

Osmium MIMU4444

Plotting Real-time Tracking Data Using USB

Instruction Manual

Revision 1.0

Registered Office:**GT Silicon Pvt Ltd**

LIG – 1398, Avas Vikas – 3

P.O. – NSI, Kalyanpur,

Kanpur (UP), India, PIN – 208017

R&D Centre:**GT Silicon Pvt Ltd**

S6, SIDBI Innovation & Incubation

Centre, IIT Kanpur

Kanpur (UP), India, PIN – 208016

Tel: +91 512 259 6664

Fax: +91 512 259 6177

Email: info@gt-silicon.com

URL: www.gt-silicon.com

© 2014, GT Silicon Pvt Ltd, Kanpur, India

Revision History

| Revision | Revision Date | Updates |
|----------|---------------|---------------------------------------|
| 1.0 | 13 Oct 2014 | Initial Release of Instruction Manual |

Purpose & Scope

This document lists down instructions to plot tracking data of Osmium MIMU4444 in real-time, using USB.

Hardware & Software Requirement

- Operating System: 64-bits Windows 7
- Matlab R2013
- Matlab scripts for data collection (Should be available on your computer.)
- Hardware: A computer with 4 GB SRAM
- USB data cable
- Osmium MIMU4444 (Pre programmed with OpenShoe code)

Live Demo Video with Operating Instructions

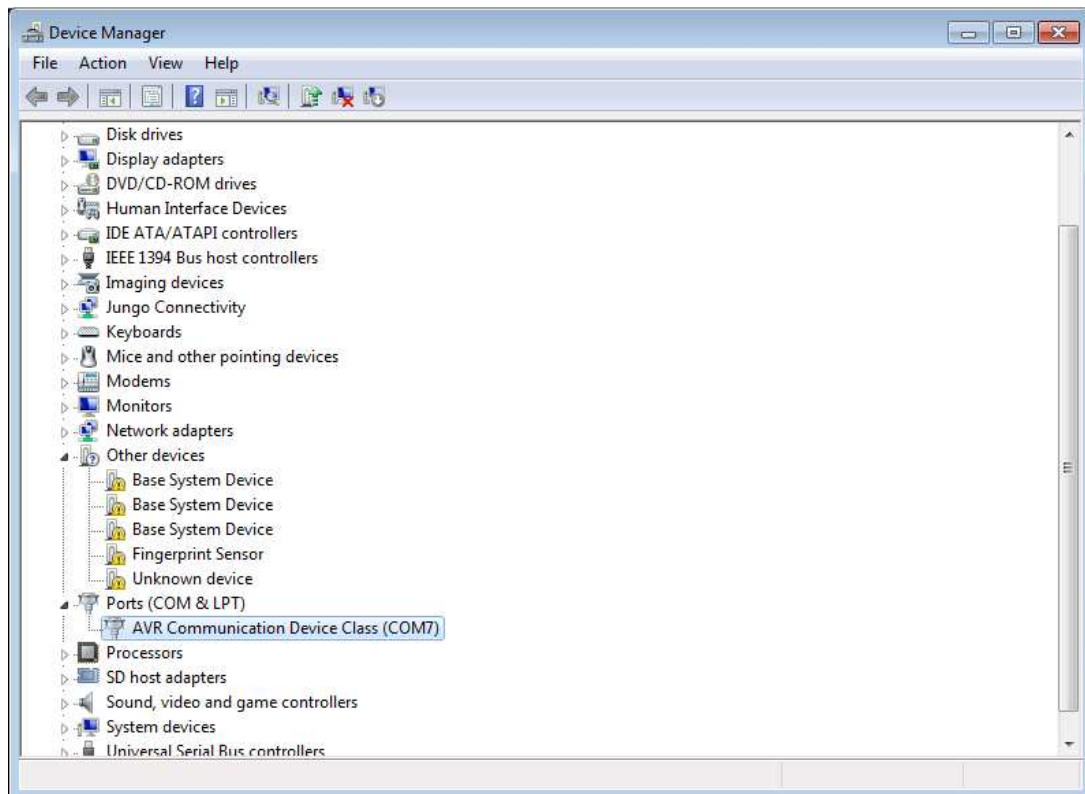
A live video is available online:

<https://www.youtube.com/watch?v=Z4q7ahOfRfo>

Same instructions are listed in the following section.

