

The image shows a Raspberry Pi Pico microcontroller board. The board is green with a blue PCB. It features a USB Type-C port on the left, a USB Type-A port on the right, and a 40-pin GPIO header at the bottom. Various components are soldered onto the board, including resistors (e.g., 1K, 22K, 10K), capacitors, and a red LED. The board is placed on a background with circuit diagrams and component labels, including "Micro\_SD\_Card", "RC2040", "V1", "PICO RESET", "GND", "3V3\_EN", "3V3", "AVR", "G2E", "G27", "G26", "G21", "G20", "G19", "G18", "G17", "G16", "GND", "GPIO 6-13", "GPIO 14", "GPIO 15", "GPIO28", "GPIO21-24", "U2D", "74HCT00", "Conn\_01x03\_Male", "J7", "GND", "GPIO0", "GPIO1 Res", "GPIO2", "GPIO3", "GPIO4", "GPIO5", "GPIO6", "GPIO7", "GPIO8", "GPIO9", "GPIO10", "GPIO11", "GPIO12", "GPIO13", "GPIO14", "GPIO15", "GPIO16", "GPIO17", "GPIO18", "GPIO19", "GPIO20", "GPIO21", "GPIO22", "GPIO23", "GPIO24", "GPIO25", "GPIO26", "GPIO27", "GPIO28", "GPIO29", "GPIO30", "GPIO31", "GPIO32", "GPIO33", "GPIO34", "GPIO35", "GPIO36", "GPIO37", "GPIO38", "GPIO39", "GPIO40", "GPIO41", "GPIO42", "GPIO43", "GPIO44", "GPIO45", "GPIO46", "GPIO47", "GPIO48", "GPIO49", "GPIO50", "GPIO51", "GPIO52", "GPIO53", "GPIO54", "GPIO55", "GPIO56", "GPIO57", "GPIO58", "GPIO59", "GPIO60", "GPIO61", "GPIO62", "GPIO63", "GPIO64", 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```

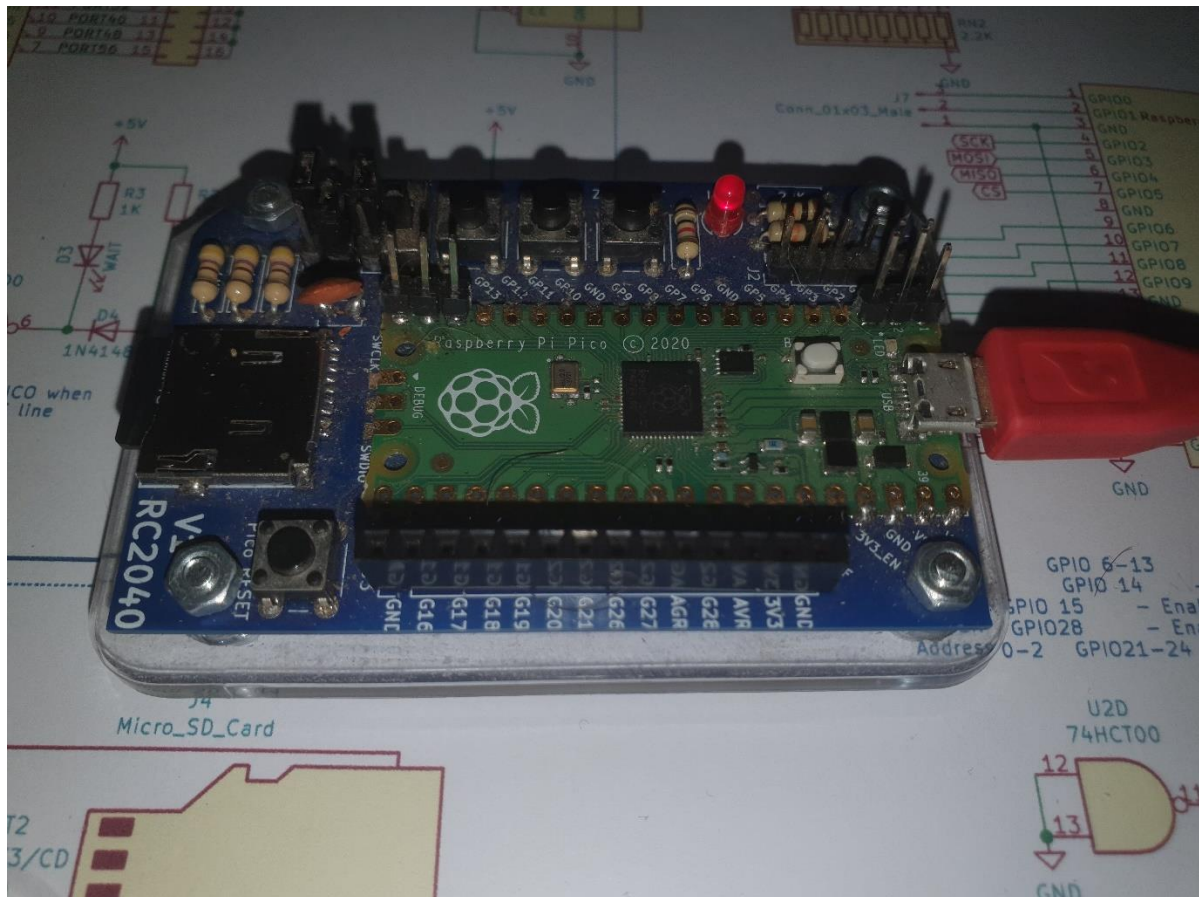
PICO RC2040
Derek Woodroffe
Extreme Kits
0 Kits at extkits.uk/RC2040
2022
ACIA selected
Loading: 'R0881099.BIN'[ironbank:2] for 0x4000 bytes
CPM/IDE File: 'CPM Inc Transient Apps ACIA.ing CPMIDE.id'
#Core 1 Started#

