Roadway Management
S Y S T E M

™

RMS-EXT
For The Legacy 6000

USER GUIDE

Midwest Technologies

MID-TECH

Roadway Management
S Y S T E M

TM

RMS-EXT
For The Legacy 6000

USER GUIDE
PN - 98-05064
R0

MID-TECH ®

Chapter 1 - System Introduction

An introduction to the Legacy 6000 System.

Roadway Management System-EXT Version 2.00
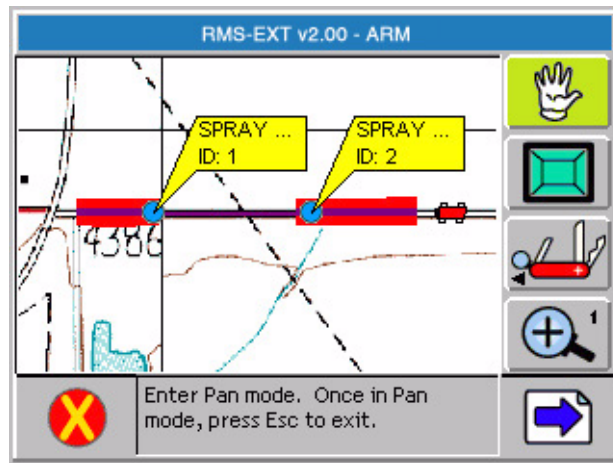
System Introduction

RMS-EXT on the Legacy 6000 is the real-time data logging component of the Roadway Management System. RMS-EXT combines rate controller data with vehicle positions generated from an on board Global Positioning System (GPS) receiver, and produces an "as applied" map of the vehicle's activity during a spraying session. EXT (External) means that this version of RMS for the Legacy 6000 does not require the Mid-Tech CAN Bus product control system to operate. The Legacy 6000 with RMS-EXT is an excellent replacement for the laptop found in many cabs today.

RMS-EXT requires that all necessary information related to personnel, vehicle, vehicle spray configuration, and chemicals, be entered into their respective Profiles (see the User's Guide for RMS Office). Profiles can only be created in RMS Office, and then exported to the Legacy 6000 and RMS-EXT. To setup RMS-EXT, select information from each profile category, as well as chemical to tanks assignment, weather data, and base map coverage of the area that the session covers.

RMS-EXT also includes a Mapper field mapping program that allows the mapping of roadways, railroads, power-lines, weed types, and infestations, as well as any other field features that are important for the road side spraying tasks (see "Chapter 5 - RMS Mapper").

Figure 1-1: RMS Legacy 6000 System Configuration

RMS-EXT & Legacy 6000 System Features
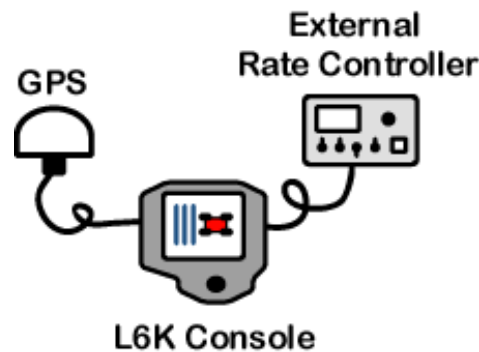
• Coverage Page - this page displays the vehicle trajectory and spray application coverage in real-time,

• Booms Page - this page displays the vehicle swath dynamics, such as which swaths are activated. This page also shows hand gun activity,

• Rates Page - this page displays the rate controller status, including actual and target rates,

• Navigation Page - this page displays vehicle dynamics and GPS position status,

• Field Notes - at any time during the Spray Session real-time process, the operator can create a note which is placed on the real-time and "as applied" maps. These notes may reference weather changes, road conditions, and other points of reference.

• Field Hazards - the operator can mark field road hazards and store these hazard locations in a file.

• Real-time Weather Notes - as weather changes during the session, updated weather notes can be added to the event file.

• Multiple (up to 6) product control when interfaced to an external Mid-Tech rate controller.

• Comes pre-loaded with Mid-Tech's RMS-EXT software.

• Data is stored on a PCMCIA card.

• Data is easily transferred to a PC via the PCMCIA card.

• Data is compatible with RMS Map Manager for easy creation of application reports and record keeping.

Compatible Rate Controllers

Table 1-1 lists the compatible external rate controllers that work with this version of RMS-EXT.

Controller	Driver Name	Product Type
All Mid-Tech TASC	MidTech 98	All

Table 1-1: Compatible External Rate Controllers

Legacy 6000 Console

The Legacy 6000 console runs RMS-EXT software and operates in a Windows CE environment (Windows CE is a product of Microsoft); an extremely dependable and stable operating system. Operation is intuitive, with on-screen menu choices and prompts. An on-board help menu is built in. The heart of the Legacy console is an Intel processor operating at 206 Megahertz for maximum efficiency. Other features of the Legacy 6000 console include:

Dimensions: 8.0" Wide x 7.7" High x 4.5" Deep (203 x 196 x 114 mm)

Weight: 2.3 lbs. (1.0 kg)

Enclosure: Sealed plastic; back lighted; tactile feed-back switches on front panel

Display: Color 5.7" diagonal (120 x 90 mm), transflective, QVGA with CCFL back lighting. Brightness control via back light control over contrast using discreet switches.

Input/Output: CAN, Bosch 2.0B

Serial: RS 232 (2)

USB: (1)

TTL digital I/O: (10)

Memory: 64 Mbytes DRAM, 16Mbytes Flash

Microprocessor: 32-bit Intel StrongArm, SA 1110 with SA 1111 companion chip. 206 MHz.

Drives: PCMCIA type II, single slot

Operating System: Microsoft Windows CE 3.0

Power Requirement: 9 to 16 volts DC

Connector: Sealed, 31 pin Deutsch

GPS Receiver Compatibility: Compatible with any differentially corrected, submeter GPS (DGPS) receiver that outputs NMEA 0183 at 2 to 5 Hz.

Alarm: Audible alarm

Other:

* Real-time clock with battery back-up

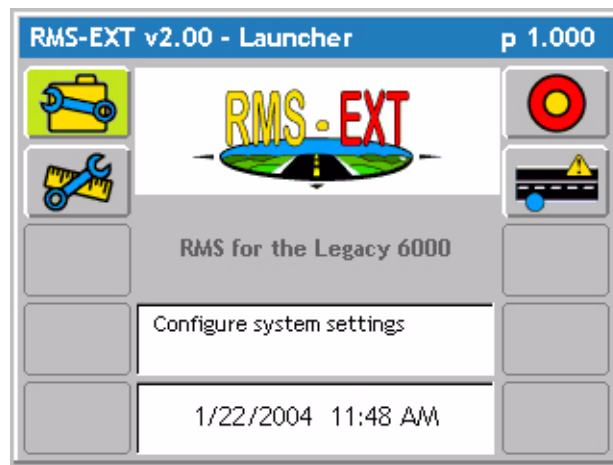* Simple, yet versatile, RAM mounting bracket.

Chapter Notes

Chapter 1 - System Introduction
Legacy 6000 Console

Chapter 2 - Getting Started

Setting up RMS-EXT for the Legacy 6000.

RMS-EXT Version 2.00

Software Overview

✉ *This chapter assumes that the Legacy 6000 hardware has been properly installed and clean, reliable power has been supplied.*

Powering Up

To power up the Legacy 6000 console, press the orange button to the left side of the console faceplate (Figure 2-1). When the Legacy 6000 console is powered up, RMS-EXT for the Legacy 6000 automatically starts. The first software page is the Main RMS-EXT Launcher (Figure 2-2). System Setup, System Tools, and Application Rate Manager (ARM) are accessed from the Main Launcher page. This Chapter focuses on how RMS-EXT for the Legacy 6000 operates and how to configure the system, using the System Setup application.
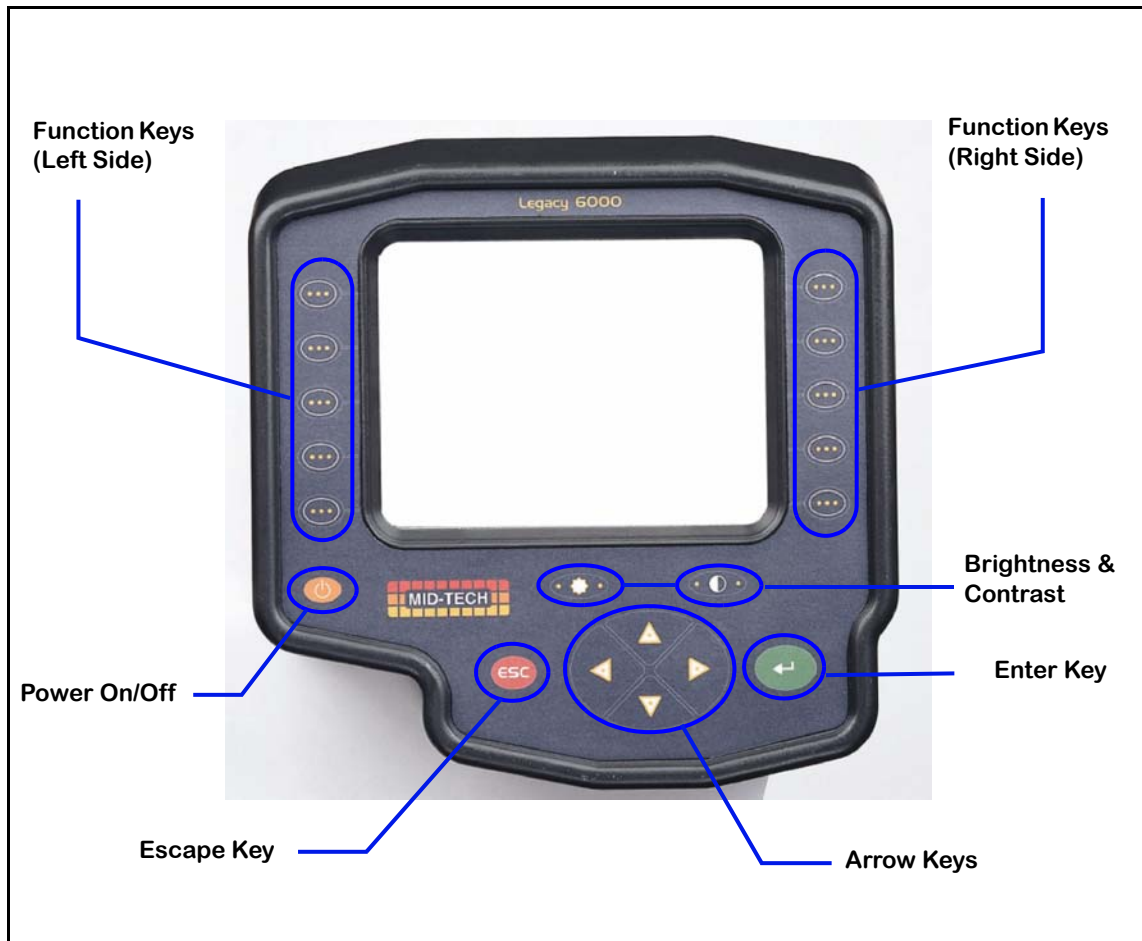

Figure 2-1: The Legacy 6000 Console

Standard Pages

Three basic types of software pages are used in RMS-EXT for the Legacy 6000: a Launcher page (Figure 2-3), a Setup Menu page (Figure 2-4), and a Data Entry page (Figure 2-5). Each is described in more detail below. Each of these page types has its own help window, which displays information about a button or area of the page that is highlighted. By learning how to use each of these page types, you can operate the RMS-EXT software with confidence.
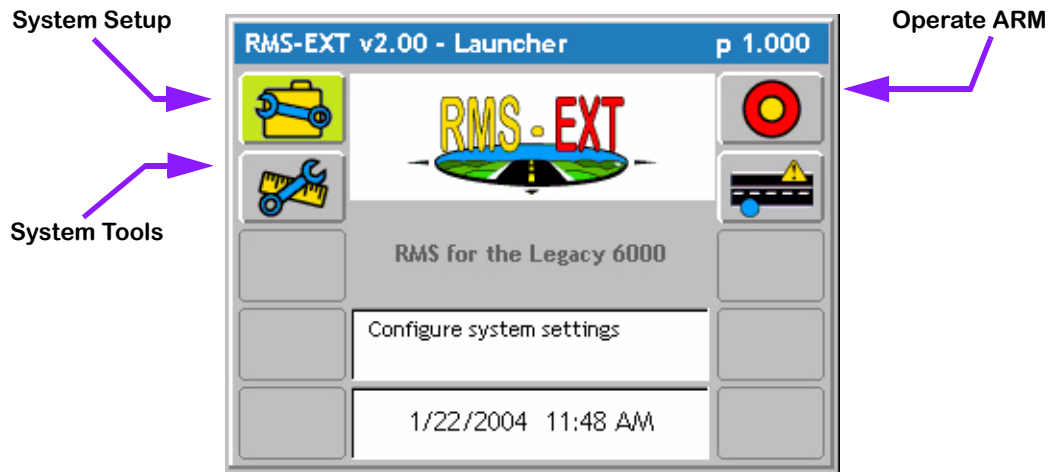

Figure 2-2: Main Launcher Page

Launcher Page

A Launcher page typically contains several smaller applications (programs) that can be started (launched). For example, any one of three other applications, System Setup, System Tools, or Application Rate Management (ARM), can be started from the Main Launcher page (Figure 2-2).

The arrow keys on the console (Figure 2-1) allow navigation of the launcher page. Help information for a highlighted button or area is displayed in the white text window, centered at the top of the launcher page (Figure 2-3). To launch an application from a launcher page, either press the console function key adjacent to the software button (Figure 2-1) or highlight a software button, using the arrow keys, and press the Enter key. A highlighted button is denoted by the bright green background color.

The launcher page (Figure 2-3) is the System Setup launcher. You can access several setup applications, such as Console and Controller setup, from here. In this launcher page figure, the highlighted software button is Console setup, and the associated help text is displayed in the help window at the top of the page.
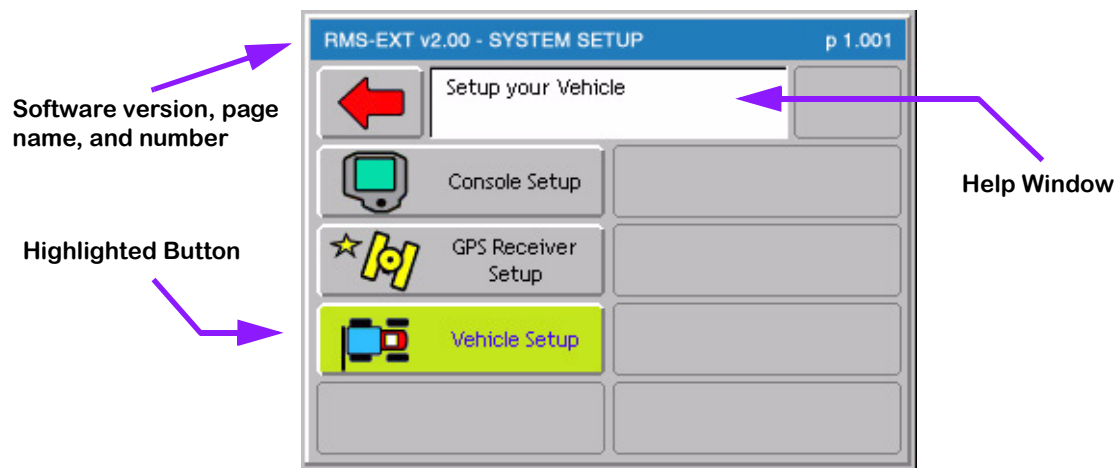
Figure 2-3: Example of a Launcher Page

Setup Menu Page

A Setup Menu page (Figure 2-4) is a page that contains all of the setup parameters associated with a particular setup theme, such as GPS Receiver. A Setup Menu page is divided into three columns, Left, Center, and Right. The Left and Right columns are made up of software buttons adjacent to a physical key on the console. The center column is a scrollable list containing the name of every setup parameter and its current value. Navigate the center column using the Up and Down Arrow keys on the console (Figure 2-1). To edit any of these settings, highlight the desired setting in the center column and press the Enter key on the console. This action typically brings up a Data Entry page (Figure 2-5) (Figure 2-6).

