



ATEX Zone 2

UL Division 2



Mobile Computing

User Manual

Mobile Computer MC 9190^{ex}-NI, Type B7-A28-...../.....

Document No. B1-A280-7D0001 Issue: April 2011

User Manual**Mobile Computer MC 9190^{ex}-NI****Type B7-A28.-..../.....****ATEX Zone 2****UL Class I, II, III Division 2**

Document No. B1-A280-7D0001

Issue: Revision 2 / August 2012

Reservation: Technical data subject to change without notice. Changes, errors and misprints may not be used as a basis for any claim for damages.

Contents	Page
English	1 - 50
Appendix	Declaration of Conformity
	Certificate of Compliance

Notes on this manual



Read carefully
before putting
the devices into
operation.

The user manual 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 manual 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.

Changes to the document

BARTEC reserves the right to alter the contents of this document without notice. No guarantee is given for the correctness of the information.

In the event of a legal dispute, the "General Terms and Conditions" of the BARTEC group shall apply in addition.

The respective up-to-date versions of data sheets, manuals, certificates, EC Declaration of Conformity may be downloaded from the "Ex Visualisation and Communication Systems" product page at www.bartec-group.com or ordered directly from BARTEC GmbH.

Handling the Product

The documents are currently available in English.

The product described in this manual 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 Manual are examples only and can deviate from the actual display.

The information treated in this User Manual relates to the explosion protected version of the MC 9190^{ex}-NI Series.

This User Manual contains all important information concerning explosion protection. In addition, the original user manuals and product information from Motorola are also available and these contain information about handling and commissioning. In the event of information overlap, the information in this User Manual is valid and replaces the Motorola information.

Documentation Set

BARTEC

- **User manual for the MC 9190^{ex}-NI mobile computer series** (part no. B1-A280-7D0001). This user manual describes the use of the explosion protected version of the MC 9190^{ex}-NI mobile computer series.
- **Technical data sheet** for the explosion protected version of the MC 9190^{ex}-NI mobile computer series - This Technical Data Sheet describes the most important ex technical and general technical data.
- The current version of this user manual is available upon enquiry.

Motorola

The documentation set for the MC9190 provides information corresponding with the respective user requirements and comprises:

- **MC9190-G Series Regulatory Guide**
- **User manual for the MC9190-G mobile computer series** - This user manual describes the use of the MC9190-G mobile computer series.
- **User manual for integration of the MC9190-G mobile computer series**
This user manual describes the setup of the MC9190-G mobile computer, including accessories.
- **Microsoft® Applications for Windows Mobile® 6 User Guide**
This user guide describes the use of Microsoft applications.
- **Device Configuration Package**
(DCP for MC9190c60) and Platform SDK (PSDK9190c60) for MC9190-G with Windows Mobile, available at:
<http://www.supportcentral.motorola.com>
- **Enterprise Mobility Developer Kit**
This EMDK file includes API information about writing applications, available at:
<http://www.supportcentral.motorola.com>
- **Latest Active Sync-Software**, available at:
<http://www.microsoft.com>

- The current version of the Motorola documentation is available at:

<http://www.motorola.com/enterprisemobility/manuals>

For Software Installation and Adjustment Possibilities refer to the Symbol/Motorola manual:

<http://www.supportcentral.motorola.com>

under: - Support - Get Product Manuals - Product Manuals - Mobile Computers - MC 9190-G

Safety Instructions



Read carefully
before putting the
devices into
operation.

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:



Danger!

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 behaviour



Note

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

Configurations

This user manual refers to the following configurations:

Configuration	Wireless	Display	Memory	Data acquisition option	OS	Key-pad
MC 9190^{ex}-NI	WLAN: 802.11 a/b/g WPAN: Bluetooth	3.7" - Colour 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	Keypads: See below

Keypad

The following keypads are available:

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

You can find specific information about the keypads under Technical Data or in the Motorola documentation.

1	Product Description.....	1
1.1	Definition.....	1
1.2	Use	2
2	Technical Data.....	3
2.1	Explosion Protection ATEX Zone 2/22.....	3
2.2	Explosion Protection UL Division 2.....	3
2.3	Characteristics	3
2.4	Performance Features	4
2.5	User Environment.....	4
2.6	Application Development.....	4
2.7	Voice and Data Transmission Wireless LAN	5
2.8	Voice and Data Transmission Wireless PAN.....	5
2.9	Options for Data Capture.....	5
2.9.1	SE1524-ER 1D Long Range Scan Engine	6
2.9.2	SE4600 1D/2D Long Range Imager Engine.....	6
2.9.3	SE4500-SR 1D/2D Imager Engine	6
2.9.4	SE4500-HD 1D/2D Imager Engine.....	6
2.9.5	Decodable Bar Code Types.....	7
2.10	Technical Data Battery	8
2.11	Technical Data External Interface.....	8
2.12	Product Marking.....	9
3	Safety Instructions.....	11
3.1	Warnings about the Mobile Computers.....	11
3.2	Warnings for Battery	12
3.3	Laser Devices	13
3.4	LED Devices	13
3.5	Health and Safety Recommendations	13
3.5.1	Ergonomic Recommendations.....	13
3.5.2	Installation in Vehicles	14
3.6	RF Exposure Guidelines.....	15
3.6.1	International.....	15
3.6.2	Europe	15
3.6.3	US and Canada	16
3.7	Warnings and Information about Wireless Devices	16
3.8	Warnings about the Use of Wireless Devices.....	18
3.8.1	Safety in Aircraft	18
3.8.2	Safety in Hospitals.....	19
3.8.3	Cardiac Pacemakers	19
3.8.4	Hearing Aids	19
3.8.5	Other Medical Instruments.....	19
3.9	Bluetooth	19
3.9.1	Products with Bluetooth® Wireless Technology	19

4	Operation.....	20
4.1	Getting started	20
4.2	Recommended position for the MC 9190 ^{ex} -NI	20
4.3	Parts of the MC 9190 ^{ex} -NI.....	21
4.4	Battery	21
4.4.1	Battery information.....	22
4.4.2	Installing the Battery	22
4.4.3	Replacing a battery.....	23
4.4.4	Charging the battery	24
4.5	Keypad	28
4.5.1	Replacing Keypad.....	28
4.6	Secure Device (SD) Card	30
4.6.1	Installing a SD Card.....	30
4.7	Screen Protector.....	31
4.7.1	Installing the Screen Protector.....	31
4.7.2	Removing the Screen Protector.....	32
4.8	Connection to the PC.....	33
4.8.1	Active Sync.....	33
4.8.2	DEVICE Center or mobile device center.....	33
5	Commissioning.....	34
5.1.1	Display.....	34
6	Software Versions.....	35
6.1	AKU Version	35
6.2	OEM Version	35
6.3	BTExplorer Version.....	35
6.4	Fusion Version.....	35
7	Trouble shooting.....	36
7.1	Battery Management	36
7.1.1	Changing the Power Settings	36
7.1.2	Changing the Backlight Settings.....	37
7.1.3	Changing the Keypad Backlight Settings.....	37
7.1.4	Changing the settings for the display backlight.....	37
7.1.5	Turning Off the Radios.....	38
7.1.6	On Devices with Mobile 6.5	38
7.2	Resetting the MC 9190 ^{ex} -NI.....	39
7.2.1	On a Windows Mobile 6.5 device	39
7.2.2	Warm boot	39
7.2.3	Cold Boot.....	39
7.2.4	Clean Boot.....	40

8	Maintenance, Inspection, Repair	41
8.1	Servicing	42
8.2	Inspection	42
8.3	Cleaning	42
8.3.1	Required materials.....	43
8.3.2	Housing	43
8.3.3	Display.....	43
8.3.4	Scan window	44
8.3.5	Interface connection	44
8.3.6	Cradle/Battery contacts	44
8.3.7	Cleaning interval.....	45
8.4	Information about Repairs	46
9	Accessories.....	47
9.1	Accessories for use in hazardous area.....	47
9.2	Accessories for use in non hazardous area.....	48
10	Order Numbers.....	49
10.1	MC 9190 ^{ex} -NI.....	49
11	Disposal.....	49
12	Dispatch and Packaging Instructions	49
13	Additional Information.....	50
13.1	Links	50

Appendix –	Declaration of Conformity
	Certificate of Compliance

1 Product Description

1.1 Definition

The MC 9190^{ex}-NI Mobile Computer is a compact unit for high-standard barcode scanning in hazardous (potentially explosive) areas.

- ATEX Zone 2 and 22
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.



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 MC 9190^{ex}-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 colour display with touch technology and high-performance lithium ion battery.

Fast process execution is ensured by the Marvell PXA320@ processor with 806 MHz, which is integrated in the MC 9190^{ex}-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 Motorola.

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, BARTEC offers SD memory cards.