#####
##### RC2040 STARTING #####
#####

Small Computer Monitor - RC2014
*
```

Press BUT button on RC2040 (not needed on an RC2014 SD card module)

LED Comes ON



```
PICO RC2040
Derek Woodroffe
Extreme Kits
Kits at extkits.uk/RC2040
2022

ACIA selected
Loading: 'R0881099.BIN'[rombank:2] for 0x4000 bytes
CPH/IDE File: 'CPH Inc Transient Apps ACIA.ing CPHIDE.id'
#Core 1 Started#

#####
##### RC2040 STARTING #####
#####

Small Computer Monitor - RC2014
*
Start?:

```

Start? Is displayed in Terminal

On your PC, Close your terminal editor and Go to the directory With the Python Files

```
Directory of c:\myprogs\Python\RC20XXcpm

25/06/2022  16:04    <DIR>          .
25/06/2022  16:04    <DIR>          ..
19/06/2022  16:00    <DIR>          backup
23/06/2022  14:07             2,991 CAT-RC20xx.py
24/06/2022  19:48             3,413 CopyFrom-RC20xx.py
24/06/2022  19:48             3,669 CopyTo-RC20xx.py
24/06/2022  20:02             2,030 EXIT-RC20xx.py
24/06/2022  19:40             2,490 LS-RC20xx.py
24/06/2022  20:01             2,460 RM-RC20xx.py
25/06/2022  16:04    <DIR>          test files
                6 File(s)              17,053 bytes
                4 Dir(s)  150,283,882,496 bytes free

c:\myprogs\Python\RC20XXcpm>
```

To get a directory listing of a CPM drive

Type LS-RC20xx.py COMPORT DriveLetter

For my setup

LS-RC20xx.py COM4 D

