Warranty and Repair Policy Statement

General
Seller warrants that its products furnished hereunder will, at the time of delivery, be free from defects in material and workmanship and will conform to Seller's published specifications applicable at the time of sale. Seller's obligation or liability to Buyer for products which do not conform to above stated warranty shall be limited to Seller, at Seller's sole discretion, either repairing the product, replacing the product with a like or similar product, or refunding the purchase price of the nonconforming product, provided that written notice of said nonconformance is received by Seller within the time periods set forth below:

a. For all software products, including licensed programs, ninety (90) days from date of initial delivery to Buyer;

b. For all hardware products (excluding batteries), including complete systems, fifteen (15) months from date of initial delivery to Buyer, subject to the additional conditions of paragraph c) below;

c. In the event that Buyer's returned product is a Discontinued product and is not repairable for any reason, Seller may elect to replace it with like or similar product that is, in Seller's sole judgment, the closest equivalent to the returned product. Seller does not warrant that such replacement product will be an exact functional replacement of the returned product.

Further, all products warranted hereunder for which Seller has received timely notice of nonconformance must be returned FOB Seller's plant no later than thirty (30) days after the expiration of the warranty periods set forth above.

These warranties provided herein shall not apply to any products which Seller determines have been subjected, by Buyer or others, to operating and/or environmental conditions in excess of the limits established in Seller's published specifications or otherwise have been the subject of mishandling, misuse, neglect, improper testing, repair, alteration or damage. THESE WARRANTIES EXTEND TO BUYER ONLY AND NOT TO BUYER'S CUSTOMERS OR USERS OF BUYER'S PRODUCT AND ARE IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS, IMPLIED OR STATUTORY INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL SELLER BE LIABLE FOR INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES. Seller's liability for any claim of any kind shall in no case exceed the obligation or liability specified in this Warranty clause.

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Seller's warranty as herein set forth shall not be enlarged, diminished or affected by, and no obligation or liability shall arise or grow out of, Seller's rendering of technical advice, facilities or service in connection with Buyer's order of the goods furnished hereunder. Products returned for warranty service, but which are found to be fully functional and in conformance with specifications may be subject to a nominal service charge and return freight charges. Periodic re-calibration of products, if required, is the responsibility of Buyer and is not provided under this Warranty.

Online Support
Intelligent Instrumentation's World Wide Web site http:// www.lanpoint.com provides online support through technical support links. The site contains information on Intelligent Instrumentation's products, new developments, announcements, application notes, application examples, and other useful information. The site and support areas continue to grow as new products, updates, and features are added.

Email Support
Intelligent Instrumentation's technical support can be reached via email. When sending an email message, be sure to include complete contact information, the product model/part number with third-party accessory information, and a detailed description of the problem to support@lanpoint.com
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Intelligent Instrumentation Inc. assumes no responsibility for any direct, indirect or consequential loss or damages resulting from misuse of the equipment or for improper or inadequate maintenance of the equipment or for any such damage or loss resulting from the use of other equipment, attachments, accessories, and repairs at any time made to or placed upon the equipment or any replacement thereof. Furthermore, Intelligent Instrumentation Inc. makes no representations or warranties, either expressed or implied, in connection with the use of the equipment in the event it is improperly used, repaired or maintained.

FCC Radio Frequency Interference Statement
This equipment generates and uses radio frequency energy, and may cause interference to radio or television reception.

Per FCC rules, Part 15, Subpart J, operation of this equipment is subject to the conditions that no harmful interference is caused and that interference must be accepted that may be caused by other incidental or restricted radiation devices, industrial, scientific or medical equipment, or from any authorized radio user.

The operator of a computing device may be required to stop operating his device upon a finding that the device is causing harmful interference and it is in the public interest to stop operation until the interference problem has been corrected.

The user of this equipment is responsible for any interference to radio or television reception caused by the equipment. It is the responsibility of the user to correct such interference.

European CE Certification
European CE certification is as described on the Declaration of Conformity that ships with each LANpoint Power X terminal.

Revision History for the LANpoint Power X Installation and Maintenance Manual

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<th>Version</th>
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<td>Pre-release</td>
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<td>083012</td>
<td>Initial release</td>
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LANpoint Power X Terminal

1.0 About this Manual

This LANpoint Power X Installation & Maintenance Manual includes instructions for installing, maintaining, and operating the terminal. Mounting options vary, depending on the requirements of the target application.

Maintenance of the terminal is minimal. This manual includes instructions for replacing the real-time clock battery and the optional backup battery pack.

All manuals may also be downloaded free of charge at http://www.lanpoint.com/downloads.html.

2.0 Features, Specifications, and Options

The LANpoint Power X terminal supports the use of serial RS232 or USB bar code slot readers, lasers, CCDs, wands, and/or magnetic stripe readers. Each terminal has a standard RS232 COM port and three standard USB ports. External slot readers are available for all other mounting configurations.

Each terminal comes standard with a 10/100BaseT wired Ethernet connector. Optionally, the terminals can be ordered with IEEE802.11b/g WiFi connectivity and Bluetooth; these models come with an external antenna.

Power adapters can be ordered through Intelligent Instrumentation. The terminal can power 3.3V, 5V and/or 12V accessories and auto-ID devices via power-takeoff connectors. A backup battery accessory is supported for short power outage situations, and each unit includes a built-in automatic trickle-charger. A locking battery pack bracket is available for securely installing the battery pack inside the terminal.