1.2 Use

The Mobile Computer MC 9190^{ex}-NI is a hand-guided 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 MC 9190^{ex}-NI, type B7-A282-..../..... series has been modified for use in the hazardous area of:

- 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 MC 9190^{ex}-NI, type B7-A283-..../..... series has been modified for use in the hazardous area of:

- ATEX Zone 2
- ATEX Zone 22
- Non hazardous area

The MC 9190^{ex}-NI may not be used in locations of:

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

2 Technical Data

2.1 Explosion Protection ATEX Zone 2/22

Type	B7-A283-..../.....
Ex protection	Ex II 3G Ex nA IIC T6 Ex II 3D Ex tD A22 IP54 T80 °C
Ambient temperature	$-20\text{ °C} \leq T_a \leq +50\text{ °C}$
Temperature Code	T6
Certification	B1-A283-7C0001

2.2 Explosion Protection UL Division 2

Type	B7-A282-..../.....
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	$-20\text{ °C} \leq T_a \leq +50\text{ °C}$
Temperature Code	T6
Certification	UL File E321557

2.3 Characteristics

Dimensions (height x width x depth)	approx. 23.1 cm x 9.1 cm x 19.3 cm approx. 9.1 inch x 3.6 inch x 7.6 inch
Weight including battery	approx. 710 g approx. 25 oz depending on the version and configuration
Display	Transflective 3.7 inch colour Windows Mobile: VGA
Touchscreen	Glass analog resistive touchscreen
Network connections	High-speed USB client, full-speed USB host, Ethernet (via cradle), Bluetooth
Interfaces	RS232, USB
Keyboard variants	28 key, 43 key, 53 key, 53 key with VT emulation print, 53 key with 3270 emulation print, 53 key with 5250 emulation print





Note

No emulation software is installed on the Mobile Computers with the emulation key version. The customer must order the emulation software separately from Symbol/Motorola and its distributors and install it himself.

The devices are modified to suit the selected keypad version. The end user can replace the keypad later himself.

When replacing the keyboard, follow the instructions in chapter 4.5 "Keypad".

2.4 Performance Features

Processor	Marvell PXA320 [®] processor with 806 MHz
Memory	256 MB RAM / 1GB Flash
Expansion slot	SD card slot
Optional available extension with Micro SD card	1 GB Order no. 17-28BE-F006/0002 2 GB Order no. 17-28BE-F006/0003 4 GB Order no. 17-28BE-F006/0004 8 GB Order no. 17-28BE-F006/0005 16 GB Order no. 17-28BE-F006/0006 Note: The devices are modified to suit the selected memory versions. The end user can replace the SD card later himself, but must follow the instructions in chapter 4.6 "Secure Device (SD) Card".
Operating system	Windows Mobile 6.5

2.5 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
Air humidity	5% to 95% (non-condensing)	
Protection class (EN 60529)	IP 64	

2.6 Application Development

PSDK (Platform Software Developer Kit) and EMDK (Enterprise Mobility Developer Kit) available through Motorola Support Central Web site.

Available for	<ul style="list-style-type: none"> – C – Java – .Net
---------------	---

More tools are available from Motorola for the devices e.g.	<ul style="list-style-type: none"> – 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.
---	---

2.7 Voice and Data Transmission Wireless LAN

WLAN (integrated radio module)	
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

2.8 Voice and Data Transmission Wireless PAN

Bluetooth	Bluetooth Version 2.1 with EDR
Antenna	Integrated in the device

2.9 Options for Data Capture

Five different types of scan engines	SE1524-ER SE4600 SE4500-SR SE4500-HD
--------------------------------------	---



Note

For decode zone and more detailed information of the scan engine look into the Integrator Guide of Motorola.

2.9.1 SE1524-ER 1D Long Range Scan Engine

Reading range	up to approx. 13.7 m up to approx. 45 feet
---------------	---

2.9.2 SE4600 1D/2D Long Range Imager Engine

Extended range omni directional 1D/2D imaging engine reads 1D and 2D symbols as close as 8 in./20.32 cm and as far as 30 ft./9.14 m

Reading range close	up to approx. 20.3 cm up to approx. 8 inch
Reading range far	up to approx. 9.1 m up to approx. 30 feet

2.9.3 SE4500-SR 1D/2D Imager Engine

Omni directional 1D/2D imaging engine reads 1D and 2D symbols

Reading range close	up to approx. 5.3 cm up to approx. 2.1 inch
Reading range far	up to approx. 62.7 cm up to approx. 24.7 inch

2.9.4 SE4500-HD 1D/2D Imager Engine

1D/2D DPM imaging engine reads a wide variety of DPM marks on metal, plastic and glass surfaces, including: dot peening, laser etching, molding, stamping or casting.

Reading range close	up to approx. 4.0 cm up to approx. 1.6 inch
Reading range far	up to approx. 28.2 cm up to approx. 11.1 inch

2.9.5 Decodable Bar Code Types

Laser Decode Capability MC 9190 ^{ex} -NI with SE1524-ER 1D Long Range Scan Engine		
1D code		
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	RSS-14
RSS-Limited	RSS-Expanded	

Imaging Decode Capability MC 9190 ^{ex} -NI with SE4500 1D/2D Imager Engine SE4600 1D/2D Long Range Imager Engine		
1D Codes		
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	RSS-14
RSS-Limited	RSS-Expanded	
2D Codes		
TLC39	Composite AB	Composite C
Micro PDF-417	Macro PDF-417	(Macro) Micro PDF-417
QR Code	Data Matrix	microQR
Maxi Code	PDF-417	Dutch Kix
US Postnet	US Planet	UK 4-state
Australian 4-state	Canadian 4-state	Japanese 4-state
USPS 4-state (US4CB)	Aztec	

2.10 Technical Data Battery



Caution!

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

Battery type B7-A2Z0-0006	Lithium ions 7.4 V/2200 mAh	
Operating temperature		
– during charging	0 °C to +40 °C	32 °F to 104 °F
– during discharging	-20 °C to +50 °C	-4 °F to 122 °F
Storage temperatures		
– ≤ 1 year	-25 °C to +20 °C	-13 °F to 68 °F
– ≤ 3 months	-25 °C to +45 °C	-13 °F to 113 °F
– ≤ 1 months	-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.	

2.11 Technical Data External Interface

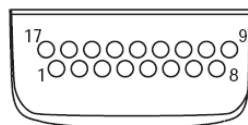


Caution!

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!

Pin Outs Interface Connector



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

2.12 Product Marking

MC 9190 ^{ex} -NI	
<p>A</p> <p>B</p> <p>C</p> <p>D</p>	
<p>A</p> <p>Warning Laser</p>	<p>CAUTION - CLASS 3R LASER LIGHT WHEN OPEN. AVOID DIRECT EYE EXPOSURE. ATTENTION - LUMIÈRE LASER DE CLASSE 3R, EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU. VORSICHT - LASERLICHT KLASSE 3R, WENN ABDECKUNG GEÖFFNET. DIREKTE BESTRAHLUNG DER AUGEN VERMEIDEN.</p>
<p>B</p> <p>Laser Mark of Compliance</p>	<p>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. COMPLIES WITH 21CFR1040.10 AND 1040.11 EXCEPT FOR DEVIATIONS PURSUANT TO LASER NOTICE No. 50, DATED JUNE 24, 2007 AND IEC/EN60825-1:2001, 2007 & IEC/EN62471:2009 THIS DEVICE CONTAINS AN APPROVED RADIO MODULE</p> <p>UL LISTED I.T.E. FOR USE IN HAZ LOC</p> <p>CE 0982</p>
<p>C</p> <p>Ex Protection ATEX</p>	<p>CE Ex II 3G Ex nA IIC T6 Ex II 3D Ex tD IIC T6 -20°C ≤ Ta ≤ +50°C</p>
<p>C</p> <p>Ex Protection UL</p>	<p>Class I, II, III Div 2 Groups A, B, C, D, F and G T6 -20°C ≤ Ta ≤ +50°C</p>
<p>D</p> <p>Type Label & Warning of Laser</p>	

Battery Type B7-A2Z0-0006

A



A

Type Label



3 Safety Instructions

3.1 Warnings about the Mobile Computers



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 and Zone 22.
- 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 (see chapter 2.11 "Technical Data External 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, vapours 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 (see chapter 2.5 "User Environment"). 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 is 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 can 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!

3.2 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. B7-A2Z0-0006 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 MC 9190^{ex}-NI (type B7-A28.-.... /).
- 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.

3.3 Laser Devices



Caution!

Class 2 laser devices operate with a visible low-voltage light emitting diode. As with any bright source of light, for example the sun, the user should avoid looking directly into the light beam. However, there is no evidence of risks in momentary or brief exposure to a Class 2 laser.

The use of control elements, adaptations or the application of procedures which do not agree with the instructions described here can lead to a hazardous exposure to radiation.

