VX5 User's Guide

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LXE

E-EQ-VX5OGWW-F-ARC

LANGUAGE: ENGLISH

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Archived December 2008

Revision Notice

VX5 User's Guide
Upgrade From Revision E to Revision F

Section	Explanation
Accessories	Revised Accessories listing.
Strain Relief Cable Clamps	Added new section.
Vehicle 12-80VDC Power Connection	Revised graphics.
Appendix B – Regulatory Notices and Safety Information	Added 4830 radio and Chinese translated Class A statement to appendix. Revised "R&TTE Directive Requirements".

Note: A complete revision history is included in Appendix B, "Regulatory Notices and Safety Information".

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Illustrations

The VX5 Vehicle Mount Computer

Introduction

The VX5 Vehicle Mount Computer (VMC) is a rugged, vehicle-mounted, PC (Personal Computer) equipped with a Microsoft® Windows® operating system. The VX5 is capable of wireless data communications from a fork-lift truck or any properly configured vehicle. The unit uses a PCMCIA radio (spread spectrum 2.4GHz) for wireless data communications.

The VX5 is a tablet-style computer and features a SVGA color TFT display. The touch-screen display supports graphic features and Microsoft Windows icons that the Windows 2000 or Windows XP operating system supports. An illuminated keyboard is available to facilitate use in dimly lit areas.

The VX5 provides the power and functionality of a desktop computer in a vehicle mounted unit, with a wide range of options:

- 933MHz Intel® Pentium® III CPU
- 256 or 512MB of SDRAM
- Wireless LAN radios with single or dual antenna option
- Ethernet port
- USB port
- Choice of storage media, including a removable hard drive
- Choice or indoor or outdoor display
- Available touch screen protective film
- Available Uninterruptible Power Supply (UPS) Battery Pack
- Available RAM Mount™ options
- Extended temperature version [1]

Note: The "VX5 Reference Guide" contains VX5 technical information and advanced functions.

[1] Extended temperature versions are available with 512MB SDRAM only.

Document Conventions

This reference guide uses the following 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 keyboard (for example, <Enter>).
	Indicates a reference to other documentation.
	Differences in operation or commands due to radio type.
ATTENTION	Keyword that indicates vital or pivotal information to follow.
	Attention symbol that indicates vital or pivotal information to follow. Also, when marked on product, means to refer to the manual or operator’s guide.
	International fuse replacement symbol. When marked on the product, the label includes fuse ratings in volts (v) and amperes (a) for the product.
Note:	Keyword that indicates immediately relevant information.
Caution 	Keyword that indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.
WARNING 	Keyword that indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.
DANGER 	Keyword that indicates an imminent hazardous situation, which, if not avoided, will result in death or serious injury.

Environmental Specifications

Feature	Specification
Operating Temperature	
Standard version	32°F to 122°F (0°C to 50°C) [non-condensing]
Extended Temperature version	
Startup	-4°F to 122°F (-20°C to 50°C) [non-condensing]
Operation	-22º to 122º F (-30ºC to 50ºC) [non-condensing]
Storage Temperature	
Standard version	-22°F to 140°F (-30°C to 60°C) [non-condensing]
Extended Temperature version	-40°F to 140°F (-40°C to 60°C) [non-condensing]
Water, Sand Dust	IP66 per IEC60529
Operating Humidity	Up to 90% non-condensing at 104°F (40°C)
Vibration	Based on MIL Std 810F
ESD	15 kV

Quick Start

This section's instructions are based on the assumption that your new system is pre-configured and requires only accessory installation (e.g. antenna, external keyboard and/or barcode scanner) and a power source.

Use this guide as you would any other source book -- reading portions to learn about the VX5, and then referring to it when you need more information about a particular subject. This guide takes you through installation and operation of the LXE VX5.

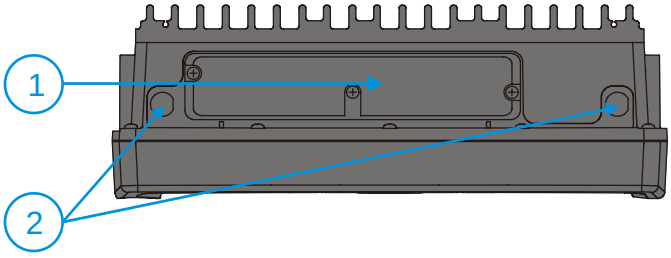
In general, the sequence of events is:

1. Install Vehicle Mounting Bracket (and keyboard mounting bracket) on vehicle.
2. Secure VX5 in Mounting Bracket Assembly.
3. Connect vehicle power source to VX5 power cable.
4. Connect power cable to the VX5. The power cable can also be connected to a UPS battery pack, which is then connected to the VX5.
5. Connect accessories to VX5, e.g. scanner, antenna, keyboard.
6. Secure all cables to the VX5 with the Strain Relief Cable Clamps.
7. Turn the VX5 on.

The VX5 and its keyboard should be mounted in an area in the vehicle where it:

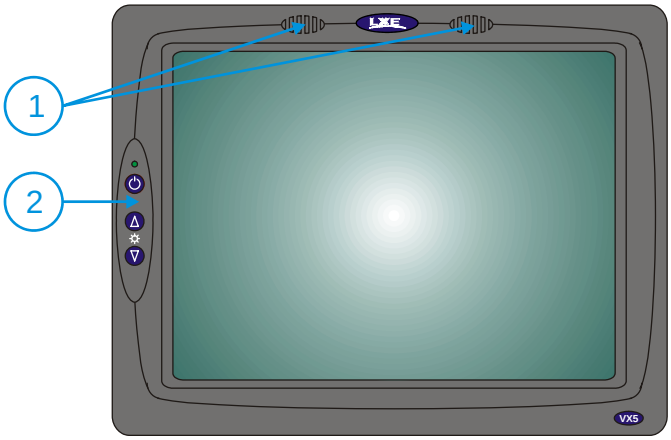
- Does not obstruct the vehicle driver's vision or safe vehicle operation.
- Can be easily accessed by anyone seated in the driver's seat.

Components



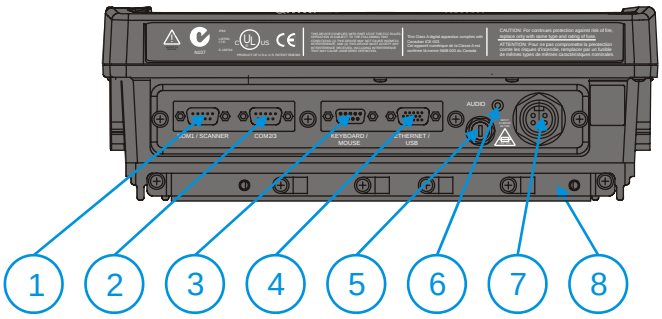
1. Access Panel Cover (See Following Illustrations for Detail)
2. Antenna Connectors or Hole Plugs

Figure 1 VX5 Components, Top



1. Speakers
2. Control Panel (See Following Illustrations for Detail)

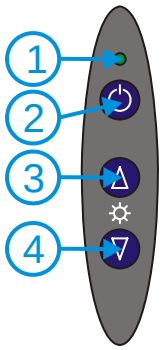
Figure 2 VX5 Components, Front



1. COM1/Scanner Connector
2. COM2 Connector
3. Keyboard/Mouse Connector
4. Ethernet/USB Cable Connector
5. Fuse
6. Audio Connector
7. Power Cable Connector
8. Cable Strain Relief Bracket and Clips

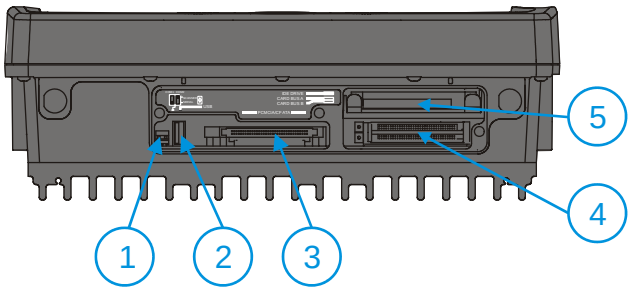
Figure 3 VX5 Components, Bottom

Note: COM1 is configured with Pin 9 +5V. COM2 (labeled either "COM2" or "COM2/3") is configured with Pin 9 RI. Refer to the VX5 Reference Guide for more information on changing Pin 9 configuration of the serial ports.



1. Power LED
2. Power Switch
3. Brightness Increase
4. Brightness Decrease

Figure 4 VX5 Control Panel



1. COM Port DIP Switches [2]
2. USB Connector
3. ATA Slot (PCMCIA/Compact Flash)
4. CardBus (PCMCIA) Slots
5. IDE Drive

Figure 5 VX5 Access Panel

Note: The tethered access panel cover is not shown in the illustration above.

[2] DIP switches allow the COM port PIN 9 to be switched between +5V (default for COM1) and RI (default for COM2).

The Full-Screen Display

The VX5 Display is a TFT color unit capable of supporting VGA and SVGA graphics modes. The maximum resolution is 800 x 600 pixels.

VX5 Control Panel

The VX5 control panel contains the status LED, power button and display brightness adjustment buttons. When the VX5 is on, the status LED is illuminated according to the power supply:

- **Green** – VX5 is operating from vehicle power or AC power.
- **Solid Yellow** – VX5 is operating from the UPS, UPS battery is good.
- **Flashing Yellow** – VX5 is operating from the UPS, UPS battery is critically low.

Microsoft Windows Control Panel

The Microsoft Windows Control Panel and System Tray icons panel provide standard Windows options for configuring the VX5, such as:

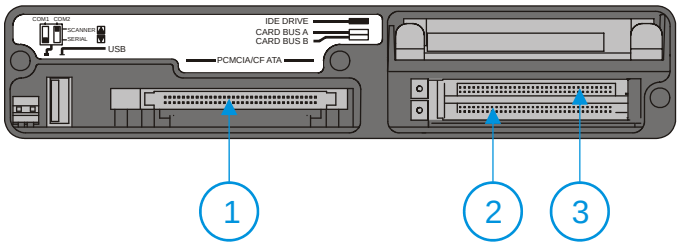
- Sound volume
- Display configuration
- Power management
- PCMCIA card management

Please consult your System Administrator or refer to commercially available Microsoft Windows user guides or the Windows on-line Help application for these standard Windows configuration options.

CardBus (PCMCIA) and ATA Slots

The VX5 has two CardBus slots which support either CardBus or PCMCIA formats. These slots are intended for use with Type I, II or III cards, such as LXE's 2.4GHz Spread Spectrum radios. These slots are hot swappable per PCMCIA and CardBus specifications. Please see the "VX5 Reference Guide" for more details.

One ATA PCMCIA slot is also provided for ATA compatible memory devices, such as PCMCIA flash cards or Compact Flash via an adapter card. This slot IS NOT hot swappable. The VX5 must be powered down to insert or remove a card in this slot.



1. ATA PCMCIA Slot (Left)
2. Slot 1 (Lower Right)
3. Slot 0 (Upper Right, Used for Radio if Installed)

Figure 6 The VX5 PCMCIA and ATA Slots

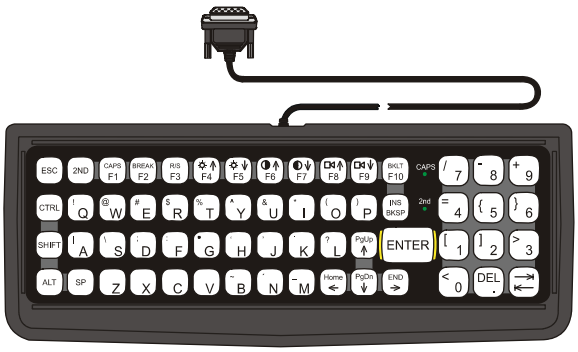
The Keyboards

The following keyboard options are available for the VX5:

- LXE VMT 95-key QWERTY keyboard with integrated pointing device – a customized rugged keyboard connected to the VX5 via a watertight connector.
- LXE VMT 60-key QWERTY keyboard – a customized rugged keyboard connected to the VX5 via a watertight connector
- A standard PS/2 keyboard via an adapter cable attached to the "Keyboard/MOUSE" port on the VX5. The adapter cable also provides a connector for a PS/2 mouse.
- A software keyboard, or virtual keyboard, can be displayed on the touch screen. The virtual keyboard can be used in place of, or in addition to, a physical keyboard.

For more details on each keyboard type, please refer to the appropriate section later in this section.

95 key with Integrated Pointing Device



60 key

Figure 7 The LXE VMT Keyboards with Cable

The 95-key QWERTY Keyboard with Pointing Device

Designed for ease of use with Windows operating systems, the 95-key keyboard with pointing device connects via a cable to the keyboard port on the VX5. Additional Windows keys (the Windows logo key and the Application key) and an integrated pointing device are provided for ease of use with Windows operating systems.

Figure 8 The 95-key QWERTY Keyboard

Key Maps

The 95-key keyboard supports all 104 keyboard functions (101 keyboard standard plus Windows keys) and includes an integrated pointing device and left and right mouse buttons. However, because the keyboard only has 95 keys, all functions are not visible (or printed on the keyboard). Therefore the VX5 keyboard supports what is called hidden keys -- keys that are accessible but not visible on the keyboard.

As with a standard keyboard, many keys are found in the Alphanumeric section as well as on the Numeric keypad (i.e. the 1 key is found on the numeric keypad and above the alpha characters on standard keyboards). However these keys send distinctly different scan codes when the keys are pressed.

The hidden keys supported by the VX5 are listed in Appendix A, “Key Maps”.

NumLock and the VX5

For the 95-key keyboard, the NumLock key and the numeric keys are backlit **green** when NumLock is off. When NumLock is on, the backlight for the NumLock key and the numeric keys is **amber**.

Please refer to the “VX5 Reference Guide” for more information on NumLock.

CapsLock, Scroll Lock and the VX5

For the 95-key keyboard, the CapsLock key is backlit **green** when CapsLock is off. When CapsLock is on, the backlight for the CapsLock key is **amber**.

The Scroll Lock key is backlit **green** when Scroll Lock is off. When Scroll Lock is on, the backlight for the Scroll Lock key is **amber**.

The default values for CapsLock and Scroll Lock are Off.

Keyboard Backlight

The 95-key keyboard backlights each key with an LED. The keyboard backlight is manually controlled using the "backlight" key in the upper right hand corner of the keyboard. Pressing the backlight key cycles the keyboard backlight through the levels of backlight intensity:

- Off
- Maximum intensity
- Medium intensity
- Low intensity.

Note: The 2nd key function is available on the 60-key keyboard only.

The 60-key QWERTY Keyboard

The 60-key keyboard has 101 keyboard functions, including a numeric keyboard pad. Please refer to Appendix A, “Key Maps”, for keypress combinations.

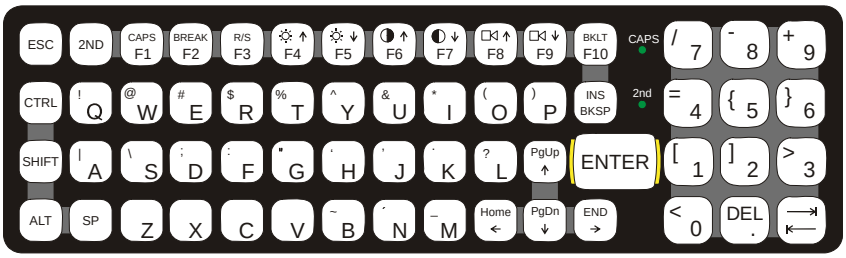


Figure 9 The 60-key QWERTY Keyboard

Note: When the 60-key keyboard is used, the touchscreen MUST BE configured to recognize holding the <Ctrl> key then touching the screen as a right click. Please refer to “Configuring Right Click on the Touchscreen” in the “VX5 Reference Guide” for more details.

IBM 3270 Keypad Overlay

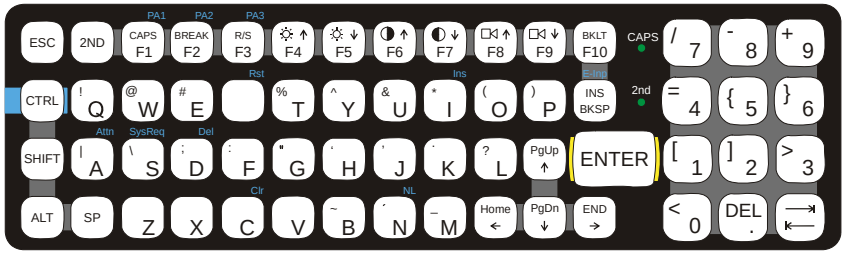


Figure 10 IBM 3270 Specific Keypad

The 60-key keypad is available with an IBM 3270 overlay designed to allow the user to enter terminal emulator commands when running LXE’s RFTerm™ program.

IBM 5250 Keypad Overlay

Figure 11 IBM 5250 Specific Keypad

The 60-key keypad is available with an IBM 5250 overlay designed to allow the user to enter terminal emulator commands when running LXE’s RFTerm™ program.

Key Maps

The 60-key keyboard supports all 101 keyboard functions. However, because the keyboard only has 60 keys, all functions are not visible (or printed on the keyboard). Therefore the VX5 keyboard supports what is called hidden keys -- keys that are accessible but not visible on the keyboard.

On standard keyboards many keys are found in the Alphanumeric section as well as on the Numeric keypad (i.e. the 1 key is found on the numeric keypad and above the alpha characters on standard keyboards). However these keys send distinctly different scan codes when the keys are pressed. The default codes for the VX5 number keys correspond to the numeric keypad on standard keyboards. In order to duplicate the codes sent when the alphanumeric key is pressed, the hidden keystroke must be used.

The hidden keys supported by the VX5 are listed in Appendix A, “Key Maps”.

Unused Key Functions

There are several key functions on the 60-key keyboard that are not used on the VX5. These include:

- <2nd> <F3> – The Resume/Suspend function is not used as Microsoft Windows controls all power management modes.
- <2nd> <F4> and <2nd> <F5> – The Display Brightness functions are not used as the display brightness is adjusted by the buttons on the VX5 control panel.
- <2nd> <F6> and <2nd> <F7> – The Contrast functions are not used as the contrast is not adjustable on the TFT display on the VX5.
- <2nd> <F8> and <2nd> <F9> – The Volume control keys are not used as volume is adjusted via the Microsoft Windows Volume icon in the System Tray.
- <2nd> <F10> – Please see “Keyboard Backlight” later in this section for details on toggling the keyboard backlight.

NumLock and the VX5

The 60-key keyboard does not have a NumLock indicator or key. NumLock can be toggled On or Off using the <2nd> <SHIFT> <F10> keypress sequence.

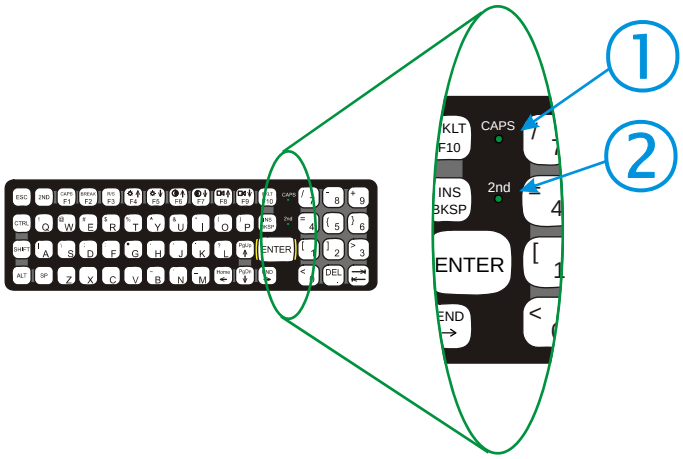
Please refer to the “VX5 Reference Guide” for more information on NumLock.

Keyboard Backlight

The LXE keyboard keys are backlit with LEDs. The backlight is manually controlled using the <2nd> + <CTRL> + <F10> keypress sequence.

Keyboard LEDs

The VX5 keyboard has two (2) LED indicators.



1. CapsLock Mode LED Indicator
2. Secondary Mode LED Indicator

Figure 12 Keyboard LEDs

CAPS LED

This LED indicates the state of the keyboard CapsLock mode. If CapsLock is enabled this LED is illuminated green. When CapsLock is off, the LED is dark.

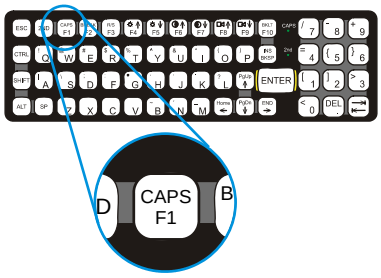


Figure 13 The CapsLock Key

Press <2nd> then <F1> to toggle CapsLock On and Off.

The default value of CapsLock is “Off”.

Secondary Keys LED

The VMT keyboard is equipped with several secondary keys. These keys are identified by the superscripted text found on the keyboard keys. The secondary keys are accessible by using two (2) keystrokes: the <2nd> key followed by the superscripted key.