All externally-connected cables can be routed so that strain relief is provided in one or more of three ways: using the waterproof connector cover accessory, using tie-wraps around the cable(s) and one of the web pieces that span the connector access slot, and/or using tie-wraps around the cable and through stick-on cable-tie anchors.

The display specifications are 16-bit color, 350-nit brightness, -20 to 70 degrees C operating temperature. Touch screen is an option.

Digital I/O is available in the base model. An optional factory-installed digital I/O termination panel can be ordered for ease of field installation. Eight input signals can be monitored for sensing switch settings, door closures, and other on/off type situations, or for counting at rates up to 50Hz. Eight output signals can activate door latches, lights, buzzers, and the like.

The LANpoint Power X products include a variety of standard features, options, and a full line of accessories for mounting and operation. See Intelligent Instrumentation’s web site www.lanpoint.com for a complete listing of these items.
2.0.1  Terminal Features

2.0.1.1  Case
The front case of the terminal is molded of a textured high-impact low-maintenance plastic. All connectors are in the rear of the terminal.

There are several types of rear covers and mounting options available from Intelligent Instrumentation. See the Web site www.lanpoint.com for information on rear covers and other mountings.

2.0.1.2  Display
The terminals come with a 640 x 240 resolution (1/2 VGA) 16-bit color display with 350-nit backlight. Touchscreen is available as an option. Currently produced models have automatic contrast adjustment.

2.0.1.3  Keyboard
The integral 69-key QWERTY keypad features a long-life industrial design. It is waterproof and features a special clear epoxy coating on the keys to protect the legends from wear and tear. There are eight programmable function keys for use as menu selectors and other operator shortcuts. Each of the eight keys (as well as almost any key or key combination) can be programmed to launch an application or insert a user-defined string of characters into the keyboard buffer. By using modifier keys (ctrl, alt, shift), up to 32 individual functions can be programmed using these 8 keys. See the LANpoint Power X Developer’s Manual, 855M546, for programming instructions.

2.0.1.4  Connectors
The terminal includes the following connectors:
- Ethernet RJ45 10/100 Base-T
- Serial port COM5
- Three USB ports
- +3.3 V, +5 V, and +12 V accessory power output
- Backup battery connector - protection for short power outages and backup battery accessory trickle charging
- Power
- SD/MMC slot for extra data and program storage
- Digital I/O is included on all models; an optional DIO termination panel allows for easy installation; it can be factory installed or installed in the field.
- Audio - input and stereo output
- In addition, wireless Bluetooth is an option

2.0.1.5  Auto-ID Interfaces
The terminal supports auto-ID readers from many manufacturers.
• Standard USB devices (magnetic stripe, barcode, and proximity badge readers, wands, lasers, imagers, fingerprint readers, etc.) via the USB ports. Power is supplied through the USB port. The autoID data is placed directly in the keyboard buffer.

• Serially connected devices such as 2D scanners, slot readers, biometric readers, proximity readers and the like via COM5. A jumper associated with the port can be set to supply +5VDC to pin 9 of the standard DB9 connector.

• For those terminals equipped with wireless Bluetooth capability, Bluetooth lasers, imagers, and other AutoID devices can be used.

• A "wedge" software utility included with each terminal may be used to "wedge" serial input data into the keyboard buffer. See the LANpoint Power X Developer’s Manual, 855M546, for more information.

To power an AutoID device (or any accessory, for that matter), each terminal has a connector with 4 pins that can be used to provide 3.3VDC, 5VDC, and/or 12VDC via a jumper wire. Alternately, pin 9 of the COM port can be configured to provide +5VDC as noted above. See Appendix A, Auxiliary Power Outputs section for more information.

2.0.1.6 Networks
In addition to the standard Ethernet drivers included with Windows CE and the supported RF Ethernet/WiFi drivers, the terminal includes the following network software:

• Web-enabled remote management software

• VT100, VT220, HP, ANSI, IBM5250, IBM3270 terminal emulation evaluation software; production-ready when activated with optional license key (coming soon)

2.0.1.7 Status LEDs
Two LEDs are visible on the face of the terminal:

• Power - green for external power, yellow for battery power

• Ethernet Link

2.0.2 Physical Specifications

• Dimensions, 28.4 cm W x 24.6 cm H x 9.4 cm D (11.2 in. W x 9.7 in. H x 3.7 in. D)

• Operating System: Microsoft Windows Embedded CE 6.0

• Power Requirements: 12 VDC.

• Temperature Range:
  Operational: -20 to 70° C:
  Storage: -20 to 70° C

2.0.3 Accessories and Options
Intelligent Instrumentation relies on open-architecture concepts to allow customers to use easily purchased and economical common accessories. When that is not possible, terminal-specific accessories are provided. Accessories include several styles of rear covers, a backup battery pack that provides enough time to close a
program during an interruption in external power, external power adapters for AC power, and specialized mounting hardware. Some of these are described below.

### 2.0.3.1 Backup Battery Pack

A 0.7 Amp-hour, NiCd backup battery pack is available. Each terminal has a connector and trickle-charge circuitry for this accessory. When fully charged, a new battery pack provides approximately 30 minutes of fully-operational power. This provides a sufficient amount of time to span short power glitches and/or shut down in an orderly fashion if necessary.

