MC9090-G RFID Customer Release Notes
For Software Release Version 3.1

Customer Release Notes for Version 3.1 Released June 2008

Contents

Introduction

The *Customer Release Notes* are designed for the Motorola MC9090-G RFID mobile computer. The *Customer Release Notes* contain new features, major bug fixes, and a list open issues (not resolved at the time of the release).

The latest support documents updates are available at: http://www.symbol.com/support

- MC9090-G RFID Integrator Guide Supplement (PN: 72E-89963-xx)
- MC9090-G RFID Customer Release Notes (PN: 72E-899664-xx)

Features:

- EU 300-220 10% Duty-Cycle support
- Updated RFID DLL (ver 3.24) with Duty-Cycle support
- Updated RFID Demo.exe (ver 1.15, enhanced demonstration of the new API and parameter validations)
- 1D Scanner support
- Fusion Build 2.5.2.0.071R-WM-PHOTON

Software Download

There are 2 ways software can be downloaded onto a device; using an SD card or using an AirBEAM upgrade. The software update package includes the files required to update the MC9090-G RFID Reader. Please note that an SD card or AirBEAM is required in order to upgrade the readers. Select the appropriate package for the update method being used. The Software Release Files table lists the updated software files contained in the update packages.

The software download is available at: http://www.symbol.com/support

Note: The entire software update bundle must be used. Do not mix the update files with previous releases.

Version	File	Date	Size
Software Update Packages			
SD Card Update Package	9090GRw50SD310004.zip	6/08	25.9 Mb
AirBEAM Update Package	9090GRw50AB310004.zip	6/08	25.9 Mb

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Software Release Files:

Image Type	Version	File Name	Date
Application Partition	00.00.04	9090GRw50LenAPP431.udl.bin	6/08
Operating System	01.39.0001	9090w50LenOS013901.sig	9/07
Monitor Lite	01.48.448	9090w50LenML0148XX.sig	9/07
Power Micro	11.27.01	9090w50LenPM112701.bin	9/07
Splash Screen	00.00.16	9090w50LenSC000016.bmp	9/07
Clean Boot		CleanPS.bin	

MC9090-G RFID Software Upgrade

Installation Prerequisites

The following items are required to perform the update procedure:

- MC9090-G RFID mobile computer with an external power supply
- SD Card
- Image Files
- StartUpLdr.exe application, to flash the images
- CleanPS.bin application, to reboot the mobile computer
- Pkgs.lst text file listing the images, to flash onto the mobile computer
- MC9090-G RFID Integrator Guide (PN: 72E-89963-xx) available at: http://www.symbol.com/support

Notes: Not all of the files are updated every release. Read the release notes for information about which files were changed. There is not a specific order necessary when installing these files.

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Installation Instructions:

This OS for the version 3.1 software update package is based on BSP 39. The update includes the files to update the MC9090-G RFID mobile computer.

SD Card, Package Re-Flash:

External AC power must be applied during this software image update procedure. Do not remove the device from A/C power during the upgrade:

1. Unzip the contents of 9090GRw50SD310004.zip file to the root folder of an SD card. *Please note only the files inside 9090GRw50SD310004 have to be copied, not the entire folder.*
2. Remove the Keypad and install the SD card in the SD card slot. See the *MC9090-G RFID Integrator Guide* (PN: 72E-89963-xx) available at: http://www.symbol.com/support, for detailed SD card installation instructions.
3. Connect external A/C power supply to the device.
4. Navigate to the SD Card and start the STARTUPDLDR.EXE program.

Note: The update takes about 10 minutes to complete.

Upgrade the software image without AC power.

The "ULDRSETTINGS.CFG" is not required if ImageUpdate is being run on AC Power:

1. Unzip the 9090GRw50SD310004.zip file to the PC.
2. Open the file "ULDRSETTINGS.CFG" file. This file contains a flag "AllowUpdateOnBattery"

   The flag *AllowUpdateOnBattery* set to 1 would allow Image update to continue on battery provided battery life is more than 90%. Set flag to 1.

   (Setting the flag *AllowUpdateOnBattery* to zero would not allow ImageUpdate to continue. An update warning splash screen is displayed.)

