







Features

- Wi-Fi IEEE 802.11
- Proven, robust design for demanding environments
- 3.7" touchscreen made from tempered special glass with excellent readability, also in direct sunlight
- Scan engines for all barcode application areas
- Supports RFID standards LF/HF/UHF
- Interchangeable keypads offer considerable scope for individual features with customised designs
- Compatible with existing accessories from the MC 9000 range
- Can be individually adjusted to customer infrastructure by means of three operating systems available in the factory (Windows®/Android)

Description

In close cooperation with Zebra, BARTEC has developed the MC 92 Mobile Computer for global use in hazardous areas, based on the successful MC 9000^{ex} range.

The device range enables complex applications to be executed, processes to be simplified and productivity boosted. Whereas barcode scanners are used for the classic collection of data, the MC 92 also offers wireless data exchange and direct further processing of data in the field.

The MCs are available with a choice of different barcode scanners in order to read 1D, PDF, 2D and DPM (Device Part Marking) barcodes. The selection permits a customised adjustment that also enables barcode scanning at a distance of up to 12 m (long range).

In the RFID reader area, a UHF version is also available in addition to the LF and HF versions. Furthermore the Mobile Computers offer a combination of barcode scanner and RFID reader in a single device. The RFID reader is available as externally mounted or internal solution without barcode scanning.

Three versions of operating system are available. These are the familiar environment of Windows® Embedded Handheld and Compact, as well as Android, the innovative, most commonly used operating system in the world. This means the user can easily adjust the devices to meet his requirements. The real time data exchange via Wi-Fi or Bluetooth is convenient, saves time and improves work processes.

International approvals such as ATEX/IECEx and UL certificates (other national approvals, e.g. Brazil, South Africa, Russia etc., are available guarantee global use of the devices. The optimized power management and automatic shutdown via a motion sensor both guarantee long operating times.

Technical data

Keypad design

- 28 numeric keys
- 43 numeric keys with (F) function keys
- 53 alphanumeric keys
- 53 alphanumeric keys with layout for VT, 3270 and 5250 emulation

Display

3.7" VGA colour display with 480 x 640 pixel touchscreen

Humidity

5 % to 95 % (non-condensing)

Protection class (EN 60529)

IP 64 for Type 17-A1A2-... (UL Div 1)
IP 54 for Type 17-A1A3-... (ATEX/IECEx Zone 1)

Processor

TI OMAC 4430 dual-core® processor/1 GHz

Memory

1 GB/2 GB flash RAM/ROM optionally expanded with SD card (SDHC): up to 32 GB

Operating system

- Windows® Embedded Handheld 6.5.3
- Windows® Embedded Compact 7 (CE 7.0)
- Android 4.4.4 (Kit Kat) with Mobility Extension (Mx) of Zebra

Power supply

Lithium ion battery with 7.4 V/2400 mAh for

- Type 17-A1Z0-0001 for Type 17-A1A3-... (ATEX/IECEx Zone 1)
- Type 17-A1Z0-0002 for Type 17-A1A2-... (UL Div. 1)

Battery can be changed in the Ex area.

Backup battery

(permanently installed in the device) Ni-MH battery (rechargeable) 2.4 V/15 mAh

Interfaces

- RS232
- USB

Application development

PSDK and EMDK available from Zebra Support website

Software environment

All applications from Zebra and 3rd party providers are compatible with the Ex version of the MC 92N0 $^{\rm ex}$ -IS.

Examples are Wavelink Terminal Emulation, tools and applications from Zebra.

Audio system

Integrated microphone, loudspeaker and 2.5 mm headset jack

Voice communication

Voice over IP

Voice Directed Picking

Tech Speech Pro approved, speech-based applications through third party provider VDP Clients

Push-To-Talk, Workforce Connect PTT Express (client included) with headset and hands free mode, wired headset support



Mobile Computer MC 92NOex-IS for ATEX/IECEx Zone 1 and Class I, II, III Div. 1

BARTEC

WLAN/Wi-Fi

Radio standard

Win CE/WEH: IEEE 802.11 a/b/g/n/d/h/i Android: IEEE 802.11 a/b/g/n/d/h/i/k/r

Data rate

IEEE802.11a: up to 54 Mbit/Sec. IEEE802.11b: up to 11 Mbit/Sec.

