MX3X User's Guide

(Microsoft® Windows® CE .NET Equipped)

LXE

E-EQ-MX3XOGWW-F

JAVA

Microsoft Windows Embedded

Language: English

Notices

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Initial Release June 2004.

The user is strongly encouraged to read Appendix B, "Regulatory Notices and Safety Information". Important safety cautions, warnings and regulatory information is contained in Appendix B.

Important: This symbol is placed on the product to remind users to dispose of Waste Electrical and Electronic Equipment (WEEE) appropriately, per Directive 2002-96-EC. In most areas, this product can be recycled, reclaimed and re-used when properly discarded. Do not discard labeled units with trash. For information about proper disposal, contact LXE through your local sales representative, or visit www lxe com.

Revision Notice

Notices	Added trademarks for RAM mounting products. Added trademark notice for Odyssey and Summit client radios.
Introduction	Added: - "Features/Options for the MX3X Family." - Caution for battery well vent obstructions, "Battery Well Vent Aperture." - "RFID and MX3P Devices and the MX3 Cradles". - Key sequence to use if the touchscreen is not accepting taps or needs recalibration to Quick Start | Troubleshooting. - New section titled "Connect External Power Supply to the MX3P." Added proximity caution statement to new section. - "Entering the Multi AppLock Activation Key". - Instruction for audio cable, headsets and voice data entry in "Using a Headset and Voice for Data Entry" - Ambient temperature statement to "Connect External Power Supply to MX3X or Cradle." - Voice headsets and cables to "Accessories." Updated cradle product numbers (e.g. 2381 to MX3R). Removed references to TalkManager Reference Guide. - Accessories for the MX3P mobile device. - ROHS classification to "Accessories". Changed: Changed MX3-RFID IP rating from "dust and water protection enclosure rating of IEC 60529 compliant to IP55" to "...IP65".
The MX3X Hand Held Computer	Added new section titled "The Passive Vehicle Cradle." Clarified differences between MX3X, MX3P and MX3-RFID devices, cradles, batteries and chargers.
Appendix B – Regulatory Notices and Safety Information	Added: - Revision History section. - Ambient temperature statement to "AC Power Supply Safety Statement." - Summit Radio to Approvals section.
Entire Manual	Updated device graphics that are shipping with new LXE 2005 logo. Noted July 2006 replacement of SE923 scanner with SE955 scanner.

Note: MX3X User Guide revision history is included at the end of Appendix B, "Regulatory Notices and Safety Information".

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Illustrations

Introduction

Overview

The LXE MX3X is a rugged, portable, hand-held Microsoft® Windows® CE .NET equipped mobile computer capable of wireless data communications. The mobile device can transmit information using a 2.4 GHz radio (with an internally mounted antenna) and it can store information for later transmission through an RS-232, InfraRed, or USB port. The device can be scaled from a limited function batch computer to an integrated RF scanning computer.

The mobile device is horizontally oriented and features backlighting for the display. The touch-screen display supports graphic features and Windows icons that the Windows CE .NET operating system supports. The keys on the keypad are constructed of a phosphorescent material that can easily be seen in dimly lighted areas.

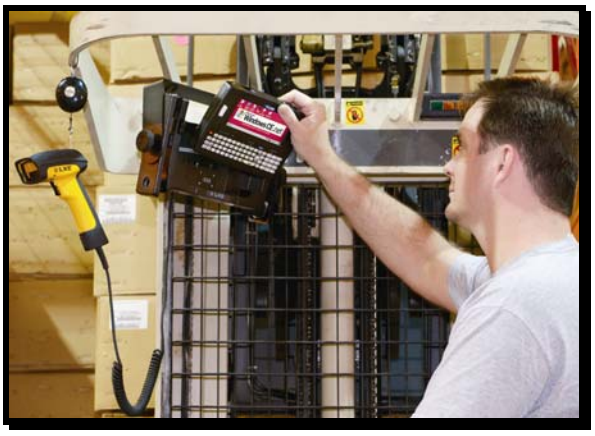
The MX3-RFID version of the MX3X has an RFID module permanently attached to the back of the device. The module protects the RFID antenna and tag reader. A passive vehicle cradle is available that has been designed specifically for the MX3-RFID device deeper back cover.

The MX3P is another version of the MX3X with a deeper back cover. The deeper back cover allows it to use the MX3-RFID passive vehicle mount cradle. The MX3P does not have an integrated laser scanner nor does it have an RFID tag reader.

Device-specific cables are available for all versions. The stylus in the Stylus Kit (shipped with each unit) is used to assist in entering data and configuring the unit. Protective film for the touchscreen is available as an accessory.

*Throughout this guide, an MX3X **without** RFID capability is labeled "MX3X". The MX3X **with** an RFID Module and capability is labeled "MX3-RFID". The MX3P, similar to the MX3-RFID in form but without RFID capability, is labeled "MX3X". User and technical information specific to one over another is labeled appropriately in this guide.*

If there is no distinction between directions for the user with an MX3X or MX3P and a user with a MX3-RFID mobile device, the instruction or information in this guide is the same for all unless noted.



*Note: Until the main battery and backup battery are completely depleted, the mobile device is **always** drawing power from the main and backup batteries (**On**).*

Features/Options for the MX3X Family

Feature	MX3X	MX3-RFID	MX3P
CE .NET 4.2 Operating System	x	x	x
MX3X Main Battery	x	x	x
AC/DC Power Supply	x	x	x
Color and Touch Panel	x	x	x
SE 923 Laser Scanner	x	x	-
SE 955 Laser Scanner	x	x	-
RFID Module Enclosure	-	x	x
RFID Tag Reader	-	x	-
Power/Communication Cradles	x	-	-
Passive Vehicle Cradle	-	x	x
Voice Compatible	x	-	-
ActiveSync specific cables	x	x	x
Hip-Flip Accessory	x	-	-
IP 66 Compliant	x	-	-
IP 65 Compliant	-	x	x

Related Manuals

The "MX3X Reference Guide" contains MX3X, MX3P and MX3-RFID technical information and instruction. An abbreviated user's guide (LXEbook – MX3X User's Guide) is available for download to the MX3X device from the LXE Manuals CD or the LXE ServicePass website.

Please refer to the "MX3 Cradle Reference Guide" for technical information relating to the MX3X-compatible Desk Top and Vehicle Mount cradles.

If you need to set up the integrated SE923 or SE955 scanner **barcode reading parameters**, please refer to the "Integrated Scanner Programming Guide" on the LXE Manuals CD or the LXE website. The SE923 scanner was replaced with the SE955 scanner in July 2006.

Note: Always store unused devices with a fully charged main battery installed. LXE recommends an in-use mobile device be frequently connected to an external power source to retain optimum power levels in the main battery and the backup battery. When the backup battery and main battery are dead, the mobile device reverts to it's default values when a fully charged main battery is installed and the device is powered On again.

Document Conventions

ALL CAPS	All caps are used to represent disk directories, file names, and application names.
Menu | Choice	Rather than use the phrase "choose the Save command from the File menu", this guide uses the convention "choose File | Save".
"Quotes"	Indicates the title of a book, chapter or a section within a chapter (for example, "Document Conventions").
< >	Indicates a key on the keypad (for example, <Enter>).
	Indicates a reference to other documentation.
ATTENTION	Keyword that indicates vital or pivotal information to follow.
	Attention symbol that indicates vital or pivotal information to follow. Also, when marked on product, means to refer to the user's guide.
	International fuse replacement symbol. When marked on the product, the label includes fuse ratings in volts (v) and amperes (a) for the product.
Note:	Keyword that indicates immediately relevant information.
CAUTION 	Keyword that indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
WARNING 	Keyword that indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
DANGER 	Keyword that indicates a imminent hazardous situation which, if not avoided, will result in death or serious injury.

Environmental Specifications

Operating Temperature	Monochrome display : -4°F to 122°F (-20°C to 50°C) [non-condensing] Color display : 32°F to 122°F (0°C to 50°C) [non-condensing]
Storage Temperature	-22°F to 158°F (-30°C to 70°C) [non-condensing]
Water and Dust	MX3X : IEC IP66 MX3-RFID and MX3P : IEC IP65
Operating Humidity	5% to 95% non-condensing at 104°F (40°C)
Vibration	Based on MIL Std 810D
ESD	8 kV air, 4kV contact
Shock	75G, 5ms duration, 100 shock impacts

Note: Environmental Specifications for the MX3 Cradles are contained in the "MX3 Cradle Reference Guide."

Laser Warnings and Labels

- Do not look into the laser's lens.
- Do not stare directly into the laser beam.
- Do not remove the laser caution labels from the MX3X or MX3-RFID.
- Do not connect the laser barcode window to any other device. The laser barcode window is certified for use with the MX3X and MX3-RFID only.

Caution: 	*Laser radiation when open. Please read the caution labels.* *Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.*

MX3X

Figure 1 CDRH / IEC 825 Caution Label Location – MX3X, Back

Figure 2 Caution Label – Laser Scanner

MX3-RFID

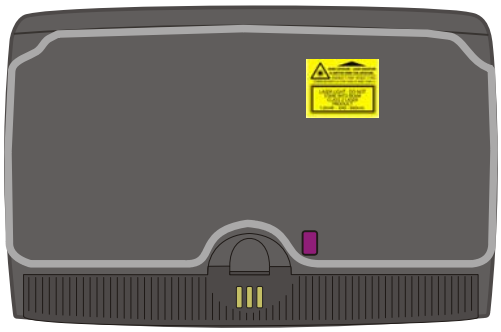


Figure 3 CDRH / IEC 825 Caution Label Location – MX3-RFID, Back

Figure 4 Caution Label – Laser Scanner

Battery Well Vent Aperture

Caution

The vent aperture in the battery well should never be blocked with any device *other than an approved LXE main battery*. The vent aperture functions to relieve any heat or pressure that may build up in the mobile device during everyday use.

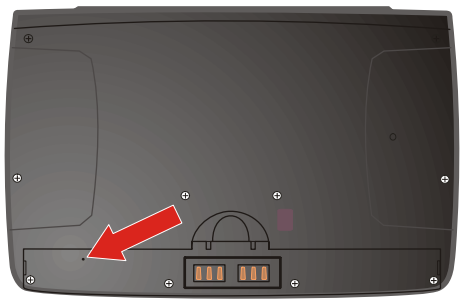


Figure 5 Vent Aperture in Battery Well – Do Not Cover

If the vent hole is covered by an object, e.g. a tracking label, other than an approved LXE main battery, the touch screen may be damaged. If damage occurs to the touch screen, please contact your LXE representative for the process to follow when returning the device to LXE for repair.

Note that the MX3X has a dust and water protection enclosure rating of IEC 60529 compliant to IP66. The MX3-RFID and MX3P have an enclosure rating of IP65.

Components

Front and Back Views

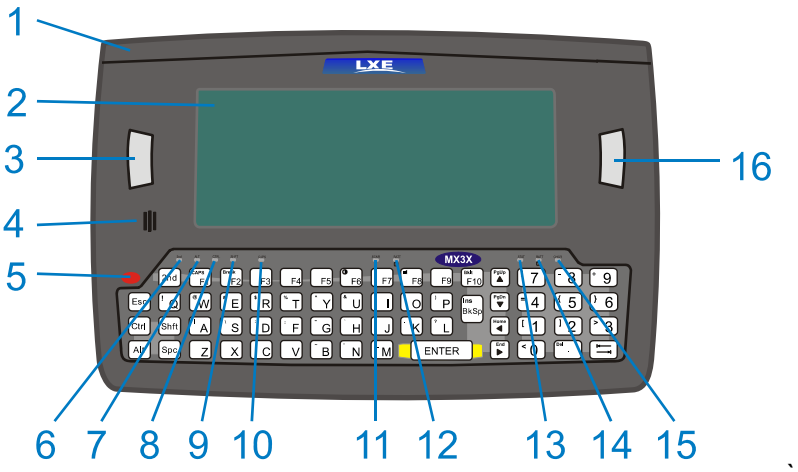


Figure 6 Front

1	Endcap	9	Shift LED
2	Display	10	Caps LED
3	Scan, Enter or Field Exit (programmable)	11	Scanner LED
4	Beeper	12	Backup Battery LED
5	On/Off Button	13	Status LED
6	2nd LED	14	Main Battery LED
7	Alt LED	15	Charger LED
8	Ctrl LED	16	Scan or Enter (programmable)

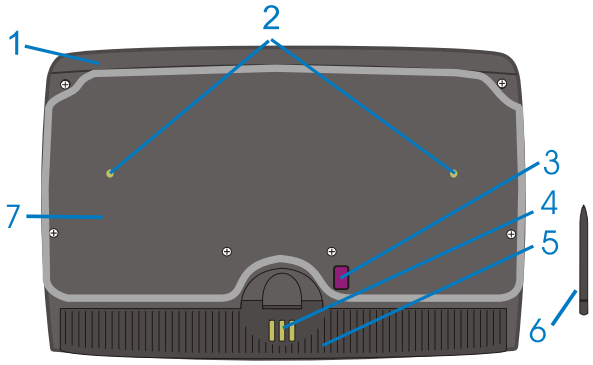


Figure 7 Back

1	Endcap	5	Main Battery
2	Leather Handstrap Connector (N/A on RFID Module)	6	Stylus
3	IR Port (Com 2 Port)	7	RFID Module (MX3-RFID device only)
4	Cradle Input Contacts	7	Back Cover (MX3P only)

Endcap Options

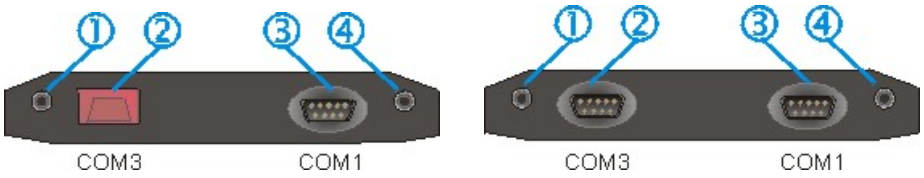


Figure 8 Endcaps

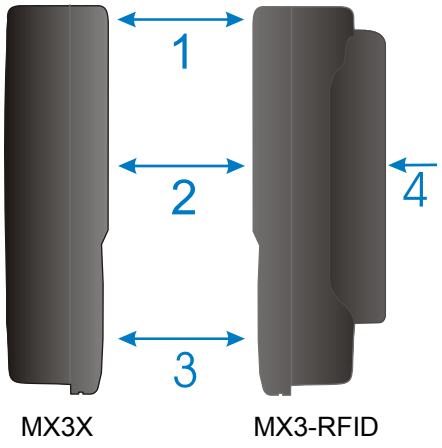
1	DC Power Jack	3	Serial Com 1 or USB Client Port
2	Serial Com 3 or USB Host or Scanner Port	4	Audio Jack

MX3X / MX3P*	
Left Port	**Right Port**
Serial COM3	Serial COM1
Serial COM3	USB Client
USB Host	Serial COM1
USB Host	USB Client
Scanner*	Serial COM1
Scanner*	USB Client

MX3-RFID	
Left Port	**Right Port**
Scanner	USB Client

* The MX3P does not have an integrated scanner nor an RFID tag reader.