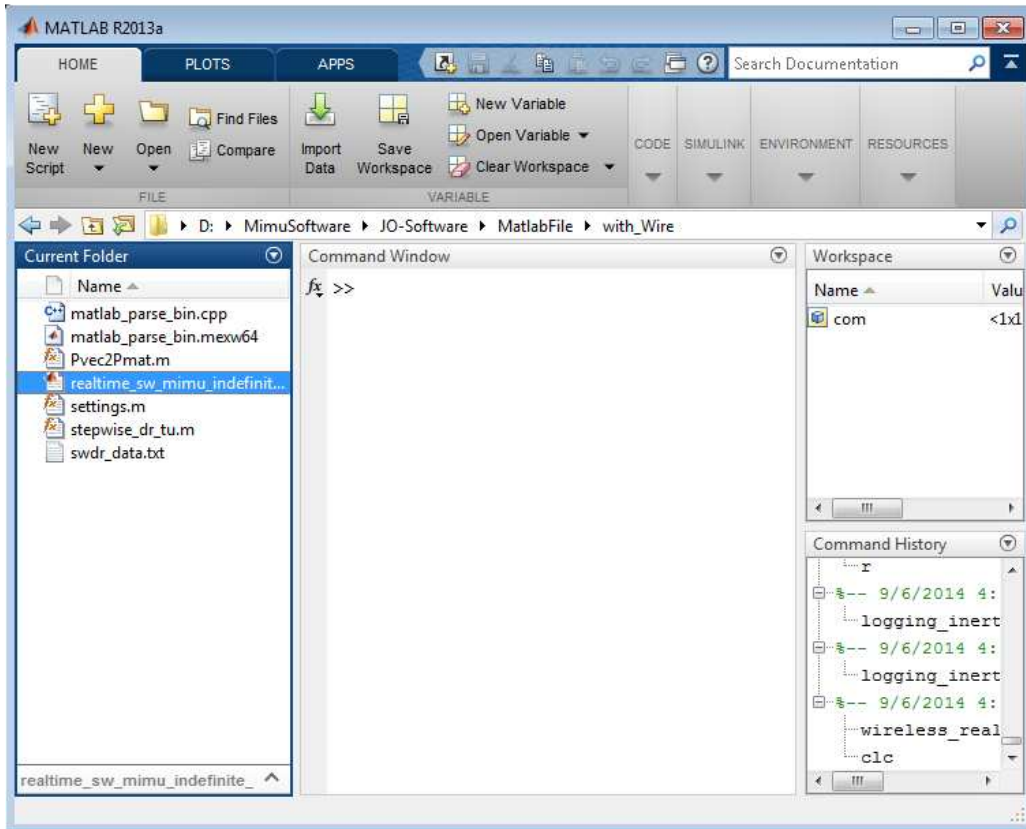
Operating Instructions

1. Connect MIMU4444 with computer using USB data cable.
2. Open “Device Manager”

