShpToPoint.tpl to import points, the export template is named Export[ShpToPoint].tpl.
<b>2D Radio Button</b>	When checked, the program loads all available 2D templates into the template combo box. The templates are located in the bin\ template folder.
<b>3D Radio Button</b>	When checked the program all available 3D templates into the template combo box. The templates are located in the bin\ template folder.
<b>Templates-Point</b>	Select the type of import conversion, by choosing a conversion template. This template defines how to represent a point, in a shapefile, in an RMS data file.
<b>Templates-Polylines</b>	Select the type of import conversion by choosing a conversion template. This template defines how to represent an arc, in a shapefile, as a polyline in an RMS data file.
<b>Templates-Polygon</b>	Select the type of import conversion by choosing a conversion template. This template defines how to represent a polygon, in a shapefile, in an RMS data file.

**Table 4-13: Import Dialog Description**

## The Import Template Dialog

The Import Template dialog is used when you want to edit an existing template or create a completely new template. If you create a new template, the new template name must be selected in the appropriate template combo box located in the Import Setup dialog. See “Convert Templates” on page 4-36, for more information on templates.

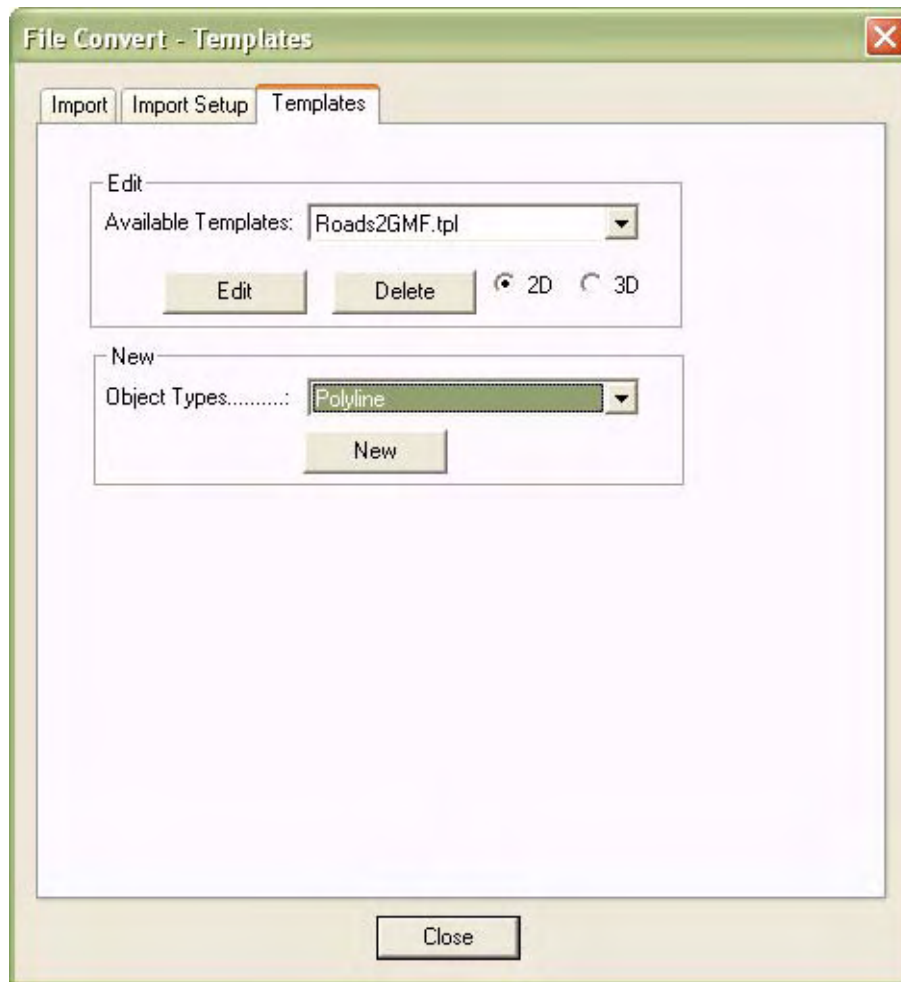


Figure 4-23: The Import Templates Dialog

Function	Descriptions
<b>Available Templates Combo Box</b>	Displays all available templates in the bin/template directory that match the 2D or 3D radio selection.
<b>2D Radio Button</b>	When checked, the program loads all available 2D templates into the template combo box. The templates are located in the bin\ template folder.
<b>3D Radio Button</b>	When checked, the program loads all available 3D templates into the template combo box. The templates are located in the bin\ template folder.
<b>Edit Button</b>	Edit the current template selection.
<b>Delete Button</b>	Delete the current template selection.
<b>Object Types</b>	Lists all available object types that that you can create import templates for.
<b>New Button</b>	Create a new template for the current object selection.

