

Badgerloop II: Dashboard

Console left (showing boot post and help command), data table right

Badgerloop Dashboard - Mozilla Firefox

Badgerloop Dashboard

localhost:8080/#/home

Search

STM32 Nucleo 144 Serial Console

```
DBG: ON (10000 kHz), bypass on
PLL: ON (source: HSE)
PLL1SAI: OFF
PLL12S: OFF
LSI: OFF
LSE: OFF (32768 Hz), bypass off

Frequencies:
SYSCLK: 100000 kHz (source: PLL)
HCLK: 100000 kHz
APB1: 40000 kHz
APB2: 80000 kHz

use 'help' for a list of commands.
-----
=> assert_fault: primary battery voltage OK

help
help - Display a command's help message
showhw - Display where different physical hardware peripherals
boot - Run currently selected main routine.
pin - Perform live manipulation of GPIO pins.
at - Perform ADC conversions on available pins.
reset - Software reset.
float - Float point calculation using FPU.
atb - Debug I2C-based capabilities.
exti - Prints current and previous line stamp of the External Interrupt. Only on
interrupts per pin number.
ls - Perform live interaction with the I2C devices default list all devices
badgerloop - Debug Badgerloop Networking etc.
on
unknown command: '+' - try 'help'
ex.
```

Command Text

CLEAR

Microcontroller Data

'State:	IDLE	GOOD
'Stopping Distance:	0 cm	GOOD
'Strip Count:	0	GOOD
'Position:	0 cm	GOOD
'Acceleration:	0 cm/s^2	GOOD
'Velocity:	0 m/s	GOOD
'Percent Charge:	100 %	GOOD
'Charge Remaining:	100 m	GOOD
'Current:	6 A	GOOD
'Battery Temperature:	25 C	GOOD
'Voltage:	14 V	GOOD
'Brake Line Secondary:	128 PSI	GOOD
'Brake Line Primary:	128 PSI	GOOD
'Brake Pads Primary:	0 PSI	WARN
'Prop. Sirocco:	3300 PSI	GOOD
'Prop. LITE:	3300 PSI	GOOD
'Ambient Pressure:	14.75 PSI	GOOD
'Ambient Temperature:	25 C	GOOD
'Limit Switches:	0	GOOD

Status change! undefined -> IDLE
Switches change! undefined -> 0

CLEAR

FULL

1/0

Badgerloop II: Dashboard

Console left (showing post and help command), manual IO menu right

Badgerloop Dashboard - Mozilla Firefox

Badgerloop Dashboard

localhost:3000#/home

STM32 Nucleo 144 Serial Console

```
ROM: ON (10000 kHz), bypass on
PLL: ON (source: HSE)
PLLSAI: OFF
PLLI2S: OFF
L12: OFF
LSE: OFF (32768 Hz), bypass off

Frequencies:
SYSCLK: 100000 kHz (source: PLL)
HCLK: 100000 kHz
APB1: 40000 kHz
APB2: 80000 kHz

use 'help' for a list of commands.
-----
=> assert_fault: primary battery voltage OK

help
help - Display a command's help message
showhw - Display where different physical hardware peripherals
boot - Run currently selected main routine
pin - Perform live manipulation of GPIO pins
at - Perform ADC conversions on available pins
reset - Software reset
float - Float point calculation using FPU
atb - Debug Ethernet capabilities
exit - Prints current and previous line stamp of the External Interrupt. Only on
interrupts per pin number
l2c - Perform live interaction with the I2C devices default list all devices
badgerloop - Debug Badgerloop Networking etc.
on
unknown command: "+" - try 'help'
vs.
```

Microcontroller Data

PLIM1: depressed
PLIM2: depressed
BLIM1: depressed
BLIM2: depressed
DLIM: depressed

State Change Overrides

FAULT IDLE READY PUSHING COASTING BRAKING

Actuation Overrides

PRIM. BRAKE ON PRIM. BRAKE OFF
SEC. BRAKE ON SEC. BRAKE OFF
PRIM. BRAKE VENT ON PRIM. BRAKE VENT OFF
VENT PROP. ON VENT PROP. OFF ACTUATE PROP. ON ACTUATE PROP. OFF

Command Text CLEAR

FULL 1/0

Badgerloop II: Dashboard

memmap output and badgerloop sub-commands

```
APB1 UART5 40005000 1023 bytes
APB1 UART4 40004c00 1023 bytes
APB1 USART3 40004800 1023 bytes
APB1 USART2 40004400 1023 bytes
APB1 SPDIFRX 40004000 1023 bytes
APB1 SPI3/I2S3 40003c00 1023 bytes
APB1 SPI2/I2S2 40003800 1023 bytes
APB1 CAN3 40003400 1023 bytes
APB1 IWDG 40003000 1023 bytes
APB1 WWDG 40002c00 1023 bytes
APB1 RTC & BKP rgstrs 40002800 1023 bytes
APB1 LPTIM1 40002400 1023 bytes
APB1 TIM14 40002000 1023 bytes
APB1 TIM13 40001c00 1023 bytes
APB1 TIM12 40001800 1023 bytes
APB1 TIM7 40001400 1023 bytes
APB1 TIM6 40001000 1023 bytes
APB1 TIM5 40000c00 1023 bytes
APB1 TIM4 40000800 1023 bytes
APB1 TIM3 40000400 1023 bytes
APB1 TIM2 40000000 1023 bytes

=> help badgerloop
Debug Badgerloop Networking etc.
Usage: badgerloop
DBTO - Don't brake timeout
MBTO - Must brake timeout
BCT - Braking count threshold
ACCEL - Accelerometer impulse cap
TEP - Target end position
CMPS - Centimeters per strip
override [ on | off ] - stop DAQ and override sensor data
fault - print current fault message

=>
```

Badgerloop II: Dashboard

ar (analog read) command output, raw 10-bit ADC

```
badgerloop - Debug Badgerloop Networking etc.  
=> ar  
IBATT: 279  
Analog2: 279  
Analog3: 280  
PRP2: 274  
VBATT: 284  
PRP1: 282  
BRP2: 285  
BRP1: 287  
BPR3: 282  
ACCEL: 284  
TH1: 293  
TH2: 280  
Analog13: 286  
TH3: 271  
TH4: 274  
=> ar  
IBATT: 278  
Analog2: 278  
Analog3: 279  
PRP2: 274  
VBATT: 284  
PRP1: 282  
BRP2: 286  
BRP1: 287  
BPR3: 282  
ACCEL: 284  
TH1: 294  
TH2: 281  
Analog13: 284  
TH3: 270  
TH4: 273  
=>
```

Badgerloop II: Dashboard

Development on the Dashboard on the road to the competition from Wisconsin