Setup Wizard

Typically the top item in the center column list is a setup wizard. This setup wizard sequentially steps through each setup parameter Data Entry page, allowing the editing of that setting, and then continues on to the next setup parameter. This is a convenient method for new users, who are unfamiliar with all of the setup parameters.

Setup Sub-Groups

In some Setup Menu pages there are sub-group buttons in the right and left columns. Pressing one of these buttons displays only the setup parameters associated with that sub-group in the center column. For example, in GPS Receiver setup (Figure 2-4), there are three sub-group buttons. The Globe button (right column) displays all setup parameters associated with GPS Receiver setup. The next button down is the sub-group for receiver accuracy. Pressing this button reduces the items in the center column to setup parameters associated with GPS accuracy, eliminating all of the items associated the other sub-groups. The next button accesses the communication parameters for the console Com Port that the GPS Receiver is connected to.

Exiting a Setup Menu Page

There are two ways to exit a setup menu page: "Exit without saving changes" and "Save and Exit".

RMS-EXT for the Legacy 6000
Software Version 2.00

To exit the setup without saving changes, press the Back Arrow button located at the top of the left column. To exit and save any changes made, press the Forward Arrow at the top of the right column. Either of these exit methods returns you to the launcher page that the setup menu was accessed from.
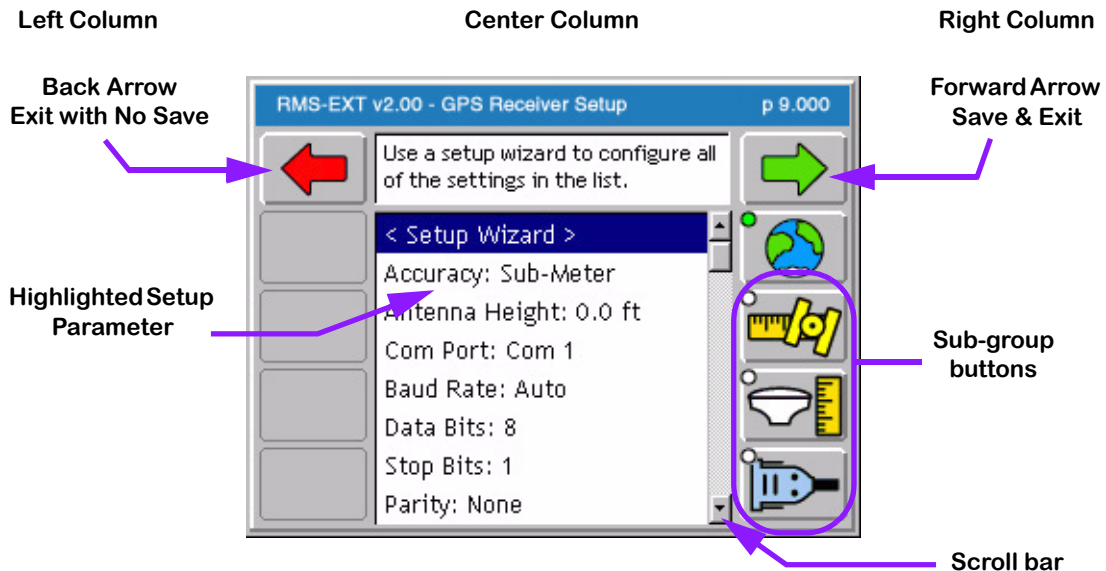
Left Column   **Center Column**   **Right Column**

Back Arrow
Exit with No Save

Forward Arrow
Save & Exit

Highlighted Setup
Parameter

Sub-group
buttons

Scroll bar

Figure 2-4: Example of a Setup Menu Page

Data Entry Page

The data entry page is used throughout RMS-EXT software. Depending on the setup parameter being edited, a data entry page may be a pick list (Figure 2-5) or an alpha-numeric entry (Figure 2-6). The data entry page is also divided into three columns: Left, Center, and Right. The left and right columns contain software buttons, typically only the back and Forward Arrow buttons. The center column is the data entry dialog box. Use the arrow keys on the console to navigate around the data entry page. The bottom half of the data entry page is a text window with white background. This window can contain a description of the current setting, as well as some help text.

Pick List Data Entry

In a data entry page that employs a pick list in the dialog box, highlight the setup parameter dialog box (center column) using the left or right arrow key. Using the Up and Down Arrow keys, spin though the available setting selections. When the desired setting is in view in the dialog box, press Enter or the Forward Arrow to save the setting.

Alpha/Numeric Data Entry

To enter an alpha/numeric value, in a data entry page that employs an alpha/numeric dialog box (Figure 2-6), highlight the dialog box using the left or right arrow key. The left most character space is highlighted. Use the up or down arrow key to spin through the alpha/numeric character list. When the desired character is in view in the dialog box, press the right arrow key to move to the

next character space in the dialog box. Use the left and right arrow keys to move across the character spaces and edit existing entries.

If entering a numeric value, use the decimal point in the character set to set the number of digits to the left and right of the decimal point, (E.G. 0.254, 1.00, 10.0, 100.463). This allows you to set the required significant digits.

✉ *If a USB keyboard is connected to the Legacy 6000 console, you can type information directly into the alpha/numeric dialog box.*

Exiting a Data Entry Page

There are two ways to exit a data entry page: "Exit without saving changes" and "Save and exit". To exit the setup without saving changes press the Back Arrow button located at the top of the left column. To exit and save any changes made, press the Forward Arrow at the top of the right column or the Enter key on the console. Either of these exit methods returns you to the setup menu page that the data entry page was accessed from.
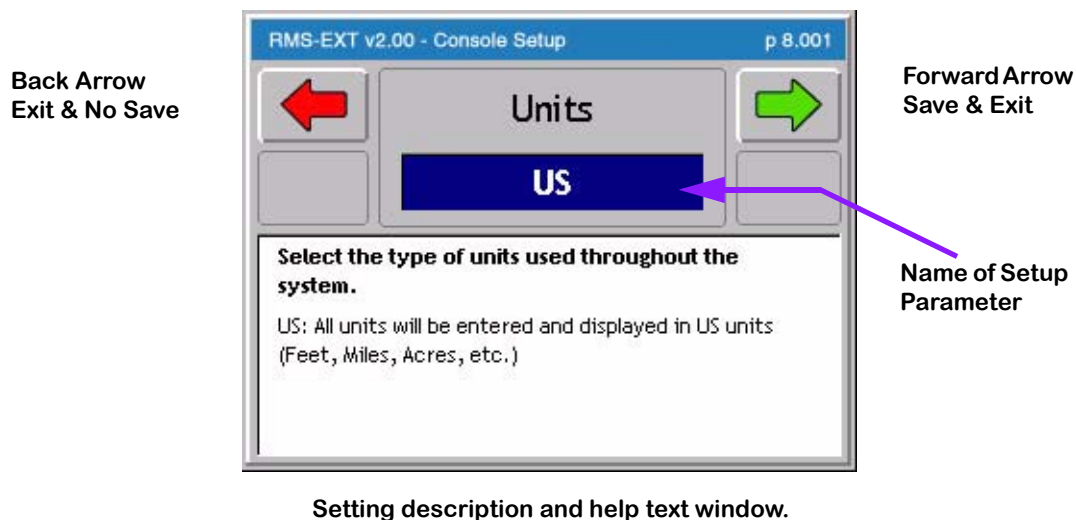

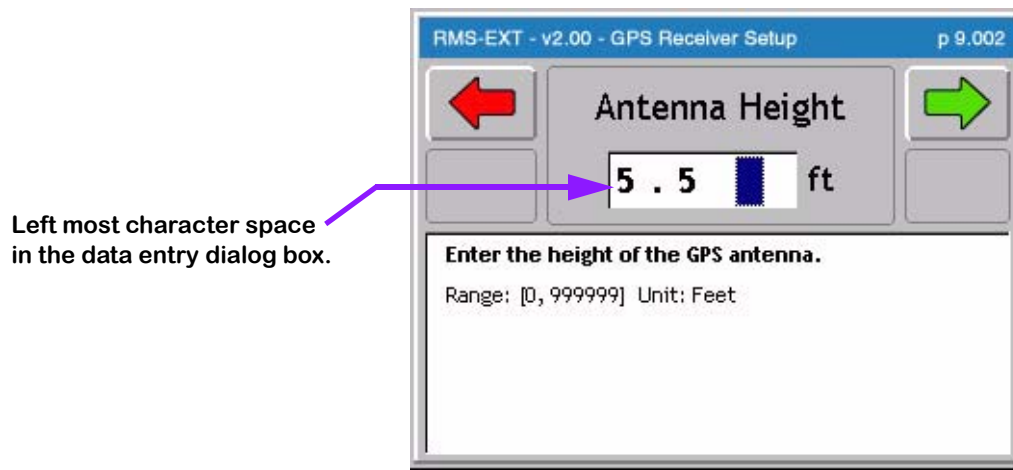**Figure 2-5: Example of Pick List Data Entry Page**

Left most character space
in the data entry dialog box.

Figure 2-6: Example of Alpha/Numeric Data Entry

System Setup

System Setup allows you to configure the Legacy 6000 to best suit job requirements. To access the System Setup launcher, press the top left button in the Main Launcher page (Figure 2-2) (The help text should say *Configure System Settings)*. This brings up the System Setup Launcher page (Figure 2-7). The table below lists the current system components that you can configure through this page. Each component is covered in more detail in the following sections.
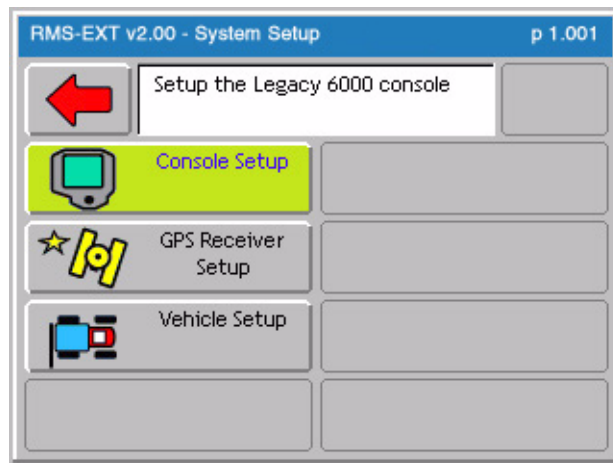
Figure 2-7: System Setup Launcher Page

Setup	Description
Console	Defines system environment variables such as units, language, date, and time.
GPS Receiver	Allows the configuring of the GPS receiver.
Vehicle	Defines the vehicle, including Spray Configuration, vehicle ID, and com port.

Table 2-1: Current System Setup Components

Console Setup

Console Setup defines the system environment settings (units, language, time) that are displayed on the console and used in the rate control and guidance applications.

To access Console Setup from the Main Launcher page (Figure 2-2), select System Setup (Figure 2-7) / Console Setup (Figure 2-8). All console setup parameters are listed in Table 2-2.

To change any of the system environment settings, highlight the setting name, listed in the center column of the Console Setup page, and press Enter. The Setup Wizard takes you through the setup, allowing you to change any settings. When done making changes, press the Forward Arrow

to save and exit Console Setup. Press the Back Arrow to exit without saving any changes.

✉ *It is recommended that you set the correct date and time prior to any product application and data collection.*
.

Figure 2-8: The Console Setup Menu Page

Setting	Description
Units	Defines the system units; Metric or US.
Language	Defines the system language.
Speaker	Sets the system speaker option; internal or external.
Volume	Sets the speaker volume.
Date Format	Defines the date format displayed on the console. Settings are 12 hr. and 24 hr.
System Date	Sets the system date.
Time Format	Defines the time format displayed on the console.
System Time	Sets the system time.
Time Zone	Sets the time zone that the Legacy 6000 system is operating in.

Table 2-2: Console Setup Settings

GPS Receiver Setup

GPS Receiver setup defines the DGPS accuracy and how the GPS receiver communicates with the Legacy 6000 console. Table 2-3 lists the GPS Receiver setup parameters.

To access GPS Setup from the Main Launcher page (Figure 2-2), select System Setup (Figure 2-7) / GPS Receiver Setup (Figure 2-9).

To change any of the GPS Receiver settings, highlight the setting name listed in the center column of the GPS Receiver Setup page and press Enter. Use the Setup Wizard to walk through and make any necessary changes to the settings. When done making changes, press the Forward Arrow to save and exit GPS Receiver Setup. Press the Back Arrow to exit without saving any changes.

Figure 2-9: The GPS Receiver Setup Menu Page

Setting	Description
Accuracy	Defines the accuracy of the DGPS receiver. Choices are RTK and Sub-meter.
Height	Defines the height of the antenna above the ground.
Com Port	Defines the com port that the GPS receiver is connected to.
Baud Rate	Defines the selected com port baud rate.
Data Bits	Defines the selected com port data bit setting.
Stop Bits	Defines the selected com port stop bit setting.
Parity	Defines the selected com port parity.

Table 2-3: The GPS Receiver Setup Settings

Vehicle Setup

Vehicle Setup allows you to select the spray configuration profile from an imported list.

To access Vehicle Setup from the Main Launcher page (Figure 2-2), select System Setup (Figure 2-7) / Vehicle Setup(Figure 2-10)
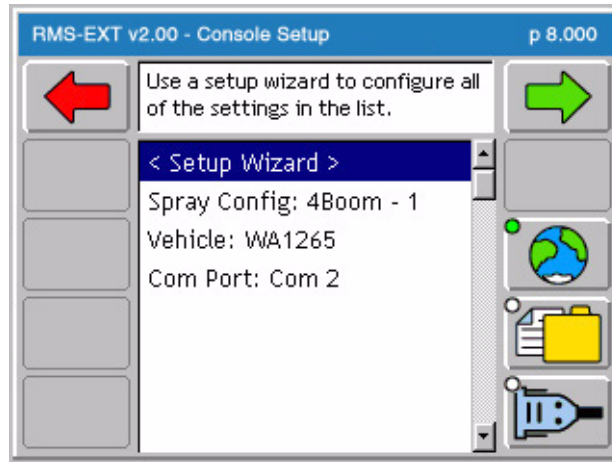
Figure 2-10: The Vehicle Setup Page

Setting	Description
Spray Config	The name of the Spray Configuration profile that was created in RMS Office and imported into the Legacy 6000. The Spray Config page, (Figure 2-11), shows a representation of the current spray configuration. Review the RMS Office user guide for more information on importing user profiles.
Vehicle	Allows the selection of the vehicle profile. This profile contains the vehicle ID, rate controller type, and carrier units. This profile is created in RMS Office and imported into the Legacy 6000. Review the RMS Office user guide for more information on importing user profiles.
Com Port	Defines the com port that the GPS receiver is connected to.

Table 2-4: The Vehicle Setup Settings
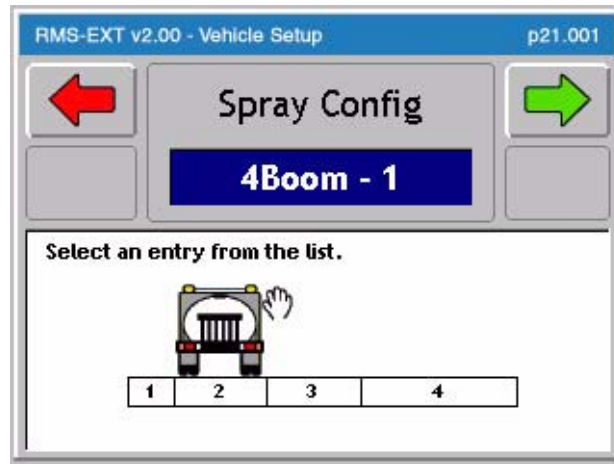
Figure 2-11: Spray Configuration Page

Backing up System Files

This completes the System Setup process for RMS-EXT for the Legacy 6000 console. It is important to backup the system files to the PC card as soon as System Setup is completed. For more information on backing up the system configuration, see "Device Manager" on page 2-14.