**Table 4-14: Import Template Dialog Description**

## Convert Templates

A template contains the information required to convert an RMS file object to a Shapefile object (Export), or create an RMS file object from a Shapefile object (Import). To better understand templates, we must first understand the data that makes up an RMS file or Shapefile object. An object (Polygon, Polyline (Arc), Point) is just a shape (one or more positions) with an associated set of attributes or fields. The shape's fields specify information about the shape, such as its name or ID. RMS file shapes and Shapefile objects are essentially the same. However, the fields associated with the shapes are different. To transfer the contents of an RMS file object to, or from, a Shapefile object, you must specify how to map or transfer the RMS file object's fields to the Shapefile object's fields. The template stores these field transfers.

Experimenting with the Export or Import dialog shows that different templates are displayed for each object type. This is because the fields for each RMS object type are unique. The Export or Import dialog only displays templates that make sense for a selected object type.

You may experience a situation that requires you to create or modify a template. Templates are managed using the New, Delete, and Edit buttons, located in the Templates dialog (see Figure 4-20 and Figure 4-23). To create a new template, press the New button. You are presented with the Field Transfer Template dialog (see Setting Up A Field Transfer Template on page 4-37). To delete the current template (the template whose name is highlighted in the Available Templates Combo Box) press the Delete button. You are presented with a message box that asks you to confirm the delete. To delete the template, press the Yes button. Otherwise press No. To edit the current template, press the Edit button. You are presented with the Field Transfer Template dialog (see Setting Up A Field Transfer Template on page 4-37).

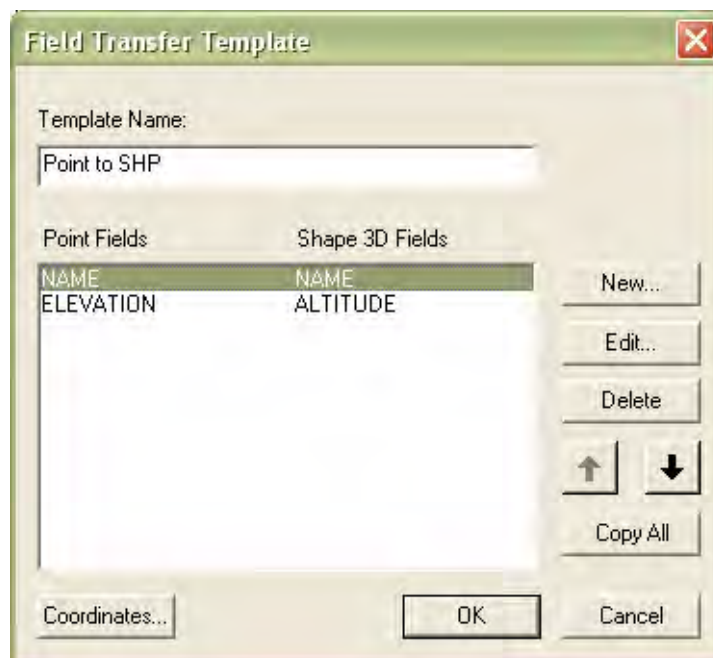


Figure 4-24: The Field Transfer Template

## Setting Up A Field Transfer Template

Figure 4-24 shows the Field Transfer Template dialog. This dialog is used to set up a field transfer template. The Template Name edit box appears at the top of the dialog. Templates should be given a unique name, which identifies the type of conversion they handle. In Figure 4-24, the template is named "Point to SHP", identifying that this template is used for RMS Point object to Shapefile object conversions.

Below the Template Name edit box is the Field Transfer list. This list contains the field transfers or mappings that are performed between the given source file and destination file objects. The source file object fields appear in the list's left column and the destination file object fields appear in the list's right column. Figure 4-24 shows the mapping of the RMS Point object's NAME field to the Shapefile object's NAME field and the RMS Point object's ELEVATION field to the Shapefile object's ALTITUDE field.

