MC9190-NI
FOR UL CLASS I,
II, III / DIVISION 2, ATEX
ZONE 2
USER GUIDE

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Zebra does not assume any product liability arising out of, or in connection with, the application or use of any product, circuit, or application described herein.

No license is granted, either expressly or by implication, estoppel, or otherwise under any patent right or patent, covering or relating to any combination, system, apparatus, machine, material, method, or process in which Zebra products might be used. An implied license exists only for equipment, circuits, and subsystems contained in Zebra products.

Warranty

For the complete Zebra hardware product warranty statement, go to: http://www.zebra.com/warranty.

Service Information

If you have a problem using the equipment, contact your facility's Technical or Systems Support. If there is a problem with the equipment, they will contact the Zebra Support at: http:www.zebra.com/support.

For the latest version of this guide go to: http://www.zebra.com/support.

Software Support

Zebra wants to ensure that customers have the latest release of entitled software at the time of product purchase.

To confirm that your Zebra device shipped with the latest release of entitled software, visit: www.zebra.com/support. Check for the latest software from Software Downloads > Product Line/Product > Go.

If your device does not have the latest entitled software release as of your product purchase date, please e-mail a request to Zebra at: entitlementservices@zebra.com.

You must include the following essential device information with your request:

- Model number
- Serial number
- Proof of purchase
- Title of the software download you are requesting.

If it is determined by Zebra that your device is entitled to the latest software release, you will receive an e-mail containing a link directing you to a Zebra Web site to download the appropriate software.

Notes on this Guide

The user guide is a constituent part of the product and must be kept in the direct vicinity of the device and accessible at all times to installation, operating and maintenance personnel.

It contains important notes, safety instructions and test certificates which are necessary for perfect functioning when the devices are being operated and handled. It is written for technically qualified personnel.

Familiarity with and the technically perfect implementation of the safety instructions and warnings described in this manual are preconditions for safe installation and commissioning. The safety notes and warnings given in this documentation are given in a general way and only qualified personnel will have the necessary specialised know-how to interpret and implement them correctly in specific cases.

Qualifications of the Personnel Working with the Devices

The user guide is written for all people who carry out assembly, installation, commissioning and service work on the product, whereby the directives and standards 99/92/EC, EN 60079-17, EN 60079-19 for the gas area and EN 61241-17 and EN 61241-19 for the dust area must be observed.

Handling the Product

The product described in this guide has been tested and left the factory in perfect condition as regards meeting safety requirements.

To maintain this condition and ensure that this product operates perfectly and safely, it may be used only in the manner described by the manufacturer. Appropriate transportation, suitable storage and careful operation are also essential for the perfect and safe operation of this product.

Use for the Intended Purpose

✓ *NOTE* The versions, components, screens and windows illustrated in this User Guide are examples only and can deviate from the actual display.

The information treated in this guide relates to the explosion protected version of the MC9190-NI Series.

This guide contains all important information concerning explosion protection. In addition, the original user manuals and product information from Zebra are also available and these contain information about handling and operation. In the event of information overlap, the information in this guide supersedes the other guides.

Documentation Set

The documentation set for the MC9190-NI is divided into guides that provide information for specific user needs.

- **MC9190-G User Guide** - describes how to use the MC9190-G.
- **MC9190-G Integrator Guide** - describes how to set up the MC9190-G and the accessories.
- **EMDK Help File** - provides API information for writing applications.

Safety Instructions

⚠️ *IMPORTANT* Safety instructions and warnings are specially highlighted in this manual and marked by symbols.

The safety instructions and warnings are assigned to the individual work steps. Careful handling and consistent observation of the instructions will prevent accidents, personal injuries and damage to property.

The adherence to all directions and safety instructions in this manual is a precondition for safe working and the correct handling of the device.

The graphic representations in these instructions serve to show the information being described and are not necessarily true to scale and they may deviate slightly from the actual construction of the device.

Marking

Particularly important points in these instructions are marked with a symbol:

⚠️ *WARNING!* Non-observance leads to death or serious physical injury.
The necessary safety measures must be taken.

⚠️ *CAUTION* Warning of damage to property and financial and penal disadvantages (e.g. loss of guarantee rights, liability etc.).

⚠️ *ATTENTION* Important instructions and information on preventing disadvantageous behavior.

✓ *NOTE* Important instructions and information on effective, economical and environmentally compatible handling.

Configurations

This guide supports to the following configurations:

Model	Wireless	Display	Memory	Data Capture	OS	Keypad
MC9190-NI	WLAN: 802.11 a/b/g WPAN:Bluetooth	3.7"- Color display	256 MB RAM/1 GB Flash memory	1D Laser scanner Standard Range, 1D Laser scanner Long Range, 1D /2D Standard Range Imager (HD, DL, SR), 1D /2D Long Range Imager	Windows Mobile 6.5 Classic / Windows CE 6.0	Keypads: See below

Keypad

The following keypads are available:

- 28 key
- 43 key
- 53 key
- 53 key with VT emulation
- 53 key with 3270 emulation
- 53 key with 5250 emulation.

Product Description

Definition

The 9190-NI mobile computer is a compact unit for high-standard bar code scanning in hazardous (potentially explosive) areas:

- ATEX Zone 2 or
- Class I, II, III Division 2.

This means that even in the hazardous area the user can avail of the extensive communication options that are already standard in other areas.

Figure 1   *MC9190-NI*

Its ergonomic design and easy operation make it an ideal support for fast data availability in enterprise processes. A keyboard is available in different versions for manual data capture.

The integrated 1D or 1D/2D scan engine for capturing bar codes is available as another data capture option. The ergonomically mounted scan triggers on the MC9190-NI allow data to be captured easily in one-hand operation.

Several technologies are available for data communication with other systems and company divisions.

- Wireless LAN (WLAN),
- Wireless PAN (WPAN) (Bluetooth)

These modules, which are integrated in the device, allow seamless transmission of voice and data with easy integration into the company's network.

Other advantages in its use are the rugged construction, easy-to-read 3.7" VGA color display with touch technology and high-performance lithium ion battery.

Fast process execution is ensured by the Marvel PXA320 processor with 806 MHz, which is integrated in the MC9190-NI, and an easy development of applications is facilitated by the Microsoft® Windows® Mobile 6.5 operating system in conjunction with the Enterprise Mobility Developer Kits (EMDK) from Zebra.

256 MB RAM and 1 GB Flash drive integrated in the device are available for storing user-defined applications and data. For larger applications and volumes of data, Zebra offers SD memory cards.

Use

The MC9190-NI is a hand-held piece of electric equipment. It serves the mobile capture, processing and wireless transmission of data in hazardous areas.

It is used exclusively in combination with operating devices which satisfy the requirements for overvoltage category I.

The MC9190-NI has been modified for use in the hazardous area of:

- ATEX Zone 2
- UL Class I   Division 2 Groups A, B, C and D
- UL Class II Division 2, Groups F and G
- UL Class III
- Non-hazardous area

The MC9190-NI may not be used in locations of:

- ATEX Zone 0
- ATEX Zone 1 and Zone 21
- ATEX Zone 22
- UL Class I, II Division 1
- UL Class II Division 2, Groups E

Technical Data

Table 1 *Technical Data*

Type	Description
Explosion Protection ATEX Zone 2	
Ex protection	⟨Ex⟩ II 3G Ex ic IIC T6
Ambient temperature	-20 °C ≤ Ta ≤ +50 °C
Temperature Code	T6

Table 1 *Technical Data (continued)*

Type	Description
Explosion Protection UL Division 2	
Ex protection type	Class I Division 2 Groups A, B, C and D
	Class II Division 2 Groups F and G
	Class III
Ambient temperature	-20 °C ≤ Ta ≤ +50 °C
Temperature Code	T6
Characteristics	
Dimensions (height x width x depth)	approx. 23.1 cm x 9.1 cm x 19.3 cm (9.1 inch x 3.6 inch x 7.6 inch)
Weight including battery	approx. 710 g (25 oz)
	depending on the version and configuration
Display	Transflective 3.7 inch color
	Windows Mobile: VGA
	Windows CE: QVGA/VGA switchable.
Touchscreen	Glass analog resistive touchscreen
Network connections	High-speed USB client, full-speed USB host, Ethernet (via cradle), Bluetooth
Interfaces	RS232
	USB 2.0 Client / USB 1.1 host
Keyboard variants	28 key, 43 key, 53 key, 53 key with VT emulation, 53 key with 3270 emulation, 53 key with 5250 emulation.
Performance Features	
Processor	Marvel PXA320 processor with 806 MHz
Memory	256 MB RAM / 1GB Flash
Expansion slot	SD card slot
Optional available extension with SD card	Note: the devices are modified to suit the selected memory versions. The end user can replace the SD card later.
Operating system	Windows Mobile 6.5 or Windows CE 6.0
User Environment	
Ambient temperature	-20 °C to +50 °C (-4 °F to 122 °F)
Ambient temperature when charging	0 °C to +40 °C (32 °F to 104 °F)
Storage temperature (without battery)	-40 °C to +70 °C (-40 °F to 158 °F) outside the hazardous area

