DynPick®

WACOH

RUIF-1000

Instruction Manual

Product name：Cable to convert from RS422 to USB

Model: RUIF-1000

www.wacoh-tech.com

Revision history

Date	Revision	Description
2014/02/28	First edition	

Contents

Introduction

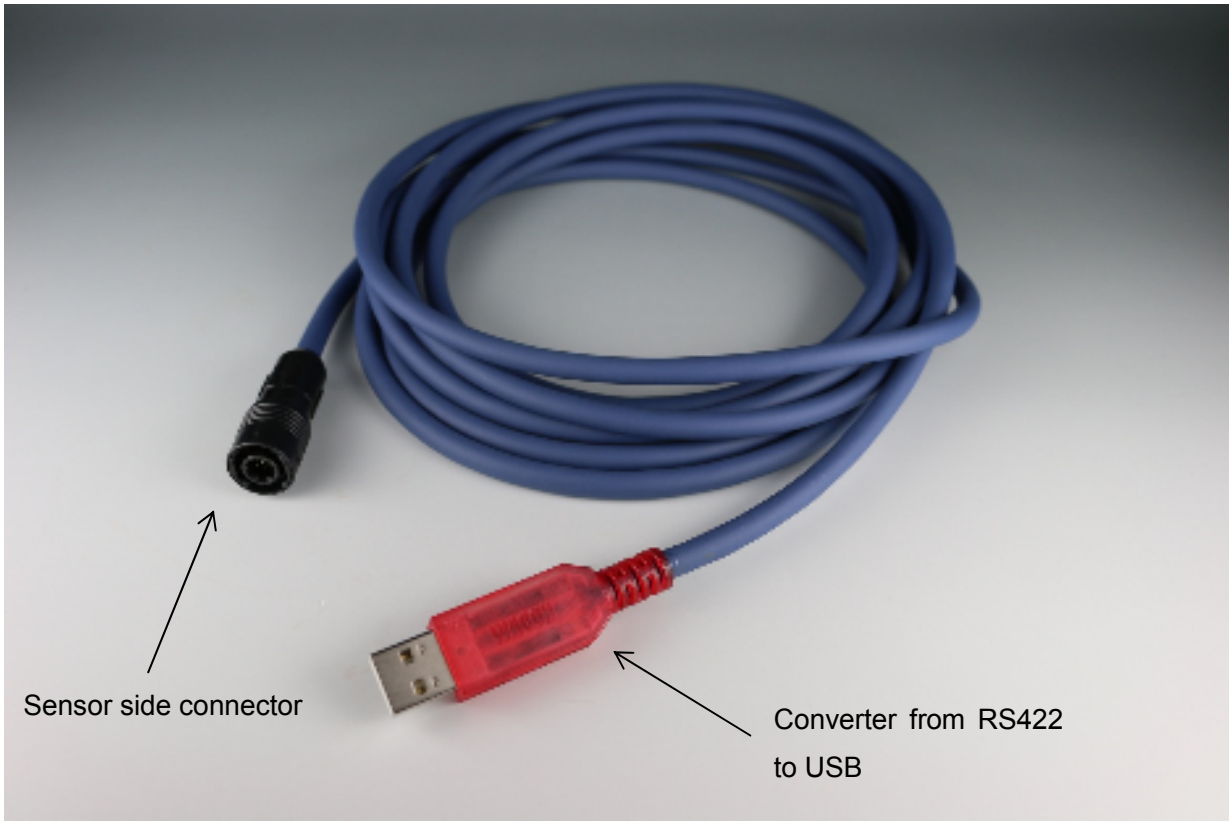
Thank you for purchasing accessory exclusive for DynPick: RUIF-1000. This Instruction Manual explains handling and points to keep in mind for use. Mishandling will cause problems, accidents, etc.; therefore, please make sure to read through this Instruction Manual before use for proper use.

1. Outline

1－1. Explanation about cable

This cable (RUIF-1000) can be converted from DynPick®'s RS422(only 5V) to USB and connection PC.

It can be drive only USB power supply.



RUIF-1000 appearance

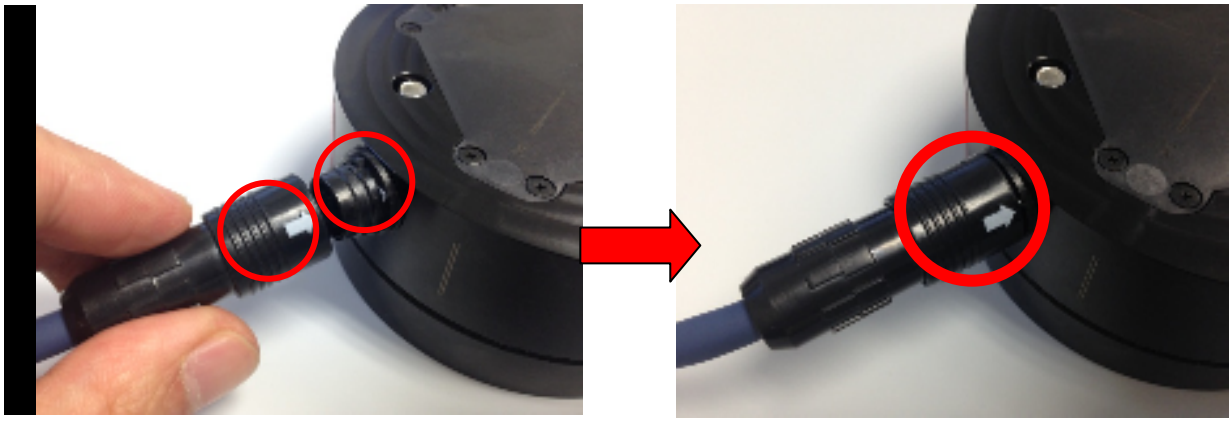
2. Connection procedure

Connect the RUIF-1000 to DynPick® before connect PC

Please adjust the position of the RUIF-1000 connector and the connector of the DynPick® side.

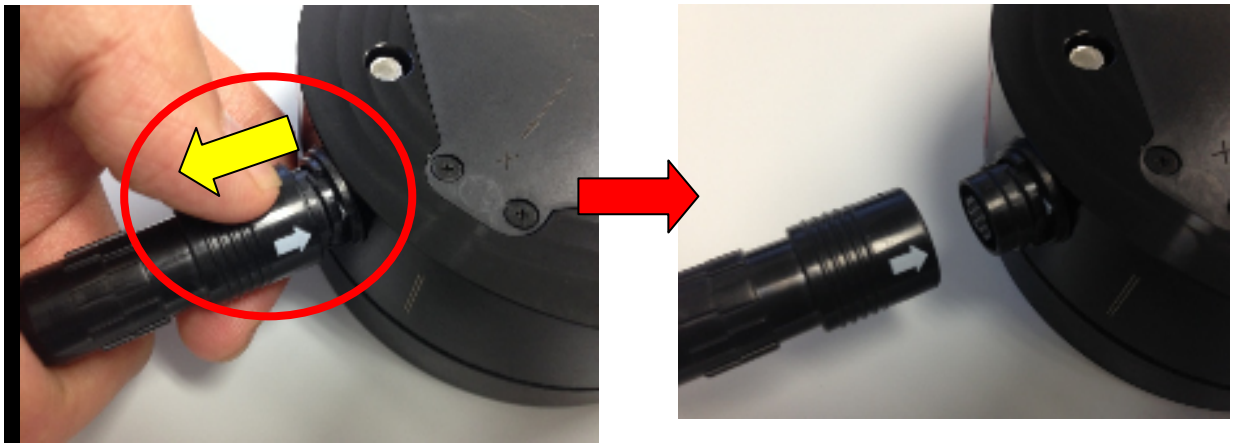
2－1. Connection of the connectors

Connect the attached cable side connector and sensor side connector. Align the white arrow on the cable side with the white portion of the sensor side connector and push it in until you hear it and feel it click.



