# **MX5 CE .NET User's Guide**

(For Microsoft® Windows® CE .NET Equipped MX5's)

FOR FCC REVIEW – DO NOT PUBLISH OR DISTRIBUTE – LXE CONFIDENTIAL – DRAFT 06 –





Copyright © August 2006 by LXE Inc. All Rights Reserved E-EQ-MX5CEOGWW-C





# Language: English Notices

LXE Inc. reserves the right to make improvements or changes in the products described in this manual at any time without notice. While reasonable efforts have been made in the preparation of this document to assure its accuracy, LXE assumes no liability resulting from any errors or omissions in this document, or from the use of the information contained herein. Further, LXE Incorporated, reserves the right to revise this publication and to make changes to it from time to time without any obligation to notify any person or organization of such revision or changes.

#### Copyright:

This manual is copyrighted. All rights are reserved. This document may not, in whole or in part, be copied, photocopied, reproduced, translated or reduced to any electronic medium or machine-readable form without prior consent, in writing, from LXE Inc.

Copyright © 2006 by LXE Inc. An EMS Technologies Company. 125 Technology Parkway, Norcross, GA 30092 U.S.A. (770) 447-4224

#### **Trademarks:**

LXE® and Spire® are registered trademarks of LXE Inc. Microsoft®, ActiveSync®, MSN, Outlook®, Windows®, the Windows logo, and Windows Media are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. RAM® and RAM Mount™ are both trademarks of National Products Inc., 1205 S. Orr Street, Seattle, WA 98108. All other brand or product names are trademarks or registered trademarks of their respective companies or organizations. When this manual is in PDF format: "Acrobat® Reader® Copyright © 2006 Adobe Systems Incorporated. All rights reserved. Adobe®, the Adobe logo, Acrobat®, and the Acrobat logo are registered trademarks of Adobe Systems Incorporated." applies.

Note: The original equipment's User Manuals are copyrighted by Itronix® Corporation. This manual has been amended by LXE® Inc., for the MX5 and MX5 Desktop Cradle with Itronix's express permission.

#### **Li-Ion Battery:**

When disposing of the MX5 main battery, the following precautions should be observed:

The battery should be disposed of properly. The battery should not be disassembled or crushed. The battery should not be heated above 212°F (100°C) or incinerated.



Inspect enclosure for signs of deterioration such as cracking, warping, swelling or softening. Do not use the MX5 Intrinsically Safe mobile device in Hazardous (Classified) Locations if there are any signs of deterioration.



**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.

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.

#### **Revision Notice**

Introduction	Quick Start: Updated "Troubleshooting". Added Multi AppLock activation key instruction "Entering the Multi AppLock Activation Key".	
Getting Help	Manuals: Noted obsolescence of MX5 PPC device.	
	Updated Accessories listed. Included ROHS information. Added separate accessory sections for MX5 CE .NET standard and MX5 CE .NET I-SAFE mobile device. Added "Revision History".	
Appendix B	Added Regulatory and Safety information for the LXE Summit Radio. Updated FCC statement to 2006 requirements.	
Graphics Only	Corrected Microsoft logo on front page. Edited figures to show equipment with new LXE logo.	

# **Table of Contents**

ΝI	RODUCTION	1
	Overview	1
	dentify Your Device	
	Document Conventions	
	MX5 Environmental Specifications	
	Laser Warnings and Labels	
	Quick Start	
	Troubleshooting	
	Components	
	Important Battery Information	
	Insert Main Battery	
	Power Key	
	Reboot Sequence	
	Warm Reset	
	Cold Reset	
	Connect External Power Supply  Entering the Multi AppLock Activation Key	
	Hotkey	
	Touch	
	Connect Audio Jack (Optional).	
	Install Pistol Grip Handle (Optional)	
	Install Handstrap (Optional)	
	Check Battery Status	
	Tapping the Touchscreen with a Stylus	
	Keypad Shortcuts.	
	Toggle the Display and Keypad Backlight On and Off	
	Increase or Decrease Backlight Intensity	
	Set the Display and Keypad Backlight Timers	
	Saving Settings.	
	Set the MX5 Power Schemes Timers	19
	Set The Audio / Speaker Volume	20
	Using the Keypad	20
	Using the Touchscreen	
	Troubleshooting	
	Enter Data	
	Keypad Entry	
	Stylus Data Entry	
	Scanner Entry	
	Input Panel - Virtual Keyboard	
	RS-232 Data Entry	
	Data Entry and Tethered Scanners	
		25
	Manuals	
	Revision History	25

Table of Contents

Accessories	
MX5 CE .NET Standard	26
MX5 CE .NET ISAFE Device	27
MX5 HAND HELD COMPUTER	29
Touchscreen	29
Display and Keypad Backlight Timer	29
Touchscreen Calibration	
Cleaning the Glass Display/Scanner Aperture	30
Programmable Buttons	
COM Ports	32
Tethered Scanners and the MX5	32
USB Port	
IR Port	33
The Keypad	34
Scan Key Function	
Enter Key Function	
2nd Key Function	35
Ctrl Key Function	35
Alt Key Function	35
Shft Key Function	35
Spc Key Function	36
Field Exit Function	36
Mode Key Functions	36
Caps Key and CapsLock Mode	36
Keypress Sequences	
Accessing Files on the CompactFlash Card	36
External Power Supply for MX5 and Cradles	37
Batteries	37
About Lithium-Ion Batteries	37
Main Battery	38
Backup Battery	38
Battery Hot-Swapping	38
Checking Battery Status	
Battery Status LEDs	39
Battery Chargers	40
Charge Battery in LXE Multi-Charger	40
LXE Multi-Charger (Optional)	40
Cradles	
Tethered Barcode Scanner Data Entry Using the MX5 Cradle	41
APPENDIX A KEY MAPS	43
Keypad	
Key Map 101-Key Equivalencies	
3270 Keypad	
5250 Keypad	

Table of Contents iii

APPENDIX B REGULATORY NOTICES AND SAFETY INFORMATION	51
MX5 CE .NET Approvals/Standards	
INDEX	64
Illustrations	
Figure 1 CDRH / IEC 825 Caution Label Location – Back	4
Figure 2 Caution Label - Scanner	4
Figure 3 MX5 CE .NET Desktop	
Figure 4 Front of MX5 CE .NET Device	
Figure 5 Scan Aperture and Audio Jack	7
Figure 6 Ports	7
Figure 7 Back w/Optional Handle or Hand Strap	
Figure 8 Handle (Optional)	9
Figure 9 Main Battery Pack and Battery Charging LED	10
Figure 10 Power Key Location	
Figure 11 AC/DC 12V External Power Supply	12
Figure 12 Connect Audio Jack	
Figure 13 Trigger Handle Attach Points	
Figure 14 MX5 With Handstrap Installed	
Figure 15 Upper Strap Bracket	
Figure 16 Strap Inserted in Upper Bracket	
Figure 17 Display Properties / Backlight Tab	
Figure 18 Power Schemes	
Figure 19 Audio Properties and Speaker Location	
Figure 20 Scan Beam	
Figure 21 Scanner LED Location	
Figure 22 Input Panel / Virtual Keyboard	
Figure 23 Touchscreen	29
Figure 24 Stylus Properties / Calibration Start / Calibration Begin	
Figure 25 Programmable Buttons	
Figure 26 COM Ports	
Figure 27 IR Port on MX5	
Figure 28 The ANSI / Batch Regular Keypad	34

 Figure 29 AC/DC 12V Power Supply
 37

 Figure 30 Main Battery
 38

 Figure 31 Insert Main Battery in Charging Cup
 40

 Figure 32 MX5 Multi-Charger
 40

 Figure 33 ANSI / Batch Keypad
 43

 Figure 34 3270 Keypad
 49

 Figure 35 5250 Keypad
 50

iv Table of Contents

## Introduction

## **Overview**

Note: At the front bottom of the MX5 is a label indicating the operating system resident on the mobile device. This user guide is directed toward MX5's with Windows CE .NET on the label

The LXE MX5 is a rugged, portable, hand-held computer that uses the Microsoft® Windows® CE .NET 4.2 operating system. The MX5 can transmit information using a 2.4GHz radio (with dual internal antennas) and it can store information for later transmission using an RS-232 serial port, Ethernet, RF, IRDA or a USB port.

The MX5 is vertically oriented and features backlighting for the display and the keypad. The touch-screen display supports graphic features and icons that the CE .NET operating system supports. A stylus is attached to the MX5 to assist in entering data and configuring the unit.

Important: Until the main battery and backup battery are completely depleted, the MX5 is always drawing power from the batteries (On). The MX5 is to be used with a power supply LXE P/N MX5A305PSACUS.



The MX5 is powered by a 2800 mAh Lithium-Ion main battery pack and an internal backup battery.

See Also: Identify Your Device

#### **Important**

If the mobile device has AppLock installed, please refer to "MX5 CE .NET Reference Guide", "Chapter 4 – AppLock" for setup and processing information before continuing.

2 Identify Your Device

# **Identify Your Device**

At the front bottom of the MX5 is a label indicating the operating system resident on the mobile device. This document is one in a series covering the MX5 family of computers:



#### Label - Windows CE .NET

For MX5 computers equipped with Microsoft Windows CE .NET operating System:

MX5 CE .NET User's Guide

MX5 CE .NET Reference Guide

LXEbook -- MX5 CE .NET User's Guide (can be downloaded to the MX5 CE .NET device from the LXE Manuals CD.)