- Laser-equipped devices from Symbol/Motorola conform to Directive 21CFR1040.10 and 1040.11. (with the exception of the deviations listed in Laser Notice no. 50 of 24 June 2007) as well as EN 60825-1:2007 and IEC 60825-1 (Ed. 2)
- The classification of the laser apparatus is specified on a sign affixed to the device.
- Class 1 Laser devices are not considered to be hazardous when used for their intended purpose.

3.4 LED Devices

Complies with IEC/EN60825-1:2001 & IEC/EN60247:2006

3.5 Health and Safety Recommendations



Caution!

Use only the accessories, batteries and battery chargers approved by BARTEC. Do not attempt to charge damp/wet MC 9190^{ex}-NI or batteries. All components must be dry before they are connected to an external power supply.

3.5.1 Ergonomic Recommendations



Caution!

The following recommendations should be observed to avoid or minimise potential health problems at the workplace. Contact your local health and safety manager on site to ensure that you are familiar with your company's safety regulations, which serve to protect employees in the workplace.

- Avoid unilateral repetitive movements.
- Posture should be as neutral as possible.
- Avoid using excessive force.
- Keep objects that are used frequently within easy functional reach.
- Perform tasks at heights that suit the person and the type of work
- Place the objects in positions that will eliminate vibrations
- Avoid exerting direct pressure

- Provide adjustable tables and chairs.
- Ensure sufficient clearance for easy movement
- Provide a suitable working environment
- Optimise work procedures
- Alternate hands as often as possible when doing repetitive tasks.

3.5.2 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 in traffic

Do not make any notes or use the device while driving. Creating a “to do” list or flipping through the address book while driving interferes with safe driving.

In road traffic you must first and foremost concentrate on your own safety and that of the other road users. Give your full attention to the road. Check the legal regulations on the use of wireless devices in road traffic in the respective region. Always observe them. If you use a wireless device while driving, rely on your common sense and adhere to the following:

1. Familiarise yourself with the wireless device and its functions, such as speed dial and redial. These functions may prove to be useful if you wish to make a call without taking your eyes off the road.
2. When available, use a hands-free telephone, if possible.
3. Inform the person you are speaking with that you are driving. If necessary, end the call if there is heavy traffic or bad weather. Rain, sleet, snow, ice and even heavy traffic can be dangerous.
4. Dial numbers carefully and keep an eye on the traffic. Make your calls when you have stopped the car or before you set off. Plan your calls so that you can make them when parked. If it is essential to make a call when driving, dial only part of the number, check the road again and look in the rear mirror and then dial the rest of the number.

5. Do not engage in stressful and emotional telephone calls which might take your attention away from the road. Let the other person know that you are driving a car and do not get involved in any discussions that might divert your attention from the road.
6. Use your mobile device to call for help if necessary. Dial emergency services (9-1-1 in the USA and 1-1-2 in Europe) or other local emergency service numbers if there is a fire, an accident or a medical emergency. These calls are free of charge on the wireless device! The call can be made independently of security codes or networks and with or without a SIM card.
7. Use your mobile device to call for help for other people in emergency situations. If you witness a serious accident, crime or other emergency, call the emergency service (9-1-1 in the USA and 1-1-2 in Europe) or another local emergency service number. Remember you yourself might need help the next time.
8. Call the breakdown service or a special mobile radio number for support when problems occur on the road. If you drive past a car with a breakdown which does not present any serious risk to traffic, a traffic light that is not functioning, a traffic accident with minor damage and without injured people, or a possibly stolen car, report it to the road patrol or another special mobile radio number for assistance.

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

3.6 RF Exposure Guidelines

Safety Information

Reducing RF Exposure – Use Properly



Caution!

Only operate the device in accordance with the instructions supplied.

3.6.1 International

The device complies with internationally recognised standards relating to human exposure to electromagnetic fields from radio devices.

3.6.2 Europe

Handheld Devices

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



Note

The MC 9190^{ex}-NI must be switched off before it may be carried on the body.

3.6.3 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 BARTEC 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 MC 9190^{ex}-NI must be switched off before it may be carried on the body.

3.7 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.

Motorola/Symbol Technologies WLAN radio 802.11 a/b/g Type(s): 21-92955

Country-Specific 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. |

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.

FCC requirements to protect against radio-frequency interference

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 satisfies the requirements of part 15 of the FCC rules. The operation of the device is subject to the following two conditions:

- the device must not cause harmful interference
- the device must accept all interference it receives, including interference which may cause undesired operation.

Requirements for protection from radio-frequency interference – Canada

This class B digital device complies with the guidelines in the Canadian standard 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.

3.8 Warnings about the Use of Wireless Devices

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

3.8.1 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.

3.8.2 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.

3.8.3 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.

3.8.4 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.

3.8.5 Other Medical Instruments

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

3.9 Bluetooth

3.9.1 Products with Bluetooth® Wireless Technology

This device is a Bluetooth®-approved product

More information can be found at <http://www.bluetooth.org/tpg/listings.cfm>

Manufacturer: Motorola --- Product: MC9190

Bluetooth® Wireless Technology for use through the EEA in the frequency range
2.400 – 2.4835 GHz

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

4 Operation

Before assembling the device, make sure you have all the components and documents.

Scope:

- 1 x MC 9190^{ex}-NI
- 1 x Lithium-ion battery
- 1 x Strap assembly
- 1 x Protective overlay on the display window
- 1 x Stylus
- 1 x User manual



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.

4.1 Getting started

Carry out the following steps before first use of the MC 9190^{ex}-NI:

1. Install a micro SD card (optional).
2. Insert the battery.
3. Charge the MC 9190^{ex}-NI.

4.2 Recommended position for the MC 9190^{ex}-NI

- ➔ The recommended position for the mobile computer when not in use.

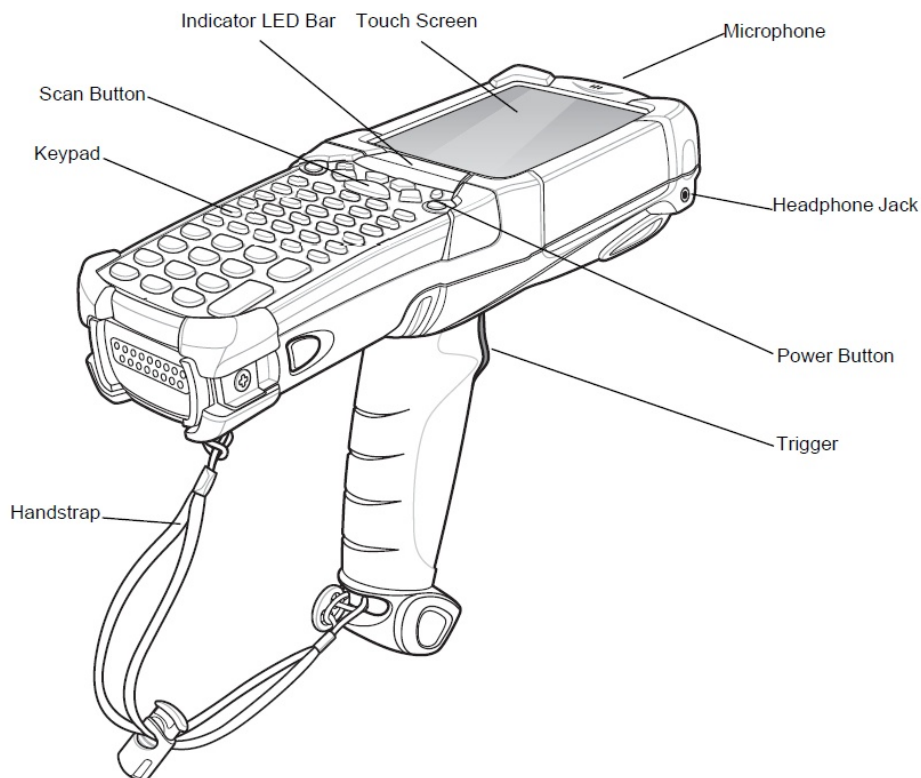


- ➔ In this position the device cannot be protected against damage.



- ➔ The display can be damaged by objects lying on the supporting surface.

4.3 Parts of the MC 9190^{ex}-NI



4.4 Battery

This chapter provides information on battery functionality, battery status indications, charging the MC 9190^{ex}-NI charging spare batteries and power saving techniques.



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. B7-A2Z0-0006 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.



Note

The temperature range for charging the battery is 0 °C to +40 °C.

Use only accessories approved by BARTEC and Motorola to charge the batteries.

4.4.1 Battery information

BARTEC rechargeable battery packs (type B7-A2Z0-0006) 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 falls from heights. When batteries are stored over 6 months, some irreversible deterioration in overall battery quality may occur.

Store batteries discharged 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 ½ year or longer, they should be charged and discharged at least once a year. If an electrolyte leakage is observed, avoid any contact with affected area and properly dispose of the battery. Replace the battery when a significant loss of run time is detected. Batteries must be charged within the 0° to +40 °C (32° to 104° F) temperature range.