Connection of the connectors

For disconnection, hold the basal portion of the connector, and slide it in the direction of the yellow arrow.



Disconnection of the connectors

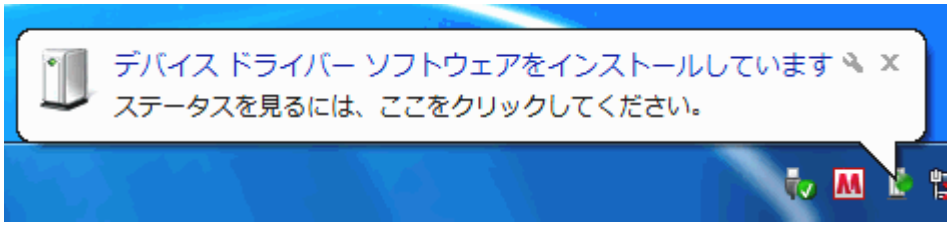
２－２．Connection to PC and driver installation procedure

Insert to an available USB port on your PC the connector of the USB side.

The PC recognizes new hardware and the following message appears. Device driver softwarinstallation starts automatically.

※occasion of connected to internet.

(The following appears in the case of Windows7. The description of the message differs according to the version of Windows.)



When the device driver software is installed and use of the new hardware is ready, if rebooting is instructed, reboot your PC according to the instruction.

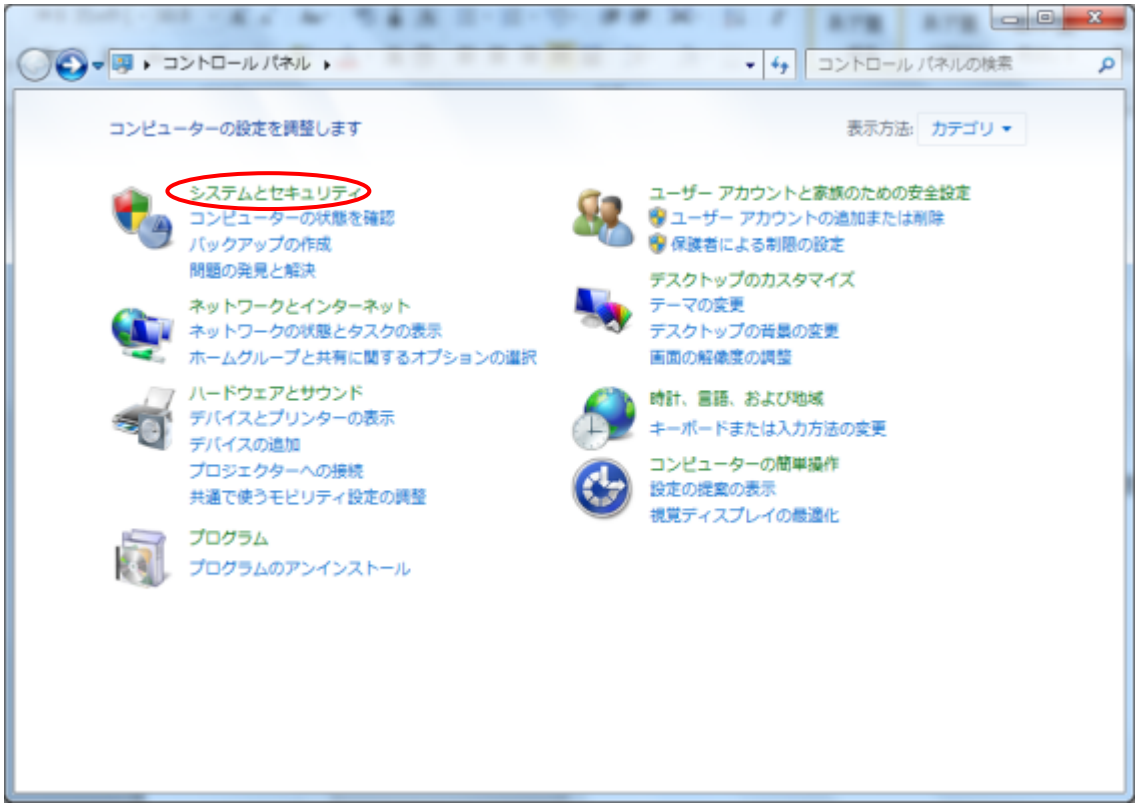
２－３．(1) Check the COM port.