#### Label – I-SAFE

 For MX5 Intrinsically Safe (MX5-IS) computers equipped with Microsoft Windows CE .NET operating System:

MX5 Intrinsically Safe User's Guide
MX5 CE .NET Reference Guide
LXEbook -- MX5 I-Safe User's Guide (can be downloaded to the MX5-IS device from the LXE Manuals CD.)

**The MX5 Intrinsically Safe Hazardous Location unit** (MX5-IS) is distinguished from the standard MX5 by the blue keypad overlay and the safety approval labeling on the back of the MX5-IS. Please refer to the "MX5 Intrinsically Safe User's Guide" for cautions, warnings, explanation and instruction when using the MX5-IS device.

Warning: Standard MX5 units, MX5 powered cradles, tethered scanners, multichargers, USB devices, headsets and external power supplies are not approved for Hazardous Location use.



#### Label - Pocket PC

 For MX5 computers equipped with Microsoft Windows Pocket PC 2000/2002 operating Systems (obsolete December 2005):

MX5 PPC User's Guide MX5 PPC Reference Guide LXEbook -- MX5 PPC User's Guide (can be downloaded to the MX5 Pocket PC device from the LXE Manuals CD.)

The following guides are interchangeable for MX5 computers (except where noted in the guides):

- MX5 Cradle Reference Guide
- MX5 Multi-charger Reference Guide
- MX5 Belt Battery System (LXE suggests using this accessory specifically with a Low Temperature MX5)

Do not use the MX5 Belt Battery System with an MX5-IS in a hazardous location.

Document Conventions 3

# **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 manual 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> ).</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 promeans to refer to the manual or operator's guide.		
International fuse replacement symbol. When marked on the product, the label includes fuse rat 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.	

# **MX5 Environmental Specifications**

Feature	Specification	
Operating Temperature	-6°F to 140°F (-21°C to 60°C) [non-condensing]	
Extended Op Temperature	-22°F to 122°F (-30°C to 50°C) [non-condensing] w/Heater option <sup>1</sup>	
Storage Temperature	-60°F to 160°F (-51°C to 71°C) [non-condensing]	
Rating	IEC IP67	
Operating Humidity	5% to 90% non-condensing at 104°F (40°C)	
Vibration	Based on MIL Std 810F	

 $<sup>^1</sup>$  If the MX5 has a dead main battery and is as cold as the extended operating temperature's lowest value, the unit must be warmed to above  $-20^{\circ}$ C (-4°F) before installing a new main battery pack and pressing the On button.

# **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 MX5.
- Do not connect the laser barcode window to any other device. The laser barcode window is certified for use with the MX5 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.





Class 2 Label

Figure 1 CDRH / IEC 825 Caution Label Location – Back

Figure 2 Caution Label - Scanner

#### **Quick Start**

This section's instructions are based on the assumption that your new mobile device is preconfigured and requires only accessory installation (e.g. hand strap) and a power source. This guide takes you through an introduction to and operation of the LXE MX5.

Whenever possible, use the AC power adapter with the MX5 to conserve the main battery and charge the backup battery.

In general, the sequence of events is:

- 1. Insert a fully charged battery. (Always put a fully charged battery in the MX5 at the beginning of the shift or workday.)
- 2. Connect an external power source to the unit (if required).
- 3. If the screen does not automatically display, tap the Power key.
- 4. Calibrate the touchscreen.
- 5. After all files are loaded and the Desktop is displayed, adjust audio volume and other parameters if desired.

If needed, change the MX5 Time and Date from it's default value by tapping the \* | Settings | Control Panel | Date/Time icon.



Figure 3 MX5 CE .NET Desktop

## **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 user access to the control panels. Contact your system administrator for assistance.	
RFTerm opens and runs upon each cold reset and warm reset.	Tap File   Exit to close the RFTerm application.	
Touch screen won't accept stylus taps.	Touchscreen may have been disabled or the touchscreen may require recalibration. Hold down the Power key and the Orange key for 4+ seconds to warmboot the device.	

## **Components**



Figure 4 Front of MX5 CE .NET Device

1	Scanner Housing	4	Keypad
2	Microphone	5	Power Key
3	Touchscreen	6	Speaker



To set up the MX5 integrated scanner **barcode reading parameters**, please refer to the "**Integrated Scanner Programming Guide**" on the LXE Manuals CD or the LXE website www.lxe.com. Your device may have a SE1223, SE1224 or SE2223 scan engine.



Figure 5 Scan Aperture and Audio Jack

1 Scan Aperture

2 Audio Jack



Figure 6 Ports

- 1 COM 1 -- RS-232, USB, Ethernet and AC Power Connection
- 2 COM 3 -- IR Port

COM 4 -- RS-232 and AC Power Connection



Figure 7 Back w/Optional Handle or Hand Strap

- 1 Scanner 4 Trigger
- 2 Stylus and Stylus Pocket 5 Battery Fastener
  - Trigger Handle 6 Main Battery

3



Figure 8 Handle (Optional)

1 Scan Aperture

3 Handle

2 Trigger

# **Important Battery Information**

Note: This mobile device's backup battery maintains it's charge by drawing power from the main battery pack. Always store unused devices with a fully charged main battery pack installed. LXE recommends an in-use mobile device be frequently connected to an external power source to maintain optimum power levels in the main battery pack and the backup battery. When the backup battery and main battery pack are dead, the mobile device reverts to the last saved setup defaults when a fully charged main battery pack is installed and the device is powered On again.

- Until the main battery and backup battery are completely depleted, the MX5 is always drawing power from the batteries (On).
- New batteries must be fully charged prior to use.
- Whenever possible, use the AC power adapter with the MX5 to conserve the main battery and recharge the backup battery.
- When a new battery is installed in the MX5 for the first time (or when the Backup battery is completely depleted), the Time and Date reverts to it's default values.

## **Insert Main Battery**

The Battery Compartment is located at the bottom of the back of the computer. The fasteners in the main battery Pack are connected to the Battery Pack. Press the Power key after the battery is inserted into the MX5 <sup>2</sup>.

Note: On first use the battery pack should be charged with an external power source (i.e. AC Adapter) – 3 hours for the main battery and 7 hours for the backup battery. New main battery packs alone must be charged prior to first use -- this process takes up to four hours in an LXE Multi-Charger.

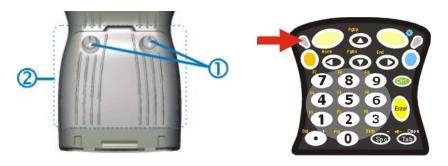


Figure 9 Main Battery Pack and Battery Charging LED

1 Battery Pack Fasteners

2 Battery Pack

Note: Using the battery removal tool (or a coin) twist each fastener to the left to loosen the battery pack. Twist the fastener to the right to tighten the battery pack.

Place the battery in the battery well, making sure the tabs on the bottom of the battery pack fit into the slots at the bottom end of the battery well. Push the battery down into the battery well while fastening the screws.

Fasten the screws tight enough to allow the rubber gasket to create a watertight seal. If the screws do not easily twist into the threaded opening, remove the battery pack and repeat the process.

When the main battery pack is charging, the Battery Charge LED flashes green. The backup battery is trickle-charged by the main battery. There is no backup battery charging indicator.

Whenever possible, use the AC power adapter with the MX5 to conserve the main battery and charge the backup battery.

 $<sup>^2</sup>$  If the MX5 has a dead main battery and is as cold as the extended operating temperature's lowest value, the unit must be warmed to above  $-20^{\circ}$ C (-4°F) before installing a new main battery pack and pressing the On button.

## **Power Key**

Note: Refer to the section titled "Power Modes" in the "MX5 CE .NET Reference Guide" for information relating to the power states of the MX5.

The Power key is located next to the <Z> key on the keypad. When a battery is inserted in the MX5 for the first time press the Power key.

Tapping the Power key places the MX5 immediately in Suspend mode. Tapping the Power key again, or connecting to AC power, immediately returns the MX5 from Suspend.



Figure 10 Power Key Location

## **Reboot Sequence**

When the Windows CE .NET desktop is displayed or an application begins, the power up (or reboot) sequence is complete. If you have previously saved your settings, they will be restored on reboot. Application changes are saved when OK is clicked on an application applet.

#### **Warm Reset**

Hold down the Power key and the Orange key for 4+ seconds until the display blanks, then release the keys. A warm reset does not affect the operating system and no data loss occurs.

#### **Cold Reset**

Hold down the Power key, the Blue key and the Orange keys for 4+ seconds. The MX5 will power off, release the keys and the device will power on again.

Calibrating the touchscreen will need to be performed when the MX5 powers on again.

If needed, change the MX5 Time and Date from it's default values by tapping the **Settings** | **Control Panel** | **Date/Time** icon.

Important:-- Because of the extreme nature of the Cold Reset, LXE recommends that the Cold Reset be used only as an emergency procedure and the Warm Reset be used whenever necessary.

LXE recommends the RegSave file be run when configuration changes are made.

Note: When performing a Cold Reset on this device, the system will ask if you want to overwrite files –LXE recommends selecting "No" and continuing with the Cold Reset process.