If for some reason the System Setup files become corrupt or the configuration changes and it is necessary to return it to its original state, the system setup can be restored from the PC card.

System Tools

System Tools allows you to perform some basic system diagnostics. System Tools is accessed from the Main Launcher page (Figure 2-12). To access the System Tools launcher, press the Tools button in the Main Launcher page (the help text should say *View System Tools*). This brings up the System Tools launcher page (Figure 2-13). Table 2-5 below lists the current System Tools. Each tool is described in more detail in sections below
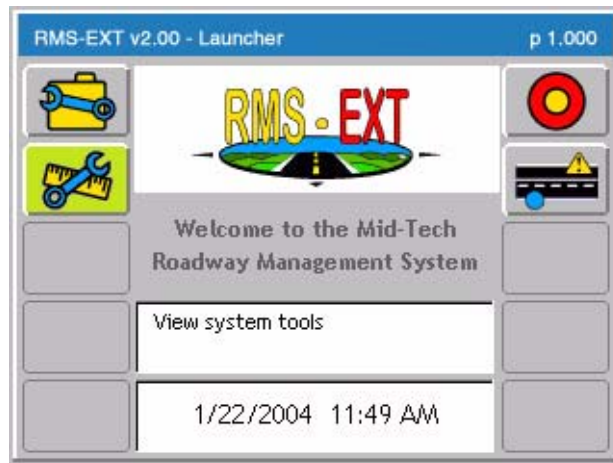
Figure 2-12: The Main Launcher with System Tools Highlighted
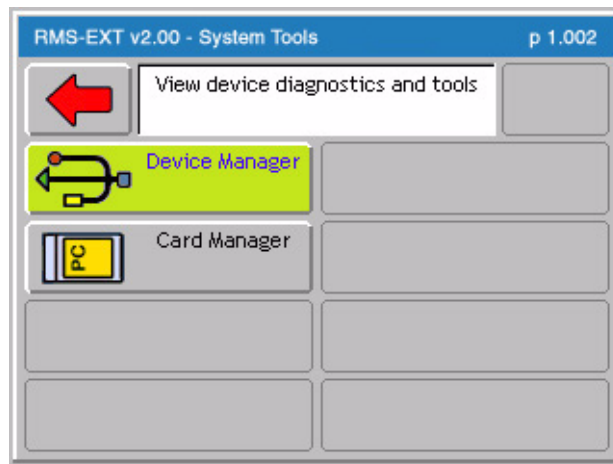
Figure 2-13: The System Tools Launcher

Tool	Description
Device Manager	This tool allows the viewing of all components on the Legacy system, including the Mid-Tech CAN Bus, external rate controller, and GPS receiver.
Card Manager	This application runs in conjunction with the PC card. The card must be inserted to run this application. Card manager allows basic file manipulation.

Table 2-5: System Tools

Device Manager

This tool allows the viewing of all components connected to the Mid-Tech Legacy 6000 system. In RMS-EXT, the GPS Receiver, Rate Controller, and Console, are available for diagnostics.

To access the Device Manager diagnostic page from the Main Launcher page, select System Tools (Figure 2-13) / Device Manager (Figure 2-14). Scroll through all of the connected devices to review the current status of these devices.
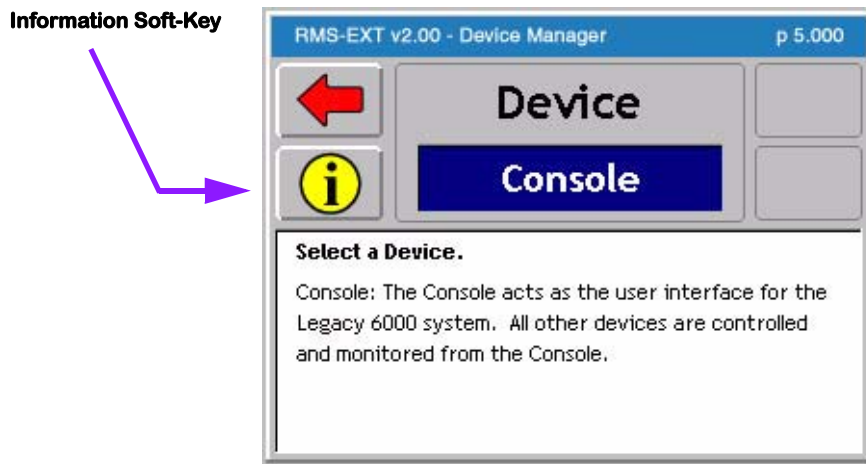
Figure 2-14: Device Manager Page

Console

When selecting Console as the device for diagnostics, a Console Information page is displayed,

listing the console serial number and version number (Figure 2-15).
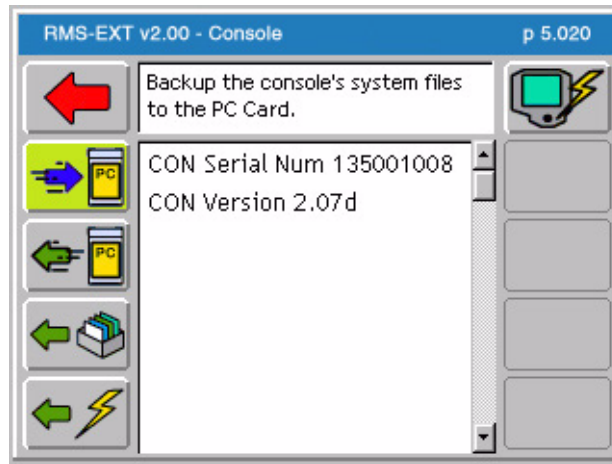
Figure 2-15: The Console Information Page

Button	Description
	System File Backup. Press to back up the console system files to the PC card.
	Update Console System Files. Press to update or restore the console system files with system files located on the PC card.
	Imports Name Manager files, and in the future other Map Manager system related files, into the Legacy 6000 system flash memory.
	Erase Removable System files. Press to remove system files from the flash memory. System files for RMS-EXT include Name files. Press button to see a list of files that can be erased.
	Reset Console. Press to reset the console to its default factory settings.

Table 2-6: Console System File Functions

Backing up Console System Files

The Legacy 6000 (L6K) system files can be backed up to a PC card. This allows the system to be restored at a later date, or transferred to another L6K console, if necessary.

Required Items:

• 20 Meg (or larger) ATA Flash PC Card

CAUTION: *Always make sure that the console is powered off before inserting or removing the PC card.*

With the console powered down, insert a blank PC card into the Legacy 6000 console and power up the console.

From the Main Launcher page (Figure 2-12), select System Tools (Figure 2-13) / Device Manager (Figure 2-14) / Console (Figure 2-15) / Backup Console System Files. The message "Performing console backup" appears. When the backup operation completes, turn the console off and remove the PC Card.

Restoring Console System Files

With the console powered down, insert the PC card containing the desired system files into the Legacy 6000 console and power up the console.

From the Main Launcher page (Figure 2-2), select System Tools (Figure 2-13) / Device Manager (Figure 2-14) / Console (Figure 2-15) / Update Console. The message "Update Files" appears. Select ALL and press the Enter key. The message "Updating console" appears. When the restore operation completes, turn the console off and remove the PC Card.

Importing Object Name Files into Console Memory

RMS-EXT allows you to import Object Name Files. An Object Name File is a simple text file that contains a list of Point and Hazard object names, that you commonly use during product application and mapping. Using an Object Name file helps to efficiently store, select, and name mapping objects, while out in the field. Name files for a specific task or theme, such as Field Mapping or Weeds. You can access these object name files when mapping points or hazards during the real-time mapping process (See "Mapping Points, Hazards, Weather, & Notes" on page 14).

Object Name files are ASCII text files, (.TXT). You can create these files in several 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 data base file. This makes it easy to move existing attribute information into the names data base file format. It may be 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). You can also create Object Name files in the RMS Office software.

When the names file is ready to be placed in the Legacy 6000 console memory, it is necessary to do the following:

• Copy the names file to a PC card and place it in the /sys/names/ folder. If these folders do not exist, create them prior to moving the names file over. Place the PC card in the console and power the unit On.

• Go to System Tools Device Manager and select Console as the device (see "Console" on page 2-14).

• Press the Update Console System Files soft-key (Table 2-6), and select Object Names as the Update File. Press the Enter key. This places the names files, located in the /Sys/Names folder, into the consoles' system memory.

GPS Receiver

This tool allows the viewing of any GPS data coming into the com port of the Legacy 6000. We recommend that you run this diagnostic the first time that you connect the GPS receiver to the Legacy 6000 console.

To access the GPS Receiver diagnostic page from the Main Launcher page (Figure 2-12), select System Tools (Figure 2-13) / GPS Receiver (Figure 2-16).
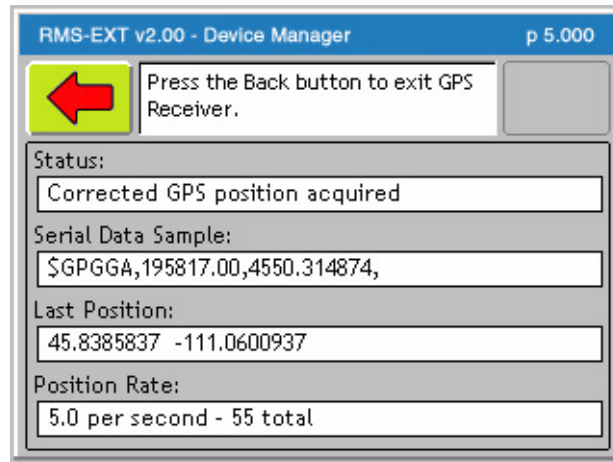
Figure 2-16: The GPS Receiver Diagnostic Page

Card Manager

Card Manager allows basic file manipulations, such as cut, copy, and paste, to files on a PC card. The PC card must be inserted into the Legacy console prior to using Card Manager.
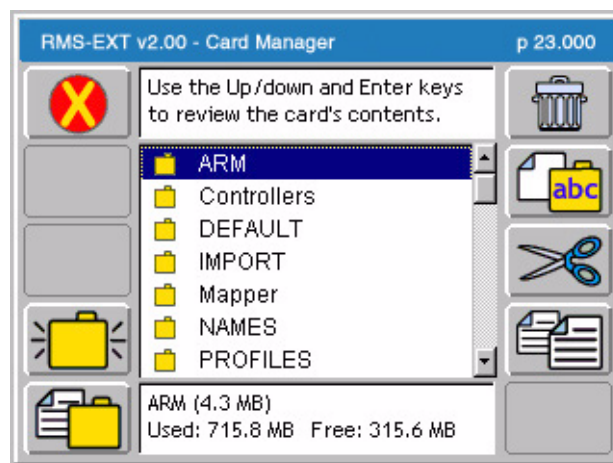
Figure 2-17: The Card Manager Page
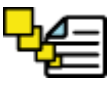
Button	Description
	Create a New Folder - Press to create a new folder at the current location on the PC card. When this button is pressed, a prompt appears requesting the name the folder.
	Move Up - Press to close the current folder and move up one folder level (This button only appears if you are in a sub-folder). To move down a folder level from the current position, highlight the desired folder name in the File/Folder list and press the Enter key.
	File/Folder properties - Press to display a properties dialog box listing specific information about the highlighted file or folder.
	Delete File or Folder - Highlight the desired file or folder and press this button.
	Rename File/Folder - Highlight the desired file or folder and press this button. A rename file or folder dialog appears.
	Cut File or Folder - To cut a file or folder and move it to a new location, highlight the desired file or folder and press this button. Then move to the desired location and press the Paste button.
	Copy File or Folder - To copy a file or folder and paste it to a new location, highlight the desired file or folder and press this button. Then move to the desired location and press the Paste button
	Paste File/Folder - When you have Cut or Copied the desired File/Folder, navigate to the target location and press this button to paste it.
	Exit - Press to exit the Card manager application.

Table 2-7: Card Manager Functions

This concludes the section on RMS-EXT System Tools and Diagnostics for the Legacy 6000 console.
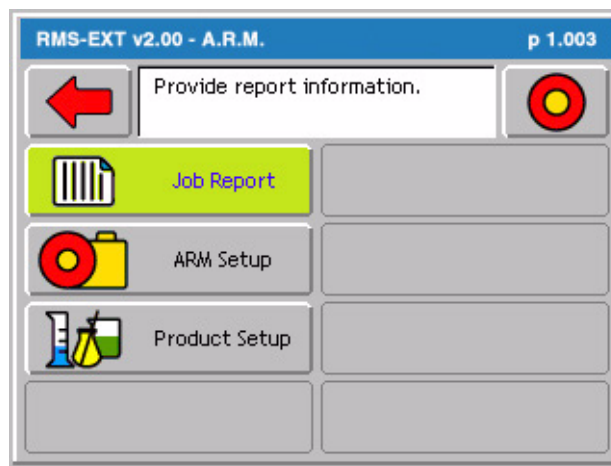
Chapter Notes

Chapter 3 - Real-time Setup

Setting up RMS-EXT Legacy 6000.

RMS-EXT Version 2.00

RMS-EXT Real-Time Setup

This Chapter covers setting up RMS-EXT for real-time operation. Prior to starting real-time operation, we recommend that "Chapter 4 - Real-time Operation" be reviewed.

When the System Setup process is complete (see System Setup on page 2-8), real-time setup can begin. Do this by pressing the Bull's-eye located on the RMS-EXT Main Launcher page (Figure 3-1). The steps in the real-time setup process vary, based on how the Legacy 6000 system is configured.

> *Real-time Setup requires the Agency, Chemical, and Personnel profiles. These profiles are created in RMS - Office and then exported to RMS-EXT. You cannot run Real-time setup without these profiles.*

Real-time Setup Steps

We recommend that these setup procedures be reviewed carefully. Familiarity with job creation, file naming, and product setup allow these setup steps to be accomplished in just a minute or two. Table 3-1 outlines the real-time setup steps. Each step listed in the table is described in more detail in specific sections of this chapter.
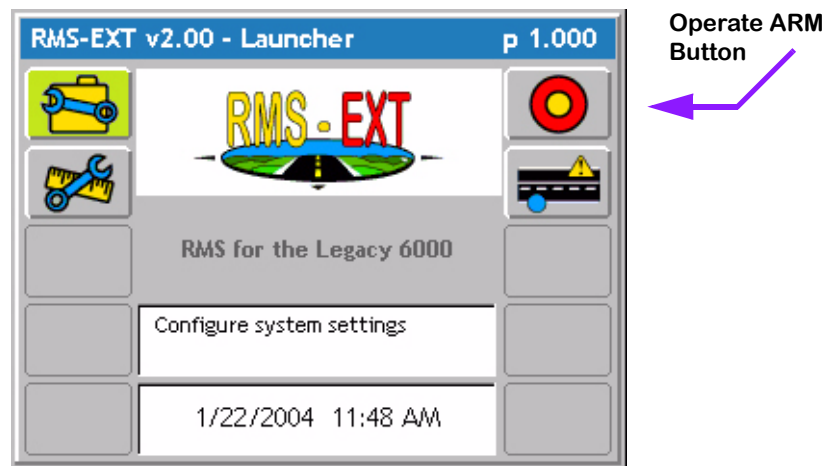
Figure 3-1: RMS Main Launcher

Real-time Setup Steps

Step	Description
	Job: When you press the ARM Bull's-eye button, the Job page appears. Select or create the desired job. There must be a PC Card in the console to store a job. Press the forward key to continue to the ARM Launcher page.
	Report Setup: If creating an application report, run Report Setup to enter Agency, Operator, and Driver information. The Agency and Personnel profiles contain this information.
	ARM Setup: Name the Map file here if points are being mapped during product application. Select Base Map files here as well. There are three additional parameters: collection interval, alarm, and Alarm Range.
	Product Setup: Make tank assignments here.
	When you have completed the above steps and have properly setup the console, start real-time operation by pressing the ARM Bull's-eye. Review "Chapter 4 - Real-time Operation".