Example: In the case of Windows7

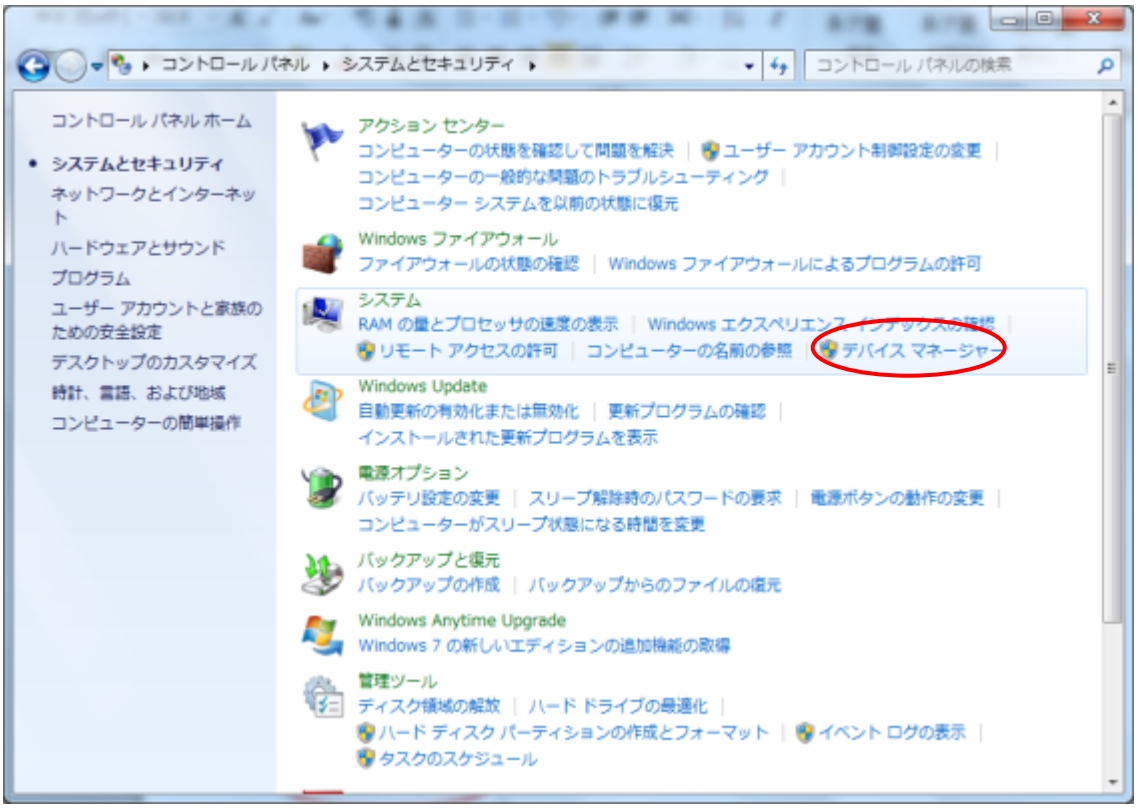
① **"Start menu"**

② **Select "Control panel."**

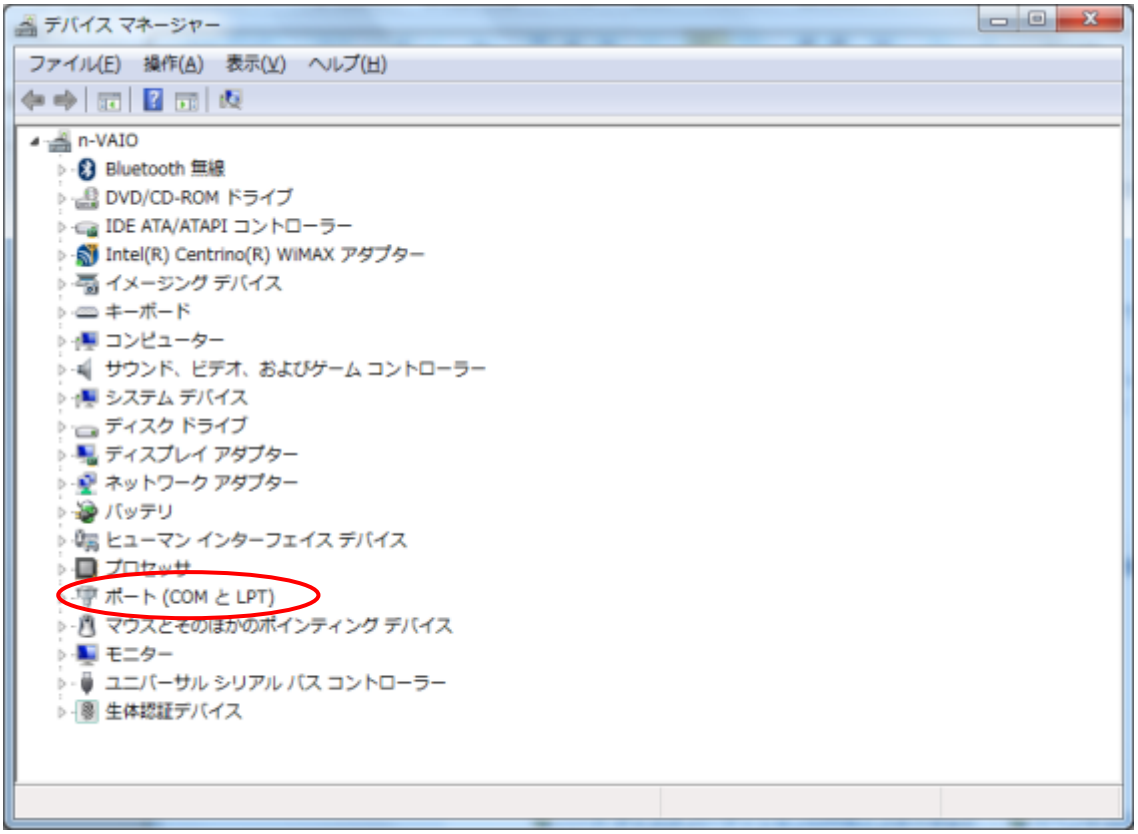
③ **Select "System and Security."**



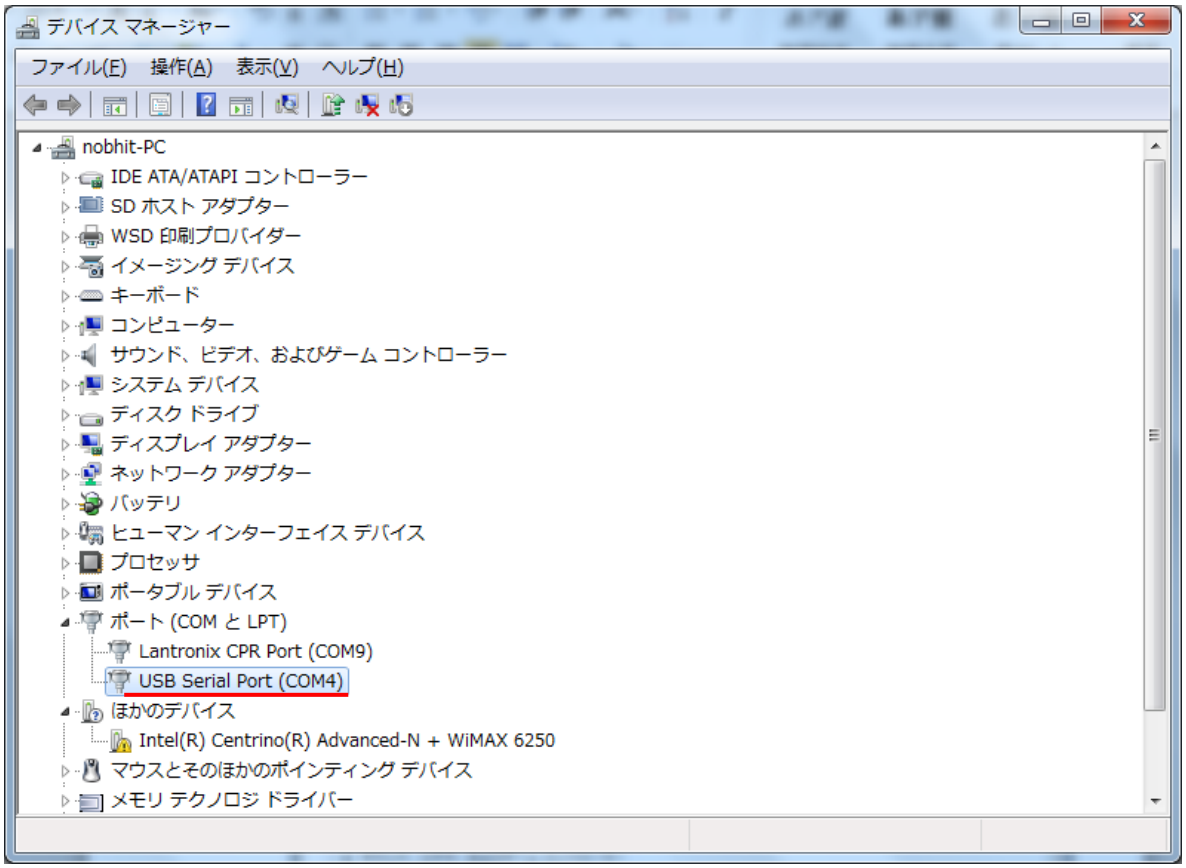
④ **Select "Device Manager" under "System."**