When the external power source is not available, such as during a power failure, the Power LED changes from green to yellow. The display backlight is dimmed or turned-off.

<table>
<thead>
<tr>
<th>Note: Backup battery packs are shipped from the factory uncharged. Power the terminal with the battery pack installed for 48 hours for the battery pack to be fully-charged.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The backup battery may be attached external to the terminal, or inside the rear cover.</td>
</tr>
<tr>
<td>For internal mounting, it is highly recommended that the first time a battery pack is installed, that the battery bracket, III part number LPA079 is ordered and installed for positively locking the battery pack in place.</td>
</tr>
</tbody>
</table>

#### 2.0.3.1.1 To install or replace a battery pack externally:

1. Choose a spot where the battery leads will reach the battery terminal in the battery and attach the battery pack using the double-sided tape or velcro strips that come with a new battery pack.
2. Plug the battery pack connector to the 2-pin header as shown below. Power the terminal and the battery pack will begin charging - see the note above about charging times.

#### 2.0.3.1.2 To install or replace a battery pack internally:

1. It is highly recommended to use the LPA079 battery bracket if you are installing the backup battery pack inside the terminal. If you choose not to use the battery bracket, be sure to very firmly attach the double-sided tape or velcro strips, choosing an internal location that will not physically interfere when re-attaching the battery. The following steps are geared toward the use of the battery bracket; similar steps should be taken if not using the bracket.
2. Follow proper ESD grounding procedures to prevent damage to electronics that can be damaged or degraded due to electrostatic discharge.
3. Disconnect the external Power Input cable, and any cables to Accessory Power Output, as shown in FIGURE 1, Power Connectors.

![FIGURE 1 Power Connectors](image1)

4. Remove the rear cover and save the 17 screws.

5. If replacing an old battery pack, disconnect the battery power cable and swing-up the battery bracket as shown in FIGURE 2 Battery Backup Bracket and Connector.

![FIGURE 2 Battery Backup Bracket and Connector](image2)

6. If the battery pack is being replaced, remove the old pack.

7. Secure the new battery pack using the double-sided tape or velcro provided, routing the leads through the bracket holes as shown above.

Note that if you are installing the battery pack for the first time, you should order part number LPA079, battery bracket along with the replacement battery pack. Alternatively, you can use the double-sided tape or velcro to attach the battery elsewhere inside or outside the rear cover, but will run the risk of the battery becoming detached and damaging internal components. An illustrated step-by-step instruction sheet ships with each LPA079.

8. Swing and snap-down the bracket, as shown in FIGURE 3. It must be swiveled completely down.
9. Connect the new backup battery cable to the Battery connector.

10. Re-install the terminal to the cover using the 17 screws removed in step 4.

**IMPORTANT:** When installing a back cover on the terminal, make sure all internal wires are routed so as not to be pinched between the cover and the printed circuit board when the screws are tightened.

11. Reconnect cables to auxiliary power outputs P13, if applicable.
12. Power the terminal and wait for it to boot.
13. Verify that the Power LED illuminates green. Pull the wall plug and verify the Power LED illuminates yellow. Power the terminal for 48 hours to ensure full battery charge.
2.0.3.2 Digital I/O Termination Panel Option

The digital I/O capability ships with every terminal. For ease of installation, the DIO termination panel option can be built-in at the factory. It has eight optically isolated digital inputs rated to 24 VDC. The eight digital outputs TTL level signals. Termination panel connectors accept #26 to #14 gauge stranded wire.

FIGURE 4 Digital I/O Input and Output Terminal Blocks
Refer to FIGURE 4, *Digital I/O Input and Output Terminal Blocks* for pin numbers 1 through 16 on TB2 and TB3 (channels 0 through 15, respectively).

The current rating for inputs: 10 mA (minimum)

<table>
<thead>
<tr>
<th>Description</th>
<th>Pin</th>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>digital ground</td>
<td>1</td>
<td>2</td>
<td>V+-external</td>
</tr>
<tr>
<td>digital ground</td>
<td>3</td>
<td>4</td>
<td>DO channel 0 +</td>
</tr>
<tr>
<td>digital ground</td>
<td>5</td>
<td>6</td>
<td>DO channel 1 +</td>
</tr>
<tr>
<td>digital ground</td>
<td>7</td>
<td>8</td>
<td>DO channel 2 +</td>
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<td>9</td>
<td>10</td>
<td>DO channel 3 +</td>
</tr>
<tr>
<td>digital ground</td>
<td>11</td>
<td>12</td>
<td>DO channel 4 +</td>
</tr>
<tr>
<td>digital ground</td>
<td>13</td>
<td>14</td>
<td>DO channel 5 +</td>
</tr>
<tr>
<td>digital ground</td>
<td>15</td>
<td>16</td>
<td>DO channel 6 +</td>
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<tr>
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<td>17</td>
<td>18</td>
<td>DO channel 7 +</td>
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<tr>
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<td>32</td>
<td>DI channel 6 +</td>
</tr>
<tr>
<td>DI channel 7 -</td>
<td>33</td>
<td>34</td>
<td>DI channel 7 +</td>
</tr>
</tbody>
</table>

The outputs are TTL level; simplified schematics of inputs and outputs can be found in Appendix A:

**2.0.3.2.1 Wire/Cable Strain Relief**

There are three or more ways to provide external cabling strain relief. See instructions at 4.0.6, *External Cable Strain Relief*.