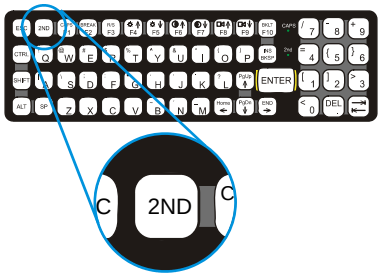


Figure 14 The Secondary Key

Once the <2nd> state is enabled (by pressing the <2nd> key) the Secondary Mode LED is illuminated and the <2nd> state is enabled until another key is pressed. The <2nd> key is toggled on with a <2nd> keypress and then immediately off with another <2nd> keypress.

For example:

Press <2nd> and <F1> to turn CapsLock on and off.

Press <2nd> and <↑> to initiate the PgUp command.

Press <2nd> and <Q> to type the "!" key.

Press <2nd> and <BkSp> to enter the Insert (Ins) mode.

Control Keys

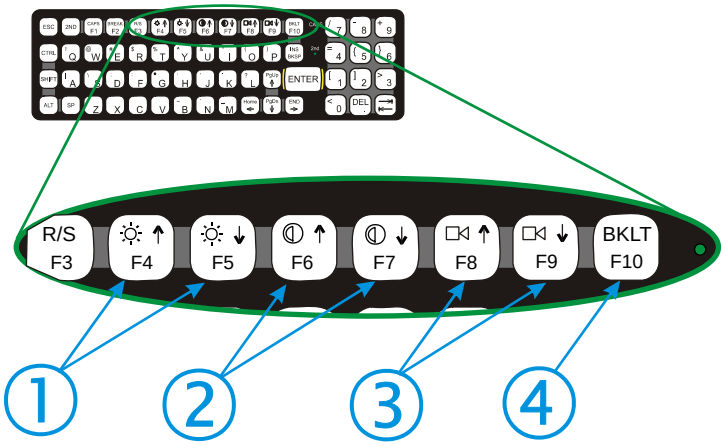
The VMT keyboard has several control keys. Because of the construction of the VX5 and the Microsoft Windows operating system, many of the Control Keys are not used on the VX5.

Note: The 2nd functions of the <F4> and <F5>keys are not used as the display brightness is adjusted via the buttons on the control panel.

The 2nd functions of the <F6>, and <F7> keys are not used as the VX5 has TFT LCD screen with no provision for contrast adjustments.

The 2nd functions of the <F8> and <F9> keys are not used as the sound volume on the VX5 is controlled with the Sound icon in the Microsoft Windows System Tray.

The <F10> key is used to toggle the backlight as part of the keypress sequence <2nd> + <CTRL> + <F10>. This key sequence immediately toggles the status of the keyboard backlight. Pressing <2nd> + <F10> has no effect on the keyboard backlight.



1. Display Brightness Control Keys (Not used)
2. Display Contrast Control Keys (Not used)
3. Speaker Volume Control Keys (Not used)
4. Backlight Control Key (See above)

Figure 15 The VMT Keyboard Display Controls

General Windows Keyboard Shortcuts

Use the keyboard shortcuts in the chart below to navigate with any VX5 keyboard. These are standard keyboard shortcuts for Windows applications.

Press these keys …	To …
CTRL + C	Copy
CTRL + X	Cut
CTRL + V	Paste
CTRL + Z	Undo
DELETE	Delete
SHIFT with any of the arrow keys	Select more than one item in a window or on the desktop, or select text within a document.
CTRL+A	Select all.
ALT+ESC	Cycle through items in the order they were opened.
CTRL+ESC	Display the Start menu.
ALT+Underlined letter in a menu name	Display the corresponding menu.
Underlined letter in a command name on an open menu	Carry out the corresponding command.
ESC	Cancel the current task.

The touchscreen provides equivalent functionality to a mouse:

- A touch on the touchscreen is equivalent to a left mouse click.
- Many items can be moved by the "drag and drop" method, touching the desired item, moving the stylus across the screen and releasing the stylus in the desired location.
- A double stylus tap is equivalent to a double click.
- Right click is accomplished via the <Ctrl> key, either as pressing of the <Ctrl> key followed by a screen touch or holding the <Ctrl> key down flowed by a screen touch. Please refer to the VX5 Reference Guide for details.

PS/2 Keyboard/Mouse

A standard PS/2 keyboard and mouse can be attached to the VX5 using the appropriate dongle cable. The dongle cable attaches to the VX5 and provides two PS/2 connectors, one labeled "Keyboard" and one labeled "Mouse". Please refer to documentation provided with the PS/2 keyboard and mouse for more information on their operation.

Virtual Keyboard

The optional My-T-Soft® software provides a virtual keyboard on the touchscreen. To start the virtual keyboard, click on the My-T-Soft icon on the desktop or select **Start | Programs | My-T-Soft | My-T-Soft.**

The virtual keyboard provides several configuration options, including:

- Keyboard size
- QWERTY vs. ABCD
- Standard 101 key format vs. Windows 104 key format

For more information on configuring the virtual keyboard, click on **Start | Programs | My-T-Soft | My-T-Soft Setup.**

Figure 16 Virtual Keyboard, Typical Configuration

Virtual keyboards display the actual character the keypress outputs. For example, pressing the <Shift> key on the virtual keyboard toggles the characters displayed on the keys between upper and lower case.

Note: When the virtual keyboard is displayed, the physical keyboard is still active, if attached. Therefore it is possible to input data from both keyboards.

Power Supply

Vehicle power input for the VX5 is 12V to 80V DC and is accepted without the need to perform any manual adjustments within the VX5. See the section titled "Installation", sub-section titled "Vehicle 12-80V DC Direct Connection." An optional Uninterruptible Power Supply (UPS) battery pack is available for the vehicle power supply connection.

If 12V to 80V DC power is not available – for example, in an office environment – an optional external Input Power Supply can be used to convert AC wall power to an appropriate DC level. See the section titled "Installation", sub-section titled "External Power Supply."

Power input is fused for protection and the fuse is externally accessible. See section titled "Installation", sub-section titled "Fuse Replacement for the VX5."

Uninterruptible Power Supply Battery Pack

An optional Uninterruptible Power Supply (UPS) battery pack is designed to provide power to the VX5 for short periods of time when vehicle power is unavailable (such as when vehicle batteries are swapped). Fully charged, the UPS battery powers the VX5 for a minimum of 15 minutes at 25º C (77º F) ambient temperature.

The Power Status LED on the VX5 indicates the UPS battery status:

Green – Running on 12V – 80V power input

Solid Yellow – Running on UPS battery, battery is not low on power

Flashing Yellow – Running on UPS battery, battery is critically low.

Backup Battery

The internal 190 mAh Lithium backup (coin cell) battery provides power to maintain the real time clock when the VX5 is not powered from an external source. The backup battery requires no user intervention. Replacement must be performed by LXE.

Caution 	Danger of explosion if battery is incorrectly replaced. Replace only with the same type or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Getting Help

All LXE manuals are now available on one CD and they can also be viewed/downloaded from the LXE 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 www.lxe.com.

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

Manuals and Accessories

Manuals

The following manuals are available on the LXE Manuals CD:

- VX5 Reference Guide
- Contacting LXE
- LXE Technical Glossary

Accessories

The table below lists the available VX5 accessories.

- Where two parts numbers are listed for a given part, the part number ending in "-R" is the RoHS compliant version.
- When only one part number is listed, the part is RoHS compliant unless otherwise noted.

VX5 Brackets	
Bracket, U Style, VX5	VX5A001UBRACKET-R
Bracket, U Style w/ Integrated Keyboard Mount, VX5	VX5A001UBRKTWKBDMNT-R
Kit, VXX U-Bracket to VX5 Adapter	VX5A002BRKTADPTKIT-R
Kit, VXX U-Bracket to VX5 Adapter w/ Keyboard Mount	VX5A002BRKTADPKBDMNT-R
Bracket, RAM Mount, VX5	VX5A003BRKTRAMMOUNT-R
Bracket, Combo RAM VMT Mount w/ Keyboard Mount, VX5	VX5A003BRKTRAMWKBMNT-R
Bracket, RAM Squeeze Mount, VX5	VX5A007BRKTRAMSQZMNT-R
Bracket, RAM Backup Mounting Plate	90000A033BACKUPPLATE
Bracket, Combo RAM Squeeze Mount w/ Keyboard Mount, VX5	VX5A008BRKTRAMSQKBMT-R
Bracket, Back, VX5 with Isolators	VX5A006BRKTRAMPARTS-R
Custom RAM ball for VX5 Back Bracket	9000A028RAMPLATEBALL-R
Special RAM kit without keyboard mount	VX5A010RAMKIT1
Special RAM kit with keyboard mount	VX5A011RAMKIT2
Std. RAM ball used in VX5A003BRKTRAMWKBMNT-R kit	990014-0003
Std. RAM arm used in VX5A003BRKTRAMWKBMNT-R kit	990014-0004
Standard RAM Squeeze ball	990014-0011

Keyboard Brackets	
Bracket, Keyboard, Integrated U Style, VX5	VX5A004BRKTUMOUNT-R
Bracket, Keyboard, RAM Mount, VX5 VX7	9000A017BRKTKBDRAM-R
Bracket, Remote, Keyboard, LXE	9000A012BRKTRMTLXE 9000A012BRKTRMTLXE-R
Bracket, Remote, Mouse Keyboard	9000A018BRKTMKBDRMT 9000A018BRKTMKBDRMT-R
Keyboards	
Keyboard, LXE Standard, D9, ANSI/PC Overlay, QWERTY	9000A157KBDSTDD9ANSI 9000A157KBDSTDD9ANSI-R
Keyboard, LXE Standard, D9, 5250 Overlay, QWERTY	9000A158KBDSTDD95250-R
Keyboard, LXE Standard, D9, 3270 Overlay, QWERTY	9000A159KBDSTDD93270 9000A159KBDSTDD93270-R
Keyboard, Rugged PC Style w/Mouse, PS2 D9	9000A160MOUSEKBDD9-R
Data Cables	
Cable, Combo D15 to USB and Ethernet Adapter 1 Ft	9000A071CBLD15USBETH
Cable, Combo D15 to USB-H, USB-C and Ethernet Adapter	9000A075CBLUSBHCETH
Cable, Keyboard/Mouse Dual PS2 Adapter 1 Ft	9000A072CBLD9DUALPS2
Cable, Printer/PC, D9 to D25	9000A053CBL6D9D25 (above part is ***not*** RoHS compliant)
Cable, PC, D9 to D9	9000A054CBL6D9D9
Note: Cable 9000A075CBLUSBHCETH (Cable, Combo D15 to USB-H, USB-C and Ethernet Adapter) can be used in place of 9000A071CBLD15USBETH. However, the USB-Client port is not supported when 9000A075CBLUSBHCETH is used with the VX5.	
Power Cables	
Cable, Input Power, 12 FT, VX5 VX6 VX7	9000A073CBLPWR12FT-R
Adapter Cable, VX1 VX2 VX4 Power Cable to VX5 VX6 VX7	9000A077CBLPWRADPTR
Power Supplies	
Power Supply, External, AC, W/US Power Cord VX5 VX6 VX7	9000A318PSACUS-R
Power Supply, External, AC, No Power Cord VX5 VX6 VX7	9000A318PSACWW-R
UPS Battery and Cables	
Battery, UPS Lead Acid, VX5 VX6 VX7	9000A378UPSBATTPACK-R
Cable, UPS Battery, Remote Mount Extender, 6 Ft	9000A074CBLUPSEXTNDR

Antenna and Antenna Mount Kits	
Replacement antenna, 2.4GHz	153180-0001
Remote Mount Antenna Assembly Kit, 8 Ft Cable	9000A279ANTREMOTE8-R
Remote Mount Antenna Assembly Kit, 6 Ft Cable	9000A278ANTREMOTE6-R
Right Angle Remote Mount Antenna Assembly Kit, 6 Ft Cable	9000A280ANTREMOTE6RT
Right Angle Remote Mount Antenna Assembly Kit, 15 Ft Cable	9000A281ANTREMOT15RT
Miscellaneous	
Stylus, with Tethers and Sleeves, 5 Pack	9000A510STYLUS
Media BC-WEDGE™ DOS/Windows Taltech Floppy	9000A485BCWEDGEMEDIA
On-Screen Software Keyboard Windows 95 Through XP	11201 MY-T-SOFT
Protective Film, 12 in Display, 10 Pack, VX5 VX7	9000A511PROTFILM12IN
Software, Drivers, VX5	VX5A477DRIVERS
Bracket, Hard Drive Kit	VX5A005HDDBRACKETKIT-R
Printers	
Zebra, PA400, 240VAC, EC	PA400-050-12100 (above part is ***not*** RoHS compliant)
Zebra, PA400, 120VAC, US	PA400-050-11100 (above part is ***not*** RoHS compliant)
Zebra, PA400, 20-80VDC	PA400-050-99100 (above part is ***not*** RoHS compliant)
Zebra, PT400, 240VAC, EC	PT400-050-12100 (above part is ***not*** RoHS compliant)
Zebra, PT400, 120VAC, US	PT400-050-11100 (above part is ***not*** RoHS compliant)
Zebra, PT400, 20-80VDC	PT400-050-99100 (above part is ***not*** RoHS compliant)

Scanners	
Scanner, Powerscan, SR, 8’ Cbl, WW	8300A326SCNRPWRSR8DA9F 8300A326SCNRPWRSR8DA9F-R
Scanner, Powerscan, SR, 12’ Cbl, US	8300A327SCNRPWRSR12DA9F (above part is ***not*** RoHS compliant)
Scanner, Powerscan, SR, Low Temp, 8’ Cbl	8300A332SCNRS8D9FLT (above part is ***not*** RoHS compliant)
Scanner, Powerscan, SR, Low Temp, 12’ Cbl	8300A333SCNRS12D9FLT (above part is ***not*** RoHS compliant)
Scanner, Powerscan, LR, 8’ Cbl, WW	8310A326SCNRPWRLR8DA9F 8310A326SCNRPWRLR8DA9F-R
Scanner, Powerscan, LR, 12’ Cbl, US	8310A327SCNRPWRLR12DA9F 8310A327SCNRPWRLR12DA9F-R
Scanner, Powerscan, LR, Low Temp, 8’ Cbl	8310A332SCNRL8D9FLT (above part is ***not*** RoHS compliant)
Scanner, Powerscan, LR, Low Temp, 12’ Cbl	8310A333SCNRL12D9FLT (above part is ***not*** RoHS compliant)
Scanner, Powerscan, XLR, 8’ Cbl, WW	8320A326SCNRPWRXLR8DA9F 8320A326SCNRPWRXLR8DA9F-R
Scanner, Powerscan, XLR, 12’ Cbl, US	8320A327SCNRPWRXLR12DA9F (above part is ***not*** RoHS compliant)
Scanner, Powerscan, XLR, Low Temp, 8’ Cbl	8320A332SCNRX8D9FLT (above part is ***not*** RoHS compliant)
Scanner, Powerscan, XLR, Low Temp, 12’ Cbl	8320A333SCNRX12D9FLT (above part is ***not*** RoHS compliant)
Scanner, LS3408 Fuzzy Logic SR, D9 Interface Cable, 8ft	8510A326SCNRFZYDA9F 8510A326SCNRFZYDA9F-R
Scanner, LS3408 Extended Range, D9 Interface Cable, 8ft	8520A326SCNRERDA9F-R

Installation

Install Mounting Brackets

> ***Caution:***  *This device is intended to transmit RF energy. For protection against RF exposure to humans and in accordance with FCC rules and Industry Canada rules, this transmitter should be installed such that a minimum separation distance of at least 20 cm (7.8 in.) is maintained between the antenna and the general population. This device is not to be co-located with other transmitters.*

Equipment Needed: Phillips No. 1 screwdriver and a Torque wrench capable of measuring to 50 lbf.in (5.64±.56 N.m).

Note: Torquing tool is not supplied by LXE. Bolts, washers, and wrench needed when attaching the bottom mounting bracket to the vehicle are not supplied by LXE.

Several types of mounting systems are provided for the VX5:

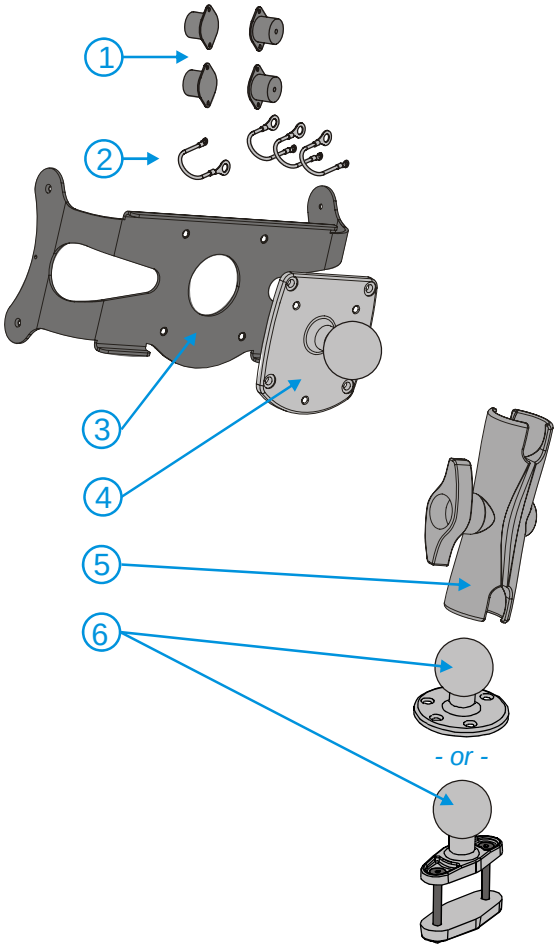
- RAM mount system:
  - Available RAM ball base or RAM clamp mount
  - Optional integrated keyboard bracket
- U-Bracket system:
  - Optional integrated keyboard mounting bracket
  - Provision for integrated UPS battery mount
  - Available without U-Bracket for vehicles previously equipped with an LXE vehicle mounted computer
- Remote mount for keyboard
- Remote mount for UPS battery pack

Before installation begins, verify you have the applicable vehicle mounting bracket assembly components necessary for your mount type, as shown in the following figures.

RAM Mount System

Components

RAM Mounting Assembly



The RAM mounting assembly consists of the following parts:

1. Isolators (4 each)
2. Fail safe cables (4 each)
3. VX5 isolator bracket
4. VX5 RAM ball bracket
5. RAM arm, size D
6. RAM ball base

   - or -

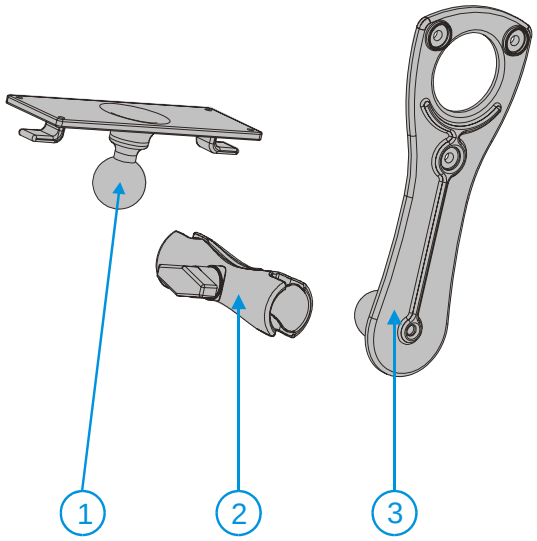
   RAM clamp mount

   RAM clamp count includes:
   - Upper clamp piece with ball
   - Lower clamp piece
   - Bolts (2 each)
   - Nylon locking nuts (2 each)

7. Hardware (not shown):

   Screws, 8-32x3/8 (4 each)
   Screws, 6-32x5/16 (8 each)
   Bolts, 1/4-20x5/8 (4 each)
   Washers, 1/4 locking (4 each)
   Washers, 1/4 flat (4 each)
   RAM wrench

RAM Integrated Keyboard Mount



The optional RAM integrated keyboard mount consists of the following parts:

1. Keyboard mounting plate.
2. RAM arm, size C
3. Keyboard mounting bracket
4. Hardware (not shown):
   - Screws, 8-32x5/8 (4 each) for use with the 95 key keyboard
   - Screws, 10-32x5/8 (4 each) for use with the 60 key keyboard
   - Bolts, 1/4-20x5/8 (3 each)
   - Washers, 1/4 locking (3 each)
   - Washers, 1/4 flat (3 each)

Torque Measurements

You will need a torquing tool capable of torquing to 50 lbf.in (5.64±.56 N.m).