MX3-RFID Module



1 Endcap w/Laser Scanner

2 Touchscreen

3 Keypad

4 RFID Module or MX3P Back Cover

Figure 9 Side View

Quick Start

Important

If the mobile device has AppLock installed, please refer to "MX3X Reference Guide", "AppLock" for setup and processing information before continuing.

Note: When your mobile device is pre-configured, the radio, PCMCIA card and endcaps are assembled by LXE to your specifications.

This section's instructions are based on the assumption that your new system is pre-configured and requires only accessory installation (e.g. handstrap, stylus) and a power source. LXE recommends that installation or removal of accessories be performed on a clean, well-lit surface. When necessary, protect the work surface, the mobile device, and components from electrostatic discharge.

This guide takes you through an introduction to and operation of the MX3X with and without the RFID module/enclosure.

In general, the sequence of events is:

1. Insert a fully charged battery and press the Power button.
2. Connect an external power source to the unit (if required).
3. If the screen does not automatically display, press the Power button.
4. Adjust screen display, audio volume and other parameters if desired.

*Note: Do **not** connect a tethered scanner cable to a USB-C or USB-H labeled endcap port. These ports cannot power a tethered scanner.*

Troubleshooting

Can't align the screen, change the date/time or adjust the volume.	AppLock is installed and running on the mobile device. AppLock restricts access to the control panels. Contact your System Administrator.
Touchscreen is not accepting stylus taps or need recalibration.	Press <Ctrl>+<Esc> to force the Start Menu to appear. Use the tab, backtab and cursor keys to move the cursor from element to element.

About Lithium-Ion Batteries

Li-Ion batteries (like all batteries) gradually lose their capacity over time (in a linear fashion) and never just stop working. This is important to remember – this mobile device is always 'on' even when in the Suspend state and draws battery power at all times. Use the **Start | Settings | Control Panel | Power | Battery** tab to check the battery status and power reading.

Always replace the used main battery with a fully charged main battery. The Battery Low Warning LED illuminates red at approximately 35% of power left in the main battery. You need to determine the point at which battery life becomes unacceptable for your business practices and replace the main battery before that point.

Note: Until the main battery and backup battery are completely depleted, the mobile device is always drawing power from the batteries (On).

RFID Introduction

Radio frequency identification, or RFID, is a generic term for technologies that use radio waves to automatically identify individual items. The individual items identified/read by a RFID reader contain a tag (also known as an electronic label or transponder). Unlike barcodes that must be read by a beam passing over the barcode, RFID tags do not have to be in the line of sight of the reader before the reader can collect the data from the tag but they do need to be within the established reading range of the RFID-module.

See the "MX3X Reference Guide" for further information and configuration.

RFID Reader Scan Range

Type of Tag	Scan Range
Class 0 Tag	2 feet / .7 meters
Class 1 Tag	3 feet / .9 meters

Figure 10 RFID Tag Reading Ranges

Unlike barcode scanners that require line-of-sight before successfully reading a barcode, the RFID reader does not require line-of-sight when searching for and reading tags. Pressing the RFID Read button on the MX3-RFID starts a 360 degree search "beam" that stops at the limits of the scan range of the RFID reader. The "beam" stops searching when the read timer expires.

Integrated Laser Scanner

The integrated laser barcode scanner can only read barcodes. Tethered laser barcode scanners can only read barcodes. The MX3-RFID cannot read barcode labels and RFID labels at the same time. For example, the MX3-RFID can scan a barcode label and when the good read/bad read/store data process is complete, it is then free to begin the process of reading and storing the data from an RFID tag.

The RFID module can only read RFID tags.

- COM1 is the RFID module.
- COM3 is the integrated barcode scanner.

RFID and MX3P Devices and the MX3 Cradles

The MX3-RFID and MX3P devices do not fit in the standard MX3 powered cradles. There is a passive vehicle cradle available for the MX3-RFID and MX3P devices that secures the device to the cradle only. See section titled "Accessories".

Main battery charging and host communication is not available directly through the passive vehicle cradle. The passive vehicle cradle does not have LEDs or indicators. It does not accept DC power connection. The MX3-RFID and MX3P mobile devices can be directly connected to external power through the power jack located on the mobile device's endcap. Host communication is available wirelessly while the mobile device is secured in the passive vehicle cradle.

Insert Main Battery

Press the Power button after the battery is inserted into the battery compartment.

Note: ***New batteries must be charged prior to first use****. This process takes up to four hours in an LXE Multi-Charger Plus and eight hours with an external power source connected to the power jack on the endcap of the mobile device.*

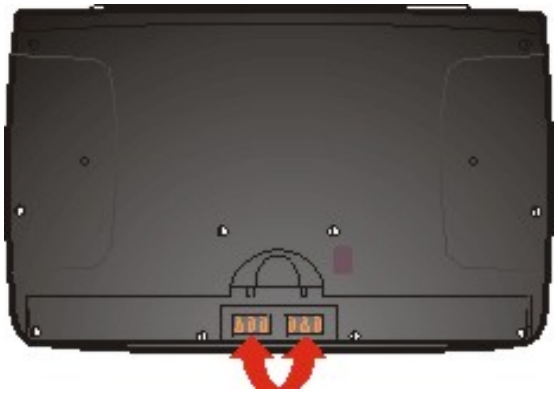


Figure 11 Battery Contacts in Battery Compartment

The Main Battery compartment is located at the bottom of the back of the computer. The arrows in the figure titled "Battery Contacts" point to the battery contacts in the computer. The figure titled "Main Battery" show the cradle and charger contacts on the back of the main battery.

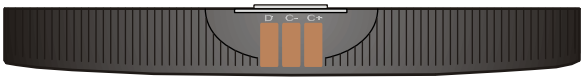


Figure 12 Main Battery

Place the battery in the compartment, making sure the side of the battery with six contacts matches up with the battery contacts in the computer battery compartment. Do not slide the battery sideways into the compartment.

Firmly press the battery into the compartment until the Retaining Clip on the battery clicks. The battery is now securely fastened to the computer. The computer draws power from the battery immediately upon successful connection.

Note: *Do not cover the vent aperture in the battery well (located in the left side of the battery well) with anything other than the main battery.*

Check Battery Status

Tap the **Start | Settings | Control Panel | Power** icon. Main and backup battery level, status and Power Scheme timeout setting options are displayed.

Optional Devices

Attach Handstrap (Optional)

Note: These instructions are not to be used for the MX3-RFID or MX3P. See "Accessories" for MX3-RFID and MX3P holding accessories e.g. holster mounted, shoulder straps, etc.

Once installed, the elastic handstrap provides a means for the user to secure the computer to their hand. It is adjustable to fit practically any size hand and does not interfere with battery charging when the MX3X is in a cradle.

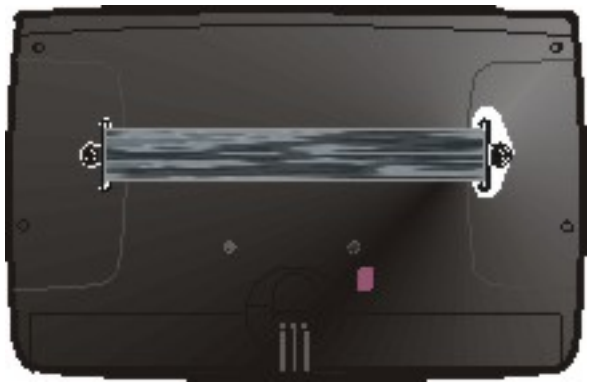


Figure 13 MX3X With Handstrap Installed

Tool Required: #1 Phillips Screwdriver

Installation

1. Place the MX3X, with the screen facing down, on a flat stable surface.
2. Attach the handstrap to the MX3X with the screws and washers provided.
3. Test the strap's connection making sure the MX3X is securely connected to each end of the strap connectors.

Attach the Stylus Clip (Optional)

Carefully remove the paper backing from the Stylus Clip sticky. Firmly press the sticky side of the clip onto the mobile device and hold in place for 15 seconds. Thread the tether through the end of the stylus and tie the ends firmly to the Stylus Clip so that the ends don't interfere with placing the stylus in the Stylus Clip. Place the stylus in the Stylus Clip when not in use.

An extra or replacement stylus can be ordered from LXE. See the section titled "Accessories" for the stylus part number.

Attach to Hip-Flip (Optional)

Note: The MX3-RFID and MX3P do not fit the Hip-Flip accessory. The Hip-Flip is not to be used with the MX3-RFID or MX3P device. See "Accessories" for device-specific holding accessories e.g. holster mounted, shoulder straps, etc.

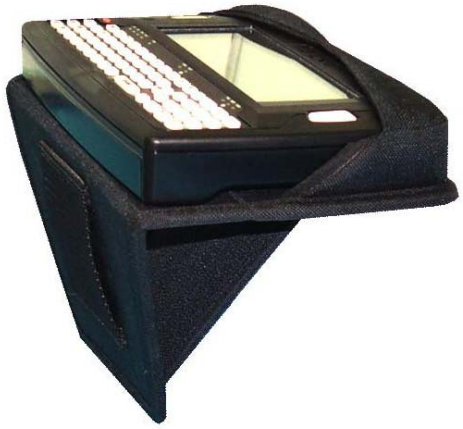


Figure 14 Hip-Flip Accessory

Note: #1 flat head screwdriver is not supplied by LXE. A waist belt accessory can be ordered from LXE.

Once the MX3X is attached to the hip-flip and the hip-flip securely fastened to the user by a belt around their waist, the MX3X can be operated at a convenient height, leaving the user's hands free.

The hip-flip adjusts downward to allow removing and replacing the main battery without removing the unit from the hip-flip or the user's body.

The MX3X must be removed from the hip-flip before being placed in a docking station.

Caution: Never use the MX3X in the hip-flip without first securing the device to the hip-flip with the screws.

Installation

1. If the MX3X has a handstrap, remove the handstrap and set it aside along with the handstrap screws and washers.
2. Slide the MX3X into the pocket in the hip-flip, making sure the keypad is up and the endcap ports are visible in the openings at the base of the hip-flip.
3. Place the MX3X (in the hip-flip) on a flat stable surface with the keypad down.
4. Tighten the assembly with the black screws provided, using the holes used for the handstrap (if used) on the back of the MX3X.
5. Test the hip-flip's connection making sure the MX3X is securely attached.
6. Slide the waist-belt through the loop in the hip-flip and secure the belt around your body.

Connect External Power Supply to MX3X or Cradle (Optional)

The LXE-approved AC Power Adapter is only intended for use in a 25ºC (77ºF) maximum ambient temperature environment.

There are three external power supplies available for the MX3X and the MX3 desktop cradle:

- US AC/DC 12V Power Supply
- Cigarette Lighter Adapter
- International AC/DC 12V Power Supply

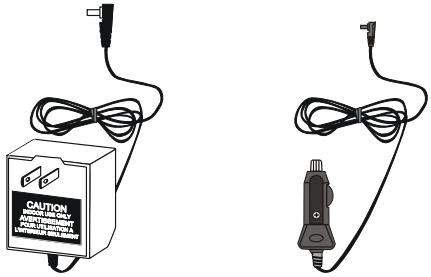


Figure 15 US AC/DC 12V Power Supply and Automotive Power Adapter

Figure 16 International AC/DC 12V Power Supply

The DC power jack is located on the endcap. The standard MX3 cradle power jack is located on the back of the MX3 cradle (the passive cradle does not have a power jack).

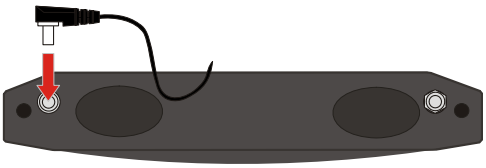


Figure 17 Connect External Power Supply

1. Insert the barrel connector into the power jack on the MX3X endcap and push in firmly.
2. The CHGR LED above the keypad illuminates when the computer is receiving external power through the power jack.

Note: When the mobile device is receiving external power through a powered cradle, the cradle's Status LED and the mobile device's CHGR LED are illuminated.

See section titled “LED Functions” for explanations of the LEDs for the BATT B and BATT M illuminations.

Connect External Power Supply to the MX3P

Caution

This device is intended to transmit RF energy. In accordance with FCC and Industry Canada radio-frequency safety regulations, when operating this device with the Hip-Flip accessory, it should be used in accordance with the user's instructions. Additionally, the user should take care to ensure that a minimum separation distance of 15cm (6 in.) is maintained from the antenna to nearby persons. Use of this device in a manner not consistent with these instructions can increase the risk of RF exposure. This device is not to be co-located with other transmitters.

The DC power jack is located on the endcap. The passive cradle does not have a power jack.

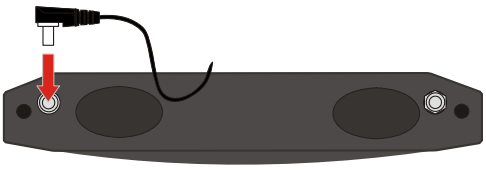


Figure 18 Connect External Power Supply

1. Insert the barrel connector into the power jack on the mobile device endcap and push in firmly.
2. The CHGR LED above the keypad illuminates when the MX3P is receiving external power through the power jack.

See section titled “LED Functions” for explanations of the LEDs for the BATT B and BATT M illuminations.

MX3P Specific Power Accessories

Part Number	Description
9000A060CBL12V	POWER CABLE, BARE WIRE, 12 FT, 12V, DC JACK
9000A316PS24V72VMX3P	PS, 24V-72V, BARE WIRE INPUT, MX3P OUTPUT

24/72 Maximum VDC Power Supply Input/Output Cable Connection

Caution

For proper and safe installation, the input power cable must be connected to a fused circuit on the vehicle. This fused circuit requires a 5 Amp maximum time delay (slow blow) fuse. If the supply connection is made directly to the battery, the fuse should be installed in the positive lead within 5 inches of the battery positive (+) terminal.