Standard warranty period for all BARTEC batteries is 1 year, regardless of whether the battery was purchased separately or included as part of the Mobile Computer.

4.4.2 Installing the 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. B7-A2Z0-0006 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.

Before using the MC 9190^{ex}-NI, install a lithium-ion battery by sliding the battery into the MC 9190^{ex}-NI as shown in *Figure 4-1: Inserting the battery*



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 MC 9190^{ex}-NI for the first time, upon first power up, the device boots and powers on automatically.

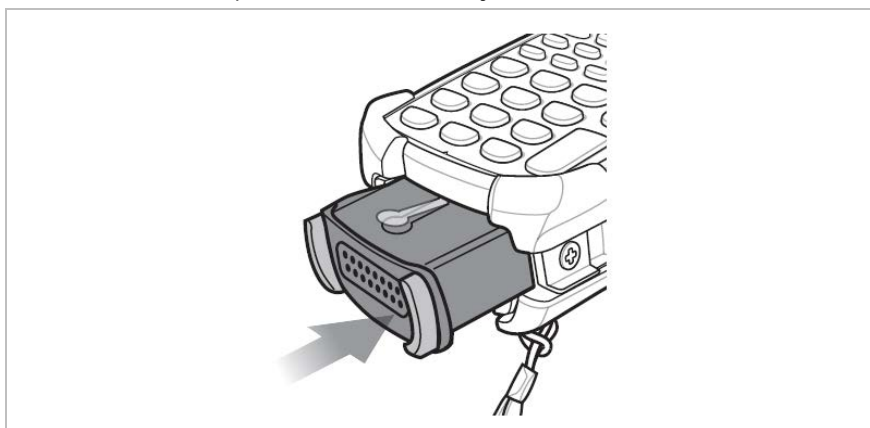


Figure 4-1: Inserting the battery

4.4.3 Replacing a 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. B7-A2Z0-0006 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.



Attention!

Suspend the MC 9190^{ex}-NI prior to removing the battery. Failure to properly remove the battery may cause the MC 9190^{ex}-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 MC 9190^{ex}-NI as shown in *Figure 4-2: Removing the battery*.
- (4) Pause three to four seconds while the MC 9190^{ex}-NI performs battery removal shutdown.
- (5) Press the secondary battery release, on top of the battery, and slide the battery out of the MC 9190^{ex}-NI as shown in *Figure 4-2: Removing the battery*.

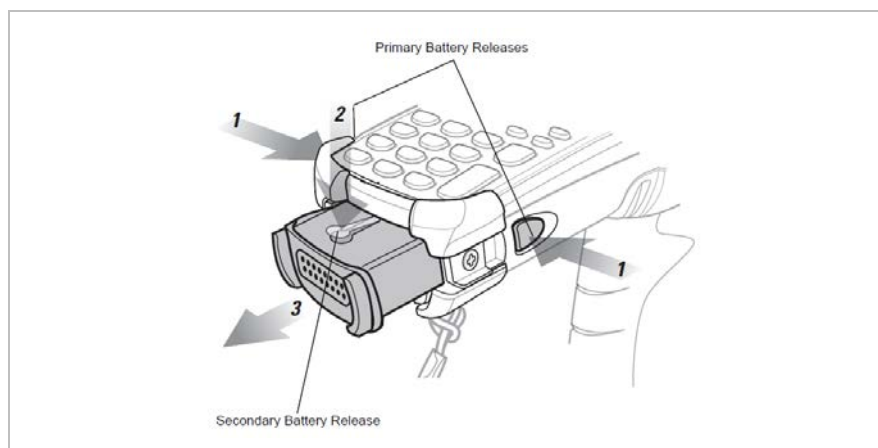


Figure 4-2: Removing the battery

4.4.4 Charging the battery

Before using the MC 9190^{ex}-NI for the first time, charge the main battery until the amber charge indicator light remains lit (see *Table 4-1: Charging indications*). The main battery fully charges in less than four hours. The MC 9190^{ex}-NI can be charged using a cradle, the CAM, or the MSR with the appropriate power supply.

The MC 9190^{ex}-NI is also equipped with a memory backup battery which automatically charges from the main battery whether or not the MC 9190^{ex}-NI is operating or is in suspend mode. The memory backup battery retains data in memory for at least 30 minutes when the MC 9190^{ex}-NI's main battery is removed or fully discharged. When the MC 9190^{ex}-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 MC 9190^{ex}-NI for 15 hours to ensure that the memory backup battery fully charges. If the main battery is removed from the MC 9190^{ex}-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.

Use following to charge batteries

Cradles: The MC 9190^{ex}-NI slips into the cradles for charging the battery in the MC9190^{ex}-NI (and spare batteries, where applicable). For detailed cradle setup and charging procedures refer to the Motorola MC9190 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 MC 9190^{ex}-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 Motorola MC9190 Integrator Guide.

- CAM
- MSR



Note

The accessories may only be used outside the hazardous areas.

Chargers: The MC 9190^{ex}-NI spare battery charging accessories are used to charge batteries that are removed from the MC 9190^{ex}-NI. For detailed spare battery charging accessories setup and charging procedures refer to the Motorola MC9190 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.

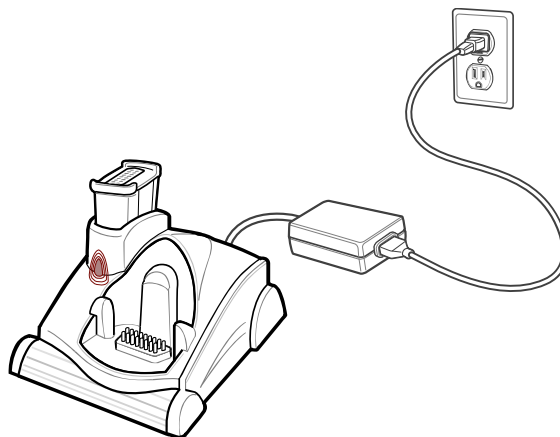
Charge the main battery



Note

Note that battery type B7-A2Z0-0006 with 7.4 V/2200 mAh may only be charged outside the hazardous area. Use only accessories approved by BARTEC. Do not attempt to charge damp/wet Mobile Computers 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 MC 9190^{ex}-NI into a cradle or attach the appropriate snap-on module.
3. The MC 9190^{ex}-NI starts to charge automatically. The amber charge LED, in the Indicator LED Bar, lights to indicate the charge status. See *Table 4-1: Charging indications*.



Note

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

LED	Indication
Off	MC 9190 ^{ex} -NI not in cradle or connected to a CAM or MSR. MC 9190 ^{ex} -NI not placed correctly. Charger is not powered.
Fast Blinking Amber	Error in charging; check placement of the MC 9190 ^{ex} -NI.
Slow Blinking Amber	MC 9190 ^{ex} -NI is charging.
Solid Amber	Charging complete.

Table 4-1: Charging indications



Note

When the battery is initially inserted in the MC 9190^{ex}-NI, the amber LED flashes once if the battery power is low or the battery is not fully inserted.

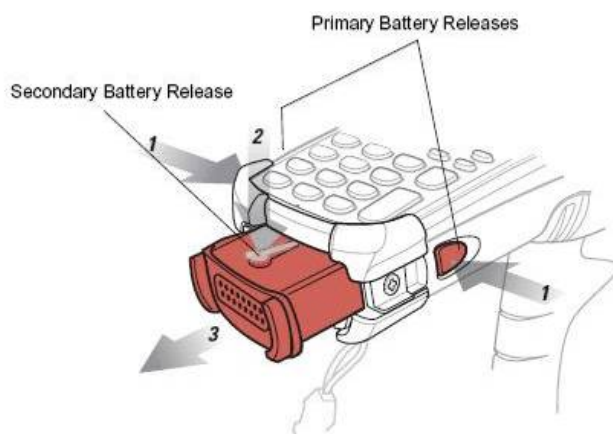
Charge battery separately or a spare batteries



Note

Note that battery type B7-A2Z0-0006 with 7.4 V/2200 mAh may only be charged outside the hazardous area. Use only accessories approved by BARTEC. Do not attempt to charge damp/wet Mobile Computers or batteries. All components must be dry before they are connected to an external power supply.

1. Remove the battery, type B7-A2Z0-0006
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 (2 in figure), on top of the battery, and slide the battery out of the Mobile Computer. (3 in figure)
6. Ensure the accessory used to charge the main battery is connected to the appropriate power source.

7. Insert the MC 9190^{ex}-NI into a cradle or attach the appropriate snap-on module.
8. The MC 9190^{ex}-NI starts to charge automatically. The amber charge LED, in the Indicator LED Bar, lights to indicate the charge status. See *Table 4-1: Charging 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 MC 9190^{ex}-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 MC 9190^{ex}-NI is equipped with a battery backup module, which is charged automatically when the main battery is fully charged. When the MC 9190^{ex}-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 MC 9190^{ex}-NI was removed. When the MC 9190^{ex}-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 Motorola 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 Mobile 6.5 devices:
tap **Start** > **Settings** > **System** > **Power** to display the **Power** window.