Table 1 *Technical Data (continued)*

Type	Description
Air humidity	5% to 95% (non-condensing)
Protection class (EN 60529)	IP 64
Application Development	
PSDK (Platform Software Developer Kit) and EMDK (Enterprise Mobility Developer Kit) available through Zebra Support Central Web site.	Available for C, Java and .Net.
More tools are available from Zebra.	Rem Capture for processing registry files. Application Launcher for dividing applications into categories and access regulation to the individual applications or operating system. Data Wedge allows data reading by applications that do not support any scanner. App Center is an end-user application access control engine that restricts activity to a set of authorized applications on mobile devices.
Voice and Data Transmission Wireless LAN	
Wireless standard	Tri Mode IEEE 802.11a/b/g
Output power	100mW U.S. and International
Data rate	IEEE802.11a: up to 54 Mbit/sec. IEEE802.11b: up to 11 Mbit/sec. IEEE802.11g: up to 54 Mbit/sec.
Frequency range (country-dependent)	IEEE802.11a: 5 GHz IEEE802.11b: 2.4 GHz IEEE802.11g: 2.4 GHz
Safety	WPA2 Enterprise, 802.1x; EAP-TLS; TTLS (CHAP, MS-CHAP, MS-CHAPv2, PAP or MD5); PEAP (TLS, MSCHAPv2, EAP-GTC); LEAP, EAP-FAST (TLS, MS-CHAPv2, EAP-GTC), WPA2/AES, CCX v4, FIPS 140-2 and IPv6
Antenna	integrated in the device
Voice and Data Transmission Wireless PAN	
Bluetooth	Bluetooth Version 2.1 with EDR
Antenna	Integrated in the device

Table 1 *Technical Data (continued)*

Type	Description
Options for Data Capture	
Scan engines:	SE960 1D Standard Range Scan Engine SE1524-ER 1D Long Range Scan Engine SE4600 1D/2D Long Range Imager Engine SE4500-SR 1D/2D Imager Engine SE4500-DL 1D/2D Imager Engine SE4500-HD 1D/2D Imager Engine
SE960 1D Standard Range Scan Engine	
Reading range	up to approx. 5.1 m (17 feet)
SE1524-ER 1D Long Range Scan Engine	
Reading range	up to approx. 13.7 m (45 feet)
SE4600 1D/2D Long Range Imager Engine	
Reading range near	up to approx. 20.3 cm (8 inch)
Reading range far	up to approx. 9.1 m (30 feet)
SE4500-SR 1D/2D Imager Engine	
Reading range near	up to approx. 5.3 cm (2.1 inch)
Reading range far	up to approx. 62.7 cm (24.7 inch)
SE4500-DL 1D/2D Imager Engine	
Reading range near	up to approx. 6.8 cm (2.7 inch)
Reading range far	up to approx. 50.0 cm (19.7 inch)
SE4500-HD 1D/2D Imager Engine	
Reading range near	up to approx. 4.0 cm (1.6 inch)
Reading range far	up to approx. 28.2 cm (11.1 inch)
Decodable Bar Code Types	
Laser Decode Capability MC9190-NI with SE960 1D-Standard Range Scan Engine and SE1524-ER 1D Long Range Scan Engine	Code 39, Code 128, Code 93, Codabar, Code 11, Discrete 2 of 5, Interleaved 2 of 5, EAN-8, EAN-13, MSI, UPCA, UPCE, UPC/EAN supplementals, Coupon code, Trioptic 39, Web code, Chinese 2 of 5, GS1 DataBar, GS1 DataBar Truncated, GS1 DataBar Limited, GS1 DataBar Stacked, GS1 DataBar Expanded, GS1 DataBar Expanded Stacked, GS1 DataBar Expanded Stacked Omni

Table 1 *Technical Data (continued)*

Type	Description
Imaging Decode Capability MC9500-NI with SE4500 1D/2D Imager Engine and SE4600 1D/2D Imager Engine	Code 39, Code 128, Code 93, Codabar, Code 11, Discrete 2 of 5, Interleaved 2 of 5, EAN-8, EAN-13, MSI, UPCA, UPCE, UPC/EAN supplementals, Coupon code, Trioptic 39, Web code, Chinese 2 of 5, GS1 DataBar, GS1 DataBar Truncated, GS1 DataBar Limited, GS1 DataBar Stacked, TLC39, Composite AB, Composite C, Micro PDF-417, Macro PDF-417, (Macro) Micro PDF-417, QR Code, Data Matrix, microQR, Maxi Code, PDF-417, US Postnet, US Planet, UK 4-state, Australian 4-state, Canadian 4-state, Japanese 4-state, USPS 4-state (US4CB), Aztec
Technical Data Battery	
Battery (rechargeable only in safe area) Type 21-65587-03-NI	Lithium-ion 7.4 V/2200 mAh
Operating temperature during charging during discharging	0 °C to +40 °C (32 °F to 104 °F) -20 °C to +50 °C (-4 °F to 122 °F)
Storage temperatures ≤ 1 year ≤ 3 months ≤ 1 months	-25 °C to +20 °C (-13 °F to 68 °F) -25 °C to +45 °C (-13 °F to 113 °F) -25 °C to +60 °C (-13 °F to 140 °F)
Relative air humidity	20% - 85% (non-condensing)
Backup battery	Ni-MH battery 3.6 V/15 mAh, rechargeable Integrated in the device and replaceable only in the factory.

⚠ *CAUTION* The battery may only be charged and changed outside the hazardous area.

Technical Data External Interface

⚠️ **CAUTION** Operating the 17-pin data interface is only permissible outside the hazardous area and only with devices specified by the manufacturer.

Operating of the headset port is only permissible outside the hazardous area and only with devices specified by the manufacturer.
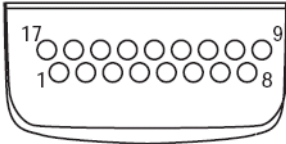

Figure 2 *I/O Pin-out*

Table 2 *I/O Pin-out Signal Descriptions*

Pin	Signal Name	Description
1	USB_GND	USB
2	USB_D_Plus	USB
3	TxD	RS232C
4	RxD	RS232C
5	DCD	RS232C
6	RTS	RS232C
7	DSR	RS232C
8	GND	earth, 2.5 A max.
9	RI	RS232C
10	Cradle_DET	Grounded by cradle when in cradle
11	DTR	RS232C
12	Not assigned	Not assigned
13	Power_IN	12 V / 2.5 A max.
14	CTS	RS232C
15	USB_5V_DET	USB
16	USB_D_Minus	USB
17	EXT_Power_OUT	3.3 V @ 500 mA

Safety Instructions

Warnings for MC9190-NI

⚠️ *CAUTION* The device may not be opened by the user outside the hazardous area either. The user may not make any alterations to the device. Do not exchange or replace components and do not retrofit any components on internal plug connectors or slots.

✓ *NOTE* Exception: SD card, battery and keypad, screen protector.

⚠️ *CAUTION* If components other than those specified are used, the protection against explosions can no longer be assured.

Substitution of any components may impair suitability for Class I, II, III Division 2 as well as for ATEX Zone 2.

To prevent ignition of flammable or combustible atmospheres disconnect power before servicing!

Do not open or charge the device in the hazardous area!

Operating of the 17-pin data interface is only permissible outside the hazardous area and only with devices specified by the manufacturer!

Operating of the headset port is only permissible outside the hazardous area and only with devices specified by the manufacturer!

Protect the device from impact effects! Do not expose the operating equipment to any caustic/aggressive liquids, vapors or mist! In the event of malfunctioning or damage to the enclosure, take the equipment out of the potentially explosive atmosphere immediately, bring it into a safe area and decommission it by removing the battery!

If on account of adverse effects or conditions (e.g. penetration of water, fluids, exposure to temperatures outside the specified range etc.) there is a danger of not being able to operate the equipment safely, switch off the equipment instantly and remove the battery.

Avoid the influence of heat that is higher or lower than the specified temperature range. Do not place the devices anywhere near sources of heat, such as for example heaters, air exit openings in air-conditioners, or near cookers or other devices (including amplifiers) that radiate heat.

Avoid the effects of moisture.

Do not put any objects into the device, into the enclosure or other openings in the Mobile Computer. Openings in the device may not be blocked, obstructed or covered.

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

⚠ *ATTENTION*   Equipment that is damaged in any way or that does not function properly must instantly be removed from the hazardous area and sent in for inspection/repair!.

Take the device out of the hazardous areas before wiping it with a dry cloth or cleaning it!

General statutory regulations or directives on safety at work; accident prevention regulations and environmental protection legislation must be complied with, e.g. Ordinance on industrial health and safety (BetrSichV) or the national ordinances.

Ensure safe handling of the equipment during operation by making sure the device in a steady position and the user has sufficient space to move!

When transporting the equipment in vehicles, it must be placed in appropriate compartments or fittings so that it cans neither fall off during the drive nor be exposed to extreme vibrations.

The rules for hazardous areas (see NEC Article NFPA 70) must be observed. In particular, appropriate clothing and footwear should be worn in view of the risk of dangerous electrostatic charges. Do not wear rubber gloves or suchlike during operation!