Table 3-1: Start Product Application Process

Setting up a Job

Pressing the Bull's-eye button in the RMS-EXT Main Launcher brings up the Job page (Figure 3-2). You must have a PC card installed to create a job and store application and trajectory data.

Each Job, created with a unique job id, has an associated file folder, named after the job id and placed at the root of the inserted PC card. All data files associated with a job are stored in this folder on the PC card.

There are three methods for entering/selecting a job: select an existing Job, create a job based on an existing job, and create a new job.

Selecting an Existing Job

You can select an existing job from the Job page (Figure 3-2) by using the Up and Down arrow keys. An existing Job has an associated file folder located on the PC card. The name of the job folder is the same as the job number.

Create a new Job

Create a Job based on another-Job.
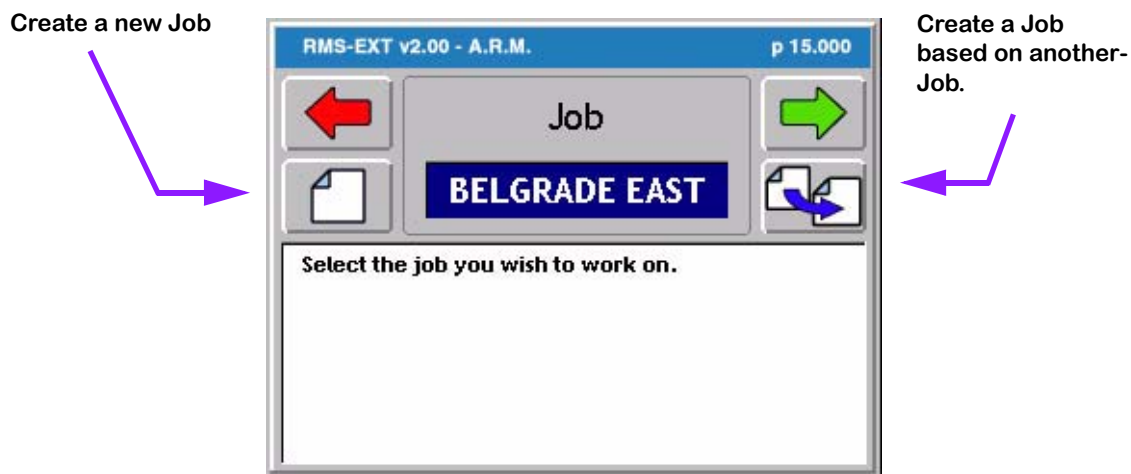
Figure 3-2: The Job Page

Creating a Job Based on Another Job

You can create a new job based on the settings of an existing job. Select the job to be copied in the main job page window and press the "Create a Job Based on Another Job" button on the Job page. A prompt appears asking you to manually enter a new job name or accept the auto-named job.

Creating a New Job

To create a new job, press the "Create a New Job" button in the Job page. This brings up the Create a New Job page. There are two methods of creating a new job: manually and automatically.

Manually Naming a Job

To manually name a job, highlight the text entry window (Figure 3-3) and use the arrow keys enter a name for the job. A job name can contain alpha/numeric characters. When the desired job name is entered, press the forward button to save the name and return to the Job page.
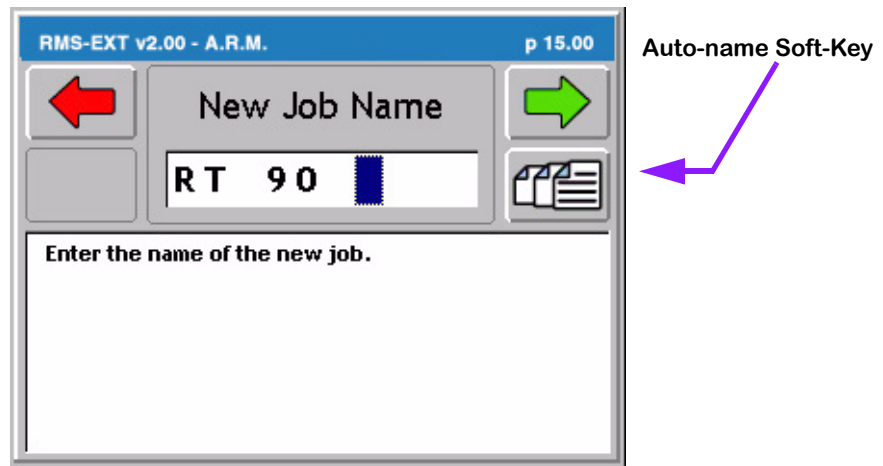

Figure 3-3: Manually Enter a Job Name

Automatically Naming a Job

To automatically name a new job based on the current date, press the Auto-name button in the "Create a New Job" page (Figure 3-3). This names the job based on the current date, followed by the number that job is for the day. Therefore the first job on November 21st 2002 is automatically be named 11212002-1. The second job for the same day is named 11212002-2.

ARM Launcher

With the appropriate Job name selected, press the Forward Arrow in the Job page to move to the ARM Launcher page (Figure 3-4). You can launch several applications, required prior to starting real-time product application, from this page. Each real-time setup application is discussed in detail below.
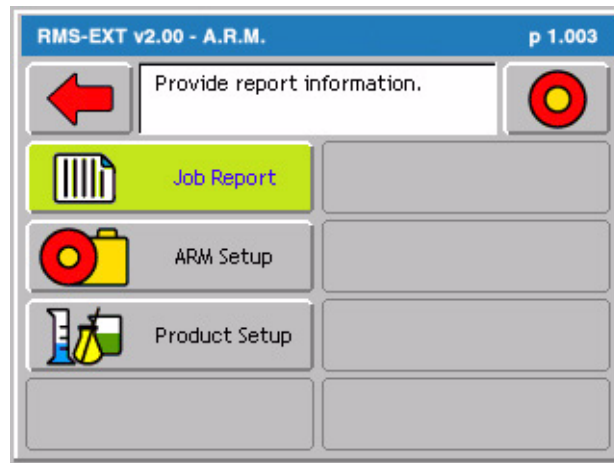

Figure 3-4: The ARM Launcher Page

Setting up a Job Report

Select Agency, Operator, and Driver profiles, used to build an application report, in Job Report. Application reports are generated in the RMS Office Map Manager program.

Access Job Report from the ARM Launcher page (Figure 3-4). Select the Job Report tab and move to the main Report Setup page (Figure 3-5). Table 3-2 describes each Report Setup menu item.

Information selected in Job Report is from profiles generated in RMS Office. These profiles must be imported into RMS-EXT from RMS Office. You cannot create Agency, Operator, and Driver profiles

on the Legacy 6000. All profiles are created in RMS Office.
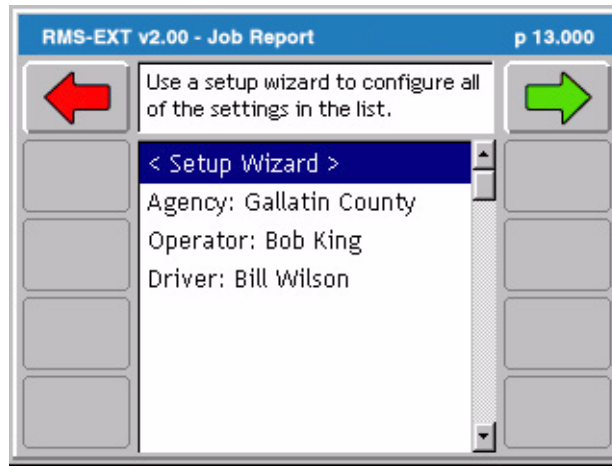
Figure 3-5: The Job Report Page

Report Setup Menu Items

Item	Description
Agency	The Agency that the job is for. From Agency profile.
Operator	The person performing product application. From Personnel profile.
Driver	The person driving the vehicle. From Personnel profile.

Table 3-2: Report Setup Menu Item Descriptions

Running ARM Setup

ARM Setup handles data file names as well as a few product application parameters. To run ARM Setup, select the ARM Setup tab in the ARM Launcher page (Figure 3-4). This brings up the Main ARM Setup page (Figure 3-6). Table 3-3 lists all of the ARM Setup items and their descriptions.

The record file (RCD) and the event file (EVT) are automatically named, based on the Job name.
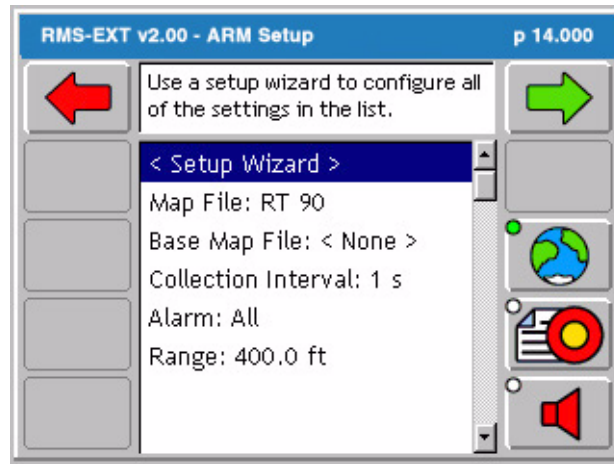
Figure 3-6: The ARM Setup Page

Arm Setup Menu Items

Setup Item	Description
Map File (.GMF)	A Map file stores additional field features that it might be necessary to locate during product application.
Base Map File	Select any base map file to view in the background.
Collection Interval	Set the time interval for writing data to the record file. Typically this is set to1 second. If the application requires slow speeds or if the RCD file gets too big too fast, we recommend that the collection interval be increased to something greater than 1 second.
Alarm	This sets the type of object that triggers the alarm. Select Points, Hazards, All (both Points and hazards), or Off.
Alarm Range	This is the distance from a pending alarm object that the alarm is to sound.

Table 3-3: ARM Setup Items

Chapter 3 - Real-time Setup
ARM Launcher

Running Product Setup

Make Product to tank assignments in Product Setup. The number of tanks is determined automatically from the Vehicle profile. Only products entered in the Chemical profile are available in this dialog. This includes product mixes as well. You cannot create a product mix in Product setup.

You must import the Chemical profile from RMS Office prior to running Product setup.

To run Product Setup, select the Product Setup tab in the ARM Launcher page (Figure 3-4). This brings up the main Product Setup page (Figure 3-7).

Figure 3-7: The Product Setup Page

This completes the Product Setup Wizard. Pressing the Forward Arrow in the Product Setup page returns you to the ARM launcher page (Figure 3-4).

Chapter Notes

Chapter 4 - Real-time Operation

Operating RMS-EXT for the Legacy 6000.

RMS-EXT Version 2.00
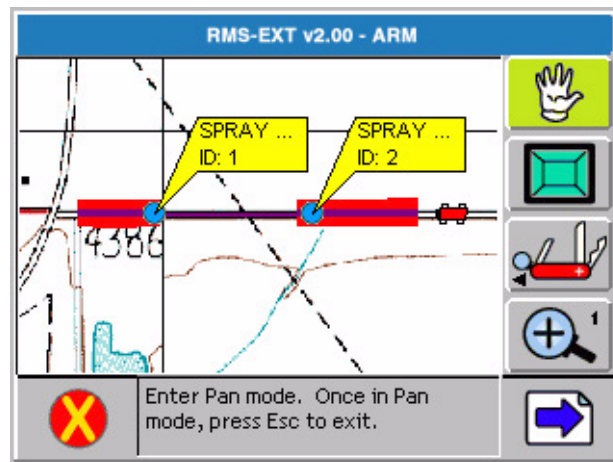
Product Application

When the Real-time Setup process is complete (see "Chapter 3 - Real-time Setup), product application can begin. This is accomplished by pressing the ARM Bull's-eye located on the ARM Main Launcher page (Figure 4-1).
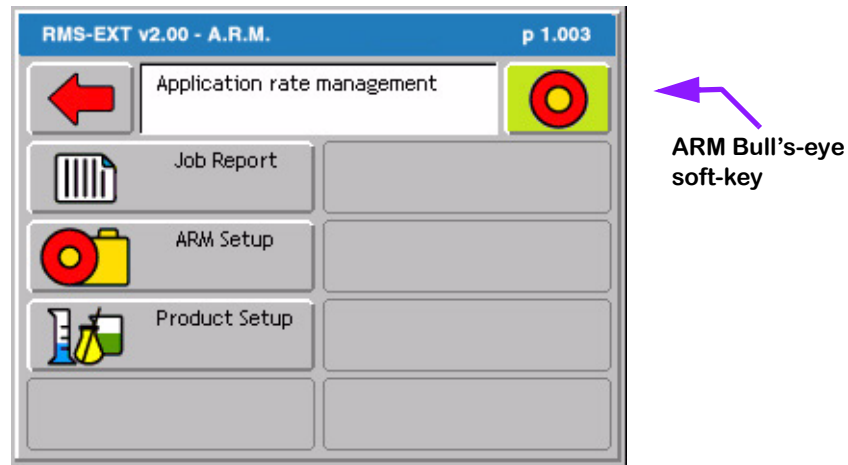
Figure 4-1: The ARM Launcher Page

When the ARM Bull's-eye soft-key is pressed, the RMS-EXT software loads all setup information. This loading process may take a few seconds to complete. When the loading process is complete, the Rates page (Figure 4-2) appears.

Real-time Pages

There are two real-time page types: the Rates page (Figure 4-2) and the Map page (Figure 4-6). Each page has the same layout: a left column of soft-keys, a center column that displays rate or map information, and a right column of soft-keys.

The left column is reserved for product control soft-keys. There is a soft-key for each product used in the current product application. If there is only one product, there is no soft-key in the left column. E.G. if a Legacy 6000 is connected to an external rate controller configured as a two product system, there are two product control soft-keys. If there are more than four products being applied, the left column becomes scroll-able to access the additional product control soft-keys. The left column is the same for the Rates page and the Map page. This allows the control of a product while viewing the application map. A product control soft-key contains the product name and the current rate being applied.

The right column soft-keys vary, depending on which page is currently being viewed. When viewing the map page, the right column contains all of the mapping, guidance, and general viewing

soft-keys. See Table 4-2 for a description of each soft-key. When viewing the Rates page, the right column contains various utility soft-keys, such as an Alternate Rates page soft-key and the Alarm Off soft-key.

The Rates Page

The Rates page displays various information related to the product and associated rate controller. Included are the product name at the top of the page, as well as the current rate, current speed, material applied, and area applied. There are also two alternate pages, Figure 4-3 and Figure 4-4. To move to an alternate page, press the alternate page soft-key. The first alternate page is a rates page showing distance applied and application width. The second alternate page is a navigation page showing the vehicle position, speed, heading, and amount of space remaining on the PC card.

