**********Draft**********

picokltdwt-ultibo

03/31/21

**********Draft**********

The RPi3B Running Ultibo provides the capability to update the kernel7.img

tftp xx.xx.xx.xx < cmdstftp

tftp> tftp> Sent 3223812 bytes in 12.6 second

In addition it provides a WebStatus and remote shell

The remote shell can be use to examine files and restart the RPi3B+ Ultibo.

Ultibo Core (Release: Beetroot Version: 2.1.341 Date: 21 March 2022)

telnet xx.xx.xx.xx

Ultibo Core (Release: Beetroot Version: 2.1.341 Date: 21 March 2022)

(Type HELP for a list of available commands)

Available commands:

HELP
INFO
VER
TIME
CLS
RESTART
SHUTDOWN
UPTIME
THREAD
MEMORY
DEVICE
FILESYSTEM
CONTROLLER
DISK
PARTITION
VOLUME
DRIVE
CACHE
DIR
CD
MD
RD
TYPE
COPY
MOVE
DEL

REN
ATTRIB
TOUCH
VOL
LABEL
DELTREE
XCOPY
UPDATE
LOGOUT

type pico.log
LASS_SERIAL Name=Serial1)
0000007E - 01617F54:2 - USB: Bound USB CDC ACM Serial Driver to full-speed USB 2.0 device (Pico) (idVendor=2E8A idProduct=000A) (Interface=0)
0000007F - 01617F54:2 - Device: Sending device notification (Name=USB3 Class=DEVICE_CLASS_USB Notification=DEVICE_NOTIFICATION_BIND)
00000080 - 01617F54:2 - Device: Sending device notification (Name=USB4 Class=DEVICE_CLASS_USB Notification=DEVICE_NOTIFICATION_REGISTER)
00000081 - 01617F54:2 - Device: Registered device (Handle=029AA214 Class=DEVICE_CLASS_USB Name=USB4)
00000082 - 01617F54:2 - USB: Device3: Hub: New high-speed device connected to port 1
00000083 - 01617F54:2 - Device: Sending device notification (Name=USB4 Class=DEVICE_CLASS_USB Notification=DEVICE_NOTIFICATION_ATTACHING)
(Type HELP for a list of available commands)
>restart
Restarting in 1000 milliseconds
The RPi3B+ is programmed using repo

https://github.com/develone/Ultibo_Projects

https://github.com/develone/Ultibo_Projects/blob/master/picotransfer/RPi3/picokltdwtultibo.lpr

The pico is programmed using repo

https://github.com/develone/rp2040-freertos-project

https://github.com/develone/rp2040-freertos-project/blob/master/kltdwt-ultibo/main.c

https://github.com/develone/rp2040-freertos-project/blob/master/kltdwt-ultibo/CMakeLists.txt

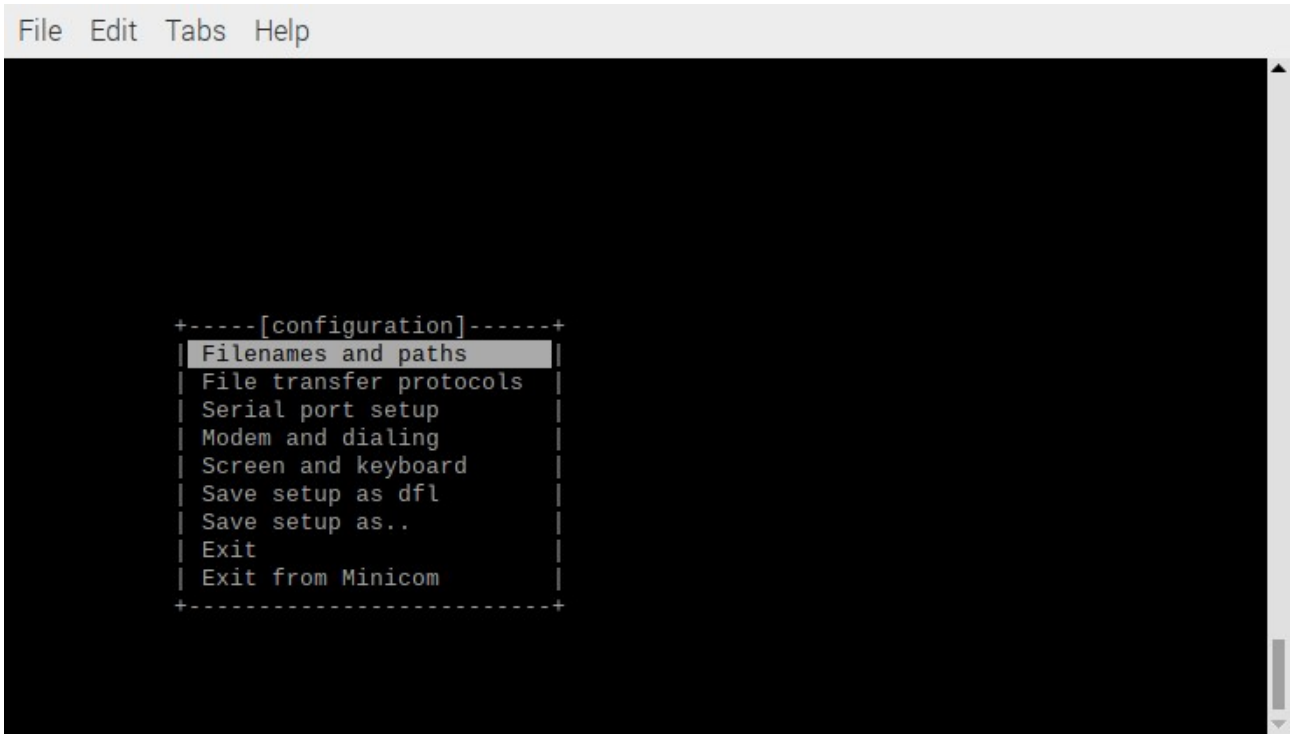
cmake ../
PICO_SDK_PATH is /home/devel/rp2040-freertos-project/pico-sdk
PICO platform is rp2040.
PICO target board is pico.

Using board configuration from
/home/devel/rp2040-freertos-project/pico-sdk/src/boards/include/boards/pico.h
TinyUSB available at /home/devel/rp2040-freertos-project/pico-sdk/lib/tinyusb/src/portable/raspberrypi/rp2040; enabling build support for USB.
-- Configuring done
-- Generating done
-- Build files have been written to: /home/devel/rp2040-freertos-project/build
devel@pi4-27:~/rp2040-freertos-project/build $ make
[1%] Built target bs2_default
[2%] Performing build step for 'ELF2UF2Build'
[100%] Built target elf2uf2
[2%] No install step for 'ELF2UF2Build'
[2%] Completed 'ELF2UF2Build'
[2%] Built target ELF2UF2Build
[2%] Built target lifting
[2%] Built target bs2_default_padded_checksummed_asm
[3%] Built target klt
[3%] Built target crc
[12%] Built target kltdwt-ultibo
[21%] Built target multicore
[29%] Built target klt-test
[31%] Built target freertos
[40%] Built target Semaphore
[48%] Built target Mutex
[56%] Built target Scheduling
[62%] Built target 50_pwm
[70%] Built target 2tasks
[79%] Built target ultibo_blink
[87%] Built target hello_usb
[95%] Built target pico-lifting
[100%] Built target blink