⑤ **Select "Ports (COM & LTP)**



⑥ **In this case, (COM4) is displayed; therefore, COM4 is assigned.**

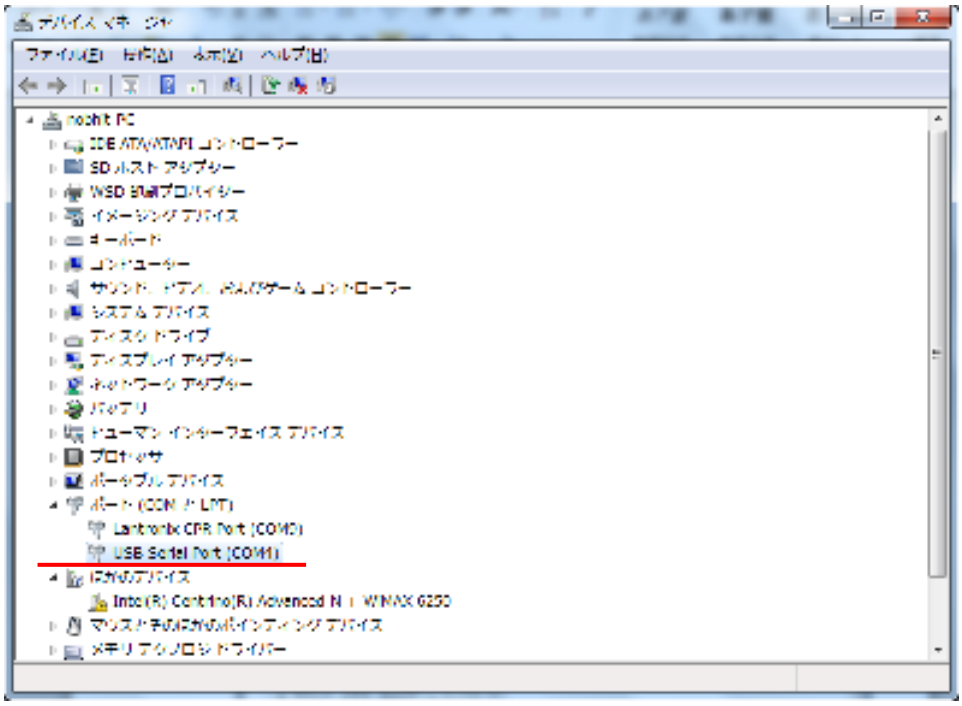


（２）Change of the COM port

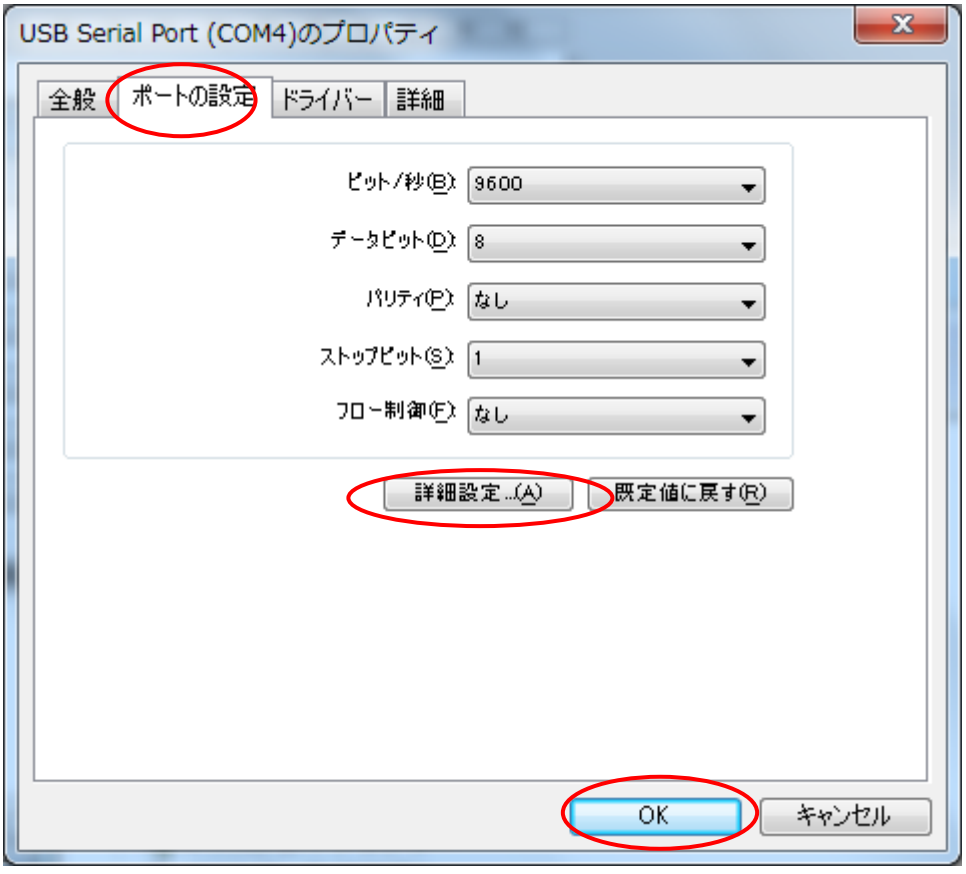
The COM port can be changed as desired.

① Click the right mouse button, and select "Properties."

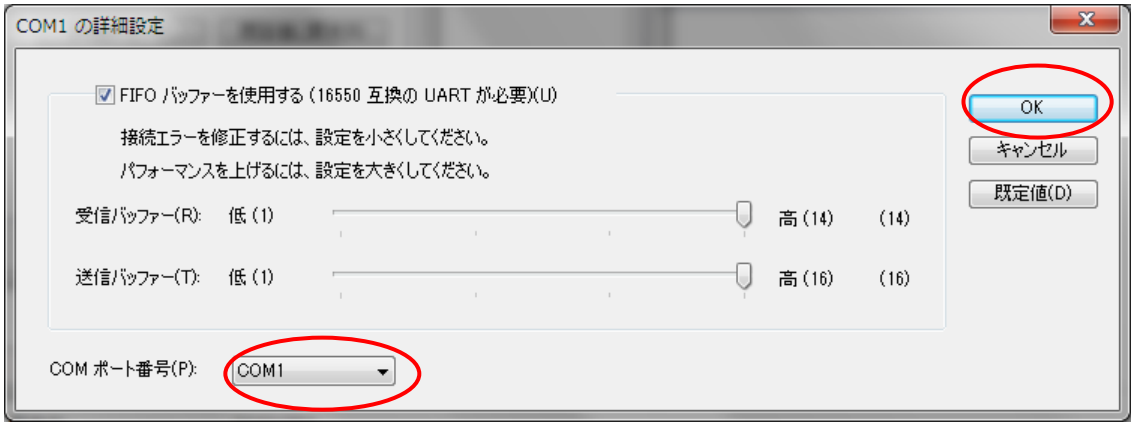
※If you use supplied software please be sure to set at 1-9 the COM port.



② Select the "Port Settings" tab and click "Advanced (A)."



③ Change the COM port number as desired and click "OK."



④ Click "OK" on the screen in ② above to complete the setting.

※If you don't have internet environment, there is a 「CDM 2.08.30 WHQL Certified」in 「RUIF-1000 Driver」of the attached CD-R. And please download and set to the exe file.

3． About USB oscilloscope.

Restriction

Operating conditions of the PC are as follows.

OS: WindowsXP / Windows7 (32bit & 64bit)

CPU: PentiumIII equivalent, 900MHz or more

Memory: 3MB or more

3-1 preparation

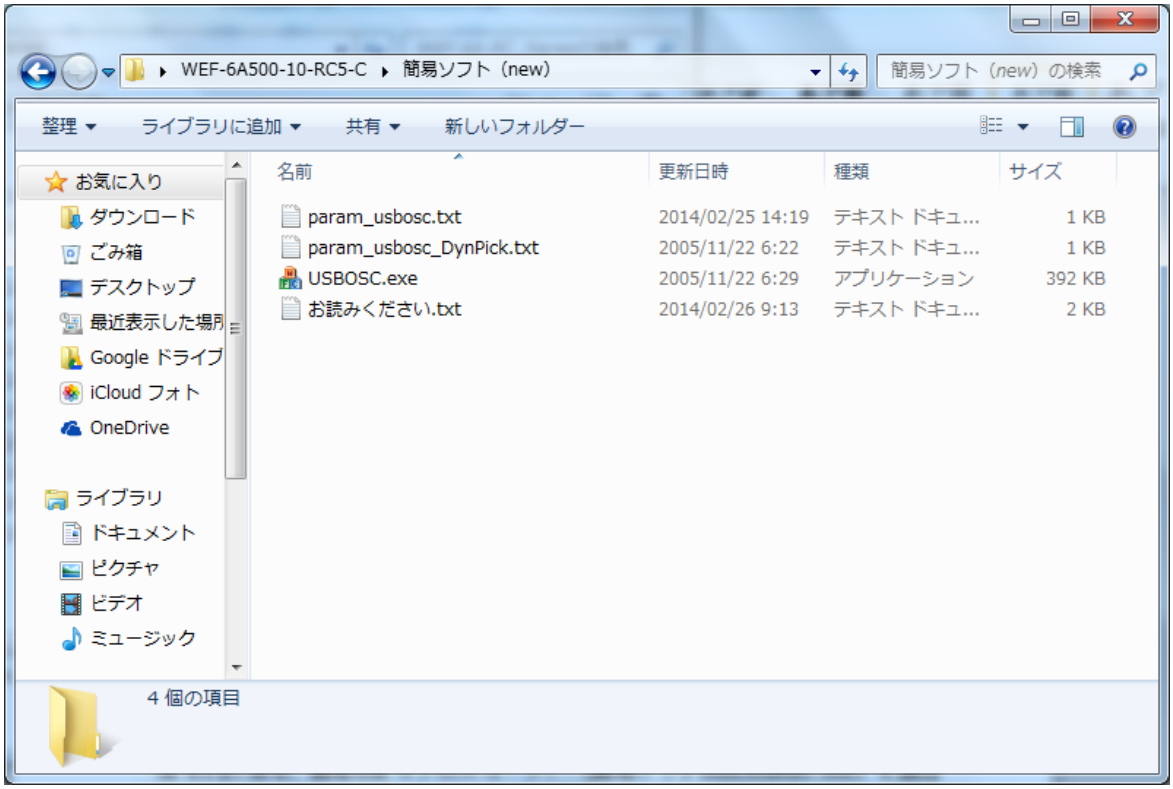
First, install exclusive driver (CDM 2.08.30 WHQL Certified in RUIF-1000 Driver）in the CD-R that came with the DynPick®(RS422 output and 5V type).