To switch from the Rates page to the Map page, press the Change Page soft-key.
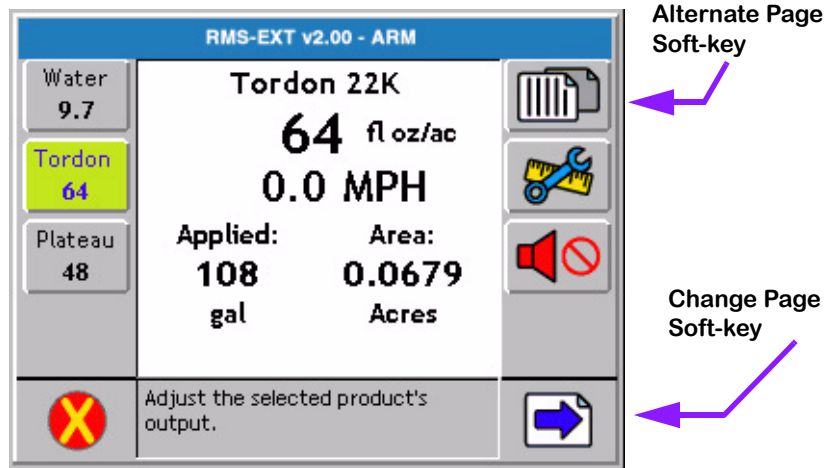
Figure 4-2: The Rates Page
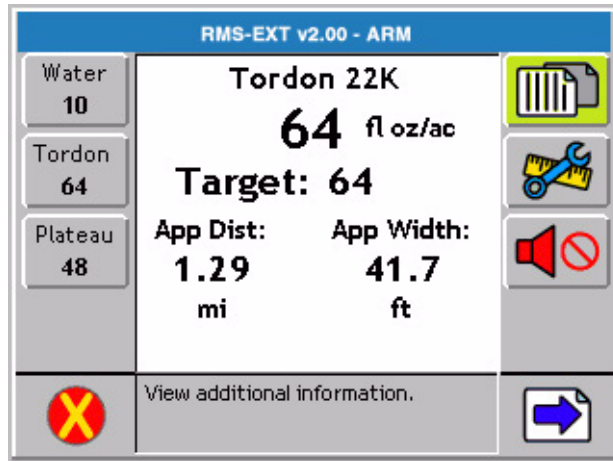
Figure 4-3: The Alternate Rates Page
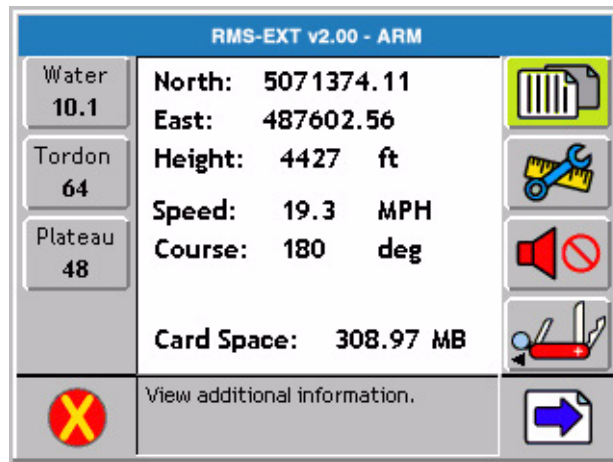
Figure 4-4: The Navigation Page

The Map Page

Pressing the change page soft-key, from the Rates page, moves to the next real-time mapping page; the Map Page. The Map page has two views: the Coverage View and the Product View. Each is described in more detail below.

All mapping and operation related soft-keys are displayed in the right column of the page. See Table 4-2 for a description of each soft-key displayed in a real-time page.

The Options Menu

Pressing the Options soft-key, in the Map Page, "pops-up" a small menu window (Figure 4-5). The options menu contains several mapping aides and tools, that can be utilized without exiting the real-time process. All items in the Option menu are toggle type; the item is either set to on or off. To activate an Option item, simply arrow down to the item and press Enter. Pressing Enter switches the state of the Option item. For example, if the item was on, it is switched to off. Table 4-1 describes each Options menu item.
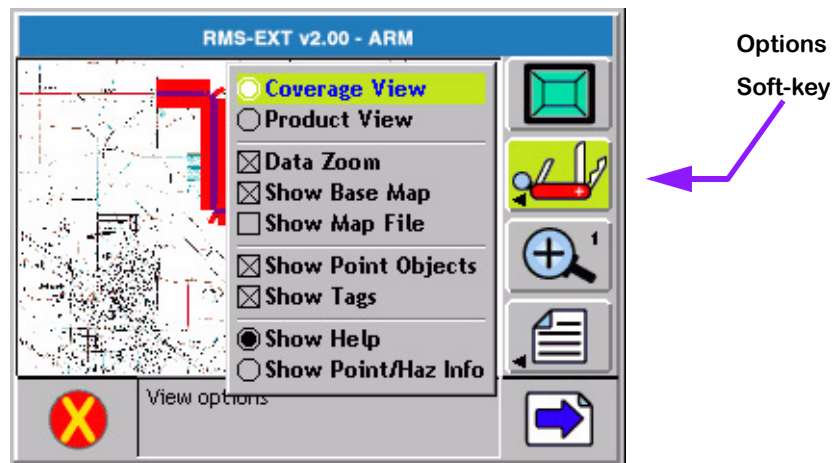
Figure 4-5: The Map Page Options Menu

Option	Description
Coverage View	This view shows general application coverage (see "The Coverage View" on page 4-9).
Product View	This view shows product specific status (see "The Product View" on page 4-10).
Data Zoom	When activated, the map page uses collected data, not the background map, as its Zoom extents.
Show Base Map	When activated, the base map file appears in the background. When turned off, the base map file does not appear.
Show Map File	When activated, the Map file (GMF), named in ARM setup, appears in the background.
Show Point Objects	When activated, all points, not polylines or polygons, are visible in the Map page. When turned off, all points are removed from the Map page.
Show Tags	All mapping objects have an associated tag, which contains the mapping object type and some associated attributes. When you activate this item, a tag is shown with each mapping object. This is useful if it is necessary to see the attributes of a particular object.
Show Help	When activated, help information appears in the bottom half of the map page. The help text corresponds to the highlighted soft-key.
Show Point/Haz Info	When activated, the driver receives a warning any pending hazard or point, in the top banner bar of the Map page.

Table 4-1: Options Menu Description

Real-time Soft-key Descriptions

Soft-key	Description
	The Exit soft-key. Press to exit the real-time process and return to the Main ARM Launcher page.
	The Next Page soft-key. Press to alternate between the Map page, Boom Status page, and Rates page.
	The Alternate Rates Page soft-key. Press to view additional product information, such as sensor and monitor status and current implement width.
	The Mute Alarm soft-key. Press to silence an alarm.
	The Device Manager soft-key. Press to launch Device Manager diagnostics. Use when it is necessary to trouble shoot the devices connected to the console, including the console or lightbar, when running in real-time.
	The Options soft-key. Press to bring up an Options menu (see Table 4-1).
	The Zoom In soft-key. Press to decrease the area displayed in the view page. There is a total of 5 zoom levels.
	The Zoom Out soft-key. Press to increase area displayed in view page. There is a total of 5 zoom levels.
	The Full Screen soft-key. Indicates that the current display mode is "Full Screen". When pressed, the map area is reduced to allow the message area to appear at the bottom of the screen. This is useful when you want to view the descriptions of the soft-keys on the right side of the screen.
	The Partial Screen soft-key. Indicates that the current display mode is "Partial Screen". When pressed, the map view is expanded to include the message space at the bottom of the screen. This is useful when you want to see more of the vehicle trajectory.
	The North Up View soft-key. This map page display option keeps North at the top of the view page. When pressed, this soft-key changes to the COG View soft-key.

Table 4-2: Real time Soft-key Description

Soft-key	Description
	The Course on Ground (COG) View soft-key. This view page option keeps the vehicle stationary in the view page with the heading (course) of the vehicle pointing to the top of the view page. When pressed, this soft-key changes to the North Up View soft-key.
	The Center Vehicle soft-key. Press to center the vehicle in the map page.
	Generate Object soft-key. Press to activate a pop-out menu. From this menu, you can map a point, hazard, weather point, or note. An associated icon appears in that location in the map page. This information is stored in the Map file.
	The Pan soft-key. Press to pan around in the map page, using the arrow keys.

Table 4-2: Real time Soft-key Description

The Coverage View

The Coverage Page displays the vehicle, moving in real-time, and the spray area that has been applied. The Basemap file and the Background file images, selected in ARM Launcher, appear here also. (Figure 4-6) shows the current coverage for the spray session. Sprayed areas are represented by a solid Purple line, with Red on the side of the road that was sprayed. Notice in this figure that both background images are present. The Basemap file, Belgrade.tiff, is the USGS Quad map in the background. The Map file, displayed in the background, contains the Spray On and Spray Off locations.
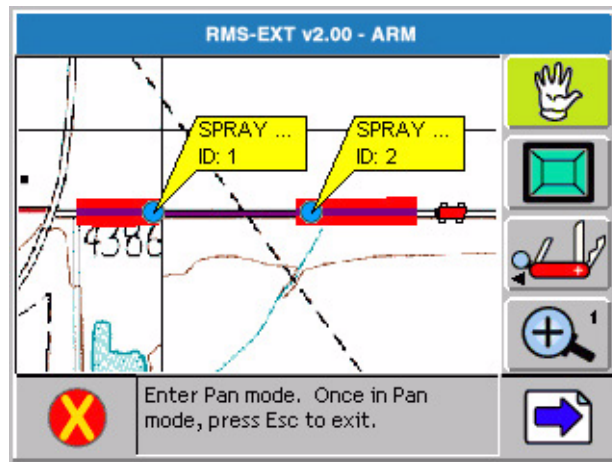
Figure 4-6: The Coverage Page

The Product View

Selecting Product view from the Options menu changes the Map page from Coverage view to the Product view. This view displays the boom activity for a specified product. To view a specific product, press a product soft-key on the left side of the page. Each soft-key displays the name of the product and the current rate. Figure 4-7 shows the view for the carrier Water.

If booms sections are turned off, this activity appears in the Product view and also recorded in the session record file. An example of boom activity is shown in Figure 4-8.
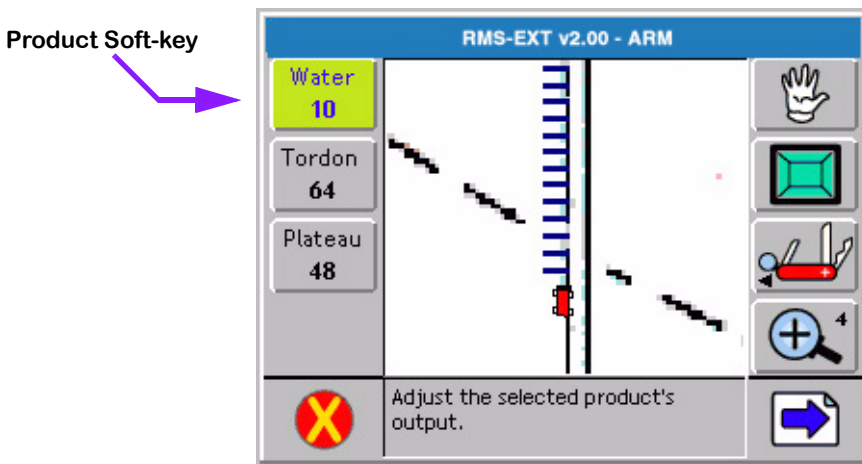
Product Soft-key

Figure 4-7: The Product View
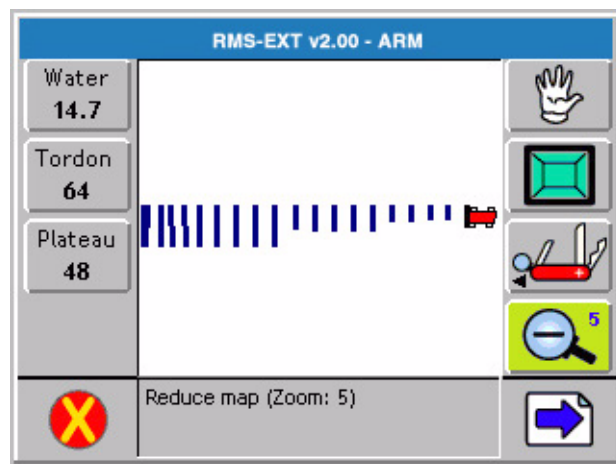
Figure 4-8: Viewing Boom Activity

The Boom Status Page

Press the Change Page soft-key, from the Map page, to bring up the Boom Status page (Figure 4-9). This page displays the current boom section status for the vehicle.

An active section appears in Bright Green while an inactive section appears in Gray (Figure 4-10).
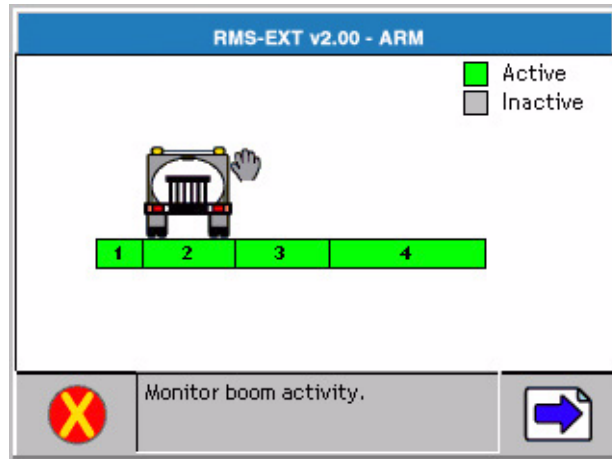
Figure 4-9: The Boom Status Page
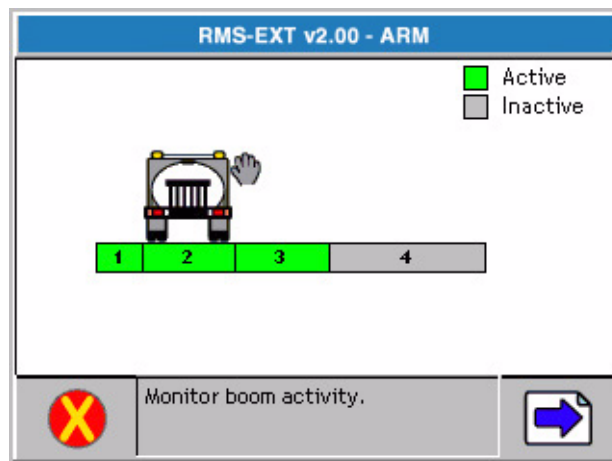
Figure 4-10: The Boom Status Page

System and Warning Messages

RMS-EXT for the Legacy 6000 provides system operation feedback in the form of System messages and Warning messages. This system information appears in the top portion (banner bar) of the rates page and map page.