To save battery power, set the MC 9190-G to turn off after a specified number of minutes.

4.5 Keypad

4.5.1 Replacing Keypad

The MC 9190^{ex}-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 properly grounded.



Attention!

- Power off the MC 9190^{ex}-NI before start of change parts.
- Put the MC 9190^{ex}-NI into suspend mode before you remove the battery. Failure to properly remove the battery may cause the MC 9190^{ex}-NI to cold boot and potential loss of data.

If the MC 9190^{ex}-NI is in suspend mode, press the Power button to wake the device. Wait for the MC 9190^{ex}-NI to fully awake from suspend mode.

- (1) Turn off the MC 9190^{ex}-NI
- (2) Remove the battery. (see *figure 4.4.3 Replacing a battery*)
- (3) Take out the screws at the top edge of the keypad.

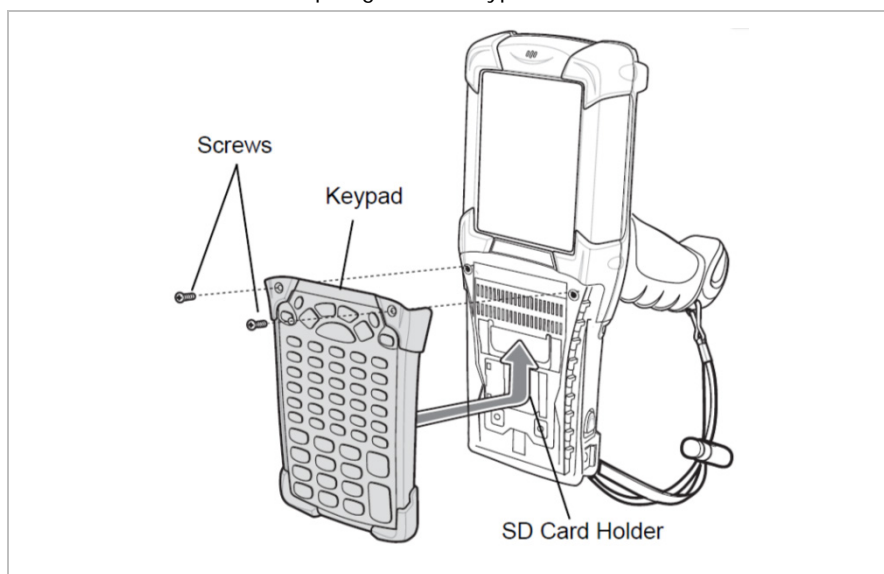


Figure 4-3: Removing the keypad

- (4) Pull the keypad downwards in the direction of the arrow and then forwards to take it out of the MC 9190^{ex}-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 (see *Figure 4-4: Installing the keypad*) and push it upwards until the boreholes for the screws are over the threaded sleeves.

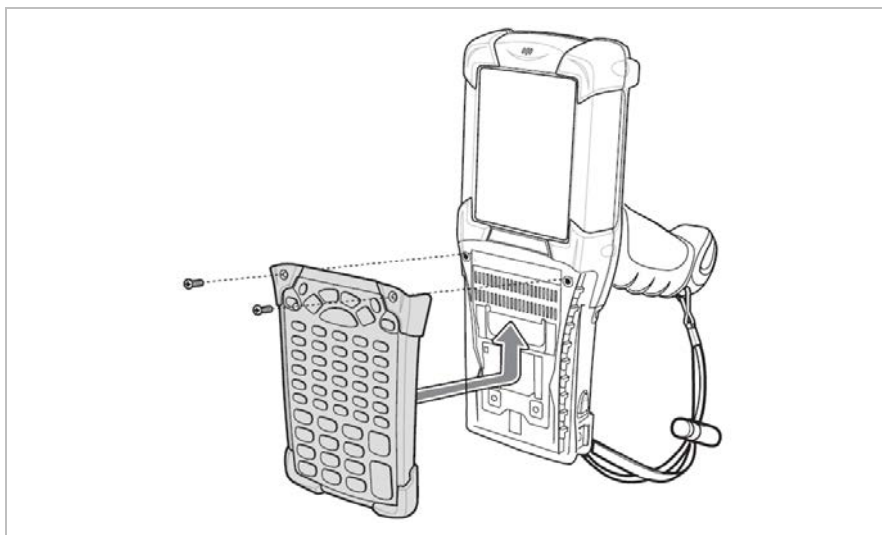


Figure 4-4: Installing the keypad

- (7) Check that the keypad is mounted correctly.



Figure 4-5: Keypad mounted correctly *Figure 4-6: Keypad mounted incorrectly*

- (8) Push the keypad in the direction of the arrow (see *Figure 4-4: Installing the keypad*) until the boreholes on the keypad are positioned over the threaded holes on the enclosure.



Caution!

Do not apply more than 0.452 NM or 4 in-lbs of torque when tightening the keypad screws.



Note

After the exchange of the keyboard a cold boot (see chapter 7.2 "Resetting the MC 9190^{ex}-NI") must be performed.

- (9) The current drivers are installed on the unit and initialized automatically by the cold boot.

4.6 Secure Device (SD) Card



Caution!

The SD card may only be installed and replaced outside of the hazardous area!
Only SD cards tested by BARTEC 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 properly grounded.

BARTEC recommends to use the following tested SD cards:

- 1 GB Order no. 17-F006-0002 or
- 2 GB Order no. 17-F006-0003 or
- 4 GB Order no. 17-F006-0004 or
- 8 GB Order no. 17-F006-0005 or
- 16 GB Order no. 17-F006-0006

4.6.1 Installing a SD Card

To install the micro SD card:

- (1) If the MC 9190^{ex}-NI is in standby mode, press the red **Power** button to activate the device.
- (2) Press the red **Power** button to suspend the MC 9190^{ex}-NI.
- (3) Remove the battery
- (4) Remove the two keypad screws and slide the keypad down and lift off (see chapter 4.5 "Keypad").
- (5) Lift the SD card retaining door.
- (6) Position the SD card, with the contacts down, into the SD card holder (shown in *Figure 4-7: Inserting the SD card*). The SD card corner notch fits into the holder only one way.
- (7) Snap the retaining door closed.

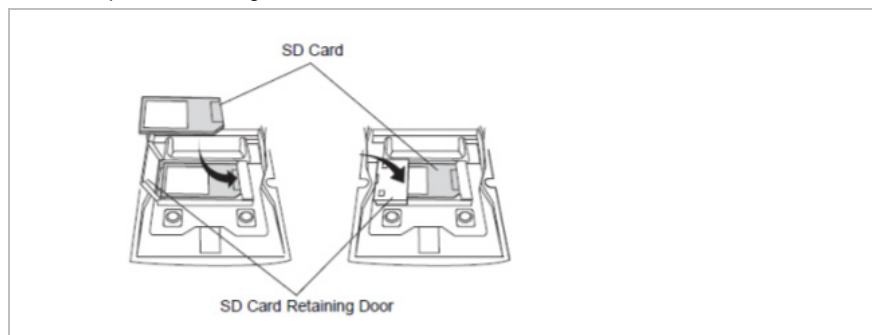


Figure 4-7: Inserting the SD card

- (8) Replace the keypad and re-attach using the two screws (see chapter 4.5 "Keypad").
- (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.

4.7 Screen Protector



Caution!

- The screen protector may only be installed or removed outside the hazardous area!
- It must be ensured that only original screen protector used in safety-oriented operation.
- Use only BARTEC type 17-A1Z0-0003
- The use of imitation screen protectors from other manufacturers will render the type of ignition protection ineffective and there will then be a risk of fire or explosion.

4.7.1 Installing the Screen Protector

A screen protector is available for the MC 9190^{ex}-NI. BARTEC recommends using this to minimize wear and tear. Screen protectors enhance the usability and durability of touch screen displays.

1. Clean the display carefully from any dust or dirt.
2. Remove half of the thin cover film of the display protector and position the display protector and position the display protector on your display. Be aware that the display protector should be placed in the middle of your display.
3. Squeeze down the display protector lightly with a credit card from one side to the other on your display. At the same time remove the rest of the thin cover film. Smooth out existing bubbles with your credit card.



Attention!

Do not use any sharp object to remove the screen protector. This could damage the display.



