

Application Note

066

Updating K4u, K4vu and K4u+ firmware over a serial connection

This application note describes how to update the firmware on a K4u or K4vu switch.

Introduction

The K4u, K4vu and K4u⁺ switches have a rear panel serial port that connects to the serial port on the computer that you will use to drive the firmware update (this is your *source computer*). Typically, your source computer is a laptop which holds copies of the required configuration utility and firmware files. You then connect the laptop to the rear panel serial port on your switch using a direct M-F serial cable (see the *Update Requirements* below).

Terminology: Unless explicitly stated otherwise, the following instructions use 'K4u' as a generic term when referring to K4u, K4vu and K4u⁺ switches.

Note: *Firmware updates for K4u⁺ switches over a USB connection are described in the K4u⁺ Manual, available on the Support > Downloads page of the Amulet Hotkey website.*

Update requirements

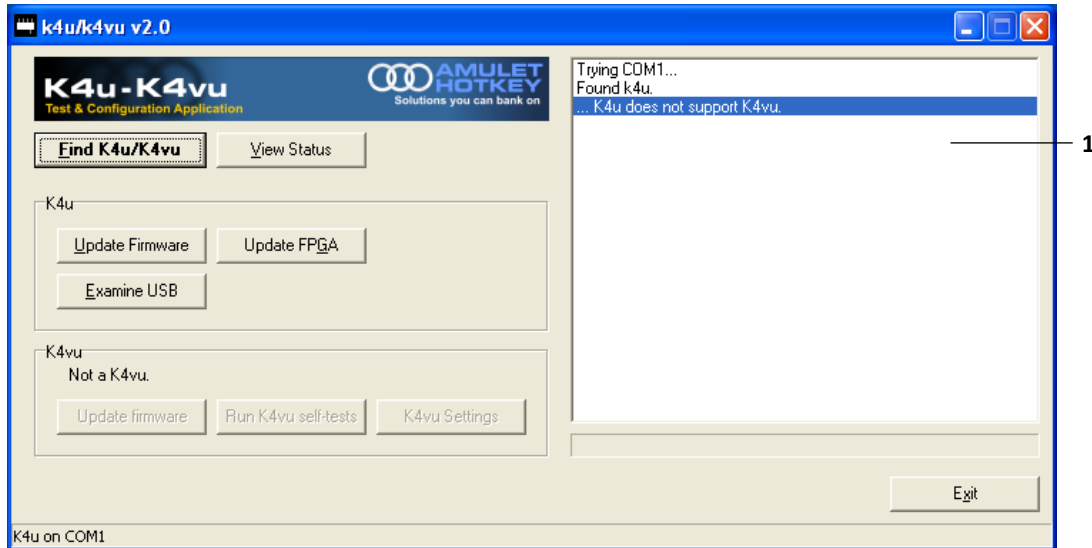
Before updating the K4u firmware over a serial connection:

- Save a copy of the configuration utility (k4u2.exe) on your source computer. You can download this utility from the Amulet Hotkey website:
 - a. Log in to the Support > Downloads page of the Amulet Hotkey website, www.amulethotkey.com.
 - b. Expand the Legacy products link.
 - c. Download the following K4u zip:
K4u-K4vu_Test_Configuration_Application.zip
This zip contains the k4u2.exe configuration utility.
- **Note:** *This utility is used to upgrade firmware on the K4u, K4vu and K4u⁺ products.*
- Connect your source computer to the K4u rear panel serial port using a direct M-F serial cable. If required, a suitable cable is available from Amulet Hotkey Technical Support (part no. CL-XX01-2014).
- Verify that you have correct versions of the firmware upgrade files. These files have .DLD and .K4U extensions. They are typically listed in the ECN or CN document associated with the firmware update. Contact Amulet Hotkey technical support if in doubt.

You can save the firmware files directly onto your source computer or in an accessible network folder.