Torque all screws and bolts according to the following table:

For these screws and bolts…	Torque to
#6 screws	8.0±1 lbf.in (0.9±.11 N.m)
#8 screws	16.0±1 lbf.in (1.8±.11 N.m)
1/4 bolts	50.0±5 lbf.in (5.64±.56 N.m)

Procedure

Step 1a – Mount Vehicle RAM Ball Base

Note: If you are using the RAM clamp mount, please skip to Step 1b.

1. Determine the position for mounting the RAM ball base. Be sure to position the RAM ball base to allow access to the switches and ports on the bottom of the VX5.

2. Attach the RAM ball base to the vehicle mounting surface using four 1/4 bolts (or equivalent) fasteners.

   Note: 1/4 Bolts not included.

IMPORTANT: Mount to the most rigid surface available.

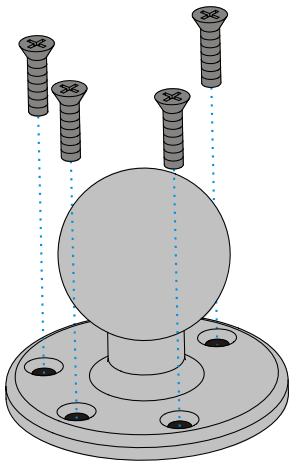


Figure 17 Connect RAM Ball Base to Vehicle

Mounting Dimensions

Note: Drill and tap holes for 1/4 bolts.

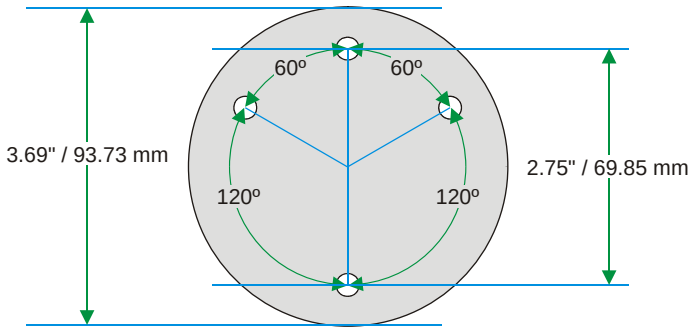


Figure 18 RAM Ball Base - Mounting Dimensions (Not To Scale)

Step 1b – Mount Vehicle RAM Clamp Mount

Note: If you are using the RAM ball base, complete Step 1a and skip Step 1b.

1. Determine the position for mounting the RAM clamp mount. The clamp mount can be used on a beam (such as on a fork lift truck) up to 2.5" (63.5 mm) wide and approximately 2" (50.8 mm) thick. The clamp may be attached to a thicker beam by substituting longer bolts (not included). Be sure to position the RAM clamp mount to allow access to the switches and ports on the bottom of the VX5.

2. Position the upper clamp piece with ball (A) on the beam. Place the bolts (B) through the holes in the upper clamp piece.

3. Position the lower clamp piece (C) below the beam. Align the bolts with the holes in the lower clamp piece.

4. Place the nylon locking nuts (D) on the bolts and tighten the bolts.

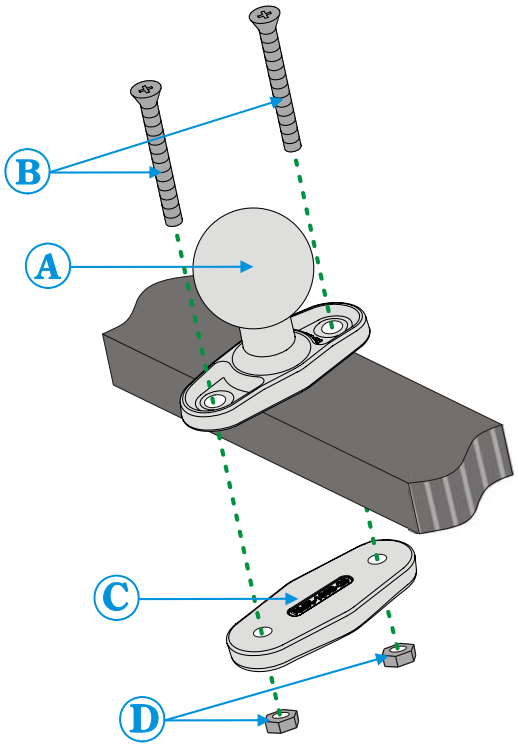


Figure 19 RAM Clamp Mount Components

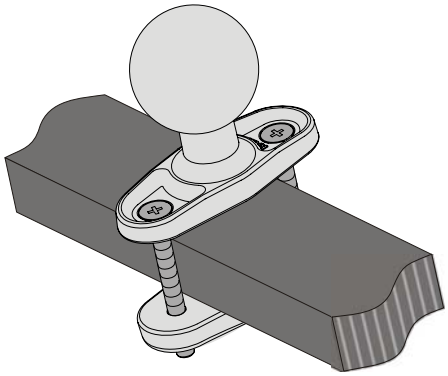
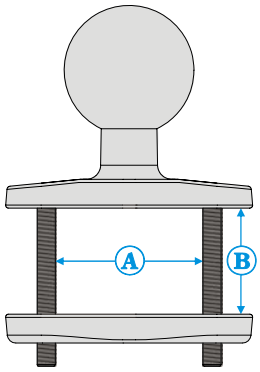


Figure 20 Assembled RAM Clamp Mount

Mounting Dimensions



A 2.56” (65.02 mm)

B 1.84” (46.74 mm)
Varies depending on bolt length

Figure 21 RAM Clamp Mount - Mounting Dimensions (Not To Scale)

Step 2 – Prepare VX5 and Keyboard

1. Turn the VX5 off before attaching isolators and brackets.

2. Place the VX5 face down on a stable surface.

3. Align an isolator with one of the upper isolator mounting plates on the VX5. Attach the isolator to the VX5 with two 6-32x5/16 screws. Capture the smaller end of the fail safe cable between the isolator plate and the screw head. Repeat for the remaining isolators.

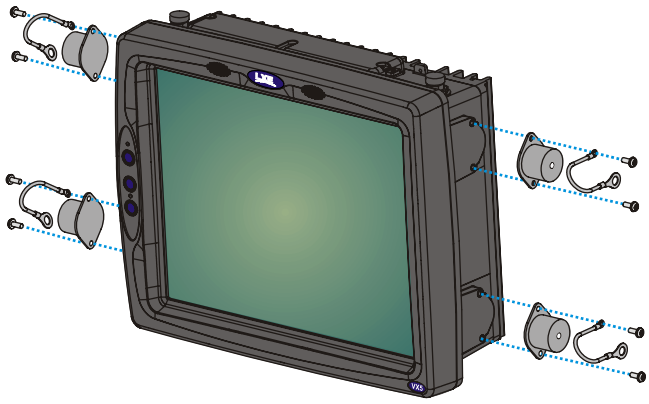


Figure 22 Attach Isolators to VX5

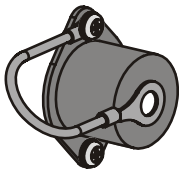


Figure 23 Fail Safe Cable Detail

4. If using the optional integrated keyboard mount, attach the keyboard to keyboard mounting plate, using the appropriate screws:
    - For the 95 key keyboard, use four 8-32x5/8 screws
    - For the 60 key keyboard, use four 10-32x5/8 screws

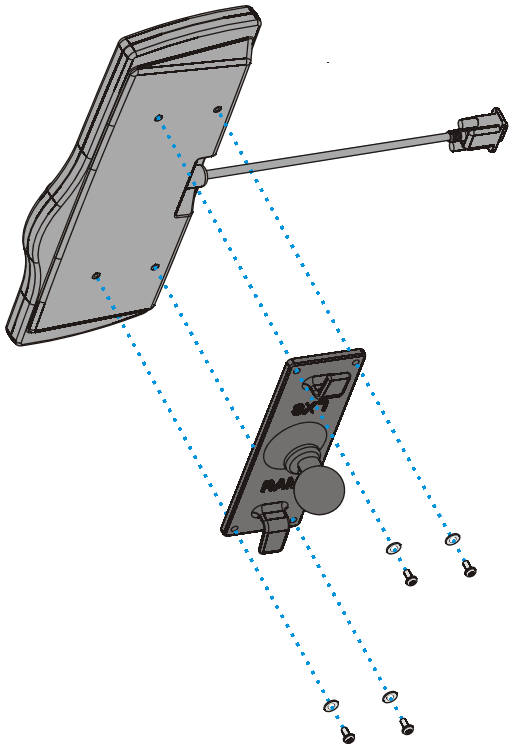


Figure 24 Attach Keyboard to Plate

Step 3 – Assemble Isolator, RAM Mount and Optional Keyboard Brackets

1. Position the RAM ball bracket on the rear of the isolator bracket, aligning the curved edge on the RAM mount bracket with the curved edge of the isolator bracket. Attach with four 1/4-20x5/8 bolts, using one flat washer and one locking washer per bolt. Place the locking washer on the bolt before the flat washer.

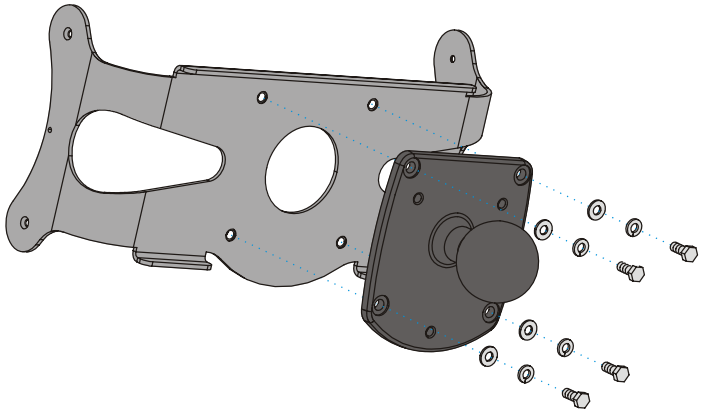


Figure 25 Assemble Isolator and RAM Mount Brackets

3. If using the optional integrated keyboard mount, attach the keyboard mounting bracket to the RAM mounting bracket with three 1/4-20x5/8 bolts, using one flat washer and one locking washer per bolt. Place the locking washer on the bolt before the flat washer.

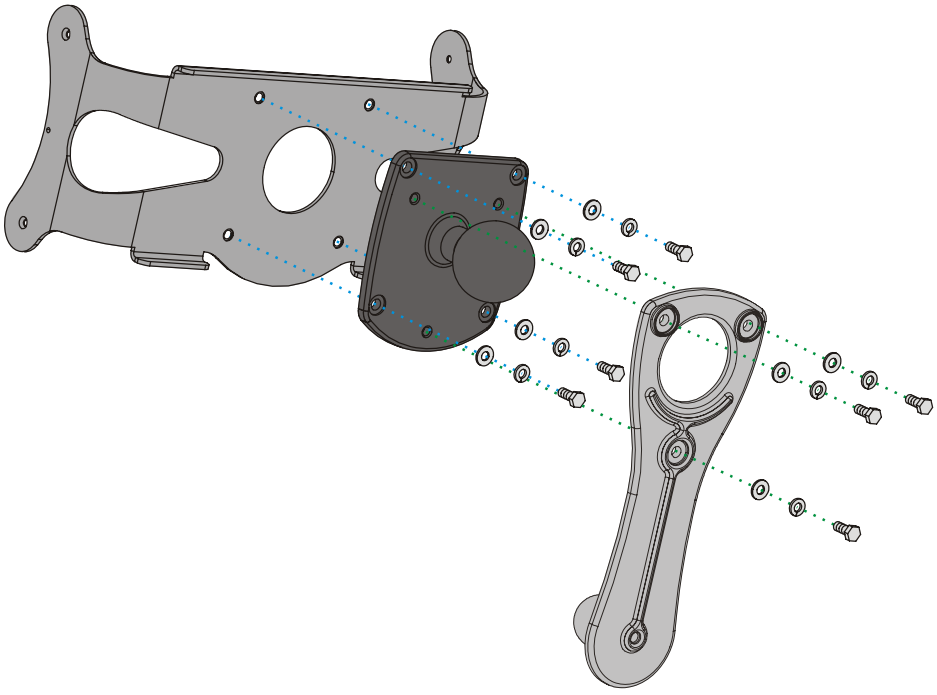


Figure 26 Attach Keyboard Mounting Bracket

Step 4 – Attach VX5 and Bracket Assembly to RAM Ball Base or RAM Clamp Mount

1. Attach the completed bracket assembly to the VX5 using four 8-32x3/8 screws. Make sure the screws go through the free end of the fail sale cables. The fail safe cables must be captured between the isolator and the mounting bracket.

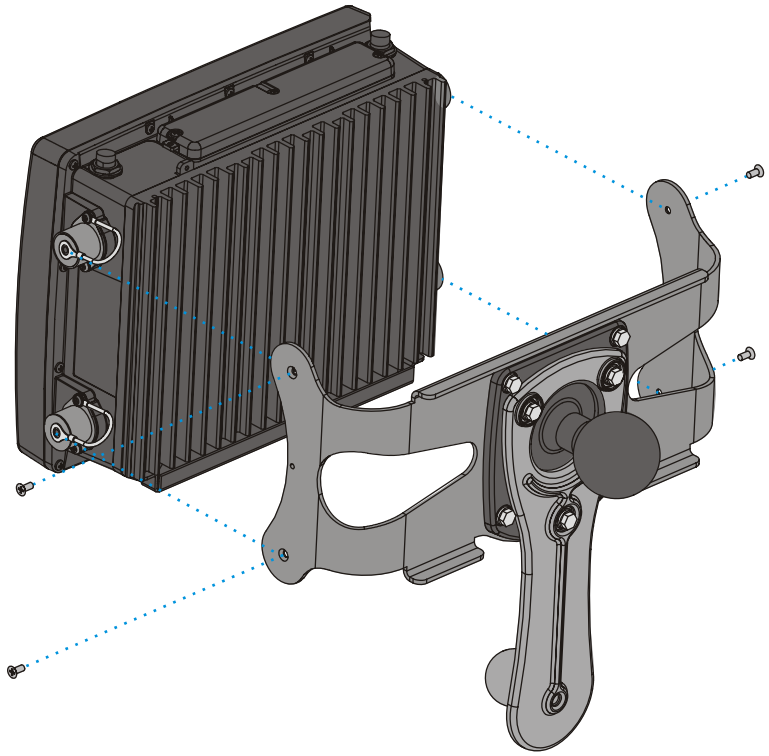


Figure 27 Attach Bracket Assembly to VX5

Note: RAM keyboard mounting bracket shown.

2. If the optional integrated keyboard bracket is not used, slip the RAM arm over the ball on the vehicle RAM ball base or the RAM clamp mount. Insert the ball of the RAM mount bracket into the RAM arm. Adjust the VX5 to the desired position and tighten the knob on the RAM arm using the supplied RAM wrench.

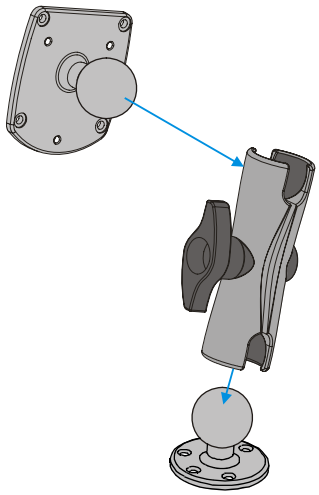


Figure 28 RAM Assembly without Keyboard

Note: RAM ball base shown.

3. If using the optional integrated keyboard bracket, there are two arms included. Slip the larger RAM arm over the ball on the vehicle RAM ball base or the RAM clamp mount. Insert the ball of the RAM mount bracket into the RAM arm. Adjust the VX5 to the desired position and tighten the knob on the RAM arm using the supplied RAM wrench.

   Slip the smaller arm over the RAM ball on the keyboard mounting bracket. Insert the RAM ball on the keyboard mounting plate into the RAM arm. Adjust the keyboard to the desired position and tighten the knob on the RAM arm using the supplied RAM wrench.

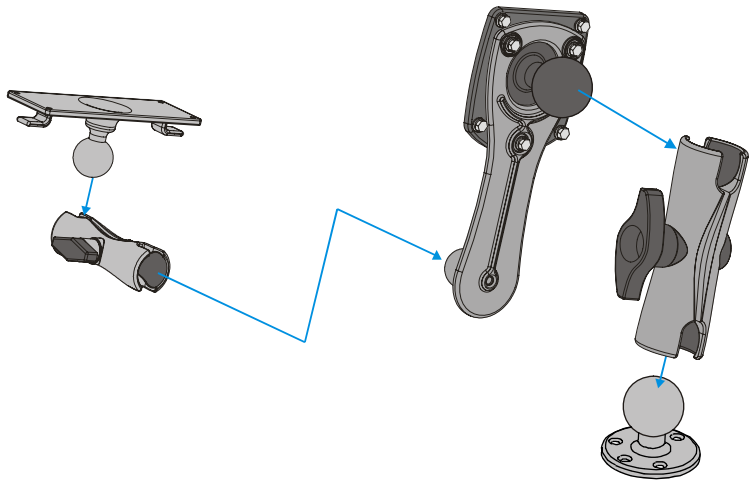


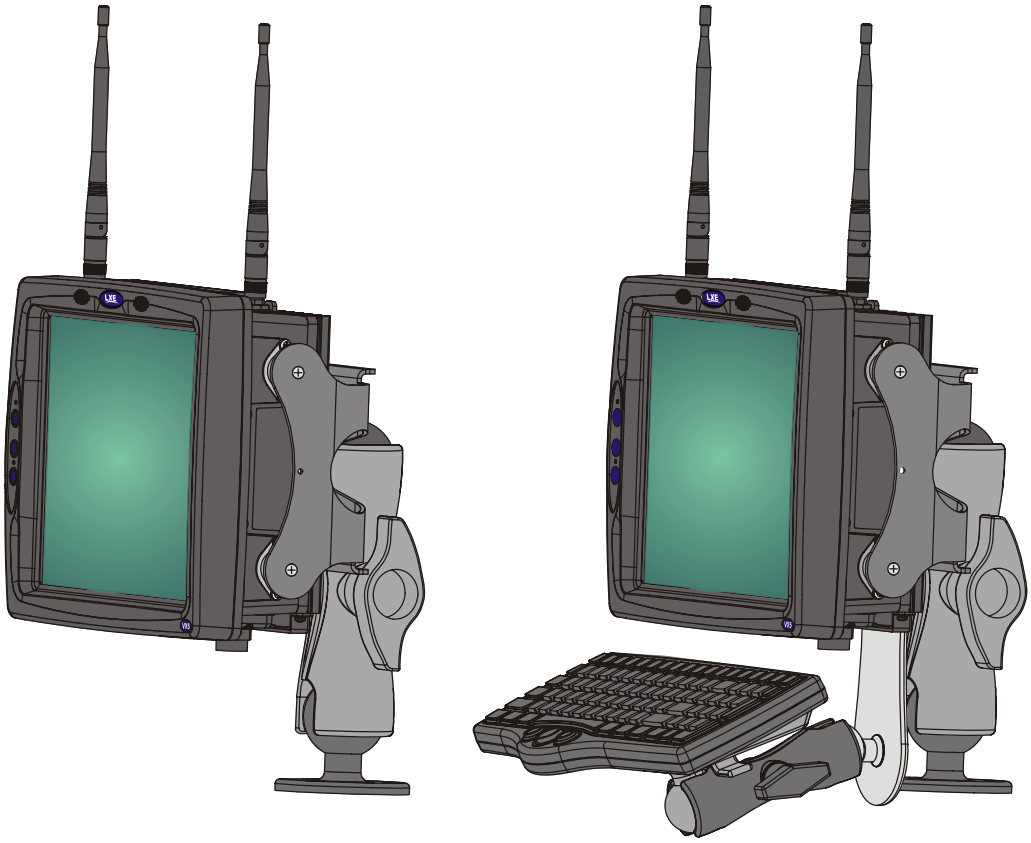
Figure 29 RAM Assembly with Keyboard

Note: RAM ball base shown.

Note *Excess keyboard cable length can be looped around the hooks on the bottom of the keyboard mounting plate.*

Make sure there is a minimum 1” (25.4 mm) clearance between the VX5 and the keyboard.

Completed Assembly



RAM Mount RAM Mount with Integrated Keyboard Mount

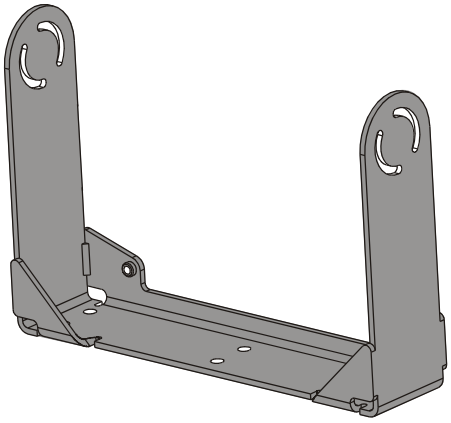
Figure 30 Completed RAM Mount Assembly

Note: RAM ball base shown.

