

Application Note:

Updating the xPico 200® Bootloader



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This equipment has to be tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

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

This device complies with Part 15 of the FCC Rules. 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.

This device is intended only for OEM Integrators. The OEM integrator should be aware of the following important considerations.

Revision History

Date	Rev.	Comments
April 2019	A	Initial document.

For the latest revision of this product document, please check our online documentation at www.lantronix.com/support/documentation.

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Overview

This document provides instructions on updating the Lantronix® xPico® 200 Series bootloader using the Manufacturing Test Loader. The latest versions of both are recommended. Additional information on the Manufacturing Test Loader can be found in the xPico 200 Series SDK User Guide at <https://docs.lantronix.com/products/xpico-200/sdk/>.

Preparing to Update the xPico 200 Series

Before loading the Manufacturing Test Loader or updating the bootloader, perform the following:

- ◆ Set the xPico 200 module's line settings to 115200 bps, 8 data bits, no parity bit, 1 stop bit, and hardware flow control.
- ◆ Set your terminal application to the same serial settings.
- ◆ Connect the xPico 200 module to the PC using a serial cable.
- ◆ Acquire the latest Manufacturing Test Loader .rom file.
- ◆ Acquire the latest bootloader .rom file.

Loading the Manufacturing Test Loader

Before installing the bootloader, you need to load the Manufacturing Test Loader:

1. On the PC, run the terminal application.
2. With the power to the xPico 200 module turned off, hold down the **Defaults** button.
3. Turn on the xPico 200 module.
4. Release the **Defaults** button.
5. Send `!SL<carriage return>` quickly. You may need to do this within a second of turning on the module. It can be helpful to paste the command into your terminal application.
6. If the previous step was successful, `G` will be returned. If you do not see this response, return to step 2 and try again.
7. Send the Manufacturing Test Loader .rom file in binary mode. If you do not send the file quickly enough, you may receive errors. If this happens, go back to step 2 and try again.
8. Once the file is transferred successfully, you will see the CLI prompt.

Installing the Bootloader

Once the Manufacturing Test Loader has been loaded to the xPico 200 module, you can install the bootloader. Before these steps can be followed, the Manufacturing Test Loader must be loaded on the xPico 200 module.

1. At the CLI prompt after loading the Manufacturing Test Loader, enter `flash analyze`. The results will allow you to determine the current bootloader version.
2. Enter the CLI command `flash download serial`.
3. Send the bootloader .rom file in binary mode.

4. After the file is transferred, the bootloader will be installed, and you will see Install successful.
5. Enter the CLI command `flash analyze` once more to verify the new bootloader version has been installed.

Bootloader Error Codes

The following shows potential error codes:

Table 1: Bootloader Error Codes

Error Code	Description
E12	No flash image found
E13	Bad flash image found
E14	Bad command parameter
E18	Reception timeout
E21	Image oversize
E22	Bad image checksum
E23	Bad image destination
E24	Internal coding problem
E25	Bad image header
E26	Secure image not signed
E27	Secure image failed verify