## **Connect External Power Supply**

Note: LXE highly recommends using the MX5 connected to AC power whenever possible.

The MX5 receives AC/DC power from the US AC/DC 12V Power Supply or the MX5 Cradle.

The MX5 accepts the power cable in either COM 1 or COM 4 port. The MX5 cradle accepts the power cable in the port marked "Power" at the back of the cradle.

The A/C power cable is not included with the Power Supply, please contact your LXE representative for replacement power cables. When the power cable is connected to a wall outlet and the Power Supply, the ON indicator on the Power Supply illuminates green.



Figure 11 AC/DC 12V External Power Supply

- 1. Squeeze the sides of the power connector and push the power cable connector into the MX5 COM port until a click is heard. The click means the connector is seated firmly.
- 2. The MX5 CHGR LED above the keypad illuminates when the device is receiving external power through the COM port. The Battery Pack recharges when the MX5 is connected to an external power source.

Note: When the MX5 is receiving power through a cradle connected to external power, the MX5's CHGR LED is illuminated.

# **Entering the Multi AppLock Activation Key**

#### **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.

#### **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.

# **Connect Audio Jack (Optional)**

The MX5 audio jack is located on the top of the unit next to the scan aperture.

The internal speaker is disabled when the audio jack is connected.



Figure 12 Connect Audio Jack

Insert the barrel end of the connector into the MX5 audio jack and push in firmly.

*Note:* The audio option draws power from the Battery Pack.

## **Install Pistol Grip Handle (Optional)**

The MX5 can be purchased with a customer-installable pistol grip handle. The handle enables the user of the MX5 to hold the device while pointing and activating the scanner with one hand. Pressing the trigger activates the laser scanner and functions the same as the Scan key on the keypad. With the handle installed the Scan key on the keypad remains active. The trigger duplicates the function of the Scan key.

The handle is built of a durable and flexible plastic that will not detach from the MX5 if the unit is dropped.

The trigger handle is a mechanical device. Battery or external A/C power is not required for operation of the trigger handle. The trigger handle does not need to be removed when replacing the Battery Pack.

Either the trigger handle is attached to the MX5 or the handstrap is attached, not both.

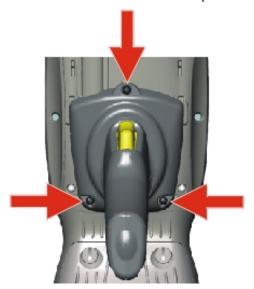


Figure 13 Trigger Handle Attach Points

#### **Handle Installation**

- 1. Place the MX5, with the screen facing down, on a flat stable surface.
- 2. Slip the L-shaped plastic hooks, at the top of the handle, into the slots on each side of the back of the MX5 and slide the handle downward until the screw holes are visible.
- 3. Attach the pistol grip handle to the MX5 (as shown above) with the set of three screws and washers provided.
- 4. Test the handle's connection making sure the MX5 is securely connected to the handle.

Periodically check the pistol grip handle for wear and the connection for tightness. If the handle gets worn or damaged, it must be replaced. If the pistol grip connection loosens, it must be tightened before the MX5 is placed in service.

## **Install Handstrap (Optional)**

Note: Either the trigger handle is attached to the MX5 or the handstrap is attached, not both. LXE recommends that, in the absence of a trigger handle, the handstrap be used at all times.

An elastic hand strap is available for the MX5. Once installed, the hand strap provides a means for the user to secure the computer to their hand. It is adjustable to fit practically any size hand with or without workgloves and is easily moved aside to allow installation or removal of the main battery pack.

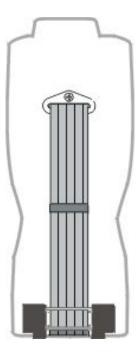


Figure 14 MX5 With Handstrap Installed

## Installation

- 1. If a handle is installed, remove it at this time. See section "Install Pistol Grip Handle."
- 2. Slip the strap through the upper bracket prior to securing the upper bracket to the unit.



Figure 15 Upper Strap Bracket

3. When slipping the strap through the bracket make sure the closed loop fastener surface is up.

4. After slipping the strap through the bracket, fold the strap over so that the two closed loop fastener surfaces mate evenly.



Figure 16 Strap Inserted in Upper Bracket

- 5. Prior to securing the upper bracket to the unit, slide the bottom assembly into the slots at the bottom of the MX5. Insure that both ends of the bottom assembly are securely installed.
- 6. After securing the bottom of the strap to the MX5, loosen the closed loop fastener strap and then secure the upper bracket to the unit with a screw.

#### Removal

- 1. Separate the closed loop fastener tabs and loosen the strap through the upper bracket.
- 2. Using a Phillips screwdriver, remove the upper bracket screw.
- 3. Pull the bottom assembly from the slots in the bottom back of the MX5.

Slide the bottom bracket out and away from the MX5 when replacing the Battery Pack.

Periodically check the handstrap for wear and the connection for tightness. If the handstrap gets worn or damaged, it must be replaced. If the handstrap connection loosens, it must be tightened before the MX5 is placed in service.

# **Check Battery Status**

Tap the F | Settings | Control Panel | Power icon. Main battery level, status and other details are displayed.

Backup battery status is not displayed as the backup battery is continually charging and discharging. It is charging when the main battery pack is installed and discharging whenever the main battery pack is removed. The backup battery is re-charged using AC power only; it does not use main battery power to re-charge.

## Tapping the Touchscreen with a Stylus

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

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 on the back of the MX5 when the stylus is not in use.

In the same manner as using a mouse to left-click icons on a desktop/laptop computer screen, using the stylus to tap icons on the MX5 display 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.
- A mouse right-click is performed by holding the stylus down on the touch screen. A circle of dots appear and then the right-click operation can be performed. See Note.

Note: A "right mouse click" function must be programmed by the customer to accept a constant stream of left mouse click messages. An application can choose to interpret this stream of messages as a right mouse click. LXE does not support non-LXE application programming.

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

## **Keypad Shortcuts**

Use these keyboard shortcuts instead of the stylus:

- Press Tab and a Left or Right Arrow key to select a file.
- Press Shift and an Up or Down Arrow key to select several files. Press Shift+Arrow, then Shift+Arrow again for each additional file selected.
- Once you've selected a file, press Alt then press Enter to open its *Properties dialog*.
- Press Orange then press numeric dot to *delete* the currently highlighted file(name). Or, tap and hold the stylus on the filename and a menu box with a Delete option appears.

# Toggle the Display and Keypad Backlight On and Off

Locate the **Blue** key at the top of the keypad. Toggle the keypad and display backlights on and off by pressing the **Blue key**, then the **Right Scan** key.

# **Increase or Decrease Backlight Intensity**

When the backlight is on, press the **Orange** key and the < 7 > key to decrease the intensity of the backlight. Repeating this keypress sequence continues to decrease the intensity of the backlight until the backlight is Off.

Once the backlight is off, use the **Blue** key and the **Right Scan** button keypress to toggle the backlight on. This process returns the backlight to it's brightest intensity.

## Set the Display and Keypad Backlight Timers

Note: Refer to the section titled "Power Modes" in the "MX5 CE .NET Reference Guide" for information relating to the power states of the MX5.

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

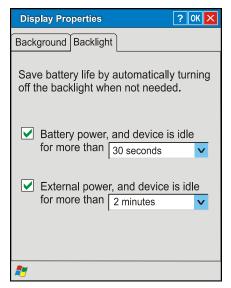


Figure 17 Display Properties / Backlight Tab

The first option affects the MX5 when it is running on battery power only. The second option affects the MX5 when it is running on external power (e.g. AC adapter, powered cradle). The backlight will remain on all the time when both checkboxes are blank.

The default value for the battery power timer is 1 minute.

The default value for the external power timer is 10 minutes. When the display wakes up, the Backlight timers begin the countdown again.

The backlight timer *dims the backlight* on the touchscreen at the end of the specified time and turns the keypad backlight off.

# **Saving Settings**

When returning from a Cold Reset the previous registry savings are reloaded.

If you want to save the registry without having to reset the MX5:

Tap the **| My Documents | My Device | Compact Flash** folder then tap the RegSave file.

The registry save process takes 5 - 10 seconds. The RegSave utility creates the RegTemp.reg registry backup file.

The registry is reloaded from the RegTemp.reg file after a Cold Reset.

# **Set the MX5 Power Schemes Timers**

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

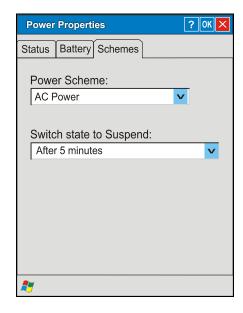


Figure 18 Power Schemes

#### **Battery Power Scheme**

Use this option when the MX5 will be running on battery power only.

Switch state to Suspend:

Default is After 3 minutes

## **AC Power Scheme**

Use this option when the MX5 will be running on external power (e.g. AC adapter, powered cradle).

Switch state to Suspend:

Default is 5 minutes

## 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 audio volume can be adjusted to a comfortable level for the user. The MX5 has an internal speaker and a jack for an external headset.

## **Using the Keypad**

Note: Settings | Control Panel | Audio must have the options below "Enable sounds for" enabled before the following key sequences will adjust the volume.