```
c:\myprogs\Python\RC20XXcpm>
c:\myprogs\Python\RC20XXcpm>LS-RC20xx.py COM4 D
Drive  D
ELIZA   .BAS      8K      63
ELIZA   .DAT      8K      56
ELIZA   .DOC      8K      52
MANDLE2 .BAS      0K       0
MANDLEAS.BAS     0K       0
MANDLECO.BAS     0K       0
MONSTER .BAS      8K      55
MONSTER .DOC      4K      29
ROSE    .BAS      4K      22
STAR    .BAS     40K     298
STARWARS.BAS     16K     115
TESTMAND.BAS      4K       4
TVIGAMMO.BAS     16K     104
WORDPUZL.BAS      4K      28
ZILCH   .BAS      8K      62
    15 Files occupying    140K,    8036K Free.

c:\myprogs\Python\RC20XXcpm>
```

To Copy a file from the RC20xx

CopyFrom-RC20xx.py ComPort DriveLetter FileName

For my setup

CopyFrom-RC20xx.py COM4 D TESTMAND.BAS

```
c:\myprogs\Python\RC20XXcpm>CopyFrom-RC20xx.py COM4 D TESTMAND.BAS
fetching TESTMAND.BAS
TESTMAND.BAS Saved
c:\myprogs\Python\RC20XXcpm>
```

To Copy a file to the RC20xx

CopyTo-RC20xx.py ComPort DriveLetter FileName

For my setup

CopyTo-RC20xx.py COM4 D TESTTEST.TXT

**Note: The destination file must not already exist on the RC20XX**

```
c:\myprogs\Python\RC20XXcpm>
c:\myprogs\Python\RC20XXcpm>CopyTo-RC20xx.py COM4 D TESTTEST.TXT
sending TESTTEST.TXT
.....
TESTTEST.TXT Sent
c:\myprogs\Python\RC20XXcpm>
```

To remove a file from the RC20xx

RM-RC20xx.py ComPort DriveLetter FileName

For my setup

RM-RC20xx.py COM4 D TEST.TXT

```
c:\myprogs\Python\RC20XXcpm>RM-RC20xx.py COM4 D TEST.TXT
Removed TEST.TXT
c:\myprogs\Python\RC20XXcpm>
```

To cat (type) a file from the RC20xx

CAT-RC20xx.py ComPort DriveLetter FileName

For my setup

CAT-RC20xx.py COM4 D TESTMAND.BAS



