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BETA USER'S GUIDE:

xPrintServer™

Network Edition

"The Plug-and-Print Solution for your iOS® Devices"

This Reviewer's Guide is designed to help you evaluate the Lantronix **xPrintServer**.

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*********** <u>IMPORTANT – PLEASE FOLLOW THIS FIRST STEP</u> ***********

This is a BETA version of the xPrintServer.

As such, we would like to ensure you have the latest version of firmware loaded on the device.

Before you begin printing with your xPrintServer, please follow these instructions:

Updating Firmware

Note: *Internet access is required for firmware updates.*

1. Login to the xPrintServer user interface (see *Logging In*).
2. Click the **Admin** tab to access the **Admin** page.
3. Click the **Firmware** link on the left side of the page. The firmware you are currently running will display.
4. Click the **Check for Firmware Update** button to check if a firmware update is available at this time. After a few seconds, you will receive one of two messages:
5. "Firmware update is available" indicating you may proceed to step 5.
6. "You are running the latest version of the firmware" indicating no firmware update is necessary at this time.
7. Click **Upgrade Firmware**. Wait a few minutes while firmware upgrades. When the upgrade is complete, the xPrintServer device will automatically restart, bringing you back to the **Home** page.

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1. INTRODUCTION

1.1 *What is the "xPrintServer"?*

xPrintServer is an easy-to-use, affordable 'plug and print' hardware solution for virtually any Apple® iOS device. The first print server of its kind, xPrintServer enables printing from iOS AirPrint-enabled apps, such as *Safari, Notes, Keynote, Pages, Mail, iPhotos, iBooks* and more – right from the native print menu on your Apple device. To use xPrintServer, there is no need to install any printer drivers or download applications to the iOS device. All you need to do is open the box, plug it into a network where your network printers reside and print!

Note: xPrintServer and your printer(s) must be on same IP subnet for 'plug-and-print' operations. The xPrintServer supports an easy to use GUI that allows configuration of printers that are accessible on different IP subnets.

1.2 *Market Background*

There are 73+ million iPads users around the world[1] (50% of whom use it for business[2]), who are frustrated with the lack of an easy to use, low cost printing solution. This customer problem is will continue to grow, especially as iPad adoption rapidly increases:

- 92% of Fortune 500 companies are or will have deployed iPads by end of calendar 2011[3];
- 80+% of the top hospitals in the U.S. are currently testing /piloting iPads.

As business adoption increases, so does the challenge faced by IT departments on how to identify, deploy and manage iOS (and specifically iPad) device printing throughout the extended organization.

Factors Driving Current Growth:
- Mobility – Worldwide push toward "all things mobile"
- Tablets trending to cannibalize 15-20% of the PC market in 2011[4]
- iOS tablets (iPads) represent over 95% of total tablet activations in CY'11 Q2
- Ease-of-use
- Consumer-adoption of iPad (and all tablets) are driving need for IT to support it

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[1] Apple. Apple website Sept 2011 (from earnings release).

[2] ZDNet. September 19,2011. "SAP CIO on Tablets & Mobile Strategy for Enterprise."

[3] Apple. Oct 4, 2011 iOS5 Announcement / press release.

[4] IDC. IDC as quoted in "The Guardian" Sept 2011 – "IDC follows Gartner in cutting PC sales growth forecast."

1.3 *Competitive Landscape*

At time of launch (December 2011), no direct (hardware/print server) competition exists for the xPrintServer.

Current competition exists in related categories:

1. The App Approach:
    a. **Direct Printing Apps** – Free and paid apps that allow for printing directly to a Wi-Fi enabled printer (examples = Canon's Easy Photo-Print for iPhone; HP's iPrint Photo app).
        i. Issue = limits you to these particular printers, especially troublesome for enterprises who have existing investments in legacy printers.

    b. **Printing-to-Shared Printers** – Still app-based, searches a Wi-Fi network for Macs (not PCs) with shared printers.
        i. Issue = limited to Mac users.

    c. "**Other Apps**" – Dozens, if not more, apps that don't talk directly to printers, but to a server that is run in the background on a Mac or PC, to connect to printers attached to the specific machine you're on.
        i. Issue = user has to leave the program in which they're interacting (such as email, web-browsing, Word or PowerPoint files, etc.).