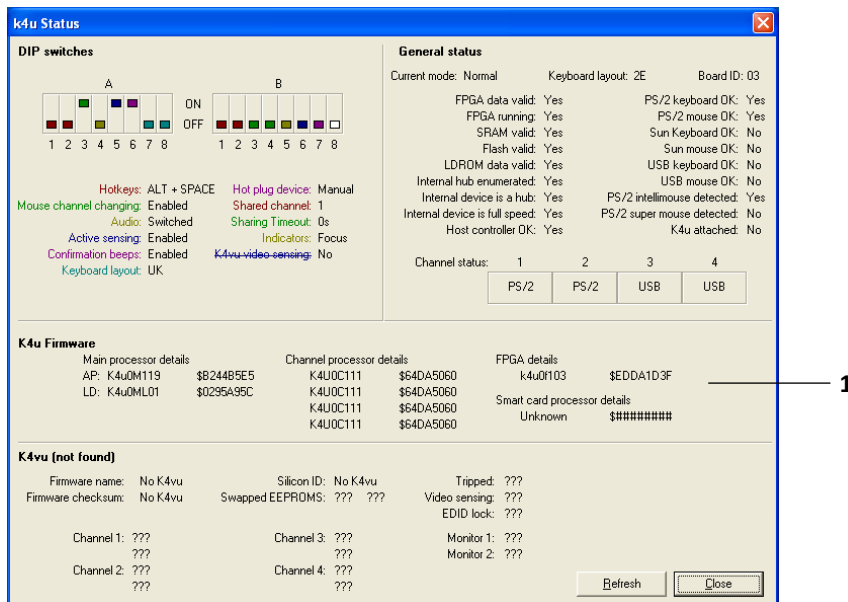
Updating the K4u firmware

1. Ensure that the K4u is powered up with an external PSU (power supply).
2. Run the configuration utility, k4u2.exe, on your source computer.



K4u configuration utility, k4u2.exe. **1** Update progress is reported in the right-hand pane.

3. Click the Find K4u/K4vu button.
The utility confirms whether it has found a K4u.
4. Click the View Status button and note the existing firmware versions on your K4u.



K4u Status dialog. **1** Existing firmware versions for the main processor, channel processor and FPGA.

5. Now run the firmware update. Depending on the type of update required, you may need to run one, two or three separate updates:
 - If you need to update the bootloader firmware, go to step 6. (These updates are rarely needed.)
 - To update the main processor and channel processor firmware, go to [step 7](#).
 - To update the FPGA configuration, go to [step 8](#).

6. Update the bootloader firmware:

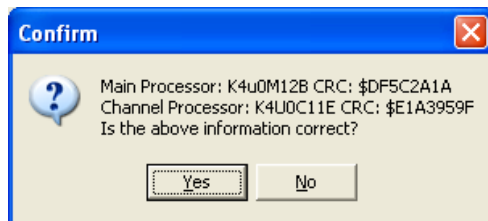
- a. In the K4u configuration utility (see [step 2](#) for a screenshot), click the Update Firmware button in the K4u section.
- b. In the Load Firmware dialog, browse to the required .DLD file.
- c. In the Confirm dialog, confirm the firmware details in the LDROM file and click Yes to start the update.

The configuration utility shows update progress. The update is typically very fast (just a few seconds). When the update is complete, the right pane displays “ISP completed successfully”.
- d. Continue to [step 7](#) to update the main processor and channel processor firmware.

Important! *If the update failed, the right pane of the K4u configuration utility displays “ISP Failed”. Click the Exit button to quit the configuration utility. Then retry the update process. If the update continues to fail, contact Amulet Hotkey technical support. Have the following information ready: unit serial number, production version number, ECN and CN numbers.*

7. Update the main processor and channel processor firmware:

- a. In the K4u configuration utility, click the Update Firmware button in the K4u section.
- b. In the Load Firmware dialog, browse to the required .DLD file.
- c. In the Confirm dialog, confirm the firmware details for the Main Processor and Channel Processor. Then click Yes to start the update.



Confirm dialog: Main Processor and Channel Processor

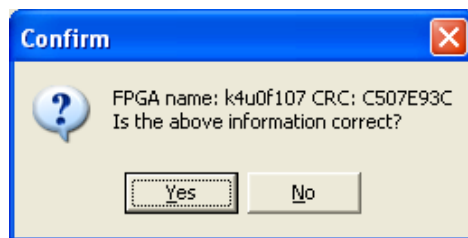
- d. The right pane of the configuration utility shows update progress. The update typically takes a couple of minutes.
- e. When the update is complete, the right pane displays “ISP completed successfully”.

While the update is running, the power LED flashes amber and magenta. When the update is complete, each channel LED briefly displays green.
- f. Continue to [step 8](#) to update the FPGA configuration.

Important! *If the update failed, the right pane displays “ISP Failed” and the channel LEDs display red. See the warning in [step 6](#) for instructions.*

8. Update the FPGA configuration:
 - a. Click the Update FPGA button in the K4u section.
 - b. In the Load FPGA Configuration dialog, browse to the required .K4U file.
 - c. In the Confirm dialog, confirm the FPGA file details and click Yes to start the update.
 - d. The right pane of the configuration utility shows update progress. The update typically takes slightly longer than the processor firmware update.
 - e. When the update is complete, the right pane displays “Data transmitted successfully”.

Important! *If the update failed, see the warning in [step 6](#) for instructions.*



Confirm dialog: FGPA

9. Click the View Status button to confirm that all of the new firmware versions have been installed on your K4u.
10. On the configuration label on the underside of the K4u, write the ECN or CN number associated with the firmware update.

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