**2.0.3.3 External Power Adapter**

Intelligent Instrumentation offers an AC power adapter for 120VAC to 240VAC 50-60Hz power that supplies 12 VDC output @ 1.2 A.

**3.0 Installing the Terminal**

Instructions for flush mounting the terminal with the flush-mount option kit are included below.

Instructions for other mounting options and accessories are shipped with those mounting products. This includes mounts for specific applications such as wall installation, adjustable tilt/swing ball-and-socket mounts, and desktop installation.

See Intelligent Instrumentation’s web site [www.lanpoint.com](http://www.lanpoint.com) for the most current information on available mounting options and installation kits. See the link on the terminal’s overview page for a list of downloadable installation manuals.
This section also gives directions for installing laser scanner and other cables through the optional waterproof connector cover kit.

3.0.1 Flush Mount Option

This section includes the installation instructions for the flush mount option. It includes a list of the items required for the installation, describes how to prepare the mounting surface, install the terminal, and connect the cables.

3.0.1.1 Required Items

The following items are provided to flush-mount the terminal in a cutout in a wall or machine housing:

- Alignment studs (2)
- Laser cable grommets (2)
- Dimensional template for the terminal cutout pattern, located at the end of this manual
- Gasket (1)
- Steel backing plate (1) provides stiffened perimeter for cutout hole
- Screws:
  - For terminal attachment: #6-32 7/16-inch length flat head (17)
  - #6 Washers (17)

Other Tools and Supplies Needed

- Marker for transferring the cut-out dimensions from the drawing to the mounting surface
- Tape measure or ruler
- Reciprocating saw or appropriate tool for cutting the mounting surface
- Drill and drill bit to accommodate #6 screws
- File or sandpaper
- Phillips screw driver (medium size)
- Cable ties (strain relief for laser cables)
- Sharp knife (to cut an incision in the grommet)
- In addition, if the surface is thicker than 1/8", the seventeen #6-32 x 7/16" screws will need to be replaced by customer-supplied screws of the appropriate length.

3.0.1.2 Preparing the Mounting Surface

See FIGURE 10, Wall Mount Cutout Dimensions, for a dimensional template of the areas to be cut and removed from the mounting surface.
The backing plate may also be used as a template. The rectangular relief at the bottom of the large rectangular opening, shown below, is not required; a simple large rectangular hole is all that is necessary.

![Steel Backing Plate](image)

**FIGURE 5 Steel Backing Plate**

*It is not necessary to cut-out the small rectangular relief that is seen at the bottom of the photo above - a simple rectangular opening is sufficient*

**Measuring and Cutting the Mounting Surface**

1. Using the LP CE Plate/wall Opening drawing or the backing plate, measure and mark the areas to cut and remove and drill on the mounting surface.
2. Drill the 17 holes in the mounting surface for the #6 screws.
3. Using a reciprocating saw or appropriate cutting tool for the mounting surface, cut the rectangle marked in step 1. Remove the cutout area of the mounting surface.
4. Smooth any rough edges around the opening(s) with a file or sandpaper.
3.0.1.3 Installing the Terminal

**Note:** Installing the terminal requires accessibility to the front and back of the mounting surface.

1. Remove the seventeen (17) screws that hold the back cover on the terminal. Peel the backing off the perimeter seal and press it on as shown in the photo below, making sure the 17 screw holes are accessible. Do not remove the cover.

![Installing the perimeter gasket](image)

**FIGURE 6 Installing the perimeter gasket**

2. Install the two nylon alignment studs in the holes located in the upper right-hand and left-hand corners of the terminal as shown in FIGURE 7, *Terminal with alignment studs* to support the terminal while installing the mounting hardware.

![Terminal with alignment studs](image)

**FIGURE 7 Terminal with alignment studs**

3. Align and carefully insert the nylon alignment studs and terminal through the opening in the front of the mounting surface.

4. On the back side of the mounting surface, place the backing plate and finger-tighten two #6 washers and #6 screws in the lower corner holes.

5. Install thirteen #6 washers and #6 screws and finger-tighten.
6. Remove the alignment studs and replace with #6 washers and #6 screws and finger-tighten.
7. In an alternating pattern, tighten the screws to approximately 15 to 20 inch-pounds.

3.0.1.3.1 Installing Laser Cables using the waterproof connector cover kit accessory

Laser scanner and other cables can be routed through the rear cover. For waterproof installations, the waterproof connector cover kit can be ordered so that cables can exit and still maintain water resistance. It also provides cable strain relief.

The kit is shown, installed on the terminal, below; installation instructions ship with this accessory.
4.0 Cable Connections

This section provides cable connection information for the Ethernet, serial ports, auxiliary power connectors, external mouse, and external keyboard. Optional Digital I/O connectors are described above in section 2.

4.0.1 Connecting 2D Scanners and Auto-ID Devices

To connect 2D Scanners, Auto-ID devices, and other customer add-on accessories, the Accessory Power Output connector outputs of +3.3 VDC, +5 VDC, and +12 VDC. In addition, adding a jumper will provide +5VDC or +12VDC power to pin 9 of COM5. See Appendix A, Sections A.1, Connector Location Diagram, and A.2.4, Accessory Power Outputs, for wiring information.

4.0.2 Ethernet

Every terminal has one RJ45 Ethernet port on the back of the terminal that accommodates a 10/100 Base-T Ethernet cable.