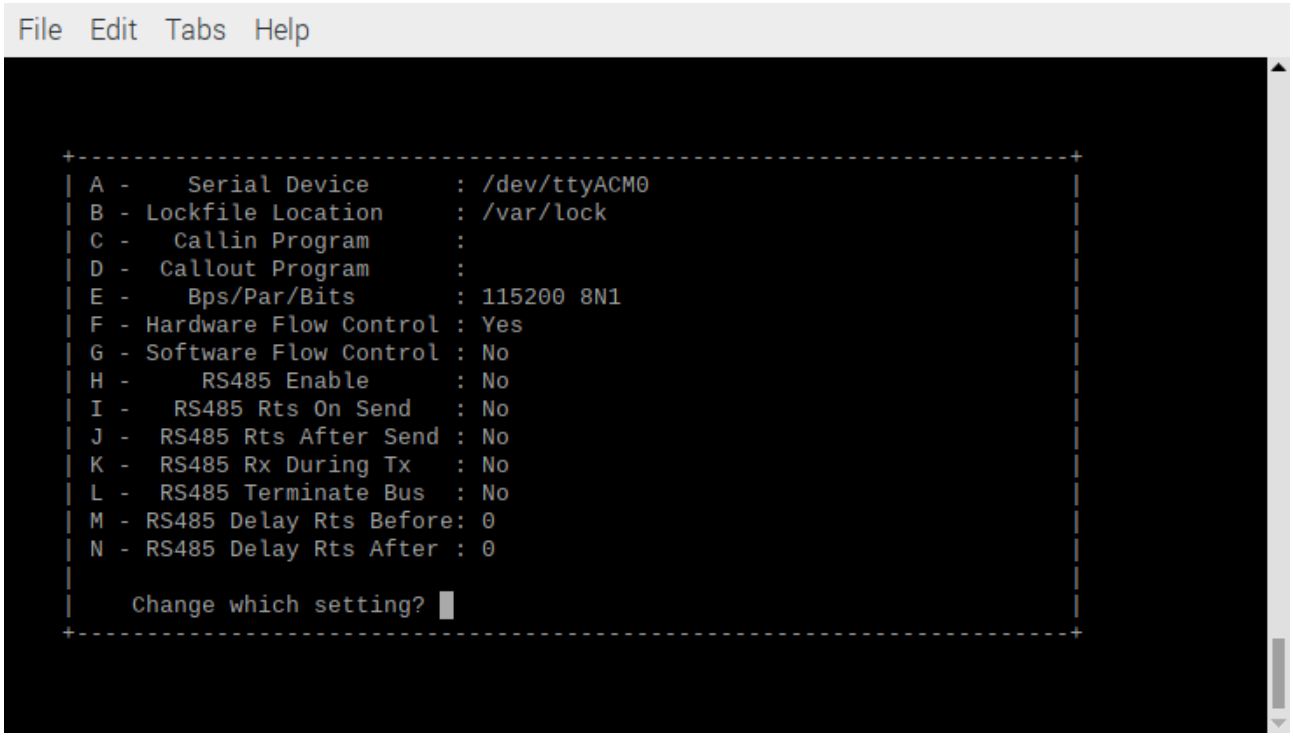
Rpi3B+

Pico

sudo minicom -s

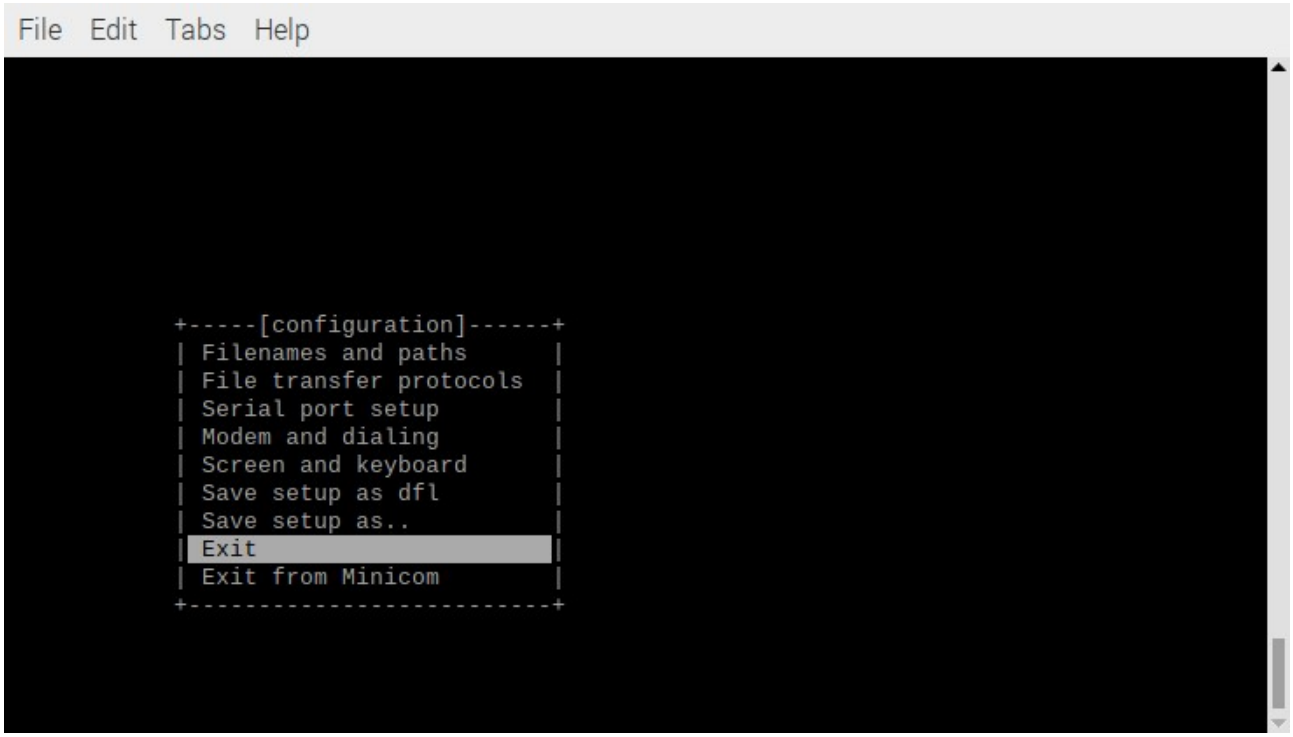


Scroll Down to Serial port setup. Depress Enter



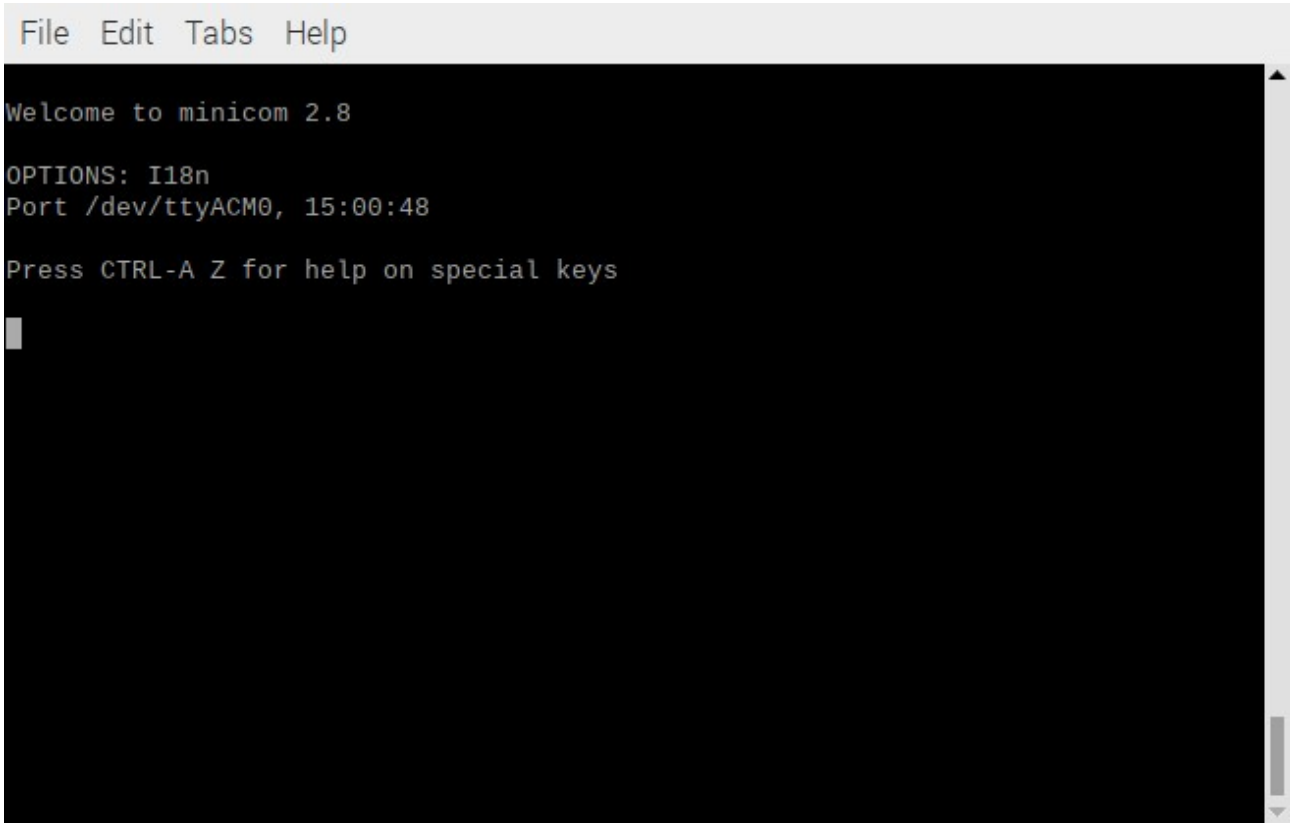
Depress Enter

Scroll Down to Exit



Depress Enter

New minicom

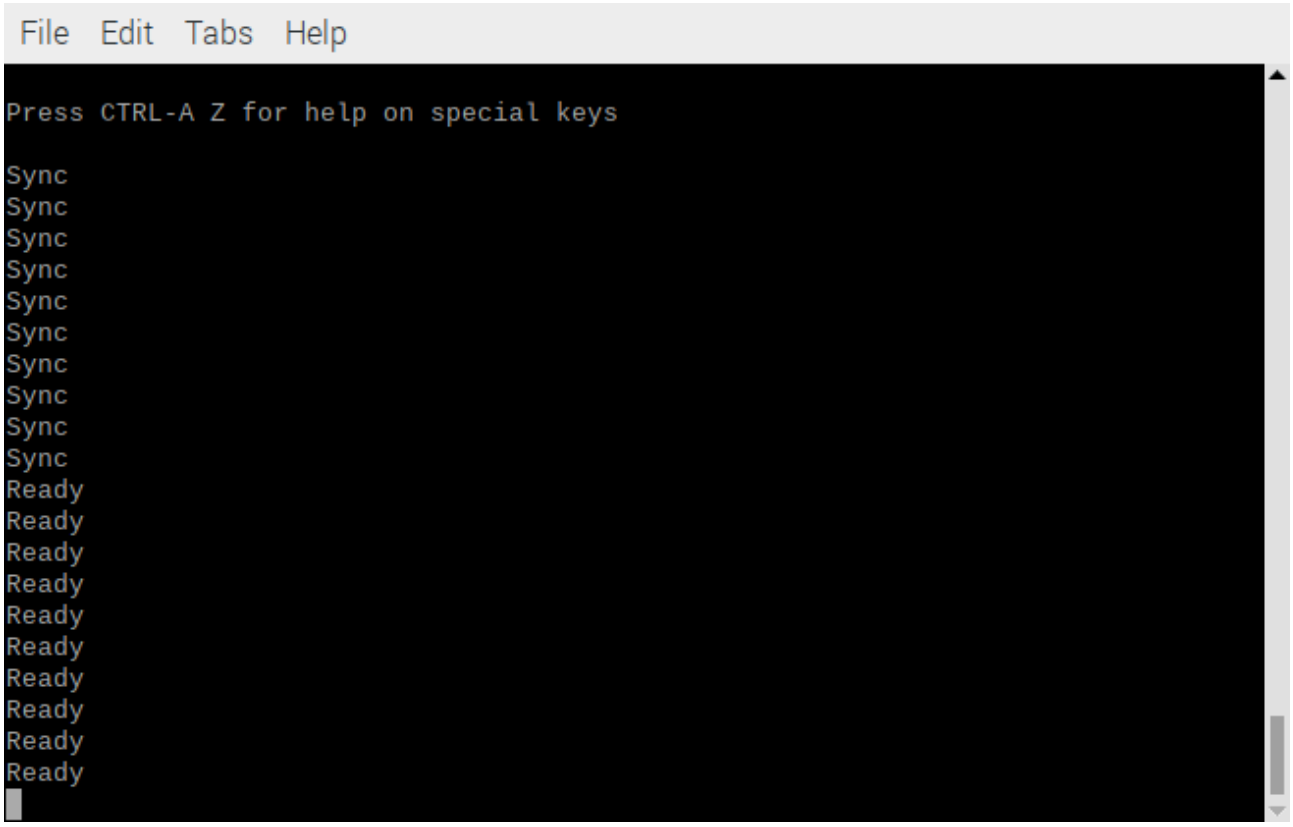


openocd -f interface/raspberrypi-swd.cfg -f target/rp2040.cfg -c "program kltdwt-ultibo/kltdwt-ultibo.elf verify reset exit"
Open On-Chip Debugger 0.10.0+dev-g71510a7-dirty (2021-08-15-17:08)
Licensed under GNU GPL v2
For bug reports, read
	http://openocd.org/doc/doxygen/bugs.html
adapter speed: 1000 kHz

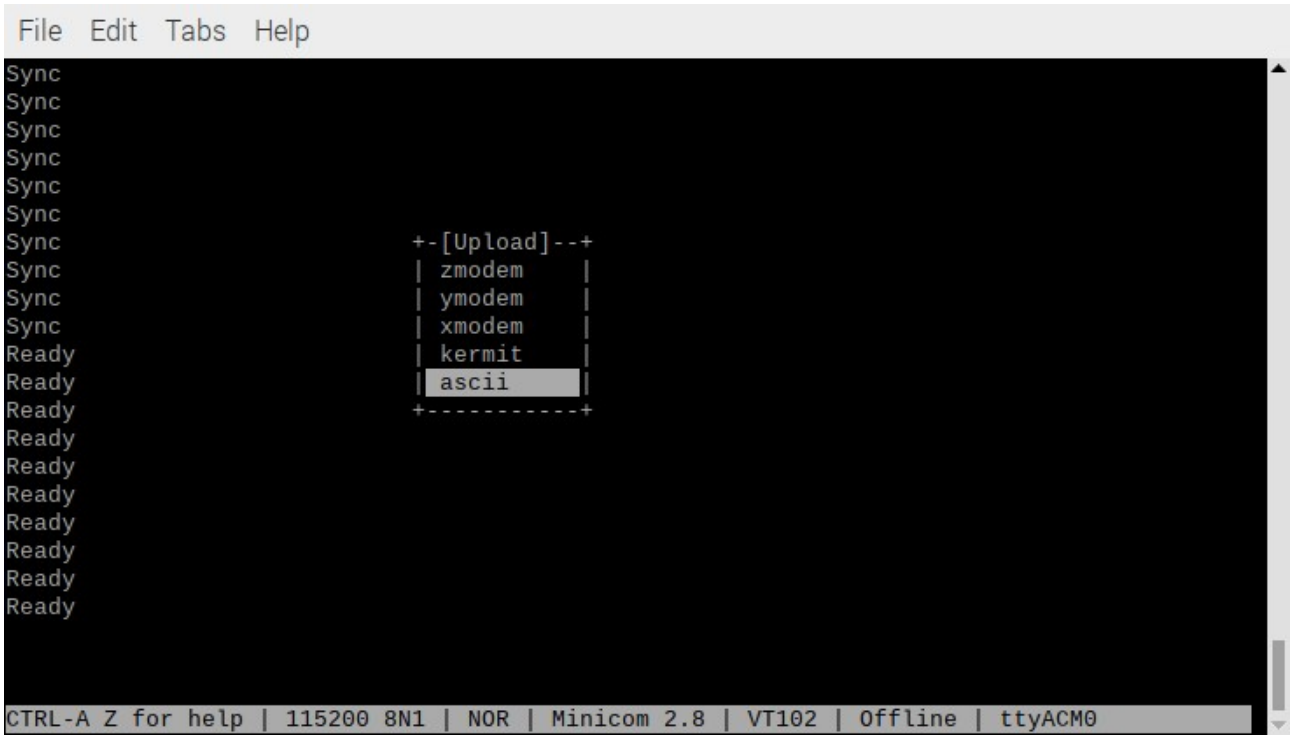
Info : Hardware thread awareness created
Info : Hardware thread awareness created
Info : RP2040 Flash Bank Command
Info : BCM2835 GPIO JTAG/SWD bitbang driver
Info : clock speed 1001 kHz
Info : SWD DPIDR 0x0bc12477
Info : SWD DLPIDR 0x00000001
Info : SWD DPIDR 0x0bc12477
Info : SWD DLPIDR 0x10000001
Info : rp2040.core0: hardware has 4 breakpoints, 2 watchpoints
Info : rp2040.core1: hardware has 4 breakpoints, 2 watchpoints
Info : starting gdb server for rp2040.core0 on 3333
Info : Listening on port 3333 for gdb connections
target halted due to debug-request, current mode: Thread
xPSR: 0xf1000000 pc: 0x000000ee msp: 0x20041f00
target halted due to debug-request, current mode: Thread
xPSR: 0xf1000000 pc: 0x000000ee msp: 0x20041f00
** Programming Started **
Info : RP2040 B0 Flash Probe: 2097152 bytes @10000000, in 512 sectors

target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
Info : Writing 73728 bytes starting at 0x0
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
** Programming Finished **
** Verify Started **
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x0000012a msp: 0x20041f00
** Verified OK **
** Resetting Target **
shutdown command invoked