Warnings for Battery

⚠ *CAUTION*   The battery may only be charged and changed outside the hazardous area!

It must be ensured that only original batteries of the following type/s are used in safety-oriented operation. 21-65587-03-NI with 7.4 V/2200 mAh.

The use of imitation batteries or batteries from other manufacturers will render the type of ignition protection ineffective and there will then be a risk of fire or explosion.

Keep away from children.

The battery may explode if disposed of in fire.

DO NOT short circuit or disassemble battery.

The battery may only be used for the purposes stated in the user manual and is only suitable for use in the MC9190-NI.

If used incorrectly, there is a risk of burning. The battery should not be disassembled over a temperature higher than +50 °C (122 °F). If the battery is damaged, battery acid can escape from the cells and cause corrosion. For that reason, extreme care must be taken in handling and disposing of a damaged or leaking Li-ion battery.

Defective batteries must be disposed of immediately, whereby the battery disposal regulations that apply to the respective region must be observed.

⚠ Laser Devices

Complies with 21CFR1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007, EN60825-1: 2007 and IEC60825-1 (Ed. 2.0). The laser classification is marked on one of the labels on the device. Class 1 Laser devices are not considered to be hazardous when used for their intended purpose.

Caution: Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.

Class 2 laser scanners use a low power, visible light diode. As with any very bright light source, such as the sun, the user should avoid staring directly into the light beam. Momentary exposure to a Class 2 laser is not known to be harmful.

LED Devices

Complies with IEC/EN60825-1:2001 & IEC/EN62471:2006.

Health and Safety Recommendations

⚠️ *CAUTION* Use only the accessories, batteries and battery chargers approved by Zebra. Do not attempt to charge damp or wet MC9190-NI devices or batteries. All components must be dry before they are connected to an external power supply.

Ergonomic Recommendations

⚠️ *CAUTION* In order to avoid or minimize the potential risk of ergonomic injury follow the recommendations below. Consult with your local Health & Safety Manager to ensure that you are adhering to your company's safety programs to prevent employee injury.

• Reduce or eliminate repetitive motion
• Maintain a natural position
• Reduce or eliminate excessive force
• Keep objects that are used frequently within easy reach
• Perform tasks at correct heights
• Reduce or eliminate vibration
• Reduce or eliminate direct pressure
• Provide adjustable workstations
• Provide adequate clearance
• Provide a suitable working environment
• Improve work procedures.

Installation in Vehicles

RF signals can have a negative impact on electronic systems in vehicles (including safety systems) if they have not been installed correctly or shielded adequately. If you have any questions about your vehicle, please get in touch with the manufacturer or with a sales representative. You can find out from the manufacturer if any additional equipment has been installed in the vehicle. An airbag inflates with great force. DO NOT PLACE ANY objects, such as mounted or mobile wireless equipment in the area above the airbag or in the airbag deployment area. If the wireless equipment in the vehicle was not installed properly, serious injuries can occur when the

airbag is deployed. Position the device within reach. Make sure you have access to the device without having to take your eyes off the road.

✓ **NOTE** Connection to an alert device that will cause a horn to sound or a light to flash on receipt of an incoming call on public roads is not permissible.

Safety on the Road

Do not take notes or use the device while driving. Jotting down a "to do" list or flipping through your address book takes attention away from your primary responsibility, driving safely.

When driving a car, driving is your first responsibility - Give full attention to driving. Check the laws and regulations on the use of wireless devices in the areas where you drive. Always obey them.

When using a wireless device behind the wheel of a car, practice good common sense and remember the following tips:

1. Get to know your wireless device and any features such as speed dial and redial. If available, these features help you to place your call without taking your attention off the road.
2. When available, use a hands free device.
3. Let the person you are speaking with know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions. Rain, sleet, snow, ice, and even heavy traffic can be hazardous.
4. Dial sensibly and assess the traffic; if possible, place calls when you are not moving or before pulling into traffic. Try to plan calls when your car will be stationary. If you need to make a call while moving, dial only a few numbers, check the road and your mirrors, then continue.
5. Do not engage in stressful or emotional conversations that may be distracting. Make people you are talking with aware you are driving and suspend conversations that have the potential to divert your attention from the road.
6. Use your wireless phone to call for help. Dial the Emergency services, (9-1-1 in the US, and 1-1-2 in Europe) or other local emergency number in the case of fire, traffic accident or medical emergencies. Remember, it is a free call on your wireless phone! The call can be made regardless of any security codes and depending on a network, with or without a SIM card inserted.
7. Use your wireless phone to help others in emergencies. If you see an auto accident, crime in progress or other serious emergency where lives are in danger, call the Emergency Services, (9-1-1 in the US, and 1-1-2 in Europe) or other local emergency number, as you would want others to do for you.
8. Call roadside assistance or a special non-emergency wireless assistance number when necessary. If you see a broken-down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injured, or a vehicle you know to be stolen, call roadside assistance or other special non-emergency wireless number.

"The wireless industry reminds you to use your device / phone safely when driving".

⚠ RF Exposure Guidelines

Safety Information

Reducing RF Exposure – Use Properly

Only operate the device in accordance with the instructions supplied.

International

The device complies with internationally recognized standards covering human exposure to electromagnetic fields from radio devices. For information on "International" human exposure to electromagnetic fields refer to the Zebra Declaration of Conformity (DoC) at http://www.zebra.com/doc.

Europe

Handheld Devices

This device was tested for typical body-worn operation. Use only Zebra tested and approved belt-clips, holsters, and similar accessories to ensure EU Compliance.

✓ *NOTE* The MC9190-NI must be switched off before it may be carried on the body.

US and Canada

Co-located statement

To comply with FCC RF exposure compliance requirement, the antenna used for this transmitter must not be co-located or operating in conjunction with any other transmitter/antenna except those already approved in this filling.

Handheld Devices

This device was tested for typical body-worn operation. Use only Zebra tested and approved belt-clips, holsters, and similar accessories to ensure FCC Compliance. The use of third-party belt-clips, holsters, and similar accessories may not comply with FCC RF exposure compliance requirements, and should be avoided.

✓ *NOTE* The MC9190-NI must be switched off before it may be carried on the body.

Warnings and Information about Wireless Devices

⚠️ **CAUTION** Operation of the device without regulatory approval is illegal.

✓ **NOTE** The use of wireless devices might be forbidden or restricted. This applies above all when you are aboard aeroplanes, in hospitals, near explosives or in other dangerous conditions. If you are not sure which regulations apply to the use of the device, ask for permission before switching it on.

Radio Modules

The device contain approved radio module(s). These module(s) are identified below.

Zebra WLAN radio 802.11 a/b/g   Type(s): 21-92955.

Country Roaming

This device incorporates the International Roaming feature (IEEE802.11d) which will ensure the product operates on the correct channels for the particular country of use.

Ad-Hoc Operation (5 GHz Band)

Ad-Hoc operation is limited to Channels 36-48 (5150 - 5250 MHz). Use of this band is restricted to Indoor Use Only, any other use will make the operation of this device illegal.

Frequency of Operation – FCC and IC

5 GHz Only

The use in the UNII (Unlicensed National Information Infrastructure) band 1 5150 -5250 MHz band is restricted to Indoor Use Only; any other use will make the operation of this device illegal.

2.4 GHz Only

The available channels for 802.11 b/g operation in the US are Channels 1 to 11. The range of channels is limited by firmware.

CE Marking and European Economic Area (EEA)

The use of 2.4GHz RLAN's, for use through the EEA, have the following restrictions:

- Maximum radiated transmit power of 100 mW EIRP in the frequency range 2.400 -2.4835 GHz.
- France, outside usage is restricted to 2.4 – 2.454 GHz.
- Italy requires a user license for outside usage.

Bluetooth® Wireless Technology for use through the EEA has the following restrictions:

- Maximum radiated transmit power of 100mW EIRP in the frequency range 2.400 -2.4835 GHz
- France, outside usage is restricted to 10mW EIRP
- Italy requires a user license for outside usage.

Radio Frequency Interference Requirements-FCC

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

Radio Transmitters (Part 15)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Radio Frequency Interference Requirements- Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Radio Transmitters

For RLAN Devices:

The use of 5 GHz RLAN's, for use in Canada, have the following restrictions:

- Restricted Band 5.60 – 5.65 GHz

This device complies with RSS 210 of Industry & Science Canada. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

Label Marking: The Term "IC:" before the radio certification only signifies that Industry Canada technical specifications were met.

Country-specific Approvals

Regulatory markings, subject to certification, are applied to the device signifying the radio(s) is/are approved for use in the following countries: United States, Canada, Japan, China, S. Korea, Australia, and Europe 1, 2.

You will find detailed information on the test marks for other countries in the EC Declaration of Conformity.

- **Note 1:** For 2.4GHz or 5GHz Products: Europe includes, Austria, Belgium, Bulgaria, Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.
- **Note 2:** The use of RFID Devices have varying restrictions of use; please refer to the EC Declaration of Conformity for details.

Warnings about the Use of Wireless Devices

Observe all warnings which refer to the use of wireless devices.