System Message

A system message does not obstruct real-time operation. The most common system message is the current software version, (Figure 4-11), This message appears when the Legacy 6000 system is operating properly.
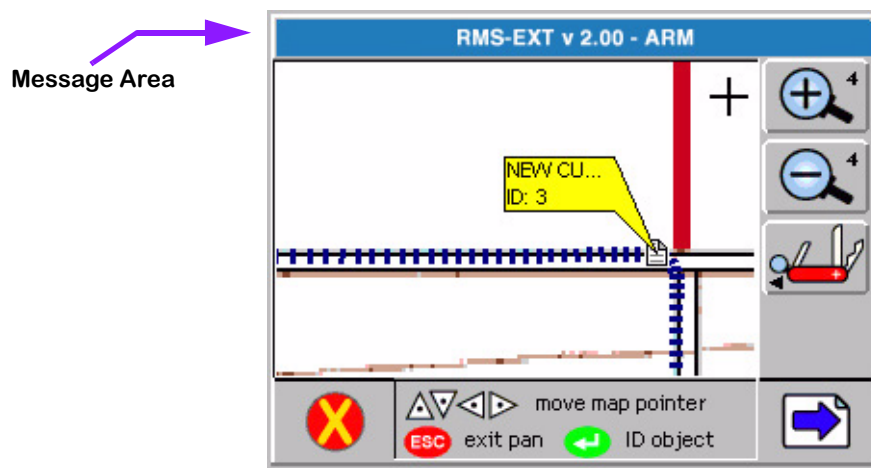
Figure 4-11: System Ready Message

Warning Message

A warning message does not obstruct real-time operation. When a warning message first appears in the banner bar, the banner bar color changes to Red and the alarm sounds. To mute the alarm, press the arrow soft-key, in the bottom right corner of the screen, and press the Mute Alarm soft-key. The warning message remains in the banner bar until the situation causing the warning is resolved. The alarm does not sound again until a new warning appears.Typical warning messages relate to GPS Positions, product application rates, and speeds.
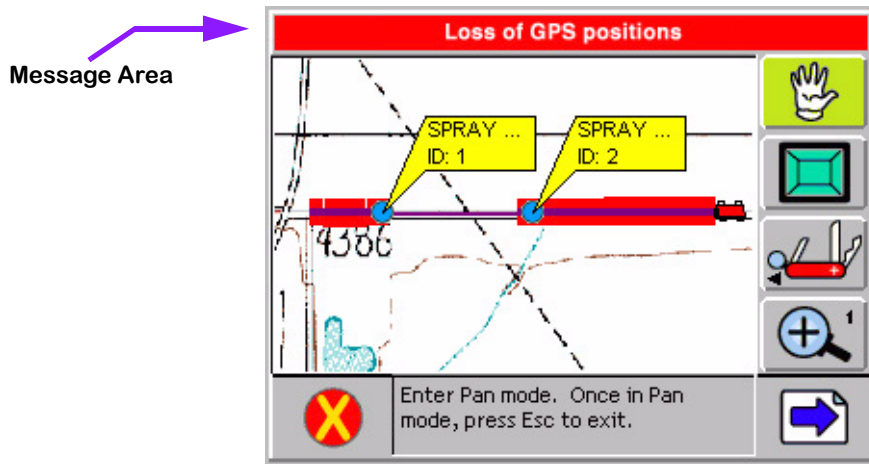
Figure 4-12: Warning Message

Mapping Points, Hazards, Weather, & Notes

Mapping objects (points, hazards, notes, and weather) during the product application process is another feature of RMS for the Legacy 6000. Access all objects from one soft-key (Figure 4-13). When you press the Map Object soft-key, a map object menu appears on the Map page. Select objects from this menu using the arrow keys. Each object type is described in more detail below.
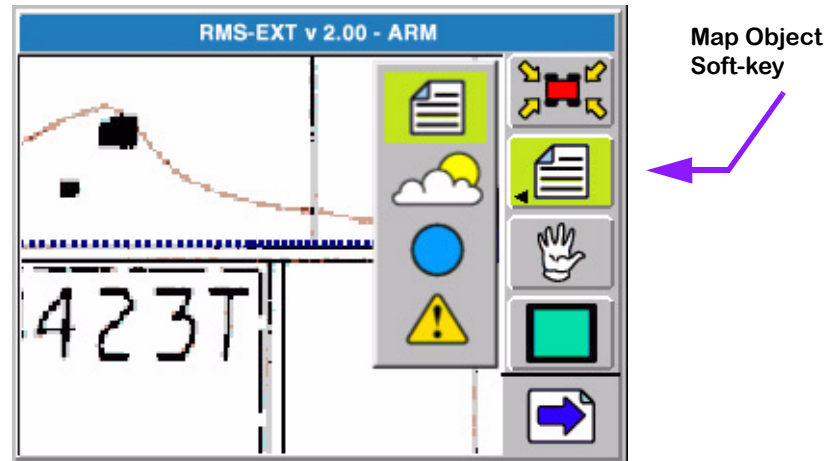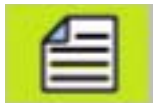

Figure 4-13: The Map Object Soft-key

Map Object Marker Descriptions
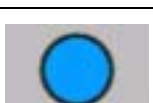
Soft-key	Description
	The Notes Object. Press to place a note at the current vehicle location. Selecting the Notes Object opens a dialog box that allows you to enter the desired text.
	The Weather Object. Press to place a note describing weather conditions at the current vehicle location. Selecting the Weather Object opens a wizard that allows you to enter the desired information.
	The Point Object. Press to place a point symbol at the current vehicle location. The Point Name dialog allows you to assign a name to the symbol, or select one from a list.
	The Hazard Object. Press to place a hazard symbol at the current vehicle location. The Hazard Name dialog allows you to assign a name to the symbol, or select one from a list.

Table 4-3: Map Object Soft-key Description

Marking a Point

The map object Point soft-key allows you to mark a point at the vehicle location. To map a point, drive to the location of the object or feature being mapped. This location should coincide with the location of the GPS antenna. Press the Map Object soft-key and select the Point symbol. When you press Enter, the Point Name dialog box appears (Figure 4-14). Enter the name of the point, using the arrow keys, and press Enter to accept the point name and return to the map page.

The Name Point dialog remembers the 10 most recent entries. To select a recent entry, scroll through the dialog window, using the arrow keys, and select the desired point name. If you don't want to name the point, select the No Name setting in the dialog window and press Enter. A point symbol is placed at the marked location in the Map page

To add a new name, press the New Name soft-key. This brings up a name input dialog that allows a new name to be entered.
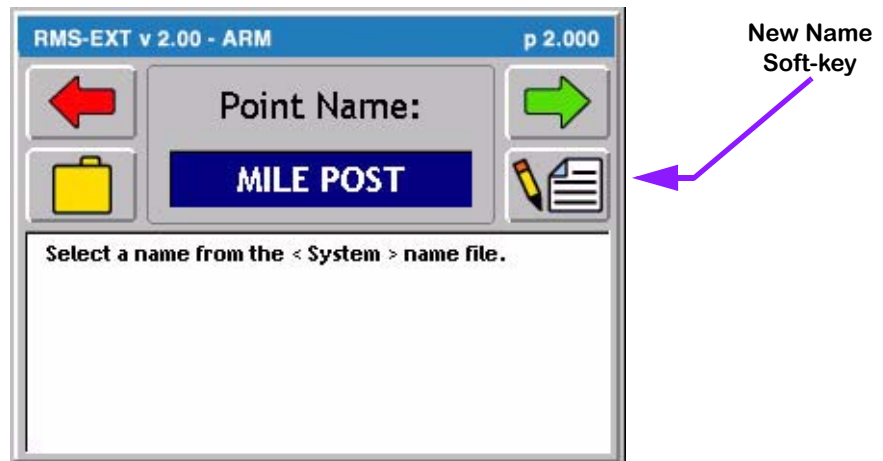
Figure 4-14: Naming the Point

Marking a Hazard

Map object Hazard allows a hazard to be marked at the vehicle location. The map object Hazard can be used later in Hazard Detection to notify the operator of potentially hazardous objects or features along an application route.

To map a hazard, drive to the location of the object or feature to be mapped. This location should coincide with the location of the GPS antenna. Press the Map Object soft-key and select the Hazard symbol (Figure 4-13). When Enter is pressed, the Hazard Name dialog box appears (Figure 4-15). Enter the name of the hazard using the arrow keys. Press Enter to accept the hazard name and return to the map page. A hazard symbol is placed at the marked location in the Map page.

The Name Hazard dialog remembers the 10 most recent entries. To select a recent entry, scroll through the dialog window, using the arrow keys, and select the desired object name. If the object is not named, select the No Name setting in the dialog window and press Enter.

To add a new name, press the New Name soft-key. This brings up a name input dialog that allows a new object name to be entered.

Switch Name Files
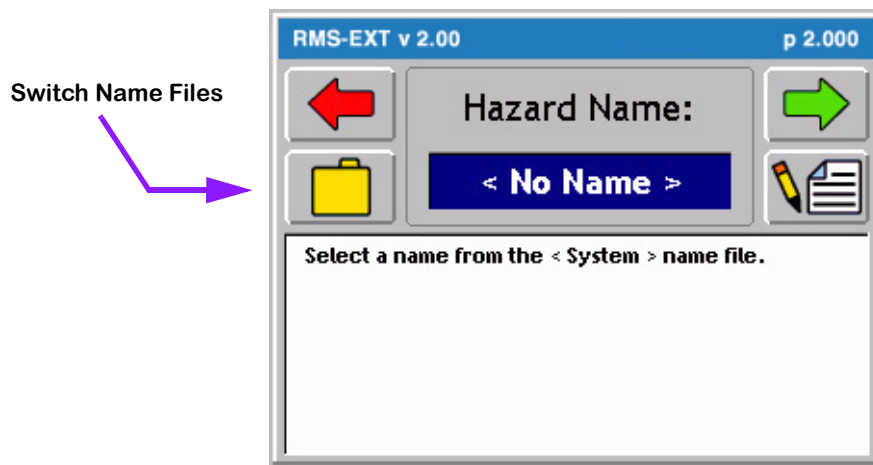
Figure 4-15: Naming the Hazard

Object Name File

You can easily create a simple text file of names commonly used while applying. Typically users have a weeds file, which allows them to simply select a weed name instead of having to type it in. To learn how to build a names file, see the RMS Office user's guide. To switch to a new names file press the Folder soft-key in the Point or Hazard dialog (Figure 4-14) or (Figure 4-15).

Marking a Note

Another feature in RMS-EXT is the ability to create a note about a particular situation and location during real-time product application. To create a note, drive to the location that the note is associated with. Press the Map Object soft-key and select the Note, (Figure 4-13). A Note dialog appears (Figure 4-16). Enter the note text and press enter. A note symbol is placed on the real-time map, (Figure 4-17).
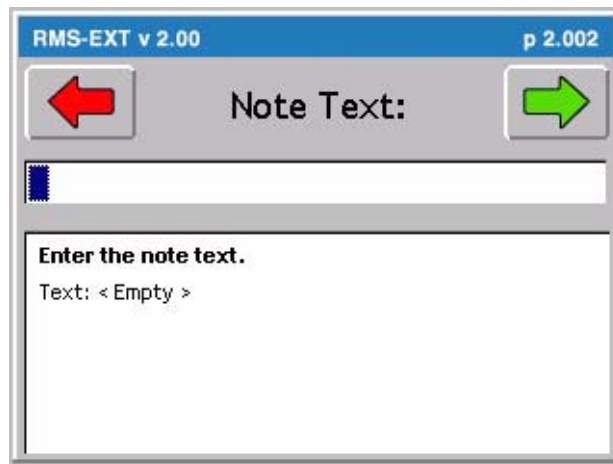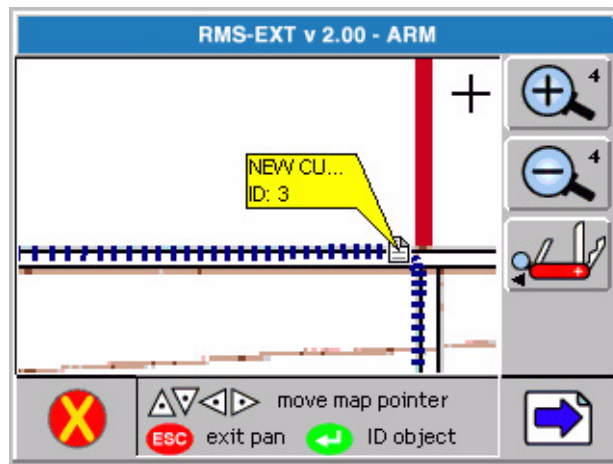

Figure 4-16: The Note Dialog

Figure 4-17: The Note Message

Marking a Weather Point

It is possible to add a point describing significant weather conditions, such as wind speed and direction, temperature, etc.. To create a weather point, drive to the location that the point is associated with. Press the Map Object soft-key and select the weather symbol, (Figure 4-13). The weather wizard dialog appears (Figure 4-18). Select the appropriate conditions and press enter. A weather point symbol is placed on the real-time map, (Figure 4-19).
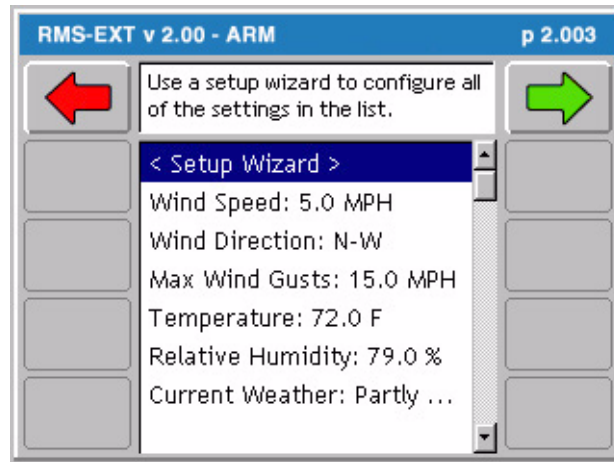
Figure 4-18: Weather Wizard Page
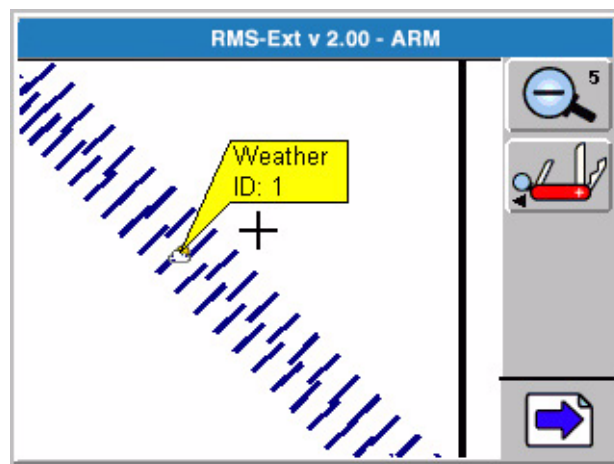
Figure 4-19: Weather Point in Map Page

Exiting Real-Time Operation

To exit real-time operation, press the Exit button located at the bottom left corner of the current page. If data is being stored to the PC card, the exiting process may take a minute or so to properly store this data.

Exit Soft-Key
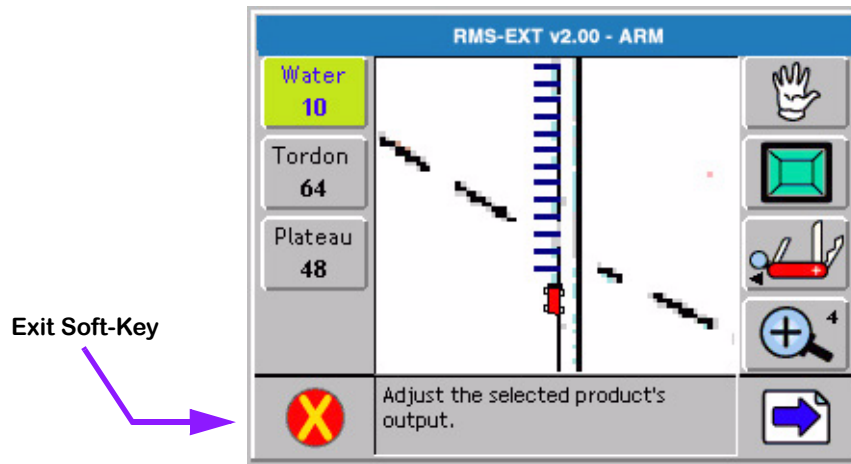
Figure 4-20: Exiting Real-time Application

RMS-Map Manager

Some Legacy 6000 system kits include RMS Office for an office computer or laptop. RMS Map Manager Tools can be used to view application "as applied" maps. Figure 4-21 shows "as applied" data and Roads data in the Map Manager view. To view "as applied" maps, copy the record files (RCD) from the PC card to a desktop or laptop computer. Consult the Map Manager user's guide for instructions on how to generate application reports from the data

.
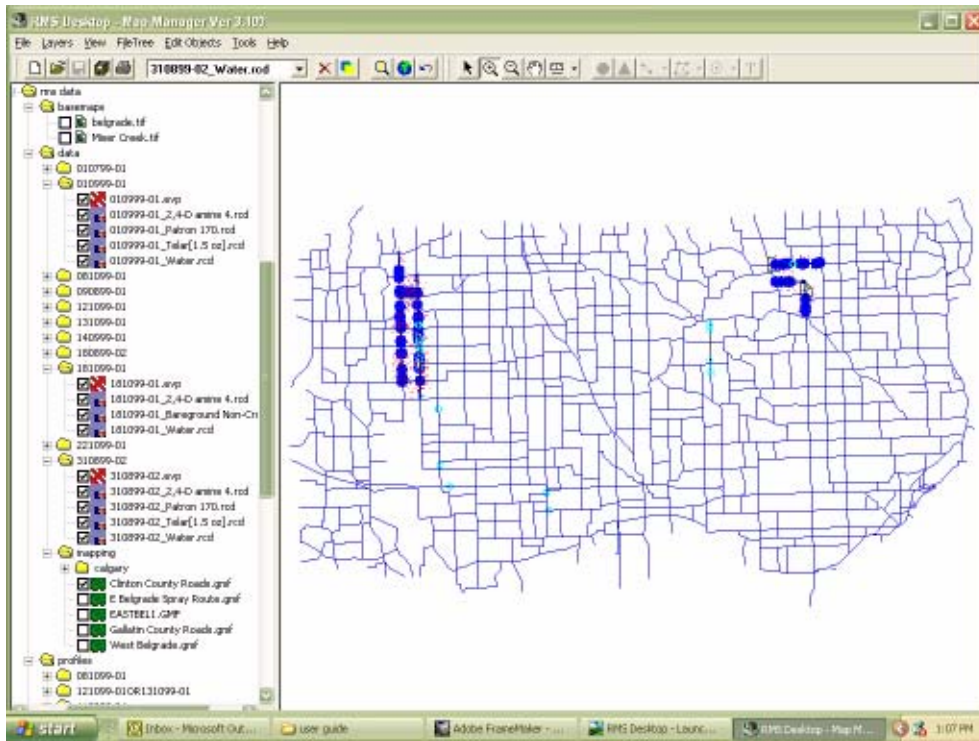
Figure 4-21: Record Data Viewed in Map Manager