Recommended for vehicle electrical systems that use between 2 and 5 twelve volt batteries in series.

LXE Part Number: 9000A316PS24V72VMX3P

1. Power Switch
2. Power On Indicator
3. Output to MX3P
4. Input from Vehicle Battery

Figure 19 Vehicle Power Supply, 24 – 72 Maximum VDC (Fuse Not Shown)

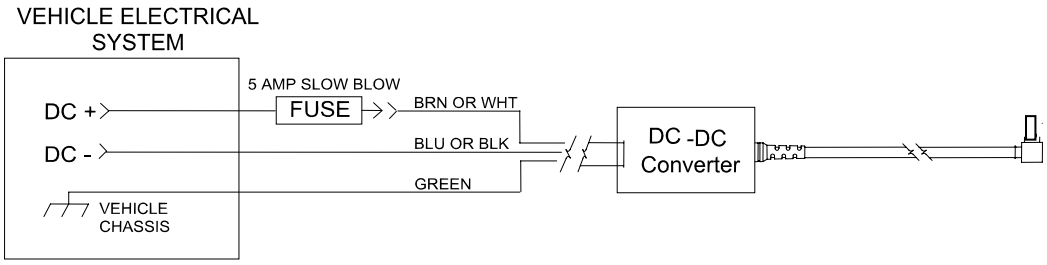


Figure 20 Connecting the Power Supply to the MX3P Endcap Power Jack

Power Supply Dimensions

Length 9.25”

Height 2.5”

Width 4.7”

Mounting hole center Width: 3.5”

Mounting hole center Length: 8.75”

DIAGRAM IS NOT TO SCALE

Figure 21 Vehicle Power Supply Footprint

1. If the mobile device is in the cradle, it can be either On or in Suspend Mode during this process.
2. Turn the Power Supply toggle switch to the Off position.
3. While observing the fuse requirements specified above, connect the power cable as close as possible to the actual battery terminals of the vehicle. When available, always connect to unswitched terminals in the vehicle fuse panel, after providing proper fusing.

   IMPORTANT:

   For uninterrupted power, electrical supply connections should not be made at any point after the ignition switch of the vehicle.

4. Route the cable the shortest way possible. The input cable from the connection to the battery is rated for a maximum temperature of 60°C (140°F). When routing this cable it should be protected from physical damage and from surfaces which might exceed this temperature.

   Additionally do not expose the cable to chemicals or oil that may cause the wiring insulation to deteriorate.

   Note: If the vehicle is equipped with a panel containing Silicon Controlled Rectifiers (SCR's), avoid routing the power cable in close proximity to these devices.

   Always route the cable so that it does not interfere with the operator's safe operation and maintenance of the vehicle.

   Use proper electrical and mechanical fastening means for terminating the cable. Properly sized "crimp" type electrical terminals are an accepted method of termination.

   Wiring color codes for LXE supplied DC input power cabling:

Vehicle Supply		Wire Color
+24-72 Max VDC	(DC +)	Brown or White
Return	(DC -)	Blue or Black
Vehicle Chassis	(GND)	Green

Figure 22 Vehicle Connection Wiring Color Codes

Note: The input power cord for the DC-DC Power Supply uses white, black and green wires. Some LXE products have DC input power cords with brown, blue and green wires. The previous table shows the correct electrical connection for either type of cable.

5. Provide mechanical support for the cable by securing it to the vehicle structure at approximately one foot intervals, taking care not to over tighten and pinch conductors or penetrate outer cable jacket.
6. Connect the Power Supply to the MX3P by plugging the computer end into the Power Jack on the endcap.
7. Turn the Power Supply on. The ON LED on the Power Supply illuminates when it is receiving power from the vehicle.
8. The mobile device CHGR LED illuminates.

12V VDC Power Cable Connection

9000A060CBL12V	POWER CABLE, BARE WIRE, 12 FT, 12V, DC JACK

1. If the mobile device is in the cradle, it can be either On or in Suspend Mode during this process.
2. Connect the two-wire end of the power cable to the 12V power source battery terminals.
3. Provide mechanical support for the cable by securing it to the vehicle structure at approximately one foot intervals, taking care not to over tighten and pinch conductors or penetrate outer cable jacket.
4. Connect the 12V power source to the MX3P by plugging the computer end into the Power Jack on the endcap.
5. The mobile device CHGR LED illuminates.

Connect MX3X Audio Jack (Optional)

The audio jack is located on the endcap.

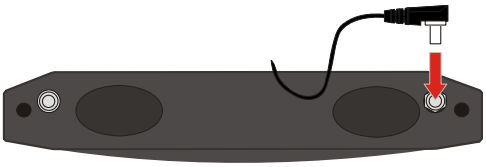


Figure 23 Connect Audio Jack

Insert the 2.5mm barrel end of the connector into the audio jack on the endcap and push the connector in firmly. See section titled “Set the Audio Speaker Volume”.

Note: The audio option draws power from the battery.The speaker is disabled when a headset is plugged into the audio jack.

Power Button

Note: Refer to the section titled "Power Modes" in the “MX3X Reference Guide” for information relating to the power states of the mobile device.

Figure 24 Power Button

The power button is located above the ESC key on the keypad. When a battery is inserted in the mobile device press the Power button.

Quickly tapping the Power button places the device immediately in Suspend mode. Quickly tapping the Power button again, or touching the screen, immediately returns the device from Suspend.

When the Windows desktop is displayed or an application begins, the power up (or reboot) sequence is complete. Please refer to the section titled "Power Modes" in the *MX3X Reference Guide* for a list of the kinds of activities (Primary Events) that will return the device from Suspend Mode.

Restart Sequence

Tap **Start | Run,** type **warmboot** in the text box, then press the **Enter** button. If the touchscreen is not accepting taps or needs recalibration, press <Ctrl>+<Esc> to force the Start Menu to appear.

When the Windows desktop is displayed or an application begins, the power on (or reboot) sequence is complete. If any changes to the settings had been saved previously, they are restored on reboot.

Any RFID tag data retrieved and not saved is lost during a reboot or reset.

Tapping the Touchscreen with a Stylus

Note: Always use the point of the stylus for tapping or making strokes on the touchscreen. Never use an actual pen, pencil, abrasive or sharp object to write on the touchscreen.

Hold the stylus as if it were a pen or pencil. Touch an element on the screen with the tip of the stylus then remove the stylus from the screen. Firmly press the stylus into the stylus holder when the stylus is not in use.

Like using a mouse to left-click icons on a desktop computer screen, using the stylus to tap icons on the touchscreen is the basic action that can:

- Open applications
- Choose menu commands
- Select options in dialog boxes or drop-down boxes
- Drag the slider in a scroll bar
- Select text by dragging the stylus across the text
- Place the cursor in a text box prior to typing in data or retrieving data using the integrated barcode scanner or an input/output device connected to the serial port.

An extra or replacement stylus can be ordered from LXE. See the section titled "Accessories" for the stylus part number.

Keypad Shortcuts

Use keyboard shortcuts instead of the stylus:

- Press Tab and an Arrow key to select a file.
- Press Shift and an Arrow key to select several files.
- Once you've selected a file, press Alt then press Enter to open its Properties dialog.
- Press 2nd then press numeric dot to delete a file.
- To force the Start menu to display, press Ctrl then press Esc.

Entering the Multi AppLock Activation Key

The appearance of taskbar icons are different on various mobile device platforms and may differ from the example shown below. This example is shown only to aid in describing how the user can switch between applications using a stylus. If RFTerm and Microsoft Word were the two applications locked, and the user tapped the taskbar icon to place the popup menu on screen, a switching menu showing both application icons is displayed on the screen.

Figure 25 End-User Multi Applock Touch Panel

Touch

Tap the taskbar icon to place the popup menu on screen. Tap one of the application icons in the popup menu. The selected application is brought to the foreground while the other application continues to run in the background. Stylus taps affect the application running in the foreground only.

Alternatively you can use the Tab, BackTab and/or cursor keys to move the on-screen cursor. Then press the Enter key to activate the highlighted choice.

Hotkey

If the mobile device uses LXE's Multi AppLock to allow the user to switch between two applications, the default Activation key is **Ctrl+Spc**. The key sequence switches the focus between one application and another. Data entry affects the application running in the foreground only. *Note that the system administrator may have assigned a different key sequence to use when switching applications*.

Touchscreen

Calibration

If the touchscreen is not responding properly to pen touch taps, you may need to recalibrate the touchscreen. Recalibration involves tapping the center of a target. If you miss the center, keep the stylus on the screen, slide it over the target's center, and then lift the stylus.

If the touchscreen is not accepting taps or needs recalibration, press <Ctrl>+<Esc> to force the Start Menu to appear.

To recalibrate the screen, select **Start | Settings | Control Panel | Stylus | Calibration** tab.

To begin, tap the Recalibrate button on the screen with the stylus.

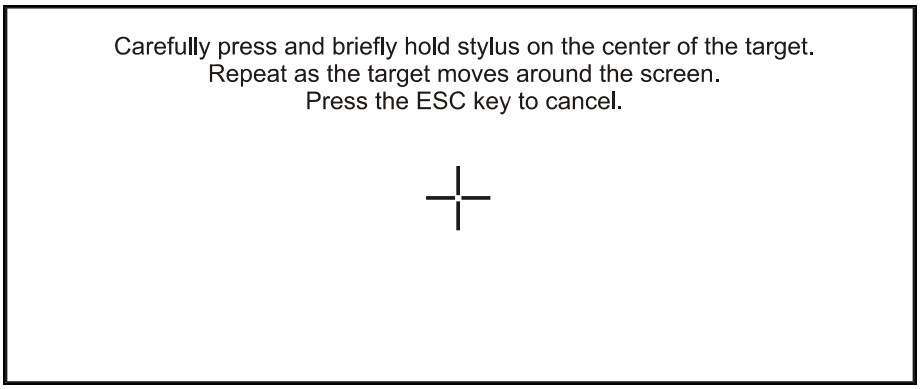


Figure 26 Touchscreen Recalibration

Follow the instructions on the screen and press the Enter key to save the new calibration settings or press Esc to cancel or quit.

Set The Display Contrast

Adjusting screen contrast lightens or darkens the characters to make them visible at a comfortable level. The contrast is incremented or decremented one step each time the contrast key is pressed.

◐ To adjust screen contrast, locate the <F6> key at the top of the keypad. Adjust the display contrast by pressing the:

- 2nd key then the <F6> key
- Use the Up Arrow and Down Arrow keys to adjust contrast until the display lightens or darkens to your satisfaction.
- Press the Enter key to exit this mode.

The LED for the 2nd key blinks until the special editing mode (set contrast) is complete.

Set the Display Backlight Timer

Note: Refer to the section titled "Power Modes" in the MX3X Reference Guide for information relating to the power states of the mobile device.

Select **Start | Settings | Control Panel | Display | Backlight** tab. Change the parameter values and tap OK to save the changes.

The first option affects the mobile device when it is running on battery power only. The second option affects the device when it is running on external power (e.g. AC adapter, cigarette adapter, powered cradle).

The default value for the battery power timer is 3 seconds. The default value for the external power timer is 2 minutes. **The backlight will remain on all the time when both checkboxes are blank.**

The transmissive color display backlight timer *dims the backlight* at the end of the specified time. The transflective monochrome display backlight timer *turns the backlight off* at the end of the specified time.

Set The Display Brightness

The brightness adjustment feature depends on the display type, color versus monochrome. Adjusting screen brightness lightens or darkens the background to make characters visible at a comfortable level. The brightness on a color display is incremented or decremented one step each time the arrow key is pressed until either the maximum or minimum brightness is achieved (8 steps). The brightness setting is recalled at power up.

Color -- To adjust screen brightness on the MX3X, MX3P or MX3-RFID device, locate the <F10> key at the top of the keypad. Adjust the display brightness by pressing the:

- 2nd key then the <F10> key
- Use the Up Arrow and Down Arrow keys to adjust brightness until the display lightens or darkens to your satisfaction.
- Press the Enter key to exit this mode.

Monochrome – MX3X only. The 2nd key + F10 key sequence toggles the backlight from it's brightest (On) to it's dimmest (Off) readable settings.

The LED for the 2nd key blinks until the special editing mode (set display brightness) is complete.

Set the Power Schemes Timers

Note: Refer to the section titled "Power Modes" in the MX3X Reference Guide for information relating to the power states of the mobile device.

Select **Start | Settings | Control Panel | Power | Schemes** tab. Change the parameter values and tap OK to save the changes.

Battery Power Scheme

Use this option when the device will be running on battery power only.

Switch state to User Idle:	Default is After 3 seconds
Switch state to System Idle:	Default is After 15 seconds
Switch state to Suspend:	Default is After 5 minutes

AC Power Scheme

Use this option when the device will be running on external power (e.g. AC adapter, cigarette adapter, powered cradle).

Switch state to User Idle:	Default is After 2 minute
Switch state to System Idle:	Default is After 2 minutes
Switch state to Suspend:	Default is After 5 minutes

These mode timers are cumulative. The System Idle timer begins the countdown after the User Idle timer has expired and the Suspend timer begins the countdown after the System Idle timer has expired. When the User Idle timer is set to “Never”, the power scheme timers never place the device in User Idle, System Idle or Suspend modes (even when the device is idle).

Because of the cumulative effect, and using the Battery Power Scheme Defaults listed above:

- The backlight turns off after 3 seconds of no activity,
- The display turns off after 18 seconds of no activity (15sec + 3sec),
- And the device enters Suspend after 5 minutes and 18 seconds of no activity.

Set The Audio Speaker Volume

Note: An application may override the control of the speaker volume. Turning off sounds saves power and prolongs battery life.

The speaker is located on the front of the device above the Power button. The audio volume can be adjusted to a comfortable level for the user. The volume is increased or decreased one step each time the volume key is pressed. The device has an internal speaker and a jack for an external headset. Operational "beeps" are emitted from the speaker.

Using the Keypad

Note: Volume & Sounds (in Control Panel) must be enabled before the following key sequences will adjust the volume.

◄ To adjust speaker volume, locate the <F8> key at the top of the keypad. Adjust the speaker volume by pressing the:

- 2nd key then the <F8> key to enter Volume change mode.
- Use the Up Arrow and Down Arrow keys to adjust volume until the speaker volume is satisfactory.
- Press the Enter key to exit this mode.