IEEE802.11g: up to 54 Mbit/Sec.

IEEE802.11n: up to 65 Mbit/Sec.

Frequency range (country-related)

IEEE802.11a: 5 GHz

IEEE802.11b: 2.4 GHz

IEEE802.11g: 2.4 GHz

IEEE802.11n: 2.4 GHz and 5 GHz

Security

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 compliant and IPv6

Output power

210 mW

Antenna

Integrated in the device

Note: The respective radio frequencies and usable channels depend on specific country regulations.

Bluetooth (WPAN)

Version

Microsoft stack (preinstalled as standard) Bluetooth Version 2.1 with EDR

Stonestreet stack (may be optionally activated) Bluetooth 4.0 Plus BLE or WBA

Android devices: Bluetooth version 4.0 with low energy

Antenna

Integrated in the device

Scope of delivery

- 1 x MC 92NO^{ex}
- 1 x battery
- 1 x wrist strap
- 1 x stylus
- 1 x manual

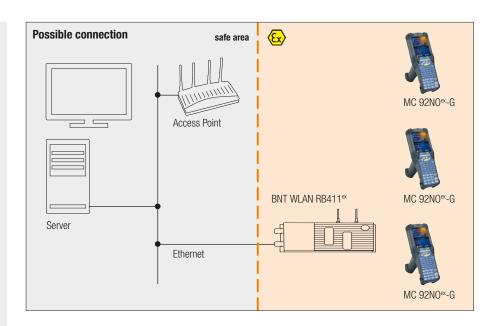
Optional accessories

for use in hazardous areas

- Spare battery
- SD memory card
- Display protection film
- Spare keypad (self-assembly)
- Holster
- Spare stylus
- Spare wrist strap

for use in non-hazardous areas

- Single slot cradle
- 4-slot Ethernet cradle
- Battery charger
- 4-slot charging station
- Automatic charging station



Application areas	Features	Technology
Oil and gas industry Petrochemical and chemicals Pharmaceuticals industry Logistics	Most robust device in its class Integrated barcode and RFID reader (LF, HF, UHF) Optimized power management and long operating times	3.7" VGA colour display with touchscreen, readable in sunlight High performance dual core processor "Hot swap" battery change (in Div. 2 and in the safe area)

Available barcode scanning options

Barcode opti	ons	Reading range	Operating systems (available)		
1D barcodes			Windows CE/WEH	Android 4.4.4	
SE965-SR	1D Standard Range Scan Engine	up to approx. 1,3 m	√	V	
SE1524-LR	1D Long Range Scan Engine	up to approx. 13,7 m	V	J	
1D/2D barcod	es				
SE4500-SR	1D-/2D Omni-Direktional Imager Engine	up to approx. 60 cm	√	V	
DPM/1D-/2D	barcodes				
SE4500-HD	DPM/1D-/2D Imager Engine	up to approx. 28 cm	J	-	

Detailed information about barcode scanning can be found in the user manual or "Integrator Guide" from Zebra Technologies. The maximum reading range of the various scan engines depends on the type of barcode used, the print quality and the module width (in mm).

Supported 1D bar 1D symbol/codes		Supported 2D barcod (only supports the Im 2D symbol/codes	DPM codes (1D/2D symbol/codes) mounted on:	
Code 11	Code 39	Aztec	Micro PDF-417	Metal
Code 93	Code 128	Australian 4-state	Maxi Code	Plastic
Codabar	Coupon Code	Canadian 4-state	PDF-417	Glass
Chinesisch 2 aus 5	Discrete 2 aus 5	Composite AB	QR Code	
Interleaved 2 aus 5	Trioptic 39	Composite C	TLC39	Method:
EAN-8	EAN-13	Data Matrix	UK 4-state	Dot peening
UPCA	UPCE	Dutch Kix	US Planet	Laser cut
UPC/EAN Zusätze	MSI	Japanese 4-state	US Postnet	Cast
Webcode	RSS-14	PDF-417 Macro	USPS 4-state (US4CB)	Punched
RSS Limited	RSS Expanded	(Macro) Mikro PDF-417	microQR	Moulded







Description

The MC 92NO®-G Mobile Computer with its handgrip is a robust unit for secure barcode scanning in Ex areas.