Safety in Aircraft

Switch off your wireless device whenever you are asked to do so by airport or airline staff. If your device offers a flight mode or similar function, ask the flight crew about its proper use.

Safety in Hospitals

Wireless devices radiate radio frequencies and can cause interference in electrical medical devices. If you are in a hospital, clinic or public health service, please turn off wireless devices if asked to do so. This is to prevent any interference with sensitive medical equipment.

Cardiac Pacemakers

The manufacturer recommends a minimum distance of 15 cm between a portable handheld wireless device and a Cardiac Pacemaker to avoid potential interference. This guideline is in accordance with independent research results and recommendations from Wireless Technology Research.

People with implanted pacemakers:

- Should ALWAYS keep the switched-on device at a distance of at least 15 cm away from themselves.
- Should not put the device into your breast pocket.
- The device should be held at the ear furthest away from the cardiac pacemaker.
- If you have reason to suspect interference, SWITCH OFF your device immediately.

Hearing Aids

The wireless device can cause interference with hearing aids. If there is any interference, contact the hearing aid manufacturer to ask about solutions.

- If you wear a hearing aid, do not put this device into your breast pocket.
- The device should be held at the ear furthest away from the cardiac pacemaker.
- If you have reason to suspect interference, SWITCH OFF your device immediately.

Other Medical Instruments

Consult your doctor or the manufacturer of the medical instrument to determine if the operation of your wireless product my interfere with the medical instrument.

Bluetooth® Wireless Technology

This is an approved Bluetooth® product. For more information or to view End Product Listing, please visit https://www.bluetooth.org/tpg/listings,cfm

Operation

Before assembling the MC9190-NI, make sure you have all the components:

- MC9190-NI
- Lithium-ion battery
- Strap assembly
- Stylus.

⚠ *CAUTION* The safety and accident prevention regulations relevant to the respective application must be adhered to. The units must be completely assembled before they may be operated.

Getting Started

Perform the following steps before using the MC9190-NI for the first time:

1. Install a SD card (optional).

2. Insert the battery.

3. Charge the MC9190-NI.

Recommended Position for the MC9190-NI

The recommended position for the MC9190-NI when in use.

The recommended position for the MC9190-NI when not in use.
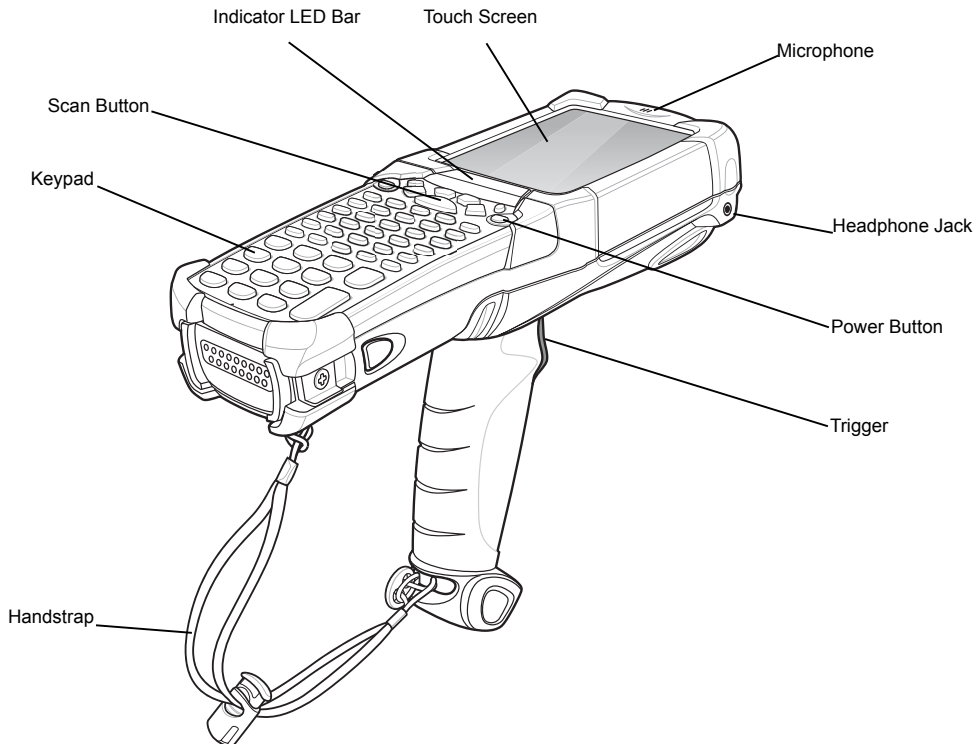
Parts of the MC9190-NI

Figure 3 *MC9190-NI*

Battery

This section provides information on battery functionality, battery status indications, charging the MC9190-NI charging spare batteries and power saving techniques.

⚠ **CAUTION** The battery may only be charged and changed outside the hazardous area.

Use only original Zebra batteries, p/n 21-65587-03-NI with 7.4 V 2200 mAh for safe operation.

The use of imitation batteries or batteries from other manufacturers will render the type of ignition protection ineffective and there will then be a risk of fire or explosion.

✓ **NOTE** The temperature range for charging the battery is 0 °C to +40 °C. Please note that charging the MC9190-NI is under intelligent control.

Use only accessories approved by Zebra to charge the batteries.

Battery Information

Use only Zebra approved batteries. Accessories which have battery charging capability are approved for use with battery p/n 21-65587-03-NI (7.4 VDC, 2200 mAh).

Zebra rechargeable battery packs are designed and constructed to the highest standards within the industry.

However, there are limitations to how long a battery can operate or be stored before needing replacement. Many factors affect the actual life cycle of a battery pack, such as heat, cold, harsh environmental conditions and severe drops.

When batteries are stored over six (6) months, some irreversible deterioration in overall battery quality may occur. Store batteries at half of full charge in a dry, cool place, removed from the equipment to prevent loss of capacity, rusting of metallic parts and electrolyte leakage. When storing batteries for one year or longer, the charge level should be verified at least once a year and charged to half of full charge.

Replace the battery when a significant loss of run time is detected.

Standard warranty period for all Zebra batteries is one year, regardless if the battery was purchased separately or included as part of the mobile computer or bar code scanner. For more information on Zebra batteries, please visit: http://www.zebra.com/batterybasics

Installing the Battery

⚠ **CAUTION** The battery may only be charged and changed outside the hazardous area.

Use only original Zebra batteries, p/n 21-65587-03-NI with 7.4 V 2200 mAh for safe operation.

The use of imitation batteries or batteries from other manufacturers will render the type of ignition protection ineffective and there will then be a risk of fire or explosion.
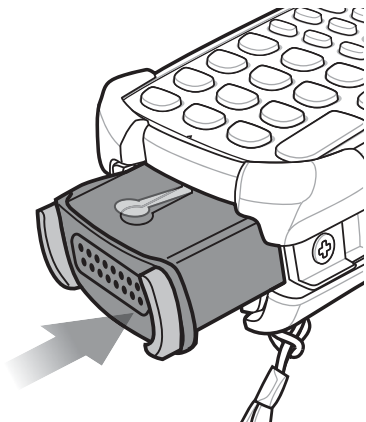
Figure 4 *Installing the Battery*

Before using the MC9190-NI, install a lithium-ion battery by sliding the battery into the MC9190-NI.

✓ *NOTE* Ensure the battery is fully inserted. Two audible clicks can be heard as the battery is fully inserted. A partially inserted battery may result in unintentional data loss.

When a battery is fully inserted in a MC9190-NI for the first time, upon first power up, the device boots and powers on automatically.

Replacing a Battery

⚠ *CAUTION* The battery may only be charged and changed outside the hazardous area.

Use only original Zebra batteries, p/n 21-65587-03-NI with 7.4 V 2200 mAh for safe operation.

The use of imitation batteries or batteries from other manufacturers will render the type of ignition protection ineffective and there will then be a risk of fire or explosion.

⚠ *ATTENTION* Suspend the MC9190-NI prior to removing the battery. Failure to properly remove the battery may cause the MC9190-NI to cold boot and potential loss of data.

To replace the battery:

1. Prior to removing the battery, press the red **Power** button. On Windows Mobile 6.5 devices, the **PowerKey Action** window appears. Tap **Safe Battery Swap**.
2. The Indicator LED Bar lights red.

3. When the Indicator LED turns off, press the primary battery releases. The battery partially ejects from the MC9190-NI.

4. Pause three to four seconds while the MC9190-NI performs battery removal shutdown.

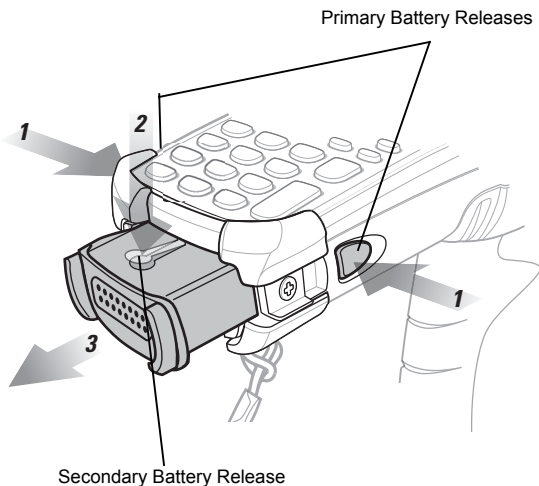5. Press the secondary battery release, on top of the battery, and slide the battery out of the MC9190-NI.