Chapter Notes

Chapter 5 - RMS Mapper

Mapping Software for Roadside Applications.
RMS-EXT Version 2.00
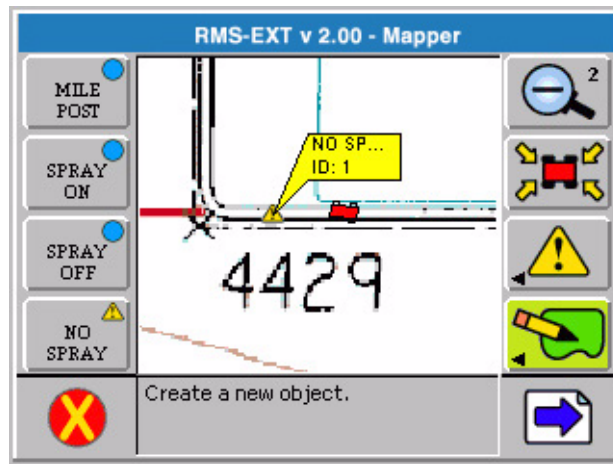
RMS Mapper Introduction

The Mid-Tech *RMS Mapper* mapping program for the Legacy 6000 allows the mapping of roadways, railroads, power-lines, weed types, and infestations, as well as any other features important to the roadside spraying task. Features can be mapped as points, lines, or polygons. With a submeter GPS receiver, area determination of a mapped polygon is possible to within one-tenth of an acre. Data, collected with RMS Mapper, is stored as a map and can be viewed as a background map in the *RMS Application Rate Management (ARM)* software. Use *RMS Mapper* as a pre-spray campaign mapping tool, where the route, as well as spray on and spray off locations, can be mapped a few days prior to the spray truck heading out. Load this map into the *RMS ARM* software and view it in the background. The spray vehicle operator can view this route or "spray campaign" map and see the areas along the route that need to be sprayed. Many other important features can be mapped, such as route hazards and water crossings. When using the *RMS ARM* software, it can automatically notify the operator of impending spray on and spray off locations as well as any features marked as hazards created with *RMS Mapper* software.

Mapper Setup

This Section covers setting up the Mapper application for real-time operation. When the System Setup process is complete (see System Setup on page 2-8), real-time setup can begin. Just press the Mapper soft-key located on the RMS-EXT Main Launcher page (Figure 5-1). The steps in the real-time setup process vary, based on how the Legacy 6000 system is configured.
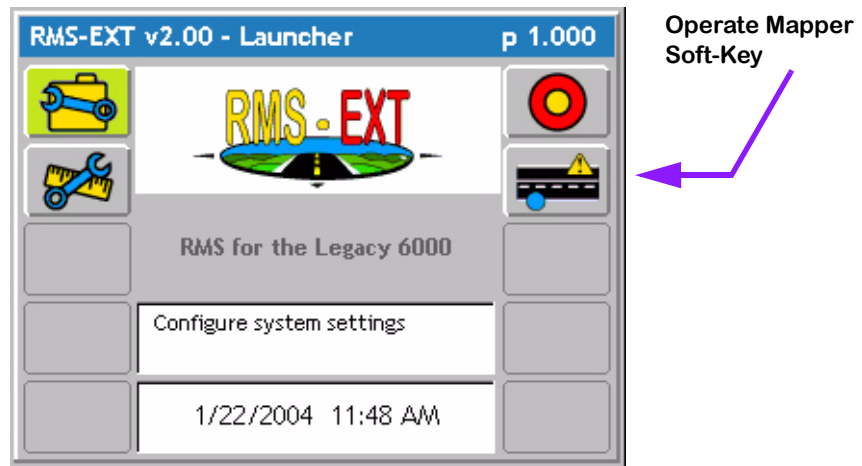

Operate Mapper Soft-Key

Figure 5-1: RMS Main Launcher

Mapper Setup and Operation Steps

Soft-key	Step Description
	Start Mapper Application. Press to start the Mapper application. Select or create a job and continue to Mapper setup.
	Accept Job. Select or create a job and press this soft-key. The Mapper Launcher menu appears. Run Mapper and Road Marker setups or continue on to real-time mapping process.
	Mapper Setup. Run this setup to name data files and set the data collection rate. You must name a Map File prior to starting the real-time mapping process.
	Road Markers. Run this setup to pre-define point and hazard objects. A pre-defined point or hazard object has its own soft-key in the real-time Map page. Define commonly mapped objects here.
	Start Mapping. When the setup process is complete, start real-time mapping by pressing this soft-key.

Table 5-1: Mapper Setup and Operation Steps

Setting up a Job

Pressing the Mapper button in the RMS-EXT Main Launcher brings up the Job page (Figure 5-2). You must have a PC card installed to create a job and store application and trajectory data.

Each Job created with a unique job id has an associated file folder named after the job id and placed at the root of the inserted PC card. All data files associated with a job are stored in this folder on the PC card.

There are three methods for entering/selecting a job: select an existing Job, create a job based on an existing job, and create a new job.

Selecting an Existing Job

You can select an existing job from the Job page (Figure 5-2) using the Up and Down arrow keys. An existing Job has an associated file folder located on the PC card. The name of the job folder is the same as the job number.

Create a new Job Soft-Key

Create a Job Based on Another Job Soft-Key.
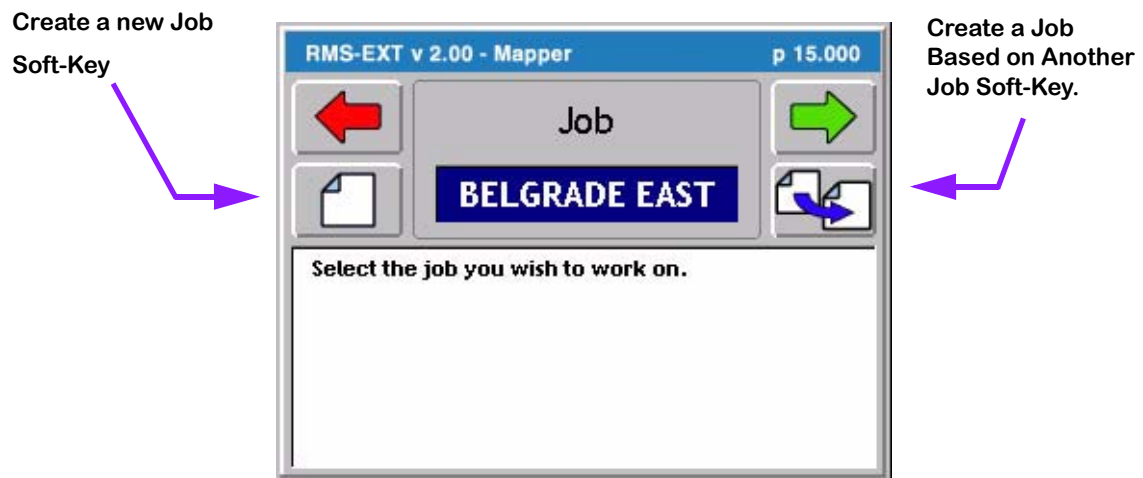
Figure 5-2: The Job Page

Creating a Job Based on Another Job

You can create a new job based on the settings of an existing job. Select the job to be copied in the main job page window, and press the "Create a Job Based on Another Job" button on the Job page. A prompt appears asking you to manually enter a new job name or accept the auto-named job.

Creating a New Job

To create a new job, press the Create a new Job button in the Job page. This brings up the Create a New Job page. There are two methods of creating a new job: manually and automatically.

Manually Naming a Job

To manually name a job, highlight the text entry window (Figure 5-3) and use the arrow keys to enter a name for the job. A job name can contain alpha/numeric characters. When you have entered the desired job name, press the forward button to save the name and return to the Job page.
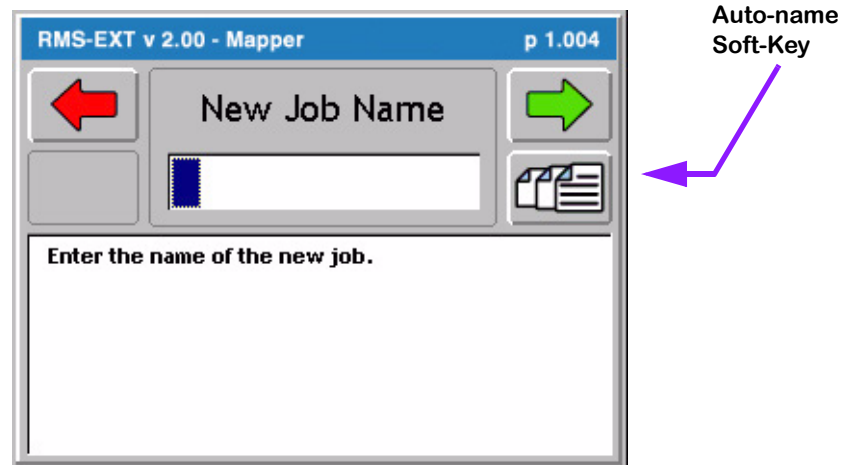
Figure 5-3: Manually Enter a Job Name

Automatically Naming a Job

To automatically name a new job based on the current days date, press the Auto-name button in the Create a Job page (Figure 5-3). The job is assigned a name based on the current date, followed by the number that job is for the day. Therefore, the first job on November 21st 2002 is automatically named 11212002-1. The second job for the same day is named 11212002-2.

Mapper Launcher

When you have selected the appropriate Job name, press the Forward Arrow in the Job page, to move to the Mapper Launcher page (Figure 5-4). There are two setup menus to check and set up to fit mapping needs. Some of the setup parameters must be set each time mapping is started. Each setup menu is discussed in detail below.
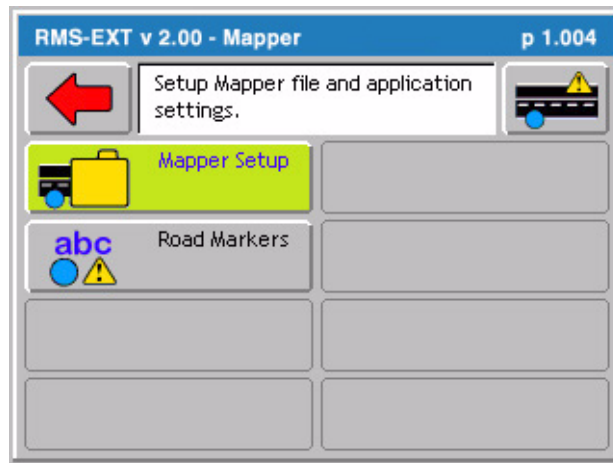
Figure 5-4: The Mapper Launcher Page

Mapper Setup

All file names, associated with the current mapping session, are assigned in Mapper setup. You cannot collect data without a Map File name. Table 5-2 describes each parameter in more detail.
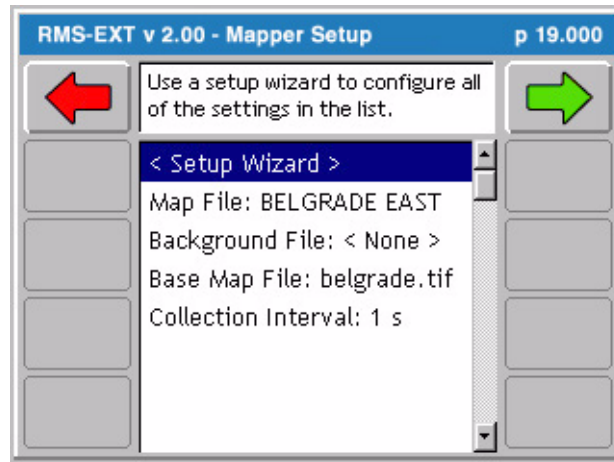
Figure 5-5: The Mapper Setup Page

Parameter	Description
Map File	Mapping data is stored in this file. Mid-Tech file type (GMF).
Background File	A previously mapped GMF file that can be viewed in the background.
Base Map File	A Geo-tif file, typically a USGS Quadrangle. This file must be in WGS-84 Latitude and Longitude coordinate system.
Collection Interval	Sets the rate of data collected; typically 1 second. Choices are 1, 2, 3, 4, and 5 seconds.

Table 5-2: Mapper Setup Description

Road Markers Setup

The Road Marker setup menu allows you to pre-define points and hazards, for easier access during the real time mapping process. There is a unique object soft-key in the real-time Map page (Figure 5-8) for each marker that you define in this setup menu.
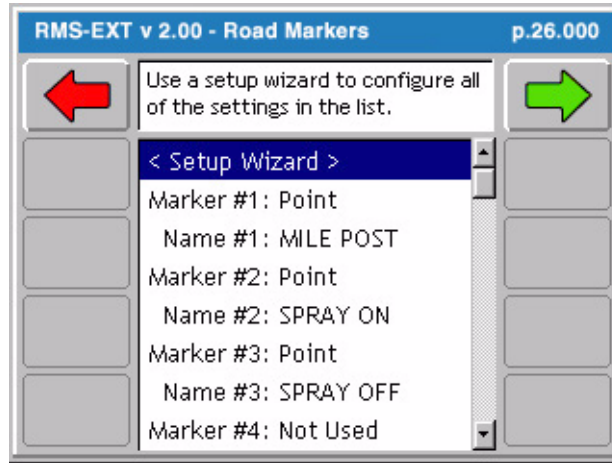
Figure 5-6: The Road Markers Setup Page

Parameter	Description
Marker #	The type of marker being defined: Point, Hazard, and Not Used.
Name #	The name of the marker defined above.

Table 5-3: Road Marker Setup Description

Start Mapping

When the Mapper Application Setup process is complete, real-time mapping can begin by pressing the Mapper soft-key, located on the Mapper Launcher page (Figure 5-7).
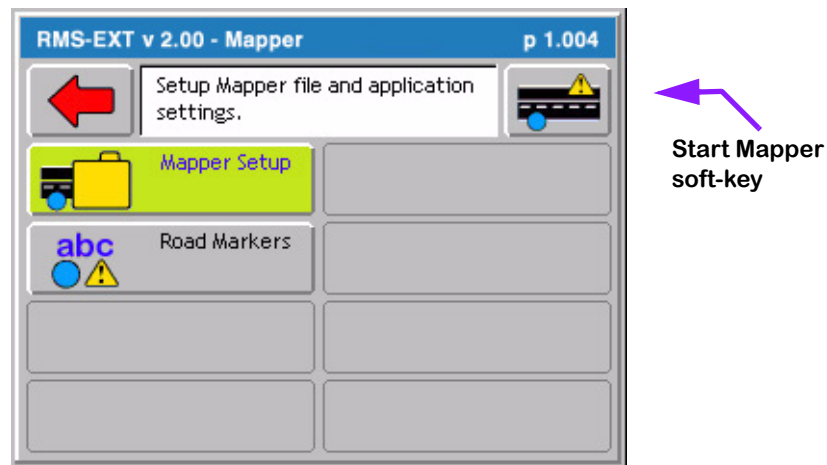
Figure 5-7: The Mapper Launcher Page

The Map Page

The first real-time page is the Map page. You can perform all mapping tasks in this page. The right side soft-keys in the Map page represent all of the available mapping functions, such as map objects, zoom, and options. Table 5-6 describes each of these soft-keys in more detail.