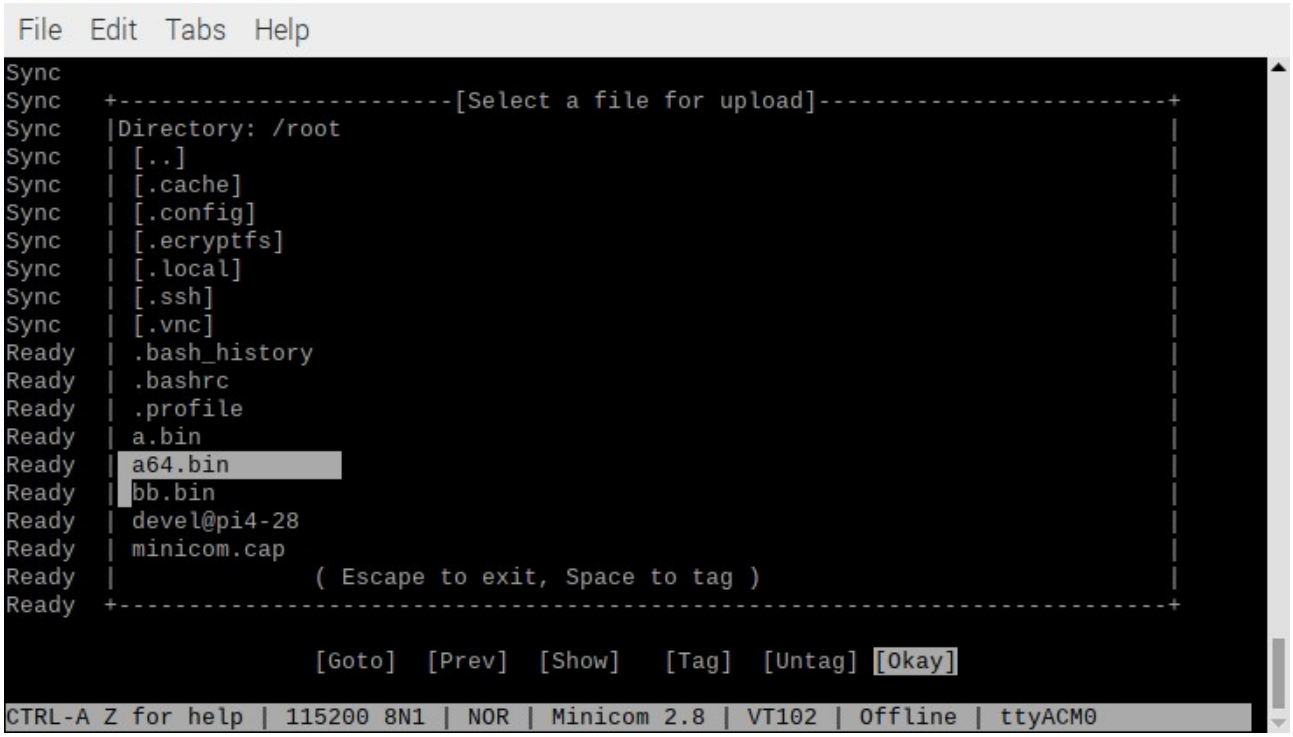
10 Sysc and 10 Ready



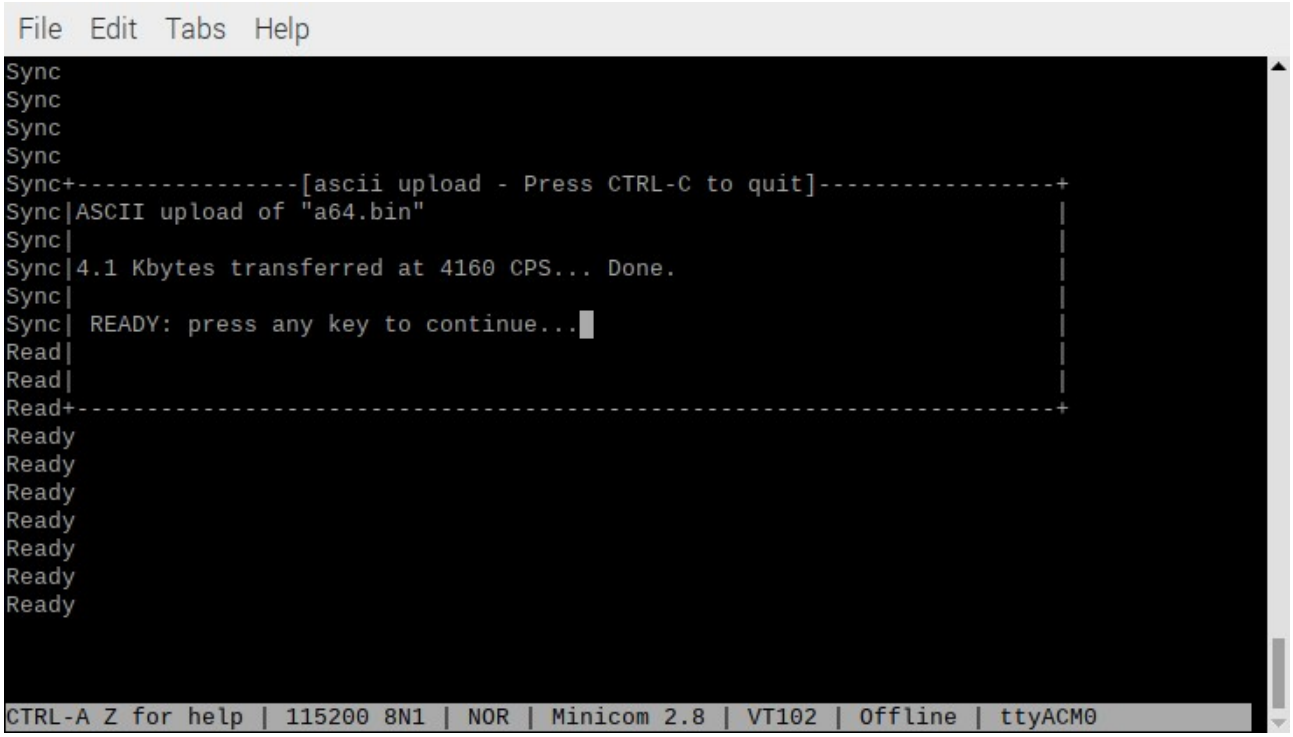
Selecting upload mode.