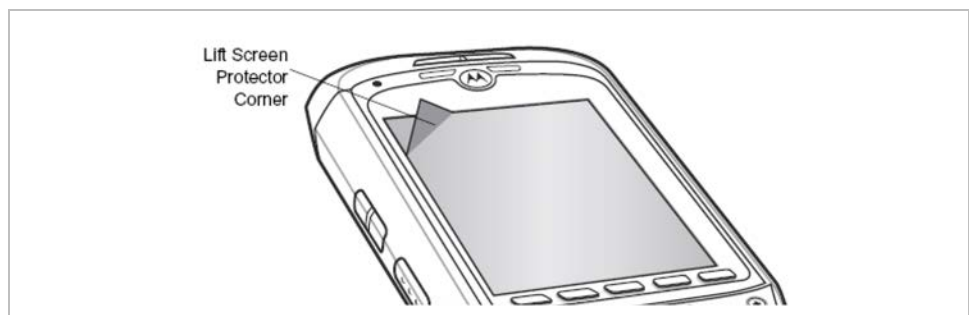
Note

You can order screen protector from your customer consultant or from BARTEC. Installation instructions for the screen protector are part of the delivery scope. Part number: 17-A1Z0-0003 screen protector, pack of 5.

4.7.2 Removing the Screen Protector

A screen protector is available for the MC 9190^{ex}-NI. BARTEC recommends using this to minimize wear and tear. Screen protectors enhance the usability and durability of touch screen displays.

To remove the screen protector, lift the corner using a thin plastic card, such as a credit card, then carefully lift it off the display.



Sample picture



Attention!

Do not use any sharp object to remove the screen protector. This could damage the display.



Note

You can order screen protector from your customer consultant or from BARTEC. Installation instructions for the screen protector are part of the delivery scope. Part number: 17-A1Z0-0003 screen protector, pack of 5.

4.8 Connection to the PC

The MC 9190^{ex}-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.

4.8.1 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 synchronises 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 synchronisation.

The ActiveSync Microsoft program is used for synchronising 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 Motorola integrator Guide or on the Microsoft homepage.

4.8.2 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 synchronises 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 synchronising 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 Motorola integrator Guide or on the Microsoft homepage.

5 Commissioning

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 commissioning the MC 9190^{ex}-NI, check that all components and documents are there.

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

- Check the MC 9190^{ex}-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 MC 9190^{ex}-NI.
- Check when use a screen protector that it is a certificated one.
- Strap, attached to the MC 9190^{ex}-NI
- Stylus, in the stylus silo
- Manual inside of the box

5.1.1 Display



Note

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

The Mobile Computer 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.



MC 9190^{ex}-NI with protective film



Take off the protective film

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

6 Software Versions

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

- Adaptation Kit Update (AKU) version
- OEM version
- BTEplorer version
- Fusion version



Note

The software is not relevant for the equipment explosion protection. You can find information about this in the Motorola documentation. Motorola Homepage: <http://www.motorola.com/web/Business/CT/Enterprise+Mobility.html>
Support - Product Manuals - Mobile Computers – MC9190

6.1 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

6.2 OEM Version

To determine the OEM software version:

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

6.3 BTEplorer Version



Note

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

To determine the BTEplorer software version:

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

6.4 Fusion Version

To determine the Fusion software version:

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

7 Trouble shooting



Caution!

If you have any problems with the MC 9190^{ex}-NI, bring the device into a safe area first before you try to remedy the fault.

Notes on Troubleshooting can be found in the user manual or Integrator Guide from Motorola <http://www.motorola.com/web/Business/CT/Enterprise+Mobility.htm> on the Motorola homepage.

The Motorola page for the MC9190-G manuals for the non-explosion-proof version

- Support
- Product Manuals
- Mobile Computers
- MC9190-G
- Click on “More” for a complete list.

If you have problems with your device, please contact the BARTEC sales company or commercial representation responsible for your region. You can find contact information under:

http://www.bartec.de/homepage/eng/10_unternehmen/10_unternehmen/s_10_10_50.asp?C=1

7.1 Battery Management

Observe the following battery saving tips:

- Leave the MC 9190^{ex}-NI connected to AC power at all times when not in use.
- Set the MC 9190^{ex}-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 MC 9190^{ex}-NI when charging to charge at a faster rate.

7.1.1 Changing the Power Settings

To set the MC 9190^{ex}-NI to turn off after a short period of non-use:

1. 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**.

7.1.2 Changing the Backlight Settings

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

1. 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**.

7.1.3 Changing the Keypad Backlight Settings

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

1. 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**.

7.1.4 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 > Tab System > Symbol Backlight > Tab Battery Power**.
2. Activate the control box **Disable backlight if device is not used for**, and select a value from the Dropdown List.
3. Select the Tab **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 on **OK**.

7.1.5 Turning Off the Radios



Note

Wireless connection options vary depending upon configurations.

7.1.6 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**.

7.2 Resetting the MC 9190^{ex}-NI

There are several reset functions, warm boot, cold boot and clean boot.

- A warm boot restarts the MC 9190^{ex}-NI by closing all running programs.
- A cold boot also restarts the MC 9190^{ex}-NI, 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 MC 9190^{ex}-NI and saves all stored records and entries. If the MC 9190^{ex}-NI still does not respond, perform a cold boot.
- A clean boot resets the MC 9190^{ex}-NI to the factory default settings. All data in the Application folder is retained. You must download the Clean Boot Package file from the Support Central web site by Motorola

7.2.1 On a Windows Mobile 6.5 device



Note

There are three reset functions, warm boot, cold boot and clean boot.

1. A warm boot restarts the MC 9190^{ex}-NI and closes all running programs.
2. A cold boot also restarts the MC 9190^{ex}-NI and closes all running programs but also resets the Real-Time-Clock (RTC).
3. A clean boot resets the MC 9190^{ex}-NI to the factory default settings.



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.

Data saved in flash memory or a memory card is not lost. Perform a warm boot first. This restarts the MC 9190^{ex}-NI and saves all stored records and entries. If the MC 9190^{ex}-NI still does not respond, perform a cold boot.

7.2.2 Warm boot

Executing a warm boot

Hold down the Power button for approximately five seconds. As soon as the MC 9190^{ex}-NI starts to perform a warm boot release the Power button.

7.2.3 Cold Boot

Executing a cold boot

A cold boot restarts the MC 9190^{ex}-NI 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.

To perform a cold boot:

1. Press the primary battery release on the MC 9190^{ex}-NI to partially eject the battery from the MC 9190^{ex}-NI. (described in chapter 4.4.3 *Replacing a battery*)
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 MC 9190^{ex}-NI. One audible click can be heard as the battery is fully inserted.
4. The MC 9190^{ex}-NI initializes.
5. Calibrate the screen. See Calibrating the Screen in the Motorola User Guide to calibrate the MC 9190^{ex}-NI screen.

7.2.4

Clean Boot



Caution!

A clean boot should only be performed by an authorized system administrator. You must connect the MC 9190^{ex}-NI to AC power during a clean boot. Removing AC power from the MC 9190^{ex}-NI during a clean boot may render the MC 9190^{ex}-NI inoperable.

A clean boot resets the MC 9190^{ex}-NI to the factory default settings. All data in the Application folder is retained. You must download the Clean Boot Package file from the Support Central web site by Motorola

1. Download the Clean Boot Package from the Motorola Support Central. Follow the instructions included in the package for installing the package onto the MC 9190^{ex}-NI.
2. Press the primary battery release on the MC 9190^{ex}-NI to partially eject the battery from the MC 9190^{ex}-NI. (described in chapter 4.4.3 *Replacing a battery*)
3. While the battery is partially released, simultaneously press and release the trigger and the Power button.



Note

After you insert the battery you have two seconds to press the trigger or left scan button.

4. Push the battery to fully re-insert it in the MC 9190^{ex}-NI. One audible click can be heard as the battery is fully inserted.
5. Press and hold the trigger.
6. Connect the MC 9190^{ex}-NI to AC power using the CAM or insert the MC 9190^{ex}-NI into a powered cradle.
7. The MC 9190^{ex}-NI updates and then re-boots.
8. The calibration screen appears.

8 Maintenance, Inspection, Repair

This chapter describes cleaning and storing the MC 9190^{ex}-NI, as well as possible procedures when problems occur while using the MC 9190^{ex}-NI.



Caution!

When doing 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.

You should heed the following tips when using the MC 9190^{ex}-NI to guarantee fault-free operation:

- Pay attention that the MC 9190^{ex}-NI display is not scratched. When working with the MC 9190^{ex}-NI use the supplied stylus or pens with plastic tip which are designed for use with touch screens. Never use a ballpoint pen, pencils or other pointed items on the MC 9190^{ex}-NI screen. BARTEC recommends using a screen protector, Part no. 17-A1Z0-0003.
- The touch-sensitive screen of the MC 9190^{ex}-NI contains glass. Take care not to drop the MC 9190^{ex}-NI or subject it to strong impact.
- Protect the MC9190^{ex}-NI against extreme temperatures. Do not leave it on the dashboard of the car on hot days and keep it away from heat sources.
- Do not store the MC 9190^{ex}-NI in dusty, moist or wet environments.
- Use a soft spectacle cleaning cloth to clean the MC 9190^{ex}-NI. If the MC 9190^{ex}-NI display surface is dirty, clean it with a soft spectacle cleaning cloth soaked in diluted window cleaner.
- Change the re-chargeable battery regularly to ensure maximum battery life and equipment performance. Battery life depends on the individual usage pattern. The battery provides a state display to estimate the remaining life. You can find further information in chapter 4.4 "Battery".
- Pay attention that the scan window is not scratched. Clean the window regularly. Dust, contaminants and scratches on the scan window can lead to visible spots on the pictures taken with the scanner.
- The battery should be completely charged before it is used for the first time. Note that the maximum capacity of the battery is not attained until after approx. 5-6 charging and discharging cycles.
- For the MC 9190^{ex}-NI is a screen protector available. BARTEC recommends using this, to avoid wear marks. A screen protector contributes to the user friendliness of the equipment and protects the touch screen.