U-Bracket Mount System

Components

Bottom Mounting Bracket



This bracket is mounted to the vehicle. The VX5 can be mounted to the bottom mounting bracket with or without an integrated keyboard mounting bracket. Additionally, the UPS battery pack may be mounted to the bottom mounting bracket.

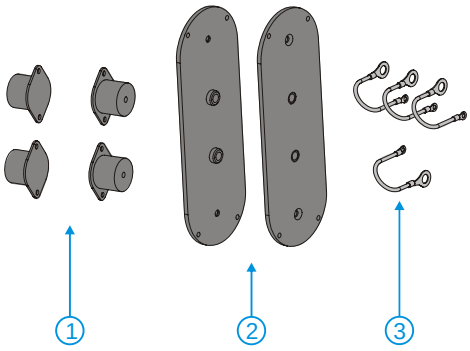
The following hardware is included (not shown) to assemble the VX5 to the bracket bottom mounting bracket:

1/4 flat washer (4 each)
1/4 locking washer (4 each)
screw, hex, 1/4-20x5/8

If the optional UPS battery pack is to be mounted to the bottom bracket, use the following parts included with the UPS battery pack (not shown):

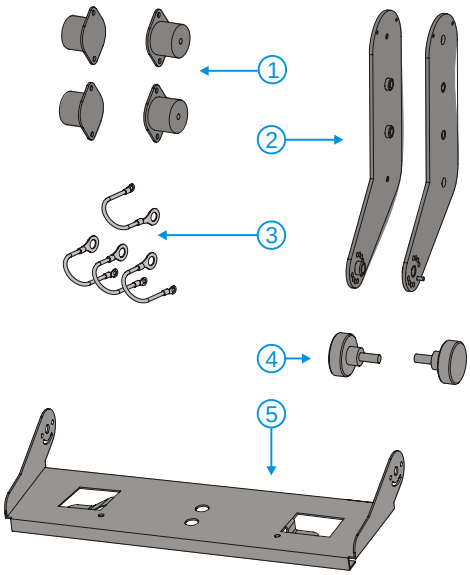
1" long aluminum spacer w/through hole (2 each)
1/4 flat washer (2 each)
1/4 locking washer (2 each)
screw, pan head, 1/4-20x2 (2 each)

Isolator Bracket Assembly (without Keyboard Bracket)



1. Isolators (4 each).
2. Side mounting brackets (2 each).
3. Fail safe cables (4 each)
4. Hardware (not shown):
   Screws, 6-32x5/16 (8 each)
   Screws, 8-32x3/8 (4 each)

Isolator Bracket Assembly with Keyboard Bracket



1. Isolators (4 each).
2. Side mounting brackets with keyboard mounts (left side and right side)
3. Fail safe cables (4 each)
4. Adjustment knob (2 each)
5. Keyboard mounting plate
6. Hardware (not shown):
   Screws, 6-32x5/16 (8 each)
   Screws, 8-32x3/8 (4 each)
   Screws, 8-32x5/8 (4 each) for use with the 95 key keyboard
   Screws, 10-32x5/8 (4 each) for use with the 60 key keyboard

Mounting Positions

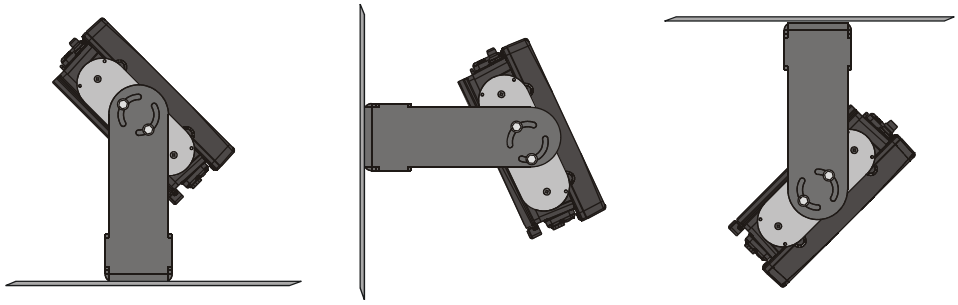


Figure 31 Suggested Mounting Positions

The viewing angle can be adjusted through a wide range to provide the best viewing angle.

Torque Measurements

You will need a torquing tool capable of torquing to 50 lbf.in (5.64±.56 N.m).

Torque all screws and bolts according to the following table:

For these screws and bolts…	Torque to
#6 screws	8.0±.5 lbf.in (0.9±.05 N.m)
#8 screws	16.0±1 lbf.in (1.8±.11 N.m)
1/4 bolts	50.0±5 lbf.in (5.64±.56 N.m)

Procedure

Step 1 - Mount Bottom Mounting Bracket To Vehicle.

1. Position the bracket to allow access to the switches and ports on the bottom of the VX5.

2. Attach the bottom mounting bracket to the vehicle mounting surface using a minimum of four 1/4 bolts (or equivalent) fasteners.

   Note: 1/4 Bolts and washers not included. It is recommended to use lock washers and flat washers on the fasteners.

IMPORTANT: Mount to the most rigid surface available.

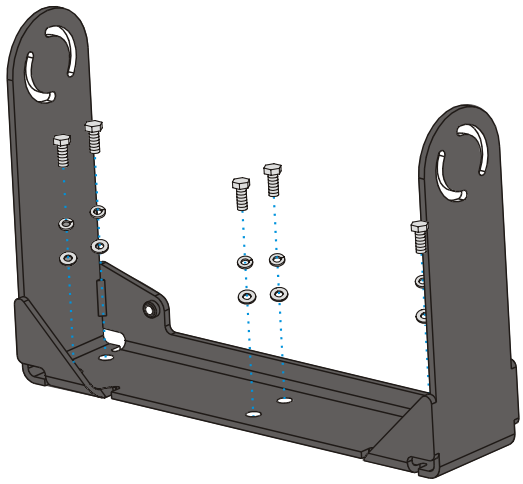
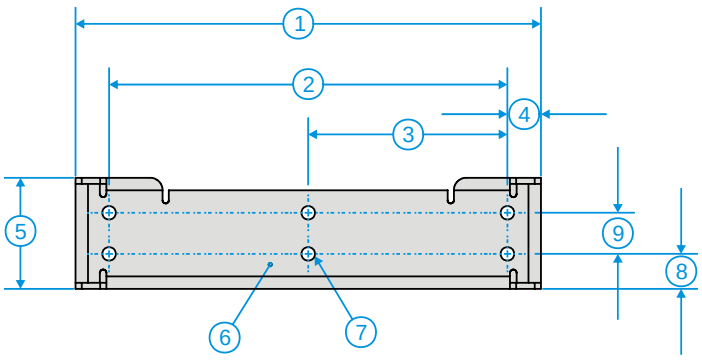


Figure 32 Connect Bottom Bracket to Vehicle

After the bottom bracket has been attached to a rigid surface, you are ready to assemble the VX5 bracket configuration.

Mounting Dimensions



1. 14.40 in / 359.2 mm
2. 12.10 in / 307.3 mm
3. 6.05 in / 153.6 mm
4. 1.02 in / 25.9 mm
5. 3.38 in / 85.85 mm
6. Vehicle Mount Footprint
7. 0.406 in / 10.312 mm
8. 0.88 in / 22.3 mm
9. 1.25 in / 31.75 mm

Figure 33 VX5 Bracket - Mounting Dimensions (Not To Scale)

Step 2 - Connect Isolators and Side Mounting Brackets to VX5

1. Turn the VX5 off before attaching isolators and brackets.

2. Place the VX5 face down on a stable surface.

3. Align an isolator with one of the upper isolator mounting plates on the VX5. Attach the isolator to the VX5 with two 6-32x5/16 screws. Capture the smaller end of the fail safe cable between the isolator plate and the screw head. Repeat for the remaining isolators.

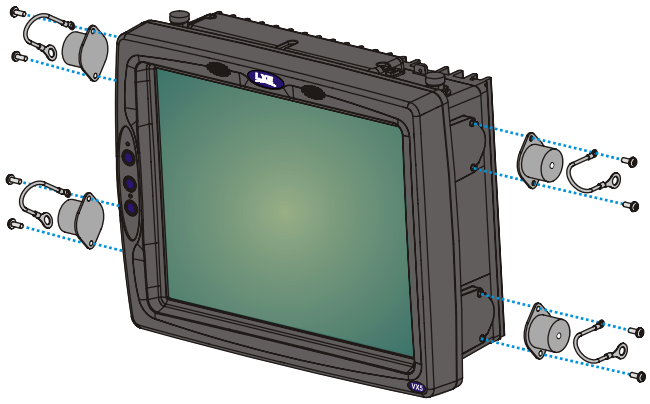


Figure 34 Attach Isolators to VX5

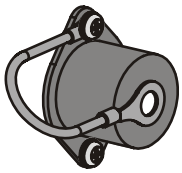


Figure 35 Fail Safe Cable Detail

4. “No keyboard” mounting option

Note: Also use this option if the keyboard is to be mounted remotely.

Align the side mounting brackets with the isolators on the VX5. Attach each side bracket using two 8-32x3/8 screws per side bracket. Be sure the screws go through the free end of the fail safe cables, capturing the free end of the fail safe cable between the isolator bracket and the side bracket.

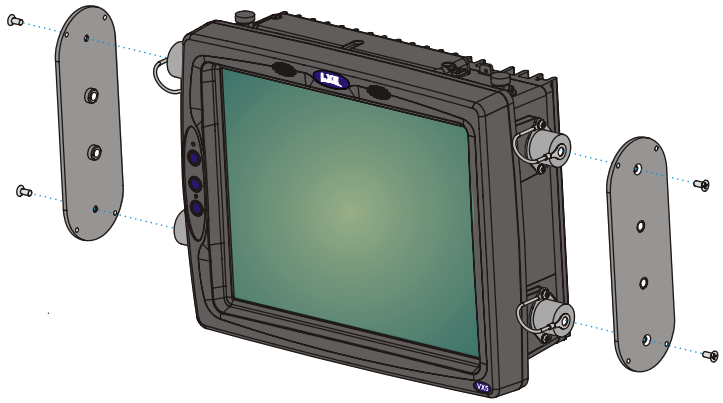


Figure 36 Attach “No Keyboard” Side Mounting Brackets to VX5

5. Integrated keyboard mounting option

   a. Align the side mounting brackets with keyboard mounts with the isolators on the VX5. Attach each side bracket using two 8-32x3/8 screws per side bracket. Be sure the screws on each side go through the free end of the fail safe cables, capturing the free end of the fail safe cable between the isolator bracket and the side bracket.

Figure 37 Attach "Integrated Keyboard" Side Mounting Brackets to VX5

   b. Attach the keyboard mounting plate to the side mount brackets using the two adjusting knobs.

   c. Fasten the keyboard to the keyboard mounting plate. Use four 8-32x5/8 screws to attach the 95-key keyboard. Use four 10-32x5/8 screws to attach the 60-key keyboard.

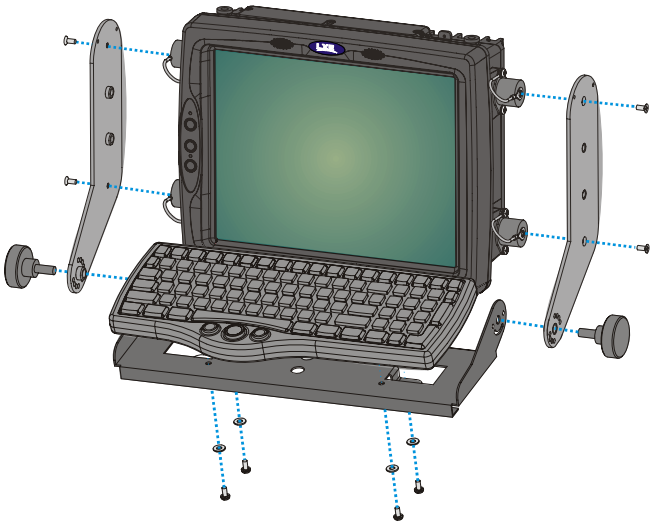


Figure 38 Attach Keyboard and Bracket to VX5

Note *Excess keyboard cable length can be looped around the hooks on the bottom of the keyboard mounting plate.*

Step 3 - Attach VX5 Assembly To Bottom Mounting Bracket.

1. Place lock washer first, then flat washer on 1/4-20x5/8 bolt. Next insert mounting bolts through the curved apertures in the bottom mounting bracket and into the screw holes in the side bracket.

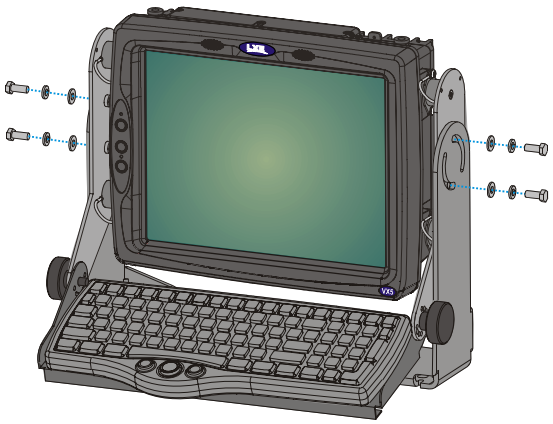


Figure 39 Attach VX5 Assembly to Bottom Bracket

2. Loosely tighten each bolt as it is inserted.

   Important: Do not torque bolts until all bolts are in place and viewing angle is adjusted.

3. Loosen the hex bolts on both sides to adjust the viewing angle of the mounted VX5.

4. Torque the hex bolts to 50±5 lbf.in (5.64±.56 N.m).

   Note: Test the torque on the bolts frequently during operation and re-tighten if necessary to 50±5 lbf.in (5.64±.56 N.m).

5. Adjust the angle of the keyboard (if the integrated keyboard mounting bracket is used) by loosening the two adjusting knobs, adjusting the keyboard angle and then tightening the adjusting knobs.

6. If using a UPS battery pack, the battery pack can be mounted to the bottom mounting bracket. Place a locking washer and then a flat washer on a 1/4-20x2 bolt. Thread the bolt through the UPS Battery Pack, then through the 1” aluminum spacer and into the mounting bracket.

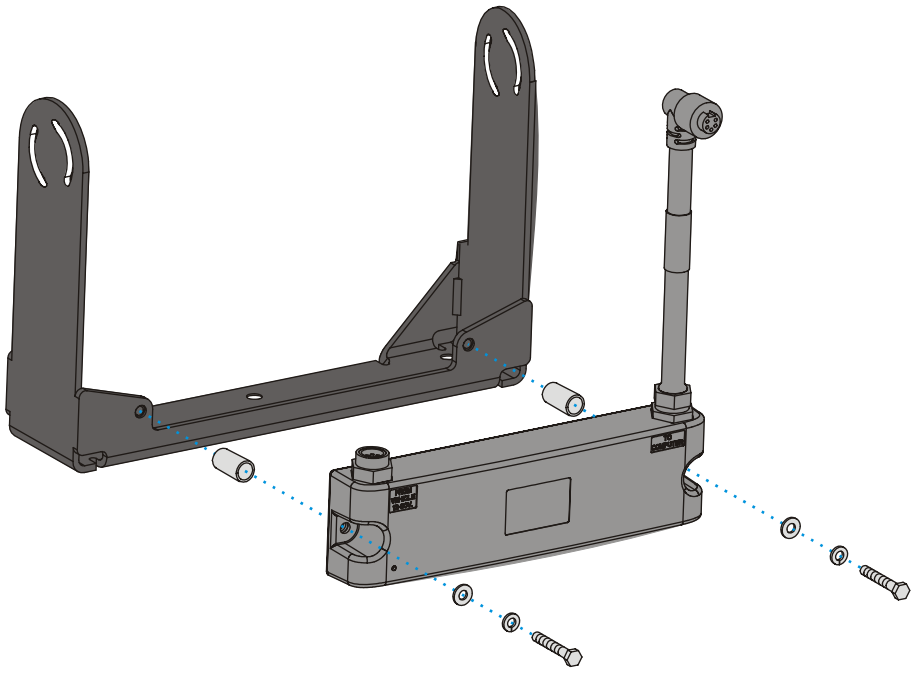


Figure 40 Integrated UPS Battery Pack Mount

7. Connect all cables to the VX5. Secure the cables with the strain relief cable clamps, ensuring a slack loop remains between the cable clamp and the accessory connector.

8. The vehicle mounted bracket and the VX5 are now ready to use.

Completed Assembly

Vehicle Mount Bracket Bracket with Integrated Keyboard Mount

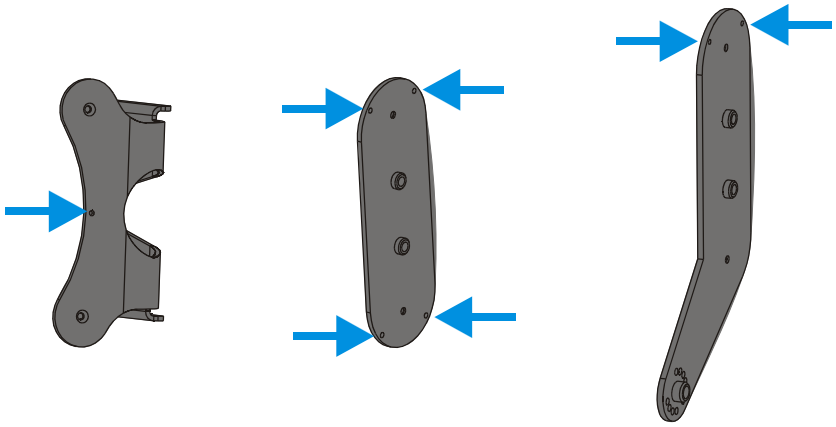
Figure 41 VX5 in Vehicle Bracket

Install Stylus Tether and Sleeve

The LXE stylus kit includes the stylus, tether and sleeves. The tether allows the stylus to be mounted to the VX5 and the sleeve provides storage for the stylus when not in use.

How To Install Stylus Tether and Sleeves

1. Locate the tether hole in the VX5 mounting bracket (see below):



RAM Mount Option | U Bracket Option without Keyboard Mount | U Bracket Option with Integrated Keyboard Mount

Figure 42 Stylus Tether Mounting Holes

2. Select the mounting hole most convenient for the particular VX5 installation.
3. Slide the clip end of the stylus tether into the tether mounting hole.
4. Determine a convenient location for the stylus sleeve. Apply the adhesive baked Velcro® loop strip to the VX5 or mounting bracket. Attach the Velcro® hook strip on the elastic stylus sleeve to the loop strip.

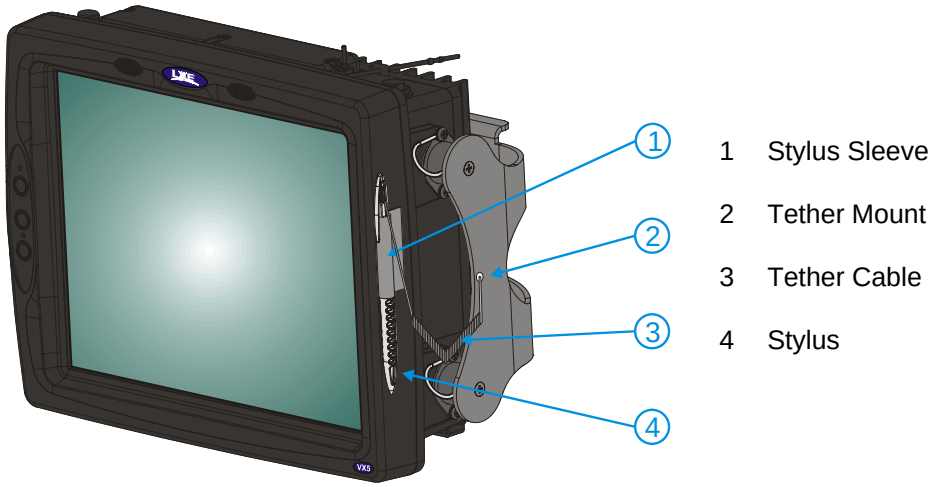


Figure 43 Tethered Stylus, Typical Installation

Install/Remove Touchscreen Protective Film

LXE offers a replaceable touchscreen protective film to protect the touchscreen when the VX5 is used in an abrasive environment.

