ScopeDog & eFinder

Installing or updating the Handset firmware.

This guide contains three actions …

1. Installing the micropython OS on a fresh Pi Pico
2. Updating handset firmware on a Pico
3. Resetting the Pico to factory state

Installing OS on a fresh Pi Pico

This is a variant of the official methods given, but necessary as the latest firmware version is not compatible with the handset code.

a) Power up the Raspberry Pi
b) Ensure file RPI_PICO-20220618-v1.19.1.uf2 is on the Pi. (normally it is downloaded from the github during install)
c) Using a usb A to usb micro cable, connect the Pico to the Pi, whilst pressing the white button on the Pico.
d) Release the button and a dialogue box should appear on the Pi, asking to open in File Manager, click OK
e) The File Manager will open, with the Pico appearing as /media/scopedog/RPI-RP2
f) Copy the file RPI_PICO-20220618-v1.19.1.uf2 and paste it into the folder RPI-RP2. Paste into the folder in the left hand pane in the File Manager window, not into the right hand pane – the folder's content.
g) Connection will immediately be lost.
h) Replug the Pico into the Pi to restart the Pico with its new OS.

Install or updating handset firmware on a Pico

Firmware versions later than main_ef1_9.py can be directly updated. Earlier versions require the Pico to be reset first to factory state (see last section). It is also necessary to ensure the specific Pico OS has been installed first and hence it better to usually start with a reset and fresh install of OS first.

a) Start Thonny on the Pi. (main menu / programming / Thonny)
b) If not already done, change Thonny to 'regular mode' (top right of Thonny window) and restart Thonny.
c) Connect the Pico to the Pi with the usb cable, (no button pressed).
d) At lower right of Thonny window click on the 'Local Python 3 . /usr/bin/python3' This defines the Python interpreter that Thonny will work with.

e) Now select ‘MicroPython (Raspberry Pi Pico) . Board in FS mode @ /dev/tty/ACM0’. If you not see this option either the Pico is not connected, or does not yet have the OS installed.
f) Now the lower window (Shell) in Thonny should show the MicroPython v1.19.1 prompt.
g) If it does not, then a previous handset firmware is running. Press the red stop button at top of Thonny window. If the MicroPython prompt does not appear then proceed to reset the Pico as described in the last section.
h) Now in Thonny open the target firmware file on ‘this computer’. It will be of the form ‘main_ef4_1.py’.
i) Next ‘save as’ it to the ‘Raspberry Pi Pico’, using the new file name ‘main.py’
j) Reconnect the Pico to the Pi to start the firmware.

Resetting the Pico to factory state

a) Power up the Raspberry Pi
b) Ensure file flash_nuke.uf2 is on the Pi. (normally it is downloaded from the github during install)
c) Using a usb A to usb micro cable, connect the Pico to the Pi, whilst pressing the white button on the Pico.
d) Release the button and a dialogue box should appear on the Pi, asking to open in File Manager, click OK
e) The File Manager will open, with the Pico appearing as /media/scopedog/RPI-RP2
f) Copy the file flash_nuke.uf2 and paste it into the folder RPI-RP2. Paste into the left hand pane in the File Manager window, not into the right hand pane – the folder’s content.
g) Connection will immediately be lost.
h) Follow the instructions above under ‘Installing OS on a fresh Pi Pico’, and then install the firmware.