The scan trigger is ideally positioned on the handgrip, enabling barcodes to be conveniently scanned. The integrated radio module ensures real time data exchange with the host system.

The MC $92N0^{ex}$ -G combines the advantages of the Microsoft platform with the strengths of the TI OMAC 4430 dual core® processor with 1 GHz.

The large, easy to read 3.7" VGA colour display is equipped with touchscreen technology. The device operates using the IEEE 802.11 radio standard.

Technical data

Dimensions (height x width x depth) 231 mm x 91 mm x 196 mm

Weight (incl. battery)

Type 17-A1A3-... (ATEX/IECEx Zone 1)
approx. 1060 g

Type 17-A1A2-... (UL Division 1) approx. 830 g

Explosion protection

Ex protection type

> **Certification** PTB 13 ATEX 2019X

IECEx Ex q [ib] IIC T4 Gb $-20 \, ^{\circ}\text{C} \le \text{T}_a \le +40 \, ^{\circ}\text{C}$

Certification

IECEx PTB 13.0043X

UL Class I Div. 1 Group C, D T4 Ex ia Class II Div. 1 Group F, G Class III

Certification

UL File E226123

Other approvals available on request.

Options for	data capture
SE965-SR	1D scan engine with standard range
SE1524-LR	1D scan engine with extended range
SE4500-SR	Omnidirectional 1D/2D engine for image capture of 1D and 2D symbols
SE4500-HD	1D/2D DPM engine for image capture of several DPMs on metal, plastic and glass surfaces, including dot peening, laser etching, moulding, punching or fusing procedures

Selection chart									
Approval	Code no.	Barcode options	Code no.	Version	Code no.	Operating system	Code no.		
		SE 965-SR 1D-Standard Range	A	28 keys, numeric	A	Windows® - Embedded	0		
UL Division 1 2	Scan Engine		43 keys, numeric with (F) function keys	F	Handheld 6.5.3	ų			
		SE 1524-LR 1D-Long Range Scan Engine	J	53 keys, alphanumeric	E	Windows®			
		SE 4500-SR 1D-/2D Imager Engine	3	53 keys, alphanumeric with layout for VT emulation*	G	- Embedded Compact 7 (CE 7.0)	Υ		
ATEX/IECEx Zone 1	3	15 /25 imagor Engino		53 keys, alphanumeric with layout for 3270 emulation*	Н				
		SE 4500-HD** 1D-/2D Imager DPM	5	53 keys, alphanumeric with layout for 5250 emulation*	J	- Android 4.4.4	A		
				-					



Complete order no. 17-A1A -OG 0/SY

MC 92N0ex-G including Li-ion battery (1 piece).

- * Emulation software is not included with delivery.
- ** only with Windows CE/WEH operating system available.





Description

The MC 92NO^{ex}-K Mobile Computer is a robust unit for secure barcode scanning in Ex areas.

The scan trigger is positioned so that barcodes can be scanned with the greatest convenience. The integrated radio module ensures real time data exchange with the host system.

The MC 92NO^{ex}-K combines the advantages of the Microsoft platform with the strengths of the TI OMAC 4430 dual core[®] processor with 1 GHz.

The large, easy to read 3.7" VGA colour display is equipped with touchscreen technology. The device operates using the IEEE 802.11 radio standard.

Technical data

Dimensions (height x width x depth) 231 mm x 91 mm x 59 mm

Weight (incl. battery)
Type 17-A1A3-... (ATEX/IECEx Zone 1)
approx. 980 g

Type 17-A1A2-... (UL Division 1) approx. 700 g

Explosion protection

Ex protection type

Certification

PTB 13 ATEX 2019X

IECEx Ex q [ib] IIC T4 Gb $-20 \text{ °C} \le \text{T}_a \le +40 \text{ °C}$

Certification

IECEx PTB 13.0043X

UL Class I Div. 1 Group C, D T4 Ex ia Class II Div. 1 Group F, G

Class III

CertificationUL File E226123

Other approvals available on request.