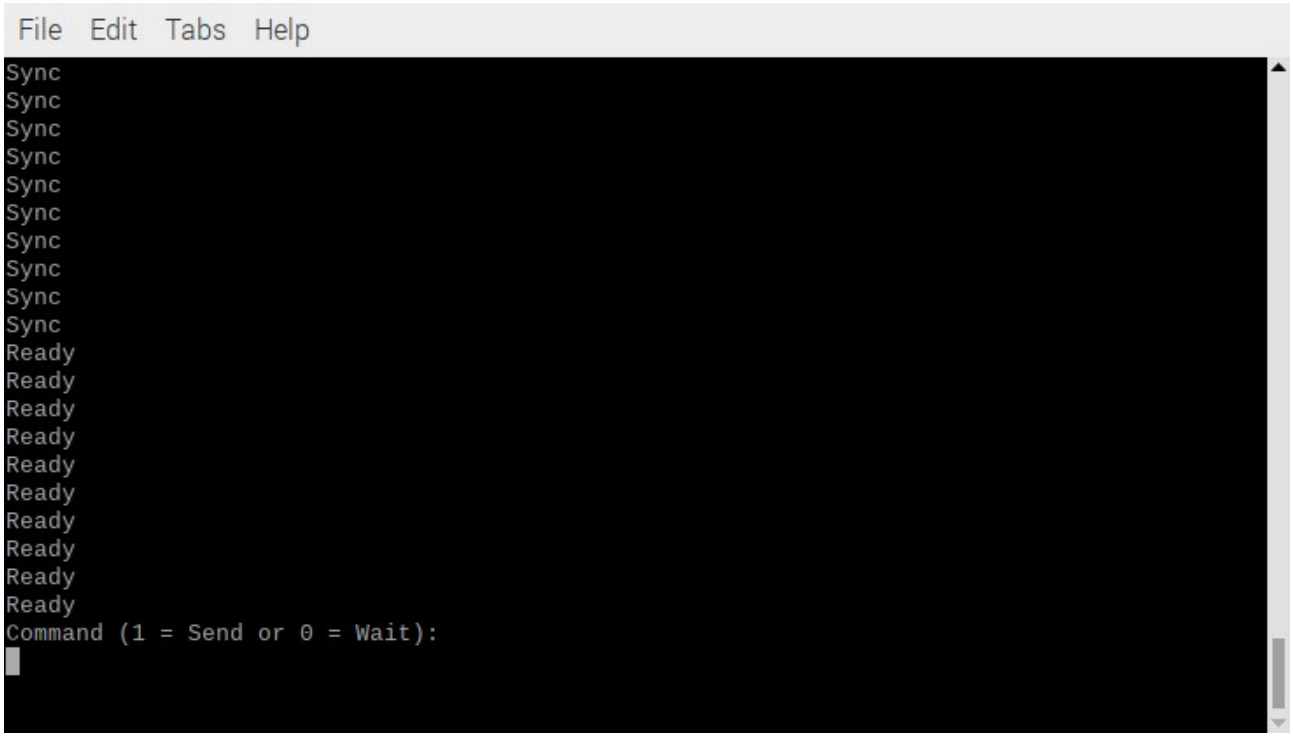
Selecting a64.bin



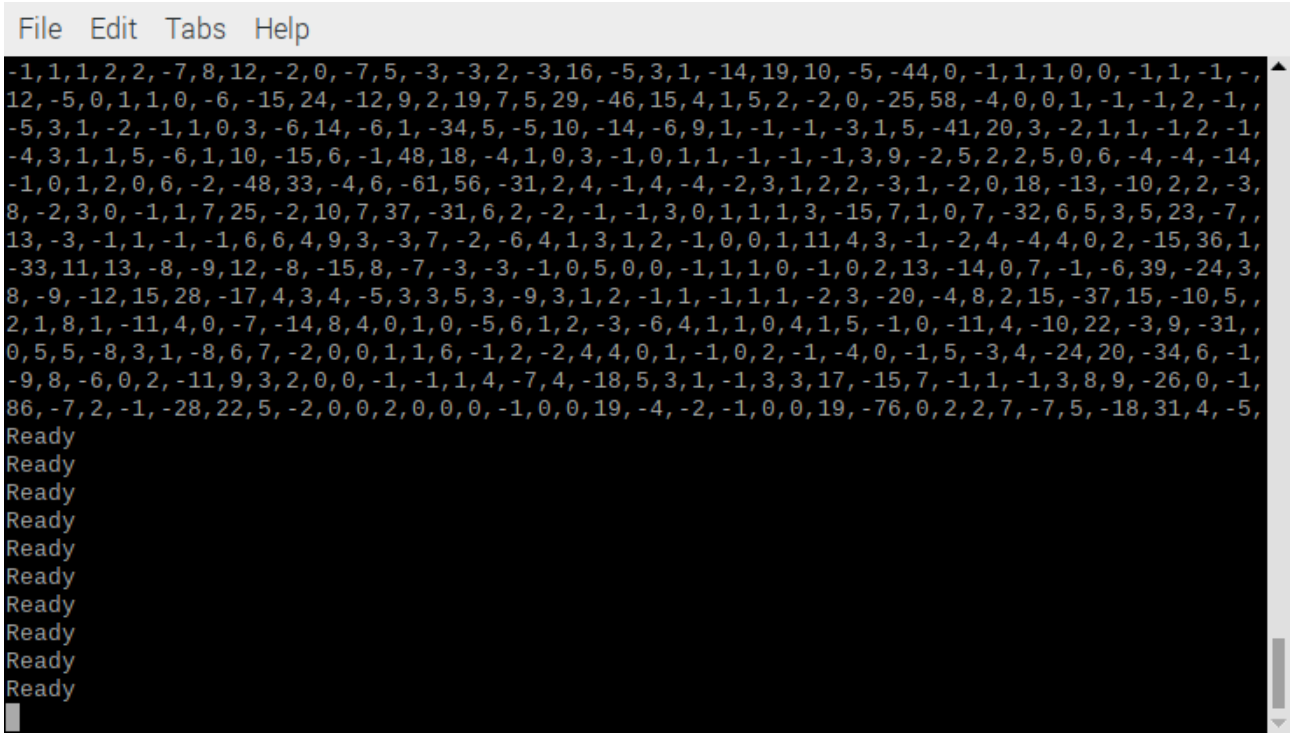
After selecting the file a64.bin



4160 data values sent. Depress Enter



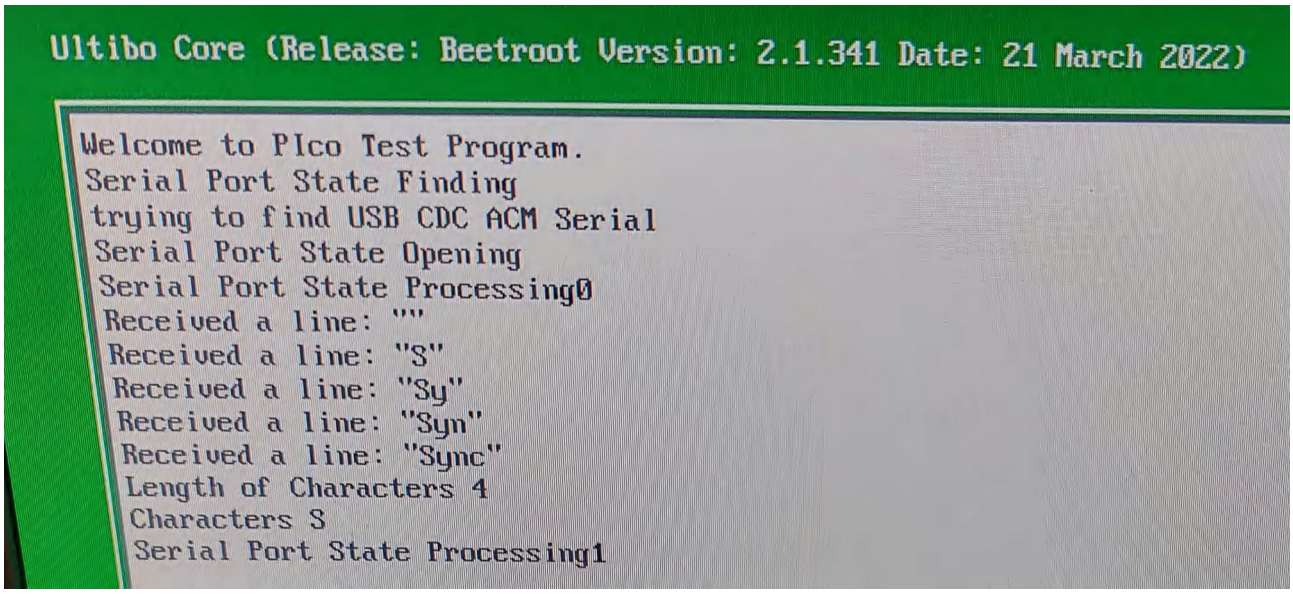
Depress 1



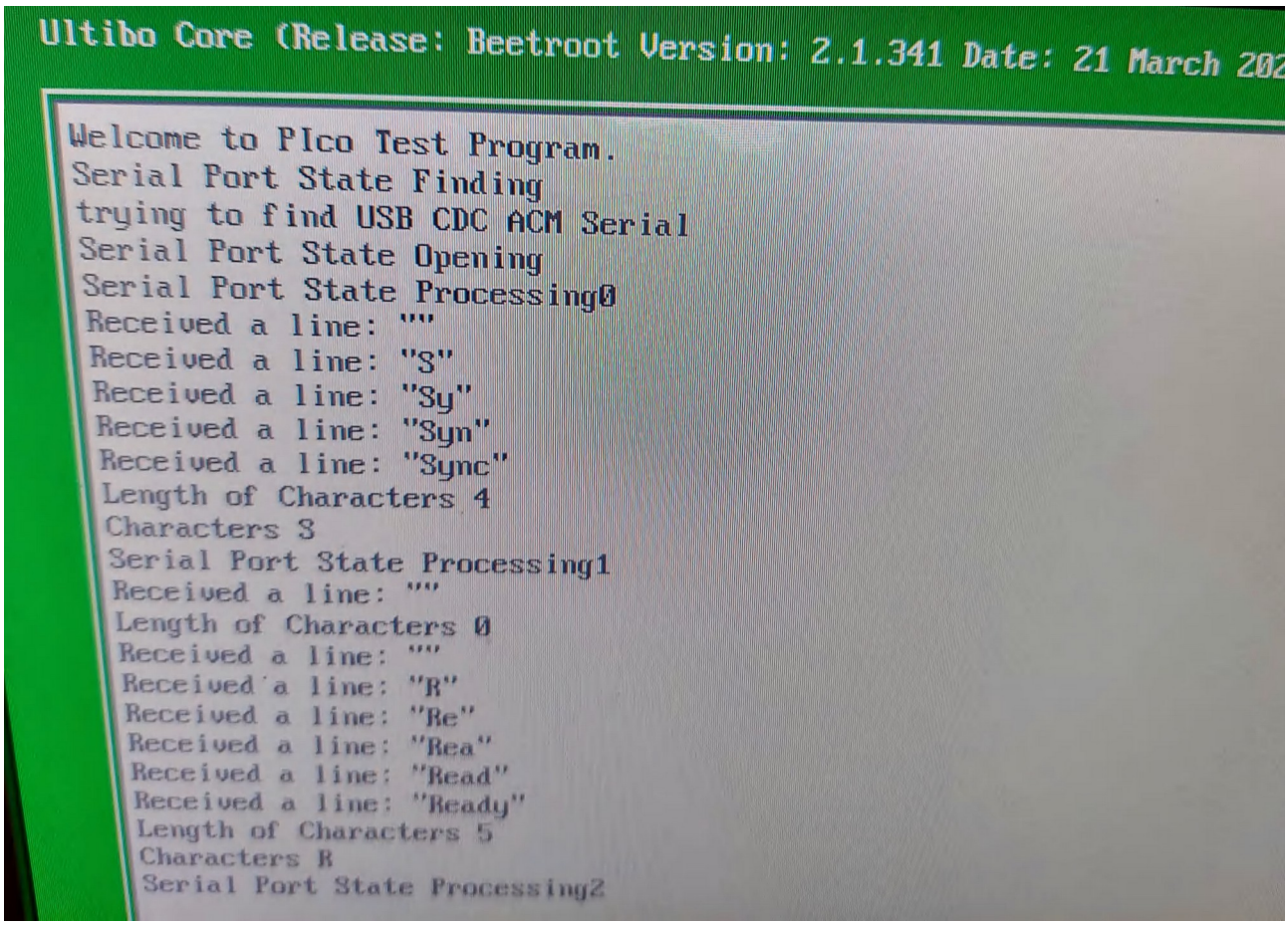
4160 data values sent.

```
File  Edit  Tabs  Help
Ready
Ready
Ready
Ready
Ready
Ready
84 86 90 94
recCRC 0x18 0x20005e06 0x20005e06 0x20005e4c 0x20005dcc 0x20002420
0x9
99 100 101 184 235 235 235 235 235 235 235 235 235 234 204 204 213 211 207 195
214 213 218 216 223 223 224 171 129 132 131 132 0x13
20 28 32 34 33 32 20 18 19 24 23 24 38 48 48 56 109 181 215 165 54 90 75 73 107
73 105 218 81 41 53 105 104 114 94 49 93 109 99 101 61 39 33 74 120 125 176 187
recCRC 0x18 0x20005e2e 0x20005e2e 0x20005e4c 0x20005dcc 0x20003ca0
0x14
34 39 38 35 29 19 18 19 24 21 25 47 43 46 53 59 135 184 196 124 98 89 89 108 89
96 105 218 81 41 53 105 104 114 94 49 93 109 99 101 61 39 33 74 120 125 176 187
recCRC 0x18 0x20005ded 0x20005ded 0x20005e4c 0x20005dcc 0x20003d20
0x4
34 39 38 35 29 19 18 19 24 21 25 47 43 46 53 59 135 184 196 124 98 89 89 108 89
96 228 135 87 48 45 43 48 80 84 79 75 59 52 45 72 65 46 66 134 191 235 235 235
recCRC 0x18 0x20005e2d 0x20005e2d 0x20005e4c 0x20005dcc 0x20003da0
Command (1 = Send or 0 = Wait):
```