How To Install Touchscreen Protective Film

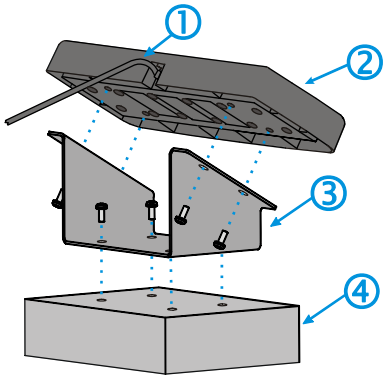
1. Clean the touchscreen and protective film with a standard household cleaner such as Windex® without vinegar or use Isopropyl Alcohol. Do not use paper towels or harsh-chemical-based cleaning fluids since they may result in damage to the glass surface. Use a clean, damp, lint-free cloth. Do not scrub optical surfaces. If possible, clean only those areas which are soiled. Lint/particulates can be removed with clean, filtered canned air.
2. Center the protective film over the touchscreen. The anti-glare side **must be facing outward**. Do not cut or trim the protective film.
3. The protective film is approximately 1/10" (2.54mm) larger than the touchscreen at the centers of the edges.
4. Slide the protective film so that the one of the edges of the film can be slid between the touchscreen and display housing when the protective film is re-centered on the touchscreen. Repeat for the other three edges, ensuring the protective film is centered over the touchscreen when finished.

When necessary, the film can be cleaned with Windex or an equivalent cleaner as described above.

How to Remove Touchscreen Protective Film

The protective film can be removed by sliding the film in one direction until the edge clears. Lift up on the edge of the film so it does not slide between the touchscreen and housing when slid back. Repeat until all edges are free and remove the protective film.

VMT Remote Keyboard Bracket Assembly



1. Keyboard Cable
2. VMT Keyboard
3. Bracket
4. Mounting Surface
5. Mounting Hardware (not shown):
   Screws, 8-32x5/8 (4 each) for use with the 95-key keyboard
   Screws, 10-32x5/8 (4 each) for use with the 60-key keyboard

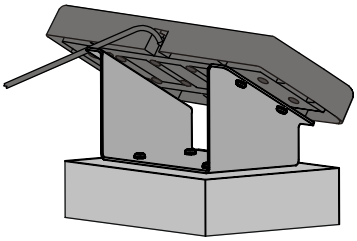


Figure 44 VMT Remote Keyboard Bracket Assembly

Equipment Needed: Phillips screwdriver, torque wrench.

1. Place the keyboard face down on a flat, stable surface.
2. Position the bracket on the keyboard base, aligning the four screw holes in the keyboard with the four mounting holes in the bracket flanges. When positioned correctly, the bracket should overlap at the top of the keyboard.
3. Attach the keyboard to the bracket with four screws (included). Tighten to 9 +/- 1 lbf.in (1.02 N.m).
4. Attach the keyboard-bracket assembly to the vehicle's mounting surface using four 1/4 bolts, lock washers and flat washers or equivalent.

Note: Bolts, washers, and wrench needed when attaching the bracket to the vehicle are not supplied by LXE.

IMPORTANT: Mount to the most rigid surface available.

VMT Remote Keyboard Mounting Dimensions

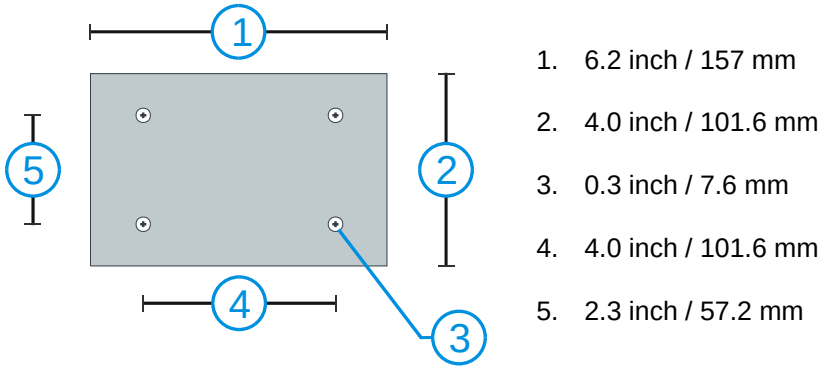


Figure 45 VMT Remote Keyboard - Mounting Dimensions

The overall space required for the keyboards are:

- LXE 95-key keyboard: 5.75” (146.05mm) x 13.40” (340.40mm)
- LXE 60-key keyboard: 4.40” (111.50mm) x 11.90” (302.00mm)

UPS Battery Pack Remote Mount

The optional UPS battery pack must be mounted remotely when using the RAM mount system or a U-bracket designed for a previous model LXE computer. The remote mount can also be used with the VX5 U-bracket assembly if it is not convenient to mount the UPS battery pack to the U-bracket.

A six foot extension cable is available to connect the UPS battery pack to the VX5.

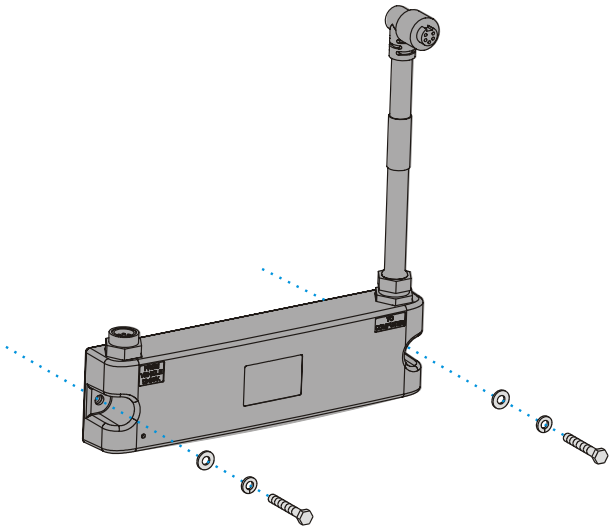


Figure 46 VMT Remote UPS Battery Pack Mount

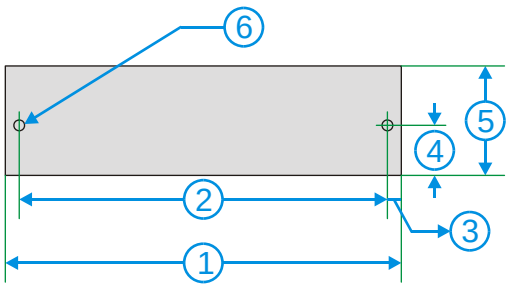
1. Position the UPS battery pack to allow cables to reach the vehicle battery and the VX5.

2. Attach the UPS battery pack to the vehicle mounting surface using two 1/4 bolts, lock washers and flat washers (or equivalent) fasteners.

   Note: 1/4 bolts and washers not included.

IMPORTANT: Mount to the most rigid surface available.

UPS Battery Pack Remote Mounting Dimensions



1 11.00” / 279.40mm

2 10.23” / 259.80mm

3 0.38” / 9.65mm

4 1.39” / 35.31mm

5 3.04” / 77.22mm

6 0.30” / 7.62mm

Figure 47 UPS Battery Pack Remote Mounting Dimensions

Connect Keyboard

LXE VMT Keyboard

The VX5 has an external 9-pin connector for the keyboard. All LXE VMT keyboards are connected in a similar fashion. The keyboard is attached to the connector marked “KEYBOARD”. The keyboard receives power from the VX5.

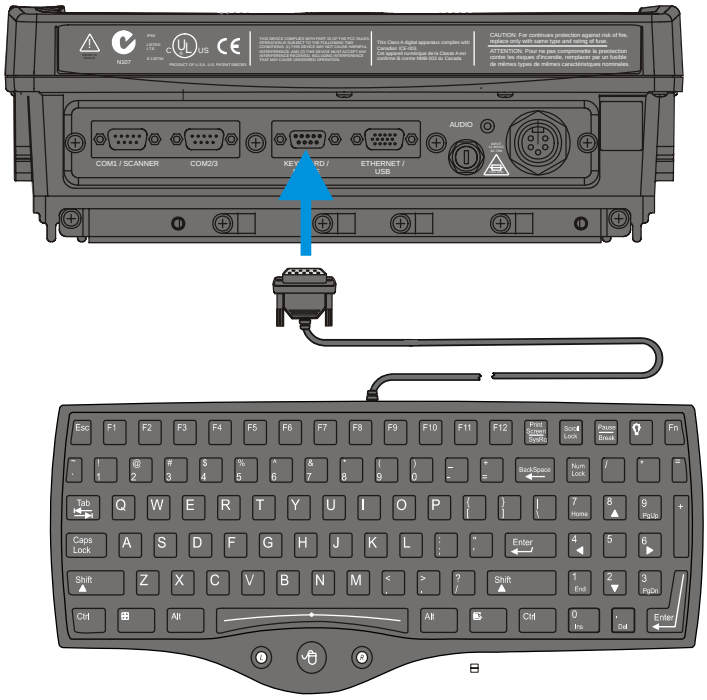


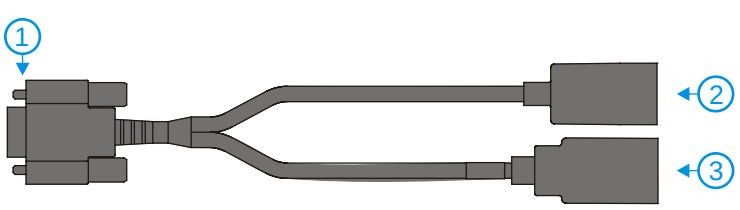
Figure 48 Keyboard Connection Location and Keyboard

1. Turn the VX5 off before attaching the keyboard cable.
2. Insert the keyboard cable into the VX5 keyboard connector.
3. Once the pins are firmly seated, tighten (turning clockwise) the thumbscrews.
4. Secure the cable with a strain relief cable clamp.
5. Turn the VX5 on.

PS/2 Keyboard and Mouse

By using the optional dongle cable, a standard PS/2 keyboard and mouse may be attached to the VX5.

1. Turn the VX5 off before attaching the keyboard dongle cable.
2. Insert the 9-pin connector end of the dongle cable into the VX5 keyboard connector.
3. Once the pins are firmly seated, tighten (turning clockwise) the thumbscrews.
4. Secure the cable with a strain relief cable clamp.
5. Attach a PS/2 keyboard and/or PS/2 mouse to the appropriately labeled PS/2 connector on the dongle cable.
6. Turn the VX5 on.



1 D9 Connector

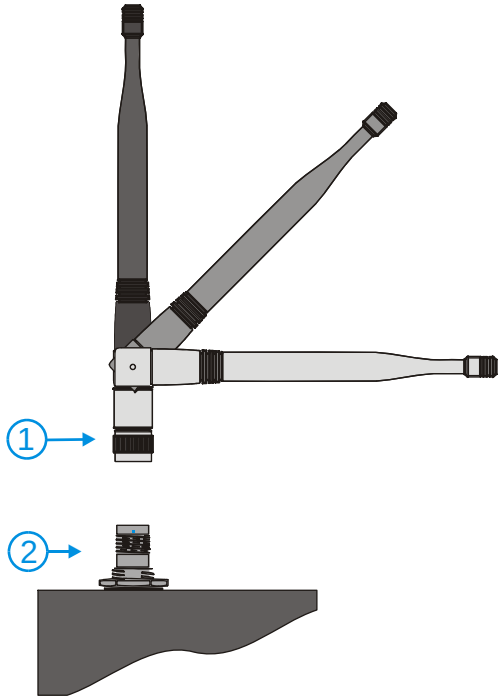
2 PS/2 Keyboard Connector

3 PS/2 Mouse Connector

Figure 49 VX5 PS/2 Keyboard/Mouse Dongle Cable

Connect Antenna

Note: VX5's equipped with a radio require an external antenna. A VX5 without a radio does not use an antenna. Some VX5's may be equipped with a dual antenna option. For these VX5's, an external antenna must be connected to each antenna connector.



1. Antenna
2. Antenna Connector

Figure 50 Connect 2.4GHz Antenna

Place the antenna over the antenna connector. Push down and twist clockwise until the antenna is secured. Repeat for second antenna connector, if present.

Adjust the antenna angle to improve RF communications with the computer network.

Note: Substitution of antennas is not permitted unless authorized by LXE. Use of unauthorized antennas will void the FCC emissions certification of the VX5.

Remote Vehicle Antenna Mount

The external antenna (or antennas) can be remotely mounted on the vehicle. Please refer to the "Vehicle Remote Mount Antenna Installation Sheet" for details.

Connect Serial Barcode Scanner

Refer to the documentation received with the barcode scanner for complete instructions. Read all warnings and caution labels.

Pin 9 of COM1 is configured to provide +5V. Pin 9 of COM2 is configured to provide RI. To change Pin 9 of either port, please refer to the "VX5 Reference Guide".

The scanner cable is attached to the connector marked "COM1/SCANNER". The scanner receives power from the VX5.

The cable requires a nine-pin D-shell female connector for the VX5.

Note: Use of a shielded cable is required to maintain FCC and CISPR22 emissions compliance.

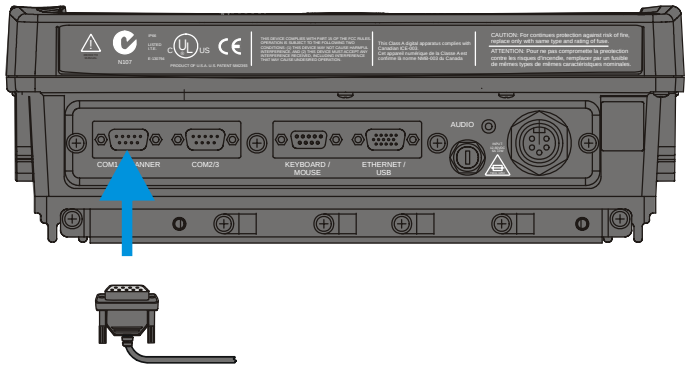


Figure 51 Connect Serial Scanner Cable

1. Seat the connector firmly over the pins and turn the thumbscrews in a clockwise direction. Do not overtighten.

2. Use a strain relief clamp to secure the cable.

When you have finished using the scanner, remove it from the VX5 and store the scanner in a closed container or bag.

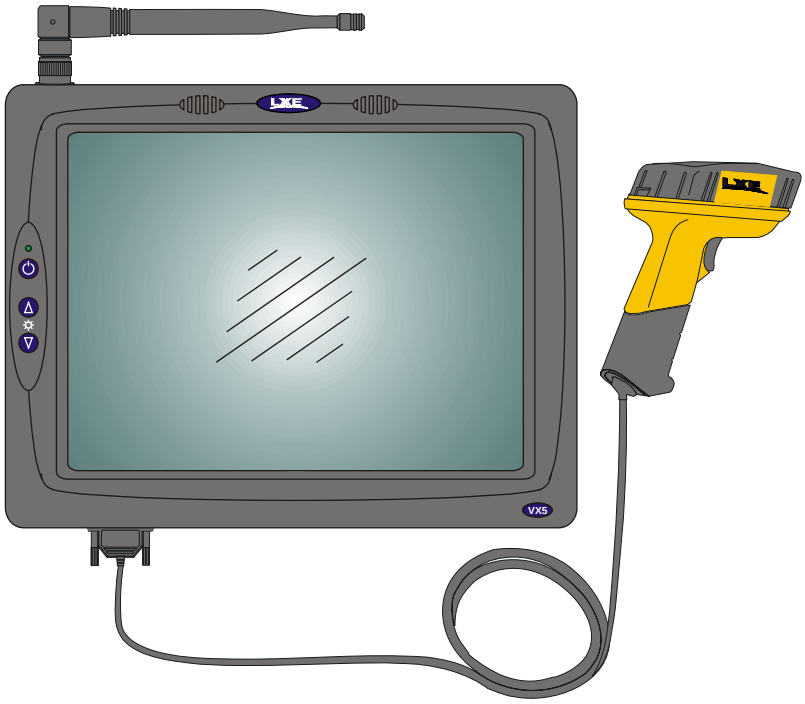
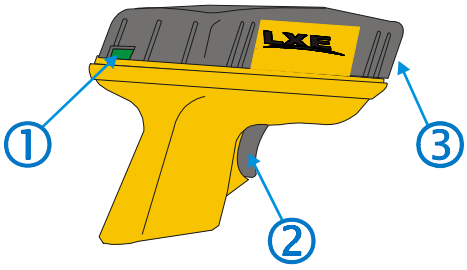


Figure 52 VX5 with Generic Barcode Scanner Attached



1. Good Scan LED (or equivalent)
2. Trigger
3. Laser Aperture at Front

Figure 53 Generic Barcode Scanner

Refer to the documentation received with the barcode scanner for complete instructions.

Connect Serial Printer or PC

Refer to the documentation received with the printer or PC for complete instructions.

Pin 9 of COM1 is configured to provide +5V. Pin 9 of COM2 is configured to provide RI. To change Pin 9 of either port, please refer to the "VX5 Reference Guide".

The printer or PC cable requires a nine-pin D-shell female connector for the VX5.

The printer or PC cable is attached to the COM2 connector. COM2 may be labeled as either "COM2" or "COM2/3".

Note: Use of a shielded cable is required to maintain FCC and CISPR22 emissions compliance.

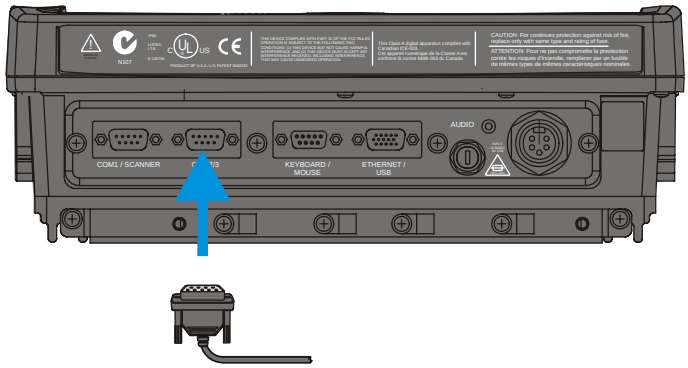


Figure 54 Connect Serial Cable to COM2

1. Seat the connector firmly over the pins and turn the thumbscrews in a clockwise direction. Do not over tighten.

2. Use a strain relief clamp to secure the cable.

Connect USB Devices

The VX5 provides an internal USB port and a provision for an external USB port via a dongle cable attached to the connector marked “ETHERNET/USB” .

Internal USB Port

An internal USB port is provided behind the user access panel on the top of the VX5.

1. Loosen the three (3) Phillips head screws securing the access panel cover so the cover can be removed. The screws are a captive part of the cover and cannot be removed.

2. Plug the desired device, such as a USB mouse or floppy drive, into the USB port. Refer to the documentation for your USB device for more details on installation. USB devices may be installed, removed or swapped without turning off the VX5.

   While the access panel is open, the VX5 IS NOT environmentally sealed. The internal USB port should only be used when the VX5 is in a clean, dry, dust free environment. Use the external USB port if a USB device must be used in a harsh environment.

3. When finished with the USB device, unplug the device and reattach the user panel access cover. The three screws must be fastened to 9±1 inch pounds each. The screws require a Phillips size 1 driver head.

External USB Port

An external USB connector is available via a dongle cable attached to the port marked "ETHERNET/USB", located on the bottom of the VX5.

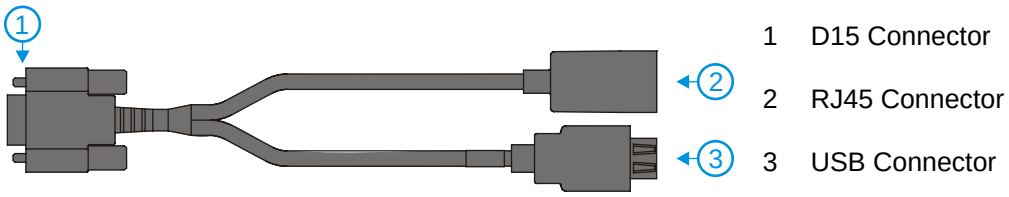


Figure 55 VX5 Ethernet/USB Dongle Cable

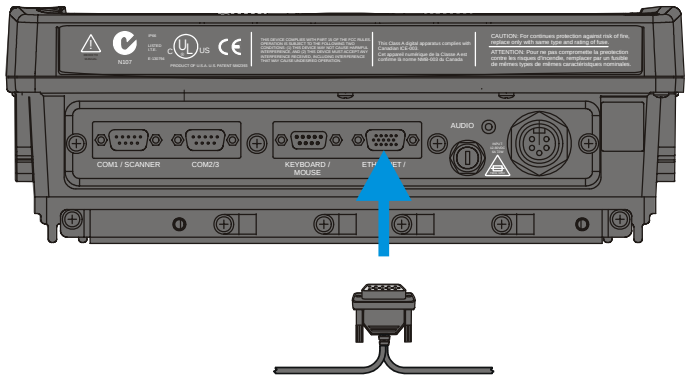


Figure 56 Connect Ethernet/USB Dongle Cable

1. Insert the watertight-connector end of the Ethernet/USB dongle cable into the VX5 Ethernet/USB connector. Seat the connector firmly over the pins and turn the thumbscrews in a clockwise direction. Do not over tighten.
2. Use a strain relief clamp to secure the cable.