Options for	data capture					
SE965-SR 1D scan engine with standard range						
SE4500-SR	Omnidirectional 1D/2D engine for image capture of 1D and 2D symbols					
SE4500-HD	1D/2D DPM engine for image capture of several DPMs on metal, plastic and glass surfaces, including dot peening, laser etching, moulding, punching or fusing procedures					

Approval	Code no.	Barcode options	Code no.	Version	Code no.	Operating system	Code no.
		SE 965-SR		28 keys, numeric	A	Windows®	
UL Division 1 2	1D-Standard Range Scan Engine	A	43 keys, numeric with (F) function keys	F	Embedded Handheld 6.5.3		
		SE 4500-SR	3	53 keys, alphanumeric	E	Windows®	Υ
		1D-/2D Imager Engine		53 keys, alphanumeric with layout for VT emulation*	G	Embedded Compact 7 (CE 7.0)	
ATEX/IECEx Zone 1	3	SE 4500-HD**		53 keys, alphanumeric with layout for 3270 emulation*	Н		A
		1D-/2D Imager DPM	5	53 keys, alphanumeric with layout for 5250 emulation*	J	Android 4.4.4	



Complete order no. 17-A1A -OK 0/SY

MC 92NO^{ex}-K including Li-ion battery (1 piece).

* Emulation software is not included with delivery.

** only with Windows CE/WEH operating system available.







MC 92NO^{ex}-G and MC 92NO^{ex}-K with extended RFID and barcode reader

Description

The unique concept enables barcode scanning and RFID technology to be combined in this device.

Thanks to the modular keypad and colour display, data can be processed directly on the Mobile Computer. The data are transmitted to other areas of the company via WiFi or Bluetooth, so that the data are available for further processing in real time.

As software for the individual application development, BARTEC offers a demo version in Open Source and an SDK file. The SDK file is available for the programming language C# and includes all necessary resources for specific application development within Windows® operating systems.

The Open Source demo is used firstly to demonstrate the reading and writing of RFID tags. It also serves as a good basis for the application developer with respect to customized programming of the readers.

The MC 92N0ex-IS can be retrofitted in the factory with the RFID option. It cannot be retrofitted by the customer.

Technical data

Dimensions (height x width x depth) MC 92NO^{ex}-G

with extended RFID 265 x 91 x 196 mm

with extended RFID + mounted antenna 287 x 111 x 196 mm

MC 92NOex-K

with extended RFID 234 x 91 x 105 mm

with extended RFID + mounted antenna 295 x 111 x 159 mm

Weight (including battery,

depending on version and configuration)

MC 92NOex-G

with extended RFID approx. 1400 g* approx. 1160 g**

with extended RFID + mounted antenna

approx. 1480 g* approx. 1240 g**

MC 92NOex-K

with extended RFID approx. 1320 g* approx. 1120 g**

with extended RFID + mounted antenna

approx. 1400 g* approx. 1200 g**

Operating system

Windows® Embedded Handheld 6.5.3 Windows® Embedded Compact 7 (CE 7.0)

Nota.

Android 4.4.4 (KitKat) is not supported.

Explosion protection

Ex protection type

s II 2G Ex q [ib] IIB T4 Gb -20 °C \leq T_a \leq +40 °C (with mounted antenna)

Certification

PTB 13 ATEX 2019X

IECEx Ex q [ib] IIC T4 Gb $-20 \text{ °C} \le T_0 \le +40 \text{ °C}$

Ex q [ib] IIB T4 Gb $-20 \, ^{\circ}\text{C} \le \text{T}_{\text{a}} \le +40 \, ^{\circ}\text{C}$ (with mounted antenna)

Certification

IECEx PTB 13.0043X

UL Class I Div. 1 Group C, D T4 Ex ia Class II Div. 1 Group F, G Class III

Certification

UL File E226123

Other approvals available on request.

- * for Type 17-A1A3-... (ATEX/IECEx Zone 1)
- ** for Type 17-A1A2-... (UL Division 1)



MC 92NOex RFID and Barcode for ATEX/IECEx Zone 1 and Class I, II, III Div. 1



Options for d	ata capture
SE965-SR	1D scan engine with standard range
SE1524-LR	1D scan engine with extended range
SE4500-SR	Omnidirectional 1D/2D engine for image capture of 1D and 2D symbols
SE4500-HD	1D/2D DPM engine for image capture of several DPMs on metal, plastic and glass surfaces, including dot peening, laser etching, moulding, punching or fusing procedures

