

CommBoard Studio

Windows Quick Start

Software Setup:

Launch the CommBoard Studio Installer and follow the prompts.

Hardware Setup:

1. Install module onto CommBoard, observing the polarity arrow.
2. Connect the unit to a serial port of the PC via the cable included with the Developer's Kit or refer to the manual for pinouts. A USB to Serial Adapter can be used; Keyspan USA-19QW was tested.
3. Supply power, 9VDC.

Connection Tab

Initial Connection:

1. Select 9600 as the baud rate.
2. Select the serial port the unit is plugged into.
3. Click on the **<Connect>** button.
4. Once a connection is made the "Connected" light will turn green and the CommBoard, Firmware Version and module type will be displayed.

Change Baud Rate:

1. Select new baud rate for the module.
2. Select same baud rate for the computer.
3. Click on the **<Connect>** button.

Change Modules:

Once connection has been made, the CommBoard Studio will remember the last settings. Any time a module is switched out, clicking on the **<Connect>** button once the new module is attached will reestablish a connection as long as the module baud rate is the same as the previous unit. If you are unable to connect, confirm the selected baud rates are matched.



Configuration Tab

North Reference:

Magnetic: When the **Magnetic** radio button is selected, heading will be relative to Magnetic North.

True: When the **True** radio button is selected, heading will be relative to True North. To use North Heading in 'True' mode, the declination needs to be set in the 'Declination' window.

Damping Settings:

Enabled: Selecting this check box enables digital damping

Damp Size: Selects the number of heading samples that are to be averaged and returned as the heading. See CommBoard Manual for more information.

ASIC Period Select:

Sets the value for the ASIC period select. The lowest setting (/32) will provide the fastest response but the lowest resolution. The highest setting will provide the slowest response but the highest resolution.

Note: The 8 Hz limit of the CommBoard will mask the actual speed of the ASIC.

Output Mode:

PNI Mode: When the **PNI Mode** radio button is selected, compass and gain matched sensor outputs for **X** and **Y** axes can be read, after a user calibration is performed. The **Z** axis cannot be read in PNI Mode.

Raw Mode: When the **Raw Mode** radio button is selected, raw, non-gain matched sensor reading can be taken for all axes, including a **Z** axis.

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Configuration Tab (continued)

Reading Units:

Compass: The **Compass** radio button selects to display compass readings in Degrees or Mils.

Temperature: The **Temperature** radio button selects to display temperature in Celsius or Fahrenheit.

Default:

This button will set the CommBoard Studio program back to the factory default settings.

Calibration Tab

Note: An ASIC period select of /512 or higher is required to perform a calibration. It can be lowered after calibration is complete.

Start:

1. Click **<Start>** button to begin.
2. Rotate module in two slow (30 second) revolutions, keeping the module level.
3. Press **Stop** (start/stop button is a toggle)

Clear:

Pressing the **<Clear>** button will clear the graph plot and delete module calibration.



Test Tab

Current Reading:

Once the **<GO>** button is selected the unit will begin outputting Heading information. Selecting the **<Stop>** button or changing tabs will halt the output of the unit.

Contrast:

Reverses the background color of the current reading window.

3D Model:

The helicopter will follow the movement of the attached module and give a clear representation of the module's orientation.

Data Logger Tab

1. Select the data to log in the Output Word window.
2. Use **Shift-Ctrl-Click** and **Ctrl-Click** to select multiple items.
3. Click on the **<GO>** button to start logging; click the **<STOP>** button to stop logging.
4. Click on the **<Export>** button to save the data to a file.
5. Click on the **<Clear>** button to clear the data from the window.

Note: The data logger uses ticks for time reference. A tick is 1/60 second.

System Log

Export:

Select the **<Export>** button to save the system log to a file.