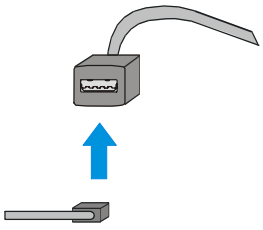


Figure 57 Connect USB Device to Dongle Cable

3. Plug the desired device, such as a USB mouse or floppy drive, into the end of the dongle cable with the USB port. Refer to the documentation for your USB device for more details on installation. USB devices may be installed, removed or swapped without turning off the VX5.

   Note: The USB Host Controller (or USB Port) must be enabled in the BIOS. To use a USB floppy drive, USB BIOS Legacy Support must be enabled. For more information, please refer to the "VX5 Reference Guide".

Connect Ethernet Cable

An Ethernet connector is available via a dongle cable attached to the port marked "ETHERNET/USB", located on the bottom of the VX5.

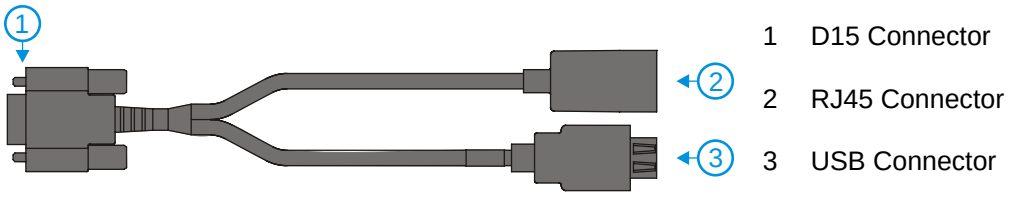


Figure 58 VX5 Ethernet/USB Dongle Cable

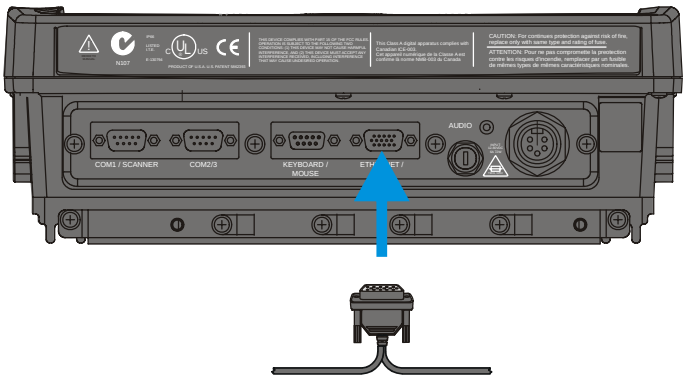


Figure 59 Connect Ethernet/USB Dongle Cable

1. Insert the watertight-connector end of the Ethernet/USB dongle cable into the VX5 Ethernet/USB connector. Seat the connector firmly over the pins and turn the thumbscrews in a clockwise direction. Do not over tighten.

2. Use a strain relief clamp to secure the cable.

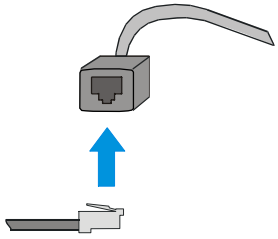


Figure 60 Connect Ethernet Cable to Adapter Cable

3. Insert the network cable and ensure it is firmly seated in the connector jack.

4. To remove the Ethernet cable, press the release tab on the cable end.

Connect External Headset

The VX5 provides an external headset connection via an audio jack connector marked “Audio”. The audio jack accepts a headset with a 2.5mm plug, such as a mono telephone headset with microphone.

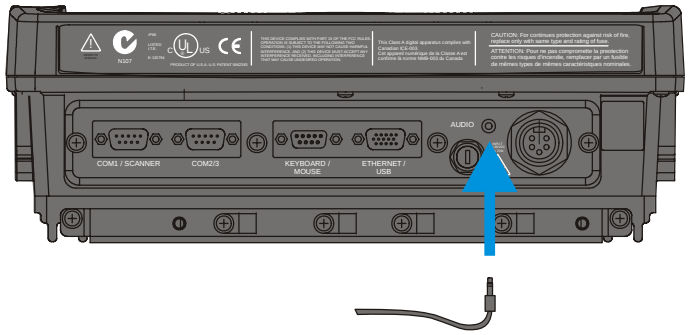


Figure 61 Connect External Headset

1. Insert the speaker or headphone plug into the audio connector; making sure the plug is firmly seated in the audio jack.

2. Replace the plug when the speaker or headset is removed from the audio jack.

3. Use a strain relief clamp to secure the cable.

Connect Power Cable and Optional UPS Battery Pack

1. Turn the VX5 off before attaching the power plug.

2. Connect the power cable to vehicle power (See the following section titled “Vehicle 12-80VDC Direct Connection.”)

   - or -

   to an AC adapter. (See the following section titled “External Power Supply.”).

3. Several possibilities are available for routing the vehicle power to the VX5. See the following section titled “Vehicle 12-80VDC Direct Connection” for details.

4. All plugs and receptacles are keyed and care must be used when connecting the cables. Tighten the nut of the plugs clockwise until tight.

   Secure the cable with the strain relief cable clamps.

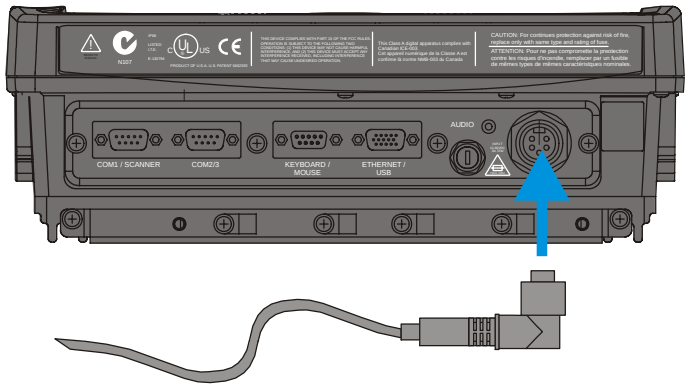


Figure 62 Connect Power Cable to VX5

5. Turn the VX5 on.

External Power Supply, Optional

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

1. AC Input Cable (US only)
2. DC Output Cable

Figure 63 Optional Power Configuration

In North America, this unit is intended for use with a UL Listed ITE power supply with output rated 12 – 80 VDC, minimum 75W. Outside North America, this unit is intended for use with an IEC certified ITE power supply with output rated 12 – 80 VDC, minimum 75W.

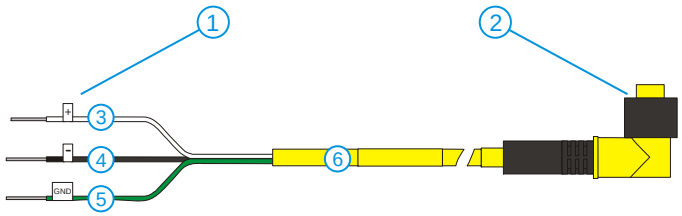
The external power supply may be connected to either a 120V, 60Hz supply or, outside North America, to a 230V, 50Hz supply, using the appropriate detachable cordset. In all cases, connect to a properly grounded source of supply provided with maximum 15 Amp overcurrent protection (10 Amp for 230V circuits).

How To: Connect External Power Supply

1. Turn the VX5 off.
2. Connect the detachable cordset provided by LXE (US only, all others must provide their own cable) to the external power supply (IEC 320 connector).
3. Plug cordset into appropriate, grounded, electrical supply receptacle (AC mains).
4. Connect the watertight connector end to the VX5's Power Connector by aligning the connector pins to the power connector; push down on the watertight connector and twist it to fasten securely.
5. Turn the VX5 on.

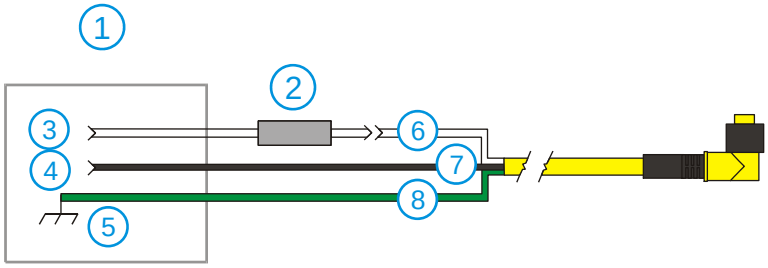
Vehicle 12-80VDC Power Connection

Caution:	*For proper and safe installation, the input power cable must be connected to a fused circuit on the vehicle. This fused circuit requires a 10 Amp maximum time delay (slow blow) high interrupting rating fuse. If the supply connection is made directly to the battery, the fuse should be installed in the positive lead within 5 inches of the battery positive (+) terminal.*
Caution:	*For installation by trained service personnel only.*
Warning:	*Risk of ignition or explosion. Explosive gas mixture may be vented from battery. Work only in well ventilated area. Avoid creating arcs and sparks at battery terminals.*



1. To Vehicle Battery
2. To Vehicle Mounted Device or UPS Battery Pack
3. White (DC+)
4. Black (DC-)
5. Green (GND)
6. 12 – 80 VDC

Figure 64 Vehicle Power Connection Cable (Fuse Not Shown)



1. Vehicle Electrical System
2. 10 Amp Slow Blow Fuse
3. DC +
4. DC -
5. Vehicle Chassis
6. White
7. Black
8. Green

Figure 65 Connecting the Power Cable to the Vehicle

Note: Correct electrical polarity is required for safe and proper installation. Connecting the cable to the VX5 with the polarity reversed will cause the VX5's fuse to be blown. See the following figure titled "Vehicle Connection Wiring Color Codes" for additional wire color-coding specifics.

How To: Connect Vehicle 12-80VDC Connection

1. The VX5 must be turned off and the power cable must be UNPLUGGED from the VX5.

2. While observing the fuse requirements specified above, connect the power cable as close as possible to the actual battery terminals of the vehicle. When available, always connect to unswitched terminals in vehicle fuse panel, after providing proper fusing.

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

3. Route the power cable the shortest way possible. The cable is rated for a maximum temperature of 105°C (221°F). When routing this cable it should be protected from physical damage and from surfaces that might exceed this temperature.

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

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

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

   Use proper electrical and mechanical fastening means for terminating the cable. Properly sized "crimp" type electrical terminals are an accepted method of termination. Please select electrical connectors sized for use with 18AWG (1mm^2) conductors.

   Wiring color codes for LXE supplied DC input power cabling:

Vehicle Supply		Wire Color
+12 - 80VDC	(DC +)	White
Return	(DC -)	Black
Vehicle Chassis	GND	Green

Figure 66 Vehicle Connection Wiring Color Codes

4. Provide mechanical support for the cable by securing it to the vehicle structure at approximately one foot intervals, taking care not to over tighten and pinch conductors or penetrate outer cable jacket.

How To: Connect VX5 without a UPS Battery Pack

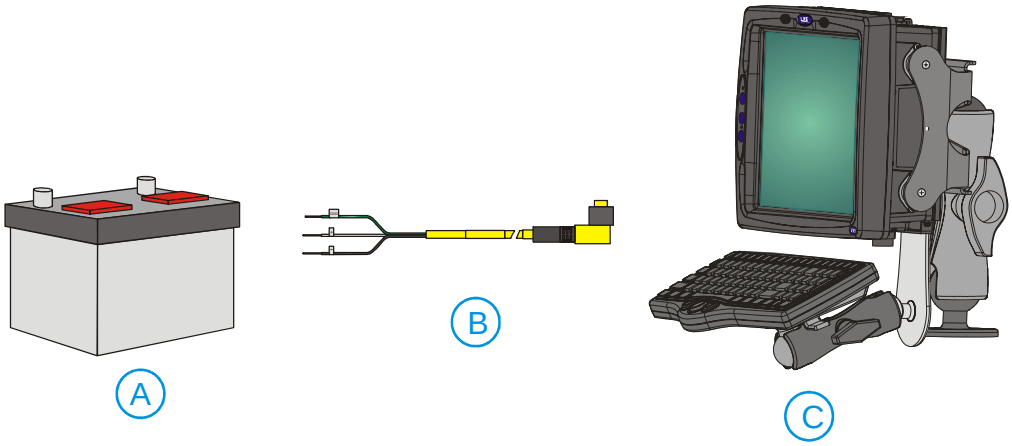


Figure 67 Direct Connection (No UPS Battery Pack)

A Vehicle Battery

B Vehicle Power Connection Cable

C VX5 Computer

1. Connect the power cable to the VX5 by aligning the water-tight connector pins to the power connector; push down on the water-tight connector and twist it to fasten securely.

2. Turn the VX5 on.

How To: Connect VX5 to a Integrated Mount UPS Battery Pack

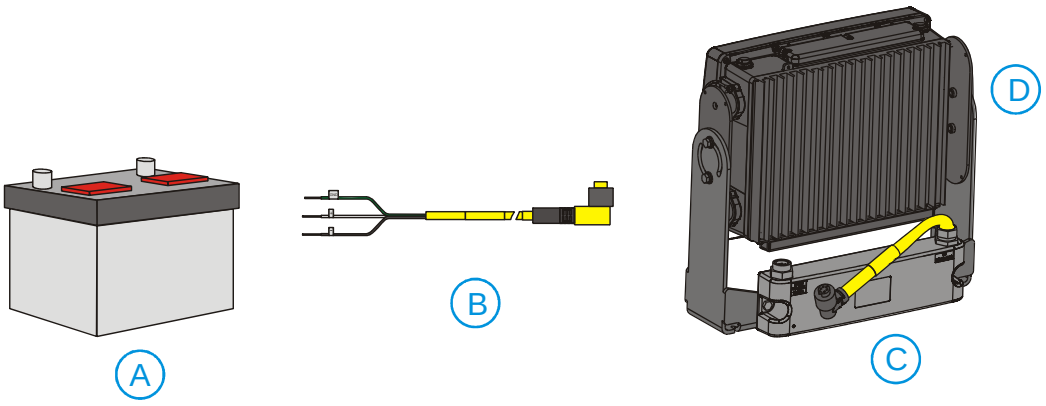


Figure 68 Integrated Mount UPS Battery Pack Connection

A Vehicle Battery

B Vehicle Power Connection Cable

C UPS Battery Pack

D VX5 Computer

1. Connect the power cable to the UPS battery pack by aligning the water-tight connector pins to the input connector (marked “From Vehicle”); push down on the water-tight connector and twist it to fasten securely.

2. Connect the output cable (marked “To Computer”) from the UPS battery pack to the VX5 by aligning the water-tight connector to the power connector; push down on the water-tight connector and twist it to fasten securely.

3. Turn the VX5 on.

How To: Connect VX5 to a Remotely Mounted UPS Battery Pack

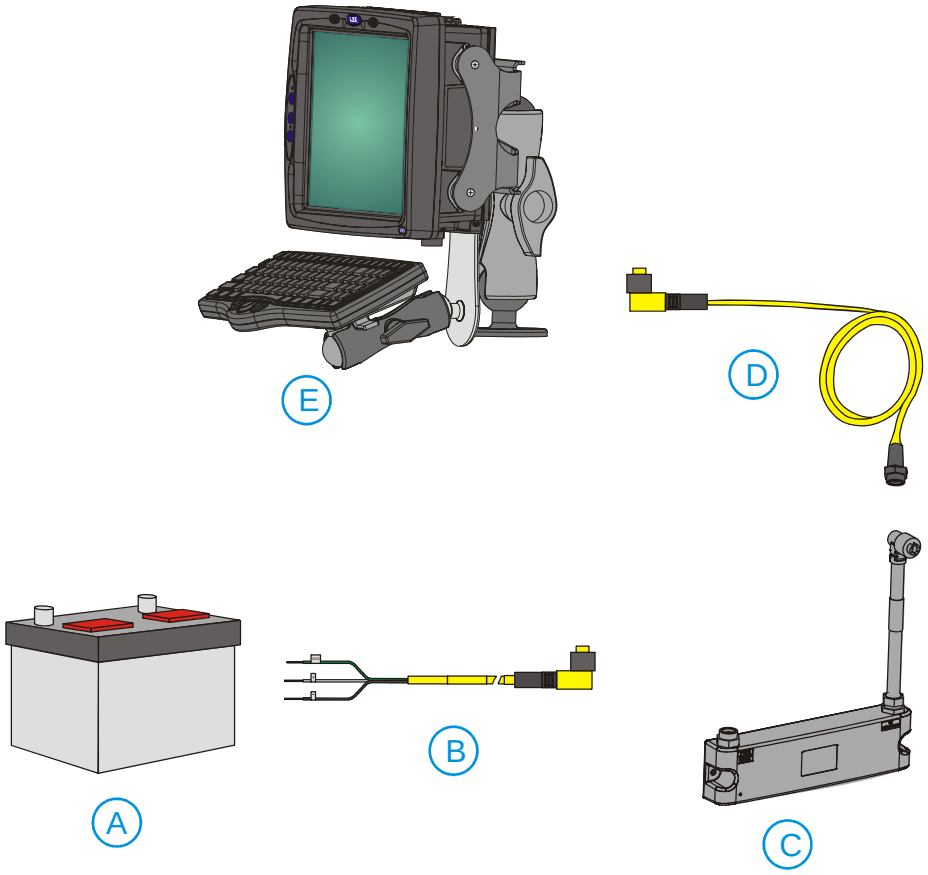


Figure 69 Remote Mount UPS Battery Pack Connection

A Vehicle Battery
B Vehicle Power Connection Cable
C UPS Battery Pack
D Extension Cable
E VX5 Computer

1. Connect the power cable to the UPS battery pack by aligning the water-tight connector pins to the input connector (marked “From Vehicle”); push down on the water-tight connector and twist it to fasten securely.
2. Connect the output cable (marked “To Computer”) from the UPS battery pack to the extension cable by aligning the water-tight connector to the input end of the extension cable; push down on the water-tight connector and twist it to fasten securely.
3. Route the extension cable the shortest way possible. The cable is rated for a maximum temperature of 105°C (221°F). When routing this cable it should be protected from physical damage and from surfaces that might exceed this temperature.

   Do not expose the cable to chemicals or oil that may cause the wiring insulation to deteriorate. Always route the cable so that it does not interfere with safe operation and

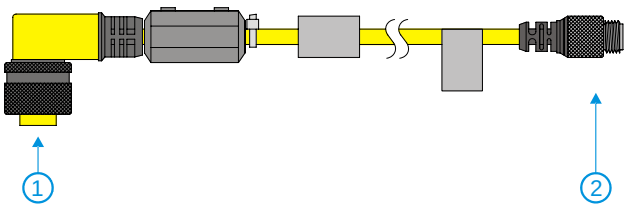
maintenance of the vehicle.

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

4. Provide mechanical support for the cable by securing it to the vehicle structure at approximately one foot intervals, taking care not to over tighten and pinch conductors or penetrate outer cable jacket.
5. Connect the output end of the extension cable to the VX5 by aligning the water-tight connector to the power connector; push down on the water-tight connector and twist it to fasten securely.
6. Turn the VX5 on.

Power Adapter Cable

LXE offers an adapter cable (part no. 9000A077CBLPWRADPTR) to adapt certain VX1, VX2 or VX4 DC power supplies to the VX5. Please read and follow all cautions below to determine if your present power supply can be used with the VX5.



1. VX5 Connector
2. VX1/2/4 Power Supply Connector

Figure 70 Power Adapter Cable, VX1/2/4 to VX5

Caution:	This document assumes the VX1/2/4 DC power cable, if applicable, is already properly connected to your vehicle. If this is not the case, please refer to the "VX1 User's Guide", "VX2 User's Guide" or "VX4 User's Guide" for direct vehicle connection details.
Caution:	For use only with VX1/2/4 DC power cables with yellow colored cable containing 18AWG wires. Do not use this cable with VX1/2/4 DC power cables with gray colored cable containing 22AWG wires. These power cables must be replaced with a VX5/6/7 power cable.
Caution:	When a DC power cable that is eight feet or longer is in a 12V application, there may be an excessive voltage drop over the longer cable. If this occurs, a new power cable is required.
Caution:	Do not use this adapter with AC power supplies originally designed for the 1380, 1390, VX1, VX2 or VX4. These power supplies do not have sufficient power for the VX5.

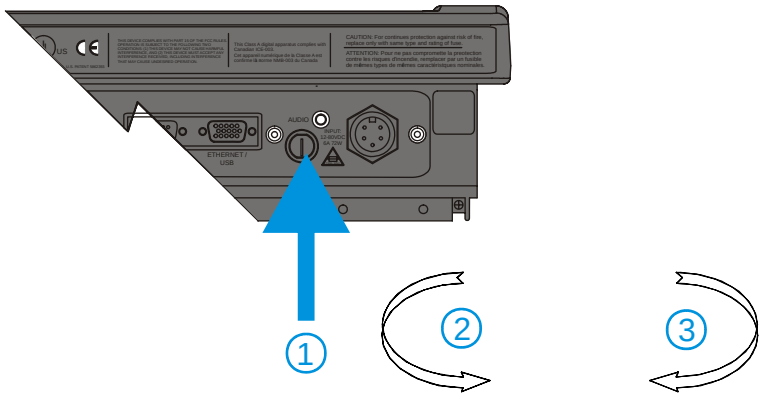
Note: For more information on the 12-80V DC direct, UPS battery pack and extension cable connections please refer to the appropriate section earlier in this manual.