LF reader		
Supported standards		HITAG S256, HITAG S 2 kbit, HITAG 1, HITAG 2, Q5, ATA5567, EM4305, HDX - R0, HDX (Multipage), EM4xxx (UNIQUE), FDX-B, BDE, ISO 117845, ISO Animal, EM 4450/4550, EM4xxx (UNIQUE), FDX-B, BDE, ISO 11784/5, ISO Animal
Read/write range		approx. 5 cm
Antenna		Ferrite antenna or antenna with air coil
Frequency range		125/134 kHz
HF reader		
Supported standards		HF ISO 15693 e.g. I-Code SLI, Tag-IT HFI, my-d vicinity, STM LRI512 HF ISO 14443 e.g. mifare, mifare Ultra Light, my-d proximity, I-Code 1 (optional)
Read/write range HF ISO 15693 HF ISO 14443		approx. 7 cm to 12 cm approx. 1 cm to 6 cm (with tag in credit card format)
Antenna		integrated
Frequency range		13.56 MHz
UHF reader		
Supported standards		EPC Class 1 Gen 2 tag
Read/write range		approx. 30 cm to 50 cm
Antenna		integrated
Frequency range	Europe (EU) USA (US)	865.6 to 867.5 MHz (EN 302 208) 902.0 to 928.0 MHz (FCC CFR 47 Part 15.247)
UHF reader with mo	unted antenna	1
Supported standards		EPC Class 1 Gen 2 tag
Read/write range		approx. 150 cm
Antenna		external (UPM Raflatac)
Frequency range	Europe (EU) USA (US)	865.6 to 867.5 MHz (EN 302 208) 902.0 to 928.0 MHz (FCC CFR 47 Part 15.247)

Approval	Code no.	Barcode options	Code no.	RFID options	Code no.	Version	Code no.	Operating system	Cod no.
		SE 965-SR 1D-Standard Range		RFID LF reader	2	28 keys, numeric	A		
UL Division 1	2	Scan Engine		RFID HF reader	4	43 keys, numeric with (F) function keys	F	Windows® Embedded Handheld	Q
		SE 1524-LR 1D Long Range Scan Engine (only MC 92N0°-G)				with (i) function keys		6.5.3	
			J	RFID UHF (US) reader	5	53 keys, alphanumeric	E		
		SE 4500-SR 1D-/2D Imager	3	RFID UHF (EU) reader	6	53 keys, alphanumeric with layout for VT emulation*	G		
		Engine		RFID UHF (US)		E2 kova alabanumaria with		Windows® Embedded	
ATEX/IECEx Zone 1 3	3	3		reader and mounted antenna	7	53 keys, alphanumeric with layout for 3270 emulation*	Н	Compact 7 (CE 7.0)	Υ
		SE 4500-HD** 1D-/2D Imager DPM		RFID UHF (EU) reader and mounted antenna	8	53 keys, alphanumeric with layout for 5250 emulation*	J		



MC 92N0ex-G version 17-A1A -RG -/SY A600
MC 92N0ex-K version 17-A1A -RK //SY A600

 $^{^{\}star}$ Emulation software is not included with delivery. ** Android is not supported.







MC 92NO^{ex}-G and MC 92NO^{ex}-K with internal RFID reader without barcode reader

Description

The unique concept enables barcode scanning and RFID technology to be combined in this device.

Thanks to the modular keypad and colour display, data can be processed directly on the Mobile Computer. The data are transmitted to other areas of the company via WiFi or Bluetooth, so that the data are available for further processing in real time.

As software for the individual application development, BARTEC offers a demo version in Open Source and an SDK file. The SDK file is available for the programming language C# and includes all necessary resources for specific application development within Windows® operating systems.

The Open Source demo is used firstly to demonstrate the reading and writing of RFID tags. It also serves as a good basis for the application developer with respect to customised programming of the readers.

The MC 92NO® -IS can be retrofitted in the factory with the RFID option. It cannot be retrofitted by the customer.

Technical data

Dimensions (height x width x depth)

MC 92NOex-G

with internal RFID 234 x 91 x 196 mm

with internal RFID + mounted antenna 273 x 111 x 196 mm

MC 92NOex-K

with internal RFID 234 x 91 x 59 mm

with internal RFID + mounted antenna 254 x 111 x 117 mm

Weight (including battery,

depending on version and configuration)

MC 92NOex-G

with internal RFID approx. 1060 g* approx. 830 g**

with internal RFID + mounted antenna

approx. 1040 g* approx. 910 g**

MC 92NOex-K

with internal RFID approx. 980 g* approx. 700 g**

with internal RFID + mounted antenna approx. 1060 g^* approx. 780 g^{**}

Operating system

Windows® Embedded Handheld 6.5.3 Windows® Embedded Compact 7 (CE 7.0)

Noto.