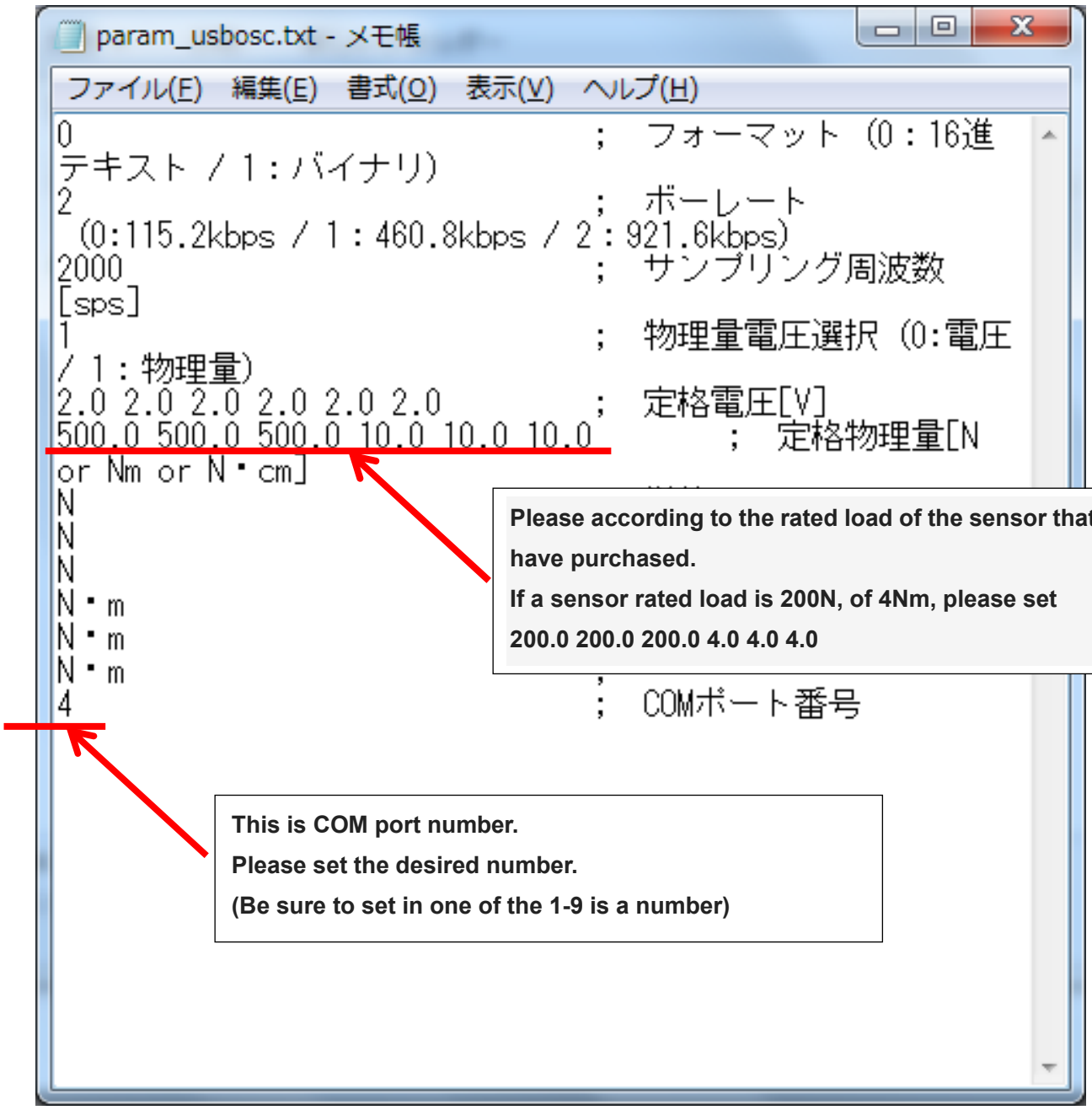
Please refer to the previous chapter 2 for details of the installation procedure.

Copy the「C:drive」 in your PC.

Please set the COM port in the folder simple software (new) to "param_usbosc.txt", before starting the software,

And double-click the Param_usbosc.txt.

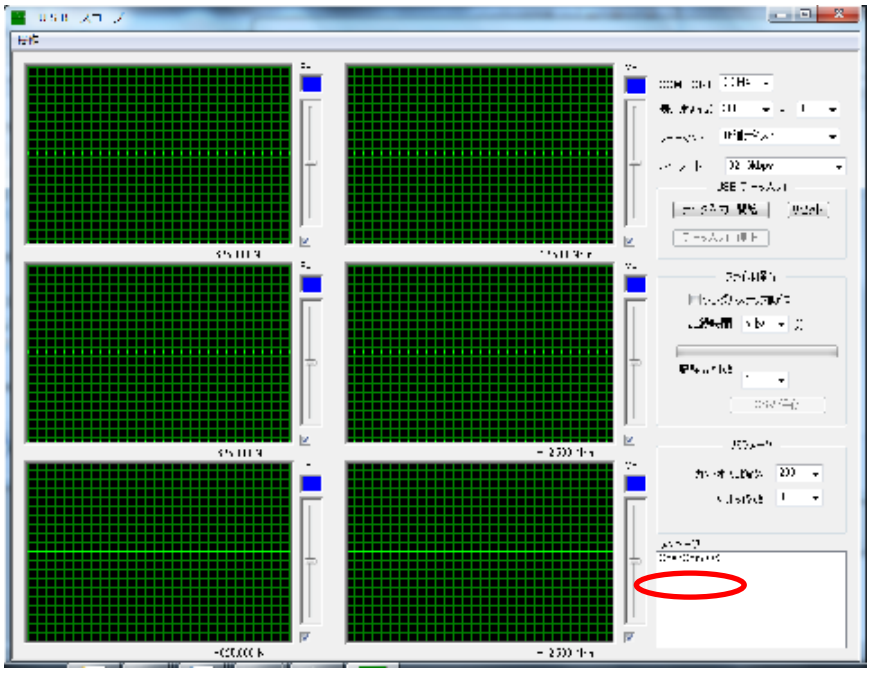




※Please do not change the other items.

4、Basic operation

Please start 「USBOSC.exe」.



First make sure the COM port.