Primary Battery Releases

Secondary Battery Release

Figure 5 *Removing the Battery*

Charging the Battery

Before using the MC9190-NI for the first time, charge the main battery until the amber charge indicator light remains lit (see Table 3). The main battery fully charges in less than four hours. The MC9190-NI can be charged using a cradle, the CAM, or the MSR with the appropriate power supply.

The MC9190-NI is also equipped with a memory backup battery which automatically charges from the main battery whether or not the MC9190-NI is operating or is in suspend mode. The memory backup battery retains data in memory for at least 30 minutes when the MC9190-NI's main battery is removed or fully discharged. When the MC9190-NI is used for the first time or after the memory backup battery has fully discharged, the memory backup battery requires approximately 15 hours to fully charge. Do not remove the main battery from the MC9190-NI for 15 hours to ensure that the memory backup battery fully charges. If the main battery is removed from the

MC9190-NI or the main battery is fully discharged, the memory backup battery completely discharges in several hours.

When the main battery reaches a very low battery state, the combination of main battery and backup battery retains data in memory for at least 72 hours.

✓ *NOTE* Do not remove the main battery within the first 15 hours of use. If the main battery is removed before the backup battery is fully charged, data may be lost.

To Charge Batteries

Cradles: The MC9190-NI slips into the cradles for charging the battery in the MC9190-NI (and spare batteries, where applicable). For detailed cradle setup and charging procedures refer to the *MC9190-G Integrator Guide*.

- Single Slot Serial/USB Cradle
- Four Slot Ethernet Cradle
- Four Slot Charge Only Cradle.

✓ *NOTE* The cradle may be used for charging and for data communication only outside the hazardous area.

Accessories: The MC9190-NI snap-on accessories provide charging capability, when used with one of the accessory charging cables. For detailed snap-on setup and charging procedures refer to the *MC9190-G Integrator Guide*.

- CAM
- MSR.

✓ *NOTE* The accessories may only be used outside the hazardous areas.

Chargers: The MC9190-NI spare battery charging accessories are used to charge batteries that are removed from the MC9190-NI. For detailed spare battery charging accessories setup and charging procedures refer to the *MC9190-G Integrator Guide*.

- Single Slot Serial/USB Cradle
- Four Slot Spare Battery Charger
- Universal Battery Charger (UBC) Adapter.

✓ *NOTE* The chargers may only be used outside the hazardous areas.

Charge the Main Battery

✓ **NOTE** Note that battery p/n 21-65587-03-NI with 7.4 V/2200 mAh may only be charged outside the hazardous area. Use only accessories approved by Zebra. Do not attempt to charge damp or wet MC9190-NI devices or batteries. All components must be dry before they are connected to an external power supply.

1. Ensure the accessory used to charge the main battery is connected to the appropriate power source.

2. Insert the MC9190-NI into a cradle or attach the appropriate snap-on module.

3. The MC9190-NI starts to charge automatically. The amber charge LED, in the Indicator LED Bar, lights to indicate the charge status. Table 3 list the charging LED indications.

✓ **NOTE** The main battery usually fully charges in less than four hours.

Table 3 *Charge LED Indications*

LED	Indication
Off	MC9190-NI not in cradle or connected to a CAM or MSR. MC9190-NI not placed correctly. Charger is not powered.
Fast Blinking Amber	Error in charging; check placement of the MC9190-NI.
Slow Blinking Amber	MC9190-NI is charging.
Solid Amber	Charging complete.

✓ **NOTE** When the battery is initially inserted in the MC9190-NI, the amber LED flashes once if the battery power is low or the battery is not fully inserted.

Charge Battery Separately or a Spare Battery

✓ **NOTE** Note that battery p/n 21-65587-03-NI with 7.4 V/2200 mAh may only be charged outside the hazardous area. Use only accessories approved by Zebra. Do not attempt to charge damp or wet MC9190-NI devices or batteries. All components must be dry before they are connected to an external power supply.

1. Remove the battery.

2. Prior to removing the battery, press the red Power button. This sets the Mobile Computer to suspend mode.

3. Press the primary battery release(s). The battery partially ejects from the Mobile Computer.

4. Pause 3 to 4 seconds while the Mobile Computer performs battery removal shutdown.

5. Press the secondary battery release on top of the battery, and slide the battery out of the MC9190-NI. See Figure 5.

6. Ensure the accessory used to charge the main battery is connected to the appropriate power source.

7. Insert the MC9190-NI into a cradle or attach the appropriate snap-on module.

8. The MC9190-NI starts to charge automatically. The amber charge LED, in the Indicator LED Bar, lights to indicate the charge status. See Table 3 for charging LED indications.

✓ *NOTE* The main battery usually fully charges in less than four hours.

Charge the Backup Battery

✓ *NOTE* The backup battery is installed inside of the MC9190-NI, the device may not be opened by the user outside the hazardous area either. The user may not make any alterations to the device.

The MC9190-NI is equipped with a battery backup module, which is charged automatically when the main battery is fully charged. When the MC9190-NI is taken into operation for the first time, the battery backup module needs about 36 hours to be fully charged. This is also the case when the main battery was removed for several hours, which discharges the backup module. The battery backup module ensures that the data in the working memory are retained for at least 15 minutes after the main battery of the MC9190-NI was removed. When the MC9190-NI reaches a low charging state, the data in the working memory are retained for at least 36 hours due to the combination of main battery and battery backup module. Use a charging station or charging cable to charge the battery. You can find information on how to set up cables and charging stations, as well as about the charging procedure in the Zebra documentation MC9190 User manual for integration of mobile computers.

Battery Status

To check the charge level of the main battery or backup battery:

On Windows CE 6.0 devices tap **Start** > **Settings** > **Control Panel** > **Power** to display the **Battery Status** window.

On Windows Mobile 6.5 devices tap **Start** > **Settings** > **System** > **Power** to display the **Power** window.

To save battery power, set the MC9190-NI to turn off after a specified number of minutes.

Keypad

The MC9190-NI has interchangeable modular keypads.

⚠️ **CAUTION** The keypad may only be changed outside the hazardous area!

It must be ensured that only original keypads are used in safety-oriented operation.

The use of imitation keypads from other manufacturers will render the type of ignition protection ineffective and there will then be a risk of fire or explosion.

⚠️ **CAUTION** Follow proper ESD precautions to avoid damaging the SD card. Proper ESD precautions include, but are not limited to, working on an ESD mat and ensuring that the operator is property grounded.

⚠️ **ATTENTION** Power off the MC9190-NI before start of change parts.

Put the MC9190-NI into suspend mode before you remove the battery. Failure to properly remove the battery may cause the MC9190-NI to cold boot and potential loss of data.

If the MC9190-NI is in suspend mode, press the Power button to wake the device. Wait for the MC9190-NI to fully awake from suspend mode.

1. Turn off the MC9190-NI.

2. Remove the battery.

3. Take out the screws at the top edge of the keypad.
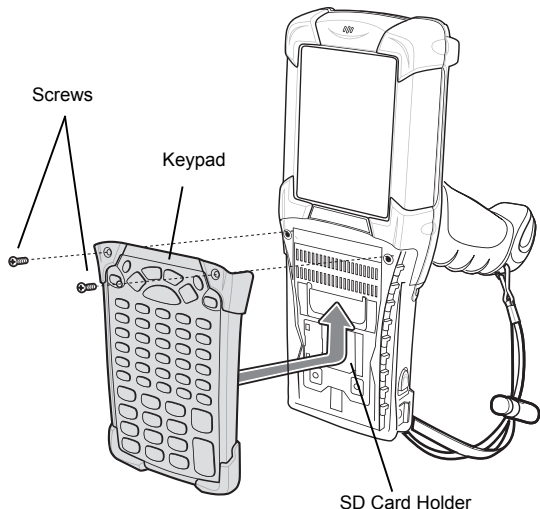

Figure 6 *Removing the Keypad*

4. Pull the keypad downwards in the direction of the arrow and then forwards to take it out of the MC9190-NI.

5. Check that the contacts and seals are clean and in good condition.

6. Snap on the keypad in the direction of the arrow (fig. Installing the keypad) and push it upwards until the boreholes for the screws are over the threaded sleeves.
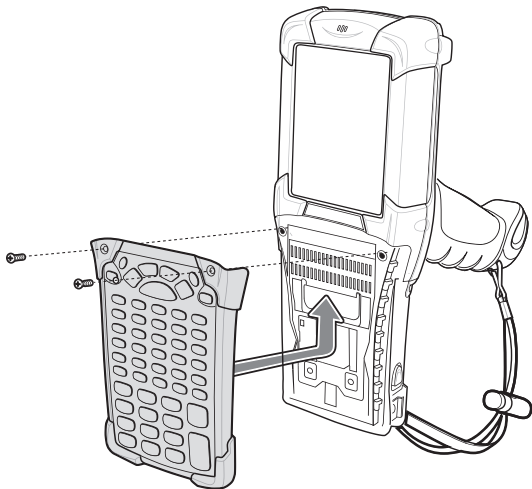

Figure 7 *Installing the Keypad*

7. Check that the keypad is mounted correctly.

Figure 8 *Keypad Mounted Correctly*

Figure 9 *Keypad Mounted Incorrectly*

8. Push the keypad in the direction of the arrow until the screw holes on the keypad are positioned over the threaded holes on the housing.