Android 4.4.4 (KitKat) is not supported.

Explosion protection

Ex protection type

E II 2G Ex q [ib] IIB T4 Gb -20 °C \leq T_a \leq +40 °C (with mounted antenna)

Certification

PTB 13 ATEX 2019X

IECEx Ex q [ib] IIC T4 Gb $-20 \text{ °C} \le T_a \le +40 \text{ °C}$

Ex q [ib] IIB T4 Gb $-20 \text{ °C} \le \text{T}_{\text{a}} \le +40 \text{ °C}$ (with mounted antenna)

Certification

IECEx PTB 13.0043X

UL Class I Div. 1 Group C, D T4 Ex ia Class II Div. 1 Group F, G Class III

Certification

UL File E226123

Other approvals available on request.

- * for Type 17-A1A3-... (ATEX/IECEx Zone 1)
- ** for Type 17-A1A2-... (UL Division 1)



1 E mandan		
LF reader Supported standards		HITAG S256, HITAG S 2 kbit, HITAG 1, HITAG 2, Q5, ATA5567, EM4305, HDX - R0, HDX (Multipage), EM4xxx (UNIQUE), FDX-B, BDE, ISO 117845, ISO Animal, EM 4450/4550, EM4xxx (UNIQUE), FDX-B, BDE, ISO 11784/5, ISO Animal
Read/write range		approx. 5 cm
Antenna		integrated ferrite antenna
Frequency range		125/134 kHz
HF reader		
Supported standards		HF ISO 15693 e.g. I-Code SLI, Tag-IT HFI, my-d vicinity, STM LRI512 HF ISO 14443 e.g. mifare, mifare Ultra Light, my-d proximity, I-Code 1 (optional)
Read/write range HF ISO 15693 HF ISO 14443		approx. 5 cm to 6 cm approx. 4 cm to 5 cm (with tag in credit card format)
Antenna		integrated
Frequency range		13.56 MHz
UHF reader		
Supported standards		EPC Class 1 Gen 2 tag
Read/write range		approx. 30 cm to 50 cm
Antenna		integrated
Frequency range	Europa (EU) USA (US)	865.6 to 867.5 MHz (EN 302 208) 902.0 to 928.0 MHz (FCC CFR 47 Part 15.247)
UHF reader with mo	unted antenna	3
Supported standards		EPC Class 1 Gen 2 tag
Read/write range		approx. 150 cm
Antenna		external (UPM Raflatac)
Frequency range	Europa (EU) USA (US)	865.6 to 867.5 MHz (EN 302 208) 902.0 to 928.0 MHz (FCC CFR 47 Part 15.247)

Selection chart MC 92N0ex-IS with internal RFID reader									
Approval	Code	no. RFID inter	rnal options	Code n	o. Version	Code no.	Operating system**	Code no.	
		RFID LF rea	ader	1	28 keys, numeric	Α			
UL Division 1	2	RFID HF re	ader	3	43 keys, numeric with (F) function keys	F	Windows® Embedded Handheld 6.5.3	Q	
		RFID UHF (US) reader	А	53 keys, alphanumeric	E	Handheld 6.5.3 Windows® Embedded		
		RFID UHF (EU) reader	В	53 keys, alphanumeric with layout for VT emulation*	G			
ATEX/IECEx Zone 1	3	RFID UHF (US) reader ed antenna	С	53 keys, alphanumeric with layout for 3270 emulation*	Н	Windows® Embedded Compact 7 (CE 7.0)	Υ	
		RFID UHF (EU) reader and mounted antenna D 53 keys, alphanumeric with layout for 5250 emulation*							



MC 92N0°x-G Version 17-A1A -RG0 /SY A600
MC 92N0°x-K Version 17-A1A -RK0 /SY A600

 $[\]ensuremath{^{\star}}$ Emulation software is not included with delivery.

^{**} Android is not supported.