2. iOS / AirPrint Printers
    a. New printers being brought out by major manufacturers (HP, Epson) that are designed specifically for the iPad.
        i. Issue = Users can spend a minimum of $99.00+ for each new printer. In a corporate environment, it's not cost effective or practical to buy, deploy and support.

3. The "Work-around" Approach:
    a. Sync your docs back to your Mac or PC, and print then print. (Technically, not even "iPad printing".)
        i. Issue = It's time consuming, and the user has to have a desktop or laptop available at all times for printing.

2. KEY PRODUCT FEATURES

*   No 'app' or additional software or downloads required
*   Simple configuration
*   Auto printer discovery (for supported printers)
*   Translation of iOS format to printer-specific PDL (Page Description Language)
*   Security features
*   Support for network-attached printers
*   External LED status indicator
*   Configuration via browser (HTTP)

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3. SUPPORTED iOS DEVICES
xPrintServer supports all newer generation Apple devices with iOS 4.2 and later, including:
- iOS 4.2 or later
- iPad and iPad2
- iPhone (3GS or later)
- iPod Touch (3rd generation or later)

4. SUPPORTED PRINTERS & PRINTER PROTOCOLS
The xPrintServer-Network Edition only supports network-attached (either wired or wireless) printers with one of the following printing protocols:
- JetDirect (also known as AppSocket)
- LPD
- IPP

The xPrintServer supports thousands of printer models* from manufacturers including:
- HP
- Toshiba
- Canon
- Lexmark
- Xerox
- Epson

Note: Due to the tens of thousands of printer models in market, Lantronix will continue to add new models to the support printers list – if you have a printer that appears to not be supported, simply email us the brand and model number at xprintserver@lantronix.com.

5. DHCP CONFIGURATION
xPrintServer requires DHCP configuration.

6. SUPPORTED BROWSERS
The following browsers will be supported:
- Microsoft Internet Explorer (version 8.0 or higher)
- Firefox (version 7.0 or higher)
- Safari (version 5.0 or higher)
- Chrome (version 14.0 or higher)

7. LEDs

LEDs are located in two places on the xPrintServer device, and provide information about device activity and status.
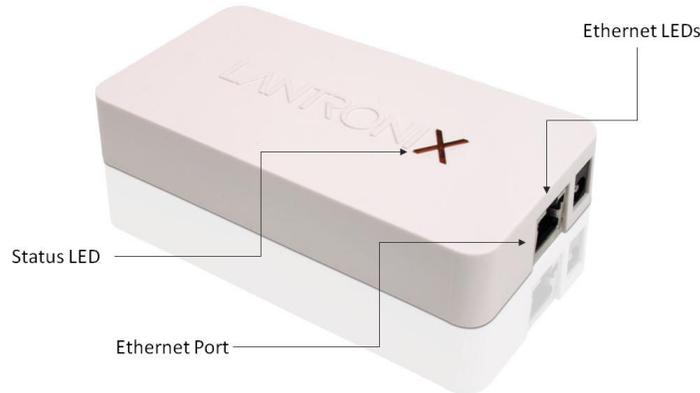
Ethernet LEDs. There are two "Ethernet LEDs" located on the upper left and right corners of the Ethernet port: One yellow when lit, and the other green. The display and pattern of each LED provides specific status information for the network connection:

Ethernet LEDs	Description
Solid Yellow	Indicates that a link to the Ethernet is established
Flashing Yellow	Indicates activity
Solid Green	Indicates an Ethernet connection speed between 10 and 100 Mbps
Green Off	Indicates an Ethernet connection speed of up to 10 Mbps

Status LED. The "Status LED" on the xPrintServer device is incorporated in the "x" letter of the Lantronix logo on the top of the device. The Status LED is orange when lit, and specific display patterns indicates specific status and activity. The LED may display a solid light, display no light, slowly glow on, slowly glow off, or flash on/off. The status of the device is communicated by following the specific glow and flash patterns and number of cycles.