The LED for the 2nd key blinks until the special editing mode (set audio speaker volume) is complete.

Using the Touchscreen

Select **Start | Settings | Control Panel | Volume & Sounds | Volume** tab. Change the volume setting and tap OK to save the change. You can also select / deselect sounds for key clicks and screen taps and whether each is loud or soft.

As the volume scrollbar is moved between Loud and Soft, the computer will emit a tone each time the volume increases or decreases in decibel range.

Enter Data

You can enter data into the mobile device through several different methods. The Scanner window accepts barcode data entry, the RS-232 and the IR port are used to input/output data, and the keypad and stylus provide manual entry. The RFID module can either read or read and write data.

Keypad Entry

The keypad is used to manually input data that is not collected otherwise. Almost any function that a full sized computer keyboard can provide is duplicated on the mobile device's keypad but it may take a few more keystrokes to accomplish a keyed task.

Almost every key has two or three different functions. The primary alpha or numeric character is printed on the key.

For example, when the 2nd key is pressed, the 2nd key LED illuminates. By then pressing the desired second-function key the device will then produce the 2nd character. The specific 2nd character is printed above the corresponding key. The 2nd key LED turns off when key sequence finishes (unless when setting volume or contrast – the 2nd key LED will flash at those times).

Please refer to "Appendix A - Key Maps" for instruction on the specific keypresses to access all keypad functions.

Stylus Entry

The stylus performs the same function as a mouse that is used to point to and click elements on a desktop computer. The stylus is used in the same manner as a mouse – single tap or double tap to select menu options, drag the stylus across text to select, hold the stylus down to activate slider bars, etcetera. Always use the point of the stylus for tapping or making strokes on the display. Never use an actual pen, pencil, sharp or abrasive object to write on the touchscreen.

Hold the stylus as if it were a pen or pencil. Touch an element on the screen with the tip of the stylus then remove the stylus from the screen. The touchscreen responds to an actuation force (touch) of 4 oz. (or greater) of pressure.

The stylus can be used in conjunction with the keyboard and scanner and an input/output device connected to one of the serial ports.

- Touch the stylus to the field of the data entry form to receive the next data feed.
- The cursor begins to flash in the field.
- The unit is ready to accept data from either the keyboard, integrated scanner or a scanner connected to the serial port, if the scanner applet is configured correctly.

Input Panel

The Input Panel icon looks like a keyboard and is shown in the System tray. To show or hide the input panel, tap the Input Panel icon. Use the input panel to enter information in any program.

Integrated Laser Scanner Data Entry

Read all cautions, warnings and labels **before** using the laser scanner.

To scan with the integrated laser barcode reader, point the laser window towards a barcode and press the Scan button. You will see a red laser beam strike the barcode. The laser scanner has an SE923 scan engine.

Figure 27 Scan Beam

Align the red beam so that the barcode is centered within the beam. The laser beam must cross the entire barcode. Move the mobile device towards or away from the barcode so that the barcode takes up approximately two-thirds the width of the beam.

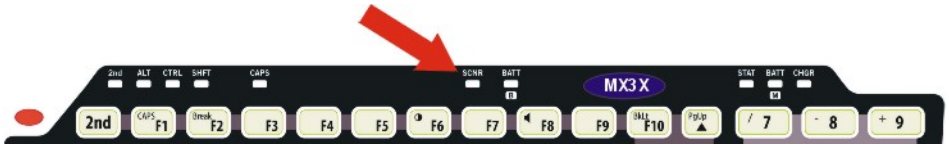


Figure 28 Scanner LED Location

The SCNR LED turns red when the laser beam is on. Following a barcode scan and read the SCNR LED turns green and the mobile device beeps, indicating a successful scan.

The laser and SCNR LED automatically turn off after a successful or unsuccessful read. The scanner is ready to scan again when the Scan key is pressed.

Large barcodes can be scanned at the maximum distance. Hold the scanner closer to small barcodes (or with bars that are very close together).

When the scan is successful, the Scan LED turns green, then switches off, and the mobile device emits a distinctive audible tone.

When the scan is unsuccessful, the SCNR LED remains red until the 3 second timeout (default) occurs or the Scan key is released. The mobile device emits distinctive audible tones. Check the following:

- Check the barcode for marks or physical damage e.g. ripped label, missing section, etc.
- Try scanning test symbols of the same code type at different distances and angles.
- Is the scan aperture unscratched and unsoiled?

See the “Integrated Scanner Programming Guide” for barcode samples, default scanning ranges, barcode reading instruction and troubleshooting.

Using a Headset and Voice for Data Entry

Connecting the Audio Cable and a Headset

*Note: The audio option draws power from the main battery. The Headset and Voice option is **not** available for an MX3-RFID or MX3P configuration. The speaker is disabled when a headset is plugged into the audio jack.*

The headset consists of an earpiece, a microphone and an attached cable. The headset attaches to an audio cable which attaches to the MX3X. The audio jack is located on the MX3X endcap.

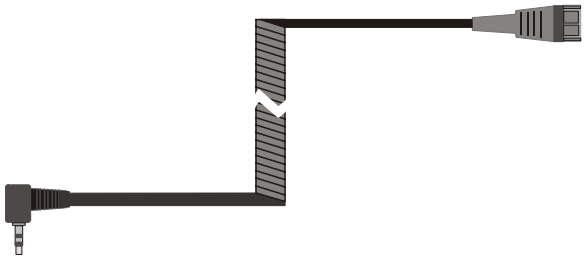


Figure 29 Audio Cable and Headset

Insert the 2.5mm barrel end of the connector into the audio jack on the endcap and push the connector in firmly.

Align the audio cable quick disconnect end and the headset quick connect cable end. Firmly push the cable ends together until they click and lock in place.

Adjust Microphone and Secure the Cable

Do not twist the microphone boom when adjusting the microphone.

The microphone should be adjusted to be about two finger widths from your mouth.

Make sure the microphone is pointed at your mouth. Note the small "Talk" label near the mouthpiece. Make sure the Talk label is in front of your mouth.

The microphone cable can be routed over or under clothing.

Under Clothing

- Leave the cable exposed only at the top of the collar.
- Be sure to leave a small loop of cable to allow movement of your head.

Over Clothing

- Use clothing clips to hold the cable close to your body.
- Tuck the cable under the belt, but leave a small loop where it goes under the belt.
- Do not wear the cable on the front of your body. It may get in your way or get caught on protruding objects.

Entering Data

Data is entered into the mobile device by speaking into the headset's microphone when prompted.

Please contact your System Administrator if assistance is needed with the voice software installed on the mobile device.

*Note: The Headset and Voice option is **not** available for an MX3-RFID or MX3P configuration.*

Tethered Scanner

*Do **not** connect a tethered scanner cable to a USB-C or USB-H labeled endcap port. They are USB ports and cannot power a tethered scanner.*

Tethered scanners connect to RS232-labeled ports on the endcap and, *for the MX3X only*, can connect to the RS232 port on a powered cradle.

The Scan buttons have no effect on tethered barcode scanners (connected to the RS232 serial port). Tethered scanners read barcode scans only when the trigger on the tethered scanner is pressed. The tethered scanner requires power on pin 9 of the RS232 serial port.

To set the mobile device to use a tethered scanner, select **Start | Settings | Control Panel | Scanner | COM1 (or 2 or 3)**.

Tap the "**Power on Pin 9 (+5V)**" checkbox for the COM port selected. The COM port that accepts the scanner data can be configured for data rate, parity, stop bits and data bits.

See Also: Section titled "Tethered Scanner and Cradles" when using a tethered scanner with a cradle.

RFID Tag Data Collection

When the RFID Read button is pressed, the reader turns on and the MX3-RFID beeps once if the tag was located and read successfully. The reader turns off at a predetermined time limit after a good read or a failed read.

There may be a buzz sound during the time the reader is "searching and reading" if the RFID reader is configured to buzz during a read cycle.

Getting Help

All LXE user guides are now available on one CD and they can also be viewed/downloaded from the LXE ServicePass website. Contact your LXE representative to obtain the LXE Manuals CD.

You can also get help from LXE by calling the telephone numbers listed on the LXE Manuals CD, in the file titled "Contacting LXE". This information is also available on the LXE website.

Explanations of terms and acronyms used in this guide are located in the file titled "LXE Technical Glossary" on the LXE Manuals CD.

Accessories

Note: Items with a Green letter R in the first column are ROHS-compliant. Please contact your LXE representative when ordering ROHS-compliant items as the part number may have changed. Items without the letter R may have received ROHS-compliance after this guide was published.

R	1	Cable, USB Host D9F to USB, 6’ (Endcap only) MX3XA069CBL09USBCLNT	
R	2	Cable, D9F to D9F for ActiveSync only, 6’ (Cradle use only) MX3XA070CBLD9RS232AS / Cradle MX3RA002DESKCRADLE	
R	3	Cable, USB Client D9F to USB, 6’ (Endcap only) MX3XA071CBLD9USBTYPB	
R		Cable, 12 in., D9F / USB Type A Receptacle MX3XA068CBLD9USBHOST	

Tethered Scanners	
Scanner, Powerscan SR, 8’ Cbl, WW	8300A326SCNRPWRSR8DA9F
Scanner, Powerscan SR, 12’ Cbl, US	8300A327SCNRPWRSR12DA9F
Scanner, Powerscan LR, 8’ Cbl, WW	8310A326SCNRPWRLR8DA9F
Scanner, Powerscan LR, 12’ Cbl, US	8310A327SCNRPWRLR12DA9F
Scanner, Powerscan XLR, 8’ Cbl, WW	8320A326SCNRPWRXLR8DA9F
Scanner, Powerscan XLR, 12’ Cbl, US	8320A327SCNRPWRXLR12DA9F
Scanner, LS3408ER, 9’ Cbl, US See Note	8520A326SCNRERDA9F
Scanner, LS3408FZ, Fuzzy Logic, 9’ Cbl, US See Note	8510A326SCNRFZYDA9F

	Holding Accessories	
R	Strap, Hand, Nylon	MX3RA497HANDSTRAP
R	MX3X Nylon Holster for use with Belt	MX3RA401HOLSTER
R	MX3X Nylon Hip Flip	9000A408HIPFLIP
R	Adjustable Belt for Hip Flip – Velcro ends	9200L67
R	Belt Strap with plastic scanner clip	9200L57
	MX3-RFID Nylon Case with Shoulder Strap [1]	MX3XA411RFIDCASE
R	MX3X Nylon Case with Shoulder Strap	9000A409CASE
R	Scanner Clip Strap (85XX scanners only)	9000A411SCNRSTRAP
	Bracket, Mounting LS300 Scanner, Tethered	8010A001BRKT
	Holster, Hood, Nylon, 5300IP Series Scanner, Tethered	8100A401HLSTRHOOD
	*** **Voice Recognition and Headsets**	
R	MX3X Voice Case optional shoulder strap	9000A410SHOULDERSTRP
R	MX3X Nylon Case, Voice Recognition w/Belt	MX3XA410VOICECASE
R	MX3X to Headset adapter cable, 2.5mm	9000A076CBLHEADSET1
	Single ear and headband, headset with microphone, 5 windscreens	HX1A501SNGBHEADSET
	Single ear, dual headband, headset with microphone, 5 windscreens	HX1A502DUALBHEADSET
	Dual ear, behind head, headset with microphone, 5 windscreens	HX1A503BTHHEADSET
	Replacement foam block for dual headband	HX1A504AHSBLOCKFOAM
	Replacement head yoke for dual headband	HX1A505DUALYOKE
	Replacement head yoke for single headband	HX1A506SINGLEYOKE
	Replacement windscreen for all microphones, 10 pack	HX1A508WINDSCREEN10
	Replacement windscreen for all microphones, 50 pack	HX1A509WINDSCREEN50
	Replacement foam ear piece cover for single/dual headsets, 10 pack	HX1A510FOAMEAR10
	Replacement foam ear piece cover for single/dual headsets, 50 pack	HX1A511FOAMEAR50
	*** Contact your LXE representative for availability. Scheduled for release by June 2006.	
	Miscellaneous	
R	Stylus Kit includes stick-on clip, stylus and tether, 5 pack	9000A507STYLUS
R	MX3X SDK, CD	MX3XA504CENET42SDK
R	Cover Plate, RS-232 Port, MX3/MX3-CE	MX3RA351RS232CVR
R	Touchscreen Protective Film, Monochrome Display	MX3XA502PROTFILMMONO
R	Touchscreen Protective Film, Color Display	MX3XA503PROTFILMCOLR
	Battery Chargers and Battery	
R	Battery Charger/Analyzer, US V1.01	9000A377CHGR5US
R	Battery Charger/Analyzer, WW	9000A377CHGR5WW
	Battery, Replacement, RFID Device	MX3A380RFIDBATT
R	Battery, Li-Ion	MX3A378BATT

[1] Accessories designed specifically for the MX3-RFID device are compatible with the MX3P device.

	Cradles and Power Supplies	
	MX3-RFID \ MX3P Passive Mounting Cradle	MX3XA001RFIDCRADLE
	MX3-RFID \ MX3P RAM Mounting Kit for Passive Cradle	9000A019RAMKIT
R	MX3X Desktop Cradle [2]	MX3RA002DESKCRADLE
R	MX3X Vehicle Mount Cradle [2]	MX3RA003VMCRADLE
R	MX3X Vehicle Mount Cradle, 19.2K baud rate	9000A005VMCRADLE19KB
	Power Supply, Vehicle Cradle, 9-30VDC	2381A054CRDLDCPWR30V
	Power Supply, Vehicle Cradle, 30-80VDC	2381A055CRDLDCPWR80V
R	AC Power Supply, External, US	9000A301PSACUS
R	AC Power Supply, External, AC, International	9000A302PSACWW
R	Power Cord, AC, US	9000A066CBLPWRAC
	P/S, External, Cigarette Lighter Adapter	9000A303PSCIGLTADPT
R	Power Adapter, Bare Wire 12 VDC	9000A079CBL12ML3
R	Power Adapter, 24-72 VDC, Bare Wire (Vehicle)	9000A316PS24V72VMX13
	Power Adapter, 110-240 VAC	1300A303PSACWW
	MX3P Power Cable, Bare Wire, 12 Ft, 12V, DC Jack	9000A060CBL12V
	MX3P Power Supply, Bare Wire input, MX3P output	9000A316PS24V72VMX3P
	Cables for Cradle and Endcap Serial Ports	
R	Cable, Null Modem, PC, D9F to D9F, 6’	9000A054CBL6D9D9
	Cable, Null Modem, Printer/PC, D9F to D25F, 6’	9000A053CBL6D9D25
R	Cable, USB D9F to USB Type A Receptacle	MX3XA068CBLD9USBHOST
R	Cable, USB D9F to USB Type A Plug	MX3XA069CBLD9USBCLNT
R	Cable, USB D9F to USB Type B Plug	MX3XA071CBLD9USBTYPEB
R	Cable, D9F to D9F for ActiveSync only, 6’ See Note	MX3XA070CBLD9RS232AS

Note: The MX3X Desktop Cradle supports RS-232 ActiveSync communication via the MX3XA070CBLD9RS232AS cable.