To adjust speaker volume, locate the **<V>** key and the **Blue** key.

Adjust the speaker volume by pressing the:

- Blue key, then the <V> 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.

As the arrow keys are tapped, the computer beeps each time the volume increases or decreases in decibel range.

## **Using the Touchscreen**

Tap the 🥙 | Settings | Control Panel | Audio icon.

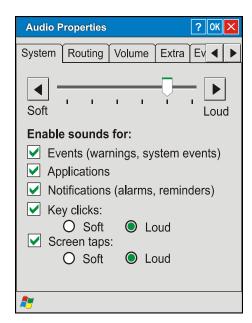




Figure 19 Audio Properties and Speaker Location

Tabs	Actions	
System	Moving the slider between Soft and Loud adjusts the speaker volume. Enable or disable sounds for each function by tapping the check boxes.	
Routing	Use these options to determine where the audio output goes. Enable or disable the headset and speaker, and microphone gain.	
Volume	As the volume scrollbar is moved between up and down for System volume, the computer beeps each time the volume increases or decreases in decibel range.	
Extra As the volume scrollbar is moved between up and down, the computer beep time the volume increases or decreases in decibel range for Bay Digital, CR Radio and Mixer volume.		
Events	Choose sounds to play for Windows CE events or create your own sound scheme.	

# **Troubleshooting**

Blue+V puts the MX5 in 'Volume Adjust' mode.

Shift+Blue+Shift puts the unit in 'Blue' Mode which, when followed by 'V', puts the unit in 'Volume Adjust' mode as well.

If the MX5 is responding to touch input, but does not respond to keypad (hard or soft) input, the MX5 may still be in Volume Adjust mode.

Press Enter to cancel (exit) Volume Adjust mode. After pressing enter, the MX5 should start responding to key input.

#### **Enter Data**

You can enter data into the MX5 through several different methods. The Scanner aperture provides barcode data entry, the RS-232 serial port or the IR port are used to input/output data, and the keypad provides manual entry.

Mobile devices with a touch screen and Microsoft CE .NET software can use a stylus to input data, the COM ports and/or the keypad. An input panel (virtual keyboard) is available in applications that expect keyed input.

## **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 MX5 keypad but it may take a few more keystrokes to accomplish a keyed task. Please refer to "Appendix A - Key Maps" for instruction on the specific keypresses to access all keypad functions.

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

The Orange or Blue keys are pressed when you want to use a 2<sup>nd</sup> key function. For example, when you press a Blue or Orange key (the 2<sup>nd</sup> key), then press the key that has the desired second-function key, the second-function key is the "active" key. The specific 2<sup>nd</sup> character is printed above the corresponding key in either Orange or Blue.

#### **Stylus Data Entry**

Note: This section is directed to the MX5 daily user. The assumption is that the mobile device has been configured and the touch panel calibrated by the System Administrator prior to releasing the MX5 for daily use. The touch screen should be calibrated before initial use.

The stylus performs the same function as the mouse that is used to point to and click elements on a desk top 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.

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 touch screen 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 a serial port.

- 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 physical keypad, virtual keyboard, integrated scanner or a scanner connected to the serial port on the cradle, if the scanner applet is configured correctly.

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

## **Scanner Entry**

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

To scan with the integrated laser barcode reader, point the laser aperture towards a barcode and press the Scan button. You will see a red laser beam strike the barcode.



Figure 20 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 MX5 towards or away from the barcode so that the barcode takes up approximately two-thirds the width of the beam.

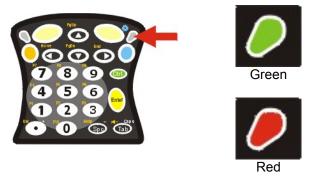


Figure 21 Scanner LED Location

The Scanner Active LED turns red when the laser beam is on. Following a barcode scan and read the Scanner Active LED turns green for two seconds and the MX5 beeps, indicating a successful scan. If the scan was unsuccessful, the Scanner Active LED turns off and a different beep sequence is heard.

The laser engine and Scanner Active LED automatically turn off after a successful or unsuccessful read. The scanner is ready to scan again after the Scan key (or trigger on the handle if installed) is released, or after the green LED turns off following a successful scan.

## Input Panel - Virtual Keyboard

The virtual keyboard is always available. Tap the keyboard icon at the bottom of the screen to put the virtual keyboard on the display. Using the stylus:

- Tap the Shift key to type one capital letter.
- Tap the CAPS key to type all capital letters.
- Tap the au key to access symbols.



Figure 22 Input Panel / Virtual Keyboard

#### **RS-232 Data Entry**

The MX5 accepts input from an RS-232 device connected to either RS-232 port.

Note: ActiveSync (running on the desktop computer) will not transfer files over the RS-232 connector on the MX5 cradle IF the scanner port is configured for COM 1 External. Refer to "ActiveSync Processes" in Chapter 3 of the "MX5 CE .NET Reference Guide".

## **Data Entry and Tethered Scanners**

Please refer to the tethered scanner manuafacturer's user guide for instruction.

## **Getting Help**

All LXE manuals 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's ServicePass page.

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

#### **Manuals**

This document is one in a series covering the MX5 family of computers:

• For MX5 computers equipped with Microsoft Windows CE .NET Operating System:

MX5 CE .NET User's Guide MX5 CE .NET Reference Guide LXEbook -- MX5 CE .NET User's Guide

 For MX5 Intrinsically Safe (MX5-IS) computers equipped with Microsoft Windows CE .NET Operating System:

MX5 Intrinsically Safe User's Guide MX5 CE .NET Reference Guide LXEbook -- MX5 I-Safe User's Guide

 For MX5 computers equipped with Microsoft Windows Pocket PC 2000/2002 Operating Systems (obsolete December 2005):

MX5 PPC User's Guide MX5 PPC Reference Guide LXEbook -- MX5 PPC User's Guide

• For both MX5 computers, the following are interchangeable (except where noted):

MX5 Cradle Reference Guide
MX5 Multi-charger Reference Guide
MX5 Belt Battery System (LXE suggests using this accessory specifically with a Low Temperature MX5)

Do not use the MX5 Belt Battery System with an MX5-IS in a hazardous location.

## **Revision History**

#### **Revision B, October 2005**

- Notices Added WEEE statement. Added WEEE statement to Appendix B also.
- Introduction Added the following note: Bluetooth access, modules and Bluetooth
  Manager are not supported by LXE. Added explanatory note to "Tapping the Touchscreen
  with a Stylus" right mouse click function. Removed headset with microphone from
  "Accessories". Added Neoprene trigger handle cover to "Accessories".
- Appendix A Key Maps Added clearer pictures and 3270/5250 keypress sequences.

#### Revision A, Initial Release, January 2005

## **Accessories**

## **MX5 CE .NET Standard**

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.

	Holding Accessories	
	Strap, Hand, Nylon	MX5A401HANDSTRAP
	Handle, w/wrist strap	MX5A406HANDLE
	Handle, Neoprene slip-on cover	MX5A407HANDLECOVER
	Case and strap, MX5 w/o handle	MX5A402CASE1
	Case and strap, MX5 w/handle	MX5A403CASE2
	Holster, MX5 w/o handle, w/o belt	MX5A404HOLSTER1
	Holster, MX5 w/handle, w/o belt	MX5A405HOLSTER2
	Holster, MX5 w/handle, w/o belt	9000A407HOLSTERHAND
R	Belt, Use with Holsters	9200L67
	Belt, Heater Battery, MX5 (has US approvals only)	MX5A382HTRBATTBELT
	Charger, Heater Battery Belt, MX5 (Approved for US Shipment only)	MX5A383BATTBELTCHGR
	Cable, Heater Battery Belt to MX5, 12" US only	MX5A053CBLBATTBELT
	Cable, Heater Battery Belt to MX5, 1.5M Non-US	MX5A054CBLBATTBELTWW
	Miscellaneous	
R	Stylus, Tethered	9000A507STYLUS
	Stylus, 6 Pack Replacement, MX5	MX5A501STYLUS
R	Software, CE .NET 4.2 SDK, MX5 CE	MX5XA505CENET42SDK
	Battery Chargers and Battery	
	6 Unit Charger w/ US Power Cable	MX5A385CHGR6US
	6 Unit Charger w/o US Power Cable	MX5A385CHGR6WW
	Tool, Battery Removal 5 Pack, MX5	9000A508BATTERYTOOL
R	Battery, Li-Ion	MX5A379BATT
	Cradles and Power Supplies	
	Vehicle Mount Cradle (Power Adapter Required)	MX5A001VMCRADLE
	Standard Desktop Cradle	MX5A002DESKCRADLE
	Enhanced Desktop Cradle, MX5	MX5A003EDESKCRADLE
	Enhanced Desktop Cradle, Ethernet, MX5 CE	MX5A004ETHDESKCRADLE
	Power Supply, AC/DC w/ US Power Cable	MX5A305PSACUS
	Power Supply AC/DC w/o Power Cable	MX5A305PSACWW
	Power Supply, 12V, Bare Wire Input, MX5 Output	MX5A306PS12V
	Power Supply, 12V Auto to VM Cradle	MX5A380PSAUTO12VUS
	Power Supply, 12V Auto to VM Cradle (EU)	MX5A381PSAUTO12VWW
	Power Supply, 24V-72V, Bare Wire Input, MX5 Output	9000A316PS24V72VMX5
	Cables for Cradle and MX5/MX5 Serial Ports	
	Cable, MX5 to PC RS-232, D26 to DA9F	MX5A051CBLD26DA9F
	Cable, MX5 to PC USB, D26 to USB	MX5A052CBLD26USB