- The advantages at a glance:
 - Protection against scratches and dents
 - Resistant and non-slip writing and touch screen surface
 - Protection against abrasion and chemicals
 - Reflection reduction
 - Equipment screen always looks brand new
 - Simple and quick installation
- 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).

8.1 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.

8.2 Inspection



Caution!

Repairs on explosion-protected operating equipment may be done only by authorised 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 BARTEC GmbH.

8.3 Cleaning



Caution!

If you wish to clean the MC 9190^{ex}-NI or components, take the device out of the Ex area first before you start any cleaning measures.

Always wear eye protection.

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



Attention!

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 MC 9190^{ex}-NI and should not come in contact with the device: ammonia solutions, compounds of amines or ammonia; acetone; ketone; ethers; aromatic and chlorinated hydrocarbons; aqueous or alcoholic alkaline solutions; ethanolamine; toluene; trichloroethylene; benzene; carbolic acid and TB-lysol form.

Cleaning Instructions

Do not apply liquid directly to the MC 9190^{ex}-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 MC 9190^{ex}-NI. The MC 9190^{ex}-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 MC 9190^{ex}-NI, such as hand sanitizer that contain ethanolamine, hands must be completely dry before handling the MC 9190^{ex}-NI to prevent damage to the plastics.

8.3.1 Required materials

- Alcohol cleaning wipes
- Lens cleaning wipes
- Cleaning cotton buds
- Isopropyl alcohol
- Compressed air spray with hose.

8.3.2 Housing

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

8.3.3 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.

8.3.4 Scan window

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

8.3.5 Interface connection

- (1) Remove the main battery from the MC 9190^{ex}-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 connector on the bottom of the MC 9190^{ex}-NI. Do not leave any cotton residue on the connector.
- (4) Repeat at least three times.
- (5) Use the cotton tipped applicator dipped in alcohol to remove any grease and dirt near the connector area.
- (6) Use a dry cotton tipped applicator and repeat steps 4 through 6.
- (7) Spray compressed air on the connector area by pointing the tube/nozzle about ½ inch away from the surface.



Attention!

Do not direct the nozzle onto yourself or other persons. Pay attention that the nozzle does not point towards your face.

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

8.3.6 Cradle/Battery contacts

- (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. 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.



Attention!

Do not direct the nozzle onto yourself or other persons. Pay attention that the nozzle does not point towards 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 the charging station plug-connectors

This is how you clean the plug-connectors of a charging station:

- (1) Separate the DC power supply cable from the charging station.
- (2) Dip the end of a cotton bud in Isopropyl.
- (3) Rub over the contacts of the plug-connector(s) with the tip of the cotton bud. Move the cotton bud slowly from one side of the plug-connector to the other and back again. Pay attention that that no cotton residue remains on the plug-connectors.
- (4) All of the plug-connector sides should also be cleaned with the help of the cotton bud.
- (5) Spray compressed air onto the plug-connector area and keep the hose, resp. the nozzle about 15 mm above the surface.



Attention!

Do not direct the nozzle onto yourself or other persons. Pay attention that the nozzle does not point towards your face.

- (6) Make sure that no lint remains from the cotton buds and remove any lint.
- (7) If there are any grease and dirt deposits on other sectors of the charging station, remove this with a lint-free cloth and alcohol.
- (8) Allow the alcohol to dry at least 10 to 30 minutes in the air (depending on the ambient temperature and humidity) before you connect the charging station to the power source. The required drying time increases with lower temperature and high humidity. The required drying time decreases with higher temperature and lower humidity.

8.3.7 Cleaning interval

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.

8.4 Information about Repairs

Customer Service Information

If you have problems with your device, please contact the BARTEC sales company or commercial representation responsible for your region. You can find contact information under:

http://www.bartec.de/homepage/eng/10_unternehmen/10_unternehmen/s_10_10_50.asp?C=1

Please have the following information available when you contact BARTEC:

- Serial number of the device (you can find this on the manufacturer label)
- Model number or product name (you can find these on the manufacturer label)
- Software type and version number



Manufacturer label

BARTEC answers enquiries by email, telephone or fax. If the problem cannot be rectified by the BARTEC sales companies or commercial representations, you may need to return the device to us for maintenance.

If you wish to send in a defective device for repairs please first read the RMA procedure guide. Then fill in and sign the RMA (Return Merchandise Authorisation) form and send it to our "Retouren Centre".

Email: services@bartec.de

Fax: +49 7931 597-119

We cannot guarantee any contractually agreed processing times for devices that are sent in without an RMA number.

The RMA guide and the RMA form are available on our homepage for downloading.

<http://www.bartec-group.com>

Quality and Culture

RMA Form

Any questions? Send us an e-mail or call us.

E-mail: services@bartec.de

Phone: +49 7931 597-444

9 Accessories

9.1 Accessories for use in hazardous area

Designation	BARTEC Order no.
Battery	
Spare battery	B7-A2Z0-0006
SD card	
Micro SD cards 1 GB	17-28BE-F006/0002
Micro SD cards 2 GB	17-28BE-F006/0003
Micro SD cards 4 GB	17-28BE-F006/0004
Micro SD cards 8 GB	17-28BE-F006/0005
Micro SD cards 16 GB	17-28BE-F006/0006
Protective display foil	
5 pieces per package	17-A1Z0-0003
Keypad with overlay (green)	
Spare keypad for	
- with 28 numeric keys	05-0080-0577
- with 43 alpha-numeric keys	05-0080-0578
- with 53 alpha-numeric keys	05-0080-0579
- with 53 alpha-numeric keys for VT Emulation	05-0080-0580
- with 53 alpha-numeric keys for 3270 Emulation	05-0080-0581
- with 53 alpha-numeric keys for 5250 Emulation	05-0080-0582
Overlay for keypad (green)	
Spare overlay for MC 91xx ^{ex} NI	
- with 28 numeric keys	03-9829-0025
- with 43 alpha-numeric keys	03-9829-0026
- with 53 alpha-numeric keys	03-9829-0027
- with 53 alpha-numeric keys for VT Emulation	03-9829-0028
- with 53 alpha-numeric keys for 3270 Emulation	03-9829-0029
- with 53 alpha-numeric keys for 5250 Emulation	03-9829-0030
Screws	
Spare screw for keypad	03-1321-0007

9.2 Accessories for use in non hazardous area

Designation	MOTOROLA Order no.	BARTEC Order no.
Single Slot Cradle		
Single Slot Cradle Set:	-	05-0079-0018
Consists of:		
Single slot cradle	CRD9000-1001SR	03-9915-0003
Power pack	PWRS-14000-148R	03-9911-0015
RS232 cable (Cradle <-> PC)	25-63852-01R	03-9919-0004
USB cable (Cradle <-> PC)	25-64396-01R	03-9919-0008
Line cord (DE)	-	03-9609-0013
4-Slot Ethernet Cradle		
4-Slot Ethernet Cradle Set	-	05-0079-0028
Consists of:		
4-slot ethernet cradle	CRD9000-4001ER	03-9849-0026
Power pack	PWRS-14000-241R	03-9911-0021
DC cable (Power pack <-> 4-slot cradle)	50-16002-029R	03-9919-0010
Line cord (DE)	-	03-9609-0013
Battery rapid charging station		
UBC2000 Set	-	05-0079-0017
Consists of:		
4-slot base station	UBC2000-I500DR	03-9915-0004
Line cord (DE)	-	03-9609-0013
Battery adapter for UBC 2000	21-32665-48R	03-9919-0007
Cables		
Line cord (DE)	-	03-9609-0013
Further Accessories		
Spare Stylus	KT-68144-10R	03-9849-0021
- for 10 pieces per set		
Spare Stylus Set with tehter	KT-81680-03R	03-9849-0043
- for 3 pieces per set		
Spare Handstrap Set	KT-66447-03R	03-9849-0049
- for 3 pieces per set		
User manual	-	B1-A280-7D0001
- Mobile Computer Full NI		

10 Order Numbers

10.1 MC 9190^{ex}-NI

B7 - A28		-	0	G	0	/	S	W			A	6	0	0
Explosion Protection														
UL	Class I, II, III Division 2													
ATEX	Zone 2 and Zone 22													
Data Capture														
None														
SE 4500-SR	Blockbuster Imager													
SE 4500-HD	Blockbuster Imager with DPM													
SE 4600	Long Range Imager													
SE 1524	Long Range Scanner													
Version Keyboard														
28 keys numeric														
43 keys alphanumeric														
53 keys alphanumeric														
53 keys with layout VT Emulation														
53 keys with layout 3270 Emulation														
53 keys with layout 5250 Emulation														
Operating System														
Windows Mobile 6.5														

11 Disposal

The component of the Mobile Computers 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).