See 5.0.4.1, Configuring the TCP/IP Address & WiFi Properties for TCP/IP address and other configuration instructions.
4.0.3 Wireless Ethernet Hardware Install

Wireless models come with an external antenna connector. Before use, the antenna must be attached to the external connector. Simply thread the antenna onto the connector until it is fully-seated. Finger-tighten only, as the connector on the terminal can be damaged, requiring costly non-warranty repairs, if overtightened with pliers or other tools.

4.0.4 COM Port

The DB9 serial COM port is located on the back of the terminal. It has a jumper located beside it that makes pin 9 either:
• open (NC) or
• a source for +5VDC or +12VDC power to energize barcode scanners, proximity readers, fingerprint readers, and other accessories.

See Appendix A of this manual for specific information.

4.0.5 External Keyboard, Mouse, and other USB or Bluetooth Accessory

To use an external USB keyboard, mouse, scanner, or other USB accessory simply connect the cable to one of the USB ports. Most devices will be operational immediately. Some may require a reboot. Thumb and other USB drives show in Windows Explorer as "Hard Drive", "Hard Drive 2", etc.

To use an external bluetooth keyboard, mouse, scanner, or other bluetooth accessory, pair the accessory with the terminal. To do this:

Press the Start button, select Control Panel and double-click on Bluetooth Device Properties. The Bluetooth Manager window opens:
Press the Scan Device button. Any bluetooth devices in range will show up in the Untrusted window. You may have to press a RESET button on the bluetooth device if it does not show up within a few minutes. Select the one you are interested in and press the --> button to move it to the Trusted window. You may then see an authenticate request like this:

![Authenticate Request](image1)

Usually you will not need to authenticate the device - if not, press the No button. If you press the Yes button, you will be asked for the device’s PIN number. After this action, double-click on the device in the Trusted window and select the appropriate checkboxes - particularly Active:

![Checkbox Selection](image2)

Most devices will be operational immediately. Some may require a reboot. You can now add another bluetooth device or simply close the Bluetooth Manager dialog window.
4.0.6 External Cable Strain Relief

There are several methods of providing strain relief for external cables. The methods can be used in combination for extra relief. Two basic methods - cable ties and anchor with cable ties - are illustrated below.

An additional method is using the waterproof connector cover accessory as shown below and also shown above in section 3.0.1.3.1, Installing Laser Cables using the waterproof connector cover kit accessory.

5.0 Operating the Terminal

This section provides information on how to power-up the terminal, includes definitions for the LEDs on the front of the terminal, network configurations, and adjusting the speaker volume.

5.0.1 Power

The terminal receives power from an external power source via an adapter you connect to the 12VDC power input connector. The terminal does not have a power switch. When power is applied, the Power LED on the front of the terminal immediately illuminates green.
The ROM boot screen appears. It has the word "booting...". After booting, the desktop is shown, unless overridden by application programming, and the terminal is ready to be used.

5.0.2 Screen Navigation and Operation
The pointer can be manipulated using an external mouse, the optional touch-screen, or a keyboard - either built-in or external. This section describes the touch screen operation and some common keyboard commands.

5.0.2.1 Using the Touchscreen
The optional touchscreen works like a mouse. Tapping the screen once on a menu item causes the same response as left-clicking a mouse. Two consecutive rapid taps generate a double left-click response. Pressing and holding the Alt key while delivering a single tap to the screen, or pressing over an icon for more than one second, results in the same response as right-clicking a mouse.

Calibration
If the touchscreen does not respond to the location touched, touchscreen calibration should be executed. You may use the combination keystrokes listed immediately below if the screen is far out of calibration. The touchscreen calibration screen can be selected in the control panel found by pressing the Start button. Select the control panel’s Stylus icon and its Calibration tab. Press the Recalibrate button and follow the instructions: Simply follow the on-screen instructions and press and release on the ’+’ graphic each time it is displayed.

5.0.2.2 Using Combination Keystrokes
Navigation and operation of the terminal can take place without a mouse or touch screen. The most commonly needed key commands are listed below. For keyboard combination keystrokes, such as Ctrl+Tab, press and hold the first key (Ctrl) while you press and release the second key (Tab).

<table>
<thead>
<tr>
<th>Key or keystroke combination</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ctrl+Esc</td>
<td>Opens the Start menu.</td>
</tr>
<tr>
<td>Esc</td>
<td>Cancels or closes the current menu or dialog that is open without saving any changes. Retains the previous settings.</td>
</tr>
<tr>
<td>Tab</td>
<td>Moves the cursor from one menu item to another in tabbed dialogs and drop-down lists.</td>
</tr>
<tr>
<td>Ctrl+Tab</td>
<td>Moves cursor from one tabbed dialog to another from left to right.</td>
</tr>
<tr>
<td>Alt+Tab</td>
<td>Opens the Task manager window.</td>
</tr>
<tr>
<td>Alt+x, where x = the underlined letter in the menu item name.</td>
<td>Selects and opens a menu item.</td>
</tr>
</tbody>
</table>
5.0.3 LED Definitions

There are two LEDs on the front of the terminal:

**Power**

This green LED illuminates when running on an external power source. It turns yellow when running on battery power. The terminal will not boot with just battery power.

---

**Note:** The backup battery pack is shipped without being charged and requires 48 hours of trickle charging in the terminal to be fully charged/recharged.
**Link**
This green LED illuminates when there is a successful 10/100 Base-T or RF Ethernet link.