	Cable, MX5 D26 to Ethernet RJ45, MX5 CE	MX5A057CBLETHD26RJ45	
	Cable, MX5 D26 to USB Host Receptacle, MX5 CE	MX5A058CBLD26USBHOST	
	Tethered Scanners (requires 3" D26 to DA9M cable)		
	Cable, MX5 for Powerscan, 3", D26 to DA9M	MX5A055CBL3IND26D9M	
	Scanner, Powerscan, SR, 8' Cbl	8300A326SCNRPWRSR8DA9F	
R	Strap with Scanner clip	9000A411SCNRSTRAP	
	Scanner, Powerscan, SR, 12' Cbl	8300A327SCNRPWRSR12DA9F	
	Scanner, Powerscan, LR, 8' Cbl	8310A326SCNRPWRLR8DA9F	
	Scanner, Powerscan, LR, 12' Cbl	8310A327SCNRPWRLR12DA9F	
	Scanner, Powerscan, XLR, 8' Cbl	8320A326SCNRPWRXLR8DA9F	
	Scanner, Powerscan, XLR, 12' Cbl	8320A327SCNRPWRXLR12DA9F	

# **MX5 CE .NET ISAFE Device**

	MX5-IS Holding Accessories		
	Strap, Hand, Nylon	MX5A401HANDSTRAP	
	Handle, w/wrist strap	MX5A406HANDLE	
	Handle, Neoprene slip-on cover	MX5A407HANDLECOVER	
	Case and strap, MX5 w/o handle	MX5A402CASE1	
	Case and strap, MX5 w/handle	MX5A403CASE2	
	Holster, MX5 w/o handle, w/o belt	MX5A404HOLSTER1	
	Holster, MX5 w/handle, w/o belt	9000A407HOLSTERHAND	
R	Belt, Use with Holsters	9200L67	
	MX5-IS Miscellaneous		
R	Stylus, Tethered	9000A507STYLUS	
	Stylus, 6 Pack Replacement, MX5	MX5A501STYLUS	
R	Software, CE .NET 4.2 SDK, MX5 CE	MX5XA505CENET42SDK	
	MX5-IS Battery Chargers and Battery		
	6 Unit Charger w/ US Power Cable, 2 Battery Removal Tools	MX5A385CHGR6US	
	Tool, Battery Removal 5 Pack, MX5	9000A508BATTERYTOOL	
R	Battery, Li-Ion	MX5A379BATT	
	MX5-IS Cradles and Power Supplies		
	Standard Desktop Cradle	MX5A002DESKCRADLE	
	Enhanced Desktop Cradle, MX5 (Not ISAFE Approved)	MX5A003EDESKCRADLE	
	Enhanced Desktop Cradle, Ethernet, MX5 CE	MX5A004ETHDESKCRADLE	
	Power Supply, AC/DC w/ US Power Cable (Not ISAFE	MX5A305PSACUS	
	Approved)	WASASOSI SACOS	
	Cables for MX5-IS Cradle and MX5/MX5 Serial Ports		
	Cable, MX5 to PC RS-232, D26 to DA9F	MX5A051CBLD26DA9F	
	Cable, MX5 to PC USB, D26 to USB	MX5A052CBLD26USB	
	Cable, MX5 D26 to Ethernet RJ45, MX5 CE	MX5A057CBLETHD26RJ45	
	Cable, MX5 D26 to USB Host Receptacle, MX5 CE	MX5A058CBLD26USBHOST	

Note: Bluetooth access, modules and Bluetooth Manager are not supported by LXE.

# **MX5 Hand Held Computer**

#### **Touchscreen**



Figure 23 Touchscreen

The Touchscreen is an Active Color LCD unit capable of supporting QVGA graphics modes. Display size is 320 x 240 pixels in portrait orientation. The covering is designed to resist stains. 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).

The color display has a CCFL (Cold-Cathode Fluorescent Lighting) front light. When off, the display appears to have a greenish hue.

# **Display and Keypad Backlight Timer**

The 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.

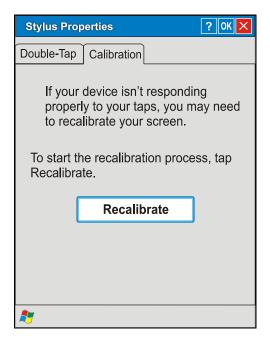
See the section titled "Set the Display / Keypad Backlight Timer" in the previous section "Quick Start."

Touchscreen Touchscreen

#### **Touchscreen Calibration**

If the MX5 is not responding properly to pen touch taps, the touchscreen may need to be recalibrated. Contact your System Administrator for assistance.

To recalibrate the touchscreen, tap the 🥙 | Settings | Control Panel | Stylus | Calibration.



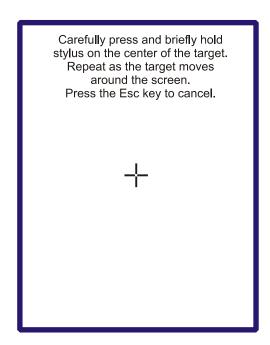


Figure 24 Stylus Properties / Calibration Start / Calibration Begin

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 "MX5 CE .NET 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 or sharp objects away from the scan aperture and touch 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.

Touchscreen 31

# **Programmable Buttons**



Figure 25 Programmable Buttons

The Scan buttons can be programmed by the System Administrator to perform the following functions:

Disabled Key press has no effect.

Scan Pressing this key activates the laser scanner.

Enter Pressing this key confirms a forms entry or transmits information. See the

following section titled "Enter Key Function."

Tab Pressing this key moves the cursor to the next input field.

Field Exit IBM 5250/TN5250 units only. Pressing this key exits an input field. See the

following section titled "Field Exit Key Function."

Esc Pressing this key cancels the current operation.

## **How To: Program the Scan Buttons**

# Access: the 🧗 | Settings | Control Panel | Scanner | Key tab

Tap the desired radio button. Tap OK to close this menu option. Tap X to cancel changes. Any changes made are in effect immediately.

The default setting for the right button is Enter. The default setting for the left button is Enter.

When the MX5 does *not* have an integrated scanner, both buttons default to Enter keys and the Scan selection is greyed out. The buttons can be programmed to perform other functions when there is no internal scanner.

32 COM Ports

#### **COM Ports**

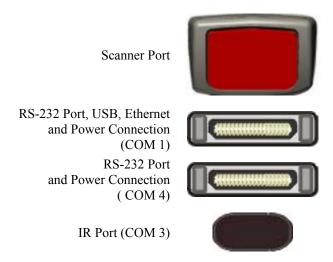


Figure 26 COM Ports

**COM 1** port is always the left port on the base of the MX5. COM 1 port accepts RS-232, USB, Ethernet and AC power connection.

The RS-232 port on the docking cradle is "connected" to the MX5 when a tethered scanner is connected to the RS-232 port on the MX5 cradle, and the MX5 is in the cradle. The cradle must be powered by an alternate AC or DC power source to enable tethered scanner use.

The **COM 3** port is always the IR port on the base of the MX5.

**COM 4** is always the right port on the base of the MX5. COM 4 port accepts RS-232 and AC power connectors.

To edit Scanner Com Port parameters, tap the \* | Settings | Control Panel | Scanner. Change the parameter values and tap OK to save the changes.

The Ethernet port is on the Enhanced Desktop Cradle with Ethernet Port.

#### **Tethered Scanners and the MX5**

LXE cable number MX5A055CBL3IND26D9M must be used with PowerScan® SR, LR and XLR tethered scanners connected directly to the MX5 device. Do not connect Symbol® tethered scanners to the MX5 device or to this cable.

Both PowerScan and Symbol tethered scanners will send scanned data to the MX5 when the MX5 is in the cradle and the scanners are connected to the RS-232 port on the powered cradle. The MX5 Scan buttons have no effect on tethered scanners. Pressing the trigger handle on tethered scanners sends the data from the tethered scanner to the MX5.

To set the MX5 to use a tethered scanner, tap the Settings | System | Scanner | Main tab. Click the "Send Key Messages (WEDGE)" checkbox. The COM port that accepts the scanner data can be configured for data rate, parity, stop bits and data bits using the COM1 tab.

COM Ports 33

#### **USB Port**

The serial port/USB port also supports serial data transfer (using a null modem cable) and USB I/O at 1.5 Mbps. The MX5 automatically detects the cable configuration. Host and client is automatically configured based on the type of cable used. Refer to section titled "Accessories" in this guide for part numbers for the DB26-USB cable and the null modem cable.

## **IR Port**

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.



Figure 27 IR Port on MX5

The IR Port is specified as COM 3 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 a separate device'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 15 centimeters (6 inches) with a viewing angle of 30 degrees.

See the "MX5 CE .NET Reference Guide" for complete instructions.

