

CC Linux – System update using uuu

CC Linux application note



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Revision history

Rev	Date	Comments
PA1	2022-06-20	For review
FG	2023-11-21	Finalize

1. Introduction

This document covers the installation/upgrade of the Operation Systems on Vision series namely CCpilot V510, V700, V710, V1000 and V1200 display computers.

The uuu tool method (Universal Update Utility) is used to update the entire system at once (bootloader, main + rescue Linux kernels, and main + rescue filesystems). These updates are released as .zip archives in the following format:

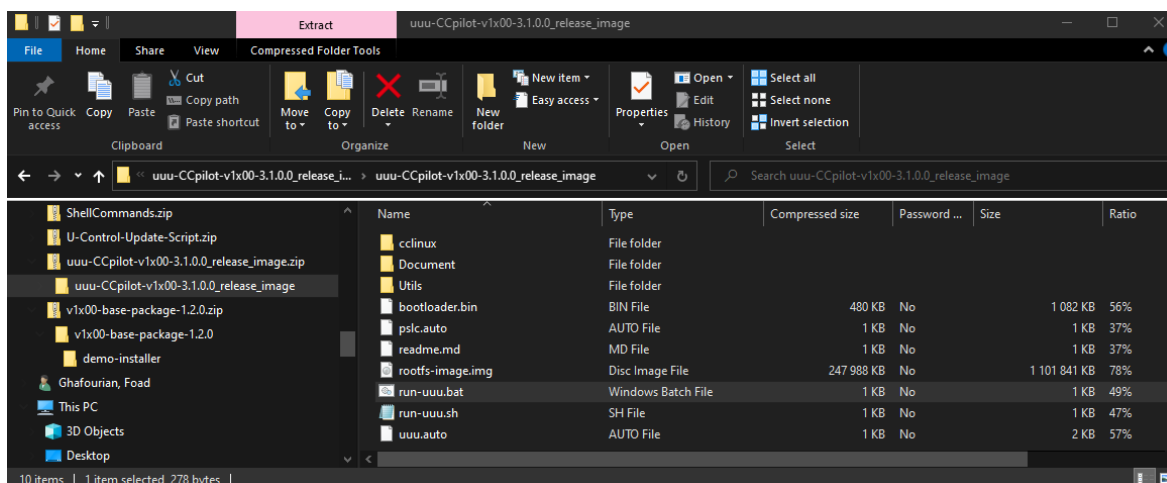
`uuu-CCpilot-<DeviceName>-<OS-version>_release_image.zip`

As an example, below is the .zip image file for a CCpilot V700 display with the OS version 3.0.0.0:



Downloads website for our CCpilot V700: [CCpilot V700 Downloads](#)

This method uses the uuu tool which is run on a Windows host PC. The program is made freely available by NXP and is also included in the above mentioned .zip file.



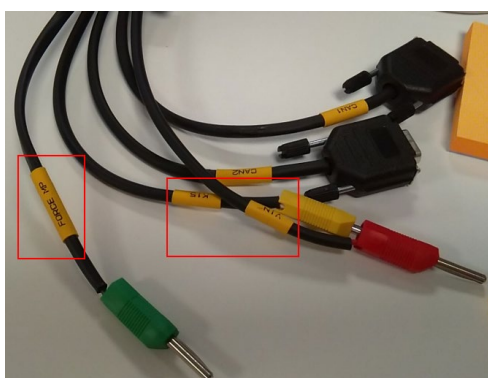
Contents of the uuu-CCpilot-v1x00-3.1.0.0_release_image.zip

2. Preparation



Note: This update will remove all user files and data. It is recommended to perform a backup before continuing.


1. Unpack the .zip containing the new image on a Windows host PC
2. Required items: male-male USB2 or USB3 cable to connect the CCpilot display and host PC
3. Cable needed to power the device into “serial-download-mode” by:
 - a. Using the cable-dev-kit:
Power connection cable with three banana-plugs, power (red), ignition (yellow), force (green) and ground (black) cable.



Developers cable kit

- a. Or create a power cable set, the pinout for the power cable is shown below and can be found in the Technical Manual.

7.2. Power and CAN M12 pinout



Power and CAN M12 Connector	
Matching plug: Female, 8-pin, A-coded with shield	
Pin	Signal
1	Power supply
2	Ground
3	*Force pin for USB serial download mode of the i.MX 8X
4	Key switch signal
5	CAN1 high
6	CAN1 low
7	CAN2 high
8	CAN2 low

Table 3: Power and CAN M12 connector pinout

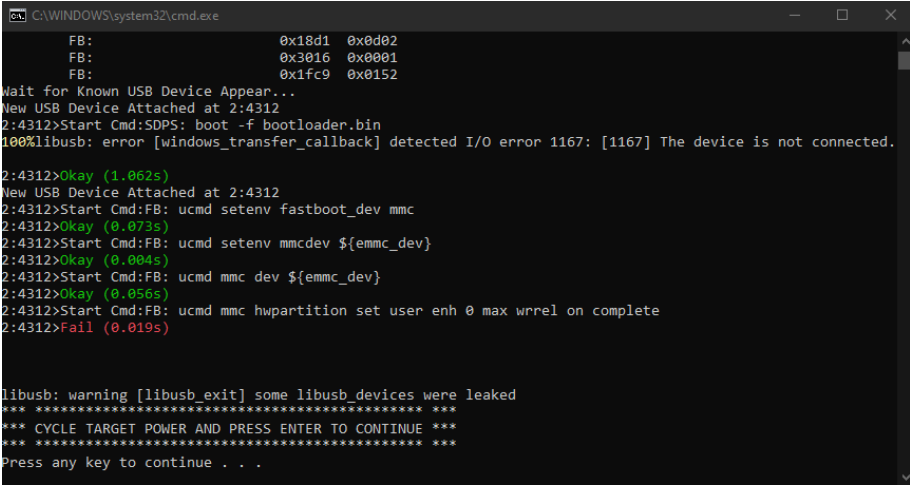
*Pin for forcing the USB serial download mode of the i.MX 8X for flashing of boot and/or image. Active high. Leave floating or grounded for normal operation.

