**FORTH Command Cheat Sheet**

**Database dump:**

save\_mask d.on

db.print

**Abreviating a variable name:**

**:** <NewVariableName> <OldVariableName> **;**

**Example:**

: pf protected\_factors3 ;

**Setting an array (put F in front of floating point values):**

<variableName> array[ <startIndex> <endIndex> <sequence of numbers> ]array set

**Example:**

pf array[ 0 2 F7.0 F8.0 F9.0 ]array set

**List all commands (stuff) and variables (Defines):**

words

**Print value of a variable (use di dot):**

<variableName> di.

**Examples:**

VERSION di.

magr di.

**Search in command/variable list:**

grep <searchString>

**Setting a variable:**

<variableName> <number> set

**Example:**

positionrate 0 set

**Print raw acceleration data:**

1. accel.p

**Resulting data format is:**

A**:**<timestamp, ms>, X**,** Y**,** Z

**To stop it:**

*Hit the control-s key to inhibit printing*

1. accel.p

*Hit the control-q key to enable printing (you may do another print command before this)*

**Print raw magnetometer data (stop similar to acceleration data):**

1 mag.p

**Resulting data format is:**

M**:** <timestamp, ms>, X**,** Y**,** Z

**Print raw gyro data (stop similar to acceleration data):**

1. gyro.p

**Resulting data format is:**

G: <temperature>, X**,** Y**,** Z

**Change rate of sensor data prints:**

**Set a string (there must be a space after the first “ but not the second):**

serialnumber “ 00017” set

**Currently the FORTH command steps for 3D cal are (will be revised sometime after rev 119):**

calmode 1 set

cal3DState 1 set

The code now grabs a point, the user changes the compass position and repeats the cal3DState from 4-12 times total.

Now the points are captured, command the SW to compute the cal values:

cal3DState 3 set

The user observes magErr to watch it settle at a minimum value:

magErr di.

Once that settles, the user completes the calibration mode with:

cal3DState 0 set

calmode 0 set

**Extracting the configuration data:**

save\_mask d.on

0 eeopen(open a log file in tera term before hitting enter)<CR> ....

....

stuff flys by

(close log file)

Edit log file and take out the final OK.

0x18000 eeopen(open a log file for the factory configuration).

...

...

close the log file.

**To restore the configuration data:**

Configure Tera-Term for 5 msec line delay.

Install the WREN jumper.

Use the terminal emulator to send both files that were captured.

enter the following:

save

remove WREN jumper after 5 seconds.

**Read accelerometer registers:**

Confirm you are able to read the Freescale accelerometer registers by reading WHO\_AM\_I, expecting 1A:

hex

0D accelc@ .

**Read gyro registers:**

Confirm you are able to read the gyroscope registers by reading WHO\_AM\_I, expecting D3:

hex

0F gyroc@ .

**Accelerometer and gyro self-tests:**

The macros below work on any compass revision >= 130.  
I tried to implement accelTest- but this does not work with the accelerometer for some reason, might take some time to sort out, might be chip problem.  
  
forget gyroNormal  
3 1 << not define mask  
1 1 << define plus  
3 1 << define minus  
: gyroNormal 0x23 gyroc@ mask and 0x23 swap gyroc! ;  
: gyroTest+ 0x23 gyroc@ mask and plus  or 0x23 swap gyroc! ;  
: gyroTest- 0x23 gyroc@ mask and minus or 0x23 swap gyroc! ;  
: bob gyroNormal 1 gyro.p 1000 delay 0 gyro.p ;  
: bob+ gyroTest+ 1 gyro.p 1000 delay 0 gyro.p ;  
: bob- gyroTest- 1 gyro.p 1000 delay 0 gyro.p ;  
: accelNormal 0x23 accelc@ mask and 0x23 swap accelc! ;  
: accelTest+ 0x23 accelc@ mask and plus  or 0x23 swap accelc! ;  
: bill accelNormal 1 accel.p 1000 delay 0 accel.p ;  
: bill+ accelTest+ 1 accel.p 1000 delay 0 accel.p ;