The Keypad

# The Keypad

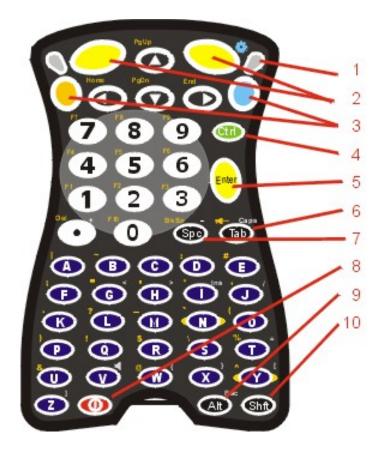


Figure 28 The ANSI / Batch Regular Keypad

1	Scanner Active LED	6	Tab
2	Left and Right Scan	7	Spc
3	Blue and Orange 2 <sup>nd</sup> Function Key	8	Power Key
4	Ctrl	9	Alt
5	Enter	10	Shift

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

The Keypad 35

# **Scan Key Function**



When programmed as Scan keys, either the left or right Scan key activates the scanner. The internal scanner scans only when the Scan button is pressed (or when the scan trigger is pressed on the optional trigger handle, if installed).

# **Enter Key Function**



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 Key Function



The Orange (on the upper left side of the keypad) and Blue (on the upper right side of the keypad) keys are 2nd keys used to activate the 2<sup>nd</sup> functions of the keypad. Printed above many keys are small characters, in either orange (on the left side of the key) or blue (on the right side of the key), that represent the 2<sup>nd</sup> function of that key. Using the 2<sup>nd</sup> key activates the second key function. Note that the 2<sup>nd</sup> key only stays active for one keystroke. Each time you need to use the 2<sup>nd</sup> function you must press the Orange or Blue 2<sup>nd</sup> key. To cancel a 2<sup>nd</sup> function before pressing another key, press the 2<sup>nd</sup> key again.

# **Ctrl Key Function**



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.

# **Alt Key Function**



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.

# **Shft Key Function**



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 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.

The Keypad

# **Spc Key Function**



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 Function**



*IBM TN5250 specific keypad only.* The left Scan key can be programmed as a Field Exit key. 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. Refer to the "Programmable Buttons" section for instruction.

# **Mode Key Functions**

# 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.

The CapsLock key sequence is Blue key then the <Tab> key.

- 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.

A Capital A is displayed in the taskbar when the device is in CapsLock mode or the Caps Key has been pressed and the next key (to be capitalized) has not been pressed.

# **Keypress Sequences**

See Appendix A for key maps for all keypads.

# **Accessing Files on the CompactFlash Card**

Double tap My Computer then select System. Files stored on the CompactFlash (CF) card are listed.

# **External Power Supply for MX5 and Cradles**

The MX5 DC adapter can be plugged into either of the D26 pin connectors on the bottom of the MX5.

The cradle power jack is located on the back of the cradle. The MX5 is to be used with a power supply.



Figure 29 AC/DC 12V Power Supply

When the MX5 is receiving power through a cradle connected to external power, the cradle's Status LED is illuminated.

#### **Batteries**

Note: On first use the MX5 batteries should be charged with an external power source (i.e. AC Adapter) – 3 hours for the main battery and 7 hours for the backup battery. New main battery packs alone must be charged prior to first use -- this process takes up to four hours in an LXE Multi-Charger.

The MX5 computer 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 MX5 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.

# **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 -- the MX5 is always 'on' even when in the Suspend state and draws battery power at all times. Tap the | Settings | Control Panel | Power tab to check the battery status and power reading.

The following chart is an approximation. Actual battery capacity will vary based on usage, ambient temperature and peripherals drawing power from the MX5:

100% capacity 2800 mAh minimum 80% capacity 2240 mAh minimum

Deciding when to put a fully charged main battery pack in the MX5 is difficult to quantify because it is very application specific. 1000 mAh may be the cutoff for one customer who uses the computer frequently, while 500 mAh may be perfectly fine for a customer who occasionally uses the computer. You need to determine the point at which battery life becomes unacceptable for your business practices and replace the main battery pack before that point.

38 Batteries

# **Main Battery**



Figure 30 Main Battery

- 1. Retaining Screws
- 2. Contacts, Battery Charger
- 3. Retaining Clip

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 battery making sure it does not come in contact with excessive heat or any power source other than an LXE Multi-charger or MX5 unit. The fasteners are connected to the main battery pack and remain with the Battery Pack through it's life cycle. Contact your LXE representative if the fasteners must be replaced for any reason.

# **Backup Battery**

A fully charged Nickel Metal Hydride (NiMH) coin cell backup battery provides power to the unit for up to 24 hours when the main battery has been depleted, removed or has failed. The backup battery requires no user intervention. Replacement is performed by LXE. LXE recommends an MX5 in storage have a charged main battery pack installed.

Note:

This mobile device's backup battery maintains it's charge by drawing power from the main battery pack. Always store unused devices with a fully charged main battery pack 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 pack and the backup battery. When the backup battery and main battery pack are dead, the mobile device reverts to setup defaults when a fully charged main battery pack is installed and the device is powered On again.

# **Battery Hot-Swapping**

Replace the main battery pack after first pressing the power key and placing the MX5 in Suspend Mode. LXE recommends any work in progress be saved prior to replacing the main battery pack.

Simply replace the discharged main battery with a fully-charged main battery. The backup battery will retain data during a main battery hot-swap.

Place the battery in the battery well, making sure the tabs on the bottom of the battery pack fit into the slots at the bottom end of the battery well. Push the battery down into the battery well while fastening the screws. Fasten the screws tight enough to allow the rubber gasket to create a watertight seal. If the screws do not easily twist into the threaded opening, remove the battery and repeat the process.

Warning: Never replace the main battery in a hazardous location.

Batteries 39

# **Checking Battery Status**

Tap the **Settings** | **Control Panel** | **Power** | **Status** tab to view the current charge status of the main battery. If the status is shown as Very Low, charge or replace the battery immediately. For best results, it is recommended that the MX5 use external power whenever available. Charge the main battery pack in the MX5 at the end of each work day.

The backup battery charge status is not displayed because it is constantly changing (and constantly charging when the MX5 is connected to external power).

Tap the | Settings | Control Panel | Power | Status tab to view main battery pack power level, status, charge remaining, date installed and total time the battery pack has been used, and other technical details.

Tap the **Settings** | **Control Panel** | **Power** | **Battery** tab to view technical information, serial number of the main battery, and other technical details.

# **Battery Status LEDs**

Main Battery Charging Left GREEN LED slow flashing.

Main Battery Fully Charged Left GREEN LED stops flashing; is solid ON.
Charge / battery fault Left GREEN LED has quick double flashes.

40 Battery Chargers

# **Battery Chargers**

# **Charge Battery in LXE Multi-Charger**

The main battery can be charged in the LXE Multi-Charger. The Multi-charger must *not* be used in Hazardous Locations.

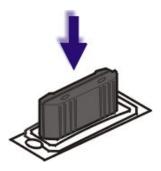


Figure 31 Insert Main Battery in Charging Cup

Insert the main battery into any charging cup in the Multi-Charger. The narrow end goes into the charging cup first. The retaining clip snaps the battery into place in the charging cup. Remove the battery pack by pulling the battery straight up and out.

Do not "slam" or drop the battery into the charging cup. Failure to follow these instructions can result in damage to the main battery or the Multi-Charger.

Note: The main battery can also be charged in the secondary battery charging pocket in the Desktop cradles. An MX5 does not need to be in the cradle at the time the secondary charging pocket is being used.

# **LXE Multi-Charger (Optional)**



Figure 32 MX5 Multi-Charger

The main battery pack can be charged in the LXE Multi-Charger. Please refer to the "MX5 Multi-Charger User's Guide" for instruction.

The multi-charger requires an external power source before battery pack charging can commence.

The external Power Supply connection for the Multi-charger is shipped with the multi-charger.

The LXE Multi-Charger is not approved for use in a Hazardous Location.

Cradles 41

#### **Cradles**

#### Important:

The cradles are not designed to secure an MX5 with a protective padded case. The vehicle cradle is not designed to secure an MX5 with a trigger handle. The desktop cradles will secure mobile device's with handstraps or trigger handles.

MX5 docking cradles give the MX5 the ability to communicate with a host computer and other devices. In addition, using wall AC adapters or DC/DC converters, the cradle charges the main battery. The MX5 can be either On or in Suspend mode while in the cradles.

LXE offers three desktop cradles and one vehicle cradle:

- Standard Desktop Cradle
- Enhanced Desktop Cradle
- Enhanced Desktop Cradle with Ethernet Port
- Vehicle Mount Cradle

Note: LXE offers a device similar in appearance to the MX5CE .NET device – the LXE MX5 PC 2002 device. All MX5 cradles can be used by the MX5s. The Enhanced Desktop Cradle with Ethernet Port, developed specifically for the MX5 CE .NET device, cannot be used by the MX5 PC 2002.

Cradle COM port and power cables are available from LXE. The RS-232 connector is located on the back of the cradle. When the MX5 is properly docked, the COM 1 RS-232 interface connects with the DA9 RS-232 port in the cup at the front of the cradle. The cup at the back of the desktop cradles accept a single Battery Pack for charging.

The Ethernet port is located at the back of the Enhanced Desktop Cradle with Ethernet Port.