Status LED	Description
Solid Orange	Indicates the power is ON or the device is booting
Off	Indicates the power is OFF
Glow On – Dim Off (repeating pattern)	Repeating pattern of glowing on to glowing off cycle occurring once every three (3) seconds indicates the device is booted and IDLE
Fast and Flashing	Indicates activity in progress (i.e., actively printing a print job)

8. **RESTORING FACTORY DEFAULTS**
You can reset the xPrintServer to factory default settings. The **Reset** button is on the bottom of the device and is accessible through a "pin hole" in the case. To reset the unit to factory defaults, perform the following steps:

Step 1: Place the end of a paperclip or similar object into the reset opening (pin-sized hole on the bottom of the device) and press for a ***minimum of ten (10) seconds***;

Step 2: Remove the paperclip to release the button. The firmware restores the factory default settings to the configuration and reboots the unit.

9. **TOPOLOGY SUPPORT**
The xPrintServer is hardwired (via standard CAT-5) cabling to a router, switch or hub. The system requires an Access Point be also hardwired to the network and communicating on the same subnet . The IOS devices associate with the A/P and communicate to the xPrintServer when a print job is ready to be processed. The xPrintServer communicates to network attached printer(s); the printers may either be hardwired or wireless connected to the network.

The printer and xPrintServer do not need to be on the same subnet, however, the xPrintServer will not be able to auto-detect printers outside of the subnet to which it is connected. However printers on different subnets can be configured via the xPrintServer easy to use Web GUI.

The xPrintServer uses Zeroconf to advertise print services to the IOS device(s) and requires either one or both of the following:
- Both the IOS device and the xPrintServer are on the same subnet.
- The IOS device and xPrintServer are on different subnets but multicast traffic is communicated between the subnets.

10. **PRODUCT INFORMATION & ADDRESSES**
Obtaining your xPrintServer product information and other identifying information such as the IP address or serial number of your network devices may be helpful when setting up your xPrintServer. This information may also be needed if you contact Lantronix technical support.

11. **SETUP OF xPRINTSERVER**
- Open your xPrintServer box.
- Remove the contents (xPrintServer, power cord, and RJ45 cable)
- Plug the power cord into the xPrintServer, then to the outlet for power
    - » The orange "x" will illuminate
- Plug the RJ45 cable into your xPrintServer
- Plug the other end of the RJ45 cable anywhere in your network / LAN
    - » The device will auto discover and auto provision your networked-enabled printers, and the Lantronix "X" will pulse orange when it's ready to print!

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![Lantronix logo]

12. HOW TO PRINT

1. Using your iPad, iPhone or other iOS device, **Open** the web page, email, photo, etc. that you wish to print and click the icon to open the native print menu:

Select **Print** on your Apple® device.
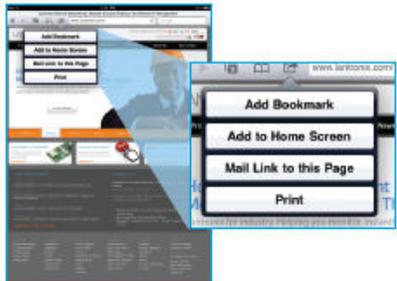
2. From the Printer Options menu, click **Printer** to display of all available networked printers.

3. **Select** the appropriate printer. Then, select the number of copies and click **Print**.

13. KEY POINTS FOR OUR REVIEWERS:

- You are reviewing the xPrintServer-*Network Edition*

- This edition is for networked-printers only, not for USB printers.

- This is a BETA version:
  - Your product packaging (black product box) is beta;
  - The xPrintServer device is beta (both the hardware and software);
  - We will continue to add support for printers – if your printer doesn't appear to be supported, simply email us the brand and model at xprintserver@lantronix.com and we'll do our best to provide immediate support.

- Theoretically, xPrintServer can support an almost unlimited number of concurrent printers on the network. However, for optimal performance we recommend one (1) xPrintServer for every 5-10 network printers.

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14. CONTACT INFORMATION & ADDITIONAL DOCUMENTATION

Technical Support for Product Reviewers:
Lantronix, Inc. – Technical Support Team
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Marketing, Distribution & Company Contact:
For marketing inquiries, sales or distribution questions, or for additional documentation
(Product Brief, Quick Start Guide, High-res Product Photos, Video, or Technical Docs)
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