Note: MX3-RFID mobile devices available in the US only.

Note: When using the 8500 Series tethered scanners (LS3408), the tethered scanner Power Mode must be set to “Reduced Power Mode” to conserve the device’s main battery life. The reduced power mode setting will not impact performance of the 8500 series scanner. The default mode is “Continuous On”. Please refer to the tethered scanner manufacturer’s user guide for instruction.

[2] Power Adapter Required.

The MX3X Hand Held Computer

Touchscreen Display

Figure 30 Touchscreen Display

The Touchscreen Display is an LCD unit capable of supporting VGA graphics modes. Display size is 640 x 240 pixels. The touchscreen allows signature capture and touch input. A pen stylus is included. The touchscreen responds to an actuation force (touch) of 4 oz. of pressure (or greater).

There are two types of displays available: transflective greyscale monochrome and transmissive color. The transmissive color display is optimized for indoor lighting. It cannot be used without the backlight. The transflective monochrome display is optimized for outdoor use but may also be used indoors. The monochrome display has an electroluminescent backlight. The color display has a CCFL (Cold-Cathode Fluorescent Lighting) backlight.

The transflective display appears to have a greenish hue when the display is off. The transmissive display appears black when the display is off.

Applying the Protective Film to the Display

First, clean the display of fingerprints, lint particles, dust and smudges.

Remove the protective film from it's container. Remove any protective backing from the film sheet by lifting the backing from a corner of the film. Discard the backing.

Apply the film to the screen starting at one side and smoothing it across the display. If air bubbles appear, raise the film slightly and continue smoothing the film across the display until it covers the glass surface of the display.

If dust, lint or smudges are trapped between the protective film and the glass display, remove the protective film, clean the display and apply the protective film again.

Display Backlight

The Display backlight is turned on when the unit returns from Suspend Mode. The display backlighting feature is programmable and activates based on power source and amount of idle time before entering the Suspend state.

See the section titled "Set the Display Backlight Timer " in the previous section "Quick Start."

Touchscreen Calibration

If the touchscreen is not responding properly to stylus touch taps, the touchscreen may need to be recalibrated. Press <Ctrl>+<Esc> to force the Start Menu to appear, if needed. Contact your System Administrator for assistance.

To recalibrate the screen, select **Start | Settings | Control Panel | Stylus | Calibration**.

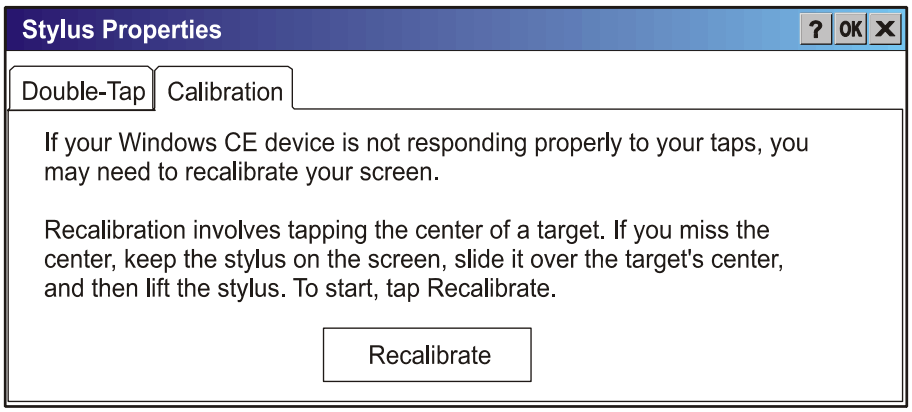


Figure 31 Touchscreen Recalibration

To start, tap Recalibrate. Follow the instructions on the screen and press the Enter key to save the new calibration settings or press <Esc> to cancel or quit.

See the "MX3X Reference Guide" for complete instructions.

Cleaning the Glass Display/Scanner Aperture

Note: These instructions are for components made of glass. If there is a removable protective film sheet on the display screen, remove the film sheet before cleaning the screen.

Keep fingers and rough, abrasive or sharp objects away from the scan aperture and display. If the glass becomes soiled or smudged, clean only with a standard household cleaner such as Windex(R) without vinegar or use Isopropyl Alcohol. Do not use paper towels or harsh-chemical-based cleaning fluids since they may result in damage to the glass surface. Use a clean, damp, lint-free cloth. Do not scrub optical surfaces. If possible, clean only those areas which are soiled. Lint/particulates can be removed with clean, filtered canned air.

Scan Buttons

Figure 32 Programmable Buttons

There are two buttons, one on each side of the display. The buttons can be programmed to perform specific functions. The programmable keys have no effect on barcode scanners tethered to the device. When there is no integrated scanner installed, both buttons default to Enter buttons (with the exception of IBM 5250 terminal emulation devices – in this case, the left button is labelled and functions as "Field Exit").

Note: The programmable Scan key is the Field Exit key when the MX3X is an IBM 5250 / TN5250 compatible device. It can also be programmed as the RFID Read key for an MX3-RFID device.

To edit the button parameters, select **Start | Settings | Control Panel | Scanner**. Change the parameter values and tap OK to save the changes.

The default setting for the right button on an MX3X (and MX3P) is Enter; on an MX3-RFID the default setting is RFID Read. The default setting for the left button is Scan. When the device does *not* have an integrated scanner, both buttons default to Enter keys and the Scan selection is greyed out.

Each button can be setup as:

- Disabled – no response when pressed
- Scan – initiate a barcode scan sequence (integrated scanner only)
- Enter Key
- Tab Key
- Field Exit (IBM 5250 / TN5250 devices only)
- Virtual Key (default values F20 and F21)
- RFID Read

Field Exit Key Function (IBM 5250/TN5250 Only)

The Field Exit key is used to exit an input field. If the field is an Auto Enter field, the auto transmit function is activated. This key function is present on the IBM 5250/TN5250 specific keypad only.

Scan Buttons and the SCNR LED

The SCNR LED, located above the keypad, illuminates during an integrated barcode scanner function. It is affected by internal scanner algorithms.

- Red - scanning.
- Green - good scan.
- Unlit – laser scanner is inactive.

The Scan buttons have no effect on tethered barcode scanners connected to a serial port. Tethered scanners read barcode scans only when the trigger on the tethered scanner is pressed. Pressing the trigger on the tethered scanner has no effect on the device's Scan buttons.

Note: Refer to the "MX3X Reference Guide" before programming the Scan / Enter buttons. The Reference Guide also contains instructions for the Key Map Utility for the keypad.

Endcaps and COM Ports

The computer supports three COM port options. Two external serial ports are dependent on the end cap chosen. A third serial port is used to support an infrared transciever (barcode reader). An additional endcap configuration supports serial and USB "slave" input/output at 1.5 MBps.

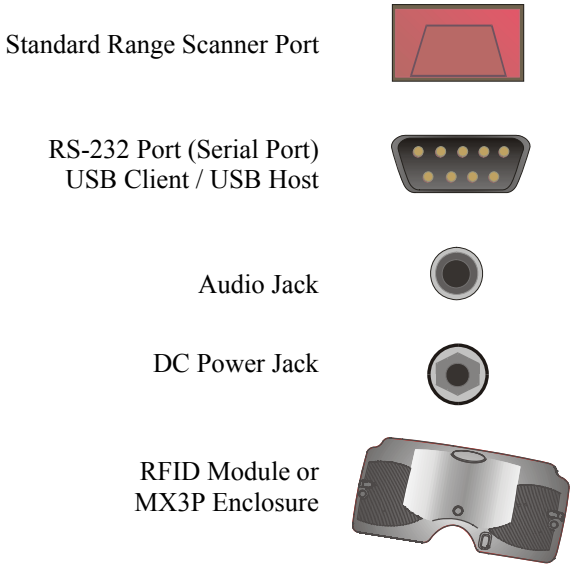


Figure 33 Endcap and COM Ports

The COM 2 port is always the IR port on the back of the mobile device, regardless of the type of endcap installed. COM 2 can only be accessed when a tethered scanner is connected to the RS-232 port on the cradle, and the MX3X is in the cradle. The cradle does not need to be powered by an alternate AC or DC power source. Tethered scanners receive power from the mobile device's main battery.

On the Standard Range Scanner / RS-232 labelled port endcap COM 3 is the Integrated Scanner port. The integrated barcode scanner scans only when the Scan button is pressed. To edit Scanner port parameters, select **Start | Settings | Control Panel | Scanner**. Change the parameter values and tap OK to save the changes.

On the Dual Serial Port endcap the COM1 port is the serial port on the right side of the endcap when the display is facing you.

Caution -- Do Not Use the RS-232 Labelled Port for Cables with USB Plugs/Receptacles:

Caution -- Do Not Use these USB Labelled Endcap Ports for Tethered Scanners:

Figure 34 Labelled Ports and Cables

The MX3P does not have an integrated scanner nor an RFID scanner or antenna.

Endcap Combinations

Left Port	Right Port
Serial COM3	Serial COM1
Serial COM3	USB Client
USB Host	Serial COM1
USB Host	USB Client
Scanner*	Serial COM1
Scanner*	USB Client
Rear **IR Port** is COM2 Barcode scanners, tethered to the serial port on a cradle, send ASCII data to the MX3X in the cradle through the COM2 Port.	
MX3X with RFID Module RFID Module – COM1 IR Port – COM2 Integrated Scanner on Endcap – COM3 USB Client on Endcap – USB-C	

* The MX3P does not have an integrated scanner or an RFID tag reader.

Tethered Scanners

*Do **not** connect a tethered scanner cable to a mobile device's USB-C or USB-H labeled endcap port. These ports cannot power a tethered scanner.* Tethered scanners connect to RS232-labeled ports on the endcap and can connect to the RS232 port on a powered cradle.

The Scan buttons have no effect on tethered barcode scanners (connected to a serial port). Tethered scanners read barcode scans only when the trigger on the tethered scanner is pressed. The tethered scanner requires power on pin 9 of the mobile device's serial port.

To set the MX3X to use a tethered scanner, select **Start | Settings | Control Panel | Scanner | COM1 (or 2 or 3)**.

Tap the "**Power on Pin 9 (+5V)**" checkbox for the COM port selected. The COM port that accepts the scanner data can be configured for data rate, parity, stop bits and data bits.

See Also: Section titled "Cradles" when using a tethered scanner with a powered cradle.

USB Port

The USB port requires a 9-pin to USB cable (available from LXE). The 9-pin port/USB port also supports serial data transfer (using a null modem cable) and non-host USB I/O at 1.5 Mbps. The operating system automatically detects the USB cable configuration. Refer to section titled "Accessories" in this guide for part numbers for the 9-pin USB cable and the null modem cable.

IR Port

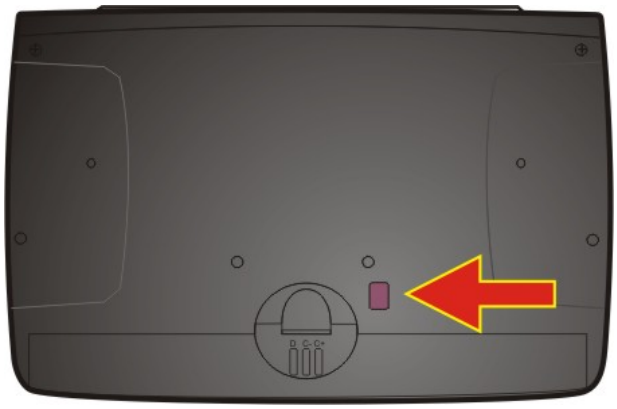


Figure 35 IR Port (COM 2)

The InfraRed (IR) port provides a means of transferring information to a device with a similar port and the proper software. The IR port can be used to communicate with printers or a host computer with the use of an adapter. The IR Port is specified as COM 2 and is a bi-directional half-duplex infrared port. It supports the Slow IrDA (Infrared Data Access) PHY Layer standard that allows communication speeds up to 115k baud.

When sending data through the IR port to another MX3X's IR port, make sure both units are in close proximity to each other. The IR operating envelope has a distance range of 2 cm (.79 inches) to 1 meter (3.2 feet) with a viewing angle of 30 degrees.

See the "MX3X Reference Guide" for complete instructions when sending data through the IR port.

Note: ActiveSync will transfer files over the RS-232 connector on the cradle. The cradle performs a "file pass through" to the IR port on the back of the MX3X.

The Keypad

The QWERTY keypad is phosphorescent. A phosphorescent keypad does not use a keypad backlight but glows in dim/dark areas after exposure to a light source. There is no difference in key function between the MX3X, MX3P or the MX3-RFID devices.

The keypad is installed and configured by LXE.

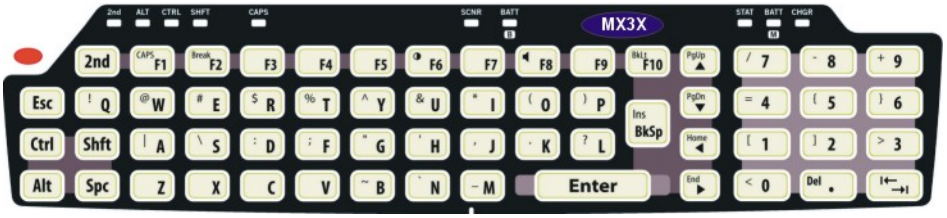


Figure 36 The QWERTY Keypad

The keymaps (keypress sequences) are located in "Appendix A - Key Maps."