Use The New, Edit, and Delete buttons, to the right of the Field Transfer List, to change the entries in the list. Press the New button to create a new field transfer. You are presented with the Field Transfer dialog (see Configuring A Field Transfer on page 4-38). Press the Delete button to delete the current field transfer (the transfer currently highlighted in the list). You are presented with a message box that asks you to confirm the delete. Press Yes to delete the transfer. Otherwise press No. Press the Edit button to edit the current field transfer. You are presented with the Field Transfer dialog (see Configuring A Field Transfer on page 4-38).

Several buttons in the Field Transfer Template dialog only appear when you transfer fields from an RMS file to a Shapefile. Use the **Up/Down** Arrow buttons to change the order of field transfers in the list. The order of the transfers determines the order that the program writes the fields to the Shapefile in. In Figure 4-24, the SHAPE\_NAME field precedes the ALTITUDE field in the resulting Shapefile. The Copy All button copies all the fields, in the RMS file object, to the Shapefile object. Press this button have your Shapefile object contain an exact copy of the fields in the RMS file object.

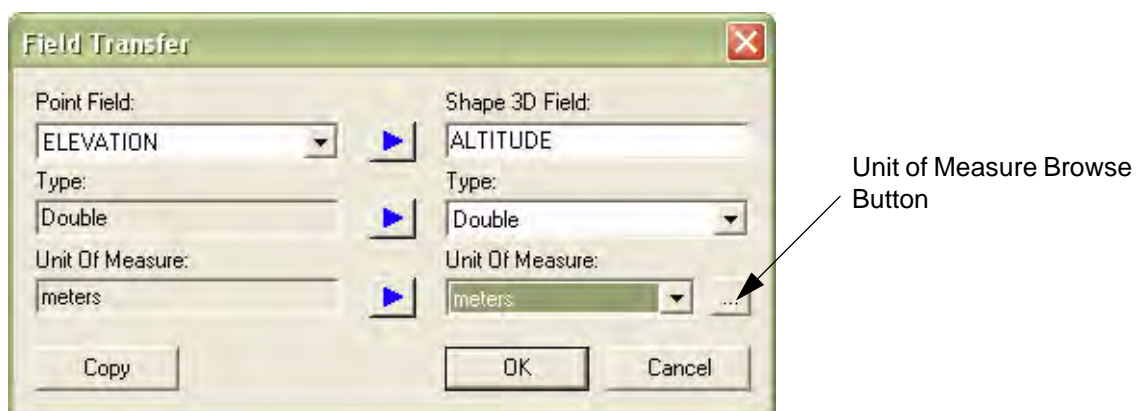


Figure 4-25: The Field Transfer Dialog

## Configuring A Field Transfer

Figure 4-25 shows the Field Transfer dialog. Use this dialog to configure a single field transfer. The left side of the dialog defines how to transfer a source field to the destination field, shown on the right side. Each field setting, on the left, is followed by an arrow button, and a matching field setting, on the right. When the arrow button is active, you can use it to transfer the contents of the left setting to the right. Pressing the Copy button, at the bottom of the screen, is equivalent to pressing all of the active (not grayed out) arrow buttons.

Use the top pair of settings to define the names of the fields. These settings may take the form of a combo box or an edit box. If a combo box is present, you can select one of the names from its list. The list contains all the names located in, or compatible with, the field. If an edit box is present, type in the name of the field. Figure 4-25 shows ELEVATION selected as the source field's name and ALTITUDE selected as the destination field's name.

The second pair of settings define the field's types. These settings either take the form of a combo box or a text box (can't edit). If a combo box is present, you can select the type to associate with the field. This affects how the program writes the field to a file, when it performs the conversion. **If a specific TYPE appears in the box on the left, it is best to chose the same for the box on the right.** Figure 4-25 shows Double as the destination field's type.