How To Connect Power Adapter Cable

1. The VX5 must be turned off and the power cable must be UNPLUGGED from the VX5.
2. Attach the smaller end of the Power Adapter Cable to the VX1/2/4 power cable by aligning the water-tight connector pins to the power cable connector. Push down on the water-tight connector and twist it to fasten securely.
3. Connect the larger end of the Power Cable directly to the computer or to a UPS battery pack, as desired. Please refer to the appropriate section earlier in this manual for UPS battery pack connection details.

Fuse Replacement for the VX5

The VX5 uses a 100V, 10A time delay (slow blow), high current interrupting rating fuse that is externally accessible and user replaceable. Should it need replacement, replace with same size, rating and type of fuse – Littlefuse 0234010 or Optifuse MSC-10A (5x20mm).



1. Fuse
2. Twist in this direction to remove
3. Twist in this direction to insert

Figure 71 Fuse Replacement

1. **Turn the VX5 off and disconnect the power cable from the VX5.**

   Caution: **Fuse has voltage on it even when power is off. Always disconnect input power before changing fuse.**

2. While holding the VX5 over a level surface, push the fuse cover in and twist it one quarter turn counterclockwise. A flat head screwdriver may be used to twist the fuse cover.
3. Remove the fuse.
4. Discard the fuse and place a new fuse in the holder.
5. Push the fuse in and twist it clockwise one quarter turn.
6. Reconnect the power cable to the VX5.

Strain Relief Cable Clamps

Equipment Required: Phillips screwdriver (not supplied by LXE)

There are four strain relief cable clamps secured to the bottom of the VX5. Use the strain relief clamps to secure audio, power, and I/O cables attached to the VX5.

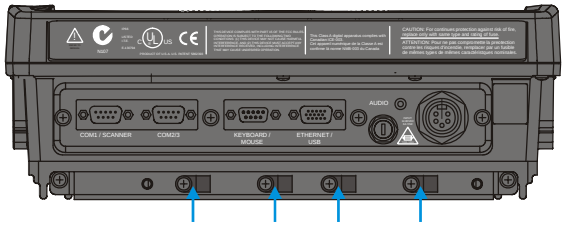


Figure 72 Strain Relief Cable Clamps

1. Remove the strain relief clamp from the bottom of the VX5 by turning the screw counterclockwise. Put the screw aside in a safe location.
2. Slide the strain relief clamp over the cable.

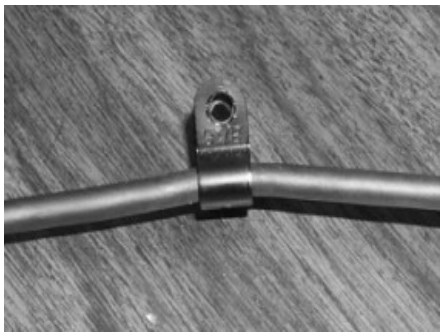


Figure 73 Slide Clamp Over Cable

3. Using a Phillips screwdriver and the screw that was removed, refasten the clamp holding the cable to the VX5. Do not stretch the cable. Leave enough slack in the cable to allow it to be connected and disconnected easily when needed.
4. Continue in this manner until all cables are secured to the VX5.

Operation

Powering On/Off

Connect the VX5 to a power source, either AC or Vehicle.

The power (on/off) switch is located on the front of the VX5. The switch is sealed by a rubber membrane. The Status LED on the VX5 control panel is illuminated when the power is on:

- **Green** – VX5 is operating from vehicle or AC
- **Solid Yellow** – VX5 is operating from the UPS
- **Flashing Yellow** – VX5 is operating from the UPS, but UPS battery is critically low.

Press the power switch to start the VX5. You are now ready to use the computer.

Enter data using the keyboard, touchscreen or a Serial Barcode Scanner.

Note: Always turn the computer off prior to connecting or disconnecting any power source.

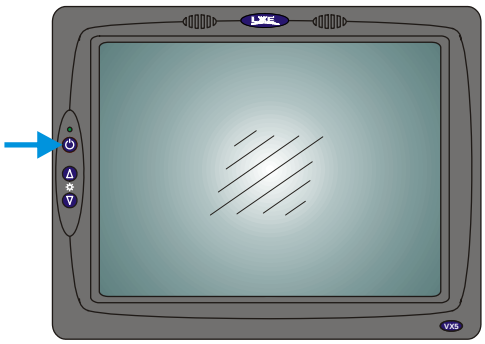


Figure 74 The VX5 Power Switch

The VX5 is designed for a controlled shutdown when using the power switch. A controlled shutdown first closes any open programs, and then shuts down the Windows operating system. DO NOT remove power from the VX5 without shutting down the VX5.

The VX5 shutdown may be initiated in any of the following ways:

- Selecting the "Shut Down" option from the Windows Start Menu.
- Selecting the "Shut Down" option from the Windows Task Manager. The Windows Task Manager is displayed by pressing Ctrl-Alt-Del.
- Momentarily pressing and releasing the power button. The VX5 behavior when the power button is pressed can be configured in the Windows Control Panel.
- Pressing and holding the power button for approximately five seconds. Any open programs and the Windows operating system are shut down before power off. Use this option to shut down the VX5 when the operating system is not responding.

For more information on the Windows shutdown process, please refer to the Windows help function or commercially available Windows help guides.

Reset Key Sequence (Reboot)

Note: The <CTRL> + <ALT> + <DEL> function can be used to shut down a Microsoft Windows application or reboot the computer. The keypress brings up the "Task Manager" window (Windows XP).

To reboot the VX5 without turning the computer off, press

<CTRL> + <ALT> + <DEL>

and select Shut Down from the Task Manager window.

When the system is rebooted, Windows performs a controlled shutdown, closing any open programs, before shutting down the Windows operating system. The current contents of RAM are lost when rebooting. It is recommended to save any needed data and exit in an orderly fashion from any running programs before rebooting.

When the VX5 is turned on or rebooted, the following settings are restored from flash memory and are configured using BIOS Setup.

Note: Options in the Microsoft Windows Control Panel make access to the BIOS unnecessary in many cases. Only those setting not controlled by Windows are listed below. For more information on Windows settings, please refer to commercially available Windows guides.

Factory Default Settings

Boot Sequence	Removable Devices (i.e. USB floppy drive), Hard Drive, CD-ROM drive, Network boot (i.e. PXE) in this order
Legacy Floppy (A and B)	Disabled
Primary and Secondary Master and Slave drives	Auto
Display POST Msgs	Disabled
Show Summary Screen	Disabled

Note: This is a partial listing. Please review the instructions and warnings on modifying the BIOS in the "VX5 Reference Guide" before changing the BIOS. Use caution when changing BIOS settings as unexpected results may occur if improper values are used.

Keyboard Backlight

LXE VMT keyboards feature LEDs that illuminate the individual keys.

95 Key Keyboard

The backlight is manually controlled using the “backlight” key in the upper right hand corner of the keyboard. Pressing the backlight key cycles the backlight through the levels of backlight intensity:

- Off
- Maximum intensity
- Medium intensity
- Low intensity.

60 Key Keyboard

The keyboard backlight may be toggled manually by pressing <2nd> + <CTRL> + <F10>. This key sequence immediately changes the state of the keyboard backlight as follows:

- Turns the backlight Off if it is currently On.
- Turns the backlight On if it is currently Off.

PS/2 Keyboard

Standard PS/2 keyboards generally do not feature keyboard backlighting.

Display and Touchscreen

The VX5 Display is a thin-film transistor display capable of supporting SVGA graphics modes. Display size is 800 x 600 pixels. The display covering is designed to resist stains. The touch screen allows signature capture and touch input.

The touch screen is a Resistive Panel with a scratch resistant finish that can detect touches by a stylus, and translate them into computer commands. In effect, it simulates a computer mouse. Only Delrin or plastic styluses should be used.

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.

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

Adjusting Screen Display

The color TFT display is an active source of light. The VX5 display brightness can be adjusted via the brightness control buttons located on the VX5 control panel. Pressing the brightness up button increases the display brightness incrementally until maximum brightness is achieved. Likewise, pressing the brightness down button decreases the display brightness until minimum brightness is achieved. Because there are 64 incremental levels of brightness intensity, a single press of either brightness adjustment button may not be noticeable. The up or down button can be pressed and held to accelerate brightness adjustment.

Note: The 2nd functions <F4>, <F5>, <F6>, and <F7> keys on the 60-key VMT keyboard have no function on the VX5.

There are no provisions for adjusting the contrast of the display. The display remains on unless Microsoft Windows power management is configured to turn the display off after a certain period of inactivity.

Cleaning the Display

Keep fingers and rough or sharp objects away from the display. If the glass becomes soiled or smudged, clean only with a standard household cleaner such as Windex® 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.

Disabling the Touchscreen

The touchscreen can be disabled, if desired. For more information, please refer to "Disabling the Touchscreen" in the "VX5 Reference Guide".

Touchscreen Protective Film

LXE offers a replaceable touchscreen protective film to protect the touchscreen when the VX5 is used in an abrasive environment. Installation and removal instructions can be found earlier in this guide.

Calibrating the Touchscreen

Although the touch screen is installed and calibrated at the factory, users may make adjustments to it by using the Fujitsu Touch Panel on the Microsoft Windows Programs menu. To calibrate the touchscreen, select **Start | Programs | Fujitsu Touch Panel (USB) | Touch Screen Calibration Utility**.

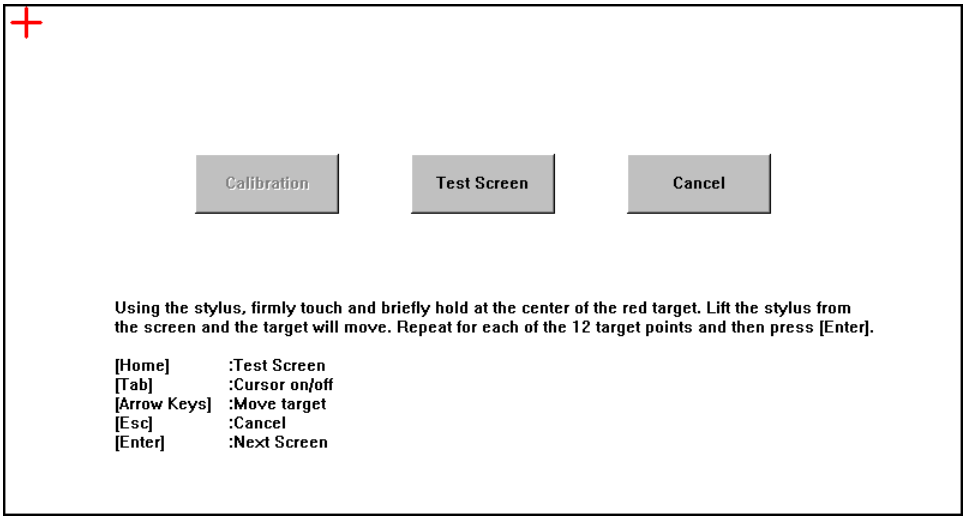


Figure 75 Touchscreen Calibration, Calibration Targets

The calibration utility displays a red cross on the screen. Touch the center of the cross with the stylus and hold for a few seconds. Release and repeat with the next cross. After all twelve locations have been touched, either press <Enter> or click the Calibration button.

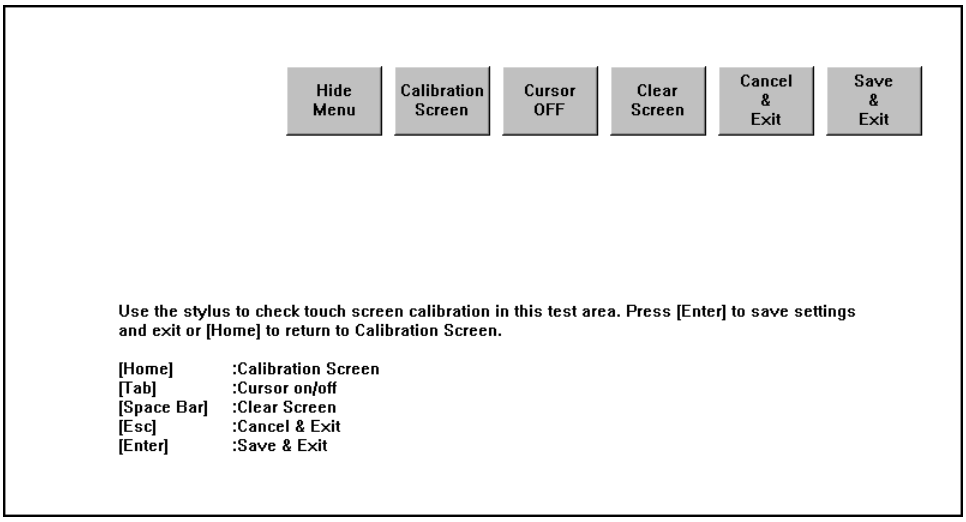


Figure 76 Touchscreen Calibration, Save Calibration

To save the new calibration settings, click on the Save & Exit button or press <Enter>.

To discard the new calibration settings, click Cancel & Exit or press <Esc>.

Adjust Speaker Volume

Microsoft Windows provides volume adjustment by clicking the "volume" icon in the system tray. The volume control adjusts the built in speaker's volume.

Note: The <F8> and <F9> keys on the 60-key VMT keyboard have no function as Windows controls the sound volume.

Microsoft Windows Event Sounds

The VX5 includes a customized sound scheme. The customized WAV files are preferable to the standard Microsoft Windows sounds when using the internal speakers.

When a VX5 is delivered with Windows preinstalled, the customized sound scheme is the default for Windows events. If a VX5 is ordered with no operating system installed, the customized sounds can be found on the VX5 CD. For more information on changing the sounds used in Windows, please refer to the Windows Help feature. Please refer to the "VX5 Reference Guide" for more details on the VX5 CD.

Power Management

All Power Management is handled through the Microsoft Windows Control Panel. System standby and turning the monitor and hard disk off are accessed from the Power Management icon.

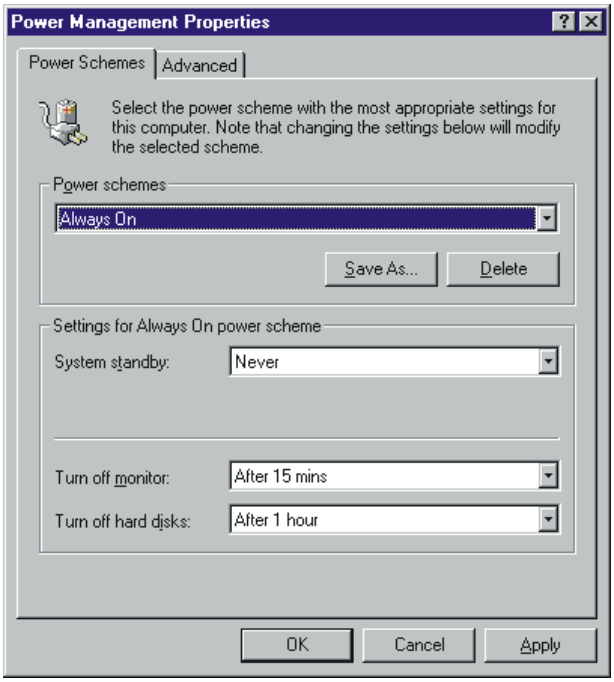


Figure 77 Microsoft Windows Power Management

For more information on configuring Microsoft Windows Power Management, please refer to the Windows Help feature.

The Power Management defaults for the VX5 are:

System standby	Never
Turn off monitor	After 15 minutes
Turn off hard disks	After 1 hour

Note: When configuring power management, consider that the VX5 continues to draw power from the vehicle battery when not in use. When power management is used, the drain on battery power during periods of inactivity is minimal.

Laser Barcode Scanner Warnings

- 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 scanner.
- Do not connect the laser barcode module to any other device.

Caution: 	*Please read the caution labels.* *Avoid exposure. Laser light is emitted from the scanner's aperture.* *Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.* *The scanner uses laser light. The following labels are* ***representations*** *of caution and warning labels placed on laser scanners.*

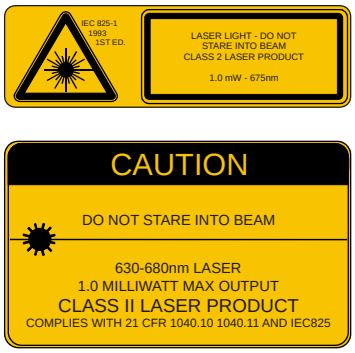


Figure 78 Caution Labels Class II Scanner

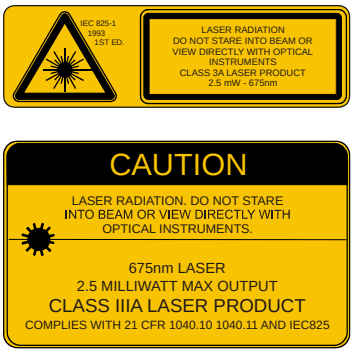


Figure 79 Caution Labels Class IIIA Scanner

Do not pour, spray, or spill any liquid on the scanner. The Barcode Scanner contains the circuitry, scanning motor and laser. Handle with appropriate care.

Enter Data

You can enter data into the VX5 through several different methods:

- The tethered scanner connected to the COM1 serial port provides barcode data entry
- The serial ports are used to input/output data
- The keyboards provide manual entry
- The touchscreen also provides manual entry

Keyboard Entry

Refer to "Appendix A Key Maps" for specific keypresses.

The keyboard 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 LXE VMT keyboard but it may take a few more keystrokes to accomplish a keyed task.

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

For example, when the <2nd> key is selected pressing the desired second-function key produces the <2nd> character i.e. <2nd> + F1 toggles the CAPS Lock function. The specific <2nd> character is printed above the corresponding key.

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

Touchscreen Entry

Note: This section is directed to the VX5 user. The assumption is that the unit has been configured and the touch panel calibrated by the System Administrator prior to releasing the VX5 for use.

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.

The touchscreen input 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. The right mouse click function can be configured as follows:

- Press and hold <Ctrl> key then touch the touchscreen (this is the only option available with the 60-key keyboard).
- Press and release <Ctrl> key then touch touchscreen..

When using a stylus, 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 up to 4 oz. of pressure.

The touch screen can be used in conjunction with the keyboard and an input/output device connected to one of the VX5's serial ports.

- Touch the stylus to the field of the data entry form to receive the next data feed.
- The cursor begins to flash in the field.
- The unit is ready to accept data from either the keyboard or a device connected to a serial port.

Scanner Entry

The following section is directed toward a generic tethered scanner connected to the COM1 serial port on the VX5.

Aiming the Barcode Scanner

Aim the scanner ***away*** from you, direct it at the barcode and press the trigger to scan.

The Scan On LED (or equivalent) turns red to indicate the scanner is on.

Adjust the aim so that the thin, red laser beam covers the entire length of the barcode.

Some scanners use a laser aiming beam which then spreads into a wide beam when the scanner's Aiming Beam Timer expires. Place the aiming beam in the center of the barcode and hold the scanner steady until the beam spreads and the barcode is decoded. Beeps may be heard as the barcode is decoded. Refer to the barcode scanner user's guide for information on the Aiming Beam Timer and beep sequences, and the TE reference guide for host generated beep sequences.

The scan beam must cross every bar and space on the barcode.

Figure 80 Scan Beam

Distance from Label

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

Note: Do not position the scanner exactly perpendicular to the barcode being scanned. In this position, light can bounce back into the scanner's exit window, and possibly prevent a successful decode.

Successful Scan

When the scan is successful, the scanner's good scan indicator illuminates, the scan on indicator is off, and the currently running application may produce a distinctive audible tone.

Unsuccessful Scan

When the scan is unsuccessful, the scan on indicator remains illuminated and the currently running application may produce distinctive audible tones. Check the following:

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

Appendix A Key Maps

95-key Keypad with Pointing Device

Figure 81 95-Key VMT QWERTY Keyboard

The key map table that follows lists the commands used for the VX5. Note that since the VX5 uses a Microsoft Windows operating system, no DOS Terminal Emulation keypress sequences are provided.

Key Map 101-Key Equivalencies

There are ten hidden keys on the 95-key keyboard. Each of these hidden keys is accessed by pressing the <Fn> key plus another key.

To get this key	Press These Keys and Then
Insert	Fn + 0 on the number pad
Home	Fn + 7 on the number pad
Page Up	Fn + 9 on the number pad
Delete	Fn + . on the number pad
End	Fn + 1 on the number pad
Page Down	Fn + 3 on the number pad
Up Arrow	Fn + 8 on the number pad
Left Arrow	Fn + 4 on the number pad
Down Arrow	Fn + 2 on the number pad
Right Arrow	Fn + 6 on the number pad

Note: The 2nd key function is available on the 60-key keyboard only.