The left column of soft-keys represent the pre-defined point or hazard objects. These soft-keys are setup in the Mapper setup menu (See "Road Markers Setup" on page 5-9). Typically, commonly used point and hazard objects have their own soft-key for rapid use.

When the Mapper soft-key is pressed, the RMS-EXT software loads all setup information. This loading process may take a few seconds to complete. The Map page is the first real-time page seen.

Pre-defined point
and hazard objects.
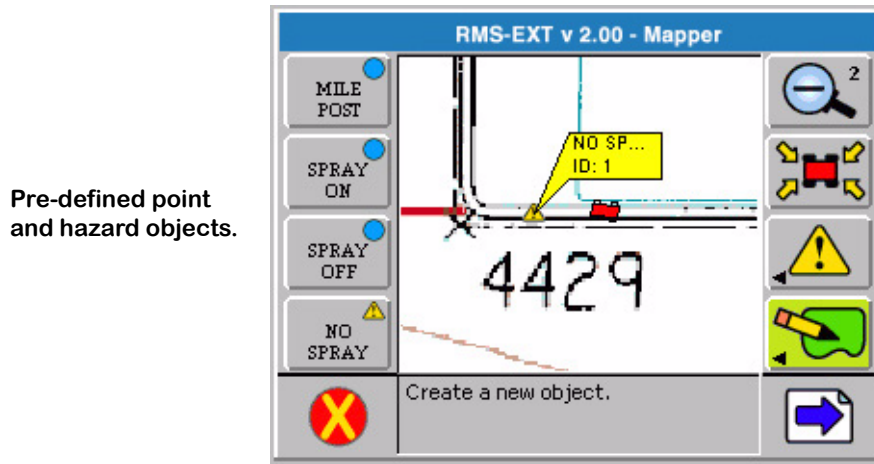
Figure 5-8: The Map Page

The Options Menu

In the Map Page is an Options soft-key (Swiss Army Knife). Pressing the Options soft-key "pops-up" a small menu window on the Map page (Figure 5-9). The options menu contains several mapping aides and tools that can be used without exiting out of the real-time process. All items in the Option menu are toggle type; the item is set to either on or off. To activate an Option item, simply arrow down to the item and press enter. Pressing enter switches the state of the Option item. For example, if the item was on, it is switched to off. Table 5-4 describes each Options menu item.
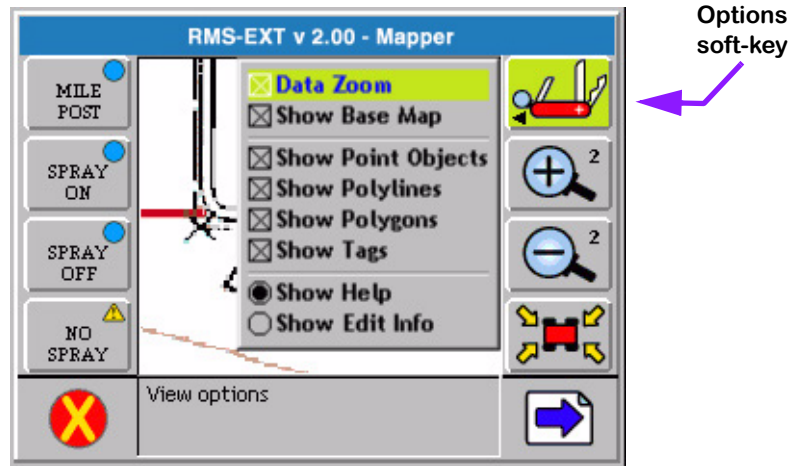
Figure 5-9: The Options Menu

Option	Description
Data Zoom	When activated, the map page uses collected data, not the background map, as its Zoom extents.
Show Base Map	When activated, the base map file is displayed in the background. When turned off the base map file is not displayed.
Show Point Objects	When activated, all point objects, contained in the Map file (GMF) named in Mapper setup, are displayed in the Map page.
Show Polylines	When activated, all polylines, contained in the Map file (GMF) named in Mapper setup, are displayed in the Map page.
Show Polygons	When activated, all polygons, contained in the Map file (GMF) named in Mapper setup, are displayed in the Map page.
Show Tags	All mapping objects have an associated tag, which contains the mapping object type and some associated attributes. When this item is activated, a tag is shown with each mapping object. This is useful if it is necessary to see the attributes of a particular object.
Show Help	When activated, help information is displayed in the bottom half of the map page. The help text corresponds to the highlighted soft-key.
Show Edit Info	When activated, attribute information for the nearest map object is displayed in the bottom half of the Map page.

Table 5-4: Options Menu Description

The Map Objects Soft-Key

The primary task performed in the Map page is object mapping. In RMS Mapper, objects include points, polylines, or polygons. As explained before, you can pre-define some point and hazard objects in the Road maker setup. Each pre-defined object has a corresponding soft-key in the Map page. Mapping objects are also accessed via the Map Objects soft-key. Pressing this soft-key activates a menu containing all graphical object types. Each object type is described in Table 5-6.

To select an object, use the up and down arrow keys on the legacy 6000 to highlight the desired object. Press the Enter key.
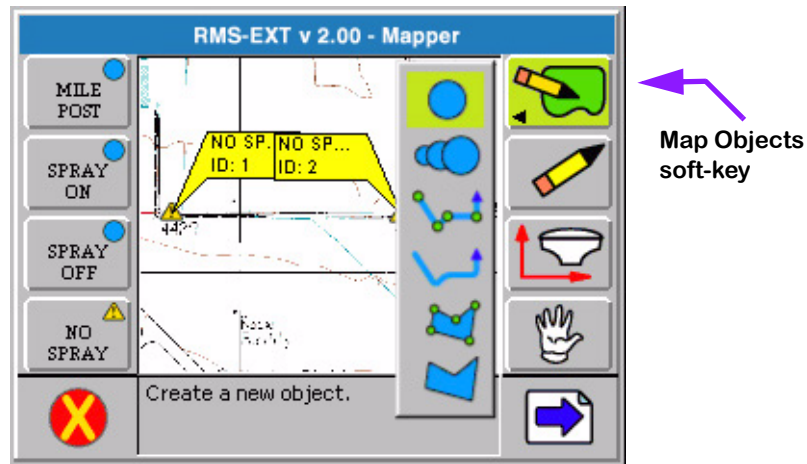
Figure 5-10: The Mapper Map Page

Object	Description
	Point-Mark. Maps a single point to the Map file. The Map Object soft-key changes to a Point soft-key. Press to mark a point. A prompt asks for a point name each time a point is marked.
	Point-Stream. Maps a stream of points at the data collection interval rate. The Map Object soft-key changes to the Points Stream soft-key. Press to turn stream on and off. A prompt asks for an object name.
	Polyline-Mark. Use to map or locate features that can be represented by a line of discrete points. The Map Object soft-key changes to the Polyline-Mark soft-key. Press to mark a point along the polyline. A prompt asks for an object name.
	Polyline-Stream. Use to map or locate features that can be represented by a line streaming points. The Map Object soft-key changes to the Polyline-Stream soft-key. Press to turn streaming on and off. A prompt asks for an object name.
	Polygon-Mark. Use to map or locate features that can be represented by a closed shape made up of discrete points. The Map Object soft-key changes to the Polygon-Mark soft-key. Press to mark a point along the polygon perimeter. A prompt asks for an object name.
	Polygon-Stream. Use to map or locate features that can be represented by a closed shape made up of streaming points. The Map Object soft-key changes to the Polygon-Stream soft-key. Press to turn streaming on and off. A prompt asks for an object name.

Table 5-5: Mapping Object Description

Real-time Soft-key Descriptions

Soft-key	Description
	The Exit soft-key. Press to exit the Mapper real-time process and return to the Mapper Launcher page.
	The Next Page soft-key. Press to alternate between the Map page and the Navigation page.
	The Stop Alarm soft-key. Press to mute an alarm.
	The Device Manager soft-key. Press to launch Device Manager diagnostics. This is used when it is necessary to trouble shoot the devices connected to the console, including the console and GPS receiver, when running in real-time.
	The Options soft-key. Press to bring up the Options menu (see Table 5-4).
	The Zoom In soft-key. Press to decrease the area displayed in the view page. There is a total of 5 zoom levels.
	The Zoom Out soft-key. Press to increase area displayed in view page. There is a total of 5 zoom levels.
	The Full Screen soft-key. Indicates that the current display mode is "Full Screen". When pressed, the map area is reduced to allow the message area to appear at the bottom of the screen. This is useful when you want to view the descriptions of the soft-keys found on the right side of the screen.
	The Partial Screen soft-key. Indicates that the current display mode is "Partial Screen". When pressed, the map view is expanded to include the message space at the bottom of the screen. This is useful when you want to see more of the vehicle trajectory.
	The North Up View soft-key. Indicates that the current display mode is "Course On Ground" which keeps the vehicle stationary in the view page with the heading (course) of the vehicle pointing to the top of the view page. Pressing this soft-key changes the view to North Up.
	The Course on Ground (COG) View soft-key. Indicates that the current display mode is "North Up" which keeps North at the top of the view page. When pressed this soft-key changes the view to COG.

Table 5-6: Real time Soft-key Description

Soft-key	Description
	The Center Vehicle soft-key. Press to center the vehicle in the map page.
	Generate Object soft-key. Pressed to bring up a menu that allows you to set up a map object to be mapped (see The Map Objects Soft-Key on page 5-13).
	The Pan soft-key. Press to pan around in the map page, using the arrow keys.
	Antenna Offset soft-key. Press to change the antenna offset.
	Erase Object soft-key. Press to erase the last object or object vertex created.

Table 5-6: Real time Soft-key Description

The Navigation Page

Pressing the Change Page soft-key switches the display from the Map page to the Navigation page (Figure 5-11). This page displays the vehicle position, speed, course, map file name, and file size. Access device manager from this page as well. Press the Change Page soft-key to return to the Map page.
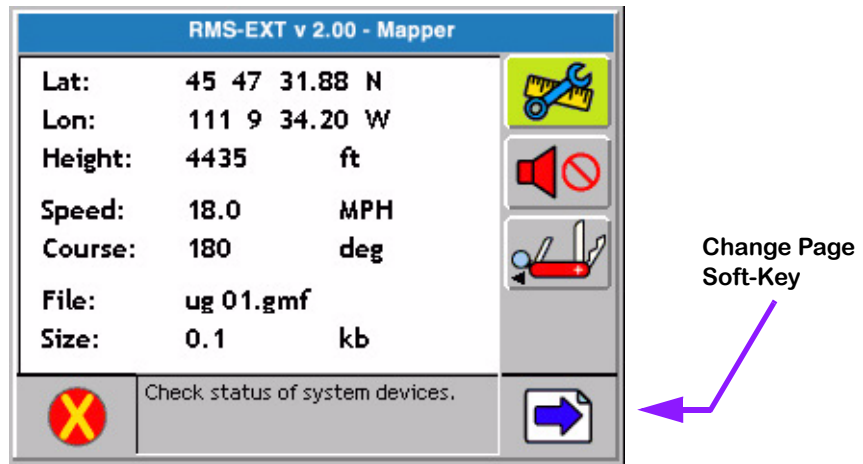

Figure 5-11: The Navigation Page

Exiting Real-Time Operation

To exit real-time operation, press the Exit button, located on the bottom left corner of the current page. If data is being stored to the PC card, the exiting process may take a minute or so to properly store this data.
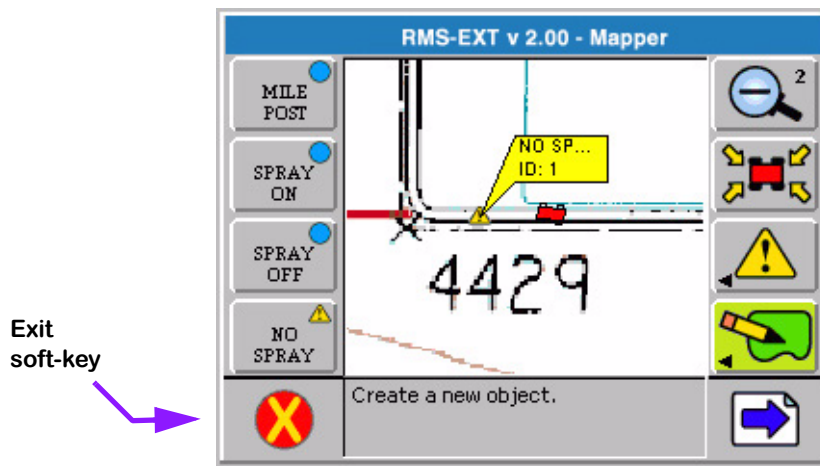
Exit soft-key

Figure 5-12: Exiting Real-time Application

RMS-Map Manager

Some Legacy 6000 system kits include RMS Office for an office computer or laptop. RMS Map Manager Tools can be used to view application "as-applied" maps. (Figure 5-13) shows "as-applied" data and roads data in the Map Manager view. To view "as-applied" maps, copy the record files (RCD) from the PC card to a desktop or laptop computer. Consult the Map Manager user's guide for instructions on how to generate application reports from the data.
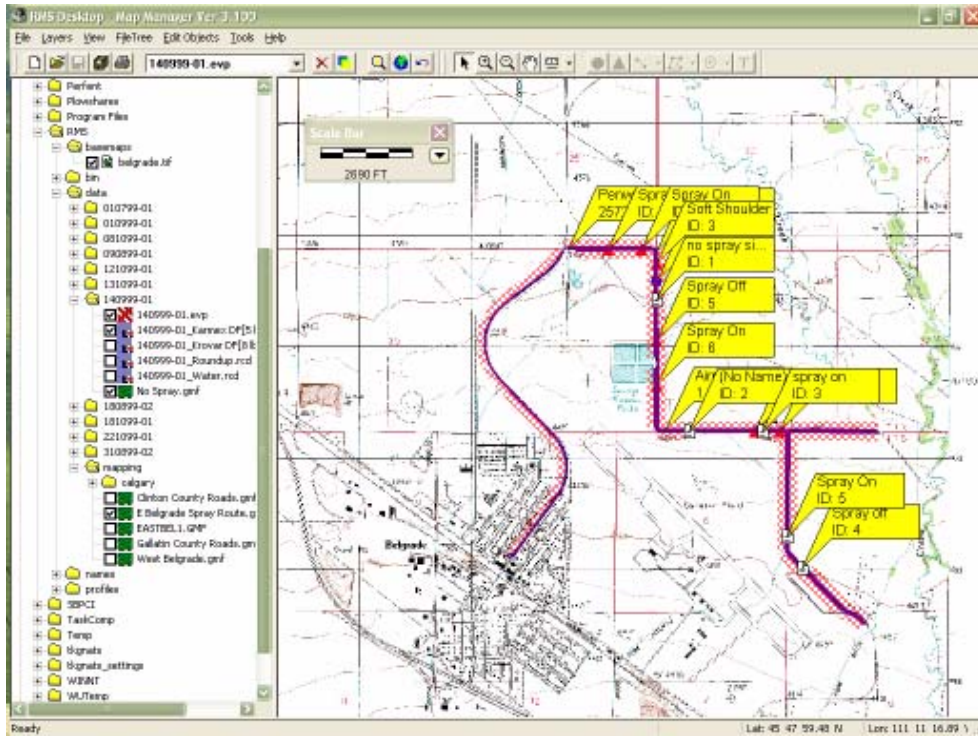
.

Figure 5-13: Record Data Viewed in Map Manager

Chapter Notes

Midwest Technologies

2864 Old Rochester Road
Springfield, IL 62703-5632
Phone (217) 753-8424 - Fax (217) 753-8426
www.mid-tech.com

MID-TECH