Ultibo Now can detect Sync



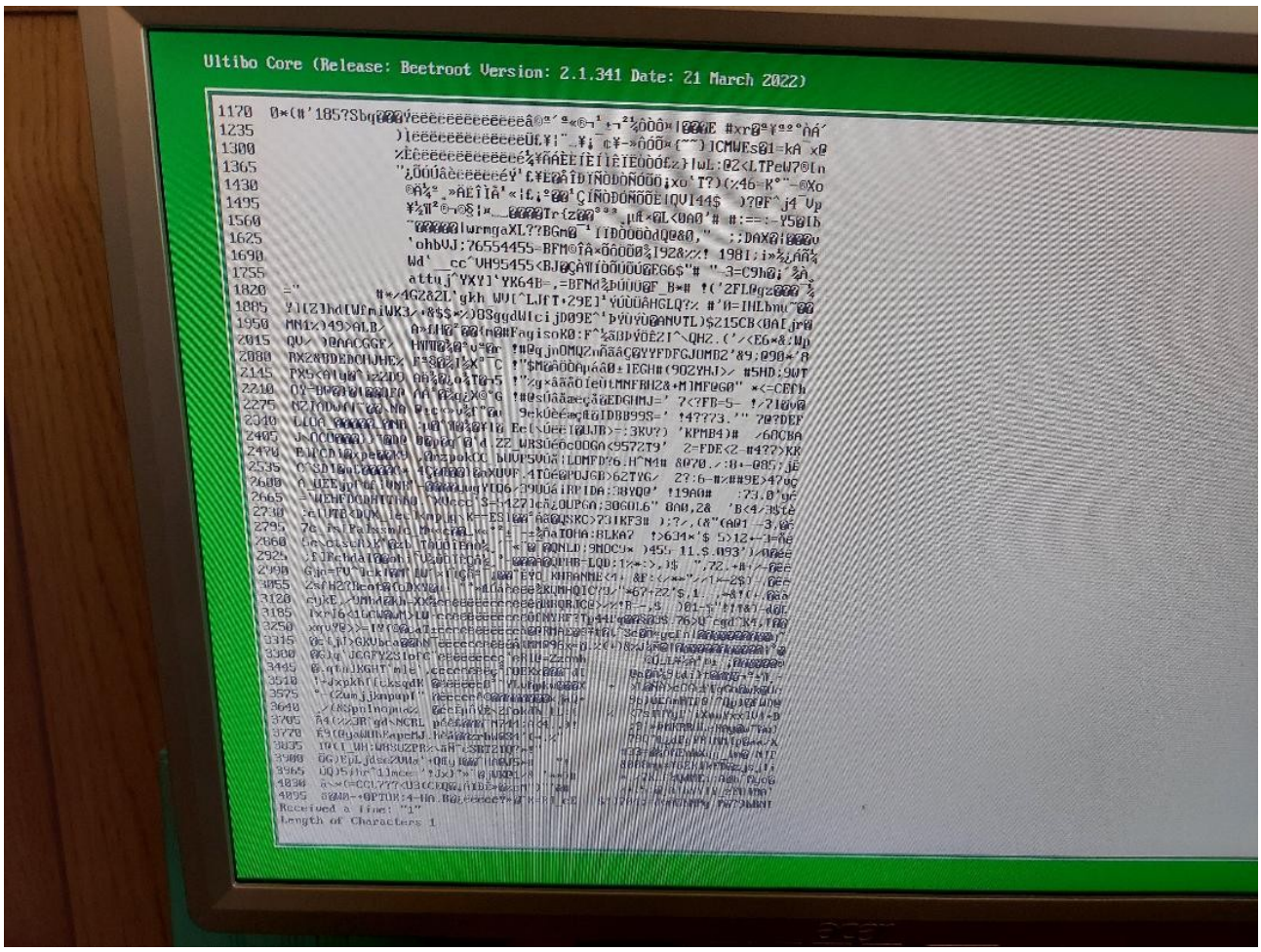
Ultibo Now can detect Ready



This version receive 10 Sync followed by 10 Ready.
Then sends either a64.bin or bb.bin which and image 64 X 64 with an
8 bit CRC 4160 char
Command (1 = Send or 0 = Wait):
a64.bin
Feature #0: (24.000000,32.000000) with value of 4472
Feature #1: (34.000000,39.000000) with value of 3461
Feature #2: (36.000000,29.000000) with value of 3100
bb.bin
Feature #0: (37.000000,29.000000) with value of 19844
Feature #1: (28.000000,39.000000) with value of 9270
Feature #2: (24.000000,29.000000) with value of 4393
Feature #3: (38.000000,39.000000) with value of 465

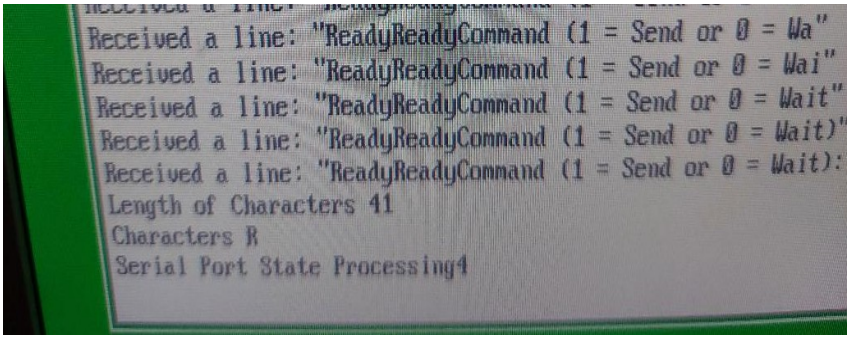
The 64 X 64 image is sent to the pico in 64 lines of 65 characters. The value at position 65 is the CRC of the image. The data is in the file a64.bin

The data is in the file bb.bin



xx

The pico sends Command (1 = Send or 0 = Wait):



xx

need to copy the data received from host to img1

img1 = 0x2003ffd8 img2 = 0x20040fd8

0 img1 161 ptrs.buf 161

1 img1 157 ptrs.buf 157

2 img1 156 ptrs.buf 156

3 img1 157 ptrs.buf 157

4 img1 159 ptrs.buf 159

4091 img1 62 ptrs.buf 62

4092 img1 67 ptrs.buf 67

4093 img1 63 ptrs.buf 63

4094 img1 59 ptrs.buf 59
4095 img1 91 ptrs.buf 91
need to copy the data from img1 to img2
0 img2 161 img1 161
1 img2 157 img1 157
2 img2 156 img1 156
3 img2 157 img1 157
4 img2 159 img1 159
4091 img2 62 img1 62
4092 img2 67 img1 67
4093 img2 63 img1 63
4094 img2 59 img1 59
4095 img2 91 img1 91
Feature #0: (24.000000,32.000000) with value of 4472
Feature #1: (34.000000,39.000000) with value of 3461
Feature #2: (36.000000,29.000000) with value of 3100
Feature #3: (-1.000000,-1.000000) with value of -1
Feature #4: (-1.000000,-1.000000) with value of -1
Feature #5: (-1.000000,-1.000000) with value of -1
Feature #6: (-1.000000,-1.000000) with value of -1
Feature #7: (-1.000000,-1.000000) with value of -1
Feature #8: (-1.000000,-1.000000) with value of -1
Feature #9: (-1.000000,-1.000000) with value of -1
Feature #10: (-1.000000,-1.000000) with value of -1
Feature #11: (-1.000000,-1.000000) with value of -1
Feature #12: (-1.000000,-1.000000) with value of -1
Feature #13: (-1.000000,-1.000000) with value of -1
Feature #14: (-1.000000,-1.000000) with value of -1
Feature #15: (-1.000000,-1.000000) with value of -1
Feature #16: (-1.000000,-1.000000) with value of -1
Feature #17: (-1.000000,-1.000000) with value of -1
Feature #18: (-1.000000,-1.000000) with value of -1
Feature #19: (-1.000000,-1.000000) with value of -1
Feature #20: (-1.000000,-1.000000) with value of -1
Feature #21: (-1.000000,-1.000000) with value of -1
Feature #22: (-1.000000,-1.000000) with value of -1
Feature #23: (-1.000000,-1.000000) with value of -1
Feature #24: (-1.000000,-1.000000) with value of -1
Feature #25: (-1.000000,-1.000000) with value of -1
Feature #26: (-1.000000,-1.000000) with value of -1
Feature #27: (-1.000000,-1.000000) with value of -1
Feature #28: (-1.000000,-1.000000) with value of -1
Feature #29: (-1.000000,-1.000000) with value of -1
Feature #30: (-1.000000,-1.000000) with value of -1
Feature #31: (-1.000000,-1.000000) with value of -1
Feature #32: (-1.000000,-1.000000) with value of -1
Feature #33: (-1.000000,-1.000000) with value of -1
Feature #34: (-1.000000,-1.000000) with value of -1
Feature #35: (-1.000000,-1.000000) with value of -1
Feature #36: (-1.000000,-1.000000) with value of -1
Feature #37: (-1.000000,-1.000000) with value of -1
Feature #38: (-1.000000,-1.000000) with value of -1