**5.0.4  Network Configurations**

**5.0.4.1  Configuring the TCP/IP Address & WiFi Properties**
To change the IP address, subnet mask, and gateway, use the Control Panel in Windows.

Set the IP address and other Ethernet parameters as instructed, whether wired or wireless Ethernet is used. For additional parameters associated with wireless Ethernet, there are additional dialogs as described below.

**5.0.4.1.1 Configuring Ethernet Parameters via Control Panel**

The preferred method for configuration is using an external mouse or integral touch screen. If these are not available, appropriate keystrokes are noted in [square brackets]. Note that if more advanced properties need to be set - such as WiFi, you will need a pointing device - either a touchscreen option, an external USB or BlueTooth mouse, or the pointing device on the host PC through the *Remote Display* utility (see Chapter 3 of the Developer’s Manual for instructions for using the very handy *Remote Display* utility).

1. From the Start Menu [Ctrl+Esc], select *Settings* [arrows up], and click the *Control Panel* submenu item [arrow right, Enter].
2. Double-click the *Network and Dial-up Connections* icon [arrows, Enter].
   The Network Connection window opens and the configuration dialog displays network drivers:
   - WLAN1 (this is the dialog for setting parameters for WiFi Ethernet)
   - DM9CE1 (this is the dialog for setting parameters for wired Ethernet)
   - BTPAN1 (this is the dialog for setting parameters for a BlueTooth wireless dongle; it is untested)
• Pick the network connection you want to configure. The one shown below is WLAN1, the optional WiFi adapter (all the connections allow configuration of the Ethernet address properties and look the same as this one except for the title block)

You can set the IP addresses and the Name servers in this dialog box, or use DHCP (the factory default). Press OK when done in order to activate your choice.

3. If using DHCP to assign a TCP/IP address, verify the radio button for *Obtain an IP address via DHCP* is selected. If necessary, select this radio button [tab, downarrow].

Otherwise, if assigning a "hard-coded" IP address, select the radio button for *Specify an IP address*, [tab, downarrow] enter the IP Address [tab to each address; if less than digits in each octet, rightarrow to next octet] Subnet Mask, and Gateway address [tab between addresses].

4. If a network server (WINS or DNS) configuration is required, now is a good time to do it, since the correct adapter dialog window is open. Select the *Name Servers* folder tab [tab to the *IP Address* folder tab, rightarrow to the *Name Servers* folder tab], and fill-in the appropriate server address information [tab to the address field, use same rules as above between octets and between addresses].

5. Click the *OK* button [Tab, Enter].

6. If using WiFi, set or change the RF Ethernet Network ID/ess-id and other RF Ethernet parameters as specified below:
5.0.4.1.2 Wireless Network ID, Security, and other Parameters

1. If using a terminal with the WiFi RF Ethernet IEEE802.11b/g option, double-click on the WiFi icon in the system tray:

   ![Wireless Information Tab]

   Double-click on the WiFi icon in system tray to open this dialog

2. Select the Wireless Information tab to get to the configuration parameters like ESSID, WEP, and security parameters:

   ![Wireless Information Tab]

   ![Wireless Information Tab]

   ![Wireless Information Tab]
3. Double-click on the network you wish to configure and the Wireless Network Properties dialog window opens (double-click on the Add New icon if the target network is not shown. The only difference is that the SSID block in the dialog window will be empty so you can type in the network ID):

In the case above, the Encryption type WEP was selected, Authentication was set to Open, the checkbox for The key is provided automatically was cleared, and the Network key value was entered.

4. The following screen captures show some of the Encryption and 802.1x authentication choices that are available. There are two choices for WEP Encryption: WEP and Disabled. Depending on the WEP Authentication property chosen, there are more choices for WEP Encryption - for example, if WEP Authentication type WPA is chosen, WEP Encryption choices are AES and TKIP.
5. There are a number of choices for WEP Authentication:

6. There are two choices for IEEE802.1x Authentication:

7. When all the properties are configured, press OK and press OK again at the Wireless Information tab. Reboot to test the wireless Ethernet configuration.

5.0.4.1.3 Some WiFi Troubleshooting Tips

If the red X over the wireless icon in the system tray does not go away, you are not connected to your wireless network. A few things you can check:
1. Check the Encryption type, authentication types and choices:

2. Check that the *Use Windows to configure my wireless settings* checkbox is checked - get to the *Advanced Wireless Settings* dialog window from the *Wireless* tab in the *WLAN1* configuration dialog box.
3. Make sure WiFi is not disabled - go to Start/Control Panel/Network and Dial-up Connection and right-click you (can press alt and tap the touchscreen for right-click) on the WLAN1 icon to check & reset it.

Note that this is the same screen where you can disable any or all of the network connectivity alternatives.

4. If you do not see the WLAN1 icon above, go to Start/Control Panel/Wireless Config Control Panel and activate WiFi

5.0.5 Adjusting the Audio Volume, Sounds, etc.

The audio output volume is controlled by the Windows Operating System.

To adjust the volume level and sound schemes:
1. Use the Control Panel’s Volume & Sounds dialog to adjust the volume slider bar under the Volume tab.
2. Adjust the sound preferences under the Sounds tab. As each adjustment is made, the terminal emits the volume chosen.