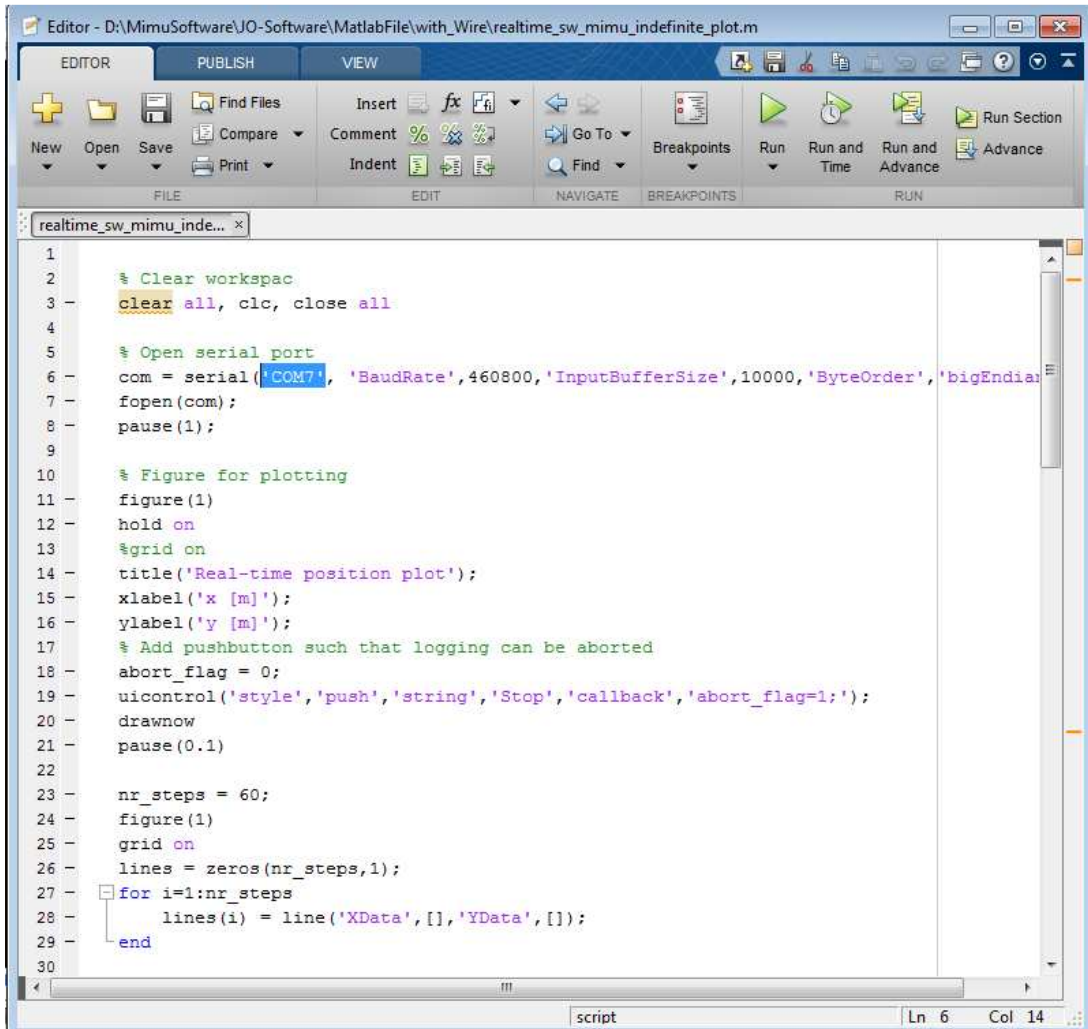


Note the connected COM Port as highlighted in the image above (COM7 in this case).