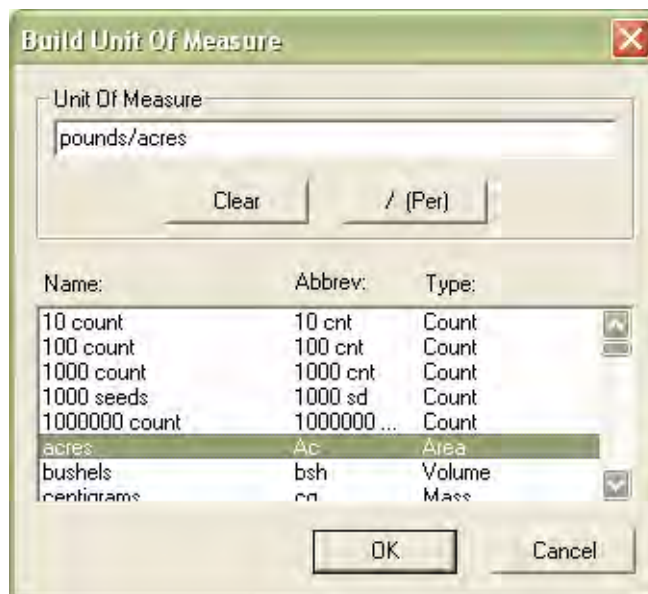
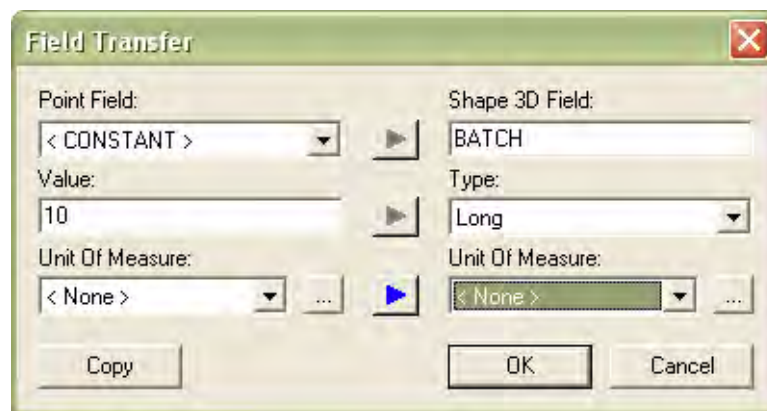


Figure 4-26: The Build A Unit Of Measure Dialog

The final pair of settings assign units of measure to the fields. These settings either take the form of a combo box or a text box (can't edit). If a combo box is present, you can select the unit of measure that the program should store the field in. Take care selecting a unit of measure. If the field defines a name, or some other non-numeric value, specify <None> for the unit of measure. If you don't know the field's unit of measure, select <Unknown>. When the program transfers the field, it automatically performs all necessary units of measure conversions. Therefore, it is important that

the source field's and destination field's units of measure are compatible. If the units of measure are incompatible, you are presented with an error when you press OK. Figure 4-25 shows meters selected as the destination field's unit of measure.

If the Unit Of Measure setting has a Browse button to its right, you can opt to build a unit of measure for the field. Pressing the button brings up the Build Unit Of Measure dialog (see Figure 4-26). This dialog allows you to select or compose a UOM (unit of measure) from a long list of options. If you wish to select a UOM from the list, you can type the UOM's name in the "Unit Of Measure" edit box, or find the UOM in the list. You can compose new compound UOMs (such as pounds/acre) by separating UOMs in the list with a '/'. Pressing the "/" (Per)" button adds the '/' for you. If you make a mistake, simply click the Clear button, or erase the text in the "Unit Of Measure" edit box. When you select OK, your UOM is passed to the Unit Of Measure setting.



**Figure 4-27: User Defined Fields**

Under some circumstances, the Field Transfer dialog's appearance undergoes some changes. One such circumstance arises when we set the source field's name to <CONSTANT> or <COUNTER>. <CONSTANT> and <COUNTER> are special, user-defined, fields. They do not exist in the source file object. If you set the source field name to <CONSTANT>, a Value setting replaces the source field's Type setting (Figure 4-27). The Value setting is a string or number, passed to the specified destination field for each object written to a file. If you set the source field name to <COUNTER>, a First Number setting replaces the source field's Type setting. As its name implies, the First Number setting represents the counter's starting value. Each time the program transfers the counter value to the specified destination field, it increments the value by one. For example, if the First Number is set to 2, the specified destination field would receive a 2 for the 1st object, a 3 for the 2nd object, a 4 for the 3rd object, and so on.

Templates are a complex, yet powerful, tool. Creating templates takes some practice. However, when you get the hang of it, you should be able to perform an almost limitless array of RMS/Shapefile conversions.





