

Hardware reconfiguration of RP2040 in noForth T(v)

Data needed for the hardware initialization (The S? button, Clock frequency, UART address, Baudrate, Boot mode & Configuration extension) is stored in 6 cells at the address named CFG, only noForth T(v) duo initialises all cells.

Valid frequencies are: 12Mhz, 30Mhz, 48MHz, 60Mhz, 120Mhz, 125Mhz, 132Mhz, 200MHz & 250MHz.

The maximal tested baudrate is: 921k6 baud. The fourth cell contains the boot type & status for the second core.

1 = Load second system and boot it,

-1 = The second system is already booted.

What to do if you want to change something:

1. See the options below and choose the desired one.
2. Copy the code in the colored box.
3. Send the code to noForth (store and initialize).
4. Test the new situation.
5. No problems? Then make it permanent with FREEZE

Clock, UART and Baudrate - cells 0-3

- Clock 132 MHz - Baudrate 115k2 - UART 0

```
decimal
24 132 h+h 0 cfg ! \ Set switch I/O-bit & frequency in MHz
hx 40034000 1 cfg ! \ Default UART or UART1 = 40038000
115200      2 cfg ! \ Baudrate is 115k2
hx D0000004 3 cfg ! \ GPIO input address register
4 cfg @ abs 4 cfg ! \ (Re)start the second image, if any
      config      \ Initialize
```

- Clock 120 MHz - Baudrate 115k2 - UART 0

```
decimal
24 120 h+h 0 cfg ! \ Set switch I/O-bit & frequency in MHz
hx 40034000 1 cfg ! \ Default UART or UART1 = 40038000
115200      2 cfg ! \ Baudrate is 115k2
hx D0000004 3 cfg ! \ GPIO input address register
4 cfg @ abs 4 cfg ! \ (Re)start the second image, if any
      config      \ Initialize
```

- Clock 60 MHz - Baudrate 115k2 - UART 0

```
decimal
24 60 h+h 0 cfg ! \ Set switch I/O-bit & frequency in MHz
hx 40034000 1 cfg ! \ Default UART or UART1 = 40038000
115200      2 cfg ! \ Baudrate is 115k2
hx D0000004 3 cfg ! \ GPIO input address register
4 cfg @ abs 4 cfg ! \ (Re)start the second image, if any
config      \ Initialize
```

- Clock 12 MHz - Baudrate 38k4 - UART 0

```
decimal
24 12 h+h 0 cfg ! \ Set switch I/O-bit & frequency in MHz
hx 40034000 1 cfg ! \ Default UART or UART1 = 40038000
38400      2 cfg ! \ Baudrate is 38k4
hx D0000004 3 cfg ! \ GPIO input address register
4 cfg @ abs 4 cfg ! \ (Re)start the second image, if any
config      \ Initialize
```

- Clock 125 MHz - USB CDC port,
For usage after loading the USB CDC driver
The UART data is irrelevant here but may be used
for debugging using the TRACER\ module from the library.

```
decimal
24 125 h+h 0 cfg ! \ Set switch I/O-bit & frequency in MHz
hx D0000004 3 cfg ! \ GPIO input address register
4 cfg @ abs 4 cfg ! \ (Re)start the second image, if any
' usb-on    5 cfg ! \ Set additional configuration vector
config      \ Initialize
```

- Clock 250 MHz - Baudrate 460k8 - UART 1

```
decimal
24 250 h+h 0 cfg ! \ Set switch I/O-bit & frequency in MHz
hx 40038000 1 cfg ! \ Default UART or UART0 = 40034000
460800      2 cfg ! \ Baudrate is 460k8
hx D0000004 3 cfg ! \ GPIO input address register
4 cfg @ abs 4 cfg ! \ (Re)start the second image, if any
config      \ Initialize
```