60-key Standard Keypad

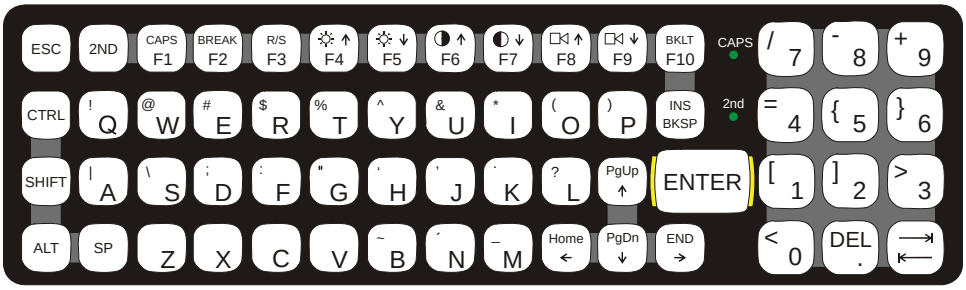


Figure 82 60-Key VMT QWERTY Keyboard

The key map table that follows lists the commands used for the VX5. Note that since the VX5 uses a Microsoft Windows operating system, no DOS Terminal Emulation keypress sequences are provided.

When running LXE's RFTerm™ program, please refer to the RFTerm™ Reference Guide for equivalent keys and keypress sequences:

Key Map 101-Key Equivalencies

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

Note: NumLock can be toggled On or Off with the <2nd> <SHIFT> <F10> key sequence. When the computer boots with a VMT keyboard, the default condition of Caps (or CapsLock) is Off. The Caps (or CapsLock) condition can be set using BIOS Setup or toggled with a <2nd>+<F1> key sequence. The CAPS LED on the VMT keyboard is illuminated when CapsLock is On.

To get this key	Press These Keys and Then					Press this key
	2nd	Shift	Ctrl	Alt	CapsLock	
Keyboard Backlight	x		x			F10
Suspend/Resume [3]	x					F3
2nd						2nd
Shift						Shift
Alt						Alt
Ctrl						Ctrl
Esc						Esc
Space						Sp
Enter						Enter
Enter (numeric)	x					Enter
CapsLock (Toggle)	x					F1

[3] The Suspend/Resume key has no function as Windows Power Management controls the power management modes.

To get this key	Press These Keys and Then					Press this key
	2nd	Shift	Ctrl	Alt	CapsLock	
Back Space						Ins/BkSp
Tab						Tab
BackTab	x					Tab
Ctrl-Break [4]	x		x			F2
Pause	x	x				F3
Up Arrow						Up Arrow
Down Arrow						Down Arrow
Right Arrow						Right Arrow
Left Arrow						Left Arrow
Insert	x					Ins/BkSp
Delete (numeric)	x					DEL
Home	x					Left Arrow
End	x					Right Arrow
Page Up	x					Up Arrow
Page Down	x					Down Arrow
Right Shift	x	x				F7
Right Alt	x	x				F8
Right Ctrl	x	x				F9
ScrollLock	x	x				F4
NumLock	x	x				F10
F1						F1
F2						F2
F3						F3
F4						F4
F5						F5
F6						F6
F7						F7
F8						F8
F9						F9
F10						F10
F11	x	x				F1
F12	x	x				F2
a						A
b						B
c						C
d						D
e						E
f						F

[4] Press <Ctrl> then <2nd> then <F2> to produce Ctrl-Break.

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

To get this key	Press These Keys and Then					Press this key
	2nd	Shift	Ctrl	Alt	CapsLock	
U					x	U
V					x	V
W					x	W
X					x	X
Y					x	Y
Z					x	Z
1 (alpha)	x	x				1
2 (alpha)	x	x				2
3 (alpha)	x	x				3
4 (alpha)	x	x				4
5 (alpha)	x	x				5
6 (alpha)	x	x				6
7 (alpha)	x	x				7
8 (alpha)	x	x				8
9 (alpha)	x	x				9
0 (alpha)	x	x				0
DOT (alpha)	x					K
1 (numeric)						1
2 (numeric)						2
3 (numeric)						3
4 (numeric)						4
5 (numeric)						5
6 (numeric)						6
7 (numeric)						7
8 (numeric)						8
9 (numeric)						9
0 (numeric)						0
DOT (numeric)						DOT
<	x					0
[	x					1
]	x					2
>	x					3
=	x					4
{	x					5
}	x					6
/ (numeric)	x		x			7
/ (alpha)	x					7
- (numeric)	x		x			8
- (alpha)	x					8
+ (numeric)	x		x			9

To get this key	Press These Keys and Then					Press this key
	2nd	Shift	Ctrl	Alt	CapsLock	
+ (alpha)	x					9
* (numeric)	x					I
* (alpha)	x		x			I
: (colon)	x					D
; (semicolon)	x					F
?	x					L
`	x					N
_ (underscore)	x					M
, (comma)	x					J
‘ (apostrophe)	x					H
~ (tilde)	x					B
\	x					S
|	x					A
“	x					G
!	x					Q
@	x					W
#	x					E
$	x					R
%	x					T
^	x					Y
&	x					U
(	x					O
)	x					P

IBM 3270 Keypad Overlay

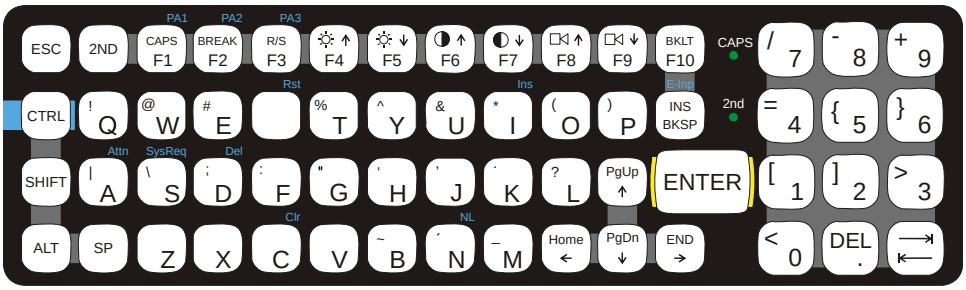


Figure 83 IBM 3270 Specific Keypad

The 60-key keypad is available with an IBM 3270 overlay designed to allow the user to enter terminal emulator commands when running LXE's RFTerm™ program. When running this program please refer to the following reference guide for equivalent keys and keypress sequences:

- RFTerm™ Reference Guide

IBM 5250 Keypad Overlay

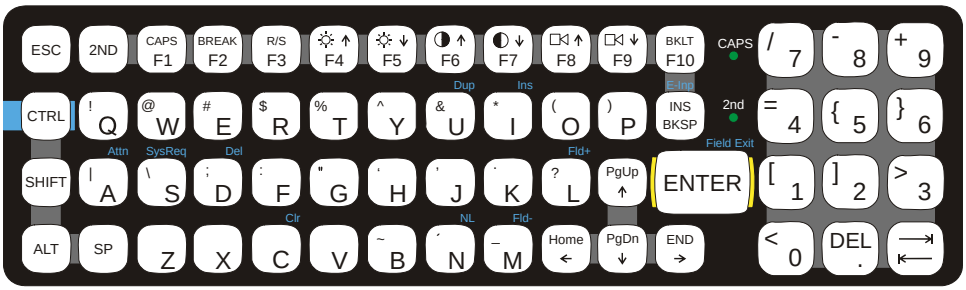


Figure 84 IBM 5250 Specific Keypad

The 60-key keypad is available with an IBM 5250 overlay designed to allow the user to enter terminal emulator commands when running LXE's RFTerm™ program. When running this program please refer to the following reference guide for equivalent keys and keypress sequences:

- RFTerm™ Reference Guide

Appendix B Regulatory Notices and Safety Information

FCC Information:

This device complies with FCC Rules, part 15. Operation is subject to the following conditions:

1. This device may not cause harmful interference
   and
2. This device must accept any interference that may be received, including interference that may cause undesired operation.

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

EMC Directive Requirements:

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

Industry Canada:

This Class A digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada. Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe A prescrites dans le Règlement sur le brouillage radioélectrique édits par le ministère des Communications du Canada.

Notice:

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

RF Safety Notice:

Caution: 

This device is intended to transmit RF energy. For protection against RF exposure to humans and in accordance with FCC rules and Industry Canada rules, this transmitter should be installed such that a minimum separation distance of at least 20 cm (7.8 in.) is maintained between the antenna and the general population. This device is not to be co-located with other transmitters.

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.

CLASS A DECLARATION: (A 级声明)

声 明

此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。

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 Notified Body No.)

Approvals

Product	EMI / EMC Standards	Safety Standards
VX5	**EMI / EMC Standards:** FCC Part 15 Subpart B, Class A EN 55022 : 1998 Class A EN 55024 : 1998	EN 60950:2000 3rd Ed. UL 60950:2000 3rd Ed. CSA C22.2 No. 60950 IEC60950:1999 3rd Ed.

Transceiver	RF Standards	Notes
6726 (LXE Model No.) LXE 6700 System 2.4GHz Type II PCMCIA Card	FCC Part 15, Subpart C FCC Part 2 EN 300 328 EN 300 826 IC-RSS 139 IC-RSS 102	Unlicensed Operation Unlicensed Operation Requires License for Outdoor Use
6816 (LXE Model No.) LXE 2.4GHz Type II PCMCIA Card	FCC Part 15, Subpart C FCC Part 2 EN 300 328 EN 300 826 IC-RSS 139 IC-RSS 102	Unlicensed Operation Unlicensed Operation Requires License for Outdoor Use
4830 (LXE Model No.) LXE 2.4GHz CF with Type II PCMCIA Adapter Card	FCC Part 15.247, Subpart C FCC Bulletin OET-65 EN 300 328 IC-RSS 210 IC-RSS 102	Unlicensed Operation Unlicensed Operation Requires License for Outdoor Use

LXE Transceiver LXE 6726 Declaration of Conformity

LXE
An EMS Technologies Company

DECLARATION OF CONFORMITY

according to Directives:

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

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

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

EMC:

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

Radio:

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

Safety:

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

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

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

C. Binnom Jr.
RF Approvals Engineer

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

Annex to DoC for LXE 6726

With regard to the use of external antennas

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

Dedicated Antennas for use with LXE 6726

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

C. Binnom Jr.
RF Approvals Engineer
24 June 2004

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

LXE Transceiver LXE 6816 Declaration of Conformity

LXE
An EMS Technologies Company

DECLARATION OF CONFORMITY
according to:

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

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

The following harmonized European Norms have been applied:

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

The product carries the CE Mark:

CE

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

Date of issue: June 18, 2003

Cyril A. Binnom Jr.
Regulatory Engineer

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

Annex to DoC for LXE 6816

With regard to the use of external antennas

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

Dedicated Antennas for use with LXE 6816

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

Cyril A. Binnom Jr.
Regulatory Engineer
18 June 2003

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

LXE Transceiver LXE 4830 Declaration of Conformity

DECLARATION OF CONFORMITY

according to Directives:

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

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

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

EMC:

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

Radio:

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

Safety:

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

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

Place: LXE Inc., Norcross GA USA

C. Binnom Jr.

RF Approvals Engineer

Date of issue: 14 July 2006

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

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

Annex to DoC for LXE 4830

With regard to the use of external antennas

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

Dedicated Antennas for use with LXE 4830

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

C. Binnom Jr.
RF Approvals Engineer
14 July 2006

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

Lithium Battery Safety Statement

Caution:
Lithium battery inside. Danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by battery manufacturer. (US)

Attention:
Contient une pile de lithium. Risque d'explosion dans le cas où la pile ne serait pas correctement remplacée. Remplacer uniquement avec une pile semblable ou equivalente au type de pile recommandé par le fabricant. (FR)

Forsigtig:
Indeholder lithiumbattterier. Risiko for eksplosion, hvis batteriet udskiftes forkert. Må kun udskiftes med samme eller tilsvarende type, som anbefalet af fabikanten. (DK)

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

Vorsicht:
Enthält Lithium-Batterie. Bei unsachgemäßem Ersatz besteht Explosionsgefahr. Nur durch gleichen oder vom Hersteller empfohlenen Typ ersetzen. (DE)

Attenzione:
Batteria al litio. Pericolo di esplosione qualora la batteria venga sostituita in maniera scorretta. Sostituire solo con lo stesso tipo o equivalente consigliato per il fabbricante. (IT)

Atenção:
Contém pilha de lítio. Há perigo de explosão no caso de uma substituição incorreta. Substitua somente pelo mesmo tipo, ou equivalente, recomendado pelo fabricante. (PT)

Varning:
Innehåller litiumbatteri. Fara för explosion om batteriet är felaktigt placerat eller av fel typ. Använd endast samma eller motsvarande typ batterier rekommenderade av tillverkaren. (SE)

Advarsel:
Innmontert Lithium batteri. Eksplosjonsfare ved feil montering av batteri. Benytt kun batteri anbefalt av produsent. (NO)

Cuidado:
Pila de litio adentro. Peligro de explosión si la pila se reemplaza incorrectamente. Reemplace solamente con el mismo tipo o equivalente recomendado por el fabricante. (ES)

Oppassen:
Bevat Lithium-batterij. Incorrrecte plaatsing van batterij kan leiden tot explosiegevaar. Alleen vervangen door hetzelfde of door fabrikant aanbevolen gelijkwaardig type. (NL)

Lithium Battery Safety Statement

Προσοχή: Υπάρχει μπαταρία από λίθιο εσωτερικά. Υπάρχει κίνδυνος έκρηξης εάν η μπαταρία αντικατασταθεί με λανθασμένο τρόπο. Αντικαταστήστε μόνο με τον ίδιο ή ισοδύναμο τύπο που συνιστάται από τον κατασκευαστή. (GR)	**주의:** 리튬 배터리 내부. 배터리가 잘못 설치되었을 경우 폭발의 위험이 있습니다. 동일한 배터리, 또는 배터리 제조업체가 권장하는 배터리로 교체하십시오. (KR)
注意: リチウム電池が入っています。間違った種類の電池を使用すると、破裂する恐れがあります。同じ電池、または電池製造元が推奨する同等の電池を使用してください。 (JP)	**小心:** 内装锂电池。如电池更换不当，则有发生爆炸的危险。只能用电池制造商推荐的相同或同等电池进行更换。 (CN)
Dikkat: İçinde lityum bataryası bulunur. Bataryanın yanlış değiştirilmesi patlama tehlikesi yaratır. Aynısıyla veya üreticinin önerdiği eşdeğer tiple değiştirin. (TR)	

Legend:

Chinese	CN	Italian	IT
Danish	DK	Japanese	JP
Dutch	NL	Korean	KR
English	US	Norwegian	NO
Finnish	FI	Portuguese	PT
French	FR	Spanish	ES
German	DE	Swedish	SE
Greek	GR	Turkish	TR

A/C Power Supply Safety Statement – VX5
Output Rated 12 – 80 VDC, Minimum 75W.

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

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

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

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

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

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

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

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

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

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

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

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

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

Updated 10/01/2001

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

Vehicle Power Supply Connection Safety Statement

Vehicle Power Supply Connection:
If the supply connection is made directly to the battery, a 10A slow-blow fuse should be installed in the positive lead within 5 inches (12.7 cm.) of the battery positive (+) terminal. (US)

Raccordement de l'alimentation du véhicule
Si l'alimentation est raccordée directement à la batterie, un fusible à action retardée de 10A doit être installé sur le câble positif à moins de 12,7 cm de la borne positive (+) de la batterie. (FR)

EL forsyning af køretøjet.
Er forsyningsforbindelsen direkte tilknyttet til batteriet og og tilsluttet til den positive part indenfor 12,7 cm (+ delen). vil der være en langsom tændelse af 10 ampere. (DK)

Kytkentä ajoneuvon virtalähteeseen
Jos virtaa otetaan suoraan akusta, 10 ampeerin hidas sulake on asennettava positiiviseen johtoon enintään 12 cm:n etäisyydelle akun positiivisesta (+) navasta. (FI)

Anschluss an Fahrzeugbatterie
Bei direktem Anschluss an die Fahrzeugbatterie sollte eine träge 10A-Sicherung in die positive Leitung zwischengeschaltet werden, und zwar nicht weiter als ca. 13 cm von der positiven (+) Batterieklemme entfernt. (DE)

Σύνδεση Τροφοδοτικού Ισχύος Οχήματος
Αν η σύνδεση του τροφοδοτικού γίνει κατευθείαν στη μπαταρία, μια ασφάλεια βραδείας τήξης των 10A θα πρέπει να τοποθετηθεί στο θετικό καλώδιο εντός 5 ιντσών (12,7 εκ.) του θετικού (+) ακροδέκτη της μπαταρίας. (GR)

Collegamento dell'alimentazione del veicolo
Se il collegamento dell'alimentazione viene stabilito direttamente con la batteria, è necessario installare un fusibile ad azione lenta da 10 A nel conduttore positivo a meno di 5 in. (12,7 cm) dal terminale positivo (+) della batteria. (IT)

Tilkople strømforsyningen til kjøretøyet
Hvis strømforsyningen koples direkte til batteriet, skal det installeres en 10 A treg sikring i den positive ledningen innen 12,7 cm fra plusspolen (+) på batteriet. (NO)

Ligação do fornecimento de corrente do veículo
Se a ligação de fornecimento de corrente for ligada directamente à bateria, deve instalar-se um fusível de 10A no terminal positivo, a 12,7 cm. do terminal positivo (+) da bateria. (PT)

Conexión de suministro eléctrico para el vehículo
Si el suministro eléctrico se proporciona directamente a la batería, se debe instalar un fusible de retardo de 10 A en el conductor positivo, como máximo a 12,7 cm (5 pulgadas) del terminal positivo (+). (ES)

Fordonets strömförsörjningskoppling
Om strömkopplingen görs direkt till batteriet, måste en 10A-säkring installeras i den positivt laddade ledningen inom 12.7 cm från batteriets pluspol (+). (SE)

Taşıt Güç Kaynağı Bağlantısı
Kaynak bağlantısı doğrudan aküye yapılırsa, pozitif bağlantı kablosu üzerinde akünün pozitif (+) kutbuna 12.7 cm mesafede 10A'lık yavaş atan bir sigorta monte edilmelidir. (TR)

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.

Updated 02/10/2004

Revision History

Revision A: Initial Release, March 2004

Revision B: September 2004

Section	Explanation
Entire Manual	Revised illustrations as necessary to reflect new labeling of COM2 serial port.
Components	Updated to reflect new labeling on COM2 port.
The 60-Key QWERTY Keyboard	Added information on the IBM 3270 and IBM 5250 overlays.
Accessories	Added 8500 Series Tethered Scanners to Accessories. Updated Accessories listing effective July 2004.
Install/Remove Touchscreen Protective Film	Updated section.
Connect Serial Printer or PC	Updated to reflect new labeling on COM2 port.
Connect Ethernet Cable	Corrected installation steps and label on figure.
Touchscreen Entry	Corrected right mouse click information.
Appendix A – Key Maps	Added information on IBM 3270 and IBM 5250 overlays.
Appendix B – Regulatory Notices and Safety Information	Updated 6726 Declaration of Conformity.

Revision C: March 2005

Section	Explanation
Cover page	Update with 2005 LXE logo.
Accessories	Added Adapter Cable, VX1 VX2 VX4 Power Cable to VX5 VX6 VX7.
Installation	Revised bracket component listings, installation steps and applicable images to reflect four (4) fail safe cables. Added “Power Adapter Cable” section. Standardized torque measurements to lbf.in (pound-force inches) and N.m (Newton meters).
Step 2 - Connect Isolators and Side Mounting Brackets to VX5	Revised “Integrated keyboard mounting option” instructions for keyboard mounting plate.

Section	Explanation
Appendix B – Regulatory Notices and Safety Information	Added Hungary to R&TTE Directive Requirements.

Revision D: October 2005

Section	Explanation
Notices	Added WEEE statement.
Accessories	Updated accessories list.
Installation	Revised for new RAM mount option.
External Power Supply, Optional	Added temperature statement.
Appendix B – Regulatory Notices and Safety Information	Added WEEE statement. Added temperature statement to A/C Power Supply Safety Statement.

Revision E: March 2006

Section	Explanation
Entire Manual	Update images as necessary to reflect 2005 LXE logo.
Notices	Revised Copyrights and Trademarks.
Introduction	Revised feature listing in this section.
Accessories	Updated accessories list.
Appendix B – Regulatory Notices and Safety Information	Added “Revision History” to appendix.

Revision F: May 2007

Section	Explanation
Strain Relief Cable Clamps	Added new section.
Vehicle 12-80VDC Power Connection	Revised graphics.
Appendix B – Regulatory Notices and Safety Information	Added 4830 radio and Chinese translated Class A statement to appendix. Revised “R&TTE Directive Requirements”.

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