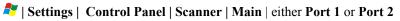
MX5 cradles are not approved for use in Hazardous Locations.

# Tethered Barcode Scanner Data Entry Using the MX5 Cradle

The MX5 supports an accessory barcode label reading device (a tethered scanner) connected to the serial port on a vehicle cradle. Keypad data entries can be mixed with barcode data entries. Any tethered scanner that decodes the barcode internally and outputs an RS-232 data stream may be used. It sends the data to the MX5 in ASCII format.

The serial port parameters may need to be changed to match the parameters of the tethered scanner.

When a tethered scanner is connected to the serial port on a vehicle cradle, the MX5 scanner must be configured as follows:



Select **COM1 External** on one of the ports. The tethered scanner must be connected to the DB9 port on the vehicle cradle. The cradle must be powered by an alternate AC or DC power source to enable tethered scanner use.

If the tethered scanner is powered by the mobile device, enable Power Output in \* | Settings | Control Panel | Handheld | Comms tab.

See Also: The "MX5 Cradle Reference Guide" contains cradle installation and technical information.

42 Cradles

# **Appendix A Key Maps**

# **Keypad**



Figure 33 ANSI / Batch Keypad

#### Remember:

The Orange (on the left) and Blue (on the right) keys are "2" function" keys.

Ctrl, Alt, Shft, Blue and Orange keys are "sticky keys". They do not need to be held down before pressing the next (or desired) key. It is valid to use combined modifiers on specific keys.

# **Key Map 101-Key Equivalencies**

*Note:* This key mapping is used on hand held computers that are NOT running an LXE Terminal Emulator.

When using a sequence of keys that includes the Orange or Blue keys, press the color key first then the rest of the key sequence.

Alphabetic keys default to lower case letters. Press the Shft key, then the alphabetic key for an uppercase letter.

Note: When the computer boots, the default condition of Caps (or CapsLock) is Off. The Caps (or CapsLock) condition can be toggled with Blue plus Tab key sequence.

		Press Th					
To Get This Key / Function	Blue	Orange	Ctrl	Alt	Shft	Caps Lock	Press This Key
Power / Suspend							Power
Volume Adjust	Х						V
Backlight Toggle for Display and Keypad	х						Right Scan Key
Adjust Backlight Brightness Down <sup>3</sup>		х					7
Blue Mode							Blue
Orange Mode							Orange
Shift							Shft
Alt							Alt
Ctrl							Ctrl
Scan							Left Scan Key or Right Scan Key 4
Esc	х						Alt
Space							Spc
Enter							Enter
CapsLock (Toggle)	х						Tab
Back Space		х					Spc
Tab							Tab
BackTab		Х					Tab
Break	х					<u> </u>	В
Pause	х						Р
Print Screen	х					·	R

<sup>&</sup>lt;sup>3</sup> Backlight must be toggled On. Once the backlight is off, the Blue key / Right Scan key sequence toggles the backlight on and at it's brightest intensity.

\_

<sup>&</sup>lt;sup>4</sup> Both Scan keys are programmable. Before using as Scan key, make sure key has been programmed to Scan. See section titled "Programmable Buttons.".

		Press Th					
To Get This Key / Function	Blue	Orange	Ctrl	Alt	Shft	Caps Lock	Press This Key
Scroll Lock	х						S
Up Arrow							Up Arrow
Down Arrow							Down Arrow
Right Arrow							Right Arrow
Left Arrow							Left Arrow
Insert	х						I
Delete		х					DOT
Home		х					Left Arrow
End		х					Right Arrow
Page Up		х					Up Arrow
Page Down		х					Down Arrow
F1		х					1
F2		х					2
F3		х					3
F4		х					4
F5		х					5
F6		х					6
F7		х					7
F8		Х					8
F9		х					9
F10		Х					0
F11	х						1
F12	х						2
F13	х						3
F14	х						4
F15	х						5
F16	х						6
F17	х						7
F18	х						8
F19	х						9
F20	х						0
F21		X			х		1
F22		X			х		2
F23		x			х		3

		Press Th					
To Get This Key / Function	Blue	Orange	Ctrl	Alt	Shft	Caps Lock	Press This Key
F24		х			х		4
а							А
b							В
С							С
d							D
е							E
f							F
g							G
h							Н
i							I
j							J
k							K
I							L
m							М
n							N
0							0
р							Р
q							Q
r							R
S							S
t							Т
u							U
V							V
W							W
Х							Х
у							Υ
Z							Z
А					х		Α
В					х		В
С					х		С
D					х		D
E					х		E
F					х		F
G					х		G

		Press Th					
To Get This Key / Function	Blue	Orange	Ctrl	Alt	Shft	Caps Lock	Press This Key
Н					х		Н
I					х		1
J					х		J
K					х		K
L					х		L
M					х		М
N					х		N
0					х		0
Р					х		Р
Q					х		Q
R					х		R
S					Х		S
Т					х		Т
U					х		U
V					Х		V
W					Х		W
Х					х		Х
Y					х		Υ
Z					х		Z
1							1
2							2
3							3
4							4
5							5
6							6
7							7
8							8
9							9
0							0
. (DOT)							DOT
<	х						G
[	х						Υ
1	х						Z
>	х						Н

		Press Th					
To Get This Key / Function	Blue	Orange	Ctrl	Alt	Shft	Caps Lock	Press This Key
=	х						Т
{	х						W
}	Х						Х
1	Х						J
-	х						Spc
+	х						DOT
*		х					I
: (colon)		х					D
; (semicolon)		х					F
. (period)		х					K
?		х					L
,		х					N
_ (underscore)		х					М
, (comma)		х					J
' (apostrophe)		х					Н
~ (tilde)		х					В
1		х					S
1		х					Α
и		х					G
!		х					Q
@		х					W
#		х					E
\$		х					R
%		х					Т
٨		х					Υ
&		х					U
(		х					0
)		х					Р

# 3270 Keypad



Please refer to the *RFTerm Reference Guide* for further information about 3270 key functions on the mobile device.

The MX5 CE .NET device approved for use in Hazardous Locations has a blue keypad overlay with the same 3270 keymap markings as shown in this figure.

Figure 34 3270 Keypad

Legend	Explanation	. Key Sequence
Attn	Attention	.Ctrl + A
Clr	Clear	. Ctrl + C
Del	Delete	.Ctrl + D
Dup	Duplicate	.Ctrl + U
E-Inp	Erase Input	. Ctrl + Q
Fld	Field Minus	.Ctrl + M
Fld +	Field Plus	. Ctrl + L
Ins	Insert	. Ctrl + I
LDub	Ctrl + B	. Not Supported
RDub	Ctrl + F	. Not Supported
NL	New Line	. Ctrl + N
PA1	PA1	. Ctrl + 1
PA2	PA2	. Ctrl + 2
PA3	PA3	. Ctrl + 3
Reset	Reset	. Ctrl + R
SysReq	System	.Ctrl + S

# 5250 Keypad



Please refer to the *RFTerm Reference Guide* for further information about 5250 key functions on the mobile device.

The MX5 CE .NET device approved for use in Hazardous Locations has a blue keypad overlay with the same 5250 keymap markings as shown in this figure.

Figure 35 5250 Keypad

Legend	.Explanation	Key Sequence
Attn	.Attention	. Ctrl + A
Clr	.Clear	. Ctrl + C
Del	.Delete	. Ctrl + D
Dup	.Duplicate	. Ctrl + U
E-Inp	.Erase Input	. Ctrl + Q
FBk	.Fast Back Ctrl + B	. Not Supported
FFwd	.Fast Forward Ctrl + F	. Not Supported
Fld	.Field Minus	. Ctrl + M
Fld +	.Field Plus	. Ctrl + L
Ins	.Insert	. Ctrl + I
NL	.New Line	. Ctrl + N
SysReq	.System	.Ctrl + S

# **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 B 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 residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

**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 B 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 B 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 B 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 Class B 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**



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 MX5X is .307W/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 MX5 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  $212^{\circ}F$  ( $100^{\circ}C$ ) or incinerated.

#### 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.

## **MX5 CE .NET Approvals/Standards**

Product	EMI / EMC Standards	Safety Standards
MX5	FCC Part 15 Subpart B, Class B	UL 60950; CSA C22.2 No. 60950
	EN 55022:1998, (CISPR 22:1997)	CDRH: 21 CFR 1040.10 and 1040.11
	Class B	
	EN 55024:1998	EN 60950
	Industry Canada Class B	IEC 60825-1
	-	IEC 60950

#### **Transceiver**

Transceiver	RF Standards	Notes
<b>6726</b> (LXE Model No.)	FCC Part 15, Subpart C	Unlicensed Operation
2.4GHz Type II PCMCIA Card	FCC Part 2	
[Cisco]	EN 300 328	Unlicensed Operation
	EN 300 826	
	IC-RSS 139	Requires License for Outdoor Use
	IC-RSS 102	
<b>6816</b> (LXE Model No.)	FCC Part 15, Subpart C	Unlicensed Operation
2.4GHz Type II PCMCIA Card	FCC Part 2	
[Symbol]	EN 300 328	Unlicensed Operation
	EN 300 826	
	IC-RSS 139	Requires License for Outdoor Use
	IC-RSS 102	4
MX5X with 802.11 b/g	FCC Part 15.247, Subpart C	Unlicensed Operation
WASA with 602.11 b/g	FCC Bulletin OET-65C	_
	EN 300 328	Unlicensed Operation
	IC BCC 210	
	IC-RSS 210	Den instaliance Con O Alexand
	IC-RSS 102	Requires License for Outdoor Use



Inspect enclosure for signs of deterioration such as cracking, warping, swelling or softening. Do not use in Hazardous (Classified) Locations if there are any signs of deterioration.