M12 pinout from the Technical_manual: [CCpilot V700 - Technical manual](#)

3. Update procedure

1. Remove both power and ground from the CCPilot display
2. Power the device into “serial-download-mode” by connecting power (red), ignition (yellow) and force (green) cables to the power supply
3. Connect the USB cable to the display and then to your PC
4. Connect ground (black) cable to power supply ground
5. The screen will turn black and the led will start to flash green
6. Optional: Use Zadig (<https://zadig.akeo.ie/>) to check that the device has been correctly recognized in “serial-download-mode”
 - a. Download and open Zadig
 - b. Select “List All devices” from the options menu
 - c. Locate SE Blank 8QXP from the dropdown list
7. Run “*run-uuu.bat*” on the host PC

A cmd window opens in your PC, detecting the device and shown in the output, it says to cycle the target power and press Enter to continue in the cmd window as the image below



```
C:\WINDOWS\system32\cmd.exe
FB:          0x18d1  0x0d02
FB:          0x3016  0x0001
FB:          0x1fc9  0x0152
Wait for Known USB Device Appear...
New USB Device Attached at 2:43:12
2:43:12>Start Cmd:SDPS: boot -f bootloader.bin
100%libusb: error [windows_transfer_callback] detected I/O error 1167: [1167] The device is not connected.
2:43:12>Okay (1.062s)
New USB Device Attached at 2:43:12
2:43:12>Start Cmd:FB: ucmd setenv fastboot_dev mmc
2:43:12>Okay (0.073s)
2:43:12>Start Cmd:FB: ucmd setenv mmcdev ${emmc_dev}
2:43:12>Okay (0.004s)
2:43:12>Start Cmd:FB: ucmd mmc dev ${emmc_dev}
2:43:12>Okay (0.056s)
2:43:12>Start Cmd:FB: ucmd mmc hwpartition set user enh 0 max wrrel on complete
2:43:12>Fail (0.019s)

libusb: warning [libusb_exit] some libusb_devices were leaked
*** CYCLE TARGET POWER AND PRESS ENTER TO CONTINUE ***
*** *****
Press any key to continue . . .
```



If the status of the command *ucmd mmc hwpartition ...* shows as Fail, the error can be ignored. It does not affect the installation.

8. Cycle power by unplugging and plugging back the ground (black) cable

```

C:\WINDOWS\system32\cmd.exe
FB: ucmd setenv fastboot_dev mmc
FB: ucmd setenv mmcdev ${emmc_dev}
FB: ucmd mmc dev ${emmc_dev}
FB: flash -raw2sparse all rootfs-image.img
FB: flash -scanterm -scanlimited 0x800000 bootloader bootloader.bin
FB: ucmd if env exists emmc_ack; then ; else setenv emmc_ack 0; fi;
FB: ucmd mmc partconf ${emmc_dev} ${emmc_ack} 1 0
FB: done

Wait for Known USB Device Appear...
New USB Device Attached at 2:4312
2:4312>Start Cmd:SDPS: boot -scanterm -f bootloader.bin -scanlimited 0x800000
100%libusb: error [windows_transfer_callback] detected I/O error 1167: [1167] The device is not connected.
2:4312>okkey (1.042s)
New USB Device Attached at 2:4312
2:4312>Start Cmd:FB: ucmd setenv fastboot_dev mmc
2:4312>okkey (0.073s)
2:4312>Start Cmd:FB: ucmd setenv mmcdev ${emmc_dev}
2:4312>okkey (0.004s)
2:4312>Start Cmd:FB: ucmd mmc dev ${emmc_dev}
2:4312>okkey (0.052s)
2:4312>Start Cmd:FB: flash -raw2sparse all rootfs-image.img
10%0000000x200
    
```

Here you will see a status percentage at the bottom left of the window, when it is 100% and shows as done the cmd windows will close automatically, this means the device was successfully updated.

9. Restart the CCpilot display
 - a. Remove power to the display
 - b. Remember to remove the force pin (green) and remove the USB cable
 - c. Power up the device as usual.

Technical support

Additional sources of information are available on the CrossControl support site:

<https://crosscontrol.com/support/>

You will need to register to the site to be able to access all available information

Contact your reseller or supplier for help with possible problems with your device. To get the best help, you should have access to your device and be prepared with the following information before you contact support.

- The part number and serial number of the device, which you can find on the brand label.
- Date of purchase, which can be found on the invoice.
- The conditions and circumstances under which the problem arises.
- Status indicator patterns (i.e. LED blink pattern).
- Prepare a system report on the device, using CCSettingsConsole (if possible).
- Detailed description of all external equipment connected to the unit (when relevant to the problem).

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