

Adding a Custom Splash Screen

XL4 & XL7 OCS Models

1. INTRODUCTION

This guide details how to replace the standard XL4 and XL7 OCS splash screens—the screen that displays on power-up—with a custom or branded graphic

The standard Splash Screen (shown below) is stored in internal Flash Memory as a part of the OCS Boot Loader code. The boot loader code is a small, independent firmware routine that the OCS uses on startup to launch the full firmware. The full firmware actually handles executing the application code the customer has created to run the machine.



Figure 1 - Default XL4 and XL7 splash screen graphic

2. OVERVIEW

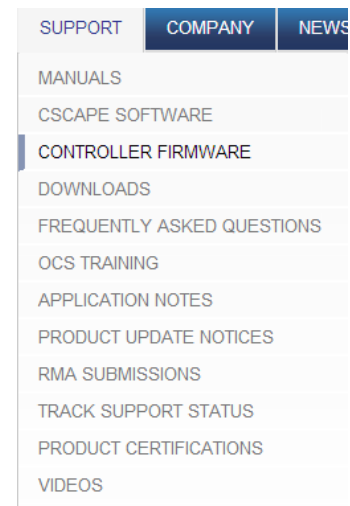
The XL4 and XL7 controllers updated firmware and boot loader code through the MicroSD card or USB drive. To replace the default splash screen with a custom graphic:

- 1) Download latest Firmware set from the Horner APG website.
- 2) Replace default splash.bmp file with a custom image, reusing the filename.
- 3) Update the boot loader and firmware using the USB or MicroSD function.

3. CONFIGURATION

- 1) Visit www.heapg.com and click **Log In** (if you do not already have an account, you will have to create one in order to access firmware updates).
- 2) Go to **Support** → **Controller Firmware** (see fig. 2) and download the most recent firmware set.
- 3) Unzip the folder to a MicroSD or USB card.
- 4) Replace **splash.bmp** with desired graphic that meets the following guidelines:
 - a) Must be named **splash.bmp**
 - b) 320x240 pixels for an XL4 / 800x480 pixels for an XL7
 - c) 230,456 bytes in size for the XL4 / 1,152,056 bytes for the XL7
- 5) **Update** changes to the OCS firmware and boot loader by completing the following steps:

Figure 2 - Controller Firmware at heapg.com



Note: The following process will clear the application program. Make sure to back up all files prior to completion.

- 1) Copy the complete firmware set on to the **root directory** of a MicroSD or USB card.
- 2) Insert MicroSD card (or USB) into a powered-on XL4 or XL7.
Note: If using a USB, ensure no MicroSD card is installed simultaneously.
- 3) Press and hold the **SYSTEM** key on the OCS until the **Boot Installer** Screen appears.
- 4) Press **Install Boot loader** then **Yes**
- 5) When the **Operation Complete** screen appears, press **OK** and remove the storage device.
- 6) Power cycle the XL4/XL7 and wait for boot up. The new custom boot graphic should appear during this step.
- 7) Press the **SYSTEM** key and select **View Status**
- 8) Scroll down to the version information. (The following information will display if using firmware 12.98):
Note: Different firmware versions might reflect different values.

Figure 3- Firmware Information for v12.98

```
Firmware Rev:      12.98
FPGA Rev:          0.3
InitRD Rev:        1.02
OS Ver:            2.6.35.29
Self-Test:         0k
```

- 9) If the Firmware version matches and the Splash Screen appears correctly on the screen, the process is complete.
- 10) If not, repeat steps 2-8, ensuring all of the files are correctly on the storage device prior to installing boot loader.

4. TECHNICAL SUPPORT

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