```

c:\myprogs\Python\RC20XXcpm>CAT-RC20xx.py COM4 D TESTMAND.BAS
fetching TESTMAND.BAS
TESTMAND.BAS
05 WIDTH 255
10 MAXITER = 20
20 LET C$ = " ., '~!^:;[/<&?oxOX#  "
30 FOR Y = -39 TO 39
40 FOR X = -39 TO 39
50 CREAL = X / 20
70 CIMAG = Y / 20
80 ZREAL = CREAL
90 ZIMAG = CIMAG
95 COUNT = 1
100 ZM = ZREAL * ZREAL
105 ZN = ZIMAG * ZIMAG
107 ZL = ZM + ZN
110 IF ZL > 4 THEN GOTO 170
120 ZR2 = ZM - ZN + CREAL
130 ZIMAG = ZREAL * ZIMAG * 2 + CIMAG
140 ZREAL = ZR2
150 COUNT = COUNT + 1
160 IF COUNT < MAXITER THEN GOTO 100
170 PRINT MID$(C$, 1 + COUNT, 1);
180 NEXT X
185 PRINT ""
190 NEXT Y

```

(RC2040 ONLY)

To return to Serial Console

EXIT-RC2040.py COMPort

For my setup

EXIT-RC20xx.py COM4

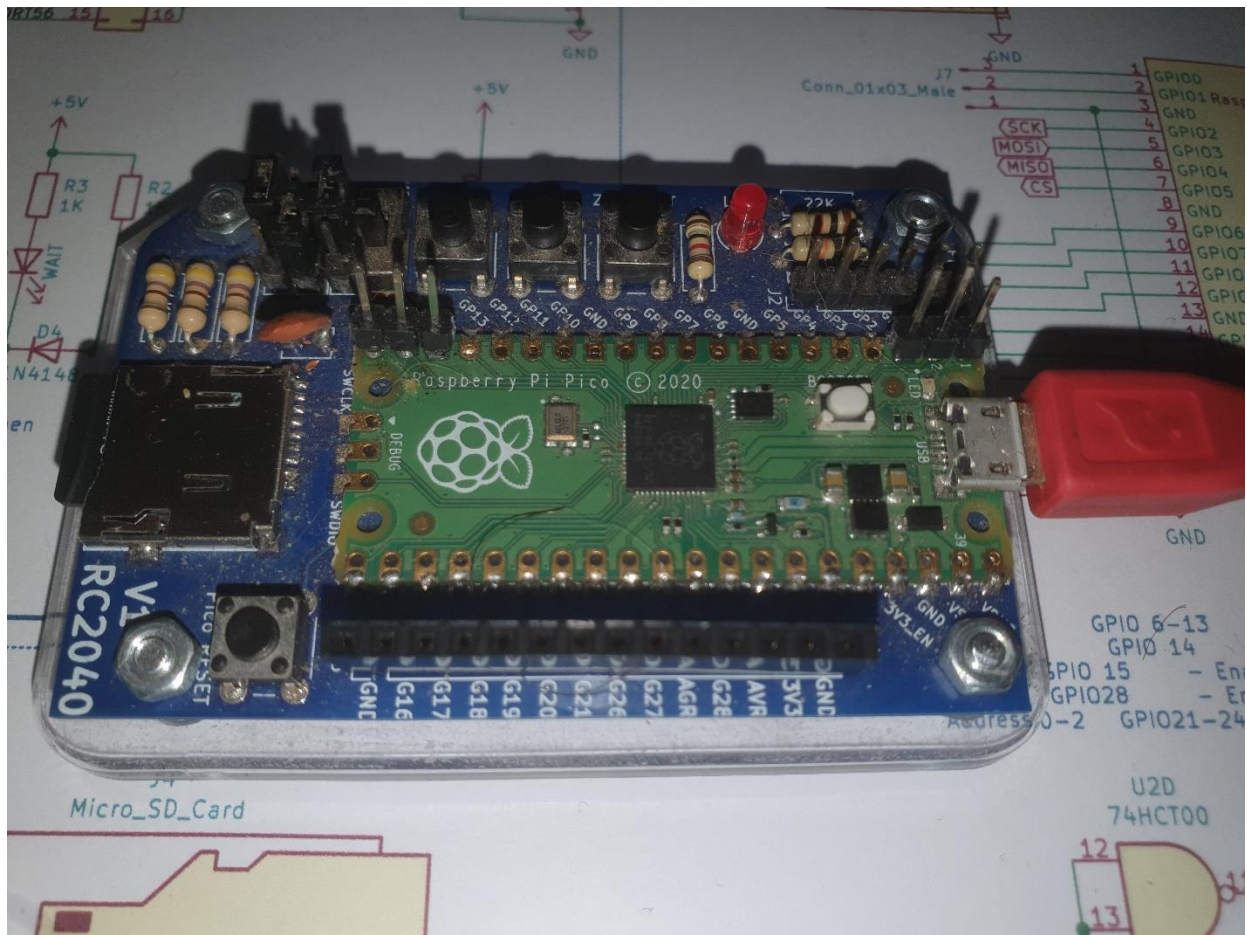
```

c:\myprogs\Python\RC20XXcpm>EXIT-RC20xx.py COM4
EXIT

c:\myprogs\Python\RC20XXcpm>

```

RC2040 LED off



And if you reconnect your terminal you are back to the console

```
*cpm
Z80 CPM BIOS 1.0 by G. Searle 2007-13
RC2014 port by Mitch Lalovic 2017
CP/M 2.2 Copyright 1979 (c) by Digital Research
A>
```

## New

Program the RC2040 with a binary file.

After clicking the button.

Run the Python script

Program-RC2040.py COM4 0000 24.bin

Where 0000 is the base Address and 24.Bin is a raw binary file.

Exit the FFS mode and your RC2040 has the new code at the address you specified.

