Tutorial: Flashing Octopus Pro H723 (USB-to-CAN Bridge)

Step 1: Configure Klipper Firmware

1. **Open your Pi terminal and enter the Klipper directory:**
   `cd ~/klipper`
   `make menuconfig`
2. **Select these specific settings for the H723 chip:**
   - **Micro-controller Architecture:** STMicroelectronics STM32
   - **Processor model:** STM32H723 **(Make sure your chip matches or select the correct one that matches your chip)**
   - **Clock Reference:** 25 MHz crystal
   - **Bootloader offset:** 128KiB bootloader
   - **Communication interface:** USB to CAN bus bridge (USB on PA11/PA12)
   - **CAN bus interface:** CAN bus (on PD0/PD1)
   - **CAN bus speed:** 1000000 (1M)
3. **Build the firmware file:**
   `make`

Step 2: Flash the Octopus Pro (SD Card Method)

The microSD card method is the most reliable way to flash the Octopus Pro.

1. **Prepare the file:** Locate the newly created `klipper.bin` file in the `~/klipper/out/` folder. You must rename it exactly to: **firmware.bin**
2. **Prepare the SD Card:**
   - Use a microSD card (32GB or smaller) formatted to **FAT32**.
   - Copy the `firmware.bin` file onto the card.
3. **Flash the Board:**
   - Power off your Octopus Pro.
   - Insert the microSD card into the board's slot.
   - Power the board back on.
   - Wait at least 30 seconds for the process to complete.
4. **Verify the Flash:**
   - Power off the board and remove the SD card. Plug it back into your computer. If the file is now named **FIRMWARE.CUR**, the flash was successful.

Step 3: Update Your Configuration

When the Octopus Pro is in **USB-to-CAN Bridge Mode**, it uses a **CAN UUID** instead of a serial ID. You must find your unique IDs and update the shared `printer.cfg` file.

1. **Identify your UUIDs:**
   Run the following command:
   `~/klippy-env/bin/python ~/klipper/scripts/canbus_query.py can0`
2. **Update the MCUs section:**
   Locate this section in the provided `printer.cfg` and replace the example UUIDs with the ones you found in the step above.

```
#####################################################################
# MCUs & Printer Settings
#####################################################################

[mcu]
# Update this with your Octopus Pro UUID
canbus_uuid: 6709da268a59

[mcu toolhead]
# Update this with your EBB36 UUID
canbus_uuid: b864fcd507c5
```

Critical Hardware Note
Ensure the **120R termination jumper** is installed on both the **Octopus Pro** (near the CAN header) and the **EBB36**. Without these jumpers, the CAN network will be unstable and likely fail to connect.