12 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.

13 Additional Information

13.1 Links

<http://www.bartec-group.com>

BARTEC Homepage

<http://www.motorola.com/web/Business/CT/Enterprise+Mobility.htm>

Motorola Homepage

The Motorola page for the MC9190 User Manuals of the non-explosion protected version

- Support
- Product Manuals
- Mobile Computers
- MC 9190-G
- Click on "More" for complete list

The Motorola page for the MC9190 software of the non-explosion protected version

- Support
- Enterprise Mobility => Download Software
- Software Download
- Mobile Computers
- MC 9190-G
- Click on "More" for complete list

<http://www.motorolasolutions.com/US-EN/Home>

The Motorola product information page for the MC9190 of the non-explosion protected version

Products

Mobile Computers

Handheld Computers

MC9190-G Mobile Computer

<http://www.motorolasolutions.com/US-EN/Home>

The Motorola page for the Scan Engine which is used in the MC9190^{ex}-NI series.

- Products
- OEM Products
- OEM Scan Engines

<https://devcentral.motorola.com/login.aspx?p=/Default.aspx>

The Motorola Developer Central page for software developers.

Tools, Updates, Patches etc. or the individual symbol products can be found on this page.

It is necessary to register to get access to the pages. Registration is free of charge.

<http://www.microsoft.com>

Microsoft Site for Active Sync or Windows Mobile Device Center for Windows Vista and Windows 7

Erklärung der Konformität
Declaration of Conformity
Attestation de conformité

N^o B1-A283-7C0001

BARTEC

BARTEC GmbH
Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany



Wir

We

Nous

BARTEC GmbH,

erklären in alleiniger Verantwortung, dass das Produkt

declare under our sole responsibility that the product

attestons sous notre seule responsabilité que le produit

MC9190^{ex}-NI

MC9190^{ex}-NI

MC9190^{ex}-NI

Typenbezeichnung : B7-A283-0G*0/SW*****

auf das sich diese Erklärung bezieht den Anforderungen der folgenden Richtlinien (RL) entspricht

ATEX-Richtlinie
94/9/EG

EMV-Richtlinie
2004/108/EG

RoHS-Richtlinie
2002/95/EG

und mit folgenden Normen oder normativen Dokumenten übereinstimmt

EN 60079-0:2006

EN 60079-15:2010

EN 61241-0:2006

EN 61241-1:2004

EN 50371:2002

RSS 102 Issue 4

IEC 60825-1 (Ed.1) LED
IEC 60825-1: (Ed 2.0) Laser

to which this declaration relates is in accordance with the provision of the following directives (D)

ATEX-Directive
94/9/EC

EMC-Directive
2004/108/EC

RoHS Directive
2002/95/EC

and is in conformity with the following standards or other normative documents

EN 60950-1:2006
+A11:2009

EN55022:2006 +A1:2007
(ClassB)

EN 61000-3-2:2006

47 CFR Part 15, Subpart B, Class B

EN 62311:2008

IEC Class2 Laser/2 LED Product

21CFR1040.10 Laser

se référant à cette attestation correspond aux dispositions des directives (D) suivantes

ATEX-Directive
94/9/CE

CEM-Directive
2004/108/CE.

Directive Européenne de RoHS
2002/95/CE

et est conforme aux normes ou documents normatifs ci-dessous

EN 301 489-1 V1.8.1,
EN 301 489-17 V2.1.1

EN55024: 1998 +A1: 2001
+A2:2003

EN 61000-3-3: 2008

ICES 003 Issue4, ClassB

FCC 47CFR Part2; OET
Bulletin 65c

EN 60825-1:2001 LED

EN 60825-1: 2007 (Laser)

Erklärung der Konformität
Declaration of Conformity
Attestation de conformité

N^o B1-A283-7C0001

BARTEC

BARTEC GmbH
Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany

Kennzeichnung

Marking

Marquage

Ⓔ II 3G Ex nA IIC T6
Ⓔ II 3D Ex tD A22 IP64 T80°C
-20°C ≤ Ta ≤ +50°C

Verfahren der
internen Fertigungs-
kontrolle

Procedure of
internal control of
Production

Procédure de
contrôle interne de
fabrication

CE

Bad Mergentheim, den 28.04.2011

ppa. Ewald Warmuth
Geschäftsleitung / General Manager

Certificate of Compliance

Certificate Number **20010407 – E321557**
Report Reference **E321557, 2011 April 07**
Issue Date **2011 April 07**

Page 1 of 1

**Underwriters
Laboratories Inc.®***Issued to:***BARTEC GMBH**

MAX-EYTH-STRASSE 16
97980 BAD MERGENTHEIM GERMANY

*This is to certify that
representative samples of***INFORMATION TECHNOLOGY EQUIPMENT
FOR USE IN HAZARDOUS LOCATIONS**

Handheld Mobile Computer Model series MC9190 for use in
Class I, Division 2, Groups A, B, C, and D; Class II, Division 2,
Groups F, and G; Class III, Hazardous Locations


Standard(s) for Safety:

*Have been investigated by Underwriters Laboratories Inc.® in accordance
with the Standard(s) indicated on this Certificate.*
ANSI/ISA 12.12.01, UL 60950-1, 2nd edition
CAN/CSA C22.2 No. 213-M1987, CSA C22.2 No. 60950-1-07, 2nd edition

Additional Information:

**See UL On-line Certification Directory at www.ul.com for additional
information.**

Only those products bearing the UL Listing Mark for the US and Canada should be considered as being covered by UL's Listing and Follow-Up Service meeting the appropriate requirements for US and Canada.

The UL Listing Mark for the US and Canada generally includes: the UL in a circle symbol with "C" and "US" identifiers:  the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product

William R. Carney
Director, North American Certification Programs

Underwriters Laboratories Inc.
Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

For questions, please contact a local UL Customer Service Representative at <http://www.ul.com/global/eng/pages/corporate/contactus/>

Certificate of Compliance

Certificate Number **20010407 – E321557**
Report Reference **E321557, 2011 April 07**
Issue Date **2011 April 07**

Page 1 of 1



**Underwriters
Laboratories Inc.®**

Issued to: **BARTEC GMBH**
MAX-EYTH-STRASSE 16
97980 BAD MERGENTHEIM GERMANY

*This is to certify that
representative samples of*

INFORMATION TECHNOLOGY EQUIPMENT FOR USE IN HAZARDOUS LOCATIONS


Handheld Mobile Computer Model series MC9190 for use in
Class I, Division 2, Groups A, B, C, and D; Class II, Division 2,
Groups F, and G; Class III, Hazardous Locations

*Have been investigated by Underwriters Laboratories Inc.® in accordance
with the Standard(s) indicated on this Certificate.*

Standard(s) for Safety: ANSI/ISA 12.12.01, UL 60950-1, 2nd edition
CAN/CSA C22.2 No. 213-M1987, CSA C22.2 No. 60950-1-07, 2nd edition

Additional Information: **See UL On-line Certification Directory at www.ul.com for additional
information.**

Only those products bearing the UL Listing Mark for the US and Canada should be considered as being covered by UL's Listing and Follow-Up Service meeting the appropriate requirements for US and Canada.

The UL Listing Mark for the US and Canada generally includes: the UL in a circle symbol with "C" and "US" identifiers:  the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product

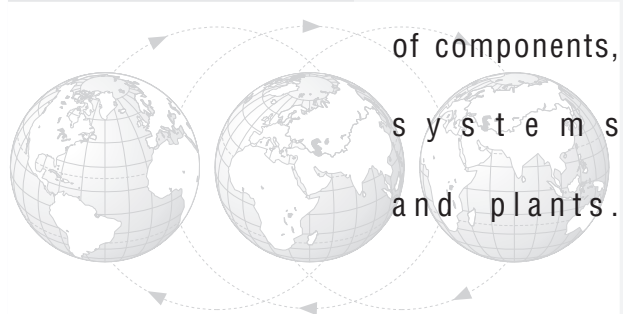
William R. Carney
Director, North American Certification Programs

Underwriters Laboratories Inc.

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

For questions, please contact a local UL Customer Service Representative at <http://www.ul.com/global/eng/pages/corporate/contactus/>

BARTEC protects
people and
the environment
by the safety



of components,
systems
and plants.