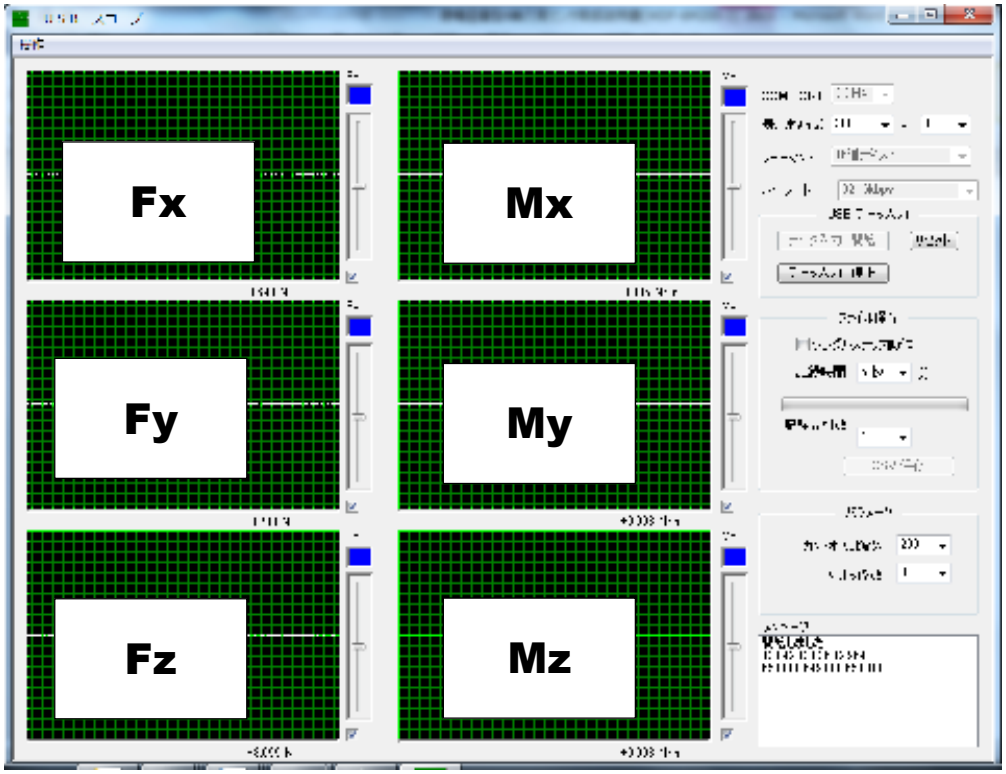
When it is connected properly, you will see "OpenCom OK".

If you will see "Com error" at displayed, please check the COM port number confirmation.

Please refer to the "COM port driver manual" P9 for how to change the COM port

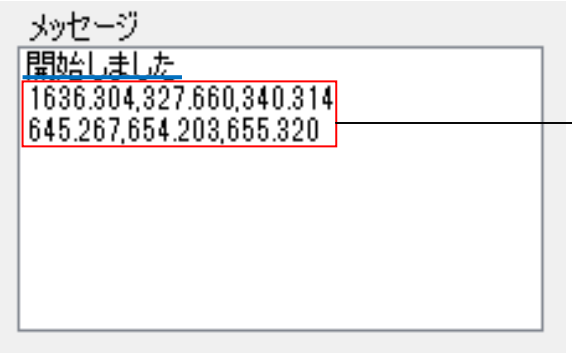
Display will start when you press the "data input start" button.

The contents of the screen and axis are as follows,



It is displayed "started" (「開始しました」) in the message field.

You will see main spindle sensitivity (Digit value of the physical quantity per unit) as shown in the figure below will be displayed below.



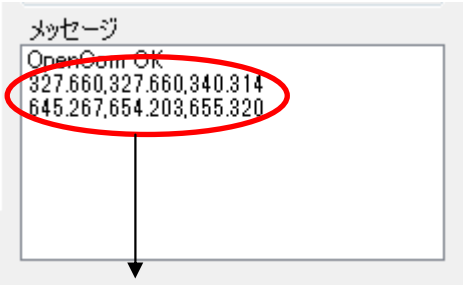
<u>About main spindle sensitivity (digit value of physical quantity per unit) at display.</u>

Used to convert the physical quantity divided by the spindle sensitivity digit value received in the present application.

Main spindle sensitivity is different for individual sensor,

It has been recorded in sensor side (in the microcomputer).

Fx,Fy,Fz（unit：[digit/N]）Mx,My,Mz（unit：[digit/Nm]）



327.660(Fx) 327.660(Fy) 340.314(Fz) 645.267(Mx) 654.203(My) 655.320(Mz)

Notes

Removing the RUIF-1000 during the display, you will not be able to receive data normally later. In that case, I will recover in the next step.

① Connect the RUIF-1000.

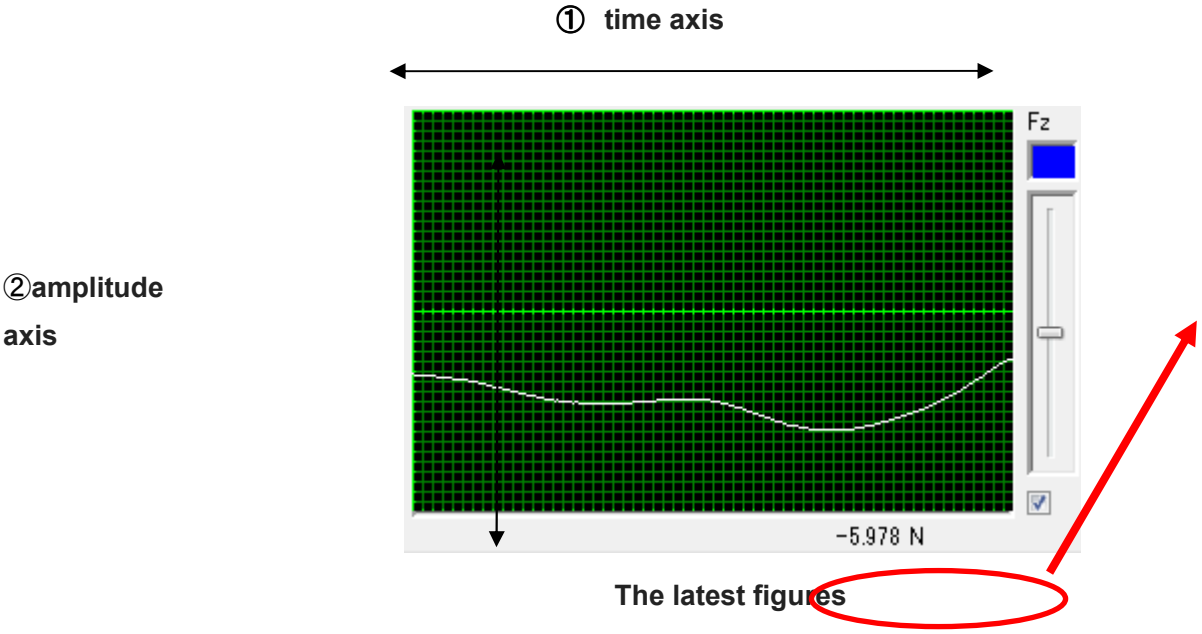
② re-start the USBOSC-MD.exe.

Grid (green grid) means time axis is 60, the amplitude axis 40.

①1 grid of the time axis corresponds to 1/60 times the display width (example: 5ms in the case of 300ms time: display width).

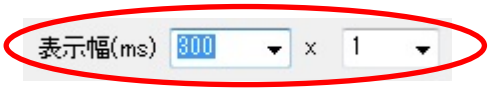
② 1 grid of the amplitude axis corresponds to 1/8 times the FS value: (for example, 1.25N, 0.625N · cm)

③ The latest figures (The value of the graph far right) will be displayed in the lower right of the screen.



You can be set to 300 ~ 3000ms in the "display width" the width of the time axis of each channel.