**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.

# LXE Transceiver LXE 6726 Declaration of Conformity

**DECLARATION OF CONFORMITY** 

according to Directives:

Radio Equipment and Telecommunications Terminal Equipment 1999/5/EC

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:

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.

LXE Inc., Norcross GA USA Place

24 June 2004 Date of issue

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 155522-0001 155814-0001 157368-0001 157399-0001 99004-0027 DAC2450CT1 (Toko P/N)	0 dBi 0 dBi 0 dBi 0 dBi 0 dBi 0 dBi 2.15 dBi	17 dBm 17 dBm 17 dBm 17 dBm 17 dBm 17 dBm 17 dBm	Omni, for LXE VX-series computers Omni, for LXE MX1-series computers Patch, for LXE MX1-series computers Patch, for LXE MX3-series computers Omni, for LXE MX5-series computers 3 dB Omni, for LXE model 2325 computer 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**

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

ousiness equipment

The product carries the CE Mark:

 $\epsilon$ 



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	3 dBi	17 dBm	Spire® Omni Antenna
	6000A280ANT3SPIRER			
	6000A283ANT3INDSPR			
155845-0001	6000A277ANT6SPIREL	6 dBi	13 dBm	Spire® Omni Antenna
	6000A278ANT6SPIRER			
	6000A282ANT3INDSPR			
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

# **Declaration Of Conformity**



#### **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

Brand Name or Trademark: LXE

Type Designation: MX5X with 802.11b/g radio

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

The product carries the CE Mark:

**(€** ⊕

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: July 30, 2006

Cyril A. Binnom Jr. Approvals Engineer



# A/C Power Supply Safety Statement – MX5 Output Rated 12 VDC, 3.75 A.





#### **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 ΙΤΕ πιστοποιημένο κατά ΙΕС 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 Strömförsörining

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)

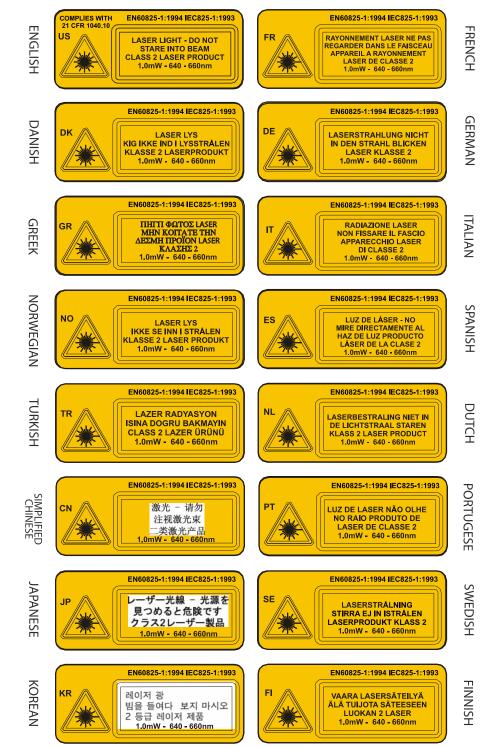


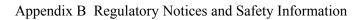
# **Laser Light Safety Statement**



Uyarý:	Προειδοποίηση:
Bu ürün lazer ýþýðý kullanýr.	Αυτό το προϊόν χρησιμοποιεί λέιζερ φως.
Aþaðýdaki etiketlerden bir tanesi tarayýcýnýn üstünde saðlanýr.	Υπάρχει μία από τις ακόλουθες ετικέτες στο σαρωτή.
Lütfen Dikkat ifadesini okuyun. (TR)	οιο σαρωτη. Παρακαλούμε διαβάστε τη δήλωση με
Batteri Bikkat Hadesiii okayan. (1K)	τίτλο Προσοχή. (GR)
경고:	警告:
본 제품은 레이저 광선을 사용합니다.	この製品はレーザー光線を使用します。
다음 라벨 중 하나가 스캐너에 제공됩니다.	次のラベルのうち1つがスキャナーに 貼られています。
주의 사항을 읽어 주십시오. (KR)	注意事項をお読みください。(JP)
警告:	Legend:
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)	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

# Laser Light Labels - MX5 Hand Held Computer Class 2





2 <sup>nd</sup> Function, How to	22	CapsLock key sequence	36
2nd key function, described	35	CCFL (Cold-Cathode Fluorescent Lighting)	29
5250 key functions		Charger, battery	
•		Check battery status, How to	
4		Cleaning Display and Scanner Aperture	
$\boldsymbol{A}$		Cold reset	
AC Power		COM Ports	
and LEDs on cradles	41	COM ports and power cable	
Accessing Files on CF Card	41	Components	
	26	Contacting LXE	
How to		Cradles	
Activation Key, AppLock Multiple Applic		Ctrl key function	
Align, Touchscreen		Cur key function	
Alt key function	35	_	
AppLock	_	D	
Important			
AppLock Activation Key	12	Data entry	
Audio adjustment		keypad	
using the keypad	20	laser scanner	23
using the touchscreen		RS-232 cabled device	24
Audio adjustment options		stylus	22
Audio jack, How to		virtual keyboard	
		Data entry	
		Delete a file	
$\boldsymbol{B}$		Desktop cradle	
D 11' 1		Display	
Backlight	4 -	Features	20
Intensity		Pixels	
Timer			
Backlight, Display	29	Display Cleaning	
Backup Battery		Display, Backlight	
recharging, explained	38	Dual AppLock	12
reverts to setup defaults	38		
Battery		$oldsymbol{E}$	
charge before using	10, 37		
Check status	16	Enhanced Desktop Cradle	41
Compartment	10	Enhanced Desktop Cradle with Ethernet Port	
Important		Enter key function	
Battery Chargers		Entering Data	
Battery serial number, How to check		Environmental Specifications	
Battery status, How to check		Ethernet port	
Battery, backup		External Power connection, How to	
• •	20	External Fower connection, flow to	12
charge status	39		
Battery, Backup	20	$oldsymbol{F}$	
described		_	
Battery, Main		Features	1
described	38	Field Exit key function	36
		Forms entry	
<u>C</u>		Function	
		2nd Key	35
Calibrate touchscreen	30	Alt Key	
Caps mode function		Caps Mode	
		Cans Mode	

Ctrl Key	35	Multi-Charger	40
Enter Key	35	MX5 family of computers	2, 25
Field Exit Key	36		
Scan Key		0	
Shft Key	35	<i>O</i>	
Spc Key	36	Operating Temperature	3
$\overline{G}$		P	
Catting Stantad	5	•	
Getting Started		Pen Stylus and data entry	
Glossary	23	Phillips Screwdriver	
		Pistol Grip Handle, How To	
H		Pointing device	
TT 11 TT 4	1.4	Port, Infrared	
Handle, How to		Power key	
Handstrap, How To		Power Scheme Timers	
Help	25	Power Supply, AC/DC	
Hot swapping	20	Program the Scan Buttons	
cautions	38	Programmable Buttons, How to	31
I		Q	
1			
IEC IP67		Quick Start Instructions	5
Infrared (IR) port, described			
Infrared Data Access (IrDA)	33	$\overline{R}$	
Input panel		A	
virtual keyboard		Reboot, How to	11
Insert Battery, How to		Registry save, How to	18
IR operating envelope	33	Regulatory notices	
IR Port		RS-232	
bi-directional half-duplex	33	Data Entry	24
K	<del></del>	$\overline{S}$	
Keymaps	43	Safety information	51
Keypad		Save settings, How to	
described	34	Scan button	10
Keypad and entering data	22	default setting	31
Keypad Shortcuts		Scan key function	
71		Scanner LED, functioning	
I		Scanning and data entry	
L		Select a file	
Laser labels		Shift key function	
Class 2	60	Space key function	
LED		Speaker volume, How to	
Battery status	39	Specifications	20
Li-Ion battery life		Environmental	3
Lithium battery warning		Standard Desktop Cradle	
Lithium-Ion (Li-ion)		Standard keypad illustrated	
		Stylus	
M		Stylus and data entry	
<i>M</i>		Suspend mode, How To	
Mode Key Functions	36	1	
•			

T
Tethered scanner
Data entry24
Tethered Scanner
and the Cradle32
Setup using a Cradle41
Tethered Scanners
PowerScan and Symbol32
Timer
Backlight18
Timers
Power Schemes
Toggle Backlight, How to17
Touch Screen and data entry
Touchscreen 29
Keypad Shortcuts
Touchscreen and the stylus17

$oldsymbol{U}$	
USB port	33
V	
Vehicle Mount Cradle	41
View	
Display	
View File Properties	17
Virtual keyboard	
Input panel	24
Volume	
adjust audio volume	20
W	
Warm reset	11
Warnings and Labels	
Laser Scanner	4
WEDGE checkbox	