Key Functions

Key	Function
Scan	**(*Scanner integrated into endcaps only.*)** The Scan key activates the scanner when a scanner endcap is installed and the Scan button is pressed. The internal scanner scans only when the Scan button is pressed. A Scan button press has no effect on externally attached scanners. When there is no integrated scanner endcap, the Scan keys function as Enter keys. For IBM 5250 configurations, the left button is the "Field Exit" key.
Enter	The Enter key is used to confirm a forms entry or to transmit information. How it is used is determined by the application running on the computer.
2nd	The 2nd key is used to activate the 2nd functions of the keypad. Printed on many keys at the upper left corner are small characters that represent the 2nd function of that key. Using the 2nd key activates the second key function. Note that the 2nd key only stays active for one keystroke. Each time you need to use the 2nd function you must press the 2nd key. To cancel a 2nd function before pressing another key, press the 2nd key again. When the 2nd function is active, the 2nd LED illuminates.
Ctrl	The Ctrl key enables the control functions of the keypad. This function is similar to a regular keyboard's Control key. Note that the Ctrl key only stays active for one keystroke. Each time you need to use a Ctrl function, you need to press the Ctrl key before pressing the desired key. When the Ctrl function is active, the Ctrl LED illuminates.
Alt	The Alt key enables the alternate functions of the keypad. This function is similar to a regular keyboard's Alt key. Note that the Alt key only stays active for one keystroke. Each time you need to use an alternate function, you need to press the Alt key before pressing the desired key. When the Alt function is active, the Alt LED illuminates.

Key	Function
Shft	The Shft key enables the shifted functions of the keypad. This function is similar to a regular keyboard's Shift key. Note that the Shift key only stays active for one keystroke. Each time you need to use a Shifted function, you need to press the Shft key before pressing the desired key. When the Shft function is active, the Shft LED illuminates. When the Shft key is pressed the next key is determined by the major key legends, i.e., the alpha keys display lower case letters -- when CAPS is On alpha characters are capitalized. For example, when CAPS is on and the Shft key and the G key are pressed, a lower case g is displayed.
Spc	The Spc key adds a space to the line of data on the display. This function is similar to a regular keyboard's Spacebar. Note that the Spc key only stays active for one keystroke.

Field Exit Key Function (IBM 5250/TN5250 Only)

The Field Exit key is used to exit an input field. If the field is an Auto Enter field, the auto transmit function is activated. This key function is present on the IBM 5250/TN5250 specific keypad only.

Caps Key and CapsLock Mode

This function is similar to a regular keyboard's CapsLock key. Note that the CapsLock mode stays active until the CapsLock key sequence is pressed again. Each time you need to use a Caps function, you need to press the Caps key sequence first. To cancel a CapsLock function press the Caps key sequence again. When the CapsLock mode is active, the Caps LED illuminates.

The CapsLock key sequence is <2nd >+ <F1>.

- No CapsLock AND No Shift keypress – result is a lowercase letter.
- CapsLock OR Shift – result is an uppercase letter.
- CapsLock AND Shift keypress – result is a lowercase letter.

Keypress Sequences

See Appendix A for all key press sequences.

Custom Key Maps

The System Administrator creates Custom Key Maps for the MX3X. To activate the Custom keymap, select **Start | Settings | Control Panel | Keyboard** icon. Select the Custom keymap from the keyboard popup menu, and close the control panel with the OK button.

To return to the default keymap, select **0409** from the keymap popup and tap OK.

LED Functions

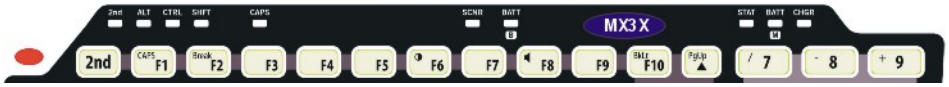


Figure 37 LED Functions

Across the top of the keypad are LEDs that provide visual cues to current computer operation. When the LED is not illuminated, the function is inactive.

LED	When illuminated ...
2nd	The next keypress is a 2nd keypress. • Amber when on • Blinks amber during configuration key sequence.
ALT	The next keypress is an ALT keypress. • Amber when on and unlit when off.
CTRL	The next keypress is a CTRL keypress. • Amber when on and unlit when off.
SHFT	The next letter is the uppercase letter on alpha keys and the shifted character on the numeric keypad keys. • Amber when on and unlit when off.
CAPS	Uppercase letters are active until the CAPS key sequence is pressed again. • Amber when on and unlit when off.
SCNR	Barcode scanner function, affected by both tethered scanners and the scanner endcap. • Red - scanning. • Green - good scan. • Unlit - scanner is inactive.
BATT B	Backup Battery. When illuminated, the backup battery is charging. When unlit, the backup battery is not charging
STAT	Status Indicator. • Amber – device is booting up. • Blinking Green when display Suspend state begins.
BATT M	Main Battery. When illuminated, main battery capacity is low. • Red – low battery. • Blinking Red – power fail. • Unlit - Main battery is not low OR all charge is depleted in both batteries..
CHGR	Charger. When on, the mobile device is receiving external power either from the DC power jack or the MX3X is seated in a powered cradle. • Red - Main battery is charging. • Amber – Fault or temporary standby (Contact LXE Customer Support). • Green - battery charge is complete and the mobile device is connected to external power through the power jack or a powered cradle.

Batteries

Note: ***New batteries must be charged prior to use****. If the main battery and backup battery are depleted, the computer reverts to factory default values. RF configuration parameters will need to re-entered when the depleted main battery is replaced. The backup battery is eventually recharged by the main battery.*

The mobile device is designed to work with a Lithium-Ion (Li-ion) battery from LXE. Under normal conditions it should last approximately eight to ten hours before requiring a recharge. The more you use the scanner or the RF transmitter, the shorter the time required between battery recharges. The operating system keeps date and time valid for a minimum of four days using a fully charged backup battery and a main battery that has reached the Low Warning point.

Main Battery

The main battery has a rugged plastic enclosure that is designed to withstand the ordinary rigors of an industrial environment. Exercise care when transporting the main battery making sure it does not come in contact with excessive heat or any power source other than an LXE MultiCharger or the mobile device.

Backup Battery

The internal Nickel Cadmium (NiCd) backup battery provides power to the device for a short amount of time when the main battery has been depleted, removed or has failed. The backup battery requires no user intervention. Replacement is performed by LXE.

Note: An uninterrupted external power source (wall AC adapters or DC/DC converters) transfers power to the computer's internal charging circuitry which, in turn, recharges the main battery and backup battery. Frequent connection to an external power source is recommended to maintain backup battery charge status.

Battery Hot-Swapping

When the battery power level is low, the BATT-M LED illuminates and remains on. You can replace the main battery without shutting the device off. Place the device in Suspend and simply replace the discharged battery with a fully-charged battery. The backup battery will retain data during a main battery hot-swap for at least five minutes.

Battery Chargers

*Note: LXE recommends that the correct MX3 Multicharger Plus always be used to charge the MX3X main battery. The Multicharger plus label is located on the back of the device and the charger must have been upgraded to **V1.01**. Please contact your LXE representative for further information about theV1.01 upgrade kit, if needed.*

LXE Multi-Charger Plus

Figure 38 MX3 Multi-Charger Plus

The main battery can be charged in the MX3 Multi-Charger Plus. The main battery charges the backup battery using the mobile device's internal charging circuitry. The battery charger requires an AC power source before charging can begin.

External Power Supply (Optional)

The DC power jack is located on the endcap.

The cradle power jack is located on the back of the cradle. The mobile device (and the Desktop Cradle) connect to any of the following power supplies through their DC Power Jack.

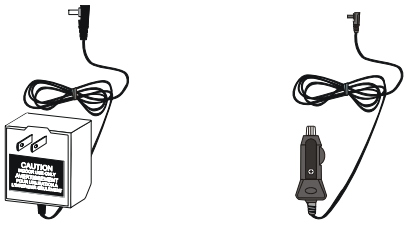


Figure 39 US AC/DC 12V Power Supply and Cigarette Lighter Adapter

Figure 40 International AC/DC 12V Power Supply

Note: When the MX3X is receiving power through a cradle connected to external power, the cradle's Status LED and the device's CHGR LED are illuminated. The MX3-RFID and MX3P do not fit in any standard MX3 docking cradle. See "Accessories" for the MX3-RFID and MX3P passive vehicle docking cradle part number and description.

The LXE-approved AC Power Adapter is only intended for use in a 25ºC (77ºF) maximum ambient temperature environment.

Storage Cradles

Note: The "MX3 Cradle Reference Guide" contains cradle installation and technical information.

There are two types of cradles for the MX3X: a desktop cradle for table top charging/communication applications and a vehicle mount cradle for vehicle mounted charging/communication applications.

A passive vehicle cradle is available for the MX3-RFID and MX3P devices. See the following section "The MX3-RFID and Cradles".

The powered cradles give the MX3X the ability to communicate with a host computer and other equipment. In addition, using wall AC adapters or DC/DC converters, the cradle transfers power to the internal charging circuitry of the MX3X and, in turn, the operating system recharges the main battery.

The MX3X can be either on or in Suspend mode while in the cradle. The MX3X can be inserted and removed from the cradle with one hand.

Cables are available from LXE for connecting the cradle to a printer, a personal computer or a barcode printer. Tethered scanners (for RS-232 cradle connection) are also available from LXE.

Status LED

An LED indicator on the front of the standard MX3 cradle shows the status of the cradle. When the indicator is not illuminated, there is no power applied to the cradle.

Cradle Power	**Amber**	External power applied to the cradle.
Docked	**Green**	Power applied to the cradle and charging connection made with the MX3X.
IR Active	**Red**	IR communication is active.

Desktop Cradle for MX3X

Note: LXE recommends the correct Desktop Cradle always be used to store / charge / communicate with the MX3X. The MX3X Desktop Cradle label is located on the bottom of the device. The MX3X Desktop cradle Product Number is ***MX3RA002DESKCRADLE****.*

Lower the mobile device straight into the cradle, tilt it forward and then let it rest backward in the cradle. Ensure that the mobile device is properly seated on the charging contacts. The CHGR LED will illuminate green when the MX3X is correctly seated in the cradle. The CHGR LED will illuminate red when the MX3X main battery is being charged (in a cradle connected to an external power source). To remove the MX3X, tilt the MX3X forward and lift it straight up out of the cradle.

Note: Do not "slam" or slide the mobile device sideways into the cradle. Damage may result.*The MX3-RFID and MX3P devices do not fit in the MX3 desktop cradle.*

Connectors

The Power connector is located on the back of the cradle in the top left hand corner. The cradle can be powered, if required, by an LXE US AC Adapter or an LXE International AC Adapter. When powered, the cradle transfers power to the internal charging circuitry of the MX3X allowing it to recharge the main battery. A powered cradle supports RS-232 and IR communications.

The RS-232 connector is located in the back center of the cradle. When the MX3X is properly docked, the bi-directional half-duplex transceivers in the MX3X and cradle are aligned through their IR windows. The half-duplex IR signals from the MX3X are converted to RS-232 signals in the cradle and available at this connector.

Vehicle Mount Cradle for MX3X

This cradle is specifically designed for vehicle mount applications. The cradle restrains the mobile device and isolates the computer from shock and vibration. The MX3X is inserted into the cradle by placing the base of the unit in the pocket and then firmly pressing the unit backwards until the release mechanisms latch and hold the unit in the cradle. The MX3X is removed from the cradle by pressing the release mechanisms and pulling the MX3X up and away from the cradle.

Connectors

The Power connector is located on the back of the cradle below and to the left of the RS-232 port. The cradle is powered by either a vehicle's 12V battery or from an approved accessory for vehicles with higher voltage (24 to 60 VDC) batteries. When powered, the cradle transfers external power to the MX3X, which in turn, recharges the main battery. A powered cradle allows RS-232 and IR communication.

The RS-232 connector is located on the back of the cradle below and to the right of the power connector. When the MX3X is properly docked, the bi-directional half-duplex transceivers in the MX3X and cradle are aligned through their IR windows. The half-duplex IR signals from the MX3X are converted to RS-232 signals in the cradle and available at this connector.

Note: ActiveSync will transfer files over the RS-232 connector on the vehicle cradle.

ActiveSync with a Cradle

To ActiveSync, the cradle must be powered off, the ActiveSync cradle cable attached to the desktop PC and the cradle, then the cradle powered up.

Note: ActiveSync transfers files to the MX3X over the RS-232 connector on the cradle using the MX3X070CBLD9RS232AS cable.

Note: The MX3-RFID and the MX3P use a passive, non-powered cradle (refer to "The Passive Vehicle Cradle"). ActiveSync connects through powered cradles or through the RS-232 ports on the mobile device endcap.

Figure 41 ActiveSync Cable Connected to Serial port on Cradle

Tethered Scanner and a Cradle

To use a tethered scanner connected to the RS-232 port on the cradle, the cradle must be powered off, the cable removed and the cradle powered up. Then, the tethered scanner can be attached to the cradle's serial port. The passive vehicle cradle does not have a serial port.

The Passive Vehicle Cradle

The MX3-RFID and the MX3P with an RFID enclosure cannot fit in standard MX3 charging cradles. There is a passive vehicle cradle available (as well as a RAM bracket installation kit) for the MX3-RFID and MX3P devices that secures the mobile device to the cradle only. See "Accessories".

Mobile device main battery charging and RF communication is not available in the passive vehicle cradle unless the mobile device is receiving external power through the power jack in the endcap.

The passive vehicle cradle does not have LEDs or indicators. The passive vehicle cradle does not require an external power source.

The mobile device in the passive cradle requires a power source, either from the main battery or from power applied via the power jack on the endcap.

Appendix A Key Maps

Keypad

*Throughout this guide, an MX3X **without** RFID capability is labeled "MX3X". The MX3X **with** an RFID Module is labeled "MX3-RFID". The MX3X with an RFID enclosure but without RFID capability is labeled "MX3X". Information specific to one over another is marked appropriately. No distinction is made to information that is the same for all mobile devices. **Keypads functions are the same for the MX3X, MX3P and MX3-RFID devices.***

Note: The key mapping in this appendix relates to the physical keypad. See section titled "Input Panel" for the Virtual (or Soft) Keypad used with the stylus.

Key Map 101-Key Equivalencies

Note: This key mapping is used on mobile devices that are NOT running an LXE Terminal Emulator.

When using a sequence of keys that includes the 2nd key, press the 2nd key first then the rest of the key sequence.

Note: When the computer boots, the default condition of NumLock is On and the default condition of Caps (or CapsLock) is Off. The Caps (or CapsLock) condition can be toggled with a 2nd+F1 key sequence. The CAPS LED is illuminated when CapsLock is On.