⚠ **CAUTION** Do not apply more than 0.452 nm or 4 in-lbs of torque when tightening the keypad screws.

9. After installation of the keyboard perform a cold boot.

Secure Device (SD) Card

⚠ **CAUTION** The SD card may only installed and replaced outside of the hazardous area.

Only SD cards tested by Zebra for that purpose may be used in the slot.

The SD card slot provides secondary non-volatile storage. The slot is located under the keypad. Refer to the documentation provided with the card for more information, and follow the manufacturer's recommendations for use.

⚠ **CAUTION** Follow proper ESD precautions to avoid damaging the SD card. Proper precautions include, but are not limited to, working on an ESD mat and ensuring that the operator is property grounded.

Installing a SD Card

To install the micro SD card:

1. If the MC9190-NI is in standby mode, press the red Power button to activate the device.

2. Press the red Power button to suspend the MC9190-NI.

3. Remove the battery

4. Remove the two keypad screws and slide the keypad down and lift.

5. Lift the SD card retaining door.

6. Position the SD card, with the contacts down, into the SD card holder. The SD card corner notch fits into the holder only one way.
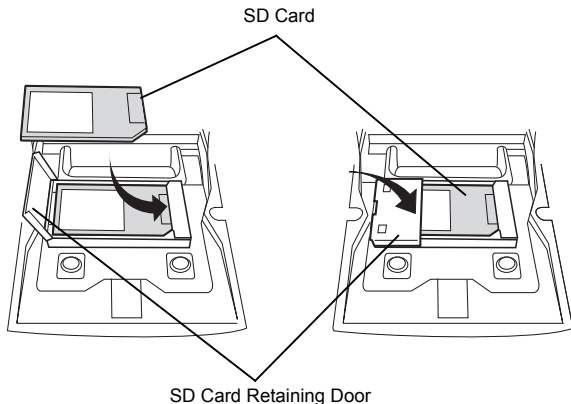
7. Snap the retaining door closed.

SD Card

SD Card Retaining Door

Figure 10 *Inserting the SD Card*

8. Replace the keypad and re-attach using the two screws.

9. Perform a warm boot.

⚠ **CAUTION** Do not apply more than 0.452 nm or 4 in-lbs of torque when tightening the keypad screws.

Connection to the PC

The MC9190-NI series is delivered with a Microsoft WM 6.5 operating system or follow-up version. Microsoft supplies software free of charge to establish a connection to a PC for synchronisation, installation and data exchange.

Active Sync

> *NOTE* To be able to communicate with various host partners, it is recommendable to install Microsoft ActiveSync (version 4.5 or higher) on the host computer. ActiveSync synchronizes the information on the mobile computer with information on the host computer. Changes made on the mobile computer or host computer remain in both partners after synchronization.

The ActiveSync Microsoft program is used for synchronizing or installing software/data. ActiveSync is available for downloading as freeware at www.microsoft.com

Supported Operating Systems:

- Windows XP

For system requirements see the Microsoft homepage under Active Sync version 4.5 or higher.

Further information on ActiveSync can be found in the Zebra integrator Guide or on the Microsoft homepage.

DEVICE Center or Mobile Device Center

> *NOTE* To be able to communicate with various host partners installed on Windows Vista or Windows 7, it is recommendable to install the Microsoft Device Center on the host computer. Device Center synchronizes the information on the mobile computer with information on the host computer. Changes made on the mobile computer or host computer remain on both partners after synchronisation.

The Microsoft Mobile Device Center program is used for synchronizing or installing software/data. Mobile Device Center is available for downloading as freeware at www.microsoft.com.

Supported Operating Systems:

- Windows Vista or Windows 7

For system requirements see Device Center on the Microsoft homepage.

Further information on Device Center can be found in the Zebra integrator Guide or on the Microsoft homepage.

Operating

The operator of an electrical system in a hazardous environment must keep the operating equipment in an orderly condition, operate it correctly, monitor it and do the required maintenance and repairs.

Before operating the MC9190-NI, check that all components and documents are there.

The following conditions must be met before the device may be used:

- Check the MC9190-NI for damage to display, scanner window and the enclosure.
- Check that the used battery is a certified one.
- Make sure that the battery is changed before insert in the MC9190-NI.

- Strap, attached to the MC9190-NI
- Stylus, in the stylus silo
- User Guide inside of the box.

Display

✓ **NOTE** Use only the stylus included with the device to operate the touch screen. A pen, for example, could scratch or even destroy the touch screen.

The MC9190-NI must be treated carefully as the sensitive touch screen has a glass pane which can break if subjected to a lot of strain or let fall. The guarantee will be void if it is apparent that the damage to the touch screen is due to inappropriate use.

Figure 11 *MC9190-NI with Protective Film*

The display as supplied from the factory is covered with a protective film. Remove the protective film before using the device.

Software Versions

This user guide various software configurations and references are made to operating system or software versions for:

- Adaptation Kit Update (AKU) version
- OEM version

- BTExplorer version

- Fusion version.

> **NOTE** The software is not relevant for the explosion protection equipment. You can find information about this in the Zebra documentation.

AKU Version

To determine the Adaptation Kit Update (AKU) version:

Tap **Start** > **Settings** > **System** tab > **About** icon > **Version** tab.

The second line lists the operating system version and the build number. The last part of the build number represents the AKU number. For example, Build 23103.5.3.3 indicates that the device is running AKU version 5.3.3

OEM Version

To determine the OEM software version:

On Mobile 6.5, tab **Start** > **Settings** > **System** > **System Information** > **System**.

On CE 6.0, tab **Start** > **Settings** > **Control Panel** > **System Information** > **System**.

BTExplorer Version

> **NOTE** By default, the Microsoft Bluetooth stack is enabled. BTExplorer application is only available when the StoneStreet One Bluetooth stack is enabled. Refer to the *MC9190-G Integrator Guide* for information on selecting the Bluetooth stack.

To determine the BTExplorer software version:

On Mobile 6.5, tab **Start** > **BTExplorer** > **Menu** > **About**.

On CE 6.0, tab **BTExplorer** icon > **Show BTExplorer** > **File** > **About**.

Fusion Version

To determine the Fusion software version:

On Mobile 6.5, tab **Start** > **Wireless Companion** > **Wireless Status** > **Versions**.

On CE 6.0, tab **Wireless Strength** icon > **Wireless Status** > **Versions** or tap **Start** > **Programs** > **Fusion** > **Wireless Status** > **Versions**.

Troubleshooting

⚠ *CAUTION* If you have any problems with the MC9190-NI, bring the device into a safe area first before you try to remedy the fault.

Refer to the *MC9190-G User Guide* for troubleshooting information.

If you have problems with your device, please contact the Zebra support.

Battery Management

Observe the following battery saving tips:

- Leave the MC9190-NI connected to AC power at all times when not in use.
- Set the MC9190-NI to turn off after a short period of non-use.
- Set the display to turn off or dim backlight.
- Set the keyboard backlight to turn off after a short period of non-use.
- Turn off all wireless radio activity when not in use.
- Power off the MC9190-NI when charging to charge at a faster rate.

Changing the Power Settings

To set the MC9190-NI to turn off after a short period of non-use:

1. On devices with Windows CE 6.0, tap **Start** > **Settings** > **Control Panel** > **Power** > **Advanced**.

or

On devices with Windows Mobile 6.5, tap **Start** > **Settings** > **System** > **Power** > **Advanced**.

2. Select the **On battery power: Turn off device if not used for:** check box and select a value from the drop-down list box.

3. Tap **OK**.

Changing the Backlight Settings

To change the display backlight settings in order to conserve more battery power:

1. On devices with Windows CE 6.0, tap **Start** > **Settings** > **Control Panel** > **Backlight** > **Battery Power**.

or

On devices with Windows Mobile 6.5, tap **Start** > **Settings** > **System** > **Backlight** > **Battery Power**.

2. Select the **On battery power: Disable backlight if not used for:** check box and select a value from the drop-down list box.

3. Tap the **Brightness** tab.

4. Tap the **Disable backlight** check box to completely turn off the display backlight.

5. Use the slider to set the brightness of the backlight. Set it to a low value to save battery power.

6. Tap **OK**.

Changing the Keypad Backlight Settings

To change the keypad backlight settings in order to conserve more battery power:

1. On devices with Windows CE 6.0, tap **Start** > **Settings** > **Control Panel** > **Keylight** > **Battery Power**.

   or

   On devices with Windows Mobile 6.5, tap **Start** > **Settings** > **System** > **Keylight** > **Battery Power**.

2. Select the **On Battery Power: Disable keylight if not used for:** check box and select a value from the drop-down list box.