Feature #39: (-1.000000,-1.000000) with value of -1
Feature #40: (-1.000000,-1.000000) with value of -1
Feature #41: (-1.000000,-1.000000) with value of -1
Feature #42: (-1.000000,-1.000000) with value of -1
Feature #43: (-1.000000,-1.000000) with value of -1
Feature #44: (-1.000000,-1.000000) with value of -1
Feature #45: (-1.000000,-1.000000) with value of -1
Feature #46: (-1.000000,-1.000000) with value of -1
Feature #47: (-1.000000,-1.000000) with value of -1
Feature #48: (-1.000000,-1.000000) with value of -1
Feature #49: (-1.000000,-1.000000) with value of -1
Feature #50: (-1.000000,-1.000000) with value of -1
Feature #51: (-1.000000,-1.000000) with value of -1
Feature #52: (-1.000000,-1.000000) with value of -1
Feature #53: (-1.000000,-1.000000) with value of -1
Feature #54: (-1.000000,-1.000000) with value of -1
Feature #55: (-1.000000,-1.000000) with value of -1
Feature #56: (-1.000000,-1.000000) with value of -1
Feature #57: (-1.000000,-1.000000) with value of -1
Feature #58: (-1.000000,-1.000000) with value of -1
Feature #59: (-1.000000,-1.000000) with value of -1
Feature #60: (-1.000000,-1.000000) with value of -1
Feature #61: (-1.000000,-1.000000) with value of -1
Feature #62: (-1.000000,-1.000000) with value of -1
Feature #63: (-1.000000,-1.000000) with value of -1
Feature #64: (-1.000000,-1.000000) with value of -1
Feature #65: (-1.000000,-1.000000) with value of -1
Feature #66: (-1.000000,-1.000000) with value of -1
Feature #67: (-1.000000,-1.000000) with value of -1
Feature #68: (-1.000000,-1.000000) with value of -1
Feature #69: (-1.000000,-1.000000) with value of -1
Feature #70: (-1.000000,-1.000000) with value of -1
Feature #71: (-1.000000,-1.000000) with value of -1
Feature #72: (-1.000000,-1.000000) with value of -1
Feature #73: (-1.000000,-1.000000) with value of -1
Feature #74: (-1.000000,-1.000000) with value of -1
Feature #75: (-1.000000,-1.000000) with value of -1
Feature #76: (-1.000000,-1.000000) with value of -1
Feature #77: (-1.000000,-1.000000) with value of -1
Feature #78: (-1.000000,-1.000000) with value of -1
Feature #79: (-1.000000,-1.000000) with value of -1
Feature #80: (-1.000000,-1.000000) with value of -1
Feature #81: (-1.000000,-1.000000) with value of -1
Feature #82: (-1.000000,-1.000000) with value of -1
Feature #83: (-1.000000,-1.000000) with value of -1
Feature #84: (-1.000000,-1.000000) with value of -1
Feature #85: (-1.000000,-1.000000) with value of -1
Feature #86: (-1.000000,-1.000000) with value of -1
Feature #87: (-1.000000,-1.000000) with value of -1
Feature #88: (-1.000000,-1.000000) with value of -1
Feature #89: (-1.000000,-1.000000) with value of -1
Feature #90: (-1.000000,-1.000000) with value of -1

Feature #91: (-1.000000,-1.000000) with value of -1
Feature #92: (-1.000000,-1.000000) with value of -1
Feature #93: (-1.000000,-1.000000) with value of -1
Feature #94: (-1.000000,-1.000000) with value of -1
Feature #95: (-1.000000,-1.000000) with value of -1
Feature #96: (-1.000000,-1.000000) with value of -1
Feature #97: (-1.000000,-1.000000) with value of -1
Feature #98: (-1.000000,-1.000000) with value of -1
Feature #99: (-1.000000,-1.000000) with value of -1
2,-1,0,-5,2,19,-14,3,-2,0,-1,-2,0,1,-2,1,0,-1,2,-2,1,3,-3,0,-9,20,-12,-2,2,-15,,
0,2,0,6,-9,7,0,-2,1,3,-3,-1,1,1,0,1,2,0,0,0,2,-2,-2,11,-1,-9,6,2,3,5,-8,1,1,-2,,
-3,3,-1,-1,1,0,1,2,1,0,1,-1,-1,1,1,-2,-1,-1,0,1,0,0,1,-2,0,3,0,2,2,1,-1,-3,1,5,,
3,-3,0,1,-1,-1,0,1,1,2,2,0,0,3,2,0,-1,0,2,0,0,0,0,-1,6,4,1,3,0,-2,3,3,13,14,14,,
0,1,0,0,-1,1,0,0,2,0,1,0,1,1,1,1,1,2,-1,-7,9,-3,32,1,24,-5,-11,-10,-2,-12,15,-3,
0,3,1,1,1,-1,1,0,-1,0,1,1,0,1,1,2,2,13,5,9,-9,-2,16,8,1,-25,7,-4,-6,-15,-3,-4,3,
0,-1,1,1,1,0,3,2,0,0,1,0,0,2,-2,0,-3,-7,-2,15,2,14,-14,11,9,-14,-20,34,-9,-1,-4,
0,-1,0,1,0,-1,0,5,-1,-7,4,2,-8,8,2,1,-2,36,-5,3,-12,-4,8,-5,31,-33,-16,5,-3,4,7,
1,1,0,1,0,1,-10,20,-6,-2,3,3,-6,-6,-5,8,26,4,13,6,33,-11,30,-6,-16,13,19,-1,-2,,
-1,0,-1,2,-6,8,1,0,-3,4,-1,-2,-6,5,-8,11,-22,8,8,-9,7,-12,23,-31,12,8,4,19,9,34,
1,0,1,1,-7,4,-1,-3,-3,6,17,-16,-4,4,24,-6,1,6,15,-31,31,3,-56,-37,-21,-23,25,2,,
2,2,1,3,-1,0,1,5,13,12,-17,-5,0,17,1,-8,35,-3,-15,18,22,10,-44,1,11,-18,17,-17,,
2,0,1,4,-2,1,1,19,20,-13,-4,-3,8,-1,7,-16,33,14,-2,-10,26,18,5,0,-1,-2,2,-7,8,-,
0,1,0,2,-1,-1,0,-6,-9,0,-4,-13,-12,-15,-7,10,-44,20,49,-69,16,-6,5,5,-5,2,6,-5,,
0,0,-2,5,5,0,-10,-10,5,4,0,1,-9,-5,11,0,-7,45,11,1,0,2,3,-1,-5,-2,9,3,12,-38,19,
0,2,4,11,-1,8,14,-9,3,7,-3,23,-22,10,22,2,40,13,-1,1,0,1,1,8,-6,0,-8,-4,6,-4,1,,
2,0,1,-9,-8,-6,-1,0,-2,-3,-6,-15,-24,-10,-5,42,-1,-17,2,-1,1,-7,4,0,2,-2,-3,0,-,
0,1,0,13,34,6,4,0,0,2,0,11,18,-2,4,-8,-40,-28,2,1,2,1,-6,2,2,1,-1,0,0,2,1,-2,0,,
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0,0,1,1,1,-46,31,-2,0,-3,-14,4,0,-6,-1,-1,-8,14,0,-1,-10,-1,-6,8,10,-1,-1,-2,1,,
11,0,1,1,0,-1,-37,47,-22,6,0,-1,-4,-1,0,-9,19,13,6,-2,4,-11,0,-1,-25,-7,1,0,-2,,
0,1,-1,1,0,0,0,17,-23,-2,2,0,38,5,4,26,-21,-29,2,6,1,-3,-3,2,14,27,-13,1,-1,-1,,
-1,-1,0,0,-4,5,1,0,-2,-3,-1,-5,-18,9,-8,-7,8,3,0,3,-2,0,2,1,0,35,-13,10,-2,1,1,,
1,1,-1,-1,6,-5,1,30,60,0,-6,14,-15,-15,-5,2,3,-2,7,0,4,-1,-11,-3,-2,1,0,-3,-8,-,
0,0,0,1,-1,-2,10,-6,5,2,-7,-55,2,18,-1,4,0,-2,-1,-13,2,3,-1,-2,-13,3,0,0,1,-5,1,
18,0,1,0,1,1,-5,5,-5,-2,-20,-17,20,-1,5,-6,-7,6,-5,0,-1,0,1,0,2,2,-1,1,1,-7,3,4,
-7,0,-15,7,0,-6,27,-71,23,-29,-2,-1,4,-13,13,-9,4,0,-1,2,2,0,-1,0,3,0,1,-3,-2,-,
26,-35,28,10,-42,18,-2,-1,-1,0,2,-5,15,-3,4,-1,0,-2,1,0,-1,1,2,1,1,15,-18,16,7,,
0,0,11,-18,-36,11,-4,2,15,-16,12,-2,0,-2,-4,3,1,-1,0,7,-4,1,2,-6,7,6,1,3,3,1,20,
1,0,12,-33,2,-8,-3,-29,35,-11,1,2,-1,-1,0,2,2,0,-13,16,-2,-1,-1,3,0,2,3,-10,1,0,
2,15,-33,4,-4,-3,-28,-9,6,-1,2,0,-1,1,1,-1,1,-9,13,-5,1,1,-1,-3,5,-54,-7,7,-12,,
-24,-30,2,0,14,-20,-15,1,0,0,-1,0,1,-1,-2,-3,4,9,-3,5,2,2,1,-6,-21,6,-10,7,-10,,
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1,1,0,-3,-9,5,0,6,3,-2,2,4,-5,5,-17,-1,-2,6,3,41,-42,34,17,-14,-14,-5,6,32,-16,,