   Save the file.
3. Copy the contents of 9090GRw50SD310004.zip file to the SD card root folder.

   Please note only the files inside 9090GRw50SD310004 have to be copied, not the entire folder.
4. Remove the Keypad (to access the SD card slot) and install the SD card. See the *MC9090-G RFID Integrator Guide Supplement* (PN: 72E-89963-xx) available at: http://www.symbol.com/support for detailed SD card installation instructions.
5. Navigate to the SD Card and start the STARTUPDLDR.EXE program.

AirBEAM, Re-Flash:

AirBEAM zip file contains two AirBEAM upgrade files.

1. Install 9090w50LenAB013901.apf .This includes the OS, Splash and ML update packages.
2. Install package 9090GRw50LenAPP431.apf. This updates the RFID components.

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Firmware Upgrade

The Motorola MC9090-G RFID mobile computer, requires a RFID-Radio module firmware of version *04.08*. To confirm the firmware version, open the RFID-Demo Application (located in the Application folder). The opening dialog displays the *Firmware Version: 04.08*.

If the firmware version is not correct, upgrade the firmware:

1. Launch the RFIDFLASH.exe application (from the Application folder). The opening dialog of RFIDFLASH also displays the current firmware version.
2. Tap **Browse for Flash File ..**
3. Select the “WJR7180_v004_008.en.S” file (displayed on the Open dialog). The file to be flashed is now selected.
4. Tap **Start Flash** and wait for the firmware upgrade to complete and exit the application.

API Updates

The following are the updated API calls for this software release:

RFID_GetDutyCycleStats

Description

The **RFID_GetDutyCycleStats** function gets the Duty Cycle statistics that are calculated using the last one hour Duty Cycle Interval. This API is valid only for those devices operating on specification ETSI 300-220.

Function Prototype

DWORD WINAPI **RFID_GetDutyCycleStats**(HANDLE *hReader*,DUTY_CYCLE_PARAMETER **DutyCycleParameter*)

Parameters

hReader
HANDLE to open RFID device.

* DutyCycleParameter
Pointer to structure DUTY_CYCLE_PARAMETER that will receive the Duty Cycle statistics

Return Values

If the function succeeds, the return value is RFID_SUCCESS.
If the function fails, an "RFID_XXXX" error code is returned.

Requirements

Pocket PC Versions: Windows® Mobile 2003 Software for Pocket PCs and later
OS Versions: Windows CE 4.2 and later
Header: rfidcapi.h for 'C' API
Library: rfidapi32.lib
Device: MC9090-GK0HJEFR8ER (EU 300-220)

Example

```
HANDLE hRFIDReader;
DUTY_CYCLE_PARAMETER DutyCycleData;
if(RFID_GetDutyCycleStats(hReader, &DutyCycleData) == RFID_SUCCESS)
{
//Access DutyCycleData to know about the RF Usage in the last one hour Duty Cycle Interval
}
```

DUTY_CYCLE_PARAMETER

Description

The **DUTY_CYCLE_PARAMETER** structure contains the current duty cycle parameter statistics that are calculated using the last one hour Duty Cycle Interval.

Structure Definition

```
typedef struct
{
    DOUBLE TxOnTimeUsed;        // RF-on-time used, in seconds
    DOUBLE TxOnTimeAvailable;   // Remaining RF-on-time, in seconds
    DOUBLE TimeUntilAvailable;  // If RF-on-time used has reached the maximum of 10%, this
                                value will be non-zero, indicating when the RF will be available
                                next, in seconds
} DUTY_CYCLE_PARAMETER;
```

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Open Issues

There are no open issues.

Questions

For sales related enquiries, contact Motorola at 301 610-6100 (Monday-Friday 8:30 a.m. – 5:00 p.m. EST): http://www.symbol.com/rfid

For technical assistance please call Motorola at 800-653-5350 (24x7 support line): http://www.symbol.com/services/howto/howto_contact_us.html

Disclaimer

While Motorola has committed its best efforts to providing accurate information in this document, we assume no responsibility for any inaccuracies that may be contained herein, and we reserve the right to make changes to this document without notice.

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72E-89964-09
Revision A - June 2008