To get this key	Press These Keys and Then					Press this key
	2nd	Shift	Ctrl	Alt	CapsLock	
Contrast	x					F6
Volume	x					F8
Backlight	x					F10
2nd						2nd
Shift						Shft
Alt						Alt
Ctrl						Ctrl
Esc						Esc
Space						Spc
Enter						Enter
Scan [3]						Scan
CapsLock (Toggle)	x					F1
Back Space						BkSp
Tab						Tab

[3] Left Scan key default value is Scan. Right Scan key default value is Enter. When an RFID Module is installed, Right Scan key defaults to RFID Read and Left Scan key defaults to Scan or Enter or Field Exit (Field Exit - 5250 only).

To get this key	Press These Keys and Then					Press this key
	2nd	Shift	Ctrl	Alt	CapsLock	
BackTab	x					Tab
Break	x					F2
Pause	x	x				F3
Up Arrow						Up Arrow
Down Arrow						Down Arrow
Right Arrow						Right Arrow
Left Arrow						Left Arrow
Insert	x					BkSp
Delete	x					DOT
Home	x					Left Arrow
End	x					Right Arrow
Page Up	x					Up Arrow
Page Down	x					Down Arrow
ScrollLock	x	x				F4
F1						F1
F2						F2
F3						F3
F4						F4
F5						F5
F6						F6
F7						F7
F8						F8
F9						F9
F10						F10
F11	x	x				F1
F12	x	x				F2
a					Off	A
b					Off	B
c					Off	C
d					Off	D
e					Off	E
f					Off	F
g					Off	G
h					Off	H
i					Off	I

To get this key	Press These Keys and Then					Press this key
	2nd	Shift	Ctrl	Alt	CapsLock	
j					Off	J
k					Off	K
l					Off	L
m					Off	M
n					Off	N
o					Off	O
p					Off	P
q					Off	Q
r					Off	R
s					Off	S
t					Off	T
u					Off	U
v					Off	V
w					Off	W
x					Off	X
y					Off	Y
z					Off	Z
A		x				A
B		x				B
C		x				C
D		x				D
E		x				E
F		x				F
G		x				G
H		x				H
I		x				I
J		x				J
K		x				K
L		x				L
M		x				M
N		x				N
O		x				O
P		x				P
Q		x				Q
R		x				R

To get this key	Press These Keys and Then					Press this key
	2nd	Shift	Ctrl	Alt	CapsLock	
S		x				S
T		x				T
U		x				U
V		x				V
W		x				W
X		x				X
Y		x				Y
Z		x				Z
1						1
2						2
3						3
4						4
5						5
6						6
7						7
8						8
9						9
0						0
DOT						DOT
<	x					0
[	x					1
]	x					2
>	x					3
=	x					4
{	x					5
}	x					6
/	x					7
-	x					8
+	x					9
*	x					I
: (colon)	x					D
; (semicolon)	x					F
?	x					L
`	x					N
_ (underscore)	x					M

To get this key	Press These Keys and Then					Press this key
	2nd	Shift	Ctrl	Alt	CapsLock	
, (comma)	x					J
‘ (apostrophe)	x					H
~ (tilde)	x					B
\	x					S
|	x					A
“	x					G
!	x					Q
@	x					W
#	x					E
$	x					R
%	x					T
^	x					Y
&	x					U
(	x					O
)	x					P

Appendix B Regulatory Notices and Safety Information

FCC Information:

This device complies with FCC Rules, part 15. 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.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Warning: Changes or modifications to this device not expressly approved by LXE, Inc., could void the user's authority to operate this equipment.

EMC Directive Requirements:

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Industry Canada:

This Class A digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations. 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.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouiller du Canada. Le present appareil numérique n'emet pas de bruits radioélectriques dépassant les limites applicables aux appareils numeriques de le Classe A préscrites dans le Reglement sur le brouillage radioélectrique édits par le ministere des Communications du Canada.

This device contains transmitter Module FCC ID: KDZLXE4830P

RF Safety Notice (4830)

Caution

This portable device with its antenna complies with FCC's and Industry Canada's RF exposure limits set for an uncontrolled environment. This equipment has shown compliance with FCC and Industry Canada Specific Absorption Rate (SAR) limits. Highest reported SAR for the MX3X is 1.176W/kg on body. Any accessories not provided by LXE should not be used with this device. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

Notice:
The long term characteristics or the possible physiological effects of radio frequency electromagnetic fields have not been investigated by UL.

Li-Ion Battery
When disposing of the main battery, the following precautions should be observed: The battery should be disposed of promptly. The battery should not be disassembled or crushed. The battery should not be heated above 212°F (100°C) or incinerated.

Important: This symbol is placed on the product to remind users to dispose of Waste Electrical and Electronic Equipment (WEEE) appropriately, per Directive 2002-96-EC. In most areas, this product can be recycled, reclaimed and re-used when properly discarded. Do not discard labeled units with trash. For information about proper disposal, contact LXE through your local sales representative, or visit www lxe com.

R&TTE Directive Requirements (Applies only to equipment operated within the EU/EFTA)

Information to User
A label on the exterior of the device should resemble one of the labels shown below (the label contains the LXE part number of the installed radio card). The labels shown below and affixed to the device, identify where the device may be used and where its use is restricted. Use of a device is prohibited in countries not listed below or otherwise identified by the label. (May or may not include the 0560 Notifed Body No.)

Permitted for use in: Austria, Belgium, Denmark, Finland, Germany, Greece, Hungary, Iceland, Italy, Ireland, Liechtenstein, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom

Permitted for use in France.

Approvals

Product	EMI / EMC Standards	Safety Standards
MX3X **MX3X with RFID Module** **MX3X with RFID Enclosure**	FCC Part 15 Subpart B, Class A EN 55022:1998 Class A EN 55024:1998 Industry Canada Class A	UL 60950; CSA C22.2 No. 60950 CDRH: 21 CFR 1040.10 and 1040.11 EN 60950 IEC 60825-1 IEC 60950
	FCC Part 15.207 and 15.209, Class B ICES-0003 Class B AS/NZS 3548 Class B EN 301 489-1/17 CISPR22 and Class B	

Cradle Approvals:

Product	EMI / EMC Standards	Safety Standards
MX3 Table MX3 Vehicle Mount MX3-RFID / MX3P Passive Vehicle Cradle	FCC Part 15 Subpart B, Class A EN 55022:1998 Class A EN 55024:1998 Industry Canada Class A	UL 60950; CSA C22.2 No. 60950 EN 60950 IEC 60950

Transceiver:

Transceiver	RF Standards	Notes
6726 (LXE Model No.) [Cisco]	FCC Part 15, Subpart C FCC Part 2 EN 300 328 EN 300 826 IC-RSS 139 IC-RSS 102	Unlicensed Operation Unlicensed Operation Requires License for Outdoor Use
6816 (LXE Model No.) [Symbol] 2.4GHz Type II PCMCIA Card	FCC Part 15, Subpart C FCC Part 2 EN 300 328 EN 300 826 IC-RSS 139 IC-RSS 102	Unlicensed Operation Unlicensed Operation Requires License for Outdoor Use
4830 (LXE Model No.) [LXE CF/Summit] **2.4GHz PCMCIA Card**	FCC Part 15.247, Subpart C FCC Bulletin OET-65 EN 300 328 IC-RSS 210 IC-RSS 102	Unlicensed Operation Unlicensed Operation Requires License for Outdoor Use

LXE Transceiver LXE 6726 Declaration of Conformity

LXE
An EMS Technologies Company

DECLARATION OF CONFORMITY

according to Directives:

1999/5/EC	Radio Equipment and Telecommunications Terminal Equipment and the mutual recognition of their conformity
93/68/EEC	**CE Marking Directive**

Type of Equipment:	Direct Sequence 2.4 GHz Wireless LAN Card
Brand Name or Trademark:	LXE
Type Designation:	LXE 6726
Manufacturer:	LXE Inc.
Address:	125 Technology Parkway Norcross, GA 30092-2993 USA
Year of Manufacturer:	2001

The following harmonized European Standards, technical specifications, or other normative documents have been applied:

EMC:

EN 301 489-1: 07-2000	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
EN 301 489-17 07-2000	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Wideband data and HIPERLAN equipment

Radio:

EN 300 328-1 and -2: 2000-7	Radio Equipment and Systems (RES); Wideband transmission systems; Technical characteristics and test conditions for data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques

Safety:

EN 60950-2: 1992 + A1..A4	Safety of information technology equipment, including electrical business equipment

We, LXE Inc., declare that the equipment specified above complies with all Essential Health and Safety Requirements of the above Directives and Standards, as amended.

Place	LXE Inc., Norcross GA USA
Date of issue	24 June 2004

C. Binnom Jr.
RF Approvals Engineer

LXE Inc. 125 Technology Parkway Norcross, GA 30092-2993 USA
ph. 770/447-4224 fax 770/447-6928

Annex to DoC for LXE 6726

With regard to the use of external antennas

The LXE 6726 can be equipped with external antennas. The antennas listed have been evaluated with the LXE 6726 pursuant to ETSI EN 300 328, and therefore meet the definition of 'dedicated antenna' per ERC/REC 70-03 Appendix 1 Table 3; thus the requirement set forth in ERC/REC 70-03 , Annex 3 are met by the LXE model 6726 transceiver.

Dedicated Antennas for use with LXE 6726

LXE P/N	Antenna Gain	Radio Power Level	Antenna Description
153180-0001	0 dBi	17 dBm	Omni, for LXE VX-series computers
155522-0001	0 dBi	17 dBm	Omni, for LXE MX1-series computers
155814-0001	0 dBi	17 dBm	Patch, for LXE MX1-series computers
157368-0001	0 dBi	17 dBm	Patch, for LXE MX3-series computers
157399-0001	0 dBi	17 dBm	Omni, for LXE MX5-series computers
99004-0027	0 dBi	17 dBm	3 dB Omni, for LXE model 2325 computer
DAC2450CT1 (Toko P/N)	2.15 dBi	17 dBm	Omni, for LXE MX2-series computers
153179-0001	0 dBi	17 dBm	Omni, Access Point Antenna
153325-0001	0 dBi	17 dBm	Omni, Access Point Antenna
480424-0400	0 dBi	17 dBm	Omni, Access Point Antenna
153599-0001	3 dBi	17 dBm	Omni, Access Point Antenna
153600-0001	3 dBi	17 dBm	Omni, Access Point Antenna
480424-3404	3 dBi	17 dBm	Omni, Access Point Antenna
155846-0001	3 dBi	17 dBm	Spire® Access Point Antenna
155845-0001	6 dBi	13 dBm	Spire® Access Point Antenna
155311-0001	6 dBi	13 dBm	Patch, Access Point Antenna
480424-3411	6 dBi	13 dBm	Patch, Access Point Antenna
480424-3402	6 dBi	13 dBm	Patch, Access Point Antenna
481246-2400	6 dBi	13 dBm	Patch, Access Point Antenna
480424-1702	6 dBi	13 dBm	180° Directional, Access Point Antenna
480424-0411	9 dBi	7 dBm	Omni, Access Point Antenna
480429-2703	12 dBi	7 dBm	90° Directional, Access Point Antenna
480429-0411	12 dBi	7 dBm	Omni, Access Point Antenna
460601-3020	15 dBi	3 dBm	YAGI, Access Point Antenna
460602-3020	15 dBi	3 dBm	YAGI, Access Point Antenna
480429-0415	15 dBi	3 dBm	Omni, Access Point Antenna

C. Binnom Jr.
RF Approvals Engineer
24 June 2004

LXE Inc. 125 Technology Parkway Norcross, GA 30092-2993 USA
ph. 770/447-4224 fax 770/447-6928

LXE Transceiver LXE 6816 Declaration of Conformity

LXE
An EMS Technologies Company

DECLARATION OF CONFORMITY
according to:

the R&TTE Directive;	**99/5/EEC**
The EMC Directive;	**89/336/EEC**
The Low Voltage Directive;	**73/23/EEC**
and the Marking Directive;	**93/68/EEC**

Type of Equipment:	DSSS 2.4GHz WLAN Radio Card
Brand Name or Trademark:	LXE
Type Designation:	6816
Manufacturer:	LXE Inc.
Address:	125 Technology Parkway Norcross, GA 30092 USA

The following harmonized European Norms have been applied:

EMC Standards:	
EN 301 489-1: 07-2000	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
EN 301 489-17:07-2000	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Wideband data and HIPERLAN equipment
EN 55022: 1998	Limits and methods of measurement of radio disturbance characteristics of information technology equipment
Radio Standards:	
EN 300 328-1 and -2: 2000-7	Radio Equipment and Systems (RES); Wideband transmission systems; Technical characteristics and test conditions for data transmission equipment operating in the 2.4 GHz ISM band and using spread spectrum modulation techniques
Safety Standard:	
EN60950-1: 2001	Safety of information technology equipment, including electrical business equipment

The product carries the CE Mark:

CE

We, LXE Inc., declare that the equipment specified above complies with all Essential Health and Safety Requirements of the above Directives and Standards, as amended.

Date of issue: June 18, 2003

Cyril A. Binnom Jr.
Regulatory Engineer

LXE Inc. 125 Technology Parkway Norcross, GA 30092-2993 USA

ph. 770/447-4224 fax 770/447-6928

Annex to DoC for LXE 6816

With regard to the use of external antennas

The LXE 6816 can be equipped with external antennas. The antennas listed have been assessed with the LXE 6816 pursuant to EN 300 328, and therefore meet the definition of 'dedicated antenna'. The table below lists the maximum output power setting for the radio module in order to result in a total EIRP of 100mW or less. Any combination of output power and a specific type of antenna resulting in an EIRP greater than 100mW is illegal for use throughout the Community and is outside the scope of this DoC. Antennas not listed below are also outside the scope of this DoC.