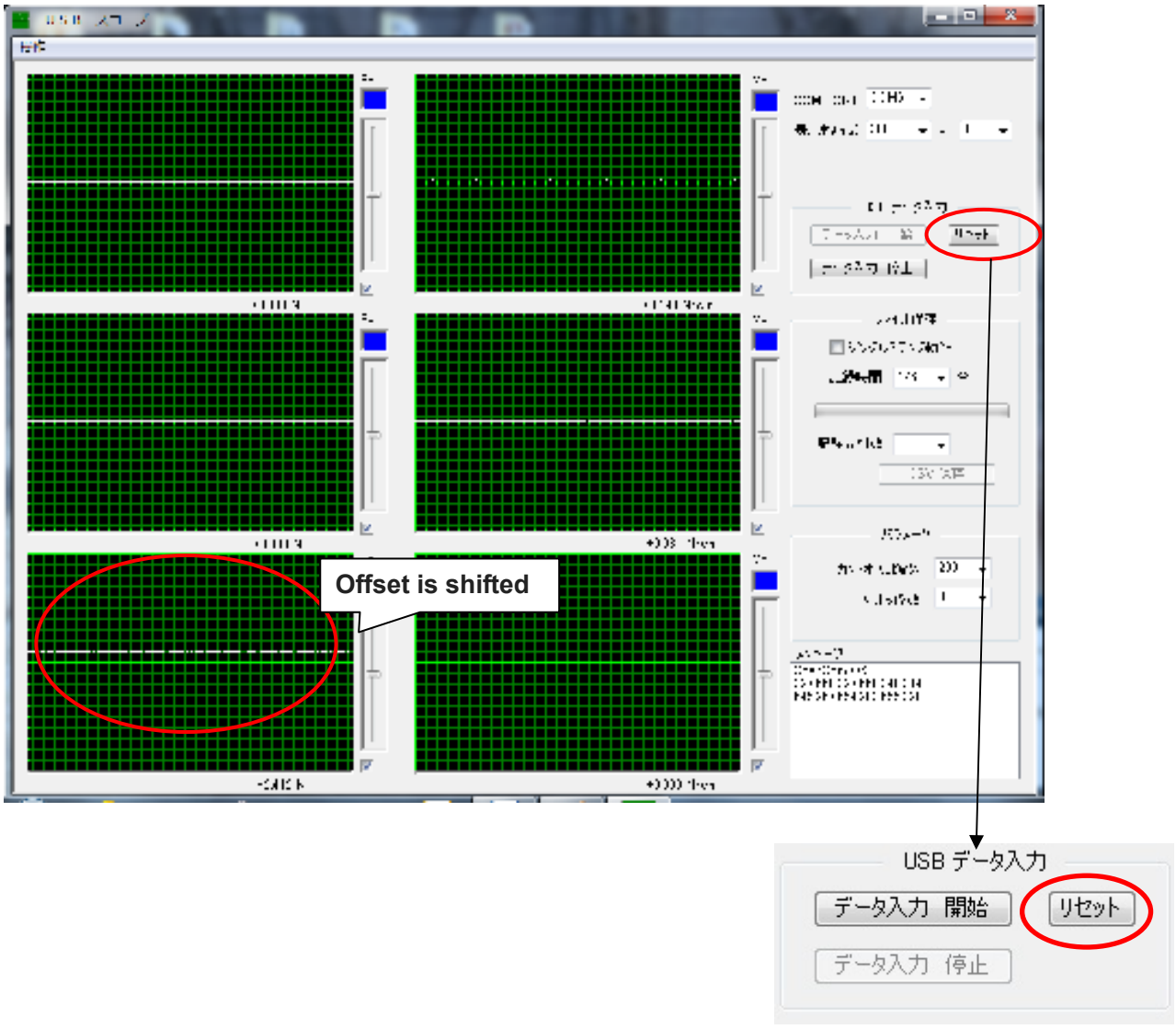
※ If you change the display width, is not linked with the file save time.

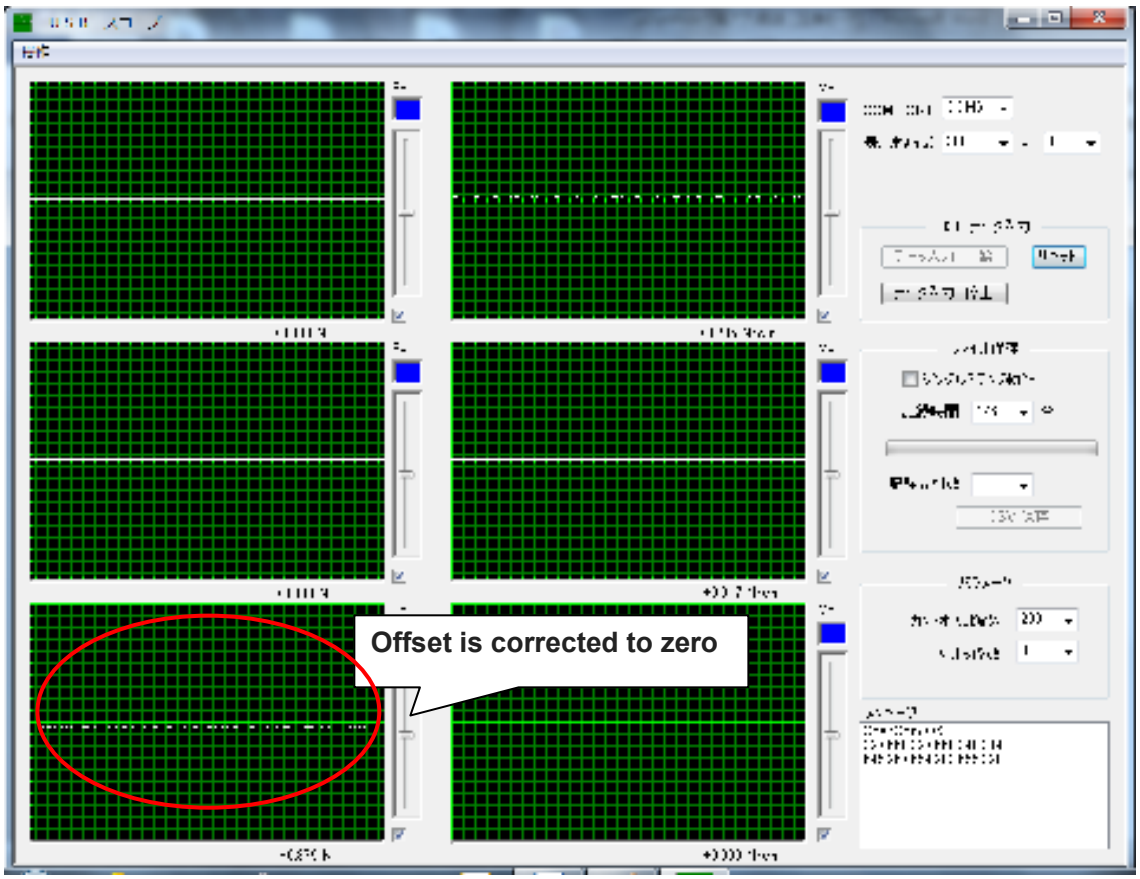


When the offset is shifted,

Offset is corrected to zero by pressing the "Reset" button if necessary.

(However removed from the computer with a USB port to return to the original offset.)





Display will stop when you press the "data input Stop" (データ入力 停止)button.

※The sensor output value varies due to the exothermic of the internal circuit, the sensor after startup.

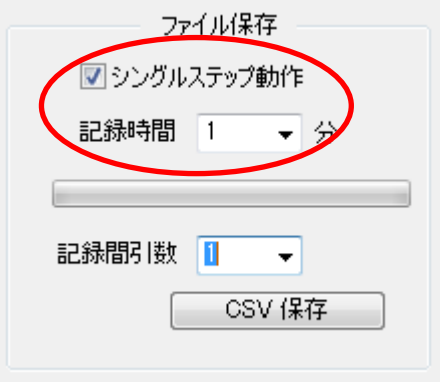
Please use it after the warm-up of 10-30 minutes.

When recording to a CSV file data,

Before pressing the "data input start" button(データ入力開始), and then check the column of check box of "single-step operation"(シングルステップ動作).