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3,2,-1,9,-5,-2,2,-23,11,1,-2,3,9,3,-9,3,1,-9,10,27,-19,4,2,1,0,0,-1,-1,0,-3,10,,
1,3,-5,19,1,-2,-2,24,1,1,8,5,-27,0,16,-15,2,23,-7,-19,5,3,0,-5,1,-3,1,1,6,6,-17,
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1,1,1,-27,19,3,-5,1,5,6,2,-22,-8,1,-3,-15,-62,11,10,1,0,8,5,2,-8,0,0,-1,0,0,0,0,
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-1,1,1,2,2,-7,8,12,-2,0,-7,5,-3,-3,2,-3,16,-5,3,1,-14,19,10,-5,-44,0,-1,1,1,0,0,
12,-5,0,1,1,0,-6,-15,24,-12,9,2,19,7,5,29,-46,15,4,1,5,2,-2,0,-25,58,-4,0,0,1,-,
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-4,3,1,1,5,-6,1,10,-15,6,-1,48,18,-4,1,0,3,-1,0,1,1,-1,-1,-1,3,9,-2,5,2,2,5,0,6,
-1,0,1,2,0,6,-2,-48,33,-4,6,-61,56,-31,2,4,-1,4,-4,-2,3,1,2,2,-3,1,-2,0,18,-13,,
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-33,11,13,-8,-9,12,-8,-15,8,-7,-3,-3,-1,0,5,0,0,-1,1,1,0,-1,0,2,13,-14,0,7,-1,-,
8,-9,-12,15,28,-17,4,3,4,-5,3,3,5,3,-9,3,1,2,-1,1,-1,1,1,-2,3,-20,-4,8,2,15,-37,
2,1,8,1,-11,4,0,-7,-14,8,4,0,1,0,-5,6,1,2,-3,-6,4,1,1,0,4,1,5,-1,0,-11,4,-10,22,
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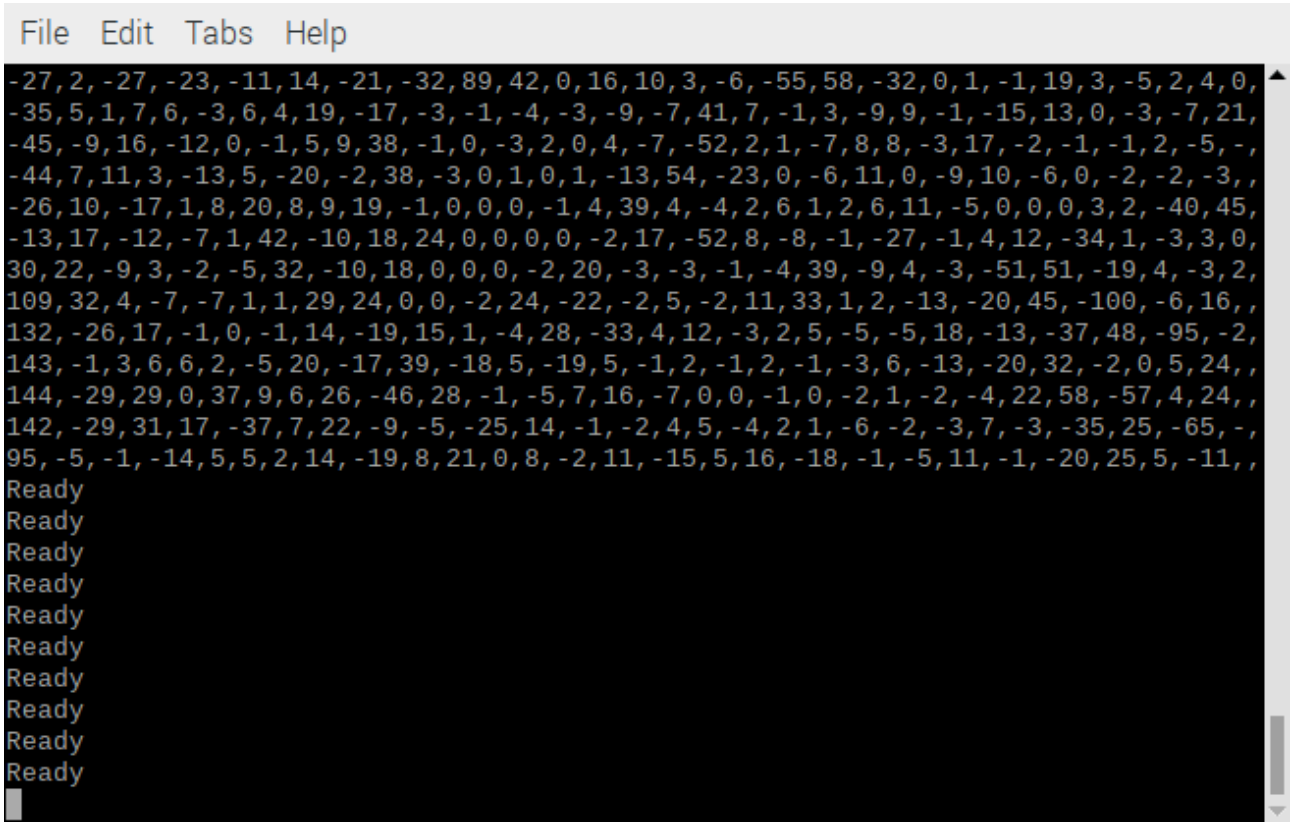
-9,8,-6,0,2,-11,9,3,2,0,0,-1,-1,1,4,-7,4,-18,5,3,1,-1,3,3,17,-15,7,-1,1,-1,3,8,,
86,-7,2,-1,-28,22,5,-2,0,0,2,0,0,0,-1,0,0,19,-4,-2,-1,0,0,19,-76,0,2,2,7,-7,5,-,

File Edit Tabs Help

```
73 105 218 81 41 53 105 104 114 94 49 93 109 99 101 61 39 33 74 120 125 176 187
recCRC 0x18 0x20005e2e 0x20005e2e 0x20005e4c 0x20005dcc 0x20003ca0
0x14
34 39 38 35 29 19 18 19 24 21 25 47 43 46 53 59 135 184 196 124 98 89 89 108 89
96 105 218 81 41 53 105 104 114 94 49 93 109 99 101 61 39 33 74 120 125 176 187
recCRC 0x18 0x20005ded 0x20005ded 0x20005e4c 0x20005dcc 0x20003d20
0x4
34 39 38 35 29 19 18 19 24 21 25 47 43 46 53 59 135 184 196 124 98 89 89 108 89
96 228 135 87 48 45 43 48 80 84 79 75 59 52 45 72 65 46 66 134 191 235 235 235
recCRC 0x18 0x20005e2d 0x20005e2d 0x20005e4c 0x20005dcc 0x20003da0
Command (1 = Send or 0 = Wait):
need to copy the data received from host to img1
img1 = 0x2003ffd8 img2 = 0x20040fd8
0 img1 95 ptrs.buf 95
1 img1 100 ptrs.buf 100
2 img1 103 ptrs.buf 103
3 img1 106 ptrs.buf 106
4 img1 108 ptrs.buf 108
4091 img1 57 ptrs.buf 57
4092 img1 98 ptrs.buf 98
4093 img1 66 ptrs.buf 66
4094 img1 78 ptrs.buf 78
4095 img1 91 ptrs.buf 91
need to copy the data from img1 to img2
```

xx

xx



http://xx.xx.xx.xx/status//usb?action=usbdevice&id=3

http://xx.xx.xx.xx/status//platform

Ultibo Core (Release: Beetroot Version: 2.1.341 Date: 21 March 2022)

General
Platform
Memory
Heap Blocks
CPU
FPU
GPU
RTL
Clock
Locale
Threading
Thread List
Scheduler
Devices
Drivers
Handles
USB
PCI
MMC / SD / SDIO
Network
Storage

Platform

Board Type:	BOARD_TYPE_RPI3B_PLUS
Board Model:	0
Board Serial:	0x000000007407C334
Board Revision:	0x00A020D3
Chip Revision:	0x00000000
Firmware Revision:	0x608C2879 (1619798137)
Machine Type:	MACHINE_TYPE_BCM2710
Memory Base:	0x00000000
Memory Size:	1073741824
Page Size:	4096
Large Page Size:	65536
Section Size:	1048576