Open Matlab and select **logging_inertial_data3.m** for viewing

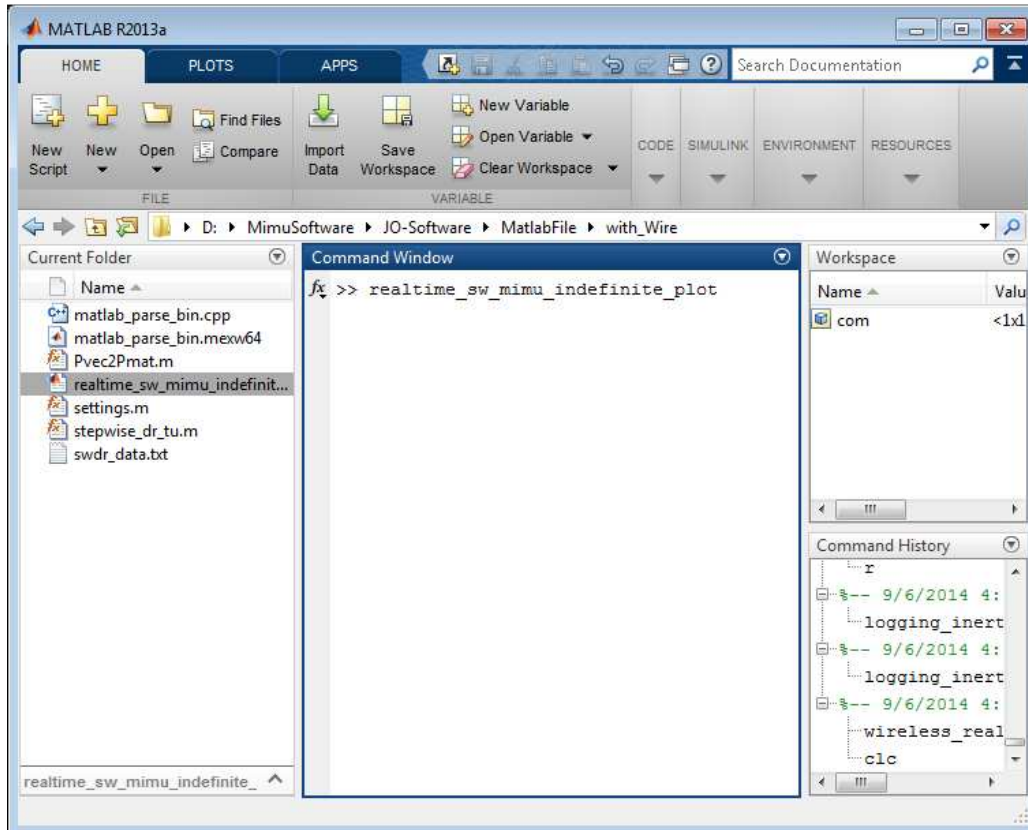


5. Update COM Port in the realtime_sw_mimu_indefinite_plot.m file and save

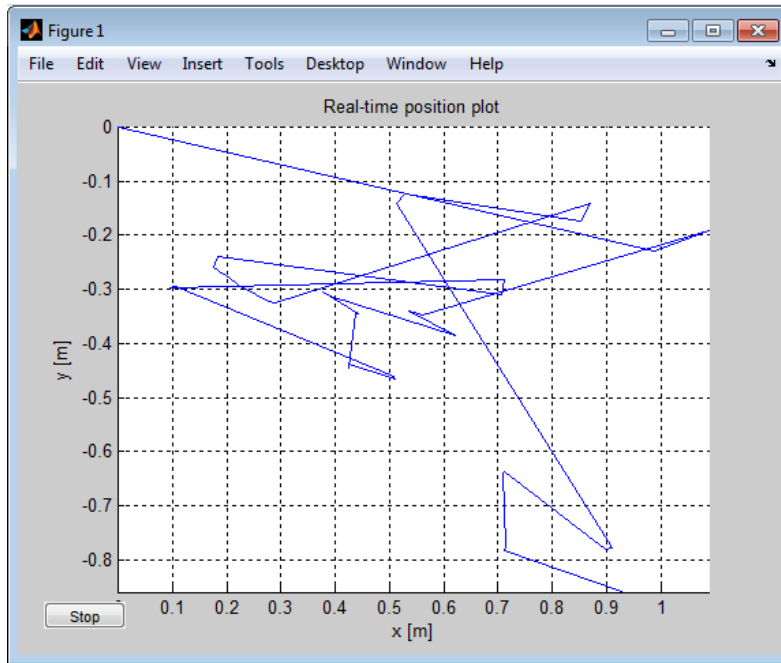


```
1
2   % Clear workspace
3   clear all, clc, close all
4
5   % Open serial port
6   com = serial('COM7', 'BaudRate', 460800, 'InputBufferSize', 10000, 'ByteOrder', 'bigEndi...
7   fopen(com);
8   pause(1);
9
10  % Figure for plotting
11  figure(1)
12  hold on
13  %grid on
14  title('Real-time position plot');
15  xlabel('x [m]');
16  ylabel('y [m]');
17  % Add pushbutton such that logging can be aborted
18  abort_flag = 0;
19  uicontrol('style','push','string','Stop','callback','abort_flag=1;');
20  drawnow
21  pause(0.1)
22
23  nr_steps = 60;
24  figure(1)
25  grid on
26  lines = zeros(nr_steps,1);
27  for i=1:nr_steps
28     lines(i) = line('XData', [], 'YData', []);
29  end
30
```

6. Run `realtime_sw_mimu_indefinite_plot` from Matlab command prompt



7. A Matlab plot will pop up, showing the realtime tracked path of MIMU4444. Below is the movement of MIMU4444 randomly on work table:



Note:

- *Please restart Matlab, if it gives communication error.*