At this time, you specified the recording time.

After the completion of recording where the data input will stop automatically, and press the "data input stop" (データ入力停止) button when you want to break.

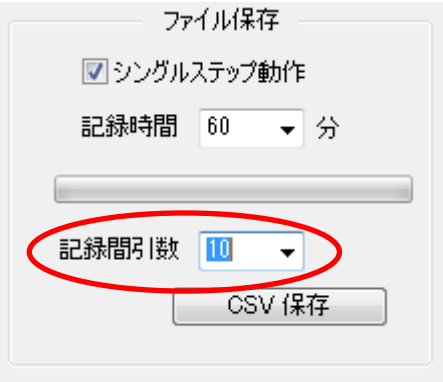


If you want to record in the CSV file exceeds the upper limit of the recording time,

Before pressing the "data input start" button, set the record number of reductions.

For example, you set to 60 minutes recording time and 10 the record number of reductions, one record is recorded for 10 hours per record.

Records that have been thinned out will simply be ignored.



Press the "Save in CSV"(CSV 保存) button. When you save data to a file that has been recorded. Please specify at this location and file name.

※It will not be saved to a file If you do not press the "Save in CSV"(CSV 保存) button, because the recording is done in memory,

If necessary, you can set up a filter order and cut-off frequency as a parameter of soft LPF You set to 0 degree if you do not want to apply the LPF.

LPF is the moving average filter.

If the filter coefficient of 1 is illustrated in the figure below.

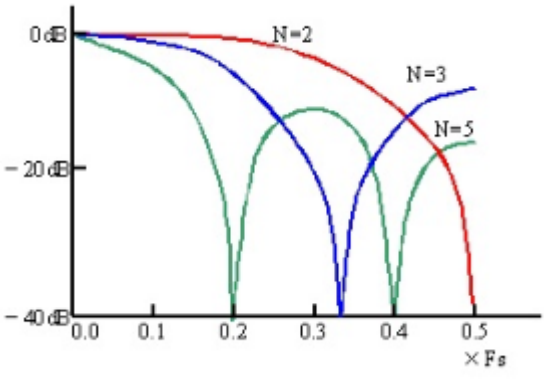
(Fs = 1kHz, N = Fs / cut-off frequency)

For example, the cut-off frequency: In the case of 200Hz,

N = 1kHz / 200Hz = 5, it becomes the property of the green curve.

Definition of the cut-off frequency is different from -3dB drop point.

It will be the squared the characteristics shown in the figure below If the filter coefficient is 2.



Format of each record in the data record are as follows.

Tick value displayed in the first of (0 1 2 3 4 5 6 7 8 9 ...) is valid information.

Sampling frequency is approximately 1ksps.

[The time elapsed from the click data entry start " (sec)]

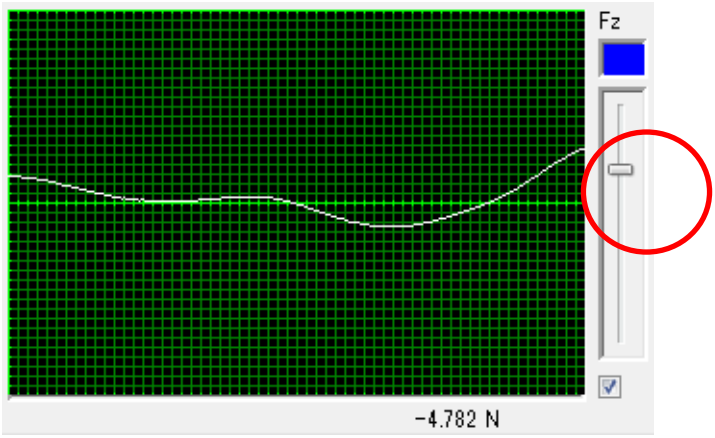
[Tick value(0-9, which is swung in serial number)]

0	0	0.46	1.534	-0.694	0	0.011	-0.022
0	1	1.227	1.918	-0.54	-0.003	0.008	-0.022
0	2	0	1.611	0.463	-0.009	0.014	-0.048
0	3	0	2.531	-1.08	-0.003	0.011	-0.015
0	4	-0.69	2.531	-1.466	-0.014	0.014	0.015
0	5	-0.69	1.764	-1.388	-0.008	0.014	-0.015
0	6	0.613	2.378	-1.697	0.011	0.008	-0.028
0	7	0.46	3.912	-0.54	0.011	0.011	-0.008
0	8	0.307	1.764	-1.388	-0.008	0.014	-0.028
0	9	-0.997	1.764	-0.771	0.008	0.011	-0.015
		Fx	Fy	Fz	Mx	My	Mz

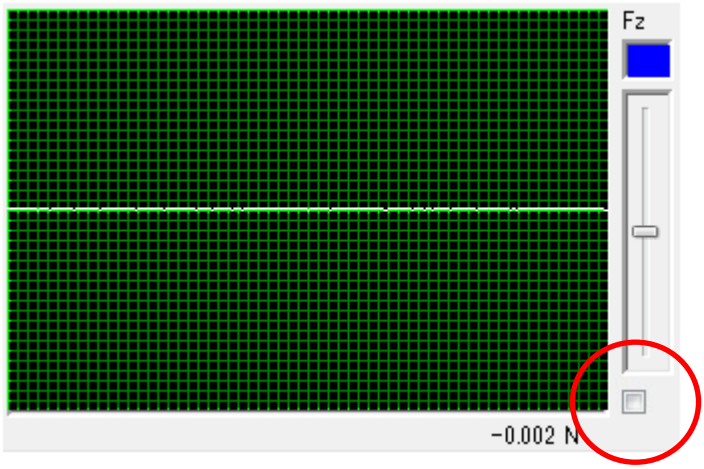
[The value of each channel]

You can adjust the offset position of the slider oscilloscope right side of the screen.

(Recorded value of CSV data does not change and the number.)



Offset position is hidden If you un-check oscilloscope bottom right of the screen.



5. About sample source code

● Explanatory item

・Windows

Development environment

(1) WindowsXP / Windows7

(2) Visual C++

File description

(1) test-com -Test.cpp

C++ sample source code

(2) test-com -Test.exe

Executable file

※ Visual C++ project files, etc., are not included.

Prepare according to the version of Visual C++.

Function of this sample

(1) Hexadecimal text records are acquired by the simple data method.

(2) Sampling period is specified on the application side.

In the case of non-real-time OS, only the values of multiples of approximately 16ms are effective.

(3) Data is acquired for 10 seconds, which is recorded in a specified file.

On the screen, second-to-second data is displayed.

(4) Contents of data recorded and displayed are as follows:

Each digit value of the time having elapsed since startup (ms), tick value (0 - 9), and Fx, Fy, Fz, Mx, My, Mz

Explanation of source code processing

See the comments in the source code.

● Explanatory item

・Linux

Development environment

(1) Linux (Ubuntu, etc.)

(2) gcc

File description

(1) test-com -test.c, kbhit.c

C sample source code

(2) mk

Makefile for building

(3) test-com

Executable file

Function of this sample

(1) Hexadecimal text records are acquired by the simple data method.

(2) Sampling period is specified on the application side.

In the case of non-real-time OS, only the values of multiples of 10ms are effective.

(3) Data is acquired for 10 seconds, which is recorded in a specified file.

On the screen, second-to-second data is displayed.

(4) Contents of data recorded and displayed are as follows:

Each digit value of the time having elapsed since startup (ms), tick value (0 - 9), and Fx, Fy, Fz, Mx, My, Mz

Explanation of source code processing

See the comments in the source code.

6. Inquiry

In case of failures or doubt, contact the following:

Inquiry window: WACOH-TECH Inc. mail: info@wacoh-tech.com

Toyama head office TEL: 0766-24-8011

Toyama plant TEL: 0766-54-0086

Tokyo sales office TEL: 03-6803-0271