Dedicated Antennas for use with LXE 6816

LXE Antenna Part Number	LXE Model Number	Antenna Gain	Max Radio Power Level	Antenna Description
153180-0001	N/A	2.2 dBi	17 dBm	Cushcraft Omni Antenna
155846-0001	6000A279ANT3SPIREL 6000A280ANT3SPIRER 6000A283ANT3INDSPR	3 dBi	17 dBm	Spire® Omni Antenna
155845-0001	6000A277ANT6SPIREL 6000A278ANT6SPIRER 6000A282ANT3INDSPR	6 dBi	13 dBm	Spire® Omni Antenna
480424-0411	N/A	9 dBi	11 dbm	Mobile Mark Omni Antenna
155104-0001	N/A	0 dbi	20 dbm	LXE Omni
154591-0001	N/A	0 dbi	20 dbm	LXE Patch
Toko DAC2450CT1	N/A	0 dbi	20 dbm	LXE Omni
157368-0001	N/A	0 dbi	20 dbm	LXE Omni
158586-0001	N/A	0 dbi	20 dbm	LXE Omni
158399-0001	N/A	0 dbi	20 dbm	LXE Omni

Cyril A. Binnom Jr.
Regulatory Engineer
18 June 2003

LXE Inc. 125 Technology Parkway Norcross, GA 30092-2993 USA
ph. 770/447-4224 fax 770/447-6928

LXE 802.11b/g WLAN Declaration of Conformity (4830)

LXE

DECLARATION OF CONFORMITY
according to Directives:

1999/5/EC	**Radio Equipment and Telecommunications Terminal Equipment and the mutual recognition of their conformity**
93/68/EEC	**CE Marking Directive**

Type of Equipment:	Direct Sequence 2.4 GHz Wireless LAN Card
Brand Name or Trademark:	LXE
Type Designation:	LXE 4830
Manufacturer:	LXE Inc.
Address:	125 Technology Parkway Norcross, GA 30092-2993 USA
Year of Manufacturer:	2006

The following harmonized European Standards, technical specifications, or other normative documents have been applied:

EMC:	
EN 301 489-1: 07-2000	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
EN 301-489-17 07-2000	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Wideband data and HIPERLAN equipment
Radio:	
EN 300 328-1 and -2: 2000-7	Radio Equipment and Systems (RES); Wideband transmission systems; Technical characteristics and test conditions for data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques
Safety:	
EN 60950-2: 1992 + A1..A4	Safety of information technology equipment, including electrical business equipment

We, LXE Inc., declare that the equipment specified above complies with all Essential Health and Safety Requirements of the above Directives and Standards, as amended.

Place: LXE Inc., Norcross GA USA

C. Binnom Jr.
RF Approvals Engineer

Date of issue: 14 July 2006

LXE Inc. 125 Technology Parkway Norcross, GA 30092-2993 USA
ph. 770/447-4224 fax 770/447-6928

Annex to DoC for LXE 4830
With regard to the use of external antennas

The LXE 4830 can be equipped with external antennas. The antennas listed have been evaluated with the LXE 4830 pursuant to EN 300 328, and therefore meet the definition of 'dedicated antenna' per ERC/REC 70-03 Appendix 1 Table 3; thus the requirement set forth in ERC/REC 70-03 , Annex 3 are met by the LXE model 4830 transceiver.

Dedicated Antennas for use with LXE 4830

LXE P/N	Antenna Gain	Radio Power Level	Antenna Description
153180-0001	2.2 dBi	15.8 dBm	Omni, for LXE VX-series computers
160952-0001	0 dBi	15.8 dBm	Omni, for LXE MX3-series computers
158399-0001	0 dBi	15.8 dBm	Omni, for LXE MX5-series computers
159900-0001	0 dBi	15.8 dBm	Omni, for LXE MX7-series computers
160019-0001	0 dBi	15.8 dBm	Omni, for LXE VX-series computers
160501-0001	0 dBi	15.8 dBm	Omni, for LXE HX1-series computers

C. Binnom Jr.
RF Approvals Engineer
14 July 2006

LXE Inc. 125 Technology Parkway Norcross, GA 30092-2993 USA
ph. 770/447-4224 fax 770/447-6928

A/C Power Supply Safety Statement – MX3X Output Rated 12 VDC, 1 A.

The LXE-approved AC Power Adapter is only intended for use in a 25ºC (77ºF) maximum ambient temperature environment.

Optional A/C Power Supply:

Outside North America, this unit is intended for use with an IEC certified ITE power supply with output rated as stated at the top of this page. (US)

Alimentation c.a. optionnelle:
Hors de l'Amérique du Nord, cette unité est conçue pour être utilisée avec une alimentation ITE certifiée CEI de sortie nominale indiquée au haut de cette page. (FR)

Valgfrit vekselstrømforsygning
Udenfor Nord Amerika er denne enhed udstattet med en IEC (international elektronisk Kommission) udfærdiget med en ITE strømforsygning med strømudgang som fastslået på denne sides begyndelse. (DK)

Vaihtoehtoinen vaihtovirran syöttölaite:
Pohjois-Amerikan ulkopuolella tämä laite on tarkoitettu käytettäväksi sellaisen IEC:n sertifioiman ITE-tehonsyöttölaitteen kanssa, jonka antoteho on tämän sivun yläosassa esitetyn mukainen. (FI)

Optionales Netzteil (Wechselstrom)
Außerhalb Nordamerikas sollte diese Einheit über ein der IEC-Norm entsprechendes ITE-Netzteil gespeist werden, und zwar mit einer wie oben auf dieser Seite genannten Ausspeisung. (DE)

Προαιρετική Τροφοδοσία Συνεχούς Ρεύματος
Εκτός Β. Αμερικής, η μονάδα αυτή προορίζεται για χρήση με ένα τροφοδοτικό ITE πιστοποιημένο κατά IEC με ονομαστική ισχύ όπως δηλώνεται στην αρχή της σελίδας. (GR)

Alimentazione opzionale a corrente alternata:
Al di fuori dei paesi dell'America del nord, l'unità deve essere impiegata con un dispositivo d'alimentazione per attrezzature informatiche approvato dalla IEC la cui potenza nominale sia pari a quella indicata all'inizio della pagina. (IT)

Vekselstrømforsyning (ekstrautstyr):
Utenfor Nord-Amerika skal dette produktet brukes med en IEC-sertifisert ITE-strømforsyning med klassifisert effekt som angitt øverst på denne siden. (NO)

Fornecimento opcional de CA:
Fora dos EUA, esta unidade destina-se a ser usada com dispositivos de fornecimento de corrente ITE com certificação IEC, com a capacidade indicada no topo desta página. (PT)

Suministro optativo de corriente alterna
Fuera de América del Norte, esta unidad se debe utilizar con un alimentador ITE homologado por la IEC (comisión electrotécnica internacional) con una salida que tenga la calificación que figura en la parte superior de esta página. (ES)

Valfri A/C Strömförsörjning
Utanför Nordamerika är det meningen att denna enheten används med en IEC-certifierad ITE-strömförsörjare med den uteffekt som anges längst uppe på den här sidan. (SE)

İsteğe Bağlı A/C Güç Kaynağı:
Kuzey Amerika dışında, bu ünite, çıkış sınıflandırması bu sayfanın başında belirtilen IEC sertifikalı bir ITE güç kaynağı ile birlikte kullanılmak üzere tasarlanmıştır. (TR)
Updated 10/01/2001

Legend: Danish – DK; English – US; Finnish – FI; French- - FR; German – DE; Greek – GR; Italian – IT; Norwegian – NO; Portuguese – PT; Spanish – ES; Swedish – SE; Turkish – TR.

Laser Light Safety Statement

Warning:

This product uses laser light. One of the following labels is provided on the scanner. Please read the Caution statement. (US)

Mise én garde:
Ce produit utilise un rayon laser. L'une des étiquettes suivantes est apposée sur le scanneur. Veuillez lire l'avertissement qu'elle contient. (FR)

Advertência:
Este produto usa luz de laser. O scanner contém um dos seguintes avisos. Favor ler o Aviso. (PT)

Varning:
Denna produkt använder laserljus. En av de nedanstående etiketterna sitter på scannern. Var god läs varningstexten. (SE)

Advarsel:
Dette produkt anvender laserlys. En af følgende mærkater anvendes på scanneren. Læs venligst sikkerhedsforanstaltningen. (DK)

Varoitus:
Tämä tuote käyttää laservaloa. Skannerissa on jokin seuraavista tarroista. Lue Huomio-kohta. (FI)

Warnung:
Dieses Produkt verwendet Laserlicht. Eines der folgenden Etiketten befindet sich auf dem Scanner. Bitte lesen Sie den Gefahrenhinweis. (DE)

Attenzione:
Questo prodotto utilizza luce laser. Una delle etichette seguenti c' ubicata sullo scanner. Si raccomanda di leggere con attenzione le avvertenze riportate. (IT)

Advarsel:
Dette utstyret bruker laserlys. En av følgende etiketter er plassert på scanneren. Les advarselen på etiketten. (NO)

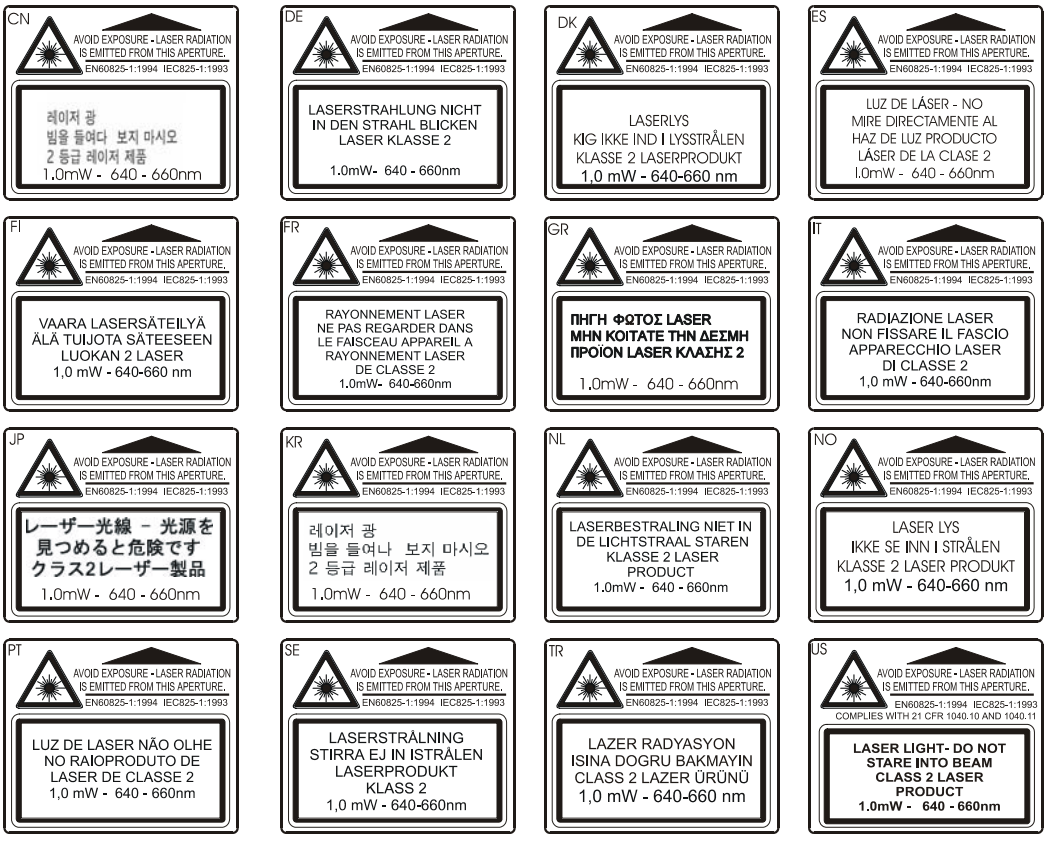
Advertencia:
Este producto usa luz de láser. Las etiquetas se proveen en la máquina exploradora. Por favor, lea detenidamente la explicación para las precauciones. (ES)

Waarschuwing:
Dit product gebruikt laserlicht. Een van de volgende labels is op de scanner aangebracht. Lees a.u.b. de waarschuwing onder Oppassen. (NL)

Laser Light Safety Statement

Uyarý: Bu ürün lazer ýþýðý kullanýr. Aþaðýdaki etiketlerden bir tanesi tarayýcýnýn üstünde saðlanýr. Lütfen Dikkat ifadesini okuyun. (TR)	**Προειδοποίηση:** Αυτό το προϊόν χρησιμοποιεί λέιζερ φως. Υπάρχει μία από τις ακόλουθες ετικέτες στο σαρωτή. Παρακαλούμε διαβάστε τη δήλωση με τίτλο Προσοχή. (GR)
경고: 본 제품은 레이저 광선을 사용합니다. 다음 라벨 중 하나가 스캐너에 제공됩니다. 주의 사항을 읽어 주십시오. (KR)	警告: この製品はレーザー光線を使用します。 次のラベルのうち１つがスキャナーに貼られています。 注意事項をお読みください。(JP)
警告: 本产品使用激光。 下列一个标签将随扫描仪一道提供。 请阅读“当心”一栏的内容。(CN)	**Legend:** Chinese-CN; Danish-DK; Dutch-NL; English-US; Finnish-FI; French-FR; German-DE; Greek-GR; Italian-IT; Japanese-JP; Korean-KR; Norwegian-NO; Portuguese-PT; Spanish-ES; Swedish-SE; Turkish-TR

Labels - MX3X Hand Held Computer



Revision History

Revision E, October 2005

- Notices -- Added Waste Electrical and Electronic Equipment (WEEE) statement to Notices. Added WEEE statement to Appendix B.
- Introduction -- Added Scanner Clip Strap (85XX scanners only) to “Accessories.”

Revision D, April 2005

- Cover Page -- Updated LXE logo. Added “Microsoft Windows CE .NET Equipped” on cover page to separate this device from similar MX3 mobile devices.
- Appendix B, Regulatory Notices and Safety Information -- Added Hungary to “Permitted for use in” radio approval in “R&TTE Directive Requirements”.

Revision C, December 2004

- Entire Guide -- Added user information/instruction for the MX3-RFID mobile device.
- Introduction -- Corrected part numbers for MX3-RFID accessories.
- MX3X Hand Held Computer -- Removed “Power Modes” explanation.

Revision B, August 2004

- Introduction -- Added screen display figures for setting the Backlight Timer, Power Schemes Timer, and Audio Speaker Volume. Corrected Accessories section “Cables for Cradle and MX3X Serial Ports”. Added 8500 series tethered scanners to “Accessories”.
- MX3X Hand Held Computer -- Added cautions for cables with and without USB plugs / receptacles and the endcap serial ports. Added ActiveSync cable part number to section “Cradles”.
- Appendix B, Regulatory Notices and Safety Information -- Updated Cisco 6726 Declaration of Compliance.

Revision A, Initial Release, June 2004

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