Pico2Maple – USB/BT to Dreamcast Adapter

Pico2Maple is a USB/BT to Dreamcast controller adapter and VMU - built on the Raspberry Pi Pico 2 W (RP2350 chip). It allows the use of several USB/BT controllers, keyboards, and mice on the Dreamcast. Pico2Maple also incorporates VMU support and saving to a microSD card.

Comments, suggestions or compatibility issues? Please feel free to send an email to colin.luoma@gmail.com or open an issue at https://github.com/cluoma/Pico2Maple-fw

General Usage:

When powered on, Pico2Maple will present itself to the Dreamcast as a standard controller with a VMU in expansion slot 1.

It will start scanning for USB/BT devices and attempt to connect to them. USB devices will always take precedent over BT. If a supported device is found, it will be indicated on the OLED screen once connected.

Disconnecting a device will cause Pico2Maple to go back into scanning and pairing mode.

Supported (Tested) Devices:

For an up-to-date list of compatible devices, please visit https://github.com/cluoma/Pico2Maple-fw to find a link to a shared Google Sheets compatibility list.

USB Gamepads:

- Sony DualSense PS5 Controller
- Xbox One, Xbox One Elite, and Xbox Series (3-button version); most XInput gamepads should work but I have only tested the ones listed here
- Steam Controller (wireless with dongle only)
- 8BitDo Wireless Dongle (great for connecting many other controllers)
- 8BitDo SN30 Pro Xbox version

BT Gamepads:

- Sony DualSense PS5 Controller
- Xbox Series Wireless Controller (3-button version)
- Nintendo WiiU Pro Controller
- 8BitDo SN30 Pro (regular and Xbox-branded versions)

USB Keyboards and Mice:

Most HID-compliant USB mice and keyboards should work.

Simpler keyboards and mice are recommended for the best chance at compatibility. Some fancier keyboards and mice may report themselves as both devices (e.g. a mouse may report as both a mouse *and* a keyboard). In these cases, Pico2Maple will connect to the first-reported device.

Controls:

Controls use the standard Xbox controller mappings with a few changes:

- **Select + Right/Left Bumper** will switch the active VMU.
- **Select + A** enables standard Dreamcast controls.
- **Select + B** enables second joystick and C/Z buttons. C and Z are mapped to the right and left bumpers respectively.
- **Select + X** enables Twin Stick controls. Left and right joysticks emulated the Twin Sticks.

The **front button** on the device will increment the current VMU slot.

VMU/SD card Saving:

Pico2Maple supports 10 selectable VMU slots, each with the 200 block size of a standard VMU.

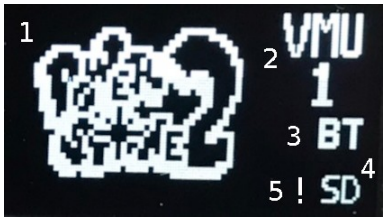
For the best experience, ***a microSD card is recommended*** while using Pico2Maple. If a compatible, FAT32-formatted microSD card is inserted when the device is powered on, VMU data will be loaded and saved to the SD card.

When no microSD card is detected, VMU data is stored sequentially in the Pico 2's internal flash, starting at **0x0B9000**. Internal flash VMU data will be backed up to a microSD on boot.

Look for 'SD' on the OLED display to know that the SD card was detected correctly.

Do not remove the microSD card while Pico2Maple is powered on; this could result in data loss.

OLED Display:



The front OLED display shows:

1. VMU screen
2. Current VMU slot (1-10)
3. Detected device (image of a controller, keyboard, mouse, or BT)
4. VMU storage medium (INT for flash, SD for microSD)
5. Shown when VMU write is in progress, **do not power down device while '!' is displayed**

Firmware:

Updated firmware is available at: https://github.com/cluoma/Pico2Maple-fw

Please use the '-w' version of the firmware to maintain BT support.

To update Pico2Maple's firmware, use a paperclip to push the BOOTSEL button through the small hole on the back of the device. Plug it into a computer using a micro-USB cable while the BOOTSEL button is pressed. This will cause the device to show up as a mass storage device. Copy the firmware *uf2* file to the device and wait for it to reboot.

Use of Open Source Software:

Pico2Maple would not have been possible without the inclusion of open source libraries. A list of these libraries and acknowledgments is available at https://github.com/cluoma/Pico2Maple-fw