

UC-X Prop Loader Manual

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Introduction

Welcome to the Community Preview of the UC-X Prop Loader.

The UC-X Prop Loader is one part of a set of internal tools intended to remove dependency on the "Propeller Tool" for assembly and upload of code to the Parallax Propeller chip. Although this release includes only Windows support, the tool is cross platform with support for both Mac OS and Linux coming in a future release.

There are two ways to use the PropLoader. Running the executable will launch the loader in "Interactive" mode. From which you can connect/disconnect to the propeller chip and upload a binary (created with either PropTool or UCAsm) to RAM and/or EEPROM.

The second "non-interactive" mode is access by supplying the PropLoader with arguments (see "Command Line Arguments" for details). In this mode, the loader will connect, upload, disconnect and exit without any intervention. Errors are the one exception¹ to this, with a message dialog providing a description of the error.

¹ Future versions may include a quiet mode to suppress error dialogs

Requirements / Drivers

The PropLoader expects to communicate with the propeller via an FTDI device. In most cases this will be Parallax's PropPlug connected via USB.

You must also have the FTDI drivers installed. If you have already installed Parallax's PropTool, then suitable drivers will already be installed on your system, if not, you can obtain the most recent drivers from <http://www.ftdichip.com/Drivers/D2XX.htm>

Interactive Mode

Running the executable without any parameters will start the PropLoader in Interactive mode.

The main dialog provides the following self-explanatory buttons

- Connect
- Write RAM
- Program EEPROM

Selecting connect will connect to the propeller chip and obtain the version number (currently 1) and then reset the chip. Once connected, the RAM and EEPROM options will also enable.

Selecting "Write RAM" will bring up a file open dialog to select the binary file to upload to the propellers RAM. During upload a progress dialog will be displayed, after upload completes the propeller will begin running the uploaded code.

Selecting "Program EEPROM" will again bring up a file open dialog to select the binary file to upload. However, in addition to uploading the binary to RAM the binary will also be programmed into the attached EEPROM (if present) followed by verification of the programming. The propeller will then execute the code from RAM.

To reset the propeller chip, simply "Disconnect" then "Connect" again.

Non-Interactive Mode

PropLoader may also be used via the command line, facilitating the use of the prop loader as an add-on tool in many text editors. Note: A progress dialog will always be displayed whether invoked with arguments or not as well as message dialogs in the case of an error.

<code>proploader [options] filename.binary</code>

Command line arguments are case sensitive and must be specified before the filename. Multiple options that do not require an argument can be combined, for example `-Pe` is the same as specifying `-P -e`

The available options are shown in the following table.

Option	Purpose
-P	Use Propeller upload protocol (see below)
-e	Program EEPROM in addition to RAM upload
-h	Display usage information

Invoking the proploader with just a filename and no options will upload using the propeller protocol to the propeller's RAM.

Upload Protocol

The PropLoader supports multiple upload protocols for internal use, allowing the programming of a variety of chips in addition to the Propeller. The `-P` option ensures the loader uses the Parallax Propeller upload protocol, however, this is optional with `-P` assumed as the default upload protocol.

Program EEPROM

The `-e` option instructs the PropLoader to program and verify an attached EEPROM chip after the standard upload to RAM has occurred.