3. Tap **Advanced**.

4. Tap the **Disable keylight** check box to completely turn off the display backlight.

5. Tap **OK**.

Changing the Settings for the Display Backlight

This is how you change the settings for the display backlight to save battery power:

1. Tap on **Start** > **Settings** > **System** > **Backlight** > **Battery Power**.

2. Activate the control box **Disable backlight if device is not used for**, and select a value from the drop-down list.

3. Select **Brightness**.

4. Tap on the control box Disable backlight, to switch off the display backlight, or use the slider to set a lower value for the display backlight.

5. Tap **OK**.

Turning Off the Radios

✓ *NOTE* Wireless connection options vary depending upon configurations.

On Devices with Mobile 6.5

Windows Mobile 6.5 devices include Wireless Manager, which provides a simple method of enabling, disabling, and configuring all the device's wireless capabilities in one place.

1. To open Wireless Manager, tap the **Status Bar** and then the **Connectivity** icon and select **Wireless Manager**.

   or tap **Start** > **Settings** > **Connections** > **Wireless**.

2. To enable or disable a wireless connection, tap its blue bar.

3. To enable or disable all wireless connections, tap and hold the **All** bar.

4. To configure settings for a connection, tap **Menu**.

On Devices with CE 6.0

WLAN Radio

To turn off the WLAN radio tap the **Fusion Signal Strength** icon on the task tray and select **Disable Radio**. A red **X** appears across the icon indicating that the radio is disabled (off).

To turn the radio back on, tap the **Fusion Signal Strength** icon on the task tray and select **Enable Radio**. The red **X** disappears from the icon indicating that the radio is enabled (on).

Bluetooth Radio with Stone Street One Stack Enabled

To turn off the Bluetooth radio, tap the **Bluetooth** icon in the task tray and select **Disable Bluetooth**.

To turn on the Bluetooth radio, tap the **Bluetooth** icon in the task tray and select **Enable Bluetooth**.

Resetting the Mobile Computer

Windows CE 6.0 Devices

There are two reset functions, warm boot and cold boot. A warm boot restarts the mobile computer by closing all running programs.

A cold boot also restarts the mobile computer, but erases all stored records and entries in RAM. Data saved in flash memory or a memory card is not lost. In addition it returns formats, preferences and other settings to the factory default settings.

Perform a warm boot first. This restarts the mobile computer and saves all *stored* records and entries. If the mobile computer still does not respond, perform a cold boot.

Performing a Warm Boot

Hold down the **Power** button for approximately five seconds. As soon as the mobile computer starts to perform a warm boot release the **Power** button.

Performing a Cold Boot

A cold boot restarts the mobile computer and erases all user stored records and entries that are not saved in flash memory (Application and Platform folders) or a memory card. *Never perform a cold boot unless a warm boot does not solve the problem.*

⚠️ **CAUTION** Do not hold down any key, other than the **Power** button during a reset. Performing a cold boot restores formats, preferences and other settings to the default settings.

✓ **NOTE** Any data previously synchronized with a computer can be restored during the next ActiveSync operation.

To perform a cold boot:

1. Press the primary battery release on the mobile computer to partially eject the battery from the mobile computer.
2. While the battery is partially released, simultaneously press and release the handle trigger and the **Power** button.
3. Push the battery to fully re-insert it in the mobile computer. One audible click can be heard as the battery is fully inserted.
4. The mobile computer initializes.
5. Calibrate the screen.

Windows Mobile 6.5 Devices

There are two reset functions, warm boot and cold boot.

- A warm boot restarts the mobile computer and closes all running programs.
- A cold boot also restarts the mobile computer and closes all running programs but also resets the Real-Time-Clock (RTC).

Data saved in flash memory or a memory card is not lost. Perform a warm boot first. This restarts the mobile computer and saves all *stored* records and entries. If the mobile computer still does not respond, perform a cold boot.

Performing a Warm Boot

Hold down the Power button for approximately five seconds. As soon as the mobile computer starts to perform a warm boot release the **Power** button.

Performing a Cold Boot

A cold boot restarts the mobile computer. The operating system and all applications are restarted. File storage is preserved. The Real-Time-Clock (RTC) resets. *Only perform a cold boot if a warm boot does not solve the problem.*

To perform a cold boot:

1. Press the primary battery release on the mobile computer to partially eject the battery from the mobile computer.

2. While the battery is partially released, simultaneously press and release the trigger and the Power button.

3. Push the battery to fully re-insert it in the mobile computer. One audible click can be heard as the battery is fully inserted.

4. The mobile computer initializes.

Maintenance, Inspection, Repair

⚠ *CAUTION* When performing maintenance or servicing or when checking associated equipment, comply with the applicable regulations in accordance with directives IEC 60079-19 and IEC 60079-17.

Installation/dismantling, operating and maintenance work may be carried out by trained specialists only. Statutory regulations and other binding directives on workplace safety, accident prevention and environmental protection must be adhered to.

For trouble-free service, observe the following tips when using the MC9190-NI:

- Take care not to scratch the screen of the MC9190-NI. When working with the MC9190-NI, use the supplied stylus or plastic-tipped pens intended for use with a touch-sensitive screen. Never use an actual pen or pencil or other sharp object on the surface of the MC9190-NI screen.

- Although the MC9190-NI is water and dust resistant, do not expose it to rain or moisture for an extended period of time. In general, treat the MC9190-NI as you would a pocket calculator or other small electronic instrument.

- The touch-sensitive screen of the MC9190-NI contains glass. Take care not to drop the MC9190-NI or subject it to strong impact.

- Protect the MC9190-NI from temperature extremes. Do not leave it on the dashboard of a car on a hot day, and keep it away from heat sources.

- Do not store or use the MC9190-NI in any location that is extremely dusty, damp or wet.

- Use a soft lens cloth to clean the MC9190-NI. If the surface of the MC9190-NI screen becomes soiled, clean it with a soft cloth moistened with a diluted window-cleaning solution.

As the battery power diminishes over the course of time, the batteries should be completely discharged and recharged every now and then in order to retain the full capacity. For that purpose the devices are left switched on until the devices switch off themselves. Then recharge the battery completely outside the Ex area.

Before a lengthy idle time it is essential to charge the battery completely and to recharge it regularly (every 3 months).

Servicing

⚠ **CAUTION** In accordance with IEC 60079-19 and IEC 60079-17, the owner-operator of the electrical installations in potentially explosive areas has an obligation to have these installations checked by a qualified electrician to ensure that they are in a proper condition.

Inspection

⚠ **CAUTION** Repairs on explosion-protected operating equipment may be done only by authorized persons using original spare parts and working in accordance with the latest developments of technology. The relevant applicable regulations must be observed. Please direct any questions you may have to Zebra.

Cleaning

⚠ **CAUTION** Always wear eye protection.

Read warning label on compressed air and alcohol product before using.

If you have to use any other solution for medical reasons please contact Zebra for more information.

⚠ **WARNING!** **Avoid exposing this product to contact with hot oil or other flammable liquids. If such exposure occurs, unplug the device and clean the product immediately in accordance with these guidelines.**

Approved Cleanser Active Ingredients

100% of the active ingredients in any cleaner must consist of one or some combination of the following: isopropyl alcohol, bleach/sodium hypochlorite, hydrogen peroxide or mild dish soap.

Harmful Ingredients

The following chemicals are known to damage the plastics on the MC9190-NI and should not come in contact with the device: ammonia solutions, compounds of amines or ammonia; acetone; ketones; ethers; aromatic and chlorinated hydrocarbons; acqueous or alcoholic alkaline solutions; ethanolamine; toluene; trichloroethylene; benzene; carbolic acid and TB-lysoform.

Cleaning Instructions

Do not apply liquid directly to the MC9190-NI. Dampen a soft cloth or use pre-moistened wipes. Do not wrap the device in the cloth or wipe, but gently wipe the unit. Be careful not to let liquid pool around the display window or other places. Allow the unit to air dry before use.

Special Cleaning Notes

Many vinyl gloves contain phthalate additives, which are often not recommended for medical use and are known to be harmful to the housing of the MC9190-NI. The MC9190-NI should not be handled while wearing vinyl gloves containing phthalates, or before hands are washed to remove contaminant residue after gloves are removed. If products containing any of the harmful ingredients listed above are used prior to handling the MC9190-NI, such as hand sanitizer that contain ethanolamine, hands must be completely dry before handling the MC9190-NI to prevent damage to the plastics.

Materials Required

- Alcohol wipes
- Lens tissue
- Cotton tipped applicators
- Isopropyl alcohol
- Can of compressed air with a tube.

Cleaning the MC9190-NI

Housing

Using the alcohol wipes, wipe the housing including keys and in-between keys.

Display

The display can be wiped down with the alcohol wipes, but care should be taken not to allow any pooling of liquid around the edges of the display. Immediately dry the display with a soft, non-abrasive cloth to prevent streaking.

Scanner Exit Window

Wipe the scanner exit window periodically with a lens tissue or other material suitable for cleaning optical material such as eyeglasses.