6.0 Maintenance

Maintenance of the terminal includes replacing the real-time clock battery and the optional backup battery pack.
6.0.1 Replacing the Real-time Clock Battery

The real-time clock battery that maintains the date and time has a 5-year life expectancy. To replace the real-time clock battery:

1. Obtain battery replacement part: 3 V lithium CR 2032
2. Follow proper ESD grounding procedures to prevent damage to electronics.
3. Disconnect the external power cable from input power connector and all cables connected to the auxiliary power output if it is in use.
4. Remove and save the 17 screws holding the rear cover and remove the cover.
5. If an optional battery backup pack is present, disconnect it. Leaving it connected may cause damage to the terminal during reinstallation.
6. Lift the retaining clip holding the existing lithium real-time clock battery and remove the battery from its holder as shown in the following FIGURE 9.
7. Insert the new lithium real-time clock battery into the holder with the positive + battery terminal side of the battery facing up. Carefully release the retaining clip.

8. Reconnect the backup pack cable, if present.
9. Reinstall the rear cover and fasten the hardware removed in step 4.

Note: When installing a back cover on the terminal, make sure all cables are routed so as not to be pinched between the cover and the printed circuit board when the screws are tightened.

10. Reconnect external power, and any cables to auxiliary power output connector.
11. Reset the clock in the Microsoft Windows Control Panel in \Start\Settings\Control Panel and select the Date/Time icon, or simply double-click on the time shown in the system tray. Use the built-in keyboard and/or touchscreen or an external mouse to reset the clock and click the Apply button.
12. You can also use the Time Synchronization program to reset the clock to a central standard on a networked time server (see the LANpoint Power X Developer’s Manual, 855M546, for more information).
6.0.2  Replacing the Optional Backup Battery Pack
To replace the battery pack when it no longer holds a charge, remove the old battery pack and follow the
installation instructions in section 2.0.3.1 Backup Battery Pack.

7.0  Dimensional Drawing for Mounting the Terminal
FIGURE 10, Wall Mount Cutout Dimensions provides metric and English dimensions for mounting the
LANpoint Power X terminal to a wall. See section 3.0.1, Flush Mount Option for installation instructions.
FIGURE 10 Wall Mount Cutout Dimensions
Appendix A  Connector Diagrams

A.1 Connector Location Diagram

This rear view of the LANpoint Power X terminal shows the locations of the connectors described in this appendix. The lower photo shows connector details.
Terminal with rear cover in place, showing access to connectors

Relative Connector Locations
A.2 Connector Pinout Diagrams

This appendix contains information for wiring the following:

- Wired Ethernet
- COM5
- USB ports - 3
- Backup Battery
- External Power Input

A.2.1 Wired Ethernet

The terminal has one Ethernet 10/100 Base-T Connector shown in FIGURE A-11, Ethernet 10/100 Base-T connector located on the back of the terminal in the lower left-hand corner.

<table>
<thead>
<tr>
<th>Ethernet 10/100 Base-T connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin Number</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4, 5, 7, 8</td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>
A.2.2 COM5 Port

The terminal has one RS232 COM port as shown in FIGURE A-12, COM5 Port.

* Pin 9 is configurable via a hardware jumper. With the jumper across the pins, pin 9 outputs +5VDC or +12VDC, depending on jumper position; this is primarily for use with serial scanners and other peripherals powered from pin 9. With no jumper, (factory default), the serial port is configured as an RS232C port with no signal on pin 9.
A.2.3 Three USB Host A Connectors

The terminal has three USB Host A connectors for use with external mouse, external keyboard, laser scanner, slot reader, and other autoID accessories. The mini 5-pin connector below PORT 3 is an OTG port only used for factory configuration and custom programming via ActiveSync.

![USB Host A Connectors and OTG connector](image)

<table>
<thead>
<tr>
<th>Pin Number</th>
<th>Function</th>
<th>Pin Number</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VCC +5VDC</td>
<td>2</td>
<td>D -</td>
</tr>
<tr>
<td>3</td>
<td>D +</td>
<td>4</td>
<td>Ground</td>
</tr>
</tbody>
</table>

**IMPORTANT:** the terminal can be configured to use EITHER the OTG port or the USB ports, but not both at the same time. **The integral keyboard is not operational when using the OTG port.**

The OTG port is NOT active in operational mode. OTG is meant to be used by application developers for using ActiveSync during the development process.

**Note:** See the section on ActiveSync in the *LANpoint Power X Developer’s Manual* for instructions on how to activate the OTG port / reactivate the USB ports.
A.2.4 Accessory Power Output

In addition to having +5 volts available via jumper selection on the COM port, the terminal has an accessory power output connector as shown in A.2.4, Accessory Power Output.

<table>
<thead>
<tr>
<th>Power Output</th>
<th>Voltage</th>
<th>Total Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin 1</td>
<td>+3.3 V</td>
<td>0.5 A</td>
</tr>
<tr>
<td>Pin 2</td>
<td>+5 V</td>
<td>2.0 A</td>
</tr>
<tr>
<td>Pin 3</td>
<td>+12 V</td>
<td>0.75 A</td>
</tr>
<tr>
<td>Pin 4</td>
<td>GND</td>
<td>GND</td>
</tr>
</tbody>
</table>

Attach accessory jumper wires using standard Molex connector housing #22-01-2045 (III PN: 280C002) and Molex contact pins #08-56-0110 (III PN: 210C265) or equivalent.
A.2.5 Audio Input and Output

Each terminal has two physically identical audio connectors, one for audio input, and one for audio output. Jack a microphone or other audio input device to the otherwise unlabeled "J13" connector. Jack a headphone or speaker into the "J14" connector that is labeled "HEADPHONE".

**FIGURE A-15 Audio Input and Output Jacks**

<table>
<thead>
<tr>
<th>Mono Audio Input</th>
<th>Signal</th>
<th>Audio Output</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - shoulder</td>
<td>GND</td>
<td>1 - shoulder</td>
<td>GND</td>
</tr>
<tr>
<td>2, 3 - tip</td>
<td>No Connect</td>
<td>2, 3 - tip</td>
<td>Right</td>
</tr>
<tr>
<td>4 - barrel</td>
<td>Mic in</td>
<td>4 - barrel</td>
<td>Left</td>
</tr>
</tbody>
</table>
A.2.6 External Power Input

The terminal has one 12 VDC external power input. It is located on the back of the terminal in the lower right corner when looking at the rear of the terminal, as shown in FIGURE A-16, *External Power Input*.

![External Power Input](image)

**FIGURE A-16 External Power Input**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center</td>
<td>+ 12 VDC</td>
</tr>
<tr>
<td>Sleeve/Barrel</td>
<td>Ground</td>
</tr>
</tbody>
</table>
A.2.7 Backup Battery Power Input

The terminal has one two pin connector for the optional backup battery pack. It is located on the back of the terminal in the lower right corner when looking at the rear of the terminal, as shown in FIGURE A-17, Backup Battery Connector.

![Backup Battery Connector](image)

**FIGURE A-17 Backup Battery Connector**

<table>
<thead>
<tr>
<th>Backup Battery Pack connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
</tbody>
</table>
**A.2.8 Digital Input-Output Connector**

The LANpoint Power X terminal has a connector for discrete digital input and output signals on the back of the terminal as shown below.

<table>
<thead>
<tr>
<th>Description</th>
<th>Pin</th>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>digital ground</td>
<td>1</td>
<td>2</td>
<td>V+external</td>
</tr>
<tr>
<td>digital ground</td>
<td>3</td>
<td>4</td>
<td>DO channel 0 +</td>
</tr>
<tr>
<td>digital ground</td>
<td>5</td>
<td>6</td>
<td>DO channel 1 +</td>
</tr>
<tr>
<td>digital ground</td>
<td>7</td>
<td>8</td>
<td>DO channel 2 +</td>
</tr>
<tr>
<td>digital ground</td>
<td>9</td>
<td>10</td>
<td>DO channel 3 +</td>
</tr>
<tr>
<td>digital ground</td>
<td>11</td>
<td>12</td>
<td>DO channel 4 +</td>
</tr>
<tr>
<td>digital ground</td>
<td>13</td>
<td>14</td>
<td>DO channel 5 +</td>
</tr>
<tr>
<td>digital ground</td>
<td>15</td>
<td>16</td>
<td>DO channel 6 +</td>
</tr>
<tr>
<td>digital ground</td>
<td>17</td>
<td>18</td>
<td>DO channel 7 +</td>
</tr>
<tr>
<td>DI channel 0 -</td>
<td>19</td>
<td>20</td>
<td>DI channel 0 +</td>
</tr>
<tr>
<td>DI channel 1 -</td>
<td>21</td>
<td>22</td>
<td>DI channel 1 +</td>
</tr>
<tr>
<td>DI channel 2 -</td>
<td>23</td>
<td>24</td>
<td>DI channel 2 +</td>
</tr>
<tr>
<td>DI channel 3 -</td>
<td>25</td>
<td>26</td>
<td>DI channel 3 +</td>
</tr>
<tr>
<td>DI channel 4 -</td>
<td>27</td>
<td>28</td>
<td>DI channel 4 +</td>
</tr>
<tr>
<td>DI channel 5 -</td>
<td>29</td>
<td>30</td>
<td>DI channel 5 +</td>
</tr>
<tr>
<td>DI channel 6 -</td>
<td>31</td>
<td>32</td>
<td>DI channel 6 +</td>
</tr>
<tr>
<td>DI channel 7 -</td>
<td>33</td>
<td>34</td>
<td>DI channel 7 +</td>
</tr>
</tbody>
</table>
Attach wiring easily using the optional factory-installed Digital I/O Termination panel, or custom build using standard AMP connector 746288-8 or equivalent. The termination panel option is shown below:

A.2.8.1 Digital I/O EEPROM Write Protect Jumper

Each of the Digital Output signals can be configured to be asserted or not asserted within milliseconds of the terminal powering up. Each time the terminal reboots, the settings are read from EEPROM, and the channels are set appropriately. The settings are configured by application software, and once set, the power-up status is stored in EEPROM memory.

To ensure that the power-up setting is not changed, the terminal has a write-protect jumper at the location shown below. The jumper is shipped from the factory in the "WE" (Write Enabled, jumper between center and right socket) position, and can be moved to the "WP" (Write Protected, jumper between center and left socket) position to inhibit changes from being reset in the EEPROM memory.

The jumper can be accessed by removing the rear cover.

Use proper ESD grounding procedures when handling electronics.
A.2.8.2 Digital Input Schematic
A.2.8.3 Digital Output Schematic
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