Battery Contacts

1. Remove the battery from MC9190-NI.
2. Dip the cotton portion of the cotton tipped applicator in isopropyl alcohol.

3. Rub the cotton portion of the cotton tipped applicator back-and-forth across the battery contacts on the back of the battery. Do not leave any cotton residue on the contacts.

4. Repeat at least three times.

5. Use the cotton tipped applicator dipped in alcohol to remove any grease and dirt near the contact area.

6. Use a dry cotton tipped applicator and repeat steps 3 through 5.

7. Spray compressed air on the contact area by pointing the tube/nozzle about ½ inch away from the surface. CAUTION: Do not point nozzle at yourself and others, ensure the nozzle or tube is away from your face.

8. Inspect the area for any grease or dirt, repeat if required.

9. Replace the battery in the MC9190-NI.

Cleaning Cradle Connectors

To clean the connectors on a cradle:

1. Remove the DC power cable from the cradle.

2. Dip the cotton portion of the cotton tipped applicator in isopropyl alcohol.

3. Rub the cotton portion of the cotton tipped applicator along the pins of the connector(s). Slowly move the applicator back-and-forth from one side of the connector to the other. Do not let any cotton residue on the connector.

4. All sides of the connector should also be rubbed with the cotton tipped applicator.

5. Spray compressed air in the connector area by pointing the tube/nozzle about ½ inch away from the surface. CAUTION: do not point nozzle at yourself and others, ensure the nozzle or tube is pointed away from your face.

6. Ensure that there is no lint left by the cotton tipped applicator, remove lint if found.

7. If grease and other dirt can be found on other areas of the cradle, use lint free cloth and alcohol to remove.

8. Allow at least 10 to 30 minutes (depending on ambient temperature and humidity) for the alcohol to air dry before applying power to cradle.

   If the temperature is low and humidity is high, longer drying time is required. Warm temperature and dry humidity requires less drying time.

Cleaning Frequency

The cleaning frequency is up to the customer's discretion due to the varied environments in which the mobile devices are used. They may be cleaned as frequently as required. However when used in dirty environments it may be advisable to periodically clean the scanner exit window to ensure optimum scanning performance.

Service Information

If you have a problem with your equipment, contact the "Zebra Global Interactive Center," for your region. Go to http://www.zebra.com/support. If you purchased your Zebra product from a Zebra Business Partner, contact that Business Partner for service.

Before contacting, have the model number and serial number at hand. If your problem cannot be solved by the Zebra Global Interactive Center, you may need to return your equipment for servicing and you will be given specific directions.

Zebra is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty.

Disposal

The component of the mobile computer contains metal, plastic parts and electronic components.

The statutory requirements for electrical scrap must be observed therefore (e.g. disposal by an approved disposal company).

Dispatch and Packaging Instructions

Important information regarding transport and dispatch.

> ! Sensitive Devices!
> It is absolutely necessary to deliver the equipment in the original packaging in order to avoid damage to the equipment.

⌧ **Waste Electrical and Electronic Equipment (WEEE)**

English: For EU Customers: All products at the end of their life must be returned to Zebra for recycling. For information on how to return product, please go to: http://www.zebra.com/weee.

Français: Clients de l'Union Européenne: Tous les produits en fin de cycle de vie doivent être retournés à Zebra pour recyclage. Pour de plus amples informations sur le retour de produits, consultez : http://www.zebra.com/weee.

Español: Para clientes en la Unión Europea: todos los productos deberán entregarse a Zebra al final de su ciclo de vida para que sean reciclados. Si desea más información sobre cómo devolver un producto, visite: http://www.zebra.com/weee.

Bulgarish: За клиенти от ЕС: След края на полезния им живот всички продукти трябва да се връщат на Zebra за рециклиране. За информация относно връщането на продукти, моля отидете на адрес: http://www.zebra.com/weee.

Deutsch: Für Kunden innerhalb der EU: Alle Produkte müssen am Ende ihrer Lebensdauer zum Recycling an Zebra zurückgesandt werden. Informationen zur Rücksendung von Produkten finden Sie unter http://www.zebra.com/weee.

Italiano: per i clienti dell'UE: tutti i prodotti che sono giunti al termine del rispettivo ciclo di vita devono essere restituiti a Zebra al fine di consentirne il riciclaggio. Per informazioni sulle modalità di restituzione, visitare il seguente sito Web: http://www.zebra.com/weee.

Português: Para clientes da UE: todos os produtos no fim de vida devem ser devolvidos à Zebra para reciclagem. Para obter informações sobre como devolver o produto, visite: http://www.zebra.com/weee.

Nederlands: Voor klanten in de EU: alle producten dienen aan het einde van hun levensduur naar Zebra te worden teruggezonden voor recycling. Raadpleeg http://www.zebra.com/weee voor meer informatie over het terugzenden van producten.

Polski: Klienci z obszaru Unii Europejskiej: Produkty wycofane z eksploatacji nale¿y zwróciæ do firmy Zebra w celu ich utylizacji. Informacje na temat zwrotu produktów znajduj¹ siê na stronie internetowej http://www.zebra.com/weee.

Čeština: Pro zákazníky z EU: Všechny produkty je nutné po skonèení jejich životnosti vrátit spoleènosti Zebra k recyklaci. Informace o zpùsobu vrácení produktu najdete na webové stránce: http://www.zebra.com/weee.

Eesti: EL klientidele: kõik tooted tuleb nende eluea lõppedes tagastada taaskasutamise eesmärgil Zebra'ile. Lisainformatsiooni saamiseks toote tagastamise kohta külastage palun aadressi: http://www.zebra.com/weee.

Magyar: Az EU-ban vásárlóknak: Minden tönkrement terméket a Zebra vállalathoz kell eljuttatni újrahasznosítás céljából. A termék visszajuttatásának módjával kapcsolatos tudnivalókért látogasson el a http://www.zebra.com/weee weboldalra.

Slovenski: Za kupce v EU: vsi izdelki se morajo po poteku življenjske dobe vrniti podjetju Zebra za reciklažo. Za informacije o vraèilu izdelka obišèite: http://www.zebra.com/weee.

Svenska: För kunder inom EU: Alla produkter som uppnått sin livslängd måste returneras till Zebra för återvinning. Information om hur du returnerar produkten finns på http://www.zebra.com/weee.

Suomi: Asiakkaat Euroopan unionin alueella: Kaikki tuotteet on palautettava kierrätettäväksi Zebra-yhtiöön, kun tuotetta ei enää käytetä. Lisätietoja tuotteen palauttamisesta on osoitteessa http://www.zebra.com/weee.

Dansk: Til kunder i EU: Alle produkter skal returneres til Zebra til recirkulering, når de er udtjent. Læs oplysningerne om returnering af produkter på: http://www.zebra.com/weee.

Ελληνικά: Για πελάτες στην Ε.Ε.: Όλα τα προϊόντα, στο τέλος της διάρκειας ζωής τους, πρέπει να επιστρέφονται στην Zebra για ανακύκλωση. Για περισσότερες πληροφορίες σχετικά με την επιστροφή ενός προϊόντος, επισκεφθείτε τη διεύθυνση http://www.zebra.com/weee στο Διαδίκτυο.

Malti: Għal klijenti fl-UE: il-prodotti kollha li jkunu waslu fl-aħħar tal-ħajja ta' l-użu tagħhom, iridu jiġu rritornati għand Zebra għar-riċiklaġġ. Għal aktar tagħrif dwar kif għandek tirritorna l-prodott, jekk jogħġbok żur: http://www.zebra.com/weee.

Românesc: Pentru clienţii din UE: Toate produsele, la sfârşitul duratei lor de funcţionare, trebuie returnate la Zebra pentru reciclare. Pentru informaţii despre returnarea produsului, accesaţi: http://www.zebra.com/weee.

Slovenski: Za kupce v EU: vsi izdelki se morajo po poteku življenjske dobe vrniti podjetju Zebra za reciklažo. Za informacije o vračilu izdelka obiščite: http://www.zebra.com/weee.

Slovenčina: Pre zákazníkov z krajín EU: Všetky výrobky musia byť po uplynutí doby ich životnosti vrátené spoločnosti Zebra na recykláciu. Bližšie informácie o vrátení výrobkov nájdete na: http://www.zebra.com/weee.

Lietuvių: ES vartotojams: visi gaminiai, pasibaigus jų eksploatacijos laikui, turi būti grąžinti utilizuoti į kompaniją „Zebra". Daugiau informacijos, kaip grąžinti gaminį, rasite: http://www.zebra.com/weee.

Latviešu: ES klientiem: visi produkti pēc to kalpošanas mūža beigām ir jānogādā atpakaļ Zebra otrreizējai pārstrādei. Lai iegūtu informāciju par produktu nogādāšanu Zebra, lūdzu, skatiet: http://www.zebra.com/weee.

Türkçe: AB Müşterileri için: Kullanım süresi dolan tüm ürünler geri dönüştürme için Zebra'ya iade edilmelidir. Ürünlerin nasıl iade edileceği hakkında bilgi için lütfen şu adresi ziyaret edin: http://www.zebra.com/weee.

TURKISH WEEE Statement of Compliance

EEE Yönetmeliğine Uygundur

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